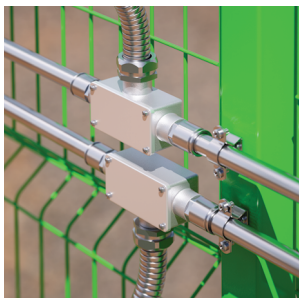




Product catalog

Cable support systems



- Tubes
- Cable ducts
- Wiring devices
- Cable trays
- Fire-resistant penetrations
- Modular cable racks
- Industrial plugs
- Lightning protection

Contents

■ Metal conduit system "Cosmec"	9
Metal conduit system	10
Galvanized steel metal flexible conduits	16
Metal flexible conduits with vacuum PVC coating	17
Metal flexible conduits in smooth PVC coating	18
Metal flexible conduits with vacuum PVC coating and protected by galvanised steel braid	19
Metal flexible conduits in smooth EVA coating	20
Metal flexible conduits in smooth EVA coating and protected by stainless steel AISI 304 braid	21
Connectors for rigid steel conduits	22
Rigid steel conduits	28
Connectors for flexible and rigid steel conduits	33
Metal junction boxes	43
■ System of flexible corrugated polyamide tubes	55
Industrial corrugated polyamide tube (series F2)	58
Industrial corrugated fire-resistant polyamide tube (series F0)	59
Accessories for flexible corrugated polyamide tubes	60
■ Flexible corrugated tubes "Octopus"	69
Flexible corrugated halogen-free tube	71
Flexible corrugated PVC tube (series 9)	72
Flexible corrugated HDPE tube (series 7)	73
Flexible corrugated polypropylene tube (series 10)	74
In-wall install accessories	76
Cable laying instruments	87
■ Flexible corrugated tube with built-in electric wires "Octopus"	91
Flexible corrugated PVC tube with built-in electric wires	92
Flexible corrugated HDPE tube with built-in electric wires	93
■ Dual wall tubes "Octopus"	95
Flexible dual wall corrugated tubes	96
Flexible dual wall corrugated tubes for outdoor	97
Rigid dual wall corrugated tubes	98
Rigid dual wall corrugated tubes for outdoor	99
■ Rigid and reinforced tubes "Express"	109
Rigid tubes	112
Weatherproof rigid tubes	113
Reinforced tubes	114
Junction boxes	128
■ Wiring devices Viva	143
Wiring devices and accessories Viva	144
Compatibility table	150
■ Wiring devices Brava	153
Wiring devices and accessories Brava	154
Compatibility table	171
■ Industrial plugs	175
Schuko sockets	176
Industrial plugs	183
Accessories	206
Frames	209
Distribution boxes	211
Manual	232
■ Cable ducts and miniducts "In-liner Classic"	243
Cable ducts system	244
Miniducts and accessories	249
Ducts and accessories	260
■ Working space organization system "In-liner Front"	283
Cable ducts system	284
System of floor cable ducts	307
Minitowers system	312
Under floor boxes system	316
■ Aluminium cable ducts and columns "In-liner Aero"	321
System of aluminium cable ducts and columns	322
Aluminium cable ducts and accessories	325
Aluminium columns and accessories	335

■	Boxes for fixed electrical installation "RAM base"	341
	Boxes for fixed electrical installation "RAM base"	342
	Flush-mounted "RAM base"	350
■	Cable management system "Combitech"	357
■	Modular cable racks "T5 Combitech"	365
	One-stand rack	368
	Double-stand rack	370
	Truss rack	372
	The beamless side rack	374
	The beamless top rack	376
■	Fiberglass tray system "G5 Combitech"	381
	Cable tray straight elements	385
	Cable tray universal accessories	401
	Cable ladder straight elements	403
	Cable ladder universal accessories	420
	Consoles	422
■	Cable trays "S5 Combitech"	425
	Straight elements	429
	Universal accessories	474
	Protection system IP44	480
	Tool	482
■	Cable ladder system "L5 Combitech"	519
	Straight elements	522
	Mounting accessories	525
	System accessories	531
■	Heavy-Duty cable ladder system "U5 Combitech"	553
	Heavy-Duty cable ladder	556
	Cable ladder system accessories	560
	Heavy-Duty cable tray	565
	Cable tray system accessories	573
	Mounting accessories	581
■	Mesh trays "F5 Combitech"	605
	Straight elements	608
	Mounting accessories	612
	Joint for mesh tray	620
	Tool	622
■	Mounting system "B5 Combitech"	631
	Profiles	634
	Connection elements	647
	Brackets	652
	Vertical supports and traverses	663
	Clamps	673
	Holders	675
■	Fastening system "M5 Combitech"	681
	Metric fasteners	683
	Anchors, wall plugs	691
	Rigging	698
	Tools	705
■	Software	709
■	Fire protection systems "Vulcan"	715
■	Lightning protection and grounding system "Jupiter"	725
■	System for laying of air-conditioning, heat and water supply routes "Angara"	753
■	Flexible corrugated tubes for drainage "Octopus"	773
	Drainage systems	774
	Drainage pipes	776
	Rainwater disposal	777
■	Code list	784

Revision history

The following changes were made in the new version of the catalog:

Section: System of flexible corrugated polyamide tubes

Page 60: The new product was added: mounting kit.
Page 71: Information on new flexible corrugated halogen-free tubes was added.
Page 99: Information on new flexible dual wall corrugated tubes for outdoor was added.
Page 101: Information on new rigid dual wall corrugated tubes for outdoor was added.

Section: Rigid and reinforced tubes "Express"

Page 116: The new product was added: field-installable clip holder.
Page 130: The product photo was updated: junction boxes with smooth walls and high cover, IP56.
Page 131: The product photo was updated: junction boxes with smooth walls and high transparent cover, IP56.
Page 132: The product photo and drawings were updated: square junction box with cable glands, IP44.

Section: Wiring devices "Viva"

Page 147: The new type of electric sockets was added: monoblock.
Page 149: The new product was added: socket box.
Page 149: The new product was added: support for installation on a DIN rail.

New section: Modular cable racks "T5 Combitech"

Page 368: One-stand rack.
Page 370: Double-stand rack.
Page 372: Truss rack.
Page 374: Beamless side rack.
Page 376: Beamless top rack.

Section: Cable trays "S5 Combitech"

Page 359: The certificate for the fire-resistant cable line was added together with the cable manufacturer, SPKB Tekhno.
Page 360: Characteristics of the "Combitech" system were corrected.
Page 360: The schedule of guaranteed service life for different climatic versions was updated.
Pages 429-440: Pictures of metal trays were updated, information on technical characteristics of products was corrected.
Pages 429-434: Load curves of metal trays were updated.
Pages 435-437: New items of metal trays in the special version with thickness of 1 mm were added.
Page 442: The inverted-V cover for cable trays and cable ladders was added.
Page 451: The range of horizontal adjustable angles was extended.
Page 452: The cover for horizontal adjustable angle was added.
Page 464: Sizes B and B1 of the junction box/cover/DDT T-adapter were corrected.
Pages 472-473: The additional type for accessories was added.
Page 475: Steel thickness of GTO connecting plates was edited.
Page 479: The holder of the inverted-V cover was added.
Page 480: Codes of I44 sealing plates were changed.
Page 482: The conversion adapter for the hole puncher was added.

Section: Mounting system "B5 Combitech"

Page 653: Information on safe operating load of the BBL-30 bracket was updated and extended.
Page 666: BSD-92 double reinforced vertical support was added.

Section: Fastening system "M5 Combitech"

Page 685: The self-tapping screw with the pressure pad was added.

Section: Lightning protection and grounding system "Jupiter"

Pages 730-731: New products were added into the subsection "Lightning rods".
Pages 741-743: New products were added into the subsection "Grounding".
Page 747: New products were added into the subsection "Accessories".
Pages 748-752: Subsections "Lightning protection system on the basis of insulating rods" and "Lightning protection system on the basis of conductor wire".

Additional references

DKC has issued a wide range of technical publications available both in printed and electronic form. To order them in printed form, please contact any regional representative office of DKC. The list of representative offices can be found at the DKC website in the section "About company".

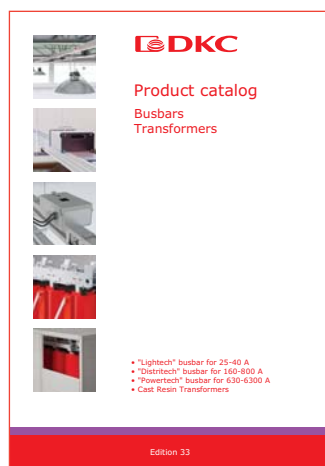
All the provided information can also be downloaded from the Company website: www.dkc.ru



Catalog
of solutions for automation and IT



Catalog
of power distribution solutions
"RAM power"



Catalog
of busbars and transformers



Fire-resistant
cable lines



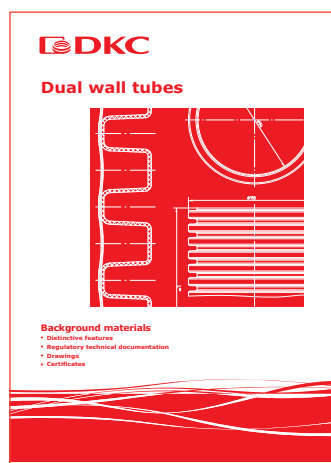
Collection of instructions for
installation of cable ducts



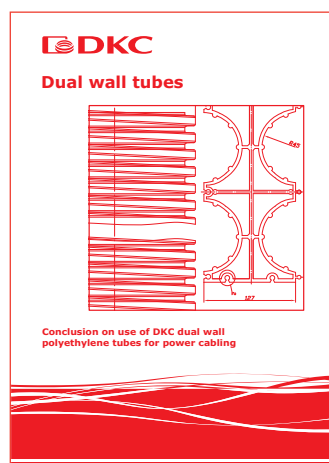
Zinc lamellar coating



Solutions for monolithic
construction

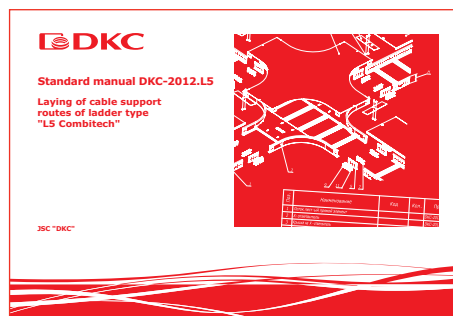


Dual wall tubes
Background materials

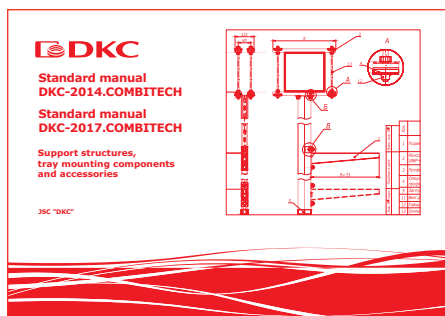


Conclusion
on use of DKC dual wall
polyethylene tubes for power
cabling

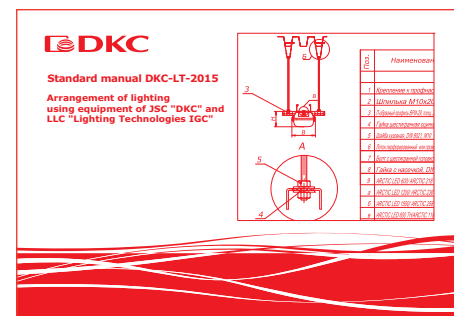
Additional references



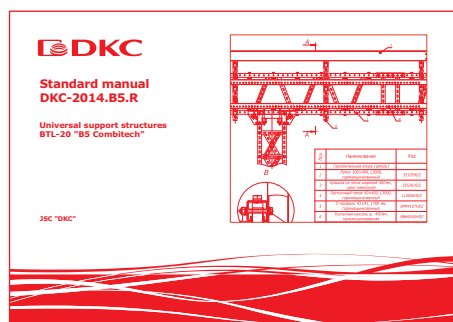
Standard manual DKC-2012.L5
Laying of cable support routes
of ladder type "L5 Combitech"



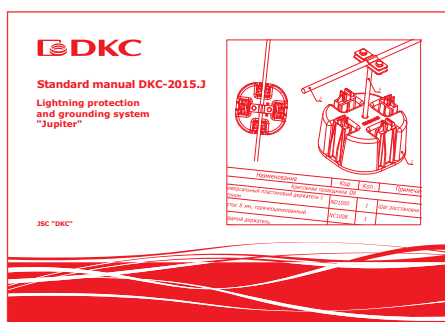
Standard manual DKC-2014.COMBITECH
Standard manual DKC-2017.COMBITECH
Support structures, tray mounting components
and accessories



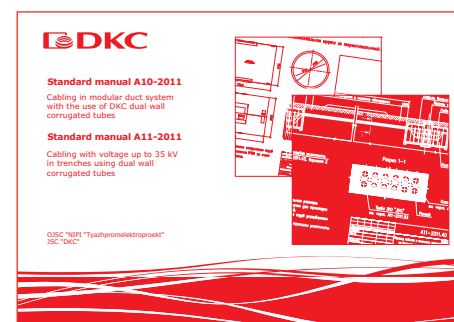
Standard manual DKC-LT-2015
Arrangement of lighting
using equipment of DKC and Lighting
Technologies



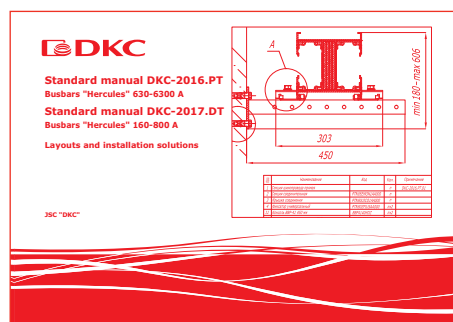
Standard manual DKC-2014.B5.R
Universal support structures BTL-20
"B5 Combitech"



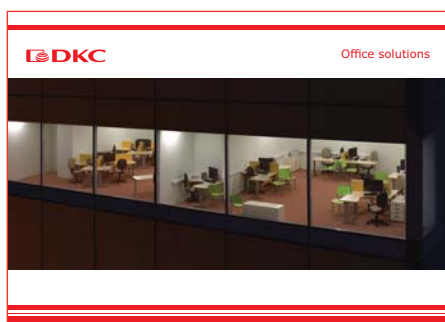
Standard manual DKC-2015.J
System of lightning protection
and grounding "Jupiter"



Standard manual A10-2011
Cabling in modular duct system with the use
of DKC dual wall corrugated tubes
Standard manual A11-2011
Cabling with voltage up to 35 kV
in trenches using dual wall
corrugated tubes



Standard manual DKC-2016.PT
Busbars "Hercules" 630-6300 A
Standard manual DKC-2017.DT
Busbars "Hercules" 160-800 A
Layouts and installation
solutions



Office solutions



Storage solutions



Supermarket solutions



Ground parking solutions



Industrial solutions

About DKC



DKC, an international company established in August 1998, has gained a strong leading position on the global electrotechnical market. Rapidly developing its production and introducing new high performance technologies, DKC today is among the largest manufacturers of cable support systems and low-voltage equipment in Russia and Europe.

The aim of DKC is to provide the latest industry solutions and high-quality products to the global electrotechnical market. Over the past few years DKC has made great progress and is constantly striving for new achievements.

Assortment

At the moment DKC product range involves more than 30,000 components and accessories combined into several basic groups: cable ducts, metal and plastic tubes, metal and plastic trays, low-voltage equipment, air conditioning systems, busbars, lightning protection and grounding. Due to active research works and development of new materials and products DKC has managed to collect an impressive list of its own patents that would enable the Company to maintain the status of an innovative manufacturer.

Coverage

At the moment manufacturing and warehousing complexes of DKC are located in Russia, Ukraine, Italy, Hungary and Romania. Regional representative offices of the Company operate in Russia, CIS countries and abroad. Products are being delivered to Latin America, West and Central Africa.

Sales strategy

DKC cooperates with an extensive network of distributors, thus not performing direct sales to end users. The balanced sales policy of the Company allows ensuring continuous presence of products on the market and adjusting the price level in a timely manner.

Partner support

The Company carries out seminars and technical consultations for its distributors and their clients on a regular basis. Each partner is treated with an individual approach, and obtains marketing support from the Company.

Quality

Certification of the quality management system (QMS) for conformity with the international standard ISO 9001 successfully held by DKC on a regular basis reflects commitment to the high standards and continuous improvement of management and production processes. DKC products are considered to be the baseline of quality for the whole industry.

Social targeting

DKC is firmly convinced that the key aspect of dynamic development of the Company is active involvement in life of its employees and electrotechnical industry at large. The Company launches new projects for higher education institutions, supports talented young specialists, and takes an active part in improvement of mounting education.

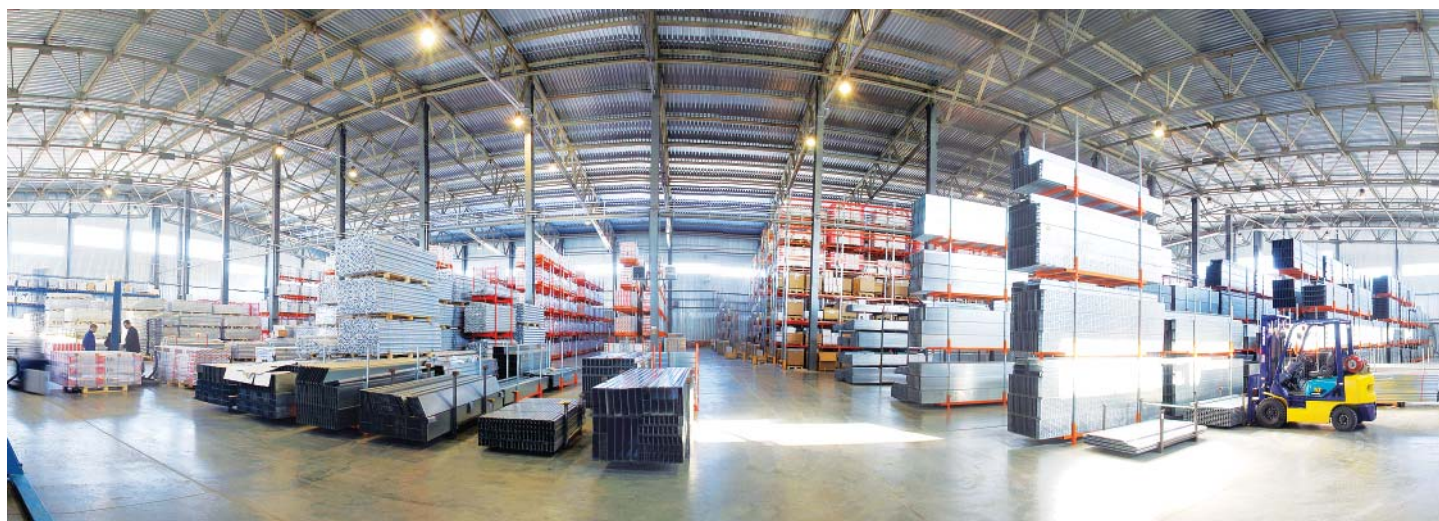
Industry solutions

DKC employs its own engineering service which provides support to partners during preparation of complex projects on formation of cable routes inside and outside production, shopping and residential premises. Company specialists have gained considerable experience of industry solutions in the oil and gas sector, telecommunications, infrastructure projects, and many other areas. DKC has developed the special "Manual of standard solutions" for laying of cable support routes on the basis of domestically-made metal cable trays. Standard solutions provided in this Manual are more universal in terms of use, since there are applied in most projects of industrial, commercial and civil construction.

Projects

DKC products were given preference in supplies to many important facilities, such as: Vostochny Cosmodrome, Kazachya Compressor Station of the South Stream Pipeline, Alabyano-Baltiysky Tunnel, Mikheevsky Mining and Processing Plant, Achinsk Refinery of Rosneft, Rocket Plant of Concern PVO "Almaz-Antey", Olympic facilities in Sochi, bridge to the Russky Island, Bushehr NPP, and Moscow Metro.

Advantages of working with DKC



For distributors

Financial gains

High profit from sales of DKC products

High brand recognition

Absence of dumping due to strict control of DKC over compliance with the established discount range

Advantageous financial and credit conditions of a distributor contract

Logistics and warehousing

Information on warehouse state updated daily

Fast and free delivery of DKC products throughout the Russian Federation to any regional distributor's warehouse

Detailed planning of production and shipping schedule

Service

System of online orders of DKC products

Possibility to buy everything at once in one place. DKC is the only Russian manufacturer of the full range of cable support systems

Original marking of all products for automation of warehouse accounting

Publication of information on a distributor and all its retail outlets at the DKC website

Marketing

Financial support of regional marketing programs

Free provision of demonstration stands, specimens of finished products, printed catalogs and advertising materials

System of online training at the DKC website

Support

Involvement of DKC specialists to carry out seminars and presentations for clients

Program of annual trainings throughout Russia

Provision of engineering support during design of complex facilities

Constantly updated regulatory technical documentation on all products

For designers

Systems of products which are complementary and compatible with each other

Annually updated and full product catalog with indication of technical characteristics of products and accessories, as well as detail drawings of system components

Technical support in terms of the entire variety of products by phone or via DKC website

Free access to necessary 2D and 3D drawings of products compatible with the most common design programs

Regularly updated and full product catalog

Consultations and assistance in complex design solutions

For end users

High quality of products

Optimal delivery periods of ordered products

Availability of all necessary certificates and test reports

Detailed instructions for assembly and installation of products

Professional installation by trained specialists

Possibility to perform technical training on equipment installation and operation

Engineering Solutions Division of DKC

The Engineering Solutions Division of DKC consists of four departments: technical support department, two design departments and service department.

The basic center of cooperation with clients is the Technical Support Department responsible for receipt, processing and calculation of necessary specifications in accordance with customers' requests, as well as for performance of technical consultations of clients in respect of selection and installation of DKC products.

If there is a need in technical consultations on application of DKC products, please feel free to contact employees of the Technical Support Department located in the nearest city or region, or by phone 8-800-250-52-63

The list of addresses is available at the Company website www.dkc.ru in the section "Support".

Design departments are responsible for comprehensive implementation of projects with introduction of DKC products, and solve the following tasks:

- exploratory design and development of the concept for integration of DKC products into a designed facility;
- coordination of necessary project components with a design organization in accordance with a customer's technical assignment;
- independent design using DKC products for further introduction into a project facility according to an available self-regulatory organization (SRO) admission.

Activities of the Service Department are aimed at:

- performance of necessary measurements and consultations in the course of facility exploratory design;
- technical support of design departments during design;
- organizational and technical management of product supply according to a project and installation monitoring (designer supervision, installation supervision);
- facility construction monitoring for necessary project adjustment (amendment and correction of specifications), coordination of changes in supplied products before shipment thereof;
- post-warranty support of a facility or customer in respect of operation of DKC installed products.

DKC provides in-depth technical support to its partners and clients, and specialists of the Engineering Solutions Division are always ready to assist in resolution of any problem.



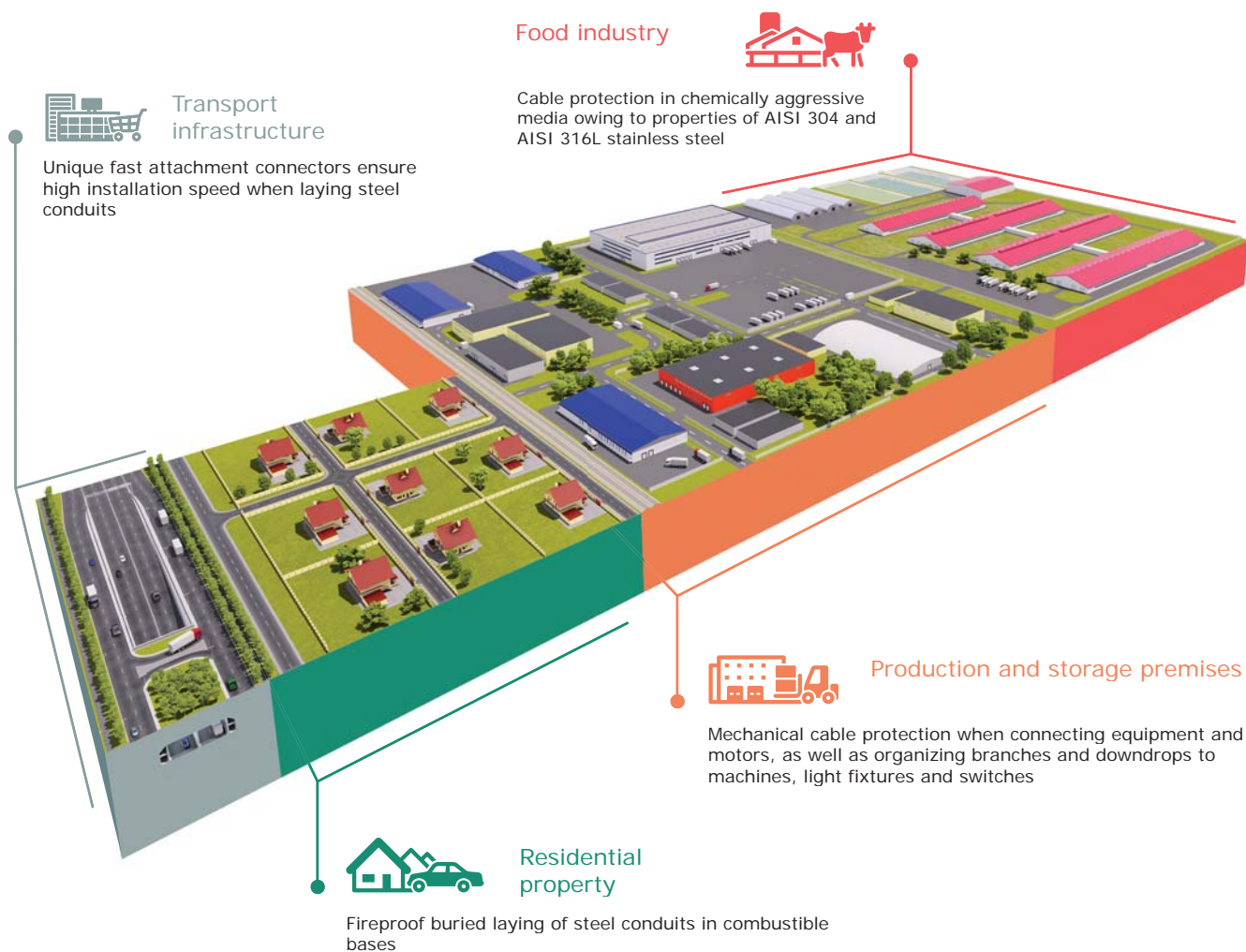
Metal conduit system "Cosmec"

Metal conduit system.....	10
Galvanized steel metal flexible conduits.....	16
Metal flexible conduits with vacuum PVC coating	17
Metal flexible conduits in smooth PVC coating.....	18
Metal flexible conduits with vacuum PVC coating and protected by galvanized steel braid.....	19
Metal flexible conduits in smooth EVA coating.....	20
Metal flexible conduits in smooth EVA coating and protected by stainless steel AISI 304 braid	21
Connectors for rigid steel conduits.....	22
Rigid steel conduits	28
Universal connectors.....	29
Connectors for flexible and rigid steel conduits.....	33
Metal junction boxes	43

Metal conduit system

Application

The system of metal conduits for wiring is designed for reliable protection of cables in industrial equipment and commercial property. Material of uncoated conduits is non-combustible and applied in different fields, where it is necessary to ensure thermal stability and increased resistance to mechanical damage. High flexibility, wear resistance, ability to withstand impact loads, ultraviolet light, aggressive exposure to oils, solvents and different fuel types, protection against electromagnetic effect are undeniable advantages of the metal conduit system. The system of metal flexible conduits with different types of vacuum insulation and rigid conduits with the use of connectors allows forming a reliable wiring system with high dust and moisture protection degree.



Assortment

A wide array of standard sizes of flexible and rigid conduits and connectors thereto with different types of coatings and basic materials makes it possible to create a system of any complexity which meets any and all requirements to temperature conditions, chemical resistance and mechanical strength to the full extent.

The unique patented system of conduits and connectors made of stainless steel of AISI 304 and AISI 316L grades for application at facilities of food and chemical industry.

Quality

High quality of DKC metal conduits in accordance with strict criteria of numerous European standards.

EN 61386-1 "Cable conduit system for electrical installations"

All conduits manufactured according to these standards are assigned with a four-digit code governing requirements to tests and basic characteristics of conduits.

IEC 423 "Conduits for electrical installations"

Specifies requirements to precise compliance with conduit diameters and metal thread dimensions according to ISO 68.

IEC 60670-CEI 23-48 "Boxes and enclosures for electrical installations"

Specifies requirements and testing procedures for boxes and enclosures designed for up to 1000 VDC and 1500 VAC.



European Directive 2002/95/EC (RoHS) "On the restriction of the use of certain hazardous substances in electric components"

All DKC metal conduits and connectors conform with this Directive and do not contain lead (Pb), cadmium (Cd), mercury (Hg), hexavalent chromium (Cr (VI)), bromide compounds PBB (polybrominated biphenyls) and PBDE (polybrominated diphenylethers).

Requirements of the RoHS Directive were developed in order to reduce environmental contamination and prevent poisoning of people who use and operate electric and electronic equipment with these substances.

UNI CEI 11170-3:2005 "Railway and tramway vehicles"

Specifies requirements to fire protection of vehicles, assessment of fire resistance of materials, describes applicability limits of materials.

Ease of installation:

- special patented connectors for fast attachment provide ease and high speed of installation owing to self-locking fasteners, whereas the dust and moisture protection degree is as high as IP66/IP67 without any additional connectors;
- a unique coupling that does not require installation of a back box is used for junction between a metal flexible conduit and a steel conduit;
- special double-attached couplings for metal flexible conduits in steel braid.

Advantages

Reliability:

- conduit structure without burrs, defects or sharp edges which may result in damage to a cable or hands during installation;
- high corrosion resistance of a metal flexible conduit (steel according to EN 10346) which has direct impact on operating and aesthetic properties;
- stainless steel version for application in food and chemical industries, as well as in aggressive media;
- junction boxes are made of painted aluminium and not susceptible to corrosion;
- foamed polyurethane applied along the entire perimeter of a junction box provides reliable sealing.

Ease of design:

- comprehensive system of flexible and rigid conduits, numerous adapters and connectors allow performing any task on design and laying of the wiring system;
- conduits made of galvanized and stainless steel with various types of polymeric coatings allow for optimal selection of a solution for different operating conditions.

Ease of installation:

- conduits and connectors are easily and reliably installed, providing high sealing degree (up to IP67);
- unique structure of a metal flexible conduit lock which allows preserving integrity during installation and bending;
- high tear strength of a metal flexible conduit owing to the unique lock;
- fast attachment connectors increase installation quality and speed.

Distinctive features of metal flexible conduits

Zinc coating thickness

- metal flexible conduit is made of high-quality steel according to EN 10346, and galvanized by the Sendzimir method;
- service life of a galvanized metal flexible conduit within premises with the moderate climate comprises at least **15 years**

Non-combustible material

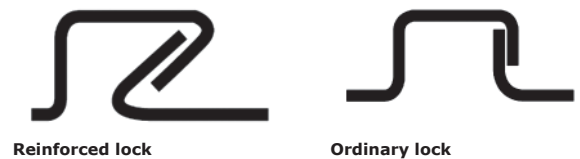
- mounting and operating temperature from -45 to $+250$ °C

Accessories

- perfect mating of conduits with connectors;
- perfect sealing (for coated conduits);
- easy and reliable installation;
- wide range of connectors

Advantages of reinforced lock

- high tear strength;
- high indicator of relative elongation in case of tear;
- excellent reliability under bending due to the shape of a lock hook



Distinctive features of connectors for metal flexible conduits

Metal flexible conduit

Made of galvanized steel in vacuum coating

Clamping nut

- nickel-plated brass;
- high chemical resistance;
- 6 edges for tightening with an open end wrench

Coupling enclosure

- nickel-plated brass;
- perfectly smooth internal surface excludes the possibility of cable damage when pulling;
- high strength and reliability of couplings;
- high chemical resistance

Thread

Metric thread according to EN 60423

Continuity of electric circuit with connectors

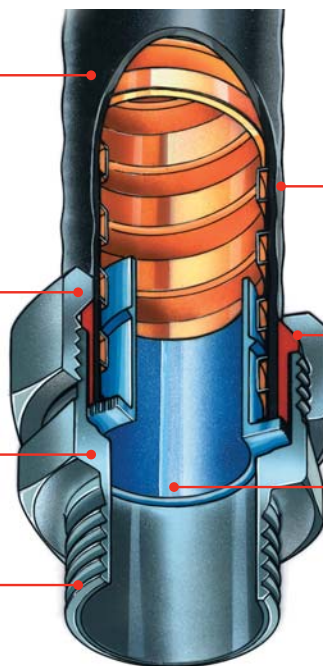
- electrical continuity of "Cosmec" metal flexible conduits in the system with connectors;
- grounding of a metal flexible conduit without soldering and failure of vacuum insulation of a metal flexible conduit;
- special grounding nut for connection to painted grounded equipment (purchased separately)

Polyamide clamping ring

Reliably attaches a coupling on a conduit, providing high sealing degree IP67

ZAMAK zinc alloy bushing

- covers sharp edges of a metal flexible conduit, excluding the possibility of damage to a cable or a wire when pulling;
- screwed in a metal flexible conduit, providing high tear-out load

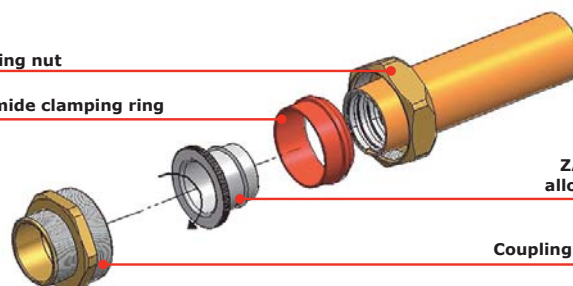


Clamping nut

Polyamide clamping ring

ZAMAK zinc alloy bushing

Coupling enclosure



Standard complete set of connectors for "Cosmec" metal flexible conduits:

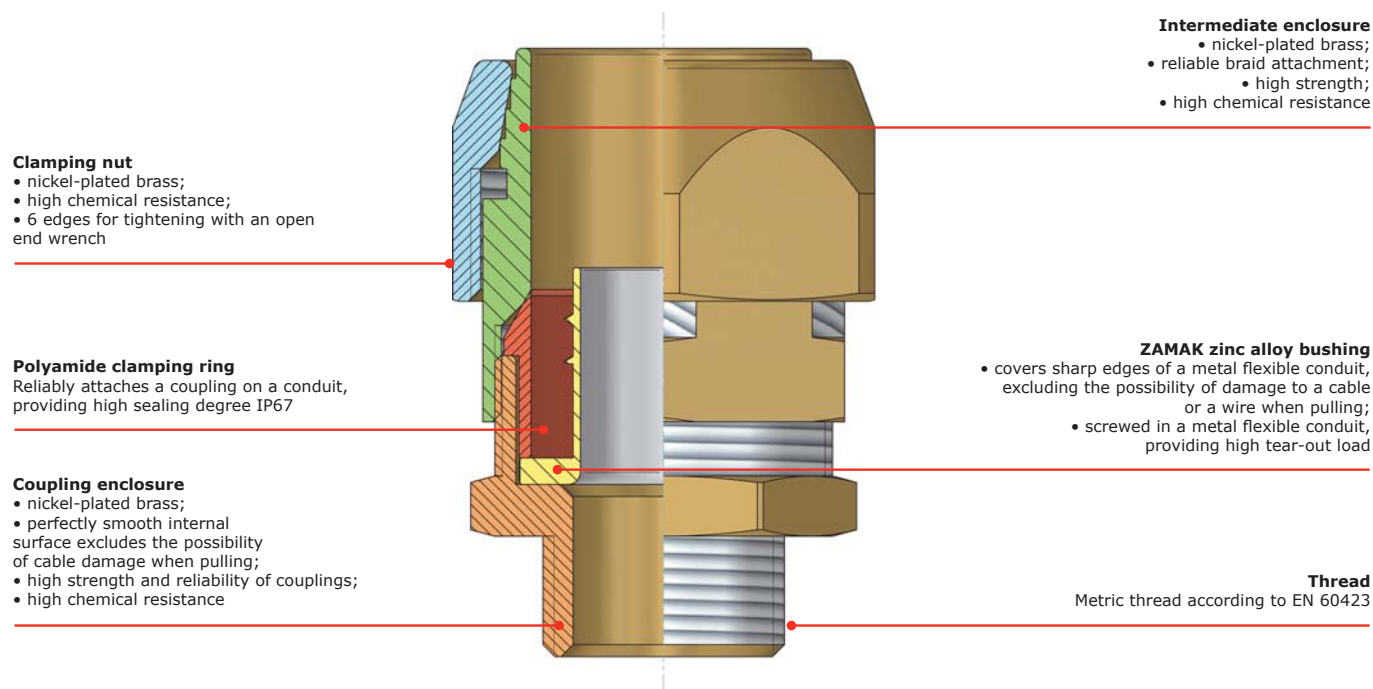
- where necessary, a lock nut and a sealing gasket for a certain thread are purchased additionally.

Double-attached couplings for metal flexible conduits in steel braid

The special structure of couplings with attachment of braid therein has been developed for metal flexible conduits in steel braid. All couplings are made of nickel-plated brass and provide double attachment of both conduit and braid.

This technical solution creates a number of advantages:

- high tear-out load;
- high sealing degree for all braided metal flexible conduits;
- prevention of possible damage of hands over braid edges of a metal flexible conduit;
- reliable attachment of braid on all sides and reliable holding thereof in a connector.

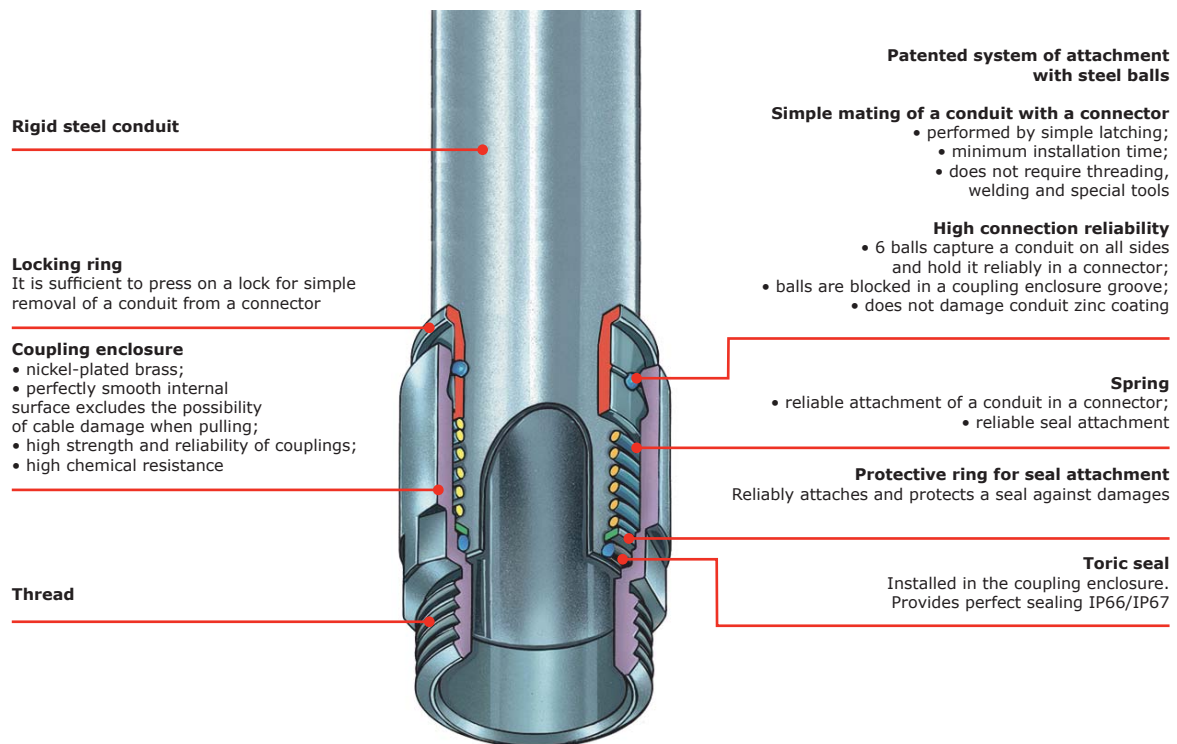


Double-attached couplings have 2 structural designs.

Structural design selection depends on a coating type of a metal flexible conduit, with which a coupling will be used. A coupling of T0 design is used for a metal flexible conduit in smooth insulation and steel braid, whereas T1 design is used for a metal flexible conduit in vacuum (corrugated) insulation.

Designation of structural design	T0	T1
Structural design		
Used together with	Metal flexible conduit in smooth insulation and braid	Metal flexible conduit in insulation and braid
Types of metal flexible conduits	 607ETX	 6071T
Dust and moisture protection degree IP	IP66/IP67	IP66/IP67

Distinctive features of connectors for metal conduits



Attachment system

- fast attachment system makes it possible to attach a conduit in a connector reliably in one motion;
- steel balls are spring-loaded and blocked in a special groove when inserting a conduit into a coupling. This guarantees high tear-out load of a conduit with a coupling, thus ensuring electric contact continuity;
- threading is not required;
- special installation equipment is not required;
- welding works are not required;
- for removal of a conduit from a connector, it is sufficient to press on a conduit retainer and remove the conduit;
- unique system of fast and reliable connector attachment reduces the installation time significantly.

Coupling sealing system

- The seal system ensures high sealing degree IP66/IP67. It is necessary to observe the following several simple rules to obtain guaranteed sealing:
- conduits shall be cut at a right angle and cleared from burrs to prevent damage of a seal and a cable during further entry thereof;
 - conduit is inserted into a connector with slight pressing and carefully rotated at the same time to overcome seal resistance.

System composition

A galvanized metal flexible conduit is made of hot dip galvanized tape by the Sendzimir method in accordance with the European standard EN 10346, with different types of coatings and materials. A wide range of metal flexible conduits will allow selecting an optimal option for cabling under the most severe operating conditions, and at the same time will provide flexibility when connecting to equipment of all kinds.

A galvanized steel metal flexible conduit differs by a wide mounting and operating temperature range, and has special flexibility and high mechanical strength. Non-combustible material of a metal flexible conduit allows using it in electric plants with ambient air heating of up to +250 °C.

A metal flexible conduit in PVC coating guarantees flexibility and high mechanical strength. The vacuum coating has minimum impact on flexibility and further provides high chemical resistance to most greases and oils. The moisture and dust protection degree is IP44 without additional seals and IP66/IP67 with seals.

A metal flexible conduit in smooth PVC coating guarantees flexibility and high mechanical strength. Being covered with firm PVC coating, it ensures perfect sealing (IP66/IP67) and cable protection against most oils and acids. Marking on a metal flexible conduit specifies length every meter for ease of installation. It is suitable for manufacturing enterprises at locations, where high level of cable mechanical protection and flexibility maintenance are necessary.

A metal flexible conduit in PVC coating and galvanized steel insulation guarantees flexibility and high mechanical strength. A metal flexible conduit of this type protects a cable against mechanical effects, abrasion, vandalism, rodents, water and dust ingress, ultraviolet light and electromagnetic effect within a wide frequency band.

A metal flexible conduit in smooth EVA coating (ethylene vinyl acetate) guarantees flexibility and high mechanical strength. A metal flexible conduit covered with firm thermoplastic coating made of self-extinguishing material with low smoke emission and low toxicity of combustion products, halogen free, is used at places of mass gathering and in railway transport. High sealing degree and chemical resistance to oils and acids represent further advantages of this metal flexible conduit.

A metal flexible conduit in smooth EVA coating and AISI 304 stainless steel insulation guarantees flexibility and high mechanical strength. Coating of a metal flexible conduit is self-extinguishing material with low smoke emission and low toxicity of combustion products, halogen free. Stainless steel braid provides extreme tear reliability, resistance to abrasion, wear, electric sparks, and protection against electromagnetic effect in a wide frequency band.

Connectors for a metal flexible conduit allow performing insertion and connection of all DKC metal flexible conduits, while preserving high sealing degree

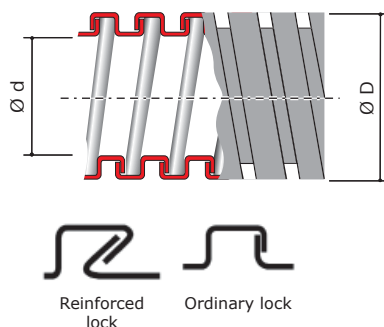
Rigid tubes made of hot dip galvanized steel by the Sendzimir method differ by high mechanical strength and are irreplaceable under severe industrial conditions, where reliable protection against mechanical and other aggressive effects is necessary. Rigid tubes are also irreplaceable when laying wiring inside combustible bases, constructing wooden houses and renovating combustible floor structures, as well as laying in attics and basements.

Rigid tubes made of stainless steel AISI 304 and AISI 316L differ by high corrosion resistance and are applied under conditions of aggressive media at enterprises of food, metallurgical, chemical and pharmaceutical industries. An internal weld is removed for perfect cable sliding in the course of pulling.

Connectors for rigid tubes are manufactured on the basis of the patented technology and provide as much convenient and fast attachment as possible.

Junction boxes made of aluminium alloy with epoxy paint are resistant to mechanical effects, chipping and exposure to ultraviolet light. A foamed polyurethane seal filled along the cover perimeter guarantees the degree of dust and moisture protection of IP66/IP67.

Galvanized steel metal flexible conduits



Purpose:

- laying of electric, telephone, computer, and television networks using insulated wires, cords or cables.

Distinctive features:

- non-combustible material;
- wide range of mounting and operating temperatures;
- flexibility;
- unique lock structure ensuring sleeve integrity under allowable bending;
- high mechanical indicators of tear and compression strength;
- high chemical resistance.

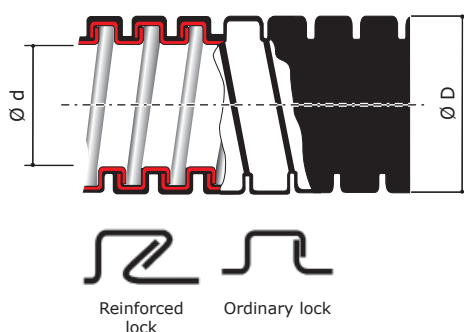
Characteristics

Standard	manufactured according to CEI EN 61386-1 and 61386-23
Classification code according to EN 61386-1 and EN 61386-23	3356
Climatic version	U2, KhL2, UKhL2 according to GOST 15150-69
Protection degree	IP40 according to GOST 14254-96 (IEC 529-89)
Mounting and operating temperature	from -45 to +250 °C
Strength (compression resistance at 20 °C)	over 750 N per 5 cm*
Tear strength	at least 500 N
Shock resistance at -45 °C	at least 2 J

* Deformation under the stated compressive force is not more than 25% ± 5% of the initial diameter

Rated diameter, mm	Inside diameter, mm	Outside diameter, mm	Minimum bend radius, mm	Q-ty in a coil, m	Lock type	Code
10	10.0	13.0	30	50	ordinary lock	667R1013
12	12.0	15.0	35	50	ordinary lock	667R1215
15	15.5	18.5	40	50	ordinary lock	667R1518
20	20.5	24.5	50	50	reinforced lock	667R2024
26	26.5	30.0	70	25	reinforced lock	667R2630
35	35.0	39.5	90	25	reinforced lock	667M3539
40	40.0	44.5	105	25	reinforced lock	667M4044
50	50.5	54.5	130	25	reinforced lock	667M5054

Metal flexible conduits with vacuum PVC coating



Purpose:

- laying of electric, telephone, computer, and television networks using insulated wires, cords or cables.

Distinctive features:

- resistance to fire propagation;
- a fire safety certificate is available;
- flexibility;
- unique lock structure ensuring sleeve integrity under allowable bending;
- high mechanical indicators of tear and compression strength;
- high chemical resistance to oils and greases;
- protection degree with connectors is up to IP67;
- leak tight installation in humid and dusty premises.

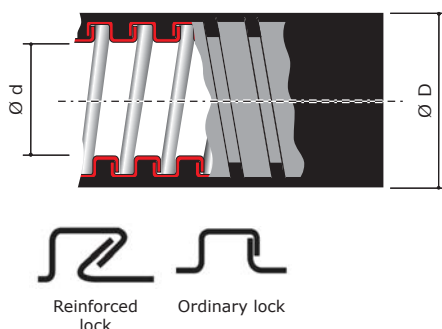
Characteristics

Standard	manufactured according to CEI EN 61386-1 and 61386-23
Classification code according to EN 61386-1 and EN 61386-23	3431
Protection degree	IP44/IP66/IP67 according to GOST 14254-96 (IEC 529-89)
	IP44 without a sealing coupling
	IP66/IP67 with a 66BTP sealing coupling
Mounting and operating temperature	from -15 to +70 °C
Strength (compression resistance at 20 °C)	over 1250 N per 5 cm* for conduits with rated diameter of less than 26 mm
	over 750 N per 5 cm* for conduits with rated diameter of more than 35 mm
Tear strength	at least 500 N for conduits with rated diameter of less than 15 mm
	at least 1000 N for conduits with rated diameter of more than 20 mm
Shock resistance at -15 °C	at least 6 J
Combustion category	PV-0 according to GOST 28779
Conformity to fire safety requirements	conform to GOST R 53313
Color	gray, black

* Deformation under the stated compressive force is not more than 25% ± 5% of the initial diameter

Rated diameter, mm	Inside diameter, mm	Outside diameter, mm	Minimum bend radius, mm	Q-ty in a coil, m	Lock type	Code	
						gray	black
10	10.0	14.0	30	50	ordinary lock	6071-010	6071-010N
12	12.0	16.0	35	50	ordinary lock	6071-012	6071-012N
15	15.5	19.5	40	50	ordinary lock	6071-015	6071-015N
20	20.5	25.5	60	50	reinforced lock	6071-020	6071-020N
26	26.5	31.5	80	25	reinforced lock	6071-027	6071-027N
35	35.0	41.0	120	25	reinforced lock	6071-035	6071-035N
40	40.0	46.0	150	25	reinforced lock	6071-040	6071-040N
50	50.5	57.0	200	25	reinforced lock	6071-050	6071-050N

Metal flexible conduits in smooth PVC coating



Purpose:

- laying of electric, telephone, computer, and television networks using insulated wires, cords or cables;
- optimal solution for manufacturing enterprises.

Distinctive features:

- resistance to fire propagation;
- a fire safety certificate is available;
- covered with firm smooth PVC coating;
- excellent mechanical indicators of tear and compression strength;
- high chemical resistance to oils and greases;
- leak tight installation in humid and dusty premises;
- flexibility;
- marking with indication of length in meters for ease of installation.

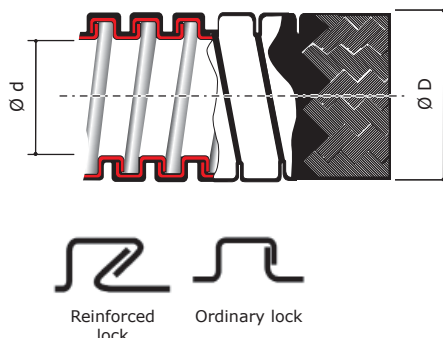
Characteristics

Standard	manufactured according to CEI EN 61386-1 and 61386-23
Classification code according to EN 61386-1 and EN 61386-23	3431
Protection degree	IP66/IP67 according to GOST 14254-96 (IEC 529-89)
	IP66 under dynamic effects during laying
	IP67 during static laying
Mounting and operating temperature	from -15 to +70 °C
Strength (compression resistance at 20 °C)	over 1250 N per 5 cm* for conduits with rated diameter of less than 26 mm
	over 750 N per 5 cm* for conduits with rated diameter of more than 35 mm
Tear strength	at least 500 N for conduits with rated diameter of less than 15 mm
	at least 1000 N for conduits with rated diameter of more than 20 mm
Shock resistance at -15 °C	at least 6 J
Combustion category	PV-0 according to GOST 28779
Conformity to fire safety requirements	conform to GOST R 53313
Color	gray, black

* Deformation under the stated compressive force is not more than 25% ± 5% of the initial diameter

Rated diameter, mm	Inside diameter, mm	Outside diameter, mm	Minimum bend radius, mm	Q-ty in a coil, m	Lock type	Code	
						gray	black
10	10.0	15.0	50	50	ordinary lock	6070-10	6070-10N
12	12.0	18.0	60	50	ordinary lock	6070-12	6070-12N
15	15.5	21.0	70	50	ordinary lock	6070-16	6070-16N
20	20.5	27.0	90	50	reinforced lock	6070-22	6070-22N
26	26.5	34.0	120	25	reinforced lock	6070-32	6070-32N
35	35.0	43.0	150	25	reinforced lock	6070-38	6070-38N
40	40.0	48.0	200	25	reinforced lock	6070-40	6070-40N
50	50.5	58.5	250	25	reinforced lock	6070-50	6070-50N

Metal flexible conduits with vacuum PVC coating and protected by galvanized steel braid



Purpose:

- laying of electric, telephone, computer, and television networks using insulated wires, cords and cables;
- optimal solution for severe conditions of industrial enterprises and production shops.

Distinctive features:

- resistance to fire propagation;
- a fire safety certificate is available;
- covered with vacuum PVC coating and protected by galvanized steel braid;
- high mechanical indicators of tear and compression strength;
- protection against mechanical effects, abrasion, vandalism, water and dust ingress, ultraviolet light and electromagnetic effect within a wide frequency band.

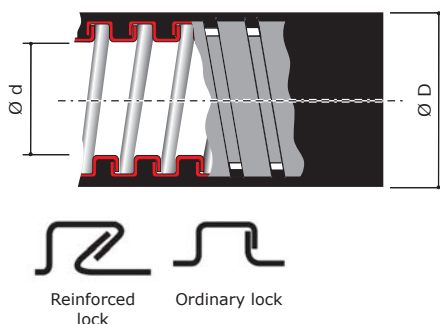
Characteristics

Standard	manufactured according to CEI EN 61386-1 and 61386-23
Classification code according to EN 61386-1 and EN 61386-23	3431
Protection degree	IP44/IP66/IP67 according to GOST 14254-96 (IEC 529-89)
	IP44 without a sealing coupling
	IP66/IP67 with a 66BTP sealing coupling
Mounting and operating temperature	from -15 to +70 °C
Strength (compression resistance at 20 °C)	over 1250 N per 5 cm* for conduits with rated diameter of less than 26 mm
	over 750 N per 5 cm* for conduits with rated diameter of more than 35 mm
Tear strength	at least 500 N for conduits with rated diameter of less than 15 mm
	at least 1000 N for conduits with rated diameter of more than 20 mm
Shock resistance at -15 °C	at least 6 J
Combustion category	PV-0 according to GOST 28779
Conformity to fire safety requirements	conform to GOST R 53313
EMC shielding	30-230 MHz, level 1 (min. attenuation 35 dB) according to IEC 61587

* Deformation under the stated compressive force is not more than 25% ± 5% of the initial diameter

Rated diameter, mm	Inside diameter, mm	Outside diameter, mm	Minimum bend radius, mm	Q-ty in a coil, m	Lock type	Code
10	10.0	14.0	30	50	ordinary lock	6071T-010
12	12.0	16.0	35	50	ordinary lock	6071T-012
15	15.5	19.5	50	50	ordinary lock	6071T-016
20	20.5	25.5	65	50	reinforced lock	6071T-022
26	26.5	31.5	80	25	reinforced lock	6071T-032
35	35.0	41.0	120	25	reinforced lock	6071T-038
40	40.0	46.0	150	25	reinforced lock	6071T-040
50	50.5	57.0	220	25	reinforced lock	6071T-050

Metal flexible conduits in smooth EVA coating



Purpose:

- laying of electric, telephone, computer, and television networks using insulated wires, cords and cables;
- optimal solution for cable protection at places of mass gathering and railway transport facilities.

Distinctive features:

- resistance to fire propagation;
- a fire safety certificate is available;
- covered with smooth EVA coating (ethylene vinyl acetate);
- high mechanical indicators of tear and compression strength;
- leak tight installation in humid and dusty premises;
- self-extinguishing coating material with low smoke emission and low toxicity of combustion products;
- high chemical resistance to oils and acids;
- halogen free.

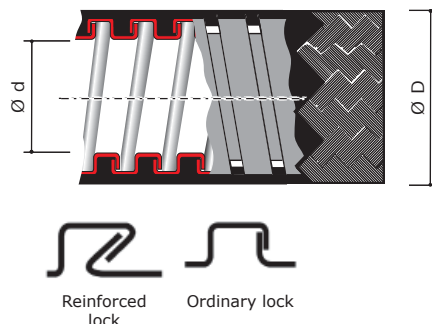
Characteristics

Standard	manufactured according to CEI EN 61386-1, 61386-23, UNI CEI 11170-3:2005
Classification code according to EN 61386-1 and EN 61386-23	3441
Protection degree	IP66/IP67 according to GOST 14254-96 (IEC 529-89)
	IP66 under dynamic effects during laying
	IP67 during static laying
Mounting and operating temperature	from -25 to +70 °C
Strength (compression resistance at 20 °C)	over 1250 N per 5 cm* for conduits with rated diameter of less than 26 mm
	over 750 N per 5 cm* for conduits with rated diameter of more than 35 mm
Tear strength	at least 500 N for conduits with rated diameter of less than 15 mm
	at least 1000 N for conduits with rated diameter of more than 20 mm
Shock resistance at -15 °C	at least 6 J
Combustion category	PV-0 according to GOST 28779
Conformity to fire safety requirements	conform to GOST R 53313
Halogens contents	0%
Color	gray

* Deformation under the stated compressive force is not more than 25% ± 5% of the initial diameter

Rated diameter, mm	Inside diameter, mm	Outside diameter, mm	Minimum bend radius, mm	Q-ty in a coil, m	Lock type	Code
10	10.0	15.0	60	50	ordinary lock	607E010
12	12.0	18.0	70	50	ordinary lock	607E012
15	15.5	21.0	90	50	ordinary lock	607E016
20	20.5	27.0	120	50	reinforced lock	607E022
26	26.5	34.0	140	25	reinforced lock	607E032
35	35.0	43.0	190	25	reinforced lock	607E038
40	40.0	48.0	240	25	reinforced lock	607E040
50	50.5	58.5	300	25	reinforced lock	607E050

Metal flexible conduits in smooth EVA coating and protected by stainless steel AISI 304 braid



Purpose:

- laying of electric, telephone, computer, and television networks using insulated wires, cords and cables;
- maximum cable protection at places of mass gathering and railway transport facilities.

Distinctive features:

- resistance to fire propagation;
- a fire safety certificate is available;
- covered with smooth EVA coating (ethylene vinyl acetate) and protected by stainless steel braid;
- high mechanical indicators of tear and compression strength;
- self-extinguishing coating material with low smoke emission and low toxicity of combustion products;
- halogen free;
- resistance to abrasion, wear, electric sparks, and protection against electromagnetic effect within a wide frequency band.

Characteristics

Standard	manufactured according to CEI EN 61386-1, 61386-23, UNI CEI 11170-3:2005
Classification code according to EN 61386-1 and EN 61386-23	3441
Protection degree	IP66/IP67 according to GOST 14254-96 (IEC 529-89)
	IP66 under dynamic effects during laying
	IP67 during static laying
Mounting and operating temperature	from -25 to +70 °C
Strength (compression resistance at 20 °C)	over 1250 N per 5 cm* for conduits with rated diameter of less than 26 mm
	over 750 N per 5 cm* for conduits with rated diameter of more than 35 mm
Tear strength	at least 500 N for conduits with rated diameter of less than 15 mm
	at least 1000 N for conduits with rated diameter of more than 20 mm
Shock resistance at -15 °C	at least 6 J
Combustion category	PV-0 according to GOST 28779
Conformity to fire safety requirements	conform to GOST R 53313
Halogen content	0%
EMC shielding	30–230 MHz, level 1 (min. attenuation 35 dB) according to IEC 61587


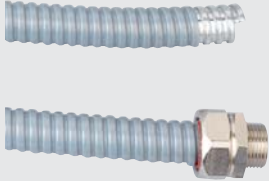




* Deformation under the stated compressive force is not more than 25% ± 5% of the initial diameter

Rated diameter, mm	Inside diameter, mm	Outside diameter, mm	Minimum bend radius, mm	Q-ty in a coil, m	Lock type	Code
10	10.0	15.0	60	50	ordinary lock	607ETX010
12	12.0	18.0	70	50	ordinary lock	607ETX012
15	15.5	21.0	90	50	ordinary lock	607ETX016
20	20.5	27.0	120	50	reinforced lock	607ETX022
26	26.5	34.0	140	25	reinforced lock	607ETX032
35	35.0	43.0	190	25	reinforced lock	607ETX038
40	40.0	48.0	240	25	reinforced lock	607ETX040
50	50.5	58.5	300	25	reinforced lock	607ETX050

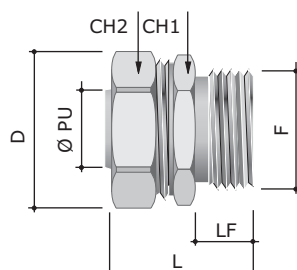
Connectors for rigid steel conduits

Connectors for rigid steel conduits are made of nickel-plated brass. Brass nickel plating ensures high resistance to environmental exposure and high chemical resistance.

Depending on the metal flexible conduit type used, a metal flexible conduit-box couplings with inside and outside threads (codes 6014, 6014G, 6015) provide the dust and moisture protection degree according to the table below:

Picture of metal flexible conduit	Code of metal flexible conduit series	System IP according to GOST 14254-96
	667M	IP40
	6071	IP44 without a seal; IP66/IP67 with a 66BTP sealing coupling
	6071T	IP44 without a seal; IP66/IP67 with a 66BTP sealing coupling
	6070	
	607E	IP66/IP67
	607ETX	

Metal flexible conduit-box coupling with outside thread

**Purpose:**

- entry of a metal flexible conduit into equipment housings, enclosures, boxes, junction boxes.

Characteristics:

- material is nickel-plated brass;
- operating temperature is from -40 to +80 °C;
- simple and reliable mating with a metal flexible conduit.

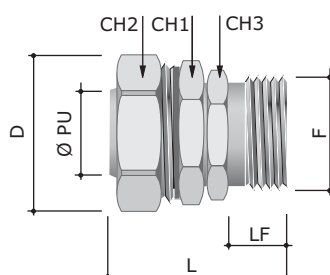
Complete set:

- if necessary, the item may be additionally completed with a nut and a sealing gasket (pages 41-42).

Rated diameter of metal flexible conduit*, mm	Physical dimensions, mm							Package, pcs	Code
	F	Ø PU	CH 1	CH 2	D	LF	L		
10	M16x1.5	8.5	22	24	26.5	10	28.0	10	6014-1016
12	M16x1.5	10.0	24	26	28.5	10	29.0	10	6014-16A
15	M16x1.5	12.0	28	30	33.0	10	32.3	10	6014-1616
15	M20x1.5	13.8	28	30	33.0	10	32.3	10	6014-20A
20	M20x1.5	16.0	35	37	40.7	10	35.0	10	6014-2020
20	M25x1.5	18.0	35	37	40.7	12	35.0	10	6014-25A
26	M25x1.5	20.0	42	45	50.5	12	38.5	10	6014-2527
26	M32x1.5	24.0	42	45	50.5	13	38.5	10	6014-32A
35	M40x1.5	32.0	50	52	57.0	14	43.0	5	6014-4035
40	M40x1.5	34.0	58	61	64.0	14	44.5	5	6014-40A
40	M50x1.5	38.0	58	61	64.0	18	48.5	5	6014-5040
50	M50x1.5	44.0	70	74	78.0	18	54.5	5	6014-50A
50	M63x1.5	48.0	70	74	78.0	18	54.5	1	6014-6350

* Designed for connection with a metal flexible conduit of the corresponding rated diameter (example: coupling 6014-1016 is mated with metal flexible conduit 667R1013 or 6071-010, etc.)

Metal flexible conduit-box rotary coupling with outside thread

**Purpose:**

- entry of a metal flexible conduit into equipment housings, enclosures, boxes, junction boxes with the possibility of rotation of a metal flexible conduit, IP preservation and reliable attachment.

Characteristics:

- material is nickel-plated brass;
- operating temperature is from -40 to +80 °C;
- reliable attachment of a metal flexible conduit with the possibility of rotation.

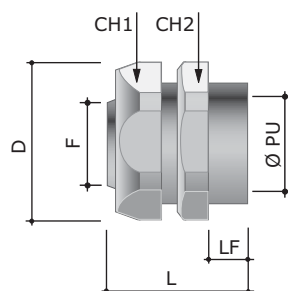
Complete set:

- if necessary, the item may be additionally completed with a nut and a sealing gasket (pages 41-42).

Rated diameter of metal flexible conduit*, mm	Physical dimensions, mm								Package, pcs	Code
	F	Ø PU	CH 1	CH 2	CH 3	D	LF	L		
10	M16x1.5	8.5	22	24	20	26	10	42	10	6014-1016G
12	M16x1.5	10.0	24	26	22	28	10	44	10	6014-1216G
15	M20x1.5	13.8	28	30	26	33	10	45	10	6014-20G
20	M25x1.5	18.0	35	37	32	40	10	46	10	6014-25G
26	M32x1.5	24.0	42	45	39	50	13	53	10	6014-2732G
35	M40x1.5	32.0	50	52	50	57	14	59	7	6014-4035G
40	M50x1.5	38.0	58	61	55	64	18	65	5	6014-5040G
50	M63x1.5	48.0	70	74	70	78	18	73	1	6014-6350G

* Designed for connection with a metal flexible conduit of the corresponding rated diameter (example: coupling 6014-1016G is mated with metal flexible conduit 667R1013 or 6071-010, etc.)

Metal flexible conduit-box coupling with inside thread



Purpose:

- entry of a metal flexible conduit into equipment housings, enclosures, boxes, junction boxes.

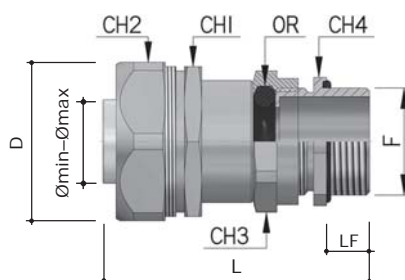
Characteristics:

- material is nickel-plated brass;
- operating temperature is from -40 to +80 °C;
- convenient entry of a metal flexible conduit into equipment with outside metric thread (adapters are used for inch thread);
- when connecting with outside thread couplings (code 6014-XX), it forms aesthetic and reliable connection.

Rated diameter of metal flexible conduit*, mm	Physical dimensions, mm							Package, pcs	Code
	F	Ø PU	CH 1	CH 2	D	LF	L		
10	M16x1.5	8.5	22	24	26	12	27	10	6015-10A
12	M16x1.5	10.0	24	26	28	13	28	10	6015-12A
15	M16x1.5	13.8	28	30	33	14.5	32	10	6015-16A
15	M20x1.5	13.8	28	30	33	14.5	32	10	6015-20
20	M20x1.5	18.0	35	37	40	14	33	10	6015-2020
20	M25x1.5	18.0	35	37	40	16	35	10	6015-25
26	M25x1.5	23.0	42	45	50	16	38	10	6015-2527
26	M32x1.5	24.0	42	45	50	16	38	10	6015-32A
35	M32x1.5	30.0	50	52	57	17	43	10	6015-3235
35	M40x1.5	32.0	50	52	57	17	43	5	6015-4035
40	M40x1.5	38.0	58	61	64	20	48	5	6015-40
40	M50x1.5	38.0	58	61	64	23	48	5	6015-5040
50	M50x1.5	48.0	70	74	78	20.5	51	5	6015-50
50	M63x1.5	48.0	70	74	78	45	53	1	6015-6350

* Designed for connection with a metal flexible conduit of the corresponding rated diameter (example: coupling 6015-10A is mated with metal flexible conduit 667R1013 or 6071-010, etc.)

Metal flexible conduit-box coupling with leak tight cable seal

**Purpose:**

- leak tight entry of a cable protected by a metal flexible conduit into equipment housings, enclosures, boxes, junction boxes.

Distinctive features:

- structurally combines a leak tight cable clamp and a coupling for a metal flexible conduit;
- O-ring crimps a single round cable at entry into a box/enclosure reliably.

Characteristics:

- material is nickel-plated brass;
- operating temperature is from -25 to +80 °C;
- protection degree is IP68.

Complete set:

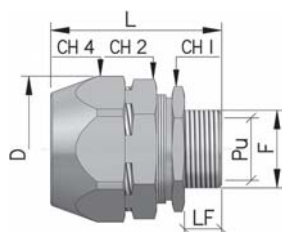
- if necessary, the item may be additionally completed with a nut and a sealing gasket (pages 41-42).

Rated diameter of metal flexible conduit*, mm	Cable diameter**, mm	Physical dimensions, mm								Package, pcs	Code
		F	CH 1	CH 2	CH 3	CH 4	D	LF	L		
10	05 ÷ 09	M12x1.5	22.0	24	20	20	26.0	10	53.5	10	6014P10M120509
10	05 ÷ 09	M16x1.5	22.0	24	20	20	26.0	10	53.5	10	6014P10M160509
10	08 ÷ 12	M20x1.5	22.0	24	24	24	26.0	10	53.5	10	6014P10M200812
12	05 ÷ 09	M12x1.5	24.0	26	20	20	28.0	10	54.5	10	6014P12M120509
12	05 ÷ 09	M16x1.5	24.0	26	20	20	28.0	10	54.5	10	6014P12M160509
12	08 ÷ 12	M20x1.5	24.0	26	24	24	28.0	10	54.5	10	6014P12M200812
15	05 ÷ 09	M12x1.5	28.0	30	20	20	33.0	10	58.0	10	6014P16M120509
15	05 ÷ 09	M16x1.5	28.0	30	20	20	33.0	10	58.0	10	6014P16M160509
15	08 ÷ 12	M20x1.5	28.0	30	24	24	33.0	10	58.0	10	6014P16M200812
15	11 ÷ 16	M25x1.5	28.0	30	30	30	33.0	10	60.0	10	6014P16M251116
20	08 ÷ 12	M20x1.5	35.0	37	24	24	40.7	10	58.5	10	6014P22M200812
20	11 ÷ 16	M20x1.5	35.0	37	30	30	40.7	10	62.5	10	6014P22M201116
20	11 ÷ 16	M25x1.5	35.0	37	30	30	40.7	10	62.5	10	6014P22M251116
20	15 ÷ 21	M32x1.5	35.0	37	36	36	40.7	10	64.5	10	6014P22M321521
26	11 ÷ 16	M20x1.5	42.0	45	30	30	50.5	10	65.7	10	6014P32M201116
26	11 ÷ 16	M25x1.5	42.0	45	30	30	50.6	10	65.7	10	6014P32M251116
26	15 ÷ 21	M25x1.5	42.0	45	36	36	50.6	10	68.0	10	6014P32M251521
26	15 ÷ 21	M32x1.5	42.0	45	36	36	50.6	10	68.0	10	6014P32M321521
26	20 ÷ 27	M40x1.5	42.0	45	45	45	50.6	10	74.5	10	6014P32M402027
35	15 ÷ 21	M32x1.5	50.0	52	36	36	57.0	10	72.5	7	6014P38M321521
35	20 ÷ 27	M40x1.5	50.0	52	45	45	57.0	12	79.0	7	6014P38M402027
40	20 ÷ 27	M40x1.5	58.0	61	45	45	64.0	12	84.5	5	6014P40M402027

* Designed for connection with a metal flexible conduit of the corresponding rated diameter (example: coupling 6014P10M120509 is mated with metal flexible conduit 667R1013 or 6071-010, etc.)

** Designed for sealing of a cable with the corresponding outside diameter (example: coupling 6014P10M120509 reliably seals a cable with outside diameter of 5-9 mm)

Double-attached coupling for a metal flexible conduit in steel braid and entry into a box



Purpose:

- entry of a metal flexible conduit in steel braid into equipment housings, enclosures, boxes, junction boxes with reliable braid attachment.

Characteristics:

- material is nickel-plated brass;
- operating temperature is from -40 to +80 °C;
- attaches braid on all sides and holds it in a connector reliably;
- high sealing degree is IP66/IP67.

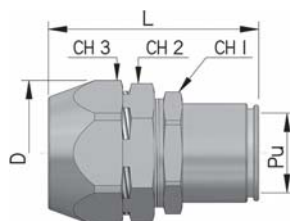
Complete set:

- if necessary, the item may be additionally completed with a nut and a sealing gasket (pages 41-42).

Rated diameter of metal flexible conduit*, mm	Physical dimensions, mm								Package, pcs	Code	
	F	Ø PU	CH 1	CH 2	CH 4	LF	L	D		application with a metal flexible conduit with smooth insulation (607ETX series)	application with a metal flexible conduit in vacuum insulation (6071T series)
10	M16x1.5	8.5	22	26	28	9	44	31	10	T06014-1016	T16014-1016
12	M16x1.5	10.0	24	28	30	9	45	34	10	T06014-16A	T16014-16A
15	M20x1.5	13.8	28	30	35	10	51	39	10	T06014-20A	T16014-20A
20	M20x1.5	16.0	35	39	42	10	54	47	10	T06014-2020	T16014-2020
20	M25x1.5	18.0	36	39	42	12	56	47	10	T06014-25A	T16014-25A
26	M32x1.5	24.0	42	50	50	12	61	56	10	T06014-32A	T16014-32A
35	M40x1.5	32.0	50	55	60	14	61	64	5	T06014-4035	T16014-4035
40	M40x1.5	34.0	58	60	65	14	66	72	5	T06014-40A	T16014-40A
40	M50x1.5	38.0	58	60	65	18	70	72	5	T06014-5040	T16014-5040
50	M50x1.5	44.0	70	80	80	18	75	76	5	T06014-50A	T16014-50A
50	M63x1.5	48.0	70	80	80	18	75	76	1	T06014-6350	T16014-6350

* Designed for connection with a metal flexible conduit of the corresponding rated diameter (example: coupling T06014-1016 is mated with metal flexible conduit 607ETX010, whereas coupling T16014-1016 is mated with metal flexible conduit 6071T-010)

Double-attached coupling for connection of a metal flexible conduit in steel braid with a smooth steel conduit



Purpose:

- connection of a metal flexible conduit in steel braid with a smooth steel conduit.

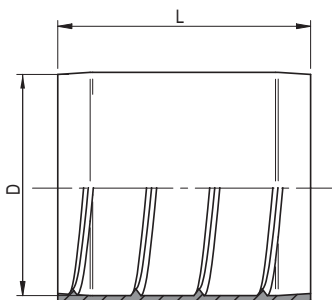
Characteristics:

- material is nickel-plated brass;
- operating temperature is from -40 to +80 °C;
- attaches braid on all sides and holds it in a connector reliably;
- high sealing degree is IP66/IP67.

Rated diameter of metal flexible conduit*, mm	Diameter of a smooth steel conduit, mm	Physical dimensions, mm						Package, pcs	Code	
		Ø PU	CH 1	CH 2	CH 3	L	D		application with a metal flexible conduit with smooth insulation (607ETX series)	application with a metal flexible conduit in vacuum insulation (6071T series)
10	16.0	8.5	24	26	28	60	31	10	T06117-10N	T16117-10N
12	16.0	10.0	24	28	30	61	34	10	T06117-12N	T16117-12N
15	16.0	13.8	28	30	35	65	39	10	T06117-16N	T16117-16N
20	20.0	18.0	35	39	42	65	47	10	T06117-2020	T16117-2020
20	25.0	18.0	35	39	42	68	47	10	T06117-25N	T16117-25N
26	32.0	24.0	42	50	50	77	56	10	T06117-32N	T16117-32N
35	32.0	32.0	50	55	60	76	64	5	T06117-3235	T16117-3235
35	40.0	32.0	50	60	65	81	72	5	T06117-4035	T16117-4035
40	40.0	38.0	60	60	65	85	72	5	T06117-40	T16117-40
40	50.0	38.0	60	80	80	85	76	5	T06117-5040	T16117-5040
50	50.0	48.0	70	80	80	87	76	5	T06117-50	T16117-50

* Designed for connection with a metal flexible conduit of the corresponding rated diameter (example: coupling T06117-10N is mated with metal flexible conduit 607ETX010 and rigid steel conduit 16 mm, code 6008-16L3)

Sealing coupling for a leak tight metal flexible conduit



Purpose:

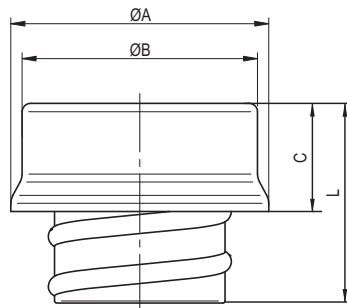
- increases the sealing level of a coupling-metal flexible conduit connection up to IP66/IP67 when using with leak tight metal flexible conduits;
- used only with metal flexible conduits of 6071 and 6071T series.

Characteristics:

- material is self-extinguishing thermoplastic;
- operating temperature is from -25 to +70 °C;
- combustion type is V0 according to UL94;
- conforms to the RoHS Directive;
- protection degree is IP66/IP67.

Rated diameter of metal flexible conduit, mm	Physical dimensions, mm		Package, pcs	Code
	D	L		
10	15.5	20.0	12	66BTP10
12	17.6	20.0	12	66BTP12
15	21.0	20.0	6	66BTP16
20	27.5	30.0	4	66BTP22
26	33.5	30.0	4	66BTP32
35	43.0	30.0	4	66BTP38
40	49.0	40.5	4	66BTP40
50	60.0	40.5	2	66BTP50

End bushing for a metal flexible conduit



Purpose:

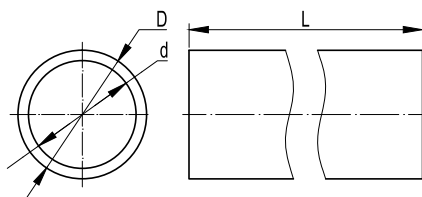
- protects a cable and installer's hands against damage caused by sharp edges of a metal flexible conduit.

Characteristics:

- material is galvanized steel;
- screwed in on a metal flexible conduit end.

Rated diameter of metal flexible conduit, mm	Physical dimensions, mm				Package, pcs	Code
	A	B	C	L		
10	18.4	16.8	8.5	15.9	10	S66V10
12	21.0	19.0	8.6	19.3	10	S66V12
15	25.0	23.0	10.8	20.6	10	S66V16
20	31.0	28.3	13.0	24.0	10	S66V22
26	38.2	35.5	13.5	27.2	5	S66V32
35	47.2	43.7	18.8	29.5	5	S66V38
40	53.4	49.7	19.7	33.0	5	S66V40
50	66.7	64.0	26.0	33.5	5	S66V50

Rigid steel conduits



Purpose:

- protection of wires and cables against mechanical damage, laying of electric, computer, and television networks using insulated wires, cords and cables;
- protection against mechanical damage and aggressive environment.

Characteristics:

- version 1 is steel galvanized by the Sendzimir method;
- version 2 is stainless steel AISI 304;
- version 3 is stainless steel AISI 316L.

Installation conditions:

- open laying on materials of any flammability (NG-G4 as per GOST 30244) and combustibility (V1-V3 as per GOST 30402) classes;
- buried laying in cavities of trunking walls, access floors, suspended ceilings in materials of flammability classes NG-G3 as per GOST 30244.

Distinctive features:

- galvanized steel conduits have a uniform internal weld without sharp edges that allows reducing the probability of damage to cable sheath when pulling it in a conduit;
- as for stainless steel conduits, an internal weld is dressed in the process of manufacturing, thus providing perfect smoothness of the internal conduit surface and excluding the bare possibility of cable damage, simplifying mounting works.

Characteristics

Standard	manufactured according to CEI EN 61386-1, EN 61386-23, EN 60423
Classification code according to EN 61386-1 and EN 61386-23	5545
Coating materials and types	steel hot dip galvanized on a conveyor by the Sendzimir method AISI 304 grade stainless steel AISI 316L grade stainless steel
Climatic version according to GOST 15150-69	version 1 is U2, KhL2, UKhL2 versions 2 and 3 are U1, KhL1, UKhL1, UKhL5
Protection degree	IP66/IP67 according to GOST 14254-96 (IEC 529-89) IP66 under dynamic effects IP67 during static laying
Mounting and operating temperature	from -60 to +150 °C
Strength (compression resistance at 20 °C)	over 4000 N per 5 cm*
Tear strength	at least 1000 N
Shock resistance at -25 °C	at least 20 J
EMC shielding	30–230 MHz, level 2 (min. attenuation 50 dB) according to IEC 61587

* Deformation under the stated compressive force is not more than 25% ± 5% of the initial diameter

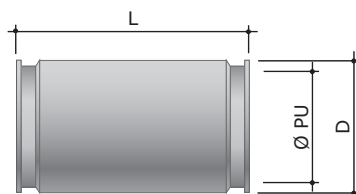
Outside diameter, mm	Inside diameter, mm	Wall thickness, mm	Version 1 (Sendzimir method)		Version 2 (AISI 304)		Version 3 (AISI 316L)	
			3 m conduit segments		4 m conduit segments		3 m conduit segments	
			Package, m	Code	Package, m	Code	Package, m	Code
16	14	1	45	6008-16L3	40	6700-16L4	45	6700A-16L3
20	18	1	45	6008-20L3	40	6700-20L4	45	6700A-20L3
25	22.6	1.2	30	6008-25L3	40	6700-25L4	30	6700A-25L3
32	29.6	1.2	24	6008-32L3	20	6700-32L4	24	6700A-32L3
40	37.6	1.2	15	6008-40L3	20	6700-40L4	15	6700A-40L3
50	47.6	1.2	15	6008-50L3	16	6700-50L4	15	6700A-50L3
63	60	1.5	9	6008-63L3	–	–	–	–

Connectors for flexible and rigid steel conduits

Connectors for rigid steel conduits have a variety of advantages, the basic one whereof is undoubtedly the patented fast attachment technology with the high dust and moisture protection level. Owing to the fast attachment system, the installation time is reduced considerably, while the process as such is simplified. Absence of necessity for threading, welding and special tools together with ease of installation makes laying of steel conduits amazingly simple and convenient.

Connectors are made of nickel-plated brass and stainless steel AISI 316L and represent an optimal solution for severe operating conditions at industrial enterprises.

Conduit-conduit connecting coupling


Purpose:

- leak tight connection of rigid steel conduits with the same diameter.

Characteristics:

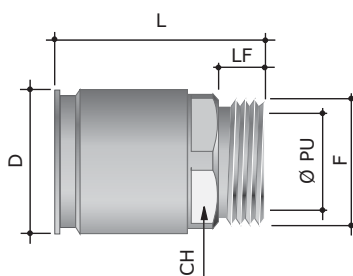
- version 1 is nickel-plated brass;
- version 3 is stainless steel AISI 316L
- protection degree is IP66/IP67;

Distinctive features:

- self-locking mechanism providing the protection degree of IP66/IP67.

Diameter, mm	Physical dimensions, mm			Package, pcs	Code, version 1 (nickel-plated brass)	Code, version 3 (AISI 316L)
	Ø PU	L	D			
16	15	58	23	8	6110-16N	6110-16XX
20	19	58	27	8	6110-20N	6110-20XX
25	24	58	32	5	6110-25N	6110-25XX
32	31	63	39	4	6110-32N	6110-32XX
40	38	80	50	5	6110-40	6110-40XX
50	48	80	60	5	6110-50	6110-50XX
63	61	84	75	1	6110-63N	-

Conduit-box coupling IP66/IP67


Purpose:

- leak tight connection of rigid steel conduits with housings of junction boxes, enclosures and boxes.

Characteristics:

- version 1 is nickel-plated brass;
- version 3 is stainless steel AISI 316L;
- protection degree is IP66/IP67.

Distinctive features:

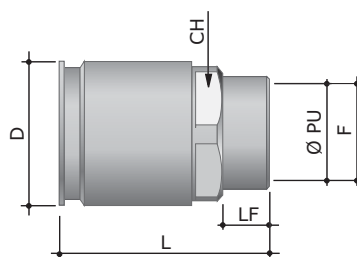
- self-locking mechanism providing the protection degree of IP66/IP67;
- metric thread.

Complete set:

- item shall be additionally completed with a nut and a sealing gasket (page 41-42).

Diameter, mm	Physical dimensions, mm						Package, pcs	Code, version 1 (nickel-plated brass)	Code, version 3 (AISI 316L)
	F	Ø PU	CH	LF	D	L			
16	M16x1.5	12.7	20	10	26	41	8	6111-A16N	6111-16XX
20	M20x1.5	16.0	24	10	27	41	8	6111-A20N	6111-20XX
25	M25x1.5	21.0	29	10	32	41	5	6111-A25N	6111-25XX
32	M32x1.5	27.5	37	12	39	46	4	6111-A32N	6111-32XX
40	M40x1.5	35.0	46	14	50	57	5	6111-A40	6111-40XX
50	M50x1.5	45.0	55	14	60	57	5	6111-A50	6111-50XX
63	M63x1.5	55.0	75	14	75	68	1	6111-A63N	-

Conduit-box coupling with inside thread IP66/IP67


Purpose:

- leak tight connection of rigid steel conduits with housings of junction boxes, enclosures and boxes.

Characteristics:

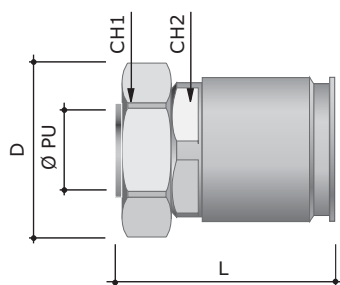
- version 1 is nickel-plated brass;
- version 3 is stainless steel AISI 316L
- protection degree is IP66/IP67.

Distinctive features:

- self-locking mechanism providing the protection degree of IP66/IP67;
- inside metric thread.

Diameter, mm	Physical dimensions, mm						Package, pcs	Code, version 1 (nickel-plated brass)	Code, version 3 (AISI 316L)
	F	Ø PU	CH	LF	D	L			
16	M16x1.5	14.5	20	10	26	39	8	6112-A16	6112-16XX
20	M20x1.5	18.5	24	10	27	39	8	6112-A20	6112-20XX
25	M25x1.5	23.5	29	10	32	39	5	6112-A25	6112-25XX
32	M32x1.5	30.5	37	12	39	44	4	6112-A32	6112-32XX
40	M40x1.5	38.5	46	15	50	58	5	6112-A40	6112-40XX
50	M50x1.5	48.5	55	15	60	58	5	6112-A50	6112-50XX
63	M63x1.5	60.0	75	21.5	75	67	1	6112-A63N	-

Rigid coupling, smooth conduit-metal flexible conduit IP66/IP67


Purpose:

- leak tight connection of rigid steel conduits with metal flexible conduits;
- used for junction between a rigid conduit and a metal flexible conduit, if a flexible route bend is required.

Characteristics:

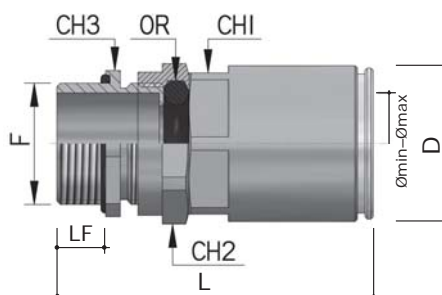
- version 1 is nickel-plated brass;
- version 3 is stainless steel AISI 316L;
- protection degree is IP66/IP67.

Distinctive features:

- self-locking mechanism providing the protection degree of IP66/IP67;
- leak tight connection of a metal flexible conduit and a conduit is made with one coupling.

Diameter of a rigid steel conduit, mm	Rated diameter of metal flexible conduit, mm	Physical dimensions, mm					Code, version 1 (nickel-plated brass)		Code, version 3 (AISI 316L)	
		Ø PU	CH1	CH2	D	L	package, pcs	code	package, pcs	code
16	10	8.5	24	24	27	47.5	10	6117-10N		
16	12	10.0	24	26	29	48.5	10	6117-12N		
16	15	13.8	28	30	33	48.0	10	6117-16N		
20	15	13.8	28	30	33	47.0	10	6117-20N	25	6117XX20N
20	20	18.0	35	37	40	50.5	10	6117-2020		
25	20	18.0	35	37	40	51.5	10	6117-25N	15	6117XX25N
25	26	23.0	42	45	50	53.5	10	6117-2527		
32	26	24.0	42	45	50	56.0	10	6117-32N	10	6117XX32N
32	35	30.0	50	52	55	58.5	5	6117-3235		
40	40	38.0	58	61	64	63.5	5	6117-40		
40	35	32.0	58	52	55	63.5	5	6117-4035	5	6117XX4035
50	40	38.0	58	61	64	63.0	5	6117-5040	5	6117XX5040
50	50	48.0	70	74	78	67.5	5	6117-50		
63	50	48.0	75	74	78	74.0	1	6117-63N		

Conduit-box coupling with leak tight cable seal IP68



Purpose:

- leak tight entry of a cable and a conduit into equipment housings, enclosures, boxes, junction boxes.

Characteristics:

- material is nickel-plated brass;
- operating temperature is from -25 to +120 °C;
- protection degree is IP68.

Distinctive features:

- structurally combines a leak tight cable clamp and a coupling for a rigid conduit;
- leak tight entry into enclosures with exclusion of the possibility of dust and moisture ingress into the cable route enclosure;
- O-ring crimps a single round cable at entry into a box/enclosure reliably.

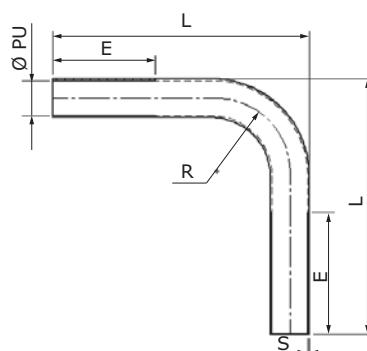
Complete set:

- if necessary, the item may be additionally completed with a nut and a sealing gasket (pages 41-42).

Diameter of a rigid steel conduit, mm	Cable diameter*, mm	Physical dimensions, mm							Package, pcs	Code
		F	CH1	CH2	CH3	D	LF	L		
16	05 ÷ 09	M12x1.5	20	20	20	23	10	64.3	10	6111P16M120509
16	05 ÷ 09	M16x1.5	20	20	20	23	10	64.3	10	6111P16M160509
16	08 ÷ 12	M20x1.5	20	24	24	23	10	64.3	10	6111P16M200812
20	08 ÷ 12	M16x1.5	24	24	24	27	10	64.3	10	6111P20M160812
20	08 ÷ 12	M20x1.5	24	24	24	27	10	64.3	10	6111P20M200812
20	11 ÷ 16	M25x1.5	24	30	30	27	10	66.2	10	6111P20M251116
25	11 ÷ 16	M20x1.5	29	30	30	32	10	65.9	10	6111P25M201116
25	11 ÷ 16	M25x1.5	29	30	20	32	10	66.2	10	6111P25M251116
25	15 ÷ 21	M32x1.5	29	36	36	32	10	68.2	10	6111P25M321521
32	15 ÷ 21	M25x1.5	37	36	36	39	10	72.5	10	6111P32M251521
32	15 ÷ 21	M32x1.5	37	36	36	39	10	72.5	10	6111P32M321521
32	20 ÷ 27	M40x1.5	37	45	45	39	10	79.0	10	6111P32M402027
40	20 ÷ 27	M32x1.5	46	45	45	50	10	93.0	5	6111P40M322027
40	20 ÷ 27	M40x1.5	46	45	45	50	10	93.0	5	6111P40M402027

* Designed for sealing of a cable with the corresponding outside diameter (example: coupling 6111P16M120509 reliably seals a cable with outside diameter of 5-9 mm)

90° conduit-conduit bend, IP67



Purpose:

- leak tight connection of rigid steel conduits at angle of 90°;
- connection with a conduit is performed using a conduit-conduit connecting coupling (page 29).

Characteristics:

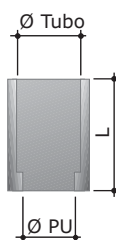
- version 1 is steel galvanized by the Sendzimir method;
- version 2 is stainless steel AISI 304;
- version 3 is stainless steel AISI 316L;
- protection degree is IP67.

Version 1 (Sendzimir method)

Diameter of a rigid steel conduit, mm	Physical dimensions, mm					Package, pcs	Code
	S	Ø PU	E	R	L		
16	1.0	14.0	100	40.0	155	5	6013-16L
20	1.0	18.0	100	50.0	160	5	6013-20L
25	1.2	22.5	100	62.5	180	5	6013-25L
32	1.2	29.5	100	80.0	210	5	6013-32L
40	1.2	37.5	100	100.0	220	5	6013-40
50	1.2	47.5	150	125.0	300	1	6013-50
63	1.5	60.0	170	230.0	450	1	6013-63

Diameter of a rigid steel conduit, mm	Physical dimensions, mm					Package, pcs	Code, version 2 (AISI 304)	Code, version 3 (AISI 316L)
	S	Ø PU	E	R	L			
16	1.0	14.0	100	46.0	154	5	6013-16X	–
20	1.0	18.0	100	67.0	177	5	6013-20X	6013-20XX
25	1.2	22.5	100	82.0	195	5	6013-25X	6013-25XX
32	1.2	29.5	100	112.0	228	5	6013-32X	6013-32XX
40	1.2	37.5	100	190.0	310	1	6013-40X	6013-40XX
50	1.2	47.5	175	250.0	450	1	6013-50X	6013-50XX

End bushing, external



Purpose:

- cable insulation protection against damage over sharp edges of steel conduits during pulling or cutting of conduits, or cable outlet.

Characteristics:

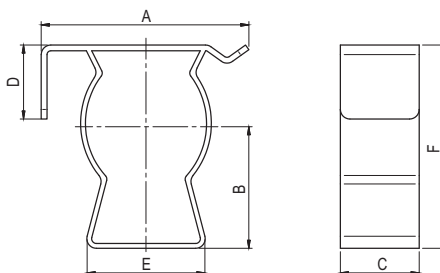
- material is polyethylene;
- operating temperature is from –40 to +60 °C;
- does not contain halogens.

Diameter of a rigid steel conduit, mm	Ø PU, mm	L, mm	Package, pcs	Code
16	14.0	20.0	10	6097L16B
20	18.0	22.5	10	6097L20B
25	22.5	26.5	10	6097L25B
32	29.5	33.0	10	6097L32B
40	37.5	38.9	10	6097L40B
50	47.5	47.5	10	6097L50B
63	60.0	59.3	10	6097L63B

Connectors for flexible and rigid steel conduits

Holders

Holder with fast attachment cover



Purpose:

- attachment of rigid smooth steel conduits to surfaces of walls, ceilings, floors and partition walls.

Characteristics:

- version 1 is steel with zinc coating applied by the cold galvanizing method;
- version 2 is stainless steel AISI 304;
- hole in a holder base 6x10 mm.

Distinctive features:

- patented fast attachment system saves time and efforts significantly;
- reliable installation of a conduit without screws and additional tools;
- shaped holder profile ensures reliable conduit attachment and high tear-out load during suspension;
- edges without burrs do not damage conduit coating during installation.

Complete set:

- fasteners for wall mounting are ordered separately.

Scheme installation



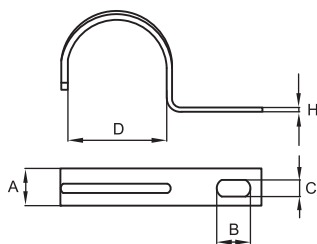
Installation of base holder into wall

Installation of conduit into wall

Latching of holder cover on base

Diameter of rigid steel conduit, mm	Physical dimensions, mm							Package, pcs	Code, version 1 (galvanized steel)	Code, version 2 (AISI 304)
	A	B	C	D	E	F	hole in base			
16	35.4	22.0	16.0	9.7	20.0	31.6	6x10	100	6044-A16	–
20	36.0	22.0	16.0	9.7	20.0	33.3	6x10	100	6044-A20	6044-XA20
25	43.2	24.5	16.0	15.4	26.0	42.3	6x10	50	6044-A25	6044-XA25
32	55.3	30.0	16.0	14.6	27.0	44.3	6x10	50	6044-A32	6044-XA32
40	61.6	41.0	18.0	14.4	36.0	58.3	6x10	25	6044-A40	–
50	63.8	46.4	18.0	19.6	40.0	69.1	6x10	25	6044-A50	–

Galvanized one-side holder



Purpose:

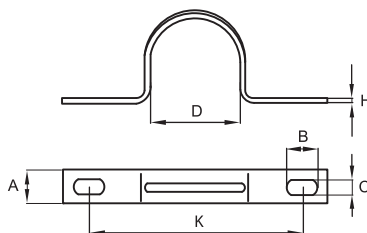
- attachment of plastic, metal and metal-reinforced plastic tubes, as well as cable to surfaces of walls, ceilings, floors and partition walls.

Characteristics:

- material is galvanized steel.

Diameter, mm	Physical dimensions, mm					Wholesale package		Retail package		
	D	A	B	C	H	q-ty, pcs	code	q-ty, pcs (pack x pcs)	code	
13	13	10	6	4.5	0.9	100	53340	–	–	
16	16	12	6	4.5	0.9	100	53341	400 (20x20)	53341R	
19-20	19	12	6	4.5	0.9	100	53342	300 (20x15)	53342R	
22	22	14	7	4.5	0.9	100	53343	200 (20x10)	53343R	
25-26	26	14	7	4.5	0.9	100	53344	160 (20x8)	53344R	
32	32	15	12.5	6.5	1.8	100	53346	120 (20x6)	53346R	
38-40	38	15	12.5	6.5	1.8	100	53347	–	–	
48-50	48	15	12.5	6.5	1.8	50	53348	–	–	

Galvanized two-side holder



Purpose:

- attachment of plastic, metal and metal-reinforced plastic tubes, as well as cable to surfaces of walls, ceilings, floors and partition walls.

Characteristics:

- material is galvanized steel.

Diameter, mm	Physical dimensions, mm						Wholesale package		Retail package		
	D	A	B	C	H	K	q-ty, pcs	code	q-ty, pcs (pack x pcs)	code	
13	13	10	5	5	0.9	32	100	53353	–	–	
16	16	12	6.5	5	0.9	34	100	53354	400 (20x20)	53354R	
19-20	19	12	6.5	5	0.9	38	100	53355	300 (20x15)	53355R	
22	22	14	8.5	6.5	0.9	47	100	53356	200 (20x10)	53356R	
25-26	26	14	8.5	6.5	0.9	47	100	53357	160 (20x8)	53357R	
32	32	14	10	6.5	0.9	54	100	53359	120 (20x6)	53359R	
38-40	38	14	10	6.5	0.9	61	100	53360	–	–	
48-50	50	14	10	6.5	0.9	80	50	53361	–	–	
63	63	14	8.5	6.5	1	88	30	53362	–	–	

Plastic rawplugs with self-tapping screws



V-type rawplug



F-type rawplug

Purpose:

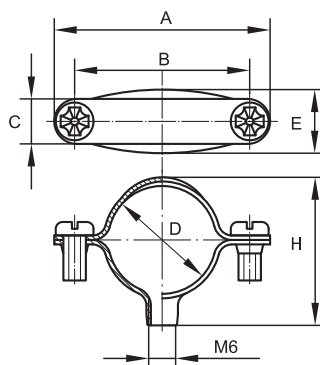
- general purpose attachment accessories.

Characteristics:

- rawplug material is plastic;
- self-tapping screw material: galvanized steel.

Type of rawplug	Physical dimensions, mm				Installation				Package, pcs	Old code	New code
	rawplug diameter	rawplug length	self-tapping screw diameter	self-tapping screw length	concrete	brick	hollow brick	gypsum plasterboard, partition walls			
V5	5	25	4	30	+	+	–	–	100	06521	CM06521
V6	6	30	4.5	40	+	+	–	–	100	06522	CM06522
V8	8	40	5	45	+	+	–	–	100	06523	CM06523
F6	6	45	3.5	50	+	+	+	+	100	06541	CM06541
F8	8	50	4.5	60	+	+	+	+	100	06542	CM06542

Steel tie with M6 inside thread



Purpose:

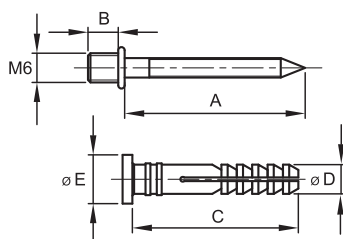
- attachment of plastic and metal tubes to surfaces of walls, ceilings, floors and partition walls.

Characteristics:

- material is galvanized steel;
- there is a through-hole with M6 inside thread for attachment of the holder to the attachment kit, code 63768 or a stud with M6 thread.

Diameter, mm	Physical dimensions, mm						Package, pcs	Code
	D	A	B	C	E	H		
12	12	39	25	10	16	20	100	58012
14	14	37	25	10	16	20	100	58014
16	16	42	31	10	16	24	100	58016
20	20	46	34	10	16	27	100	58020
25-26	26	49	41	10	16	34	100	58026
32	32	55	46	10	16	40	100	58032
38-40	40	66	55	12	16	45	100	58038
48-50	50	76	67	12	16	57	50	58048

Attachment kit for steel ties



Purpose:

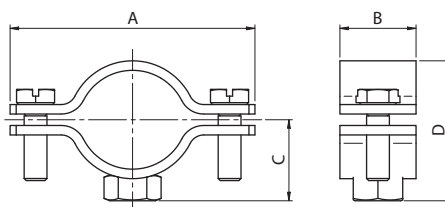
- attachment of steel ties and holders with a tie to surfaces of concrete and brick walls, ceilings, floors and partition walls.

Characteristics:

- material of the rawplug is nylon;
- material of the concrete nail is galvanized steel;
- rawplug dimension is D6x35 mm;
- M6x5 mm thread on the concrete nail head.

Dimension, mm	Physical dimensions, mm					Package, pcs	Code
	A	B	C	ØD	ØE		
D6x35	37	6	34	6	10	100	63768

Steel tie with weld nut



Purpose:

- attachment of plastic and metal tubes to surfaces of walls, ceilings, floors and partition walls.

Characteristics:

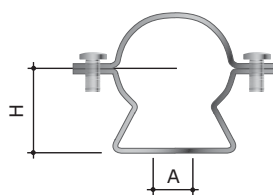
- material is galvanized steel;
- weld nut with metric thread.

Distinctive features:

- machined edges do not damage conduit coating or scratch surfaces.

Physical dimensions, mm								Package, pcs	Code
Ø of attachment	Ø of conduit, "	thread	A	B	C	D	steel thickness		
18-24	1/2	M8	59.0	20	20	34.5	2.5	100	6040-P12
25-30	3/4	M8	61.9	20	23	39.7	2.5	100	6040-P34
30-36	1	M8	70.5	20	27	46.3	2.5	100	6040-P01
38-44	1 1/4	M8	87.6	20	30	56.0	2.5	100	6040-P114
44-50	1 1/2	M8	87.6	20	35	61.0	2.5	100	6040-P112
56-63	2	M8	99.7	20	42	76.2	2.5	100	6040-P02
75-80	2 1/2	M10	123.6	20	50	87.6	2.5	100	6040-P212
84-90	3	M10	134.5	20	57	100.8	2.5	100	6040-P03
112-118	4	M10	168.0	30	70	124.0	2.5	100	6040-P04

Steel tie for conduits



Purpose:

- attachment of plastic and steel tubes to surfaces of walls, ceilings, floors and partition walls.

Characteristics:

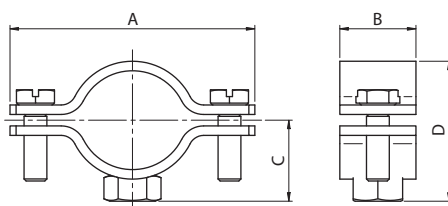
- material is galvanized steel.

Distinctive features:

- convenient tube attachment system with a folding cover.

Steel conduit diameter, mm	Fixed diameter, mm	H, mm	A, mm	Package, pcs	Code
16-3/8"	16.0-19.5	20	6x10	125	6040-16
20-1/2"	20.0-23.5	22	6x10	100	6040-22
25-3/4"	23.5-26.0	25	6x10	75	6040-25
32-1"	26.5-33.0	32	6x12	60	6040-32
40-1 1/4"	35.0-40.0	41	6x12	40	6040-38
50-1 1/2"	43.0-50.0	45	8x14	30	6040-50
63-2"	54.0-63.0	53	8x14	20	6040-60

Heavy-duty stainless steel tie



Purpose:

- attachment of plastic, steel and other tubes to surfaces of walls, ceilings, floors and partition walls; suspension on a threaded stud and consoles.

Installation conditions

- indoors, outdoors.

Characteristics:

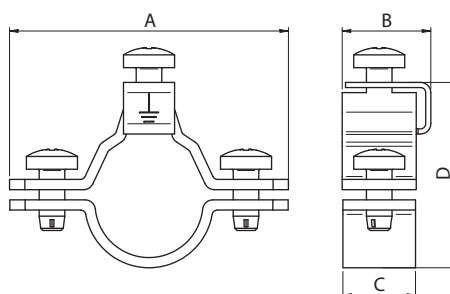
- version 2 is stainless steel AISI 304;
- version 3 is stainless steel AISI 316L;
- conduit diameter is 15 mm (3/8") to 115 mm (4").

Distinctive features:

- machined edges do not damage conduit coating or scratch surfaces;
- excellent load indicators and high chemical resistance of material for rigid operating conditions.

Fixed diameter, mm	Steel conduit diameter, "	Nut, mm	Physical dimensions, mm					Load, F*Nm	Package, pcs	Code, version 2 (AISI 304)	Code, version 3 (AISI 316L)
			A	B	C	D	steel thickness S, mm				
15-19	3/8	M8	59.7	20	18	31.5	2	80	100	6040-038	-
20-24	1/2	M8	58.2	20	20	33.6	2	80	100	6040-012	6040-012X
25-29	3/4	M8	66.5	20	22	42.5	2	80	100	6040-034	6040-034X
32-36	1	M8	75.3	20	26	48.4	2	80	100	6040-001	6040-001X
40-45	1 1/4	M8	89.0	20	30	56.4	2.5	90	100	6040-114	6040-114X
47-51	1 1/2	M8	87.4	20	35	59.4	2.5	90	100	6040-112	6040-112X
59-63	2	M8	100.2	20	42	74.2	2.5	90	100	6040-002	-
73-78	2 1/2	M10	131.2	30	50	89.0	2.5	130	100	6040-212	-
86-92	3	M10	150.5	30	57	100.2	2.5	130	100	6040-003	-
108-115	4	M10	169.0	30	70	120.5	2.5	130	100	6040-004	-

Grounding tie for conduits



Purpose:

- grounding, neutral grounding and potential equalization of steel conduits.

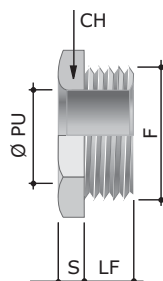
Characteristics:

- version 1 is steel with zinc coating applied by the cold galvanizing method;
- it is possible to connect conductors with section of up to 16 mm²;
- conduit diameters are 16 mm (3/8") to 63 mm (2").

Steel conduit diameter, mm	Physical dimensions, mm				Package, pcs	Code, version 1
	A	B	C	D		
16-3/8"	47.0	17.1	13.2	29.8	20	6042-16
20-1/2"	53.7	17.1	14.2	33.4	20	6042-20
25-3/4"	57.8	17.5	14.2	38.5	20	6042-25
32-1"	70.5	17.7	14.8	46.6	20	6042-32
40-1 1/4"	81.7	19.5	17.1	52.4	20	6042-40
50-1 1/2"	87.1	18.3	17.1	62.7	20	6042-50
63-2"	97.9	19.2	17.1	74.0	20	6042-63

Accessories

Protective bushing



Purpose:

- branching and outlet of cables from boxes and metal trays for the purpose of protection of cable sheath against cutting with a sharp edge.

Characteristics:

- material is nickel-plated brass;
- protection degree is IP67;
- metric thread.

Distinctive features:

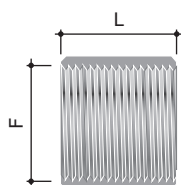
- high resistance to severe environmental conditions;
- smooth internal surface with radial curvatures;
- attached with a threaded joint or a nut.

Complete set:

- if necessary, a nut is ordered additionally.

Physical dimensions, mm					Package, pcs	Code
F	Ø PU	CH	LF	S		
M16x1.5	13.0	22	10	3.0	5	6052-16A
M20x1.5	15.0	26	10	3.0	5	6052-20
M25x1.5	21.0	30	12	3.5	5	6052-25
M32x1.5	28.0	40	12	4.0	5	6052-32A
M40x1.5	35.0	50	14	4.0	1	6052-40
M50x1.5	44.0	58	18	5.0	1	6052-50

Connection coupling



Purpose:

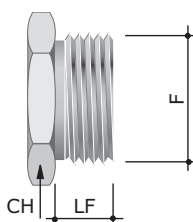
- connection of two connectors with a metric thread of one typical size.

Characteristics:

- material – nickel-plated brass;
- protection level – IP67;
- metric thread.

Dimensions, mm		Packing, pcs.	Code
F	L		
M16x1,5	27,0	10	6003-16A
M20x1,5	30,0	10	6003-20
M25x1,5	36,0	10	6003-25
M32x1,5	40,0	10	6003-32A
M40x1,5	40,0	5	6003-40
M50x1,5	50,0	5	6003-50
M63x1,5	65,0	2	6003-63

Nickel-plated brass plug



Purpose:

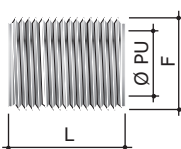
- closing of unused metric threaded holes.

Characteristics:

- material – nickel-plated brass;
- metric thread.

Dimensions, mm			Packing, pcs.	Code
F	CH	LF		
M16x1,5	22	8	20	6050-16A
M20x1,5	24	8	20	6050-20
M25x1,5	28	10	20	6050-25
M32x1,5	35	10	20	6050-32A
M40x1,5	45	12	20	6050-40
M50x1,5	55	13	10	6050-50

Nipple



Purpose:

- connection of various elements with appropriate metric threaded holes.

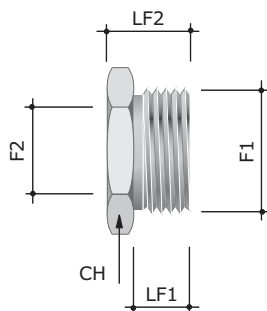
Characteristics:

- material – nickel-plated brass;
- external metric thread.

Dimensions, mm			Packing, pcs.	Code
F	Ø PU	L		
M16x1,5	12	21,0	20	6051-16A
M20x1,5	15	24,5	20	6051-20
M25x1,5	20	25,0	20	6051-25
M32x1,5	26	32,0	20	6051-32A
M40x1,5	36	30,0	25	6051-40
M50x1,5	41	50,0	5	6051-50
M63x1,5	58	50,5	1	6051-63

MET-MET adapter with metric thread

A type



Purpose:

- transfer to different standard sizes of metric thread.

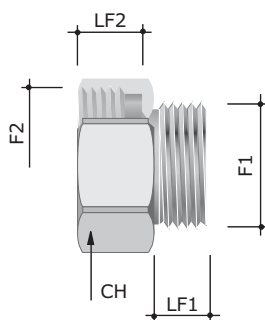
Characteristics:

- material is nickel-plated brass;
- transfer to metric thread of the required size;
- metric thread is ISO Metric EN 60423;
- 2 different types of adapters.

Distinctive features:

- high chemical resistance of material for rigid operating conditions.

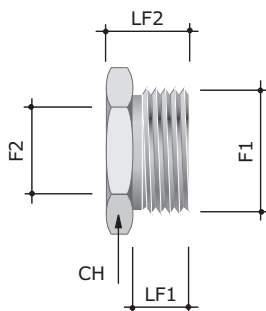
B type



Physical dimensions, mm					Type	Package, pcs	Code
F1	F2	CH	LF2	LF1			
M16x1.5	M20x1.5	22	11	8	B	20	6016-1620
M20x1.5	M16x1.5	24	12	8	A	20	6016-2016
M20x1.5	M25x1.5	28	11	8	B	10	6016-2025
M25x1.5	M20x1.5	26	14	10	A	20	6016-2520
M25x1.5	M32x1.5	35	13	10	B	10	6016-2532
M32x1.5	M20x1.5	35	14	10	A	10	6016-3220
M32x1.5	M25x1.5	35	15	10	A	10	6016-3225
M32x1.5	M40x1.5	42	13	10	B	10	6016-3240
M40x1.5	M20x1.5	45	15	10	A	10	6016-4020
M40x1.5	M25x1.5	45	15	10	A	10	6016-4025
M40x1.5	M32x1.5	42	18	13	A	10	6016-4032
M40x1.5	M50x1.5	55	14	12	B	5	6016-4050
M50x1.5	M32x1.5	50	18	13	A	5	6016-5032
M50x1.5	M40x1.5	50	19	13	A	5	6016-5040
M50x1.5	M63x1.5	70	15	13	B	2	6016-5063
M63x1.5	M40x1.5	65	21	14	A	2	6016-6340
M63x1.5	M50x1.5	65	21	14	A	2	6016-6350

GAS-MET adapter from pipe thread to metric thread

A type



Purpose:

- transfer from pipe cylinder thread to metric thread;
- perfect solution in case of necessity of connection to equipment having holes with pipe thread.

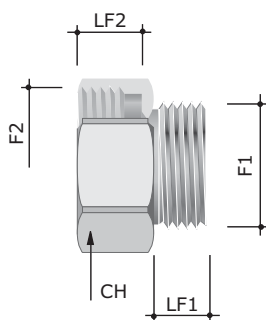
Characteristics:

- material is nickel-plated brass;
- metric thread is ISO Metric EN 60423;
- pipe thread is ISO 228 GAS DIN 40430 – equivalent of GOST 6357-81;
- 2 different types of adapters;

Distinctive features:

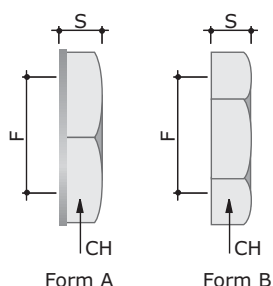
- high chemical resistance of material for rigid operating conditions.

B type



Physical dimensions, mm					Type	Package, pcs	Code
F1	F2	CH	LF2	LF1			
1/2"	M16x1.5	22	11.0	9.0	A	50	6019-1216
3/4"	M20x1.5	28	13.5	9.5	A	20	6019-3420
1"	M25x1.5	35	15.5	10.5	A	10	6019-0125
1"	M20x1.5	35	15.5	10.5	A	10	6019-0120
1"	M32x1.5	35	13.0	13.0	B	10	6019-0132
1"1/4	M32x1.5	46	19.0	11.0	A	10	6019-11432
1"1/2	M40x1.5	50	23.0	17.0	A	10	6019-11240
2"	M50x1.5	60	26.5	20.0	A	10	6019-0250
2"	M63x1.5	70	20.0	18.0	B	10	6019-0263
2"1/2	M63x1.5	75	31.0	19.0	A	1	6019-21263

Nut



Purpose:

- attachment of couplings for flexible and rigid steel conduits to equipment housings, enclosures, boxes, junction boxes.

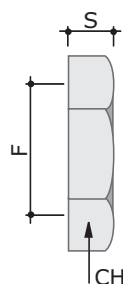
Characteristics:

- version 1 is nickel-plated brass;
- version 3 is stainless steel AISI 316L.

Physical dimensions, mm			Type	Package, pcs	Code, version 1 (nickel-plated brass)
F1	CH	S			
M12x1.5	15	3	B	10	6006E-12
M16x1.5	18	6	A	10	6006-16A
M20x1.5	22	6	A	10	6006-20
M25x1.5	29	6	A	10	6006-25
M32x1.5	38	8	A	10	6006-32A
M40x1.5	45	7	A	5	6006-40
M50x1.5	54	8	A	5	6006-50
M63x1.5	66	10	A	5	6006-63

Physical dimensions, mm			Type	Package, pcs	Code, version 3 (AISI 316L)
F1	CH	S			
M16x1.5	20	3	B	10	6006-16XX
M20x1.5	24	4	B	10	6006-20XX
M25x1.5	30	4	B	10	6006-25XX
M32x1.5	36	4	B	10	6006-32XX
M40x1.5	45	5	B	5	6006-40XX
M50x1.5	55	6	B	5	6006-50XX

Grounding nut



Purpose:

- creation of reliable electric contact between connectors and enclosures of grounded electric equipment or junction boxes.

Characteristics:

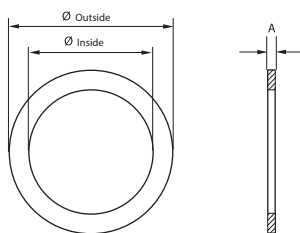
- nickel-plated brass.

Distinctive features:

- there is no need to clean the painted surface;
- reliable contact when connecting to the existing equipment;
- sharp projections cut the paint, tapping into metal, and provide reliable contact.

Physical dimensions, mm			Package, pcs	Code
F	CH	S		
M12x1.5	15	3.0	10	6006EMC-12A
M16x1.5	20	3.0	10	6006EMC-16A
M20x1.5	24	3.5	10	6006EMC-20
M25x1.5	30	3.5	10	6006EMC-25
M32x1.5	35	4.5	10	6006EMC-32A
M40x1.5	45	4.5	5	6006EMC-40
M50x1.5	55	5.5	5	6006EMC-50
M63x1.5	70	6.0	5	6006EMC-63

Sealing gasket IP67



Purpose:

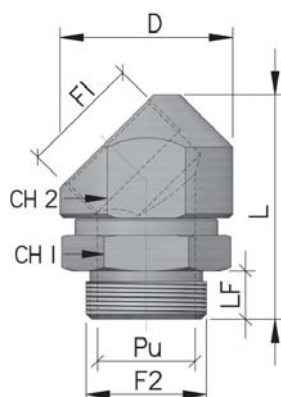
- sealing of coupling entry points into equipment housings, enclosures, boxes, junction boxes to provide the protection degree IP67.

Characteristics:

- operating temperature is from -45 to +150 °C (briefly up to 180 °C).

For thread	Physical dimensions, mm			Package, pcs	Code
	Ø inside	Ø outside	A		
M16x1.5	16.0	22.0	1.5	20	6060-1522
M20x1.5	20.0	26.0	1.5	20	6060-1925
M25x1.5	25.0	32.0	1.5	10	6060-2532
M32x1.5	32.0	38.5	1.5	10	6060-3238
M40x1.5	40.0	50.0	1.5	5	6060-4050
M50x1.5	50.0	59.5	1.5	2	6060-5060
M63x1.5	63.0	72.0	2.0	2	6060-6472

45° rotary adapter, IP68



Purpose:

- selection of a cable outlet direction and minimization of possible mechanical or thermal effects on a cable in bends.

Installation conditions:

- indoors and outdoors.

Characteristics:

- material is nickel-plated brass;
- manufactured according to EN 61386-1 and EN 60423;
- protection degree is IP68/IP67;
- compatible with all threaded metric joints;

Distinctive features:

- high accuracy of manufacturing guarantees cable entry without the risk of insulation damage;
- rotary adapter enclosure with an internal seal guarantees high sealing degree.

Complete set:

- if necessary, the item may be additionally completed with a nut and a sealing gasket (pages 41-42).

Physical dimensions, mm								Package, pcs	Code
F1	F2	LF	L	PU	ØD	CH2	CH1		
M20x1.5	M20x1.5	10	48	15.0	34	30	26	10	6028-20G
M25x1.5	M25x1.5	10	52	20.0	38	34	32	10	6028-25G
M32x1.5	M32x1.5	13	60	26.0	46	41	39	10	6028-32G
M40x1.5	M40x1.5	14	70	32.0	55	50	50	10	6028-40G
M50x1.5	M50x1.5	18	85	39.5	65	56	55	10	6028-50G
M63x1.5	M63x1.5	18	97	49.0	80	70	65	10	6028-63G

Metal junction boxes

Designed for decoration and protection against mechanical damage, dust and moisture, of power cable connection points and lighting electrical networks with voltage of up to 1,000 VAC and VDC, as well as of information network cables (telephone, computer, television, communication networks, etc.). The boxes are designed for open installation both indoors and outdoors.

Application

Indoor installation

As back, pull, and junction boxes in case of open installation in storage, basement, auxiliary, industrial and trade premises.

Outdoor installation

As back, pull, and junction boxes in case of open installation on building facades, bridges, fences and racks.

Shells for electric equipment

Installation of active and passive electric equipment, monitoring and control elements.

Distinctive features

Mounting holes

Allow attaching a DIN rail and a mounting plate within the box

Chemical and corrosion resistance

Boxes made of aluminium alloy are not susceptible to corrosion, preserve the aesthetic appearance

Screws made of stainless steel AISI 304

Corrosion resistant, preserve the aesthetic appearance

Box external epoxy paint

Resistance to mechanical effects, chipping and exposure to ultraviolet light

Grounding contacts on cover and box

Ease of grounding of junction boxes

Seal made of foamed polyurethane

- filled along the cover base, providing high dust and moisture protection degree IP66/IP67;
- does not fall out during installation, ensuring the stated protection degree

Advantages

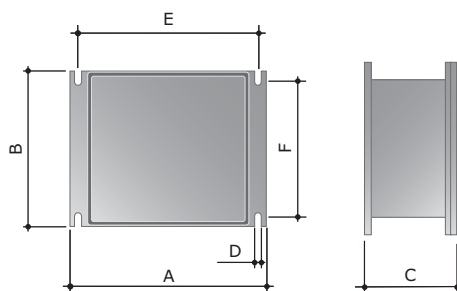
Junction boxes made of aluminium alloy with epoxy paint are resistant to mechanical effects, chipping and exposure to ultraviolet light. Foamed polyurethane seal filled along the cover perimeter does not fall out during installation and guarantees dust and moisture protection degree IP66/IP67. The boxes are qualitatively better than competitive products in terms of installation speed and convenience, reliability and long service life, and preserve the aesthetic appearance.

System composition

The DKC product range has several types of aluminium junction boxes:

- painted aluminium junction boxes IP67/IP66;
- aluminium junction and pull boxes with metric threaded glands IP55.

Painted aluminium junction box



Purpose:

- connection and pulling of wires and cables, installation of active and passive equipment.

Installation conditions:

- indoors and outdoors.

Characteristics:

- material is aluminium alloy;
- protection degree is IP67/IP66;
- color is gray RAL 9006;
- mounting temperature is from -25 to +70 °C.

Distinctive features:

- resistance to environmental exposure;
- high dust and moisture protection degree;
- aesthetic appearance.

Additional accessories:

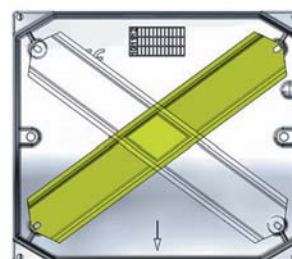
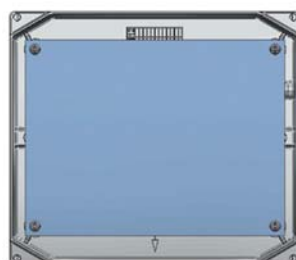
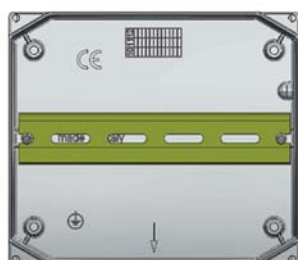
- DIN rails and mounting plates for boxes (pages 46-47).

Physical dimensions, mm									Package, pcs	Code
Internal dimensions, mm			Overall dimensions, mm			Connection dimensions, mm				
A	B	C	A	B	C	D	E	F		
90	90	53	100	100	59	6.0	80	86	1	65300
128	103	55	140	115	60	6.0	120	100	1	65301
154	129	58	166	142	64	7.0	144	125	1	65302
178	155	74	192	168	80	6.5	168	149	1	65303
239	202	85	253	217	93	9.0	226	196	1	65304
294	244	114	314	264	122	9.0	275	236	1	65305
392	298	144	410	315	153	9.0	367	283	1	65306

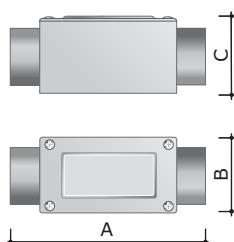
Number of couplings and their dimensions for installation in junction box side walls

Code/thread	65300		65301		65302		65303		65304		65305		65306	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
M16	2	2	3	2	3	3	4	4	5	5	6	6	9	7
M20	2	1	2	2	3	2	3	3	5	4	5	5	8	6
M25	1	1	2	2	2	2	3	3	4	4	4	4	6	5
M32	1	1	1	1	2	1	2	2	3	3	4	3	5	4
M40	/	/	/	/	/	/	2	2	2	2	3	3	4	3
M50	/	/	/	/	/	/	1	1	2	2	2	2	4	3
M63	/	/	/	/	/	/	/	/	2	1	2	2	3	2

Installation options of additional accessories:



Aluminium pull box, 2 glands 180°, IP55



Purpose:

- connection and pulling of wires and cables when laying in rigid steel conduits.

Characteristics:

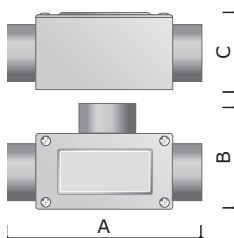
- material is aluminium alloy;
- protection degree is IP55;
- mounting temperature is from -25 to +70 °C;
- 2 glands with metric thread.

Distinctive features:

- high corrosion resistance.

Physical dimensions, mm				Package, pcs	Code
A	B	C	F		
118	51	42	M16x1.5	1	6030-16A
118	51	42	M20x1.5	1	6030-20
118	51	42	M25x1.5	1	6030-25
146	45	57	M32x1.5	1	6030-32A
171	62	71	M40x1.5	1	6030-40
171	62	71	M50x1.5	1	6030-50

Aluminium junction box, 3 glands, IP55



Purpose:

- branching and pulling of wires and cables when laying in rigid steel conduits.

Characteristics:

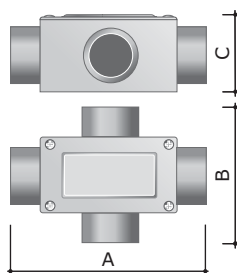
- material is aluminium alloy;
- protection degree is IP55;
- mounting temperature is from -25 to +70 °C;
- 3 glands with metric thread.

Distinctive features:

- high corrosion resistance.

Physical dimensions, mm				Package, pcs	Code
A	B	C	F		
118	67	42	M16x1.5	1	6330-16A
118	67	42	M20x1.5	1	6330-20
118	67	42	M25x1.5	1	6330-25
146	63	57	M32x1.5	1	6330-32A
171	78	71	M40x1.5	1	6330-40
171	78	71	M50x1.5	1	6330-50

Aluminium junction box, 4 glands, IP55



Purpose:

- branching and pulling of wires and cables when laying in rigid steel conduits.

Characteristics:

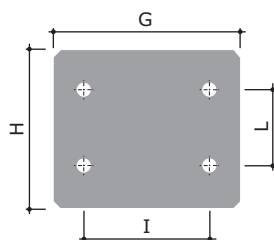
- material is aluminium alloy;
- protection degree is IP55;
- mounting temperature is from -25 to +70 °C.
- 4 glands with metric thread.

Distinctive features:

- high corrosion resistance.

Physical dimensions, mm				Package, pcs	Code
A	B	C	F		
118	83	42	M16x1.5	1	6430-16A
118	83	42	M20x1.5	1	6430-20
118	83	42	M25x1.5	1	6430-25
146	81	57	M32x1.5	1	6430-32A
171	96	71	M40x1.5	1	6430-40
171	96	71	M50x1.5	1	6430-50

Galvanized steel mounting plate



Purpose:

- installation of equipment inside junction boxes.

Characteristics:

- material is galvanized steel.

Distinctive features:

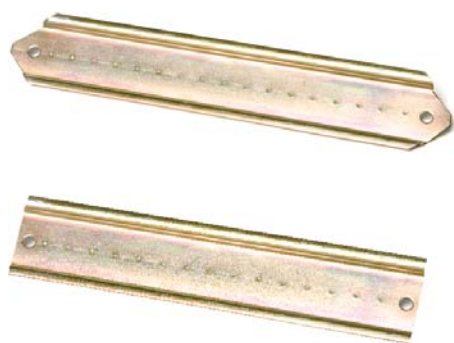
- supplied with ready-made holes.

Scope of supply:

- complete with drive-in bushings and attachment screws.

Physical dimensions, mm				Code of relevant box	Package, pcs	Code
G	H	I	L			
122	82	107	66	65301	1	653011
133	109	121	98	65302	1	653012
165	124	153	112	65303	1	653013
206	172	188	153	65304	1	653014
254	210	238	198	65305	1	653015
349	260	333	248	65306	1	653016

DIN rail for aluminium junction boxes



Purpose:

- installation of equipment inside junction boxes.

Characteristics:

- material is galvanized steel;
- DIN rail of OMEGE profile (35x7.5 mm).

Distinctive features:

- supplied with ready-made holes;
- possibility to select a horizontal and a diagonal rail.

Scope of supply:

- complete with drive-in bushings and attachment screws.

Code of relevant box	Package, pcs	Code of diagonal DIN rail	Code of horizontal DIN rail
65300	1	653020	–
65301	1	653021	653021H
65302	1	653022	653022H
65303	1	653023	653023H
65304	1	653024	653024H
65305	1	653025	653025H
65306	1	653026	653026H

Compatibility table of connectors for metal flexible conduits


Rated diameter of metal flexible conduit, mm	Metal flexible conduit made of galvanized steel, IP40	Metal flexible conduit in smooth PVC insulation	Metal flexible conduit in vacuum PVC insulation	Metal flexible conduit in PVC insulation, protected by galvanized steel braid	Metal flexible conduit in smooth EVA insulation	Metal flexible conduit in smooth EVA insulation and protected by stainless steel braid
10	667R1013	6070-10	6071-010	6071T-010	607E010	607ETX010
12	667R1215	6070-12	6071-012	6071T-012	607E012	607ETX012
15	667R1518	6070-16	6071-015	6071T-016	607E016	607ETX016
15	667R1518	6070-16	6071-015	6071T-016	607E016	607ETX016
20	667R2024	6070-22	6071-020	6071T-022	607E022	607ETX022
20	667R2024	6070-22	6071-020	6071T-022	607E022	607ETX022
26	667R2630	6070-32	6071-027	6071T-032	607E032	607ETX032
26	667R2630	6070-32	6071-027	6071T-032	607E032	607ETX032
35	667M3539	6070-38	6071-035	6071T-038	607E038	607ETX038
40	667M4044	6070-40	6071-040	6071T-040	607E040	607ETX040
40	667M4044	6070-40	6071-040	6071T-040	607E040	607ETX040
50	667M5054	6070-50	6071-050	6071T-050	607E050	607ETX050
50	667M5054	6070-50	6071-050	6071T-050	607E050	607ETX050

Compatibility table of connectors for rigid steel conduits


Steel conduit diameter, mm	Galvanized conduit	Conduit-conduit coupling IP66/IP67	Conduit-box coupling, IP66/IP67	Nut	Rated diameter of metal flexible conduit, mm
16	6008-16L3	6110-16N	6111-A16N	6006-16A	12
16	6008-16L3	6110-16N	6111-A16N	6006-16A	15
20	6008-20L3	6110-20N	6111-A20N	6006-20	15
20	6008-20L3	6110-20N	6111-A20N	6006-20	20
25	6008-25L3	6110-25N	6111-A25N	6006-25	20
25	6008-25L3	6110-25N	6111-A25N	6006-25	26
32	6008-32L3	6110-32N	6111-A32N	6006-32A	26
32	6008-32L3	6110-32N	6111-A32N	6006-32A	35
40	6008-40L3	6110-40	6111-A40	6006-40	35
40	6008-40L3	6110-40	6111-A40	6006-40	40
50	6008-50L3	6110-50	6111-A50	6006-50	40
50	6008-50L3	6110-50	6111-A50	6006-50	50
63	6008-63L3	6110-63N	6111-A63N	6006-63	50



Rated diameter of metal flexible conduit, mm	Coupling for metal flexible conduit-duct	Rotary coupling for metal flexible conduit-duct	Nut	Grounding nut	Sealing gasket IP67	Coupling for metal flexible conduit-duct, inside thread
10	6014-1016	6014-1016G	6006-16A	6006EMC-16A	6060-1522	6015-10A
12	6014-16A	6014-1216G	6006-16A	6006EMC-16A	6060-1522	6015-12A
15	6014-1616		6006-16A	6006EMC-16A	6060-1522	6015-16A
15	6014-20A	6014-20G	6006-20	6006EMC-20	6060-1925	6015-20
20	6014-2020		6006-20	6006EMC-20	6060-1925	6015-2020
20	6014-25A	6014-25G	6006-25	6006EMC-25	6060-2532	6015-25
26	6014-2527		6006-25	6006EMC-25	6060-2532	6015-2527
26	6014-32A	6014-2732G	6006-32A	6006EMC-32A	6060-3238	6015-32A
35	6014-4035	6014-4035G	6006-40	6006EMC-40	6060-4050	6015-4035
40	6014-40A		6006-40	6006EMC-40	6060-4050	6015-40
40	6014-5040	6014-5040G	6006-50	6006EMC-50	6060-5060	6015-5040
50	6014-50A		6006-50	6006EMC-50	6060-5060	6015-50
50	6014-6350	6014-6350G	6006-63	6006EMC-63	6060-6472	6015-6350



Steel conduit diameter, mm	Grounding nut	Sealing gasket IP67	Conduit-box coupling, IP66/IP67, inside thread	Metal flexible conduit-rigid conduit coupling, IP66/IP67	Rated diameter of metal flexible conduit, mm
16	6006EMC-16A	6060-1522	6112-A16	6117-12N	12
16	6006EMC-16A	6060-1522	6112-A16	6117-16N	15
20	6006EMC-20	6060-1925	6112-A20	6117-20N	15
20	6006EMC-20	6060-1925	6112-A20	6117-2020	20
25	6006EMC-25	6060-2532	6112-A25	6117-25N	20
25	6006EMC-25	6060-2532	6112-A25	6117-2527	26
32	6006EMC-32A	6060-3238	6112-A32	6117-32N	26
32	6006EMC-32A	6060-3238	6112-A32N	6117-3235	35
40	6006EMC-40	6060-4050	6112-A40	6117-4035	35
40	6006EMC-40	6060-4050	6112-A40	6117-40	40
50	6006EMC-50	6060-5060	6112-A50	6117-5040	40
50	6006EMC-50	6060-5060	6112-A50	6117-50	50
63	6006EMC-63	6060-6472	6112-A63N	6117-63N	50

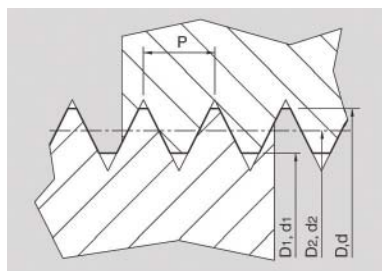
Chemical resistance of conduit material and connectors

Chemical substance or product	Galvanized steel metal flexible conduit, IP40	Metal flexible conduit in smooth and vacuum PVC insulation	Metal flexible conduit in smooth EVA insulation	Metal flexible conduit in smooth EVA insulation and protected by stainless steel AISI 304 braid	Metal flexible conduit in PVC insulation and protected by galvanized steel braid	Galvanized conduit	Conduit made of stainless steel AISI 304	Connectors made of nickel-plated brass
	667M	6070, 6071	607E	607ETX	6071T	6008L	6700	
Vinyl acetate	NR	NR			NR	NR	R	R
Acetone	R	NR	RR	NR	NR	R	R	R
Acetic acid	NR	RR	R	R	NR	NR	R	R
Citric acid	R	R	R	R	R	R	R	R
Hydrochloric acid 10%	NR	R	R	NR	NR	NR	NR	R
Hydrochloric acid 36%	NR	R	NR	NR	NR	NR	NR	R
Lactic acid	NR	RR	R	R	NR	NR	R	R
Nitric acid 10%	NR	R	R	R	NR	NR	R	R
Nitric acid 70%	NR	R			NR	NR	R	R
Oxalic acid	RR	R			RR	RR	R	R
Sulfuric acid 10%	NR	R	R	NR	NR	NR	NR	NR
Sulfuric acid 70%	NR	R	R	NR	NR	NR	NR	NR
Sea water	NR	R	R	RR	NR	NR	RR	RR
Hydrogen peroxide 35%	NR	R	R	R	NR	NR	R	R
Turpentine	R	RR			NR	R	R	R
Ethyl alcohol	R	RR			RR	R	R	R
Methyl alcohol	R	NR			NR	R	R	R
Benzene	R	NR	RR	R	NR	R	R	R
Gasoline	R	NR	RR	R	NR	R	R	R
Aluminium chloride	NR	R	R	R	NR	NR	R	R
Sodium chloride	NR	R			NR	NR	R	NR
Zinc chloride	NR	R	R	NR	NR	NR	R	R
Freon-32	NR	RR			NR	NR	R	R
Ozone (gas)	RR	RR			RR	RR	R	R
Ethylene glycol	NR	RR			NR	NR	R	R
Sodium hydroxide (10%)	NR	R			NR	NR	R	R
Sodium hydroxide (60%)	NR	R			NR	NR	RR	R
Methyl benzene	R	NR	R	R	NR	R	R	R
Methyl ketone	R	NR			NR	R	R	R
Silver nitrate	NR	R			NR	NR	R	R
Vegetable oils	R	R			R	R	R	R
Oil ASTM No. 1	R	R	RR	RR	R	R	R	R
Oil ASTM No. 2	R	R	RR	RR	R	R	R	R
Oil ASTM No. 3	R	R	RR	RR	R	R	R	R
Kerosene	R	R			R	R	R	R
Diesel oil	R	RR			RR	R	R	R
Lubricating oil	R	R	RR	RR	R	R	R	R
Transformer oil	R	R	RR	RR	R	R	R	R
White spirit	R	RR			RR	R	R	R
Trichloroethylene	NR	NR	NR	NR	NR	NR	R	R

R – resistant; RR – relatively resistant; NR – non-resistant

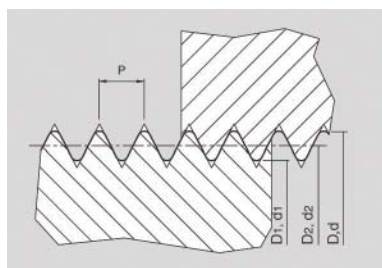
Thread types and technical characteristics

Metric thread according to standards EN 60423 and UNI 5542-65



Designation	Physical dimensions, mm						
	Pitch	Outside thread			Inside thread		
		Outside	Middle	Inside	Outside	Middle	Inside
		d	d2	d1	D	D2	D1
M12	1.5	11.968	10.994	10.128	12	11.026	10.376
M16	1.5	15.968	14.994	14.128	16	15.026	14.376
M20	1.5	19.968	18.994	18.128	20	19.026	18.376
M25	1.5	24.968	23.994	23.128	25	24.026	23.376
M32	1.5	31.968	30.994	30.128	32	31.026	30.376
M40	1.5	39.968	38.994	38.128	40	39.026	38.376
M50	1.5	49.968	48.994	48.128	50	49.026	48.376
M63	1.5	62.968	61.994	61.128	63	62.026	61.376

GAS pipe thread according to UNI ISO 228/1



Designation	Physical dimensions, mm				
	Thread outside diameter	Middle	Inside	Pitch	Number of threads per 1"
	d = D	d2 = D2	d1 = D1	P	z
G 1/4"	13.157	12.301	11.445	1.337	19
G 3/8"	16.662	15.806	14.95	1.337	19
G 1/2"	20.955	19.793	18.631	1.814	14
G 3/4"	26.441	25.279	24.117	1.814	14
G 1"	33.249	31.77	30.291	2.309	11
G1 1/4"	41.91	40.431	38.952	2.309	11
G1 1/2"	47.803	46.324	44.845	2.309	11
G2"	59.614	58.135	56.656	2.309	11
G2 1/2"	75.184	73.705	72.226	2.309	11
G3"	87.884	86.405	84.926	2.309	11
G4"	113.03	111.551	110.072	2.309	11
G5"	138.43	136.951	135.472	2.309	11

Manual

Instruction for metal flexible conduit cutting

Metal flexible conduit in shell



The metal flexible conduit may be cut using a hacksaw, bandsaw and angle grinder. Use of vice allows cutting more accurately and carefully. Cutting is made vertically, thus simplifying further entry of the metal flexible conduit into the connector

Metal flexible conduit protected by steel braid



To simplify cutting of the metal flexible conduit protected by braid, it is recommended to wrap the cutting point tightly with self-adhesive tape or sticky tape before commencement of works. Perform cutting vertically and in the middle of glued tape. The above mentioned actions allow cutting carefully and protecting fingers against damage during further connector installation

Instruction for installation of connectors on metal flexible conduit



1. It is required to put the clamping nut first, and then the red clamping O-ring on the metal flexible conduit. The O-ring is put with the side having a thick section for a clamping nut



2. Screw in the bushing into the metal flexible conduit clockwise until tight



3. Move the nut and O-ring to the edge of the metal flexible conduit



4. Connect the clamping nut and coupling enclosure. Tighten the nut and enclosure reliably using wrenches to reach the stated IP degree

Instruction for installation of a double-attached coupling for metal flexible conduits protected by steel braid



1. Firstly, it is necessary to put a clamping nut on a metal flexible conduit



2. Install an intermediate braid enclosure, having preliminarily removed sticky tape from the metal flexible conduit. Attach the nut and intermediate enclosure between each other tightly, thus securing the metal flexible conduit braid in a connector



3. When using the metal flexible conduit in smooth coating, proceed to clause 4. When using the leak tight metal flexible conduit, it is necessary to screw a sealing coupling for the metal flexible conduit (white) on the edge to obtain a leak tight connection. Advice: move the braid from the edge for ease of installation of the sealing coupling



4. Put a red clamping O-ring on the metal flexible conduit. The O-ring is put with the side having a thick section for a clamping nut



5. Screw in the bushing into the metal flexible conduit clockwise until tight



6. Move the nut, intermediate enclosure and O-ring to the edge of the metal flexible conduit



7. Connect the intermediate enclosure and coupling enclosure. Tighten the nut, intermediate enclosure and coupling enclosure reliably using wrenches to reach the stated IP degree and reliability of attachment of metal flexible conduit braid



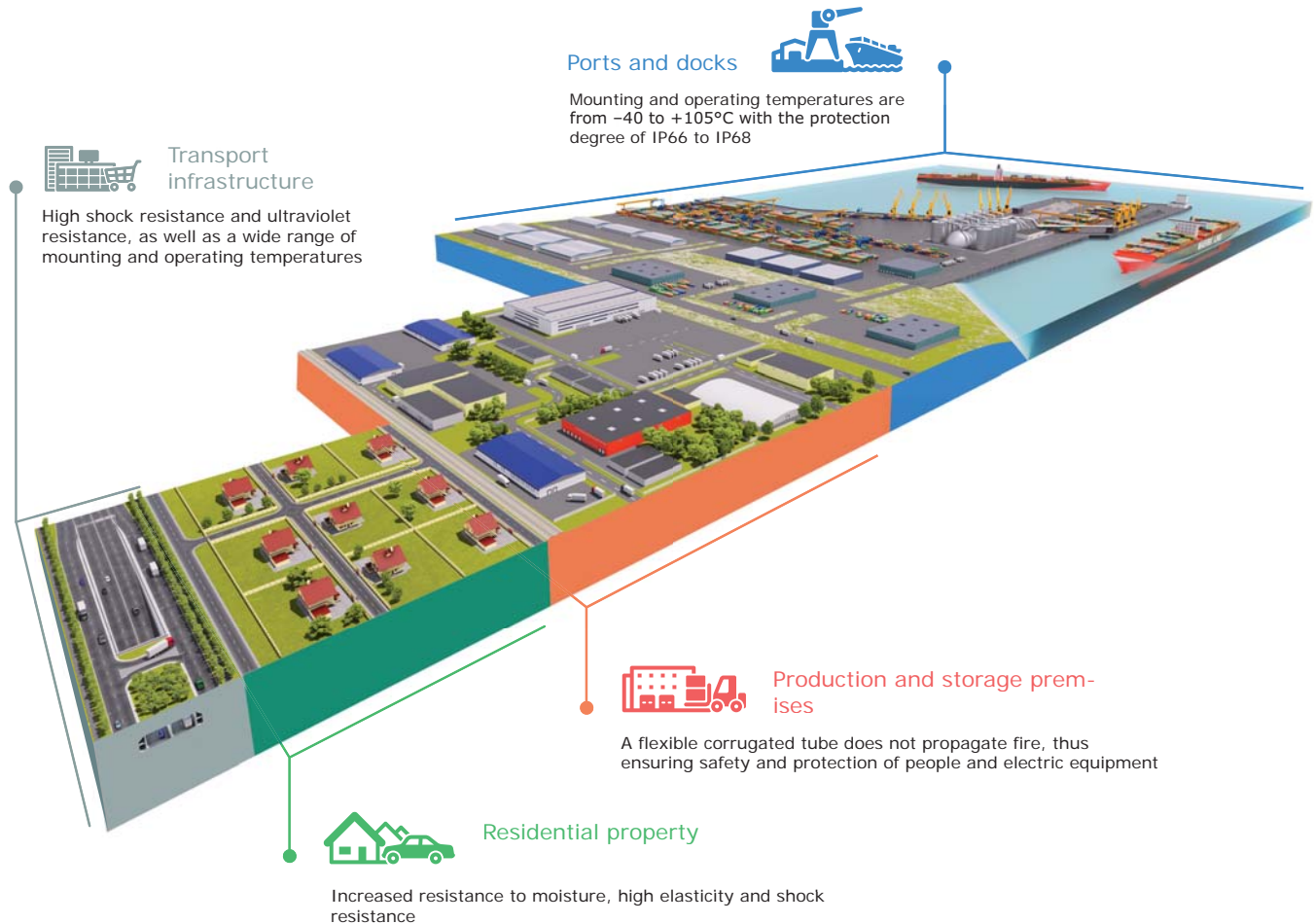
System of flexible corrugated polyamide tubes

Industrial corrugated polyamide tube (series F2).....	58
Industrial corrugated fire-resistant polyamide tube (series F0)	59
Accessories for flexible corrugated polyamide tubes	60

System of flexible corrugated polyamide tubes

Application

The system of flexible corrugated polyamide tubes is designed for protection of cables in industrial equipment. Being highly flexible, wearproof, resistant to impact and vibration loads, ultraviolet light, aggressive exposure to oils, solvents and different fuel types, these tubes protect any cable under severe operating conditions at industrial enterprises.



Distinctive features

- **Frost resistance**
preserves flexibility at -40°C
- **Heat resistance of up to +105°C**
short-term exposure at up to +150°C
- **Does not contain halogens**
- **Ultraviolet resistance**
- **Resistance to aggressive liquids and gases**
- **Extremely high shock resistance**
- **High flexibility**
at least 200,000 bends

Simple mating of a tube with an accessory
Performed by simple latching

Fast diameter identification
Rated diameter is specified

12 edges
For tightening with a box end wrench

6 edges
For tightening with an open end wrench

Fast thread identification
Thread type and size are specified

Unique profile
Perfect mating with accessories

Easy tube removal from an accessory
It is sufficient to press on a retainer lock

Connection reliability
6 locks fix a tube on all sides and hold it reliably in an accessory

Conic inside diameter
Provides the protection degree IP66 without the use of O-rings

Water impermeability
PAR O-ring and PAMP gasket provide the protection degree IP68

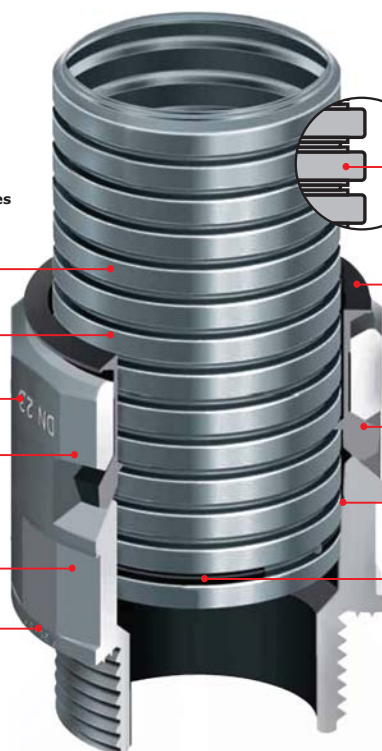
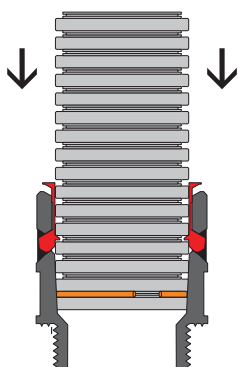
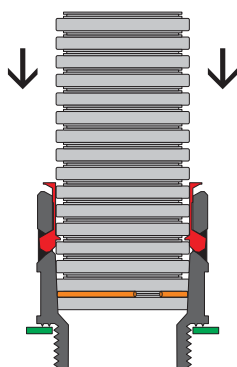


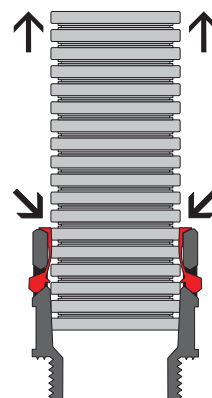
Diagram of connection of flexible polyamide tubes and accessories



Protection degree IP66 without the use of PAR O-rings and PAMP sealing gaskets



Protection degree IP68 with the use of PAR O-rings and PAMP sealing gaskets



To remove a tube from an accessory, it is sufficient to press on a retainer lock

System composition

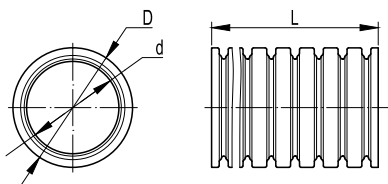
Two types of corrugated polyamide tubes in the system with accessories are as follows:

- flexible corrugated polyamide tubes with combustion type PV-2 according to GOST 28779 are distinguished by the highest mechanical strength and applied in industrial equipment, telecommunications, where fire safety requirements are not imposed on the systems.
- corrugated fire-resistant polyamide tubes with combustion type PV-0 according to GOST 28779 are distinguished by moderate mechanical strength and conform to fire safety requirements;
- accessories for flexible corrugated tubes.



1. corrugated polyamide tube;
2. tee, IP66/IP68;
3. tube-box coupling, IP66/IP68;
4. 45° tube-box coupling, IP66/IP68;
5. 90° tube-box coupling, IP66/IP68;
6. holders;
7. splitter, IP66/IP68.

Industrial corrugated polyamide tube (series F2)



Purpose:

- protection of wires and cables against mechanical damage, dust and moisture, aggressive exposure to liquids and gases when laying inside and outside enclosures of industrial equipment, as well as in robots and transport.

Installation conditions:

- open laying under conditions of increased loads (dynamic, vibration ones, those in aggressive media).

Distinctive features:

- extreme shock resistance;
- high flexibility;
- resistance to aggressive liquids and gases;
- ultraviolet resistance;
- wide range of mounting and operating temperatures;
- unique profile;
- halogen free.

Characteristics

Technical specifications	TS 2247-024-47022248-2009
Climatic version	U1 according to GOST 15150-69
Protection degree	IP66/IP68 according to GOST 14254-96 (IEC 529-89)
	IP66 without the use of sealing gaskets
	IP68 with the use of O-rings and sealing gaskets
Mounting and operating temperature	from -40 to +105 °C
Short-term thermal effect	150 °C (for 15 minutes)
Flexibility	at least 200,000 bends
Strength (compression resistance at 20 °C)	over 250 N per 5 cm*
Tear strength	at least 300 N for tubes with rated diameter of less than 12 mm
	at least 600 N for tubes with rated diameter of over 17 mm
Shock resistance at -40 °C	at least 1 J for tubes with rated diameter of less than 7 mm
	at least 2 J for tubes with rated diameter of 10 and 12 mm
	at least 4 J for tubes with rated diameter of 17 and 23 mm
	at least 6 J for tubes with rated diameter of more than 29 mm
Color	black
Protection class	0 according to GOST 12.2.007.0
Insulation resistance	at least 100 Mohm (500 V for 1 minute)
Dielectric strength	at least 2,000 V (50 Hz for 15 minutes)
Halogen content	0%
Combustion category	PV-2 according to GOST 28779
Ignition resistance	glow-wire test at 850 °C
Ultraviolet resistance	according to GOST R 20.57.406 method 211-1
Chemical resistance	<p>resistance to substances: acetamide (50% aqueous solution), acetone, gasoline, benzene, butane, butanone, tartaric acid (10% aqueous solution), potassium hydroxide (50% aqueous solution), magnesium hydroxide (10% aqueous solution), sodium hydroxide (40% aqueous solution), glycol, glycerine, glucose, diesel fuel, fat, fatty acid, starch, fuel oil, engine oil, methanol, mineral oils, sea water, urea, soap solution, ammonium hydroxide (10% aqueous solution), oil, beer, sodium chloride, propane (gas), solvent, vegetable oils, carbon disulfide, silicone greases, turpentine, lubricating oils, tetrachlorethylene, toluene, transformer oil, fruit juice, sodium chloride, potassium cyanide (solution), carbon tetrachloride, electroerosive liquids, ethanol, ethyl acetate, ether</p> <p>limited resistance to substances: aniline, boric acid (10% aqueous solution), butanoic acid, lactic acid (5% aqueous solution), copper sulfate (10% aqueous solution), trichloroethylene, potassium chloride (5% aqueous solution), calcium chloride (10% aqueous solution)</p> <p>absence of resistance to substances: nitric acid, formic acid (10% aqueous solution), ozone (gas), sulfuric acid (2% aqueous solution), acetic acid (10% aqueous solution), phosphoric acid (10% aqueous solution), ferrous chloride (10% aqueous solution), hydrogen chloride (2% aqueous solution), chromic acid (1% aqueous solution)</p>

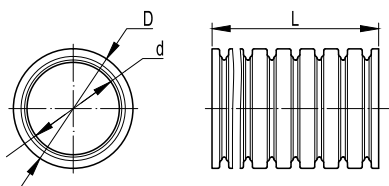
* Deformation under the stated compressive force is not more than 25% ± 5% of the initial diameter

Nomenclature

Rated diameter, mm	Inside diameter, mm*	Outside diameter, mm*	Minimum bend radius, mm	Q-ty in a coil, m	Tube code with a broach	Tube code without a broach
7	6.8	10.1	15	50	-	PA600710F2
10	9.7	13.0	20	50	-	PA601013F2
12	12.2	15.8	30	50	PA611216F2	PA601216F2
17	16.8	21.2	40	50	PA611721F2	PA601721F2
23	22.6	28.5	55	50	PA612329F2	PA602329F2
29	28.3	34.5	65	25	PA612935F2	PA602935F2
36	36.3	42.5	80	15	PA613643F2	PA603643F2
48	47.4	54.5	95	15	PA614855F2	PA604855F2

* Tolerance for outside and inside diameters is ±0.5 mm

Industrial corrugated fire-resistant polyamide tube (series F0)



Purpose:

- protection of wires and cables against mechanical damage, dust and moisture in industrial equipment, telecommunications and communication, in buildings and structures.

Installation conditions:

- buried laying in cavities of trunking walls, access floors, suspended ceilings made of non-combustible materials;
- open laying on bases made of non-combustible and non-flammable materials;
- laying inside and on enclosures of industrial equipment.

Distinctive features:

- resistance to fire propagation;
- ultraviolet resistance;
- a fire safety certificate and a certificate of conformity are available;
- not designed for use in transport for open laying under the following loads:
 - dynamic;
 - vibration;
 - those in aggressive media.

Characteristics

Technical specifications	TS 2247-024-47022248-2009
Climatic version	U1 according to GOST 15150-69
Protection degree	IP66/IP68 according to GOST 14254-96 (IEC 529-89)
	IP66 without the use of sealing gaskets
	IP68 with the use of O-rings and sealing gaskets
Mounting and operating temperature	from -40 to +105 °C
Short-term thermal effect	150 °C (for 15 minutes)
Flexibility	at least 10,000 bends
Strength (compression resistance at 20 °C)	over 200 N per 5 cm*
Tear strength	at least 200 N for tubes with rated diameter of less than 7 mm
	at least 300 N for tubes with rated diameter of over 7 mm
Shock resistance at -40 °C	at least 1 J
Color	dark-gray
Protection class	0 according to GOST 12.2.007.0
Insulation resistance	at least 100 Mohm (500 V for 1 minute)
Dielectric strength	at least 2,000 V (50 Hz for 15 minutes)
Combustion category	PV-0 according to GOST 28779
Conformity to fire safety requirements	conforms to GOST R 53313
Ultraviolet resistance	according to GOST R 20.57.406 method 211-1
Chemical resistance	<p>resistance to substances: acetamide (50% aqueous solution), acetone, gasoline, benzene, butane, butanone, tartaric acid (10% aqueous solution), potassium hydroxide (50% aqueous solution), magnesium hydroxide (10% aqueous solution), sodium hydroxide (40% aqueous solution), glycol, glycerine, glucose, diesel fuel, fat, fatty acid, starch, fuel oil, engine oil, methanol, mineral oils, sea water, urea, soap solution, ammonium hydroxide (10% aqueous solution), oil, beer, sodium chloride, propane (gas), solvent, vegetable oils, carbon disulfide, silicone greases, turpentine, lubricating oils, tetrachlorethylene, toluene, transformer oil, fruit juice, sodium chloride, potassium cyanide (solution), carbon tetrachloride, electroerosive liquids, ethanol, ethyl acetate, ether</p> <p>limited resistance to substances: aniline, boric acid (10% aqueous solution), butanoic acid, lactic acid (5% aqueous solution), copper sulfate (10% aqueous solution), trichloroethylene, potassium chloride (5% aqueous solution), calcium chloride (10% aqueous solution)</p> <p>absence of resistance to substances: nitric acid, formic acid (10% aqueous solution), ozone (gas), sulfuric acid (2% aqueous solution), acetic acid (10% aqueous solution), phosphoric acid (10% aqueous solution), ferrous chloride (10% aqueous solution), hydrogen chloride (2% aqueous solution), chromic acid (1% aqueous solution)</p>

* Deformation under the stated compressive force is not more than 25% ± 5% of the initial diameter

Nomenclature

Rated diameter, mm	Inside diameter, mm*	Outside diameter, mm*	Minimum bend radius, mm	Q-ty in a coil, m	Tube code with a broach	Tube code without a broach
7	6.8	10.1	15	50	-	PA600710F0
10	9.7	13.0	20	50	-	PA601013F0
12	12.2	15.8	30	50	PA611216F0	PA601216F0
17	16.8	21.2	40	50	PA611721F0	PA601721F0
23	22.6	28.5	55	50	PA612329F0	PA602329F0
29	28.3	34.5	65	25	PA612935F0	PA602935F0
36	36.3	42.5	80	15	PA613643F0	PA603643F0
48	47.4	54.5	95	15	PA614855F0	PA604855F0

* Tolerance for outside and inside diameters is ±0.5 mm

Accessories for flexible corrugated polyamide tubes

Tube-box coupling mounting kit, IP66/IP68



Purpose:

- entry of corrugated polyamide tubes into equipment housings, enclosures, boxes, junction boxes.

Characteristics:

- material is polyamide (PA6.6);
- color is black;
- operating temperature is from -40 to +105 °C (short-term exposure is up to +150 °C);
- protection degree IP66 without PAMP seals and IP68 with PAR and PAMP seals;
- simple and reliable mating with a tube;
- does not contain halogens.

Complete set:

- tube-box coupling; sealing gasket; nut with metric thread.

Rated diameter, mm	M	Ø inside	Package, pcs	Code
7	M12x1.5	6.5	1	PACM07M12N
10	M16x1.5	10	1	PACM10M16N
12	M16x1.5	10	1	PACM12M16N
12	M20x1.5	14	1	PACM12M20N
17	M20x1.5	14.5	1	PACM17M20N
17	M25x1.5	18.5	1	PACM17M25N
23	M25x1.5	18.5	1	PACM23M25N
23	M32x1.5	25.5	1	PACM23M32N
29	M32x1.5	25.5	1	PACM29M32N
29	M40x1.5	32	1	PACM29M40N
36	M40x1.5	32	1	PACM36M40N
36	M50x1.5	42	1	PACM36M50N
48	M50x1.5	42	1	PACM48M50N
48	M63x1.5	54	1	PACM48M63N

90° tube-box coupling mounting kit, IP66/IP68



Purpose:

- entry of corrugated polyamide tubes into equipment housings, enclosures, boxes, junction boxes at angle of 90°.

Characteristics:

- material is polyamide (PA6.6);
- color is black;
- operating temperature is from -40 to +105 °C (short-term exposure is up to +150 °C);
- protection degree IP66 without PAMP seals and IP68 with PAR and PAMP seals;
- simple and reliable mating with a tube;
- does not contain halogens.

Complete set:

- 90° tube-box coupling; sealing gasket; nut with metric thread.

Rated diameter, mm	M	Ø inside	Package, pcs	Code
10	M16x1.5	10	1	PACN10M16N
12	M16x1.5	10.5	1	PACN12M16N
12	M20x1.5	12.3	1	PACN12M20N
17	M20x1.5	14.5	1	PACN17M20N
23	M25x1.5	18.5	1	PACN23M25N
29	M32x1.5	25.5	1	PACN29M32N
36	M40x1.5	32	1	PACN36M40N
48	M50x1.5	42	1	PACN48M50N

45° tube-box coupling mounting kit, IP66/IP68



Purpose:

- entry of corrugated polyamide tubes into equipment housings, enclosures, boxes, junction boxes at angle of 45°.

Characteristics:

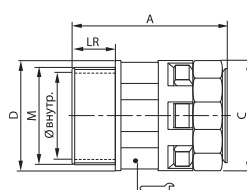
- material is polyamide (PA6.6);
- color is black;
- operating temperature is from -40 to +105 °C (short-term exposure is up to +150 °C);
- protection degree IP66 without PAPM seals and IP68 with PAR and PAPM seals;
- simple and reliable mating with a tube;
- does not contain halogens.

Complete set:

- 45° tube-box coupling; sealing gasket; nut with metric thread.

Rated diameter, mm	M	Ø inside	Package, pcs	Code
12	M16x1.5	10.5	1	PACL12M16N
17	M20x1.5	14.5	1	PACL17M20N
23	M25x1.5	18.5	1	PACL23M25N
29	M32x1.5	25.7	1	PACL29M32N
36	M40x1.5	32	1	PACL36M40N
48	M50x1.5	42	1	PACL48M50N

Tube-box coupling, IP66/IP68



Purpose:

- entry of corrugated polyamide tubes into equipment housings, enclosures, boxes, junction boxes.

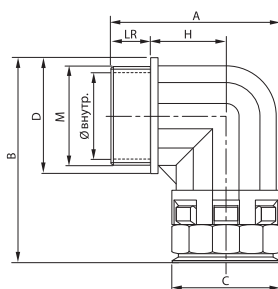
Characteristics:

- material is polyamide (PA6.6);
- color is black;
- operating temperature is from -40 to +105 °C (short-term exposure is up to +150 °C);
- protection degree IP66 without PAPM seals and IP68 with PAR and PAPM seals;
- simple and reliable mating with a tube;
- does not contain halogens.

Rated diameter*, mm	Physical dimensions, mm							Weight, g	Package, pcs	Code
	M	Ø inside	A	C	D	Key	LR			
7	M12x1.5	6.5	35	19	17	15	11	4.6	20	PAM07M12N
10	M16x1.5	10.0	37	21	21	18	11	6.0	20	PAM10M16N
12	M16x1.5	10.0	37	26	25	20	11	7.6	20	PAM12M16N
12	M20x1.5	14.0	37	26	25	20	11	7.8	20	PAM12M20N
17	M20x1.5	14.5	44	31	30	27	11	12.4	20	PAM17M20N
17	M25x1.5	18.5	45	31	34	27	12	13.5	20	PAM17M25N
23	M25x1.5	18.5	48	37	37	34	12	17.5	10	PAM23M25N
23	M32x1.5	25.5	51	37	42	34	15	19.6	10	PAM23M32N
29	M32x1.5	25.5	52	46	46	42	15	28.6	10	PAM29M32N
29	M40x1.5	32.0	56	46	52	42	16	32.4	10	PAM29M40N
36	M40x1.5	32.0	60	54	54	50	19	42.2	5	PAM36M40N
36	M50x1.5	42.0	60	54	62	50	19	45.9	5	PAM36M50N
48	M50x1.5	42.0	61	69	69	66	19	66.9	2	PAM48M50N
48	M63x1.5	54.0	61	69	75	66	19	72.7	2	PAM48M63N

* Designed for connection with a tube of the corresponding rated diameter (example: coupling PAM12M16N is mated with tube PA601216F2)

90° tube-box coupling, IP66/IP68



Purpose:

- entry of corrugated polyamide tubes into equipment housings, enclosures, boxes, junction boxes at angle of 90°.

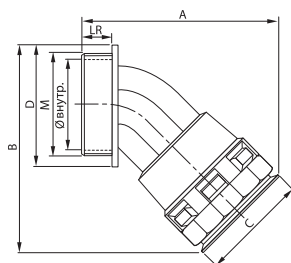
Characteristics:

- material is polyamide (PA6.6);
- color is black;
- operating temperature is from -40 to +105 °C (short-term exposure is up to +150 °C);
- protection degree IP66 without PAMP seals and IP68 with PAR and PAMP seals;
- simple and reliable mating with a tube;
- does not contain halogens.

Rated diameter*, mm	Physical dimensions, mm								Weight, g	Package, pcs	Code
	M	Ø inside	A	B	C	D	H	LR			
10	M16x1.5	10.0	35	42	21	21	11	11	8.9	20	PAN10M16N
12	M16x1.5	10.5	39	44	25	23	15	11	13.7	20	PAN12M16N
12	M20x1.5	12.3	39	45	25	26	15	11	13.3	20	PAN12M20N
17	M20x1.5	14.5	45	58	30	30	18	11	22.4	20	PAN17M20N
23	M25x1.5	18.5	53	66	36	37	23	12	34.2	10	PAN23M25N
29	M32x1.5	25.5	66	76	45	46	27	15	57.0	10	PAN29M32N
36	M40x1.5	32.0	79	89	54	55	33	19	93.0	5	PAN36M40N
48	M50x1.5	42.0	92	103	68	69	39	19	153.2	2	PAN48M50N

* The coupling is designed for connection with a tube of the corresponding rated diameter (example: coupling PAN17M20N is mated with tube PA601721F2)

45° tube-box coupling, IP66/IP68



Purpose:

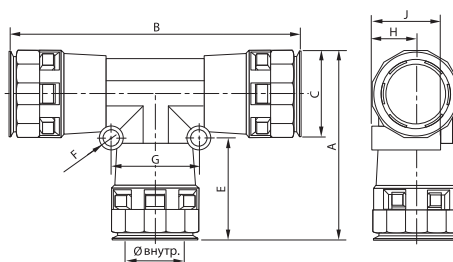
- entry of corrugated polyamide tubes into equipment housings, enclosures, boxes, junction boxes at angle of 45°.

Characteristics:

- material is polyamide (PA6.6);
- color is black;
- operating temperature is from -40 to +105 °C (short-term exposure is up to +150 °C);
- protection degree IP66 without PAMP seals and IP68 with PAR and PAMP seals;
- simple and reliable mating with a tube;
- does not contain halogens.

Rated diameter, mm	Physical dimensions, mm							Weight, g	Package, pcs	Code
	M	Ø inside	A	B	C	D	LR			
12	M16x1.5	10.5	50	45	24	23	11	8.5	20	PAL12M16N
17	M20x1.5	14.5	60	56	29	27	11	14.2	20	PAL17M20N
23	M25x1.5	18.5	70	67	37	34	12	21.4	10	PAL23M25N
29	M32x1.5	25.7	80	76	45	41	15	35.0	10	PAL29M32N
36	M40x1.5	32.0	96	90	53	50	19	53.0	5	PAL36M40N
48	M50x1.5	42.0	109	106	67	60	19	80.0	2	PAL48M50N

Tee, IP66/IP68



Purpose:

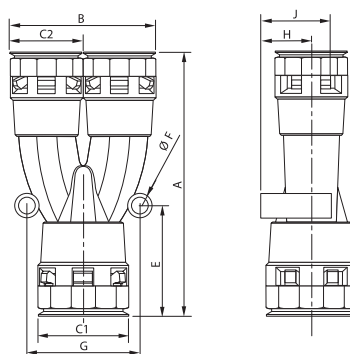
• tee connection of polyamide tubes with the same rated diameter.

Characteristics:

- material is polyamide (PA6.6);
- color is black;
- operating temperature is from -40 to +105 °C (short-term exposure is up to +150 °C);
- protection degree IP66 without seals and IP68 with PAR seals;
- simple and reliable mating with a tube;
- does not contain halogens.

Rated diameter, mm	Physical dimensions, mm									Weight, g	Package, pcs	Code
	Ø inside	A	B	C	E	F	G	H	J			
10	11.2	46	72	20	27	5	19	10	18	14.4	5	PAT10N
12	12.8	52	81	23	30	5	20	12	20	20.8	5	PAT12N
17	18.0	63	96	29	35	6	28	14	25	33.7	5	PAT17N
23	25.5	76	117	37	40	6	36	18	30	52.0	2	PAT23N
29	31.5	85	128	45	41	6	41	22	36	84.2	1	PAT29N
36	38.5	97	144	53	46	7	50	26	44	115.2	1	PAT36N

Splitter, IP66/IP68



Purpose:

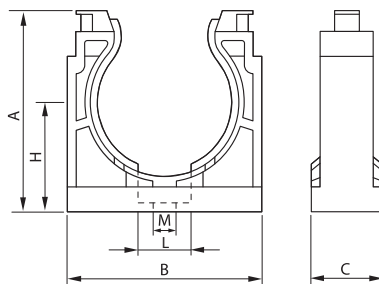
• V-junction of corrugated polyamide tubes.

Characteristics:

- material is polyamide (PA6.6);
- color is black;
- operating temperature is from -40 to +105 °C (short-term exposure is up to +150 °C);
- protection degree IP66 without seals and IP68 with PAR seals;
- simple and reliable mating with a tube;
- does not contain halogens.

Rated diameter, mm	Physical dimensions, mm									Weight, g	Package, pcs	Code
	A	B	C1	C2	G	E	F	H	J			
17+2x12	89	47	29	23	34	37	5	9	24	27.0	5	PAY171212N
23+2x17	106	58	37	29	45	44	6	12	28	43.8	5	PAY231717N
29+2x23	118	74	45	37	52	45	6	15	35	68.6	2	PAY292323N
36+2x29	141	89	53	44	60	52	6	19	41	110.0	1	PAY362929N
48+2x36	153	106	67	53	76	54	7	25	50	167.6	1	PAY483636N

Holder



Purpose:

- attachment of corrugated polyamide tubes to equipment housings, surface of walls, ceilings and partition walls.

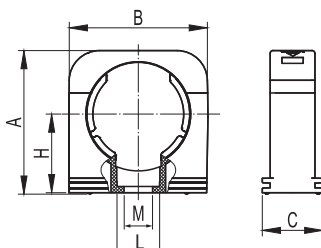
Characteristics:

- material is polyamide (PA6.6);
- color: black;
- operating temperature is from -40 to +105 °C (short-term exposure is up to +150 °C);
- does not contain halogens.

Rated diameter, mm	Physical dimensions, mm							Weight, g	Package, pcs	Code
	A	B	C	H	M	L	Tie*			
7	20	17	20	12	4	7	75x2.5	2.2	20	PAS07N
10	23	21	20	14	5	9	75x2.5	2.8	20	PAS10N
12	26	25	20	15	5	9	75x2.5	3.6	20	PAS12N
17	32	32	20	18	5	15	140x3.5	5.8	20	PAS17N
23	41	40	20	23	6	15	140x3.5	9.4	10	PAS23N
29	47	46	20	26	6	15	160x4.5	10.8	10	PAS29N
36	57	56	20	32	6	15	160x4.5	15.4	5	PAS36N
48	70	70	20	39	6	15	180x4.5	21.0	5	PAS48N

* Recommended dimension of a cable tie for additional attachment of a tube in a holder (upper part of a holder is tightened).
Perform installation of holders using flat head screws

Holder with cover



Purpose:

- attachment of corrugated polyamide tubes to equipment housings, surface of walls, ceilings and partition walls.

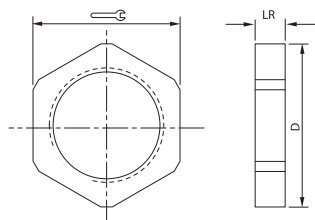
Characteristics:

- material is polyamide (PA6.6);
- color is black;
- operating temperature is from -40 to +105 °C (short-term exposure is up to +150 °C);
- does not contain halogens;
- high tube attachment reliability.

Rated diameter, mm	Physical dimensions, mm						Weight, g	Package, pcs	Code
	A	B	C	H	M	L			
7	22	17	20	13	4	7.2	3.0	20	PASW07N
10	25	22	20	13	5	9.5	4.0	20	PASW10N
12	27	25	20	15	5	9.5	5.0	20	PASW12N
17	33	31	20	19	5	12.2	6.8	20	PASW17N
23	42	40	20	23	6	10.5	9.0	10	PASW23N
29	47	46	20	26	6	10.5	10.2	10	PASW29N
36	56	56	20	31	6	10.5	13.8	5	PASW36N
48	70	70	20	39	6	10.5	21.8	5	PASW48N

Perform installation of holders using flat head screws

Nut with metric thread



Purpose:

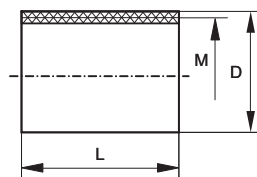
- attachment of polyamide couplings to equipment housings, enclosures, boxes, junction boxes.

Characteristics:

- material is polyamide (PA6.6);
- color is black;
- operating temperature is from -40 to +105 °C (short-term exposure is up to +150 °C);
- does not contain halogens.

Thread	Physical dimensions, mm			Weight, g	Tightening torque, Nm	Package, pcs	Code
	D	Key	LR				
M12x1.5	18	17	5	0.8	3	20	PAGM12N
M16x1.5	24	22	5	1.4	4	20	PAGM16N
M20x1.5	28	26	6	2.0	5	20	PAGM20N
M25x1.5	35	32	6	3.0	8	10	PAGM25N
M32x1.5	47	42	7	6.2	10	10	PAGM32N
M40x1.5	57	52	7	9.0	15	5	PAGM40N
M50x1.5	68	62	9	14.4	15	2	PAGM50N
M63x1.5	85	78	9	22.0	15	2	PAGM63N

Connecting bushing



Purpose:

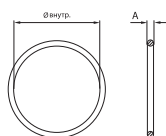
- connection of tube-box couplings; two PAM tube-box couplings connected using a PADM bushing form a connecting coupling for polyamide tubes.

Characteristics:

- inside metric thread;
- material is PVC;
- color is black;
- operating temperature is from -40 to +60 °C.

Thread M	Physical dimensions, mm		Wholesale package	
	D	L	Q-ty, pcs	Code
M16x1.5	19.70	30.80	10	PADM16
M20x1.5	23.85	33.65	10	PADM20
M25x1.5	29.80	39.60	5	PADM25
M32x1.5	36.90	44.50	5	PADM32
M40x1.5	46.90	50.00	2	PADM40
M50x1.5	56.80	54.70	2	PADM50
M63x1.5	70.60	60.30	2	PADM63

O-ring



Purpose:

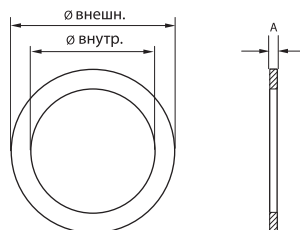
- sealing of entry points of corrugated tubes into couplings, tees, splitters, provides the protection degree IP68.

Characteristics:

- material is NBR-70 elastomer;
- color is black;
- operating temperature is from -30 to +100 °C.

Rated diameter, mm	Physical dimensions, mm		Weight, g	Package, pcs	Code
	Ø inside	A			
7	6.0	1.4	0.05	20	PAR07
10	9.0	1.5	0.06	20	PAR10
12	11.0	1.9	0.10	20	PAR12
17	16.0	1.9	0.18	20	PAR17
23	22.0	2.5	0.30	10	PAR23
29	28.0	2.5	0.39	10	PAR29
36	30.0	3.0	0.56	5	PAR36
48	48.0	2.5	0.84	2	PAR48

Sealing gasket



Purpose:

- sealing of coupling entry points into equipment housings, enclosures, boxes, junction boxes, provides the protection degree IP68.

Characteristics:

- operating temperature is from -40 to +200 °C.

For thread	Physical dimensions, mm			Weight, g	Package, pcs	Code
	Ø inside	Ø outside	A			
M12x1.5	12.0	18.0	1.5	0.32	20	PAPM12
M16x1.5	16.0	22.0	1.5	0.42	20	PAPM16
M20x1.5	20.0	27.0	1.5	0.62	20	PAPM20
M25x1.5	25.0	35.0	1.5	1.25	10	PAPM25
M32x1.5	32.0	43.0	1.5	1.63	10	PAPM32
M40x1.5	40.0	55.0	1.5	2.93	5	PAPM40
M50x1.5	50.0	69.0	1.5	4.75	2	PAPM50
M63x1.5	63.0	82.0	1.5	3.34	2	PAPM63

Compatibility table of polyamide tubes and accessories

Rated diameter, mm	Combustion type	Availability of broach	Tube code	Tube-box coupling, IP66/IP68	90° tube-box coupling, IP66/IP68	45° tube-box coupling, IP66/IP68	Nut with metric thread
7	PV-0	no	PA600710F0	PAM07M12N	–	–	PAGM12N
	PV-2	no	PA600710F2	PAM07M12N	–	–	PAGM12N
10	PV-0	no	PA601013F0	PAM10M16N	PAN10M16N	–	PAGM16N
	PV-2	no	PA601013F2	PAM10M16N	PAN10M16N	–	PAGM16N
12	PV-0	yes	PA611216F0	PAM12M16N	PAN12M16N	PAL12M16N	PAGM16N
				PAM12M20N	PAN12M20N	–	PAGM20N
		no	PA601216F0	PAM12M16N	PAN12M16N	PAL12M16N	PAGM16N
				PAM12M20N	PAN12M20N	–	PAGM20N
	PV-2	yes	PA611216F2	PAM12M16N	PAN12M16N	PAL12M16N	PAGM16N
				PAM12M20N	PAN12M20N	–	PAGM20N
		no	PA601216F2	PAM12M16N	PAN12M16N	PAL12M16N	PAGM16N
				PAM12M20N	PAN12M20N	–	PAGM20N
17	PV-0	yes	PA611721F0	PAM17M20N	PAN17M20N	PAL17M20N	PAGM20N
				PAM17M25N	–	–	PAGM25N
		no	PA601721F0	PAM17M20N	PAN17M20N	PAL17M20N	PAGM20N
				PAM17M25N	–	–	PAGM25N
	PV-2	yes	PA611721F2	PAM17M20N	PAN17M20N	PAL17M20N	PAGM20N
				PAM17M25N	–	–	PAGM25N
		no	PA601721F2	PAM17M20N	PAN17M20N	PAL17M20N	PAGM20N
				PAM17M25N	–	–	PAGM25N
23	PV-0	yes	PA612329F0	PAM23M25N	PAN23M25N	PAL23M25N	PAGM25N
				PAM23M32N	–	–	PAGM32N
		no	PA602329F0	PAM23M25N	PAN23M25N	PAL23M25N	PAGM25N
				PAM23M32N	–	–	PAGM32N
	PV-2	yes	PA612329F2	PAM23M25N	PAN23M25N	PAL23M25N	PAGM25N
				PAM23M32N	–	–	PAGM32N
		no	PA602329F2	PAM23M25N	PAN23M25N	PAL23M25N	PAGM25N
				PAM23M32N	–	–	PAGM32N
29	PV-0	yes	PA612935F0	PAM29M32N	PAN29M32N	PAL29M32N	PAGM32N
				PAM29M40N	–	–	PAGM40N
		no	PA602935F0	PAM29M32N	PAN29M32N	PAL29M32N	PAGM32N
				PAM29M40N	–	–	PAGM40N
	PV-2	yes	PA612935F2	PAM29M32N	PAN29M32N	PAL29M32N	PAGM32N
				PAM29M40N	–	–	PAGM40N
		no	PA602935F2	PAM29M32N	PAN29M32N	PAL29M32N	PAGM32N
				PAM29M40N	–	–	PAGM40N
36	PV-0	yes	PA613643F0	PAM36M40N	PAN36M40N	PAL36M40N	PAGM40N
				PAM36M50N	–	–	PAGM50N
		no	PA603643F0	PAM36M40N	PAN36M40N	PAL36M40N	PAGM40N
				PAM36M50N	–	–	PAGM50N
	PV-2	yes	PA613643F2	PAM36M40N	PAN36M40N	PAL36M40N	PAGM40N
				PAM36M50N	–	–	PAGM50N
		no	PA603643F2	PAM36M40N	PAN36M40N	PAL36M40N	PAGM40N
				PAM36M50N	–	–	PAGM50N
48	PV-0	yes	PA614855F0	PAM48M50N	PAN48M50N	PAL48M50N	PAGM50N
				PAM48M63N	–	–	PAGM63N
		no	PA604855F0	PAM48M50N	PAN48M50N	PAL48M50N	PAGM50N
				PAM48M63N	–	–	PAGM63N
	PV-2	yes	PA614855F2	PAM48M50N	PAN48M50N	PAL48M50N	PAGM50N
				PAM48M63N	–	–	PAGM63N
		no	PA604855F2	PAM48M50N	PAN48M50N	PAL48M50N	PAGM50N
				PAM48M63N	–	–	PAGM63N

O-ring	Sealing gasket	Holder	Holder with cover	Connecting bushing	Tee, IP66/IP68	Splitter, IP66/IP68
PAR07	PAPM12	PAS07N	PASW07N	–	–	–
PAR07	PAPM12	PAS07N	PASW07N	–	–	–
PAR10	PAPM16	PAS10N	PASW10N	PADM16	PAT10N	–
PAR10	PAPM16	PAS10N	PASW10N	PADM16	PAT10N	–
PAR12	PAPM16	PAS12N	PASW12N	PADM16	PAT12N	–
PAR12	PAPM20	PAS12N	PASW12N	PADM20	PAT12N	–
PAR12	PAPM16	PAS12N	PASW12N	PADM16	PAT12N	–
PAR12	PAPM20	PAS12N	PASW12N	PADM20	PAT12N	–
PAR12	PAPM16	PAS12N	PASW12N	PADM16	PAT12N	–
PAR12	PAPM20	PAS12N	PASW12N	PADM20	PAT12N	–
PAR12	PAPM16	PAS12N	PASW12N	PADM16	PAT12N	–
PAR12	PAPM20	PAS12N	PASW12N	PADM20	PAT12N	–
PAR12	PAPM16	PAS12N	PASW12N	PADM16	PAT12N	–
PAR12	PAPM20	PAS12N	PASW12N	PADM20	PAT12N	–
PAR17	PAPM20	PAS17N	PASW17N	PADM20	PAT17N	PAY171212N
PAR17	PAPM25	PAS17N	PASW17N	PADM25	PAT17N	PAY171212N
PAR17	PAPM20	PAS17N	PASW17N	PADM20	PAT17N	PAY171212N
PAR17	PAPM25	PAS17N	PASW17N	PADM25	PAT17N	PAY171212N
PAR17	PAPM20	PAS17N	PASW17N	PADM20	PAT17N	PAY171212N
PAR17	PAPM25	PAS17N	PASW17N	PADM25	PAT17N	PAY171212N
PAR17	PAPM20	PAS17N	PASW17N	PADM20	PAT17N	PAY171212N
PAR17	PAPM25	PAS17N	PASW17N	PADM25	PAT17N	PAY171212N
PAR23	PAPM25	PAS23N	PASW23N	PADM25	PAT23N	PAY231717N
PAR23	PAPM32	PAS23N	PASW23N	PADM32	PAT23N	PAY231717N
PAR23	PAPM25	PAS23N	PASW23N	PADM25	PAT23N	PAY231717N
PAR23	PAPM32	PAS23N	PASW23N	PADM32	PAT23N	PAY231717N
PAR23	PAPM25	PAS23N	PASW23N	PADM25	PAT23N	PAY231717N
PAR23	PAPM32	PAS23N	PASW23N	PADM32	PAT23N	PAY231717N
PAR23	PAPM25	PAS23N	PASW23N	PADM25	PAT23N	PAY231717N
PAR23	PAPM32	PAS23N	PASW23N	PADM32	PAT23N	PAY231717N
PAR29	PAPM32	PAS29N	PASW29N	PADM32	PAT29N	PAY292323N
PAR29	PAPM40	PAS29N	PASW29N	PADM40	PAT29N	PAY292323N
PAR29	PAPM32	PAS29N	PASW29N	PADM32	PAT29N	PAY292323N
PAR29	PAPM40	PAS29N	PASW29N	PADM40	PAT29N	PAY292323N
PAR29	PAPM32	PAS29N	PASW29N	PADM32	PAT29N	PAY292323N
PAR29	PAPM40	PAS29N	PASW29N	PADM40	PAT29N	PAY292323N
PAR29	PAPM32	PAS29N	PASW29N	PADM32	PAT29N	PAY292323N
PAR29	PAPM40	PAS29N	PASW29N	PADM40	PAT29N	PAY292323N
PAR36	PAPM40	PAS36N	PASW36N	PADM40	PAT36N	PAY362929N
PAR36	PAPM50	PAS36N	PASW36N	PADM50	PAT36N	PAY362929N
PAR36	PAPM40	PAS36N	PASW36N	PADM40	PAT36N	PAY362929N
PAR36	PAPM50	PAS36N	PASW36N	PADM50	PAT36N	PAY362929N
PAR36	PAPM40	PAS36N	PASW36N	PADM40	PAT36N	PAY362929N
PAR36	PAPM50	PAS36N	PASW36N	PADM50	PAT36N	PAY362929N
PAR36	PAPM40	PAS36N	PASW36N	PADM40	PAT36N	PAY362929N
PAR36	PAPM50	PAS36N	PASW36N	PADM50	PAT36N	PAY362929N
PAR48	PAPM50	PAS48N	PASW48N	PADM50	–	PAY483636N
PAR48	PAPM63	PAS48N	PASW48N	PADM63	–	PAY483636N
PAR48	PAPM50	PAS48N	PASW48N	PADM50	–	PAY483636N
PAR48	PAPM63	PAS48N	PASW48N	PADM63	–	PAY483636N
PAR48	PAPM50	PAS48N	PASW48N	PADM50	–	PAY483636N
PAR48	PAPM63	PAS48N	PASW48N	PADM63	–	PAY483636N
PAR48	PAPM50	PAS48N	PASW48N	PADM50	–	PAY483636N
PAR48	PAPM63	PAS48N	PASW48N	PADM63	–	PAY483636N



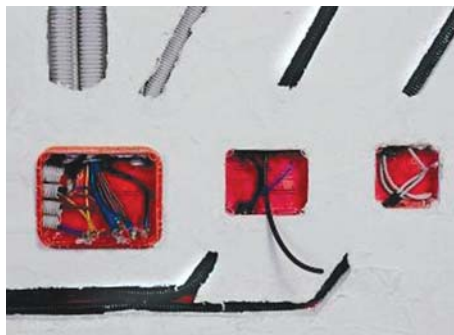
Flexible corrugated tubes "Octopus"

Flexible corrugated halogen-free tube	71
Flexible corrugated PVC tube (series 9)	72
Flexible corrugated HDPE tube (series 7)	73
Flexible corrugated polypropylene tube (series 10)	74
Accessories for corrugated tubes	75
In-wall install accessories	76
Cable laying instruments	87

System of flexible corrugated tubes

Application

Corrugated tubes are used for cabling during construction and renovation of residential, public and industrial structures. These tubes are designed for laying of electric, telephone, computer, and television networks therein using insulated wires, cords and cables.



For plaster/screed

Buried laying in wall chases and floor screed



Concealed spaces of building structures

Buried laying in cavities of trunking walls, access floors, suspended ceilings



In-wall installation

Buried laying during grouting with concrete

Distinctive features

Wide range

DKC corrugated PVC, HDPE and polypropylene tubes have different operating characteristics, thus ensuring the widest application.

Additional insulation

A plastic tube provides additional cable insulation, excludes the possibility of an electric shock in case basic cable insulation is damaged, minimizes leakage currents and enhances network insulation resistance.

Ease of installation

Flexibility of corrugated tubes in combination with good mechanical strength ensures simple and fast wiring. A built-in broach simplifies cable laying in tubes to a significant degree.

Wiring replaceability

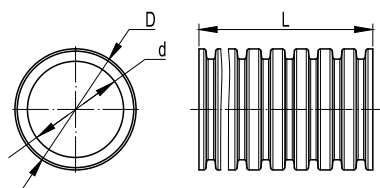
Buried wiring laid in a tube may be replaced without wall chasing and floor opening.

System composition

Three types of corrugated tubes in the system with accessories are as follows:

- flexible corrugated HDPE tubes (series 7) are distinguished by the extended mounting and operating temperature range, have increased elasticity, are able to withstand significant impact loads, which makes this tube type common for in-wall installation;
- flexible corrugated PVC tubes (series 9) are the most widespread and common tube type for wiring. Corrugated PVC tubes have low cost, moreover, they do not propagate fire and conform to the applicable fire safety requirements;
- flexible corrugated polypropylene tubes (series 10) do not propagate fire and conform to the applicable fire safety requirements. These tubes have resistance to increased and reduced temperatures, as well as increased elasticity and shock resistance, which allows using this tube type for in-wall installation, if additional requirements for conformity to fire safety regulations (kindergartens, schools and other social facilities) are imposed on embedded tubes;
- accessories for corrugated tubes;
- junction boxes;
- in-wall install accessories.

Flexible corrugated halogen-free tube



Purpose:

- laying of electric, telephone, computer, and television networks using insulated wires, cords or cables;
- laying together with halogen-free cables.

Installation conditions:

- buried laying in walls, ceilings, floors made of non-combustible materials;
- it is allowed to perform open laying indoors on bases made of non-combustible and non-flammable materials in the absence of exposure to ultraviolet light.

Distinctive features:

- does not contain halogens;
- prevents fire spreading;
- moisture resistance;
- high elasticity;
- age resistance;
- a fire safety certificate, a certificate of conformity and a product application conclusion from the EMCOR of Russia are available.

Characteristics

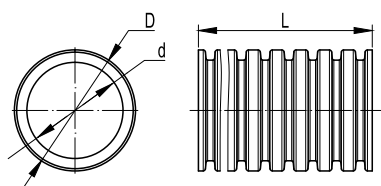
Technical specifications	TS 3491-052-47022248-2016
Protection degree	IP55 according to GOST 14254-96 (IEC 529-89)
Mounting temperature	from -15 to +90 °C
Operating temperature	from -15 to +90 °C
Strength (compression resistance at 20 °C)	over 125 N
Tear strength	at least 200 N
Shock resistance at -15 °C	at least 0.5 J
Color	White
Minimum bend radius	8 diameters
Conformity to fire safety requirements	conforms to GOST R 53313

Nomenclature

Rated outside diameter, mm	Outside diameter D, mm*	Inside diameter d, mm*	Q-ty in a coil L, m	Q-ty on a pallet, m	Tube code with a broach	Tube code without a broach
16	15.8	11.3	100	5200	81816	80816
20	19.7	14.8	100	4400	81820	80820
25	24.7	19.1	50	2400	81825	80825
32	31.4	24.3	25	1300	81832	80832
40	39.1	30.8	20	1120	81840	80840
50	49.1	39.7	15	720	81850	80850

* Tolerance for outside and inside diameters for tubes with Ø 16, 20, 25, 32, 40, 50 mm is ±0.5 mm

Flexible corrugated PVC tube (series 9)



Purpose:

- laying of electric, telephone, computer, and television networks using insulated wires, cords and cables.

Installation conditions:

- buried laying in walls, ceilings, floors made of non-combustible materials; it is allowed to perform open laying indoors on bases made of non-combustible and non-flammable materials in the absence of exposure to ultraviolet light.

Distinctive features:

- prevents fire spreading;
- moisture resistance;
- age resistance;
- a fire safety certificate, a certificate of conformity, a health certificate and a CE certificate are available.

Characteristics

Technical specifications	TS 2247-008-47022248-2002
Classification code according to EN 61386-1 and EN 61386-22	2141 (light-duty series); 3241 (heavy-duty series)
Protection degree	IP55 according to GOST 14254-96 (IEC 529-89)
Mounting temperature	from -5 to +60 °C
Operating temperature	from -25 to +60 °C (with no mechanical effects)
Strength (compression resistance at 20 °C)	over 350 N per 5 cm (light-duty series)*; over 750 N per 5 cm (heavy-duty series)*; over 1250 N per 5 cm (super-heavy-duty series)*
Tear strength	at least 100 N
Shock resistance at -25 °C	at least 0.5 J (light-duty series); at least 1 J (heavy-duty and super-heavy-duty series)
Color	gray RAL 7035
Minimum bend radius	3 diameters
Conformity to fire safety requirements	conforms to GOST R 53313

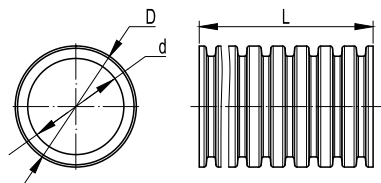
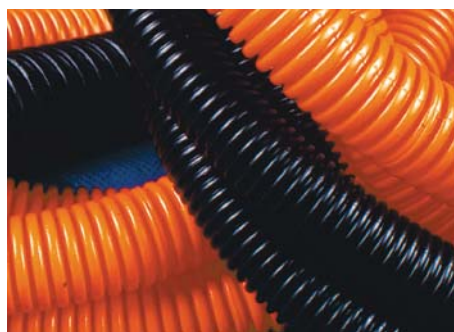
* Deformation under the stated compressive force is not more than 25% ± 5% of the initial diameter

Nomenclature

Tube series	Rated outside diameter, mm	Outside diameter D, mm*	Inside diameter d, mm*	Q-ty in a coil L, m	Q-ty on a pallet, m	Tube code with a broach	Tube code without a broach
Light-duty	16	16.0	11.5	100	5200	91916	90916
				50	3900	9191650	9091650
				25	3150	9191625	9091625
	20	20.0	14.9	100	4400	91920	90920
				50	2400	9192050	9092050
				25	2700	9192025	9092025
	25	25.0	19.0	50	2400	91925	90925
				25	1750	9192525	9092525
	32	32.0	24.9	25	1300	91932	90932
	40	40.0	31.8	20	1120	91940	90940
				50	1200	9194050	9094050
				15	720	91950	90950
Heavy-duty	16	16.0	11.3	100	5200	91516	90516
	20	20.0	14.7	100	4400	91520	90520
	25	25.0	18.9	50	2400	91525	90525
	32	32.0	24.6	25	1300	91532	90532
	40	40.0	31.5	20	1120	91540	90540
	50	50.0	40.1	15	720	91550	90550
	25	25.0	18.6	50	2400	91525+	90525+
Super-heavy-duty	32	32.0	24.4	25	1300	91532+	90532+

* Tolerance for outside and inside diameters for tubes with Ø 16, 20, 25, 32 and 40 mm is ±0.4 mm; tolerance for tubes with Ø 50 mm is ±0.5 mm

Flexible corrugated HDPE tube (series 7)



Purpose:

- laying of electric, telephone, computer, and television networks operating under DC or AC voltage using insulated wires, cords or cables.

Installation conditions:

- in-wall installation; buried laying in wall chases and floor screed made of non-combustible materials.

Distinctive features:

- high elasticity and shock resistance;
- wide range of mounting and operating temperatures;
- moisture resistance;
- age resistance;
- a certificate of conformity, a health certificate and a CE certificate are available.

Characteristics

Technical specifications	TS 3491-011-47022248-2003
Classification code according to EN 61386-1 and EN 61386-23	1342 (light-duty series); 2442 (heavy-duty series)
Protection degree	IP55 according to GOST 14254-96 (IEC 529-89)
Mounting temperature	from -40 to +90 °C
Operating temperature	from -40 to +90 °C
Strength (compression resistance at 20 °C)	over 125 N per 5 cm (light-duty series)*; over 320 N per 5 cm (heavy-duty series)*
Tear strength	at least 200 N
Shock resistance at -40 °C	at least 2 J (light-duty series); at least 6 J (heavy-duty series)
Color	orange RAL 2004, black RAL 7021
Minimum bend radius	3 diameters

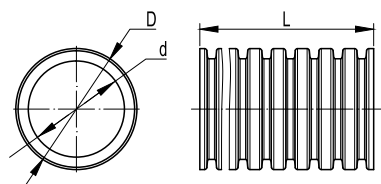
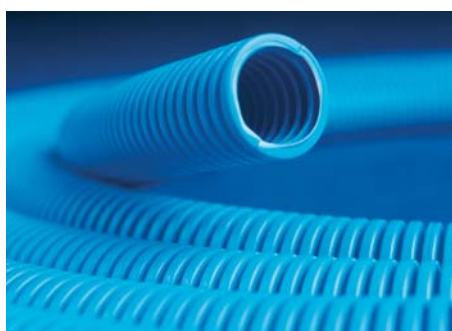
* Deformation under the stated compressive force is not more than 25% ± 5% of the initial diameter

Nomenclature

Tube series	Rated outside diameter, mm	Outside diameter D, mm*	Inside diameter d, mm*	Q-ty in a coil L, m	Q-ty on a pallet, m	Tube code with a broach		Tube code without a broach	
						orange	black	orange	black
Light-duty	16	15.7	11.3	100	5200	71916	71716	70916	70716
	20	19.5	14.5	100	4400	71920	71720	70920	70720
	25	25.0	19.0	50	2400	71925	71725	70925	70725
	32	31.1	24.3	25	1300	71932	71732	70932	70732
	40	38.7	30.7	20	1120	71940	71740	70940	70740
	50	48.5	38.9	15	720	71950	71750	70950	70750
Heavy-duty	16	15.6	10.9	100	5200	71516	-	70516	-
	20	19.4	14.2	100	4400	71520	-	70520	-
	25	24.1	18.6	50	2400	71525	-	70525	-
	32	31.0	24.0	25	1300	71532	-	70532	-
	40	38.6	30.1	20	1120	71540	-	70540	-
	50	48.5	38.2	15	720	71550	-	70550	-

* Tolerance for outside and inside diameters is ±0.5 mm

Flexible corrugated polypropylene tube (series 10)



Purpose:

- laying of electric, telephone, computer, and television networks using insulated wires, cords and cables.

Installation conditions:

- in-wall installation; buried laying in wall chases, floor screed, cavities of trunking walls, access floors, suspended ceilings made of non-combustible materials;
- open laying both indoors and outdoors under a shed on bases made of non-combustible and non-flammable materials.

Distinctive features:

- prevents fire spreading;
- increased elasticity and shock resistance;
- wide range of mounting and operating temperatures;
- moisture resistance;
- age resistance;
- a fire safety certificate, a certificate of conformity, a health certificate and a CE certificate are available.

Characteristics

Technical specifications	TS 3491-010-47022248-2003
Classification code according to EN 61386-1 and EN 61386-23	2241 (light-duty series)
Protection degree	IP55 according to GOST 14254-96 (IEC 529-89)
Mounting temperature	from -25 to +60 °C
Operating temperature	from -40 to +105 °C (with no mechanical effects)
Strength (compression resistance at 20 °C)	over 120 N per 5 cm (light-duty series)*; over 320 N per 5 cm (heavy-duty series)*; over 450 N per 5 cm (super-heavy-duty series)*
Tear strength	at least 200 N
Color	blue RAL 5015
Minimum bend radius	3 diameters
Conformity to fire safety requirements	conforms to GOST R 53313

* Deformation under the stated compressive force is not more than 25% ± 5% of the initial diameter

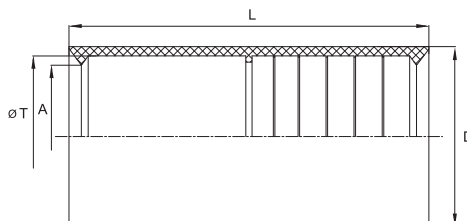
Nomenclature

Tube series	Rated outside diameter, mm	Outside diameter D, mm*	Inside diameter d, mm*	Q-ty in a coil L, m	Q-ty on a pallet, m	Tube code with a broach	Tube code without a broach
Light-duty	16	15.8	11.2	100	5200	11916	10916
	20	19.7	14.8	100	4400	11920	10920
	25	25.0	19.0	50	2400	11925	10925
	32	31.4	24.2	25	1300	11932	10932
	40	39.2	30.8	20	1120	11940	10940
	50	49.0	39.7	15	720	11950	10950
Heavy-duty	16	15.8	11.0	100	5200	11516	10516
	20	19.6	14.3	100	4400	11520	10520
	25	25.0	18.9	50	2400	11525	10525
	32	31.4	24.0	25	1300	11532	10532
	40	39.3	30.5	20	1120	11540	10540
	50	48.9	39.5	15	720	11550	10550
Super-heavy-duty	25	25.0	18.6	50	2400	11525+	10525+
	32	31.4	23.9	25	1300	11532+	10532+

* Tolerance for outside and inside diameters is ±0.5 mm

Accessories for corrugated tubes

Corrugated tube coupling, IP40


Purpose:

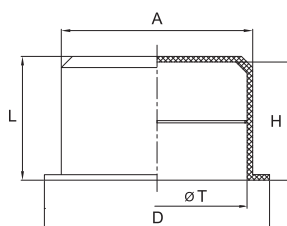
- connection of flexible corrugated tubes;
- connection of flexible corrugated tubes with rigid tubes.

Characteristics:

- material is polyethylene;
- color is transparent;
- operating temperature is from -40 to +90 °C;
- protection degree is IP40.

Diameter, mm	Physical dimensions, mm				Package, pcs	Code
	ØT	A	D	L		
16	16	Ø 15.5	Ø 20	50	200	50816
20	20	Ø 19.3	Ø 24	55	200	50820
25	25	Ø 24.3	Ø 29	58	100	50825
32	32	Ø 31.0	Ø 36	62	50	50832
40	40	Ø 37.7	Ø 45	81	40	50840
50	50	Ø 47.5	Ø 55	92	20	50850

Tube plug, IP40


Purpose:

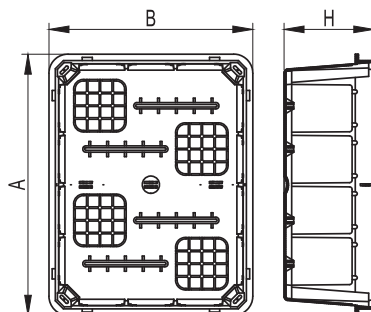
- protection of ends of corrugated and rigid tubes against ingress of construction waste which may hinder further cable pulling.

Characteristics:

- material is polyethylene;
- color is transparent;
- operating temperature is from -40 to +90 °C;
- protection degree is IP40.

Diameter, mm	Physical dimensions, mm					Package, pcs	Code
	ØT	ØD	ØA	H	L		
16	16	20	17	10	11	200	50916
20	20	25	21	10	11	200	50920
25	25	30	26	10	11	200	50925
32	32	38	33	10	11	100	50932
40	40	45	41	10	11	50	50940
50	50	55	51	10	11	50	50950

Rectangular junction box for solid walls, IP40


Purpose:

- decoration and protection of connection points of power and data cables; designed for concealed installation in non-combustible bases.

Characteristics:

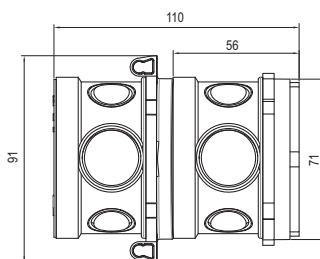
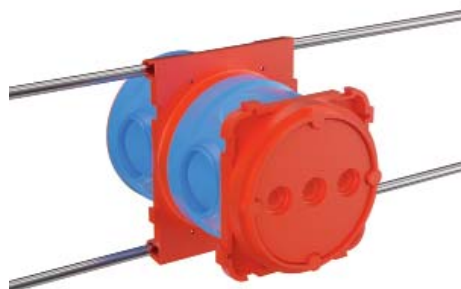
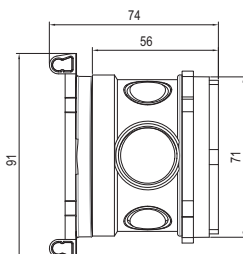
- material is polystyrene;
- cover color: white RAL 9010;
- mounting temperature is from -5 to +60 °C;
- operating temperature is from -25 to +60 °C;
- protection degree is IP40.

Dimension (AxBxH), mm	Package, pcs	Code
92x92x45	1	59361
118x96x50	1	59362
118x96x70	1	59363
154x98x70	1	59364
160x130x70	1	59365
196x152x70	1	59366
297x152x70	1	59367
392x152x70	1	59368
480x160x70	1	59369

In-wall install accessories

DKC offers the universal series of accessories for cast-in-place construction. These products are designed for installation of wiring devices according to the European standard, suspension of light fixtures, organization of cable outlet ducts from concrete and cable laying to equipment. Accessories have a wide range of operating temperatures, high strength, may be installed on a wooden form using fasteners, as well as on an opposite form using a support. Accessories of the new series are attached to the wire frame using a rod included without disturbing form integrity.

Universal mounting box



Purpose:

- used for installation of concealed wiring, ensuring protection of connected cable cores against external exposure;
- used for installation of wiring devices according to the European standard.

Characteristics:

- enclosure material is polypropylene;
- mounting temperature is from -25 to +100 °C;
- four inlets Ø 20 mm for a corrugated tube Ø 25 mm in each enclosure;
- two inlets Ø 25 mm for mating of enclosures between each other;
- firm mating of components;
- boxes are guaranteed to withstand all impact loads occurring during concrete feeding.

Distinctive features:

- installation on a wire frame using a rod.

Complete set:

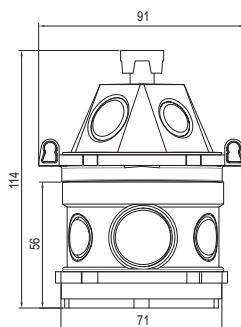
- rod is supplied in the kit. Rod length is 450 mm.

Scheme installation



Dimension	Complete set	Package, pcs	Code
90x71; h74	universal mounting box for embedment in concrete; 90x71; h74	60	59392U
90x71; h110	universal mounting box for embedment in concrete; 90x71; h110	40	59393U

Universal ceiling box



Purpose:

- formation of a ceiling distribution box with a chandelier suspension hook for in-wall installation.

Characteristics:

- enclosure material is polypropylene;
- mounting temperature is from -25 to $+100$ °C;
- box has four inlets $\varnothing 20$ mm for a corrugated tube $\varnothing 25$ mm in each enclosure; two inlets $\varnothing 25$ mm for mating of enclosures between each other;
- in a tapered cover: two inlets for a corrugated tube $\varnothing 25$ mm; two inlets for a corrugated tube $\varnothing 20$ mm;
- two inlets $\varnothing 25$ mm for mating of enclosures between each other;
- firm mating of components; boxes are guaranteed to withstand all impact loads occurring during concrete feeding.

Distinctive features:

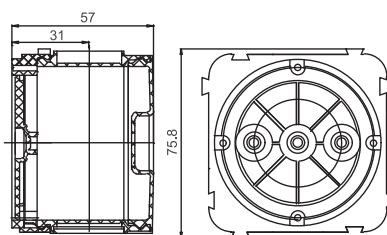
- installation on a wire frame is performed using a rod.

Complete set:

- rod is supplied in the kit. Rod length is 450 mm.

Dimension	Complete set	Package, pcs	Code
90x71; h114	universal ceiling box for embedment in concrete; 90x71; h114	40	59391U

Mounting box for embedment in concrete



Purpose:

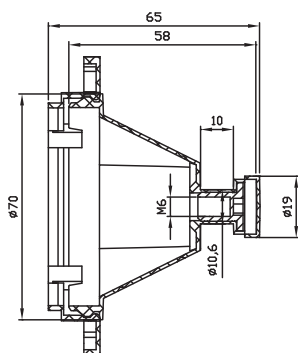
- formation of mounting seats for wiring devices according to the European standard in in-wall installation.

Characteristics:

- enclosure material is polypropylene;
- mounting temperature is from -25 to $+100$ °C;
- four inlets $\varnothing 20$ mm for a corrugated tube $\varnothing 25$ mm in each enclosure;
- two inlets $\varnothing 25$ mm for mating of enclosures between each other;
- firm mating of components; boxes are guaranteed to withstand all impact loads occurring during concrete feeding.

Dimension, mm	Complete set	Package, pcs	Code
D70x57	flanged cover – 1 pce; bottom – 1 pce; enclosure – 1 pce	80	59380
D70x97	flanged cover – 1 pce; bottom – 1 pce; enclosure – 2 pcs	40	59381
D70x137	flanged cover – 1 pce; bottom – 1 pce; enclosure – 3 pcs	32	59382

Ceiling box for embedment in concrete


Purpose:

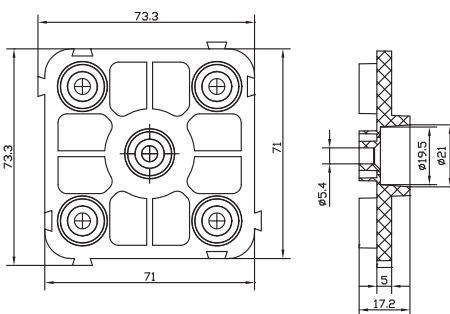
- formation of a ceiling distribution box with a chandelier suspension hook for in-wall installation.

Characteristics:

- enclosure material is polypropylene;
- mounting temperature is from -25 to +100 °C;
- two inlets for a corrugated tube Ø 25 mm;
- two inlets for a corrugated tube Ø 20 mm;
- firm mating of box components guarantees withstanding all impact loads occurring during concrete feeding;
- increase of box depth using additional enclosures (code 59381B), whereas each additional enclosure increases box depth by 40 mm;
- built-in nut with M6 thread for hook installation.

Dimension, mm	Complete set	Package, pcs	Code
72x72x65	flanged cover – 1 pce; tapered cover with built-in M6 nut – 1 pce	40	59391

Support for embedment in concrete


Purpose:

- attachment of mounting boxes for embedment in concrete on an opposite form in in-wall installation.

Characteristics:

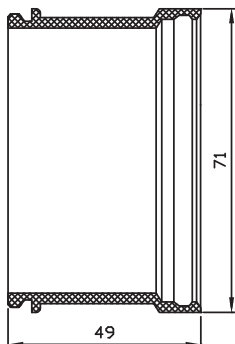
- enclosure material is polypropylene;
- mounting temperature is from -25 to +100 °C;
- a segment of rigid tube Ø 20 mm is used for mating of a support with a mounting box.

Scope of supply:

- a segment of rigid tube Ø 20 mm is not included into the scope of supply.

Dimension, mm	Package, pcs	Code
72x72x10	40	59388

Box enclosure for embedment in concrete


Purpose:

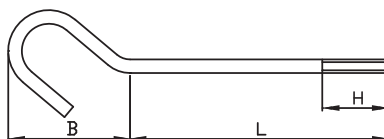
- increase of depth of mounting and ceiling boxes for embedment in concrete.

Characteristics:

- material is polypropylene;
- mounting temperature is from -25 to +100 °C;
- installation of one enclosure allows increasing depth of mounting and ceiling boxes by 40 mm;
- enclosure is included into boxes 59381 (1 pce), 59382 (2 pcs), 59383 (3 pcs).

Dimension, mm	Package, pcs	Code
D71x49	40	59381B

Insulated hook for ceiling boxes



Purpose:

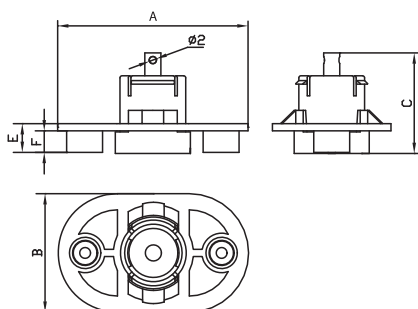
- suspension of a chandelier to a ceiling box embedded in concrete.

Characteristics:

- material is steel;
- insulation material: cross-linked polyethylene (heat-shrinkable tubing);
- M6 thread;
- maximum load is 10 kg;
- hook length is selected depending on the number of additional enclosures used with the box 59391 and thickness of the ceiling plaster layer.

Physical dimensions, mm			Thread	Package, pcs	Code
L	H	B			
55	25	40	M6	40	59055
65	25	40	M6	40	59065
75	25	40	M6	40	59075
95	25	40	M6	40	59095
105	25	40	M6	40	59105
115	25	40	M6	40	59115
135	25	40	M6	40	59135
145	25	40	M6	40	59145
155	25	40	M6	40	59155

End bushing for embedment in concrete



Purpose:

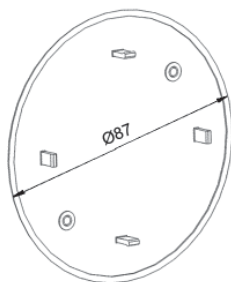
- accessory for end mating of corrugated tubes to a form allows organizing wiring duct outlet from monolithic concrete.

Characteristics:

- material is polypropylene;
- mounting temperature is from -25 to +100 °C;
- there is a broach attachment retainer.

Corrugated tube diameter, mm	Physical dimensions, mm					Package, pcs	Code
	A	B	C	E	F		
16 and 25	53	33	28	8	6	40	59389
20 and 32	65	40	33	9	7	40	59390

Mounting box cover


Purpose:

- use of a mounting box as a junction box.

Characteristics:

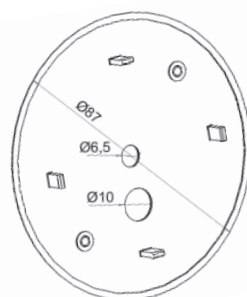
- material is polystyrene;
- color is white RAL 9010;
- protection degree is IP40.

Scope of supply:

- fastening self-tapping screws.

Dimension, mm	Package, pcs	Code
D87	80	59386

Ceiling box cover with hook


Purpose:

- decoration of ceiling boxes with a hook.

Distinctive features:

- material is polystyrene;
- color is white RAL 9010;
- protection degree is IP40;
- box has a hole Ø 6.5 mm for a hook and a hole Ø 10 mm for cable outlet.

Scope of supply:

- fastening self-tapping screws.

Dimension, mm	Package, pcs	Code
D87	80	59387

Manual

Installation of mounting box for embedment in concrete



1. Secure the flanged cover on the form

Secure the cover using nails, screw nails, glue, anchors or any other means providing reliable attachment of the cover on the form



2. Install the bottom into the enclosure

Bottom installation provides the enclosure with rigidity necessary for perforation of tube inlets



3. Perforate tube inlets

Install a rigid tube segment into the pre-perforated inlet. The tube diameter shall correspond to the inlet diameter (Ø 20 mm and Ø 25 mm respectively). Perforate an inlet by tapping on the tube



4. Install enclosures on flanged covers

Before installing enclosures, it is preferable to remove bottoms – this will simplify tube entry into the box



5. Bring the tubes in

Inlets Ø 20 mm are designed for connection of corrugated tubes Ø 25 mm. A corrugated tube is reliably held in the enclosure and does not require additional sealing



6. Install the bottoms

7. Install the form moving part and perform filling

When removing the form, the protective membrane of the flanged cover is broken off, opening access inside the ceiling box



It is recommended to use a cable gland (code 54520) for entry of rigid tubes with diameters of 16 and 20 mm into the box



It is recommended to use a cable gland (code 54520) for entry of corrugated tubes with diameters of 16 and 20 mm into the box

Installation of end bushing for embedment in concrete



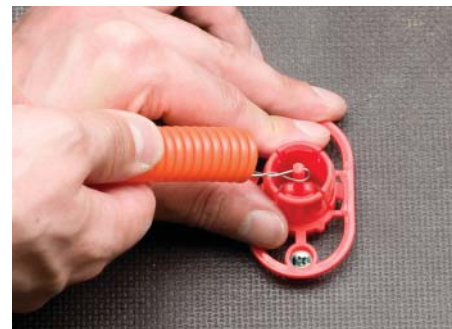
1. Assemble the bushing

The bushing comprises 2 parts connected using a temporary jumper



2. Attach the bushing on the form

Attachment using nails, screw nails, glue or any other means providing reliable attachment of the bushing on the form



3. Secure the broach in the bushing retainer

The retainer has a hole for attachment of the metal broach



4. Latch the tube on the bushing

Depending on the diameter, tubes are attached inside or outside the bushing



5. Perform embedding

Avoid direct ingress of concrete jets on the bushing when filling

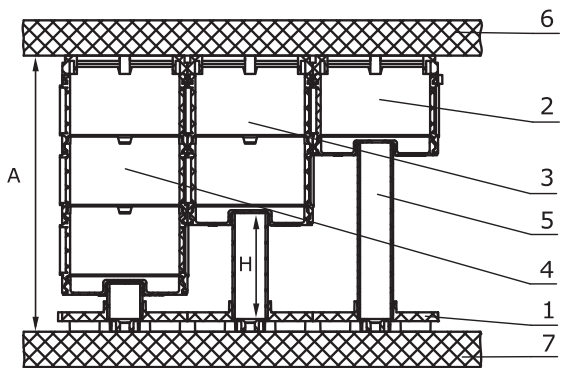
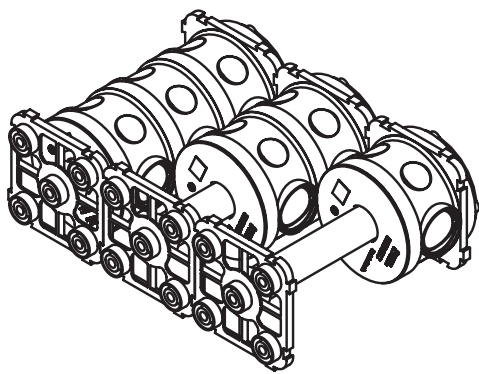


6. Break off the protective membrane

The duct is ready for cable pulling

Scheme installation

Installation of junction boxes for embedment in concrete on the opposite form using a support



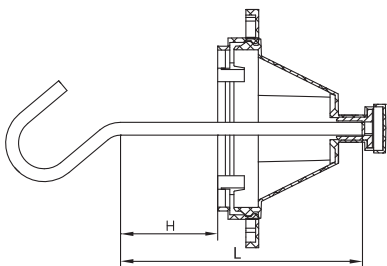
Specification:

- 1. support, code 59388;
- 2. mounting box, code 59380;
- 3. mounting box, code 59381;
- 4. mounting box, code 59382;
- 5. segment of rigid tube Ø 20 mm;
- 6. form;
- 7. opposite form.

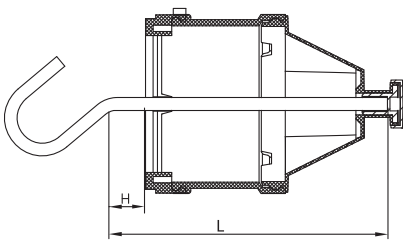
Calculation of length of rigid tube segment

- $H = A - 55\text{ mm}$, for box 59380 with support 59388
- $H = A - 95\text{ mm}$, for box 59381 with support 59388
- $H = A - 135\text{ mm}$, for box 59382 with support 59388

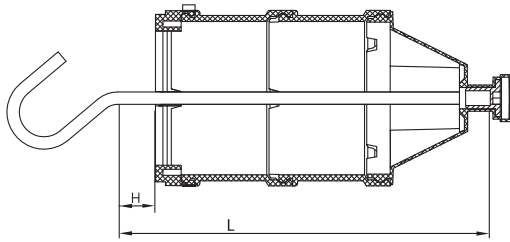
Selection of ceiling box hook



59391



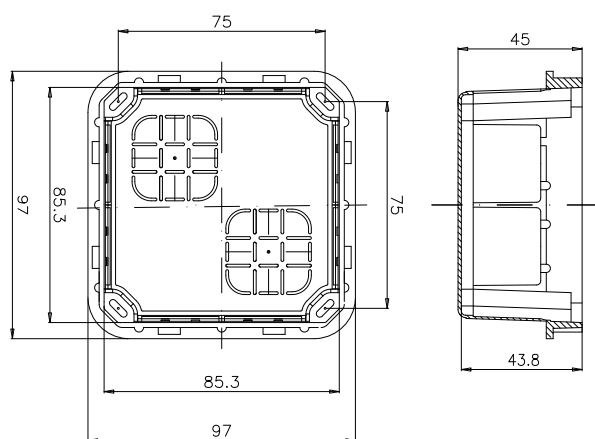
59391 + 59381B



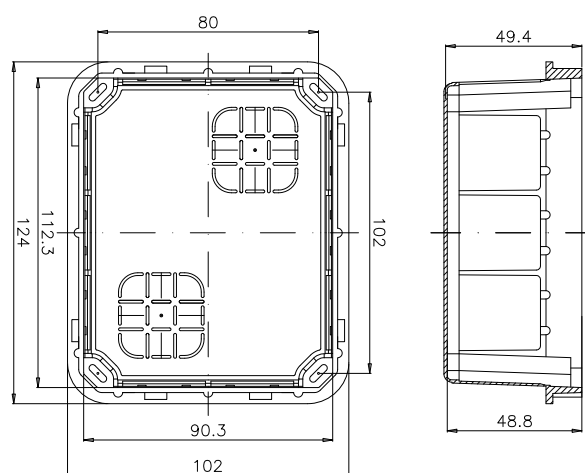
59391 + 59381B (2 pcs)

Ceiling box code	Hook length L, mm	Length H, mm	Hook code
59391	55	0	59055
	65	10	59065
	75	20	59075
59391+59381B	95	0	59095
	105	10	59105
	115	20	59115
59391+2x59381B	135	0	59135
	145	10	59145
	155	20	59155
59391U	135	20	59135
	145	30	59145
	155	40	59155

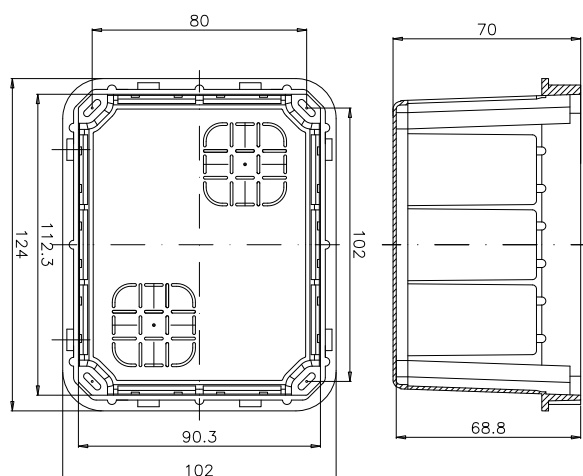
Drawings



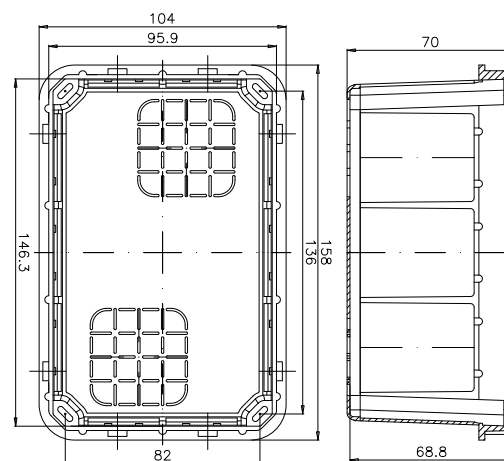
59361



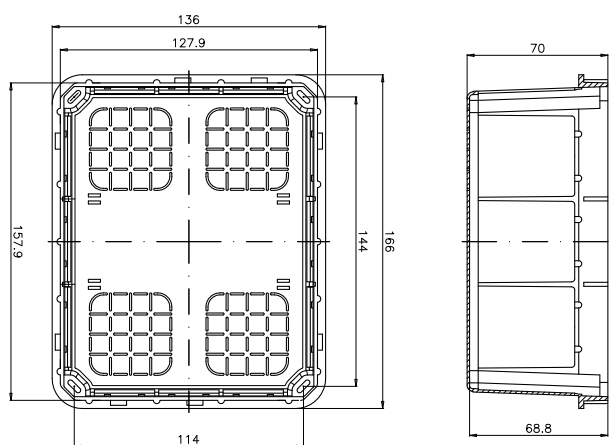
59362



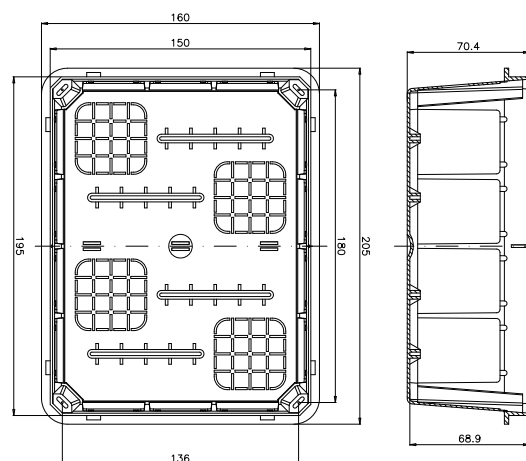
59363



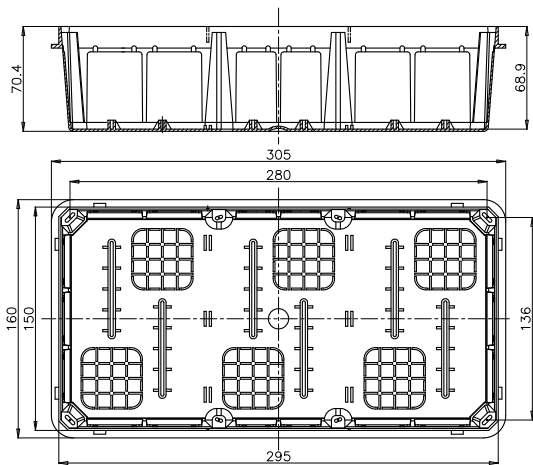
59364



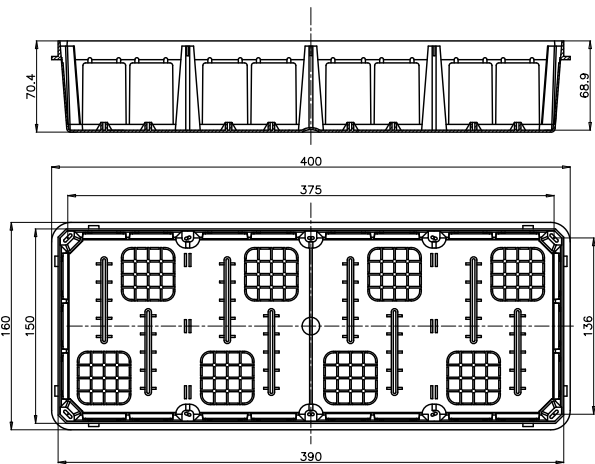
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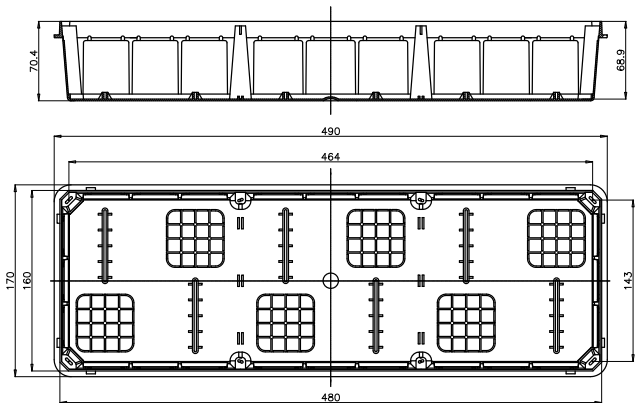
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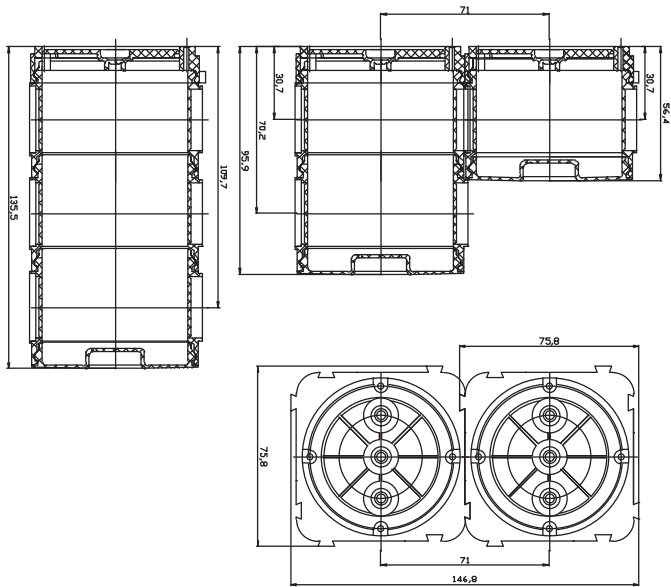
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Useful information

Advice on laying of corrugated tubes

- when laying corrugated tubes, it is necessary to avoid sharp angles, as well as close positioning of several angles;
- operating distance for wire pulling in a tube comprises 20-25 m with the maximum number of 2-3 correctly placed angles;
- if increase of length of an integral tube segment and number of angles is required, transit boxes should be installed at angles or places close to the center of the integral tube segment;
- pulling of several networks simultaneously in one tube is not allowed;
- laying of communication lines of each type is performed in own tubes and boxes designed only for these purposes at the certain distance from each other;
- as for monolithic construction, corrugated tubes of heavy-duty series are laid before mortar feeding and attached to load bearing metal structures, whereas wire pulling is carried out after the wall has already been formed;
- internal communication lines created on the basis of corrugated tubes allow using replaceable wiring throughout the entire building operation period.

Tube selection depending on laying conditions

Tube laying conditions may be divided into buried and open laying

Buried laying is performed inside walls, floors and ceilings. Buried laying also includes laying in concealed spaces of building structures (in cavities of trunking walls, access floors, suspended ceilings). In the context of fire safety requirements, buried laying may be divided into three types, wherein different tubes may be used.

- laying inside non-combustible materials (in chases of concrete and brick walls, floor screed, in-wall installation, etc.). Any tubes, both fire-resistant and non-fire-resistant ones, may be used in this case from the perspective of PUE. However, requirements as to this issue have been toughened recently by the fire safety authority, and at the present time it is often required to use a fire-resistant tube, even if it is laid in monolithic concrete, during construction of social facilities, such as kindergartens, schools and hotels;
- laying in cavities of non-combustible building structures (inside non-combustible trunking walls, access floors, suspended ceilings, for example, a concrete wall is lined with plasterboard). Fire-resistant plastic tubes are used in this case (at which point it is prohibited to use a non-fire-resistant corrugated HDPE tube);
- laying inside combustible floor structures (inside wooden or other combustible walls, including laying on a concrete or brick wall with further wood lining or other combustible cladding). Only non-combustible tubes (usually metal electric-welded tubes) shall be used in this case. Application of fire-resistant plastic tubes is prohibited.

Open laying is laying along the surface of walls, floors and ceilings. Open laying may be divided into five types:

- indoor laying on non-combustible materials. Fire-resistant plastic tubes are used in this case;
- indoor laying on combustible materials (for example, along a wooden wall). According to PUE, Chapter 2.1, it is possible to use fire-resistant tubes under such laying conditions, whereas it is necessary to provide the distance of at least 10 mm between a tube and a combustible wall when using a cable (wire) in non-fire-resistant insulation. A plastic holder will allow providing the required distance. When using a fire-resistant tube in combination with a fire-resistant cable (cables of NYM, VVGng types, etc.), it is possible to lay the fire-resistant tube directly on combustible bases;
- outdoor laying. From the perspective of fire safety, the tube shall not propagate fire. With regard to weather resistance, we recommend using either weatherproof rigid tubes or fire-resistant polyamide tubes. Both tube types conform to the above mentioned requirements and may be used for open laying under the effect of UV light and precipitation;
- open laying in dangerous spaces. It is allowed to use fire-resistant plastic tubes in combination with a fire-resistant cable in dangerous spaces. The tube type for laying in dangerous spaces shall be selected in accordance with the agreed design documentation;
- open laying in explosion-hazardous premises. It is allowed to perform laying in metal tubes, other special tubes or with a special cable in explosion-hazardous premises. Use of plastic tubes for wiring is prohibited.

Selection of corrugated tube diameter

- tube with diameter of 16 mm is usually brought to lighting fixtures;
- tube with diameter of at least 20 mm is brought to switches and sockets;
- connection of a main distribution box with a similar one in the other premises and main distribution board is performed using a tube with diameter of at least 25 mm, whereas it is preferable to lay a spare tube as well;
- it is recommended to use a tube with diameter of at least 32 mm for connection of electric boards between each other, whereas it is also advisable to lay a spare tube;
- tube with diameters of 40 and 50 mm are used for connections between floors;
- tube with diameter of 16 mm is used for laying of telephone and signaling networks;
- tube with diameter of at least 20 mm is used for laying of the coaxial network.

Compatibility table of corrugated tubes depending on the number of wires and section sizes

Wire cross section area, mm ²	Number of wires, pcs	Tube outside diameter, mm
1.5	2 / 3 / 4 / 5	16 / 16 / 20 / 20
2.5	2 / 3 / 4 / 5	16 / 16 / 20 / 25
4	2 / 3 / 4 / 5	20 / 20 / 25 / 25
6	2 / 3 / 4 / 5	20 / 25 / 32 / 32
10	2 / 3 / 4 / 5	25 / 32 / 32 / 40
16	2 / 3 / 4 / 5	32 / 32 / 40 / 40
25	2 / 3 / 4 / 5	32 / 40 / 50 / 50
35	2 / 3 / 4 / 5	40 / 50 / 50 / 63
50	2 / 3 / 4 / 5	50 / 50 / 63 / 63
70	2 / 3 / 4	50 / 63 / 63
95	2 / 3	63 / 63
120	2	63
150	2	63

Cable laying instruments

Cable laying instruments are designed for pulling of a cable of various applications into tubes, metal flexible conduits, ducts and cable ducts. They allow for entry of preparatory and traction elements for further entry of heavy-duty cables into the cable run within production, office or residential buildings, embedded tubes and municipal sewage system.

Application



Telecommunications

Construction of main and local lines. Creation of multiducts by way of pulling of tubes and cables into cable run ducts



Cable run

Construction of the cable run, entry of preparatory and traction elements, entry of heavy-duty cables



Construction of buildings

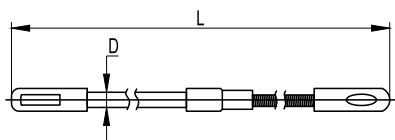
Laying of cables of various applications at hard-to-reach places: ducts of building structures, access floors, behind suspended ceilings

System composition

The DKC product range includes 2 types of cable laying instruments (broaches), as well as cable grips:

- nylon broach has high flexibility and preferably used for pulling of power, telephone, optical and computer cables in tubes up to Ø32 mm;
- fiberglass broaches have high tear strength, and one of their advantages is preservation of the straight broach shape after installation;
- cable grips are designed for cable gripping during pulling. Grips are simply put on a cable and provide firm gripping thereof during pulling.

Nylon broach



Purpose:

- multiuse fixture for cable laying into tubes or ducts of building structures.

Characteristics:

- material is nylon;
- for ease of broach entry into a tube there is a flexible spring guide at the end of a broach;
- for ease of cable attachment there is a tie-down lug on a broach.

Diameter D, mm	Length L, m	Weight, g	Package, pcs	Code
3	5	55	1	59405
3	10	97	1	59410
3	15	135	1	59415
4	20	290	1	59420
4	25	345	1	59425
4	30	430	1	59430

Fiberglass broaches

Cable laying instrument in plastic enclosure


Purpose:

- multiuse fixture for cable laying into tubes or ducts of building structures.

Characteristics:

- rod material: fiberglass;
- drive mechanism for rod winding and unwinding;
- rod position retainer;
- lug with M5 thread;
- convenient handle.

Scope of supply:

- glass rod;
- cable grip Ø 6-9 mm, M5, code 59509;
- flexible guide Ø 6 mm with a lug, M5;
- flexible guide Ø 7 mm, M5;
- flexible guide Ø 10 mm, M5;
- 3 guides with a tie-down lug, M5;
- disk for hand protection and fast rod feeding;
- repair kit (2 connecting couplings, 3 end couplings, 1 special glue).

Rod diameter, mm	Rod length, m	Overall dimensions, mm	Weight, kg	Tear load, kg	Package, pcs	Code
3	20	D250x100	1.2	400	1	59320
3	30	D250x100	1.3	400	1	59330
3	40	D250x100	1.4	400	1	59340

Cable laying instrument with rotary drum


Purpose:

- multiuse fixture for cable laying into tubes or ducts of building structures and cable run.

Characteristics:

- rod material: fiberglass;
- vertical rotary drum with the rod feeding and attachment system.

Scope of supply:

- glass rod;
- rotary drum;
- lug with hinge.

Rod diameter, mm	Rod length, m	Drum diameter, mm	Lug thread, mm	Weight, kg	Tear load, kg	Package, pcs	Code
4.5	50	325	M5	5.5	1200	1	59450
4.5	60	325	M5	6.0	1200	1	59460
6	60	520	M6	8.4	2000	1	59660
6	80	520	M6	9.5	2000	1	59680
9	80	720	M12	14.4	4300	1	59980
9	100	720	M12	17.9	4300	1	59910
11	150	1000	M12	38.6	6200	1	59101
11	200	1000	M12	45.6	6200	1	59102
11	250	1000	M12	53.2	6200	1	59103

Cable grips

With threaded lug



Purpose:

- multiuse fixture for cable gripping when pulling into tubes or ducts of building structures is used together with broaches having the corresponding threaded lug.

Characteristics:

- material is galvanized steel;
- reliable cable attachment;
- lug with inside thread.

Gripped cable diameter, mm	Working part length, mm	Lug thread, mm	Package, pcs	Code
6-9	200	M5	1	59509
6-9	200	M6	1	59519
9-12	350	M5	1	59512
9-12	350	M6	1	59522

With one hinge



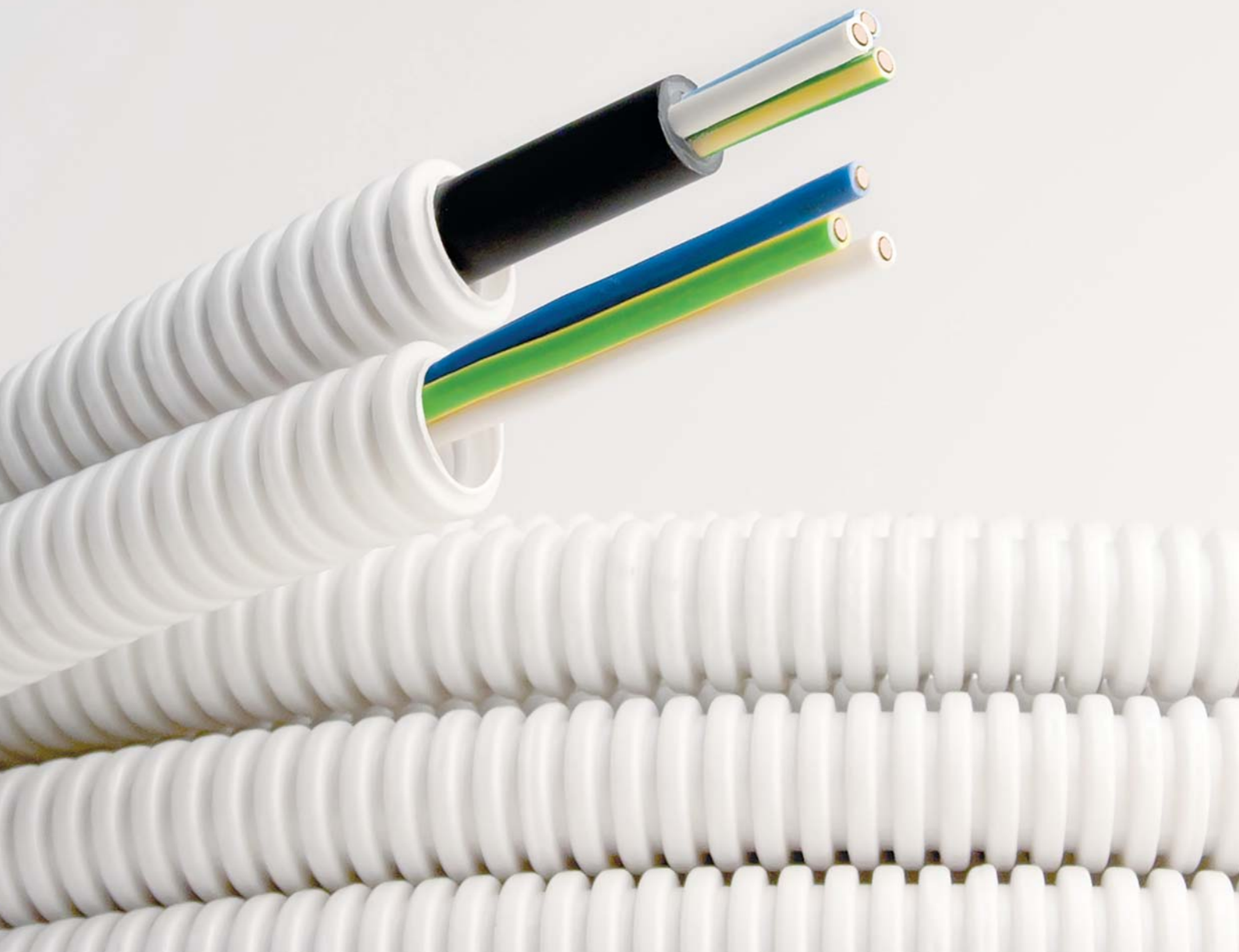
Purpose:

- multiuse fixture for cable gripping when pulling into tubes or ducts of building structures.

Characteristics:

- material is galvanized steel;
- reliable cable attachment;
- withstands high loads.

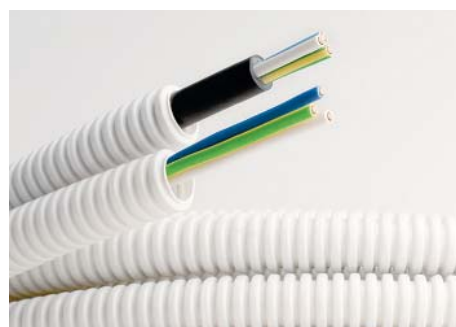
Gripped cable diameter, mm	Working part length, mm	Breaking load, kg	Package, pcs	Code
10-15	600	1500	1	59715
15-20	600	2500	1	59720
20-30	900	3000	1	59730
30-40	1250	3000	1	59740
40-50	1250	6000	1	59750
50-65	1250	6000	1	59765
65-80	1250	8000	1	59780
80-95	1500	8000	1	59795
95-110	1500	10000	1	59701
110-130	1500	10000	1	59703



Flexible corrugated tube with built-in electric wires "Octopus"

Flexible corrugated PVC tube with built-in electric wires	92
Flexible corrugated HDPE tube with built-in electric wires	93

Flexible corrugated PVC tube with built-in electric wires



Purpose:

- laying of electric, telephone, computer, and television networks using insulated wires, cords and cables.

Installation conditions:

- buried laying in walls, ceilings, floors made of non-combustible materials;
- it is allowed to perform open laying indoors on bases made of non-combustible and non-flammable materials in the absence of exposure to ultraviolet light.

Distinctive features:

- prevents fire spreading;
- moisture resistance;
- durability;
- a fire safety certificate, a certificate of conformity, a health certificate and a CE certificate are available;
- ease of installation;
- fast installation at a facility.

Tube characteristics

Technical specifications	TS 2247-008-47022248-2002
Classification code according to EN 61386-1 and EN 61386-22	2141 (light-duty series)
Protection degree	IP55 according to GOST 14254-96 (IEC 529-89)
Mounting temperature	from -5 to +60 °C
Operating temperature	from -25 to +60 °C (with no mechanical effects)
Strength (compression resistance at 20 °C)	over 350 N per 5 cm (light-duty series)*
Tear strength	at least 100 N
Shock resistance at -25 °C	at least 0.5 J (light-duty series)
Color	gray RAL 7035
Minimum bend radius	3 diameters
Conformity to fire safety requirements	conforms to GOST R 53313

* Deformation under the stated compressive force is not more than 25% ± 5% of the initial diameter

Nomenclature

Tube series	Rated outside diameter, mm	Outside diameter D, mm*	Inside diameter d, mm*	Q-ty in a coil L, m	Q-ty on a pallet L, m	Cable/wire type	Code of flexible corrugated tube with built-in electric wires
Light-duty	16	16.0	11.5	25	1225	VVngLS 3x1.5	9L91625
				50	1500		9L91650
				100	1600		9L916100
	16	16.0	11.5	25	1225	VVngLS 3x2.5	9S91625
				50	1500		9S91650
	20	20.0	14.9	100	1600	VVngLS 3x2.5	9S920100
	16	16.0	11.5	25	1225	PV-1(PuV) 3x1.5	9P91625
	16			50	1500		9P91650
	16	16.0	11.5	25	1225	PV-1(PuV) 3x2.5	9V91625
				50	1500		9V91650

* Tolerance for outside and inside diameters is ±0.5 mm

Flexible corrugated HDPE tube with built-in electric wires



Purpose:

- laying of electric, telephone, computer, and television networks operating under DC or AC voltage using insulated wires, cords or cables.

Installation conditions:

- in-wall installation; buried laying in wall chases and floor screed made of non-combustible materials.

Distinctive features:

- high elasticity and shock resistance;
- wide range of mounting and operating temperatures;
- moisture resistance;
- age resistance;
- a certificate of conformity, a health certificate and a CE certificate are available.

Tube characteristics

Technical specifications	TS 3491-011-47022248-2003
Classification code according to EN 61386-1 and EN 61386-23	1342 (light-duty series); 2442 (heavy-duty series)
Protection degree	IP55 according to GOST 14254-96 (IEC 529-89)
Mounting temperature	from -15 to +65 °C
Operating temperature	from -40 to +90 °C
Strength (compression resistance at 20 °C)	over 125 N per 5 cm (light-duty series)*
Tear strength	at least 200 N
Shock resistance at -40 °C	at least 2 J (light-duty series)
Color	orange RAL 2004, black RAL 7021
Minimum bend radius	3 diameters

* Deformation under the stated compressive force is not more than 25% ± 5% of the initial diameter

Nomenclature

Tube series	Rated outside diameter, mm	Outside diameter D, mm*	Inside diameter d, mm*	Q-ty in a coil L, m	Q-ty on a pallet L, m	Cable/wire type	Code of flexible corrugated tube with built-in electric wires	
							orange	black
Light-duty	16	15.7	11.3	25	1225	VVngLS 3x1.5	7L91625	7L71625
				50	1500		7L91650	7L71650
				100	1600		7L916100	7L716100
	16	15.7	11.3	25	1225	VVngLS 3x2.5	7S91625	7S71625
				50	1500		7S91650	7S71650
	20	19.5	14.5	100	1600	VVngLS 3x2.5	7S920100	7S720100
	16	15.7	11.3	25	1225	PV-1(PuV) 3x1.5	7P91625	7P71625
				50	1500		7P91650	7P71650
	16	15.7	11.3	25	1225	PV-1(PuV) 3x2.5	7V91625	7V71625
				50	1500		7V91650	7V71650

* Tolerance for outside and inside diameters is ±0.5 mm



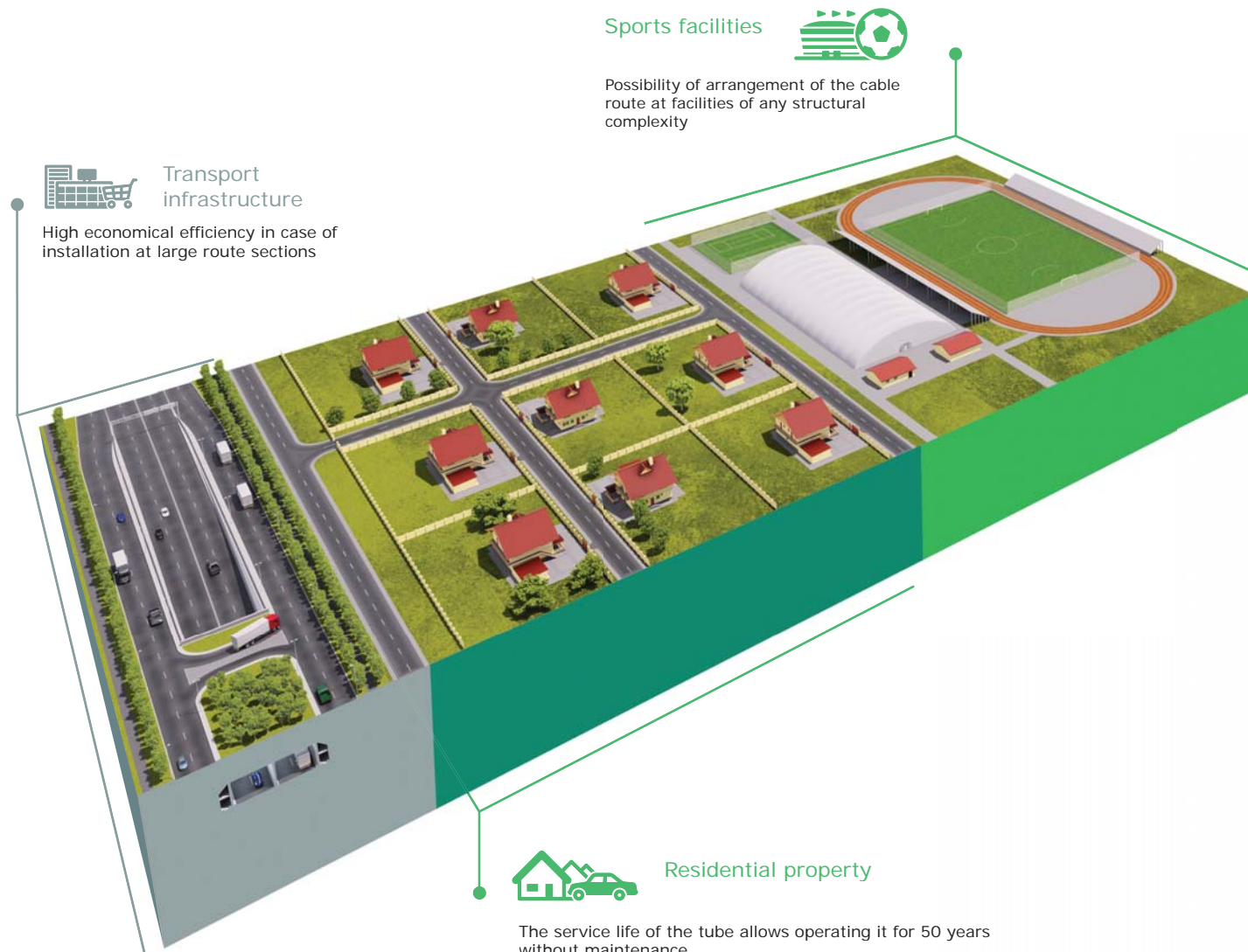
Dual wall tubes "Octopus"

Flexible dual wall corrugated tubes	96
Flexible dual wall corrugated tubes for outdoor	97
Rigid dual wall corrugated tubes	98
Rigid dual wall corrugated tubes for outdoor	99
Accessories for deal wall tubes	100

Dual wall tube system

The tubes are intended for protection of power cables, information and signaling communication lines (including fiber-optic) against mechanical damages and aggressive environmental exposure. DKC dual wall tubes are modern and the most effective solution in case of building of a cable duct system.

Application



Distinctive features

- material is polyethylene, chemically resistant to the aggressive media;
- external wall is corrugated (high strength of the tubes), internal wall is smooth (easy cable pulling);
- wide range of operating temperatures (from -40 to $+90$ °C);
- light weight of the tubes;
- high ring stiffness;
- high moisture protection degree (in case of use of the special accessories);

Advantages

Reliability:

- service life is more than 50 years (possibility of laying of backup channels);
- high moisture protection degree (laying in wet grounds);
- chemical resistance of the tubes to aggressive media.

Ease of design:

- availability of a necessary set of regulatory technical documentation;
- availability of a system, which allows building cable routes of any complexity.

Ease of installation:

- wide range of accessories;
- use of special installation equipment is not required;
- special transport for transportation of the tubes within a site is not required;
- high installation speed.

Ease of operation:

- possibility of entry and replacement of cables after completion of building at any time and without performance of earth-moving works;
- availability of a service kit (allows repairing a cable route section without pulling a cable out).

Project cost-cutting:

- in comparison with an asbestos-cement tube, due to ease of installation and operation, as well as that the service life is more than 50 years;
- in comparison with a smooth polyethylene tube, due to lower cost of the dual wall tubes (at comparable ring stiffness).

System composition

Two types of dual wall corrugated tubes in a system with accessories:

- flexible dual wall corrugated tubes are distinguished by high ring stiffness and able to withstand heavy mechanical loads. High flexibility of a tube makes it possible to avoid obstacles along a line of the cable route. Wide temperature range and availability of special accessories allow creating the cable routes of any complexity;
- the rigid dual wall corrugated tubes are distinguished by improved ring stiffness and recommended to be used in case of laying of a modular cable duct system, in case of laying of heavy-gauge power cables, and at sites with high dynamic load;
- accessories for the dual wall tubes.

Regulatory technical base on use of DKC dual wall tubes

Instruction on design, laying and installation of cable ducts on the basis of JSC "DKC" flexible and rigid dual wall plastic tubes

Developer: OJSC "SSKTБ-TOMASS" jointly with JSC "DKC".

Intention: for design and installation organizations, as well as for sales managers.

Application: design, building and operation of the cable duct system on the basis of DKC rigid dual wall tubes.

Conclusion "On use of DKC dual wall tubes in wirings considering fire safety requirements"

Developer: FGBU "All-Russian Research Institute for Fire Protection".

Intention: for design and installation organizations.

Application: defines possible applications for DKC dual wall corrugated tubes.

Conclusion on use of DKC dual wall polyethylene tubes for power cabling

Developer: Saratov State Technical University.

Intention: for design and installation organizations.

Application: design, building of the modular duct systems, defines allowable current loads on the cables when laying inside JSC "DKC" tubes.

Organization standard 47022248-0047-2007 "Recommendations on conditions of distribution of flexible dual wall corrugated wiring tubes and drainage pipes under roads"

Developer: OJSC Scientific Research Institute for Roads "SouzdorNII" jointly with JSC "DKC".

Agreed: Federal Road Agency ("ROSAVTODOR") under the Ministry of Transport of the Russian Federation.

Intention: for design and installation organizations.

Application: defines conditions of rational distribution of DKC dual wall tubes in the ground of a subgrade in case of building, renovation and repair of highways and structures on them, of aerodromes and railway tracks.

An exemption letter on absence of a necessity of conformity (avowal) within a communication system

Issued by: Ministry of Telecom and Mass Communications under the Ministry of Information Technologies and Communications of the Russian Federation.

Intention: for design and installation organizations.

Standard manual A10-2011 "Cabling in modular duct system with the use of DKC dual wall corrugated tubes" Standard manual A11-2011 "Cabling with voltage up to 35 kV in trenches using dual wall corrugated tubes"

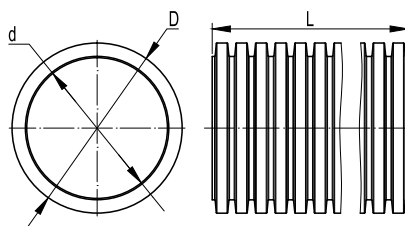
Developer: OJSC "NIPI "Tyazhpromelektroproekt" jointly with JSC "DKC".

Intention: for design and installation organizations.

Application: in case of design, building of the cable duct system on the basis of DKC flexible and rigid dual wall tubes.

*** Refer to DKC regional representative offices to receive the regulatory technical documents or download them from DKC website**

Flexible dual wall corrugated tubes



Purpose:

- protection of low and high voltage cables against mechanical damages and aggressive environmental exposure.

Installation conditions:

- only concealed types of mounting are permitted (in the ground or in case of in-wall installation).

Distinctive features:

- high ring stiffness;
- supplied in coils;
- availability of a nylon broach;
- elasticity of the tube even at low temperatures.

Scope of supply:

- each coil is complete with one connecting coupling.

Characteristics

Material	HDPE (High density polyethylene)
Technical specifications	TS 2248-015-47022248-2006
Climatic version	for laying in an airless media (ground, concrete) according to GOST 15150-69
Protection degree	IP44/55/67 according to GOST 14254-96
Mounting temperature	from -25 to + 90 °C
Operating temperature	from -55 to + 90 °C
Minimum bend radius	8 diameters
Color	external wall is red, black (letter code is "A") internal wall is yellow

Nomenclature

Outer diameter D, mm	Inside diameter d, mm	Ring stiffness*, kPa	Packing standards					Pallet loading standards, rm**			Code
			q-ty in a coil L, m	coil outside diameter, m	coil height, m	coil weight, kg	coil q-ty on a pallet, pcs	82 m³ eighteen-wheeler	67 m³ 40" container	33 m³ 20" container	
50	41.5	13	100	1.10	0.35	17.50	6	15600	12000	5400	121950
63	51.5	13	50	1.00	0.38	12.50	6	7800	6000	2700	121963
			100	1.20	0.50	25.00	4	8000	6400	1600	121963100
75	62.5	10	50	1.10	0.42	14.50	5	5500	2500	1000	121975
90	77	8	50	1.14	0.50	20.00	4	4400	4000	800	121990
110	94	8	50	1.18	0.75	30.00	3	3300	3000	600	121911
			100	1.50	0.70	60.00	3	3000	3000	1200	121911100
125	107	8	40	1.20	0.70	28.00	3	2640	2160	600	121912
140	120	6	50	1.50	0.65	39.50	3	1800	1800	600	121914
160	137	6	50	1.70	0.70	52.50	3	1500	1500	450	121916
200	172	6	35	1.80	0.70	47.60	3	840	735	315	121920

* According to ISO 9969:1994

** Loading (of pallets + scattering) is not standard and requires additional coordination

The following is permitted in case if a volume order exceeds 10000 meters:

- packing of tubes into coils of greater capacity;
- manufacturing of the tubes with walls of a necessary color;
- manufacturing of the tubes with changed ring stiffness index.

A parcel of DKC flexible dual corrugated tubes is provided with a quality certificate at the request of the customer.

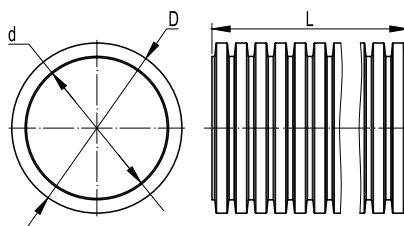
Note: pallets with a ready tube are packed into a UV ray protective film.

Storage precautions

Basic storage of tubes: sheds and premises, where temperature and air moisture variations do not differ from variations in the open air significantly (for example, tents, metal storage structures without heat insulation, etc), located in any macroclimatic areas, in an atmosphere of any type (5 OZh 4 according to GOST 15150).

Short-term storage of tubes: open sites in macroclimatic areas with moderate and frigid climate in an atmosphere of any type (8 OZh 3 according to GOST 15150).

Flexible dual wall corrugated tubes for outdoor



Purpose:

- protection of low and high voltage cables against mechanical damages and aggressive environmental exposure.

Installation conditions:

- for open laying of wiring and cable lines in cable structures and outdoor electric plants: bridges, overpasses, racks, passageways, places of exit from the earth and enter into a building.

Distinctive features:

- ultraviolet resistance;
- resistance to fire propagation;
- elasticity of the tube even at low temperatures;
- supplied in coils;
- availability of a steel broach;

Scope of supply:

- each coil is complete with one connecting coupling.

Characteristics

Material	HDPE (High density polyethylene)
Technical specifications	TS 2248-047-47022248-2015
Climatic version	U1 according to GOST 15150-69
Protection degree	IP44/55/67 according to GOST 14254-96
Mounting temperature	from -25 to + 90 °C
Operating temperature	from -55 to + 90 °C
Minimum bend radius	8 diameters
"Conformity to fire safety requirements"	conforms to GOST R 53313
Ultraviolet resistance	according to GOST R 20.57.406 method 211-1
Color	external wall is black, internal wall is blue

Nomenclature

Outer diameter D, mm	Inside diameter d, mm	Ring stiffness*, kPa	Packing standards					Pallet loading standards, rm**			Code
			q-ty in a coil L, m	coil outside diameter, m	coil height, m	coil weight, kg	q-ty of coils on a pallet, pcs	82 m³ eighteen-wheeler	67 m³ 40" container	33 m³ 20" container	
50	41.5	13	100	1.1	0.35	17.5	6	15600	12000	5400	151950
63	51.5	13	50	1	0.38	12.5	6	7800	6000	2700	151963
75	62.5	10	50	1.1	0.42	14.5	5	5500	2500	1000	151975
90	77	8	50	1.14	0.5	20	4	4400	4000	800	151990
110	94	8	50	1.18	0.75	30	3	3300	3000	600	151911

* According to ISO 9969:1994

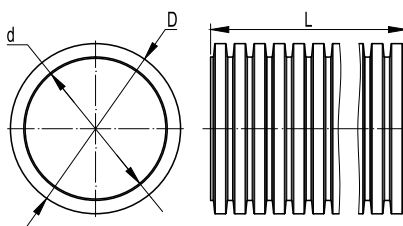
** Loading (of pallets + scattering) is not standard and requires additional coordination

Storage precautions

Basic storage of tubes: sheds and premises, where temperature and air moisture variations do not differ from variations in the open air significantly (for example, tents, metal storage structures without heat insulation, etc), located in any macroclimatic areas, in an atmosphere of any type (5 OZh 4 according to GOST 15150).

Short-term storage of tubes: open sites in macroclimatic areas with moderate and frigid climate in an atmosphere of any type (8 OZh 3 according to GOST 15150).

Rigid dual wall corrugated tubes



Purpose:

- protection of low and high voltage cables against mechanical damages and aggressive environmental exposure.

Installation conditions:

- only concealed types of mounting are permitted (in the ground or embedded inside concrete (reinforced concrete) products). it is recommended for use at sites with high load (under highways, railways, and etc) in case of modular tube laying, in case of laying of a heavy cable inside the tubes.

Distinctive features:

- improved ring stiffness;
- supplied in segments;
- strong internal wall.

Scope of supply:

- each segment is complete with one connecting coupling.

Characteristics

Material	HDPE (High density polyethylene)
Technical specifications	TS 2248-019-47022248-2008
Climatic version	for laying in an airless media (ground, concrete) according to GOST 15150-69
Protection degree	IP44/55/67 according to GOST 14254-96
Mounting temperature	from -40 to + 90 °C
Operating temperature	from -40 to + 90 °C
Minimum bend radius	40 diameters
Color	external wall is red, black (code with a letter is "A") internal wall is yellow
Version	version 1 is a standard version of 6 m tube sections, the connecting coupling is put on an edge of a tube section; version 2 is a special version for container shipment. Length of the tube section is 5.70 m, the connecting coupling is put on the tube edge.
Shelf life	23 months for the red external wall 30 months for the black external wall

Nomenclature

Version 1

Outer diameter D, mm	Inside diameter d, mm	Internal wall thickness, mm (at least)	Ring stiffness**, kPa	Section length L, m	Q-ty in a package, m		Packing standards		Pallet loading standards, rm***	Code*	
					red	black	q-ty in a package, m	pallet parameters, m		red	black
110	94	0.8	12	6	6	18	630	6.2x1.2x1.2	5040	160911	160911A
125	107	0.9	10	6	6	18	432	6.2x1.2x1.2	3456	160912	160912A
160	137	1	6	6	6	18	252	6.2x1.2x1.2	2016	160916-6K	160916A-6K
			8	6	6	18	252	6.2x1.2x1.2	2016	160916-8K	160916A-8K
200	172	1.2	6	6	6	18	180	6.2x1.2x1.2	1440	160920-6K	160920A-6K
			8	6	6	18	180	6.2x1.2x1.2	1440	160920-8K	160920A-8K

Version 2

Outer diameter D, mm	Inside diameter d, mm	Internal wall thickness, mm (at least)	Ring stiffness**, kPa	Section length L, m	Packing standards			Pallet loading standards, rm***		Code*	
					q-ty in a package, pcs	q-ty in a package, m	pallet parameters, m	40 foot container, pcs	40 foot container, m	red	black
110	94	0.8	12	5.70	105	624.75	5.95x1.2x1.2	840	4998	16091157	160911A57
125	107	0.9	10	5.70	72	428.4	5.95x1.2x1.2	576	3427.2	16091257	160912A57
160	137	1	6	5.70	42	249.9	5.95x1.2x1.2	336	1999.2	160916-6K57	160916A-6K57
			8	5.70	42	249.9	5.95x1.2x1.2	336	1999.2	160916-8K57	160916A-8K57
200	172	1.2	6	5.70	30	178.5	5.95x1.2x1.2	240	1428	160920-6K57	160920A-6K57
			8	5.70	30	178.5	5.95x1.2x1.2	240	1428	160920-8K57	160920A-8K57

* Ring stiffness is 6K – 6 kPa, 8K – 8 kPa

** According to ISO 9969:1994

*** Loading of a rigid tube in sections is performed only in vehicles with possibility of side loading

The following is permitted in case if a volume order exceeds 10000 meters:

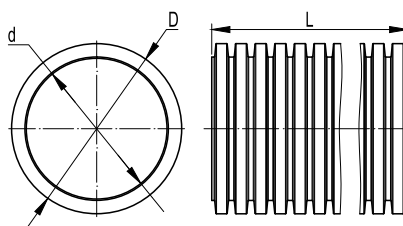
- manufacturing of the tubes with walls of a necessary color;
- manufacturing of the tubes with changed ring stiffness index.

A parcel of DKC rigid dual corrugated tubes is provided with a quality certificate at the request of the customer.

Storage precautions

See page 98.

Rigid dual wall corrugated tubes for outdoor



Purpose:

- protection of low and high voltage cables against mechanical damages and aggressive environmental exposure.

Installation conditions:

- for laying of the cable lines in open cable structures and external electric plants: bridges, overpasses, racks, passageways, places of exit from the earth and enter into a building.

Distinctive features:

- ultraviolet resistance;
- resistance to fire propagation;
- supplied in segments.

Scope of supply:

- each segment is complete with one connecting coupling.

Characteristics

Material	HDPE (High density polyethylene)
Technical specifications	TS 2248-047-47022248-2015
Climatic version	U1 according to GOST 15150-69
Protection degree	IP44/55/67 according to GOST 14254-96
Mounting temperature	from -25 to + 90 °C
Operating temperature	from -55 to + 90 °C
Minimum bend radius	8 diameters
Conformity to fire safety requirements	conforms to GOST R 53313
Ultraviolet resistance	according to GOST R 20.57.406 method 211-1
Color	external wall is black, internal wall is blue
Version	version 1 is a standard version of 6 m tube sections, the connecting coupling is put on an edge of a tube section

Nomenclature

Outer diameter D, mm	Inside diameter d, mm	Internal wall thickness, mm (at least)	Ring stiffness**, kPa	Section length L, m	Packing standards		Pallet loading standards, rm***		Code
					q-ty in a pallet, pcs	q-ty in a pallet, m	pallet parameters, m	82 m ³ eighteen-wheeler	
110	92	0.8	12	6	105	630	6.2x1.2x1.2	5040	170911
125	107	0.9	10	6	72	432	6.2x1.2x1.2	3456	170912
160	137	1	6	6	42	252	6.2x1.2x1.2	2016	170916
200	172	1.2	6	6	30	180	6.2x1.2x1.2	1440	170920

*** Loading of a rigid tube in sections is performed only in vehicles with possibility of side loading

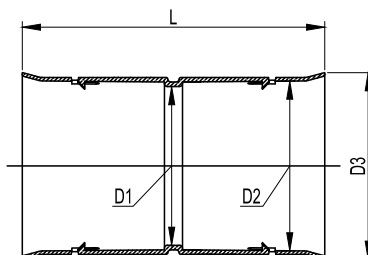
A parcel of DKC rigid dual corrugated tubes is provided with a quality certificate at the request of the customer.

Storage precautions

See page 98.

Main accessories

Connecting coupling



Purpose:

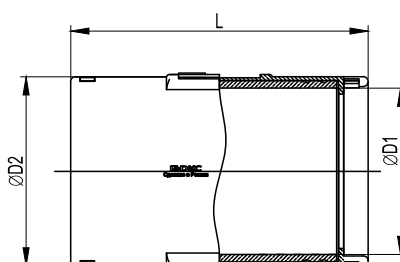
- mechanical undetachable connection of the flexible, rigid, dual wall corrugated tubes or drainage pipes of the same diameter.

Characteristics:

- material is polyethylene;
- operating temperature is from -40 to +90 °C;
- protection degree IP40 without seals and IP55 with O-ring;
- mechanical locks, which improve reliability of connection.

Diameter, mm	Physical dimensions, mm				Weight, g	Package, pcs	Code
	Ø D1	Ø D2	Ø D3	L			
50	45	51	60	95	25	6	015050
63	58	64	72	104	35	6	015063
75	72	76	82	150	49	6	015075
90	86	92	102	148	68	6	015090
110	105	111	123	200	164	8	015110
125	120	126	135	200	175	6	015125
140	118	141	150	200	272	6	015140
160	154	164	172	200	274	6	015160
200	188	202	214	242	405	2	015200

Split connecting coupling with a retainer



Purpose:

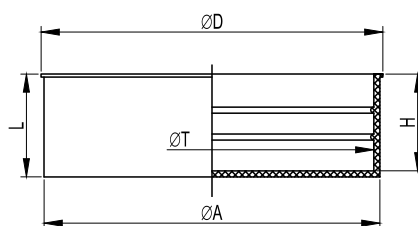
- mechanical detachable connection of the flexible, rigid, dual wall, corrugated tubes or drainage pipes of the same diameter, the service kit for the cable duct systems.

Characteristics:

- material is polypropylene, thermoplastic rubber;
- operating temperature is from -40 to +90 °C;
- protection degree is IP67;
- high tear strength of the connection due to entry of an attachment part of an accessory into a groove of the dual wall tube.

Diameter, mm	Physical dimensions, mm			Weight, g	Package, pcs	Code
	Ø D1	Ø D2	L			
110	110	125	196.6	355	12	017110
125	125	145	184.7	545	1	017125

Plug



Purpose:

- protection of flexible, rigid, dual wall corrugated tubes and drainage pipes from free ends against ingress of moisture and dirt in the process of installation, operation and storage.

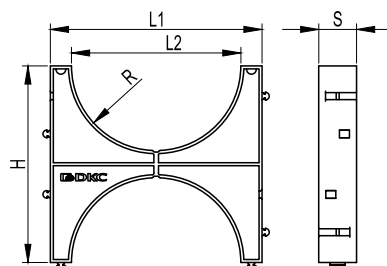
Characteristics:

- material is polyethylene;
- operating temperature is from -40 to +90 °C;
- protection degree IP40 without seals and IP55 with the O-ring.

Diameter, mm	Physical dimensions, mm					Weight, g	Package, pcs	Code
	Ø T	Ø D	Ø A	H	L			
50	50	55	51	10	11	5	50	50950
63	63	68	65	27	29	12	50	023063
75	75	79	77	27	29	16	50	023075
90	90	98	92	33	35	19	25	023090
110	110	119	112	32	34	35	50	023110
125	125	132	127	32	34	32	50	023125
140	140	146	143	32	34	33	30	023140
160	160	168	162	32	34	45	20	023160
200	200	208	204	47	50	84	15	023200

Clusters (distance holders)

Single



Purpose:

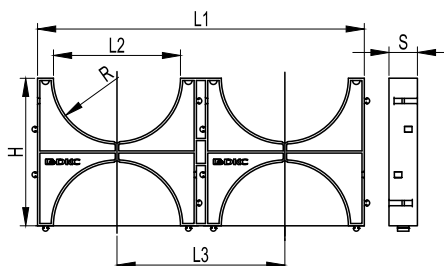
- attachment of the tubes, dislodgement prevention, conservation of distance between flexible, rigid, dual wall corrugated tubes or drainage pipes of the same diameter.

Characteristics:

- material is polypropylene;
- operating temperature is from -40 to +90 °C;
- have special grooves for connection between each other, for the tubes of the same diameter.

Tube diameter, mm	Physical dimensions, mm					Package, pcs	Code
	L1	L2	H	R	S		
90	114	92	100	46	25	70	025901
110	140	112	142	56	25	60	025111
125	150	127	140	63	25	50	025121
160	190	163	175	82	30	50	025161
200	230	202	240	101	40	22	025201

Double



Purpose:

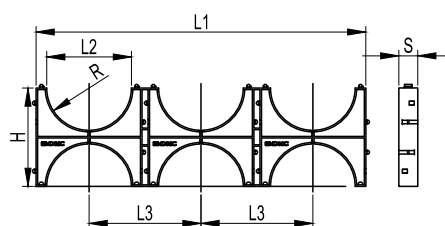
- attachment of the tubes, dislodgement prevention, conservation of distance between flexible, rigid, dual wall corrugated tubes or drainage pipes of the same diameter.

Characteristics:

- material is polypropylene;
- operating temperature is from -40 to +90 °C;
- have special grooves for connection between each other, for the tubes of the same diameter.

Tube diameter, mm	Physical dimensions, mm						Package, pcs	Code
	L1	L2	L3	H	R	S		
90	238	92	124	100	46	25	36	025902
110	284	112	142	142	56	25	30	025112
125	314	127	164	140	63	25	50	025122
140	332	142	166	150	71	40	12	025142
160	390	163	200	175	82	30	24	025162

Triple



Purpose:

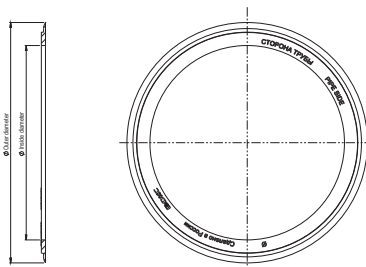
- attachment of the tubes, dislodgement prevention, conservation of distance between flexible, rigid, dual wall corrugated tubes or drainage pipes of the same diameter.

Characteristics:

- material is polypropylene;
- operating temperature is from -40 to +90 °C;
- have special grooves for connection between each other, for the tubes of the same diameter.

Tube diameter, mm	Physical dimensions, mm						Package, pcs	Code
	L1	L2	L3	H	R	S		
50	204	51		60	25.5	20	16	025050
63	248	64		76	32	20	9	025063
90	362	92	124	100	46	25	40	025903
110	428	112	142	142	56	25	20	025113
125	490	127	164	140	63	25	30	025123
160	602	163	200	175	82	30	40	025163

O-ring



Purpose:

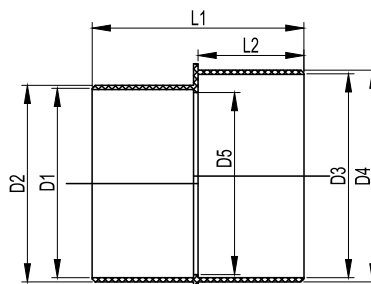
- sealing of connection points of flexible, rigid, dual wall corrugated tubes or drainage pipes with connecting couplings, plugs, couplers, adapters.

Characteristics:

- material is rubber;
- operating temperature is from -25 to +90 °C;
- protection degree IP55 with the accessories.

Diameter, mm	Physical dimensions, mm			Weight, g	Package, pcs	Code
	Ø Dintern.	Ø Dextern.	A			
50	39.00	49.50	2.00	1.9	50	016050
63	50.00	62.50	2.00	2.1	50	016063
75	60.40	74.60	2.00	5.0	50	016075
90	70.00	93.00	2.50	7.0	50	016090
110	87.00	110.70	4.20	13.0	50	016110
125	100.00	128.70	3.00	18.0	50	016125
140	117.00	144.00	4.00	19.0	50	016140
160	131.00	164.50	4.00	29.0	50	016160
200	166.00	204.50	5.00	59.0	50	016200

Adapter



Purpose:

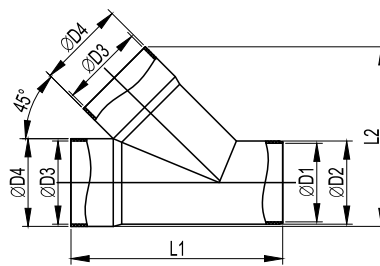
- connection of flexible, rigid, dual wall corrugated tubes of different diameters and connection of drainage pipes of different diameters with provision of graded junction.

Characteristics:

- material is polypropylene;
- operating temperature is from -40 to +90 °C;
- protection degree IP40 without seals and IP55 with the O-ring.

Diameter, mm	Physical dimensions, mm							Weight, g	Package, pcs	Code
	Ø D1	Ø D2	Ø D3	Ø D4	Ø D5	L1	L2			
90-110	92	104	104	110	88	109	70	105	1	024110
110-125	111	116	117	125	102	130	68	252	1	024125
125-140	126	131	134	140	122	140	75	255	1	024140
140-160	141	147	153	160	132	144	81	382	1	024160
160-200	161	167	190	198	149	240	140	782	1	024200

Tee 45°



Purpose:

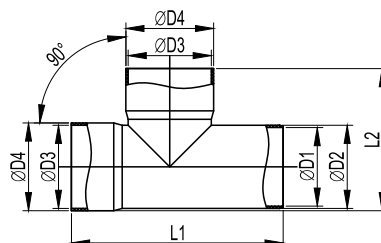
- connection of flexible, rigid, dual wall corrugated tubes or drainage pipes of the same diameter and branch at an angle of 45°.

Characteristics:

- material is polypropylene;
- operating temperature is from -40 to +90 °C;
- protection degree IP40 without seals and IP55 with the O-ring.

Diameter, mm	Physical dimensions, mm						Weight, g	Package, pcs	Code
	Ø D1	Ø D2	Ø D3	Ø D4	L1	L2			
63	57	63	64	70	172	87	187	1	019063
75	70	75	77	82	233	122	165	1	019075
90	84	90	93	102	255	136	245	1	019090
110	103	109	111	115	270	150	517	1	019110
125	118	125	126	131	325	176	787	1	019125
140	133	140	141	147	370	200	1080	1	019140
160	153	159	161	168	396	220	1230	1	019160
200	189	200	201	210	480	275	2150	1	019200

Tee 90°



Purpose:

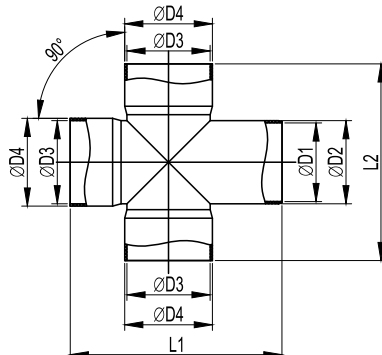
- connection of flexible, rigid, dual wall corrugated tubes or drainage pipes of the same diameter and branch at an angle of 90°.

Characteristics:

- material is polypropylene;
- operating temperature is from -40 to +90 °C.
- protection degree IP40 without seals and IP55 with the O-ring.

Diameter, mm	Physical dimensions, mm						Weight, g	Package, pcs	Code
	Ø D1	Ø D2	Ø D3	Ø D4	L1	L2			
63	57	63	64	72	176	119	210	1	020063
75	70	75	77	88	208	138	142	1	020075
90	91	95	91	95	242	180	375	1	020090
110	103	110	111	117	248	180	450	1	020110
125	118	125	126	130	255	194	490	1	020125
140	133	140	141	147	270	210	701	1	020140
160	153	160	161	168	353	265	1007	1	020160
200	189	197	201	208	405	325	1805	1	020200

Cross connection, 90°



Purpose:

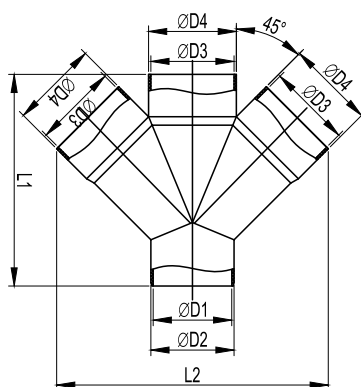
- connection of four flexible, rigid, dual wall corrugated tubes or drainage pipes of the same diameter and branch at an angle of 90°.

Characteristics:

- material is polypropylene;
- operating temperature is from -40 to +90 °C;
- protection degree IP40 without seals and IP55 with the O-ring.

Diameter, mm	Physical dimensions, mm						Weight, g	Package, pcs	Code
	Ø D1	Ø D2	Ø D3	Ø D4	L1	L2			
63	55	63	64	71	193	193	340	1	022063
90	86	90	91	96	232	258	363	1	022090
110	104	110	111	118	242	258	530	1	022110
125	118	125	126	132	274	280	685	1	022125
140	132	140	141	147	278	310	840	1	022140
160	155	160	161	167	338	348	1050	1	022160
200	193	200	201	209	406	414	1850	1	022200

Connection for four dual wall tubes, 45°



Purpose:

- connection of four flexible, rigid, dual wall corrugated tubes or drainage pipes of the same diameter and branch at an angle of 45°.

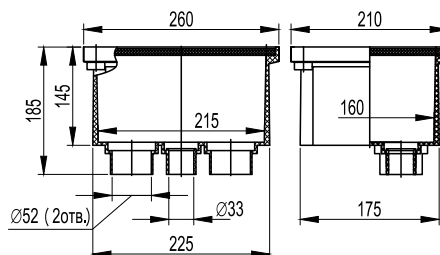
Characteristics:

- material is polypropylene;
- operating temperature is from -40 to +90 °C;
- protection degree IP40 without seals and IP55 with the O-ring.

Diameter, mm	Physical dimensions, mm						Weight, g	Package, pcs	Code
	Ø D1	Ø D2	Ø D3	Ø D4	L1	L2			
63	55	63	64	70	198	208	318	1	021063
110	103	110	111	118	283	355	745	1	021110
125	116	125	126	131	332	378	956	1	021125
140	132	140	141	147	370	404	1378	1	021140
160	155	160	162	168	395	480	1580	1	021160
200	193	200	202	209	568	671	3100	1	021200

Additional accessories

Observation device with cover, 225x175x145 mm


Purpose:

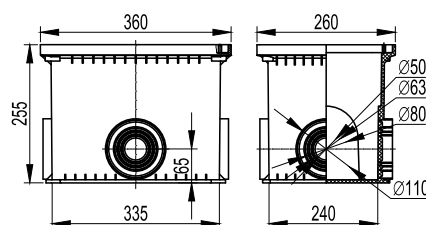
- external lightning and signaling device, laying of dual wall tubes to a lightning tower.

Characteristics:

- material is extra strong polypropylene;
- operating temperature is from -40 to +90 °C;
- protection degree is IP65;
- cover reinforced with stiffening plates;
- has 2 holes for Ø 50 mm tubes and one Ø 32 mm hole from the bottom.

Dimension, mm	Package, pcs	Code
225x175x145	1	025001

Observation device, 335x240x255 mm


Purpose:

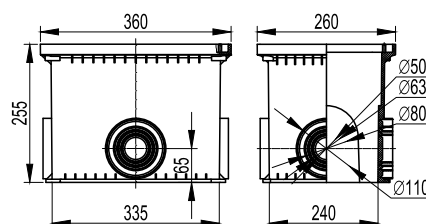
- transfer from one tube diameter to another, performance of branches of cables and wires from the cable duct system, arrangement of a multilevel structure of the cable duct system.

Characteristics:

- material is extra strong polypropylene;
- operating temperature is from -40 to +90 °C;
- protection degree is IP65;
- cover reinforced with stiffening plates;
- has special knock out glands for Ø 50 mm, Ø 63 mm, Ø 110 mm tubes from four directions.

Dimension, mm	Package, pcs	Code
335x240x255	1	025002

Observation device (without bottom), 335x240x255 mm


Purpose:

- is transient and used for building of a multilevel structure of the cable duct system.

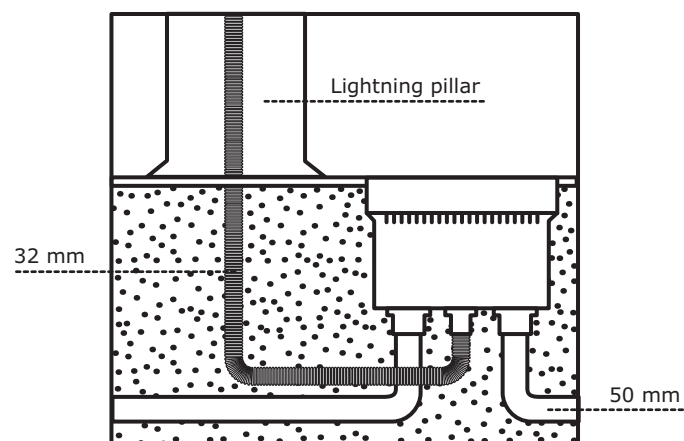
Characteristics:

- material is extra strong polypropylene;
- operating temperature is from -40 to +90 °C;
- has special knock out glands for Ø 50 mm, Ø 63 mm, Ø 110 mm tubes from four directions.

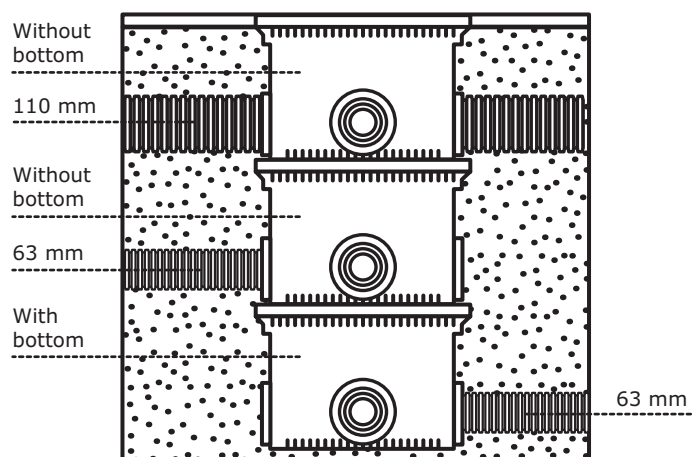
Dimension, mm	Package, pcs	Code
335x240x255	1	025003

Scheme installation

Observation device installation 025001



Observation device installation 025002, 025003





EXPRESS

Rigid and reinforced tubes "Express"

Rigid tubes	112
Weatherproof rigid tubes	113
Reinforced tubes	114
Accessories	115
Junction boxes	128

Rigid and reinforced tube system

Cable support system for open wiring

The system comprises of rigid plastic tubes, reinforced tubes, boxes, accessories for connection and attachment, and of "Express" enclosures for surface mounting of "Viva" series wiring devices. Wide range of accessories provides for quick and quality formation of a route of any complexity.

Application



Indoor laying

Open laying within storage, basement, auxiliary, industrial and trade premises (tubes of series 6 and 6UF)



External laying

Open laying on building facades, fences, bridges and racks (tubes of series 6UF are used)



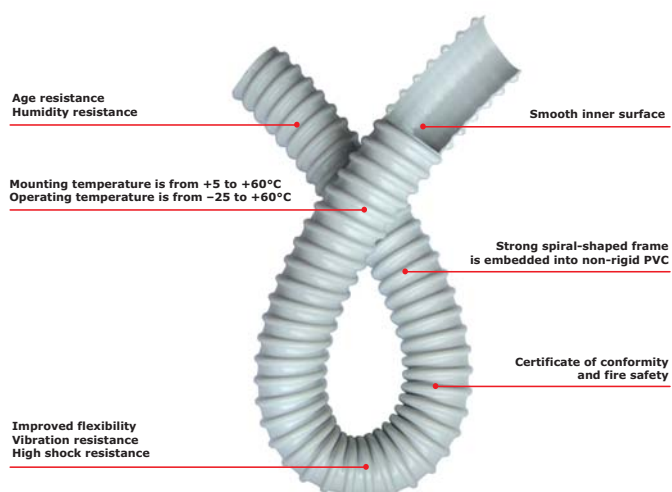
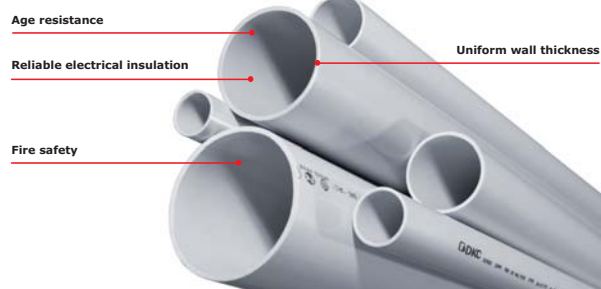
In-wall installation

Pouring into in-situ walls and horizontal floor structures (tubes of heavy-duty series 6 are used)

Laying methods	Rigid tubes		Weatherproof rigid tubes		Reinforced tubes
	light-duty series	heavy-duty series	light-duty series	heavy-duty series	
Outdoor laying on building facades	+/-	+/-	+	+	+/-
Open laying on non-combustible bases	+	+	+	+	+
Open laying on combustible bases	+	+	+	+	+
Buried laying in non-combustible bases	+/-	+/-	+/-	+/-	+/-
Buried laying in cavities of non-combustible building structures	+/-	+/-	+/-	+/-	+/-
In-wall installation	+/-	+	+/-	+	-
Production, storage, trade premises	+	+	+	+	+
Machine tool building	-	-	-	-	+
Open laying in dangerous spaces	+/-	+/-	+/-	+/-	+/-
Discharge of condensate from coolers and split-systems	-	-	-	-	+/-
Buried laying in combustible bases	-	-	-	-	-
Burial	-	-	-	-	-
Open laying in hazardous areas	-	-	-	-	-

"+" – applicable; "+/-" – application is possible; "-" – not applicable

Distinctive features



Advantages

Reliability:

- plastic tube provides additional cable insulation, excludes the possibility of an electric shock in case basic cable insulation is damaged, minimizes current leakage and enhances network insulation resistance;
- uniformity of DKC tube wall thickness provides invariability of mechanical and dielectric properties.

Wide range:

- two series of rigid tubes;
- reinforced tubes;
- 10 standard sizes of junction boxes;
- all necessary accessories.

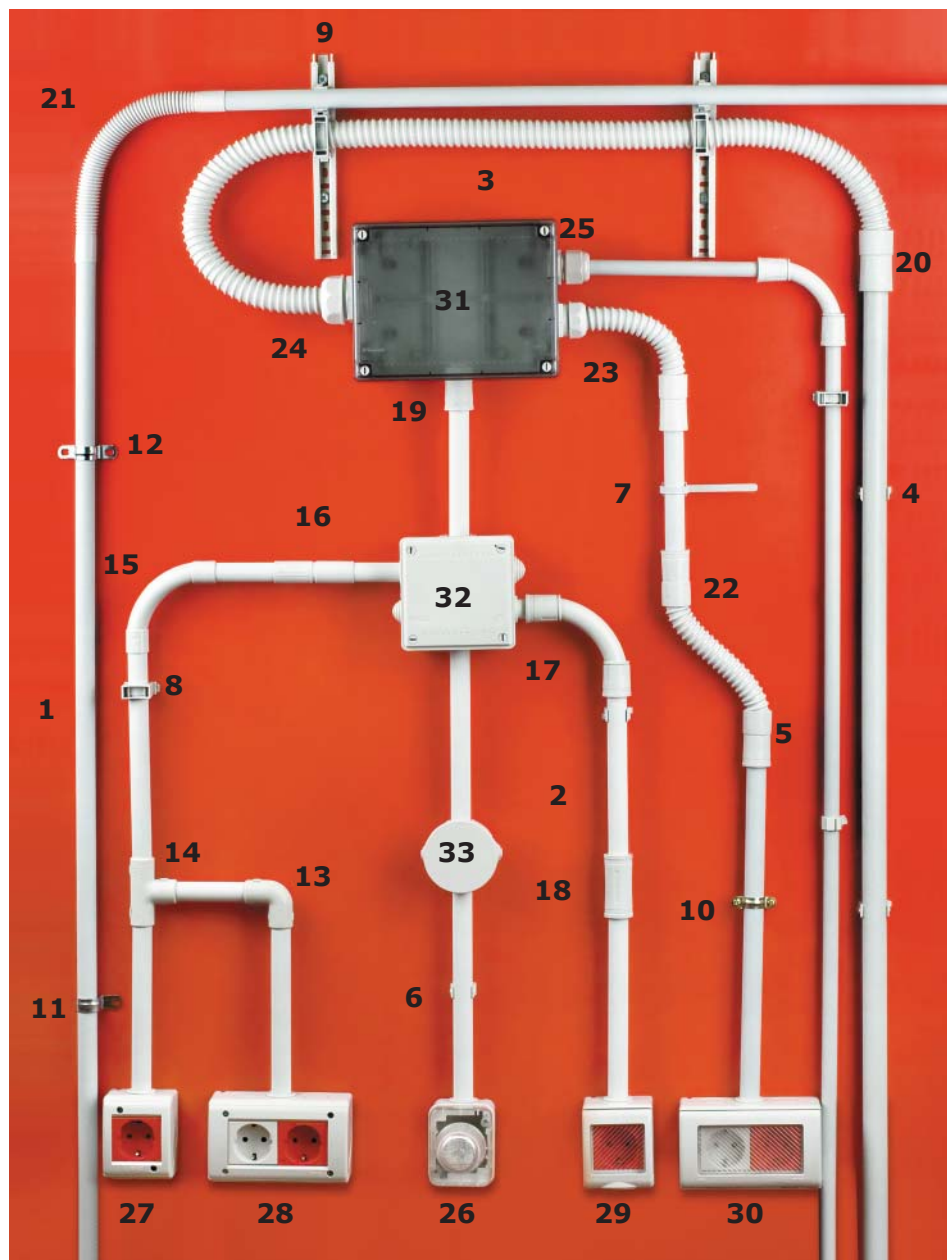
High IP protection degree:

- bimaterial dust and water protective accessories provide reliable sealing under the heaviest operating conditions.

Wholesale and retail packages.

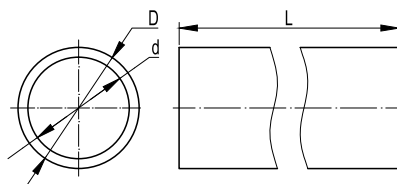
System composition

- PVC rigid tubes (series 6) are used for open laying within storage, trade and production premises. Tubes of heavy-duty series are widely used in in-wall installation.
- Weatherproof rigid tubes of series 6UF made of PVC differ from standard series 6 by special light-stabilized shock and frost-resistant plastic. The climatic version of tubes of series 6UF is UKhL1, and they are intended to provide competition for metal and electric-welded tubes in case of outdoor wiring laying.
- Reinforced tubes have high flexibility, vibration resistance, shock resistance, and they are designed for laying of power and control cables to process equipment, mechanisms and machines, and for laying of cables to boards, boxes, back boxes, as well as for laying of networks exposed to long-lasting vibration effects.
- Junction boxes made of a high-quality composition based on propylene provide high shock resistance, convenience of installation, reliability and long service life.
- Accessories for connection of IP40 and IP67 tubes, accessories for attachment including those of UKhL1 climatic version.



1. rigid tube (series 6);
2. weatherproof rigid tube (series 6UF);
3. reinforced tube;
4. holder with a latch;
5. two-component holder;
6. holder with a latch and a rawplug;
7. holder with a tie;
8. expandable holder;
9. guiding way for attachment of holders;
10. steel tie with M6 inside thread;
11. galvanized one-side holder;
12. galvanized two-side holder;
13. opening elbow, 90°, IP40;
14. opening tee, IP40;
15. 90° "tube-tube" bend, IP40;
16. "tube-tube" coupling with a limiter, IP40;
17. 90° "tube-tube" bend, IP67;
18. "tube-tube" coupling, IP67;
19. "tube-box" coupling, IP67;
20. "reinforced tube-rigid tube" adapter, IP65;
21. "flexible tube-tube" coupling, IP64;
22. "flexible tube-tube" coupling, IP65;
23. "flexible tube-box" coupling, IP65;
24. "reinforced tube-junction box" adapter, IP65;
25. cable clamp with a lock nut, IP68;
26. pilot lights, IP54;
27. modular surface-mounted box, 2 modules, IP40;
28. modular surface-mounted box, 4 modules, IP40;
29. modular surface-mounted box, 2 modules, IP55;
30. modular surface-mounted box, 4 modules, IP55;
31. junction box with smooth walls and transparent cover, IP56;
32. junction box with cable glands, IP55;
33. junction box with cable glands, IP44.

Rigid tubes (series 6)


Purpose:

- laying of electric, telephone, computer, and television networks using insulated wires, cords and cables.

Installation conditions:

- open laying on bases made of non-combustible and non-flammable materials both indoors and outdoors under a shed, with no direct exposure to ultraviolet and precipitation. In-wall installation.

Distinctive features:

- prevents fire spreading;
- age-resistant;
- wide range of accessories makes possible installation of any complexity.

Characteristics

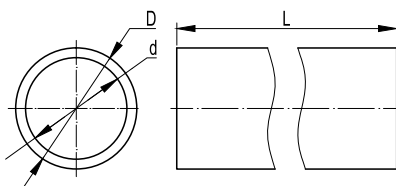
Technical specifications	TS 2248-012-47022248-2009
Classification code according to EN 61386-1 and EN 61386-21	3341 (heavy-duty series)
Protection degree	IP67 according to GOST 14254-96 (IEC 529-89)
Mounting temperature	From -5 to +60 °C
Operating temperature	from -25 to +60 °C (with no mechanical effects)
Shock resistance	at least 1 J at -25 °C; at least 2 J at -5 °C
Color	gray RAL 7035
Conformity to fire safety requirements	conforms to GOST R 53313-2009

Nomenclature

Outside diameter, mm *	Inside diameter, mm *	Package option	3 m tube sections		2 m tube sections		Strength according to GOST R IEC 61386.1
			package, m	code	package, m	code	
16	13.7	wholesale	90	63916	60	62916	over 350 N per 5 cm
		retail	54	63916R	36	62916R	
20	17.6	wholesale	75	63920	50	62920	
		retail	30	63920R	20	62920R	
25	22.7	wholesale	60	63925	40	62925	
		retail	21	63925R	14	62925R	
32	29.2	wholesale	30	63932	20	62932	
		retail	12	63932R	8	62932R	
40	36.7	wholesale	30	63940	20	62940	
50	46.6	wholesale	15	63950	10	62950	
63	58.6	wholesale	15	63963	10	62963	
16	13.4	wholesale	90	63516	60	62516	over 750 N per 5 cm
20	17.4	wholesale	75	63520	50	62520	
25	22.3	wholesale	60	63525	40	62525	
32	28.8	wholesale	30	63532	20	62532	
40	36.6	wholesale	30	63540	20	62540	
50	45.8	wholesale	15	63550	10	62550	
63	57.8	wholesale	15	63563	10	62563	

* Tolerance for outside and inside diameters for tubes with Ø 16, 20, 25, 32 and 40 mm is ±0.4 mm; tolerance for tubes with Ø 50 and 63 mm is ±0.5 mm

Weatherproof rigid tubes (series 6UF)



Purpose:

- outdoor laying of electric, telephone, computer, and television networks using insulated wires, cords and cables.

Installation conditions:

- external laying on building facades under direct exposure to ultraviolet and precipitation;
- open laying indoors on materials of any flammability and combustibility classes;
- buried laying in non-combustible materials.

In-wall installation

Distinctive features:

- ultraviolet and precipitation resistance;
- frost resistance;
- high shock resistance;
- prevents fire spreading;
- shall be mounted with IP67 bimaterial accessories and galvanized polyamide holders.

Characteristics

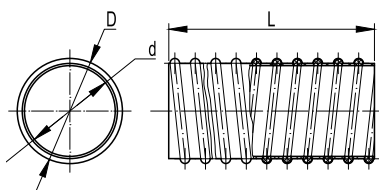
Technical specifications	TS 2248-012-47022248-2009
Ultraviolet resistance	maintains mechanical properties after UV irradiation according to GOST R 20.57.406-81 (method 211-1)
Protection degree	IP67 according to GOST 14254-96 (IEC 529-89)
Mounting temperature	from -40 to +60 °C
Operating temperature	from -40 to +60 °C
Shock resistance	at least 1 J at -40 °C
Color	gray RAL 7035
Dielectric strength	at least 2,000 V (50 Hz for 15 minutes)
Insulation resistance	at least 100 Mohm (500 V for 1 minute)
Protection class	0 according to GOST 12.2.007.0
Conformity to fire safety requirements	conforms to GOST R 53313-2009

Nomenclature

Outside diameter, mm *	Inside diameter, mm *	3 m tube sections		Strength according to GOST R IEC 61386.1
		package, m	code	
16	13.7	90	63916UF	over 350 N per 5 cm
20	17.6	75	63920UF	
25	22.7	60	63925UF	
32	29.2	30	63932UF	
40	36.7	30	63940UF	
50	46.6	15	63950UF	
63	58.5	15	63963UF	
16	13.4	90	63516UF	over 750 N per 5 cm
20	17.4	75	63520UF	
25	22.3	60	63525UF	
32	28.8	30	63532UF	
40	36.6	30	63540UF	
50	45.8	15	63550UF	
63	57.8	15	63563UF	

* Tolerance for outside and inside diameters for tubes with Ø 16, 20, 25, 32 and 40 mm is ±0.4 mm; tolerance for tubes with Ø 50 and 63 mm is ±0.5 mm

Reinforced tubes



Purpose:

- laying of power supply and control circuits to production, processing equipment, mechanisms and machines;
- laying of networks exposed to long-lasting vibration effects during operation;
- installation of low-current networks and power mains at sites of any complexity: when bending in any planes, laying on spherical surfaces, etc. It is used as a set with a rigid tube and accessories.

Distinctive features:

- strong spiral-shaped frame made of unplasticized PVC embedded into non-rigid PVC;
- improved flexibility;
- resistance to dynamic and vibration effects;
- smooth inner surface facilitates cable pulling;
- age resistance;
- humidity resistance.

Characteristics

Material	plasticized PVC
Material of spiral-shaped frame	rigid unplasticized PVC
Technical specifications	TS 2247-023-47022248-2009
Protection degree	IP65 according to GOST 14254-96 (IEC 529-89)
Mounting temperature	from +5 to +60 °C
Operating temperature	from -25 to +60 °C (with no mechanical effects)
Shock resistance at +5 °C	at least 6 J
Shock resistance at -25 °C	at least 2 J
Tear strength	at least 200 N for tubes with rated inside diameter of 10, 12, 14 and 16 mm at least 300 N for tubes with rated inside diameter of over 16 mm
Minimum bend radius	2 outside diameters
Bending resistance	at least 5,000 bends at angle of 180° at +23 °C
Color	gray RAL 7035
Dielectric strength	at least 2,000 V (50 Hz for 15 minutes)
Insulation resistance	at least 100 Mohm (500 V for 1 minute)
Protection class	0 according to GOST 12.2.007.0
Conformity to fire safety requirements	conforms to GOST R 53313-2009

Nomenclature

Rated inside diameter, mm	Inside diameter, mm*	Outside diameter, mm*	Coil, m	Code
10	10.1	14.2	30	57010
12	12.2	16.5		57012
14	14.3	18.3		57014
16	16.1	20.5		57016
20	20.2	25.0		57020
22	22.1	27.0		57022
25	25.1	30.6		57025
28	28.0	33.2		57028
32	31.8	37.6		57032
35	35.0	41.0		57035
40	40.2	46.2		57040
50	50.0	56.5		57050

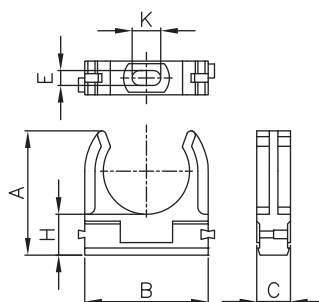
* Inside diameter tolerance is ± 0.5 mm

** Outside diameter tolerance is ± 0.5 mm for tubes with rated inside diameter of up to 32 mm inclusive and ± 1.0 mm for tubes with rated outside diameter of 35, 40, and 40 mm

Accessories

Holders

Holder with a latch

**Purpose:**

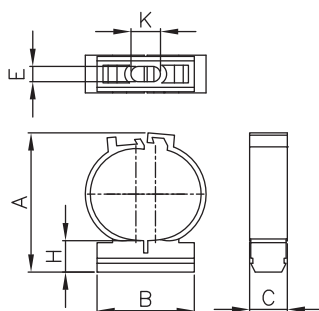
- attachment of rigid and corrugated tubes to surfaces of walls, ceilings, floors and partition walls.

Characteristics:

- material is polypropylene, ABS plastic;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- holders with different diameters can be attached to each other using special retainers of "dovetail" type;
- holders with different diameters can be installed on a guiding way for attachment of holders, code 51400.

Diameter, mm	Physical dimensions, mm						Wholesale package		Retail package	
	A	B	C	H	E	K	q-ty, pcs	code	q-ty, pcs (pack x pcs)	code
16	26	22	12	10.5	5	10	900	51016	360 (20x18)	51016R
20	28	26	12	10.5	5	10	800	51020	320 (20x16)	51020R
25	31	31	12	10.5	5	10	600	51025	240 (20x12)	51025R
32	44	44	12	14.5	5	10	200	51032	80 (20x4)	51032R
40	50	51	14	15.5	5	10	100	51040	-	-
50	58	61	14	15.5	5	10	100	51050	-	-

Two-component holder

**Purpose:**

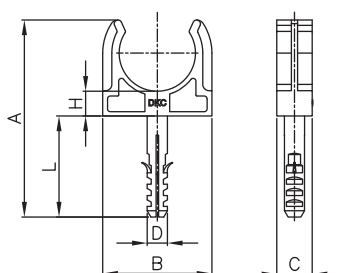
- attachment of rigid and corrugated tubes to surfaces of walls, ceilings, floors and partition walls; recommended for attachment of corrugated tubes and rigid tubes to ceiling.

Characteristics:

- material is polypropylene;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- holders with different diameters can be installed on a guiding way for attachment of holders, code 51400.

Diameter, mm	Physical dimensions, mm						Wholesale package		Retail package	
	A	B	C	H	E	K	q-ty, pcs	code	q-ty, pcs (pack x pcs)	code
16	30.8	21	12.8	10	5.2	10	600	51116	280 (20x14)	51116R
20	34.6	24.5	12.8	10	5.2	10	600	51120	180 (20x9)	51120R
25	41.3	27	12.8	10	5.2	10	400	51125	120 (20x6)	51125R
32	47.3	33	12.8	10	5.2	10	100	51132	80 (20x4)	51132R

Holder with a latch and a rawplug

**Purpose:**

- attachment of rigid and corrugated tubes to surfaces of walls, ceilings, floors and partition walls.

Characteristics:

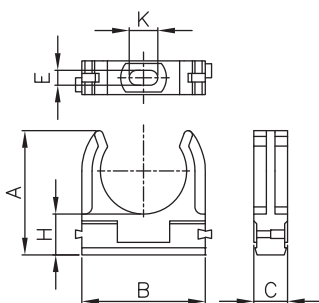
- material is polypropylene;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- availability of a rawplug makes it possible to install a holder on concrete and brick surfaces without additional accessories.

Scope of supply:

- the scope of supply includes a screw nail.

Diameter, mm	Physical dimensions, mm								Wholesale package		Retail package	
	A	B	C	H	L	D	Ø of the screw nail	screw nail length	q-ty, pcs	code	q-ty, pcs (pack x pcs)	code
16	51	22	12	6	30	6	4	35	800	51316	200 (20x10)	51316R
20	53	26	12	6	30	6	4	35	600	51320	160 (20x8)	51320R
25	57	31	12	6	30	6	4	35	200	51325	120 (20x6)	51325R
32	78	43	14	10	40	8	4	45	150	51332	80 (20x4)	51332R

Field-installable clip holder


Purpose:

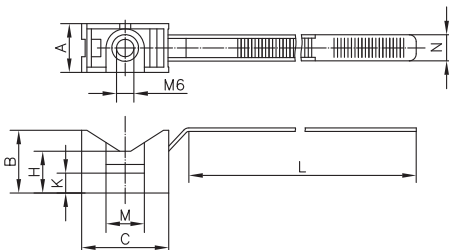
- attachment of rigid and corrugated tubes to surfaces of walls, ceilings, floors and partition walls using a gas fastening gun.

Characteristics:

- material is polypropylene, ABS plastic;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- holders with different diameters can be attached to each other using special retainers of "dovetail" type;
- holders with different diameters can be installed on a guiding way for attachment of holders, code 51400.

Diameter, mm	Physical dimensions, mm						q-ty, pcs	code
	A	B	C	H	E	K		
16	26	22	12	11	3.8	5.8	900	51016M
20	28	26	12	11	3.8	5.8	800	51020M

Holder with a tie


Purpose:

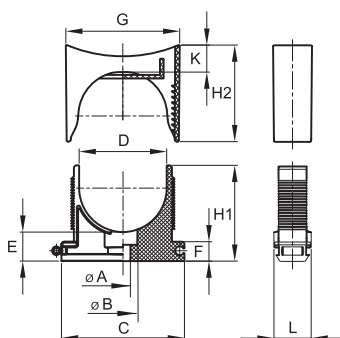
- attachment of plastic and metal-reinforced plastic tubes, as well as cable to surfaces of walls, ceilings, floors and partition walls.

Characteristics:

- material is nylon;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- attachment is performed by means of a special hose tie;
- M6 thread in the holder base;
- there is an attachment kit for attachment of the holder to concrete and brick walls, code 63768.

Diameter, mm	A	B	C	H	L	N	K	M	Package, pcs	Code
16-32	14	18	24	12	145	7.5	5.7	10.5	100	51200
25-63	14	18	41	12	230	7.5	5.7	10.5	100	51263

Expandable holder


Purpose:

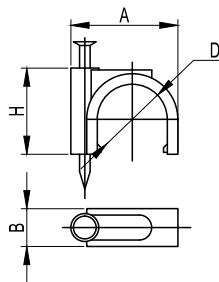
- attachment of plastic and metal-reinforced plastic tubes, as well as multi-wire cable to surfaces of walls, ceilings, floors and partition walls.

Characteristics:

- material is polyamide;
- mounting and operating temperature is from -40 to +100 °C;
- color is gray RAL 7035;
- changeable diameter;
- possibility to attach several holders in a row;
- possibility of installation on a guiding way for attachment of holders, code 51400.
- possibility to remove cover.

Diameter, mm	Physical dimensions, mm											Package, pcs	Code
	ØA	ØB	C	D	E	F	H1	H2	K	G	L		
10-20	5	10	32	20	10.5	7	30	25	10	29	14	260	51220
21.5-32	5	10	45	32	10.5	7	35	35	10	42	14	160	51232
32.5-50	5	10	63	50	10.5	7	47	47	10	60	14	80	51250

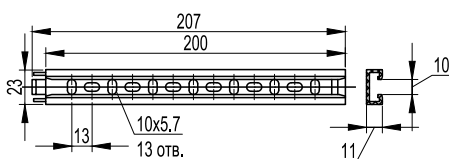
Plastic clamp with a nail



- Purpose:**
- attachment of cable to surfaces of walls, ceilings, floors and partition walls.
- Characteristics:**
- material is polyethylene;
 - material of nail is galvanized steel;
 - color is gray RAL 7035;
 - operating temperature is from -40 to +90 °C.

Cable diameter, mm	Physical dimensions, mm					Package, pcs	Code
	A	B	H	nail diameter	nail length		
3-4	7	3	6	1.8	10	1000	51500
5-6	10	5	8	1.8	12	1000	51600
7-8	12	6	10	1.8	15	500	51700
9-10	15	6	13	2.0	20	500	51800
13-14	20	9	17	2.5	28	300	51900
15-16	23	10	21	2.5	30	200	52000
19-20	27	11	23	3.0	35	200	52100
25-26	32	13	28	3.0	40	200	52300
31-32	45	15	35	3.0	50	200	52400

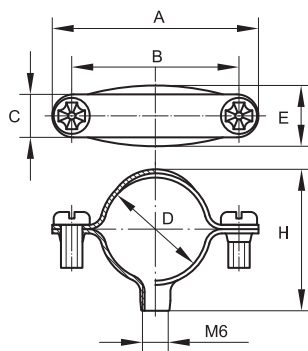
Guiding way for attachment of holders



- Purpose:**
- installation of holders with a latch (code 510), two-component holders (code 511), expandable holders (code 51220, 51232, 51250).
- Characteristics:**
- material is polypropylene;
 - color is gray RAL 7035;
 - operating temperature is from -25 to +60 °C;
 - to expand their length, guiding ways can be attached to each other.

Length, mm	Package, pcs	Code
200	20	51400

Steel tie with M6 inside thread


Purpose:

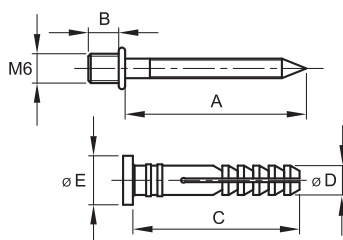
- attachment of plastic and metal tubes to surfaces of walls, ceilings, floors and partition walls.

Characteristics:

- material is galvanized steel;
- there is a through-hole with M6 inside thread for attachment of the holder to the attachment kit (code 63768) or a stud with M6 thread.

Diameter, mm	Physical dimensions, mm						Package, pcs	Code
	D	A	B	C	E	H		
6	6	35	22	11	13	12	100	58006
8	8	38	24	10	16	15	100	58008
10	10	40	24	10	16	15	100	58010
12	12	39	25	10	16	20	100	58012
14	14	37	25	10	16	20	100	58014
16	16	42	31	10	16	24	100	58016
20	20	46	34	10	16	27	100	58020
25-26	26	49	41	10	16	34	100	58026
32	32	55	46	10	16	40	100	58032
38-40	40	66	55	12	16	45	100	58038
48-50	50	76	67	12	16	57	50	58048

Attachment kit for steel ties


Purpose:

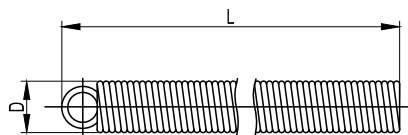
- attachment of steel ties and holders with a tie to surfaces of concrete and brick walls, ceilings, floors and partition walls.

Characteristics:

- the material of the rawplug is nylon;
- material of the concrete nail is galvanized steel;
- rawplug dimension is D6x35 mm;
- M6x5 mm thread on the concrete nail head.

Dimension, mm	Physical dimensions, mm					Package, pcs	Code
	A	B	C	ØD	ØE		
D6x35	37	6	34	6	10	100	63768

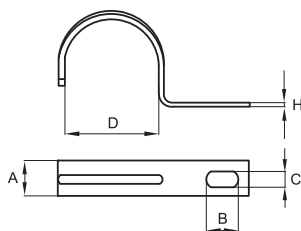
Steel spring for tube bending


Purpose:

- to bend DKC rigid tubes at angle of 90° without preheating.

Tube diameter, mm	D, mm	L, m	Package, pcs	Code
16	13.3	0.5	1	59516
20	17.0	0.5	1	59520
25	21.5	0.5	1	59525

Galvanized one-side holder

**Purpose:**

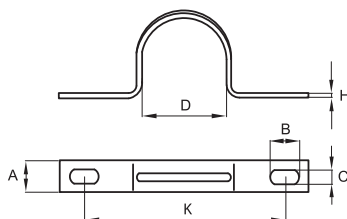
- attachment of plastic, metal, metal-reinforced plastic tubes, as well as cable to surfaces of walls, ceilings, floors and partition walls.

Characteristics:

- material is galvanized steel.

Diameter, mm	Physical dimensions, mm					Wholesale package		Retail package	
	D	A	V	C	H	number, pcs	code	q-ty, pcs (pack x pcs)	code
8	8	10	6	4.5	0.9	100	53338	–	–
10	10	10	6	4.5	0.9	100	53339	400 (20x20)	53339R
13	13	10	6	4.5	0.9	100	53340	–	–
16	16	12	6	4.5	0.9	100	53341	400 (20x20)	53341R
19-20	19	12	6	4.5	0.9	100	53342	300 (20x15)	53342R
22	22	14	7	4.5	0.9	100	53343	200 (20x10)	53343R
25-26	26	14	7	4.5	0.9	100	53344	160 (20x8)	53344R
32	32	15	12.5	6.5	1.8	100	53346	120 (20x6)	53346R
38-40	38	15	12.5	6.5	1.8	100	53347	–	–
48-50	48	15	12.5	6.5	1.8	50	53348	–	–

Galvanized two-side holder

**Purpose:**

- attachment of plastic, metal, metal-reinforced plastic tubes, as well as cable to surfaces of walls, ceilings, floors and partition walls.

Characteristics:

- material is galvanized steel.

Diameter, mm	Physical dimensions, mm						Wholesale package		Retail package	
	D	A	V	C	H	K	number, pcs	code	q-ty, pcs (pack x pcs)	code
10	10	10	5	5	0.9	31	200	53352	400 (20x20)	53352R
13	13	10	5	5	0.9	32	100	53353	–	–
16	16	12	6.5	5	0.9	34	100	53354	400 (20x20)	53354R
19-20	19	12	6.5	5	0.9	38	100	53355	300 (20x15)	53355R
22	22	14	8.5	6.5	0.9	47	100	53356	200 (20x10)	53356R
25-26	26	14	8.5	6.5	0.9	47	100	53357	160 (20x8)	53357R
32	32	14	10	6.5	0.9	54	100	53359	120 (20x6)	53359R
38-40	38	14	10	6.5	0.9	61	100	53360	–	–
48-50	50	14	10	6.5	0.9	80	50	53361	–	–
63	63	14	8.5	6.5	1	88	30	53362	–	–

Plastic rawplugs with self-tapping screws



"V"-type rawplug



"F"-type rawplug

Purpose:

- general purpose attachment accessories.

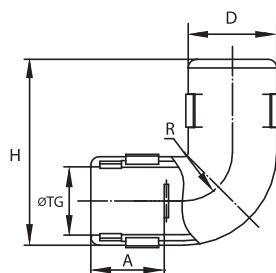
Characteristics:

- rawplug material is plastic;
- self-tapping screw is galvanized steel.

Type of rawplug	Physical dimensions, mm				Installation				Package, pcs	Code
	rawplug diameter	rawplug length	self-tapping screw diameter	self-tapping screw length	concrete	brick	hollow brick	gypsum plasterboard, partition walls		
V5	5	25	4	30	+	+	–	–	100	CM06521
V6	6	30	4.5	40	+	+	–	–	100	CM06522
V8	8	40	5	45	+	+	–	–	100	CM06523
F6	6	45	3.5	50	+	+	+	+	100	CM06541
F8	8	50	4.5	60	+	+	+	+	100	CM06542

Accessories without moisture protection

Opening elbow, 90°, IP40


Purpose:

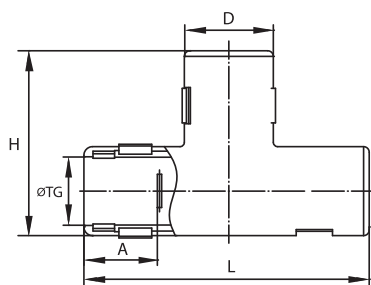
- connection of rigid tubes with the same diameter at the angle of 90°.

Characteristics:

- material is polypropylene;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- protection degree is IP40;
- split enclosure, possibility of installation on an already installed route.

Diameter, mm	Physical dimensions, mm					Wholesale package		Retail package	
	ØTG	D	H	A	R	number, pcs	code	q-ty, pcs (pack x pcs)	code
16	16	Ø 21	44	17	10	100	50516	90 (15x6)	50516R
20	20	Ø 25	49	18	12	100	50520	48 (12x4)	50520R
25	25	Ø 30	56	20	15	50	50525	30 (15x2)	50525R
32	32	Ø 38	66	23	19	30	50532	16 (8x2)	50532R

Opening tee, IP40


Purpose:

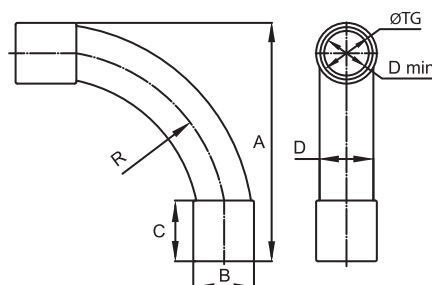
- tee connection of three rigid tubes with the same diameter.

Characteristics:

- material is polypropylene;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- protection degree is IP40;
- split enclosure, possibility of installation on an already installed route.

Diameter, mm	Physical dimensions, mm					Wholesale package		Retail package	
	ØTG	D	L	A	H	number, pcs	code	q-ty, pcs (pack x pcs)	code
16	16	Ø 21	64	17	43	100	50616	60 (15x4)	50616R
20	20	Ø 25	70	17	47	100	50620	36 (12x3)	50620R
25	25	Ø 30	75	19	53	50	50625	20 (10x2)	50625R
32	32	Ø 38	85	21	62	30	50632	24 (12x2)	50632R

90° "tube-tube" bend, IP40

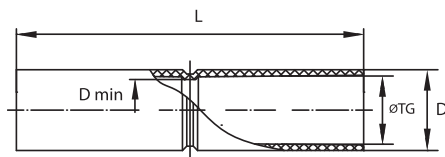

Purpose:

- connection of rigid tubes with the same diameter at the angle of 90°.

Characteristics:

- material is polypropylene;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- protection degree is IP40.

Diameter, mm	Physical dimensions, mm							Wholesale package		Retail package	
	ØTG	A	V	C	D	Dmin	R	number, pcs	code	q-ty, pcs (pack x pcs)	code
16	16	74	Ø 19	19	Ø 16	Ø 13	55	100	50416	36 (18x2)	50416R
20	20	92	Ø 23	23	Ø 20	Ø 17	75	100	50420	30 (15x2)	50420R
25	25	115	Ø 29	29	Ø 25	Ø 21	95	50	50425	10 (10x1)	50425R
32	32	133	Ø 36	35	Ø 32	Ø 28	110	25	50432	8 (8x1)	50432R
40	40	162	Ø 44	37	Ø 40	Ø 33	130	10	50440	-	-
50	50	205	Ø 54	47	Ø 50	Ø 45	145	4	50450	-	-

"Tube-tube" coupling with a limiter, IP40**Purpose:**

- connection of rigid tubes with the same diameter.

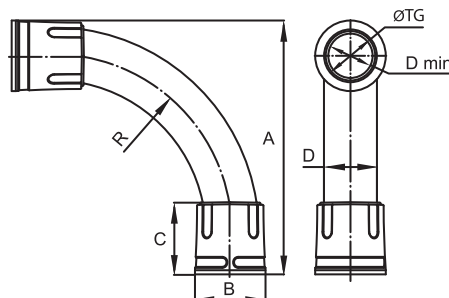
Characteristics:

- material is polypropylene;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- protection degree is IP40;
- there is a limiter in the center of the coupling.

Diameter, mm	Physical dimensions, mm				Wholesale package		Retail package	
	ØTG	D	L	Dmin	number, pcs	code	q-ty, pcs (pack x pcs)	code
16	16	Ø 19	81	Ø 14	200	54916	96 (16x6)	54916R
20	20	Ø 23	81	Ø 18	100	54920	60 (12x5)	54920R
25	25	Ø 28	81	Ø 23	100	54925	40 (10x4)	54925R
32	32	Ø 36	100	Ø 29	50	54932	16 (8x2)	54932R
40	40	Ø 44	110	Ø 39	40	54940	–	–
50	50	Ø 54	120	Ø 49	20	54950	–	–
63	63	Ø 67	129	Ø 58	9	54963	–	–

Two-component accessories for rigid tubes with IP67 protection degree

Leak tightness is provided by means of the unique technology of two-component molding during which soft sealing elements are molded into the coupling enclosure (when it is manufactured) and form an integral whole. The sealing element within the accessory is made as a system of two sealing faces that complement each other and provide a high protection degree. Leak tightness level of IP67 and climate version of UKhL1 (UV radiation and precipitation resistance) make it possible to install wiring on building facades, in very damp premises, premises with high concentration of vapors and volatile compounds.

90° "tube-tube" bend, IP67**Purpose:**

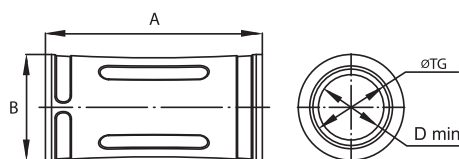
- leak tight connection of rigid tubes at angle of 90°.

Characteristics:

- climatic version is UKhL1;
- enclosure material is polypropylene;
- seal material is rubber;
- color is gray RAL 7035
- operating temperature is from -40 to +60 °C;
- protection degree is IP67.

Diameter, mm	Physical dimensions, mm							Wholesale package		Retail package	
	ØTG	A	V	C	D	Dmin	R	number, pcs	code	q-ty, pcs (pack x pcs)	code
16	16	88	Ø 26	32	Ø 17.5	Ø 13	65	60	50016	18 (18x1)	50016R
20	20	105	Ø 30	35	Ø 21	Ø 17	75	50	50020	15 (15x1)	50020R
25	25	125	Ø 35	40	Ø 26	Ø 20	95	40	50025	10 (10x1)	50025R
32	32	140	Ø 42	43	Ø 32	Ø 27	95	20	50032	6 (6x1)	50032R
40	40	170	Ø 50	50	Ø 40	Ø 35	130	10	50040	–	–
50	50	210	Ø 60	61	Ø 48	Ø 45	145	4	50050	–	–

"Tube-tube" coupling, IP67


Purpose:

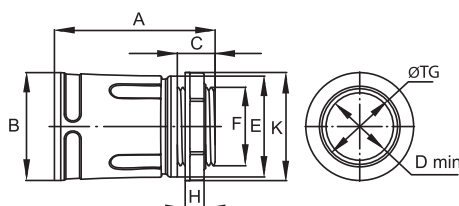
- leak tight connection of rigid tubes with the same diameter.

Characteristics:

- climatic version is UKhL1;
- enclosure material is polypropylene;
- seal material is rubber;
- color is gray RAL 7035;
- operating temperature is from -40 to +60 °C;
- protection degree is IP67.

Diameter, mm	Physical dimensions, mm				Wholesale package		Retail package	
	ØTG	A	V	Dmin	number, pcs	code	q-ty, pcs (pack x pcs)	code
16	16	56	Ø 26	Ø 13	100	50116	30 (15x2)	50116R
20	20	63	Ø 30	Ø 17	100	50120	24 (12x2)	50120R
25	25	72	Ø 35	Ø 21	50	50125	20 (10x2)	50125R
32	32	79	Ø 42	Ø 28	25	50132	16 (8x2)	50132R
40	40	105	Ø 50	Ø 35	20	50140	–	–
50	50	115	Ø 60	Ø 45	15	50150	–	–

"Tube-box" coupling, IP67


Purpose:

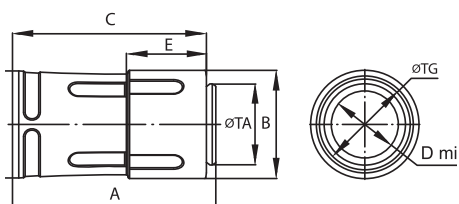
- leak tight connection of rigid tubes with housings of junction boxes, enclosures and boxes.

Characteristics:

- climatic version is UKhL1;
- enclosure material is polypropylene;
- seal material is rubber;
- color is gray RAL 7035;
- operating temperature is from -40 to +60 °C;
- protection degree is IP67.

Diameter, mm	Physical dimensions, mm										Wholesale package		Retail package	
	ØTG	A	V	C	H	F	E	K	Dmin	for key	number, pcs	code	q-ty, pcs (pack x pcs)	code
16	16	45	Ø 26	12	7	M16x1.5	Ø 24	Ø 26	Ø 13	22	100	50216	30 (15x2)	50216R
20	20	47	Ø 30	12	7	M20x1.5	Ø 28	Ø 30	Ø 17	26	100	50220	24 (12x2)	50220R
25	25	51	Ø 35	12	7	M25x1.5	Ø 33	Ø 35	Ø 21	30	50	50225	20 (10x2)	50225R
32	32	57	Ø 42	14	7	M32x1.5	Ø 40	Ø 43	Ø 27	38	50	50232	16 (8x2)	50232R
40	40	70	Ø 50	14	8	M40x1.5	Ø 48	Ø 53	Ø 34	46	20	50240	–	–
50	50	75	Ø 60	14	8	M50x1.5	Ø 58	Ø 62	Ø 44	57	20	50250	–	–

"Reinforced tube-rigid tube" adapter, IP67


Purpose:

- leak tight connection of rigid and reinforced tubes.

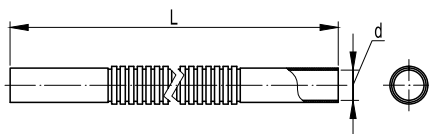
Characteristics:

- enclosure material is polypropylene;
- seal material is rubber;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- protection degree is IP67;
- inside diameter is maintained when switching from a rigid to a reinforced tube.

Outside diameter of rigid tube, mm	Inside diameter of reinforced tube, mm	Physical dimensions, mm								Package, pcs	Code
		ØTG	ØTA	A	V	C	D	E	Dmin		
16	16	16	16	53	Ø 26	50	Ø 26	22	Ø 13	50	55216
20	20	20	20	60	Ø 29	57	Ø 30	24	Ø 17	50	55220
25	25	25	25	65	Ø 35	62	Ø 35	25	Ø 21	50	55225
32	32	32	32	73	Ø 43	69	Ø 42	29	Ø 27	25	55232
40	40	40	40	88	Ø 52	84	Ø 50	30	Ø 35	20	55240
50	50	50	50	94	Ø 62	90	Ø 60	32	Ø 45	10	55250

Dust and moisture protection accessories

"Flexible tube-tube" coupling, IP64

**Purpose:**

- connection of rigid tubes with the same diameter at a random angle.

Characteristics:

- material is PVC;
- color is gray RAL 7035;
- minimum bend radius is 3 outside diameters;
- operating temperature is from -25 to +60 °C;
- protection degree is IP64;
- it is recommended for use in dry premises.

Diameter, mm	Length, mm	Package, pcs	Code
16	220	50	56916
20	230	40	56920
25	240	15	56925
32	270	8	56932

"Flexible tube-tube" coupling, IP65

**Purpose:**

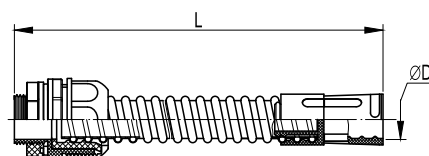
- leak tight connection of rigid tubes with the same diameter at a random angle.

Characteristics:

- material is PVC;
- color is gray RAL 7035;
- minimum bend radius is 2 outside diameters;
- operating temperature is from -25 to +60 °C;
- protection degree is IP65;
- it is recommended for use in humid and dusty premises.

Diameter, mm	Length, mm	Package, pcs	Code
16	230	50	50316
20	240	40	50320
25	260	25	50325
32	290	12	50332
40	340	6	50340
50	410	3	50350

"Flexible tube-box" coupling, IP65

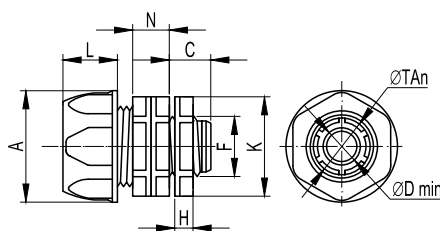
**Purpose:**

- connection of rigid tubes with junction boxes, housings of enclosures and boxes at a random angle.

Characteristics:

- material is PVC;
- color is gray RAL 7035;
- minimum bend radius is 2 outside diameters;
- operating temperature is from -25 to +60 °C;
- protection degree is IP65;
- it is recommended for use in humid and dusty premises.

Diameter, mm	Length, mm	Package, pcs	Code
16	230	50	57116
20	240	20	57120
25	260	20	57125
32	290	8	57132
40	340	6	57140
50	410	3	57150

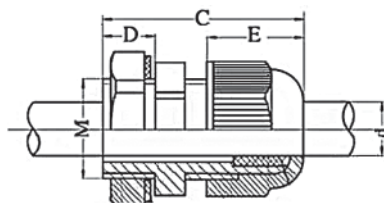
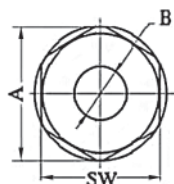
"Reinforced tube-box" adapter, IP65

Purpose:

• leak tight connection of reinforced tubes with junction boxes, housings of enclosures and boxes.

Characteristics:

- material is polypropylene;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- protection degree is IP65.

Rated inside diameter of reinforced tube, mm	Physical dimensions, mm									Weight, g	Package, pcs	Code
	ØTAn	A	L	N	C	H	Dmin	F	K			
10	16.5	Ø 26	16	12	12.5	6	Ø 8	12.5 (1/4")	Ø 24	10	50	55110
12	18.3	Ø 28	16	13	13	6.5	Ø 10	15.8 (3/8")	Ø 26	11	50	55112
14	20	Ø 29	18	14	13	7	Ø 12	20.5 (1/2")	Ø 29	12	40	55114
16	22	Ø 31	18	14	14.5	7	Ø 14	20.5 (1/2")	Ø 29	15	40	55116
20	26.3	Ø 36	19.5	15	16	7.5	Ø 18	25.4 (3/4")	Ø 35	19	40	55120
22	29	Ø 39	19.5	15	16	7.5	Ø 20	25.4 (3/4")	Ø 37	20	30	55122
25	33	Ø 43	24.5	17	17	8.5	Ø 23	32.3 (1")	Ø 41	30	20	55125
28	35.5	Ø 47	24.5	17	18	8.5	Ø 26	32.3 (1")	Ø 44.5	34	20	55128
32	41.5	Ø 51	28	18	19.5	8.5	Ø 30	41.2 (1-1/4")	Ø 49	43	10	55132
35	43	Ø 55	28	18	20	8.5	Ø 33	41.2 (1-1/4")	Ø 49	47	10	55135
40	49	Ø 59	32.5	19	22	9	Ø 38	47.2 (1-1/2")	Ø 57.5	58	5	55140
50	59.5	Ø 70	34.5	19	24	9	Ø 48	59.0 (2")	Ø 68	76	5	55150

Cable clamp with lock nut, IP68

Purpose:

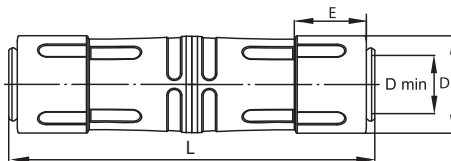
leak tight entry of tubes and cables into housings of back boxes, boxes, enclosures and distribution boxes.

Characteristics:

- material is polyamide 6.6;
- operating temperature is from -25 to +60 °C;
- protection degree is IP68.

Cable diameter, mm	Thread	Physical dimensions, mm								Wholesale package		Retail package	
		A	B	C	D	E	d	M	SW	q-ty, pcs	code	q-ty, pcs (pack x pcs)	code
3-6.5	PG 7	19.7	8.5	30	8	13.9	6.5	12.5	18	50	52500	80 (20x4)	52500R
4-8	PG 9	23.7	11	34	8	14.8	8	15.5	22	50	52600	60 (15x4)	52600R
5-10	PG 11	26.2	13	35	8	16.9	11	18.5	24	50	52700	60 (15x4)	52700R
6-12	PG 13.5	29	15	37	10	18	12	20.5	27	50	52800	48 (12x4)	52800R
9-14	PG 16	33	20.4	40	10	17.8	13.5	22.5	30	50	52900	20 (10x2)	52900R
13-18	PG 21	39	22	40	10	24	18.5	28.5	36	25	53000	16 (8x2)	53000R
15-25	PG 29	50	31	52	12	25.2	24.5	37	46	20	53100	-	-
20-31	PG 36	64	39	62	14	31	31.5	47	58	15	53200	-	-
28-38	PG 42	70	46.5	63	14	30.1	38	54	64	10	53300	-	-
34-43	PG 48	76	52	64	14	30.1	44	60	70	10	53400	-	-

Coupling for reinforced tubes, IP65

**Purpose:**

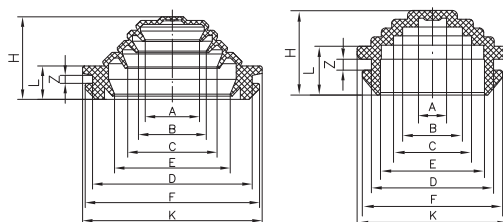
- leak tight connection of reinforced tubes.

Characteristics:

- enclosure material is polypropylene;
- seal material is rubber;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- protection degree is IP65.

Inside diameter of reinforced tube, mm	Physical dimensions, mm				Package, pcs	Code
	L	D	E	Dmin		
16	106	Ø 26	22	Ø 13	10	55316
20	120	Ø 29	24	Ø 17	10	55320
25	130	Ø 35	25	Ø 21	10	55325
32	146	Ø 43	29	Ø 27	5	55332
40	176	Ø 52	30	Ø 35	5	55340
50	188	Ø 62	32	Ø 45	3	55350

Cable gland for tubes, IP55



Code 54525, 54532, 54540

Code 54520

Purpose:

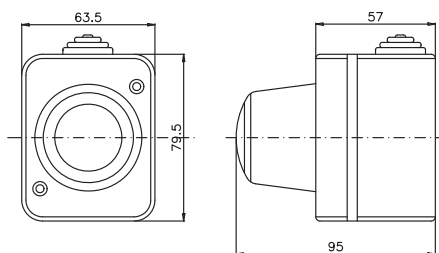
- leak tight entry of tubes and cables into housings of back boxes, boxes, enclosures and distribution boxes.

Characteristics:

- material is non-rigid PVC;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- protection degree is IP55.

Max. diameter of tube or cable, mm	Mounting hole diameter, mm	Physical dimensions, mm										Package, pcs	Code
		A	V	C	E	D	F	K	H	L	Z		
20	23	5.5	11.5	15	20	23	26.5	29	16	9	2	200	54520
25	32	9.5	15	19	23.5	32	35	38	20	9	2	100	54525
32	40	14	17	22	30	40	43	47	20	9	2	100	54532
40	50	23.5	30	37.5	42.5	50	54	57	20	9	2	100	54540

Pilot lights, IP54

**Purpose:**

- warning lights.

Characteristics:

- material is ABS plastic;
- operating temperature is from -25 to +60 °C;
- receptacle type is E14;
- maximum lamp power is 15 W;
- protection degree is IP54.

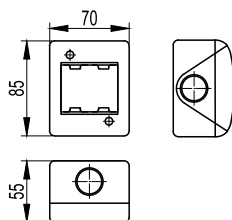
Scope of supply:

- lamp is not included into the scope of supply.

Color	Package, pcs	Code
Red	30	59601
Green	30	59602
Transparent	30	59603

Modular surface-mounted boxes for "Viva" series WDs, IP40

Two-module surface-mounted box


Purpose:

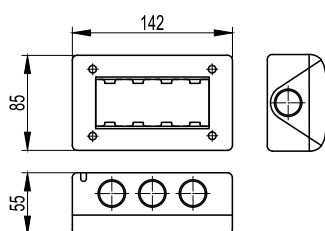
- open installation of sockets and "Viva" series switches.

Characteristics:

- material is ABS plastic;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- protection degree is IP40;
- it is recommended for use in dry premises.

Number of modules	Protection degree	Physical dimensions (WxHxD), mm	Package, pcs	Code
2	IP40	70x85x55	10	54640

Four-module surface-mounted box


Purpose:

- open installation of sockets and "Viva" series switches.

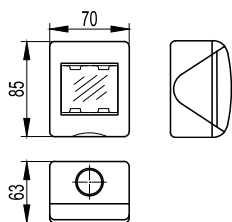
Characteristics:

- material is ABS plastic;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- protection degree is IP40;
- it is recommended for use in dry premises.

Number of modules	Protection degree	Physical dimensions (WxHxD), mm	Package, pcs	Code
4	IP40	142x85x55	10	54740

Dust and moisture protected modular surface-mounted boxes for "Viva" series WDs

Two-module surface-mounted box


Purpose:

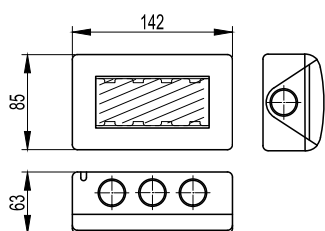
- open installation of sockets and "Viva" series switches.

Characteristics:

- material is ABS plastic;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- protection degree is IP55;
- it is recommended for use in humid and dusty premises.

Number of modules	Protection degree	Physical dimensions (WxHxD), mm	Package, pcs	Code
2	IP55	70x85x63	10	54655

Four-module surface-mounted box


Purpose:

- open installation of sockets and "Viva" series switches.

Characteristics:

- material is ABS plastic;
- color is gray RAL 7035;
- operating temperature is from -25 to +60 °C;
- protection degree is IP55;
- it is recommended for use in humid and dusty premises.

Number of modules	Protection degree	Physical dimensions (WxHxD), mm	Package, pcs	Code
4	IP55	142x85x63	10	54755

Installation examples

Surface mounting of "Viva" series WDs in modular boxes



Specification:

- modular surface-mounted box for "Viva" series WDs, 2 modules (code 54640);
- switch for surface mounting, IP40, color is gray RAL 7035 (code 45031).



Specification:

- modular surface-mounted box for "Viva" series WDs, IP55, 2 modules (code 54655);
- socket for surface mounting, IP55, color is gray RAL 7035 (code 45025).



Specification:

- modular surface-mounted box for "Viva" series WDs, IP55, 4 modules (code 54755);
- socket for surface mounting, IP55, color is gray RAL 7035 (code 45025);
- socket for surface mounting, IP55, color is gray RAL 7035 (code 45015).

"Viva" series wiring devices, gray



Characteristics:

- color is gray RAL 7035;
- size is 2 modules;
- rated current is 16 A;
- rated voltage is 250 V;
- maximum section:
 - 4 mm² (solid-drawn conductor);
 - 2.5 mm² (stranded conductor);
- side wire laying;
- socket protective shutters.

Name	Package, pcs	Code
Power socket, 2 modules	30	45025
Single-pole switch, 2 modules	30	45031

Junction boxes

Designed for decoration and protection: against mechanical damage, dust, moisture, of power cable connection points, lighting electrical networks (with voltage of up to 1,000 V) with alternating and direct current, as well as of information network cables (telephone, computer, television, communication networks, etc.). The boxes are designed for open installation both indoors and outdoors.

Application

Indoor installation

As back, pull, and junction boxes in case of open installation in storage, basement, auxiliary, industrial and trade premises.

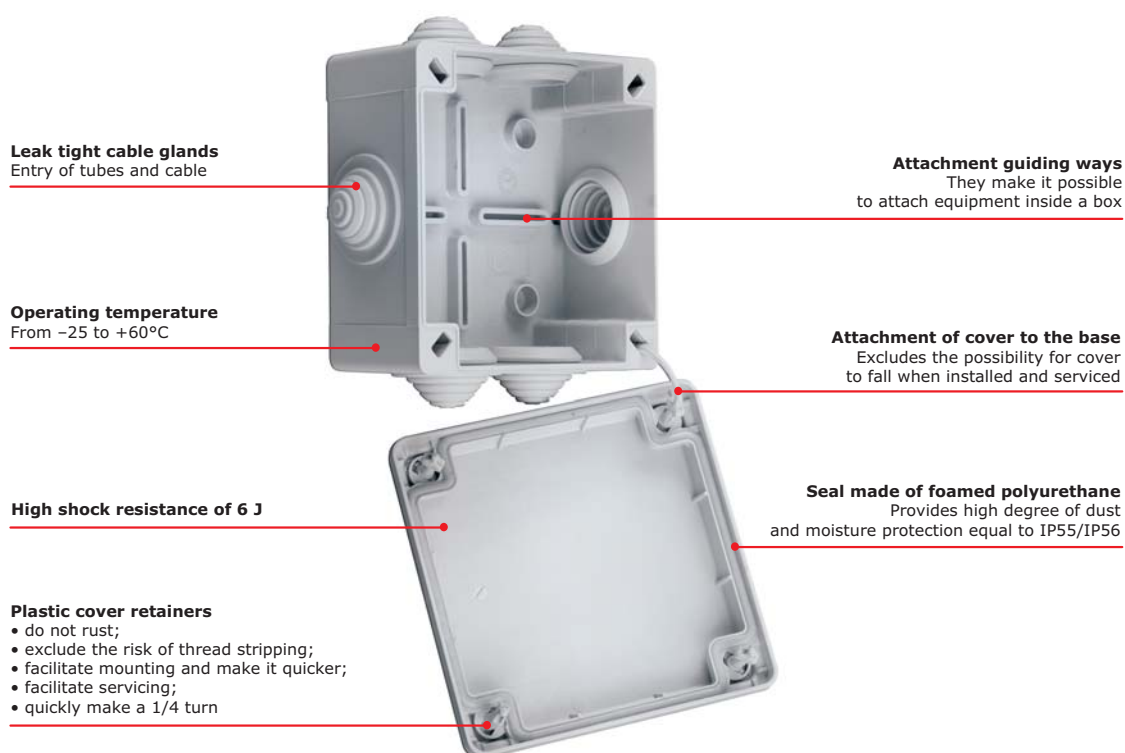
Outdoor installation

As back, pull, and junction boxes in case of open installation on building facades, bridges, fences and racks.

Shells for electric equipment

Installation of active and passive electric equipment, monitoring and control elements.

Distinctive features



Advantages:

- made of high quality composition based on polypropylene;
- high dielectric properties;
- high shock resistance;
- availability of a plastic retainer qualitatively distinguishes itself among competitive products by speed and convenience of installation;
- reliability and long service life.

System composition

There are 2 types of boxes available in the DKC range:

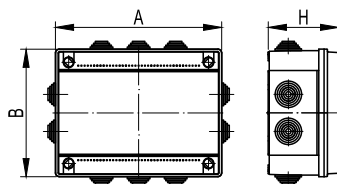
- boxes with latched cover that provide IP44 protection degree;
- boxes with plastic cover retainers that provide IP55 and IP56 protection degrees.

Characteristics

Material	ABS plastic, polypropylene
Technical specifications	TS 3464-028-47022248-2011
Climatic version	U2 according to GOST 15150-69
Protection degree	IP44 according to GOST 14254-96 for boxes with a latched cover IP55 according to GOST 14254-96 for boxes with cable glands IP56 according to GOST 14254-96 for boxes with smooth walls
Mounting temperature	from -5 to +60 °C
Operating temperature	from -25 to +60 °C
Color	gray RAL 7035
Shock resistance	6 J at -5 °C; 1 J at -25 °C
Ignition resistance	glow-wire test at 650 °C according to GOST R 50827.1

Junction boxes with plastic cover retainers

Junction boxes with cable glands, IP55

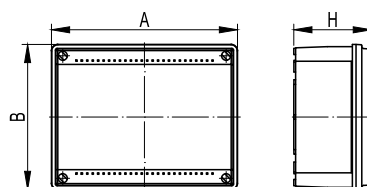


Characteristics:

- completed with cable glands designed for entry of rigid and corrugated tubes and cable;
- covers of boxes 53800-54100 have a seamless seal made of foamed polyurethane, and cover attachment to the base is carried out using a retainer of anchor type;
- covers of boxes 54200-54400 are fitted with a sealing cord made of porous rubber, and cover attachment to the base is carried out using special flexible ears.

Conventional dimension, mm	Overall dimension (AxBxH), mm	Number of glands, pcs	Maximum diameter, mm	Wholesale package		Retail package	
				number, pcs	code	q-ty, pcs (pack x pcs)	code
100x100x50	114x114x62	6	25	78	53800	8 (8x1)	53800R
120x80x50	134x94x62	6	25	84	53900	8 (8x1)	53900R
150x110x70	165x124x84	10	25	42	54000	-	-
190x140x70	204x159x84	10	32	31	54100	-	-
240x190x90	254x199x102	10	32	18	54200	-	-
240x190x90	254x199x102	8	2x40 + 6x32	18	54201	-	-
240x190x90	254x199x102	2	40	18	54202	-	-
300x220x120	312x239x132	10	40	10	54300	-	-
380x300x120	409x304x130	12	40	6	54400	-	-

Junction boxes with smooth walls, IP56

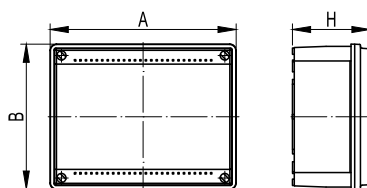


Characteristics:

- entry of tubes and cable into boxes is carried out using couplings and cable clamps (ordered separately);
- covers of boxes 53810-54110 have a seamless seal made of foamed polyurethane, and cover attachment to the base is carried out using a retainer of anchor type;
- covers of boxes 54210-54410 are fitted with a sealing cord made of porous rubber, and cover attachment to the base is carried out using special flexible ears.

Conventional dimension, mm	Overall dimension (AxBxH), mm	Wholesale package		Retail package	
		q-ty, pcs	code	q-ty, pcs (pack x pcs)	code
100x100x50	114x114x62	105	53810	8 (8x1)	53810R
120x80x50	134x94x62	108	53910	10 (10x1)	53910R
150x110x70	165x124x84	42	54010	-	-
190x140x70	204x159x84	35	54110	-	-
240x190x90	254x199x102	18	54210	-	-
300x220x120	312x239x132	12	54310	-	-
380x300x120	409x304x130	8	54410	-	-

Junction boxes with smooth walls and low transparent cover, IP56

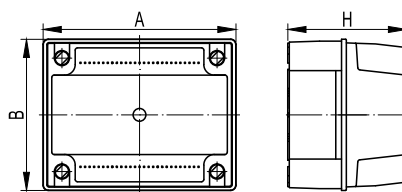


Characteristics:

- entry of tubes and cable into boxes is carried out using couplings and cable clamps (ordered separately);
- covers of boxes have a seamless seal made of foamed polyurethane, and cover attachment to the base is carried out using a retainer of anchor type;
- transparent cover;
- protection degree is IP56.

Conventional dimension, mm	Overall dimension (AxBxH), mm	Package, pcs	Code
120x80x50	134x94x62	1	53920
150x110x70	165x124x84	1	54020
190x140x70	204x159x84	1	54120
240x190x90	254x199x102	1	54220
300x220x120	312x239x132	1	54320
380x300x120	409x304x130	1	54420

Junction boxes with smooth walls and high cover, IP56

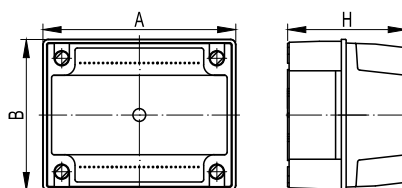


Characteristics:

- high cover expands the inner space of a box;
- entry of tubes and cable into boxes is carried out using couplings and cable clamps (ordered separately);
- box covers are fitted with a sealing cord made of porous rubber;
- covers of boxes 54030 and 54130 are attached using metal screw nails.

Conventional dimension, mm	Overall dimension (AxBxH), mm	Package, pcs	Code
150x110x135	154x114x141	1	54030
190x145x135	195x150x140	1	54130

Junction boxes with smooth walls and high cover, IP56

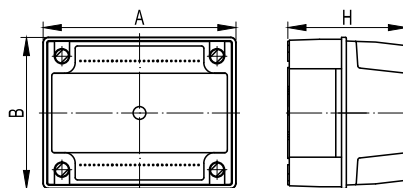


Characteristics:

- high cover expands the inner space of a box;
- entry of tubes and cable into boxes is carried out using couplings and cable clamps (ordered separately);
- box covers are fitted with a sealing cord made of porous rubber;
- cover attachment to the box base is carried out using flexible ears.

Conventional dimension, mm	Overall dimension (AxBxH), mm	Package, pcs	Code
240x190x160	255x199x168	1	54230
300x220x180	312x239x211	1	54330
380x300x180	409x304x244	1	54430

Junction boxes with smooth walls and high transparent cover, IP56.

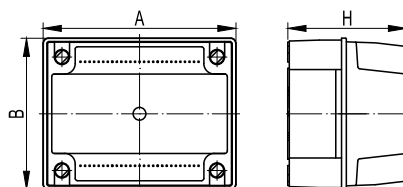


Characteristics:

- high cover expands the inner space of a box;
- entry of tubes and cable into boxes is carried out using couplings and cable clamps (ordered separately);
- box covers are fitted with a sealing cord made of porous rubber;
- covers of boxes 54040 and 54140 are attached using metal screw nails.

Conventional dimension, mm	Overall dimension (AxBxH), mm	Package, pcs	Code
150x110x135	154x114x141	1	54040
190x145x135	195x150x140	1	54140

Junction boxes with smooth walls and high transparent cover, IP56.

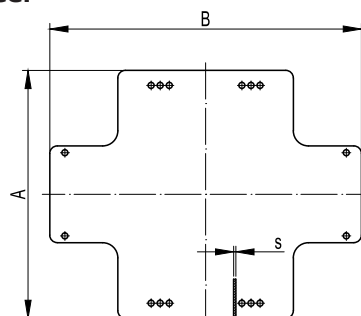


Characteristics:

- high cover expands the inner space of a box;
- entry of tubes and cable into boxes is carried out using couplings and cable clamps (ordered separately);
- box covers are fitted with a sealing cord made of porous rubber;
- cover attachment to the box base is carried out using special flexible ears.

Conventional dimension, mm	Overall dimension (AxBxH), mm	Package, pcs	Code
240x190x160	255x199x168	1	54240
300x220x180	312x239x211	1	54340
380x300x180	409x304x244	1	54440

Mounting plates made of galvanized steel



Purpose:

- installation of equipment inside junction boxes.

Characteristics:

- material is galvanized steel.

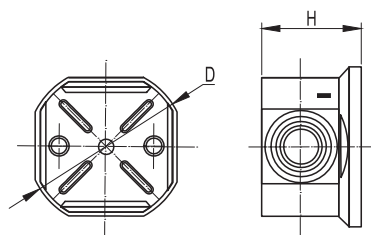
For boxes with dimensions, mm	Overall dimension (AxBxS), mm	Package, pcs	Code
190x140	161x121x1.3	10	59606
240x190	206x164x1.5	10	59607
300x220	270x198x1.5	10	59608
380x300	340x255x2	10	59609

Junction boxes with a latched cover

Distinctive features:

- a cover that latches on the enclosure ensures quick installation and service of the box, and it also protects it from penetration by solid particles with diameter of 1 mm and water spray;
- cable glands make it possible to insert rigid, corrugated tubes, as well as a cable with diameter of 20 mm into a box, and they provide IP44 degree of protection;
- high shock resistance;
- wholesale and retail packages.

Round junction boxes with cable glands, IP44

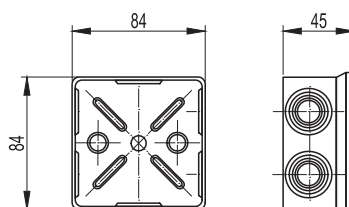


Characteristics:

- 4 glands for entry of tubes and cable with maximum diameter of 20 mm
- 3 latches for attachment of cover;
- 2 guiding ways for attachment of terminal blocks on the bottom of 53500 box;
- 4 guiding ways for attachment of terminal blocks on the bottom of 53600 box;
- the diameter of the screw nail for attachment of terminal blocks is 2.5-3 mm.

Conventional dimension, mm	Overall dimension (DxH), mm	Number of glands, pcs	Max. diameter, mm	Wholesale package		Retail package	
				q-ty, pcs	code	q-ty, pcs (pack x pcs)	code
D65x35	D66x40	4	20	24	53500	24 (24x1)	53500R
D80x40	D88x43	4	20	20	53600	20 (20x1)	53600R

Square junction box with cable glands, IP44

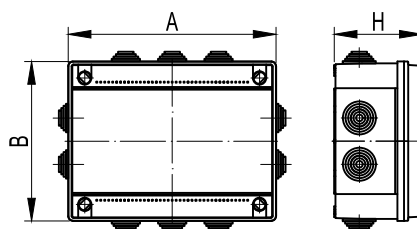


Characteristics:

- six glands for entry of tubes and cable with maximum diameter of 20 mm;
- eight latches for attachment of cover;
- four guiding ways for attachment of terminal blocks on the bottom of the box;
- the diameter of the screw nail for attachment of terminal blocks is 2.5-3 mm.

Conventional dimension, mm	Overall dimension, mm	Number of glands, pcs	Max. diameter, mm	Wholesale package		Retail package	
				q-ty, pcs	code	q-ty, pcs (pack x pcs)	code
80x80x40	84x84x45	6	20	20	53700	20 (20x1)	53700R

Junction box with cable glands of FS series made of thermoplastic

**Purpose:**

- connection and branching of wires and cables maintaining their functional ability in case of fire.

Installation conditions:

- indoors and outdoors under a shed.

Characteristics:

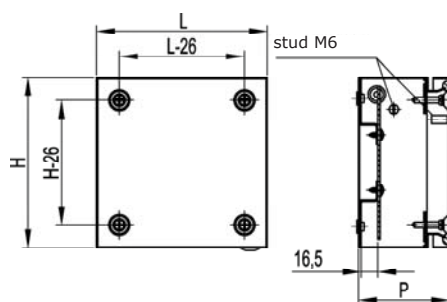
- material is special thermoplastic;
- protection degree is IP55/IP56;
- color is orange RAL 2003.

Complete set:

- ceramic terminal blocks;
- fire resistant anchors for installation on any base.

Time of functional ability at least, min	Connecting capacity			Box housing				Package, pcs	Code of FS series box	
	number of poles	wire section, mm ²	current, A	conventional dimension, mm	overall dimension (AxBxH), mm	number of glands, pcs	maximum diameter, mm		with smooth walls	with cable glands
45	4	4	6	100x100x50	114x114x62	6	25	1	FSB10404	FSB11404
45	6	4	6	100x100x50	114x114x62	6	25	1	FSB10604	FSB11604
45	5	6	10	100x100x50	114x114x62	6	25	1	FSB10506	FSB11506
45	5	10	20	100x100x50	114x114x62	6	25	1	FSB10510	FSB11510
45	5	16	30	150x110x70	165x124x84	10	25	1	FSB20516	FSB21516
90	4	10	32	150x110x70	165x124x84	10	25	1	FSK20410	FSK21410
90	6	10	32	240x190x90	254x199x102	10	32	1	FSK40610	FSK41610

Junction box with cable glands of FS series made of steel

**Purpose:**

- connection and branching of wires and cables maintaining their functional ability in case of fire.

Installation conditions:

- indoors and outdoors under a shed.

Characteristics:

- the material is steel;
- protection degree is IP55/IP66;
- color is orange RAL 2003.

Complete set:

- ceramic terminal blocks;
- fire resistant anchors for installation on any base.

Functional ability at least, min	Connecting capacity			Box housing			Package, pcs	Code of FS series box	
	number of poles	wire section, mm ²	current, A	overall dimension (LxHxP), mm	number of glands, pcs	maximum diameter, mm		with smooth walls	with cable glands
45	4	4	6	150x150x80	8	32	1	FSB30404	FSB31404
45	6	4	6				1	FSB30604	FSB31604
45	5	6	10				1	FSB30506	FSB31506
45	5	10	20				1	FSB30510	FSB31510
45	5	16	30				1	FSB30516	FSB31516
90	4	10	32				1	FSK30410	FSK31410
90	6	10	32				1	FSK30610	FSK31610

Installation options for FS series junction boxes

Wall mounting



All elements included in the kit are shown in the figure

Installation of FS box made of steel on a bracket



Description of mounting element	Q-ty, pcs	Code
Wall mounting bracket kit	1	R5A50

Installation on a tray side



Description of mounting element	Q-ty, pcs	Code
Vertical mounting plate	1	LP3000
M6 serrated flange nut preventing unscrewing	4	CM100600
M6x10 Phillips screw	2	CM010610
M6x45 hexagon bolt	2	CM080645

Installation on a cable ladder cross beam



Description of mounting element	Q-ty, pcs	Code
Vertical mounting plate	1	LP4000
M6 serrated flange nut preventing unscrewing	4	CM100600
M6x10 Phillips screw	2	CM010610
M6x45 hexagon bolt	2	CM080645

Selection table

Summary table of accessories for entry of tubes and cable into boxes with smooth walls



Junction box with smooth walls	Cable gland			"Tube-box" coupling			"Reinforced tube box" adapter			"Flexible tube-box" coupling			Cable clamp with a lock nut		
Code	Code	Ø hole, mm	q-ty/ pcs (max)	Code	Ø hole, mm	q-ty/ pcs (max)	Code	Ø hole, mm	q-ty/ pcs (max)	Code	Ø hole, mm	q-ty/ pcs (max)	Code	Ø hole, mm	q-ty/ pcs (max)
53810	54520 54525	25 32	8 8	50216 50220 50225	16 20 25	8 8 8	55110	13	8	57116 57120 57125	16 22 26	8 8 6	52500	12.5	8
							55112	16	8				52600	15.2	8
							55114	22	8				52700	18.6	8
							55116	22	8				52800	20.4	8
							55120	26	8				52900	22.5	6
							55122	26	4						
53910 53920	54520 54525	25 32	8 6	50216 50220 50225	16 20 25	8 8 6	55110	13	10	57116 57120 57125	16 22 26	10 8 6	52500	12.5	10
							55112	16	10				52600	15.2	10
							55114	22	8				52700	18.6	8
							55116	22	8				52800	20.4	8
							55120	26	6				52900	22.5	6
							55122	26	6						
54010 54020 54030 54040	54520 54525 54532	25 32 40	10 10 6	50216 50220 50225 50232 50240	16 20 25 32 40	10 10 10 6 6	55110	13	16	57116 57120 57132	16 22 34	12 10 10 6	52500	12.5	16
							55112	16	12				52600	15.2	12
							55114	22	10				52700	18.6	10
							55116	22	10				52800	20.4	10
							55120	26	10				52900	22.5	10
							55122	26	10				53000	28.3	6
54110 54120 54130 54140	54520 54525 54532	25 32 40	12 12 10	50216 50220 50225 50232 50240	16 20 25 32 40	14 12 12 10 6	55110	13	20	57116 57120 57125 57132	16 22 26 34	16 12 12 10	52500	12.5	20
							55112	16	16				52600	15.2	16
							55114	22	12				52700	18.6	12
							55116	22	12				52800	20.4	12
							55120	26	12				52900	22.5	12
							55122	26	12				53000	28.3	10
54210 54230 54240	54520 54525 54532 54540	25 32 40 50	14 12 10 10	50216 50220 50225 50232 50240 50250	16 20 25 32 40 50	14 12 10 10 6 6	55110	13	28	57116 57120 57125 57132 57140	16 22 26 34 42	20 16 16 12 10	52500	12.5	28
							55112	16	20				52600	15.2	20
							55114	22	16				52700	18.6	16
							55116	22	16				52800	20.4	16
							55120	26	16				52900	22.5	16
							55122	26	16				53000	28.3	12
54310 54330 54340	54520 54525 54532 54540	25 32 40 50	40 36 10 10	50216 50220 50225 50232 50240 50250	16 20 25 32 40 50	40 40 40 36 10 6	55110	13	48	57116 57120 57125 57132 57140 57150	16 22 26 34 42 60	48 32 28 12 8 6	52500	12.5	48
							55112	16	48				52600	15.2	48
							55114	22	32				52700	18.6	32
							55116	22	32				52800	20.4	32
							55120	26	28				52900	22.5	28
							55122	26	28				53000	28.3	12
54410 54430 54440	54520 54525 54532 54540	25 32 40 50	44 40 12 12	50216 50220 50225 50232 50240 50250	16 20 25 32 40 50	44 44 40 36 12 8	55110	13	52	57116 57120 57125 57132 57140 57150	16 22 26 34 42 60	52 36 32 14 10 8	52500	12.5	52
							55112	16	52				52600	15.2	52
							55114	22	36				52700	18.6	36
							55116	22	36				52800	20.4	36
							55120	26	32				52900	22.5	32
							55122	26	32				53000	28.3	26

Installation of junction boxes

Arrangement of entry of tubes and cable into boxes

Entry into boxes with cable glands



1 stage. Cut off the cable gland



2 stage. Entry of a corrugated and rigid tube



3 stage. Cable entry

Entry into boxes with smooth walls



1 stage. Bore holes of required diameter



2 stage. Install the accessories into the box



3 stage. Enter a tube and a cable

Accessories for boxes with smooth walls

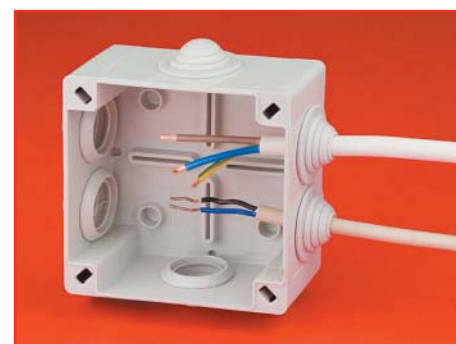
They are designed for entry into a box and for sealing of cables, smooth, corrugated and reinforced tubes



1 stage. Cable gland for tubes, IP55



2 stage. Entry of smooth and corrugated tubes



3 stage. Cable entry



1 stage. "Tube-junction box" coupling, IP67



2 stage. Entry of smooth tubes



3 stage. Entry of corrugated PVC tubes of series 9

Installation examples

Entry into junction boxes



"Reinforced tube-box" adapter, IP65



Entry of reinforced tubes



"Flexible tube-box" coupling, IP65



Entry of smooth tubes at a random angle



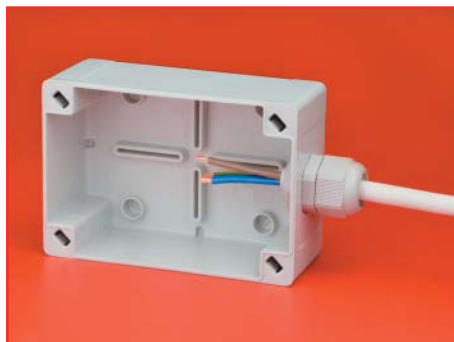
Cable clamp with lock nut, IP68



Entry of smooth tubes



Entry of corrugated tubes



Cable entry

Pinout arrangement inside junction boxes

Application of standard terminal blocks made of polyamide 6.6

Application of cost-effective polypropylene or high-temperature fiberglass terminal blocks.



Number of terminals, pcs	Wire section mm ²	Current, A	Code
12	2.5	24	43112NY
2	2.5	24	43102NY
3	2.5	24	43103NY
12	2.5	24	43212NY
12	4	32	43312NY
2	4	32	43302NY
3	4	32	43303NY
12	10	57	43412NY
12	16	76	43512NY
12	25	101	43812NY

Application of junction terminal blocks with 1 and 2 holes

More detailed information on terminal blocks is provided in section "Quadro" in catalog "Solutions for automation and information technologies".



Number of holes, pcs	Wire section mm ²	Number of wires, pcs	Code
1	2.5	2	B25
	4	2	B40
	6	2	B60
	10	2	B100
	16	2	B160
	25	2	B250
2	35	2	B350
	6	2	B42
	16	2	B62
	25	2	B102
	35	2	B162

Application of junction terminal blocks with 3 and 5 holes

More detailed information on terminal blocks is provided in section "Quadro" in catalog "Solutions for automation and information technologies".



Number of holes, pcs	Wire section mm ²	Number of wires, pcs	Code
3	6	3	B63
	16	3	B163
	25	3	B253
5	6	5	B65
	16	5	B165
	25	5	B255

Application of junction terminal blocks with 3 and 5 holes

More detailed information on terminal blocks is provided in section "Quadro" in catalog "Solutions for automation and information technologies".

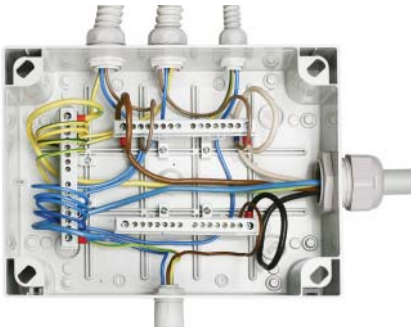


Number of terminals, pcs	Wire section mm ²	Current, A	Code
3	1.5-2.5	16	B 273/3
4	1.5-2.5	16	B 273/4
5	1.5-2.5	16	B 273/5

Application of fuse holders



54110+87308 (2 pcs.)



54310+87308 (3 pcs)

More detailed information on terminal blocks is provided in section "Quadro" in catalog "Solutions for automation and information technologies".

Name	Current, A	Code
Fuse holder (2x87408 + supports) complete with fasteners	160	87508
Fuse holder (2x87412 + supports) complete with fasteners	160	87512
Fuse holder (2x87418 + supports) complete with fasteners	160	87518
Reinforced fuse holder (2x87108) complete with fasteners	125	87308
Reinforced fuse holder (2x87112) complete with fasteners	125	87312
Reinforced fuse holder (2x87118) complete with fasteners	125	87318

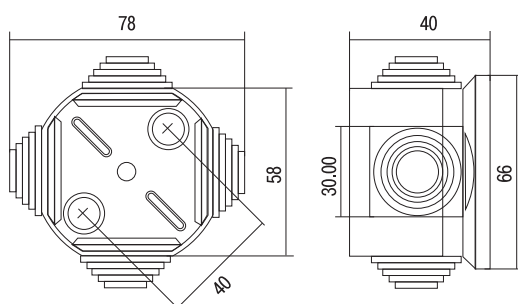
Recommended fuse holder installation options

A fuse holder shall be attached using self-tapping screws (included in the kit) on special profiles located on the bottom of a box. It is possible to order terminal and fuse holders separately for non-standard solutions.

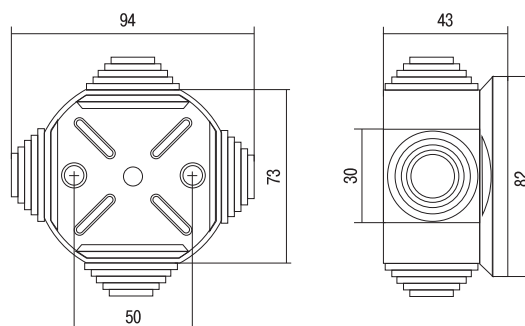
Boxes	Installation option	Code/Q-ty	Number of buses	Number of holes
54100, 54110, 54120, 54200, 54210, 54220	1 (160 A)	87308 – 2 pcs	3+1	8x4
	2 (125 A)	87508 – 2 pcs	3+1	8x4
54300, 54310, 54320	1 (160 A)	87308 – 3 pcs	5+1	8x6
	2 (125 A)	87508 – 3 pcs	5+1	8x6
	3 (160 A)	87312 – 2 pcs	3+1	13x4
	4 (125 A)	87512 – 2 pcs	3+1	13x4
54400, 54410, 54420	1 (160 A)	87308 – 3 pcs	5+1	8x6
	2 (125 A)	87508 – 3 pcs	5+1	8x6
	3 (160 A)	87312 – 3 pcs	5+1	13x6
	4 (125 A)	87512 – 3 pcs	5+1	13x6

Drawings

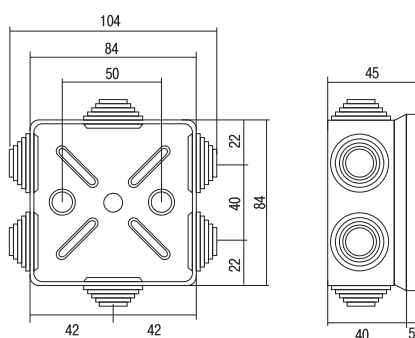
Junction boxes



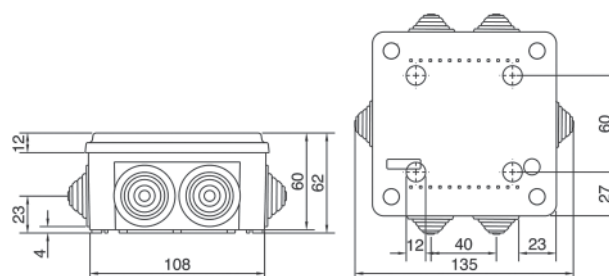
53500



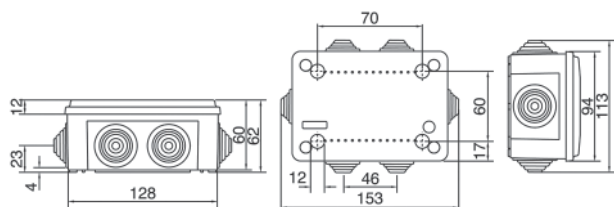
53600



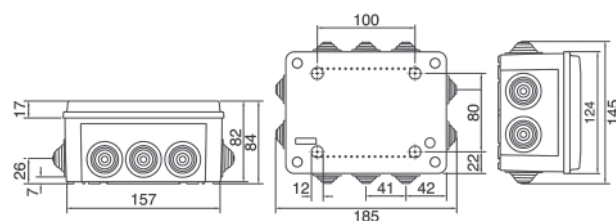
53700



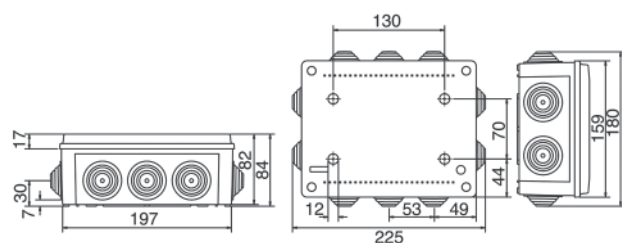
53800



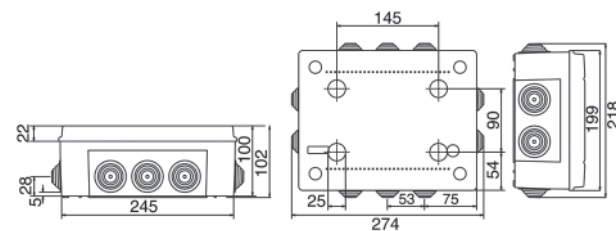
53900



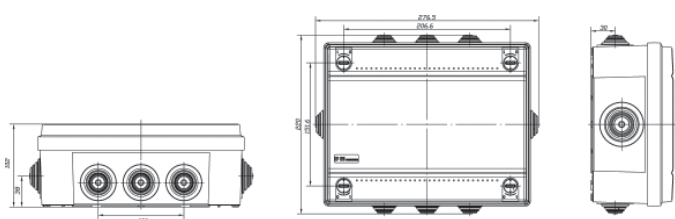
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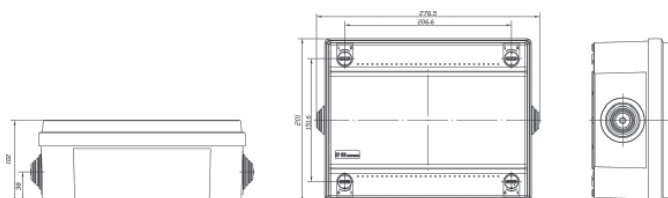
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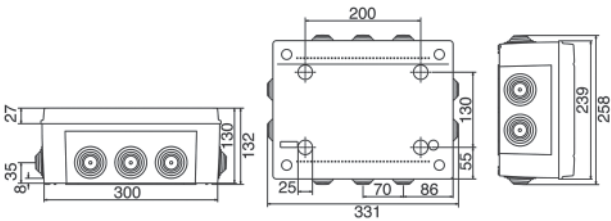


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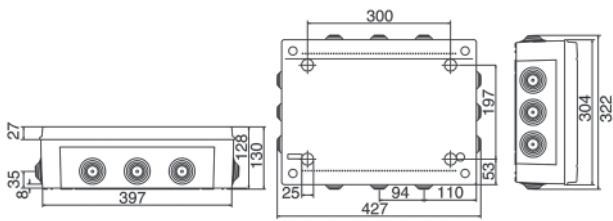


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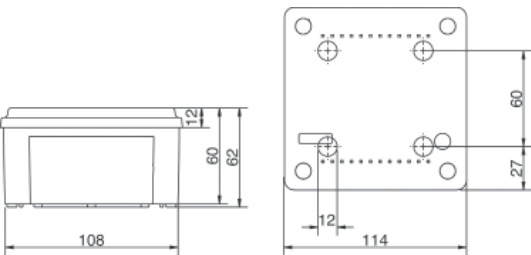
Junction boxes



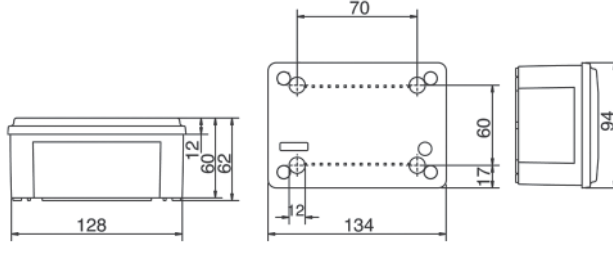
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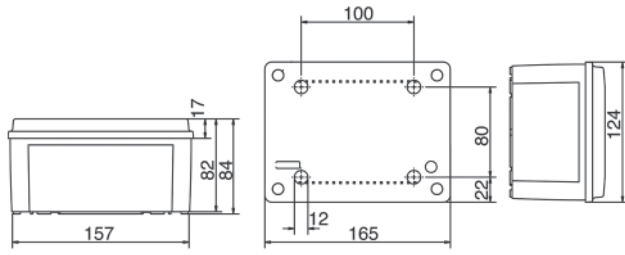
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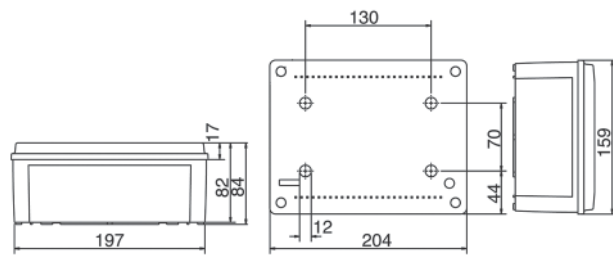
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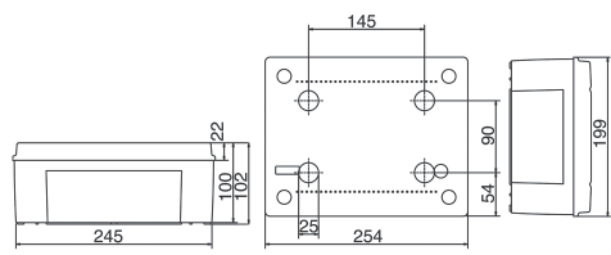
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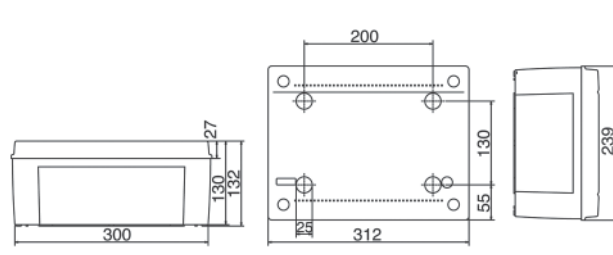
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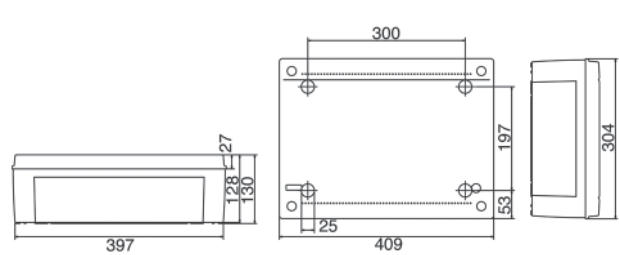
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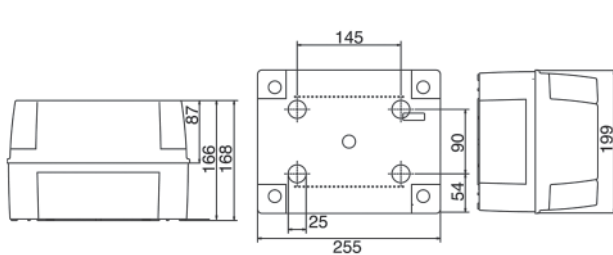
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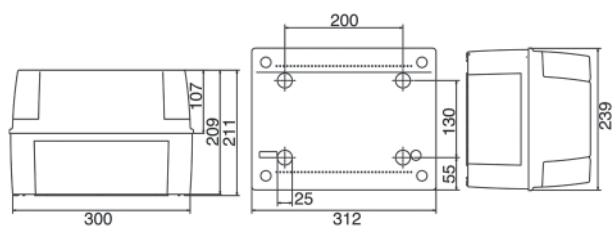
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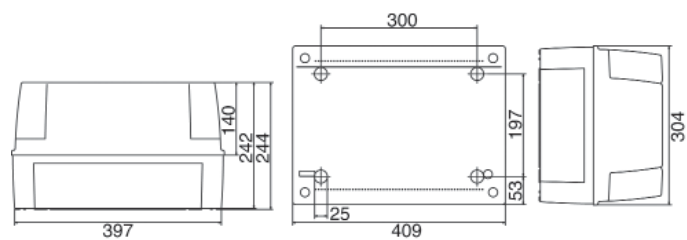
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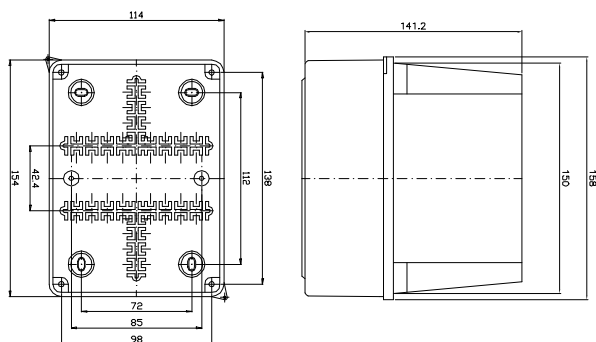
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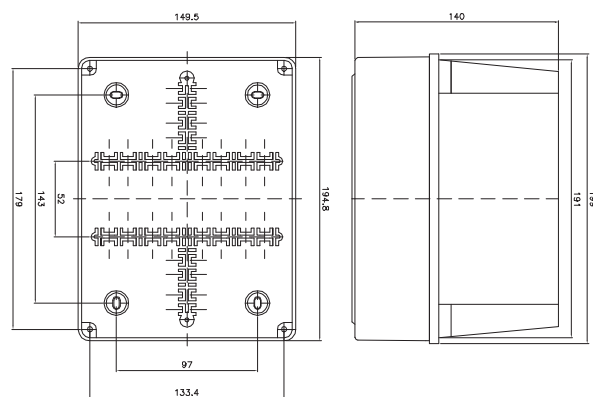
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54430/54440

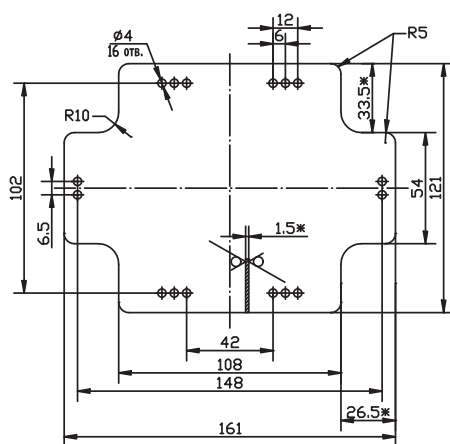


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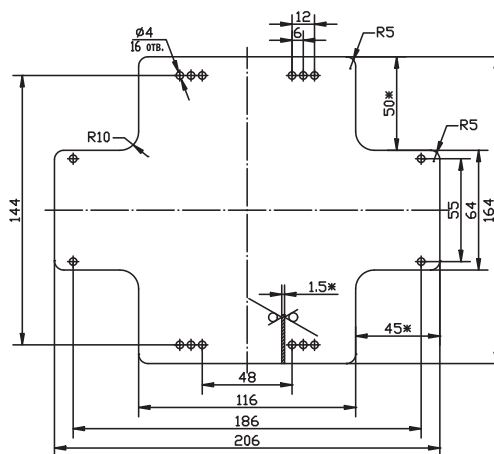


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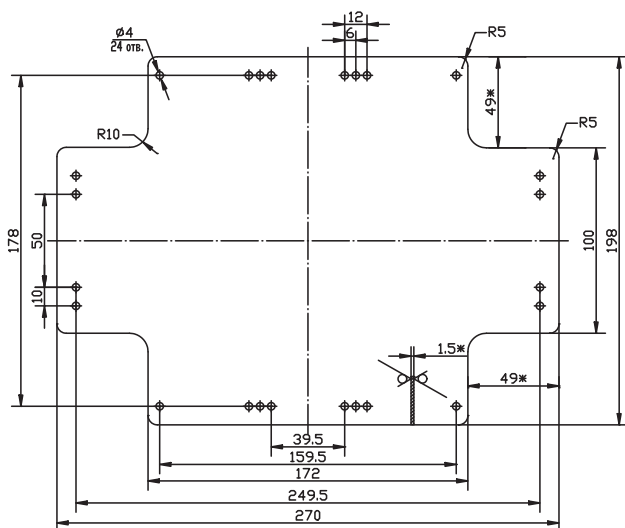
Mounting plates



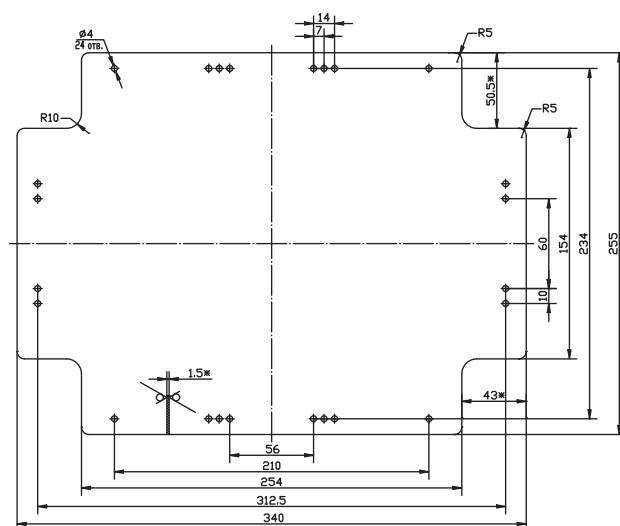
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59608



59609



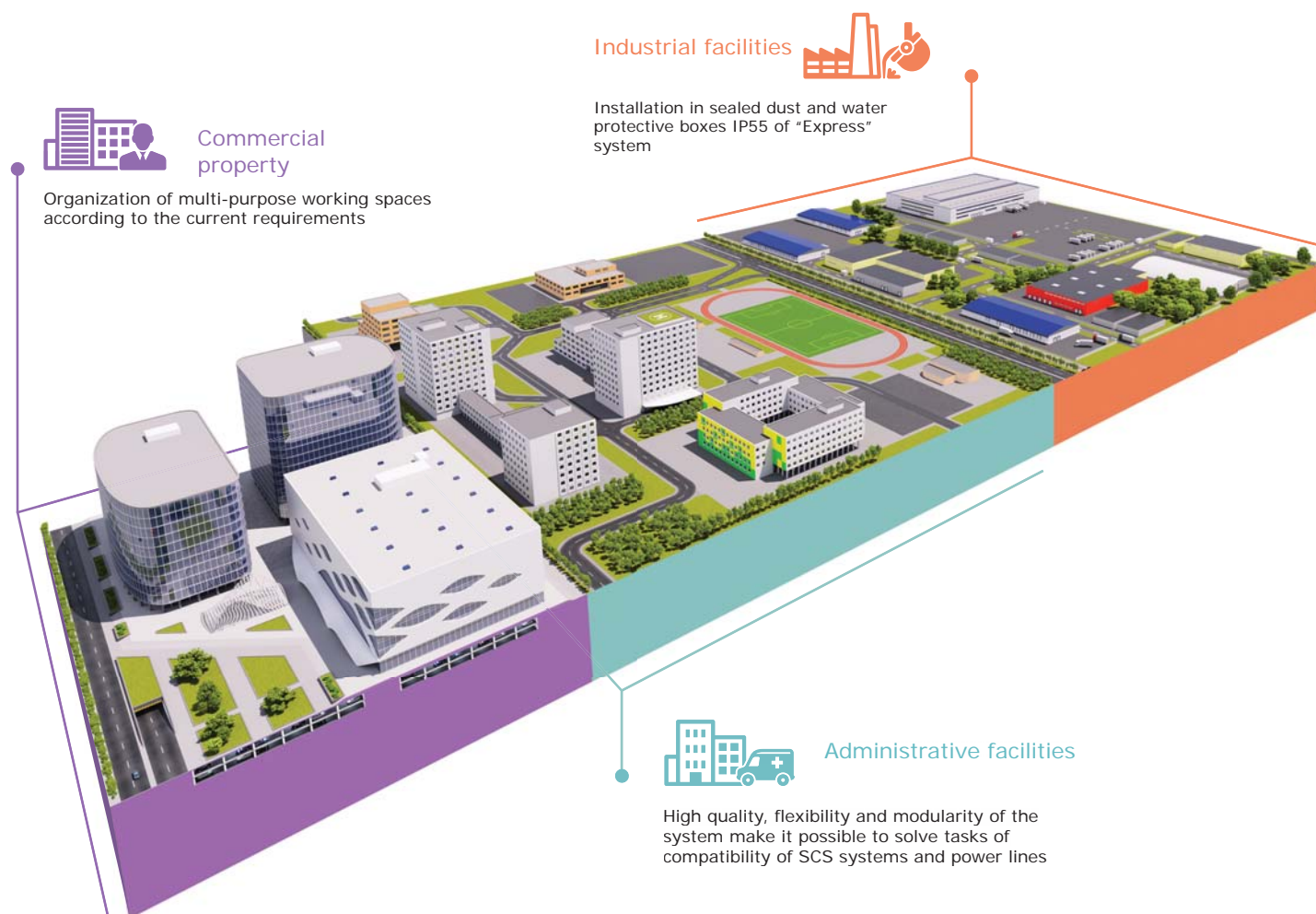
Wiring devices "Viva"

Wiring devices and accessories "Viva"	144
System features	145
Wiring devices.....	146
Accessories	149
Compatibility table	150

Wiring devices and accessories "Viva"

Application

Wiring devices "Viva" are designed for organization of a working space on the walls in boxes of "Express", "In-liner Classic" series, in cable ducts of "In-liner Classic", "In-liner Front" and "In-liner Aero" series, as well as on the floor in minitowers and aluminium columns.



System features



Installation of WDs in sealed dust and water protective boxes IP55

Boxes of "Express" system with IP55 are used in industrial premises and outdoors



Installation WDs in "In-liner Classic" surface-mounted boxes

Wide range of boxes, possibility of miniduct laying



Installation in cable ducts

Using the supporting carriers for installation in ducts of "In-liner Classic" series; using frames and carriers for installation in ducts of "In-liner Front" and "In-liner Aero" series

System composition

Sockets and adapters:

- electric power sockets;
- telephone sockets;
- computer sockets;
- adapters for communication sockets.

Switches:

- switches without backlight;

Accessories:

- plugs.

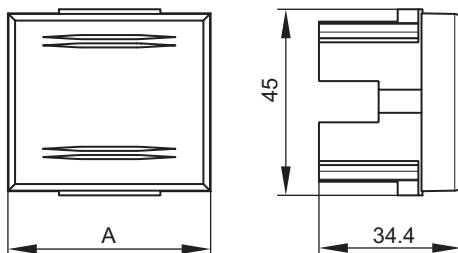
Characteristics

Technical characteristics

Characteristics	Values
Material	heat and shock-resistant polycarbonate, fireproof (according to GOST 12.1004, section 1), resistant to aging
Standards	GOST R 51324.1-99 (IEC 60669-1-98); GOST R 51322.1-99 (IEC 60884-1-94); GOST 14254-96 (IEC 529-89); GOST 7396.1-89 (IEC 83-75); GOST 12.2.007.0; GOST 9.005; GOST R 50827-95 (IEC 670-89)
Protection degree	IP20 according to GOST 14254
Climatic version	UKHL3 according to GOST 15150. It is recommended to use wiring devices indoors
Mounting temperature	from -5 to +60 °C
Applications	outdoor installation, cable ducts, minitowers, columns, boxes
Difference of "Viva" WDs from "Brava" WDs	<ul style="list-style-type: none"> • installation: "Viva" WDs are installed in cable ducts and boxes IP55; "Brava" WDs are mounted in cable ducts and into walls; • design: "Viva" WDs have flat surface; "Brava" WDs have waves and decorative fixtures; • mechanism installation: "Viva" WDs are latched in frames or supporting carriers on the outside; "Brava" WDs are latched on the inside. • wiring to mechanisms of electric power sockets: on two sides for "Viva" WDs; on the rear for "Brava" WDs.

Wiring devices

Switches 16 A, 250 V


Purpose:

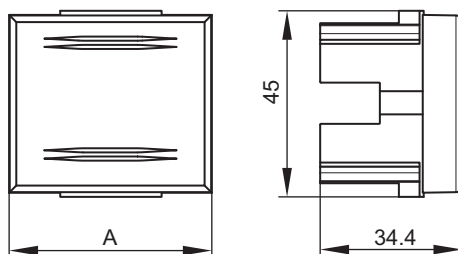
- lighting system switch-on/off.

Characteristics:

- rated current is 16 A;
- rated voltage is 250 V.

Number of modules	Installation dimension, mm	Dimension A, mm	Weight, kg/pce	Color	Code
1	45x25	25	0.035	white	45011
2	45x50	49	0.046	white	45021
				gray	45031

Switches 16 A, 250 V


Purpose:

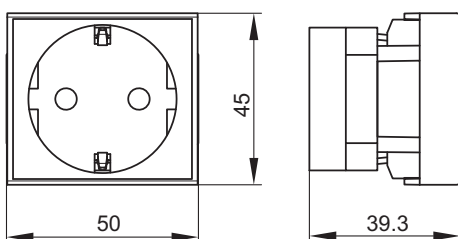
- lighting system switching.

Characteristics:

- rated current is 16 A;
- rated voltage is 250 V.

Number of modules	Installation dimension, mm	Dimension A, mm	Weight, kg/pce	Color	Code
1	45x25	25	0.035	white	45012
2	45x50	49	0.046	white	45022

Electric power sockets, male, with grounding and shutters


Purpose:

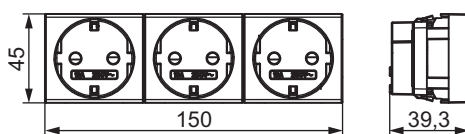
- connection of office machines and equipment, household devices, etc.

Characteristics:

- conformity to PUE, clause 7.1.49 – equipped with protective shutters that automatically close jacks of outlet socket when the plug is removed;
- grounding is available;
- diameter of holes for cable entry – 3 mm (2 hole per terminal);
- rated current is 16 A;
- rated voltage is 250 V.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
2	45x50	0.059	white	45005
			red	45015
			gray	45025
			black	45205

Electric sockets, male, with grounding and shutters, monoblock



Purpose:

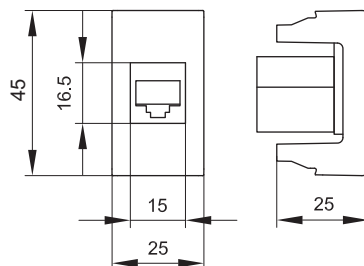
- connection of office machines and equipment, household devices, etc.;
- 60% time saving during cable connection.

Characteristics:

- block has only 3 terminals for cable connection; all 3 sockets are connected with one terminal;
- grounding is available;
- diameter of holes for cable entry is 3 mm (2 holes per terminal);
- conformity to PUE, clause 7.1.49 – equipped with automatically closing shutters;
- rated current is 16 A (for entire block);
- rated voltage is 250 V.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
6	45x150	0.059	white	45003
			red	45013
			gray	45023
			black	45203

HDMI and USB sockets with 1 connector, 1 module



Purpose:

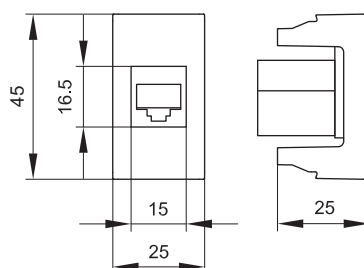
- connection of necessary cable to TV, plasma panel, film reader, computer and other office machines and equipment.

Characteristics:

- bulkhead connector of A-A or "female-female" type;
- completed with single-module jack;
- appropriate HDMI or USB cable will be required for connection of necessary equipment.

Description	Connector type	Jack type	Jack manufacturer	Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
HDMI	A-A	Keystone	Hyperline	1	43x43	0.040	white	41018
							gray	41118
							black	41218
USB 2.0	A-A	Keystone	Hyperline	1	43x43	0.040	white	42018
							gray	42118
							black	42218
USB 3.0	A-A	Keystone	Hyperline	1	43x43	0.040	white	43018
							gray	43118
							black	43218

Telephone sockets



Purpose:

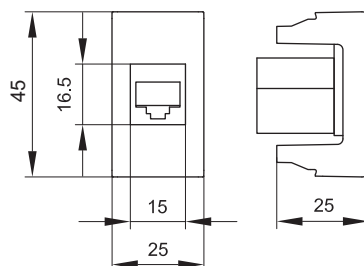
- connection of telephone cable.

Characteristics:

- 6P6C;
- completed with single-module jack;
- AMP jacks have shank for limitation of cable bend and tension;
- tool of 110 type is used for contact dressing into AMP sockets;
- NE-TOOL (Hyperline) tool is used for quick contact dressing into Hyperline sockets.

Description	Jack manufacturer	Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
RJ-11	AMP	1	45x25	0.026	white	45017
					gray	45117
					black	45217
RJ-12	Hyperline	1	45x25	0.026	white	45018
					gray	45118
					black	45218

Computer sockets



Purpose:

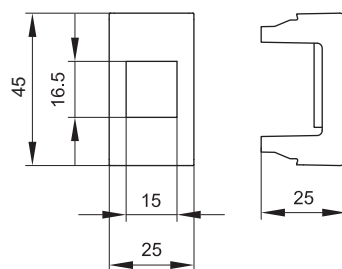
- cable connection to computer, printer and other office machines and equipment.

Characteristics:

- 8P8C;
- completed with single-module jack;
- AMP jacks have shank for limitation of cable bend and tension;
- tool of 110 type is used for contact dressing into AMP sockets;
- tool of 110 or Krone type is used for contact dressing into Hyperline sockets.

Description	Category	Jack type	Jack manufacturer	Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
RJ-45	5e	Keystone	AMP	1	45x25	0.026	white	45037
							gray	45137
							black	45237
			Hyperline	1	45x25	0.026	white	45038
							gray	45138
							black	45238
RJ-45	5e, shielded	Keystone	AMP	1	45x25	0.028	white	45047
							gray	45147
							black	45247
			Hyperline	1	45x25	0.028	white	45048
							gray	45148
							black	45248
RJ-45	6	Keystone	AMP	1	45x25	0.026	white	45057
							gray	45157
							black	45257
			Hyperline	1	45x25	0.026	white	45058
							gray	45158
							black	45258
RJ-45	6, shielded	Keystone	Hyperline	1	45x25	0.026	white	45068
							gray	45168
							black	45268
RJ-45	6A	Keystone	Hyperline	1	45x25	0.026	white	45078
							gray	45178
							black	45278

Adapters for communication sockets



Purpose:

- installation of RJ-11 and RJ-45 sockets.

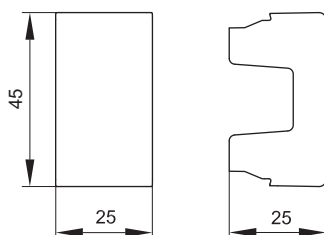
Characteristics:

- opening dimension for Siemon is 14.6x19.3 mm.

Jack type	List of some jack manufacturers of such type	Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
Keystone	AMP, Hyperline, Premium Line Systems GmbH, BICC Brand-Rex, KRONE Link, AESP Signamax, RiT Smart	1	45x25	0.008	white	45007
					gray	45107
					black	45207
Systimax	Avaya-Systimax, LUCENT	1	45x25	0.008	white	45006
Siemon	Siemon	1	45x25	0.008	white	45008
R&M	Reichle & De-Massari	1	45x25	0.008	white	45009

Accessories

Plugs

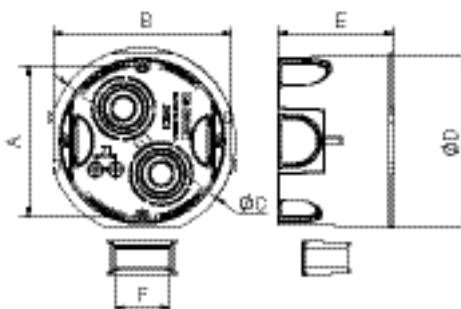


Purpose:

- decorative closing of empty and unused (including spare ones) apertures with size of 1 module.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	45x25	0.009	white	45016
			gray	45116
			black	45216

Socket box for in-situ walls



Purpose:

- for installation into walls.

Characteristics:

- material is polypropylene;
- mounting temperature is from -25 to +100 °C;
- double attachment of box by means of hooks and connecting "bridge";
- 6 holes for cable entry are from 10 to 25 mm;
- it is not necessary to cut connecting "bridge" in case of single installation of box.

Number of modules	Overall dimensions, mm						Weight, kg/pce	Color	Code
	A	B	C	D	E	F			
2	60	71	74	68	45	22	0.020	black	59301

Support for installation of "Viva" series WDs on a DIN rail or mounting plate



Purpose:

- installation of "Viva" series WDs in the systems of low-voltage equipment.


Characteristics:

- material is polycarbonate;
- compatible with DIN rail of OMEGA 3 and OMEGA 3A types.

Number of modules	Name	Weight, kg/pce	Color	Code
1	Support for installation of "Viva" series WDs on a DIN rail	0.015	gray	45127
2	Support for installation of "Viva" series WDs on a DIN rail	0.02	gray	45227

Compatibility table

Compatibility table of white boxes for open installation of "Viva" WDs on walls

Box versions	Q-ty of modules	Box code	Name	Frame and carrier code for installation of "Viva" WDs in box
	2	10033	PDD mounting box for 2 "Viva" modules	additional accessories for installation are not required
	2	10123	Universal PDD-N 60 mounting box for 2 "Viva" modules	frame assembly with carrier, code 10242
	4	10143	Universal PDD-N 120 mounting box for 4 "Viva" modules	frame assembly with carrier, code 10245

Miniducts of TMC type of "In-liner Classic" system or 70x22 and 90x25 mm skirting ducts of "In-liner Front" system may be laid to these ducts.

Compatibility table of gray boxes for open installation of "Viva" WDs on walls

Box versions	Protection degree	Q-ty of modules	Code	Name
	IP40	2	54640	modular surface-mounted box of "Express" system for "Viva" wiring devices and accessories IP40, 2 modules
		4	54740	modular surface-mounted box of "Express" system for "Viva" wiring devices and accessories IP40, 4 modules
	IP55	2	54655	modular surface-mounted box of "Express" system for "Viva" wiring devices and accessories IP55, 2 modules
		4	54755	modular surface-mounted box of "Express" system for "Viva" wiring devices and accessories IP55, 4 modules

Tubes of "Express" system may be laid to these ducts. Additional accessories for WD installation in boxes are not required.

Compatibility and conformity tables of installation components of "In-liner Classic" series with adapters of "Viva" series and SCS communication sockets

All computer/telephone sockets of "Viva" series are completed with modular connectors. "Viva" series assortment includes adapters for modular connector installation. Installation procedure: modular connectors are installed in adapter by latching, then the device is installed in duct (also by latching) using supporting carrier or in boxes.

Communication sockets	Supporting carriers			Mounting boxes			Adapters for "Viva" modules			
	PDA-DN	PDA-45N	PDA-GN	PDD	PDM	PDG	"Keystone"	"Systimax"	"Siemon"	"R&M"
	45x50 mm "Viva"	45x45 mm "Mosaic"	45X46.5 mm "Gewiss System"	45x50 mm "Viva"	45x45 mm "Mosaic"	45X46.5 mm "Gewiss System"	45x50 mm "Viva"	45x50 mm "Viva"	45x50 mm "Viva"	45x50 mm "Viva"
AMP 110 Connect	+	-	+	+	-	+	+	-	-	-
AMP CO	-	+	-	-	+	-	-	-	-	-
BICC Brand-Rex	+	-	+	+	-	+	+	-	-	-
AVAYA Systimax	+	-	+	+	-	+	-	+	-	-
KRONE Link	+	-	+	+	-	+	+	-	-	-
AESP Signamax	+	-	+	+	-	+	+	-	-	-
RiT Smart	+	-	+	+	-	+	+	-	-	-
REICHLE & DE-MASSARI FreeNet	+	-	-	+	-	-	-	-	-	+
SIEMON Cabling System	+	-	-	+	-	-	-	-	+	-
MOLEX PN	-	+	-	-	+	-	-	installation in MOLEX adapter	-	-
PANDUIT Pan-Net	-	+	-	-	+	-	-	installation in PANDUIT adapter	-	-
ITT Cannon	-	+	-	-	+	-	-	installation in ITT adapter	-	-

Compatibility table of frames for "Viva" WD installation in BUS minitowers

Q-ty of modules	Code	Name	Six-module frames for "Viva" WD installation in BUS minitowers of "In-liner Front" system		
			color	code	required number, pcs
6	09050	BUS minitower, 12 modules, white	in case of WD installation on 1 side of minitower		
			white	F0003A	1
12	09050	BUS minitower, 12 modules, white	in case of WD installation on 2 sides of minitower		
			white	F0003A	2
6	09051	vertical extension of BUS minitower, 12 modules, white	in case of WD installation on 1 side		
			white	F0003A	1
12	09051	vertical extension of BUS minitower, 12 modules, white	in case of WD installation on 2 sides		
			white	F0003A	2
6	09070	floor-mounted BUS minitower, 12 modules, gray	in case of WD installation on 1 side of minitower		
			gray	F1003A	1
12	09070	floor-mounted BUS minitower, 12 modules, gray	in case of WD installation on 2 sides of minitower		
			gray	F1003A	2
6	09071	vertical extension of floor-mounted BUS minitower, 12 modules, gray	in case of WD installation on 1 side		
			gray	F1003A	1
12	09071	vertical extension of floor-mounted BUS minitower, 12 modules, gray	in case of WD installation on 2 sides		
			gray	F1003A	2
6	09090	floor-mounted BUS minitower, 12 modules, black	in case of WD installation on 1 side of minitower		
			black	F0003AB	1
12	09090	floor-mounted BUS minitower, 12 modules, black	in case of WD installation on 2 sides of minitower		
			black	F0003AB	2
6	09091	vertical extension of floor-mounted BUS minitower, 12 modules, black	in case of WD installation on 1 side		
			black	F0003AB	1
12	09091	vertical extension of floor-mounted BUS minitower, 12 modules, black	in case of WD installation on 2 sides		
			black	F0003AB	2

There is no need to order carriers for WD installation in BUS minitowers as they are supplied complete with minitower. Minitower and extension are double-sided; in case of WD installation on one side plug shall be used for the other side (supplied complete with them).

Compatibility table of supporting carriers for "Viva" WD installation in "In-liner Classic" ducts

Duct code	Duct name of "In-liner Classic" system	Number of modules of working space	Code of supporting carrier	Name of supporting carrier for WD installation in "In-liner Classic" surface-mounted duct
00323	TA-EN 25x30 duct with cover	–	–	–
00324	TA-EN 40x40 duct with cover	–	–	–
01780	TA-GN 60x40 duct with cover	–	–	–
01781	TA-GN 80x40 duct with cover	2	10043	PDA-DN 80 supporting carrier for 2 "Viva" modules
		6	10343	PDA-3DN 80 supporting carrier for 6 "Viva" modules
01782	TA-GN 100x40 duct with cover	2	10053	PDA-DN 100 supporting carrier for 2 "Viva" modules
		6	10353	PDA-3DN 100 supporting carrier for 6 "Viva" modules
01783	TA-GN 120x40 duct with cover	2	10063	PDA-DN 120 supporting carrier for 2 "Viva" modules
		6	10363	PDA-3DN 120 supporting carrier for 6 "Viva" modules
01784	TA-GN 60x60 duct with cover	–	–	–
01785	TA-GN 80x60 duct with cover	2	10043	PDA-DN 80 supporting carrier for 2 "Viva" modules
		6	10343	PDA-3DN 80 supporting carrier for 6 "Viva" modules
01786	TA-GN 100x60 duct with cover	2	10053	PDA-DN 100 supporting carrier for 2 "Viva" modules
		6	10353	PDA-3DN 100 supporting carrier for 6 "Viva" modules
01787	TA-GN 120x60 duct with cover	2	10063	PDA-DN 120 supporting carrier for 2 "Viva" modules
		6	10363	PDA-3DN 120 supporting carrier for 6 "Viva" modules
01788	TA-GN 150x60 duct with cover	2	10073	PDA-DN 150 supporting carrier for 2 "Viva" modules
01789	TA-GN 200x60 duct with cover	–	–	–
01790	TA-GN 100x80 duct with cover	2	10053	PDA-DN 100 supporting carrier for 2 "Viva" modules
		6	10353	PDA-3DN 100 supporting carrier for 6 "Viva" modules
01791	TA-GN 120x80 duct with cover	2	10063	PDA-DN 120 supporting carrier for 2 "Viva" modules
		6	10363	PDA-3DN 120 supporting carrier for 6 "Viva" modules
01792	TA-GN 150x80 duct with cover	2	10073	PDA-DN 150 supporting carrier for 2 "Viva" modules
01793	TA-GN 200x80 duct with cover	–	–	–

Compatibility table of framers and mounting carriers for "Viva" WD installation in "In-liner Classic" ducts

Duct code	Duct name of "In-liner Front" system	Number of modules of working space	Frame for "Viva" WD installation		Carrier	
			code	required number, pcs	code	required number, pcs
09500	90x50 mm cable-duct with partition wall, side and front cover	2	F0000A	1	F00011	1
		4	F0000A	2	F00013	1
		6	F0003A	1	F00015	1
09501	90x50 mm cable-duct with front cover	2	F0000A	1	F00011	1
		4	F0000A	2	F00013	1
		6	F0003A	1	F00015	1
01050	110x50 mm cable-duct with front cover	2	F0000A	1	F00011	1
		4	F0000A	2	F00013	1
		6	F0003A	1	F00015	1
01050	110x50 mm black cable duct	2	F0000AB	1	F00011B	1
		4	F0000AB	2	F00013B	1
		6	F0003AB	1	F00015B	1
01400 + 01412 + 09510 + 09510	140x50 mm cable duct without cover + bearing partition wall (divider) + cover with length of 60 mm + cover with width of 50 mm	2	F0000A	1	F00011	1
		4	F0000A	2	F00013	1
		6	F0003A	1	F00015	1



Brava

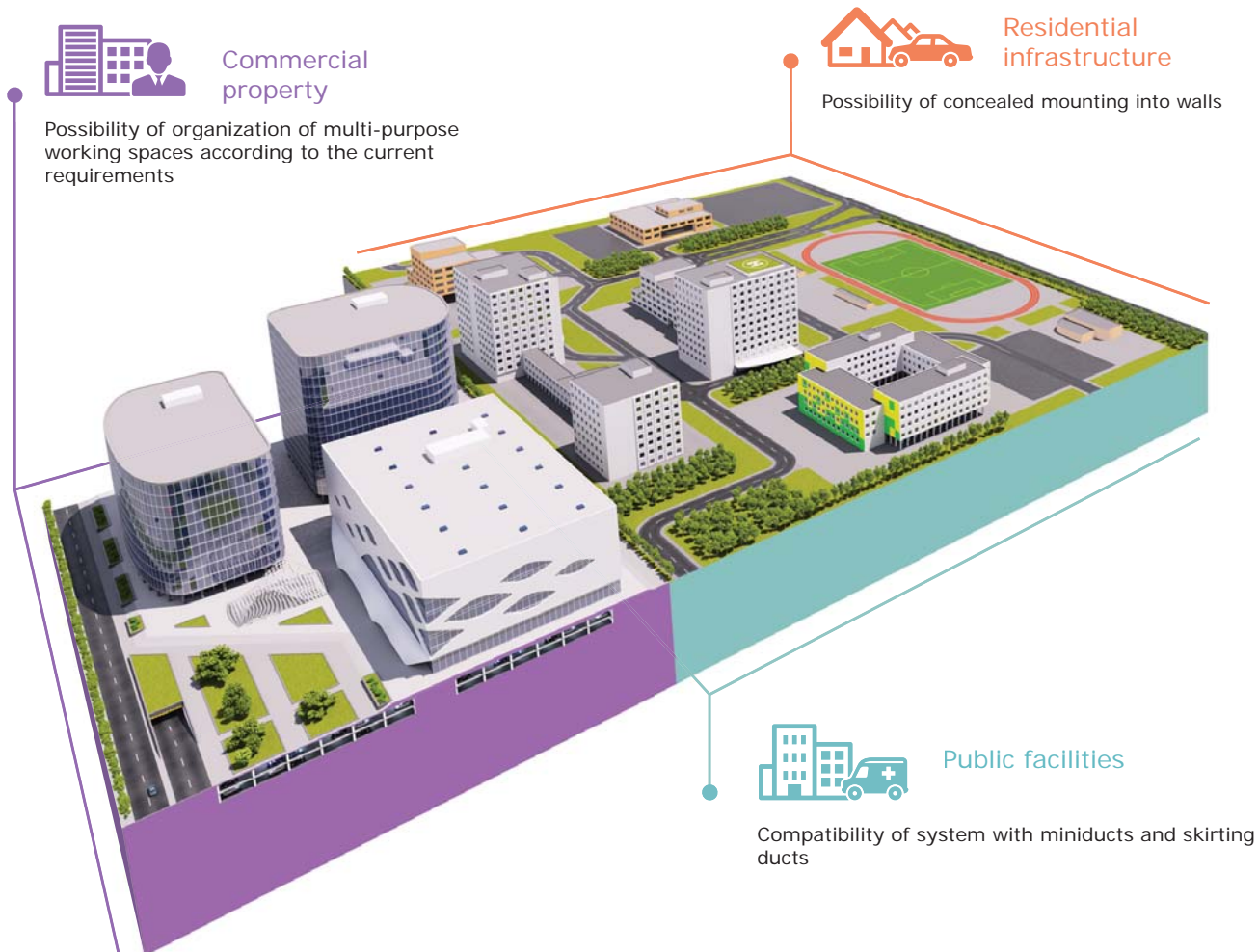
Wiring devices "Brava"

Wiring devices and accessories "Brava"	154
Compatibility table	171
Circuit diagrams	174

Wiring devices and accessories "Brava"

Application

Wiring devices "Brava" are distinguished by wide range of application. They are designed for organization of a working space inside the walls, on the walls in boxes and cable ducts of "In-liner Classic", "In-liner Front", and "In-liner Aero" series, as well as in the access floors in under floor boxes, on the floor in minitowers, aluminium columns, inside low-voltage equipment in supports on DIN rails.



Distinctive features



Wide range of colors of carriers and WDs
Matching with any interior



Possibility of flush (concealed) mounting into walls
Using frames and carriers



Possibility of surface (open) mounting in boxes with miniducts
Using wide range of boxes



Installation in floor-mounted BUS minitowers of "In-liner Front" system
3 power sockets may be installed on both sides of the minitower. In this case you do not need to order carriers as they are supplied complete with minitower.



Installation in aluminium columns of "In-liner Aero" system
3 power sockets may be installed on both sides of the column.



Installation in cable ducts
Using the supporting carriers for installation in cable ducts of "In-liner Classic" series; using frames and carriers for installation in ducts of "In-liner Front" and "In-liner Aero" series. Wide range of computer and telephone sockets

System composition

Switches:

- switches without backlight;
- switches with backlight;
- switches (alternate switches) without backlight;
- switches (alternate switches) with backlight;
- inverters (intermediate and cross-point switches);
- two-pole switches without backlight;
- two-pole switches with backlight;
- dimmers (light dimmers or glass dimmers);
- infrared switches;
- buttons without backlight;
- buttons with backlight;

Pilot WDs:

- bell buttons;
- buzzers.

Sockets and adapters:

- back end TV sockets;
- pass-through TV sockets;
- universal TV sockets;
- Electric power sockets, male;
- telephone sockets;
- computer sockets;
- adapters for communication sockets.

Accessories:

- plugs;
- carriers;
- frames.

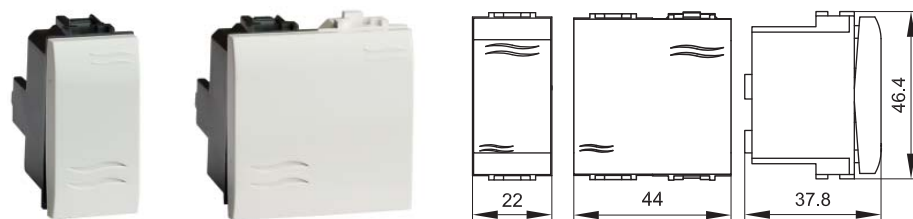
Characteristics

Technical characteristics

Characteristics	Values
Material	heat-resistant shock-resistant polycarbonate; fireproof (according to GOST 12.1004, section 1); resistant to aging
Standards	GOST R 51324.1-99 (IEC 60669-1-98); GOST R 51322.1-99 (IEC 60884-1-94); GOST R IEC 335-1; GOST 14254-96 (IEC 529-89); GOST 7396.1-89 (IEC 83-75); GOST 12.2.007.0; GOST 9.005; GOST R 50827-95 (IEC 670-89)
Protection degree	IP20 according to GOST 14254
Climatic version	UKhL3 according to GOST 15150. It is recommended to use indoors
Mounting temperature	from -5 to +60 °C
Applications	concealed installation into walls; open installation; cable ducts, minitowers, columns, boxes, boards, panels, enclosures, housings
Installation into walls – requirements to boxes	<ul style="list-style-type: none"> • diameter of flush-mounted boxes shall be 65–68 mm; • depth shall be 40 mm and more; • center-to-center distance (in case of installation of 2 or more boxes) shall be 71 mm; • distance between screws in case of horizontal installation shall be 55 mm and 60 mm in case of vertical installation
Difference of "Brava" WDs from "Viva" WDs	<ul style="list-style-type: none"> • Flexibility – "Brava" WDs are installed in cable ducts and into walls ("Viva" WDs are installed in cable ducts and boxes IP55); • design – surface of "Brava" WDs has decorative fixtures ("Viva" WDs have flat surface); • mechanism installation – "Brava" WDs are latched into frames or supporting carriers on the inside ("Viva" WDs are latched on the outside); • wiring to mechanisms – on the rear for "Brava" WDs (on two sides for "Viva" WDs);

Wiring devices

Switches



Purpose:

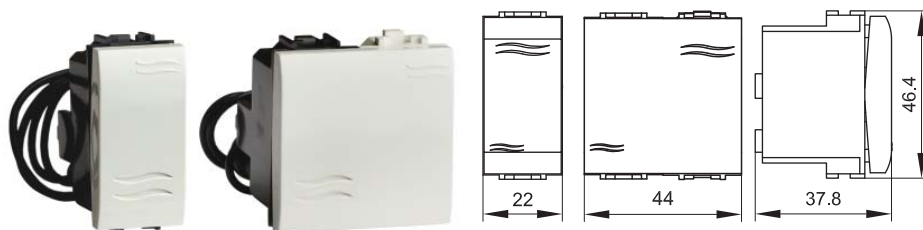
lighting system switch-on/off.

Characteristics:

- rated current is 16 A;
- rated voltage is 250 V.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	43x21.5	0.031	white	76001B
			bone	75001S
2	43x43	0.041	white	76002B
			bone	75002S

Switch with backlight


Purpose:

- lighting system switch-on/off.

Characteristics:

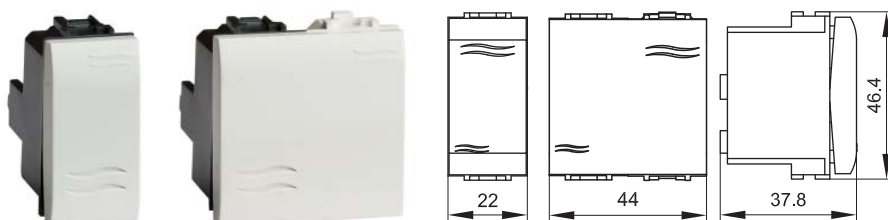
- rated current is 16 A;
- rated voltage is 250 V.

Complete set:

- backlight lamp (lamp wires are connected to WD terminals, polarity is not important).

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	43x21.5	0.037	white	76001BL
			bone	75001SL
2	43x43	0.038	white	76002BL
			bone	75002SL

Switches (alternate switches)


Purpose:

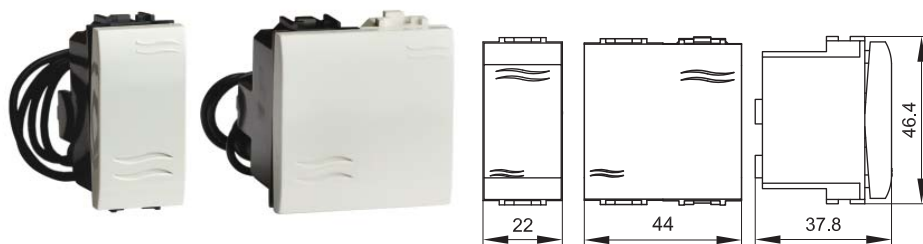
- lighting system switch-on/off. Two switches are installed per one circuit for control of lighting from 2 points in corridors, passages, hotel rooms (near entrance door, at the head of the bed), communicating rooms, etc.

Characteristics:

- rated current is 16 A;
- rated voltage is 250 V.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	43x21.5	0.037	white	76011B
			bone	75011S
2	43x43	0.038	white	76012B
			bone	75012S

Switches (alternate switches) with backlight


Purpose:

- lighting system switch-on/off. Two switches are installed per one circuit for control of lighting from 2 points in corridors, passages, hotel rooms (near entrance door, at the head of the bed), communicating rooms, etc.

Characteristics:

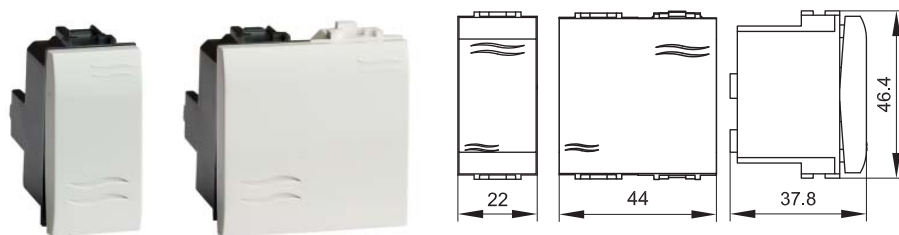
- rated current is 16 A;
- rated voltage is 250 V.

Complete set:

- backlight lamp (lamp wires are connected to WD terminals, polarity is not important).

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	43x21.5	0.036	white	76011BL
			bone	75011SL
2	43x43	0.038	white	76012BL
			bone	75012SL

Inverters (intermediate and cross-point switches);



Purpose:

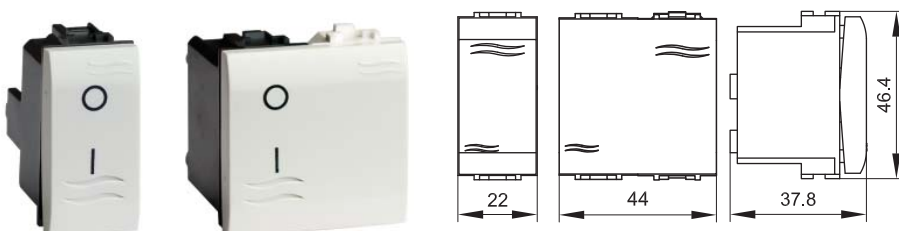
- lighting system switch-on/off. Installed in circuit between two switches (bulkhead) in corridors and the like.

Characteristics:

- rated current is 16 A;
- rated voltage is 250 V.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	43x21.5	0.031	white	76031B
			bone	75031S
2	43x43	0.036	white	76032B
			bone	75032S

Two-pole switches



Purpose:

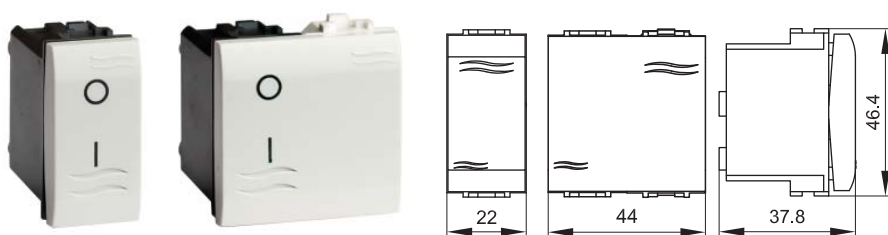
- control of lighting;
- control of two-phase circuits of 220/127 V;
- open-phase and neutral fault.

Characteristics:

- rated current is 16 A;
- rated voltage is 250 V.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	43x21.5	0.034	white	76131B
			bone	75131S
2	43x43	0.048	white	76132B
			bone	75132S

Two-pole switches with backlight



Purpose:

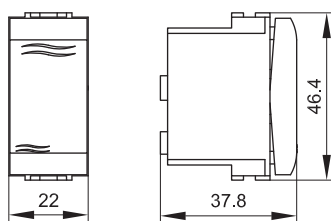
- control of lighting;
- control of two-phase circuits of 220/127 V;
- open-phase and neutral fault.

Characteristics:

- rated current is 16 A;
- rated voltage is 250 V;
- backlight lamp is built into WD mechanism.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	43x21.5	0.034	white	76121BL
			bone	75121SL
2	43x43	0.036	white	76122BL
			bone	75122SL

Dimmers (light dimmers, glass dimmers);



Purpose:

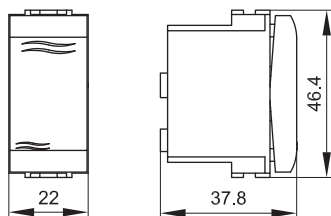
- throttling of lighting level.

Characteristics:

- installed in circuit with halogen lamps and electric incandescent lamp;
- rated current is 16 A;
- rated voltage is 250 V;
- power is 35–500 W.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	43x21.5	0.050	white	76761B
			bone	75761S

Infrared switches (motion and lighting sensors)



Purpose:

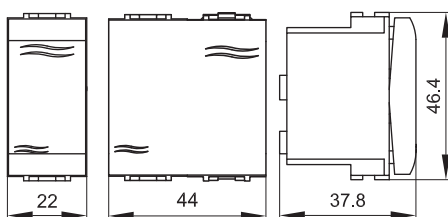
- control of lighting.

Characteristics:

- rated current is 16 A;
- rated voltage is 250 V;
- internal timer controls switch-on time (with time adjustment);
- regulator of lighting level of premises for setting of environmental dimming value (control value of background lighting/dimming);
- pickup operating distance is up to 3 m;
- maximum distance is up to 6 m;
- parallel switch-on with the second infrared switch is possible.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	43x21.5	0.037	white	76201B
			bone	75201S

Buttons



Purpose:

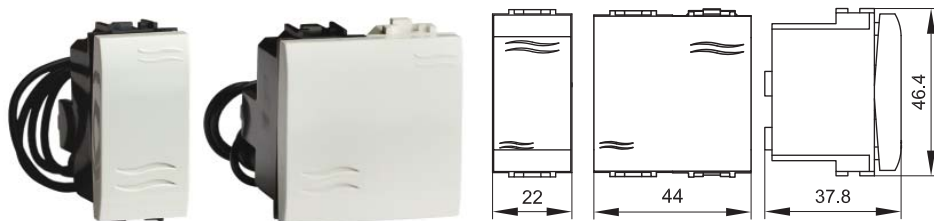
- short-term switch-on of bell-button, dimmer or lighting (when used as warning indicator).

Characteristics:

- rated current is 16 A;
- rated voltage is 250 V.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	43x21.5	0.031	white	76021B
			bone	75021S
2	43x43	0.047	white	76022B
			bone	75022S

Buttons



Purpose:

- short-term switch-on of bell-button, dimmer or lighting (when used as warning indicator).

Characteristics:

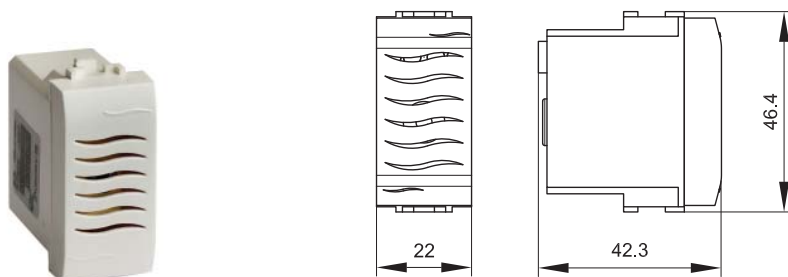
- rated current is 16 A;
- rated voltage is 250 V.

Complete set:

- backlight lamp (lamp wires are connected to WD terminals, polarity is not important).

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	43x21.5	0.026	white	76021BL
			bone	75021SL
2	43x43	0.038	white	76022BL
			bone	75022SL

Bell button



Purpose:

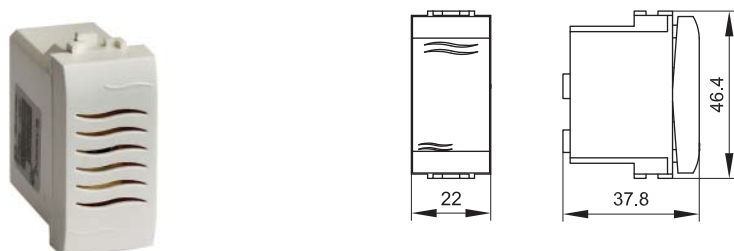
- auditory indication.

Characteristics:

- rated current is 16 A;
- rated voltage is 250 V.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	43x21.5	0.058	white	76932B
			bone	75932S

Buzzer



Purpose:

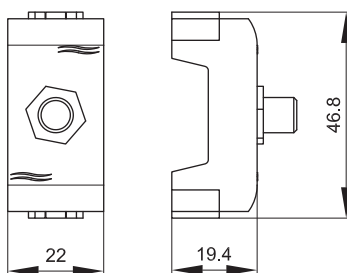
- auditory indication;
- 12 V buzzer is used in security and fire alarm system as an audible alarm unit and in access control systems as an additional signal when door is opened.

Characteristics:

- rated current is 16 A.

Rated voltage, V	Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
220	1	43x21.5	0.058	white	76851B
				bone	75851S
12	1	43x21.5	0.063	white	76861B
				bone	75861S

Back end TV sockets



Purpose:

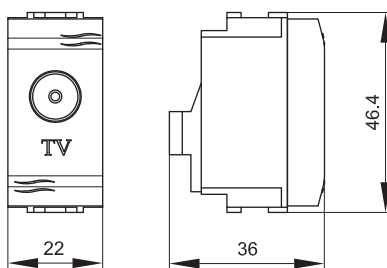
- direct TV cable connection from antenna to TV-set (F-connector – F-connector);
- Connection as per "star" network – each TV socket is connected directly to TV splitter or closes circuit of one or several pass-through TV sockets in case of loop installation.

Characteristics:

- range of operating frequency is 40–2200 MHz;
- attenuation is <0.5 dB.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	43x21.5	0.034	white	76581MB
			bone	75581MS

Pass-through TV sockets;



Purpose:

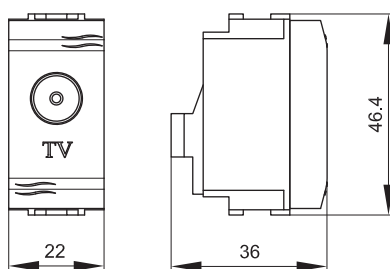
- connection of TV cable from antenna to TV-set in case of loop installation when TV socket is used as TV splitter for possibility of signal redundancy on the next socket (it is not recommended to install more than 3 pass-through sockets in one loop; loop shall be closed with back end TV socket).

Characteristics:

- socket without matching impedance;
- range of operating frequency is 40–2200 MHz;
- attenuation is <10 dB.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	43x21.5	0.034	white	76581B
			bone	75581S

Universal TV sockets



Purpose:

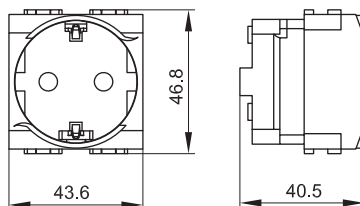
- connection of TV cable.

Characteristics:

- socket with matching impedance;
- range of operating frequency is 40–2200 MHz;
- attenuation is <10 dB.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	43x21.5	0.034	white	76721B
			bone	75721S

Electric power sockets, male, with grounding and shutters



Purpose:

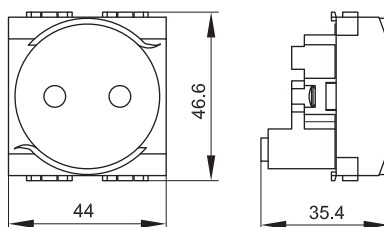
- connection of office machines and equipment, household devices, etc.

Characteristics:

- conformity to PUE, clause 7.1.49 – equipped with protective shutters that automatically close jacks of outlet socket when the plug is removed;
- grounding is available;
- diameter of holes for cable entry – 3 mm (2 hole per terminal);
- rated current is 16 A;
- rated voltage is 250 V.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
2	43x43	0.033	white	76482B
			bone	75482S
			red	76482R

Electric power sockets, male, without grounding and with shutters



Purpose:

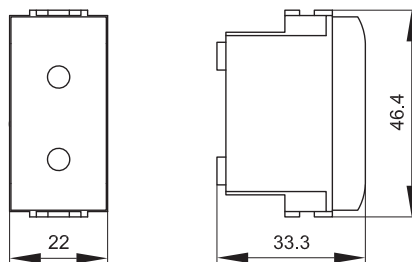
- connection of office machines and equipment, household devices, etc.

Characteristics:

- conformity to PUE, clause 7.1.49 – equipped with protective shutters that automatically close jacks of outlet socket when the plug is removed;
- without grounding;
- diameter of holes for cable entry – 3 mm (2 hole per terminal);
- rated current is 16 A;
- rated voltage is 250 V.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
2	43x43	0.033	white	76483B
			bone	75483S

Electric power sockets, male, without grounding and shutters



Purpose:

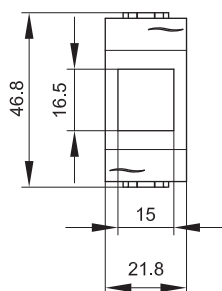
- connection of office machines and equipment, household devices, etc.

Characteristics:

- without grounding;
- diameter of holes for cable entry – 3 mm (2 hole per terminal);
- rated current is 16 A;
- rated voltage is 250 V.

Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
1	43x21.5	0.031	white	76491B
			bone	75491S

Telephone sockets with 1 connector, 1 module



Purpose:

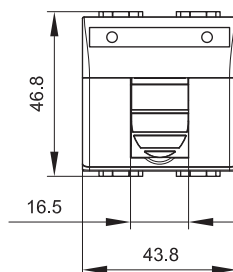
- connection of telephone cable.

Characteristics:

- 6P6C;
- completed with single-module jack;
- all (AMP) jacks have shank for limitation of cable bend and tension;
- tool of 110 type is used for contact dressing into AMP sockets;
- NE-TOOL (Hyperline) tool is used for quick contact dressing into Hyperline sockets.

Description	Number of modules	Jack manufacturer	Installation dimension, mm	Weight, kg/pce	Color	Code
RJ-11	1	AMP 110 Connect	43x21.5	0.024	white	76644B
					bone	75644S
RJ-12	1	Hyperline	43x21.5	0.024	white	76120B
					bone	75120S

Telephone sockets with 1 connector, 2 modules



Purpose:

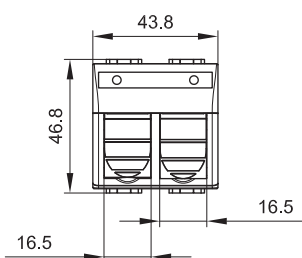
- connection of telephone cable.

Characteristics:

- inclined;
- with dustproof shutter (cover);
- with screen (field) for marking of "working space", screen size is 6x37 mm;
- 6P6C;
- completed with single-module jack;
- tool of 110 type is used for contact dressing into AMP sockets;
- NE-TOOL (Hyperline) tool is used for quick contact dressing into Hyperline sockets.

Description	Number of modules	Jack manufacturer	Installation dimension, mm	Weight, kg/pce	Color	Code
RJ-11	2	AMP 110 Connect	43x43	0.024	white	76645B
RJ-12	2	Hyperline	43x43	0.024	white	76121B
					bone	75121S

Telephone sockets with 2 connectors, 2 modules



Purpose:

- connection of telephone cable.

Characteristics:

- inclined;
- with dustproof shutter (cover);
- with screen (field) for marking of "working space", screen size is 6x37 mm;
- 6P6C;
- completed with single-module jack;
- NE-TOOL (Hyperline) tool is used for quick contact dressing into Hyperline sockets.

Description	Number of modules	Jack manufacturer	Installation dimension, mm	Weight, kg/pce	Color	Code
RJ-12	2	Hyperline	43x43	0.028	white	76122B
					bone	75122S

HDMI and USB sockets with 1 connector, 1 module



Purpose:

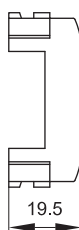
- connection of cable to TV, plasma panel, film reader, computer and other office machines and equipment.

Characteristics:

- bulkhead connector of A-A or "female-female" type;
- completed with single-module jack;
- appropriate HDMI or USB cable will be required for connection of equipment.

Description	Connector type	Jack type	Jack manufacturer	Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
HDMI	A-A	Keystone	Hyperline	1	43x21.5	0.040	white	76100B
							bone	75100S
USB 2.0	A-A	Keystone	Hyperline	1	43x21.5	0.040	white	76200B
							bone	75200S
USB 3.0	A-A	Keystone	Hyperline	1	43x21.5	0.040	white	76300B
							bone	75300S

RJ-45 computer sockets with 1 connector, 1 module



Purpose:

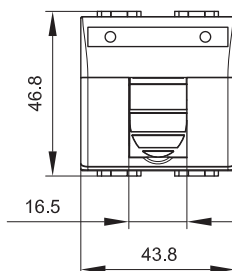
- cable connection to computer, printer and other office machines and equipment.

Characteristics:

- 8P8C;
- completed with single-module jack;
- all (AMP) jacks have shank for limitation of cable bend and tension;
- tool of 110 type is used for contact dressing into AMP sockets;
- tool of 110 or Krone type is used for contact dressing into Hyperline sockets;

Description	Category	Jack type	Jack manufacturer	Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
RJ-45	5e	Keystone	Hyperline	1	43x21.5	0.025	white	76654B
			AMP 110 Connect	1	43x21.5	0.025	bone	75654S
RJ-45	5e, shielded	Keystone	Hyperline	1	43x21.5	0.029	white	76646B
			AMP 110 Connect	1	43x21.5	0.029	bone	75646S
RJ-45	6	Keystone	Hyperline	1	43x21.5	0.034	white	76457B
			AMP 110 Connect	1	43x21.5	0.034	bone	75457S
RJ-45	6, shielded	Keystone	Hyperline	1	43x21.5	0.040	white	76647B
			AMP 110 Connect	1	43x21.5	0.040	bone	75647S
RJ-45	6A	Keystone	Hyperline	1	43x21.5	0.038	white	76458B
			AMP 110 Connect	1	43x21.5	0.038	bone	75458S
RJ-45	6, shielded	Keystone	Hyperline	1	43x21.5	0.034	white	76648B
			AMP 110 Connect	1	43x21.5	0.034	bone	75648S
RJ-45	6A	Keystone	Hyperline	1	43x21.5	0.040	white	76668B
			AMP 110 Connect	1	43x21.5	0.040	bone	75668S
RJ-45	6A	Keystone	Hyperline	1	43x21.5	0.038	white	76678B
			AMP 110 Connect	1	43x21.5	0.038	bone	75678S

HDMI and USB sockets with protective shutter, 1 connector, 2 modules



Purpose:

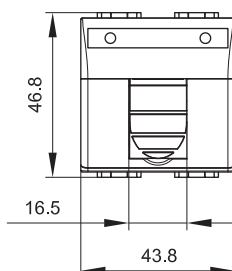
- connection of cable to TV, plasma panel, film reader, computer and other office machines and equipment.

Characteristics:

- bulkhead connector of A-A or "female-female" type;
- completed with single-module jack;
- appropriate HDMI or USB cable will be required for connection of equipment.

Description	Connector type	Jack type	Jack manufacturer	Q-ty of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
HDMI	A-A	Keystone	Hyperline	2	43x43	0.040	white	76102B
							bone	75102S
USB 2.0	A-A	Keystone	Hyperline	2	43x43	0.040	white	76202B
							bone	75202S
USB 3.0	A-A	Keystone	Hyperline	2	43x43	0.040	white	76302B
							bone	75302S

RJ-45 computer sockets with 1 connector, 2 modules



Purpose:

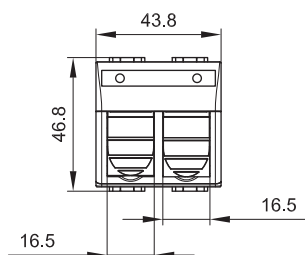
- cable connection to computer, printer and other office machines and equipment.

Characteristics:

- 8P8C;
- completed with single-module jack;
- all (AMP) jacks have shank for limitation of cable bend and tension;
- tool of 110 type is used for contact dressing into AMP sockets; tool of 110 or Krone type is used for contact dressing into Hyperline sockets;
- with dustproof shutter (cover);
- with screen (field) for marking of "working space", screen size is 6x37 mm.

Description	Category	Jack type	Jack manufacturer	Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
RJ-45	5e	Keystone	Hyperline	2	43x43	0.026	white	76655B
			AMP 110 Connect	2	43x43	0.026	bone	75655S
RJ-45	5e shielded	Keystone	Hyperline	2	43x43	0.026	white	76642B
			AMP 110 Connect	2	43x43	0.026	bone	75642S
RJ-45	6	Keystone	Hyperline	2	43x43	0.026	white	76450B
			AMP 110 Connect	2	43x43	0.026	bone	75450S
RJ-45	6 shielded	Keystone	Hyperline	2	43x43	0.026	white	76666B
			AMP 110 Connect	2	43x43	0.026	bone	75666S
RJ-45	6A	Keystone	Hyperline	2	43x43	0.030	white	76679B
			AMP 110 Connect	2	43x43	0.030	bone	75679S

RJ-45 computer sockets with 2 connectors, 2 modules



Purpose:

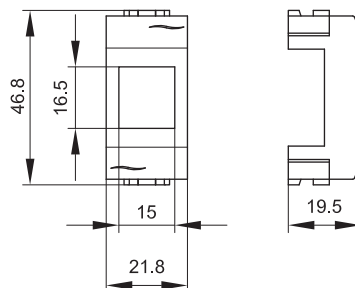
- cable connection to computer, printer and other office machines and equipment.

Characteristics:

- 8P8C;
- completed with two-module jacks;
- all (AMP) jacks have shank for limitation of cable bend and tension;
- tool of 110 type is used for contact dressing into AMP sockets; tool of 110 or Krone type is used for contact dressing into Hyperline sockets;
- with dustproof shutters (covers);
- with screen (field) for marking of "working space", screen size is 6x37 mm.

Description	Category	Jack type	Jack manufacturer	Number of modules	Installation dimension, mm	Weight, kg/pce	Color	Code
RJ-45	5e	Keystone	Hyperline	2	43x43	0.027	white	76656B
							bone	75656S
			AMP 110 Connect	2	43x43	0.036	white	76643B
							bone	75643S
RJ-45	5e, shielded	Keystone	Hyperline	2	43x43	0.040	white	76459B
							bone	75459S
RJ-45	6	Keystone	Hyperline	2	43x43	0.040	white	76452B
							bone	75452S
RJ-45	6, shielded	Keystone	Hyperline	2	43x43	0.040	white	76453B
							bone	75453S
RJ-45	6A	Keystone	Hyperline	2	43x43	0.040	white	76653B
							bone	75653S

Adapters for 1 communication socket (jack), 1 module



Purpose:

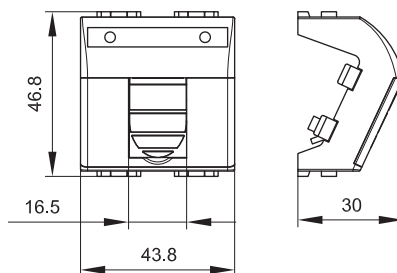
- installation of RJ-11 and RJ-45 sockets.

Characteristics:

- opening dimension for Siemon is 14.6x19.3 mm.

Jack type	List of some jack manufacturers of such type	Number of modules	Installation dimension, mm	Color	Weight, kg/pce	Code
Keystone	AMP, Hyperline, Premium Line Systems GmbH, BICC Brand-Rex, KRONE Link, AESP Signamax, RIT Smart	1	43x21.5	white	0.024	76607B
		1	43x21.5	bone	0.024	75607S
Systimax	Avaya-Systimax	1	43x21.5	white	0.024	76609B
		1	43x21.5	bone	0.024	75609S
Siemon	Siemon	1	43x21.5	white	0.024	76608B
		1	43x21.5	bone	0.024	75608S

Adapters for 1 communication socket (jack), 2 modules



Purpose:

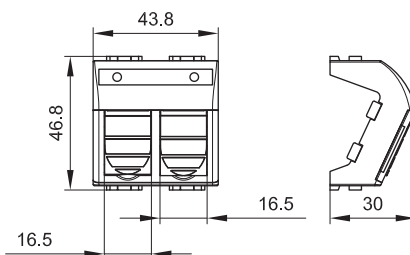
- installation of RJ-11 and RJ-45 sockets.

Characteristics:

- for single-module jack;
- inclined;
- with dustproof shutter (cover);
- with screen (field) for marking of "working space", screen size is 6x37 mm.

Jack type	List of some jack manufacturers of such type	Number of modules	Installation dimension, mm	Color	Weight, kg/pce	Code
Keystone	AMP, Hyperline, Premium Line Systems GmbH, BICC Brand-Rex, KRONE Link, AESP Signamax, RIT Smart	2	43x43	white	0.026	76613B
		2	43x43	bone	0.026	75613S
R&M	Reichle & De-Massari	2	43x43	white	0.026	76612B
		2	43x43	bone	0.026	75612S

Adapters for 2 communication sockets (jacks), 2 modules



Purpose:

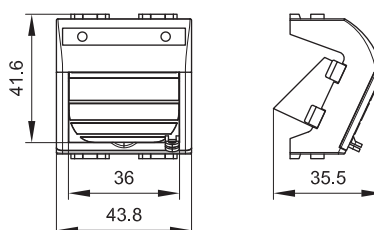
- installation of unshielded connectors. of RJ-11 and RJ-45 series.

Characteristics:

- for 2 modular jacks;
- inclined;
- with dustproof shutters (covers);
- with screen (field) for marking of "working space", screen size is 6x37 mm.

Jack type	List of some jack manufacturers of such type	Number of modules	Installation dimension, mm	Color	Weight, kg/pce	Code
Keystone	AMP, Hyperline, Premium Line Systems GmbH, BICC Brand-Rex, KRONE Link, AESP Signamax, RIT Smart	2	43x43	white	0.026	76614B
		2	43x43	bone	0.026	75614S

Adapters for 2 optical connectors of ST type, 2 modules



Purpose:

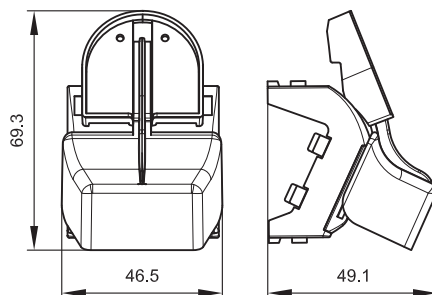
- installation of optical connectors, bayonet coupling with quick connection.

Characteristics:

- inclined;
- with dustproof shutter (cover);
- with screen (field) for marking of "working space", screen size is 6x37 mm;

Type of optical connectors	Number of modules	Installation dimension, mm	Color	Weight, kg/pce	Code
ST	2	43x43	white	0.026	76615B

Adapters for 2 optical connectors of ST type with sealing system, 2 modules



Purpose:

- installation of two ST type optical connectors, protection of information sources in organizations with higher level of security and control of personnel access to information sources.

Adapter is design for installation:

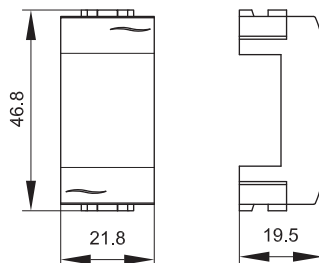
- in DKC plastic cable ducts of 90x50, 110x50, and 140x50 mm;
- in DKC aluminium cable ducts of 90x50, 110x50, and 140x50 mm.

Characteristics:

- inclined;
- with possibility of operating point sealing – control and prevention of unauthorized access and connection to optical connectors.

Type of optical connectors	Number of modules	Installation dimension, mm	Color	Weight, kg/pce	Code
ST	2	43x43	white	0.028	76618B

Plugs



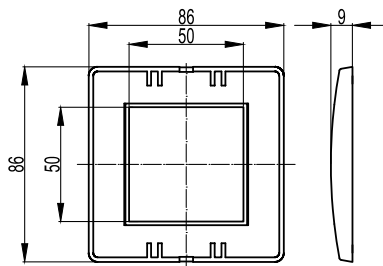
Purpose:

- decorative closing of empty and unused (including spare ones) apertures with size of 1 module.

Number of modules	Installation dimension, mm	Color	Weight, kg/pce	Code
1	43x21.5	white	0.024	76616B
1	43x21.5	bone	0.024	75616S

Accessories

Carriers for "Brava" WD installation into walls and in PDD-N60 boxes


Purpose:

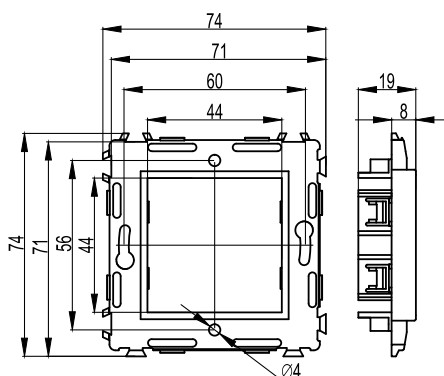
- "Brava" WD installation.

Characteristics:

- carrier is installed on a frame by latching;
- for working space organization in PDD-N60 boxes (code 10123) carrier (code 75010W) + frame (code 75023W) + "Brava" WDs are required.

Carrier type	Number of modules	Carrier overall dimension, mm	Color	Weight, kg/pce	Code
One-position	2	86x86	white RAL 9010	0.023	75010W
			bone RAL 9001	0.023	75010O
Two-position	2+2	86x159	white RAL 9010	0.041	75012W
			bone RAL 9001	0.041	75012O
Three-position	2+2+2	86x229	white RAL 9010	0.060	75013W
			bone RAL 9001	0.060	75013O
Four-position	2+2+2+2	86x300	white RAL 9010	0.078	75014W
			bone RAL 9001	0.078	75014O
Five-position	2+2+2+2+2	86x371	white RAL 9010	0.096	75015W
			bone RAL 9001	0.096	75015O

Frames for "Brava" WD installation into walls and in PDD-N60 boxes


Purpose:

- "Brava" WD installation.

Characteristics:

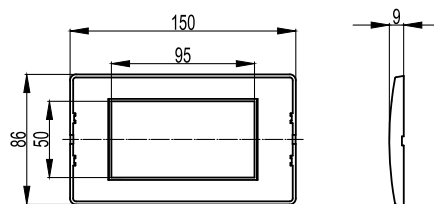
- interconnection of 2 and more frames, there are specific projections and grooves;
- "Brava" WDs are latched in frames from inside (on the rear).

Requirements to box:

- diameter of flush-mounted box shall be 65-68 mm, depth shall be 40 mm and more, center-to-center distance (in case of installation of 2 or more boxes) shall be 71 mm.

Availability of steel spacing lugs in frame	Frame type	Number of modules	Size of opening for installation of "Brava" WDs, mm	Color	Weight, kg/pce	Code
Available	one-position	2	43x43	white	0.055	75020W
	one-position	2	43x43	bone	0.055	75020SL
Not available (Frames without lugs are installed in boxes using screw nail; screw nails are not included into the scope of supply; requirements to screw nails – diameter of head shall be 5.5 mm maximum).	one-position	2	43x43	white	0.033	75023W
	one-position	2	43x43	bone	0.033	75023SL

Carriers for "Brava" WD installation in PDD-N120 boxes



Purpose:

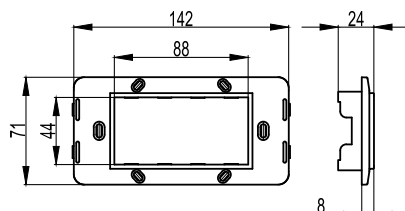
- "Brava" WD installation.

Characteristics:

- carrier is installed on a frame by latching;
- for working space organization in PDD-N120 boxes (code 10143) carrier (code 75011W) + frame (code 75021W) + "Brava" WDs are required.

Carrier type	Number of modules	Carrier overall dimension, mm	Color	Weight, kg/pce	Code
One-position	4	86x150	white RAL 9010	0.041	75011W
			bone RAL 9001	0.041	75011O

Frames for "Brava" WD installation in PDD-N120 boxes



Purpose:

- "Brava" WD installation.

Characteristics:

- "Brava" WDs are latched in frames from inside (on the rear);
- frame is installed in under floor boxes with self-tapping screws (it is not required to order the carriers);
- for working space organization in PDD-N120 boxes (code 10143) frame (code 75021W) + carrier (code 75011W) + "Brava" WDs are required.

Frame type	Number of modules	Size of opening for installation of "Brava" WD installation, mm	Color	Weight, kg/pce	Code
One-position	4	43x86	white	0.031	75021W
			bone RAL 9001	0.031	75024SL

Compatibility table

Compatibility table of carriers and frames for "Brava" WD installation, concealed inside walls

Installation options	Number of modules	Carrier color/code	
		white RAL 9010	bone RAL 9001
    	Carriers		
	2	75010W	750100
	2x2	75012W	750120
	3x2	75013W	750130
	4x2	75014W	750140
	5x2	75015W	750150
	Frames		
	2	75020W	75020SL
	2	75023W	75023SL

Organization of working space inside walls: "Brava" wiring device + frame + carrier + box (pattress box).


Installation procedure: WD is latched in frame then frame is installed in box and then carrier is latched.

Requirements to box: diameter shall be 65-68 mm, depth shall be 40 mm and more, center-to-center distance shall be 71 mm.

Distance between screws in case of horizontal installation shall be 55 mm and 60 mm in case of vertical installation.


Organization of working space in PDD-N60boxes: "Brava" WD + frame (code 75023W) + carrier (code 75010W) + PDD-N60 box (code 10123).

Compatibility table of boxes for open installation of "Brava" WDs on walls

Box versions	Number of modules	Box code	Box name	Frame and carrier code for installation of "Brava" WDs into box
	2	10034	PDB mounting box for 2 "Brava" modules	additional accessories for installation of WDs are not required
	2	10123	Universal PDD-N 60 mounting box for 2 "Brava" modules	frame (75023W) + carrier (75010W)
	4	10143	Universal PDD-N 120 mounting box for 4 "Brava" modules	frame (75021W) + carrier (75011W)
	6	09221	modular box for 6 modules of "Brava" wiring devices	additional accessories for installation of WDs are not required

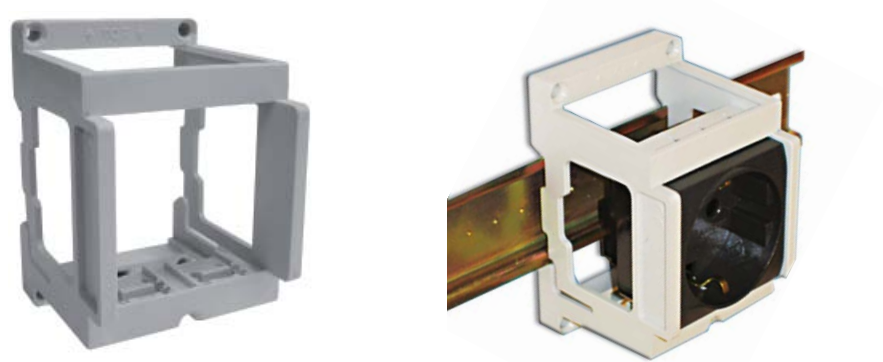
Miniducts of TMC type of "In-liner Classic" system or 70x22 and 90x25 mm skirting ducts of "In-liner Front" system may be laid to these ducts.

Compatibility table of boxe assembly with "Brava" WD for open installation on walls

Box type	Number of modules	Box type	Name	Color
	2	10482	box assembly with electric power socket, with grounding, with protective shutters	white
	2	10482B	box assembly with electric power socket, with grounding, with protective shutters	brown
	2	10002	box assembly with 1 switch (single-key switch), 16 A, 250 V	white
	2	10002B	box assembly with 1 switch (single-key switch), 16 A, 250 V	brown
	2	10001	box assembly with 2 switches (double-key switch), 16 A, 250 V	white
	2	10001B	box assembly with 2 switches (double-key switch), 16 A, 250 V	brown
	2	10665	box assembly with 1 RJ-45 socket, 5e category, UTP, (telephone/computer socket) with dustproof shutter	white
	2	10665B	box assembly with 1 RJ-45 socket, 5e category, UTP, (telephone/computer socket) with dustproof shutter	brown
	2	10656	box assembly with 2 RJ-45 sockets, 5e category, UTP, (telephone/computer sockets) with dustproof shutters	white
	2	10656B	box assembly with 2 RJ-45 sockets, 5e category, UTP, (telephone/computer sockets) with dustproof shutters	brown

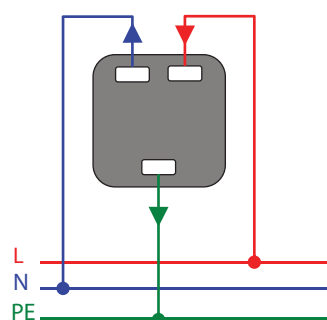
Miniducts of TMC type of "In-liner Classic" system or 70x22 and 90x25 mm skirting ducts of "In-liner Front" system may be laid to these ducts.

Compatibility table of supports for open installation of "Brava" WDs on a DIN rail

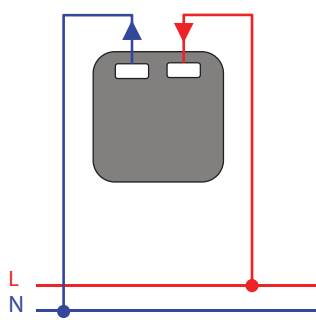


Support code	Support name	Number of modules	Support installation option inside low-voltage equipment
54840	support for installation on a DIN rail of "Brava" series sockets, for 2 modules	2	with latching on a DIN rail 35x7.5 mm, with thickness of 1.5 mm
			with latching on a DIN rail 35x15 mm, with thickness of 1.5 mm
			on a mounting plate using 4 countersunk screws 4x16 mm or 4 self-tapping screws 4x16 mm

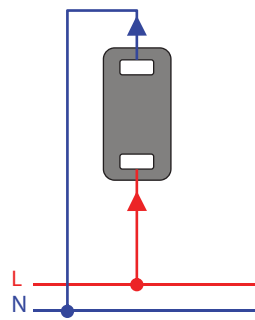
"Brava" WD circuit diagrams



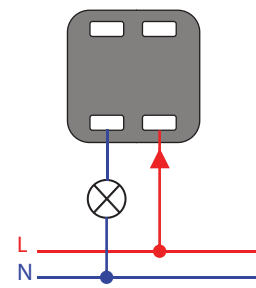
Electric socket
with grounding, with shutters
76482B
75482S
76482R



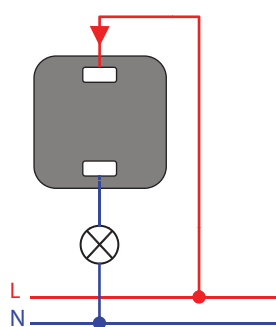
Electric socket
without grounding, with shutters
76483B
75483S



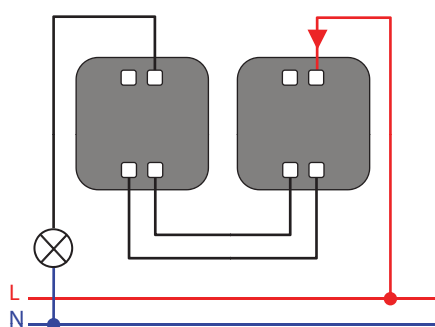
Electric socket
without grounding, without
shutters
76481B
75481S



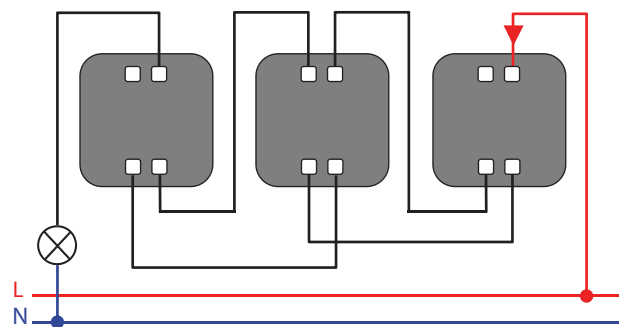
Dimmer
76761B
75761S



Switch
76001B
76002B
75001S
75002S



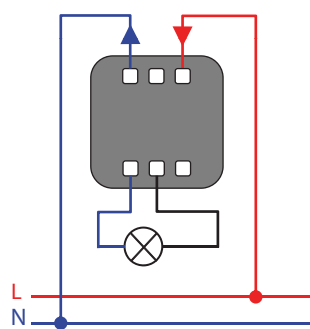
Switch
76011B
76012B
75011S
75012S



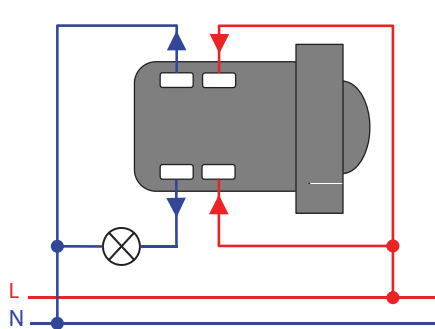
Switch
76011B
76012B
75011S
75012S

Inverter
(intermediate switch)
76031B
76032B
75031S
75032S

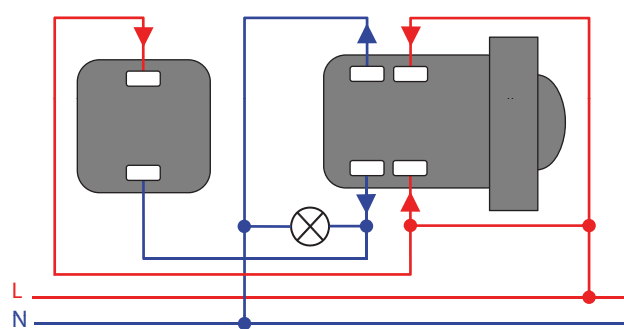
Switch
76011B
76012B
75011S
75012S



Two-pole
switch
76131B
76132B
75131S
75132S



Infrared switch
76201B
75201S



Switch
76001B
76002B
75001S
75002S

Infrared switch
76201B
75201S

Note on backlight connection in switches and buttons:

specified wiring devices have 2 terminals (input/output). Lamp wires are connected to these terminals. Polarity is not important.



Industrial plugs

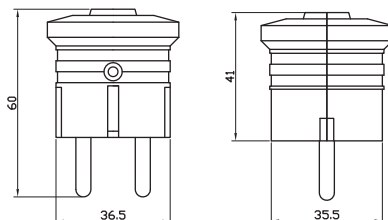
Schuko sockets	176
Industrial plugs	183
Accessories	206
Frames	209
Distribution boxes	211
Manual	232
Installation examples	234

Schuko sockets

This group represents sockets designed for currents up to 16 A with voltage up to 250 V and frequency of 50 Hz. This type of sockets is regulated by standards: GOST 7396.1-89 (C2a and C2b type), DIN 49440, DIN 49441, CEE 7/4.

Cable plugs

With end cable entry IP20


Purpose:

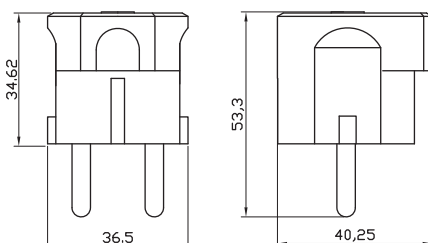
- cable power plug as per DIN 49440 standard.

Installation conditions:

- cable laying is performed from the end.

Voltage, V	Connection method	Type	Current, A	Conductor section, mm ²	Color	Code
250	screw type terminal block	2P+E	16	from 0.75 to 2.5	white	DIS1302063
					black	DIS1302063N

With side cable entry IP20


Purpose:

- cable power plug as per DIN 49440 standard.

Installation conditions:

- cable laying is performed on the side.

Voltage, V	Connection method	Type	Current, A	Conductor section, mm ²	Color	Code
250	screw type terminal block	2P+E	16	from 0.75 to 2.5	white	DIS13083
					black	DIS13083N

Rubber with end cable entry IP20


Purpose:

- cable power plug as per DIN 49440 standard.

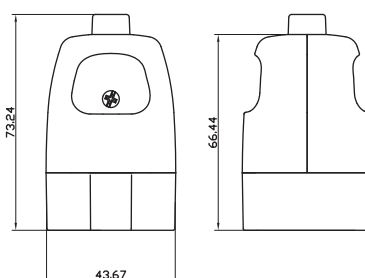
Installation conditions:

- cable laying is performed from the end;
- operating temperature is from -15 to +30 °C.

Voltage, V	Connection method	Type	Current, A	conductor section, mm ²	Color	Code
250	screw type terminal block	2P+E	16	from 0.75 to 2.5	black	DIS1103100

Cable sockets

With end cable entry IP20


Purpose:

- cable power socket as per DIN 49440 standard.

Installation conditions:

- cable laying is performed from the end.

Drawings:

- see on the disk.

Voltage, V	Connection method	Type	Current, A	conductor section, mm ²	Color	Code
250	screw type terminal block	2P+E	16	from 0.75 to 2.5	white	DIS1302083
					black	DIS1302083N

Rubber with end cable entry IP44



Purpose:

- cable power socket as per DIN 49440 standard.

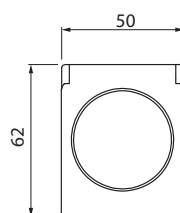
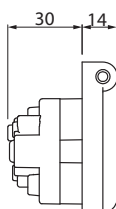
Installation conditions:

- cable laying is performed from the end;
- operating temperature is from -15 to +30 °C.

Voltage, V	Connection method	Type	Current, A	Conductor section, mm ²	Color	Code
250	screw type terminal block	2P+E	16	from 0.75 to 2.5	black	DIS1103160

Panel sockets

With standard flange IP54



Purpose:

- power socket as per DIN 49440 standard.

Installation conditions:

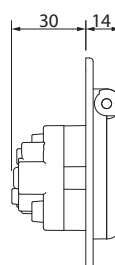
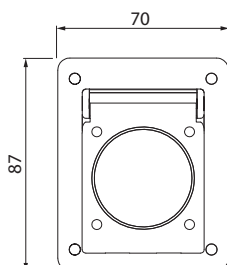
- on a panel.

Drawings:

- see on the disk.

Voltage, V	Connection method	Type	Current, A	Conductor section, mm ²	Base dimension, mm	Code
250	screw type terminal block	2P+E	16	from 1.5 to 2.5 (2x2.5)	50x62	DIS5702061

With increased flange IP54



Purpose:

- power socket as per DIN 49440 standard.

Installation conditions:

- on a panel;
- on a mounting box.

Drawings:

- see on the disk.

Voltage, V	Connection method	Type	Current, A	Conductor section, mm ²	Base dimension, mm	Code
250	screw type terminal block	2P+E	16	from 1.5 to 2.5 (2x2.5)	70x87	DIS5704061

Straight box for surface mounting



With base 50x62 mm



With base 70x87 mm

Purpose:

- installation of panel sockets.

Installation conditions:

- plug and membrane gland can be interchanged in boxes for sockets 50x62 mm.

Drawings:

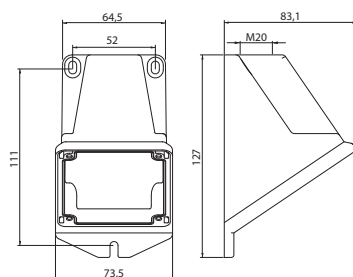
- see on the disk.

Installation example:

- page 235.

For sockets with base, mm	Cable gland type	Cable glands, mm				Color	Code
		top part	bottom part	sides	rear wall		
50x62	membrane gland	membrane gland	plug	-	-	light-blue	DISB038BU
70x87	marks for hole drilling	1x25 or 2x20	1x25 or 2x20	-	-	gray	DIS5700016

Angular box for surface mounting


Purpose:

- installation of panel sockets.

Installation conditions:

- attachment is performed in the points on the outside of enclosure.

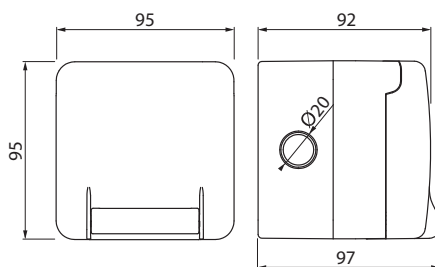
Drawings:

- see on the disk.

For sockets with base, mm	Cable gland type	Cable glands, mm				Color	Code
		top part	bottom part	sides	rear wall		
70x87	mark for hole drilling	1x20	–	–	–	gray	DIS5700116

Sockets with increased protection IP66

Surface-mounted IP66


Purpose:

- power socket with increased protection against water/dust as per DIN 49440 standard.

Distinctive features:

- ensures high protection against water/dust when the plug is connected;
- used plug dimension limitation: for straight plug length shall be not more than 50 mm; for angle plug length shall be not more than 65 mm and cable entry diameter shall be less than 14 mm.

Drawings:

- see on the disk.

Voltage, V	Connection method	Type	Current, A	conductor section, mm ²	Base dimension, mm	Code
250	screw type terminal block	2P+E	16	from 1.5 to 2.5 (2x2.5)	95x95	DIS1376407

Panel IP66



With base 95x95 mm



With base 70x87 mm

Purpose:

- power socket with increased protection against water/dust as per DIN 49440 standard.

Distinctive features:

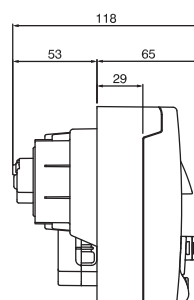
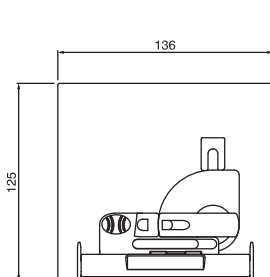
- ensures high protection against water/dust when the plug is connected;
- socket with base 95x95 mm has used plug dimension limitation: for straight plug length shall be not more than 50 mm; for angle plug length shall be not more than 65 mm and cable entry diameter shall be less than 14 mm;
- during the installation of socket with base 70x87 on adapters adjustment can be required, page 232.

Drawings:

- see on the disk.

Voltage, V	Connection method	Type	Current, A	conductor section, mm ²	Base dimension, mm	Code
250	screw type terminal block	2P+E	16	from 1.5 to 2.5 (2x2.5)	95x95	DIS1374407
					70x87	DIS5706407

Panel with additional protection IP56



Purpose:

- power socket with increased protection against water/dust as per DIN 49440 standard.

Distinctive features:

- ensures high protection against water/dust when the plug is connected;
- socket has built-in RCBO (16 A, C type, 10 mA, 3 kA);
- socket is fitted with disconnecter and cover interlocking device. Cover can be opened only when power is off;
- operating temperature is from -15 to +35 °C.

Drawings:

- see on the disk.

Voltage, V	Connection method	Type	Current, A	conductor section, mm ²	Base dimension, mm	Code
250	screw type terminal block	2P+E	16	from 1.5 to 6 (2x4)	136x125	DIS4093407

Box for surface installation of sockets IP66



Purpose:

- installation of concealed mounting sockets.

Installation conditions:

- boxes have pre-perforation for cable entry.

Drawings:

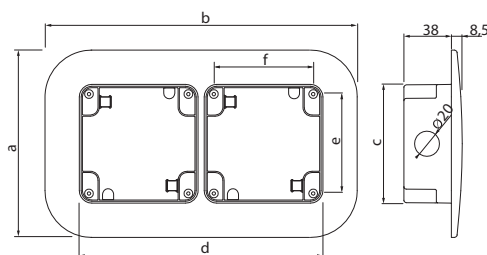
- see on the disk.

Installation example:

- page 234.

For sockets with base, mm	Number of mounting seats	Cable gland type	Cable glands, mm				Color	Code
			top part	bottom part	sides	rear wall		
95x95	1	pre-perforation	1x20	1x20	1x20	–	gray	DIS137101
95x95	2	pre-perforation	2x20	2x20	1x20	–	gray	DIS137102
136x125	1	pre-perforation	2x20 1x25	1x25	2x20	2x20	gray	DIS572M0310

Box for concealed installation of sockets IP66



Purpose:

- installation of concealed mounting sockets.

Installation conditions:

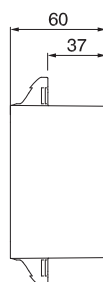
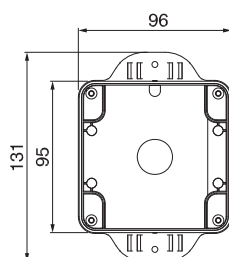
- boxes have pre-perforation for cable entry.

Installation example:

- page 234.

For sockets with base, mm	Number of mounting seats	Protection level, IP	Dimensions, mm						Color	Code
			A	V	C	D	E	F		
95x95	1	66	150	150	95	95	79.6	79.6	gray	DIS137121
	2	66	150	250	95	195	79.6	79.6	gray	DIS137122

Box for installation of sockets on pole on the side


Purpose:

- attachment of concealed mounting sockets on pole/tube.

Installation conditions:

- box has pre-perforation for cable entry.

Distinctive features:

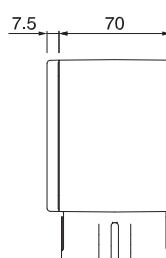
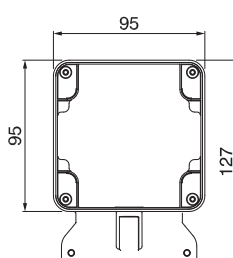
- it is possible to install on pole/tube with diameter of 50–70 mm.

Installation example:

- page 234.

For sockets with base, mm	Protection level, IP	Color	Code
95x95	66	gray	DIS137141

Box for installation of sockets on pole from the end


Purpose:

- attachment of concealed mounting sockets on pole/tube.

Installation conditions:

- cable is inserted through tube which box is attached to.

Distinctive features:

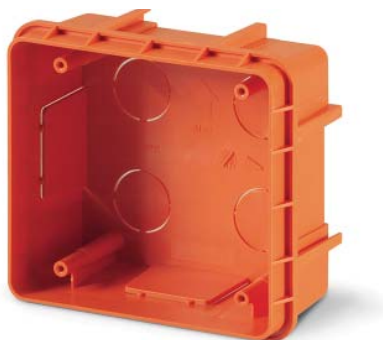
- it is possible to install on pole/tube with diameter of 60–70 mm.

Installation example:

- page 234.

For sockets with base, mm	Protection level, IP	Color	Code
95x95	66	gray	DIS137131

Box for concealed mounting of sockets IP66



DIS5720200



Combining insert

Purpose:

- installation of panel sockets.

Installation conditions:

- designed for concealed installation in non-combustible bases;
- socket attachment is performed through carrier DIS5720220.

Scope of supply:

- scope of supply with DIS5720200 code includes 1 carrier allowing for combination of several boxes in single structure.

Installation example:

- page 239.

For sockets with base, mm	Installation type	Number of mounting seats	Dimensions, mm	Cable glands				Color	Code
				top part	bottom part	sides	rear wall		
136x125	in trench	1	160x149x72	-	-	-	-	orange	DIS5720200
136x125	on gypsum plasterboard	1	160x149x72	-	-	-	-	black	DIS5720205

Adapter for mounting box 136x125


Purpose:

- installation of sockets with base 70x87 on boxes with base 136x125.

For sockets with base, mm	On boxes with base, mm	Number of mounting seats	Protection level, IP	Color	Code
70x87	136x125	1	66	gray	DIS6540125

Carrier for concealed installation box 136x125


Purpose:

- equipment attachment on box for concealed mounting DIS5720200.

On boxes with base, mm	Number of mounting seats	Protection level, IP	Color	Code
136x125	1	55	gray	DIS5720220

Gel seals


Purpose:

- sealing of cable plug in sockets with increased protection degree.

Material	Code
Silicone	DIS137202

Ground contact


Purpose:

- formation of single grounding point in junction boxes.

Material	Code
Brass	DIS137201

Wiring devices with IP66



Single-key solution. Concealed mounting



Double-key solution. Surface mounting

Purpose:

- electric circuit closing/opening control.

Features:

- high protection level;
- built-in key backlight.

Installation conditions:

- surface-mounted or concealed mounting;
- compatibility with "Express" and "Cosmec" systems;
- terminal connecting capacity:
 - 3x2.5 mm²;
 - 2x4 mm²;
 - 1x6 mm²;

- for products with surface mounting for cable entry pre-perforation is provided for cable clamps PG13.5/M20

Operating conditions:

- from -20 to +60 °C

Installation example:

- page 235.

Type	Number of keys	Installation type	Voltage, V	Current (AX)	Flange dimensions, mm	Color	Code
Switch	one	concealed	250	20	95x95	gray	DIS1373012
Switch	one	surface-mounted	250	20	95x95	gray	DIS1375012
Switch	two	concealed	250	20	95x95	gray	DIS1373022
Switch	two	surface-mounted	250	20	95x95	gray	DIS1375022
Switch	one	concealed	250	20	95x95	gray	DIS1373212
Switch	one	surface-mounted	250	20	95x95	gray	DIS1375212
Switch	two	concealed	250	20	95x95	gray	DIS1373222
Switch	two	surface-mounted	250	20	95x95	gray	DIS1375222
Button with "PRESS" inscription	one	concealed	250	20	95x95	gray	DIS1373312P
Button with "PRESS" inscription	one	surface-mounted	250	20	95x95	gray	DIS1375312P

RJ45 sockets with IP66



Concealed mounting



Surface mounting

Purpose:

- equipment switching using RJ45 sockets.

Installation conditions:

- surface-mounted or concealed mounting;
- compatibility with "Express" and "Cosmec" systems;
- for products with surface mounting for cable entry pre-perforation is provided for cable clamps PG13.5/M20.

Operating conditions:

- from -5 to +60 °C.

Installation example:

- page 235.

Type	Installation type	Flange dimensions, mm	Color	Code
RJ45 socket, cat. 5e	concealed	95x95	gray	DIS137448150
RJ45 socket, cat. 5e	surface-mounted	95x95	gray	DIS137648150

Industrial plugs

Application

Industrial plugs are designed to ensure maximum convenient and reliable connection with power supply source. DKC plugs are made of high-quality materials and components according to the standards GOST R 51323.1-99 (IEC 309-1) as well as GOST R 51323.2-99 (IEC 309-2).



Industrial production



Sites



Commercial and municipal property



Machine-building industry



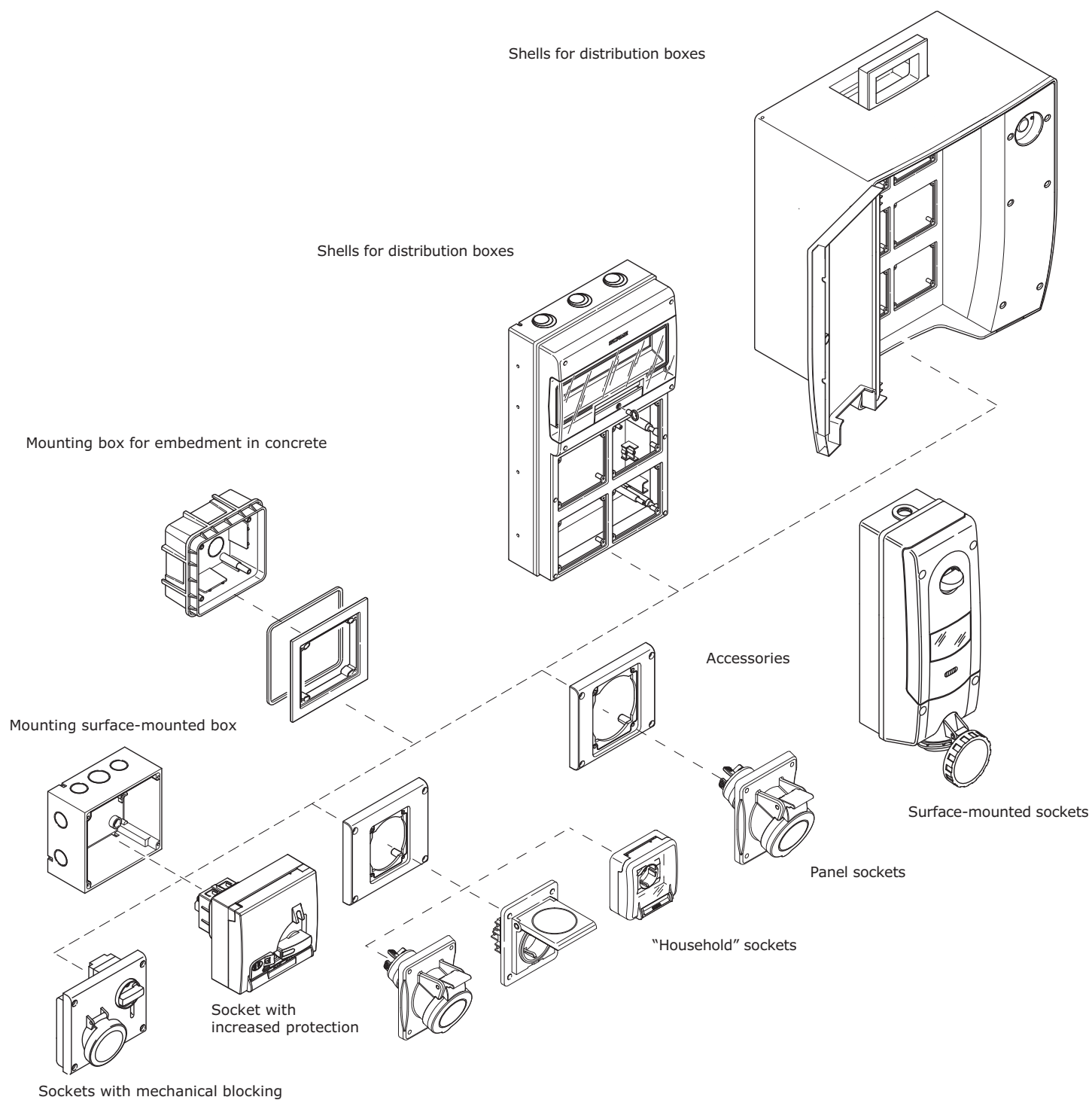
Transport infrastructure facilities



Food industry and retail sales

Applications	IP44	IP67
Agriculture	mobile or portable equipment stored and/or used under a shed or indoors	outdoor installation of pumps, ventilation, dryers or other equipment
Chemical industry	use indoors if there is no risk of exposure to chemicals	used with a risk of contact group exposure to chemicals but not in hazardous areas
Sites and docks	used during the operation under sheds which protect against weather conditions. Water spray impact is permitted	used during the operation in the open air with connection on the ground where it can be subject to low temperatures, large dust quantity and submerged for a time
Sporting and entertainment complexes, cinema, studios and other public places	used under sheds which protect against weather conditions and under loads up to 32 A. Water spray impact is permitted	used in the open air where connection can be subject to rain, snow, fog, dust, low temperatures and other weather conditions; also used in the places with strict safety requirements or connection passes current of more than 32 A (light installations, TV and audio equipment)
Food industry and retail sales	used indoors or under sheds for connection of storage/processing systems (refrigerators, packing equipment, etc.)	used for connection of equipment requiring often washing, in the places with increased risk of ingress of plenty of water or for connection of large electric consumers
Heavy industry	used at sheltered warehouses, in workshops, at assembly and moulding sites	used in the places exposed to risk of large dust quantity including metal chips, lubricating and cooling solutions, vibration, shocks (rolling, foundries, melting site, etc.)
Lighting engineering	used for connection of lighting equipment at warehouses and in the shops when there is no high humidity and external contamination	used with a risk of cleaning and other substance ingress on connection as well as when high loads are accompanied with strict safety requirements
IT equipment	for electrical connections above the floor level	for electrical connections below the floor level and when high loads are accompanied with strict connection reliability requirements
Ports	used under sheds: docks, repair sites, offices	with a risk of impact of plenty of water or partial submersion: berths, docks, mooring berths, etc.
Airports	used under sheds: storage sheds, warehouses, repair sites	used in the open air for connection of mobile equipment or aircrafts
Public service	indoors at repair sites	used in any places with a risk of submersion as well as outdoors for connection of pumps, compressors, aerating installations, ventilation systems

System composition



Characteristics

Technical characteristics

Characteristics	Value
Mounting and operating temperature, °C	from -50 to +40
Maximum operating temperature, °C	+60
Protection level	from IP44 to IP66/IP67
Operating voltage, V	200/415
Operational current, A	16 – 32 – 63 – 125
Frequency, Hz	50/60
Disruptive voltage, V	690
Mechanical shock protection degree as per IK	08
Halogen free plastic	yes
Ultraviolet radiation resistant	yes
Glow-wire test as per IEC 695-2-1, °C	850
Contact material	Nickel-plated brass

Chemical properties

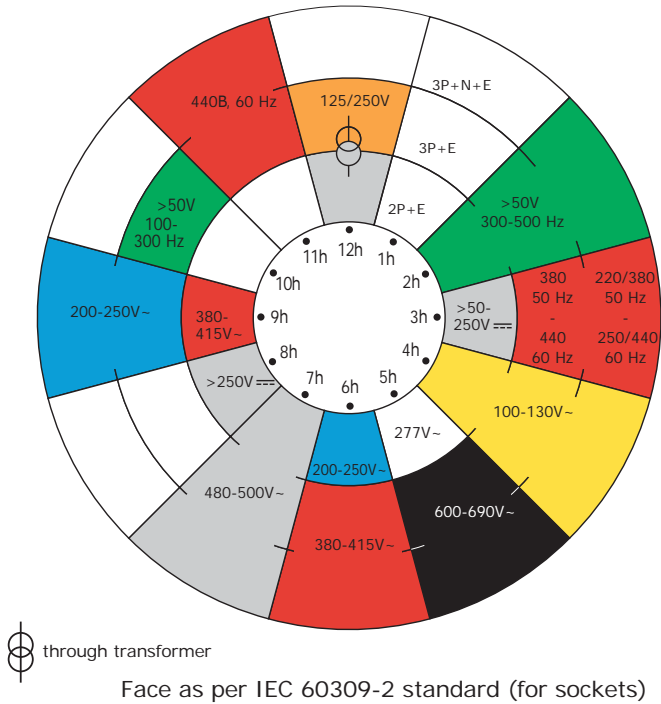
Chemical	Chemical condition	Socket resistance to chemical impact
Acids	concentrated	resistant to a limited extent
	diluted	resistant
Alkali	concentrated	resistant
	diluted	resistant
Hexane	–	not resistant
Benzene	–	not resistant
Acetone	–	not resistant
Alcohol	–	resistant to a limited extent
Mineral oils	–	resistant

IEC60309 standard

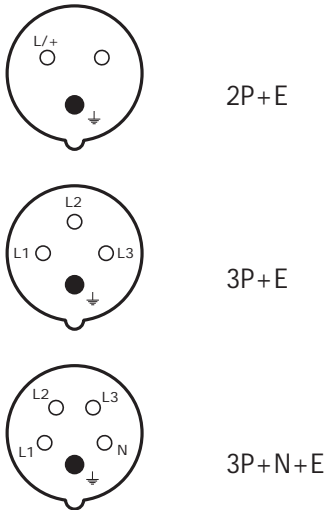
Location of ground contact

Plugs and sockets are specially profiled to prevent connection of sockets with different characteristics. It is done owing to special projection for plugs and owing to groove for sockets.

All the sockets for voltage over 50 V are fitted with grounding contact. Location of grounding contact with relation to orienting groove and projection is determined by IEC60309 standard. To use standard when looking at socket from the front it is necessary to put contact group on clock face figuratively placing orienting profiles (groove or projection) at "6 o'clock".
























Other contacts are located clockwise and shall be marked



Plug color is determined with voltage which it is designed for

Voltage, V	Plug color
from 20 to 25	violet
from 40 to 50	white
from 100 to 130	yellow
from 200 to 250	blue
from 380 to 480	red
from 500 to 690	black

Summary table for voltage of more than 50 V

Number of contacts	Poles	Frequency, Hz	Rated voltage, V	Location of grounding contact ⁽¹⁾		Color
				16–32 A	63–125 A	
3 (2P3W)	2P+E	50 and 60	100÷130	4	4	
			200÷250	6	6	
			380÷415	9	9	
			480÷500	7	7	- ⁽³⁾
			through dividing transformer	12	12	- ⁽³⁾
		100÷300	>50	–	–	 ⁽²⁾
		>300÷500	>50	2	–	 ⁽²⁾
		Direct current	50÷250	3	3	- ⁽³⁾
			>250	8	8	- ⁽³⁾
4 (3P4W)	3P+E	50 and 60	100÷130	4	4	
			200÷250	6	6	
			380÷415	9	9	
		60	440÷460	11	11	
		50 and 60	480÷500	7	7	- ⁽³⁾
			600÷690	5	5	
		50	380	3	–	
		60	440			
		100÷300	>50	10	–	 ⁽²⁾
		>300÷500	>50	2	–	 ⁽²⁾
5 (4P5W)	3P+N+E	50 and 60	57/100÷75/130	4	4	
			120/208÷144/250	9	9	
			200/346÷240/415	6	6	
			277/480÷288/500	7	7	- ⁽³⁾
			347/600÷400/690	5	5	
		60	250/440÷265/460	11	11	
		50	220/380	3	–	
		60	250/440			
		100÷300	>50	–	–	 ⁽²⁾
		>300÷500	>50	2	–	 ⁽²⁾
All other voltages and frequencies which are not taken into account within this standard				1	1	-

⁽¹⁾ combinations marked with symbol "-" are not regulated with standard;

⁽²⁾ it is permitted to use combinations of two colors ("green" and voltage-related color) for identification of frequency from 60 to 500 Hz.

⁽³⁾ combinations for which IES 60309-2 standard specifies only location of grounding contact rather than color are supplied by DKC in RAL7035 color (gray)

Example use:

- standard use.....6 h
- connection of refrigerator containers.....3 h
- installation at marine facilities, in ports and at vessels.....11 h

DKC plugs for special use conditions when grounding contact is in position different from "6 h" are supplied on a special order.

Distinctive features

Structure



Convenient location of screws

Access to contact attachment screws is ensured on one side. This solution ensures high assembly rate and ease when operating rigid cable conductors



Fast and reliable enclosure assembly

To connect enclosure parts one clockwise turn until clicking position is sufficient. Enclosure is closed with metal retainer



Reliable 6-point contact

To improve quality of contact for plugs 125 A 6-point contact is used



Pilot contact

Included within the standard scope of supply for plugs 63 and 125 A



Collet clamp

Cable attachment at the entry is ensured with collet clamp that facilitates assembly and increases structure reliability



Special opening lever

Socket cover is fitted with increased lever that allows for opening with one hand

Conductor attachment system

Conductor can be connected to plug contacts with one of 3 versions:

Screw type clamp



Reliable cable screw attachment

Double screw type clamp with vibration protection ensures reliable conductor attachment for plugs for currents of 63–125 A

Spring type clamp



Ease of installation and removal

Stripped conductor is attached with spring type mechanism without tools (codes of similar plugs end with "F" letter)

With insulation displacement

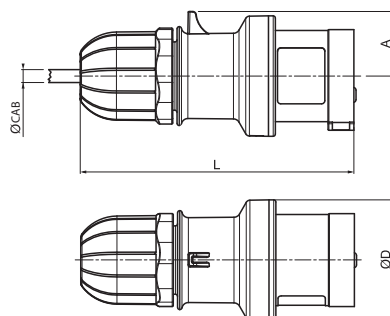


Assembly rate

In this case conductor stripping is not required for its attachment. Wire is cut and attached at the same time (codes of similar plugs end with "P" letter)

Cable sockets, 6 h

Cable plug IP44



Purpose:

- arrangement of a detachable connection from the side of cable.

Distinctive features:

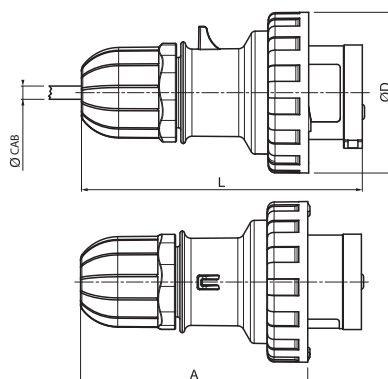
- cable attachment with collet clamp;
- three types of conductor clamps: screw type, spring type and with insulation displacement.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm					Code
					A	ØD	L	ØCAB	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	30	56	128	from 6 to 15	from 1 to 2.5	DIS2131633
			2P+E	32	40	65	162	from 9 to 21	from 2.5 to 6	DIS2133233
		screwless type clamp	2P+E	16	30	56	128	from 6 to 15	from 1 to 2.5	DIS2131633P
			2P+E	32	40	65	162	from 9 to 21	from 2.5 to 6	DIS2133233F
400/6 h	red	screw type clamp	3P+E	16	34	60	135	from 6 to 15	from 1 to 2.5	DIS2131636
			3P+E	32	40	65	162	from 9 to 21	from 2.5 to 6	DIS2133236
			3P+N+E	16	38	65	153	from 9 to 15	from 1 to 2.5	DIS2131637
			3P+N+E	32	45	73	176	from 13 to 21	from 2.5 to 6	DIS2133237
		screwless type clamp	3P+E	16	34	60	135	from 6 to 15	from 1 to 2.5	DIS2131636P
			3P+E	32	40	65	162	from 9 to 21	from 2.5 to 6	DIS2133236F
			3P+N+E	16	38	65	153	from 9 to 15	from 1 to 2.5	DIS2131637P
			3P+N+E	32	45	73	176	from 13 to 21	from 2.5 to 6	DIS2133237F

Cable plug IP66/IP67



Purpose:

- arrangement of a detachable connection from the side of cable.

Distinctive features:

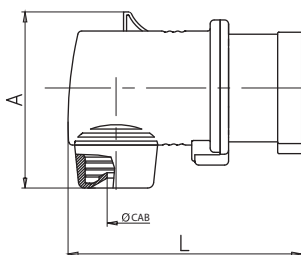
- cable attachment with collet clamp;
- three types of conductor clamps: screw type, spring type and with insulation displacement.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm					Code
					A	ØD	L	ØCAB	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	103	73	128	from 6 to 15	from 1 to 2.5	DIS2181633
			2P+E	32	131	93	162	from 9 to 21	from 2.5 to 6	DIS2183233
			2P+E	63	160	112	220	from 17 to 31	from 6 to 16	DIS2186333
			2P+E	125	202	128	272	from 26 to 48	from 16 to 50	DIS21812533
		screwless type clamp	2P+E	16	103	73	128	from 6 to 15	from 1 to 2.5	DIS2181633P
			2P+E	32	131	93	162	from 9 to 21	from 2.5 to 6	DIS2183233F
400/6 h	red	screw type clamp	3P+E	16	110	81	135	from 6 to 15	from 1 to 2.5	DIS2181636
			3P+E	32	131	93	162	from 9 to 21	from 2.5 to 6	DIS2183236
			3P+E	63	160	112	220	from 17 to 31	from 6 to 16	DIS2186336
			3P+E	125	202	128	272	from 26 to 48	from 16 to 50	DIS21812536
			3P+N+E	16	129	88	153	from 9 to 15	from 1 to 2.5	DIS2181637
			3P+N+E	32	145	101	176	from 13 to 21	from 2.5 to 6	DIS2183237
			3P+N+E	63	160	112	220	from 17 to 31	from 6 to 16	DIS2186337
			3P+N+E	125	202	128	272	from 26 to 48	from 16 to 50	DIS21812537
		screwless type clamp	3P+E	16	110	81	135	from 6 to 15	from 1 to 2.5	DIS2181636P
			3P+E	32	131	93	162	from 9 to 21	from 2.5 to 6	DIS2183236F
			3P+N+E	16	129	88	153	from 9 to 15	from 1 to 2.5	DIS2181637P
			3P+N+E	32	145	101	176	from 13 to 21	from 2.5 to 6	DIS2183237F

Cable angle plug IP44



Purpose:

- arrangement of a detachable connection from the side of cable.

Distinctive features:

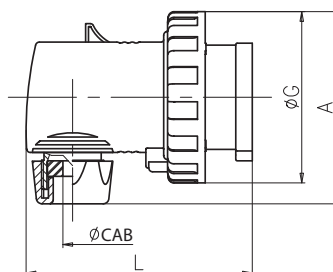
- cable attachment with tie.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm				Code
					A	L	ØCAB	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	70	109	from 7 to 15	from 1.5 to 2.5	DIS2211633
			2P+E	32	90	135	from 9 to 21	from 2.5 to 6	DIS2213233
400/6 h	red	screw type clamp	3P+E	16	77	113	from 7 to 15	from 1.5 to 2.5	DIS2211636
			3P+E	32	90	135	from 9 to 21	from 2.5 to 6	DIS2213236
			3P+N+E	16	88	117	from 9 to 15	from 1.5 to 2.5	DIS2211637
			3P+N+E	32	100	135	from 10 to 21	from 2.5 to 6	DIS2213237

Cable angle plug IP67



Purpose:

- arrangement of a detachable connection from the side of cable.

Distinctive features:

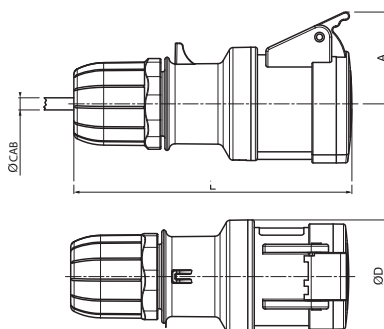
- cable attachment with tie.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm					Code
					A	L	ØG	ØCAB	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	80	109	73	from 8 to 15	from 1.5 to 2.5	DIS2261633
			2P+E	32	100	135	93	from 10 to 21	from 2.5 to 6	DIS2263233
400/6 h	red	screw type clamp	3P+E	16	88	113	81	from 8 to 15	from 1.5 to 2.5	DIS2261636
			3P+E	32	100	135	93	from 10 to 21	from 2.5 to 6	DIS2263236
			3P+N+E	16	100	117	88	from 8 to 15	from 1.5 to 2.5	DIS2261637
			3P+N+E	32	108	140	101	from 10 to 21	from 2.5 to 6	DIS2263237

Cable socket IP44



Purpose:

- arrangement of a detachable connection from the side of cable.

Distinctive features:

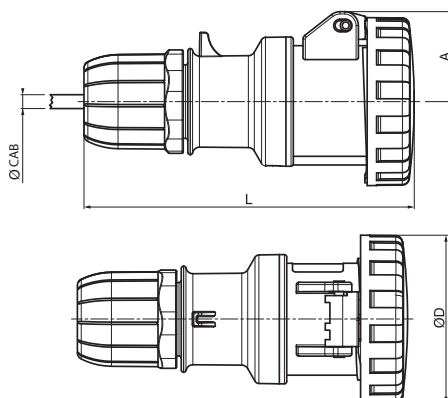
- cable attachment with collet clamp;
- three types of conductor clamps: screw type, spring type and with insulation displacement.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm					Code
					A	ØD	L	ØCAB	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	46	56	138	from 6 to 15	from 1 to 2.5	DIS3131643
			2P+E	32	54	65	175	from 9 to 21	from 2.5 to 6	DIS3133243
		screwless type clamp	2P+E	16	46	56	138	from 6 to 15	from 1 to 2.5	DIS3131643P
			2P+E	32	54	65	175	from 9 to 21	from 2.5 to 6	DIS3133243F
400/6 h	red	screw type clamp	3P+E	16	49	60	145	from 6 to 15	from 1 to 2.5	DIS3131646
			3P+E	32	54	65	175	from 9 to 21	from 2.5 to 6	DIS3133246
			3P+N+E	16	54	65	165	from 9 to 15	from 1 to 2.5	DIS3131647
			3P+N+E	32	59	73	190	from 13 to 21	from 2.5 to 6	DIS3133247
		screwless type clamp	3P+E	16	49	60	145	from 6 to 15	from 1 to 2.5	DIS3131646P
			3P+E	32	54	65	175	from 9 to 21	from 2.5 to 6	DIS3133246F
			3P+N+E	16	54	65	165	from 9 to 15	from 1 to 2.5	DIS3131647P
			3P+N+E	32	59	73	190	from 13 to 21	from 2.5 to 6	DIS3133247F

Cable sockets IP66/IP67



Purpose:

- arrangement of a detachable connection from the side of cable.

Distinctive features:

- cable attachment with collet clamp;
- three types of conductor clamps: screw type, spring type and with insulation displacement.

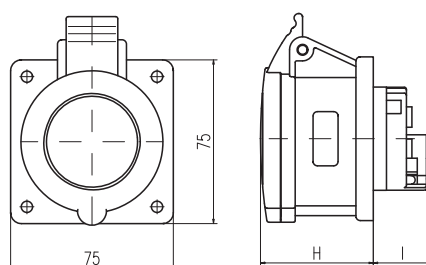
Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm					Code
					A	ØD	L	ØCAB	conductor section, mm ²	
230/6 h	blue	screw type terminal block	2P+E	16	39	73	141	from 6 to 15	from 1 to 2.5	DIS3181643
			2P+E	32	56	93	178	from 9 to 21	from 2.5 to 6	DIS3183243
			2P+E	63	57.5	112	230	from 17 to 31	from 6 to 16	DIS3186343
			2P+E	125	64.25	128	288	from 26 to 48	from 16 to 50	DIS31812543
		screwless type clamp	2P+E	16	39	73	141	from 6 to 15	from 1 to 2.5	DIS3181643P
			2P+E	32	56	93	178	from 9 to 21	from 2.5 to 6	DIS3183243F
400/6 h	red	screw type terminal block	3P+E	16	43	81	148	from 6 to 15	from 1 to 2.5	DIS3181646
			3P+E	32	56	93	178	from 9 to 21	from 2.5 to 6	DIS3183246
			3P+E	63	57.5	112	230	from 17 to 31	from 6 to 16	DIS3186346
			3P+E	125	64.25	128	288	from 26 to 48	from 16 to 50	DIS31812546
			3P+N+E	16	51	88	168	from 9 to 15	from 1 to 2.5	DIS3181647
			3P+N+E	32	52	101	195	from 13 to 21	from 2.5 to 6	DIS3183247
		screwless type clamp	3P+N+E	63	57.5	112	230	from 17 to 31	from 6 to 16	DIS3186347
			3P+N+E	125	64.25	128	288	from 26 to 48	from 16 to 50	DIS31812547
			3P+E	16	43	81	148	from 6 to 15	from 1 to 2.5	DIS3181646P
			3P+E	32	56	93	178	from 9 to 21	from 2.5 to 6	DIS3183246F
			3P+N+E	16	51	88	168	from 9 to 15	from 1 to 2.5	DIS3181647P
			3P+N+E	32	52	101	195	from 13 to 21	from 2.5 to 6	DIS3183247F

Fixed plugs, 6 h

Panel sockets IP44



Purpose:

- arrangement of connection point on fixed surface.

Distinctive features:

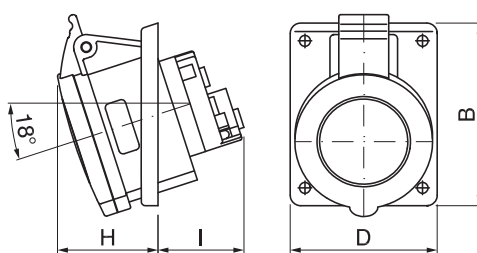
- increased lever that facilitates cover opening.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm			Code
					I	H	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	27	51	from 1 to 4 (2*1.5)	DIS4221663
			2P+E	32	42	62	from 2.5 to 10 (2*2.5)	DIS4223263
400/6 h	red	screw type clamp	3P+E	16	27	51	from 1 to 4 (2*1.5)	DIS4221666
			3P+E	32	42	62	from 2.5 to 10 (2*2.5)	DIS4223266
			3P+N+E	16	27	51	from 1 to 4 (2*1.5)	DIS4221667
			3P+N+E	32	42	63	from 2.5 to 10 (2*2.5)	DIS4223267

Panel sockets with incline IP44



Purpose:

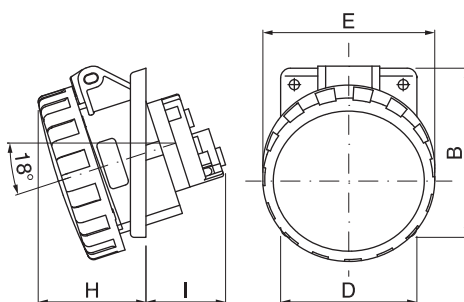
- arrangement of connection point on fixed surface.

Drawings:

- see on the disk.

Voltage, V/ location of contact	Color	Connection method	Type	Current, A	Dimensions, mm					Code
					B	D	H	I	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	87	70	45	40	from 1 to 4 (2*1.5)	DIS4131663
			2P+E	32	106	84	52	60	from 2.5 to 10 (2*2.5)	DIS4133263
		screwless type clamp	2P+E	16	87	70	45	40	from 1 to 4	DIS4131663F
			2P+E	32	106	84	52	60	from 2.5 to 10	DIS4133263F
400/6 h	red	screw type clamp	3P+E	16	87	70	46	40	from 1 to 4 (2*1.5)	DIS4131666
			3P+E	32	106	84	52	60	from 2.5 to 10 (2*2.5)	DIS4133266
			3P+N+E	16	87	70	48	41	from 1 to 4 (2*1.5)	DIS4131667
			3P+N+E	32	106	84	54	61	from 2.5 to 10 (2*2.5)	DIS4133267
		screwless type clamp	3P+E	16	87	70	46	40	from 1 to 4	DIS4131666F
			3P+E	32	106	84	52	60	from 2.5 to 10	DIS4133266F
			3P+N+E	16	87	70	48	41	from 1 to 4	DIS4131667F
			3P+N+E	32	106	84	54	61	from 2.5 to 10	DIS4133267F

Panel sockets with incline IP66/IP67



Purpose:

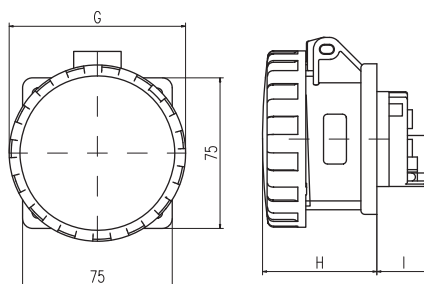
- arrangement of connection point on fixed surface.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⚡	Color	Connection method	Type	Current, A	Dimensions, mm						Code
					B	D	E	H	I	conductor section, mm²	
230/6 h	blue	screw type clamp	2P+E	16	87	70	73	52	40	from 1 to 4 (2*1.5)	DIS4181663
			2P+E	32	106	84	93	61	60	from 2.5 to 10 (2*2.5)	DIS4183263
			2P+E	63	110	100	4.5	63	89	from 6 to 25 (2*6)	DIS4156363
			2P+E	125	114	114	6	92	101	from 25 to 70 (2*16)	DIS41512563
400/6 h	red	screw type clamp	3P+E	16	87	70	81	54	40	from 1 to 4 (2*1.5)	DIS4181666
			3P+E	32	106	84	93	61	60	from 2.5 to 10 (2*2.5)	DIS4183266
			3P+E	63	110	100	4.5	63	89	from 6 to 25 (2*6)	DIS4156366
			3P+E	125	114	114	6	92	101	from 25 to 70 (2*16)	DIS41512566
			3P+N+E	16	87	70	88	55	41	from 1 to 4 (2*1.5)	DIS4181667
			3P+N+E	32	106	84	101	63	61	from 2.5 to 10 (2*2.5)	DIS4183267
			3P+N+E	63	110	100	4.5	63	89	from 6 to 25 (2*6)	DIS4156367
			3P+N+E	125	114	114	6	92	101	from 25 to 70 (2*16)	DIS41512567

Panel sockets IP66/IP67



Purpose:

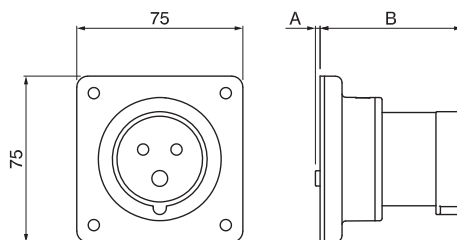
- arrangement of connection point on fixed surface.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm				Code
					G	H	I	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	73	56	27	from 1 to 4 (2*1.5)	DIS4271663
			2P+E	32	93	68	42	from 2.5 to 10 (2*2.5)	DIS4273263
400/6 h	red	screw type clamp	3P+E	16	81	57	27	from 1 to 4 (2*1.5)	DIS4271666
			3P+E	32	93	68	42	from 2.5 to 10 (2*2.5)	DIS4273266
			3P+N+E	16	88	58	27	from 1 to 4 (2*1.5)	DIS4271667
			3P+N+E	32	101	69	42	from 2.5 to 10 (2*2.5)	DIS4273267

Panel plugs IP44



Purpose:

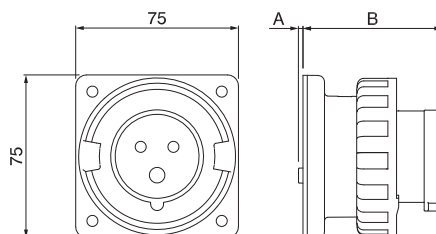
- arrangement of connection point on fixed surface.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm			Code
					A	B	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	2	65	from 1 to 2.5 (2*1)	DIS2431693
			2P+E	32	19	73	from 2.5 to 6 (2*2.5)	DIS2433293
400/6 h	red	screw type clamp	3P+E	16	2	65	from 1 to 2.5 (2*1)	DIS2431696
			3P+E	32	19	73	from 2.5 to 6 (2*2.5)	DIS2433296
			3P+N+E	16	2	65	from 1 to 2.5 (2*1)	DIS2431697
			3P+N+E	32	19	73	from 2.5 to 6 (2*2.5)	DIS2433297

Panel plugs IP67



Purpose:

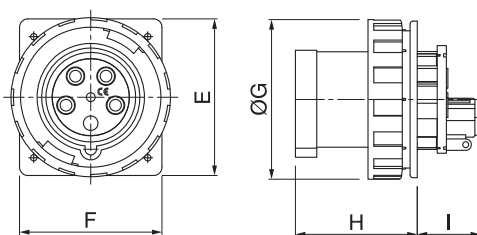
- arrangement of connection point on fixed surface.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm			Code
					A	B	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	2	65	from 1 to 2.5 (2*1)	DIS2481693
			2P+E	32	19	73	from 2.5 to 6 (2*2.5)	DIS2483293
400/6 h	red	screw type clamp	3P+E	16	2	65	from 1 to 2.5 (2*1)	DIS2481696
			3P+E	32	19	73	from 2.5 to 6 (2*2.5)	DIS2483296
			3P+N+E	16	2	65	from 1 to 2.5 (2*1)	DIS2481697
			3P+N+E	32	19	73	from 2.5 to 6 (2*2.5)	DIS2483297

Panel plugs IP67



Purpose:

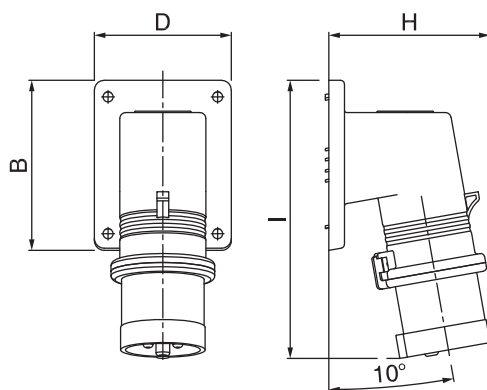
- arrangement of connection point on fixed surface.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm						Code
					E	F	ØG	H	I	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	63	110	100	112	88.5	44.5	from 6 to 16 (2*4)	DIS2466393
			2P+E	125	114	114	128.5	97	53.5	from 16 to 50 (2*16)	DIS24612593
400/6 h	red	screw type clamp	3P+E	63	110	100	112	88.5	44.5	from 6 to 16 (2*4)	DIS2466396
			3P+E	125	114	114	128.5	97	53.5	from 16 to 50 (2*16)	DIS24612596
			3P+N+E	63	110	100	112	88.5	44.5	from 6 to 16 (2*4)	DIS2466398
			3P+N+E	125	114	114	128.5	97	53.5	from 16 to 50 (2*16)	DIS24612597

Panel plugs with incline IP44



Purpose:

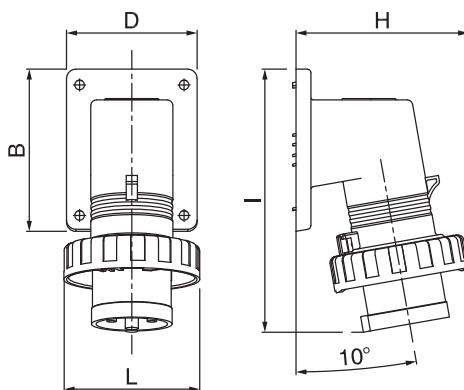
- arrangement of connection point on fixed surface.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm					Code
					B	D	H	I	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	87	70	83	142	from 1 to 2.5 (2*1)	DIS2421693
			2P+E	32	87	70	99	153	from 2.5 to 6 (2*2.5)	DIS2423293
400/6 h	red	screw type clamp	3P+E	16	87	70	91	143	from 1 to 2.5 (2*1)	DIS2421696
			3P+E	32	87	70	99	153	from 2.5 to 6 (2*2.5)	DIS2423296
			3P+N+E	16	87	70	97	144	from 1 to 2.5 (2*1)	DIS2421697
			3P+N+E	32	87	70	107	154	from 2.5 to 6 (2*2.5)	DIS2423297

Panel plugs with incline IP67



Purpose:

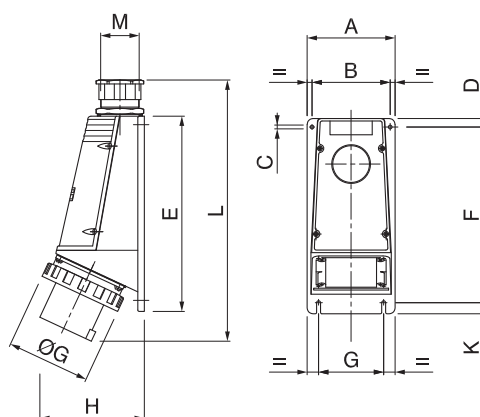
- arrangement of connection point on fixed surface.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm						Code
					B	D	H	I	L	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	87	70	93	142	73	from 1 to 2.5 (2*1)	DIS2471693
			2P+E	32	87	70	111	153	93	from 2.5 to 6 (2*2.5)	DIS2473293
400/6 h	red	screw type clamp	3P+E	16	87	70	102	143	81	from 1 to 2.5 (2*1)	DIS2471696
			3P+E	32	87	70	111	153	93	from 2.5 to 6 (2*2.5)	DIS2473296
			3P+N+E	16	87	70	109	144	88	from 1 to 2.5 (2*1)	DIS2471697
			3P+N+E	32	87	70	120	154	101	from 2.5 to 6 (2*2.5)	DIS2473297

Surface-mounted plugs IP66/IP67




Purpose:

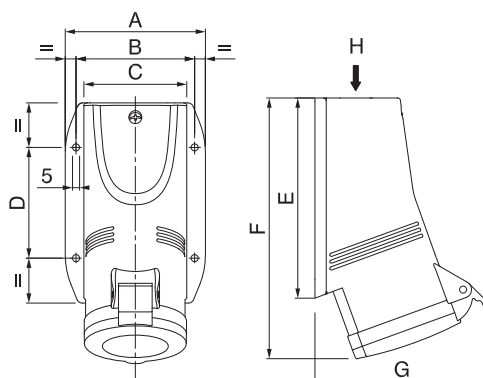
- arrangement of connection point on fixed surface.

Scope of supply:

- the scope of supply includes a cable gland.

Voltage, V/ location of contact 	Color	Connection method	Type	Current, A	Dimensions, mm										Code	
					A	B	ØC	D	E	F	ØG	H	L	M		conductor section, mm²
230/6 h	blue	screw type clamp	2P+E	63	115	96	6	10	235	204	80	130	271	1.5xM32	from 6 to 16 (2*6)	DIS245M6393
			2P+E	125	135	120	6	13	300	270	100	160	350	1.5xM63	from 16 to 50 (2*16)	DIS245M12593
400/6 h	red	screw type clamp	3P+E	63	115	96	6	10	235	204	80	130	271	1.5xM32	from 6 to 16 (2*6)	DIS245M6396
			3P+E	125	135	120	6	13	300	270	100	160	350	1.5xM63	from 16 to 50 (2*16)	DIS245M12596
			3P+N+E	63	115	96	6	10	235	204	80	130	271	1.5xM32	from 6 to 16 (2*6)	DIS245M6398
			3P+N+E	125	135	120	6	13	300	270	100	160	350	1.5xM63	from 16 to 50 (2*16)	DIS245M12597

Surface-mounted sockets IP44



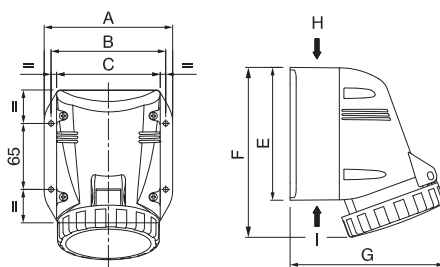
Purpose:

- arrangement of connection point on fixed surface.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm									Code
					A	B	C	D	E	F	G	H	conductor section, mm²	
230/6 h	blue	screw type clamp	2P+E	16	76	63	52	60	103	133	98	M20x1.5	from 1 to 4 (2*1.5)	DIS5131653
			2P+E	32	99	84	72	78	141	182	115	M32x1.5	from 2.5 to 10 (2*2.5)	DIS5133253
		screwless type clamp	2P+E	16	76	63	52	60	103	133	98	M20x1.5	from 1 to 4	DIS5131653TF
			2P+E	32	99	84	72	78	141	182	115	M32x1.5	from 2.5 to 10	DIS5133253TF
400/6 h	red	screw type clamp	3P+E	16	91	76	65	60	123	155	103	M25x1.5	from 1 to 4 (2*1.5)	DIS5131656
			3P+E	32	99	84	72	78	141	182	115	M32x1.5	from 2.5 to 10 (2*2.5)	DIS5133256
			3P+N+E	16	91	76	65	60	123	157	110	M25x1.5	from 1 to 4 (2*1.5)	DIS5131657
			3P+N+E	32	99	84	72	78	141	182	122	M32x1.5	from 2.5 to 10 (2*2.5)	DIS5133257
		screwless type clamp	3P+E	16	91	76	65	60	123	155	103	M25x1.5	from 1 to 4	DIS5131656TF
			3P+E	32	99	84	72	78	141	182	115	M32x1.5	from 2.5 to 10	DIS5133256TF
			3P+N+E	16	91	76	65	60	123	157	110	M25x1.5	from 1 to 4	DIS5131657TF
			3P+N+E	32	99	84	72	78	141	182	122	M32x1.5	from 2.5 to 10	DIS5133257TF

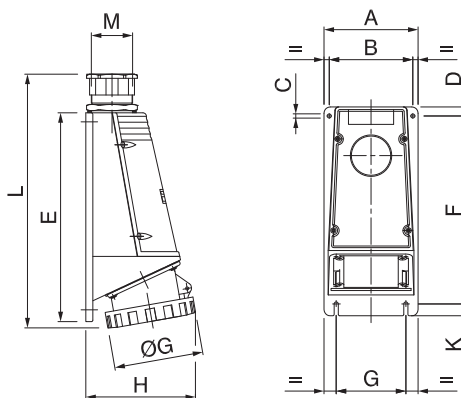
Surface-mounted sockets IP66/IP67

Purpose:

- arrangement of connection point on fixed surface.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm									Code
					A	B	C	E	F	G	H	I	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	94	80	70	96	131	110	M20x1.5	M20x1.5	from 1 to 4 (2*1.5)	DIS5181653T
			2P+E	32	126	113	102	130	166	151	M32x1.5	2 x M32x1.5	from 2.5 to 10 (2*2.5)	DIS5183253T
400/6 h	red	screw type clamp	3P+E	16	109	97	85	112	146	134	M25x1.5	2 x M25x1.5	from 1 to 4 (2*1.5)	DIS5181656T
			3P+E	32	126	113	102	130	166	151	M32x1.5	2 x M32x1.5	from 2.5 to 10 (2*2.5)	DIS5183256T
			3P+N+E	16	109	97	85	112	150	135	M25x1.5	2 x M25x1.5	from 1 to 4 (2*1.5)	DIS5181657T
			3P+N+E	32	126	113	102	130	167	152	M32x1.5	2 x M32x1.5	from 2.5 to 10 (2*2.5)	DIS5183257T

Surface-mounted sockets IP66/IP67

Purpose:

- arrangement of connection point on fixed surface.

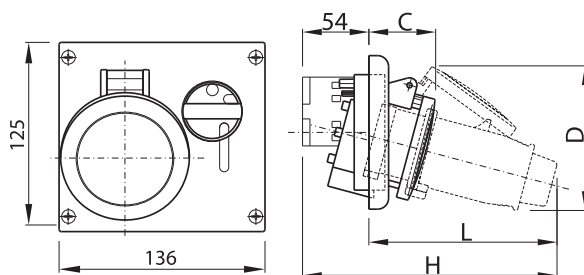
Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm													Code
					A	B	C	D	E	F	G	H	K	L	M	ØG	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	63	115	96	6	10	235	205	80	125	15	267	32	112	from 6 to 25 (2*6)	DIS5156353
			2P+E	125	135	120	6	13	300	270	100	157	17	346	63	128	from 25 to 70 (2*16)	DIS51512553
400/6 h	red	screw type clamp	3P+E	63	115	96	6	10	235	205	80	125	15	267	32	112	from 6 to 25 (2*6)	DIS5156356
			3P+E	125	135	120	6	13	300	270	100	157	17	346	63	128	from 25 to 70 (2*16)	DIS51512556
			3P+N+E	63	115	96	6	10	235	205	80	125	15	267	32	112	from 6 to 25 (2*6)	DIS5156357
			3P+N+E	125	135	120	6	13	300	270	100	157	17	346	63	128	from 25 to 70 (2*16)	DIS51512557

Panel sockets with mechanical blocking

With upper location of plug IP44



Purpose:

- arrangement of increased security connection point. Prevents power supply if there is no load and contact disconnection under load.

Distinctive features:

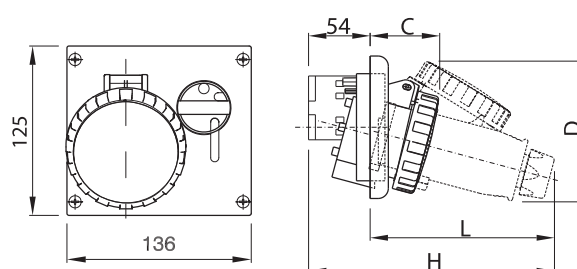
- compact size.

Drawings:

- see on the disk.

Voltage, V/ location of contact	Color	Connection method	Type	Current, A	Dimensions, mm					Code
					C	D	L	H	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	51	95	130	184	from 1 to 4 (2*1.5)	DIS4001683
			2P+E	32	63	121	161	215	from 2.5 to 10 (2*2.5)	DIS4003283
400/6 h	red	screw type clamp	3P+E	16	53	107	137	190	from 1 to 4 (2*1.5)	DIS4001686
			3P+E	32	63	121	161	215	from 2.5 to 10 (2*2.5)	DIS4003286
			3P+N+E	16	54	118	153	207	from 1 to 4 (2*1.5)	DIS4001687
			3P+N+E	32	64	127	169	223	from 2.5 to 10 (2*2.5)	DIS4003287

With upper location of plug IP66/IP67



Purpose:

- arrangement of increased security connection point. Prevents power supply if there is no load and contact disconnection under load.

Distinctive features:

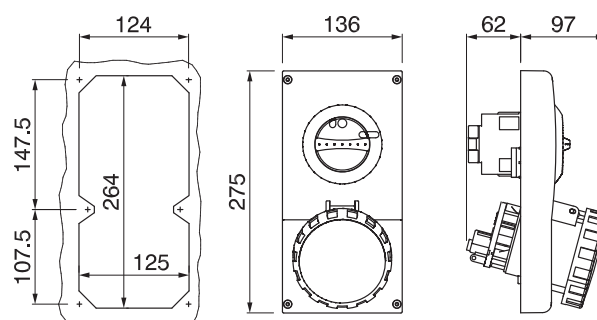
- compact size.

Drawings:

- see on the disk.

Voltage, V/ location of contact	Color	Connection method	Type	Current, A	Dimensions, mm					Code
					C	D	L	H	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	52	100	134	188	from 1 to 4 (2*1.5)	DIS4051683
			2P+E	32	65	125	166	220	from 2.5 to 10 (2*2.5)	DIS4053283
400/6 h	red	screw type clamp	3P+E	16	54	109	142	195	from 1 to 4 (2*1.5)	DIS4051686
			3P+E	32	65	125	166	220	from 2.5 to 10 (2*2.5)	DIS4053286
			3P+N+E	16	60	122	162	216	from 1 to 4 (2*1.5)	DIS4051687
			3P+N+E	32	67	130	166	230	from 2.5 to 10 (2*2.5)	DIS4053287

With upper location of plug IP67



Purpose:

- arrangement of increased security connection point. Prevents power supply if there is no load and contact disconnection under load.

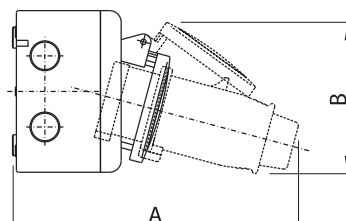
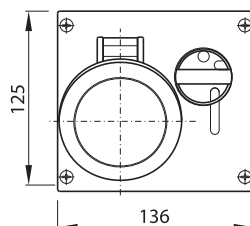
Distinctive features:

- compact size.

Voltage, V/ location of contact	Color	Connection method	Type	Current, A	Conductor section, mm ²	Code
230/6 h	blue	screw type terminal block	2P+E	63	from 6 to 25 (2*6)	DIS4056383
400/6 h	red	screw type terminal block	3P+E	63	from 6 to 25 (2*6)	DIS4056386
			3P+N+E	63	from 6 to 25 (2*6)	DIS4056387

Surface-mounted sockets with mechanical blocking

With upper location of plug IP44


Purpose:

- arrangement of increased security connection point. Prevents power supply if there is no load and contact disconnection under load.

Distinctive features:

- compact size.

Characteristics:

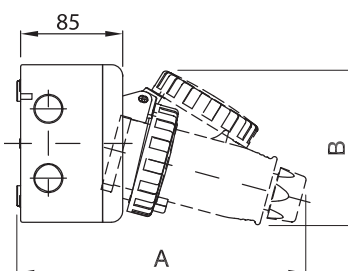
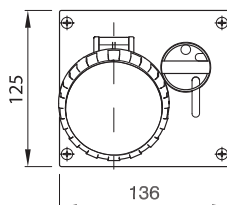
- pre-perforation for cable entry:
 - from the right 2xM20;
 - from the left 2xM20;
 - upper part 2xM20, 1xM25;
 - lower part 1xM25;
 - rear wall 2xM20.

Drawings:

- see on the disk.

Voltage, V/ location of contact	Color	Connection method	Type	Current, A	Dimensions, mm							Code
					A	B	C	D	L	H	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	198	95	51	95	130	184	from 1 to 4 (2*1.5)	DIS5001683
			2P+E	32	229	121	63	121	161	215	from 2.5 to 10 (2*2.5)	DIS5003283
400/6 h	red	screw type clamp	3P+E	16	205	107	53	107	137	190	from 1 to 4 (2*1.5)	DIS5001686
			3P+E	32	229	121	63	121	161	215	from 2.5 to 10 (2*2.5)	DIS5003286
			3P+N+E	16	226	118	54	118	153	207	from 1 to 4 (2*1.5)	DIS5001687
			3P+N+E	32	236	127	64	127	169	223	from 2.5 to 10 (2*2.5)	DIS5003287

With upper location of plug IP66/IP67


Purpose:

- arrangement of increased security connection point. Prevents power supply if there is no load and contact disconnection under load.

Distinctive features:

- compact size.

Characteristics:

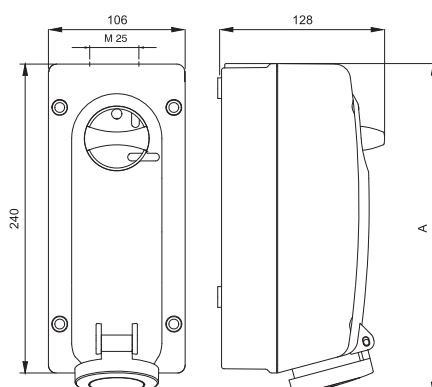
- pre-perforation for cable entry:
 - from the right 2xM20;
 - from the left 2xM20;
 - upper part 2xM20, 1xM25;
 - lower part 1xM25;
 - rear wall 2xM20.

Drawings:

- see on the disk.

Voltage, V/ location of contact	Color	Connection method	Type	Current, A	Dimensions, mm							Code
					A	B	C	D	L	H	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	202	100	52	100	134	188	from 1 to 4 (2*1.5)	DIS5051683
			2P+E	32	235	125	65	125	166	220	from 2.5 to 10 (2*2.5)	DIS5053283
400/6 h	red	screw type clamp	3P+E	16	210	109	54	109	142	195	from 1 to 4 (2*1.5)	DIS5051686
			3P+E	32	235	125	65	125	166	220	from 2.5 to 10 (2*2.5)	DIS5053286
			3P+N+E	16	230	122	60	122	162	216	from 1 to 4 (2*1.5)	DIS5051687
			3P+N+E	32	245	130	67	130	166	230	from 2.5 to 10 (2*2.5)	DIS5053287

With side location of plug IP44



Purpose:

- arrangement of increased security connection point. Prevents power supply if there is no load and contact disconnection under load.

Distinctive features:

- compact size.

Characteristics:

- cable entry:
 - 1 M25 hole in the upper part;
 - 2 marks for M20 hole drilling in the lower part;
 - 1 mark for M20 hole drilling on the rear wall.

Scope of supply:

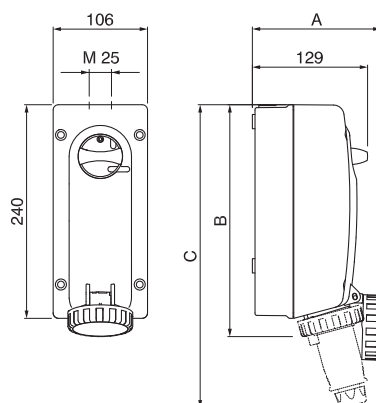
- the scope of supply includes M25 cable gland.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm		Code
					A	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	256	from 1 to 4 (2*1.5)	DIS5601683
			2P+E	32	267	from 2.5 to 10 (2*2.5)	DIS5603283
400/6 h	red	screw type clamp	3P+E	16	256	from 1 to 4 (2*1.5)	DIS5601686
			3P+E	32	267	from 2.5 to 10 (2*2.5)	DIS5603286
			3P+N+E	16	256	from 1 to 4 (2*1.5)	DIS5601687
			3P+N+E	32	265	from 2.5 to 10 (2*2.5)	DIS5603287

With side location of plug IP66/IP67



Purpose:

- arrangement of increased security connection point. Prevents power supply if there is no load and contact disconnection under load.

Distinctive features:

- compact size.

Characteristics:

- cable entry:
 - 1 M25 hole in the upper part;
 - 2 marks for M20 hole drilling in the lower part;
 - 1 mark for M20 hole drilling on the rear wall.

Scope of supply:

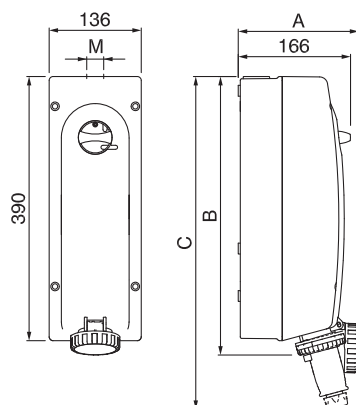
- the scope of supply includes M25 cable gland.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm				Code
					A	B	C	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	145	261	341	from 1 to 4 (2*1.5)	DIS5611683
			2P+E	32	164	272	377	from 2.5 to 10 (2*2.5)	DIS5613283
400/6 h	red	screw type clamp	3P+E	16	152	261	350	from 1 to 4 (2*1.5)	DIS5611686
			3P+E	32	164	272	377	from 2.5 to 10 (2*2.5)	DIS5613286
			3P+N+E	16	163	262	368	from 1 to 4 (2*1.5)	DIS5611687
			3P+N+E	32	167	272	385	from 2.5 to 10 (2*2.5)	DIS5613287

With side location of plug IP66/IP67



Purpose:

- arrangement of increased security connection point. Prevents power supply if there is no load and contact disconnection under load.

Characteristics:

- cable entry:
 - 1 M40 hole in the upper part;
 - 2 marks for M20 hole drilling in the lower part;
 - 3 marks for M32 hole drilling in the lower part;
 - 1 mark for M20 hole drilling on the rear wall.

Scope of supply:

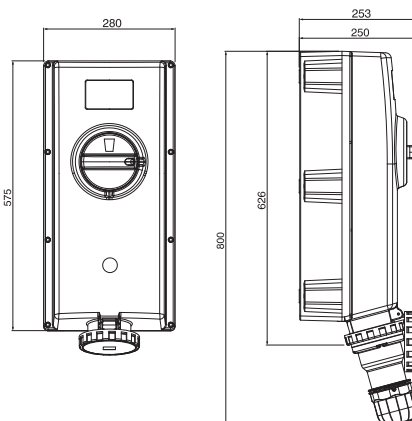
- the scope of supply includes M40 cable gland.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Dimensions, mm					Code
					A	B	C	M	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	63	211	439	610	M40	from 6 to 25 (2*6)	DIS5616383
400/6 h	red	screw type clamp	3P+E	63	211	439	610	M40	from 6 to 25 (2*6)	DIS5616386
			3P+N+E	63	211	439	610	M40	from 6 to 25 (2*6)	DIS5616387

With side location of plug IP66/IP67



Purpose:

- arrangement of increased security connection point. Prevents power supply if there is no load and contact disconnection under load.

Features:

- improved mechanical strength IK10;
- enclosure heating up to +90 °C is permitted.

Characteristics:

- cable entry:
 - 3 marks for M63 hole drilling in the upper part;
 - 2 marks for M63 hole drilling in the lower part.

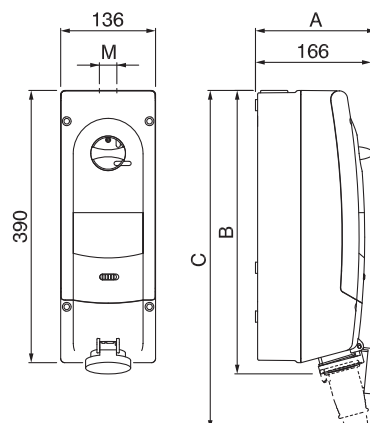
Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	conductor section, mm ²	Code
230/6 h	blue	screw type clamp	2P+E	125	from 25 to 70 (2*16)	DIS50312583
400/6 h	red	screw type clamp	3P+E	125	from 25 to 70 (2*16)	DIS50312586
			3P+N+E	125	from 25 to 70 (2*16)	DIS50312587

Surface-mounted sockets with DIN rail and mechanical blocking

With empty rail for 6 modules*, IP44



Purpose:

- arrangement of connection point with possibility of installation of modular equipment and mechanical blocking of power supply/plug removal.

Characteristics:

- cable entry:
 - 1 entry for cable gland in the upper part (see table below);
 - 2 marks for M20 hole drilling in the lower part;
 - 3 marks for M32 hole drilling in the lower part;
 - 1 mark for M20 hole drilling on the rear wall.

Scope of supply:

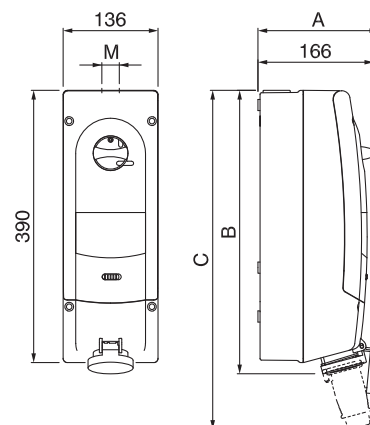
- the scope of supply includes cable gland for installation in the upper part of plug.

Drawings:

- see on the disk.

Voltage, V/ location of contact	Color	Connection method	Type	Current, A	Dimensions, mm					Code
					A	B	C	M	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	166	406	486	M25	from 1 to 4 (2*1.5)	DIS5671683
			2P+E	32	199	416	513	M25	from 2.5 to 10 (2*2.5)	DIS5673283
400/6 h	red	screw type clamp	3P+E	16	180	406	492	M25	from 1 to 4 (2*1.5)	DIS5671686
			3P+E	32	199	416	513	M25	from 2.5 to 10 (2*2.5)	DIS5673286
			3P+N+E	16	190	406	506	M25	from 1 to 4 (2*1.5)	DIS5671687
			3P+N+E	32	199	419	519	M25	from 2.5 to 10 (2*2.5)	DIS5673287

With leakage current protection, IP44



Purpose:

- arrangement of connection point with installed modular equipment and mechanical blocking of power supply/plug removal.

Characteristics:

- cable entry:
 - 1 entry for cable gland in the upper part (see table below);
 - 2 marks for M20 hole drilling in the lower part;
 - 3 marks for M32 hole drilling in the lower part;
 - 1 mark for M20 hole drilling on the rear wall.

Scope of supply:

- the scope of supply includes cable gland for installation in the upper part of plug.

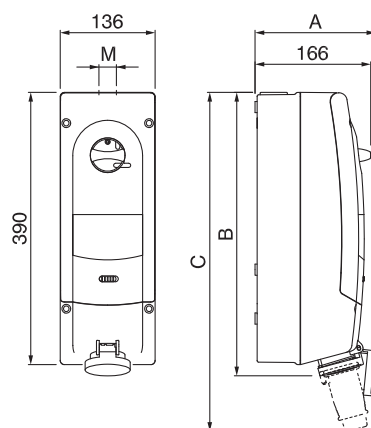
Drawings:

- see on the disk.

Voltage, V/ location of contact	Color	Connection method	Type	Current, A	Type of installed modular equipment	Dimensions, mm					Code
						A	B	C	M	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	RCD, 25 A, 0.03 A, "C"	166	406	486	M25	from 1 to 4 (2*1.5)	DIS5671683R
			2P+E	32	RCD, 40 A, 0.03 A, "C"	199	416	513	M25	from 2.5 to 10 (2*2.5)	DIS5673283R
400/6 h	red	screw type clamp	3P+E	16	RCD, 25 A, 0.03 A, "C"	180	406	492	M25	from 1 to 4 (2*1.5)	DIS5671686R
			3P+E	32	RCD, 40 A, 0.03 A, "C"	199	416	513	M25	from 2.5 to 10 (2*2.5)	DIS5673286R
			3P+N+E	16	RCD, 25 A, 0.03 A, "C"	190	406	506	M25	from 1 to 4 (2*1.5)	DIS5671687R
			3P+N+E	32	RCD, 40 A, 0.03 A, "C"	199	419	519	M25	from 2.5 to 10 (2*2.5)	DIS5673287R

* Size of 1 module is 85x18x68 (HxWxD)

With leakage current and short-circuit protection, IP44



Purpose:

- arrangement of connection point with installed modular equipment and mechanical blocking of power supply/plug removal.

Characteristics:

- cable entry:
 - 1 entry for cable gland in the upper part (see table below);
 - 2 marks for M20 hole drilling in the lower part;
 - 3 marks for M32 hole drilling in the lower part;
 - 1 mark for M20 hole drilling on the rear wall.

Scope of supply:

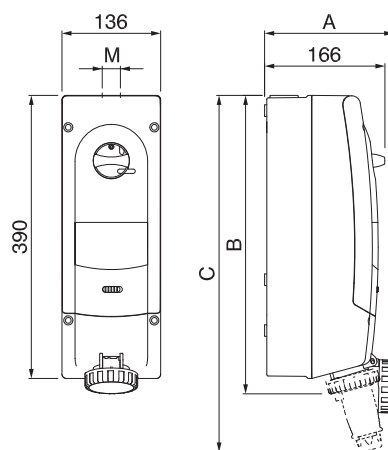
- the scope of supply includes cable gland for installation in the upper part of plug.

Drawings:

- see on the disk.

Voltage, V/ location of contact	Color	Connection method	Type	Current, A	Type of installed modular equipment	Dimensions, mm					Code
						A	B	C	M	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	RCD, 25 A, 0.03 A, "C" Aut. sw., 16 A, "C"	166	406	486	M25	from 1 to 4 (2*1.5)	DIS5671683RM
			2P+E	32	RCD, 40 A, 0.03 A, "C" Aut. sw., 32 A, "C"	199	416	513	M25	from 2.5 to 10 (2*2.5)	DIS5673283RM
400/6 h	red	screw type clamp	3P+E	16	RCBO, 16 A, 0.03 A, "C"	180	406	492	M25	from 1 to 4 (2*1.5)	DIS5671686RM
			3P+E	32	RCBO, 32 A, 0.03 A, "C"	199	416	513	M25	from 2.5 to 10 (2*2.5)	DIS5673286RM
			3P+N+E	16	RCBO, 16 A, 0.03 A, "C"	190	406	506	M25	from 1 to 4 (2*1.5)	DIS5671687RM
			3P+N+E	32	RCBO, 32 A, 0.03 A, "C"	199	419	519	M25	from 2.5 to 10 (2*2.5)	DIS5673287RM

With empty rail for 6 modules*, IP67



Purpose:

- arrangement of connection point with possibility of installation of modular equipment and mechanical blocking of power supply/plug removal.

Characteristics:

- cable entry:
 - 1 entry for cable gland in the upper part (see table below);
 - 2 marks for M20 hole drilling in the lower part;
 - 3 marks for M32 hole drilling in the lower part;
 - 1 mark for M20 hole drilling on the rear wall.

Scope of supply:

- the scope of supply includes cable gland for installation in the upper part of plug.

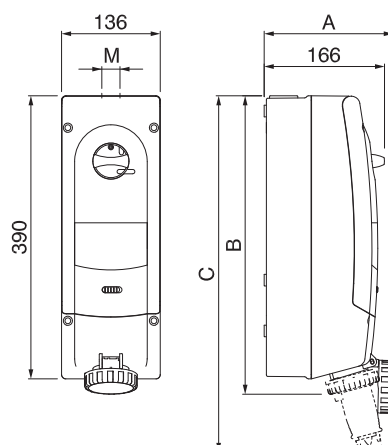
Drawings:

- see on the disk.

Voltage, V/ location of contact	Color	Connection method	Type	Current, A	Dimensions, mm					Code
					A	B	C	M	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	166	412	492	M25	from 1 to 4 (2*1.5)	DIS5681683
			2P+E	32	205	420	526	M25	from 2.5 to 10 (2*2.5)	DIS5683283
			2P+E	63	211	439	610	M40	from 6 to 25 (2*6)	DIS5686383
400/6 h	red	screw type clamp	3P+E	16	186	412	500	M25	from 1 to 4 (2*1.5)	DIS5681686
			3P+E	32	205	420	526	M25	from 2.5 to 10 (2*2.5)	DIS5683286
			3P+E	63	211	439	610	M40	from 6 to 25 (2*6)	DIS5686386
			3P+N+E	16	197	412	518	M25	from 1 to 4 (2*1.5)	DIS5681687
			3P+N+E	32	207	420	533	M25	from 2.5 to 10 (2*2.5)	DIS5683287
			3P+N+E	63	211	439	610	M40	from 6 to 25 (2*6)	DIS5686387

* Size of 1 module is 85x18x68 (HxWxD)

With leakage current protection, IP67



Purpose:

- arrangement of connection point with installed modular equipment and mechanical blocking of power supply/plug removal.

Characteristics:

- cable entry:
 - 1 entry for cable gland in the upper part (see table below);
 - 2 marks for M20 hole drilling in the lower part;
 - 3 marks for M32 hole drilling in the lower part;
 - 1 mark for M20 hole drilling on the rear wall.

Scope of supply:

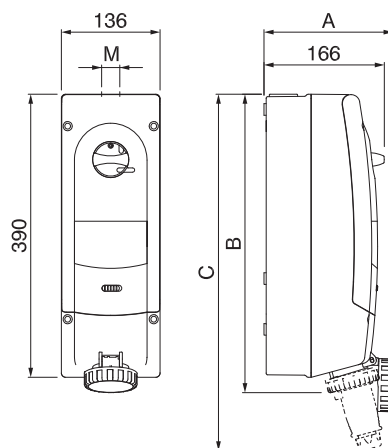
- the scope of supply includes cable gland for installation in the upper part of plug.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Type of installed modular equipment	Dimensions, mm					Code
						A	B	C	M	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	RCD, 25 A, 0.03 A, "C"	166	412	492	M25	from 1 to 4 (2*1.5)	DIS5681683RW
			2P+E	32	RCD, 40 A, 0.03 A, "C"	205	420	526	M25	from 2.5 to 10 (2*2.5)	DIS5683283RW
			2P+E	63	RCD, 63 A, 0.03 A, "C"	211	439	610	M40	from 6 to 25 (2*6)	DIS5686383RW
400/6 h	red	screw type clamp	3P+E	16	RCD, 25 A, 0.03 A, "C"	186	412	500	M25	from 1 to 4 (2*1.5)	DIS5681686RW
			3P+E	32	RCD, 40 A, 0.03 A, "C"	205	420	526	M25	from 2.5 to 10 (2*2.5)	DIS5683286RW
			3P+E	63	RCD, 63 A, 0.03 A, "C"	211	439	610	M40	from 6 to 25 (2*6)	DIS5686386RW
			3P+N+E	16	RCD, 25 A, 0.03 A, "C"	197	412	518	M25	from 1 to 4 (2*1.5)	DIS5681687RW
			3P+N+E	32	RCD, 40 A, 0.03 A, "C"	207	420	533	M25	from 2.5 to 10 (2*2.5)	DIS5683287RW
			3P+N+E	63	RCD, 63 A, 0.03 A, "C"	211	439	610	M40	from 6 to 25 (2*6)	DIS5686387RW

With leakage current and short-circuit protection, IP67



Purpose:

- arrangement of connection point with installed modular equipment and mechanical blocking of power supply/plug removal.

Characteristics:

- cable entry:
 - 1 entry for cable gland in the upper part (see table below);
 - 2 marks for M20 hole drilling in the lower part;
 - 3 marks for M32 hole drilling in the lower part;
 - 1 mark for M20 hole drilling on the rear wall.

Scope of supply:

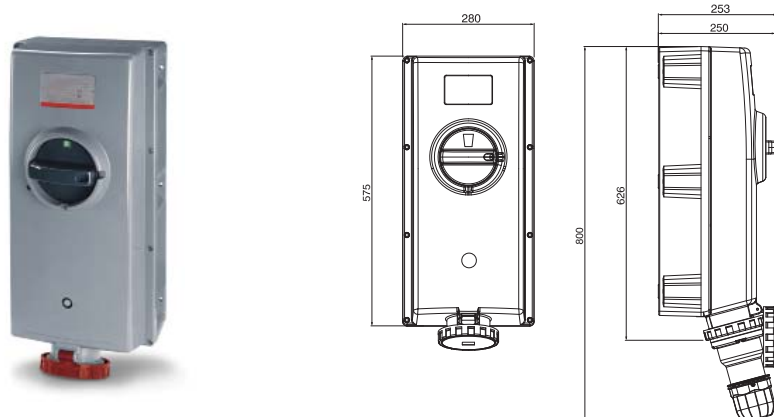
- the scope of supply includes cable gland for installation in the upper part of plug.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Type of installed modular equipment	Dimensions, mm					Code
						A	B	C	M	conductor section, mm ²	
230/6 h	blue	screw type clamp	2P+E	16	RCD, 25 A, 0.03 A, "C" Aut. sw., 16 A, "C"	166	412	492	M25	from 1 to 4 (2*1.5)	DIS5681683RMW
			2P+E	32	RCD, 40 A, 0.03 A, "C" Aut. sw., 32 A, "C"	205	420	526	M25	from 2.5 to 10 (2*2.5)	DIS5683283RMW
			2P+E	63	RCD, 63 A, 0.03 A, "C" Aut. sw., 63 A, "C"	211	439	610	M40	from 6 to 25 (2*6)	DIS5686383RMW
400/6 h	red	screw type clamp	3P+E	16	RCBO, 16 A, 0.03 A, "C"	186	412	500	M25	from 1 to 4 (2*1.5)	DIS5681686RMW
			3P+E	32	RCBO, 32 A, 0.03 A, "C"	205	420	526	M25	from 2.5 to 10 (2*2.5)	DIS5683286RMW
			3P+E	63	RCBO, 63 A, 0.03 A, "C"	211	439	610	M40	from 6 to 25 (2*6)	DIS5686386RMW
			3P+N+E	16	RCBO, 16 A, 0.03 A, "C"	197	412	518	M25	from 1 to 4 (2*1.5)	DIS5681687RMW
			3P+N+E	32	RCBO, 32 A, 0.03 A, "C"	207	420	533	M25	from 2.5 to 10 (2*2.5)	DIS5683287RMW
			3P+N+E	63	RCBO, 63 A, 0.03 A, "C"	211	439	610	M40	from 6 to 25 (2*6)	DIS5686387RMW

With short-circuit protection, IP67



Purpose:

- arrangement of increased security connection point. Prevents power supply if there is no load, contact disconnection under load as well as short-circuit protection.

Features:

- improved mechanical strength IK10;
- enclosure heating up to +90 °C is permitted.

Characteristics:

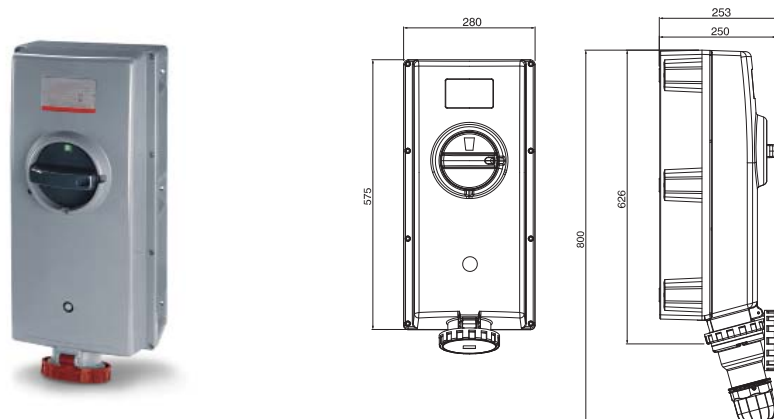
- cable entry:
 - 3 marks for M63 hole drilling in the upper part;
 - 2 marks for M63 hole drilling in the lower part.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Type of installed modular equipment	Conductor section, mm ²	Code
230/6 h	blue	screw type clamp	2P+E	125	ABB Tmax T1B (16kA) with TMD	from 25 to 70 (2*16)	DIS50312583M
400/6 h	red	screw type clamp	3P+E	125	ABB Tmax T1B (16kA) with TMD	from 25 to 70 (2*16)	DIS50312586M
			3P+N+E	125	ABB Tmax T1B (16kA) with TMD	from 25 to 70 (2*16)	DIS50312587M

With leakage current and short-circuit protection, IP67



Purpose:

- arrangement of increased security connection point. Prevents power supply if there is no load, contact disconnection under load as well as leakage current and short-circuit protection.

Features:

- improved mechanical strength IK10;
- enclosure heating up to +90 °C is permitted.

Characteristics:

- cable entry:
 - 3 marks for M63 hole drilling in the upper part;
 - 2 marks for M63 hole drilling in the lower part.

Drawings:

- see on the disk.

Voltage, V/ location of contact ⊕	Color	Connection method	Type	Current, A	Type of installed modular equipment	Conductor section, mm ²	Code
230/6 h	blue	screw type clamp	2P+E	125	ABB Tmax T1B (16kA) with TMD and RC221/1	from 25 to 70 (2*16)	DIS50312583RM
400/6 h	red	screw type clamp	3P+E	125	ABB Tmax T1B (16kA) with TMD and RC221/1	from 25 to 70 (2*16)	DIS50312586RM
			3P+N+E	125	ABB Tmax T1B (16kA) with TMD and RC221/1	from 25 to 70 (2*16)	DIS50312587RM

Adapters

16 A(3P)230 V>16 A(2P+E)250 V, IP44

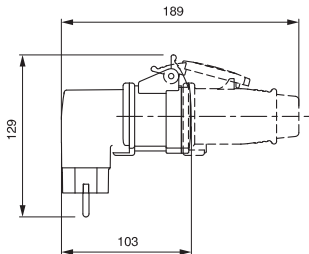


Purpose:

- connection of plug as per DIN 49440 standard to the socket as per CEE standard. Designed for use at enterprises, in garages, retail outlets. Suitable for industrial use.

Input	Output	Code
16 A(3P) 230 V	16 A(2P+E) 250 V	DIS610381

16 A(2P+E)250 V>16 A(3P)230 V, IP44



Purpose:

- connection of plug as per CEE standard to the socket as per DIN 49440 standard. Designed for use at enterprises, in garages, retail outlets. Suitable for industrial use.

Drawings:

- see on the disk.

Input	Output	Code
16 A(2P+E) 250 V	16 A(3P) 230 V	DIS610379

Accessories

Box for surface mounting, straight, IP67



With base 70x87 mm



With base 136x125 mm

Purpose:

- installation of concealed mounting sockets.

Installation conditions:

- mounting via through-holes inside the box;
- DIS572M0310 also allows for attachment from the side of surface without box integrity violation.

Features:

- box with base 136x125 allows for installation of a DIN rail on the bottom.

Drawings:

- see on the disk.

Installation example:

- pages 235-236.

For sockets with base, mm	Number of mounting seats	Protection level, IP	Cable gland type	Cable glands, mm				Color	Code
				top part	bottom part	sides	rear wall		
70x87	1	67	marks for hole drilling	1x25 or 2x20	1x25 or 2x20	–	–	gray	DIS5700016
84x106	1	67	marks for hole drilling	1x25 or 2x20	1x25 or 2x20	–	–	gray	DIS5700032
136x125	1	67	pre-perforation	2x20 1x25	1x25	2x20	2x20	gray	DIS572M0310

Box for surface mounting with incline


Purpose:

- installation of concealed mounting sockets.

Installation conditions:

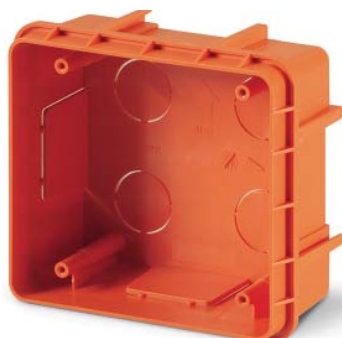
- attachment is performed in the points on the outside of enclosure.

Drawings:

- see on the disk.

For sockets with base, mm	Cable gland type	Cable glands, mm				Color	Code
		top part	bottom part	sides	rear wall		
70x87	mark for hole drilling	1x20	–	–	–	gray	DIS5700116
84x106	mark for hole drilling	1x20	–	–	–	gray	DIS5700132

Box for concealed mounting of panel plugs



DIS5720200



Combining insert

Purpose:

- installation of panel sockets.

Installation conditions:

- designed for concealed installation in non-combustible bases;
- socket attachment is performed through carrier DIS5720220.

Scope of supply:

- scope of supply with DIS5720200 code includes 1 carrier allowing for combination of several boxes in single structure.

Installation example:

- page 239.

For sockets with base, mm	Installation type	Number of mounting seats	Dimensions, mm	Cable glands				Color	Code
				top part	bottom part	sides	rear wall		
136x125	in trench	1	160x149x72	–	–	–	–	orange	DIS5720200
136x125	on gypsum plasterboard	1	160x149x72	–	–	–	–	black	DIS5720205

Adapters for mounting boxes

**Purpose:**

- providing possibility of installation of plugs on mounting boxes.

Features:

- color is gray;
- protection level is IP66.

For sockets with base, mm	On boxes for sockets with base, mm	Code
70x87	95x95	DIS137151
	136x125	DIS6540125
75x75	84x106	DIS6540108
84x106	136x125	DIS6540126

Carrier for concealed installation box 136x125

**Purpose:**

- equipment attachment on box for concealed mounting DIS5720200.

On boxes with base, mm	Number of mounting seats	Protection level, IP	Color	Code
136x125	1	55	gray	DIS5720220

Blank cover for mounting box 136x125

**Purpose:**

- arrangement of closed boxes during connection of plug groups (formation of terminal boxes, installation of protection and control systems).

On boxes with base, mm	Protection level, IP	Color	Code
136x125	66	gray	DIS6540120

Protective cover for cable and fixed plugs


Purpose:

- protection of contact group on plugs against dust and water.

Features:

- attached on plug with tie 25301;
- protection level is IP67;
- color is gray.

Which plug is designed for	Code
16 A, 2P+E	DIS57090163
16 A, 3P+E	DIS57090164
16 A, 3P+N+E	DIS57090165
32 A, 2P+E, 3P+E	DIS57090324
32 A, 3P+N+E	DIS57090325
63 A, 2P+E, 3P+E, 3P+N+E	DIS5709063
125 A, 2P+E, 3P+E, 3P+N+E	DIS5709125

Post for loose installation


Purpose:

- fixed installation of plugs.

Material	Diameter, mm	Height, mm	Code
Galvanized steel	80	1250	DIS6540650

Mounting plates



Plate with shield



Plate reverse side without shield

Purpose:

- for attachment of plugs on poles and tubes.

Features:

- plugs are attached on the plate with screws or self-tapping screws (not included into the scope of supply).

Drawings:

- see on the disk.

Name	Material	Dimension, mm	Tube diameter, mm	Code
Mounting plate	galvanized steel	328x400	80	DIS6540651
Mounting plate with shield	galvanized steel	417x330	80	DIS6540653
	galvanized steel	567x330	80	DIS6540654

Folding floor-mounted frame


Purpose:

- for mobile installation of plugs.

Material	Dimension, mm	Code
Galvanized steel	686x392	DIS6540610

Floor-mounted frame with shield


Purpose:

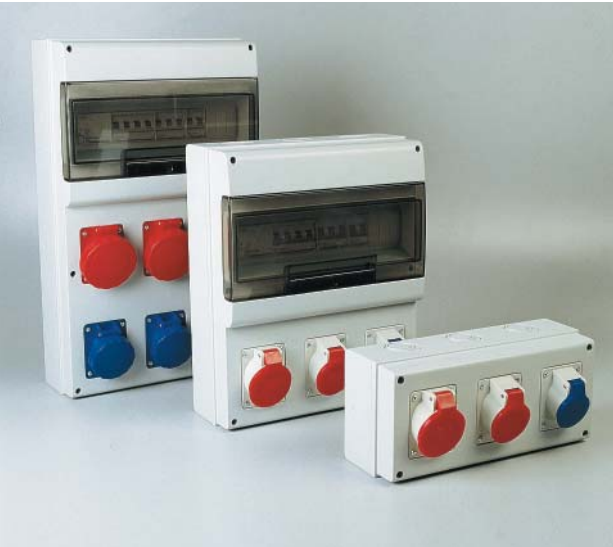
- placement of industrial plugs and equipment on horizontal surface.

Size of mounting plate HxW, mm	Overall structure size HxWxD, mm	Material	Code
1130x1000	1600x1108x871	galvanized steel	DIS661002
1000x1750	1600x1800x871	galvanized steel	DIS661003
1000x2160	1605x2210x871	galvanized steel	DIS661004

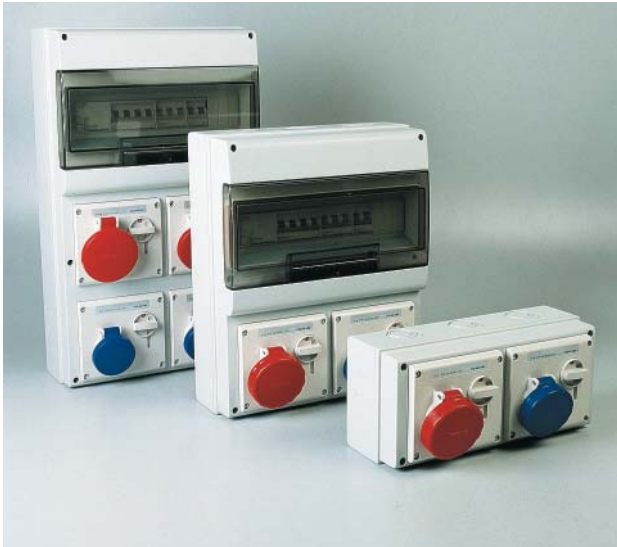
"Domino" enclosure series for assembly of distribution boxes

"Domino" enclosure series is designed for formation of distribution boxes that facilitate mobile equipment connection and control.

Series includes 2 subgroups: "Domino" and "Domino-MAX".



"Domino"
Subgroup is focused on installation of sockets with rating of 16 and 32 A and IP44 or IP67 protection degree.
Maximum protection level of structure assembly is IP66.



"Domino-MAX"
Enclosures have large-size mounting seats that allows for installation of both standard sockets with rated current of 16 and 32 A and sockets with mechanical blocking with rated current up to 63 A.
Maximum protection level is IP66.

Technical characteristics

Characteristics	Value
Protection level, IP	IP66
Mechanical strength	IK07
Operating temperature, °C	from -25 to +60
Production material	ABS/Polycarbonate
Glow-wire test, °C	650
Resistance to ultraviolet	resistant

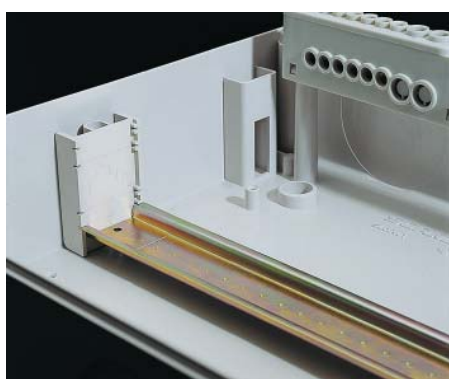
Chemical properties

Chemical	Chemical condition	Socket resistance to chemical impact
Acids	concentrated	resistant to a limited extent
	diluted	resistant
Alkali	concentrated	resistant to a limited extent
	diluted	resistant
Hexane	–	resistant
Benzene	–	not resistant
Acetone	–	not resistant
Alcohol	–	resistant
Mineral oils	–	not resistant

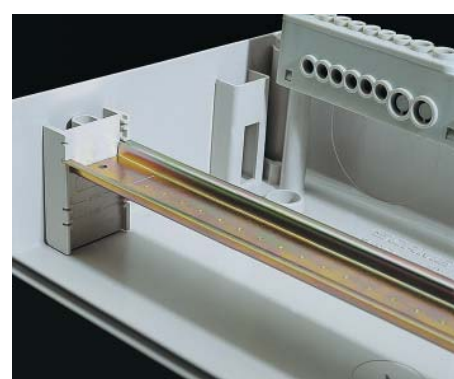
Distinctive features



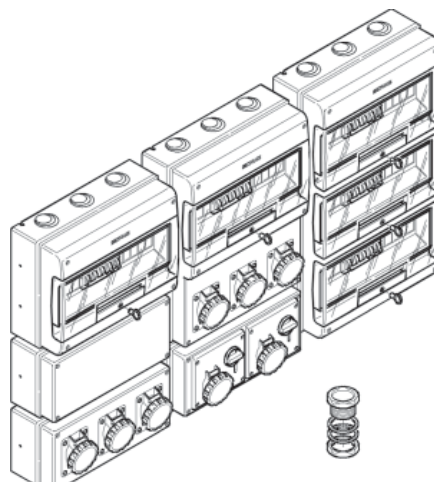
Front part is attached on hinges that facilitates installation and service



Adjustable depth of DIN rail position



Compatibility with "Octopus" and "Express" tube systems



Enclosure combination is possible



Wide range of accessories

"Domino" enclosures



Purpose:

- formation of distribution boxes.

Installation conditions:

- on the wall;
- on the frame;
- on the post.

Material:

- enclosure is made of ABS plastic;
- small window is made of polycarbonate.

Scope of supply:

- DIN rail and adjustable retainers;
- plug for 4 modules (see number in the table below);
- plug 70x87 and seal (see number in the table below).

Drawings:

- see on the disk.

Number of installed sockets	Rating of installed sockets	Format of installed sockets, mm	Type of enclosure	Power dissipation, W	Size of compartment of modular equipment**	Dimension, mm	Number of plugs in the kit	Code
2	16 A	70x87	M340	14	8 modules	340x184x140	– 1 pce for modular compartment with size "4 modules"; – 1 pce 70x87 (DIS6540100 code)	DIS6722300
	16 A, 32 A*	70x87, 84x106*	M400	22	12 modules	400x256x140	– 1 pce for modular compartment with size "4 modules"; – 1 pce 70x87 (DIS6540100 code)	DIS6723300
3	16 A, 32 A*	70x87, 84x106*	M400	28	16 modules	400x328x140	– 2 pce for modular compartment with size "4 modules"; – 1 pce 70x87 (DIS6540100 code)	DIS6724316
6	16 A, 32 A*	70x87, 84x106*	M550	28	16 modules	550x328x140	– 2 pce for modular compartment with size "4 modules"; – 2 pce 70x87 (DIS6540100 code)	DIS6725616
8	16 A, 32 A*	70x87, 84x106*	M550	28	24 modules	550x477x140	– 2 pce for modular compartment with size "4 modules"; – 2 pce 70x87 (DIS6540100 code)	DIS6725822

* Installation of sockets 32 A with base 84x106 is possible after preliminary processing of mounting seat. Processing procedure is given on page 232

** Size of 1 module is 85x18x68 (HxWxD)

"Domino" enclosures without compartment of modular equipment


Purpose:

- formation of distribution boxes.

Installation conditions:

- on the wall;
- on the frame;
- on the post.

Material:

- enclosure is made of ABS plastic.

Scope of supply:

- see on the disk.

Number of installed sockets	Rating of installed sockets	Format of installed sockets, mm	Type of enclosure	Power dissipation, W	Dimension, mm	Number of plugs in the kit	Code
2	16 A, 32 A*	70x87, 84x106*	M150	18	150x256x115	– 1 pce 70x87 (DIS6540100 code)	DIS6721301
3	16 A, 32 A*	70x87, 84x106*	M150	20	150x328x115	– 1 pce 70x87 (DIS6540100 code)	DIS6721300
With blank cover			M150	18	150x256x115	–	DIS6721101
			M150	20	150x328x115	–	DIS6721100

* Installation of sockets 32 A with base 84x106 is possible after preliminary processing of mounting seat. Processing procedure is given on page 232

"Domino-MAX" enclosures


Purpose:

- formation of distribution boxes.

Features:

- allow for mounting of sockets with mechanical blocking;
- allow for installation of sockets with rating up to 63 A.

Installation conditions:

- on the wall;
- on the frame;
- on the post.

Material:

- enclosure is made of ABS plastic;
- small window is made of polycarbonate.

Scope of supply (see on the disk):

- DIN rail and adjustable retainers;
- plug for modular compartment with size "4 modules" – 2 pcs;
- plug 136x125 (DIS6540120 code) – 1 pce

Number of installed sockets	Rating of installed sockets	Format of installed sockets, mm	Type of enclosure	Power dissipation, W	Size of compartment of modular equipment*	Dimension, mm	Number of hinges in the kit	Code
2	16 A, 32 A	136x125	M400	28	16 modules	400x256x140	2 hinges	DIS6724216
4	16 A, 32 A	136x125	M550	28	16 modules	550x328x140	2 hinges	DIS6725416
5	16 A, 32 A, 63 A	136x125	M550	28	24 modules	550x477x140	3 hinges	DIS6725522

* Size of 1 module is 85x18x68 (HxWxD)

"Domino-MAX" enclosures without compartment of modular equipment


Purpose:

- formation of distribution boxes.

Features:

- allow for mounting of sockets with mechanical blocking.

Installation conditions:

- on the wall;
- on the frame;
- on the post.

Material:

- enclosure is made of ABS plastic.

Scope of supply:

- see on the disk.

Number of installed sockets	Rating of installed sockets	Format of installed sockets, mm	Type of enclosure	Power dissipation, W	Dimension, mm	Code
2	16 A, 32 A*	136x125	M150	18	150x328x115	DIS6721200

Hinges for attachment to the wall


Purpose:

- kit of hinges for attachment of "Domino" enclosures to the wall.

Scope of supply:

- 4 pcs.

Material	Code
ABS plastic	DIS6540020

Sealing kit


Purpose:

- designed for front panel sealing.

Installation conditions:

- page 232.

Material:

- screw is 4x33 mm, stainless steel.

Material	Code
ABS plastic	DIS6540030

Lock for compartment of modular equipment


Purpose:

- designed for restriction of access to the compartment with modular equipment.

Installation conditions:

- page 233.

Material	Code
Lock	DIS6540070NS

Knob


Purpose:

- facilitation of transportation of "Domino" series enclosures.

Material	Code
ABS plastic	DIS6540060

Plug


Purpose:

- blocking of unused mounting seats.

Dimension	Material	Code
70x87	ABS plastic	DIS6540100
136x125	ABS plastic	DIS6540120

Adapter for button installation


Purpose:

- button installation on "Domino-standard" series enclosures.

Material	Button hole	Dimension	Code
ABS plastic	22 mm	70x87	DIS6540101

Adapter for installation of sockets


Purpose:

- installation of industrial plugs on "Domino-MAX" series enclosures.

Rating of sockets, A	Base dimension, mm	Number of mounting seats	Protection level, IP	Color	Code
16	70x87	1	66	gray	DIS6540125
32	84x106	1	66	gray	DIS6540126

Connecting kit


Purpose:

- for combination of all the types of "Domino"/"Domino-MAX" enclosures.

Diameter	Code
PG21	DIS6540038
PG36	DIS6540040

Base


Purpose:

- formation of distribution boxes.

Installation conditions:

- on the wall;
- on the frame;
- on the post.

Material:

- enclosure is made of ABS plastic.

Drawings:

- see on the disk.

Dimension, mm	Type of enclosure	Code
150x328x75	M150	DIS6741000
150x256x75	M150	DIS6741001

Cover


Purpose:

- formation of distribution boxes.

Material:

- enclosure is made of ABS plastic.

Dimension, mm	Number of installed sockets	Rating of installed sockets	Format of installed sockets, mm	Type of enclosure	Code
150x256x45	2	16 A, 32 A*	70x87, 84x106*	M150	DIS6741301
		with blank cover		M150	DIS6741101
150x328x45	3	16 A, 32 A*	70x87, 84x106*	M150	DIS6741300
	2	16 A, 32 A*	136x125	M150	DIS6741200
	With blank cover			M150	DIS6741100

Mounting plate



For M150



For M400, M550

Purpose:

- equipment installation within the enclosure.

Features:

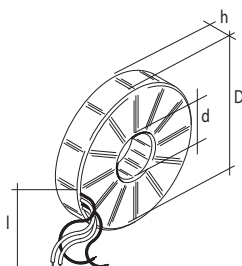
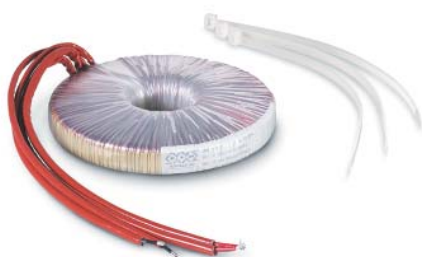
- plates for M400 and M550 enclosures provide possibility of attachment of DIS6540210 or DIS6540220 transformer.

Material:

- galvanized steel.

Type of compatible enclosure	Dimension, mm	Code
M150	275x110	DIS6540700
M400 and M550	275x180	DIS6540710

Step-down transformer


Purpose:

- undervoltage for connection of safe circuits.

Features:

- transformer type is toric;
- installed on plates for M400 and M550 enclosures with ties;
- primary conductors are marked in red while secondary conductors are marked in black.

Scope of supply:

- transformer;
- kit of ties (3 pcs) for attachment on mounting plate.

Primary voltage, V	Secondary voltage, V	Power, kVA	Class of insulation thermal resistance	Dimensions, mm				Code
				D	d	h	I	
220	24	0.15	F (155 °C)	170	45	25	270	DIS6540210
220	24	0.3	F (155 °C)	170	39	38	270	DIS6540220

Fuse holder, IP20



DIS6540360



DIS6540363



DIS6540362



DIS6540364

Purpose:

- switching of conductors within the enclosure.

Installation conditions:

- attached within the enclosure, in special points.

Material:

- enclosure is made of ABS plastic.

Features:

- terminal block is designed for currents up to 76 A.

Enclosure	Number and hole diameter for 1 fuse holder	Scope of supply	Code
M340 for 8 modules	5 pcs for 4.4 mm each (10 sq. mm) 5 pcs for 5.5 mm each (16 sq. mm)	fuse holder	DIS6540363
M550 for 16 modules or M400 for 16 modules	5 pcs for 4.4 mm each (10 sq. mm) 5 pcs for 5.5 mm each (16 sq. mm)	holder for 3 fuse holders with 1 fuse holder installed	DIS6540362
	5 pcs for 4.4 mm each (10 sq. mm) 5 pcs for 5.5 mm each (16 sq. mm)	holder for 3 fuse holders with 3 fuse holders installed	DIS6540362C
M550 for 24 modules	5 pcs for 4.4 mm each (10 sq. mm) 5 pcs for 5.5 mm each (16 sq. mm)	holder for 4 fuse holders with 1 fuse holder installed	DIS6540364
	5 pcs for 4.4 mm each (10 sq. mm) 5 pcs for 5.5 mm each (16 sq. mm)	holder for 4 fuse holders with 4 fuse holders installed	DIS6540364C
Additional fuse holder for installation on holder	5 pcs for 4.4 mm each (10 sq. mm) 5 pcs for 5.5 mm each (16 sq. mm)	brass bus and cover	DIS6540360

Post for installation of "Domino" enclosures


Purpose:

- fixed installation of "Domino" enclosures.

Material	Diameter, mm	Height, mm	Code
Galvanized steel	80	1250	DIS6540650

Mounting plates



Plate with shield



Plate reverse side without shield

Purpose:

- for attachment of "Domino" series enclosures on poles and tubes.

Drawings:

- see on the disk.

Name	Type of enclosure	Material	Dimension, mm	Tube diameter, mm	Code
Mounting plate	M400	galvanized steel	328x400	80	DIS6540651
Mounting plate with shield	M400	galvanized steel	417x330	80	DIS6540653
	M550	galvanized steel	567x330	80	DIS6540654

Folding floor-mounted frame


Purpose:

- for mobile installation of "Domino" enclosures.

Compatible enclosures	Material	Dimension, mm	Code
All "Domino" enclosures	galvanized steel	686x392	DIS6540610

Compatibility table of panel sockets



DIS6722300



DIS6723300
DIS6724316
DIS6725616
DIS6725822



DIS6724216
DIS6725416



DIS6725522

Sockets		Enclosures			
rating of socket/ protection degree	number of poles				
16 A / IP44	2P+E	DIS4131663	DIS4131663	DIS4131663 + DIS6540125	DIS4131663 + DIS6540125
	3P+E	DIS4131666	DIS4131666	DIS4131666 + DIS6540125	DIS4131666 + DIS6540125
	3P+N+E	DIS4131667	DIS4131667	DIS4131667 + DIS6540125	DIS4131667 + DIS6540125
32 A / IP44	2P+E		DIS4133263*	DIS4133263 + DIS6540126	DIS4133263 + DIS6540126
	3P+E		DIS4133266*	DIS4133266 + DIS6540126	DIS4133266 + DIS6540126
	3P+N+E		DIS4133267*	DIS4133267 + DIS6540126	DIS4133267 + DIS6540126
16 A / IP67	2P+E	DIS4181663	DIS4181663	DIS4181663 + DIS6540125	DIS4181663 + DIS6540125
	3P+E	DIS4181666	DIS4181666	DIS4181666 + DIS6540125	DIS4181666 + DIS6540125
	3P+N+E	DIS4181667	DIS4181667	DIS4181667 + DIS6540125	DIS4181667 + DIS6540125
32 A / IP67	2P+E		DIS4183263*	DIS4183263 + DIS6540126	DIS4183263 + DIS6540126
	3P+E		DIS4183266*	DIS4183266 + DIS6540126	DIS4183266 + DIS6540126
	3P+N+E		DIS4183267*	DIS4183267 + DIS6540126	DIS4183267 + DIS6540126
Sockets with mechanical blocking					
16 A / IP44	2P+E	x	x	DIS4001683	DIS4001683
	3P+E	x	x	DIS4001686	DIS4001686
	3P+N+E	x	x	DIS4001687	DIS4001687
32 A / IP44	2P+E	x	x	DIS4003283	DIS4003283
	3P+E	x	x	DIS4003286	DIS4003286
	3P+N+E	x	x	DIS4003287	DIS4003287
16 A / IP67	2P+E	x	x	DIS4051683	DIS4051683
	3P+E	x	x	DIS4051686	DIS4051686
	3P+N+E	x	x	DIS4051687	DIS4051687
32 A / IP67	2P+E	x	x	DIS4053283	DIS4053283
	3P+E	x	x	DIS4053286	DIS4053286
	3P+N+E	x	x	DIS4053287	DIS4053287
63 A / IP67	2P+E	x	x	x	DIS4056383
	3P+E	x	x	x	DIS4056386
	3P+N+E	x	x	x	DIS4056387
"Schuko" type sockets					
16 A / IP54	2P+E	DIS5704061	DIS5704061	DIS5704061 + DIS6540125*	DIS5704061 + DIS6540125*
"Schuko" type sockets with increased protection IP66					
16 A / IP66	2P+E	DIS5706407	DIS5706407	DIS5706407 + DIS6540125*	DIS5706407 + DIS6540125*
"Schuko" type sockets with increased protection IP56 as well as leakage and short-circuit protection					
16 A / IP56	2P+E	x	x	DIS4093407	DIS4093407

* Installation of sockets 32 A is possible after preliminary processing of mounting seat. Processing procedure is given on page 232

MBox enclosure series for assembly of distribution boxes

MBox series enclosures ensure increased protection level owing to additional door on the compartment of connection of industrial plugs.

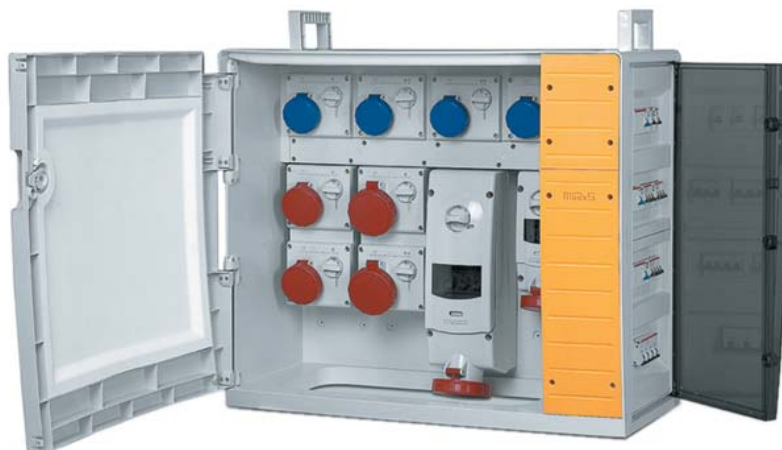
They are focused on situations when it is necessary to regulate access to the points of connection of electric equipment:

- sites;
- camping sites;
- parking lots.

Possible versions



For standard sockets



For sockets with mechanical blocking

Technical characteristics

Characteristics	MBox2	MBox3	MBox5
Protection level, IP	IP66		
Mechanical strength	IK08		
Operating temperature, °C	from -25 to +60		
Production material	ABS/Polycarbonate		
Glow-wire test, °C	650		
Max. rating of main switch, A	32	100	125
Cable gland	M25	M40	M40
Connected cable section, mm ²	16	35	35
Enclosure weight, kg	9	15	27
Resistance to ultraviolet	resistant		

Chemical properties

Chemical	Chemical condition	Socket resistance to chemical impact
Acids	concentrated	resistant to a limited extent
	diluted	resistant
Alkali	concentrated	resistant to a limited extent
	diluted	resistant
Hexane	-	not resistant
Benzene	-	not resistant
Acetone	-	not resistant
Alcohol	-	resistant to a limited extent
Mineral oils	-	resistant to a limited extent

Distinctive features



Modular equipment is located from the right end and protected with transparent door



MBox3-MBox5 enclosures have door and socket access restriction is possible



Large mounting panel within MBox5 enclosure allows for installation of both surface-mounted sockets and other equipment



Fixed installation of enclosures on surface is possible when using accessories



For ease of transportation enclosures are fitted with knob



Cable attachment in folded condition is possible



Upon special request "Stop" button or disconnector location on the front panel is possible.

MBox enclosures


DIS6560026



DIS6560024



DIS6570035



DIS6570036



DIS6570038



DIS6580050

Purpose:

- formation of distribution boxes.

Features:

- allow for mounting of sockets with mechanical blocking;
- allow for installation of sockets with rating up to 63 A.

Installation conditions:

- on the wall;
- on the frame;
- on the post;
- on the pole.

Drawings:

- see on the disk.

Flange dimension	Rating of installed sockets	Number of sockets	Type of enclosure	Power dissipation, W	Door availability	Size of compartment of modular equipment**	Dimension, mm HxWxD	Scope of supply	Code
70x87 84x106*	16 A, 32 A	6	MBox2	29	no	16 modules	440x363x290	– 3 cable glands: M16, M25, M32; – terminal block, 43512FV code (1 pce); – plug for modular compartment with size "4 modules" (1 pce)	DIS6560026
	16 A, 32 A	9	MBox3	42	available	39 modules	465x524x382	– plug for modular compartment with size "4 modules" (1 pce)	DIS6570038
136x125	16 A, 32 A	4	MBox2	27	no	16 modules	440x363x290	– M40 cable gland; – terminal block (35 mm ² , 5 poles, 1 pce); – plug for modular compartment with size "4 modules" (2 pcs); – hinges for attachment to the wall (4 pcs)	DIS6560024
	16 A, 32 A	6	MBox3	42	available	39 modules	465x524x382	– plug for modular compartment with size "4 modules" (2 pcs); – hinges for attachment to the wall (4 pcs)	DIS6570036
	16 A, 32 A, 63 A	5	MBox3	42	no	39 modules	465x524x382	– plug for modular compartment with size "4 modules" (2 pcs); – hinges for attachment to the wall (4 pcs)	DIS6570035
	16 A, 32 A, 63 A	12	MBox5	56	available	52 modules	775x670x400	– M40 cable gland; – terminal block (35 mm ² , 5 poles, 1 pce); – plug for modular compartment with size "4 modules" (2 pcs); – hinges for attachment to the wall (4 pcs); – PG21 connecting kit (4 pcs); – PG36 connecting kit (4 pcs)	DIS6580050

* Installation of sockets 32 A with flange dimension 84x106 is possible after preliminary processing of mounting seat. Processing procedure is given on page 232

** Size of 1 module is 85x18x68 (HxWxD)

Hinges for attachment to the wall


Purpose:

- kit of hinges for attachment of MBox enclosures to the wall.

Scope of supply:

- 4 pcs.

Material	Code
Polycarbonate	DIS6540024

Kit for attachment on the pole


Purpose:

- kit of hinges for attachment of MBox enclosures on the pole.

Installation conditions:

- support is attached using worm tie.

For which enclosure	Material	Support diameter, mm	Maximum load on 1 retainer, kg	Code
MBox2	galvanized steel	up to 300	30	DIS65546090
Mbox3-Mbox5	galvanized steel	up to 300	30	DIS65532090

Sealing kit


Purpose:

- designed for sealing of vanity panel of compartment of modular equipment.

Installation conditions:

- page 232.

Material:

- screw is 4x22 mm, stainless steel.

Material	Code
ABS plastic	DIS6540032

Locks


Purpose:

- designed for restriction of access to the enclosure compartments. They can be installed both on the door for compartment of modular equipment and on the door for compartment with industrial plugs.

Installation conditions:

- page 233.

Intention	Code
Lock kit with unified key	DIS6540072
Lock kit with unique key	DIS6540072NS

Cable attachment support


Purpose:

- clamps are used for attachment of feeder cable.

Scope of supply:

- 2 pcs

Material	Code
ABS plastic	DIS6540051

Frame for installation of MBox enclosures



For MBox2



For MBox3-MBox5

Purpose:

- loose installation of MBox series enclosures.

Installation example:

- page 237.

For which enclosure	Material	Height, mm	Maximum load on the frame, kg	Code
MBox2	galvanized steel	110	10	DIS6560120
Mbox3-Mbox5	galvanized steel	1400	35	DIS6570121

Cover of rear wall of MBox2 enclosure


Purpose:

- decorative cover. It is used when installing MBox2 enclosure on the post.

Installation example:

- page 238.

Material	Code
Galvanized steel	DIS6560221

Post for MBox2 enclosure


Purpose:

- fixed installation of MBox2 enclosures.

Installation example:

- page 238.

Drawings:

- see on the disk.

Material	Dimensions, mm	Code
Galvanized steel	1015x180x220	DIS6560220

Fittings for attachment of post DIS6560220


Purpose:

- fittings are embedded in concrete and form attachment point for post DIS6560220.

Installation example:

- page 238.

Material	Dimensions, mm	Code
Galvanized steel	100x190x230	DIS6560222

Plug


Purpose:

- blocking of unused mounting seats.

Dimension	Material	Code
70x87	ABS plastic	DIS6540100
136x125	ABS plastic	DIS6540120

Adapter for button installation


Purpose:

- button installation on MBox series enclosures.

Material	Button hole	Dimension	Code
ABS plastic	22 mm	70x87	DIS6540101

Adapter for installation of sockets


Purpose:

- installation of industrial plugs on MBox series enclosures.

Rating of sockets, A	Base dimension, mm	Number of mounting seats	Protection level, IP	Color	Code
16	70x87	1	66	gray	DIS6540125
32	84x106	1	66	gray	DIS6540126

"Blok" enclosure series for assembly of distribution boxes

"Blok" enclosure series is a simplified version of "Domino" series and designed for formation of distribution boxes.

In contrast to "Domino" series, it has a number of differences:

- built-in knob for transportation;
- enclosure combination is not possible;
- modular compartment cover is not fitted with latch. Attachment is performed only with a lock.



Technical characteristics

Characteristics	Value
Protection level, IP	IP66
Mechanical strength	IK07
Operating temperature, °C	from -25 to +60
Production material	ABS/Polycarbonate
Glow-wire test, °C	650
Resistance to ultraviolet	resistant

"Blok" enclosures



Purpose:

- formation of distribution boxes.

Installation conditions:

- on the wall.

Material:

- enclosure is made of ABS plastic;
- small window is made of polycarbonate.

Drawings:

- see on the disk.

Number of installed sockets	Rating of installed sockets	Format of installed sockets, mm	Power dissipation, W	Size of compartment of modular equipment**	Dimension, mm	Code
2	16 A, 32 A	136x125	12	6 modules	472x136x146	DIS5720311
3	16 A, 32 A	70x87, 84x106*	9	6 modules	440x136x105	DIS6323500
	16 A, 32 A	136x125	12	6 modules	616x136x146	DIS5720313

* Installation of sockets 32 A with base 84x106 is possible after preliminary processing of mounting seat. Processing procedure is given on page 232

** Size of 1 module is 85x18x68 (HxWxD)

"Blok" enclosures without modular compartment


Purpose:

- formation of distribution boxes.

Installation conditions:

- on the wall.

Material:

- enclosure is made of ABS plastic.

Number of installed sockets	Rating of installed sockets	Format of installed sockets, mm	Dimension, mm	Number of plugs in the kit	Code
4	16 A, 32 A	70x87, 84x106*	440x136x87	1 pce 70x87 (DIS6540100 code)	DIS6323501

* Installation of sockets 32 A with base 84x106 is possible after preliminary processing of mounting seat. Processing procedure is given on page 232

Lock for compartment of modular equipment


Purpose:

- designed for restriction of access of unauthorized persons to the compartment with modular equipment.

Installation conditions:

- page 233.

Material	Code
Steel	DIS6540181-04Y

Compatibility table of panel sockets


DIS6560026

DIS6570038

**DIS6560024
DIS6570036**

DIS6570035

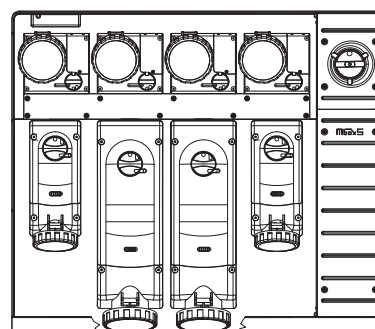
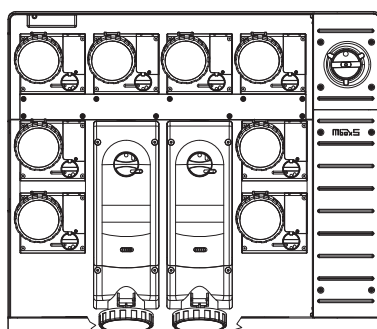
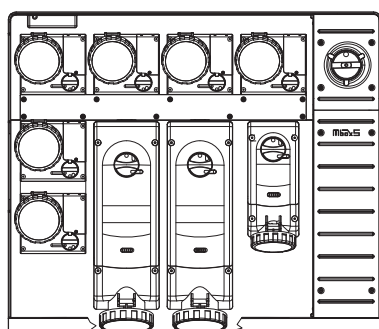
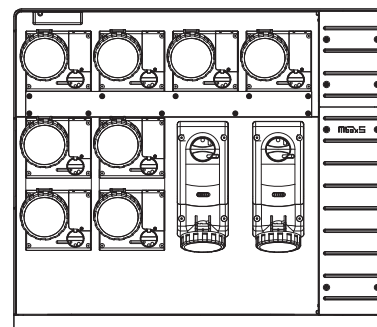
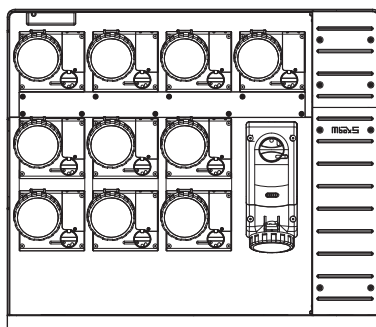
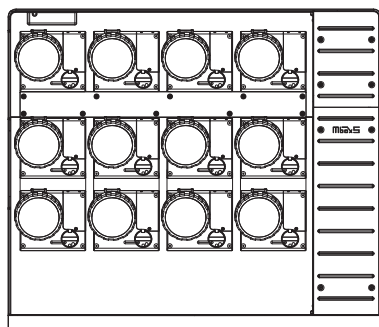
DIS6580050

Sockets		Enclosures				
rating of socket/ protection degree	number of poles					
16 A / IP44	2P+E	DIS4131663	DIS4131663	DIS4131663 + DIS6540125	DIS4131663 + DIS6540125	DIS4131663 + DIS6540125
	3P+E	DIS4131666	DIS4131666	DIS4131666 + DIS6540125	DIS4131666 + DIS6540125	DIS4131666 + DIS6540125
	3P+N+E	DIS4131667	DIS4131667	DIS4131667 + DIS6540125	DIS4131667 + DIS6540125	DIS4131667 + DIS6540125
32 A / IP44	2P+E	DIS4133263*	DIS4133263*	DIS4133263 + DIS6540126	DIS4133263 + DIS6540126	DIS4133263 + DIS6540126
	3P+E	DIS4133266*	DIS4133266*	DIS4133266 + DIS6540126	DIS4133266 + DIS6540126	DIS4133266 + DIS6540126
	3P+N+E	DIS4133267*	DIS4133267*	DIS4133267 + DIS6540126	DIS4133267 + DIS6540126	DIS4133267 + DIS6540126
16 A / IP67	2P+E	DIS4181663	DIS4181663	DIS4181663 + DIS6540125	DIS4181663 + DIS6540125	DIS4181663 + DIS6540125
	3P+E	DIS4181666	DIS4181666	DIS4181666 + DIS6540125	DIS4181666 + DIS6540125	DIS4181666 + DIS6540125
	3P+N+E	DIS4181667	DIS4181667	DIS4181667 + DIS6540125	DIS4181667 + DIS6540125	DIS4181667 + DIS6540125
32 A / IP67	2P+E	DIS4183263*	DIS4183263*	DIS4183263 + DIS6540126	DIS4183263 + DIS6540126	DIS4183263 + DIS6540126
	3P+E	DIS4183266*	DIS4183266*	DIS4183266 + DIS6540126	DIS4183266 + DIS6540126	DIS4183266 + DIS6540126
	3P+N+E	DIS4183267*	DIS4183267*	DIS4183267 + DIS6540126	DIS4183267 + DIS6540126	DIS4183267 + DIS6540126
Panel sockets with mechanical blocking						
16 A / IP44	2P+E	x	x	DIS4001683	DIS4001683	DIS4001683
	3P+E	x	x	DIS4001686	DIS4001686	DIS4001686
	3P+N+E	x	x	DIS4001687	DIS4001687	DIS4001687
32 A / IP44	2P+E	x	x	DIS4003283	DIS4003283	DIS4003283
	3P+E	x	x	DIS4003286	DIS4003286	DIS4003286
	3P+N+E	x	x	DIS4003287	DIS4003287	DIS4003287
16 A / IP67	2P+E	x	x	DIS4051683	DIS4051683	DIS4051683
	3P+E	x	x	DIS4051686	DIS4051686	DIS4051686
	3P+N+E	x	x	DIS4051687	DIS4051687	DIS4051687
32 A / IP67	2P+E	x	x	DIS4053283	DIS4053283	DIS4053283
	3P+E	x	x	DIS4053286	DIS4053286	DIS4053286
	3P+N+E	x	x	DIS4053287	DIS4053287	DIS4053287
63 A / IP67	2P+E	x	x	x	DIS4056383	DIS4056383
	3P+E	x	x	x	DIS4056386	DIS4056386
	3P+N+E	x	x	x	DIS4056387	DIS4056387
"Schuko" type panel sockets						
16 A / IP54	2P+E	DIS5704061	DIS5704061	DIS5704061 + DIS6540125*	DIS5704061 + DIS6540125*	DIS5704061 + DIS6540125*
"Schuko" type panel sockets with increased protection IP66						
16 A / IP66	2P+E	x	x	DIS5706407 + DIS6540125*	DIS5706407 + DIS6540125*	DIS5706407 + DIS6540125*
"Schuko" type panel sockets with increased protection IP56 as well as leakage and short-circuit protection						
16 A / IP56	2P+E	x	x	DIS4093407	DIS4093407	DIS4093407

* Installation of sockets 32 A is possible after preliminary processing of mounting seat. Processing procedure is given on page 232

Versions of location of surface-mounted sockets in MBox5 enclosure

MBox5 series enclosures allow for installation of all the types of surface-mounted sockets with mechanical blocking. Some versions of their location are given below.



Surface-mounted sockets are combined with DIS6540040 and DIS6540038 connecting kits.

Installation of sockets with base 390x136 mm is possible only for 2 central mounting seats. Installation of such sockets in the extreme left or right position results in failure to connect sockets to them. This feature is caused by dimensions and shape of sight glass in the enclosure lower part.

32 A socket installation manual



Standard flange for 16 A socket installation



Pre-perforation is provided on the flange reverse side



Elements with pre-perforation shall be removed for 32 A socket installation



The socket is installed on new mounting seats. Since these holes are blocked from the front by default, through-holes shall be made with a drill bit 3 mm for ease of installation.
Holes are not required if socket with flange 70x87 mm is installed, for example, DIS5706407

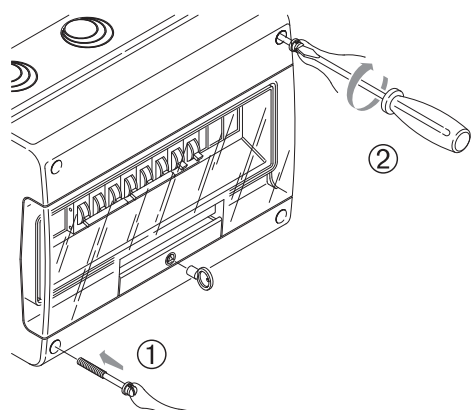


Appearance after adjustment

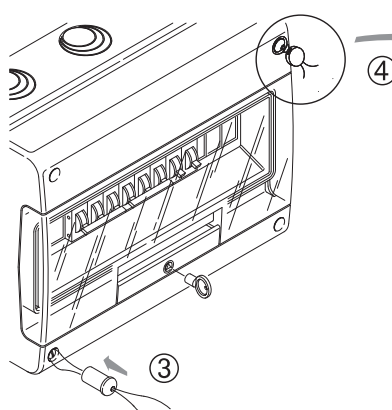


32 A socket installation

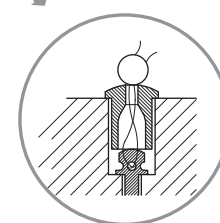
Sealing kit installation manual



Attach front panel using screw with wire of the kit

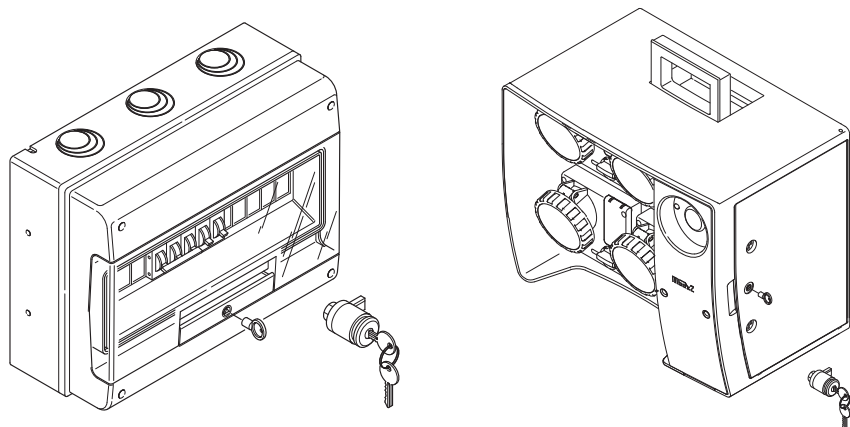


Pass wire through and install plug in the hole

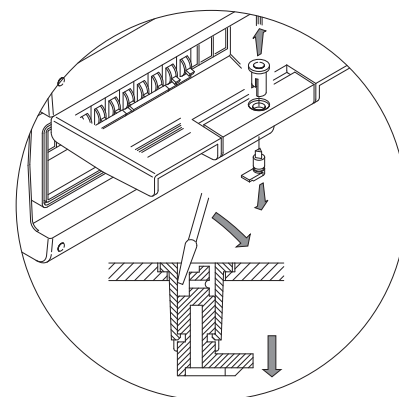


Example of wire laying and seal installation

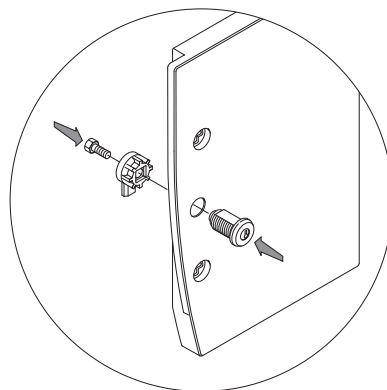
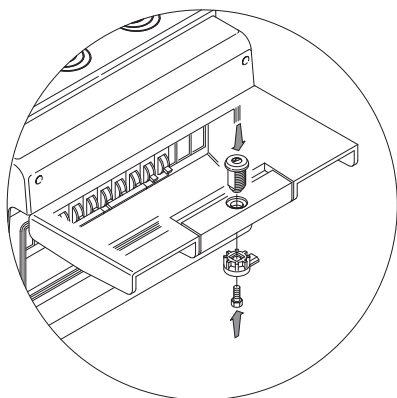
Modular compartment door lock installation manual



Installation of locks for "Domino" and MBox enclosures is considered

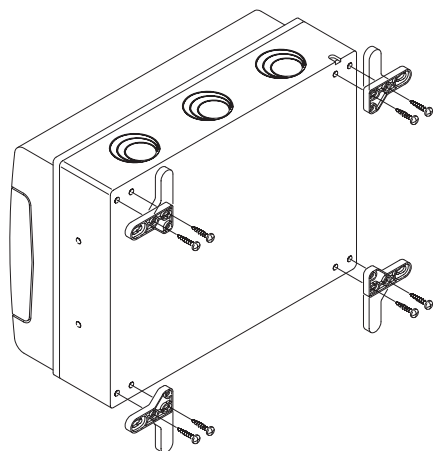


Lock is installed instead of mounted latch.
Before lock installation latch shall be removed, as shown in the figure

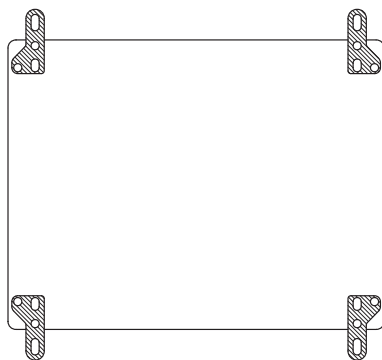


Lock cylinder shall be inserted in the formed hole and connected with latching part using screw after latch removal

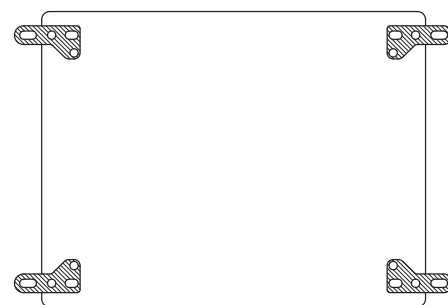
Installation manual of hinges for enclosure attachment to the wall



Hinges are attached with screw nails

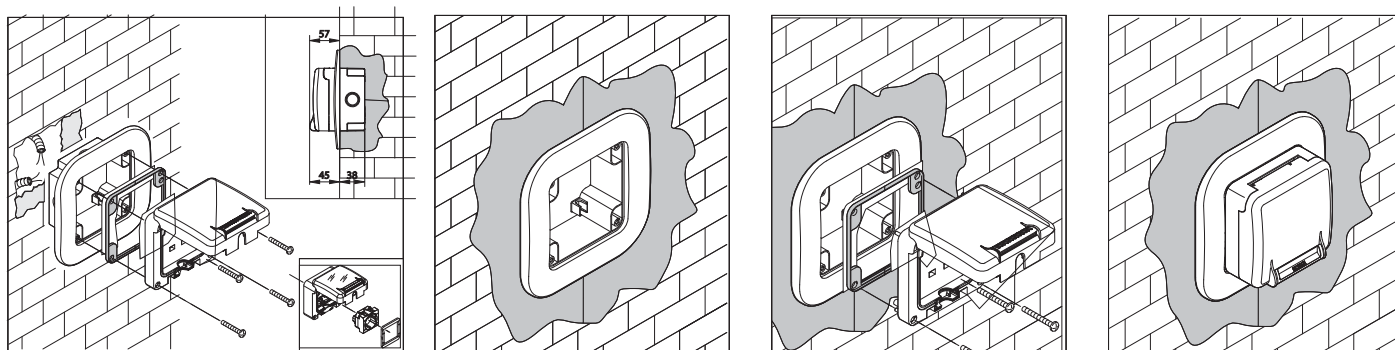


Each hinge can be attached in 2 possible positions

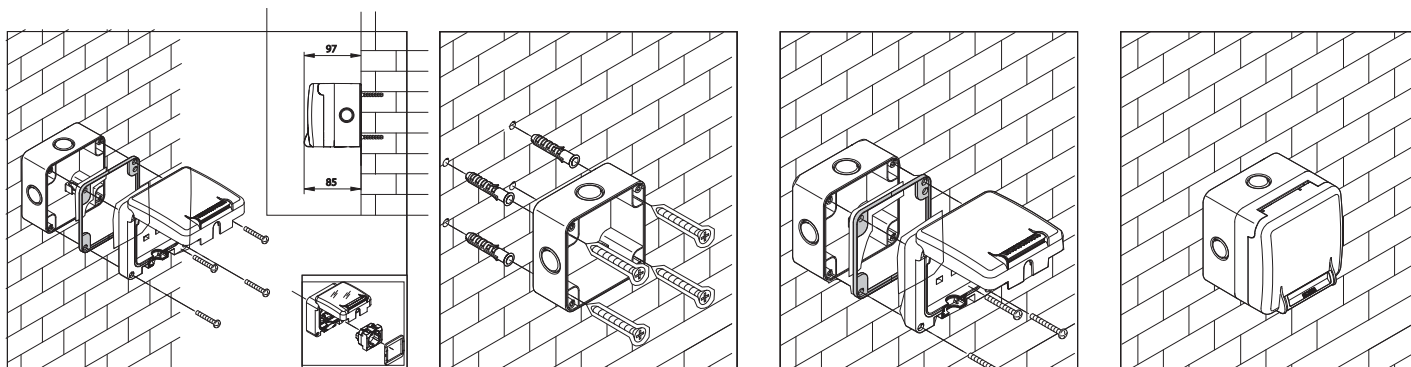


Installation examples

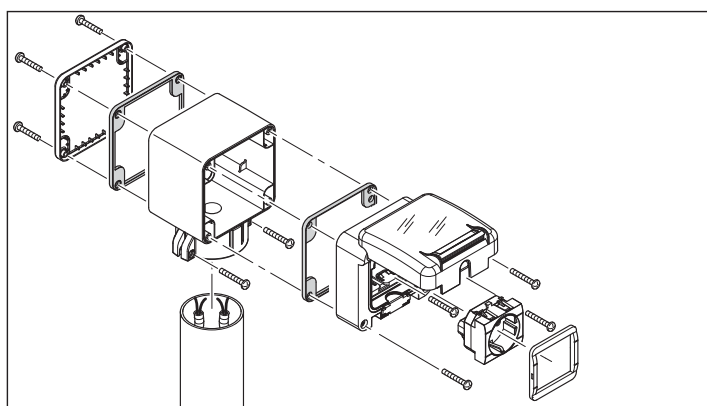
DIS1374407 flush-mounted socket



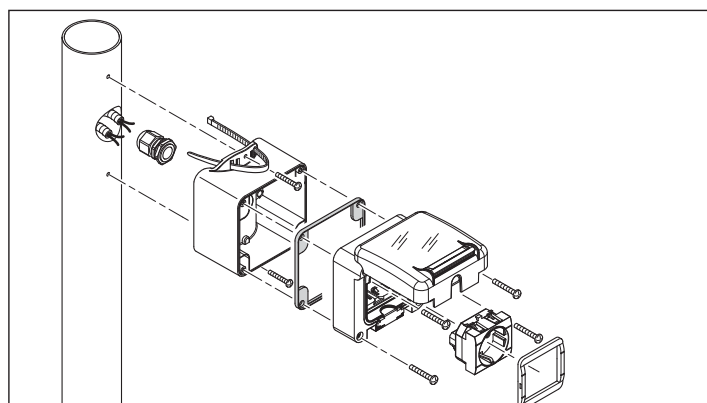
DIS1376407 attachable socket



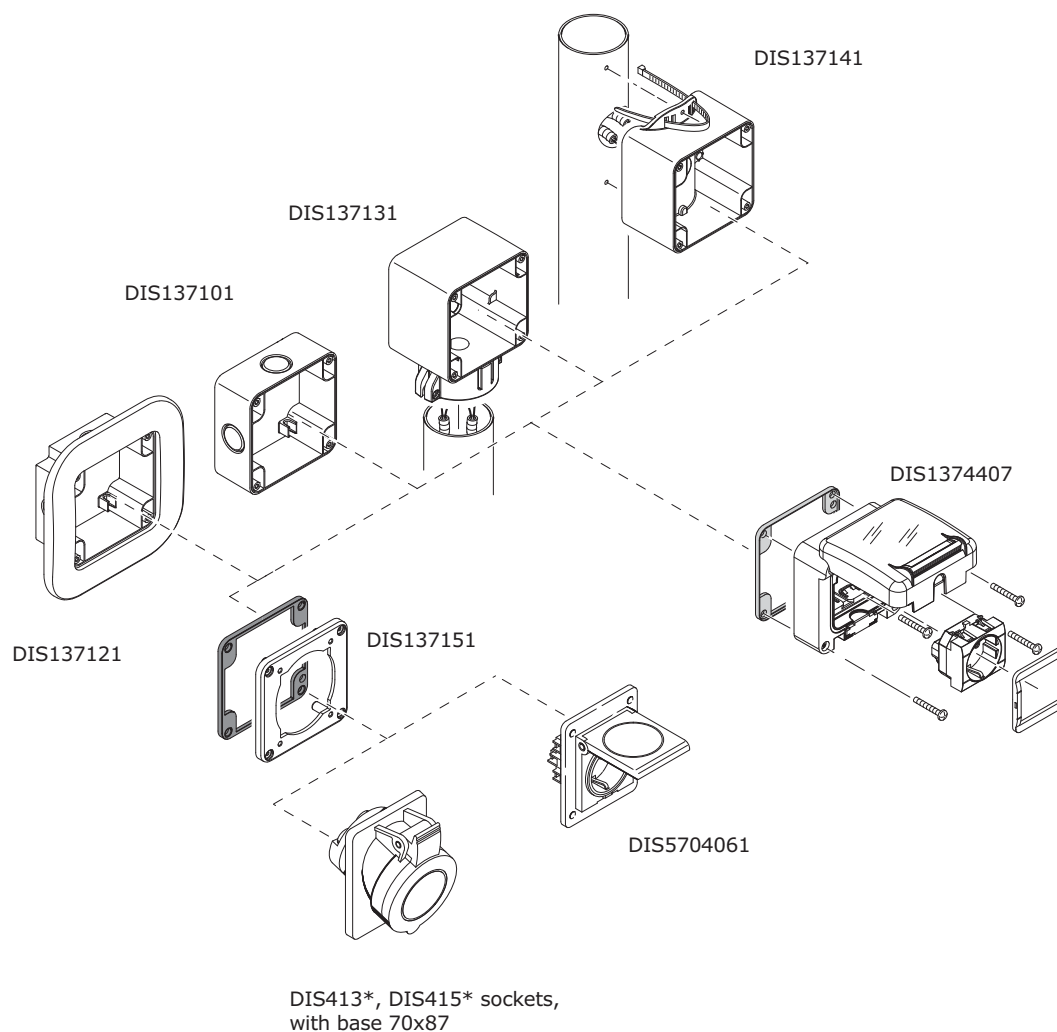
DIS1374407 socket installation on tube on the side



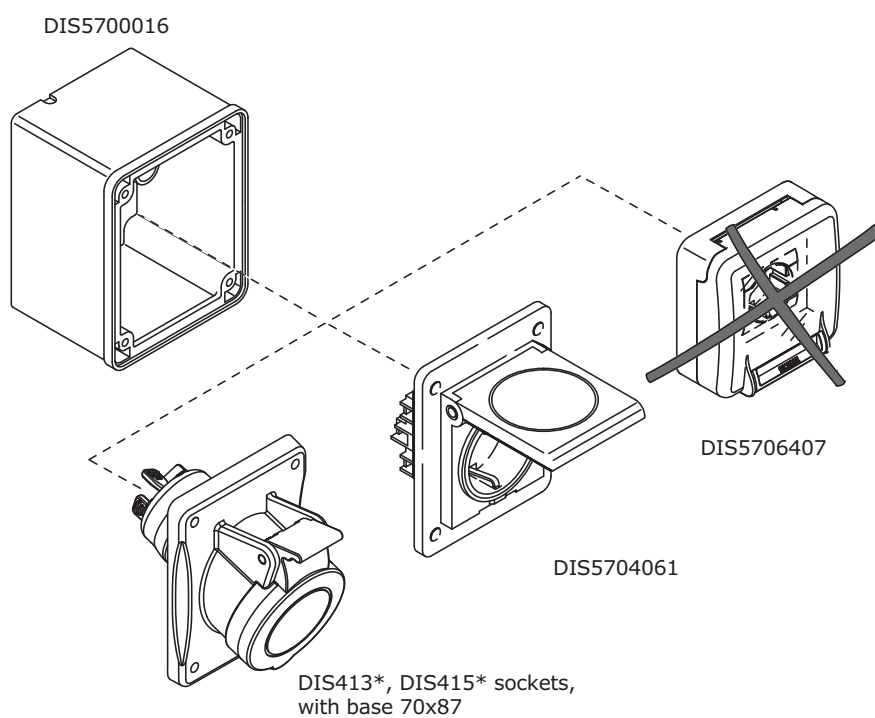
DIS1374407 socket installation on tube from the end



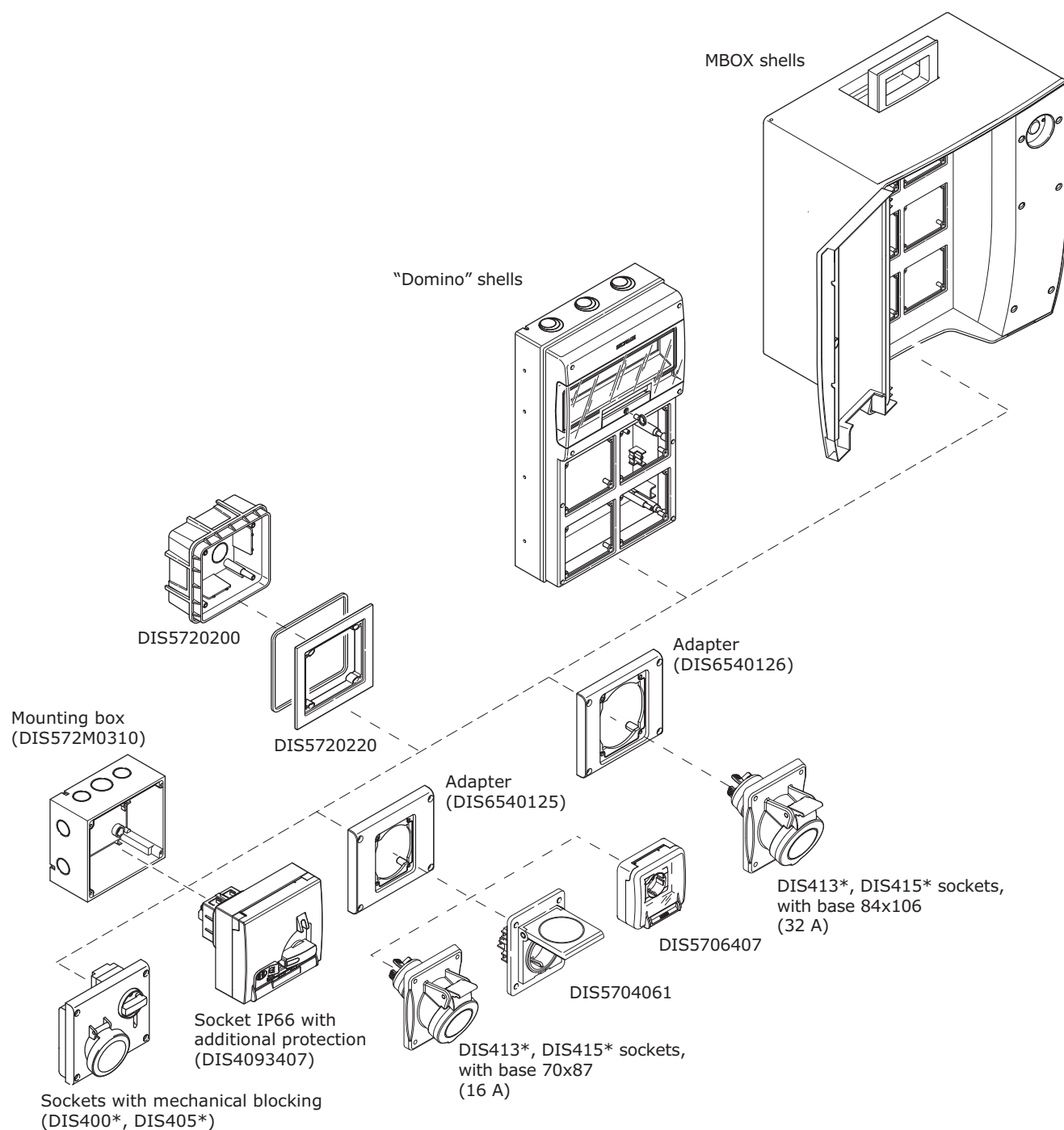
Installation of sockets on box with base 95x95



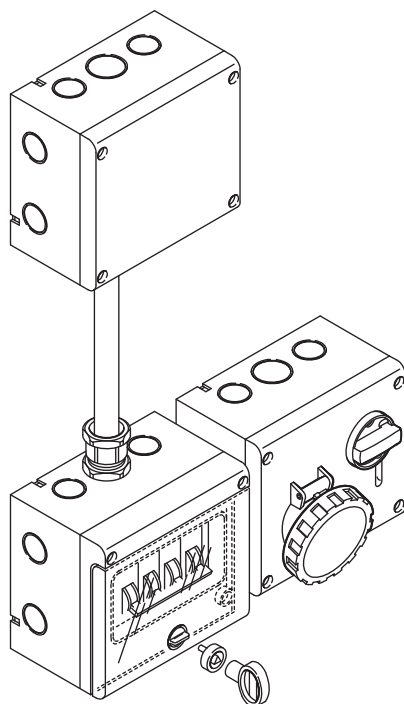
Installation of sockets on box with base 70x87



Compatibility of sockets and enclosures with flange 136x125



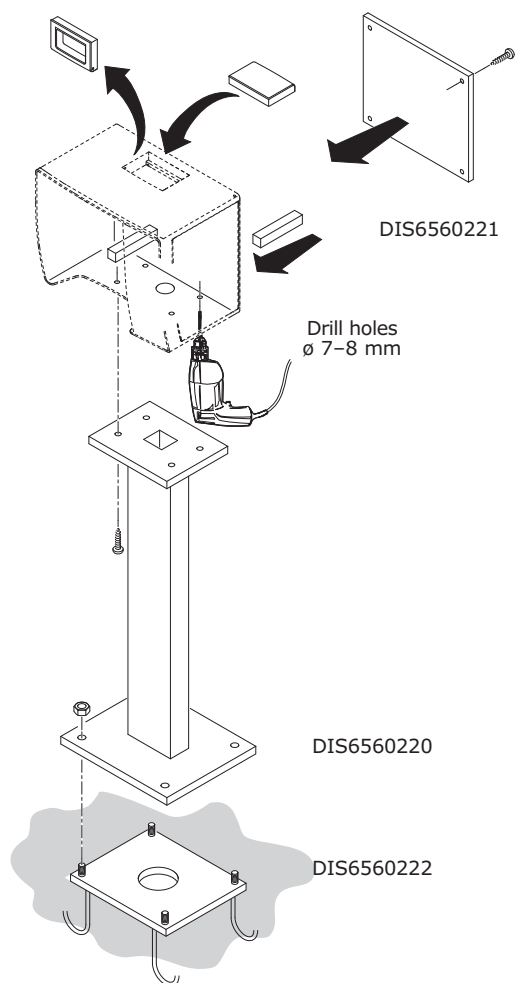
Example of assembly using boxes for surface mounting and accessories of "Express" system



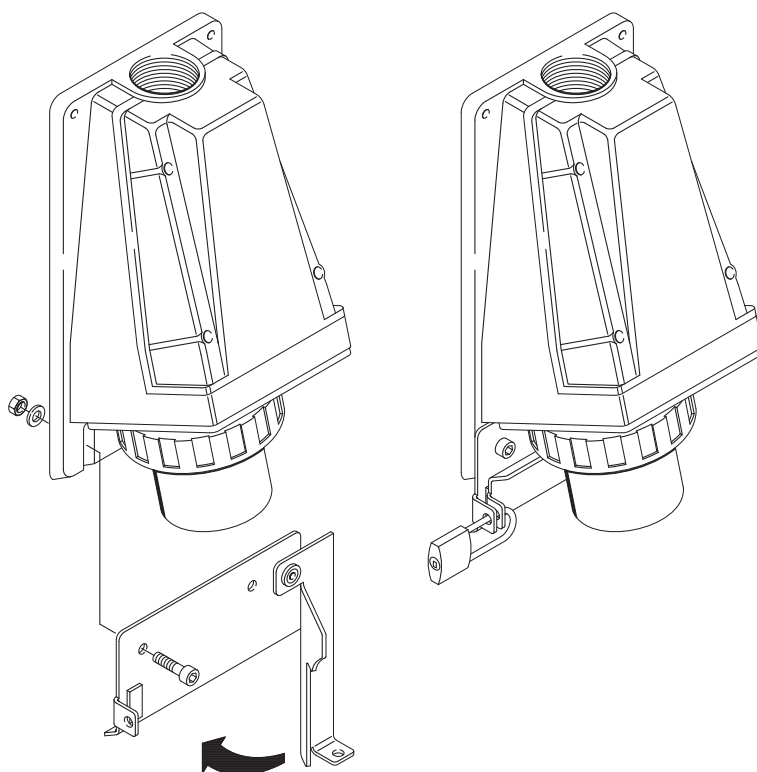
Example of installation of MBox3 and MBox5 enclosures on the mobile frame



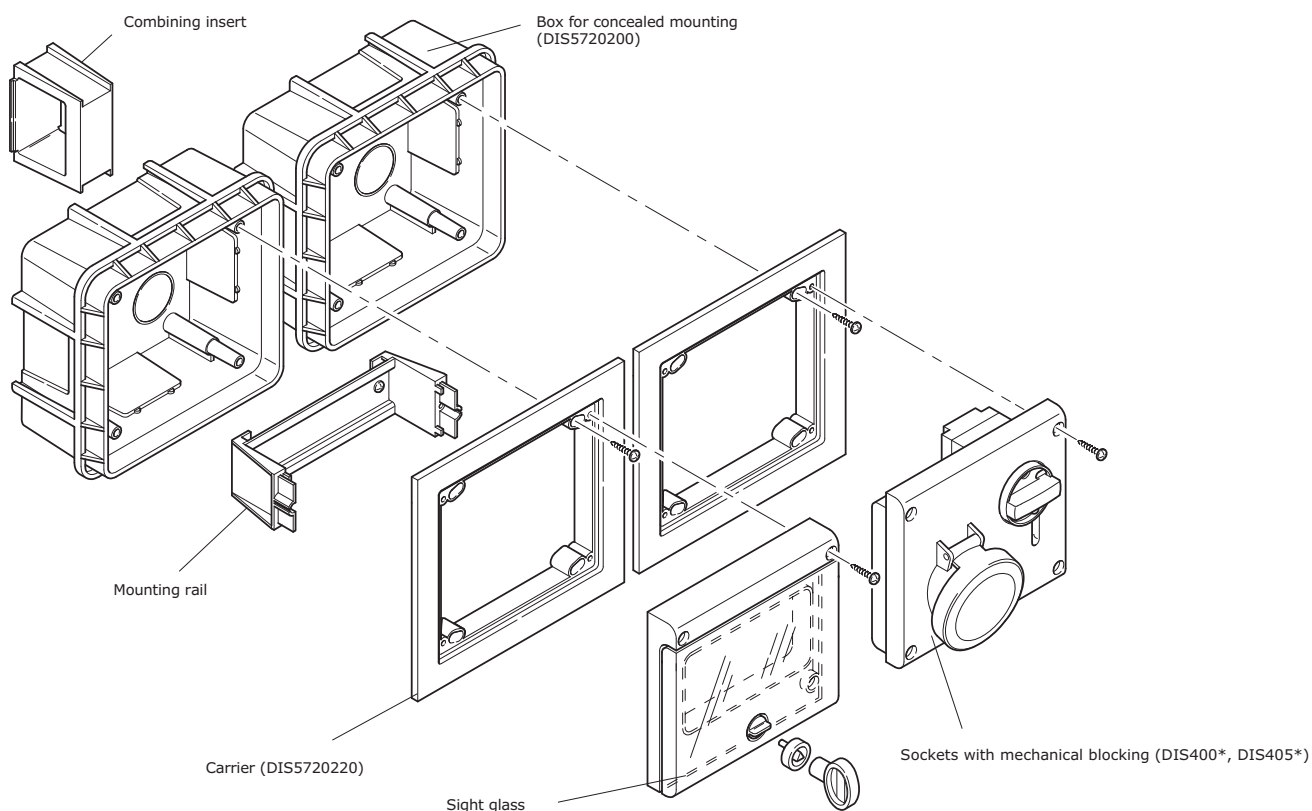
Example of installation of MBox2 enclosure on the fixed post



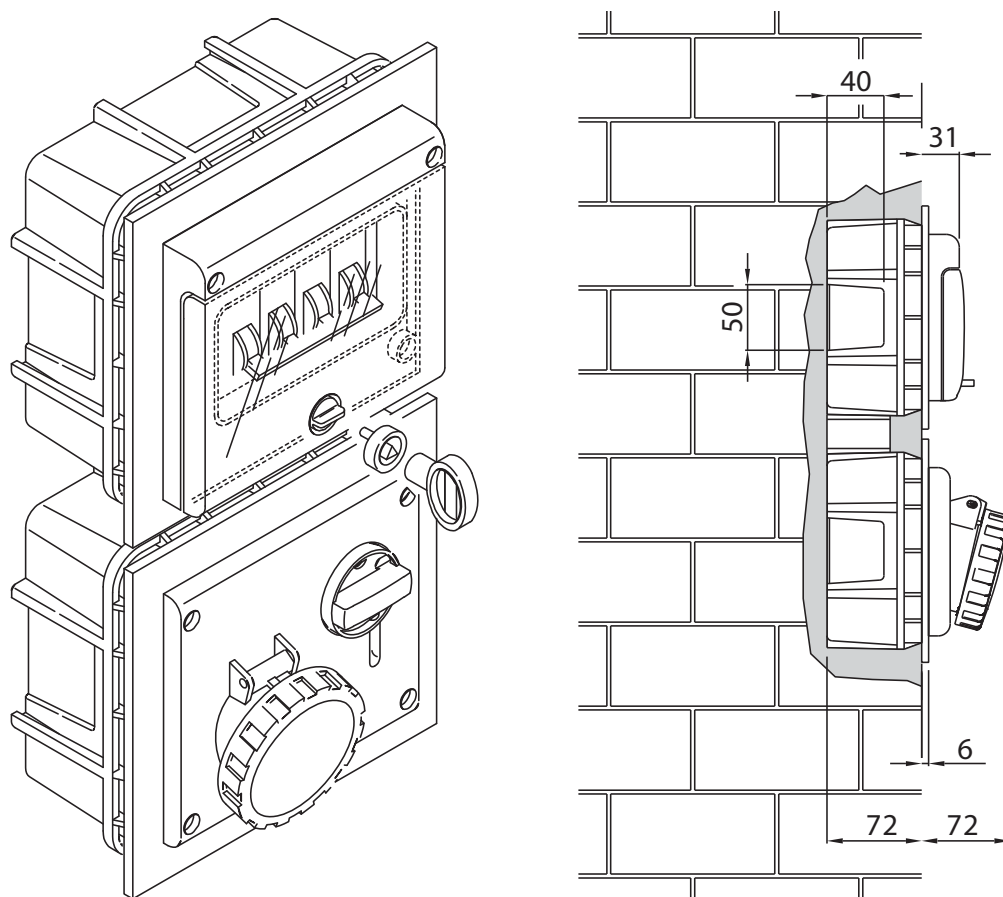
Example of installation of lock for surface-mounted plugs



Installation of sockets on the box for concealed installation 136x125 with horizontal arrangement of elements

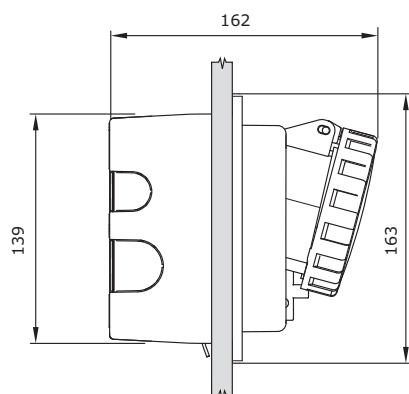
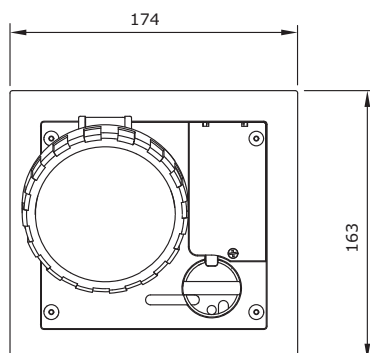
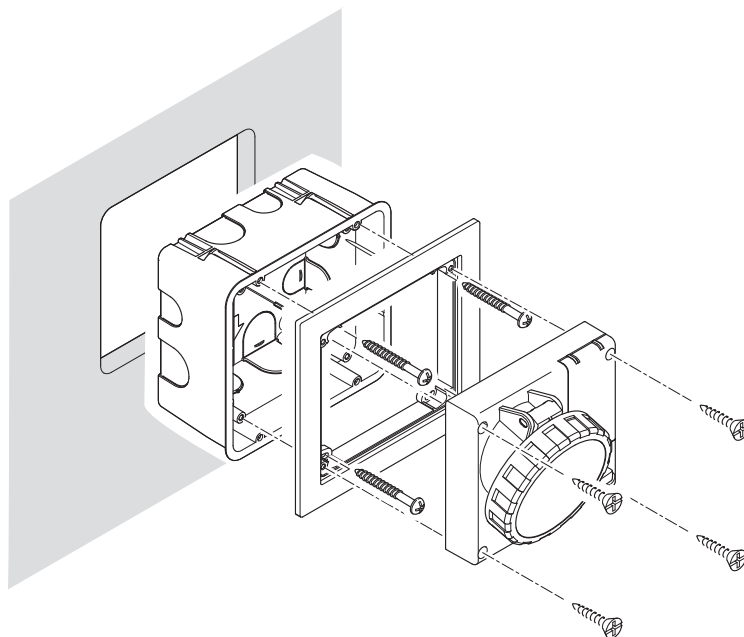


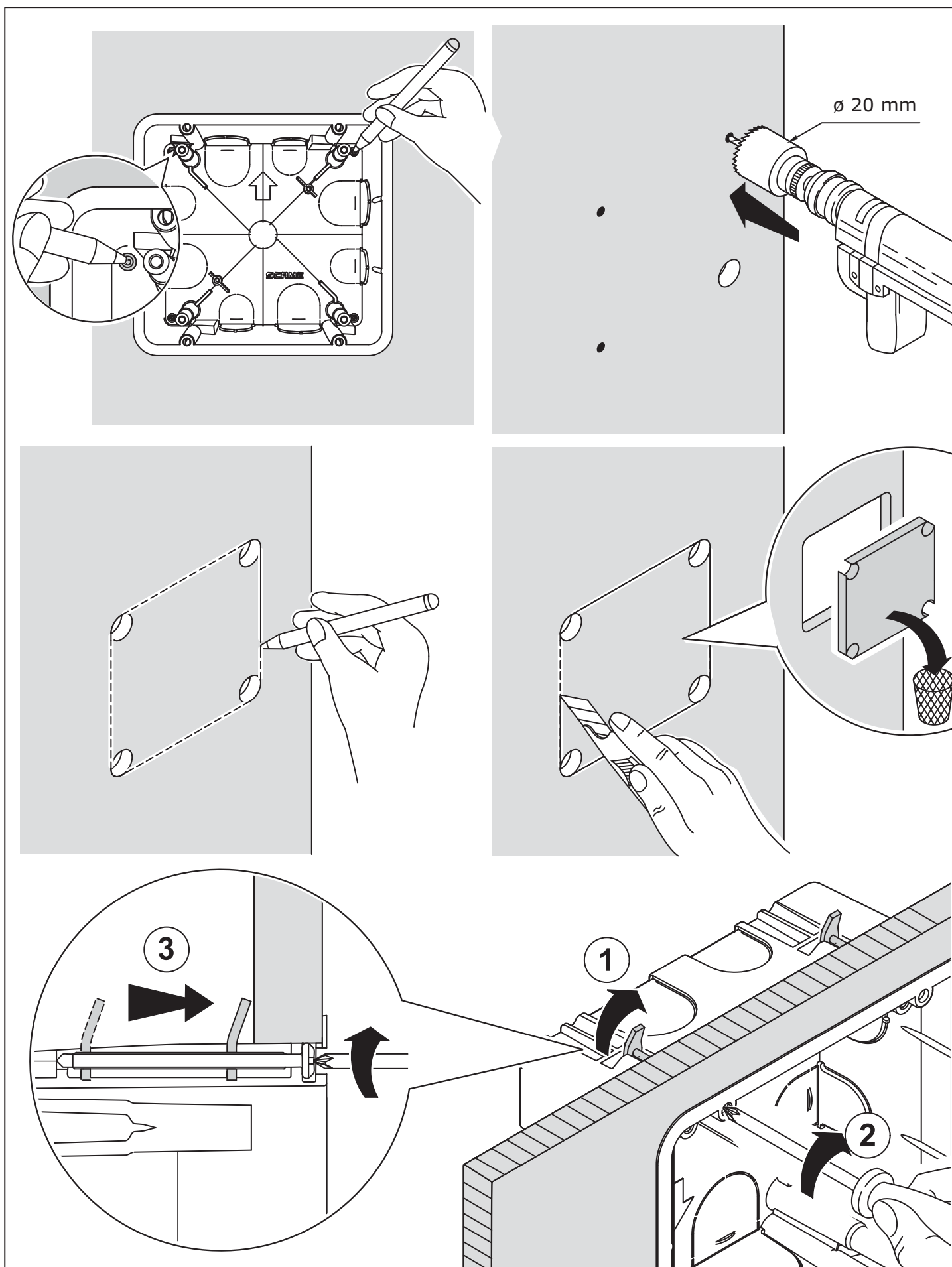
Installation of sockets on the box for concealed installation 136x125 with vertical arrangement of elements



Box for concealed mounting (on gypsum plasterboard)

DIS5720205









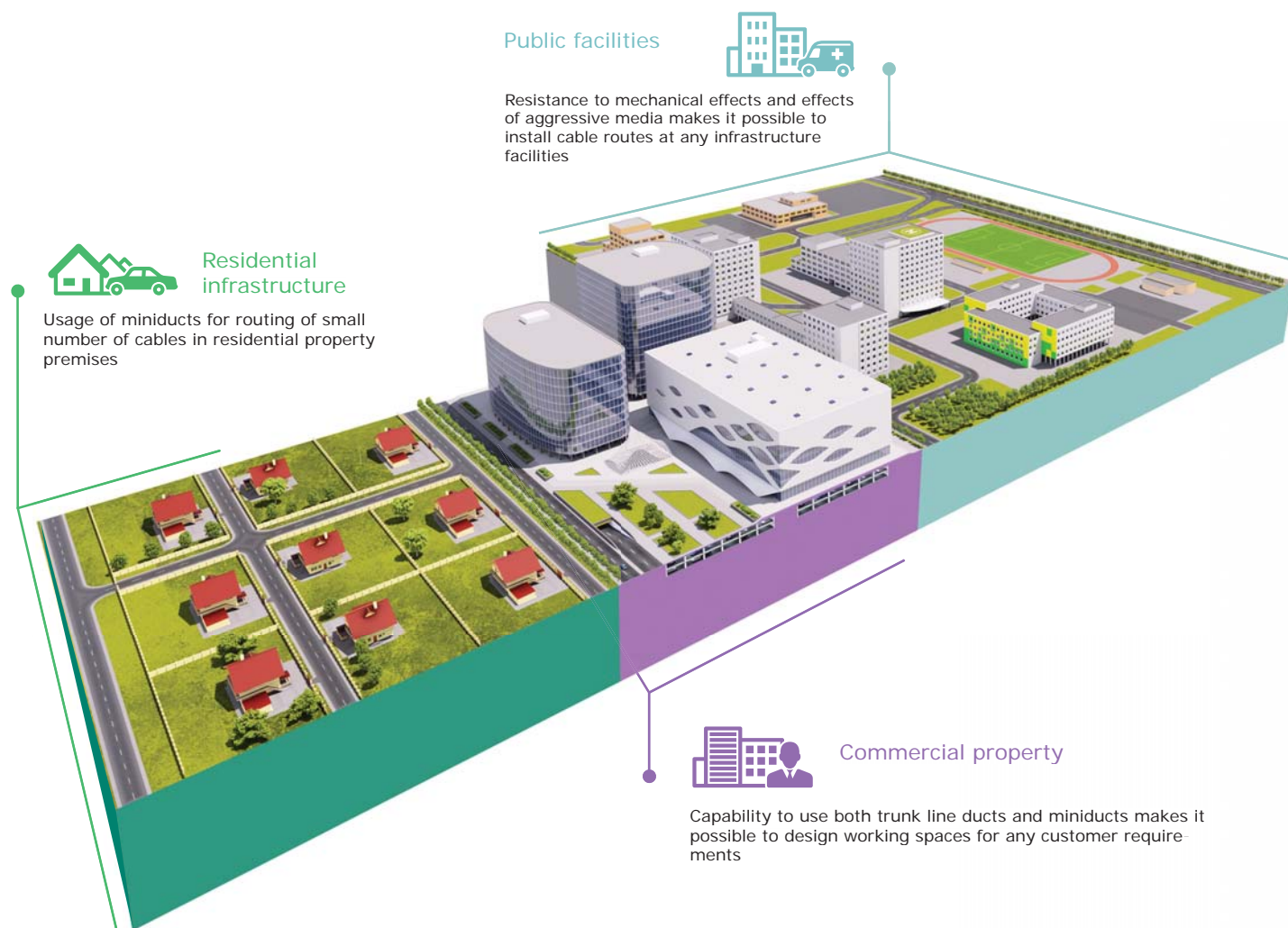
Cable ducts and miniducts "In-liner Classic"

Cable ducts system	244
Miniducts and accessories	249
Ducts and accessories	260
Compatibility table	270

Cable ducts system

"In-liner Classic" is the system of ducts (cable ducts) for open laying of replaceable networks in administrative premises that comprises of plastic cable ducts and a wide range of accessories including those for attachment of wiring devices.

"In-liner Classic" series is a universal cable ducts system with a classic design.



Distinctive features



During the stages of storage, transportation and installation duct cover and sides are coated with an anti-contamination protective film



High quality of plastic ensures high shock resistance and long service life



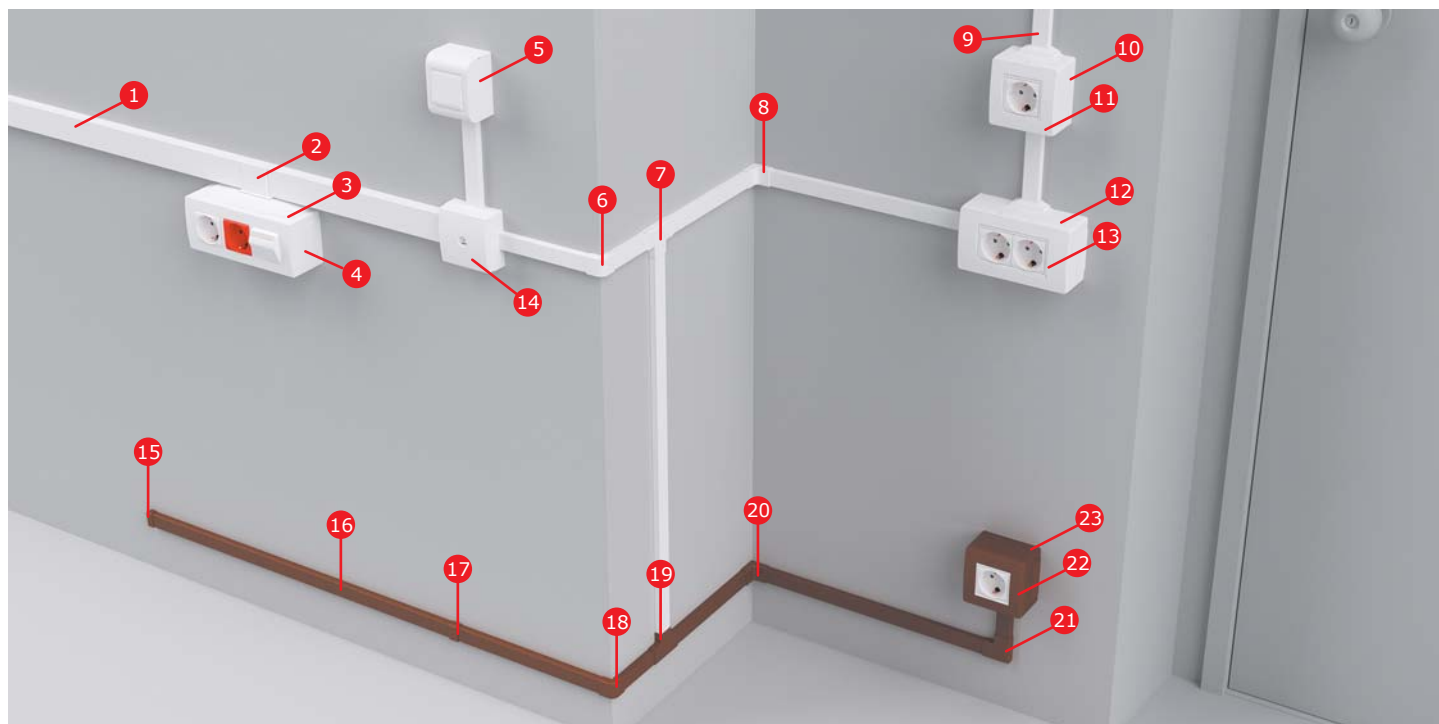
Perforation in the duct bottom makes installation significantly easier

"Collection of instructions for installation of cable ducts" can be downloaded at: www.dkc.ru or received from the nearest distributor

Technical characteristics:

Technical specifications	TA-EN ducts, TMC miniducts – TS 3449-009-47022248-2010; TMR miniducts – TS 3449-027-47022248-2011
Duct (straight sections) material	Polyvinylchloride (PVC) based composition without cadmium additives that does not propagate fire
Accessory (fitting) materials	Polycarbonate, ABS plastic
Color	white RAL 9016 (age resistance of ducts is achieved by means of special additives)
Surface	dim (the surface of ducts is protected by a film that provides protection during transportation and installation)
Mounting and operating temperature	from -5 to +60 °C except for miniducts of TMR type temperature for which ranges from +5 to +60 °C
Storage and transportation temperature	from -25 to +60 °C
Shock resistance at minimum operating temperature is -5 °C (according to GOST R IEC 61084-1)	at least 6 J (IK08 EN 50102:1995) for TA-GN ducts designed for hard mechanical effects; at least 0.5 J (IK04 EN 50102:1995) for TMC and TA-EN miniducts designed for medium mechanical effects; at least 0.5 J (IK04 EN 50102:1995) for TMR miniducts (at +5 °C according to TS 3449-027-47022248-2011)
Climatic version	according to GOST 15543-70 and GOST 15150-69, it is UKhL4 (NF 4) for macroclimatic areas with moderate and cold climate. For operation in premises with artificially adjusted climatic conditions, for example, in closed heated or cooled and ventilated production and other premises including well ventilated underground premises (no effects of direct sun light, precipitation, wind, sand and dust of outside air; absence or significant reduction of effects of diffuse solar radiation and moisture condensation). Products in UKhL version can be operated in warm and humid, hot and dry, and very hot and dry climatic areas according to GOST 16350 where the temperature among the annual highest attainable air temperatures is over 40 °C, and (or) combination of temperature equal to 20 °C or exceeding it, and under relative humidity equal to 80% or more can be observed for more than 12 hours a day during continuous period of more than two months a year.
Protection degree	IP40 according to GOST 14254. Protection against penetration of external solid objects with diameter over 1.0 mm or equal to it. Thus, the shell (cable duct) protects people handling tools with diameter equal to 1.0 mm or over from access to dangerous (current-carrying) parts, and it also protects equipment within the shell against penetration by external solid objects with diameter equal to 1.0 mm or over. There is no protection from water penetration negative effects (it is not provided since the main field of application is inside dry premises)
Conformity to fire safety requirements (heat resistance, resistance to ignition of a heated wire, open fire resistance, resistance to fire propagation in case of single and group laying). Resistance to propagation of cable duct and accessories fire	as related to fire safety, straight sections of cable ducts systems meet the requirements of Federal Law No. 123-FL "Technical Regulations on Fire Safety Requirements" dated 22.06.2008 conforms to GOST R 53313-2009 (subsections 5.1-5.4); conforms to NPB 246-97; conforms to GOST 27483-87: samples have passed testing: there was no open flame, or burning of a sample lasted for less than 30 seconds after removal of ignition source (960 °C +15/-15 °C); conforms to GOST R 28779-90 (IEC 707-81): material conforms to FV 0 class (category): burning time after each exposure to flame for each sample is not more than 10 seconds; conforms to GOST R IEC 61084-1-2007: duct samples have passed the flame test, and accessory samples have passed a glow-wire test (the samples did not ignite, or extinction of burning occurred within 30 seconds after discontinuation of flame exposure or removal of glow-wire)
Electric strength of insulation and electric resistance of cable ducts system	under normal operating conditions conforms to GOST R IEC 61084-1 (subsection 12.3). According to the GOST, insulation resistance was measured by application of direct current voltage of at least 500 V (with insulation resistance of over 100 Mohm), and then of 2,500 V. No insulation breakdown occurred in the process
Cable ducts system protection class	0 according to GOST 12.2.007.0
Support planes for cable duct cables	conform to GOST R IEC 61084-1 (subsection 10.2). Testing of support planes for cables during installation of cable and special cable ducts on the surface of a wall or ceiling have been passed successfully
Cable ducts system structure	conforms to GOST R IEC 61084-1 (cl. 9.1, 9.4, 9.6), GOST R IEC 61084-2-1 (cl. 9.4.1). The structure of ducts allows for laying of open replaceable networks. Edges and surfaces of ducts do not damage wires and cables. The structure of cable ducts systems ensures inaccessibility of current-carrying parts after installation, filling with insulated wires and cables, and fitting with devices for normal operation
Operation of the cable ducts system	operation of the cable ducts system shall be carried out in accordance with the Rules of technical operation of electric installations of consumers and instructions in the catalog of JSC "DKC"
Transportation and storage. Fire safety during storage and transportation	transportation and storage of cable ducts and accessories according to GOST 23216. Fire safety during storage and transportation shall be provided by fire prevention and fire protection systems, and by technical and organizational measures according to GOST 12.1.004-91 "Occupational safety standards system. Fire safety. General requirements"
Safety requirements Environmental protection requirements Hygienic characteristic of products	during normal operation ducts do not have chemical, mechanical, radioactive, electromagnetic, thermal and biological impact on environment; when transported, stored and operated, they do not harm natural environment, health and genetic background of humans
Certificates	availability of all the required certificates of the Russian Federation and the Customs Union

Miniducts system composition



- | | |
|--|--|
| 1 Two-section miniduct | 13 Frame and carrier for 4 modules of wiring devices |
| 2 Adapter for miniducts | 14 Distribution box |
| 3 Adapter for entry of ducts in "Brava" 6-module box | 15 Brown plug |
| 4 Box for 6 modules for "Brava" wiring devices | 16 Brown miniduct |
| 5 Mounting box for 2 modules of wiring devices | 17 Brown joint connection |
| 6 External angle | 18 Brown external angle |
| 7 Tee | 19 Brown tee |
| 8 Internal angle | 20 Brown internal angle |
| 9 Miniduct | 21 Brown flat angle |
| 10 Universal mounting box for 2 modules | 22 Brown carrier for 2 modules of wiring devices |
| 11 Frame and carrier for 2 modules of wiring devices | 23 Brown universal mounting box |
| 12 Universal mounting box for 4 modules | |

3 variants of working space (box for wiring devices) arrangement are provided in "In-liner Classic" system for miniducts.



1. Boxes of PDD type for wiring devices "Viva", "Brava", and with dimensions of 45x45 mm. Sockets in these boxes are installed by latching (without carriers and frames). The boxes have pre-perforation for all the standard sizes of TMC series miniducts on 4 sides



2. Universal PDD-N60 (for 2 modules) and PDD-N120 (for 4 modules) mounting boxes. Frames and carriers are required to mount sockets in them

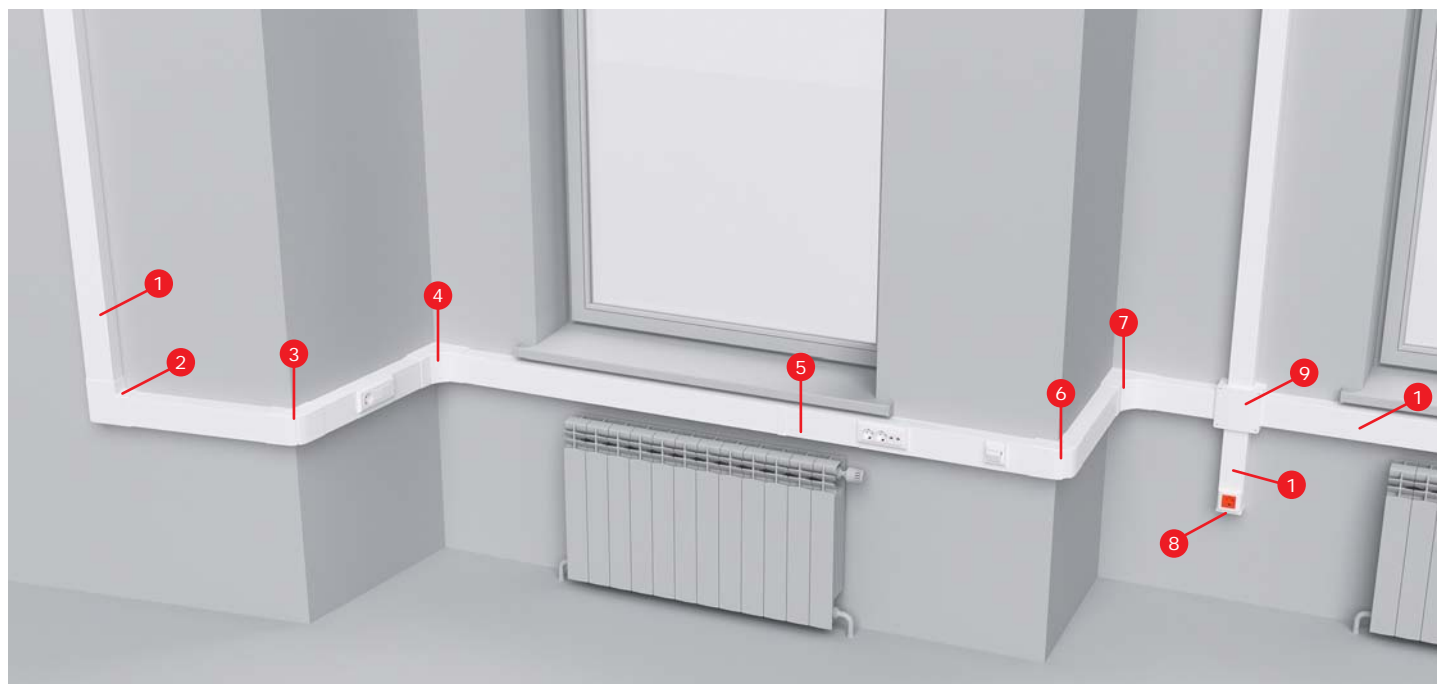


3. Box assemblies with sockets and switches. White and brown boxes

There is a large selection of standard sizes of miniducts in the range of "In-liner Classic" system. Due to narrow section miniducts of TMR series with a folding cover are delivered without connecting accessories. Miniducts of TMC series with removable covers have all the necessary accessories (angles, tees, plugs, connections, and boxes). Due to a wide range of modular boxes with TMC miniducts wiring devices by DKC and also by many other manufacturers can be used. Boxes of PDD-N type are completed with adapters for entry of any miniduct of TMC series. One of the advantages of DKC miniducts is a simple and user-friendly accessory installation system.

DKC ducts and miniducts are made of self-extinguishing PVC using modern additives that improve plastic properties, but without additives harmful to human health.

Ducts system composition



- | | |
|---|------------------------------------|
| 1 Duct with a cover, with guiding ways for installation of dividers | 6 External unchangeable angle |
| 2 Flat angle | 7 Internal unchangeable angle |
| 3 External changeable angle | 8 Plug |
| 4 Internal changeable angle | 9 Distribution box for cable ducts |
| 5 Faceplate on cover joint | |

There is a large number of standard sizes of ducts in the range of "In-liner Classic" system.

The maximum standard size of a duct wherein wiring devices can be installed using supporting carriers is 80x40 mm.

The maximum dimension of a wiring duct is 150x80 mm.

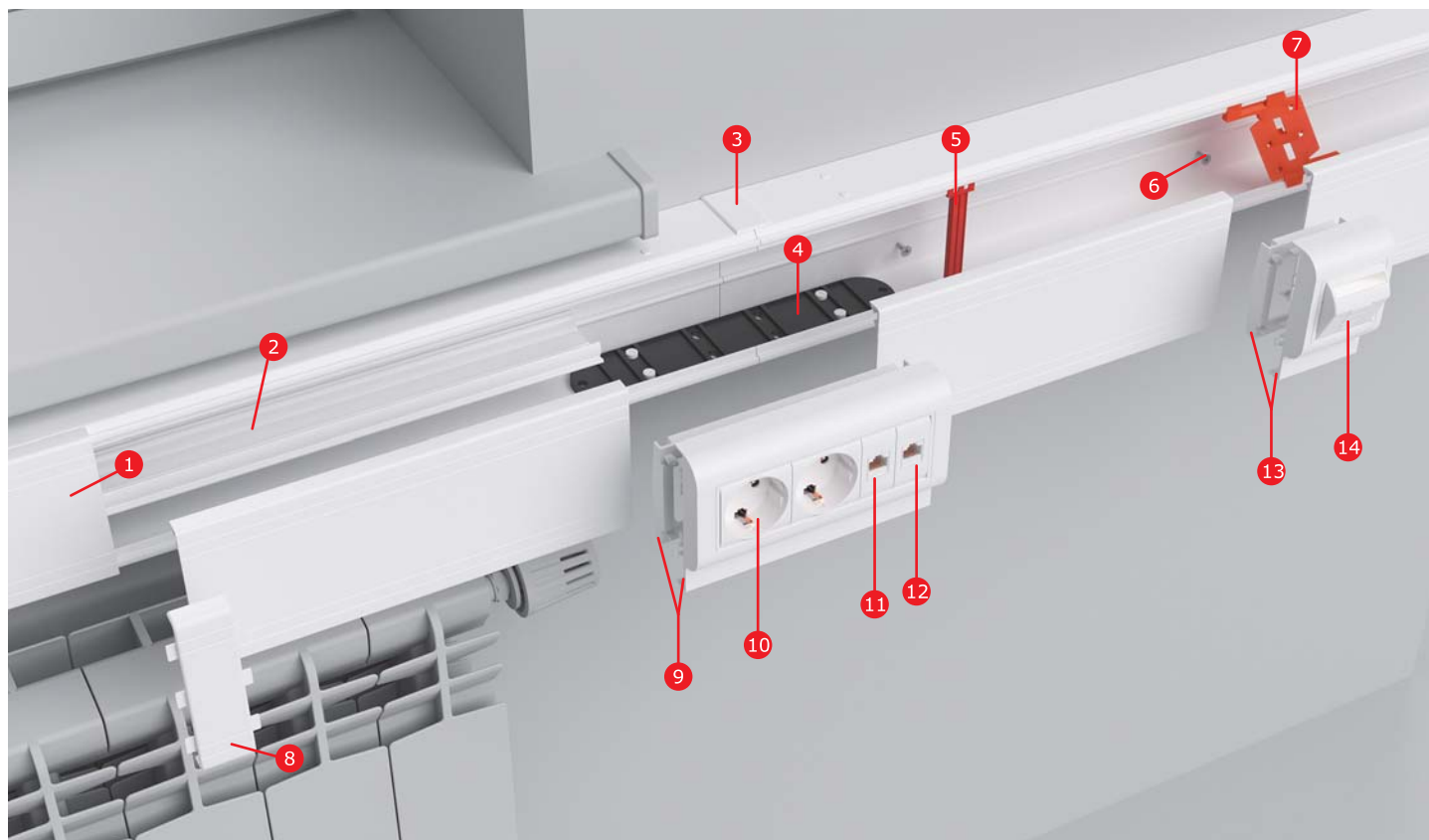
Using special boxes, installation of wiring devices in trunk main ducts with width of 25, 40, 60 and 200 mm is possible.

Wide range of supporting carriers makes it possible to install wiring devices by DKC and many other manufacturers in "In-liner Classic" system's ducts.

Availability of dividers allows for forming separated compartments inside a duct and separating different networks.

Very quick installation of the "working space": sockets and supporting carriers are installed by mere latching.

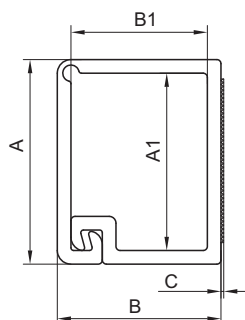
Duct based "working space" arrangement



- | | | | |
|---|---|----|---|
| 1 | Duct with a cover, with guiding ways for installation of dividers | 8 | Faceplate on cover joint |
| 2 | Universal partition wall | 9 | Supporting carrier for 6 modules of wiring devices |
| 3 | Faceplate on the profile joint | 10 | Electric socket with grounding, shutters, 2 mod. |
| 4 | Inner duct base connector | 11 | RJ-45 computer socket, cat. 5E, 1 mod. |
| 5 | Cable retainer with reduced weight | 12 | Telephone socket RJ-11, 1 mod. |
| 6 | Self-tapping screw with F6 rawplug | 13 | Supporting carrier for 2 modules of wiring devices |
| 7 | Cable retainer of high rigidity | 14 | RJ-45 computer socket, cat. 5E, shielded, inclined, with a field for marking, with dustproof shutters, 2 mod. |

Straight elements

Self-adhesive miniduct of TMR type with a folding cover


Purpose:

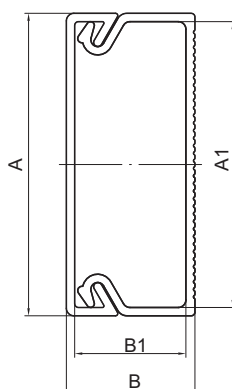
- aesthetic cable laying.

Characteristics:

- color is white RAL 9016;
- color is brown PANTONE 7525 C;
- material is PVC composition;
- non-perforated bottom;
- glued base is modified acrylate;
- mounting and operating temperature ranges from +5 to +60 °C;
- surfaces for installation of a miniduct shall be dry and clean, free of condensate, dust and oil contaminations, and have no substances preventing adhesion; paint coatings shall be strong; peelings shall be removed;
- manufactured in segments with length of 2 meters.

Miniduct standard size, mm	Cover width, A, mm	Side height, B, mm	Inside width, A1, mm	Inside height, B1, mm	Sticky tape thickness, C, mm	Inner dimension area, mm ²	Number of cables depending on their section (capacity based on the example of PV3 wires)				Color	Weight, kg/m	Wholesale package	
							1.5 mm ²	2.5 mm ²	4 mm ²	6 mm ²			q-ty, m/package	code
12x7	12	7	10	5	0.2	51	2	2	1	0	white	0.056	162	00369
10x10	10	10	8.2	8	0.2	61	2	2	1	1	white	0.066	104	00301
10x10	10	10	8.2	8	0.2	61	2	2	1	1	brown	0.036	104	00301B
12x12	12	12	10	10	0.2	92	6	4	3	1	white	0.088	90	00308
15x12	15	12	13	10	0.2	123	10	6	5	2	white	0.088	144	00302
16x12	16	12	14	10	0.2	132	10	6	5	2	white	0.104	70	00312

One-section miniduct of TMC type with a standard removable cover


Purpose:

- aesthetic cable laying.

Characteristics:

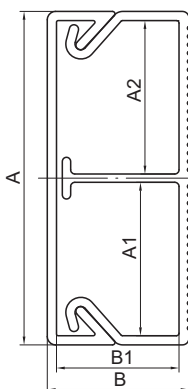
- color is white RAL 9016;
- color is brown PANTONE 7525 C;
- material is PVC composition;
- perforated bottom;
- mounting and operating temperature ranges from -5 to +60 °C;
- manufactured in segments with length of 2 meters.

Complete set:

- profile (base);
- cover.

Miniduct standard size, mm	Cover width, A, mm	Side height, B, mm	Inside width, A1, mm	Inside height, B1, mm	Inner dimension area, mm ²	Number of cables depending on their section (capacity based on the example of PV3 wires)				Color	Weight, kg/m	Wholesale package		Retail package	
						1.5 mm ²	2.5 mm ²	4 mm ²	6 mm ²			q-ty, m/package	code	q-ty, m/package (pack x m)	code
22/1x10	22	10	20.2	8.2	151	10	7	5	3	white	0.100	118	00317	96 (6 x 16)	00317R
										brown	0.120	118	00317B	96 (6 x 16)	00317RB
30/1x10	30	10	28.2	8.2	217	15	11	7	4	white	0.144	80	00311	–	–
15/1x17	15	17	13.2	15	177	12	8	6	3	white	0.140	96	00303	96 (6 x 16)	00303R
25/1x17	25	17	23	15	301	21	14	11	5	white	0.179	60	00304	96 (8 x 12)	00304R
										brown	0.183	60	00304B	96 (8 x 12)	00304RB
40/1x17	40	17	37.8	14.7	512	38	25	20	11	white	0.230	64	00351	80 (10 x 8)	00351R
										brown	0.230	64	00351B	80 (10 x 8)	00351RB
50/1x20	50	20	47.6	17.7	798	61	42	30	20	white	0.291	48	00313	–	–

Two-section miniduct of TMC type with a standard removable cover


Purpose:

- aesthetic cable laying.

Characteristics:

- color is white RAL 9016;
- material is PVC composition;
- perforated bottom;
- mounting and operating temperature ranges from -5 to +60 °C;
- manufactured in segments with length of 2 meters.

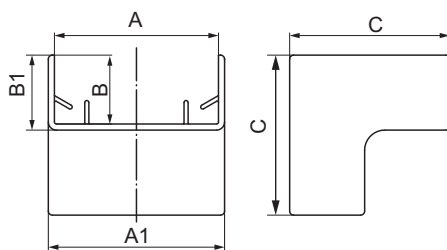
Complete set:

- profile (base);
- cover.

Miniduct standard size, mm	Cover width, A, mm	Side height, B, mm	Inside width, mm		Inside height, B1, mm	Compartment	Inner dimension area, mm ²	Number of cables depending on their section (capacity based on the example of PV3 wires)				Color	Weight, kg/m	Wholesale package		Retail package	
			A1	A2				1.5 mm ²	2.5 mm ²	4 mm ²	6 mm ²			q-ty, m/package	code	q-ty, m/package (pack x m)	code
40/2x17	40	17	18.4	18.4	14.7	1	245	16	11	8	4	white	0.298	64	00305	80 (10 x 8)	00305R
						2	245	16	11	8	4						
50/2x20	50	20	16.8	29.8	17.7	1	246	17	12	9	5	white	0.339	48	00314	–	–
						2	531	37	24	18	11						

Accessories for miniducts

AIM internal angle


Purpose:

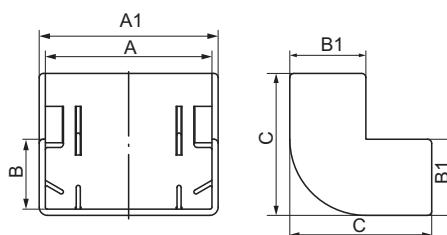
- aesthetic decoration of route mating and bend points.

Characteristics:

- material is ABS plastic.

Miniduct standard size, mm	Accessory dimensions, mm					Color	Weight, kg	Wholesale package		Retail package	
	A	B	A1	B1	C			q-ty, pcs/package	code	q-ty, pcs/package (pack x pcs)	code
TMC 22x10	22	10	24.9	11.2	25.2	white	0.004	40	00386	80 (20 x 4)	00386R
						brown	0.004	40	00386B	80 (20 x 4)	00386RB
TMC 30x10	30	10	32.9	11.2	34.5	white	0.005	40	00387	–	–
TMC 15x17	15	17	18.5	18.5	34.5	white	0.008	20	00390	80 (20 x 4)	00390R
TMC 25x17	25	17	28.5	18.5	34.5	white	0.010	40	00391	40 (10 x 4)	00391R
						brown	0.010	40	00391B	64 (16 x 4)	00391RB
TMC 40x17	40	17	43.5	18.5	39.5	white	0.015	20	00395	40 (10 x 4)	00395R
						brown	0.015	20	00395B	40 (10 x 4)	00395RB
TMC 40/2x17	40	17	43.5	18.5	39.5	white	0.015	20	00395	40 (10 x 4)	00395R
TMC 50x20	50	20	53.5	21.5	40.5	white	0.015	20	00655	–	–
TMC 50/2x20	50	20	53.5	21.5	40.5	white	0.015	20	00655	–	–

AEM external angle for miniducts


Purpose:

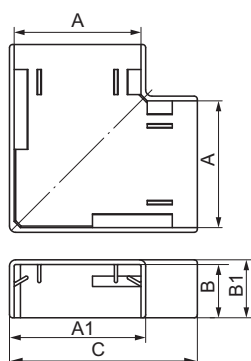
- aesthetic decoration of points of attachment and route bend.

Characteristics:

- material is ABS plastic.

Miniduct standard size, mm	Accessory dimensions, mm					Color	Weight, kg	Wholesale package		Retail package	
	A	B	A1	B1	C			q-ty, pcs/package	code	q-ty, pcs/package (pack x pcs)	code
TMC 22x10	22	10	24.9	11.2	25.2	white	0.005	40	00396	80 (20 x 4)	00396R
						brown	0.005	40	00396B	80 (20 x 4)	00396RB
TMC 30x10	30	10	33.5	11.5	30.8	white	0.005	40	00397	–	–
TMC 15x17	15	17	18.5	18.5	34.5	white	0.010	20	00403	80 (20 x 4)	00403R
TMC 25x17	25	17	28.5	18.5	34.5	white	0.012	20	00404	80 (20 x 4)	00404R
						brown	0.012	20	00404B	80 (20 x 4)	00404RB
TMC 40x17	40	17	43.5	18.5	34.5	white	0.014	20	00406	40 (10 x 4)	00406R
						brown	0.014	20	00406B	40 (10 x 4)	00406RB
TMC 40/2x17	40	17	43.5	18.5	34.5	white	0.014	20	00406	40 (10 x 4)	00406R
TMC 50x20	50	20	53.5	21.5	40.5	white	0.021	20	00656	–	–
TMC 50/2x20	50	20	53.5	21.5	40.5	white	0.021	20	00656	–	–

Flat APM angle for miniducts


Purpose:

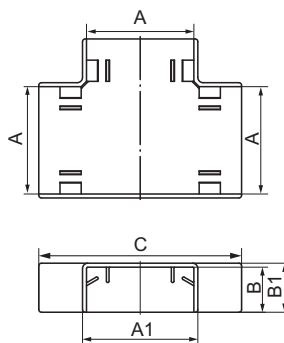
- aesthetic decoration of points of attachment and route bend.

Characteristics:

- material is ABS plastic.

Miniduct standard size, mm	Accessory dimensions, mm					Color	Weight, kg	Wholesale package		Retail package	
	A	B	A1	B1	C			q-ty, pcs/package	code	q-ty, pcs/package (pack x pcs)	code
TMC 22x10	22	10	24.9	11.2	40.7	white	0.005	40	00407	80 (20 x 4)	00407R
						brown	0.005	40	00407B	80 (20 x 4)	00407RB
TMC 30x10	30	10	32.5	11.2	50	white	0.008	40	00408	–	–
TMC 15x17	15	17	18.5	18.5	35	white	0.009	20	00414	80 (20 x 4)	00414R
TMC 25x17	25	17	28.5	18.5	45	white	0.011	40	00415	60 (15 x 4)	00415R
						brown	0.011	40	00415B	60 (15 x 4)	00415RB
TMC 40x17	40	17	43.5	18.5	60	white	0.020	20	00425	56 (14 x 4)	00425R
						brown	0.020	20	00425B	56 (14 x 4)	00425RB
TMC 40/2x17	40	17	43.5	18.5	60	white	0.020	20	00425	56 (14 x 4)	00425R
TMC 50x20	50	20	53.5	21.5	72	white	0.026	20	00654	–	–
TMC 50/2x20	50	20	53.5	21.5	72	white	0.026	20	00654	–	–

IM tee for miniducts


Purpose:

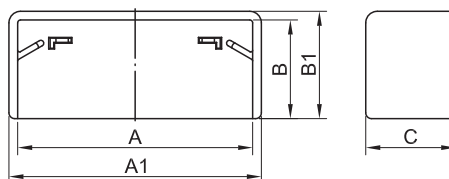
- aesthetic decoration of points of mating, route bend, branching (lowering) from a straight route.

Characteristics:

- material is ABS plastic.

Miniduct standard size, mm	Accessory dimensions, mm					Color	Weight, kg	Wholesale package		Retail package	
	A	B	A1	B1	C			q-ty, pcs/package	code	q-ty, pcs/package (pack x pcs)	code
TMC 22x10	22	10	25	11.2	56.5	white	0.006	40	00525	80 (20 x 4)	00525R
						brown	0.006	40	00525B	80 (20 x 4)	00525RB
TMC 30x10	30	10	33	11.2	60.5	white	0.009	40	00527	–	–
TMC 15x17	15	17	18.5	18.5	51.5	white	0.010	20	00535	60 (15 x 4)	00535R
TMC 25x17	25	17	28.5	18.5	61.5	white	0.015	20	00536	60 (15 x 4)	00536R
						brown	0.015	20	00536B	60 (15 x 4)	00536RB
TMC 40x17	40	17	43.5	18.5	76.5	white	0.027	20	00541	60 (15 x 4)	00541R
						brown	0.027	20	00541B	60 (15 x 4)	00541RB
TMC 40/2x17	40	17	43.5	18.5	76.5	white	0.027	20	00541	60 (15 x 4)	00541R
TMC 50x20	50	20	53.5	21.5	90.5	white	0.027	20	00652	–	–
TMC 50/2x20	50	20	53.5	21.5	90.5	white	0.027	20	00652	–	–

LM end plug for miniducts


Purpose:

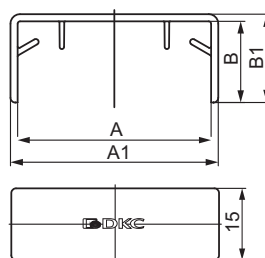
- aesthetic decoration of points of the beginning and the end of route; protection against penetration of foreign matter into a cable duct.

Characteristics:

- material is ABS plastic.

Miniduct standard size, mm	Accessory dimensions, mm					Color	Weight, kg	Wholesale package		Retail package	
	A	B	A1	B1	C			q-ty, pcs/package	code	q-ty, pcs/package (pack x pcs)	code
TMC 22x10	22	10	24.9	11.2	11.2	white	0.004	40	00580	80 (20 x 4)	00580R
						brown	0.004	40	00580B	80 (20 x 4)	00580RB
TMC 30x10	30	10	33	11.2	11.2	white	0.004	40	00581	–	–
TMC 15x17	15	17	18.5	18.5	15.5	white	0.005	20	00577	80 (20 x 4)	00577R
TMC 25x17	25	17	28.5	18.5	15.5	white	0.005	40	00578	80 (20 x 4)	00578R
						brown	0.005	40	00578B	80 (20 x 4)	00578RB
TMC 40x17	40	17	43.5	18.5	15.5	white	0.006	40	00579	80 (20 x 4)	00579R
						brown	0.006	40	00579B	80 (20 x 4)	00579RB
TMC 40/2x17	40	17	43.5	18.5	15.5	white	0.006	40	00579	80 (20 x 4)	00579R
TMC 50x20	50	20	53.3	21.5	15.5	white	0.009	40	00651	–	–
TMC 50/2x20	50	20	53.3	21.5	15.5	white	0.009	40	00651	–	–

GM joint connection for miniducts


Purpose:

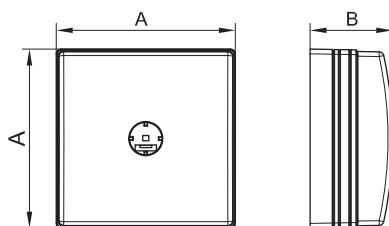
- aesthetic decoration of points of mating of miniducts (faceplate on joint), concealment of mating points and covers that were non-uniformly sawn-off during installation.

Characteristics:

- material is ABS plastic.

Miniduct standard size, mm	Accessory dimensions, mm				Color	Weight, kg	Wholesale package	
	A	B	A1	B1			q-ty, pcs/package	code
TMC 22x10	22	10	25.5	11.5	white	0.004	40	00594
					brown	0.004	40	00594B
TMC 30x10	30	10	33.5	11.5	white	0.005	40	00595
TMC 15x17	15	17	18.5	18.5	white	0.006	20	00590
TMC 25x17	25	17	28.5	18.5	white	0.004	40	00591
					brown	0.004	40	00591B
TMC 40x17	40	17	43.5	18.5	white	0.005	40	00597
					brown	0.005	40	00597B
TMC 40/2x17	40	17	43.5	18.5	white	0.005	40	00597
TMC 50x20	50	20	53.5	21.5	white	0.005	40	00653
TMC 50/2x20	50	20	53.5	21.5	white	0.005	40	00653

SDMN distribution box for miniducts



Purpose:

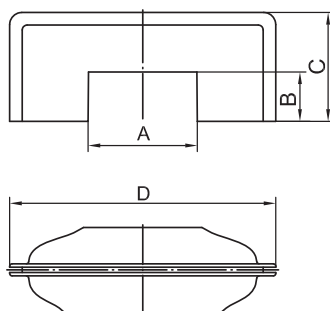
- organization of safe and aesthetic branching point (back box).

Characteristics:

- box material is ABS plastic.

Miniduct standard size, mm	Box overall dimensions, mm	Box color	Weight, kg	Code
All standard sizes	75.5 x 75.54 x 34	white	0.066	00677
		brown	0.066	00677B

Set of adapters for miniducts



Purpose:

- aesthetic organization of entry of a miniduct into PDD-N60 (code 10123) and PDD-N120 (code 10143) boxes, into an adapter for floor-mounted to skirting cable ducts (code 11870) that have 50x20 mm openings for installation of adapters.

Characteristics:

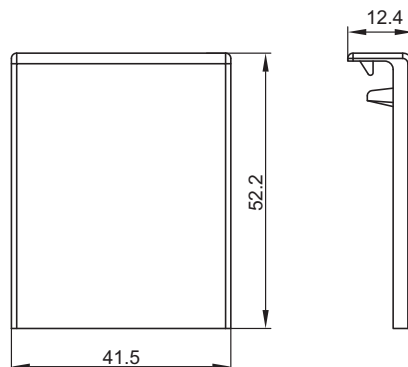
- material is ABS plastic;
- two-side adapters.

Complete set:

- 22x10 and 30x10 mm adapters;
- 25x17 and 15x17 mm adapters;
- 40x17 and 40/2x17 mm adapters.

Miniduct standard size, mm	Adapter dimension 1, mm					Adapter dimension 2, mm					Adapter dimension 3, mm					Color	Weight, kg	Code of adapter kit
	A	A	B	C	D	A	A	B	C	D	A	A	B	C	D			
TMC 22x10 TMC 30x10 TMC 15x17 TMC 40x17 TMC 25x17 TMC 40x17 TMC 40/2x17	22.6	30.6	10.2	22.5	55	15.7	25.8	17.2	22.5	55	40.5	40.5	17.2	22.5	55	white	0.085	10133

Adapter for miniducts 40x17 and 50x20



Purpose:

- aesthetic organization of branch from a miniduct to a box of PDD-N type, in case this box is located above or under the miniduct;
- faceplate on miniduct joint.

Installation conditions:

- for 40x17 miniduct, obsolete parts of the adapter shall be cut off.

Characteristics:

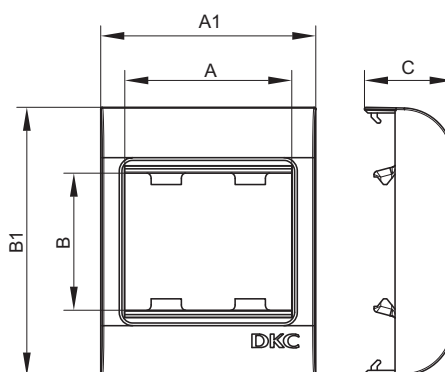
- material is ABS plastic.

Complete set:

- 50x20 mm adapter base;
- adapter cover.

Miniduct standard size, mm	Color	Weight, kg	Accessory code
TMC 40x17 TMC 40/2x17 TMC 50x20 TMC 50/2x20	white	0.08	10046

Mounting box for 2 wiring device modules, types PDD, PDB, PDM



Purpose:

- working space organization.

Installation conditions for wiring devices:

- by latching (from inside for "Brava" WD, and from outside for "Viva" and 45x45 WDs).

Characteristics:

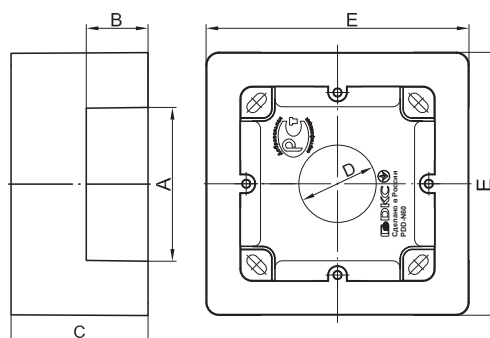
- material is ABS plastic;
- for entry of miniducts pre-perforation is made inside the box on all 4 walls;
- for entry of a corrugated tube 16 and 25 mm perforation is made in the bottom of the box;
- for installation on a wall 4 holes in the bottom of the box for self-tapping screws with diameter of up to 5 mm are made.

Complete set:

- base;
- front part (carrier with latches for installation of WDs).

Miniduct standard size, mm	Dimensions, mm					For wiring devices	Number of models the box is designed for	Type of box	Color of box	Weight, kg	Code of box
	A	B	A1	B1	C						
All standard sizes	50	45	64	80	47.2	"Viva"	2	PDD	white	0.067	10033
	43	43	64	80	47.2	"Brava"	2	PDB	white	0.067	10034
	45	45	64	80	47.2	45x45 mm	2	PDM	white	0.067	10013

Mounting box for 2 wiring device modules, type PDD-N60



Purpose:

- working space organization.

Installation conditions for wiring devices:

- with frames and carriers (the same as for walls), mounting dimension between screws is 60 mm.

Characteristics:

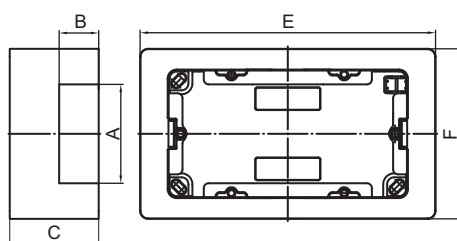
- material is ABS plastic;
- 50x20 mm holes on 3 sides for entry of miniducts;
- for installation on a wall holes in the bottom of the box for self-tapping screws with diameter of up to 4 mm are made.

Complete set:

- base – 1 pce;
- self-tapping screws for installation of frames with WDs in the box base – 2 pcs;
- 50x20 mm plug – 3 pcs;
- adapter for entry of miniduct 22x10 or 30x10 mm – 1 pce;
- adapter for entry of miniduct 25x17 or 15x17 mm – 1 pce;
- adapter for entry of miniduct 40x17 or 40/2x17 mm – 1 pce.

Miniduct standard size, mm	Dimensions, mm					Color of box	Number of models the box is designed for	For installation of wiring devices	Frame and carrier required, code	Weight, kg	Code of box
	A	B	C	D	E						
All standard sizes	50	20	45	25.4	87	white	2	"Viva"	10242	0.084	10123
								"Brava"	75023W + 75010W		
All standard sizes	50	20	45	25.4	87	brown	2	"Viva"	10242	0.084	10123RB
								"Brava"	75023W + 75010RB		

Mounting box for 4 wiring device modules, type PDD-N120


Purpose:

- working space organization.

Installation of wiring devices:

- with frames (the same as installation into walls).

Characteristics:

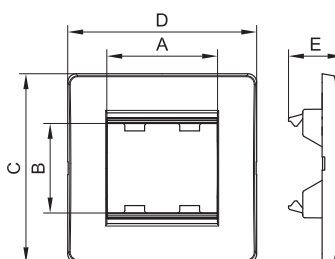
- material is ABS plastic;
- 50x20 mm holes on 3 sides for entry of DKC miniducts;
- for installation on a wall holes in the bottom of the box for self-tapping screws with diameter of up to 4 mm are made.

Complete set:

- base – 1 pce;
- self-tapping screws for installation of frames with WDs in the box base – 2 pcs;
- 50x20 mm plug – 3 pcs;
- adapter for entry of miniduct 22x10 or 30x10 mm – 1 pce;
- adapter for entry of miniduct 25x17 or 15x17 mm – 1 pce;
- adapter for entry of miniduct 40x17 or 40/2x17 mm – 1 pce.

Miniduct standard size, mm	Dimensions, mm					Color of box	Number of models the box is designed for	For installation of wiring devices	Frame and carrier required, code	Weight, kg	Code of box
	A	B	C	E	F						
All standard sizes	50	20	45	149	87	white	4	"Viva"	10245	0.031	10143
								"Brava"	75021W + 75011W		

Frame assemblies with carriers for 2 and 4 modules of "Viva" wiring devices


Purpose:

- working space organization.

Installation conditions:

- wiring device of series "Viva" shall be installed into the frame by latching;
- the frame shall be installed into the box using a self-tapping screw;
- carrier shall be installed on the frame by latching.

Characteristics:

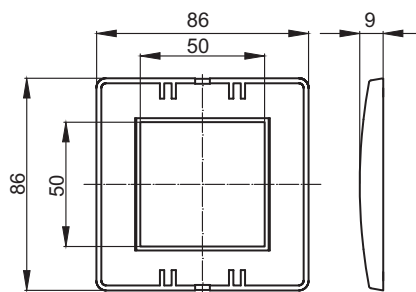
- material is ABS plastic.

Complete set:

- frame;
- carrier.

Purpose	Dimensions, mm					Q-ty of modules	Color	Weight, kg	Code
	A	B	C	D	E				
PDD-N60 box	50	45	86	86	24	2	white	0.019	10242
PDD-N120 box	100	45	86	149	24	4	white	0.065	10245

Carrier for "Brava" WD installation in PDD-N60 boxes


Purpose:

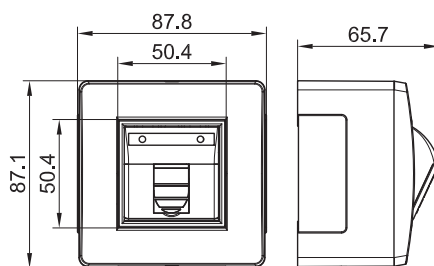
- installation on a frame with WD of series "Brava".

Characteristics:

- carrier is installed on a frame by latching;
- for organization of working space inside PDD-N60 boxes, code 10123, carrier with code 75010W + frame 75023W + WD "Brava" are required.

Purpose	Number of modules	Carrier overall dimension, mm	Color	Weight, kg	Code
PDD-N60 box	2	86x86	color is brown PANTONE 7525 C	0.023	75010RB
			white RAL 9010	0.023	75010W
			bone RAL 9001	0.023	75010O
			gray-black RAL 7016	0.023	75010B
			blue RAL 5012	0.023	75010L
			raspberry-red RAL 3027	0.023	75010R
			sand RAL 1002	0.023	75010V
			light green RAL 6019	0.023	75010P

Box assembly with 1 RJ-45 socket, 5e category



Purpose:

- working space organization.

Characteristics:

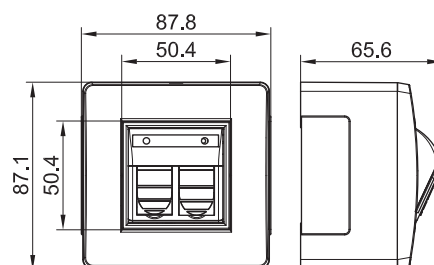
- box material is ABS plastic;
- 50x20 mm holes on 3 sides for entry of miniducts are closed with plugs;
- for installation on a wall holes in the bottom of the box for self-tapping screws with diameter of up to 4 mm are made.

Complete set:

- RJ-45 socket, 5e category, with 1 plug, 2 "Brava" mod.;
- frame for 2 "Brava" mod.;
- carrier for 2 "Brava" mod.;
- box base – 1 pce;
- self-tapping screws for installation of frames with WDs in the box base – 2 pcs;
- 50x20 mm plug – 3 pcs;
- adapter for entry of miniduct 22x10 or 30x10 mm – 1 pce;
- adapter for entry of miniduct 25x17 or 15x17 mm – 1 pce;
- adapter for entry of miniduct 40x17 or 40/2x17 mm – 1 pce;
- instruction.

Miniduct standard size, mm	Box color	Modularity of box	Weight, kg	Code
All standard sizes	white	2	0.135	10665
	brown	2	0.135	10665B

Box assembly with 2 RJ-45 sockets, 5e category



Purpose:

- working space organization.

Characteristics:

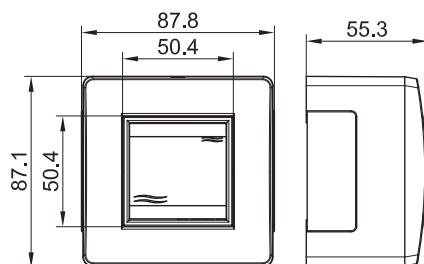
- box material is ABS plastic;
- 50x20 mm holes on 3 sides for entry of miniducts are closed with plugs;
- for installation on a wall holes in the bottom of the box for self-tapping screws with diameter of up to 4 mm are made.

Complete set:

- RJ-45 socket, 5e category, with 2 plugs, 2 "Brava" mod.;
- frame for 2 "Brava" mod.;
- carrier for 2 "Brava" mod.;
- box base – 1 pce;
- self-tapping screws for installation of frames with WDs in the box base – 2 pcs;
- 50x20 mm plug – 3 pcs;
- adapter for entry of miniduct 22x10 or 30x10 mm – 1 pce;
- adapter for entry of miniduct 25x17 or 15x17 mm – 1 pce;
- adapter for entry of miniduct 40x17 or 40/2x17 mm – 1 pce;
- instruction.

Miniduct standard size, mm	Box color	Modularity of box	Weight, kg	Code
All standard sizes	white	2	0.151	10656
	brown	2	0.151	10656B

Box assembly with a switch


Purpose:

- working space organization.

Characteristics:

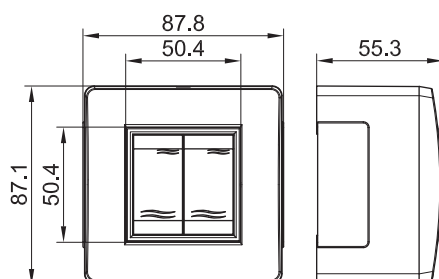
- switch is 16 A, 250 V;
- box material is ABS plastic;
- 50x20 mm holes on 3 sides for entry of miniducts are closed with plugs;
- for installation on a wall holes in the bottom of the box for self-tapping screws with diameter of up to 4 mm are made.

Complete set:

- single-key switch, 2 "Brava" mod.;
- frame for 2 "Brava" mod.;
- carrier for 2 "Brava" mod.;
- box base – 1 pce;
- self-tapping screws for installation of frames with WDs in the box base – 2 pcs;
- 50x20 mm plug – 3 pcs;
- adapter for entry of miniduct 22x10 or 30x10 mm – 1 pce;
- adapter for entry of miniduct 25x17 or 15x17 mm – 1 pce;
- adapter for entry of miniduct 40x17 or 40/2x17 mm – 1 pce;
- instruction.

Miniduct standard size, mm	Box color	Modularity of box	Weight, kg	Code
All standard sizes	white	2	0.150	10002
	brown	2	0.150	10002B

Box assembly with 2 switches


Purpose:

- working space organization.

Characteristics:

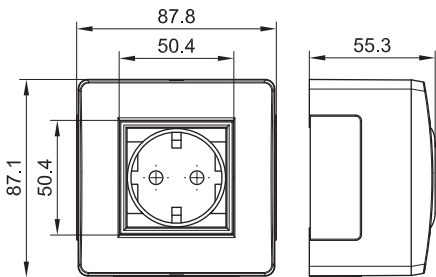
- 2 switches 16 A, 250 V;
- box material is ABS plastic;
- 50x20 mm holes on 3 sides for entry of miniducts are closed with plugs;
- for installation on a wall holes in the bottom of the box for self-tapping screws with diameter of up to 4 mm are made.

Complete set:

- switch, 1 "Brava" mod. – 2 pcs;
- frame for 2 "Brava" mod.;
- carrier for 2 "Brava" mod.;
- box base – 1 pce;
- self-tapping screws for installation of frames with WDs in the box base – 2 pcs;
- 50x20 mm plug – 3 pcs;
- adapter for entry of miniduct 22x10 or 30x10 mm – 1 pce;
- adapter for entry of miniduct 25x17 or 15x17 mm – 1 pce;
- adapter for entry of miniduct 40x17 or 40/2x17 mm – 1 pce;
- instruction.

Miniduct standard size, mm	Box color	Modularity of box	Weight, kg	Code
All standard sizes	white	2	0.172	10001
	brown	2	0.172	10001B

Box assembly with an electric power socket

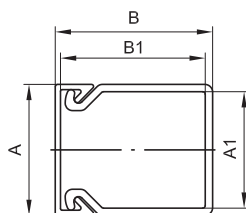


- Purpose:**
- working space organization.
- Characteristics:**
- socket is 16 A, 250 V, with grounding, with shutters;
 - box material is ABS plastic;
 - 50x20 mm holes on 3 sides for entry of miniducts are closed with plugs;
 - for installation on a wall holes in the bottom of the box for self-tapping screws with diameter of up to 4 mm are made.
- Complete set:**
- electric socket with grounding, with shutters, 2 "Brava" mod.;
 - frame for 2 "Brava" mod.;
 - carrier for 2 "Brava" mod.;
 - box base – 1 pce;
 - self-tapping screws for installation of frames with WDs in the box base – 2 pcs;
 - 50x20 mm plug – 3 pcs;
 - adapter for entry of miniduct 22x10 or 30x10 mm – 1 pce;
 - adapter for entry of miniduct 25x17 or 15x17 mm – 1 pce;
 - adapter for entry of miniduct 40x17 or 40/2x17 mm – 1 pce;
 - instruction.

Miniduct standard size, mm	Box color	Modularity of box	Weight, kg	Code
All standard sizes	white	2	0.165	10482
	brown	2	0.165	10482B

Straight elements

Duct with a cover with flat base, TA-EN


Purpose:

- cable laying.

Characteristics:

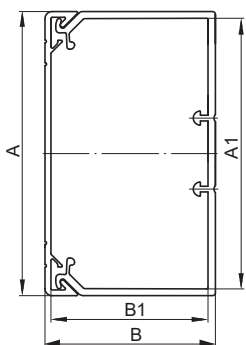
- material is PVC composition;
- perforation on the base;
- protective film;
- manufactured in segments with length of 2 meters.

Complete set:

- profile (base);
- cover.

Section of duct	Base width, A, mm	Side height, B, mm	Base width, A1, mm	Side height, B1, mm	Inner dimension area, mm ²	Color	Weight, kg/m	Package, m	Code
	25	30	22.2	27.6	568	white	0.30	72	00323
	25	30	22.2	27.6	568	black	0.30	72	00323A
	40	40	36.6	37.1	1,279	white	0.47	48	00324

Duct with a cover, with guiding ways for installation of dividers, TA-GN


Purpose:

- cable laying;
- organization of working spaces.

Characteristics:

- material is PVC composition;
- perforation on the base;
- protective film;
- possibility of partition wall installation;
- mounting and operating temperature ranges from -25 to +60 °C;
- manufactured in segments with length of 2 meters.

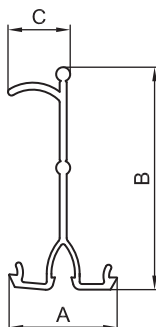
Complete set:

- profile (base);
- cover.

Section of duct	Base width, A, mm	Side height, B, mm	Base width, A1, mm	Side height, B1, mm	Inner dimension area, mm ²	Color	Weight, kg/m	Package, m	Code
	60	40	55.3	35.3	1,767	white	0.68	24	01780
	80	40	75.3	35.3	2,645	white	0.81	24	01781
	100	40	95.3	35.3	3,164	white	0.93	16	01782
	120	40	115.3	35.3	3,840	white	1.22	16	01783
	60	60	55.3	55.3	2866	white	0.81	24	01784
	80	60	75.3	55.3	3,957	white	0.98	16	01785
	100	60	95.3	55.3	5,063	white	1.20	16	01786
	120	60	115.3	55.3	6139	white	1.46	16	01787
	150	60	145.3	55.3	7,798	white	1.74	12	01788
	200	60	195.3	55.3	10,532	white	2.23	8	01789
	100	80	95.3	75.3	7,030	white	1.42	16	01790
	120	80	115.3	75.3	8,510	white	1.82	16	01791
	150	80	145.3	75.3	10,730	white	1.84	12	01792
	200	80	195.3	75.3	14,430	white	2.46	8	01793

Accessories

Divider (partition wall), SEP


Purpose:

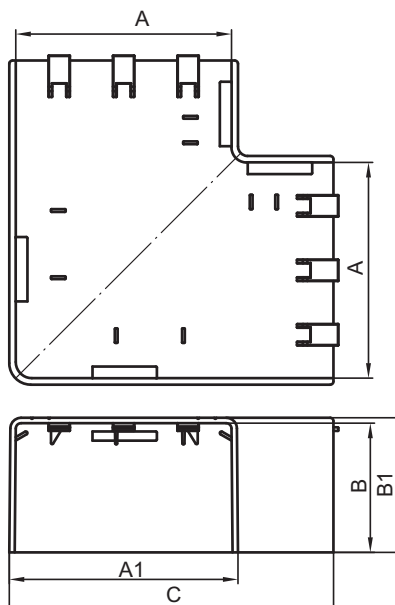
- separation of duct inner space into sections for separate laying of wires and cables of different type.

Characteristics:

- material is PVC composition;
- color is white;
- special rim for cable retention inside the duct section;
- manufactured in segments with length of 2 meters.

Duct standard sizes, mm	Type of divider	Dimension A, mm	Dimension B, mm	Dimension C, mm	Weight, kg/m	Code
60x40, 80x40, 100x40, 120x40	SEP-N 40	23.1	27.5	13.3	0.180	09514
60x60, 80x60, 100x60, 120x60, 150x60, 200x60, 90x50, 110x50, 140x50	SEP-N 60/50	23.1	47.5	13.3	0.200	01415
100x80, 120x80, 150x80, 200x80	SEP-G 80	12	70.5	18	0.200	02416

Flat angle, NPAN


Purpose:

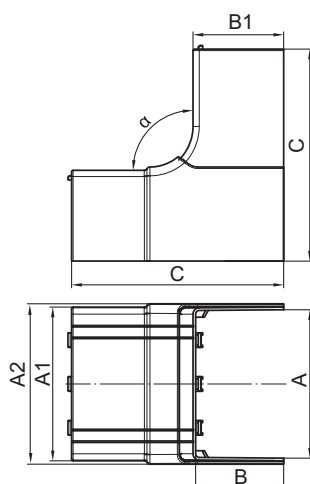
- aesthetic decoration of points of mating of cable ducts at route 90° bend (L-bend).

Characteristics:

- material is ABS plastic;
- color is white.

Duct standard size, mm	Dimensions, mm					Color	Weight, kg	Code
	A	B	A1	B1	C			
TA-EN 25x30	25	30	29.5	32.2	50	white	0.024	01737
TA-EN 40x40	40	40	44.5	42.2	70	white	0.042	01738
TA-GN 60x40	60	40	64.5	42.2	100	white	0.084	01739
TA-GN 80x40	80	40	85.1	42.2	129.2	white	0.116	01740
TA-GN 100x40	100	40	106.1	42.7	150.8	white	0.161	01741
TA-GN 120x40	120	40	125.5	42.7	170	white	0.237	01742
TA-GN 60x60	60	60	64.5	62.2	100	white	0.121	01743
TA-GN 80x60	80	60	84.5	62.2	130	white	0.143	01744
TA-GN 100x60	100	60	106.5	62.7	151	white	0.188	01745
TA-GN 120x60	120	60	126.4	62.7	170.3	white	0.249	01746
TA-GN 150x60	150	60	156.4	62.7	200.3	white	0.340	01747
TA-GN 200x60	200	60	205.5	62.7	250	white	0.496	01748
TA-GN 100x80	100	80	105.5	82.7	150	white	0.310	01749
TA-GN 120x80	120	80	125.5	82.7	170	white	0.372	01750
TA-GN 150x80	150	80	155.5	82.7	200	white	0.398	01751
TA-GN 200x80	200	80	205.5	82.7	250	white	0537	01752

Internal changeable angle 70–120°, NIAV


Purpose:

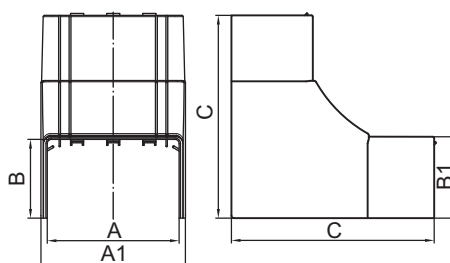
- aesthetic decoration of the mating point of cable ducts during organization of route bend.

Characteristics:

- material is ABS plastic;
- color is white.

Duct standard size, mm	Dimensions, mm							Color	Weight, kg	Code
	A	B	A1	A2	B1	C	Angle			
TA-EN 25x30	25	30	29.5	34.2	32.2	70	70–120°	white	0.049	01721
TA-EN 40x40	40	40	44.5	48.7	42	70	70–120°	white	0.109	01722
TA-GN 60x40	60	40	64.8	69.4	42	110	70–120°	white	0.131	01723
TA-GN 80x40	80	40	84.8	89.4	42	110	70–120°	white	0.136	01724
TA-GN 100x40	100	40	104.8	109.4	42	110	70–120°	white	0.182	01725
TA-GN 120x40	120	40	125.5	130.7	42.7	100	70–120°	white	0.179	01726
TA-GN 60x60	60	60	64.5	69.4	62.2	135	70–120°	white	0.185	01727
TA-GN 80x60	80	60	85.1	88.5	62	145	70–120°	white	0.220	01728
TA-GN 100x60	100	60	105.1	109.7	62	145	70–120°	white	0.304	01729
TA-GN 120x60	120	60	125.5	130.7	62.7	155	70–120°	white	0.359	01730
TA-GN 150x60	150	60	155.5	160.7	62.7	155	70–120°	white	0.431	01731
TA-GN 200x60	200	60	205.5	210.6	62.7	155	70–120°	white	0.536	01732
TA-GN 100x80	100	80	105.5	110.7	82.7	175	70–120°	white	0.337	01733
TA-GN 120x80	120	80	125.5	130.7	82.7	175	70–120°	white	0.490	01734
TA-GN 150x80	150	80	160.7	155.5	82.7	175	70–120°	white	0.520	01735
TA-GN 200x80	200	80	205.5	210.7	82.7	175	70–120°	white	0.724	01736

Internal unchangeable angle 90°, NIA


Purpose:

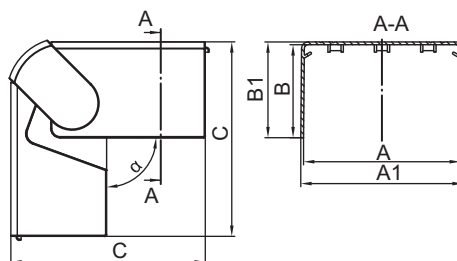
- aesthetic decoration of the mating point of cable ducts during organization of route bend.

Characteristics:

- material is ABS plastic;
- color is white.

Duct standard size, mm	Dimensions, mm					Color	Weight, kg	Code
	A	B	A1	B1	C			
TA-EN 40x40	40	40	44.4	42.2	100	white	0.062	01822
TA-GN 60x40	60	40	64.4	42.2	100	white	0.073	01823
TA-GN 80x40	80	40	85	42.2	100	white	0.076	01824
TA-GN 100x40	100	40	104.7	42.2	100	white	0.086	01825
TA-GN 80x60	80	60	84.3	62.2	135	white	0.074	01828
TA-GN 100x60	100	60	110.4	62.2	155	white	0.080	01829

External changeable angle 70–120°, NIAV


Purpose:

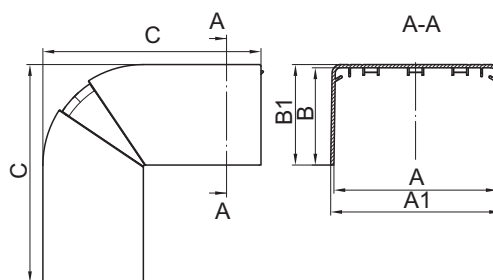
- aesthetic decoration of the mating point of cable ducts during organization of route bend.

Characteristics:

- material is ABS plastic;
- color is white.

Duct standard size, mm	Dimensions, mm					Weight, kg	Code
	A	B	A1	B1	C		
TA-EN 25x30	25	30	31.1	32.2	60	0.033	01705
TA-EN 40x40	40	40	44.5	42.2	80	0.073	01706
TA-GN 60x40	60	40	64.7	42	95.8	0.112	01707
TA-GN 80x40	80	40	84.7	42	95.8	0.162	01708
TA-GN 100x40	100	40	104.8	42	95.8	0.210	01709
TA-GN 120x40	120	60	125.5	42.7	114.9	0.196	01710
TA-GN 60x60	60	60	64.5	62.2	115	0.145	01711
TA-GN 80x60	80	60	85.1	62	125.9	0.206	01712
TA-GN 100x60	100	60	105.1	62	125.9	0.292	01713
TA-GN 120x60	120	60	125.5	62.7	135	0.315	01714
TA-GN 150x60	150	60	155.5	62.7	135	0.377	01715
TA-GN 200x60	200	60	205.5	62.7	135	0.500	01716
TA-GN 100x80	100	80	105.5	82.7	155	0.386	01717
TA-GN 120x80	120	80	125.5	82.7	155	0.421	01718
TA-GN 150x80	150	80	155.5	82.7	155	0.450	01719
TA-GN 200x80	200	80	205.5	82.7	155	0.575	01720

External unchangeable angle 90°, NEA


Purpose:

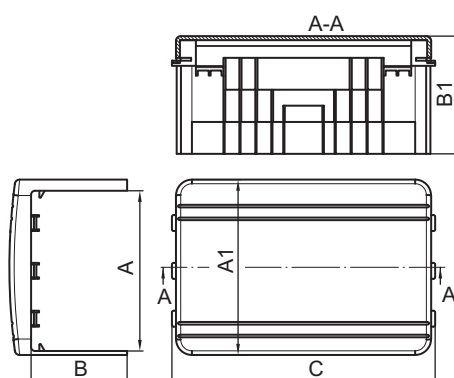
- aesthetic decoration of the mating point of cable ducts during organization of route bend.

Characteristics:

- material is ABS plastic;
- color is white.

Duct standard size, mm	Dimensions, mm					Weight, kg	Code
	A	B	A1	B1	C		
TA-EN 40x40	40	40	44.3	42.2	80	0.046	01806
TA-GN 60x40	60	40	64.3	42.2	95	0.057	01807
TA-GN 80x40	80	40	84.4	42.2	96	0.129	01808
TA-GN 100x40	100	40	104.4	42.2	96	0.140	01809
TA-GN 80x60	80	60	84.4	62.2	135	0.124	01812
TA-GN 100x60	100	60	104.4	62.2	135	0.145	01813

NTAN tee/branch



Purpose:

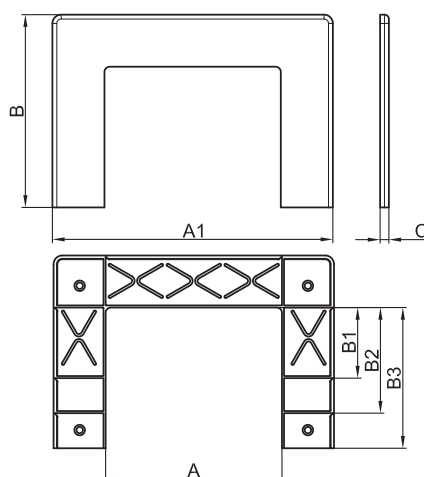
- organization of duct branching from a straight route (T-shaped or +-shaped branch).

Characteristics:

- material is ABS plastic;
- pre-perforation on inner accessory parts for cutting of an aperture with appropriate dimension for the duct branch;
- color is white.

Standard size of the main straight route duct, mm	Compatibility with ducts branching from the straight route, mm																Dimensions, mm			Weight, kg	Code NTAN
	25x30	40x40	60x40	80x40	100x40	120x40	60x60	80x60	100x60	120x60	150x60	200x60	100x80	120x80	150x80	200x80	A	B	C		
TA-EN 25x30	+																25	30	73	0.030	01753
TA-EN 40x40	+	+															40	40	88	0.050	01754
TA-GN 60x40	+	+	+														60	40	108	0.080	01755
TA-GN 80x40	+	+	+	+													80	40	135	0.102	01756
TA-GN 100x40	+	+	+	+	+												100	40	165	0.146	01757
TA-GN 120x40	+	+	+	+	+	+											120	40	185	0.222	01758
TA-GN 60x60	+	+	+				+										60	60	110	0.117	01759
TA-GN 80x60	+	+	+	+			+	+									80	60	135	0.125	01760
TA-GN 100x60	+	+	+	+	+		+	+	+								100	60	165	0.161	01761
TA-GN 120x60	+	+	+	+	+	+	+	+	+	+							120	60	185	0.215	01762
TA-GN 150x60	+	+	+	+	+	+	+	+	+	+	+						150	60	215	0.328	01763
TA-GN 200x60	+	+	+	+	+	+	+	+	+	+	+	+					200	60	269	0.491	01764
TA-GN 100x80	+	+	+	+	+		+	+	+				+				100	80	165	0.247	01765
TA-GN 120x80	+	+	+	+	+	+	+	+	+	+			+	+			120	80	185	0.335	01766
TA-GN 150x80	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		150	80	215	0.353	01767
TA-GN 200x80	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	200	80	269	0.419	01768

Carrier for entry into a wall/box/ceiling, RQM



Purpose:

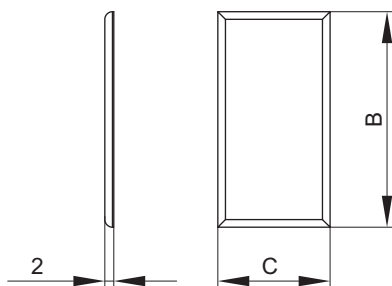
- aesthetic decoration of entry points of ducts into a ceiling, wall, board, electric enclosure, box, etc.

Characteristics:

- material is ABS plastic;
- color is white;
- there is external extension on 3 sides.

Duct standard size, mm	Dimensions, mm							Weight, kg	Code
	A	B	A1	B1	B2	B3	C		
TA-GN 60x40, TA-GN 60x60	60	90	120	40.3	60.3	-	5	0.040	01774
TA-GN 80x40, TA-GN 80x60	80	90	140	40.3	60.3	-	5	0.050	01775
TA-GN 100x40, TA-GN 100x60, TA-GN 100x80	100	110	160	40.3	60.3	80.3	5	0.059	01776
TA-GN 120x40, TA-GN 120x60, TA-GN 120x80	120	110	180	40.3	60.3	80.3	5	0.065	01777
TA-GN 150x60, TA-GN 150x80	150	110	210	60.3	80.3	-	5	0.073	01778
TA-GN 200x60, TA-GN 200x80	200	110	260	60.3	80.3	-	5	0.083	01779

Faceplate on the profile joint, SGAN


Purpose:

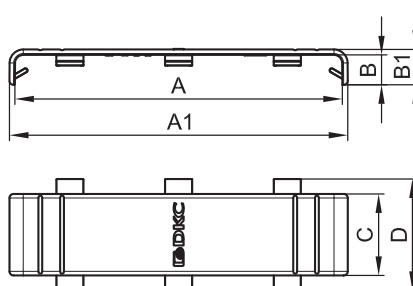
- aesthetic decoration of joints between duct bases in case of straight connection of two sections.

Characteristics:

- material is ABS plastic;
- color is white;
- there is complete glued base for installation on a duct;
- glued to duct base at mating points; protective film shall be preliminarily removed from the glued base surface.

Duct standard size, mm	Dimension B, mm	Dimension C, mm	Weight, kg	Code
TA-EN 40x40 TA-GN 60x40 TA-GN 80x40 TA-GN 100x40 TA-GN 120x40	28	25	0.006	00823
TA-GN 60x60 TA-GN 80x60 TA-GN 100x60 TA-GN 120x60 TA-GN 150x60 TA-GN 200x60	48	25	0.004	00833
TA-GN 100x80 TA-GN 120x80 TA-GN 150x80 TA-GN 200x80	70	25	0.005	00843

Faceplate on the cover joint, GAN


Purpose:

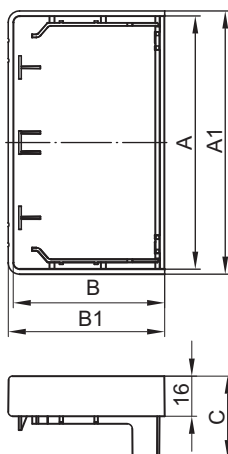
- aesthetic decoration of joints between duct covers.

Characteristics:

- material is ABS plastic;
- color is white;
- there are latches for installation on covers.

Duct standard size, mm	Dimensions, mm						Weight, kg	Code
	A	B	A1	B1	C	D		
TA-EN 25x30	25	9	29.8	11	20	31.6	0.007	00883
TA-EN 40x40	40	10	44.8	1	20	32	0.011	00884
TA-GN 60x40 TA-GN 60x60	60	10.3	63.9	12.3	24.8	34.8	0.011	00885
TA-GN 80x40 TA-GN 80x60	80	11	83.6	13	24.8	34.8	0.020	00886
TA-GN 100x40 TA-GN 100x60 TA-GN 100x80	100	10.9	103.9	12.9	29.8	39.8	0.020	00887
TA-GN 120x40 TA-GN 120x60 TA-GN 120x80	120	11	124.5	13	30	40	0.024	00888
TA-GN 150x60 TA-GN 150x80	150	11	154.5	13	30	40	0.026	00889
TA-GN 200x60 TA-GN 200x80	200	11	204.5	13	30	40	0.043	00890

End plug, LAN



Purpose:

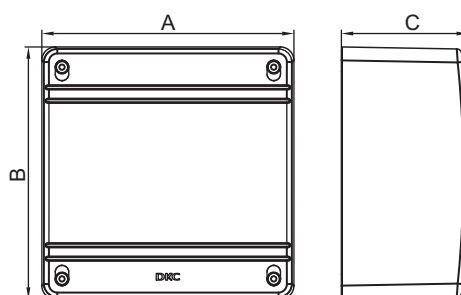
- aesthetic decoration of duct edges and protection of a duct against ingress of foreign matter.

Characteristics:

- material is ABS plastic;
- color is white.

Duct standard size, mm	Dimensions, mm					Weight, kg	Code
	A	B	A1	B1	C		
TA-EN 25x30	25	30	30	32.3	32.5	0.012	00867
TA-EN 40x40	40	40	45	42.3	32.5	0.023	00868
TA-GN 60x40	60	40	65	42.3	32.5	0.026	00869
TA-GN 80x40	80	40	84.2	42.3	32.5	0.031	00871
TA-GN 100x40	100	40	105	42.3	32.5	0.044	00873
TA-GN 120x40	120	40	125	42.3	32.5	0.059	00876
TA-GN 60x60	60	60	65	62.3	32.5	0.037	00870
TA-GN 80x60	80	60	85.2	62.3	32.5	0.049	00872
TA-GN 100x60	100	60	105	62.4	32.5	0.054	00874
TA-GN 120x60	10	60	124.9	62.3	32.5	0.070	00877
TA-GN 150x60	150	60	155	62.3	32.5	0.101	00879
TA-GN 200x60	200	60	205	62.3	32.5	0.121	00881
TA-GN 100x80	100	80	105	80.3	32.5	0.067	00875
TA-GN 120x80	120	80	125	80.3	32.5	0.074	00878
TA-GN 150x80	150	80	155	80.3	32.5	0.120	00880
TA-GN 200x80	200	80	205	80.3	32.5	0.146	00882

SDN distribution box for cable ducts



Purpose:

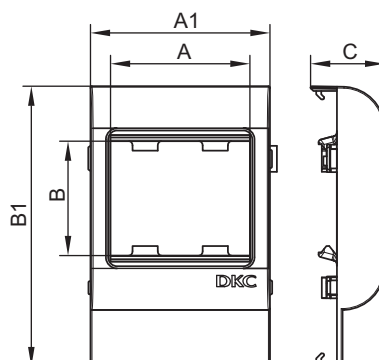
- organization of safe and aesthetic branching point (back box).

Characteristics:

- box material is ABS plastic;
- color is white.

Miniduct standard size, mm	Box designation	Box overall dimension, mm			Weight, kg	Code
		A	B	C		
All standard sizes of miniducts, ducts 25x30, 40x40, 60x40, 80x40, 70x22	SDN1	110	110	55	0.139	01869
All standard sizes of miniducts, ducts 25x30, 40x40, 60x40, 80x40, 100x40, 120x40, 60x60, 80x60, 100x60, 120x60, 70x22, 90x25, 90x50	SDN2	151	151	75	0.365	01870
All standard sizes of miniducts, ducts 25x30, 40x40, 60x40, 80x40, 100x40, 120x40, 60x60, 80x60, 100x60, 120x60, 150x60, 200x60, 100x80, 120x80, 150x80, 200x80, 70x22, 90x25, 90x50	SDN3	231	231	95	0.640	01771

Supporting carrier for 2 wiring device modules, PDA-DN, PDA-BN, PDA-45N


Purpose:

- organization of working spaces: installation of wiring devices into plastic ducts, TA-GN type of "In-Liner Classic" series.

Installation:

- installation of support inside a duct by latching; installation of wiring devices in a carrier by latching (from inside for "Brava" WD, and from outside for "Viva" and 45x45 WDs).

Characteristics:

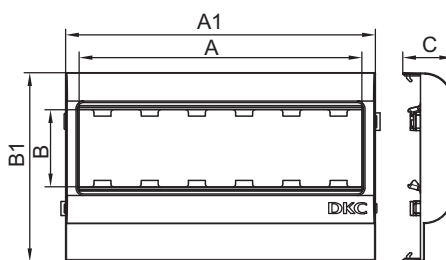
- material is ABS plastic and polycarbonate.

Complete set:

- carrier;
- support.

Duct standard size, mm	Wiring devices (WDs)		Dimensions, mm					Color	Type of supporting carrier	Weight, kg	Code
	WD standard	number of modules	A	B	A1	B1	C				
80x40, 80x60	"Viva"	2	45	50	64	80	26.4	white	PDA-DN	0.041	10043
	"Brava"	2	43	43	64	80	26.4	white	PDA-BN	0.043	10443
	45x45	2	45	45	64	80	26.4	white	PDA-45N	0.045	00513
100x40, 100x60, 100x80	"Viva"	2	45	50	64	100	26.4	white	PDA-DN	0.049	10053
	"Brava"	2	43	43	64	100	26.4	white	PDA-BN	0.052	10453
	45x45	2	45	45	64	100	26.4	white	PDA-45N	0.067	00514
120x40, 120x60, 120x80	"Viva"	2	45	50	64	120	26.4	white	PDA-DN	0.044	10063
	"Brava"	2	43	43	64	120	26.4	white	PDA-BN	0.046	10463
	45x45	2	45	45	64	120	26.4	white	PDA-45N	0.052	00515
150x60, 150x80	"Viva"	2	45	50	64	150	26.4	white	PDA-DN	0.051	10073
	"Brava"	2	43	43	64	150	26.4	white	PDA-BN	0.051	10473
	45x45	2	45	45	64	150	26.4	white	PDA-45N	0.052	00518

Supporting carrier for 6 wiring device modules, PDA-3DN, PDA-3BN, PDA3-45N


Purpose:

- organization of working spaces: installation of wiring devices into plastic ducts, TA-GN type of "In-Liner Classic" series.

Installation:

- installation of support inside a duct by latching; installation of wiring devices in a carrier by latching (from inside for "Brava" WD, and from outside for "Viva" and 45x45 WDs).

Characteristics:

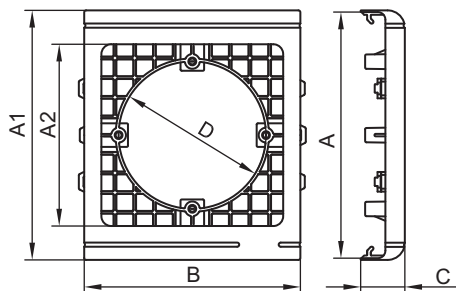
- material is ABS plastic and polycarbonate.

Complete set:

- carrier;
- support.

Duct standard size, mm	Wiring devices (WDs)		Dimensions, mm					Color	Type of supporting carrier	Weight, kg	Code
	WD standard	number of modules	A	B	A1	B1	C				
80x40, 80x60	"Viva"	6	135	50	164	80	26.4	white	PDA-3DN	0.054	10343
	"Brava"	6	130	43	164	80	26.4	white	PDA-3BN	0.052	10643
	45x45	6	135	45	164	80	26.4	white	PDA3-45N	0.058	00563
100x40, 100x60, 100x80	"Viva"	6	135	50	164	100	26.4	white	PDA-3DN	0.078	10353
	"Brava"	6	130	43	164	100	26.4	white	PDA-3BN	0.060	10653
	45x45	6	135	45	164	100	26.4	white	PDA3-45N	0.084	00564
120x40, 120x60, 120x80	"Viva"	6	135	50	164	120	26.4	white	PDA-3DN	0.062	10363
	"Brava"	6	130	43	164	120	26.4	white	PDA-3BN	0.062	10663
	45x45	6	135	45	164	120	26.4	white	PDA3-45N	0.088	00565

PDA-N supporting carrier for 60 mm wiring devices and industrial plugs



Purpose:

- organization of working spaces: installation of wiring devices with mounting dimension of 60 mm (German standard) in ducts of TA-GN type similar to installation into walls (concealed mounting);
- installation of plugs (industrial plugs) with 75x75 mm base (flange), with voltage of 230 and 400 V.

Installation:

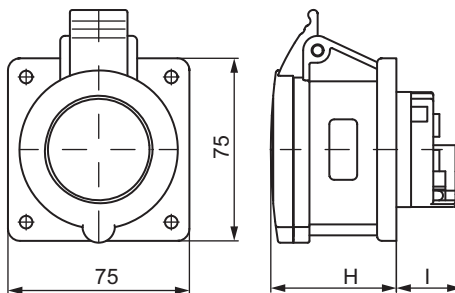
- wiring devices shall be installed in PDA-N carrier in the same way as during concealed installation into walls, i.e. using the same frames, carriers and self-tapping screws.

Characteristics:

- material is ABS plastic.

Duct standard size, mm	Type of supporting carrier	Dimensions, mm						Color	Weight, kg	Code
		A	A1	A2	B	C	D			
100x40, 100x60, 100x80	PDA-N	100	74	101.6	88	18	60	white	0.048	10153
120x40, 120x60, 120x80	PDA-N	120	74	121.7	88	18	60	white	0.056	10163
150x60, 150x80	PDA-N	150	74	151.7	88	18	60	white	0.064	10173

Industrial plug: IP44 socket for concealed installation (fixed, 6 h) of "Quadro" series



Purpose:

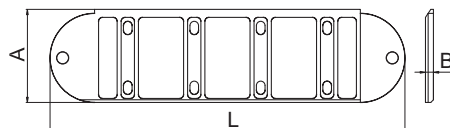
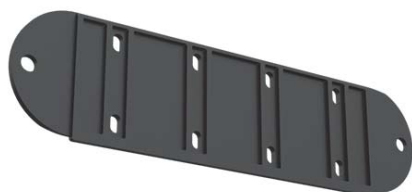
- organization of a connection point on the surface of "In-liner Classic" duct cover.

Installation:

- industrial plugs are installed in PDA-N carrier using self-tapping screws.

Voltage, B	Color	Connection method	Type	Current, A	Dimensions, mm		Code
					H	I	
230	blue	screw type terminal block	2P+E	16	51	27	DIS4221663
			2P+E	32	62	42	DIS4223263
400	red	screw type terminal block	3P+E	16	51	27	DIS4221666
			3P+E	32	62	42	DIS4223266
			3P+N+E	16	51	27	DIS4221667
			3P+N+E	32	63	42	DIS4223267

Inner duct base connector with a retainer, GTA-SN

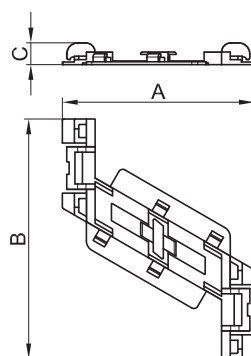


Characteristics:

- material is nylon;
- connector color is black;
- connector thickness is 6 mm;
- complete with a fastener for installation of the connector on joined edges of ducts (profile to profile);
- see the instruction for installation in the "Collection of instructions for installation".

Duct standard size, mm	Connector designation (type)	Dimensions, mm			Weight, kg	Code
		A	B	L		
40x40, 60x40, 80x40, 100x40, 120x40	GTA-SN 40	30	6	267	0.061	02307
60x60, 80x60, 100x60, 120x60, 150x60, 200x60	GTA-SN 60	50	6	267	0.065	02308
100x80, 120x80, 150x80, 200x80	GTA-SN 80	70	6	267	0.068	02309

Cable retainer (of high rigidity), TR-E


Purpose:

- organization of the duct inner space: for ease of installation (laying process) of cables into a duct, it holds cables inside the duct when cover is removed.

Installation:

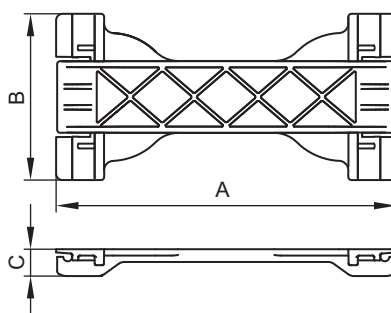
- retainer is installed on the guiding ways of the duct sides by latching;
- stiffening plates located on each side of the retainer are shifted to operating position by bending the retainer over the central part and latching of relevant locks.

Characteristics:

- material is polypropylene.

Duct standard size, mm	Retainer designation	Dimensions, mm			Weight, kg	Code
		A	B	C		
40x40	TR-E 40	33	78	10	0.005	07711
60x40, 60x60	TR-E 60	47	86	10	0.009	07712
80x40, 80x60	TR-E 80	67	100	10	0.010	07713
100x40, 100x60, 100x80	TR-E 100	88	110	10	0.013	07714
120x40, 120x60, 120x80	TR-E 120	105	114	10	0.016	07715
150x60, 150x80	TR-E 150	135	124	10	0.024	07716
200x60, 200x80	TR-E 200	185	140	10	0.043	07717

Cable retainer (of medium rigidity), TR-ER


Purpose:

- organization of the duct inner space: for ease of installation (laying process) of cables into a duct, it holds cables inside the duct when cover is removed.

Installation:

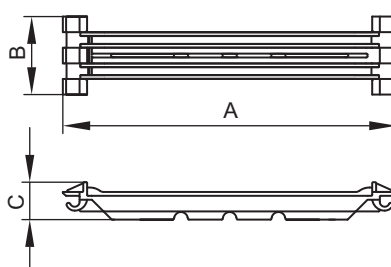
- retainer is installed on the guiding ways of the duct sides by latching.

Characteristics:

- material is polypropylene.

Duct standard size, mm	Retainer designation	Dimensions, mm			Weight, kg	Code
		A	B	C		
120x40, 120x60, 120x80	TR-ER 120	106.4	52	8.4	0.015	07715R
150x60, 150x80	TR-ER 150	136.4	52	8.4	0.023	07716R
200x60, 200x80	TR-ER 200	186.4	52	8.4	0.044	07717R

Cable retainer (reduced weight), TR-E


Purpose:

- organization of the duct inner space: for ease of installation (laying process) of cables into a duct located on a wall, it holds cables inside the duct when cover is removed.

Installation:




- retainer is installed on the guiding ways of the duct sides by latching.

Characteristics:

- material is polypropylene.

Duct standard size, mm	Retainer designation	Dimensions, mm			Weight, kg	Code
		A	B	C		
60x40, 60x60	TR-E 60	45.6	12	7.3	0.009	07712R
80x40, 80x60	TR-E 80	65.6	20	9.6	0.010	07713R
100x40, 100x60, 100x80	TR-E 100	85.6	20	9.6	0.013	07714R

Compatibility table of miniducts and accessories


Miniducts				Internal angle AIM	External angle AEM	Flat angle APM	Tee (branch) IM	Miniduct joint connection (U-faceplate) GM	End plug LM
Section	Type and dimension, mm	Color	Code						
	TMR 10x10	white	00301	–	–	–	–	–	–
		brown	00301B	–	–	–	–	–	–
	TMR 12x7	white	00369	–	–	–	–	–	–
	TMR 12x12	white	00308	–	–	–	–	–	–
	TMR 15x12	white	00302	–	–	–	–	–	–
	TMR 16x12	white	00312	–	–	–	–	–	–
	TMC 22x10	white	00317	00386	00396	00407	00525	00594	00580
		white	00317R	00386R	00396R	00407R	00525R	00594	00580R
		brown	00317B	00386B	00396B	00407B	00525B	00594B	00580B
		brown	00317RB	00386RB	00396RB	00407RB	00525RB	–	00580RB
	TMC 30x10	white	00311	00387	00397	00408	00527	00595	00581
	TMC 15x17	white	00303	00390	00403	00414	00535	00590	00577
		white	00303R	00390R	00403R	00414R	00535R	00590	00577R
	TMC 25x17	white	00304	00391	00404	00415	00536	00591	00578
		white	00304R	00391R	00404R	00415R	00536R	00591	00578R
		brown	00304B	00391B	00404B	00415B	00536B	00591B	00578B
		brown	00304RB	00391RB	00404RB	00415RB	00536RB	–	00578RB
	TMC 40x17	white	00351	00395	00406	00425	00541	00597	00579
		white	00351R	00395R	00406R	00425R	00541R	00597	00579R
		brown	00351B	00395B	00406B	00425B	00541B	00597B	00579B
		brown	00351RB	00395RB	00406RB	00425RB	00541RB	–	00579RB
	TMC 40/2x17	white	00305	00395	00406	00425	00541	00597	00579
		white	00305R	00395R	00406R	00425R	00541R	00597	00579R
	TMC 50x20	white	00313	00655	00656	00654	00652	00653	00651
	TMC 50/2x20	white	00314	00655	00656	00654	00652	00653	00651

Compatibility table of miniducts and accessories



Miniducts				Empty modular boxes for installation of wiring devices					Adapters for entry of miniducts to boxes of PDD-N 60 and 120 type	
Section	Type and dimension, mm	Color	Code	PDD for 2 "Viva" mod.	PDB for 2 "Brava" mod.	PDM for 2 45x45 mm mod.	PDD-N60 for 2 "Viva"/"Brava" mod.	PDD-N120 for 4 "Viva"/"Brava" mod.	Set of adapters	Branch
	TMR 10x10	white	00301	10033	10034	10013	10123	10143	-	-
		brown	00301B	-	-	-	10123RB	10143	-	-
	TMR 12x7	white	00369	10033	10034	10013	10123	10143	-	-
	TMR 12x12	white	00308	10033	10034	10013	10123	10143	-	-
	TMR 15x12	white	00302	10033	10034	10013	10123	10143	-	-
	TMR 16x12	white	00312	10033	10034	10013	10123	10143	-	-
	TMC 22x10	white	00317	10033	10034	10013	10123	10143	10133	-
		white	00317R	10033	10034	10013	10123	10143	10133	-
		brown	00317B	-	-	-	10123RB	-	-	-
		brown	00317RB	-	-	-	10123RB	-	-	-
	TMC 30x10	white	00311	10033	10034	10013	10123	10143	10133	-
	TMC 15x17	white	00303	10033	10034	10013	10123	10143	10133	-
		white	00303R	10033	10034	10013	10123	10143	10133	-
	TMC 25x17	white	00304	10033	10034	10013	10123	10143	10133	-
		white	00304R	10033	10034	10013	10123	10143	10133	-
		brown	00304B	-	-	-	10123RB	-	-	-
		brown	00304RB	-	-	-	10123RB	-	-	-
	TMC 40x17	white	00351	10033	10034	10013	10123	10143	10133	10046
		white	00351R	10033	10034	10013	10123	10143	10133	10046
		brown	00351B	-	-	-	10123RB	-	-	-
		brown	00351RB	-	-	-	10123RB	-	-	-
	TMC 40/2x17	white	00305	10033	10034	10013	10123	10143	10133	10046
		white	00305R	10033	10034	10013	10123	10143	10133	10046
	TMC 50x20	white	00313	10033	10034	10013	10123	10143	-	10046
	TMC 50/2x20	white	00314	10033	10034	10013	10123	10143	-	10046
	TA-EN 25x30	white	00323	10033	10034	10013	10123	10143	-	-







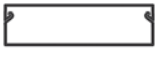


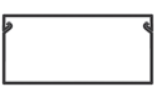



Compatibility table of miniducts and accessories






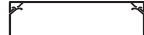

Miniducts				Box assemblies with wiring devices (WDs) of "Brava" series					Self-tapping screws with a rawplug for installation on a wall	
Section	Type and dimension, mm	Color	Code	With 1 electric power socket	With 1 RJ-45 socket, 5e	With 2 RJ-45 sockets, 5e	With 1 switch	With 2 switches	4x30 mm on a wall of brick, concrete	3.5x50 mm to gypsum plasterboard, to slabs or concrete
	TMR 10x10	white	00301	10482	10665	10656	10002	10001	06521	CM06541
		brown	00301B	10482B	10665B	10656B	10002B	10001B	06521	CM06541
	TMR 12x7	white	00369	10482	10665	10656	10002	10001	06521	CM06541
	TMR 12x12	white	00308	10482	10665	10656	10002	10001	06521	CM06541
	TMR 15x12	white	00302	10482	10665	10656	10002	10001	06521	CM06541
	TMR 16x12	white	00312	10482	10665	10656	10002	10001	06521	CM06541
	TMC 22x10	white	00317	10482	10665	10656	10002	10001	06521	CM06541
		white	00317R	10482	10665	10656	10002	10001	06521	CM06541
		brown	00317B	10482B	10665B	10656B	10002B	10001B	06521	CM06541
		brown	00317RB	10482B	10665B	10656B	10002B	10001B	06521	CM06541
	TMC 30x10	white	00311	10482	10665	10656	10002	10001	06521	CM06541
	TMC 15x17	white	00303	10482	10665	10656	10002	10001	06521	CM06541
		white	00303R	10482	10665	10656	10002	10001	06521	CM06541
	TMC 25x17	white	00304	10482	10665	10656	10002	10001	06521	CM06541
		white	00304R	10482	10665	10656	10002	10001	06521	CM06541
		brown	00304B	10482B	10665B	10656B	10002B	10001B	06521	CM06541
		brown	00304RB	10482B	10665B	10656B	10002B	10001B	06521	CM06541
	TMC 40x17	white	00351	10482	10665	10656	10002	10001	06521	CM06541
		white	00351R	10482	10665	10656	10002	10001	06521	CM06541
		brown	00351B	10482B	10665B	10656B	10002B	10001B	06521	CM06541
		brown	00351RB	10482B	10665B	10656B	10002B	10001B	06521	CM06541
	TMC 40/2x17	white	00305	10482	10665	10656	10002	10001	06521	CM06541
		white	00305R	10482	10665	10656	10002	10001	06521	CM06541
	TMC 50x20	white	00313	10482	10665	10656	10002	10001	06521	CM06541
	TMC 50/2x20	white	00314	10482	10665	10656	10002	10001	06521	CM06541
	TA-EN 25x30	white	00323	10482	10665	10656	10002	10001	06521	CM06541

Compatibility table of miniducts and accessories



Miniducts				Distribution boxes				Self-adhesive cable retainer inside the miniduct
Section	Type and dimension, mm	Color	Code	SDMN 75.5x75.5x34 mm	SDN 1 110x110x55 mm	SDN 2 151x151x75 mm	SDN 3 231x231x95 mm	
	TMR 10x10	white	00301	00677	01869	01870	01771	-
		brown	00301B	00677B	-	-	-	-
	TMR 12x7	white	00369	00677	01869	01870	01771	-
	TMR 12x12	white	00308	00677	01869	01870	01771	-
	TMR 15x12	white	00302	00677	01869	01870	01771	-
	TMR 16x12	white	00312	00677	01869	01870	01771	-
	TMC 22x10	white	00317	00677	01869	01870	01771	25430
		white	00317R	00677	01869	01870	01771	25430
		brown	00317B	00677B	-	-	-	25430
		brown	00317RB	00677B	-	-	-	25430
	TMC 30x10	white	00311	00677	01869	01870	01771	25430
	TMC 15x17	white	00303	00677	01869	01870	01771	-
		white	00303R	00677	01869	01870	01771	-
	TMC 25x17	white	00304	00677	01869	01870	01771	25430
		white	00304R	00677	01869	01870	01771	25430
		brown	00304B	00677B	-	-	-	25430
		brown	00304RB	00677B	-	-	-	25430
	TMC 40x17	white	00351	00677	01869	01870	01771	25432
		white	00351R	00677	01869	01870	01771	25432
		brown	00351B	00677B	-	-	-	25432
		brown	00351RB	00677B	-	-	-	25432
	TMC 40/2x17	white	00305	00677	01869	01870	01771	-
		white	00305R	00677	01869	01870	01771	-
	TMC 50x20	white	00313	00677	01869	01870	01771	25436
	TMC 50/2x20	white	00314	00677	01869	01870	01771	25436

Compatibility table of cable ducts and accessories


Cable ducts				Internal angle		External angle		Flat angle (L-bend) NPAN	Tee (T-branch) NTAN	Duct end plug LAN
Section	Type and dimension, mm	Color	Code	Unchangeable NIA	Changeable NIAV	Unchangeable NEA	Changeable NEAV			
	TA-EN 25x30	white	00323	-	01721	-	01705	01737	01753	00867
		black	00323A	-	-	-	-	-	-	-
	TA-EN 40x40	white	00324	01822	01722	01806	01706	01738	01754	00868
	TA-GN 60x40	white	01780	01823	01723	01807	01707	01739	01755	00869
	TA-GN 80x40	white	01781	01824	01724	01808	01708	01740	01756	00871
	TA-GN 100x40	white	01782	01825	01725	01809	01709	01741	01757	00873
	TA-GN 120x40	white	01783	-	01726	-	01710	01742	01758	00876
	TA-GN 60x60	white	01784	-	01727	-	01711	01743	01759	00870
	TA-GN 80x60	white	01785	01828	01728	01812	01712	01744	01760	00872
	TA-GN 100x60	white	01786	01829	01729	01813	01713	01745	01761	00874
		black	01786A	-	-	-	-	-	-	-
	TA-GN 120x60	white	01787	-	01730	-	01714	01746	01762	00877
	TA-GN 150x60	white	01788	-	01731	-	01715	01747	01763	00879
	TA-GN 200x60	white	01789	-	01732	-	01716	01748	01764	00881
	TA-GN 100x80	white	01790	-	01733	-	01717	01749	01765	00875
	TA-GN 120x80	white	01791	-	01734	-	01718	01750	01766	00878
	TA-GN 150x80	white	01792	-	01735	-	01719	01751	01767	00880
	TA-GN 200x80	white	01793	-	01736	-	01720	01752	01768	00882












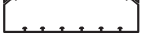


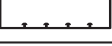

Compatibility table of cable ducts and accessories



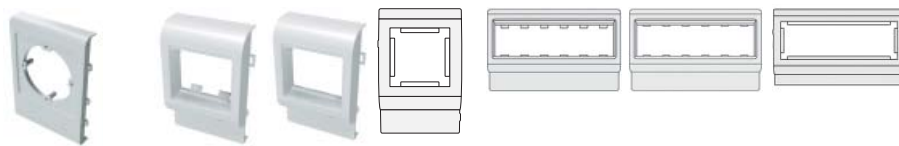
Cable ducts				Dividers (partition walls)		Joint connections (faceplates)		Carrier for entry of duct into a ceiling, wall, box (faceplate on joint) RQM	Distribution boxes (X-branch)		
Section	Type and dimension, mm	Color	Code	PVC, SEP-N SEP-G	Steel*, fire- resistant	On cover joint GAN	On profile joint SGAN		SDN 1 110x110x55	SDN 2 151x151x75	SDN 3 231x231x95
	TA-EN 25x30	white	00323	-	-	00883	-	-	01869	01870	01771
		black	00323A	-	-	-	-	-	-	-	-
	TA-EN 40x40	white	00324	-	-	00884	00823	-	01869	01870	01771
	TA-GN 60x40	white	01780	09514	-	00885	00823	01774	01869	01870	01771
	TA-GN 80x40	white	01781	09514	-	00886	00823	01775	01869	01870	01771
	TA-GN 100x40	white	01782	09514	-	00887	00823	01776	-	01870	01771
	TA-GN 120x40	white	01783	09514	-	00888	00823	01777	-	01870	01771
	TA-GN 60x60	white	01784	01415	-	00885	00833	01774	-	01870	01771
	TA-GN 80x60	white	01785	01415	-	00886	00833	01775	-	01870	01771
	TA-GN 100x60	white	01786	01415	-	00887	00833	01776	-	01870	01771
		black	01786A	01415	-	00887	00833	-	-	-	-
	TA-GN 120x60	white	01787	01415	-	00888	00833	01777	-	01870	01771
	TA-GN 150x60	white	01788	01415	-	00889	00833	01778	-	-	01771
	TA-GN 200x60	white	01789	01415	-	00890	00833	01779	-	-	01771
	TA-GN 100x80	white	01790	02416	36480	00887	00843	01776	-	-	01771
	TA-GN 120x80	white	01791	02416	36480	00888	00843	01777	-	-	01771
	TA-GN 150x80	white	01792	02416	36480	00889	00843	01778	-	-	01771
	TA-GN 200x80	white	01793	02416	36480	00890	00843	01779	-	-	01771

Compatibility table of cable ducts and accessories



Cable ducts				Inner duct base connector (with screws) GTA-SN	Cable retainers inside the duct under cover			Self-adhesive foundation (base) for installation of 1-2 ties	Tie with cable coverage diameter of maximum 80 mm	Self-tapping screws with a rawplug for installation on a wall	
Section	Type and dimension, mm	Color	Code		High rigidity TR-E	Medium rigidity TR-ER	Reduced weight TR-ER			4x30 mm on a wall of brick, concrete	3.5x50 mm to gypsum plasterboard to slabs or concrete
	TA-EN 25x30	white	00323	-	-	-	-	25467	25210	06521	CM06541
		black	00323A	-	-	-	-	25467	25210	06521	CM06541
	TA-EN 40x40	white	00324	02307	07711	-	-	25467	25210	06521	CM06541
	TA-GN 60x40	white	01780	02307	07712	-	07712R	25467	25210	06521	CM06541
	TA-GN 80x40	white	01781	02307	07713	-	07713R	25467	25210	06521	CM06541
	TA-GN 100x40	white	01782	02307	07714	-	07714R	25467	25210	06521	CM06541
	TA-GN 120x40	white	01783	02307	07715	07715R	-	25467	25210	06521	CM06541
	TA-GN 60x60	white	01784	02308	07712	-	07712R	25467	25210	06521	CM06541
	TA-GN 80x60	white	01785	02308	07713	-	07713R	25467	25210	06521	CM06541
	TA-GN 100x60	white	01786	02308	07714	-	07714R	25467	25210	06521	CM06541
		black	01786A	02308	07714	-	07714R	25467	25210	06521	CM06541
	TA-GN 120x60	white	01787	02308	07715	07715R	-	25467	25210	06521	CM06541
	TA-GN 150x60	white	01788	02308	07716	07716R	-	25467	25210	06521	CM06541
	TA-GN 200x60	white	01789	02308	07717	07717R	-	25467	25210	06521	06541
	TA-GN 100x80	white	01790	02309	07714	-	07714R	25467	25210	06521	CM06541
	TA-GN 120x80	white	01791	02309	07715	07715R	-	25467	25210	06521	CM06541
	TA-GN 150x80	white	01792	02309	07716	07716R	-	25467	25210	06521	CM06541
	TA-GN 200x80	white	01793	02309	07717	07717R	-	25467	25210	06521	CM06541

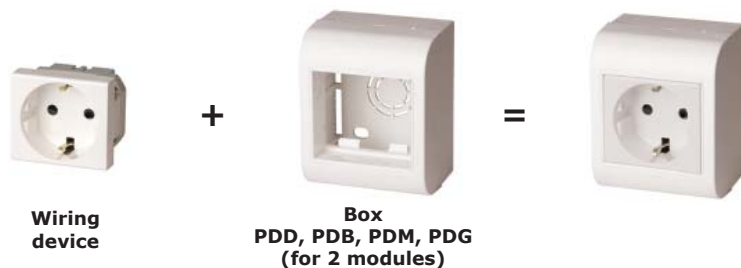
Compatibility table of cable ducts and accessories



Cable ducts				Supporting carriers for installation of wiring devices and industrial plugs into ducts (carriers assembled with supports; type, modularity and WD series)						
Section	Type and dimension, mm	Color	Code	PDA-N 2 WD modules of 60 mm German standard or an industrial plug with 75x75 mm flange	PDA-DN 2 "Viva" modules	PDA-BN 2 "Brava" modules	PDA-45N 2 45x45 mm modules	PDA-3-DN 6 "Viva" modules	PDA-3-BN 6 "Brava" modules	PDA-3-45N 6 45x45 modules
	TA-EN 25x30	white	00323	-	-	-	-	-	-	-
		black	00323A	-	-	-	-	-	-	-
	TA-EN 40x40	white	00324	-	-	-	-	-	-	-
	TA-GN 60x40	white	01780	-	-	-	-	-	-	-
	TA-GN 80x40	white	01781	-	10043	10443	00513	10343	10643	00563
	TA-GN 100x40	white	01782	10153	10053	10453	00514	10353	10653	00564
	TA-GN 120x40	white	01783	10163	10063	10463	00515	10363	10663	00565
	TA-GN 60x60	white	01784	-	-	-	-	-	-	-
	TA-GN 80x60	white	01785	-	10043	10443	00513	10343	10643	00563
	TA-GN 100x60	white	01786	10153	10053	10453	00514	10353	10653	00564
		black	01786A	-	-	-	-	-	-	-
	TA-GN 120x60	white	01787	10163	10063	10463	00515	10363	10663	00565
	TA-GN 150x60	white	01788	10173	10073	10473	00518	-	-	-
	TA-GN 200x60	white	01789	-	-	-	-	-	-	-
	TA-GN 100x80	white	01790	10153	10053	10453	00514	10353	10653	00564
	TA-GN 120x80	white	01791	10163	10063	10463	00515	10363	10663	00565
	TA-GN 150x80	white	01792	10173	10073	10473	00518	-	-	-
	TA-GN 200x80	white	01793	-	-	-	-	-	-	-

Selection of components for organization of working spaces

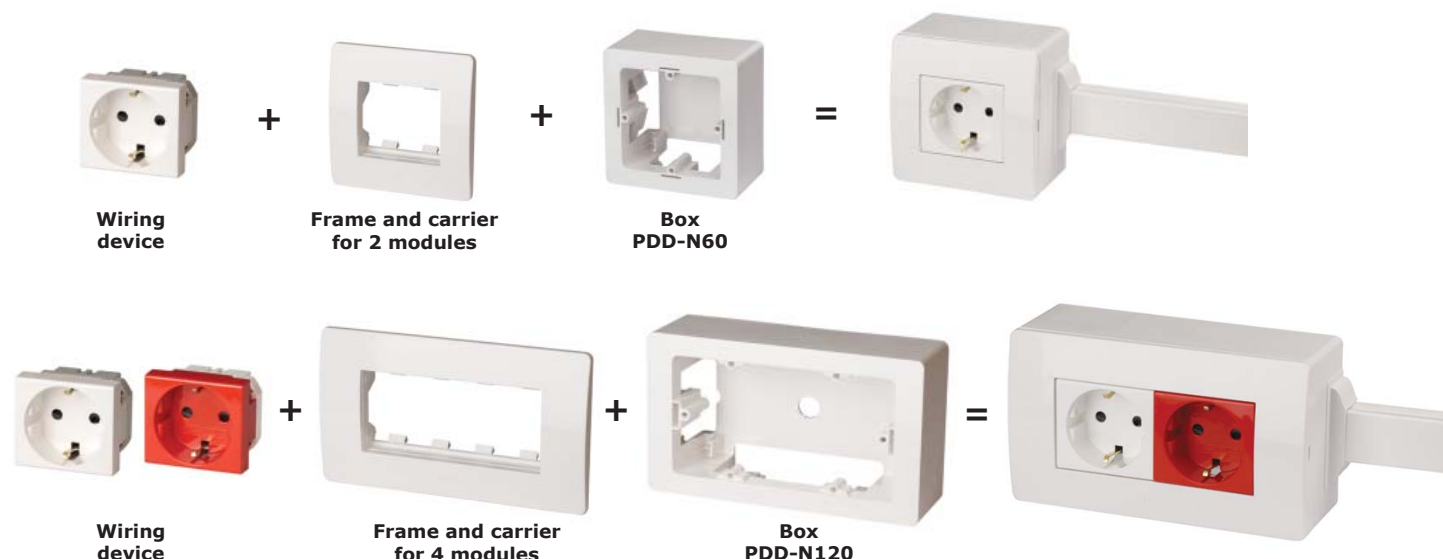
Wiring devices in boxes of PD type for miniducts



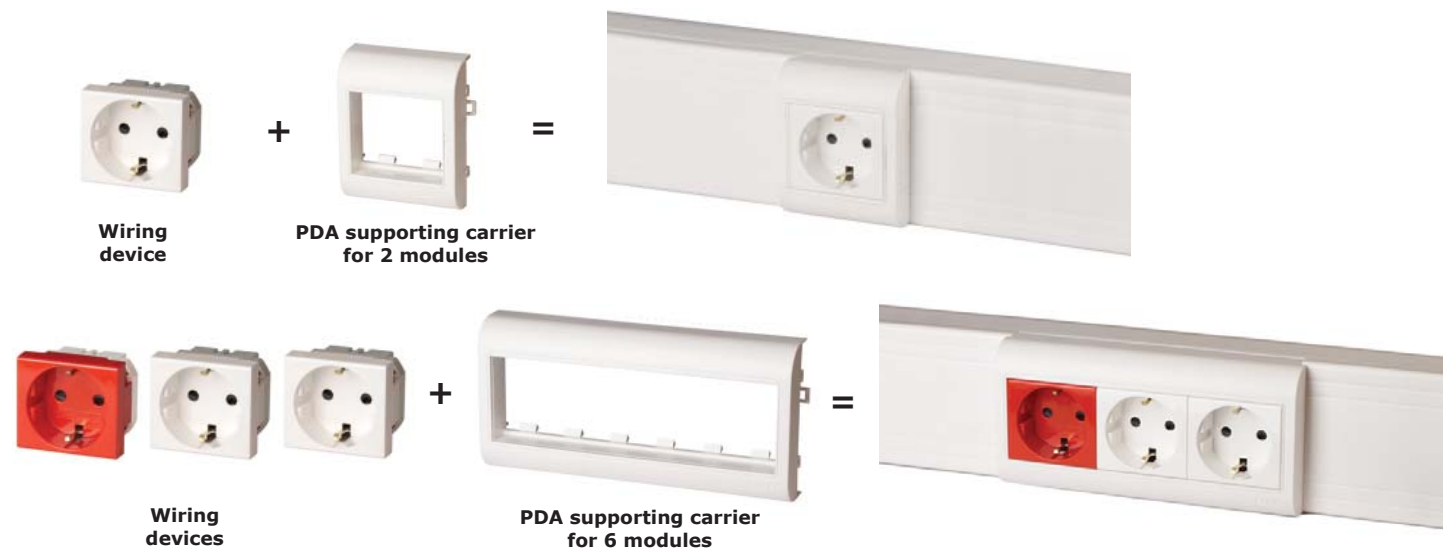
Wiring devices in boxes of PDD-N60 type (2 modules, code 10123) and PDD-N120 type (4 modules, code 10143) for miniducts

For organization of working space, WDs of "Brava" or "Viva" series can be installed in the box. Thus, there are 2 options of box assembly.
Option 1: PDD-N60 box (code 10123) + frame (code 75023W) + carrier (code 75010W) + "Brava" WDs;
Option 2: PDD-N60 box (code 10123) + frame assembled with carrier (code 10242) + "Viva" WDs.

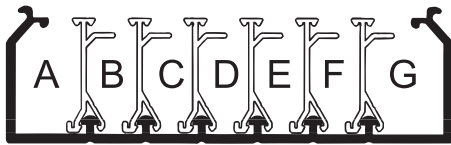
For organization of working space, WDs of "Brava" or "Viva" series can be installed in the box. Thus, there are 2 options of box assembly.
Option 1: PDD-N120 box (code 10143) + frame (code 75021W) + carrier (code 75011W) + "Brava" WDs;
Option 2: PDD-N120 box (code 10143) + frame assembled with carrier (code 10245) + "Viva" WDs.



Wiring devices in "In-liner Classic" cable ducts (ducts)



Compatibility table for cable ducts based on the inner dimension area of duct cross-sections before and after installation of dividers



Duct size, mm	Duct code	Duct usable area, mm ²	Code of divider (partition walls)	Maximum number of dividers in a duct	Maximum number of compartments (sections) in a duct	Usable area of each duct compartment (section), mm ²						
						A	B	C	D	E	F	G
25 x 30	00323	568	-	-	1							
40 x 40	00324	1279	-	-	1							
60 x 40	01780	1767	09514	1	2	881	836					
80 x 40	01781	2645	09514	2	3	1002	520	682				
100 x 40	01782	3164	09514	2	3	1287	520	1097				
120 x 40	01783	3840	09514	4	5	930	520	520	520	700		
60 x 60	01784	2866	01415	1	2	1442	1287					
80 x 60	01785	3957	01415	2	3	1460	980	1100				
100 x 60	01786	5063	01415	2	3	1947	980	1682				
120 x 60	01787	6139	01415	4	5	1440	980	980	980	797		
150 x 60	01788	7798	01415	4	5	2107	980	980	980	1672		
200 x 60	01789	10532	01415	6	7	2284	980	980	980	980	980	1742
100 x 80	01790	7030	02416	2	3	2475	1440	2277				
120 x 80	01791	8510	02416	4	5	1439	1440	1440	1440	1017		
150 x 80	01792	10730	02416	4	5	2475	1440	1440	1440	2227		
200 x 80	01793	14430	02416	6	7	2375	1440	1440	1440	1440	1440	2220

Duct perforation characteristic



There is a special perforation for attachment of ducts to a wall in the bottom compatible with fastener of "M5 Combitech" series.

Drawings of perforation on the bases of ducts of TA-GN type of "In-Liner Classic" system:

- with width of 60 mm (Fig. 1);
- with width of 80, 100, and 120 mm (Fig. 2);
- with width of 150 mm (Fig. 3);
- with width of 200 mm (Fig. 4).

The universal fasteners for attachment of ducts to any walls are screws with rawplugs (code CM06541 and code 06521).

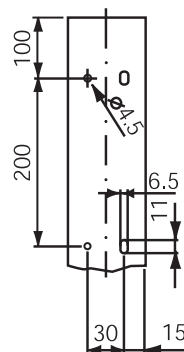


Fig. 1

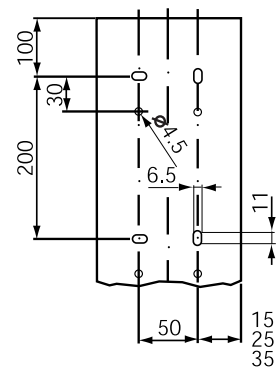


Fig. 2

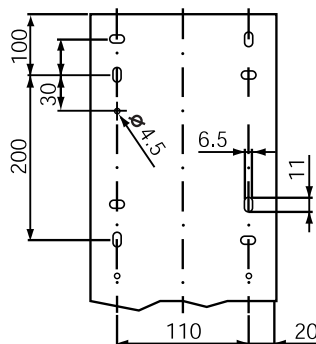


Fig. 3

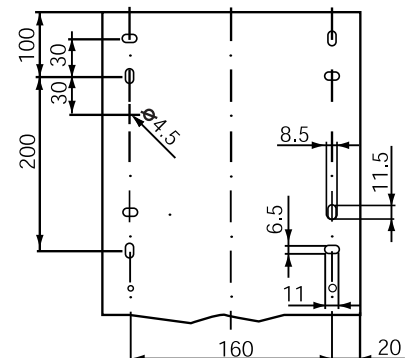

















Fig. 4

Compatibility table for an adapter from "RAM base" box to "In-liner Classic" cable duct


Cable ducts				Surface-mounted modular distribution boxes, white, with a door, IP41 (modularity and codes of boxes)						Surface-mounted modular distribution boxes, gray, with a door, IP65 (modularity and codes of boxes)							
Section	Type and dimension, mm	Color	Code	8 mod.	12 mod.	18 mod.	24 mod.	36 mod.	54 mod.	4 mod.	8 mod.	12 mod.	18 mod.	24 mod.	36 mod.	54 mod.	72 mod.
				84608 84908 84708	84612 84912 84712	84618 84918 84718	84624 84924 84724	84636 84936 84736	84654	85604	85608 85908 85708	85612 85912 85712	85618 85918 85718	85624 85924 85724	85636 85936 85736	85654	85672
	TA-EN 25x30	white	00323	-	87169	87169	87169	87169	87169	-	-	87166	87167	87166	87167	87167	87167
		black	00323A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TA-EN 40x40	white	00324	-	87169	87169	87169	87169	87169	-	-	87166	87167	87166	87167	87167	87167
	TA-GN 60x40	white	01780	-	87169	87169	87169	87169	87169	-	-	87166	87167	87166	87167	87167	87167
	TA-GN 80x40	white	01781	-	87169	87169	87169	87169	87169	-	-	87166	87167	87166	87167	87167	87167
	TA-GN 100x40	white	01782	-	87169	87169	87169	87169	87169	-	-	87166	87167	87166	87167	87167	87167
	TA-GN 120x40	white	01783	-	87169	87169	87169	87169	87169	-	-	87166	87167	87166	87167	87167	87167
	TA-GN 60x60	white	01784	-	87169	87169	87169	87169	87169	-	-	87166	87167	87166	87167	87167	87167
	TA-GN 80x60	white	01785	-	87169	87169	87169	87169	87169	-	-	87166	87167	87166	87167	87167	87167
	TA-GN 100x60	white	01786	-	87169	87169	87169	87169	87169	-	-	87166	87167	87166	87167	87167	87167
		black	01786A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TA-GN 120x60	white	01787	-	87169	87169	87169	87169	87169	-	-	87166	87167	87166	87167	87167	87167
	TA-GN 150x60	white	01788	-	87169	87169	87169	87169	87169	-	-	87166	87167	87166	87167	87167	87167
	TA-GN 200x60	white	01789	-	87169	87169	87169	87169	87169	-	-	87166	87167	87166	87167	87167	87167
	TA-GN 100x80	white	01790	-	87169	87169	87169	87169	87169	-	-	87166	87167	87166	87167	87167	87167
	TA-GN 120x80	white	01791	-	87169	87169	87169	87169	87169	-	-	87166	87167	87166	87167	87167	87167
	TA-GN 150x80	white	01792	-	87169	87169	87169	87169	87169	-	-	87166	87167	87166	87167	87167	87167
	TA-GN 200x80	white	01793	-	87169	87169	87169	87169	87169	-	-	87166	87167	87166	87167	87167	87167

Compatibility table for adapters for entry of ducts into PDD-N60 (code 10123) and PDD-N120 boxes (code 10143), and into boxes (codes 10482, 10002, 10001, 10665, 10656)

Installation type	22x10 mm 00317	30x10 mm 00311	15x17 mm 00303	25x17 mm 00304	40x17 mm 00351	40/2x17 mm 00305	50x20 mm 00313	50/2x20 mm 00314	70x22 mm 07200	90x25 mm 09200
	adapters are delivered complete with a box	adapters are delivered complete with a box	adapters are delivered complete with a box	adapters are delivered complete with a box	adapters are delivered complete with a box	adapters are delivered complete with a box	adapter is not required	adapter is not required	07225	-
	adapters are delivered complete with a box	adapters are delivered complete with a box	adapters are delivered complete with a box	adapters are delivered complete with a box	adapters are delivered complete with a box	adapters are delivered complete with a box	adapter is not required	adapter is not required	07225	-
	10133	10133	10133	10133	10133	10133	adapter is not required	adapter is not required	07225 + 07225	-
	-	-	-	-	10046	10046	10046	10046	07211	09211
	adapter (complete with a box) + 00525	adapter (complete with a box) + 00527	adapter (complete with a box) + 00535	adapter (complete with a box) + 00536	adapter (complete with a box) + 00541	adapter (complete with a box) + 00541	00652	00652	07225 + 07204 + 07206	-
	-	-	-	-	10046	10046	10046	10046	07211	09211
	adapter (complete with a box) + 00525	adapter (complete with a box) + 00527	adapter (complete with a box) + 00535	adapter (complete with a box) + 00536	adapter (complete with a box) + 00541	adapter (complete with a box) + 00541	00652	00652	07225 + 07204 + 07206	-

This table contains adapters/branches/tees that shall be ordered to connect a cable duct with a box.
No adapters are provided for entry/branching of miniducts with dimensions 10x10 mm (code 00301), 12x7 (00369), 12x12 (00308), 15x12 (00302), 16x12 (00312) due to their small size.





Working space organization system "In-liner Front"

Cable ducts system	284
System of floor cable ducts	307
Accessories	309
Minitowers system	312
Under floor boxes system	316

Cable ducts system

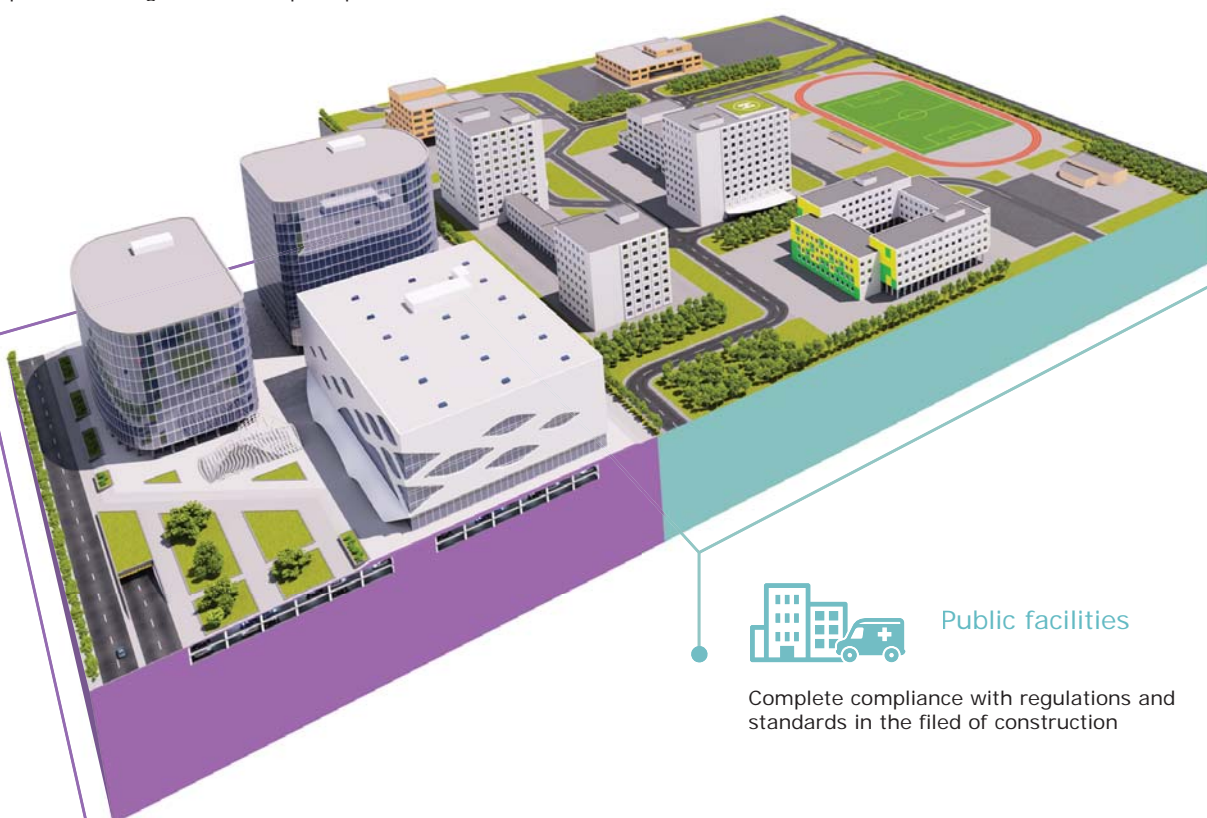
Application

"In-liner Front" are modern and innovative plastic cable ducts for open wiring in administrative premises. "In-liner Front" system consists of cable ducts, connecting and branching accessories, elements of attachment of wiring devices. The ducts and accessories are produced in Russia of high-quality materials. The cable ducts have contemporary design, glazed surface and streamlined form. Surface of the cable ducts can be easily cleaned from dust and sustains white color for a long time even under ultraviolet influence.



Commercial property

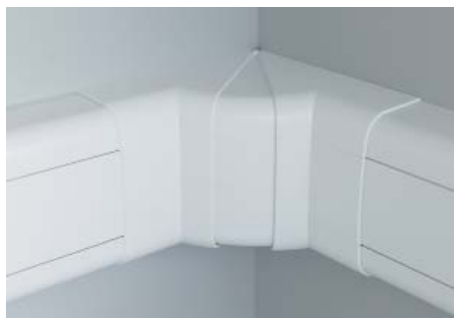
Wide range of technical solutions makes it possible to organize office open space



Public facilities

Complete compliance with regulations and standards in the field of construction

Distinctive features



The contemporary design with maximum streamlined forms and glazed surface. Perfect for creation of an aesthetic route, which meets requirements of the most demanding clients.



Unique soft seals provide firm adherence of the ducts to a wall. Remove slits and prevent dust accumulation in case of irregularities of walls, that increase aesthetic characteristics of the route significantly.



Versatile structure. A 90/2x50 mm duct (code 09500) has a built-in divider, which creates 2 separate compartments with covers for comfortable laying of different wiring. The divider has pre-perforation, a cable can be transferred from one compartment to another, if necessary.



A 140x50 mm duct with one wide cover can be used as a trunk main duct. A 140x50 mm duct with two narrow covers can be used as a wiring duct. The dividers has pre-perforation for transfer of a cable from one compartment to another. "Brava", "Viva" and 45x45 mm series WDs can be installed in all the ducts.



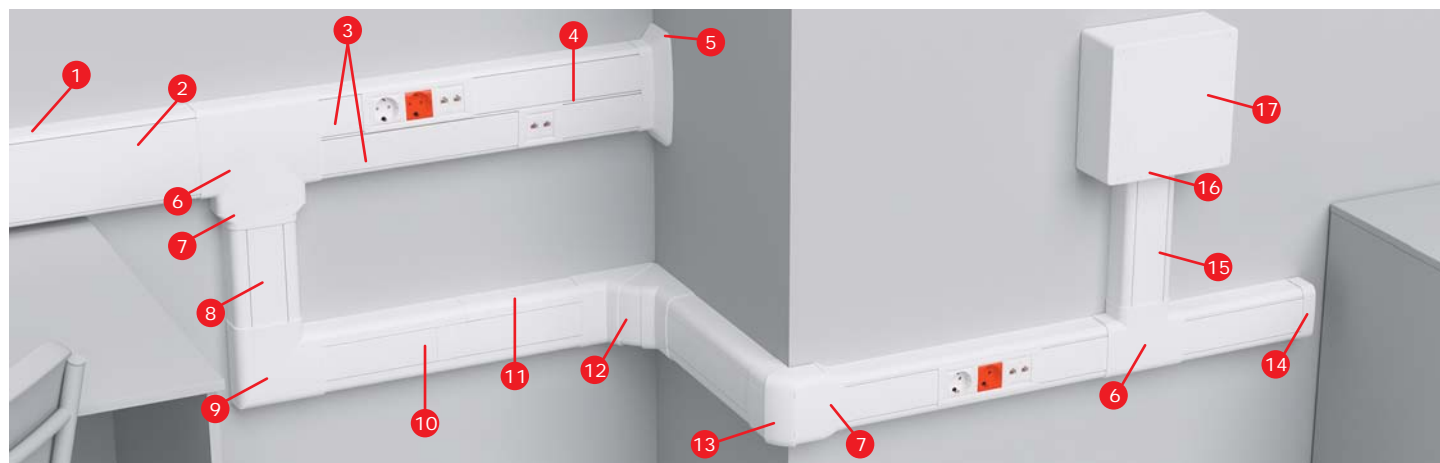
Each 70x22 mm and 90x25 mm skirting cable duct has 2 internal dividers, that means 3 compartments, what facilitates cabling significantly.



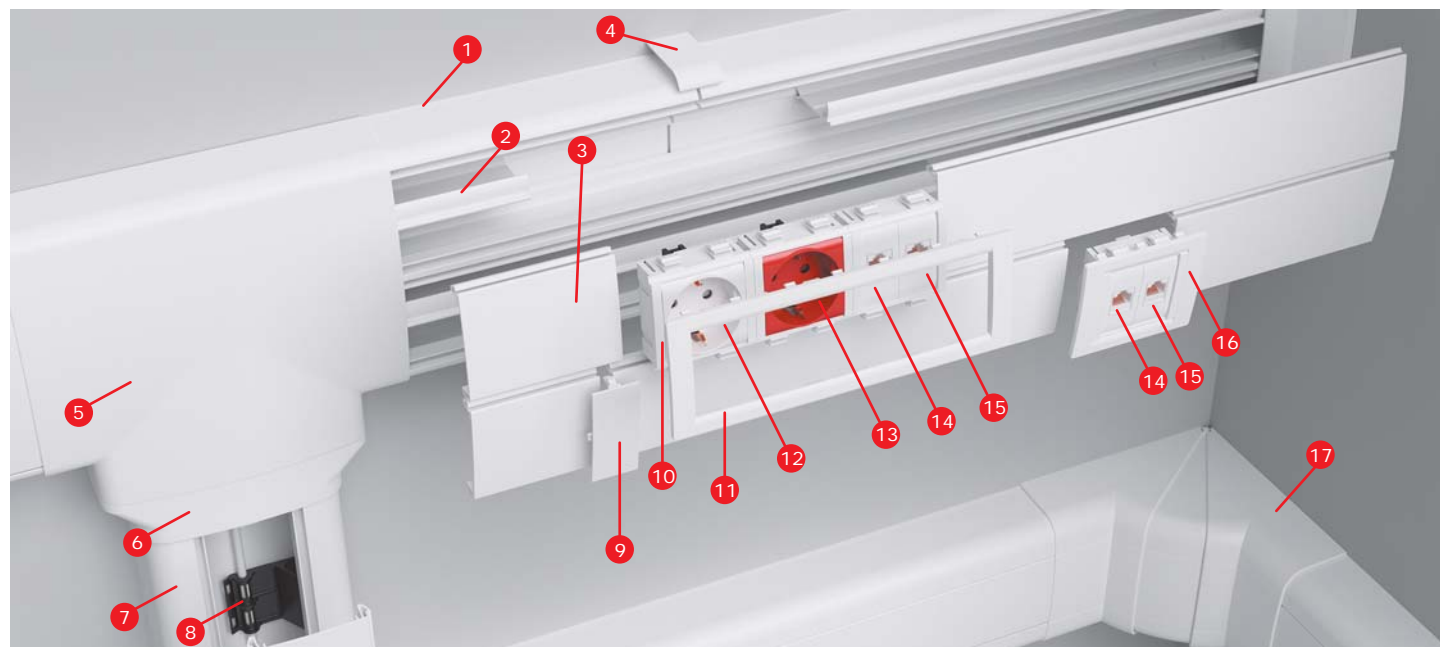
The accessories for all the ducts have internal compartment dividers (partition walls), what allows to separate laying of different cable types.

System composition

Surface-mounted cable duct



- | | |
|---|--|
| 1 Cable duct (profile without cover) | 10 Faceplate on cover joint |
| 2 Wide cover | 11 Faceplate on the profile joint |
| 3 Standard cover | 12 Internal changeable angle |
| 4 Bearing divider for cable duct covers | 13 External changeable angle |
| 5 Entry into wall/ceiling | 14 Plug |
| 6 Tee | 15 Cable-duct with partition wall, side and front covers |
| 7 Adapter | 16 Adapter for entry of cable duct into box |
| 8 Cable duct with cover | 17 Distribution box for cable ducts |
| 9 Flat angle | |



- | | |
|---|---|
| 1 Cable duct, profile without cover | 10 Frame for 2 modules of wiring devices |
| 2 Bearing divider for cable duct covers | 11 Universal carrier for 6 modules |
| 3 Front cover | 12 Electric socket with grounding, shutters, white, 2 modules |
| 4 Faceplate on the profile joint | 13 Electric socket with grounding, shutters, red, 2 modules |
| 5 Tee | 14 RJ-45 computer socket, category 5E, 1 module |
| 6 Adapter | 15 RJ-11 telephone socket, 1 module |
| 7 Cable duct with front cover | 16 Universal carrier for 2 modules |
| 8 Cable holder for cable ducts | 17 Internal changeable angle |
| 9 Faceplate on cover joint | |

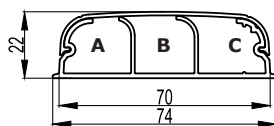
Characteristics

Technical characteristics

Characteristics	Values
Technical specifications	TS 3449-009-47022248-2010
Duct (straight sections) material	polyvinylchloride (PVC) based composition without cadmium additives that does not spread fire
Color	white RAL 9016 (resistance to UV-radiation is achieved by means of special additives) and black RAL 9005
Mounting and operating temperature	from -5 to +60 °C
Storage and transportation temperature	from -25 to +60 °C
Shock resistance at -5 °C	at least 6 J according to GOST R IEC 61084-1 (IK08 EN 50102:1995)
Climatic version	UKhL4 according to GOST 15543-70 and GOST 15150-69. For macroclimatic areas with moderate and cold climate. In case of operation in premises with artificially adjusted climatic conditions, for example: in closed heated, cooled and ventilated premises of different purpose including well ventilated underground premises (no effects of UV rays, wind, sand, dust; absence or significant reduction of effects of diffuse solar radiation and moisture condensation)
Protection degree	IP40 according to GOST 14254. Protection against penetration of external solid objects with $\varnothing \geq 1.0$ mm
Conformity to fire safety requirements (heat resistance, resistance to ignition of a heated wire, open fire resistance, resistance to fire propagation in case of single and group laying). Resistance to propagation of cable duct and accessories fire	straight sections meet the requirements of Federal Law No. 123-FL "Technical Regulations on Fire Safety Requirements" dated 22.06.2008 and GOST R 53313-2009 "Electrical mounting appliances. Requirements of fire safety. Test methods" (subsections 5.1-5.4) corresponds to GOST 27483-87 "Fire hazard testing. Test methods. Glow-wire test and guidance". Samples have passed testing: there was no open flame, or burning of a sample lasted for less than 30 seconds after disappearance of ignition source (960 °C \pm 15/-15°C) corresponds to GOST 28779-90 (IEC 707-81) "Test methods for determination of flammability when exposed to an igniting source". Material conforms to FV 0 (PV 0) class (category): burning time after each exposure to flame for each sample is not more than 10 seconds corresponds to GOST R IEC 61084-1-2007 "Cable trunking and ducting systems for electrical installations. Part 1. General requirements". Duct samples passed the flame test, and accessory samples passed a glow-wire test (the samples did not ignite or extinction of burning occurred within 30 seconds after discontinuation of flame exposure or removal of glow-wire)
Electric strength of insulation and electric resistance of cable ducts system	under normal operating conditions conforms to GOST R IEC 61084-1 (subsection 12.3). According to the GOST insulation resistance was measured by application of direct current voltage of at least 500 V (with insulation resistance of over 100 Mohm), and then of 2500 V. No insulation breakdown occurred in the process
Cable ducts system protection class	0 according to GOST 12.2.007.0
Support planes for cable duct cables	correspond to GOST R IEC 61084-1 "Cable trunking and ducting systems for electrical installations. Part 1. General requirements" (subsection 10.2). Testing of support planes for cables during installation of cable and special cable ducts on the surface of a wall or ceiling have been passed successfully
Cable ducts system structure	conforms to GOST R IEC 61084-1 (cl. 9.1, 9.4, 9.6), GOST R IEC 61084-2-1 (cl. 9.4.1). The structure of ducts allows for laying of open replaceable networks. Edges and surfaces of ducts do not damage wires and cables. The structure of cable ducts systems ensures inaccessibility of current-carrying parts after installation, filling with insulated wires and cables, and fitting with devices for normal operation
Operation of the cable ducts system	operation of the cable ducts system shall be carried out in accordance with the Rules of technical operation of electric installations of consumers in the catalog of JSC "DKC"
Safety requirements Environmental protection requirements Hygiene characteristic of products	during normal operation ducts do not have chemical, mechanical, radioactive, electromagnetic, thermal and biological impact on environment; when transported, stored and operated, they do not harm natural environment, health and genetic background of humans
Certificates	availability of all the required certificates of the Russian Federation and the Customs Union (certificates can be downloaded at www.dkc.ru)

Straight elements

70X22 mm skirting cable ducts with cover



Purpose:

- cable laying.

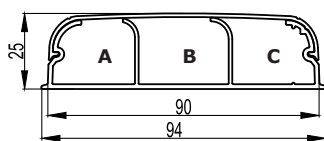
Characteristics:

- material is PVC composition;
- perforation in the bottom of a base with hole diameter of 6.5 mm, perforation pitch is 200 mm;
- protective film;
- manufactured in segments with length of 2 meters.

Base width, mm	Height, mm	Length, m	Section inner dimension area*, mm ²			Total inner dimension area*, mm ²	Duct weight, kg/m	Color	Code
			A	B	C				
70	22	2	347	372	358	1085	0.535	white	07200

* For ducts with openable covers total section of wires and cables calculated on the basis of their outer diameters, insulation and external sheath shall not exceed 40% of inside dimension of duct according to PUE, cl. 2.1.61.

90X25 mm skirting cable ducts with cover


Purpose:

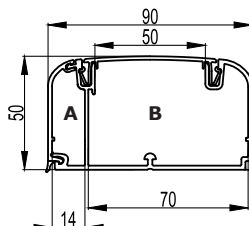
- cable laying.

Characteristics:

- material is PVC composition;
- perforation in the bottom of a base with hole diameter of 6.5 mm, perforation pitch is 200 mm;
- protective film;
- manufactured in segments with length of 2 meters.

Base width, mm	Height, mm	Length, m	Section inner dimension area, mm ²			Total inner dimension area*, mm ²	Duct weight, kg/m	Color	Code
			A	B	C				
90	25	2	525	577	536	1654	0.650	white	09200

90x50 mm cable duct with side and front covers


Purpose:

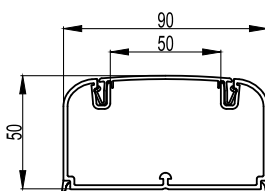
- cabling and installation of WDs.

Characteristics:

- material is PVC composition;
- perforation in the bottom of a base with hole diameter of 6.5 mm, perforation pitch is 200 mm;
- protective film;
- possibility of partition wall installation;
- manufactured in segments with length of 2 meters.

Base width, mm	Height, mm	Length, m	Section inner dimension area, mm ²		Total inner dimension area*, mm ²	Duct weight, kg/m	Color	Code
			A	B				
90	50	2	480	2810	3282	1.050	white	09500

90x50 mm cable duct with front cover


Purpose:

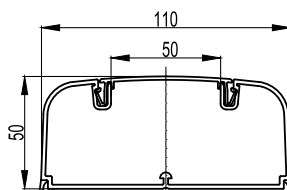
- cabling and installation of WDs.

Characteristics:

- material is PVC composition;
- perforation in the bottom of a base with hole diameter of 6.5 mm, perforation pitch is 200 mm;
- protective film;
- possibility of partition wall installation;
- manufactured in segments with length of 2 meters.

Base width, mm	Height, mm	Length, m	Section inner dimension area, mm ²	Duct weight, kg/m	Color	Code
90	50	2	3682	0.830	white	09501

110x50 mm cable duct with front cover, white


Purpose:

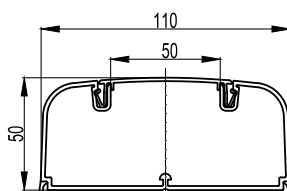
- cabling and installation of WDs.

Characteristics:

- material is PVC composition;
- perforation in the bottom of a base with hole diameter of 6.5 mm, perforation pitch is 200 mm;
- protective film;
- possibility of partition wall installation;
- manufactured in segments with length of 2 meters.

Base width, mm	Height, mm	Length, m	Section inner dimension area, mm ²	Duct weight, kg/m	Color	Code
110	50	2	4427	1.000	white	01050

110x50 mm cable duct with front cover, black


Purpose:

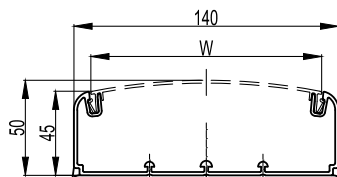
- cabling and installation of WDs.

Characteristics:

- material is PVC composition;
- perforation in the bottom of a base with hole diameter of 6.5 mm, perforation pitch is 200 mm;
- protective film;
- possibility of partition wall installation;
- manufactured in segments with length of 2 meters.

Base width, mm	Height, mm	Length, m	Section inner dimension area, mm ²	Duct weight, kg/m	Color	Code
110	50	2	4427	1.000	black	01050A

140X50 mm cable duct (base)


Purpose:

- cabling and installation of WDs.

Characteristics:

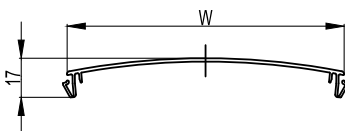
- material is PVC composition;
- possibility of installation of 3 partition walls;
- installation of a cover with width of 120 mm (code 01410) for assembly of a trunk main duct;
- installation of 2 covers with width of 60 mm (code 09510) and of a bearing divider (code 01412) for assembly of a wiring duct;
- perforation in the bottom of a base with hole diameter of 6.5 mm, perforation pitch is 200 mm;
- protective film;
- manufactured in segments with length of 2 meters.

Scope of supply:

- duct base is supplied without covers.

Base width, mm	Height, mm	Length, m	Inner dimension area, mm ²	Duct weight, kg/m	Color	Code
140	50	2	5753	0.830	white	01400

Front cover


Purpose:

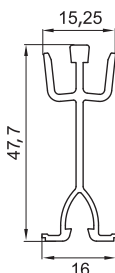
- cable protection for a 140x50 mm duct.

Characteristics:

- material is PVC composition;
- cover with width of 60 mm is installed in a 140x50 mm duct only with a bearing divider (code 01412);
- cover with width of 60 mm is used as a spare cover for 90/2x50, 90x50 and 110x50 mm ducts;
- manufactured in segments with length of 2 meters.

Width, mm	Length, m	Number of covers in 140x50 mm duct, pcs	Weight, kg/m	Color	Code
W					
120	2	1	0.370	white	01410
60	2	2	0.200	white	09510

Bearing divider for 140x50 mm duct


Purpose:

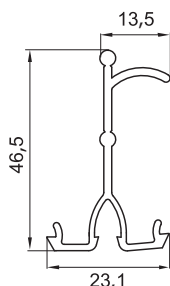
- bearing element for installation of covers with width of 60 mm in a 140x50 mm duct creating 2 separate sections.

Characteristics:

- material is PVC composition;
- pre-perforation is available for outlet of cables from a single duct section into another;
- bearing divider is not required during installation of a cover with width of 120 mm in a 140x50 mm duct.
- manufactured in segments with length of 2 meters.

Duct standard size, mm	Length, m	Weight, kg/m	Color	Code
140x50	2	0.220	white	01412

Universal divider


Purpose:

- separation of duct inner space into sections for separate laying of wires and cables of different type.

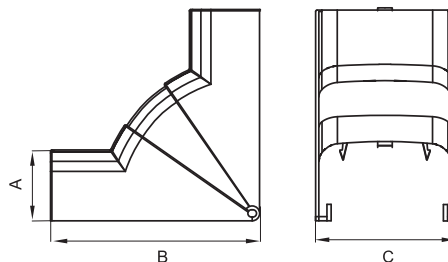
Characteristics:

- material is PVC composition;
- special rim for cable retention inside the duct section;
- manufactured in segments with length of 2 meters.

Duct standard size, mm	Length, m	Weight, kg/m	Color	Code
90/2x50, 90x50, 110x50, 140x50	2	0.205	white	01415

Accessories

Internal changeable angle


Purpose:

- decoration of points of mating of cable ducts.

Characteristics:

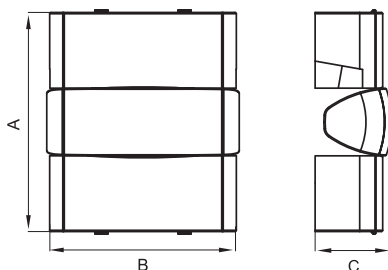
- faceplate material is ABS plastic;
- material of base and dividers is LPP;
- built-in partition walls for separation of inner space into sections.

Scope of supply:

- external decorative faceplate;
- internal base;
- dividers (for installation on a base);
- instructions.

Duct standard size, mm	Flat	Built-in dividers	Dimensions, mm			Weight, kg/pce	Color	Code
			A	B	C			
70x22	75-115°	available	22.6	57.7	74.3	0.065	white	07251
90x25	75-115°	available	25.6	63.7	94.2	0.085	white	09251
90x50, 90/2x50	70-120°	available	52.4	154.5	94.8	0.135	white	09551
110x50	70-120°	available	51.6	155.4	115.1	0.189	white	01051
							black	01051A
140x50	70-120°	available	52.4	154.5	144.8	0.482	white	01451

External changeable angle


Purpose:

- decoration of points of mating of cable ducts.

Characteristics:

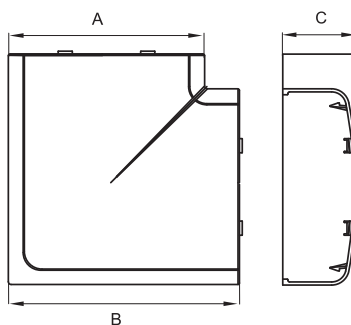
- faceplate material is ABS plastic;
- material of base and dividers is LPP;
- built-in partition walls.

Scope of supply:

- external decorative faceplate;
- internal base;
- dividers (for installation on a base);
- instructions.

Duct standard size, mm	Flat	Built-in dividers	Dimensions, mm			Weight, kg/pce	Color	Code
			A	B	C			
70x22	80-115°	available	117.6	78.8	27.4	0.065	white	07252
90x25	80-115°	available	123.6	98.9	30.5	0.085	white	09252
90x50, 90/2x50	80-120°	available	170	94.8	59.4	0.135	white	09552
110x50	80-120°	available	164	115	57.9	0.189	white	01052
							black	01052A
140x50	80-120°	available	170	144.8	59.4	0.482	white	01452

Flat angle


Purpose:

- decoration of points of mating of cable ducts.

Characteristics:

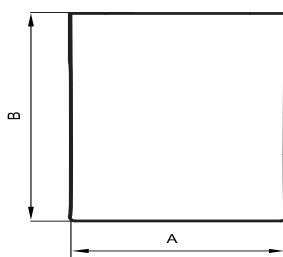
- faceplate material is ABS plastic;
- material of base and dividers is LPP;
- built-in partition walls for separation of inner space into sections.

Scope of supply:

- external decorative faceplate;
- internal base with divider into sections;
- instructions.

Duct standard size, mm	Flat	Built-in dividers	Dimensions, mm			Weight, kg/pce	Color	Code
			A	B	C			
70x22	90°	available	74.2	96.2	22.7	0.289	white	07203
90x25	90°	available	94.1	116.2	25.6	0.308	white	09203
90x50, 90/2x50	90°	available	94.8	119.4	52.4	0.129	white	09503
110x50	90°	available	115.1	141.5	51.6	0.144	white	01003
							black	01003A
140x50	90°	available	144.8	169.4	52.4	0.230	white	01403

Tee (T-shaped branch) for 70x22/90x25 ducts


Purpose:

- decoration of points with T-connection of cable ducts.

Characteristics:

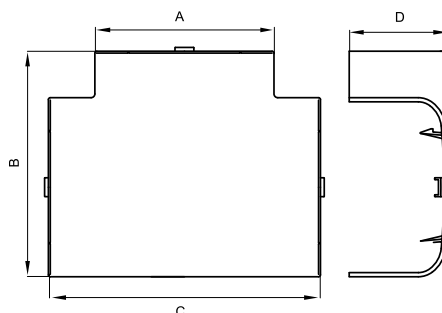
- faceplate material is ABS plastic;
- material of base and dividers is LPP;
- base has 4 holes for installation to the wall with a fastener with diameter of up to 3 mm.

Scope of supply:

- external decorative faceplate – 1 pce;
- internal base with dividers – 1 pce;
- additional (two-level) divider – 1 pce;
- adapters for a 70x22 mm duct – 3 pcs;
- outlet plug – 1 pce;
- instructions.

Duct standard size, mm	Built-in dividers	Dimensions, mm			Weight, kg/pce	Color	Code
		length (along with a skirting), A	height, B	width			
70x22	available	135.5	116	46.5	0.289	white	07206
90x25	available	134.5					

Tee (T-branch)


Purpose:

- decoration of points of T-connection of cable ducts.

Characteristics:

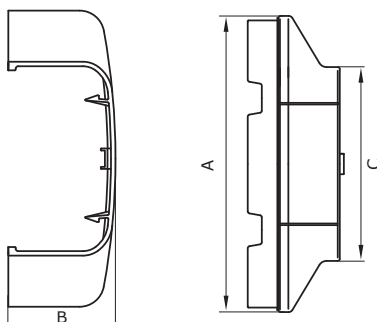
- faceplate material is ABS plastic;
- material of base and dividers is LPP.

Scope of supply:

- external decorative faceplate;
- internal base with divider;
- instructions.

Duct standard size, mm	Built-in dividers	Dimensions, mm				Weight, kg/pce	Color	Code
		A	B	C	D			
90x50, 90/2x50	available	94.8	119.4	144	52.4	0.129	white	09506
110x50	available	115.1	139.5	164	51.6	0.143	white	01006
							black	01006A
140x50	available	144.8	169.4	194	52.4	0.230	white	01406

Adapter


Purpose:

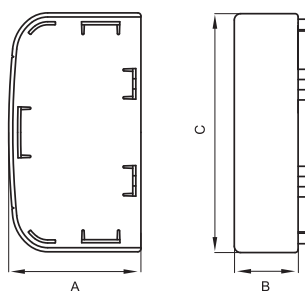
- transfer from one cable duct standard size to another using accessories – tees, internal angles, external angles, fat angles.

Characteristics:

- material is ABS plastic;
- adapter is inserted into the accessory with wide side; latched with narrow side in the smaller duct.

Duct standard size, mm	Dimensions, mm			Weight, kg/pce	Color	Code
	A	B	C			
140x50 – 90x50 140x50 – 90/2x50	144.8	52.8	94.8	0.016	white	01408
110x50 – 90x50 110x50 – 90/2x50	115	52	94	0.053	white	01008
140x50 – 110x50	144	51.3	114.8	0.073	white	01010

End plug


Purpose:

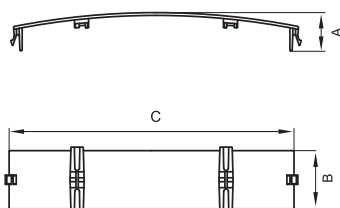
- decoration of duct edges.

Characteristics:

- material is ABS plastic.

Duct standard size, mm	Dimensions, mm			Weight, kg/pce	Color	Code
	A	B	C			
70x22	22.5	32	74	0.017	white	07205
90x25	22.5	32	94.2	0.021	white	09205
90x50, 90/2x50	52	25	93.6	0.031	white	09505
110x50	52	25	115.1	0.030	white	01005
					black	01005A
140x50	52.2	25	144.4	0.414	white	01405

Faceplate on joint of duct front covers


Purpose:

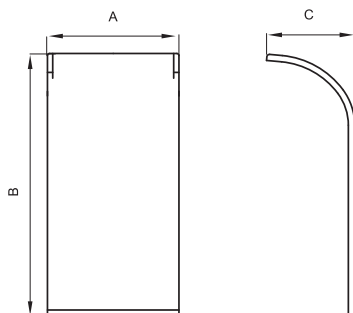
- decoration of a joint between two front covers.

Characteristics:

- material is ABS plastic;
- installed by latching in duct at mating point between covers.

Duct standard size, mm	Number of faceplates per joint, pcs	Dimensions, mm			Weight, kg/pce	Color	Code
		A	B	C			
70x22	1	22.7	30	74.2	0.010	white	07204
90x25	1	25.6	30	94.1	0.021	white	09204
90x50, 90/2x50, 110x50	1	15	25	58.5	0.005	white	09504
140X50 with 60 mm covers	2					black	09504A
140X50 with 120 mm covers	1	19	25	122.4	0.213	white	01404

Faceplate on join of duct profiles


Purpose:

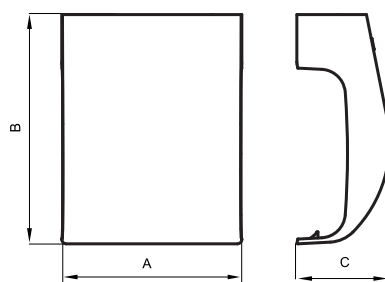
- decoration of joints of bases of two ducts and point of miniduct branching.

Characteristics:

- faceplate material is ABS plastic;
- glued base for installation on a duct;
- glued to duct base at mating points; protective film shall be preliminarily removed from glued base surface;
- preliminarily cut across to width of miniducts in case of their branching from duct mating point.

Duct standard size, mm	Number of faceplates per joint, pcs	Dimensions, mm			Weight, kg/pce	Color	Code
		A	B	C			
90x50, 90/2x50	2	25	50	16.76	0.004	white	09509
110x50	2	25	49.8	24.8	0.003	white	01009
						black	01009A
140x50	2	25	48	9	0.004	white	01409

(Narrow) branch from skirting ducts to boxes



Purpose:

- branch of cables from 70x22/90x25 mm skirting ducts;
- PDD-N120 4-module box (10143);
- PDD-N60 2-module box (10123);
- box with an electric power socket (10482);
- box with 1 switch (10002);
- box with 2 switches (10001);
- box with 1 RJ-45 socket (10665);
- box with 2 RJ-45 sockets (10656);
- boxes (code 09221, 09231) from a narrow side (without an adapter) or from a wide side (with the adapter, code 09227);
- adapter from surface-mounted to floor ducts (11870).

Characteristics:

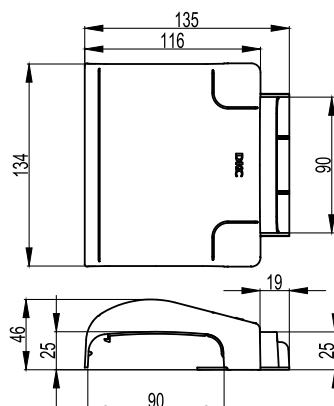
- material is ABS plastic;
- is inserted into a box.

Scope of supply:

- base with built-in dividers;
- external decorative faceplate;
- instructions.

Cable duct standard size, mm	Dimensions, mm			Weight, kg/pce	Color	Code
	A	B	C			
70x22	74	94.2	38.1	0.043	white	07211
90x25	74	114.1	40	0.409	white	09211

Wide branch from skirting ducts to boxes



Purpose:

- branch of cables from 70x22/90x25 mm skirting ducts (code 9221 and 09231) is used with an adapter (code 09226).

Characteristics:

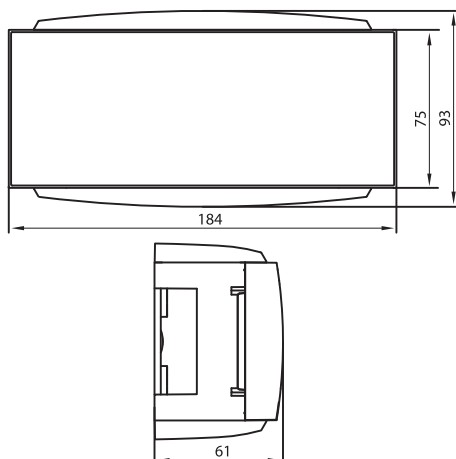
- material is ABS plastic.

Scope of supply:

- base with built-in dividers;
- external decorative faceplate;
- adapter for a 70x22 mm duct (left);
- adapter for a 70x22 mm duct (right);
- adapter (code 09226) for entry into a box from a wide side (code 0231, or 09221);
- instructions.

Cable duct standard size, mm	Additional accessory for installation in box	Weight, kg/pce	Color	Code
70x22	adapter (code 09226)	0.136	white	09206
90x25				

Modular box for "Brava" wiring devices



Purpose:

- installation of 6 modules of "Brava" series wiring devices.

Characteristics:

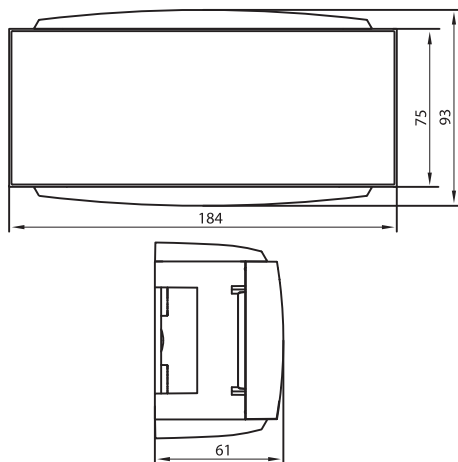
- material is ABS plastic;
- protection degree is IP40;
- possibility of vertical extension using boxes (code 09221/09231);
- pre-perforation in the bottom for entry of corrugated tubes and cable;
- selection of adapters for entry of "In-liner Classic" miniducts and "In-liner Front" ducts, (see adapter compatibility table).

Scope of supply:

- box base;
- cover, in which WDs are installed;
- 2 adapters (code 07225) for entry of skirting ducts with section of 70x22 mm;
- 2 horizontal wide plugs;
- 2 vertical small plugs;
- instructions.

Series of wiring devices	Number of modules of wiring devices in a duct	Weight, kg/pce	Color	Code
"Brava"	6 modules	0.250	white	09221

"Brava" surface-mounted distribution box



Purpose:

- decoration and protection of cable connection points;
- connection of skirting ducts and miniducts of different standard sizes.

Characteristics:

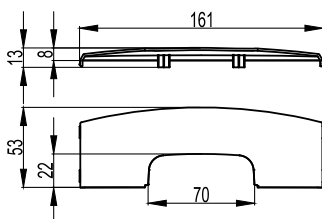
- material is ABS plastic;
- protection degree is IP40;
- possibility of vertical extension using boxes (code 09221/09231);
- pre-perforation in the bottom for entry of corrugated tubes and cable;
- guiding ways in the bottom for installation of terminal blocks;
- selection of adapters for entry of "In-liner Classic" miniducts and "In-liner Front" ducts (see adapter compatibility table).

Scope of supply:

- box base;
- cover;
- 2 adapters (code 07225) for entry of skirting ducts with section of 70x22 mm;
- 2 horizontal plugs (large);
- 2 vertical plugs (small);
- instructions.

Weight, kg/pce	Color	Code
0.181	white	09231

Adapter for entry of ducts into "Brava" boxes



Purpose:

- entry of ducts and miniducts into "Brava" 6-module box (code 09221) and a distribution box (code 09231).

Installation conditions:

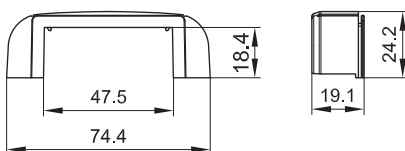
- adapter is latched and installed in a box from a wide side.

Characteristics:

- material is ABS plastic;
- adapter (code 09227), with an adapter (code 10133) are used for entry of 40x17, 25x17, 15x17, 30x10, 22x10 mm miniducts into a box.

Duct standard size, mm	Weight, kg/pce	Color	Code
70x22	0.016	white	09225
90x25	0.016	white	09226
50x20, 50/2x20	0.018	white	09227

Adapter for entry of 70x22 duct into boxes



Purpose:

- direct entry of 70x22 mm skirting cable ducts into boxes:

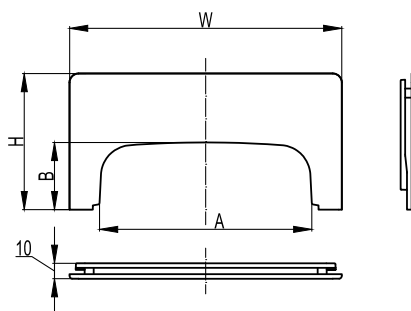
- "Brava" box (code 09221) and a distribution box (code 09231), the adapter is inserted directly into a narrow side of the box;
- PDD-N120 4-module box (10143), the adapter is built into the narrow and wide sides of the box;
- PDD-N60 2-module box (10123);
- box with an electric power socket (10482);
- box with 1 switch (10002);
- box with 2 switches (10001);
- box with 1 RJ-45 socket (10665);
- box with 2 RJ-45 sockets (10656);
- adapter from surface-mounted to floor ducts (11870).

Characteristics:

- material is ABS plastic.

Duct standard size, mm	Weight, kg/pce	Color	Code
70x22	0.009	white	07225

Adapter for entry of ducts into SDN1, SDN2, SDN3 distribution boxes


Purpose:

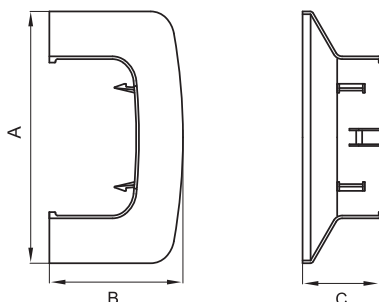
- entry of boxes into SDN1 (code 01869), SDN2 (code 01870), SDN3 (code 01871) ducts.

Characteristics:

- material is ABS plastic;
- for ease of installation of an adapter in boxes there is pre-perforation from an inner side (a rectangular opening is cut in the line of perforation for an adapter size).

Duct standard size, mm	Duct type	Weight, kg/pce	Color	Code
70x22	SDN1 (110x110x55 mm), SDN2 (151x151x75 mm), SDN3 (231x231x95 mm)	0.009	white	01881
90x25	SDN2 (151x151x75 mm), SDN3 (231x231x95 mm)	0.035	white	01882
90x50, 90/2x50	SDN2 (151x151x75 mm), SDN3 (231x231x95 mm)	0.035	white	01883

Entry into ceiling/wall/board/box/enclosure


Purpose:

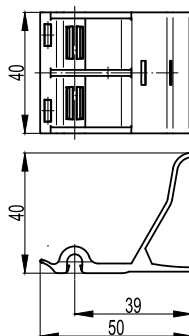
- decoration of entry points of ducts into ceiling, wall, board, enclosure, box, etc.

Characteristics:

- material is ABS plastic;
- there is external extension on 3 sides.

Duct standard size, mm	Dimensions, mm			Weight, kg/pce	Color	Code
	A	B	C			
90x50, 90/2x50	145.5	77	45	0.036	white	09507
110x50	165	77.2	45	0.059	white	01007
					black	01007A
140x50	192	78	45	0.051	white	01407

Cable holders


Purpose:

- organization of duct inner space: divides a duct into 2 sections (in case of installation of 1 holder) or 3 sections (in case of installation of 2 and more holders arranged chess-board fashion), holds cables in side sections;
- used in plastic "In-Liner Front" ducts and aluminium "In-Liner Aero" ducts with section of 90x50 mm and 110x50 mm, in aluminium columns of all standard sizes (into one of two sections).

Installation conditions:

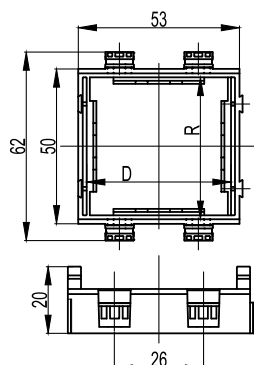
- installed on guiding ways for partition walls in the duct bottom.

Characteristics:

- material is polypropylene.

Duct standard sizes, mm	Weight, kg/pce	Color	Code
90x50, 90/2x50, 110x50	0.008	black	09511

Frame for 2 modules for wiring device installation


Purpose:

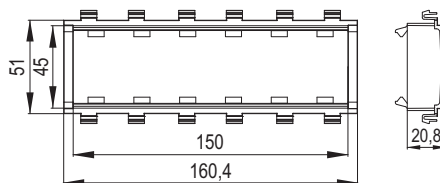
- installation of wiring devices in "In-liner Front" plastic ducts, floor-mounted BUS minitowers, "In-liner Aero" aluminium ducts and columns.

Characteristics:

- material is ABS plastic;
- there are locks on two outer sides intended for connection of similar frames in a row and for usage under one solid carrier. Frames for WDs of different series are not interconnected, but may be installed in a row under one carrier.

Purpose	Wiring devices (WDs)		Mounting dimensions, mm		Weight, kg/pce	Color	Code
	WD standard	number of modules	R	D			
90/2x50, 90x50, 110x50, 140x50 ducts, floor-mounted BUS minitower, under floor boxes, aluminium columns (service racks)	"Brava"	2	43	43	0.017	white	F0000M
						black	F0000MB
	"Viva"	2	45	50	0.011	white	F0000A
						black	F0000AB
	modules	2	45	45	0.020	gray	F1000A
						white	F0000L

Frame for 6 modules for installation of "Viva" series WDs


Purpose:

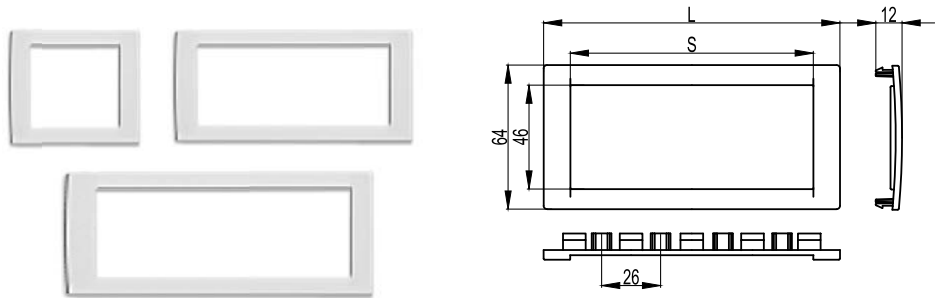
- installation of WDs in "In-liner Front" plastic ducts and under floor boxes, "In-liner Aero" aluminium ducts and columns and floor-mounted BUS minitowers.

Characteristics:

- material is ABS plastic;
- it is possible to install one "Viva" 6-module power socket, as well as several "Viva" series WDs (switches, low current sockets, etc.), which occupy 6 modules in total.

Number of modules	Installation dimension, mm	Color	Code
6	45x150	white	F0003A
		gray	F1003A
		black	F0003AB

Universal carrier for wiring devices



Purpose:

- installation of wiring devices of "Brava", "Viva" series and 45x45 mm standard size in "In-liner Front" plastic ducts, "In-liner Aero" aluminium ducts and columns, floor-mounted BUS minitowers.

Characteristics:

- material is ABS plastic;
- universal is installed above the frames: F0000M, F0000MB, F0000A, F0000L;
- 2-module carrier is installed above one 2-module frame;
- 4-module carrier is installed above two 2-module frames;
- 6-module carrier is installed above three 2-module frames.

Number of modules	Dimensions, mm		Weight, kg/pce	Color	Code
	L	S			
2	77	54	0.009	white	F00011
				black	F00011B
				silver metallic	F00011G
4	130	107	0.016	white	F00013
				black	F00013B
				silver metallic	F00013G
6	184	161	0.020	white	F00015
				black	F00015B
				silver metallic	F00015G

Accessory selection table

Assortment	Name	 70x22 mm 07200	 90x25 mm 09200	 90/2x50 mm 09500	 90x50 mm 09501	 110x50 mm 01050	 110x50 mm 01050A	 140x50 mm 01400
	Front cover, width of 120 mm for a 140x50 duct	-	-	-	-	-	-	01410
	Front cover, width of 60 mm (a 140x50 duct require 2 covers and a bearing divider)	-	-	09510*	09510*	09510*	-	09510
	Bearing divider for 60 mm covers of 140x50 mm duct	-	-	-	-	-	-	01412
	Universal divider, SEP-N 60/50 (partition wall)	-	-	01415	01415	01415	01415	01415
	Cable holder (attaches cables within 90x50 mm and 110x50 mm ducts)	-	-	09511	09511	09511	09511	-
	Duct end plug	07205	09205	09505	09505	01005	01005A	01405
	Internal changeable angle (75-115° – 70x22 and 90x25 mm; 70-120° – 90x50, 110x50 and 140x50 mm)	07251	09251	09551	09551	01051	01051A	01451
	External changeable angle (80-120° – 70x22 and 90x25 mm; 80-115° – 90x50, 110x50 and 140x50 mm)	07252	09252	09552	09552	01052	01052A	01452
	Flat angle with a built-in divider (L-branch)	07203	09203	09503	09503	01003	01003A	01403
	Tee with divider (T-branch)	07206	07206	09506	09506	01006	01006	01406
	140-90x50 adapter (adapter from 140x50 to 90x50 mm duct; is used with tee or angle)	-	-	01408***	01408***	-	-	01408***
	140-110x50 adapter (adapter from 140x50 to 110x50 mm duct; is used with tee or angle)	-	-	-	-	01010***	-	01010***
	110-90x50 adapter (an adapter from 110x50 to 90x50 mm duct; is used with tee or angle)	-	-	01008***	01008***	01008***	-	-
	Front faceplate on a cover joint	07204	09204	09504	09504	09504	09504A	09504 01404**
	Faceplate on a joint of profiles (for duct bases)	-	-	09509	09509	01009	01009A	01409
	Entry into a ceiling, wall, enclosure or board	-	-	09507	09507	01007	01007A	01407
	Adapter from surface-mounted to floor ducts (used with adapters)	11870	11870					
	4X30 mm self-tapping screw with a rawplug for installation of duct on walls (concrete, brick)	06521	06521	06521	06521	06521	06521	06521
	3.5X50 mm self-tapping screw with a rawplug for installation of duct on walls (concrete, brick, slabs, panel)	CM06541	CM06541	CM06541	CM06541	CM06541	CM06541	CM06541

* 90/2x50 mm, 90x50 mm, 110x50 mm ducts are supplied complete with covers. 09510 cover can be ordered as a spare part

** Faceplate on a joint (code 01404) is used in case of mating of front covers (code 01410) with width of 120 mm

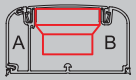
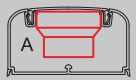

*** Adapters are used only with tees and angles (are installed in these accessories for branching of a duct with another section)

Assortment	Name	 70x22 mm 07200	 90x25 mm 09200	 90/2x50 mm 09500	 90x50 mm 09501	 110x50 mm 01050	 140x50 mm 01400
	SDN1 distribution box / Adapter (used as an adapter from a 70x22 mm duct to 80x40, 60x40, 40x40, 25x30 mm "In-liner Classic" ducts, overall dimensions are 110x110x55 mm)**	01869	-	-	-	-	-
	Adapter for entry of a 70x22 duct into SDN1, SDN2 or SDN3 box	01881	-	-	-	-	-
	SDN2 distribution box / Adapter (used as an adapter from one "In-liner Front" duct to another or to ducts of "In-liner Classic" series; overall dimensions are 151x151x75 mm)**	01870	01870	01870	01870	-	-
	SDN3 distribution box / Adapter (used as an adapter from one "In-liner Front" duct to another or to ducts of "In-liner Classic" series; overall dimensions are 231x231x95 mm)**	01771	01771	01771	01771	01771*	01771*
	Adapter for entry of 70x22, 90x25, 90/2x50, 90x50 mm ducts into SDN2 or SDN3 box	01881	01882	01883	01883	-	-
	PDD-N60 mounting box for 2 modules for "Brava" and "Viva" wiring devices (overall dimensions are 86x86x55 mm)	10123	10123	-	-	-	-
	PDD-N120 mounting box for 4 modules for "Brava" and "Viva" wiring devices (overall dimensions are 150x86x55 mm)	10143	10143	-	-	-	-
	Modular box for "Brava" wiring devices, for 6 modules (overall dimensions are 184x93x61 mm)	09221	09221	-	-	-	-
	"Brava" distribution box (overall dimensions are 184x93x61 mm)**	09231	09231	-	-	-	-
	Adapter for entry of a 70x22 mm duct into PDD-N60, PDD-N120 boxes, "Brava" 6-module box, "Brava" distribution box	07225	-	-	-	-	-
	Narrow branch from 70x22 mm and 90x25 mm ducts to PDD-N60 and PDD-N120 boxes, to "Brava" 6-module box, to "Brava" distribution box	07211	09211	-	-	-	-
	Wide branch from 70x22 mm and 90x25 mm ducts to "Brava" 6-module box to "Brava" distribution box	09206	09206	-	-	-	-
	Adapter for entry of a 70x22 mm duct into "Brava" 6-module box and "Brava" distribution box	09225	-	-	-	-	-
	Adapter for entry of a 90x25 mm duct into "Brava" 6-mod. box and "Brava" distribution box	-	09226	-	-	-	-
	Adapter for entry of a 50x20 mm duct into "Brava" 6-mod. box and "Brava" distribution box	09227					
	Set of adapters for entry of 22x10, 30x10, 15x17, 25x17, 40x17, 40/2x17 mm miniducts into PDD-N60, PDD-N120 boxes, "Brava" 6-module box, "Brava" distribution box	10133					
	Adapters for branching of a route from 40x17, 40/2x17, 50x20, 50/2x20 mm miniducts to PDD-N60, PDD-N120 boxes, "Brava" 6-module box, "Brava" distribution box	10046					







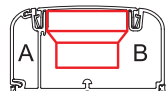
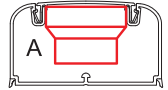
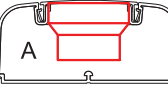
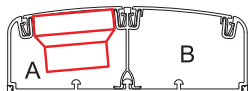
* Ducts are not entered inside, but brought to a box closely







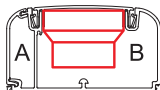
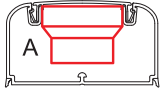
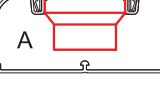
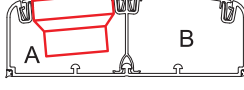
** Terminal blocks for connection of cables are presented in the catalog of solutions for automation and DKC IT in section "Quadro" system of solutions for ICS and telecommunication"

Accessory selection table

Assortment	Name	 90/2x50 mm 09500	 90x50 mm 09501	 110x50 mm 01050	 140x50 mm 01400 + 01412 + 09510 + 09510
	Frame for 2 modules of wiring devices of "Viva" series	F0000A			
	Frame for 2 modules of wiring devices of "Brava" series	F0000M			
	Frame for 2 modules of wiring devices of 45x45 mm series	F0000L			
	Frame for 6 modules for installation of "Viva" series WDs	F0003A			
	Universal carrier for 2 modules, color is white	F00011			
	Universal carrier for 4 modules, color is white	F00013			
	Universal carrier for 6 modules, color is white	F00015			

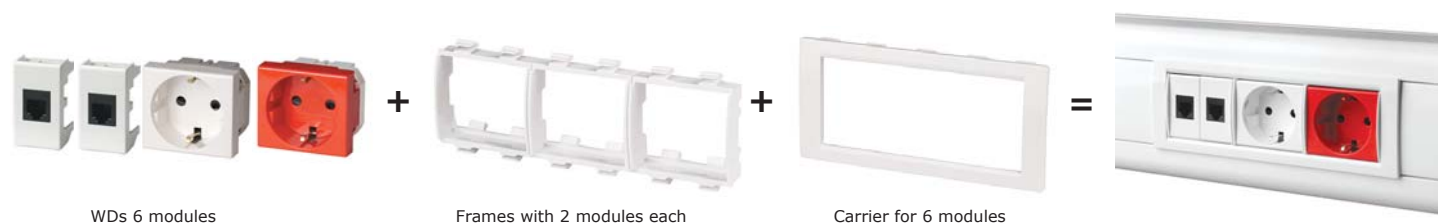
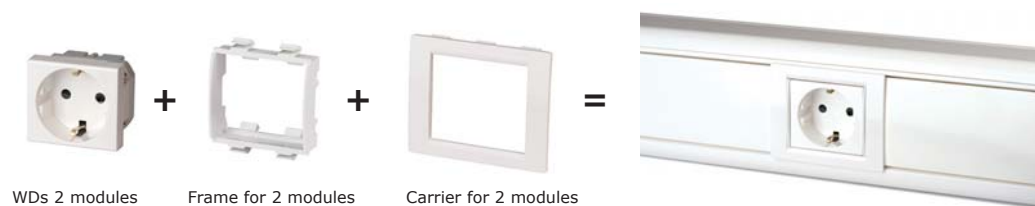
Compatibility table of carriers and frames for organization of working spaces in 90x50, 90/2x50, 110x50 and 140x50 mm ducts

Cable ducts		Carriers and frames of "Viva" series for installation in ducts									
Scheme installation	Code of a duct	Carriers and frames				Power sockets with grounding with shutters		Low current sockets			
		2 modules	4 modules	6 modules							
						white 2 modules	red 2 modules	RJ-11 1 module	RJ-45 cat. 5E 1 module	RJ-45 cat. 5E, shield 1 module	RJ-45 cat. 6 1 module
 90/2x50 mm	09500	carrier F00011 + frame F0000A	carrier F00013 + frame F0000A 2 pcs	carrier F00015 + frame F0000A 3 pcs	carrier F00015 + frame F0003A 1 pce	45005	45015	45017	45037	45047	45057
 90x50 mm	09501	carrier F00011 + frame F0000A	carrier F00013 + frame F0000A 2 pcs	carrier F00015 + frame F0000A 3 pcs	carrier F00015 + frame F0003A 1 pce	45005	45015	45017	45037	45047	45057
 110x50 mm	01050	carrier F00011 + frame F0000A	carrier F00013 + frame F0000A 2 pcs	carrier F00015 + frame F0000A 3 pcs	carrier F00015 + frame F0003A 1 pce	45005	45015	45017	45037	45047	45057
 140x50 mm	01400 + 01412 + 09510 + 09510	carrier F00011 + frame F0000A	carrier F00013 + frame F0000A 2 pcs	carrier F00015 + frame F0000A 3 pcs	carrier F00015 + frame F0003A 1 pce	45005	45015	45017	45037	45047	45057

Cable ducts		Carriers and frames of "Brava" series for installation in ducts								
Scheme installation	Code of a duct	Carriers and frames			Power circuits with grounding, with shutters		Low current sockets			
		2 modules	4 modules	6 modules						
 90/2x50 mm	09500	carrier F00011 + frame F0000M	carrier F00013 + frame F0000M 2 pcs	carrier F00015 + frame F0000M 3 pcs	76482B	76482R	76644B	76646B	76642B	76643B
 90x50 mm	09501	carrier F00011 + frame F0000M	carrier F00013 + frame F0000M 2 pcs	carrier F00015 + frame F0000M 3 pcs	76482B	76482R	76644B	76646B	76642B	76643B
 110x50 mm	01050	carrier F00011 + frame F0000M	carrier F00013 + frame F0000M 2 pcs	carrier F00015 + frame F0000M 3 pcs	76482B	76482R	76644B	76646B	76642B	76643B
 140x50 mm	01400 + 01412 + 09510 + 09510	carrier F00011 + frame F0000M	carrier F00013 + frame F0000M 2 pcs	carrier F00015 + frame F0000M 3 pcs	76482B	76482R	76644B	76646B	76642B	76643B

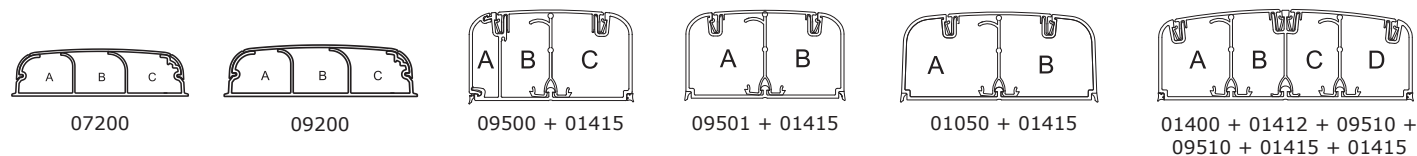
Principle of organization of working spaces in "In-liner Front" and "In-liner Aero" series ducts when using "Brava", "Viva" and 45x45 mm series WDs

Wiring devices (WDs) are installed directly in a frame. Then the frame is installed in a duct. Then a carrier is installed above the frame.



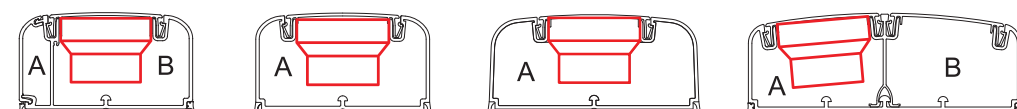
Compatibility table of ducts according to inner dimension area

Inner dimension area of cable ducts before and after installation of dividers



Duct size, mm	Duct code (cable duct size)	Inner dimension area, mm ²	Code of divider (partition walls) for installation in a duct	Number of additional dividers in a duct	Maximum possible number of compartments (sections) in a duct	Compartment inner dimension area*, mm ²				Maximum wire diameter, mm
						A	B	C	D	
70x22	07200	1085	–	–	3	347	372	358		19
90x25	09200	1654	–	–	3	525	577	536		22
90x50	09500	3282	01415	1	3	480	1100	1710	–	43
90x50	09501	3682	01415	1	2	1714	1768	–	–	43
110x50	01050	4427	01415	1	2	2160	2160	–	–	44
140x50	01400 + 01412 + 09510 + 09510	5353	01415	2	4	1420	1120	1120	1420	44
140x50	01400 + 01410	5753	01415	3	4	1420	1120	1120	1420	44

Inner dimension area of wiring cable ducts with WDs






Duct size, mm	Duct code	Series of wiring devices	Inner dimension area of compartments (sections) of a duct, left after placement of a wiring device*, mm ²		Maximum wire diameter (in case of installation in a duct between a power socket and bottom), mm	Maximum wire diameter (in case of installation in a duct near a socket), mm
			A	B		
90x50	09500	"Viva"	480	1540	11	20
		"Brava"	480	1460	12	21
90x50	09501	"Viva"	2191	–	11	19
		"Brava"	2107	–	12	21
110x50	01050	"Viva"	2870	–	10	30
		"Brava"	2790	–	12	28
140x50	01400 + 01412 + 09510 + 09510	"Viva"	1250	2560	10	18
		"Brava"	1170	2560	11	19

* It is recommended to focus on PUE when selecting cable ducts

"2.1.61. Total section of wires and cables calculated on the basis of their outer diameters including insulation and external sheath shall not exceed: 35 % of inside dimension for blank ducts; filling of duct inner space with a cable shall not exceed 40 %"

Compatibility table of boxes, carriers and frames for organization of working spaces in 70x22 and 90x25 mm skirting ducts

Compatibility table of carriers and frames for installation of WDs in boxes

Box		Carriers and frames for installation of wiring devices (WDs) in box		
Configuration	Code of box	Wiring devices of "Brava" series	Wiring devices of "Viva" series	Wiring devices of 45x45 mm series
 2 modules (PDD-N60 type)	10123	75010W + 75023W	10242	-
 4 modules (PDD-N120 type)	10143	75011W + 75021W	10245	-
 6 modules	09221	additional accessories is not required for installation of WDs	-	-

Compatibility table of boxes assembled with "Brava" wiring devices



Box name	Code
Box assembled with electric power socket, with grounding, with protective shutters, 16 A, 250 V, "Brava" series, IP40, color is white	10482
Box assembled with 1 switch (single-key switch), 16 AX, 250 V, "Brava" series, IP40, color is white	10002
Box assembled with 2 switches (double-key switch), 16 AX, 250 V, "Brava" series, IP40, color is white	10001
Box assembled with 1 RJ-45 category 5, socket (telephone/computer socket), "Brava" series, IP40, color is white	10665
Box assembled with 2 RJ-45 category 5, sockets (telephone/computer sockets), "Brava" series, IP40, color is white	10656




Boxes (code 10482, 10002, 10001, 10665, 10656, 10123, 10143, 09221) can be entered by 70x22 and 90x25 mm skirting cable ducts of "In-liner Front" series and any TMC type miniducts of "In-liner Classic" series.

Compatibility table for adapters for entry of 70x22 and 90x25 mm ducts and miniducts into PDD-N60 (code 10123), PDD-M120 (code 10143) box, into boxes (10482, 10002, 10001, 10665, 10656)

Installation type	22x10 mm 00317	30x10 mm 00311	15x17 mm 00303	25x17 mm 00304	40x17 mm 00351	40/2x17 mm 00305	50x20 mm 00313	50/2x20 mm 00314	70x22 mm 07200	90x25 mm 09200
	adapters are delivered complete with a box	adapters are delivered complete with a box	adapters are delivered complete with a box	adapters are delivered complete with a box	adapters are delivered complete with a box	adapters are delivered complete with a box	adapter is not required	adapter is not required	07225	-
	adapters are delivered complete with a box	adapters are delivered complete with a box	adapters are delivered complete with a box	adapters are delivered complete with a box	adapters are delivered complete with a box	adapters are delivered complete with a box	adapter is not required	adapter is not required	07225	-
	10133	10133	10133	10133	10133	10133	adapter is not required	adapter is not required	07225 + 07225	-
	-	-	-	-	10046	10046	10046	10046	07211	09211
	adapter (complete with a box) + 00525	adapter (complete with a box) + 00527	adapter (complete with a box) + 00535	adapter (complete with a box) + 00536	adapter (complete with a box) + 00541	adapter (complete with a box) + 00541	00652	00652	07225 + 07206	-
	-	-	-	-	10046	10046	10046	10046	07211	09211
	adapter (complete with a box) + 00525	adapter (complete with a box) + 00527	adapter (complete with a box) + 00535	adapter (complete with a box) + 00536	adapter (complete with a box) + 00541	adapter (complete with a box) + 00541	00652	00652	07225 + 07206	-

The table contains adapters, branches and tees that shall be ordered to connect a cable duct (miniduct) with a box.

Compatibility table for adapters for entry of 70x22 and 90x25 mm ducts and miniducts into "Brava" 6-module box (code 09221) or distribution box (code 09231)

Installation type	 22x10 mm 00317	 30x10 mm 00311	 15x17 mm 00303	 25x17 mm 00304	 40x17 mm 00351	 40/2x17 mm 00305	 50x20 mm 00313	 50/2x20 mm 00314	 70x22 mm 07200	 90x25 mm 09200
	10133 + 09227	10133 + 09227	10133 + 09227	10133 + 09227	10133 + 09227	10133 + 09227	09227	09227	09225	09226
	10133	10133	10133	10133	10133	10133	adapter is not required	adapter is not required	adapter is delivered complete with a duct	–
	10133 + 10133	10133 + 10133	10133 + 10133	10133 + 10133	10133 + 10133	10133 + 10133	adapter is not required	adapter is not required	2 adapters are delivered complete with a duct	–
	–	–	–	–	09227 + 10046	09227 + 10046	09227 + 10046	09227 + 10046	09225 + 09206	09226 + 09206
	09227 + 10133 + 00525	09227 + 10133 + 00527	09227 + 10133 + 00535	09227 + 10133 + 00536	09227 + 10133 + 00541	09227 + 10133 + 00541	09227 + 00652	09227 + 00652	09225 + 07206	09226 + 07206
	–	–	–	–	10046	10046	10046	10046	07211	09211
	10133 + 00525	10133 + 00527	10133 + 00535	10133 + 00536	10133 + 00541	10133 + 00541	00652	00652	adapter (supplied with a duct) + 07206	–

The table contains adapters, branches and tees that shall be ordered to connect a cable duct (miniduct) with a box.

System of floor cable ducts

Application

CSP-F floor-mounted cable ducts are intended for laying of power and data wiring on a floor. It is likely in premises with large open space: commercial property, public facilities, administrative premises. Is used with a floor-mounted BUS minitower of "In-liner Front" system and aluminium columns of "In-liner Aero" system. CSP-F floor cable ducts are included to 100 of the best goods of Russia.

Distinctive features

Maximum flat form

The floor cable duct has flat, streamlined form, that means the absence of risk to blunder, absorption of shocks, does not obstruct movement of any objects on a floor.

Special soft seals

Both side of the floor cable duct has special sealing soft insert of PVC due to which the cable duct adherence to the floor reliably and maximum tightly compensating irregularities of a floor and preventing accumulation of dirt and ingress of water under a cover.

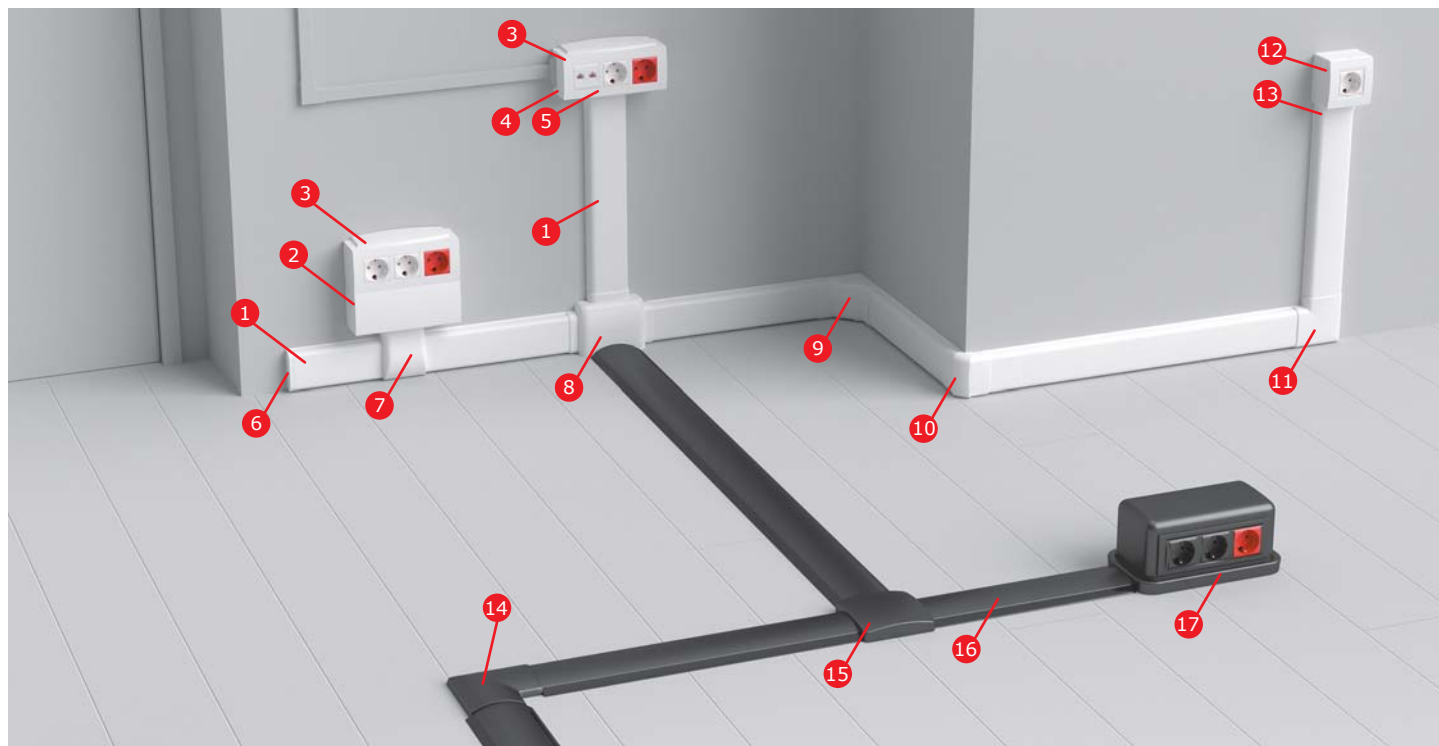
Assortment by color and standard sizes

Two standard sizes of floor ducts: 75X17 duct and 50x12 mm miniduct. Colors: gray, black, white.

System composition

Two standard sizes of floor ducts with accessories:

- CSP-F cable ducts with rated dimension of 50x12 mm (total overall dimension considering side inserts is 61.3x13.3 mm);
- CSP-F cable ducts with rated dimension of 75x17 mm (total overall dimension considering side inserts is 91.1x17.5 mm);
- accessories.

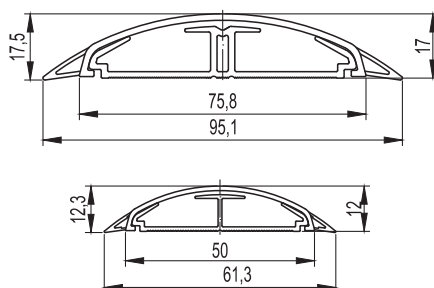


- | | | | |
|---|---|----|---|
| 1 | Skirting cable duct, three-section, with cover | 9 | Internal changeable angle |
| 2 | Distribution box | 10 | External changeable angle |
| 3 | Modular box for "Brava" wiring devices, for 6 modules | 11 | Flat angle |
| 4 | Set of adapters for "In-liner Classic" series miniducts | 12 | Box assembly with an electric power socket |
| 5 | Adapter for entry of ducts in "Brava" 6-module box | 13 | Adapter for entry of cable duct into boxes |
| 6 | Plug | 14 | Flat angle for floor duct |
| 7 | Branch from cable duct to 6-module duct | 15 | Tee for floor duct |
| 8 | Adapter from floor to surface-mounted ducts | 16 | Floor cable duct |
| | | 17 | Floor-mounted BUS minitower, 12 modules, double-sided |

Characteristics

Characteristics	Values
Technical specifications	TS 3449-027-47022248-2011
Duct (straight sections) material	Polyvinylchloride (PVC) based composition without cadmium additives that does not propagate fire
Color	white, gray, black
Mounting and operating temperature	from +5 to +60 °C
Transportation and storage temperature	is from -25 to +25 °C (packaged)
Compressive force of floor cable ducts	is at least 1000 N / 5 cm (a segment of the floor cable duct is 5 cm and withstands load of 100 kg)
Shock resistance at +5°C is	at least 4 J according to GOST R IEC 61084-1 (IK08 EN 50102:1995)
Climatic version	UKhL4 according to GOST 15543-70 and GOST 15150-69. For operation in premises with artificially adjusted climatic conditions, for example, in closed heated or cooled and ventilated production and other premises including well ventilated underground premises (no effects of direct sun light, precipitation, wind, sand and dust of outside air; absence or significant reduction of effects of diffuse solar radiation and moisture condensation)
Protection degree	IP40 according to GOST 14254. Protection against penetration of external solid objects with diameter over 1.0 mm or equal to it
Conformity to fire safety requirements (heat resistance, resistance to ignition of a heated wire, open fire resistance, resistance to fire propagation in case of single and group laying). Resistance to propagation of cable duct and accessories fire	straight sections meet the requirements of Federal Law No. 123-FL "Technical Regulations on Fire Safety Requirements" dated 22.06.2008 and GOST R 53313-2009 "Electrical mounting appliances. Requirements of fire safety. Test methods" (subsections 5.1-5.4)
	corresponds to GOST R 53313-2009 "Moulding Electric-Installation Products. Requirements of fire safety. Test methods" (subsections 5.1-5.4)
	corresponds to GOST 27483-87 "Fire hazard testing. Test methods. Glow-wire test and guidance": samples have passed testing: there was no open flame, or burning of a sample lasted for less than 30 seconds after removal of ignition source (960 °C +15/-15 °C)
	conforms to GOST R 28779-90 (IEC 707-81): material corresponds to FV 0 (PV 0) class (or category). Burning time after each exposure to flame for each sample is not more than 10 seconds
Electric strength of insulation and electric resistance insulation of a cable ducts system	conforms to GOST R IEC 61084-1-2007: duct samples have passed the flame test, and accessory samples have passed a glow-wire test (the samples did not ignite, or extinction of burning occurred within 30 seconds after discontinuation of flame exposure or removal of glow-wire)
	under normal operating conditions conforms to GOST R IEC 61084-1 (subsection 12.3). According to the GOST insulation resistance was measured by application of direct current voltage of at least 500 V, and then of 2500 V. No insulation breakdown occurred in the process
Cable ducts system protection class	0 according to GOST 12.2.007.0
Cable ducts system structure	conforms to the requirements of GOST R IEC 61084-1 (cl. 9.1, 9.4, 9.6), GOST R IEC 61084-2-1 (cl. 9.4.1). The structure of the ducts allows laying of open networks with possible change of their filling. Edges and surface of ducts do not damage wires and cables.
	The structure of the cable ducts system after installation (filling with insulated wires and cables) provides inaccessibility of current-carrying parts.
Operation of the cable ducts system	operation of the cable ducts system shall correspond to the Rules of technical operation of electric installations of consumers and instructions in the catalog of JSC "DKC"
Safety requirements Environmental protection requirements Hygienic characteristic of products	during normal operation a duct material do not have chemical, mechanical, radioactive, electromagnetic, thermal and biological impact on environment; when transported, stored and operated, they do not harm natural environment, health and genetic background of humans
Certificates	availability of all the required certificates of the Russian Federation and the Customs Union (certificates can be downloaded at www.dkc.ru)

Straight elements CSP-F floor cable ducts



Purpose:

- cabling on a floor.

Installation conditions:

- for mating of a ducts with accessories, "In-liner Front" series floor-mounted BUS minitower and "In-liner Aero" series aluminium columns, it is necessary to cut off soft inserts on covers of the duct (5 mm on each side) for entry of the duct cover inside.

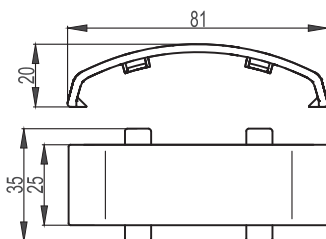
Characteristics:

- duct has 2 compartments inside;
- bottom is solid and non-perforated;
- covers have soft side inserts (sealing and absorption)
- manufactured in segments with length of 2 meters.

Rated dimension, mm		Overall dimension, mm		Total inner dimension area, mm	Maximum wire diameter, mm	Weight, kg/m	Color	Code
width	height	width	height					
75	17	95.1	17.5	606	12	0.615	white	01331
							gray	01332
							black	01333
50	12	61.3	12.3	299	8	0.275	white	01031
							gray	01032
							black	01033

Accessories

Joint connection for 75x17 mm floor cable duct, GSP


Purpose:

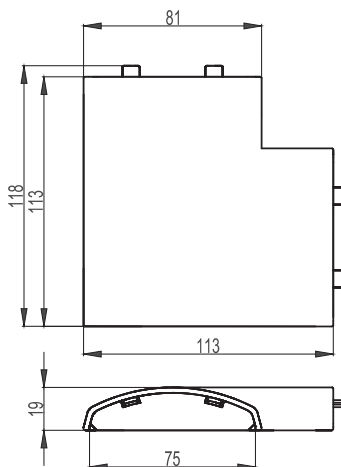
- decoration of a joint between two segments of a floor cable duct.

Characteristics:

- material is ABS plastic;
- for mating of ducts with an accessory it is necessary to cut in or cut off (7 mm on each side) soft inserts completely (it is recommended to install a connection on covers elevated or removed from a duct).

Duct standard size, mm	Dimensions, mm			Weight, kg/pce	Color	Code
	length	width	height			
75x17	80	35	19	0.007	white	05913
					gray	05914
					black	01344

Flat angle for 75x17 mm APSP floor cable duct


Purpose:

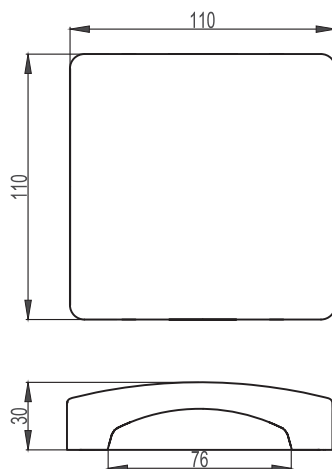
- connection of 2 floor ducts at an angle of 90°.

Characteristics:

- material is ABS plastic;
- for mating of ducts with an accessory it is necessary to cut off (5–6 mm on each side) soft inserts on duct covers (a base of the duct is entered inside of the accessory for 3.5 mm and more, and then they are mating between each other).

Duct standard size, mm	Dimensions, mm			Weight, kg/pce	Color	Code
	length	width	height			
75x17	119	119	19	0.039	white	05911
					gray	05912
					black	01342

DSP tee


Purpose:

- X-branch;
- tee (T-branch);
- flat angle (L-branch);
- end plug for a duct;
- back box with a branch of cable ducts in 1, 2, 3 or 4 directions.

Characteristics:

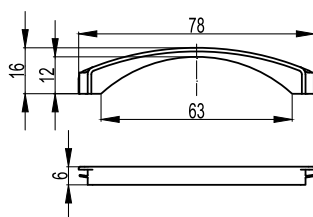
- material is ABS plastic;
- two-level divider on a base;
- one ready hole for a 75x17 mm duct, the rest of walls are blank with pre-perforation of 75x17 mm;
- for mating of ducts with an accessory it is necessary to cut off soft inserts on a cable duct cover (5 mm on each side), herewith a base of the cable duct is installed closely to a base of the accessory, for mating of the bases it is necessary to cut off 2 projections on a tee base.

Scope of supply:

- base (bottom) with partition walls;
- top partition wall;
- external front faceplate.

Duct standard size, mm	Dimensions, mm			Weight, kg/pce	Color	Code
	length	width	height			
75x17	110	110	28	0.086	white	05915
					gray	05916
					black	01343

50X12 mm floor duct adapter


Purpose:

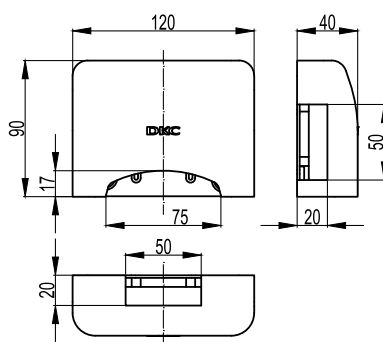
- connection of 50x12 ducts with floor-mounted BUS minitowers, aluminum columns, adapters from surface-mounted to floor-mounted.

Characteristics:

- material is polypropylene;
- adapter is inserted into 75x17 mm, thus reducing size of the hole and making it possible to bring 50x12 mm ducts in.

Standard size of a floor duct to be entered, mm	Adapter overall dimensions, mm			Hole dimensions, mm	Color	Code
	height	length	width			
50x12	16	78	6	63x12.2	white	05918
					gray	05919
					black	05917

Adapter from floor-mounted to surface-mounted and skirting ducts


Purpose:

- connection of the surface-mounted and floor-mounted ducts.

Characteristics:

- material is ABS plastic;
- ready hole for entry of "In-liner Front" series 75x17 mm floor-mounted duct;
- 3 similar holes (from the top, from the left, from the bottom) with size of 50x20 mm;
- direct entry of the 50x20 mm duct into any of 3 holes (without the adapters);
- entry of the 40x17, 25x17, 15x17, 30x10, 22x10 mm miniducts into any of 3 holes using the adapter (code 10133);
- direct entry of the 70x22 mm duct (code 07200) into any of 3 holes using the adapter (code 07225);
- entry of the 70x22 ducts (in case of horizontal location on a wall, parallel to a floor, at a height of 11 cm from the floor) into an upper hole using a branch (code 07211);
- entry of the 90x25 ducts (in case of horizontal location on a wall, parallel to a floor, at a height of 11 cm from the floor) into an upper hole using the branch (code 09211);
- entry of the 50x20 and 40x17 mm ducts (in case of horizontal location on a wall, parallel to a floor, at a height of 9,3 cm from the floor) into an upper hole using the branch (code 10046);
- base has the guiding ways for attachment of the terminal blocks;
- base has 4 holes with diameter of 6 mm for attachment to a wall.

Complete set:

- internal base (enclosure) – 1 pce;
- external front faceplate – 1 pce;
- 50x12 mm floor-mounted duct adapter, white color – 1 pce;
- 70x22 mm duct adapter – 3 pce;
- 22x10 and 30x10 mm adapter – 1 pce;
- 15x17 and 25x17 mm adapter – 1 pce;
- 40x17 mm adapter – 1 pce;
- plug – 3 pcs.

Standard sizes of floor-mounted ducts to be entered, mm	Adapter overall dimensions, mm			Hole dimensions, mm		Weight, kg/pce	Color	Code
	height	length	width	lower	upper, right, left			
75x17 50x12	90	120	40	75x17	50x20	0.045	white	11870

Compatibility table

Compatibility table for accessories to floor ducts

Accessories for floor ducts		 75x17 mm duct CSP-F			 50x12 mm duct CSP-F		
		white color (W)	gray color (G)	black color (A)	white color (W)	gray color (G)	black color (A)
Configuration	Accessory name	01331	01332	01333	01031	01032	01033
	Faceplate on the cover joint, GSP	05913	05914	01344			
	Flat angle, APSP	05911	05912	01342			
	Tee, DSP	05915	05916	01343			
	Back box (branch on 4 directions)	05915	05916	01343			
	Plug	05915	05916	01343			
	50X12 mm floor duct adapter for entry into the adapter from floor-mounted to surface-mounted ducts, Into floor-mounted minitowers and columns				05918	05919	05917
	Adapter from floor-mounted ducts to surface-mounted and skirting ducts	11870	11870	11870	11870*	11870*	11870*
	Black floor-mounted BUS minitower (For 12 WD modules, two-side, laying of the floor ducts to the base from 4 sides)	09090	09090	09090	09090*	09090*	09090*
	Gray floor-mounted BUS minitower (For 12 WD modules, two-side, laying of the floor ducts to the base from 4 sides)	09070	09070	09070	09070*	09070*	09070*
	Aluminium column with height of 0.25 m (laying of the floor ducts to the base from 4 sides)	19522	19521	19523	19522*	19521*	19523*
	Aluminium column with height of 0.35 m (laying of the floor ducts to the base from 4 sides)	19532	19531	19533	19532*	19531*	19533*
	Aluminium column with height of 0.5 m (laying of the floor ducts to the base from 4 sides)	19552	19551	19553	19552*	19551*	19553*
	Aluminium column with height of 0.71 m (laying of the floor ducts to the base from 4 sides)	09592	09591	09593	09592*	09591*	09593*
	Aluminum extension type column with height from 1.5 to 3.05 m (laying of the floor ducts to the base from 4 sides)	09582	09581	09583	09582*	09581*	09583*
	Aluminum extension type column with height from 2.7 to 4.25 m (laying of the floor ducts to the base from 4 sides)	09572	09571	09573	09572*	09571*	09573*

* Used with the adapter (code 05917, 05918, 05919)

Minitowers system

Application

"In-liner-Front" system floor-mounted BUS minitowers are intended for aesthetic and presentable organization of working space with power and/or data sockets in premises with plenty of space and open interiors. Cabling to a minitower is performed on a floor (in floor ducts) or under the floor (in tubes).



Commercial property

Business centers, offices, technological parks, IT-parks, shopping and entertainment malls, hypermarkets



Public facilities

Hotels, conference halls, institutions of learning, sports facilities, medical institutions, fitness centers



Administrative premises

Buildings of airports, sea and river ports, passenger stations, industrial enterprises, plants and factories

Distinctive features

Installation of a large number of sockets

Floor-mounted BUS minitower is double-sided and contains 12 modules (6 modules at each side). The minitower can be increased in height by setting vertical extension of one and more pieces, if necessary. Each vertical extension contains 12 modules as well as a minitower.

Flexibility of installation

The floor-mounted BUS minitower and vertical extension are intended for location of wiring devices of "Brava", "Viva" series and "45x45 mm" standard of any manufacturer.

Installation of wiring devices

Two-module frames are used for installation of the wiring devices. 3 frames are installed on each side of the minitower. In case of installation of carriers with sockets of the similar series, attachment occurs due to pectionation, if the series are different (for example, "Brava" + "Viva" + "45x45 mm"), the frames are contacting. A six-module plate (carrier, supplied complete with a minitower) is installed above the frames. One side of the minitower can be blanked off, if necessary (a plug for 6 modules is supplied complete with the minitower and vertical extension).

Light mating with floor cable ducts

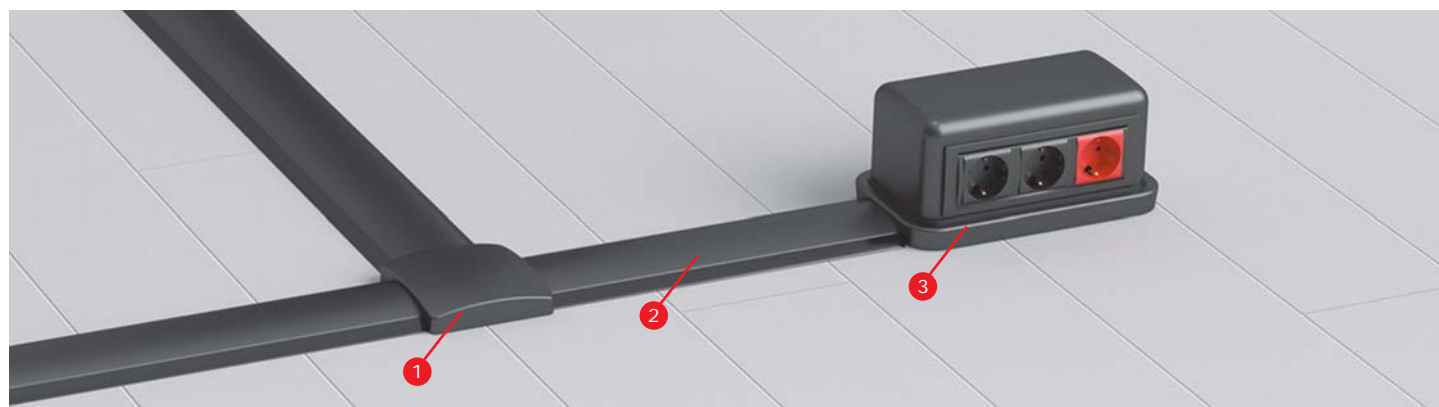
It is possible to enter CSP-F type floor ducts into the BUS minitower with any of 4 sides. For this it is necessary to cut off 5 mm on each side of the side soft inserts on the duct cover. Entry of the 75x17 mm cable duct is performed without the adapter, and entry of the 50x12 mm duct is performed with the adapter (05917, 05918 or 05919).

Possibility of entry of cables from the side of the floor

4 knock out holes with diameter of 20 mm and one center hole with diameter of 60 mm in the bottom of the minitower allow performing easy entry of a cable from the side of the floor

System composition

- Floor-mounted BUS minitower for 12 modules.
- Vertical extension.

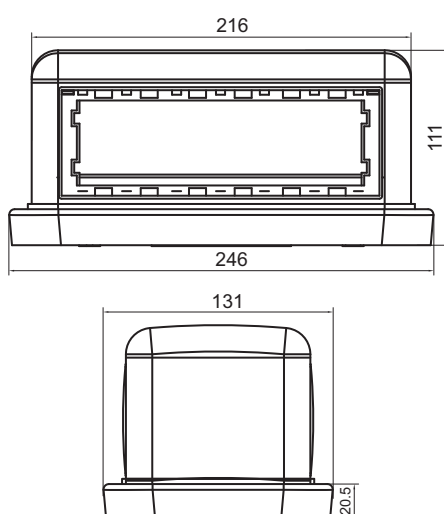


- 1 Tee for floor duct, color is black
- 2 Floor cable duct, color is black
- 3 Floor-mounted BUS minitower for 12 modules, double-sided

Characteristics

Characteristics	Values
Technical specifications	TS 3449-027-47022248-2011
Duct (straight sections) material	polypropylene which does not propagate fire
Color	is black RAL 7016, gray RAL 7030 and white RAL 9016
Mounting and operating temperature	from +5 to +60 °C
Transportation and storage temperature (packaged)	from -25 to +45 °C
Climatic version	UKhL4 according to GOST 15543-70 and GOST 15150-69. For macroclimatic areas with moderate and cold climate. For operation in premises with artificially adjusted climatic conditions, for example, in closed heated or cooled and ventilated production and other premises including well ventilated underground premises (no effects of direct sun light, precipitation, wind, sand and dust of outside air; absence or significant reduction of effects of diffuse solar radiation and moisture condensation)
Protection degree	IP40 according to GOST 14254. Protection against penetration of external solid objects with $\phi \geq 1.0$ mm
Certificates	availability of all the required certificates of the Russian Federation and the Customs Union (certificates can be downloaded at www.dkc.ru)

Floor-mounted double-sided BUS minitower



Purpose:

- organization of working space in the open interiors, under a table, tribunes, etc

Characteristics:

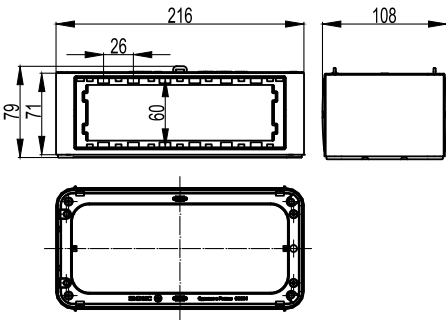
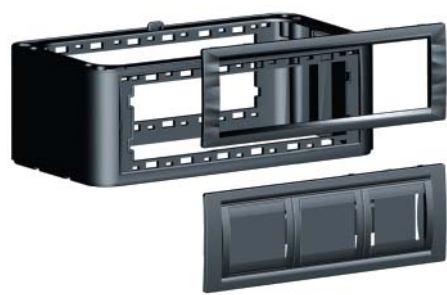
- installation of WDs on two sides, 6 modules for each;
- installation of "Brava", "Viva" and "45x45 mm" series WDs in corresponding frames.

Scope of supply:

- base – 1 pce;
- stand – 1 pce;
- cover – 1 pce;
- self-tapping screws for installation of a stand to a base – 4 pcs;
- inner middle partition wall – 1 pce;
- carries for 6 modules – 2 pcs;
- solid plug for 6 modules (faceplate for decoration of an unused minitower aperture) – 1 pce.

Number of minitower modules, total (from each side)	Color of a minitower	Compatibility of a minitower and wiring devices (WDs) and frames for their installation in the minitower				Dimensions of a minitower assembly, mm			Weight, kg/pce	Minitower code
		color of WDs and frames	WD series	frame code	number of modules of a frame	length	width	height		
12 (6+6)	black	black	"Viva"	F0003AB	6	242	131	111	0.623	09090
		gray	"Viva"	F1003A	6					
		white	"Viva"	F0003A	6					
12 (6+6)	gray	gray	"Viva"	F1003A	6	242	131	111	0.623	09070
		white	"Viva"	F0003A	6					
12 (6+6)	white	white	"Viva"	F0003A	6	242	131	111	0.623	09050

Vertical extension of floor-mounted BUS minitower



- Purpose:**
- vertical extension of floor-mounted BUS minitower.
- Characteristics:**
- installation of WDs on two sides, 6 modules for each;
 - installation of "Brava", "Viva" and "45x45 mm" series WDs in corresponding frames.
- Scope of supply:**
- stand – 1 pce;
 - self-tapping screws for installation of a stand to a base – 4 pcs;
 - inner middle partition wall – 1 pce;
 - carries for 6 modules – 2 pcs;
 - solid plug for 6 modules (faceplate for decoration of an unused minitower aperture) – 1 pce.

Number of minitower extension modules, total (from each side)	Color of extension of a minitower	Compatibility of minitower extension, WDs and frames (for their installation into a minitower)				Dimensions extensions of a minitower assembly, mm			Weight, kg/pce	Code of extension of a minitower
		color of WDs and frames	series of WDs	code of a frame	number of modules of a frame	length	width	height		
12 (6+6)	black	black	"Viva"	F0003AB	6	216	105	72	0.382	09091
		white	"Viva"	F0003A	6					
		gray	"Viva"	F1003A	6					
12 (6+6)	gray	gray	"Viva"	F1003A	6	216	105	72	0.382	09071
		white	"Viva"	F0003A	6					
12 (6+6)	white	white	"Viva"	F0003A	6	216	105	72	0.382	09051

Compatibility table of minitowers and accessories

Name	Code/color		
	black	gray	white
Floor-mounted BUS minitower, double-sided, 12 modules (6 modules of wiring devices on each side)	09090	09070	–
BUS minitower vertical extension, double-sided, for 12 modules (6 modules of WDs on each side)	09091	09071	–
50x12 mm floor duct adapter for entry into a minitower, column, adapter from floor to surface-mounted ducts	05917	05919	05918
CSP-F floor cable duct, with section of 50x12 mm, two-section, shock-resistant, PVC	01033	01032	01031
CSP-F floor cable duct, with section of 75x17 mm, two-section, shock-resistant, PVC	01333	01332	01331
Faceplate on a joint of floor cable ducts, GSP	01344	05914	05913
Flat angle for floor cable ducts, APSP	01342	05912	05911
Tee / Distribution box / Plug for floor cable ducts, DSP	01343	05916	05915
Frame for installation of "Brava" series wiring devices, for 2 modules	F0000MB	–	F0000M
Frame for installation of "Viva" series wiring devices, for 2 modules	F0000AB	F1000A	F0000A
Frame for installation of "45x45 mm" series wiring devices, for 2 modules	–	–	F0000L
Electric socket with grounding, 2P+E, shutters, "Brava", 2 modules	77482N	–	76482B
Electric socket with grounding, 2P+E, shutters, "Viva", 2 modules	45205	45025	45005
RJ-11 telephone socket, "Brava", 1 module	77644N	–	76644B
RJ-11 telephone socket, "Viva", 1 module	45217	45117	45017
RJ-11 telephone socket, "Brava", with dustproof shutter, 1 jack, 2 modules	77645N	–	76645B
Cat. 5E RJ-45 computer socket, "Brava", 1 module	77654N	–	76654B
Cat. 5E RJ-45 computer socket, "Brava", 1 module	77646N	–	76646B
Cat. 5E RJ-45 computer socket, "Viva", 1 module	45237	45137	45037
Cat. 5E RJ-45 computer socket, shielded, "Brava", 1 module	77647N	–	76647B
Cat. 5E RJ-45 computer socket, shielded, "Viva", 1 module	45247	45147	45047
Cat. 6 RJ-45 computer socket, "Brava", 1 module	77648N	–	76648B
Cat. 6 RJ-45 computer socket, "Viva", 1 module	45257	45157	45057
Cat. 5E RJ-45 computer socket, "Brava", with dustproof shutter, 1 jack, 2 modules	77655N	–	76655B
Cat. 5E RJ-45 computer socket, "Brava", with dustproof shutter, 1 jack, 2 modules	77642N	–	76642B
Cat. 5E RJ-45 computer socket, shielded, "Brava", with dustproof shutter, 1 jack, 2 modules	–	–	76666B
Cat. 5E RJ-45 computer socket, "Brava", with dustproof shutter, 2 jacks, 2 modules	77656N	–	76656B
Cat. 5E RJ-45 computer socket, "Brava", with dustproof shutter, 2 jacks, 2 modules	77643N	–	76643B
Adapter for keystone communication sockets. "Brava", 1 module	77607N	–	76607B
Adapter for keystone communication sockets "Viva", 1 module	45207	45107–	45007
Adapter for 2 optical connectors of ST type with dustproof shutter, "Brava", 2 modules	–	–	76618B
Back end TV socket (direct cable connection), "Brava", 1 module	77581MN	–	76581MB
TV socket without matching impedance (pass-through), "Brava", 1 module	77581N	–	76581B
TV socket with matching impedance (universal), "Brava", 1 module	77721N	–	76721B
Plug for 1 module, "Brava"	77616N	–	76616B
Plug for one module, "Viva"	45216	45116	45016

2-module frames are used for installation of wiring devices in a minitower. It is possible to install "Brava", "Viva" and "45x45 mm" WDs in the minitower and vertical extension. 3 frames preliminarily linked to each other are installed on each side in the minitower. In case of installation of frames with WDs of the same series, attachment is performed due to linking, but if the series are different (for example, "Brava" + "Viva" + "45x45") the frames do not link. A 6-module carrier (supplied complete with a minitower and extension) is installed above the frame.

Under floor boxes system

Application

"In-liner Front" system under floor boxes are intended for organization of working spaces with the power and data sockets in premises with large open space. Cabling is performed in tubes or ducts.



Commercial property

Business centers, offices, meeting rooms, technological parks, IT-parks, hypermarkets, shopping and entertainment malls



Public facilities

Hotels, conference halls, institutions of learning, sports facilities, courts, medical institutions, fitness centers



Administrative premises

Buildings of airports, sea and river ports, passenger stations, industrial enterprises, plants and factories

Distinctive features

Integrated into space of a premise

Cover of the under floor box is "sunk" below the floor level, and installation of the industrial carpet, tiles, parquet planks, and etc. is performed above the cover of the under floor box.

Shock-resistant structure

The under floor box cover is reinforced with the steel sheet, due to what cover load of 450 kg is allowable. The under floor box cover is ergonomic: is opened at an angle of 110° and held in an open state when connecting a cable. If necessary, the cover can be removed.

Installation of wiring devices

It is possible to install "Brava", "Viva" and "45x45 mm" series wiring devices of different manufacturers in the under floor box. For this purpose it is necessary to use two-module frames (not included into a complete set, can be ordered additionally) and carriers (supplied complete with the under floor boxes). Installation procedure: WD is latched in the frame, which is installed in the under floor box; a decoration carrier is latched above the frames.

Installation of circuit breakers

For installation of the circuit breakers in the under floor box it is necessary to install a corresponding support, with which a DIN-rail is supplied.

Installation of tubes

The under floor box is complete with "Express" series cable glands (4 pcs), which provide simple and easy entry of the tubes into the under floor box. The cable glands are designed for maximum diameter (of a tube or cable) of 40 mm.

Installation in access floor

The under floor box is designed for access floor panel maximum thickness of 40 mm (in your version it comes out that the value of 40 mm is a maximum possible thickness of existing slabs, but they can be and of 44 mm). A hole in the access floor shall have dimensions equal to 345x255 mm. The under floor box will be attached with a captive retainer, which is located on both sides of the under floor box

Installation in concrete floors

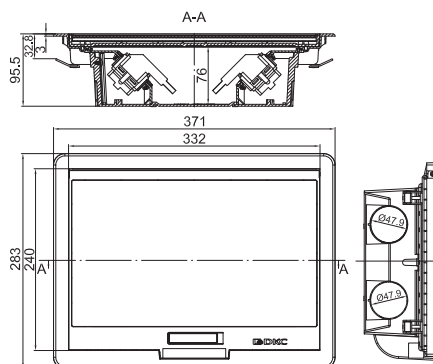
A steel form (code 88234), with cover (code 88212), for the under floor box (code 88012) are used for installation of the under floor box in the concrete floor. It is possible to perform entry of "Octopus", "Express" series tubes or DKC steel non-perforated trays with covers and "S5 Combitech" series partition walls (with standard size of 50x50, 100x50, 150x50, 200x50, 300x50 or 400x50 mm) into the form from four directions, for this purpose there is corresponding perforation in the form. The form with a solid metal cover (without the under floor box) can be used as a passing under floor box with arrangement of pinout and branches.



Characteristics

Characteristics	Values
Color	black RAL 9005
Mounting and operating temperature	from -25 to +60 °C
Transportation and storage temperature	(packaged) from -25 to +45 °C
Climatic version	UKhL4 according to GOST 15543-70 and GOST 15150-69. For macroclimatic areas with moderate and cold climate. For operation in premises with artificially adjusted climatic conditions, for example, in closed heated or cooled and ventilated production and other premises including well ventilated underground premises (no effects of direct sun light, precipitation, wind, sand and dust of outside air; absence or significant reduction of effects of diffuse solar radiation and moisture condensation)
Protection degree	IP40 according to GOST 14254. Herewith protection degree IP52 (between a carrier and a floor); protection degree IP40 (along the outline of a cover)
Certificates	availability of all the required certificates of the Russian Federation and the Customs Union (certificates can be downloaded at www.dkc.ru)

Under floor box for 12 modules



Purpose:

- organization of working space in open interiors, under tables, tribunes, etc.;
- as a distribution box;
- installed in access floors with thickness of slabs from 20 to 40 mm, floor holes 345x255 mm, attached with captive retainers located in the under floor box.

Characteristics:

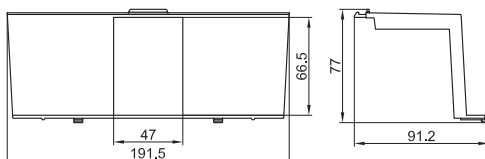
- under floor box depth from the floor level is 92 mm;
- height above the floor level (carrier thickness): 3 mm, width of a carrier (of a rang along the perimeter) is 20 mm from the top, is 12 mm from the bottom;
- a cover of the under floor box is sank for 7.5 mm for installation of industrial carpet, linoleum, parquet, laminate, etc.;
- cover is reinforced with a steel sheet;
- cover allowable load is 450 kg;
- cover is opened for at angle of 110°;
- removable cover (temporary removal is possible during installation of WDs);
- installation of "Brava", "Viva", "45x45 mm" WDs by 6 modules on each of 2 sides (12 modules in total);
- entry of tubes can be performed up to 40 mm by 2 pcs on 2 sides.

Scope of supply:

- cover – 1 pce;
- base – 1 pce;
- supports for 6 modules – 2 pcs;
- carries (code F00015B) for 6 modules – 2 pcs;
- "Express" series cable ducts (code 54540) – 4 pcs;
- instruction for installation – 1 pce.

Number number of under floor box modules, (from each side)	Color of an under floor box	Compatibility of an under floor box and wiring devices (WDs) and frames for their installation				Dimensions of an aperture in a floor for an under floor box, MM	Under floor box overall dimensions, MM			Under floor box code
		color of WDs and frames	series of WDs	code of a frame	number of modules of a frame		length	width	height	
12 (6+6)	black	black	"Viva"	F0003AB	6	345x255	372	284	95.5	88012
		gray	"Viva"	F1003A	6					
		white	"Viva"	F0003A	6					

Support for installation of circuit breakers in under floor box



Purpose:

- installation of circuit breakers in an under floor box.

Characteristics:

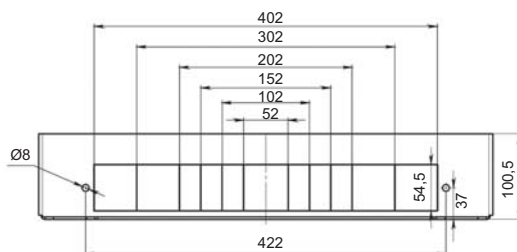
- to house up to four switches;
- color is black.

Scope of supply:

- frame (support) – 1 pce;
- DIN-rail (code 02140) with length of 60 mm is attached to a corresponding place within an under floor box with self-tapping screws – 1 pce.;
- self-tapping screws – 2 pcs;
- instruction for installation – 1 pce.

Number of circuit breakers installed in a frame, number, pce	Weight, kg/pce	Color	Code
4	0.132	black	88203

Metal form for under floor boxes



Purpose:

- organization of working spaces using an under floor box;
- organization of points of pinout (as a distribution box).

Characteristics:

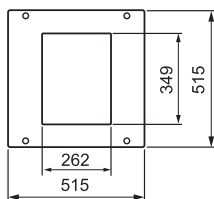
- minimum height of a screed is 100 mm;
- height of installation is adjusted using 4 special screws located at corners along the perimeter of a form; installation does not require special tools;
- a temporary cover (steel, galvanized, complete with the form) shall be removed immediately after embedment, before installation of a cover intended for installation of an under floor box (code 88212), or of a solid metal cover;
- there is perforation on the side walls on 4 sides for entry of DKC steel (non-perforated) trays with covers and partition walls of "S5 Combitech" series (standard size of 50x50, 100x50, 150x50, 200x50, 300x50 or 400x50 mm);
- plates with 6 holes of 50 mm diameter and cable glands each (code 88236) can be installed on side walls on 4 sides;
- ground screw is located within the form in the bottom;

Scope of supply:

- 0.8 mm temporary cover of galvanized steel;
- metal plate for attachment of cable glands;
- 6 cable glands with diameter of 50 mm for entry of tubes into a form;
- fasteners;
- instructions.

Form material	Code
Steel	88234

Form cover for installation of "In-liner Front" under floor box of 12 modules



Purpose:

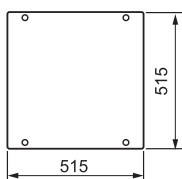
- installation on a form (code 88234) for further installation of "In-liner Front" under floor box of 12 modules (code 88012);
- organization of working space during filling of an under floor box in a floor cement screed.

Scope of supply:

- painted (RAL 7035) steel cover with thickness of 2 mm and a hole for an under floor box;
- fasteners.

Cover material	Dimension of a cover hole for installation of an under floor box, mm	Code
Steel	349x262	88212

Form solid metal cover



Purpose:

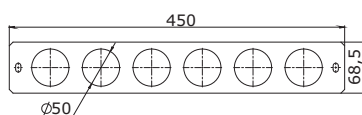
- installation on a form (code 88234) for organization of points of pinout in a floor;
- form (code 88234) with a solid cover is used as a distribution (pull) box.

Scope of supply:

- painted (RAL 7035) steel cover with thickness of 3 mm;
- fasteners.

Cover material	Code
Steel	88235

Plate kit for entry of tubes into a metal form



Purpose:

- installation on a form (code 88234) for organization of an additional entry of tubes into a form;
- maximum tube diameter is 50 mm;

Scope of supply:

- metal plate for attachment of cable glands;
- 6 cable glands with diameter of 50 mm for entry of tubes into a form;
- fasteners.

Plate material	Code
Galvanized steel	88236

Compatibility table of under floor boxes and accessories

Name	Color/Code	
	black	white
Metal form for under floor boxes	88234	–
Form covers for installation of an under floor box for 12 modules	88212	–
12 module "In-liner Front" under floor box	88012	–
Support (frame) for installation of circuit breakers in an under floor box (supplied complete with a DIN-rail)	88203	–
Frame for installation of "Brava" series wiring devices, for 2 modules	F0000MB	F0000M
Frame for installation of "Viva" series wiring devices, for 2 modules	F0000AB	F0000A
Frame for installation of "45x45 mm" series wiring devices, for 2 modules	–	F0000L
Electric socket with grounding, 2P+E, shutters, "Brava", 2 modules	77482N	76482B
Electric socket with grounding, 2P+E, shutters, "Viva", 2 modules	45205	45005
RJ-11 telephone socket, "Brava", 1 module	77644N	76644B
RJ-11 telephone socket, "Viva", 1 module	45217	45017
RJ-11 telephone socket, "Brava", with dustproof shutter, 1 jack, 2 modules	77645N	76645B
Cat. 5E RJ-45 computer socket, "Brava", 1 module	77654N	76654B
Cat. 5E RJ-45 computer socket, "Brava", 1 module	77646N	76646B
Cat. 5E RJ-45 computer socket, "Viva", 1 module	45237	45037
Cat. 5E RJ-45 computer socket, shielded, "Brava", 1 module	77647N	76647B
Cat. 5E RJ-45 computer socket, shielded, "Viva", 1 module	45247	45047
Cat. 6 RJ-45 computer socket, "Brava", 1 module	77648N	76648B
Cat. 6 RJ-45 computer socket, "Viva", 1 module	45257	45057
Cat. 5E RJ-45 computer socket, "Brava", with dustproof shutter, 1 jack, 2 modules	77655N	76655B
Cat. 5E RJ-45 computer socket, "Brava", with dustproof shutter, 1 jack, 2 modules	77642N	76642B
Cat. 5E RJ-45 computer socket, shielded, "Brava", with dustproof shutter, 1 jack, 2 modules	–	76666B
Cat. 5E RJ-45 computer socket, "Brava", with dustproof shutter, 2 jacks, 2 modules	77656N	76656B
Cat. 5E RJ-45 computer socket, "Brava", with dustproof shutter, 2 jacks, 2 modules	77643N	76643B
Adapter for keystone communication sockets. "Brava", 1 module	77607N	76607B
Adapter for keystone communication sockets "Viva", 1 module	45207	45007
Adapter for SIEMON, "Brava" communication sockets, 1 module	77608N	76608B
Adapter for SIEMON, "Viva" communication sockets, 1 module	45208	45008
Adapter for SYSTIMAX, "Brava" communication sockets, 1 module	77609N	76609B
Adapter for AVAYA-SYSTIMAX, "Viva" communication sockets, 1 module	45206	45006
Adapter for REICHLE-DE-MASSARI, "Viva" communication sockets, 1 module	45209	45009
Adapter for 2 optical connectors of ST type with dustproof shutter, "Brava", 2 modules	–	76618B
Back end TV socket (direct cable connection), "Brava", 1 module	77581MN	76581MB
TV socket without matching impedance (pass-through), "Brava", 1 module	77581N	76581B
TV socket with matching impedance (universal), "Brava", 1 module	77721N	76721B
Plug for 1 module, "Brava"	77616N	76616B
Plug for one module, "Viva"	45216	45016

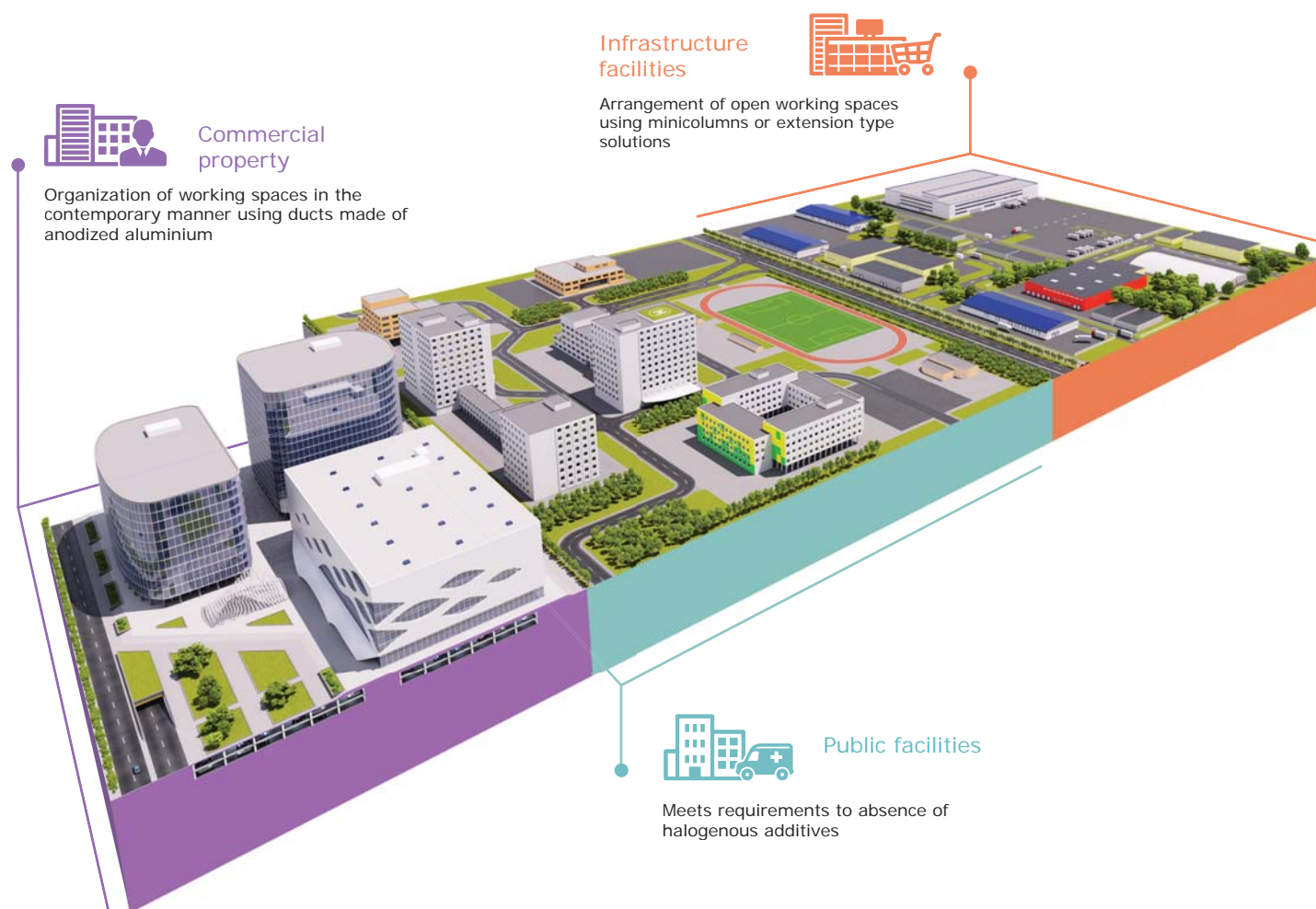


Aluminium cable ducts and columns "In-liner Aero"

System of aluminium cable ducts and columns	322
Aluminium cable ducts and accessories.....	325
Compatibility table	332
Aluminium columns and accessories	335
Compatibility table	340

Aluminium cable ducts and columns "In-liner Aero"

"In-liner Aero" is a system of aluminium cable ducts and columns (service racks) for open wiring indoors. Wide range of application: medical and child welfare institutions, banks, offices, salesrooms, industrial enterprises, modern hi-tech interiors. Basic advantages of aluminium cable support systems are high shock resistance, long service life and environmental friendliness.



Assortment



90x50 and 110x50 mm aluminium cable duct with covers. Length: 2 meters. Color: silver metallic, white.



140x50 mm cable duct with built-in divider and two covers. Length: 2 meters. Color: silver metallic, white.



Aluminium columns with height of 4.2 and 3 m, 71 cm, 50 cm, 35 and 25 cm. Color: silver metallic, black and white. Aluminium covers.

Technical characteristics

Technical specifications	TS 3449-029-47022248-2011
Material of straight sections of ducts and service racks (columns)	anodized aluminium (the surface of ducts is protected by a film that provides protection during transportation and installation)
Accessory (fitting) materials	ABS plastic
Color of ducts and accessories	silver metallic, white
Color of columns (service racks) and accessories	silver metallic, white, black
Protection degree	IP40 according to GOST R IEC 61084-1 (cl. 6.6)
Climatic version	UKHL category 4 according to GOST 15150 and GOST 15543
Mounting and operating temperature	from -25 to +60 °C
Shock resistance at minimum operating temperature is -25 °C	at least 20 J according to GOST R IEC 61084-1, cl. 10.3 (IK10 BS EN 50102:1995), AG3 – high rigidity according to IEC 60364-5-51
Support planes for cable duct cables	conform to GOST R IEC 61084-1 (clause 10.2)
Resistance of columns to external mechanical effects	conforms to GOST R IEC 61084-2-4 (clause 10.5)
Electrical characteristics of ducts and columns	conforms to GOST R IEC 61084-1 (subsections 12.1 and 12.2)
Structure of ducts and service racks (columns)	conforms to GOST R IEC 61084-1 (clauses 9.1, 9.4); structure of ducts and columns allows for laying of open replaceable networks (according to SP 31-11-2003)

Distinctive features



WDs are installed inside column. Column covers are made of aluminium



Elegant contemporary design. Attractive streamlined forms. Hi-Tech style



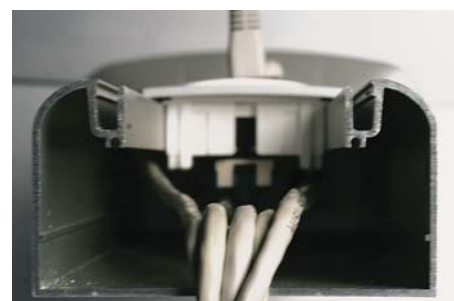
Ducts and accessories have no harmful halogenous additives



Aluminium dividers in column and duct 140x50 increase their shielding characteristics

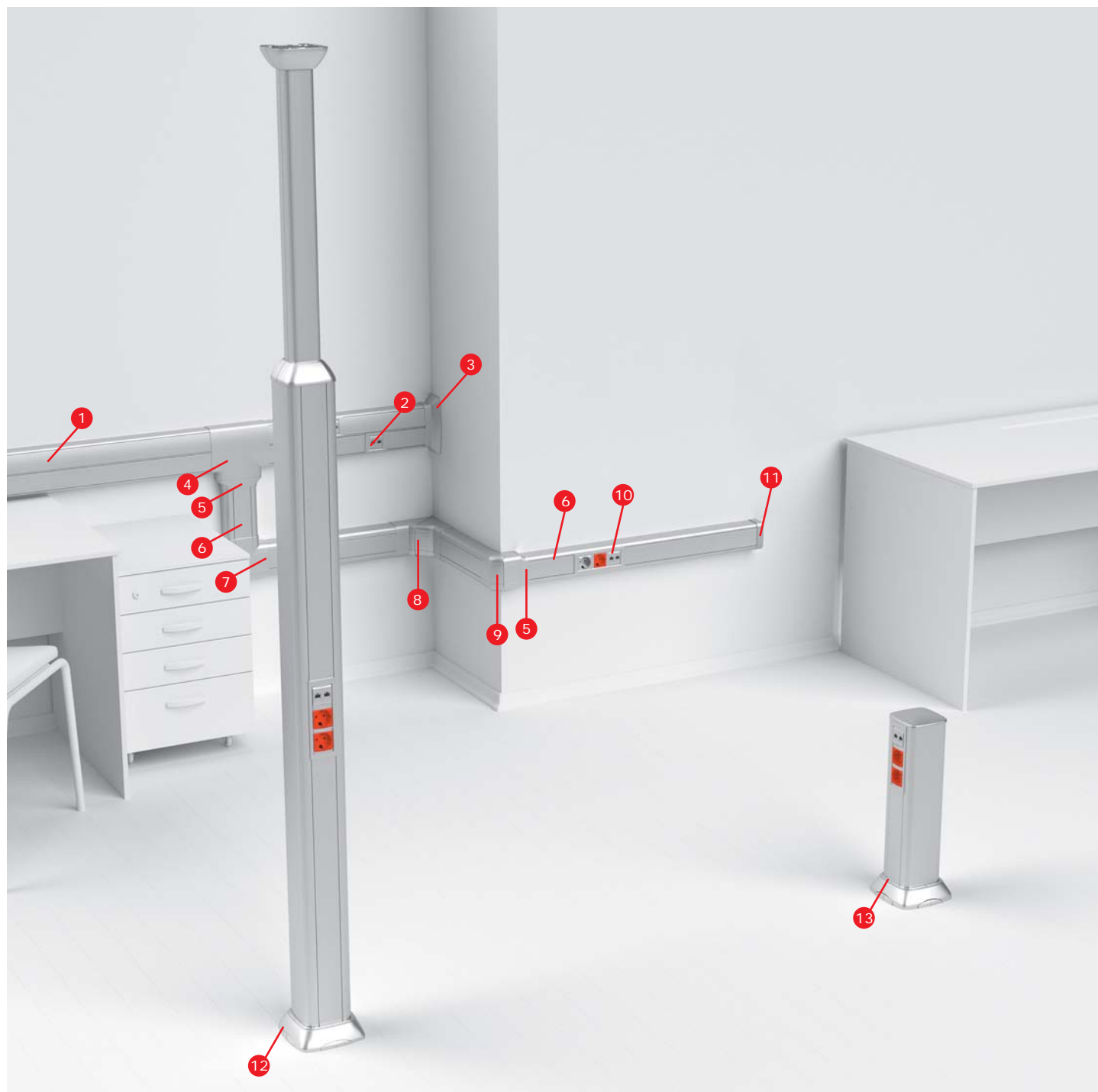


There are special guiding ways on the base and covers for grounding of ducts



Extended operating temperature range and high shock resistance

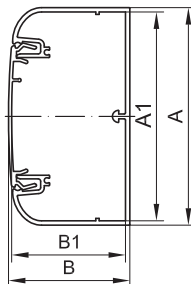
System composition



- | | | | |
|---|---|----|---|
| 1 | Two-section cable duct with 2 covers | 8 | Internal changeable angle |
| 2 | Universal carrier for 2 modules of wiring devices | 9 | External changeable angle |
| 3 | Cable duct entry into wall/ceiling | 10 | Universal carrier for 6 modules of wiring devices |
| 4 | Tee | 11 | Plug |
| 5 | Adapter | 12 | Aluminium extension type column |
| 6 | Aluminium cable duct with cover | 13 | Aluminium minicolumn |
| 7 | Flat angle | | |

Straight elements

90X50 and 110x50 mm cable duct with cover


Purpose:

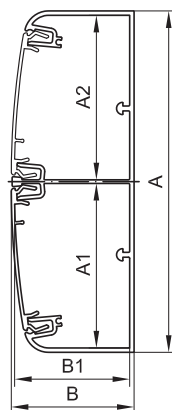
- cabling and installation of WDs.

Characteristics:

- material is aluminium;
- protective film;
- possibility of partition wall installation;
- manufactured in segments with length of 2 meters.

Base width, A, mm	Duct height, B, mm	Inside width, A1, mm	Inside height, B1, mm	Inner dimension area*, mm	Color	Weight, kg/m	Code
90	50	86.4	47.1	3682	silver metallic RAL 9006	1.592	09599
					white RAL 9016	1.677	19599
110	50	106.4	47.1	4427	silver metallic RAL 9006	1.618	01199
					white RAL 9016	1.716	11199

140x50 mm two section cable duct with 2 covers


Purpose:

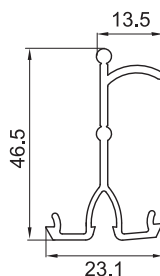
- cabling and installation of WDs.

Characteristics:

- material is aluminium;
- protective film;
- possibility of partition wall installation;
- manufactured in segments with length of 2 meters.

Base width, mm	Duct height, mm	Inside width, A1, mm	Inside width, A2, mm	Inside height, B1, mm	Inner dimension area*, mm ²	Color	Weight, kg/m	Code
140	50	67.5	67.5	47.1	5753	silver metallic RAL 9006	2.612	01499
						white RAL 9016	2.612	11499

Universal divider


Purpose:

- separation of duct inner space into sections for separate laying of wires and cables of different type.

Characteristics:

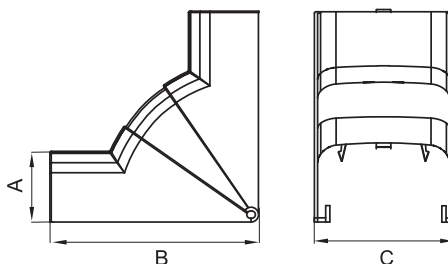
- material is PVC composition;
- special rim for cable retention inside the duct section;
- manufactured in segments with length of 2 meters.

Duct standard size, mm	Length, m	Weight, kg/m	Code
90x50, 110x50, 140x50	2	0.205	01415

* For ducts with openable covers total section of wires and cables calculated on the basis of their outer diameters including insulation and external sheath shall not exceed 40% of inside dimension of duct according to PUE, cl. 2.1.61.

Accessories

Internal changeable angle


Purpose:

- aesthetic decoration of route bend.

Characteristics:

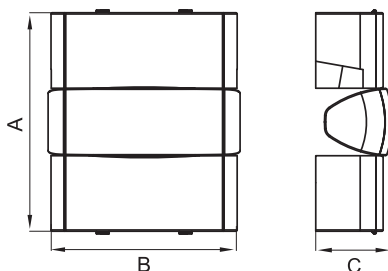
- faceplate material is ABS plastic;
- material of base and dividers is LPP;
- built-in partition walls for separation of inner space into sections.

Scope of supply:

- external decorative faceplate;
- internal base;
- dividers (for installation on a base);
- instructions.

Duct standard size, mm	Angle	Built-in dividers	Dimensions, mm			Weight, kg/pce	Color	Code
			A	V	C			
90x50	70–120°	available	52.4	154.5	94.8	0.135	silver metallic RAL 9006	09551G
							white RAL 9016	09551
110x50	70–120°	available	51.6	155.4	115.1	0.226	silver metallic RAL 9006	01051G
							white RAL 9016	01051
140x50	70–120°	available	52.4	154.5	144.8	0.482	silver metallic RAL 9006	01451G
							white RAL 9016	01451

External changeable angle


Purpose:

- aesthetic decoration of route bend.

Characteristics:

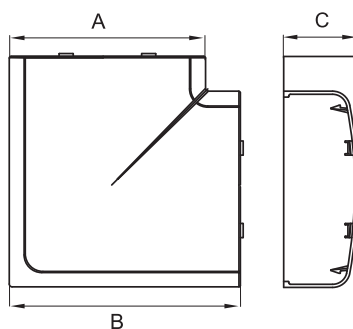
- faceplate material is ABS plastic;
- material of base and dividers is LPP;
- built-in partition walls for separation of inner space into sections.

Scope of supply:

- external decorative faceplate;
- internal base;
- dividers (for installation on a base);
- instructions.

Duct standard size, mm	Angle	Built-in dividers	Dimensions, mm			Weight, kg/pce	Color	Code
			A	B	C			
90x50	80–115°	available	94.8	59.4	94.8	0.135	silver metallic RAL 9006	09552G
							white RAL 9016	09552
110x50	80–115°	available	164	115	57.9	0.189	silver metallic RAL 9006	01052G
							white RAL 9016	01052
140x50	80–115°	available	170	144.8	59.4	0.482	silver metallic RAL 9006	01452G
							white RAL 9016	01452

Flat angle


Purpose:

- aesthetic decoration of route bend.

Characteristics:

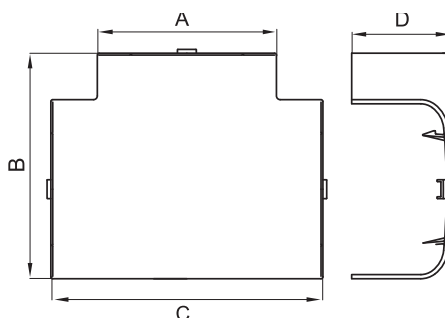
- faceplate material is ABS plastic;
- material of base and dividers is LPP;
- built-in partition walls for separation of inner space into sections.

Scope of supply:

- external decorative faceplate;
- internal base with divider into sections;
- instructions.

Duct standard size, mm	Angle	Built-in dividers	Dimensions, mm			Weight, kg/pce	Color	Code
			A	B	C			
90x50	90°	available	94.8	119.4	52.4	0.129	silver metallic RAL 9006	09503G
							white RAL 9016	09503
110x50	90°	available	115.1	141.5	51.6	0.169	silver metallic RAL 9006	01003G
							white RAL 9016	01003
140x50	90°	available	144.8	169.4	52.4	0.230	silver metallic RAL 9006	01403G
							white RAL 9016	01403

Tee (T-branch)


Purpose:

- aesthetic decoration of T-connection points of cable ducts.

Characteristics:

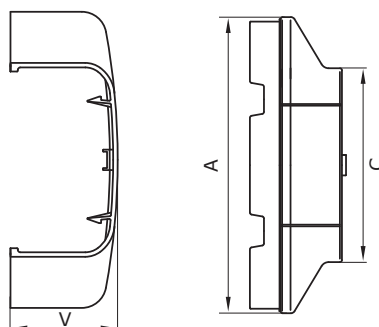
- faceplate material is ABS plastic;
- material of base and dividers is LPP.

Scope of supply:

- external decorative faceplate;
- internal base with divider;
- instructions.

Duct standard size, mm	Built-in dividers	Dimensions, mm				Weight, kg/pce	Color	Code
		A	V	C	D			
90x50	available	94.8	119.4	144	52.4	0.129	silver metallic RAL 9006	09506G
							white RAL 9016	09506
110x50	available	115.1	139.5	164	51.6	0.143	silver metallic RAL 9006	01006G
							white RAL 9016	01006
140x50	available	144.8	169.4	194	52.4	0.230	silver metallic RAL 9006	01406G
							white RAL 9016	01406

Adapter


Purpose:

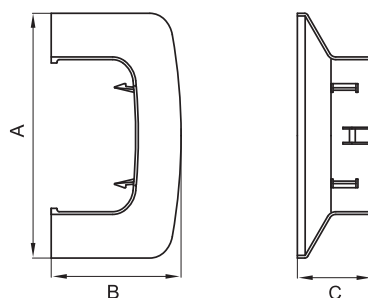
- transfer from one standard size of cable duct to another standard size together with accessories – tee, internal angle, external angle, flat angle.

Characteristics:

- material is ABS plastic;
- color is white;
- adapter is inserted into the accessory with wide side; latched with narrow side in the smaller duct.

Standard sizes of connected ducts, mm	Dimensions, mm			Weight, kg/pce	Color	Code
	A	B	C			
140x50 – 90x50	144.8	52.8	94.8	0.016	silver metallic RAL 9006	01408G
					white RAL 9016	01408
110x50 – 90x50	115	52	94	0.053	silver metallic RAL 9006	01008G
					white RAL 9016	01008
140x50 – 110x50	144	51.3	114.8	0.073	silver metallic RAL 9006	01010G
					white RAL 9016	01010

Entry into ceiling/wall/board/box/enclosure


Purpose:

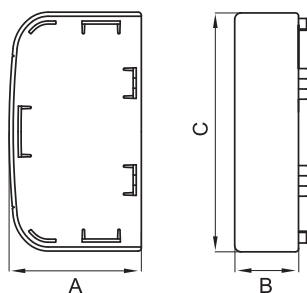
- decoration of entry points of ducts into ceiling, wall, board, enclosure, box, etc.

Characteristics:

- material is ABS plastic;
- color is white;
- there is external extension on 3 sides.

Duct standard size, mm	Dimensions, mm			Weight, kg/pce	Color	Code
	A	B	C			
90x50	145.5	77	45	0.036	silver metallic RAL 9006	09507G
					white RAL 9016	09507
110x50	165	77.2	45	0.059	silver metallic RAL 9006	01007G
					white RAL 9016	01007
140x50	192	78	45	0.051	silver metallic RAL 9006	01407G
					white RAL 9016	01407

End plug



Purpose:

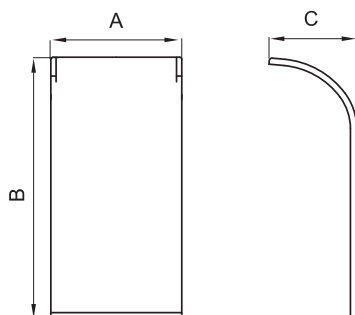
- aesthetic decoration of duct edges.

Characteristics:

- material is ABS plastic.

Duct standard size, mm	Dimensions, mm			Weight, kg/pce	Color	Code
	A	B	C			
90x50	52	25	93.6	0.031	silver metallic RAL 9006	09505G
					white RAL 9016	09505
110x50	52	25	115.1	0.030	silver metallic RAL 9006	01005G
					white RAL 9016	01005
140x50	52.2	25	144.4	0.414	silver metallic RAL 9006	01405G
					white RAL 9016	01405

Faceplate on joint of duct profiles



Purpose:

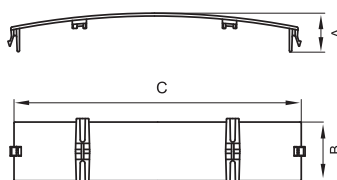
- aesthetic decoration of joints between segments of bases of two ducts, as well as branching points of miniducts.

Characteristics:

- faceplate material is ABS plastic;
- there is complete glued base for installation on a duct;
- glued to duct base at mating points; protective film shall be preliminarily removed from glued base surface;
- preliminarily cut according to width of miniducts in case of their branching from duct mating point.

Duct standard size, mm	Number of faceplates per joint, pcs	Dimensions, mm			Weight, kg/pce	Color	Code
		A	B	C			
90x50	2	25	50	16.76	0.004	silver metallic RAL 9006	09509G
						white RAL 9016	09509
110x50	2	25	49.8	24.8	0.003	silver metallic RAL 9006	01009G
						white RAL 9016	01009
140x50	2	25	48	9	0.004	silver metallic RAL 9006	01409G
						white RAL 9016	01409

Faceplate on cover joint



Purpose:

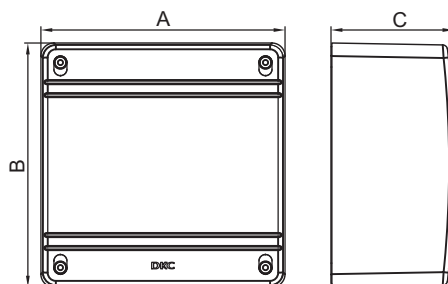
- aesthetic decoration of joint between two front covers.

Characteristics:

- material is ABS plastic;
- installed by latching in duct at mating point between covers.

Duct standard size, mm	Number of faceplates per joint, pcs	Dimensions, mm			Weight, kg/pce	Color	Code
		A	B	C			
90x50, 110x50	1	15	25	58.5	0.005	silver metallic RAL 9006	09504G
						white RAL 9016	09504
140x50	2	19	25	58.5	0.005	silver metallic RAL 9006	09504G
						white RAL 9016	09504

SDN distribution box for cable ducts


Purpose:

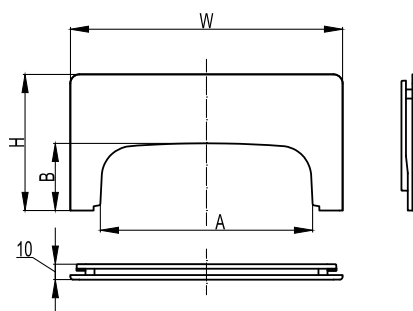
- organization of safe and aesthetic branching point (back box).

Characteristics:

- box material is ABS plastic;
- adapter is required for entry of 90x50 mm aluminium duct in box; there is a pre-perforation on inner wall for adapter installation in box in which the rectangular opening for adapter size is cut.

Duct standard size, mm	Box designation	Box overall dimension, mm			Weight, g	Color	Code
		A	B	C			
All standard sizes of miniducts, Plastic ducts 25x30, 40x40, 60x40, 80x40, 100x40, 120x40, 60x60, 80x60, 100x60, 120x60, 70x22, 90x25, 90x50 Aluminium ducts 90x50	SDN2	151	151	75	0.365	silver metallic RAL 9006	01870G
						white RAL 9016	01870

Adapter for entry of cable ducts into distribution box


Purpose:

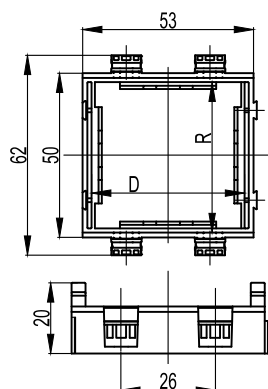
- duct entry into SDN2 box.

Characteristics:

- material is ABS plastic;
- there is a pre-perforation on inner wall for adapter installation in box in which the rectangular opening for adapter size is cut.

Duct standard size, mm	Box standard size	Weight, kg/pce	Color	Code
90x50	SDN2 (151x151x75 mm)	0.035	silver metallic RAL 9006	01883G
	SDN2 (151x151x75 mm), SDN3 (231x231x95 mm)	0.035	white RAL 9016	01883

Frame for 2 modules for wiring device installation



Purpose:

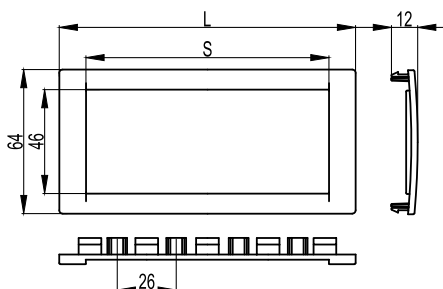
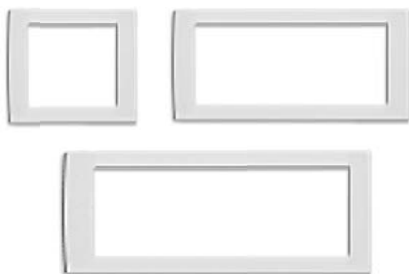
- installation of wiring devices in "In-liner Front" plastic ducts, floor-mounted BUS minitowers, "In-liner Aero" aluminium ducts and columns.

Characteristics:

- material is ABS plastic;
- there are locks on two outer sides for connection of similar frames in a row and for usage under one solid carrier. In this case frames for WDs of different series are not interconnected, but may be installed in a row under one carrier.

Purpose	Wiring devices (WDs)		Mounting dimensions, mm		Weight, kg/pce	Color	Code
	WD standard	number of modules	R	D			
Aluminium ducts 90x50, 110x50, 140x50 Plastic ducts 90x50, 110x50, 140x50 Aluminium columns (service racks), Floor-mounted BUS minitowers, Under floor boxes	"Brava"	2	43	43	0.017	white	F0000M
	"Brava"	2	43	43	0.017	black	F0000MB
	"Viva"	2	45	50	0.011	white	F0000A
						black	F0000AB
						gray	F1000A
	45x45 mm	2	45	45	0.020	white	F0000L

Universal carriers for wiring devices



Purpose:

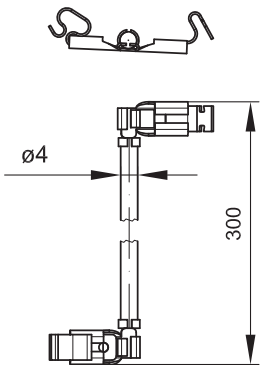
- installation of wiring devices of "Brava", "Viva" and 45x45 mm series in "In-liner Front" plastic ducts, "In-liner Aero" aluminium ducts and columns, floor-mounted BUS minitowers.

Characteristics:

- material is ABS plastic;
- 2-module carrier is installed above one two-module frame;
- 4-module carrier is installed above two two-module frames;
- 6-module carrier is installed above three two-module frames.

Number of modules	Dimensions, mm		Weight, kg/pce	Color	Code
	L	S			
2	77	54	0.009	silver metallic RAL 9006	F00011G
				white RAL 9016	F00011
				black RAL 9005	F00011B
4	130	107	0.016	silver metallic RAL 9006	F00013G
				white RAL 9016	F00013
				black RAL 9005	F00013B
6	184	161	0.020	silver metallic RAL 9006	F00015G
				white RAL 9016	F00015
				black RAL 9005	F00015B

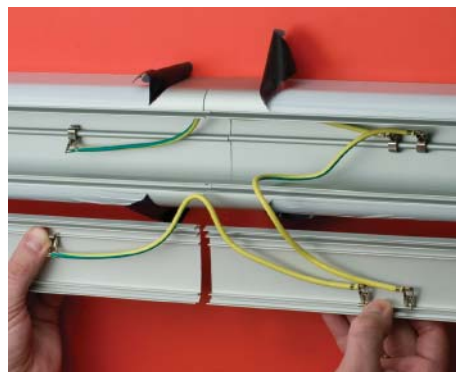
Ground-wire with terminals



- Purpose:**
- grounding of aluminium elements.
- Characteristics:**
- length is 300 mm.
- Installation:**
- wire terminals are installed by latching on guiding ways in the duct bottom and on the rear of covers.

Name and purpose	Length, m	Weight, kg/pce	Code
Ground-wire with terminals for connection of duct bases	0.3	0.0139	E0001B
Ground-wire with terminals for connection of duct covers	0.3	0.0139	E0001C
Ground-wire with terminals for connection of base with duct cover	0.3	0.0139	E0001BC

Compatibility table of ground-wires in basic route assemblies of aluminium ducts



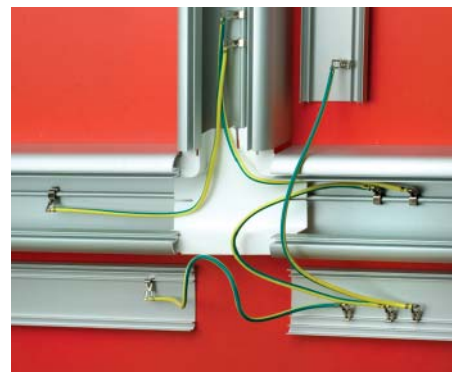
Number of mounted ground-wires in mating point of ducts

Wire code	90x50	110x50	140x50
	Q-ty	Q-ty	Q-ty
E0001B	1	1	1
E0001C	1	1	2
E0001BC	1	1	2



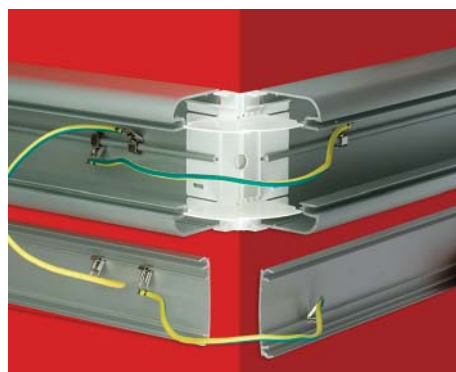
Number of mounted ground-wires in flat angle

Wire code	90x50	110x50	140x50
	Q-ty	Q-ty	Q-ty
E0001B	1	1	1
E0001C	1	1	2
E0001BC	1	1	2



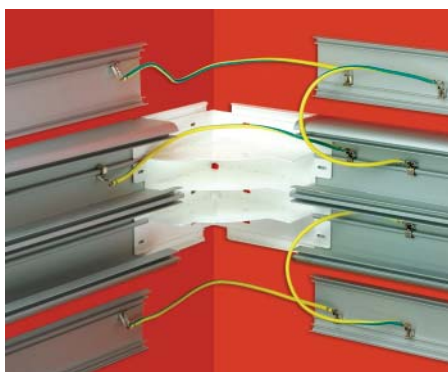
Number of mounted ground-wires in tee

Wire code	90x50	110x50	140x50
	Q-ty	Q-ty	Q-ty
E0001B	2	2	2
E0001C	2	2	4
E0001BC	1	1	2



Number of mounted ground-wires in external angle



























Wire code	90x50	110x50	140x50
	Q-ty	Q-ty	Q-ty
E0001B	1	1	1
E0001C	1	1	2
E0001BC	1	1	2



Number of mounted ground-wires in internal angle

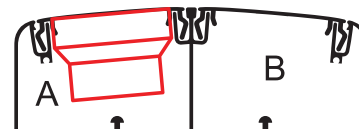
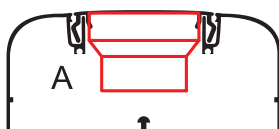
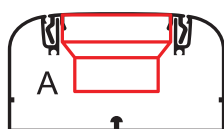
Wire code	90x50	110x50	140x50
	Q-ty	Q-ty	Q-ty
E0001B	1	1	1
E0001C	1	1	2
E0001BC	1	1	2

Compatibility table of ducts and accessories

Assortment of accessories	Name of accessory	Aluminium ducts					
		90x50 mm duct		110x50 mm duct		140x50 mm duct	
							
		Color white RAL 9016	Color Silver metallic RAL 9006	Color white RAL 9016	Color Silver metallic RAL 9006	Color white RAL 9016	Color Silver metallic RAL 9006
		19599	09599	11199	01199	11499	01499
	Internal changeable angle (70–120°) with built-in dividers	09551	09551G	01051	01051G	01451	01451G
	External changeable angle (80–120°) with built-in dividers	09552	09552G	01052	01052G	01452	01452G
	Flat angle with built-in divider	09503	09503G	01003	01003G	01403	01403G
	Tee with divider (T-branch)	09506	09506G	01006	01006G	01406	01406G
	Front faceplate on cover joint	09504	09504G	09504	09504G	09504*	09504G*
	Side faceplate on joint of duct profile	09509	09509G	01009	01009G	01409	01409G
	End duct plug	09505	09505G	01005	01005G	01405	01405G
	Duct entry into ceiling, wall, enclosure or box	09507	09507G	01007	01007G	01407	01407G
	Adapter from 110x50 mm duct to 90x50 mm (110-90x50; used only with tee or angle)	01008	01008G	01008	01008G	–	–
	Adapter from 140x50 mm duct to 90x50 mm (140-90x50; used with tee or angle only)	01408	01408G	–	–	01408	01408G
	Adapter from 140x50 mm duct to 110x50 mm (used only with tee or angle only)	–	–	01010	01010G	01010	01010G
	SEP-N60/50 divider (partition wall) for columns and ducts 90x50, 110x50, 140x50 mm (PVC, color is white RAL 9016)	01415	01415	01415	01415	01415	01415
	Cover-cover ground-wire	E0001C	E0001C	E0001C	E0001C	E0001C	E0001C
	Cover-base ground-wire	E0001BC	E0001BC	E0001BC	E0001BC	E0001BC	E0001BC
	Base-base ground-wire	E0001B	E0001B	E0001B	E0001B	E0001B	E0001B
	SDN2 distribution box (151x151x75 mm)	01870	01870G	–	–	–	–
	Adapter for entry of duct into SDN2 distribution box	01883	01883G	–	–	–	–
	Cable holder (retainer) for columns and ducts 90x50, 110x50 mm	09511	09511	09511	09511	–	–
	Tie for cable attachment inside duct, cable coverage diameter is up to 50 mm,	25214CR	25214CR	25214CR	25214CR	25214CR	25214CR
	Base for installation of 2 ties, self-adhesive, colorless	25467	25467	25467	25467	25467	25467

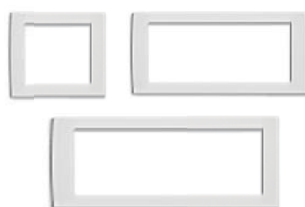
* Two faceplates are used with 140x50 mm duct

Compatibility table of ducts according to inner dimension area



Duct size (cable duct size), mm	Duct code	Inner dimension area of ducts without WD, mm ²	Series of DKC wiring devices	Inner dimension area of compartments with wiring devices, mm ²	
				A	B
90x50	09599	3682	"Viva"	2030	–
			"Brava"	1905	–
110x50	01199	4427	"Viva"	2809	–
			"Brava"	2658	–
140x50	01499	5753	"Viva"	1250	2560
			"Brava"	1170	2560

Compatibility table of carriers and frames for organization of working spaces in ducts and columns



Principle of working space organization (similar for ducts and columns): "Brava" wiring device (WD) + frame + carrier + duct.

Installation procedure: WD is latched in frame then frame is latched in duct and then universal carrier is latched on duct.

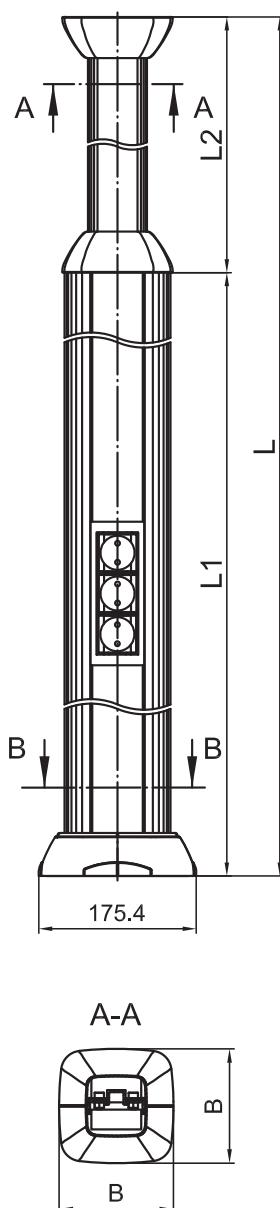
Combined installation of different frames may be performed in a row under one carrier.

Example: 3 different WDs ("Brava" + "Viva" + 45x45) in one 6-module carrier.

Color variations	Selection of carriers and frames for installation of wiring devices (WDs) in ducts and columns depending on color range of carriers and frames								
	Wiring devices of "Brava" series			Wiring devices of "Viva" series			Wiring devices of 45x45 mm series		
	2 modules	4 modules	6 modules	2 modules	4 modules	6 modules	2 modules	4 modules	6 modules
carrier, color is white	carrier F00011 + frame F0000M	carrier F00013 + frame F0000M 2 pcs	carrier F00015 + frame F0000M 3 pcs	carrier F00011 + frame F0000A	carrier F00013 + frame F0000A 2 pcs	carrier F00015 + frame F0000A 3 pcs	carrier F00011 + frame F0000L	carrier F00013 + frame F0000L 2 pcs	carrier F00015 + frame F0000L 3 pcs
WD frame for 2 modules color is white									
carrier, color is silver	carrier F00011G + frame F0000M	carrier F00013G + frame F0000M 2 pcs	carrier F00015G + frame F0000M 3 pcs	carrier F00011G + frame F0000A	carrier F00013G + frame F0000A 2 pcs	carrier F00015G + frame F0000A 3 pcs	carrier F00011G + frame F0000L	carrier F00013G + frame F0000L 2 pcs	carrier F00015G + frame F0000L 3 pcs
WD frame for 2 modules color is white									
carrier, color is silver	carrier F00011G + frame F0000MB	carrier F00013G + frame F0000MB 2 pcs	carrier F00015G + frame F0000MB 3 pcs	carrier F00011G + frame F0000AB	carrier F00013G + frame F0000AB 2 pcs	carrier F00015G + frame F0000AB 3 pcs	–	–	–
WD frame for 2 modules color is black									
carrier, color is black	carrier F00011B + frame F0000MB	carrier F00013B + frame F0000MB 2 pcs	carrier F00015B + frame F0000MB 3 pcs	carrier F00011G + frame F0000AB	carrier F00013G + frame F0000AB 2 pcs	carrier F00015G + frame F0000AB 3 pcs	–	–	–
WD frame for 2 modules color is black									

Aluminium columns

Extension type columns with height of up to 3.05 and up to 4.25 m



Purpose:

- organization of working spaces in premises where it is far from walls.

Installation conditions:

- column is attached to a floor in 4 points and to a ceiling in 4 points. In case of installation through suspended ceiling, 4.25 m column may be attached to a ceiling with height of up to 4.55 m, and 3.05 m column may be attached to a ceiling with height of 3.25 m. For this purpose ceiling decorative faceplates are moved to a suspended ceiling covering slits around column;
 - cable laying to column is carried out using the corrugated tubes (on a floor or a ceiling) or inside DKC floor-mounted cable duct.
- Upper part of column is hollow, has overall dimension 65x65 mm, sufficient for cable pulling down into lower wiring part;
- WD installation is performed by means of frames and carriers used in "In-liner Aero", "In-liner Front" boxes.

It is recommended to ground columns.

Characteristics:

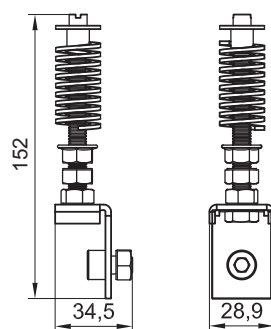
- material of rack and covers is aluminium;
- material of other accessories is steel, polypropylene, ABS plastic;
- WDs of "Brava", "Viva" and 45x45 mm series may be installed using frames and carriers;
- WDs are installed on 2 sides in columns with height of 4.25 m into lower rack with length of 2.7 m and in columns with height of 3.05 m into lower rack with length of 1.5 m;
- column compartments may be split throughout the length into 2 or 3 parts using the plastic divider (code 01415).

Complete set:

- aluminium column rack – 1 pce;
- aluminium column cover – 2 pcs;
- extension type aluminium guiding way, length is 2 meters – 1 pce;
- aluminium U-cover for extension type guiding way, 1.5 m – 2 pcs;
- steel middle plate – 1 pce;
- steel ceiling plate – 1 pce;
- plastic faceplate for extension type guiding way – 4 pcs;
- metal floor-mounted base – 1 pce;
- plastic front faceplate on a base – 1 pce;
- internal faceplate on a base – 2 pcs;
- 5.5x32 mm screw – 6 pcs;
- M8x30 hexagon bolt – 2 pcs;
- screw with M8x16 mm internal hex for ceiling plate – 1 pce;
- M8 nut – 3 pcs;
- instructions.

Height of extension type column (assembly), m	Section size of column at WD installation point, mm	Dimensions, mm				Color	Code
		L	L1	L2	B		
2.7-4.25	120x120	4250	2740	1510	175	light-silver RAL 9006	09571
						dark-silver RAL 9006	09574
						white RAL 9016	09572
						black RAL 9005	09573
1.5-3.05	120x120	3050	1540	1510	175	light-silver RAL 9006	09581
						dark-silver RAL 9006	09584
						white RAL 9016	09582
						black RAL 9005	09583

Tensioning device for aluminium extension type columns 3.05 and 4.25 m



Purpose:

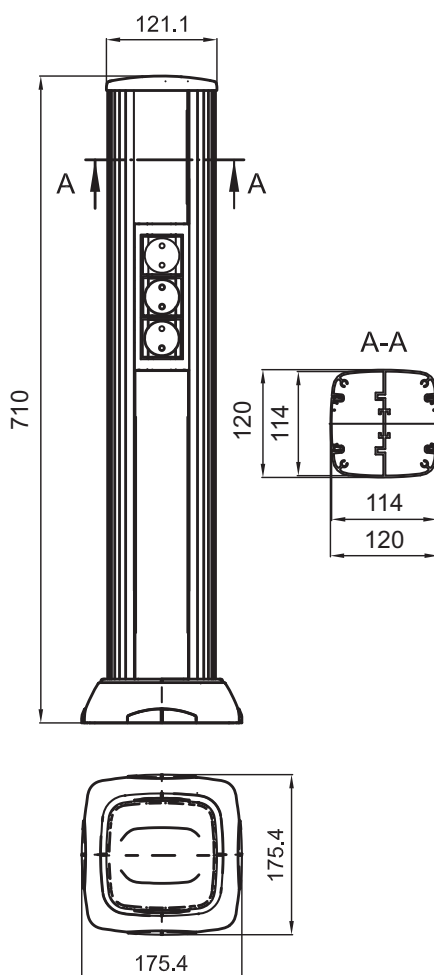
- installation of extension type column by screw-free method on the principle of thrust between floor and ceiling, i.e. drilling of floor and ceiling for fastener can be avoided. Device makes it possible to reduce installation time considerably (reduced by 6 times in comparison with regular installation process of columns by means of fasteners and rawplugs during which each column is screwed to a floor or a ceiling in 4 points).

Installation:

- instruction for installation is supplied complete with tensioning device.

Name	Weight, kg/pce	Code
Tensioning device for extension type columns	0.2	09578R

Columns with height of 0.71 m



Purpose:

- organization of working spaces in premises where it is far from walls.

Installation conditions:

- column is attached to a floor in 4 points;
- cable laying is carried out using the corrugated tubes or inside DKC floor-mounted cable duct;
- It is recommended to ground columns;
- WD installation is performed by means of fumes and carriers used in "In-liner Aero", "In-liner Front" boxes.

Options of column filling with wiring devices:

- install 3 carriers with 6 modules each + 1 carrier for 2 modules = total number is 20 modules on each side of the column = total number is 40 modules;
- 2 carriers with 6 modules each + 2 carriers for 4 modules each = total number is 20 modules on each side of the column = total number is 40 modules;
- 8 carriers with 2 modules each = total number is 16 modules on each side of the column = total number is 32 modules;

Characteristics:

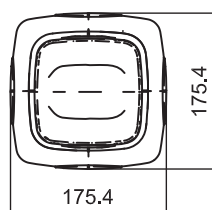
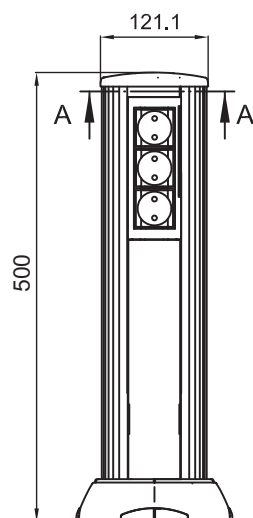
- material of rack and covers is aluminium;
- material of other accessories is steel, polypropylene, ABS plastic;
- column compartments may be split throughout the length into 2 or 3 parts using the plastic divider (code 01415);
- WDs of "Brava", "Viva" and 45x45 mm series may be installed using frames and carriers;
- WDs are installed on 2 sides in column with height of 0.71 m in rack with length of 0.65 m;
- it is possible to install 20 modules maximum on each side – total number is 40 modules.

Complete set:

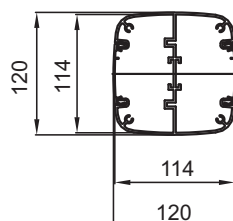
- aluminium column rack – 1 pce;
- aluminium column cover – 2 pcs;
- upper end plastic plug. – 1 pce;
- metal floor-mounted base – 1 pce;
- plastic front faceplate on a base – 1 pce;
- internal plastic faceplate on a base – 2 pcs;
- screw – 4 pcs;
- instructions.

Column height (assembly), m	Section size of column at WD installation point, mm	Color	Code
0.71	120x120	light-silver RAL 9006	09591
		dark-silver RAL 9006	09594
		white RAL 9016	09592
		black RAL 9005	09593

Column with height of 0.5 m



A-A



Purpose:

- organization of working spaces in premises where it is far from walls.

Installation conditions:

- column is attached to a floor in 4 points;
- cable laying is carried out using the corrugated tubes or inside DKC floor-mounted cable duct;
- It is recommended to ground columns;
- WD installation is performed by means of frames and carriers used in "In-liner Aero", "In-liner Front" boxes.

Options of column filling with wiring devices:

- install 5 carriers for 2 modules each = total number is 10 modules on each side of the column = total number is 20 modules;
- install 3 carriers for 4 modules each = total number is 12 modules on each side of the column = total number is 24 modules;
- install 2 carriers for 6 modules each = total number is 12 modules on each side of the column = total number is 24 modules;

Characteristics:

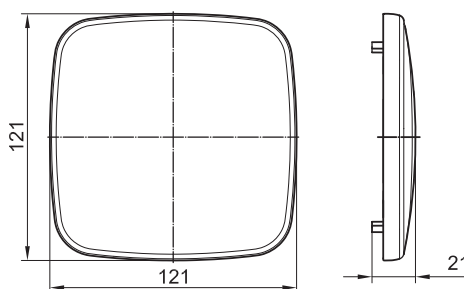
- material of rack and covers is aluminium;
- material of other accessories is steel, polypropylene, ABS plastic;
- column compartments may be split throughout the length into 2 or 3 parts using the plastic divider (code 01415);
- WDs of "Brava", "Viva" and 45x45 mm series may be installed using frames and carriers;
- WDs are installed on 2 sides;
- it is possible to install maximum 12 WD modules on each side – total number is 24 modules.

Complete set:

- aluminium column rack – 1 pce;
- aluminium column cover – 2 pcs;
- upper end plastic plug. – 1 pce;
- metal floor-mounted base – 1 pce;
- plastic front faceplate on a base – 1 pce;
- internal plastic faceplate on a base – 2 pcs;
- screw – 4 pcs;
- instructions.

Column height (assembly), m	Section size of column at WD installation point, mm	Color	Code
0.50	120x120	light-silver RAL 9006	19551
		dark-silver RAL 9006	19554
		white RAL 9016	19552
		black RAL 9005	19553

Spare end plug for columns

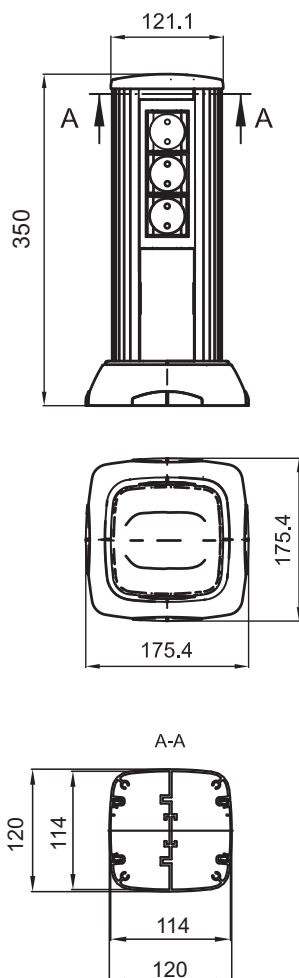


Purpose:

- plug of extension type column when it is necessary to use it as a regular rack (without installation on a ceiling and without use of upper extension type part of the column);
- use as a spare plug for minicolumns of 0.7, 0.5, 0.35 and 0.25 m.

Overall dimension, mm	Color/Code		
	silver metallic RAL 9006	white RAL 9016	black RAL 9005
121x121	09591R	09592R	09593R

Column with height of 0.35 m



Purpose:

- organization of working spaces in premises where it is far from walls.

Installation conditions:

- column is attached to a floor in 4 points;
- cable laying is carried out using the corrugated tubes or inside DKC floor-mounted cable duct;
- It is recommended to ground columns;
- WD installation is performed by means of frames and carriers used in "In-liner Aero", "In-liner Front" boxes.

Options of column filling with wiring devices:

- install 1 carrier for 6 modules + 1 carrier for 2 modules = total number is 8 modules on each side of the column = total number is 16 modules;
- install 2 carriers for 4 modules each = total number is 8 modules on each side of the column = total number is 16 modules;
- install 3 carriers for 2 modules each = total number is 6 modules on each side of the column = total number is 12 modules;

Characteristics:

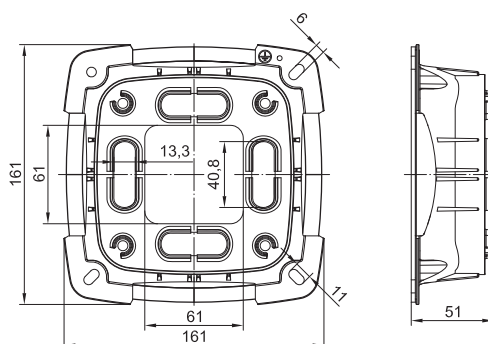
- material of rack and covers is aluminium;
- material of other accessories is steel, polypropylene, ABS plastic;
- column compartments may be split throughout the length into 2 or 3 parts using the plastic divider (code 01415);
- WDs of "Brava", "Viva" and 45x45 mm series may be installed using frames and carriers;
- WDs are installed on 2 sides;
- it is possible to install 8 WD modules on each side maximum – total number is 16 modules.

Complete set:

- aluminium column rack – 1 pce;
- aluminium column cover – 2 pcs;
- upper end plastic plug – 1 pce;
- metal floor-mounted base – 1 pce;
- plastic front faceplate on a base – 1 pce;
- internal faceplate on a base – 2 pcs;
- screw – 4 pcs.
- instructions.

Column height (assembly), m	Section size of column at WD installation point, mm	Color	Code
0.35	120x120	light-silver RAL 9006	19531
		dark-silver RAL 9006	19534
		white RAL 9016	19532
		black RAL 9005	19533

Spare end base for columns



Purpose:

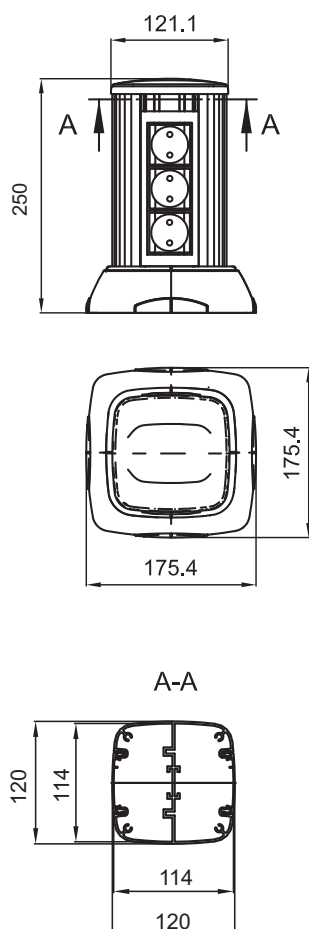
- use as a repair kit for columns damaged during operation process or in case of installation on uneven bases.

Complete set

- metal base – 1 pce;
- internal faceplate on a base – 2 pcs;
- front faceplate on a base – 1 pce;
- screw – 4 pcs.

Name	Color/Code		
	Silver metallic RAL 9006	white RAL 9016	black RAL 9005
Spare base for columns	09591BR	09592BR	09593BR

Column with height of 0.25 m



Purpose:

- organization of working spaces in premises where it is far from walls.

Installation conditions:

- column is attached to a floor in 4 points;
- cable laying is carried out using the corrugated tubes or inside DKC floor-mounted cable duct;
- It is recommended to ground columns;
- WD installation is performed by means of fames and carriers used in "In-liner Aero", "In-liner Front" boxes.

Options of column filling with wiring devices:

- install 1 carrier for 6 modules = total number is 6 modules on each side – total number is 12 modules;
- install 2 carriers for 2 modules each = total number is 4 modules on each side of the column = total number is 8 modules.

Characteristics:

- material of rack and covers is aluminium;
- material of other accessories is steel, polypropylene, ABS plastic;
- column compartments may be split throughout the length into 2 or 3 parts using the plastic divider (code 01415);
- WDs of "Brava", "Viva" and 45x45 mm series may be installed using frames and carriers;
- WDs are installed on 2 sides;
- it is possible to install 6 WD modules on each side maximum = total number is 12 modules.

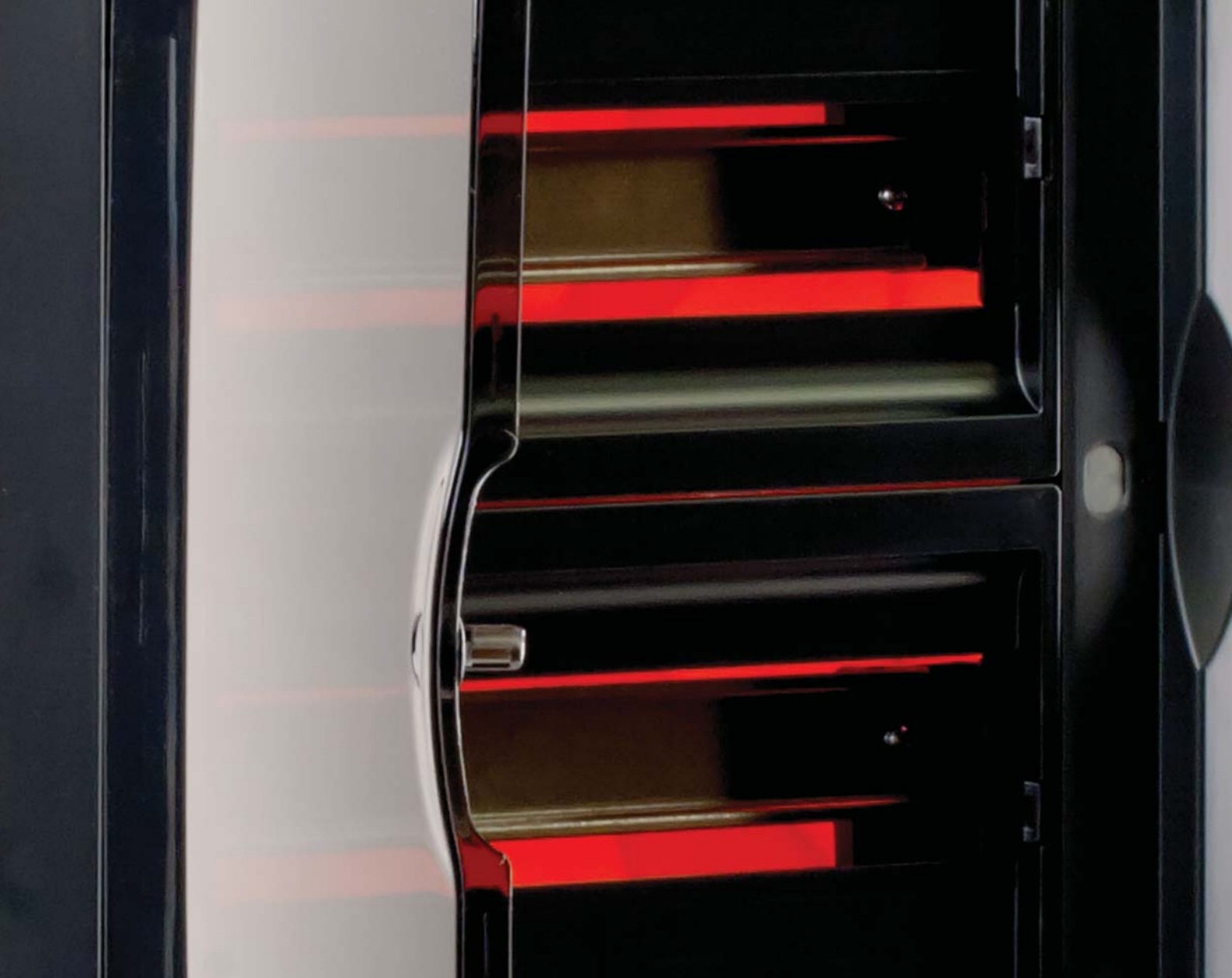
Complete set:

- aluminium column rack – 1 pce;
- aluminium column cover – 2 pcs;
- upper end plastic plug. – 1 pce;
- metal floor-mounted base – 1 pce;
- plastic front faceplate on a base – 1 pce;
- internal plastic faceplate on a base – 2 pcs;
- screw – 4 pcs.
- instructions.

Column height (assembly), m	Section size of column at WD installation point, mm	Color	Code
0.25	120x120	light-silver RAL 9006	19521
		dark-silver RAL 9006	19524
		white RAL 9016	19522
		black RAL 9005	19523

Compatibility table of accessories for columns

Name	Column color/code		
	silver metallic	white	black
Tensioning device for extension type columns	09578R	09578R	09578R
Spare end plug for columns	09591R	09592R	09593R
Spare base for columns	09591BR	09592BR	09593BR
Universal carrier for 2 modules (for installation of "Brava", "Viva" or "45x45" sockets; overall dimension is 77x63 mm)	F00011G	F00011	F00011B
Universal carrier for 4 modules (for installation of "Brava", "Viva" or "45x45" sockets; overall dimension is 130x63 mm)	F00013G	F00013	F00013B
Universal carrier for 6 modules (for installation of "Brava", "Viva" or "45x45" sockets; overall dimension is 184x63 mm)	F00015G	F00015	F00015B
Frame for 2 modules of wiring devices of "Brava" series	–	F0000M	F0000MB
Frame for 2 modules of wiring devices of "Viva" series	F1000A	F0000A	F0000AB
Frame for 2 modules of wiring devices of "45x45" series	–	F0000L	–
Connection block with 2 holes (for connection of 2 wires with section of 2–6 mm ² ; Urated is 450 V)	B42	B42	B42
Connection block with 5 holes (for 5 wires of 4–6 mm ² or 10 wires of 2.5 mm ² ; Urated is 450 V)	B65	B65	B65
SEP-N60/50 divider (separator; for separation of one or both sections of column into 2 or 3 subsections)	01415	01415	01415
Ground-wire with terminals (for grounding of covers to column rack; length is 300 mm; color is yellow-green)	E0001C	E0001C	E0001C
CSP-F floor-mounted cable duct with section of 75x17 mm	01332	01331	01333



Boxes for fixed electrical installation "RAM base"

Boxes for fixed electrical installation "RAM base"	342
Flush-mounted "RAM base"	350
Accessories for modular boxes	352

Boxes for fixed electrical installation "RAM base"

Application

The system of "RAM base" plastic distribution boxes is designed for placement of modular devices. DKC distribution boxes have contemporary design, are manufactured in accordance with the highest European quality standards, and can be installed in residential, administrative, auxiliary or production premises. A wide array of standard sizes and compatibility of boxes with other series of DKC products, such as "Octopus" series corrugated tubes and accessories, "Express" series rigid tubes and accessories, "In-liner" cable ducts and "Quadro" wiring system, help to solve any task of electrotechnical installation in hand.



Administrative premises



Production premises



Residential premises

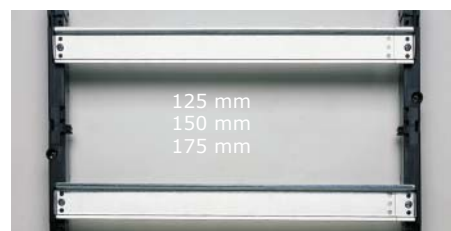
Distinctive features



The special structure of hinges allows opening the door by more than 180°, protecting it against damage in case of a sudden shock. To remove the door, it is necessary to open it fully and press the handle. This operation will not affect functionality of a hinged joint.



Quick connection of boxes with DKC rigid tubes of different dimensions is ensured using additional accessories. Use of DKC junction boxes or enclosures of "RAM box" series expands opportunities for electrical installation.



Attachment points make it possible to adjust the distance between DIN rails, thus expanding opportunities of equipment installation and making boxes compatible with any monitoring and control devices. Adjustment can be performed within the box or with supports removed from grooves.



Pre-perforated holes and notches on the rear and sides of flush-mounted boxes ensure precise connection with DKC plastic tubes of the "Octopus" system of different diameters.



Notches on the inside of surface-mounted boxes ensure connection with DKC plastic boxes of the "In-liner" system using a special adapter. It is possible to use the box with depth of 60 and 80 mm, width from 60 to 200 mm, whereas precision and aesthetic qualities of the connection are provided.



A special perforated duct that latches on supports is used for ease of cabling during installation. Additional attachments are used for standard perforated ducts.

Characteristics

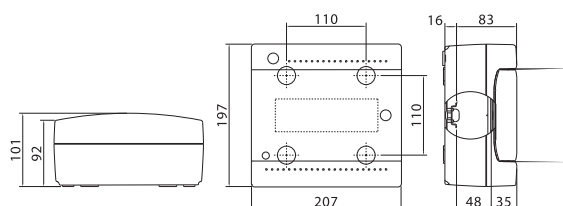
Technical characteristics

Material	heat-resistant plastic
Technical specifications	GOST R 51321.1-2000
Insulation protection class	II
Protection degree of flush-mounted boxes	IP41
Protection degree of surface-mounted boxes	IP20, IP40, IP41
Color of flush-mounted boxes IP41	white RAL 9016, black RAL 9004
Color of surface-mounted boxes IP41	white RAL 9005
Color of surface-mounted boxes IP20, IP40, IP65	gray RAL 7035
Shock resistance IP20, IP40, IP41	IK08 (6 J)
Shock resistance IP65	IK09 (10 J)
Maximum rated voltage	400 V
Maximum rated current	125 A
Maximum short-circuit current	10 kA
Resistance to high temperatures	up to 650 °C according to glow-wire test results as per IEC 695-2-1
Mounting temperature	from -25 to +60 °C
Door	shaded, transparent, opens by more than 180°

Surface-mounted modular distribution boxes IP41 with a door

Designed for mounting in residential and administrative premises. Compatible with modular devices of any manufacturers.

8 modules

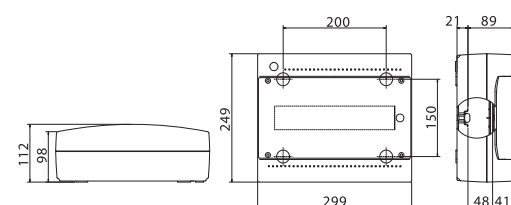


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code		
					box	box with fuse holder (87508) and lock (87188)	box with reinforced fuse holder (87308)
8	no	–	18	white	84608	84908	84708

12 modules

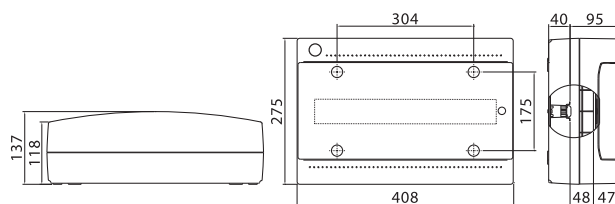


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code		
					box	box with fuse holder (87512) and lock (87188)	box with reinforced fuse holder (87312)
12	no	–	30	white	84612	84912	84712

18 modules

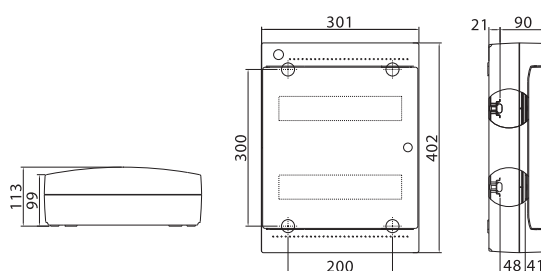


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code		
					box	box with fuse holder (87518) and lock (87188)	box with reinforced fuse holder (87318)
18	no	–	41	white	84618	84918	84718

24 modules

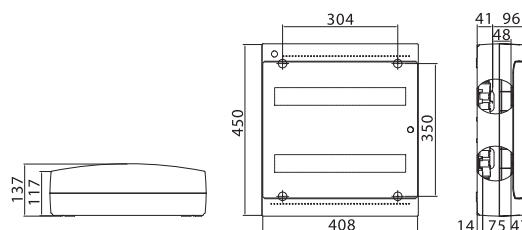


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code		
					box	box with fuse holder (87508) and lock (87188)	box with reinforced fuse holder (87308)
24	no	150	39	white	84624	84924	84724

36 modules

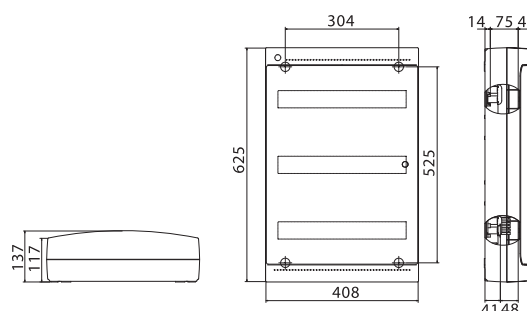


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code		
					box	box with fuse holder (87512) and lock (87188)	box with reinforced fuse holder (87312)
36	no	175	52	white	84636	84936	84736

54 modules



Scope of supply:

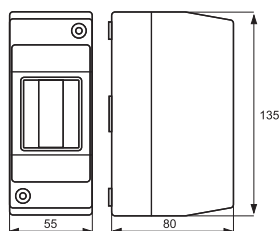
- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code
54	no	175	62	white	84654

Surface-mounted modular distribution boxes IP20 without door

Designed for mounting in residential and administrative premises. Compatible with modular devices of any manufacturers.

2 modules

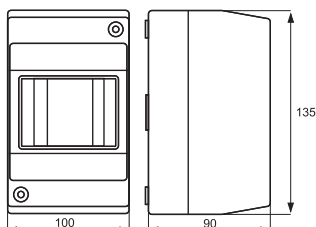


Scope of supply:

- modular box;
- assembly screws.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Color	Code
2	no	–	gray	82002

4 modules

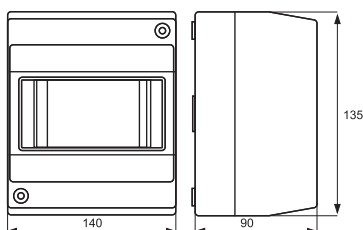


Scope of supply:

- modular box;
- assembly screws.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Color	Code
4	no	–	gray	82004

6 modules

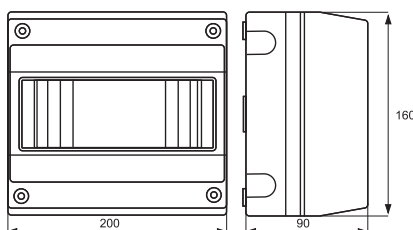


Scope of supply:

- modular box;
- assembly screws.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Color	Code
6	no	–	gray	82006

8 modules



Scope of supply:

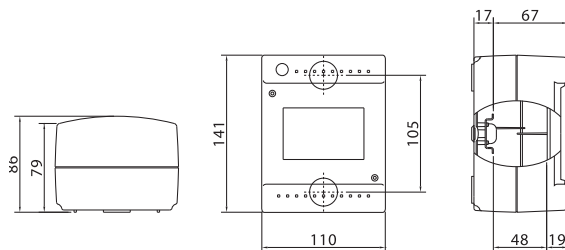
- modular box;
- assembly screws.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Color	Code
8	no	–	gray	82008

Surface-mounted modular distribution boxes IP40 without door

Designed for mounting in residential and administrative premises. Compatible with modular devices of any manufacturers.

4 modules

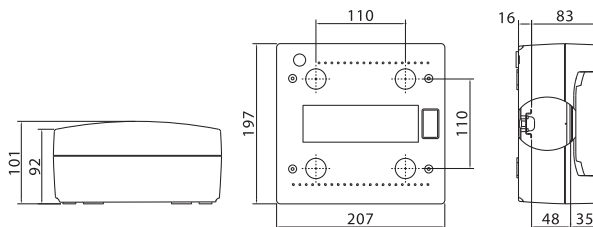


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code
4	no	–	15	gray	83604

8 modules

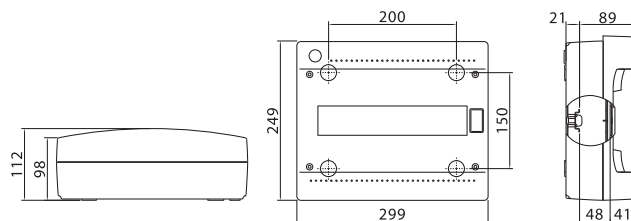


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code	Code, box with fuse holder (87508) and lock (87188)	Code, box with reinforced fuse holder (87308)
8	no	–	18	gray	83608	83908	83708

12 modules

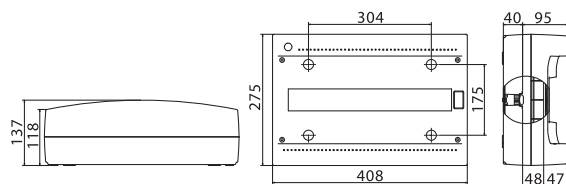


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code	Code, box with fuse holder (87512)	Code, box with reinforced fuse holder (87312)
12	no	–	30	gray	83612	83912	83712

18 modules

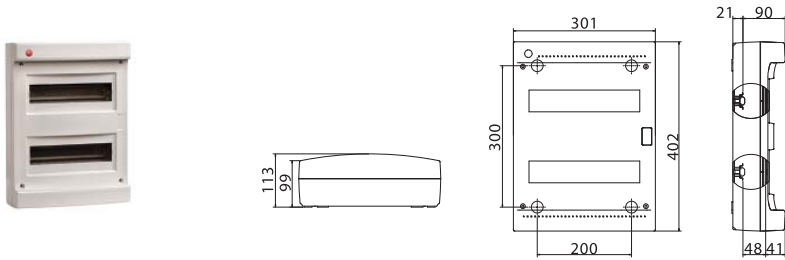


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code	Code, box with fuse holder (87518)	Code, box with reinforced fuse holder (87318)
18	no	–	41	gray	83618	83918	83718

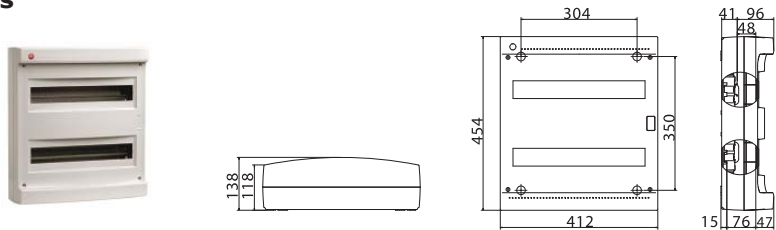
24 modules



- Scope of supply:**
- galvanized DIN rail;
 - DIN rail support;
 - plugs for empty modules;
 - plugs for assembly screws;
 - assembly screws;
 - self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code	Code, box with fuse holder (87512)	Code, box with reinforced fuse holder (87312)
24	no	150	39	gray	83624	83924	83724

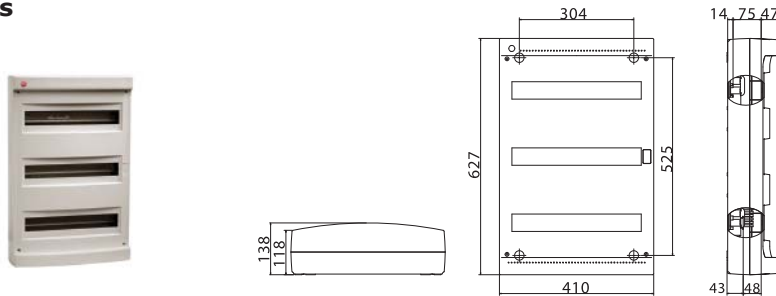
36 modules



- Scope of supply:**
- galvanized DIN rail;
 - DIN rail support;
 - plugs for empty modules;
 - plugs for assembly screws;
 - assembly screws;
 - self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code	Code, box with fuse holder (87518)	Code, box with reinforced fuse holder (87318)
36	no	175	52	gray	83636	83936	83736

54 modules



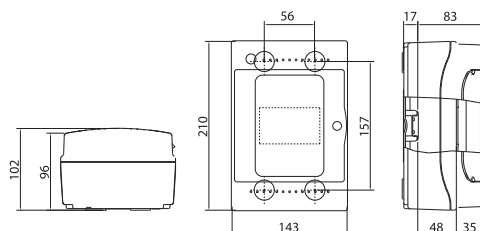
- Scope of supply:**
- galvanized DIN rail;
 - DIN rail support;
 - plugs for empty modules;
 - plugs for assembly screws;
 - assembly screws;
 - self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code
54	no	175	62	gray	83654

Surface-mounted modular distribution boxes IP65 with a door

Designed for surface mounting in residential, administrative, auxiliary or production premises.
Compatible with modular devices of any manufacturers.

4 modules

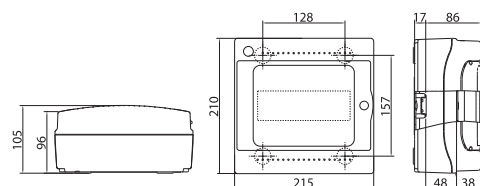


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- double-insulated plugs on grooves for wall mounting;
- assembly screws.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code
4	no	–	13	gray	85604

8 modules

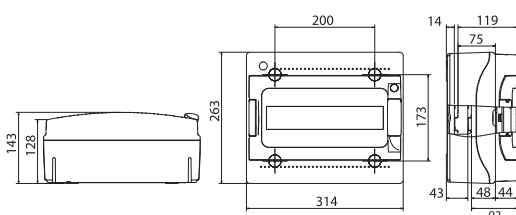


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- double-insulated plugs on grooves for wall mounting;
- assembly screws.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code	Code, box with fuse holder (87508) and lock (87188)	Code, box with reinforced fuse holder (87308)
8	no	–	19	gray	85608	85908	85708

12 modules

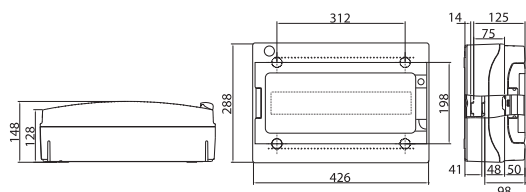


Scope of supply:

- door handle;
- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- double-insulated plugs on grooves for wall mounting;
- assembly screws.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code	Code, box with fuse holder (87508) and lock (87188)	Code, box with reinforced fuse holder (87312)
12	yes	–	30	gray	85612	85912	85712

18 modules

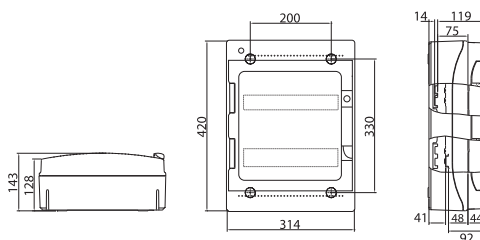


Scope of supply:

- door handle;
- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- double-insulated plugs on grooves for wall mounting;
- assembly screws.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code	Code, box with fuse holder (87508) and lock (87188)	Code, box with reinforced fuse holder (87318)
18	yes	–	37	gray	85618	85918	85718

24 modules

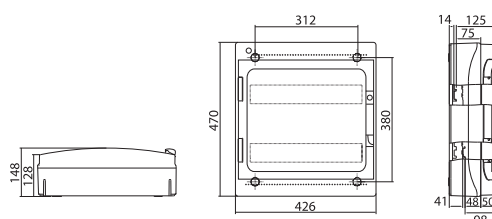


Scope of supply:

- door handle;
- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- double-insulated plugs on grooves for wall mounting;
- assembly screws.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code	Code, box with fuse holder (87508) and lock (87188)	Code, box with reinforced fuse holder (87312)
24	yes	125-150-175	42	gray	85624	85924	85724

36 modules

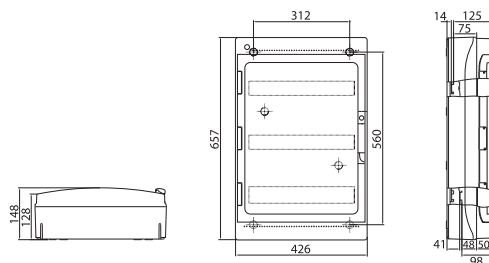


Scope of supply:

- door handle;
- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- double-insulated plugs on grooves for wall mounting;
- assembly screws.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code	Code, box with fuse holder (87508) and lock (87188)	Code, box with reinforced fuse holder (87318)
36	yes	150-175-200	54	gray	85636	85936	85736

54 modules

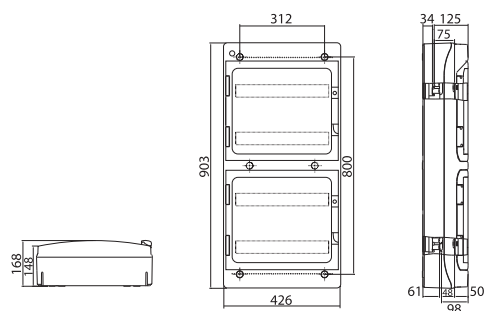


Scope of supply:

- door handle;
- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- double-insulated plugs on grooves for wall mounting;
- assembly screws.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code
54	yes	150-175-200	72	gray	85654

72 modules



Scope of supply:

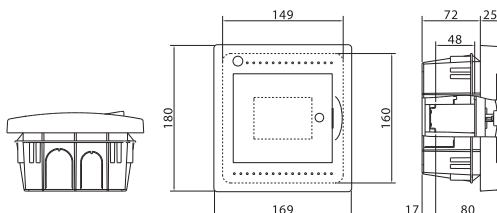
- door handle;
- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- double-insulated plugs on grooves for wall mounting;
- assembly screws.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code
72	yes	150-175-200	91	gray	85672

Flush-mounted "RAM base" IP41

Designed for concealed mounting in residential and administrative premises. Compatible with modular devices of any manufacturers.

4 modules

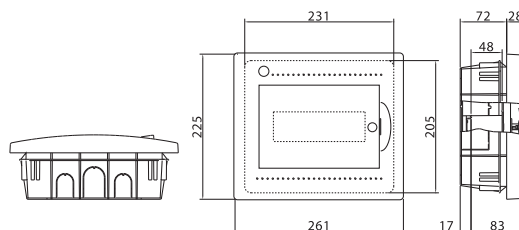


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code
4	no	-	20	white	81504

8 modules

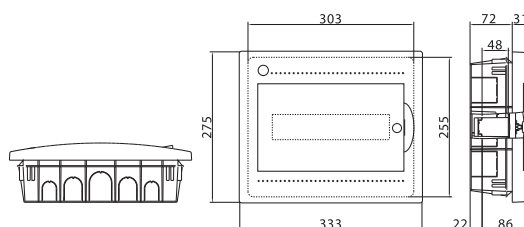


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code	Code, box with fuse holder (87508) and lock (87188)	Code, box with reinforced fuse holder (87308)
8	no	-	21	white	81508	81908	81708
				black	82508	-	-

12 modules

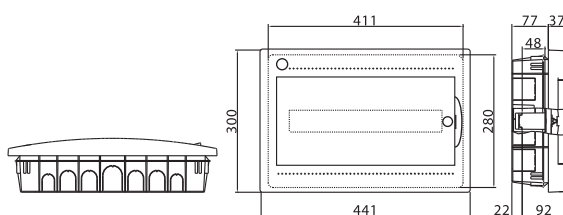


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code	Code, box with fuse holder (87508) and lock (87188)	Code, box with reinforced fuse holder (87312)
12	no	-	37	white	81512	81912	81712
				black	82512	-	-

18 modules

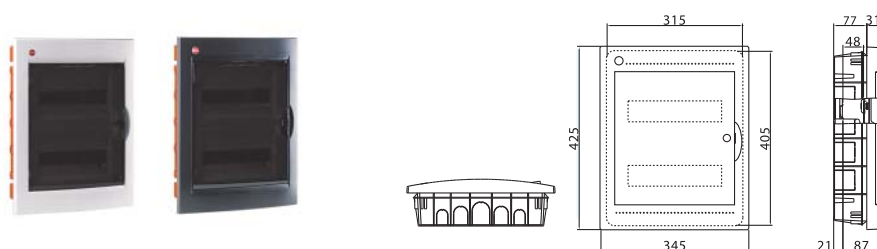


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code	Code, box with fuse holder (87508) and lock (87188)	Code, box with reinforced fuse holder (87318)
18	no	-	50	white	81518	81918	81718

24 modules

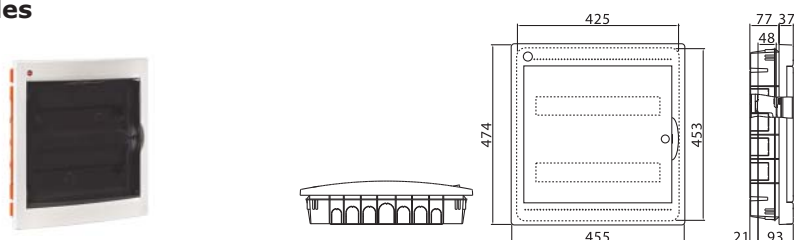


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code	Code, box with fuse holder (87508) and lock (87188)	Code, box with reinforced fuse holder (87312)
24	yes	125-150-175	45	white	81524	81924	81724
				black	82524	–	–

36 modules

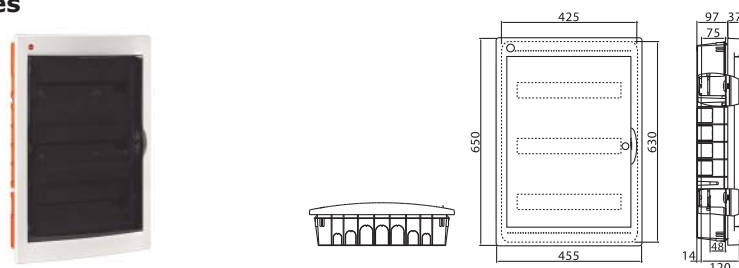


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code	Code, box with fuse holder (87508) and lock (87188)	Code, box with reinforced fuse holder (87318)
36	yes	125-150-175	56	white	81536	81936	81736

54 modules

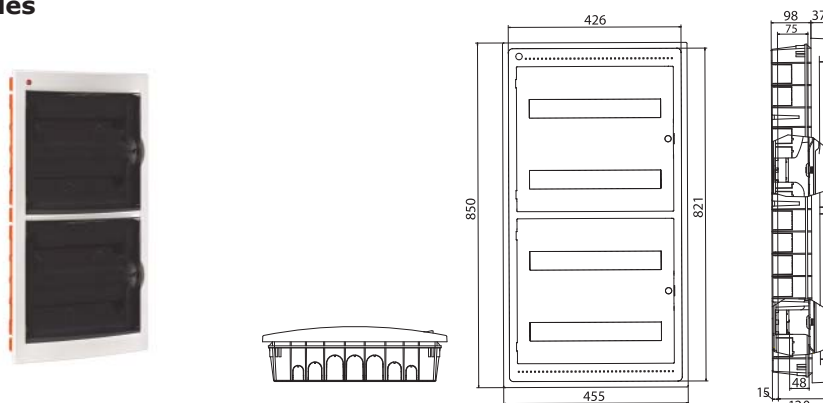


Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code
54	yes	150-175-200	62	white	81554

72 modules



Scope of supply:

- galvanized DIN rail;
- DIN rail support;
- plugs for empty modules;
- plugs for assembly screws;
- assembly screws;
- self-adhesive label for marking of circuits.

Maximum number of modules	Availability of removable plastrons	Center-to-center distance between rows, mm	Power dissipation rating, W	Color	Code
72	yes	150-175-200	95	white	81572

Accessories for modular boxes

Solid panel



Purpose:

- for protection of the box against ingress of foreign matter. Used if one or more rows of the box remain empty.

Description	Color	Package, pcs	Code
For 12 modules for boxes IP65 for 12, 24 modules	RAL 7035	10	87172
For 18 modules for boxes IP65 for 18, 36, 54, 72 modules	RAL 7035	10	87173
For 12 modules for flush-mounted boxes for 24 modules	RAL 9016	10	87177
For 18 modules for flush-mounted boxes for 18, 36, 54, 72 modules	RAL 9016	10	87179

Plug



Purpose:

- for protection of the box against ingress of foreign matter. It is necessary to use it in case of incomplete occupation of a box row with modular devices.

Description	Color	Package, pcs	Code
For 4 modules for surface-mounted boxes IP65 and IP40	RAL 7035	40 (4x10)	87165
For 6 modules for surface-mounted boxes IP65 and IP40	RAL 7035	40 (4x10)	87180
For 4 modules for surface-mounted boxes IP41	RAL 9001	40 (4x10)	87184
For 6 modules for surface-mounted boxes IP41	RAL 9001	40 (4x10)	87185
For 4 modules for flush-mounted boxes	RAL 9016	40 (4x10)	87186
For 6 modules for flush-mounted boxes	RAL 9016	40 (4x10)	87197

Hinges



Purpose:

- for surface mounting of boxes.

Description	Package, pcs	Code
For box suspension	120 (12x10)	87160

Spacer for 2 modules

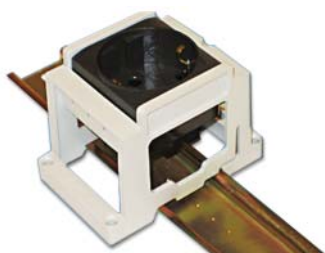


Purpose:

- for adjustment of DIN rail attachment depth.

Description	Package, pcs	Code
Spacer for 2 modules	20 (2x10)	87163

Socket support



Purpose:

- for installation of "Brava" series sockets and electric equipment on the mounting plate using four countersunk screws 4x16 mm or self-tapping screws 4x16;
- for installation of sockets and electric equipment of "Brava" series on "Quadro" series DIN rails 35x7.5 and 35x15 with a thickness of 1.5 mm.

Description	Package, pcs	Code
Socket support	30	54840

Cable attachment element



Purpose:

- for cable attachment in boxes from 36 to 72 modules.

Description	Package, pcs	Code
Cable attachment element	10 (1x10)	87078

Terminal blocks



Purpose:

- for switching of wire and cable conductors in electric boards.

Q-ty of holes	Hole diameter, q-ty x ø mm	U _{rated} V	Package, pcs	Code
7	5x5.3 mm, 2x6 mm	750	20	507F
11	9x5.3 mm, 2x6 mm	750	12	5011F
15	13x5.3 mm, 2x6 mm	750	10	5015F

Adapter for connection of a surface-mounted box with a duct



Purpose:

- for connection of surface-mounted boxes with plastic cable ducts of "In-liner" series.

Description	Color	Package, pcs	Code
Adapter for boxes IP65 with a duct (12, 24 modules)	RAL 7035	10 (1x10)	87166
Adapter for boxes IP65 with a duct (18, 36, 54, 72 modules)	RAL 7035	10 (1x10)	87167
Adapter for boxes with a door IP41, with a duct (except for 8 modules)	RAL 9001	10 (1x10)	87169
Adapter for boxes without door IP40, with a duct (except for 4 and 8 modules)	RAL 7035	10 (1x10)	87170

Fuse holders


Purpose:

- switching of a power line, wire and cable conductors.

Distinctive features:

- fuse holder is attached using supplied self-tapping screws onto special profiles located on the bottom of the box inner part.

Scope of supply:

- fuse holder includes a terminal holder, two terminal blocks of the relevant standard size and a kit for attachment of the fuse holder within the box. It is possible to order terminal holders and terminal blocks separately for non-standard solutions.

Description	Package, pcs	Code
Fuse holder (2x87408+supports) complete with fasteners	10	87508
Fuse holder (2x87412+supports) complete with fasteners	10	87512
Fuse holder (2x87418+supports) complete with fasteners	10	87518
Reinforced fuse holder (2x87108) complete with fasteners	10	87308
Reinforced fuse holder (2x87112) complete with fasteners	10	87312
Reinforced fuse holder (2x87118) complete with fasteners	10	87318
Terminal holder (for 2 terminal blocks 87108, 87408)	10	87208
Terminal holder (for 2 terminal blocks 87112, 87412)	10	87212
Terminal holder (for 2 terminal blocks 87118, 87418)	10	87218

Terminal blocks


Purpose:

- switching of a power line, wire and cable conductors.

Distinctive features:

- terminal block is designed for operation with currents of up to 63 A, whereas the reinforced one is designed for operation with currents of up to 160 A.

Description	Package, pcs	Code
Terminal block for 8 modules (holes 1x5.4+7x4.5 mm)	10	87408
Terminal block for 12 modules (holes 3x5.4+10x4.5 mm)	10	87412
Terminal block for 18 modules (holes 5x5.4+14x4.5 mm)	10	87418
Reinforced terminal block for 8 modules (holes 1x9+7x5.4 mm)	10	87108
Reinforced terminal block for 12 modules (holes 3x9+10x5.4 mm)	10	87112
Reinforced terminal block for 18 modules (holes 5x9+14x5.4 mm)	10	87118

Plugs


Purpose:

- for protection of the box against ingress of foreign matter.

Distinctive features:

- designed only for surface-mounted boxes.

Description	Package, pcs	Code
Double-insulated plugs	40 (4x10)	87164

Door locks


Purpose:

- for protection against unauthorized breaking in the box.

Description	Package, pcs	Code
For a surface-mounted box IP65	10	87187
For a surface-mounted box IP41	10	87188
For a flush-mounted box IP41	10	87189

Accessory selection table



Description	Flush-mounted with a door IP41								Surface-mounted with a door IP41						Surface-mounted without door IP40						Surface-mounted with a door IP65								Code		
	4	8	12	18	24	36	54	72	8	12	18	24	36	54	4	8	12	18	24	36	54	4	8	12	18	24	36	54		72	
Fuse holder for 8 modules	-	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	87508
Fuse holder for 12 modules	-	-	+	+	+	+	+	+	-	+	+	+	+	+	-	-	+	+	+	+	+	-	-	+	+	+	+	+	+	+	87512
Fuse holder for 18 modules	-	-	-	+	-	+	+	+	-	-	+	-	+	+	-	-	-	+	-	+	+	-	-	-	+	-	+	+	+	+	87518
Reinforced fuse holder for 8 modules	-	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	87308
Reinforced fuse holder for 12 modules	-	-	+	+	+	+	+	+	-	+	+	+	+	+	-	-	+	+	+	+	+	-	-	+	+	+	+	+	+	+	87312
Reinforced fuse holder for 18 modules	-	-	-	+	-	+	+	+	-	-	+	-	+	+	-	-	-	+	-	+	+	-	-	-	+	-	+	+	+	+	87318
Double-insulated plug	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	87164
Adapter for boxes IP65 on a duct RAL 7035	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	+	+	87167	
Adapter for boxes IP65 on a duct RAL 7035	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	-	-	87166	
Adapter for boxes with a door IP41 on a duct RAL 9001	-	-	-	-	-	-	-	-	-	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	87169
Adapter for boxes without door IP40 on a duct RAL 7035	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	-	-	-	-	-	-	-	-	-	87170
Lock for a surface-mounted box IP65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	87187
Lock for a surface-mounted box IP41	-	-	-	-	-	-	-	-	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	87188
Lock for a flush-mounted box IP41	+	+	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	87189
Cable attachment element	-	-	-	-	-	-	-	-	-	-	-	-	+	+	-	-	+	+	+	+	+	+	-	-	+	+	+	+	+	+	87078
Solid panel for 12 modules RAL 7035 for boxes IP65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	-	-	-	-	87172
Solid panel for 18 modules RAL 7035 for boxes IP65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	+	+	+	87173
Solid panel for 12 modules RAL 9016 for flush-mounted boxes	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	87177
Solid panel for 18 modules RAL 9016 for flush-mounted boxes	-	-	-	+	-	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	87179
Plug for 4 modules RAL 7035 for surface-mounted boxes IP65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	87165
Plug for 6 modules RAL 7035 for surface-mounted boxes IP65 and IP40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	87180
Plug for 4 modules RAL 9001 for surface-mounted boxes IP41	-	-	-	-	-	-	-	-	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	87184
Plug for 6 modules RAL 9001 for surface-mounted boxes IP41	-	-	-	-	-	-	-	-	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	87185
Plug for 4 modules RAL 9016 for flush-mounted boxes	+	-	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	87186
Plug for 6 modules RAL 9016 for flush-mounted boxes	-	-	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	87197
Hinges for box suspension	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	87160
Spacer for adjustment of DIN rail depth	-	-	-	-	-	-	+	+	-	-	+	-	+	+	-	-	-	+	-	+	+	-	-	+	+	+	+	+	+	+	87163





COMBITECH

Cable management system "Combitech"

Modular cable racks "T5 Combitech"	365
Glass-reinforced plastic tray system "G5 Combitech"	381
Cable trays "S5 Combitech"	425
Cable ladder system "L5 Combitech"	519
Heavy-Duty cable ladder system "U5 Combitech"	553
Mesh trays "F5 Combitech"	605
Mounting system "B5 Combitech"	631
Fastening system "M5 Combitech"	681

Cable management system "Combitech"

Description

System "Combitech" is a unique system for formation of reliable cable routes of any complexity at industrial, civil and commercial facilities. The system includes cable trays ("S5 Combitech"), cable ladder ("L5 Combitech"), mesh trays ("F5 Combitech") and heavy-duty cable ladder system ("U5 Combitech"), mounting elements and support structures ("B5 Combitech") as well as fastening system ("M5 Combitech"). The system is used in different fields for open laying of cable lines and installation of wiring on large spans, at facilities with high cable loads, in aggressive media and in areas with severe climatic conditions.

Special structure of this system allows for complete exclusion of cable damage when laying or mounting. Another important distinctive feature of DKC cable management system "Combitech" is full compatibility of the basic elements that allows for its use at all the construction stages regardless of premise type.

Application



Industrial facilities

Plants, factories, power plants, integrated plants



Commercial property

Office buildings, hotels, shopping and entertainment centers, warehouses, logistic terminals



Municipal property

Social, cultural and sports facilities, city power supply systems



Quickly erectable structures

Warehouses, storage sheds, production and exhibition premises



Infrastructure facilities

Bridges, tunnels, structures with small number of supports



Agroindustrial complex

Greenhouses and hothouses, poultry enterprises



Electrical networks

Power plants, substations, power lines



Control and telecommunications systems

Parabolic antennas and space telescopes



Ventilation, conditioning systems and pipelines

Certificates of cable management system "Combitech"

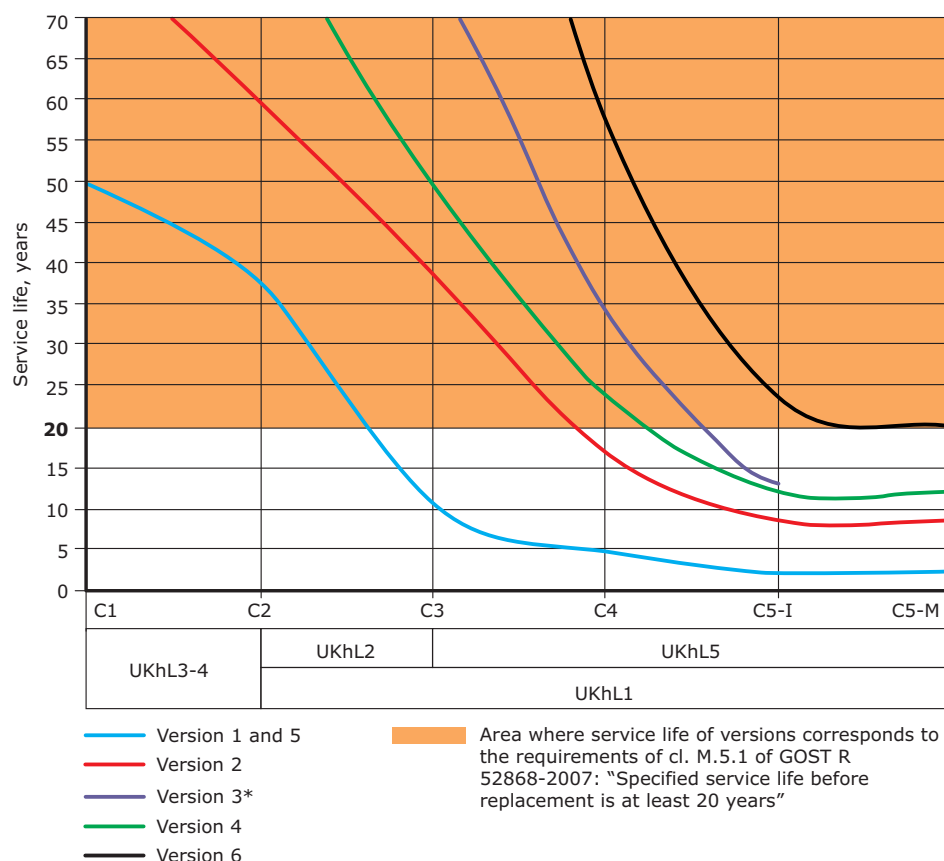
Non-mandatory certificates	Certificate of conformity	Sanitary and epidemiological inspection report (exemption letter)	Certificate of the Register of Shipping of the Russian Federation	Fire safety certificate for E90 group according to the German standard DIN 4102-12:1998-11	Certificate of conformity to the requirements for fire-resistant cable support systems with fire resistance limit R90	Certificate of seismic stability conformity (MSK-64) for tray and support structure system	Products conformity to the requirements of GOST 15150-69 for climatic versions (UKhL)
Aim of certificate receipt	Availability of this certificate confirms that products comply with the requirements specified in regulatory and technical documentation (TS)	Inspection report is required at facilities where products are in direct contact with a human (food, medical industry, etc.)	Required for use at sea and port infrastructure facilities (for construction of sea vessels, offshore drilling platforms, etc.)	These certificates are required at facilities with high fire safety requirements both for functional ability limit and fire resistance limit of cable support system		Required for use in the areas subject to seismic forces as well as areas in earthquake endangered regions of the country, at nuclear power plants and other facilities	This conformity establishes category of location of products for climatic areas
Cable trays "S5 Combitech"	√	√	√	√	√	√	√*
Cable ladder system "L5 Combitech"	√	√	√	√	√	√	√*
Heavy-Duty cable ladder system "U5 Combitech"	√		√		√	√	√*
Mesh trays "F5 Combitech"	√	√	√	√	√	√	√*
Mounting system "B5 Combitech"	√	√	√	√	√	√	√*

Non-mandatory certificates	Test report of circuit availability between grounded plants and elements of grounded plant	Confirmation of products conformity in the voluntary certification system Gazpromsert for PAO Gazprom	Certificate for the fire-resistant cable line together with the cable manufacturer							Test report of cable trays for resistance to climatic effects
			"Spets-kabel"	"Rybinsky Cable Plant"	"Kolchuginskiy Cable Plant"	"Unkomtekh"	"REC Prysmian"	Tekhnokabel	SPKB Tekhno	
Aim of certificate receipt	Availability of this report excludes the need for laying of additional grounding loop of cable support system	Possible use of products at facilities of PAO Gazprom	According to the requirements of Article 82, Part 2 of Federal Law No. 123 "Fire Safety Requirements to Electric Plants of Buildings, Facilities and Structures" certificates are necessary and mandatory during design and installation of fire protection systems							Allows for use of products in the areas with high humidity and contamination as well as in the atmosphere with increased concentration of aggressive agents (corresponds to categories C3; C4; C5 as per GOST R 52868-2007)
Cable trays "S5 Combitech"	√*	√	√	√	√	√	√	√	√	√
Cable ladder system "L5 Combitech"	√*	√	√	√	√	√	√	√	√	√
Heavy-Duty cable ladder system "U5 Combitech"	√*	√								√
Mesh trays "F5 Combitech"	√*	√	√	√	√	√	√	√	√	√
Mounting system "B5 Combitech"		√	√	√	√	√	√	√	√	√

Characteristics

Characteristics	Values
Technical specifications	"S5 Combitech" – TS 3449-013-47022248-2004; "L5 Combitech" – TS 3449-002-73438690-2008; "U5 Combitech" – TS 3449-033-47022248-2012; "F5 Combitech" – TS 3449-001-73438690-2006; "B5 Combitech" – TS 3449-032-47022248-2012
Coating materials and types	<p>version 1 is steel hot dip galvanized on a conveyor by the Sendzimir method. Group KHP, class 2 according to GOST 14918-80. Zinc coating weight is 142.5–258 g/m², thickness is 10–18 µm (for system "F5 Combitech" and part "B5 Combitech" – steel with further zinc coating applied by the cold galvanizing method according to GOST 9.301 after manufacturing of system elements).</p> <p>version 2 is steel with further zinc coating applied by the hot galvanizing method according to GOST 9.307 after manufacturing of elements. Zinc coating weight is 785–1710 g/m², thickness is 55–120 µm. The elements with total area less than 0.4 m² can be manufactured with coating with class of corrosion resistance not less than 6 according to GOST R 52868: zinc lamellar coating. For a number of fastening elements of "F5 Combitech", "B5 Combitech" and "M5 Combitech" systems – steel with further application of "Geomet" zinc -filled coating or its equivalents with class of corrosion resistance not less than 6 according to GOST R 52868 after manufacturing of elements</p> <p>version 3 is AISI 304 grade stainless steel (08Kh18N10 equivalent according to GOST 5632-72)</p> <p>version 4 is steel with hot applied zinc lamellar coating on a conveyor or steel galvanized by the Sendzimir method with further application of zinc lamellar coating after manufacturing of elements</p> <p>version 5 is steel hot dip galvanized on a conveyor by the Sendzimir method (for system "F5 Combitech" and part "B5 Combitech" – steel galvanized by the cold galvanizing method according to GOST 9.301) with further painting into colors of RAL palette with polymeric powder epoxy paint P-EP-45 of A and B grades according to GOST 9.410-88 after manufacturing of elements</p> <p>version 6 is AISI 316L grade stainless steel (03Kh17N14M3 equivalent according to GOST 5632-72)</p>
Climatic version according to GOST 15150-69	<p>version 1 is U2, KhL2, UKhL2, OM2, T2</p> <p>version 2 is U1, KhL1, UKhL1, UKhL5, OM1, T1</p> <p>version 3 is U1, KhL1, UKhL1, UKhL5, OM1, T1</p> <p>version 4 is U1, KhL1, UKhL1, UKhL5, OM1, T1</p> <p>version 5 is U2, KhL2, UKhL2, OM2, T2</p>
Class of corrosion resistance according to GOST R 52868-2007	<p>version 1 – 3</p> <p>version 2 – 6</p> <p>version 3 – 9A</p> <p>version 4 – 8</p> <p>version 5 – 3</p>
Mounting and operating temperature	from –60 to +60 °C
Storage and transportation conditions according to GOST 15150-69	group 5
Safe operating load tests	GOST R 52868-2007, cl. 10
Shock resistance	at least 20 J according to GOST R 52868-2007

Guaranteed service life for different climatic versions



Corrosion resistance of cable trays is determined by zinc loss rate. This parameter will vary for different climatic areas and conditions of placement of equipment. Information on service life for versions 1, 2, 4, 5 is received based on GOST R 52868-2007 and international standard 12944-2.

* According to cl. B.2.2 of GOST R ISO 3506-1-2014 A2 grade steels (including AISI304) are inapplicable when using non-oxidizing acid and chlorine-containing compounds as, for example, in sea water and swimming pools (conformity with C5-M area).

System "Combitech"

According to the international standard 12944-2:

Corrosiveness category	Examples of typical environment with moderate climate	
	Outside	Inside
C1 very low	–	heated premises with clear atmosphere, for example, offices, shops, schools, hotels
C2 low	atmosphere with low contamination level. Primarily, rural areas	premises without heating where condensation can be available, for example, depot, sports halls
C3 medium	city or industrial atmospheres, moderate contamination with sulfur dioxide. Coastal territories with low degree of salinity	production rooms with high humidity and certain air contamination, for example, food processing plants, laundries, brewing and milk plants
C4 high	industrial and coastal territories with moderate salinity	chemical plants, swimming pools, coastal docks and shipyards
C5-I very high (industrial)	industrial areas with high humidity and aggressive atmosphere	of building or area with nearly constant condensation and very high contamination
C5-M very high (marine)	coastal or marine territories with high salinity	of building or area with nearly constant condensation and very high contamination

According to GOST R 15150-69:

Letter designation:

[UKhL] – operation in the areas with moderate and cold climate.

Numerical designation (means category of location):

[1] – outdoors (impact of combination of climatic factors specific for this macroclimatic area).

[2] – under a shed or in premises, where temperature and air moisture variations do not differ from variations in the open air significantly and there is comparatively free access of outside air. For example, in tents, bodies, trailers, metal premises without heat insulation as well as in shell of device of category 1.

[3] – in closed premises with natural ventilation without artificially adjusted climatic conditions, where temperature and air moisture variations as well as sand and dust impact are significantly less than those outdoors, for example, in metal heat-insulated, stone, concrete, wooden premises (no effects of precipitation and moisture, direct sun light).

[4] – in premises with artificially adjusted climatic conditions, for example, in closed heated or cooled and ventilated production and other premises including well ventilated underground premises (no effects of direct or diffuse solar radiation, precipitation, wind, sand, dust of outside air and moisture condensation).

[5] – in premises with high humidity (for example, in underground premises without heating and ventilation including mines, basements in the soil, ship and other premises, where long-term availability of water is possible or there is frequent moisture condensation on the walls and ceiling).

Table of corrosion compatibility of coating types

Device	Connecting fasteners		
	Version 1 is steel hot dip galvanized on a conveyor by the Sendzimir method	Version 2 is steel with further application of "Geomet" zinc -filled coating after manufacturing of elements	Version 3 is AISI 304 (INOX) grade stainless steel
Version 1 is steel hot dip galvanized on a conveyor by the Sendzimir method	+	+	+
Version 2 is steel with further zinc coating applied by the hot galvanizing method (HDZ) after manufacturing of elements	–	+	+
Version 4 is steel with hot applied zinc lamellar coating on a conveyor or steel galvanized by the Sendzimir method with further application of zinc lamellar coating (ZL) after manufacturing of elements	–	+	+
Version 3 is AISI 304 (INOX) grade stainless steel	–	–	+

"+" is admissible; "–" is inadmissible

Determination of admissibility of contact of coating materials and types is indicator of conformity of duration in salt spray chamber in hours with the requirements of subcl. 14.2.3 of GOST R 52868-2007.

Efficiency of shielding of electromagnetic waves

DKC metal trays have passed tests for efficiency of shielding of electromagnetic waves. Coaxial cable free of insulation and braid shielding was used to perform tests. Before tests cable was placed in strip line for reading of background at frequencies of 0.1-1 000 MHz. Metal trays, where this cable was laid, were placed in strip line after reading as well as readings were taken.

The following trays were subject to the test:

- 35064 – non-perforated tray 200x80 mm – sample No. 1;
- 35064+35524 – non-perforated tray 200x80 mm + cover with grounding on basic tray 200 mm (duct) – sample No. 2;
- LL8020 – ladder tray 80x200 mm – sample No. 3.

Measurements were performed in two positions:

1. In normal position (field vector has a perpendicular position in relation to a wide tray side), Fig. 1.
 2. In position when sample is on the fin (field vector has a perpendicular position in relation to a fin), Fig. 2.
- The photo shows tests of sample No. 2 – tray with cover.



Fig. 1

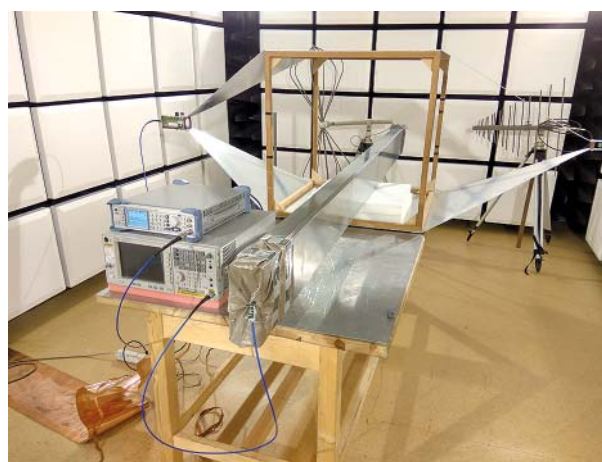
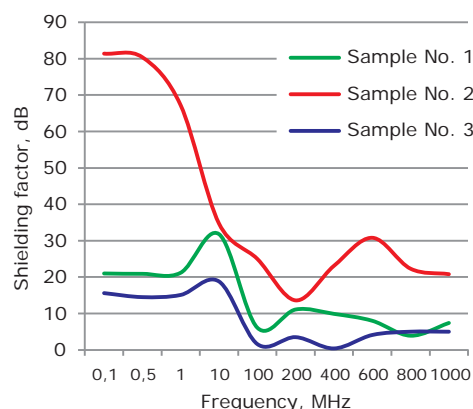
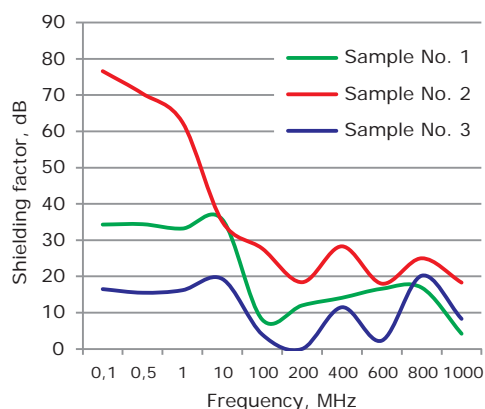


Fig. 2

Received values of shielding factors are given on diagrams:



Test results:

Sample No. 2, that is non-perforated tray with cover, has the best shielding factor among all the tested samples. Within the range of frequency from 100 kHz to 10 MHz this sample has the highest characteristics from 35.1 to 76.6 dB in the first position and from 34.7 to 81.4 dB in the second one.

Code formation structure when ordering system "Combitech" of different versions

Steel galvanized by the Sendzimir method (standard version) or galvanized steel

Device code without additional letters and designations is used when ordering standard version "Steel galvanized by the Sendzimir method" for trays or version "Galvanized steel" for system "F5 Combitech" and part "B5 Combitech".

Example of code of cable perforated tray with a height of 50 mm and width of 100 mm: 35262.

Example of code of mesh tray in "Galvanized steel" version with a height of 80 mm and width of 400 mm: FC8040.

Hot dip galvanizing (HDZ, HDZL)

"HDZ" letters are added to standard device code when ordering special "Hot dip galvanizing" version.

Example of code of tray with a height of 50 mm and width of 100 mm in "Hot dip galvanizing" version: 35262HDZ.

Example of code of connector of ladder tray with a height of 100 mm in zinc lamellar version (hot zinc equivalent): LG1000HDZL.

Stainless steel (INOX)

"INOX" letters are added to standard device code when ordering special "Stainless steel" version. In this case cable trays are made of AISI 304 grade stainless steel.

Example of code of ladder tray with a height of 80 mm and width of 400 mm in "Stainless steel" version: LL8040INOX.

Zinc lamellar coating (ZL, ZLR)

"ZL" letters are added to standard device code when ordering special "Zinc lamellar coating" version.

Example of code of ladder tray with a height of 80 mm and width of 400 mm in "Zinc lamellar coating" version: LL8040ZL or complete equivalent LL8040ZLR.

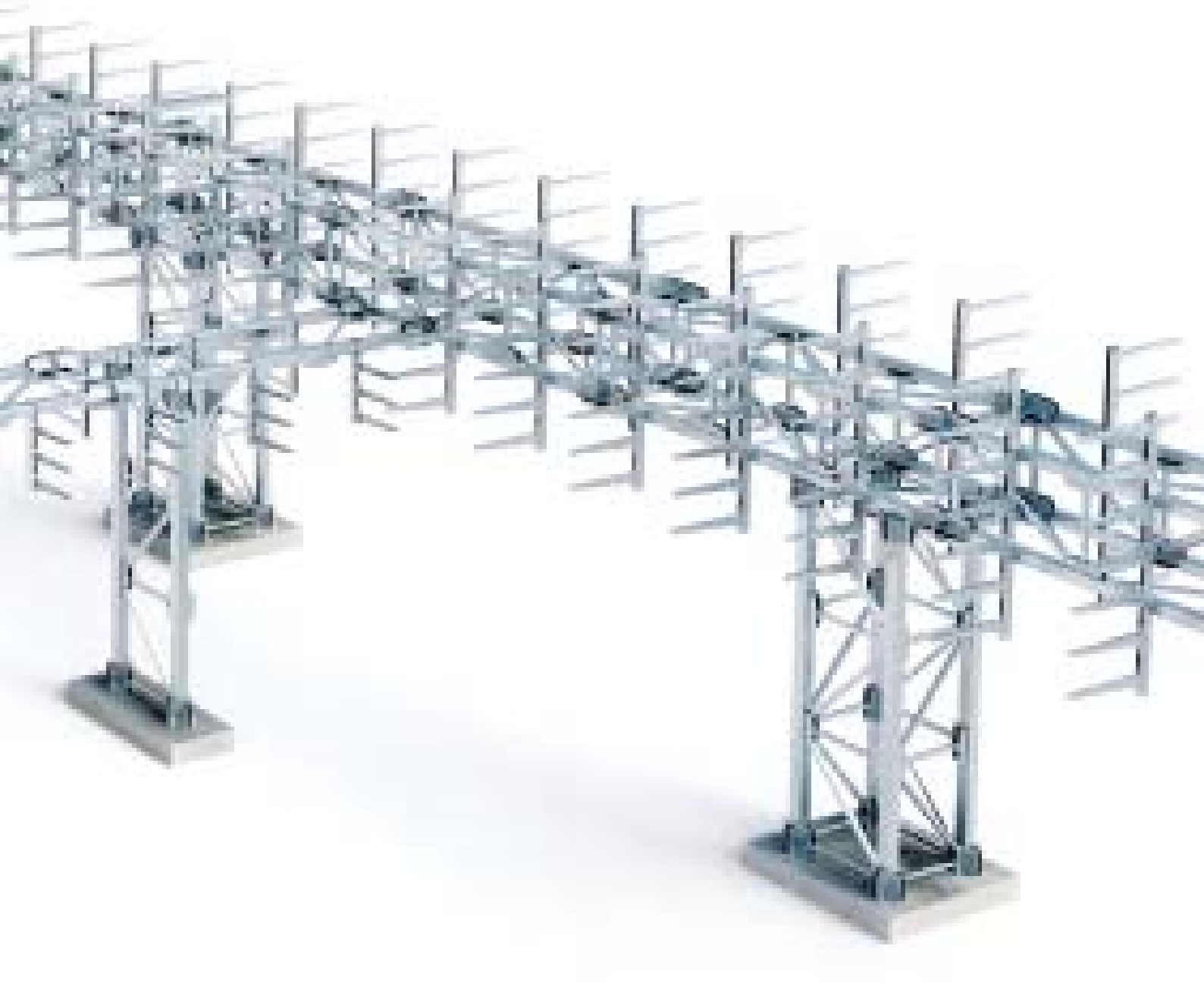
Powder painting of trays (RAL)

Trays can be painted into any color of RAL palette. Powder painting is performed on trays of standard "Steel galvanized by the Sendzimir method" version.

"RAL" letters and digital color code are added to standard device code when ordering special "Powder painting" version.

Example of code of cable tray with a height of 80 mm and width of 400 mm in "Powder painting" version: 35066RAL9010.





Modular cable racks "T5 Combitech"

One-stand rack	368
Double-stand rack	370
Truss rack	372
Beamless side rack	374
Beamless top rack	376
Connection dimensions	378
Basic regulatory documentation	379

Modular cable racks "T5 Combitech"

Application

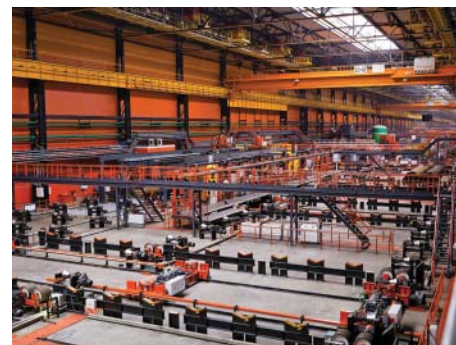
Modular cable racks are aboveground support structures designed for laying of cables and different utility lines. In contrast to the welded racks made of ferrous rolled stock, "T5 Combitech" system consists of standard elements joined by means of bolted connections excluding the necessity of welding works at a facility. It allows application of one universal system for wide range of tasks, as well as reduction of time for design and installation. Due to hot galvanizing all the system elements have high protection degree against corrosion which makes it possible to increase service life of cable route and to reduce costs for its servicing significantly.



Within the inner territory of enterprises
Cable and combined racks within the industrial enterprises



Urban and municipal construction
Outdoor supports of utility lines



Inside production shops
Supports for inner communication lines for connection of equipment

Advantages of modular cable racks

Saving on service
Racks do not require any costs for routine painting

Manufacturer support
Service department provides prompt assistance in design and installation

Service life is more than 20 years
Racks are supplied in "Hot zinc" version ensuring reliable corrosion protection

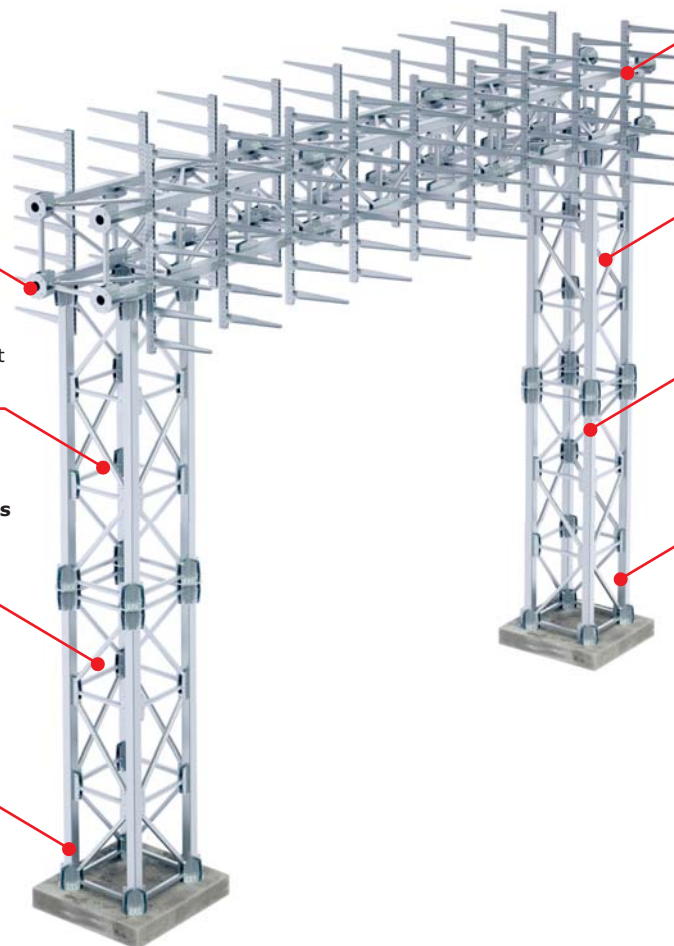
Aesthetic appearance
Zinc coating provides the racks with beautiful shiny appearance

Universal solution
System based on standard elements for flexible solution of wide range of tasks

Quick design and installation
Route design take a minimum amount of time

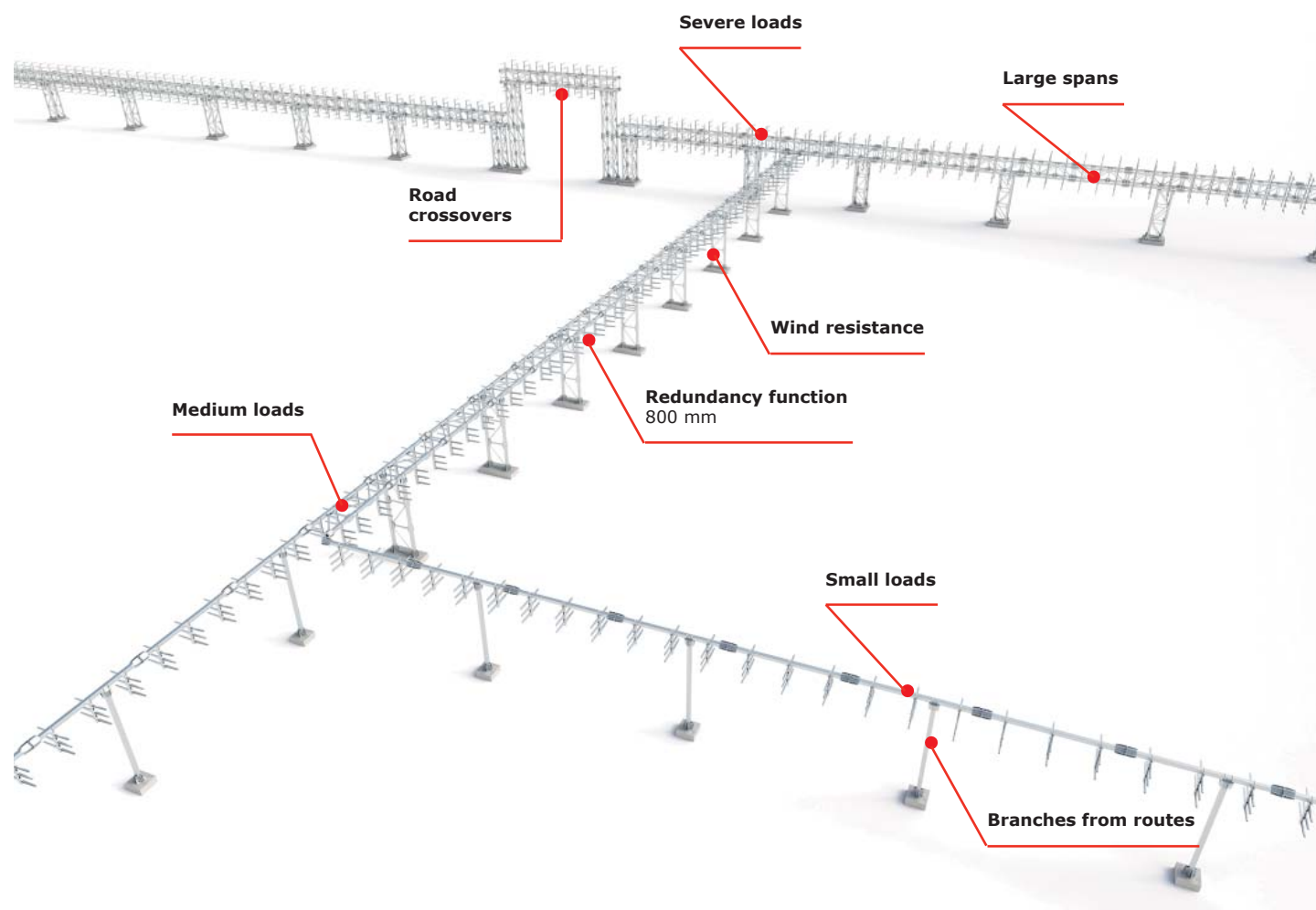
Saving on mounting works
Minimum number of employees is required

Quality assurance
Quality of the elements is assured by the company



System composition

Modular cable racks "T5 Combitech" include three basic variants: one-stand, double-stand, and truss. All versions are assembled from single-type components.



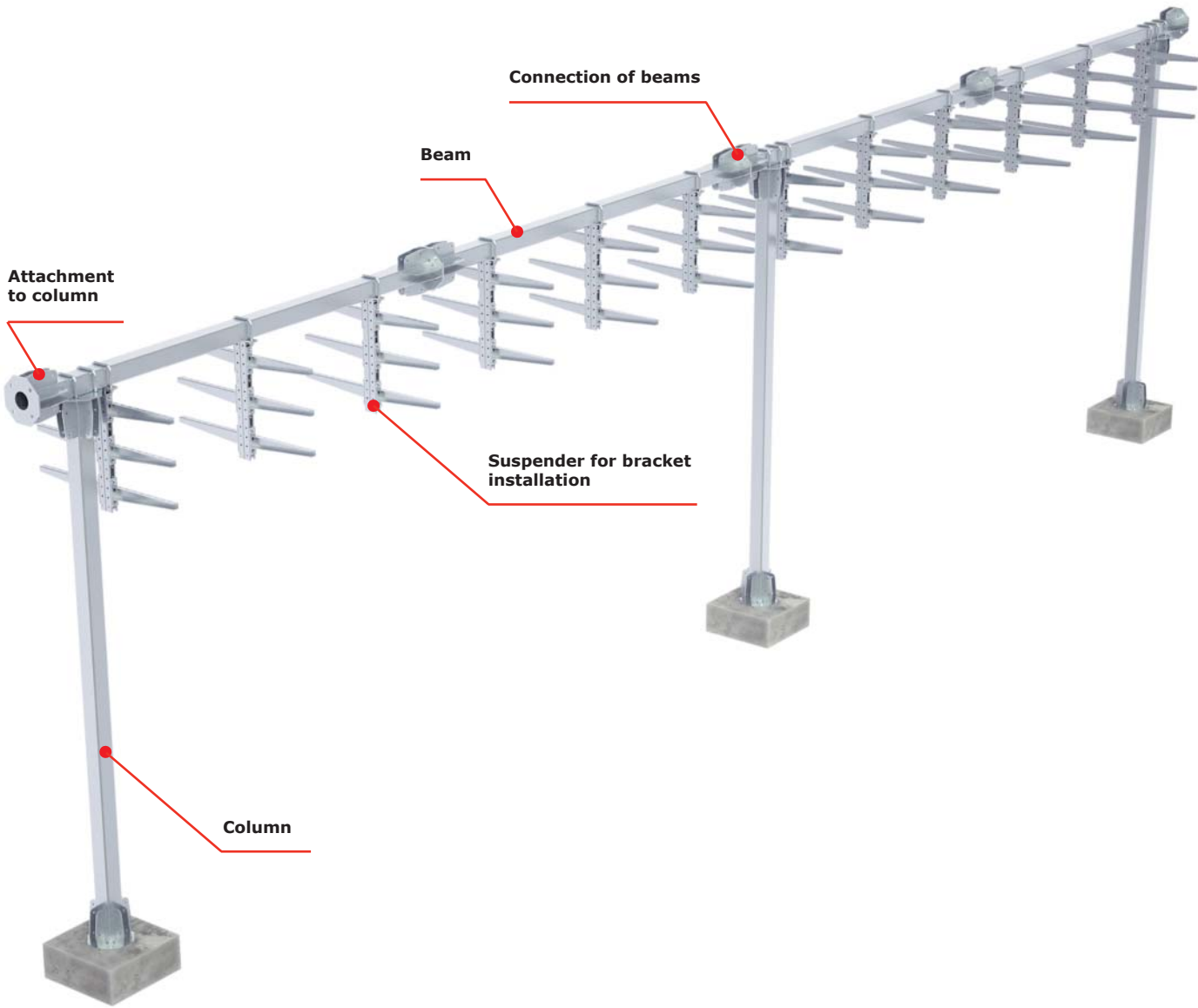
Due to universal elements underlying in the system "T5 Combitech" modular cable racks are easily applied for complex solution of various tasks on cable laying at a facility.

Basic advantages of modular cable racks "T5 Combitech":

- severe cable loads;
- non-standard spans;
- road crossovers;
- laying of lightweight cables;
- provision of laying of mutually redundant lines;
- possibility of installation in permafrost conditions;
- building of temporary structures;
- arrangement of hazardous areas;
- laying of current distributors.

The system has simple, convenient structure and minimum quantity of positions significantly simplifying and accelerating processes of design and assembly.

One-stand rack



One-stand rack is an optimal solution to provide laying of small number of cables, branching from main passageways and organization of compact cable routes inside the shops.

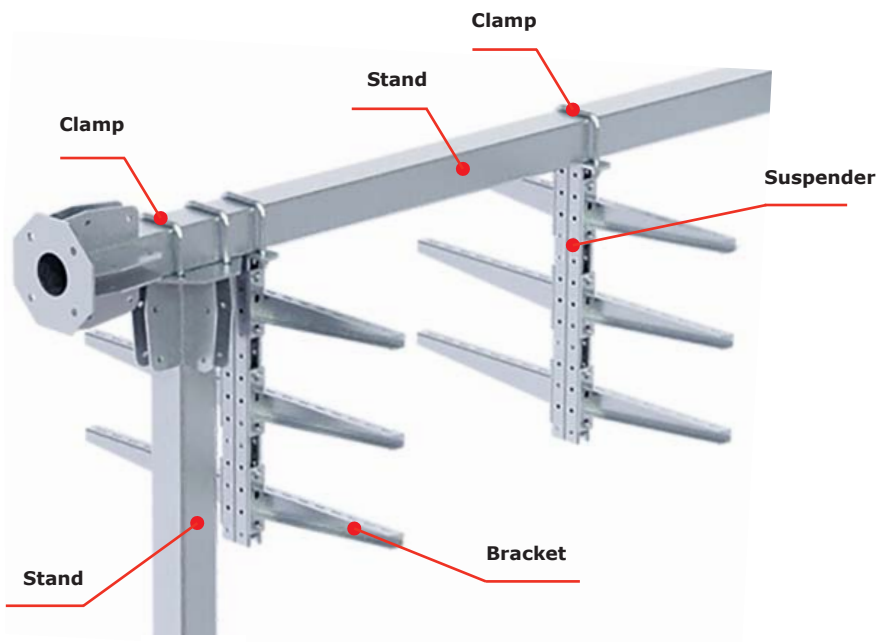
Rack consists of single standard stands providing quick installation, reliable cable laying and minimum load on foundation.

Design load

Span length, m	Column height, m	Design load, kg/m
3	3	700
6		250

Calculations are performed in accordance with SNiP 2.01.07-85 not including loads from climatic effect of specific region. Data on loads for other variants of spans and heights are available on request.

Basic elements of one-stand rack

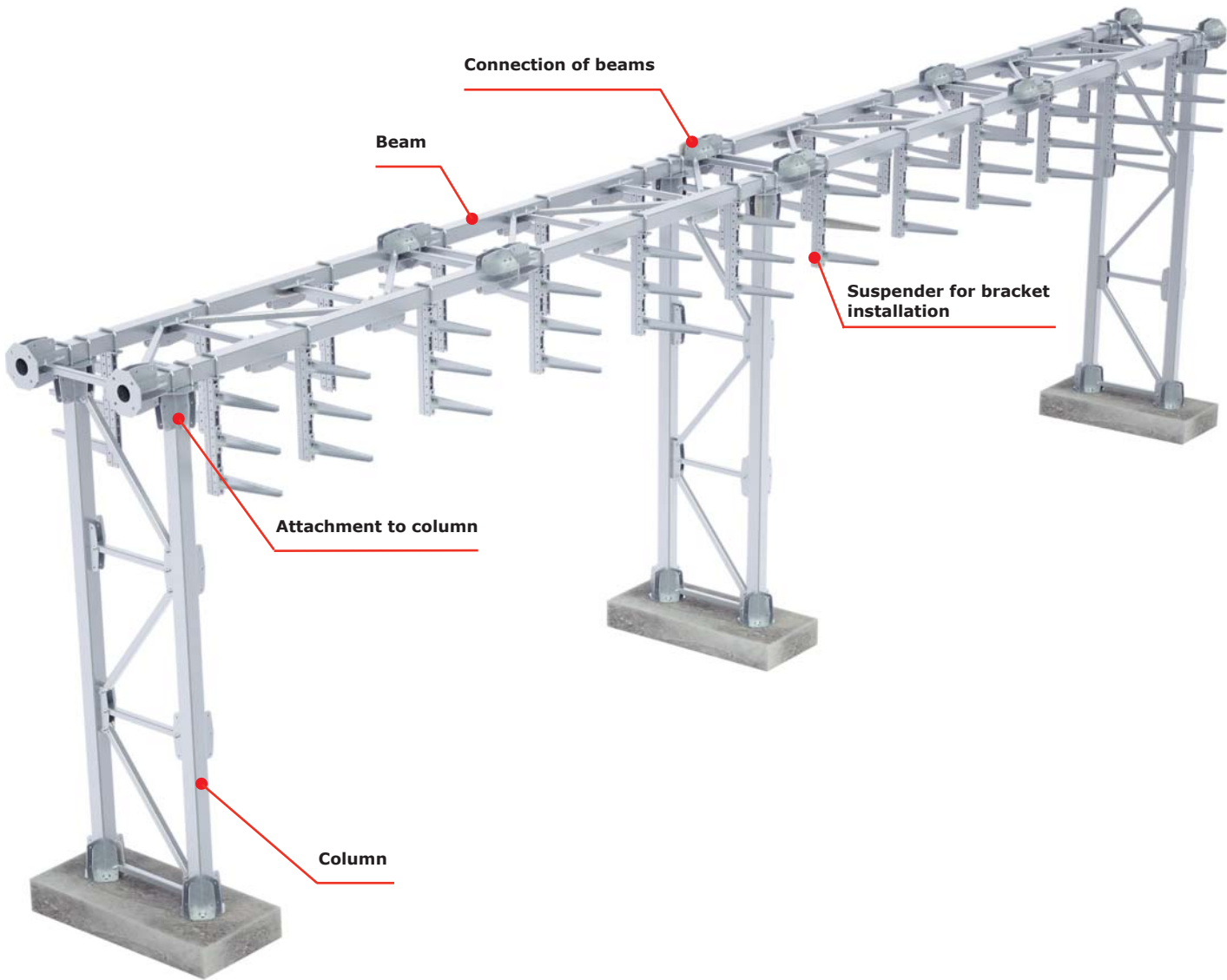


For quick and easy calculation of specification use configuration file at t5.dkc.ru

Standard elements

Part	Description	Q-ty	Measuring units	Code
Column with height of 3 m	cable rack stand	1	pcs	CRS3000HDZ
Beam with length of 3 m	cable rack stand	1	pcs	CRS3000HDZ
Interconnection of beams/ columns	M16x50 8.8 bolt	4	pcs	CM081650HDZ-88
	M16 8 nut	4	pcs	CM111600HDZ-8
	16 washer	4	pcs	CM241600HDZ
Beam attachment to column	fastening clamp	2	pcs	CRB1000HDZ
	12 washer	4	pcs	CM121200HDZ
	M12 hexagon nut	4	pcs	CM111200HDZ
Vertical suspender for bracket installation	600 mm suspender	1	pcs	BBD4160HDZ
	fastening clamp	1	pcs	CRB1000HDZ
	12 washer	2	pcs	CM121200HDZ
	M12 hexagon nut	2	pcs	CM111200HDZ

Double-stand rack



Double-stand rack serves for cable laying at facilities with high wind load, as well as for provision of laying of mutually redundant power cable lines.

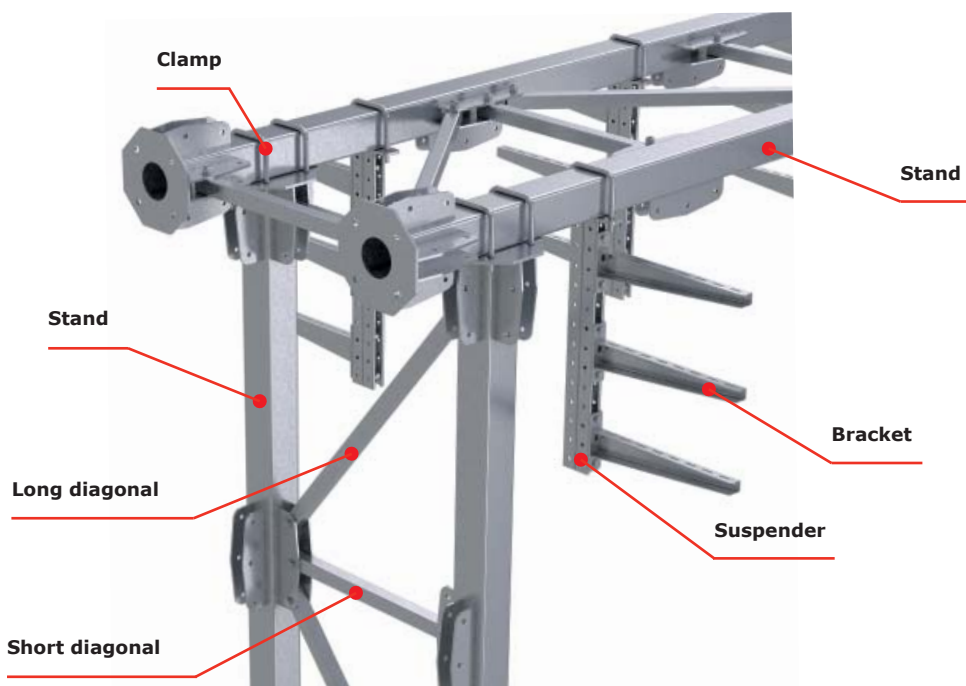
Columns and beams of this type are plane structures consisting of standard stands and connection diagonals. This structural solution provides the rack with increased wind resistance and high load bearing capacity in view of own light weight. Distance between racks fully conforms to requirements of cl. 2.3.120 of Electrical Installation Code for cable structures.

Design load

Span length, m	Column height, m	Design load, kg/m
6	3	500
	6	

Calculations are performed in accordance with SNiP 2.01.07-85 not including loads from climatic effect of specific region. Data on loads for other variants of spans and heights are available on request.

Basic elements of double-stand rack

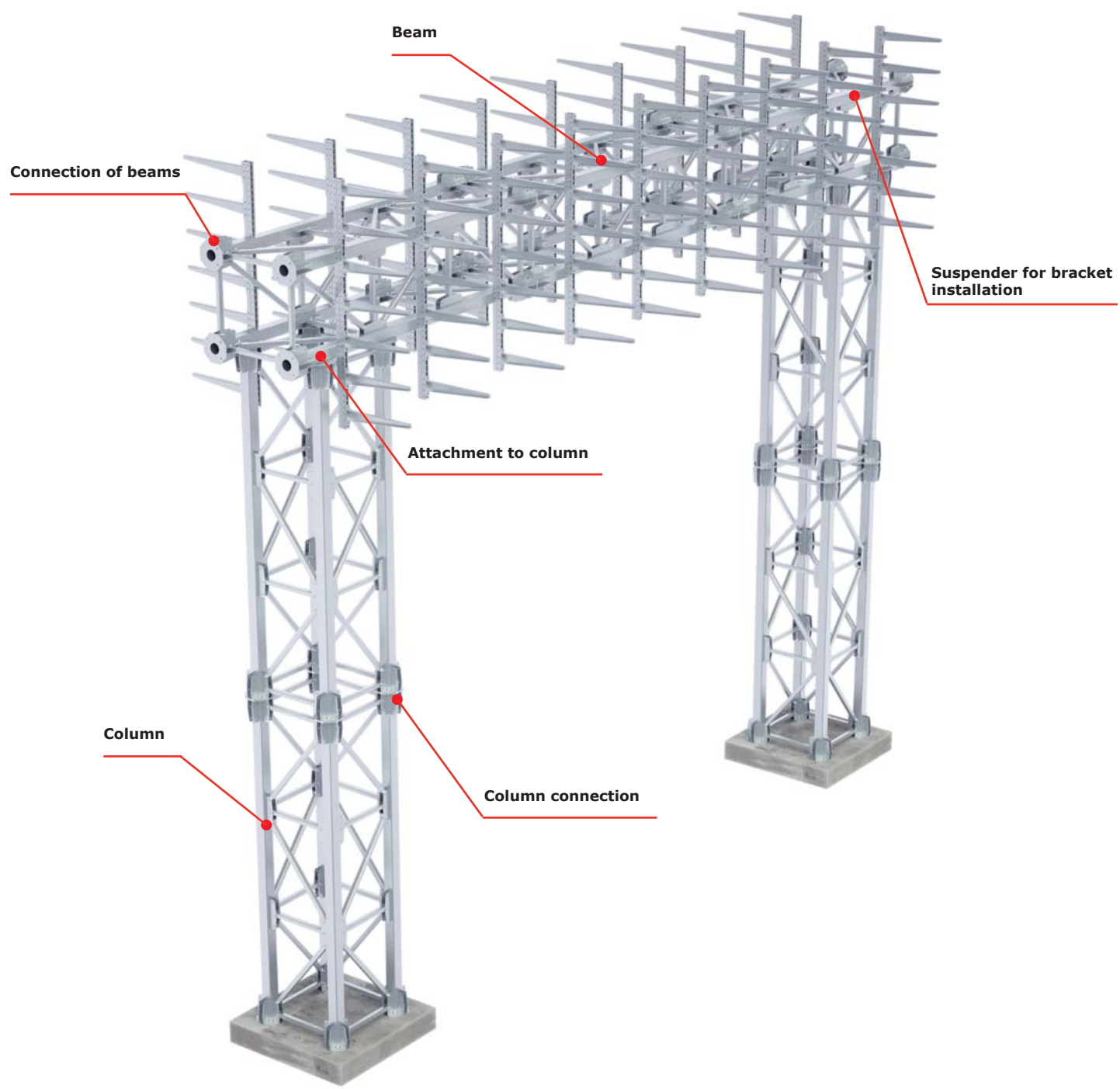


For quick and easy calculation of specification use configuration file at t5.dkc.ru

Standard elements

Part	Description	Q-ty	Measuring units	Code
Column with height of 3 m	stand L=3 m	2	pcs	CRS3000HDZ
	short diagonal	4	pcs	CRR1000HDZ
	long diagonal	3	pcs	CRR2000HDZ
	M12x80 8.8 bolt	14	pcs	CM021280HDZ-88
	M12 8 nut	14	pcs	CM111200HDZ-8
	12 washer	28	pcs	CM121200HDZ
Beam with length of 3 m	stand L=3 m	2	pcs	CRS3000HDZ
	short diagonal	4	pcs	CRR1000HDZ
	long diagonal	3	pcs	CRR2000HDZ
	M12x80 8.8 bolt	14	pcs	CM021280HDZ-88
	M12 8 nut	14	pcs	CM111200HDZ-8
	12 washer	28	pcs	CM121200HDZ
Interconnection of beams/ columns	M16x50 8.8 bolt	8	pcs	CM081650HDZ-88
	M16 8 nut	8	pcs	CM111600HDZ-8
	16 washer	16	pcs	CM241600HDZ
Beam attachment to column	fastening clamp	4	pcs	CRB1000HDZ
	12 washer	8	pcs	CM121200HDZ
	M12 hexagon nut	8	pcs	CM111200HDZ
Vertical suspender for bracket installation	600 mm suspender	1	pcs	BBD4160HDZ
	fastening clamp	1	pcs	CRB1000HDZ
	12 washer	2	pcs	CM121200HDZ
	M12 hexagon nut	2	pcs	CM111200HDZ

Truss rack



Truss rack is designed for laying of cable large mass, provision of long spans between columns, road crossovers and laying of mutually redundant power cable lines.

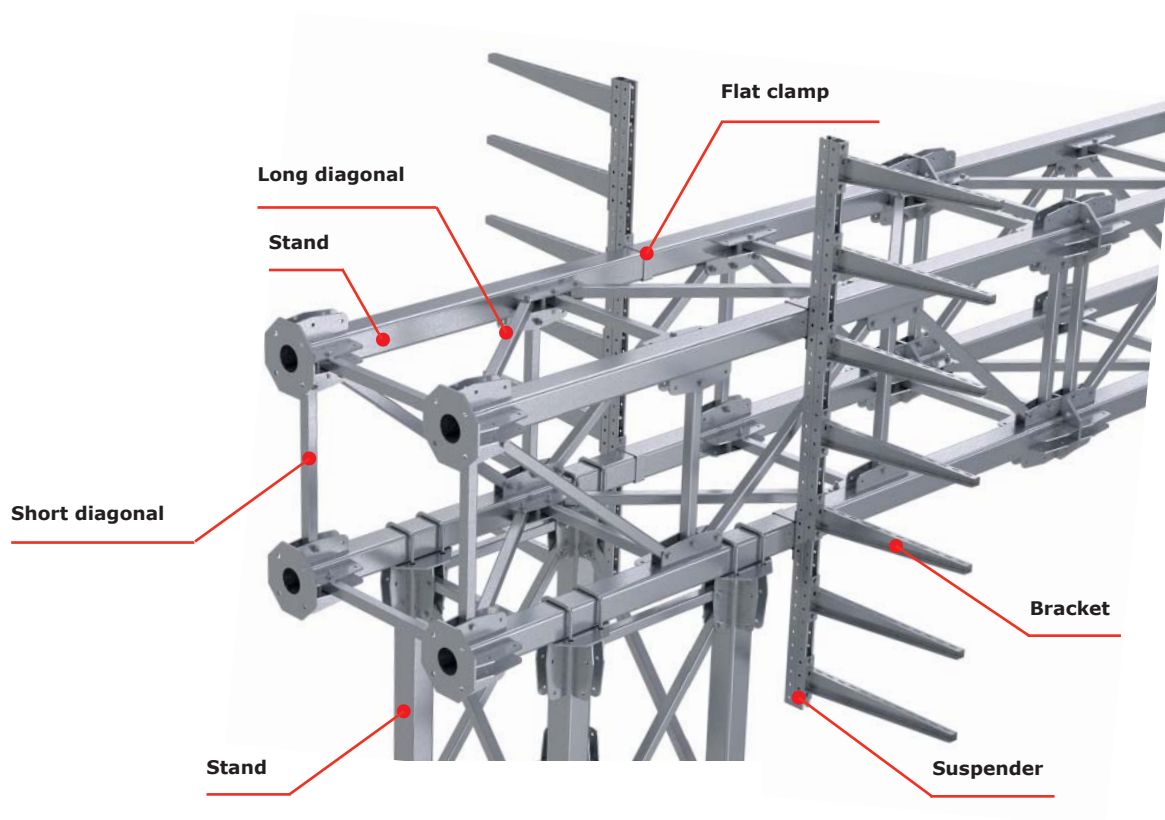
Columns and beams of truss rack consist of standard stands and connection diagonals combined into strong space structures. Due to uniform distribution of forces and moments occurred in elements in case of loads truss rack has high load bearing capacity, as well as resistance to wind, snow and ice loads.

Design load

Span length, m	Column height, m	Design load, kg/m
9	3	1000
	6	530

Calculations are performed in accordance with SNIP 2.01.07-85 not including loads from climatic effect of specific region. Data on loads for other variants of spans and heights are available on request.

Basic elements of truss rack

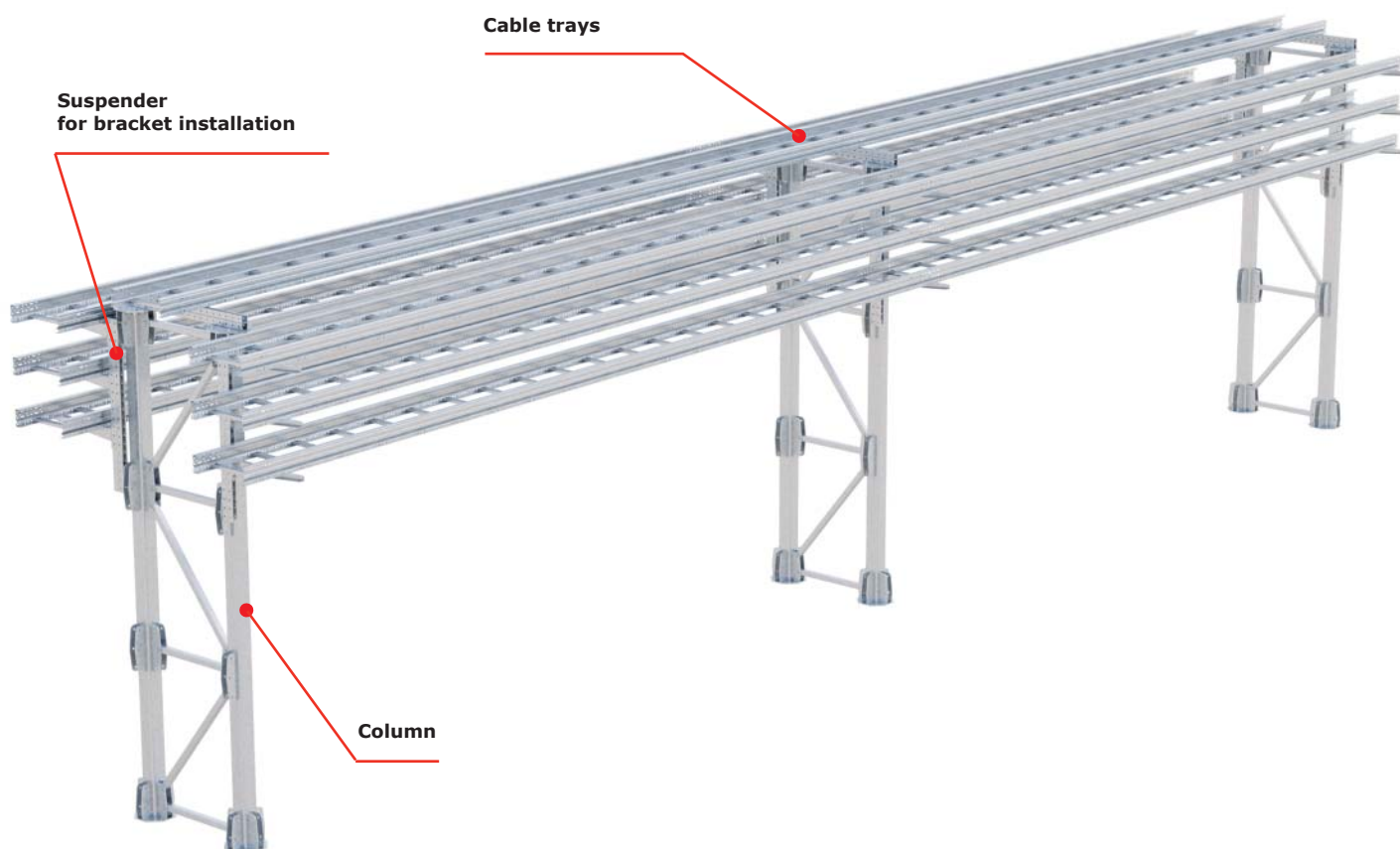


For quick and easy calculation of specification use configuration tool at t5.dkc.ru

Standard elements

Part	Description	Q-ty	Measuring units	Code
Column with height of 3 m	stand L=3 m	4	pcs	CRS3000HDZ
	short diagonal	16	pcs	CRR1000HDZ
	long diagonal	12	pcs	CRR2000HDZ
	M12x80 8.8 bolt	56	pcs	CM021280HDZ-88
	M12 8 nut	56	pcs	CM111200HDZ-8
	12 washer	112	pcs	CM121200HDZ
Beam with length of 3 m	stand L=3 m	4	pcs	CRS3000HDZ
	short diagonal	16	pcs	CRR1000HDZ
	long diagonal	12	pcs	CRR2000HDZ
	M12x80 8.8 bolt	56	pcs	CM021280HDZ-88
	M12 8 nut	56	pcs	CM111200HDZ-8
	12 washer	112	pcs	CM121200HDZ
Interconnection of beams/ columns	M16x50 8.8 bolt	16	pcs	CM081650HDZ-88
	M16 8 nut	16	pcs	CM111600HDZ-8
	16 washer	32	pcs	CM241600HDZ
Beam attachment to column	fastening clamp	8	pcs	CRB1000HDZ
	12 washer	16	pcs	CM121200HDZ
	M12 hexagon nut	16	pcs	CM111200HDZ
	1200 mm suspender	1	pcs	BPD4112HDZ
Vertical suspender for bracket installation	flat clamp	2	pcs	CRB2000HDZ
	10x30 T-bolt	4	pcs	CM041030
	M10 nut	4	pcs	CM101000HDZ

Beamless side rack



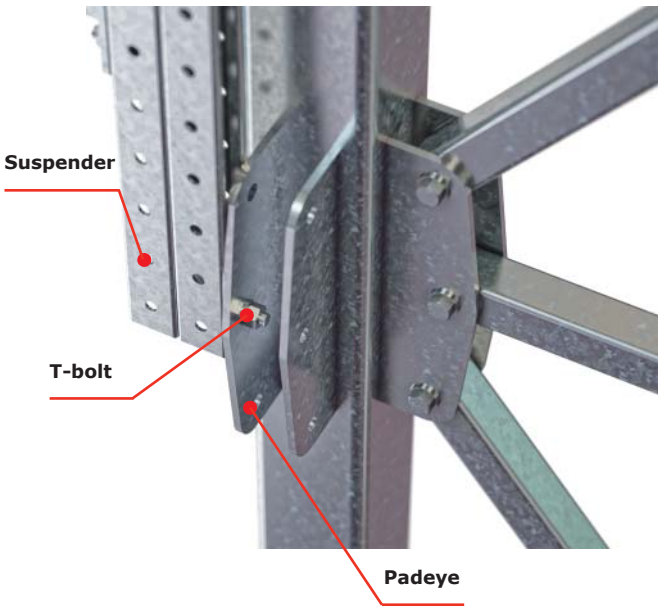
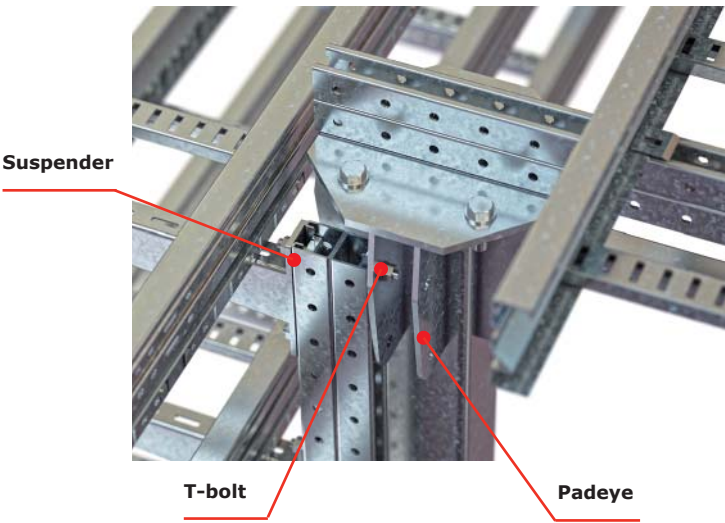
Beamless side rack is designed for laying of cable trays directly on the side of column. Side attachment makes it possible to install cable trays in several tiers while ensuring laying of mutually redundant power cable lines. It is recommended to install heavy cables trays of "U5 Combitech" series on columns to provide spans of 6 meters and more.

Application of beamless rack makes it possible to ease mounting of cable route, as well as to reduce its total value. Using the columns as universal shoring it is possible to provide solutions of the most non-standard tasks of above-ground cable laying.

Design load

Load capacity and acceptable column pitches of beamless rack are determined by load bearing capacity of applied cable trays.

Basic elements of beamless side rack

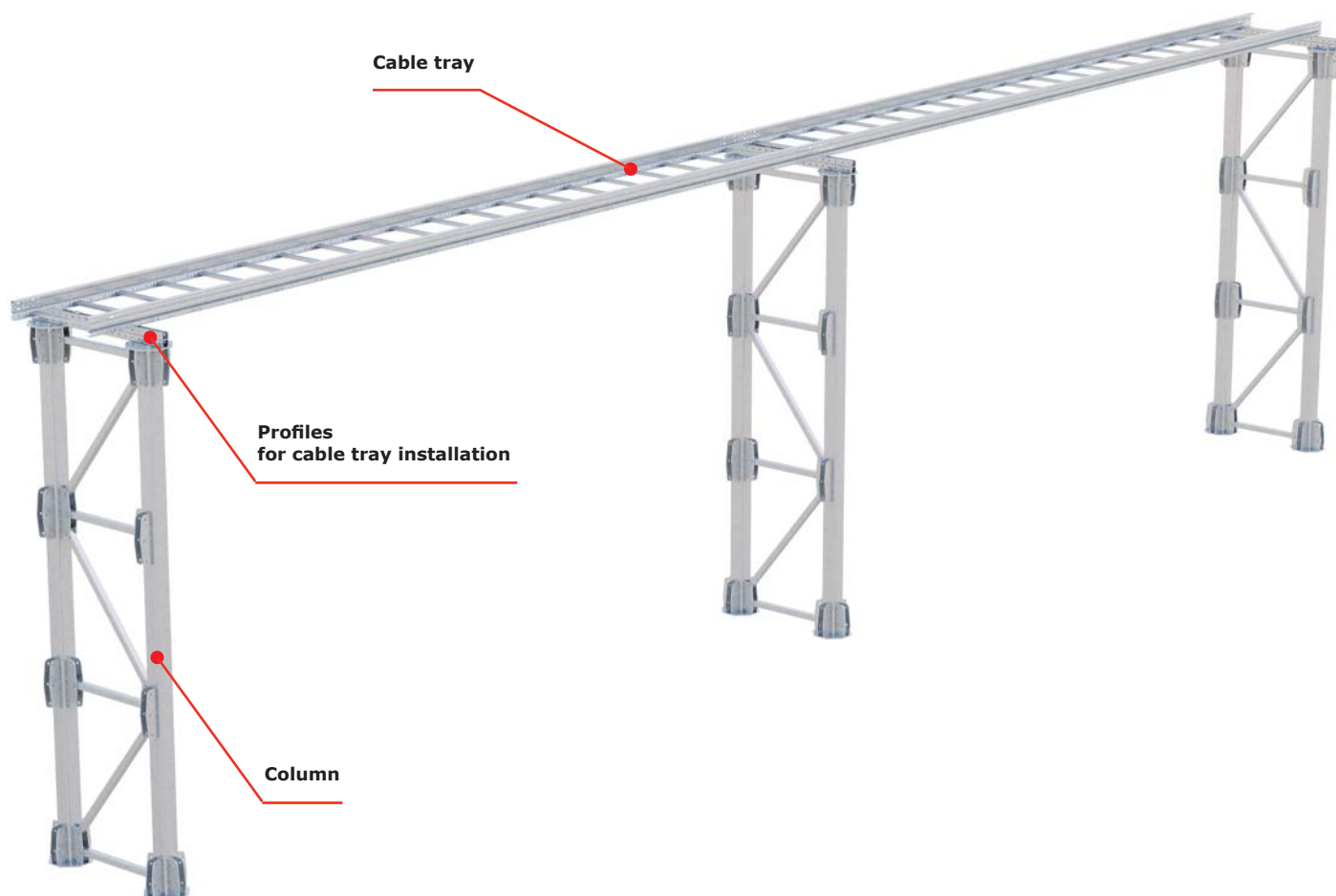


For quick and easy calculation of specification use configuration tool at t5.dkc.ru

Standard elements

Part	Description	Q-ty	Measuring units	Code
Column with height of 3 m	stand L=3 m	2	pcs	CRS3000HDZ
	short diagonal	4	pcs	CRR1000HDZ
	long diagonal	3	pcs	CRR2000HDZ
	M12x80 8.8 bolt	14	pcs	CM021280HDZ-88
	M12 8 nut	14	pcs	CM111200HDZ-8
	12 washer	28	pcs	CM121200HDZ
Suspender for bracket installation	1000 mm profile	1	pcs	BPD4110HDZ
	10x30 T-bolt	2	pcs	CM041030
	10 washer	2	pcs	CM241000HDZ
	M10 nut	2	pcs	CM101000HDZ

Beamless top rack



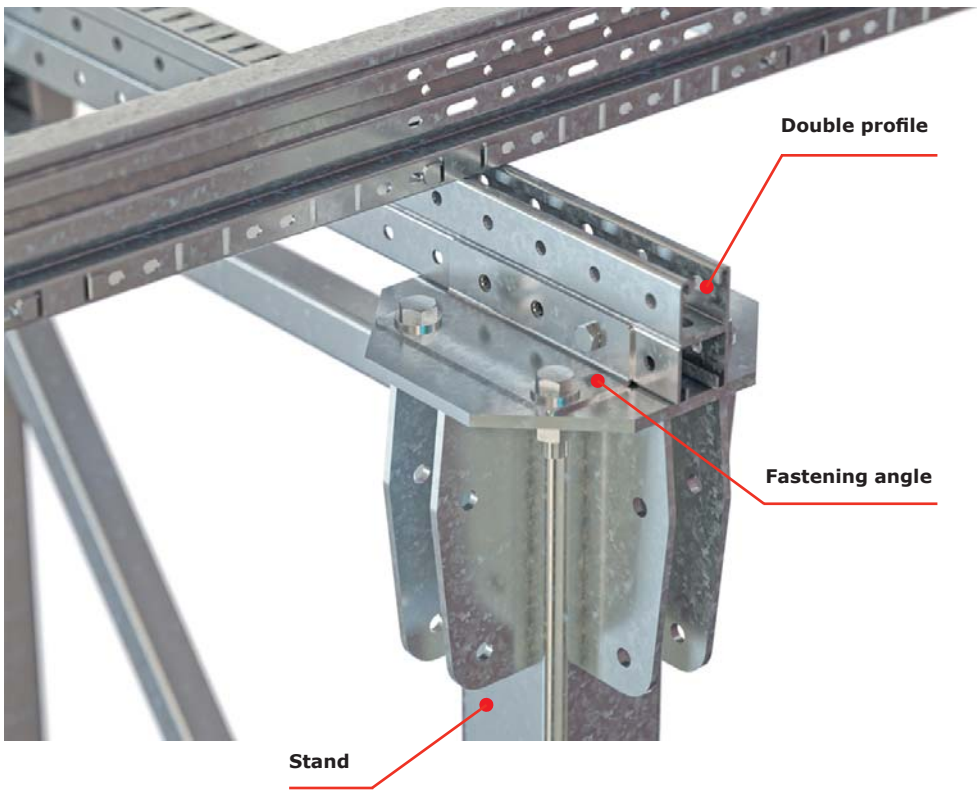
Beamless top rack is designed for laying of cable trays directly on columns. It is recommended to install heavy cables trays of "U5 Combitech" series on columns to provide spans of 6 meters and more.

Application of beamless rack makes it possible to ease mounting of cable route, as well as to reduce its total value. Using the columns as universal shoring it is possible to provide solutions of the most non-standard tasks of above-ground cable laying.

Design load

Load capacity and acceptable column pitches of beamless rack are determined by load bearing capacity of applied cable trays.

Basic elements of beamless top rack



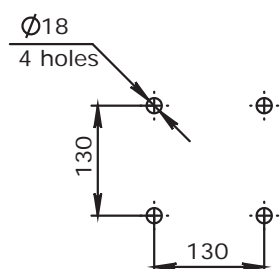
For quick and easy calculation of specification use configuration tool at t5.dkc.ru

Standard elements

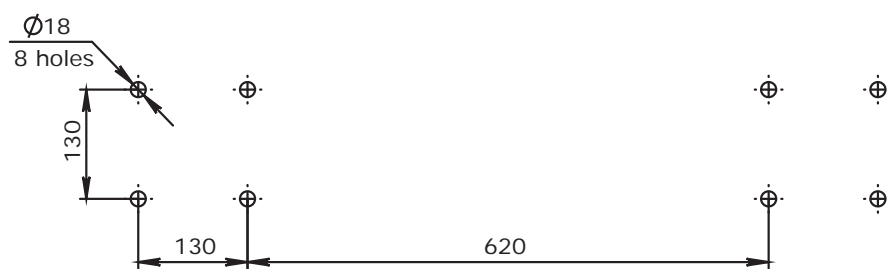
Part	Description	Q-ty	Measuring units	Code
Column with height of 3 m	stand L=3 m	2	pcs	CRS3000HDZ
	short diagonal	4	pcs	CRR1000HDZ
	long diagonal	3	pcs	CRR2000HDZ
	M12x80 8.8 bolt	14	pcs	CM021280HDZ-88
	M12 8 nut	14	pcs	CM111200HDZ-8
	12 washer	28	pcs	CM121200HDZ
Profile for cable tray installation	fastening angle	2	pcs	CRB3000HDZ
	M16 8.8 bolt	4	pcs	CM081650HDZ-88
	M16 8 nut	4	pcs	CM111600HDZ-8
	1000 mm profile	1	pcs	BPD4110HDZ
	M10x60 bolt	2	pcs	CM081060HDZ
	M10 nut	2	pcs	CM101000HDZ

Connection dimensions for column installation on foundation

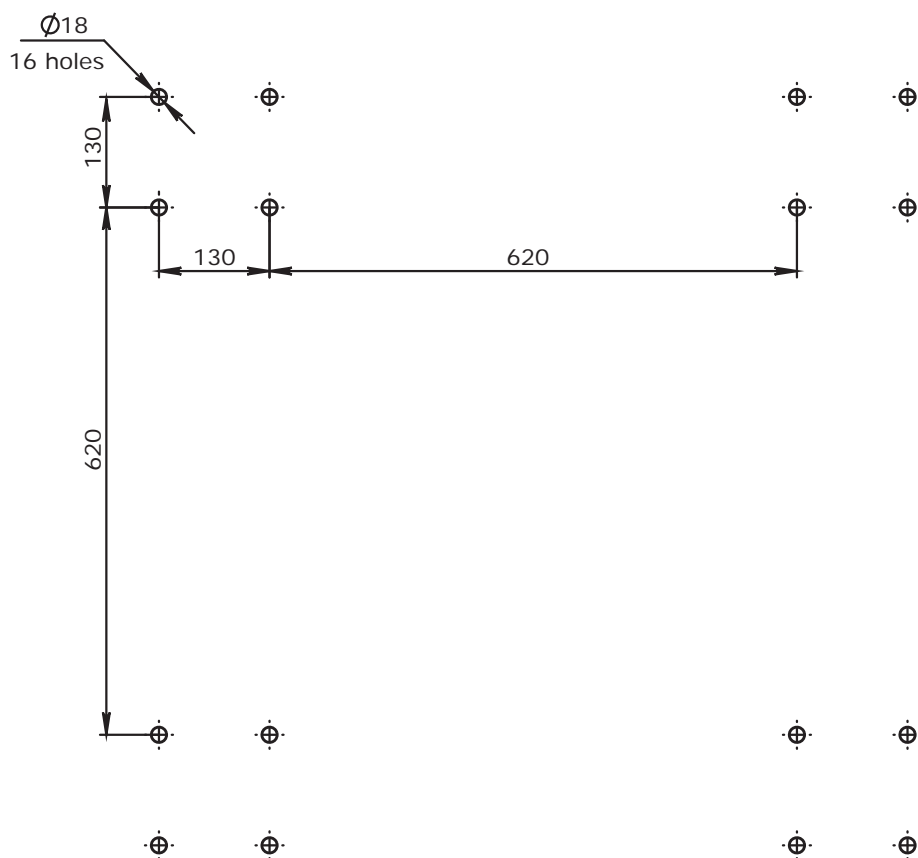
Connection dimensions show dimension and location of holes on column flanges for design of foundations and foundation platforms.



Connection dimensions of one-stand column



Connection dimensions of double-stand column



Connection dimensions of truss column

Basic regulatory documentation

Electrical Installation Code (PUE)

2.3.26. In the territories of power plants cable lines shall be laid in tunnels, ducts, channels, blocks, on racks and in galleries. Power cable laying in trenches is allowed only to remote auxiliary facilities (fuel storages, workshops) if the quantity is less than six.

2.3.72. Racks and galleries shall be equipped with lightning protection according to RD 34.21.122-87 Instruction on Provision of Lightning Protection of Buildings and Structures of the USSR Ministry of Energy.

2.3.120. Installation of partition walls specified in cl. 1, 3 and 4 on external cable racks and in external partially closed cable galleries is not required. In this case redundant power cable lines (excluding lines to consumers of special group of category I) shall be laid with a distance between them of at least 600 mm and it is recommended to arrange them: on racks on both sides of span support structure (beams, trusses); in galleries on different sides from the passage.

7.3.120. It is recommended to carry out open external laying of cables between hazardous areas: on racks, ropes, on building walls, and the like, avoiding when possible laying in underground cable structures (channels, blocks, tunnels) and trenches.

7.3.122. Cable racks may cross pipe racks with combustion gases and highly-flammable liquids both from the top and from the bottom regardless of density in relation to the air of transported gases.
If number of cables in crossing point is up to 15 cable racks may be not constructed; cables may be laid in tube unit or in tightly closed steel duct with wall thickness of at least 1.5 mm.

7.3.128. Open current distributors of up to 1 kV and more of flexible and rigid structures may be laid in the territory of enterprises with hazardous areas on special racks and supports.
Do not perform laying of open current distributors on pipe racks with combustion gases and highly-flammable liquids and on instrumentation racks.

NTP EPP-94 –Process Engineering Standards. Design of Industrial Power Supply

12.7. Cable systems with voltage of up to 35 kV outside the shops usually shall be laid open in above-ground structures: on process and cable racks, in partially closed cable galleries.

12.7.2. If there is no possibility to use process racks it is recommended to lay cables on non-passing cable racks with number of cables of up to 20–30 or on passing cable racks and in partially closed cable galleries with number of cables of more than 30–40. Cables laid on cable racks and in galleries shall be considered as unarmoured cables.

Usually passing cable racks and partially closed cable galleries shall be provided in case of cable laying at a height of more than 4.5 m from the ground level. It is recommended to use non-passing cable racks on a short route section only (in case of obstacle avoidance, change of rack location level, in branching points, etc.).

12.7.4. Effect of direct solar radiation in regions of northern geographical latitudes of more than 65° shall not be taken into account. Only cables for voltage of 20 kV and more shall be protected against effect of direct solar radiation at industrial enterprises located in regions of northern geographical latitudes of less than 65°.

12.8. Cable laying in fully closed cable galleries may be allowed only in justified cases (for example, in case of extremely aggressive environment, significant external thermal and mechanical effects, etc.).





Glass-reinforced plastic tray system "G5 Combitech"

Cable tray straight elements.....	385
Cable tray accessories.....	390
Cable tray universal accessories.....	401
Cable ladder straight elements.....	403
Cable ladder accessories	406
Cable ladder universal accessories	420
Consoles.....	422

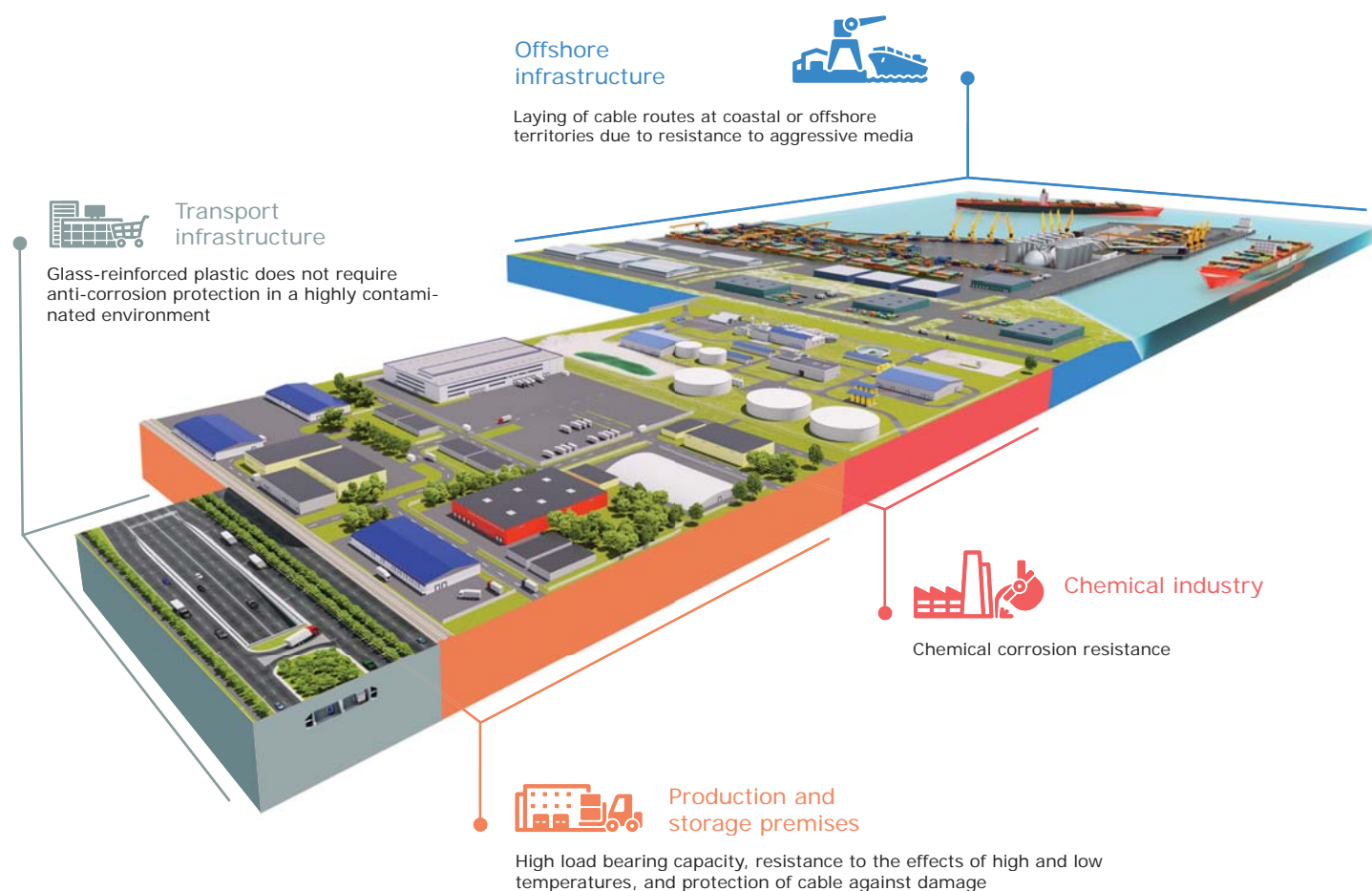
Glass-reinforced plastic tray system "G5 Combitech"

Application

"G5 Combitech" is the system of perforated and non-perforated glass-reinforced plastic cable trays and ladders, as well as of support structures for cable laying in aggressive media and extreme application conditions: coastal areas, deepwater oil rigs, shipbuilding, and chemical production.

Due to their unique corrosion resistance and strength characteristics glass-reinforced plastics became widely used in aircraft construction, shipbuilding and space hardware. Wide usage of glass-reinforced plastics in other spheres was slowed down mostly due to unavailability of an industrial technology that would let arrange mass production of profiles with complex configuration and required accuracy of dimensions. This problem was successfully solved with creation of pultrusion technology that is used to manufacture DKC glass-reinforced trays for cable support systems.

Trays and attachment systems made of glass-reinforced plastic are immune to electrochemical corrosion, bacterial decomposition, and are resistant to various aggressive media including the effects of salts, acids and alkali, and of the products of biological vital activity. At the present day, tray system "G5 Combitech" has no analogs on the Russian market, and it is recommended for application in laying cable routes under aggressive medium conditions.



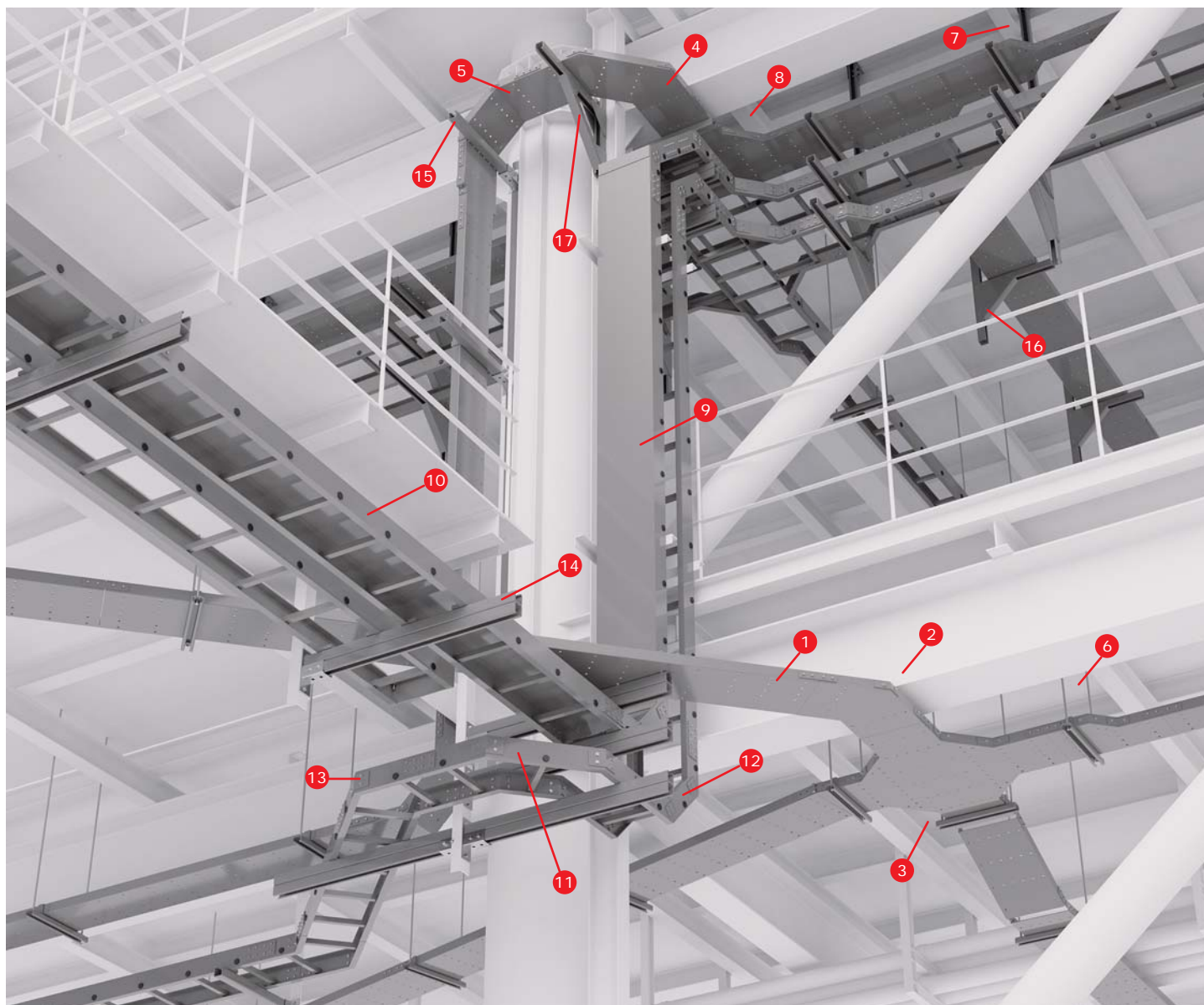
System composition

Cable trays

- tray side height: 50 and 80 mm;
- width: 50, 100, 150, 200, 300, 400, 500, 600 mm;
- length: 3 m;
- material thickness: 3 to 5 mm depending on the standard size of trays.

Cable ladders

- tray side height: 100 and 150 mm;
- width: 100, 150, 200, 300, 400, 500, 600, 750 and 900 mm;
- length: 3 m;
- material thickness: 4 mm is for the standard series; special series with thickness of 5 and 6 mm is provided on request.



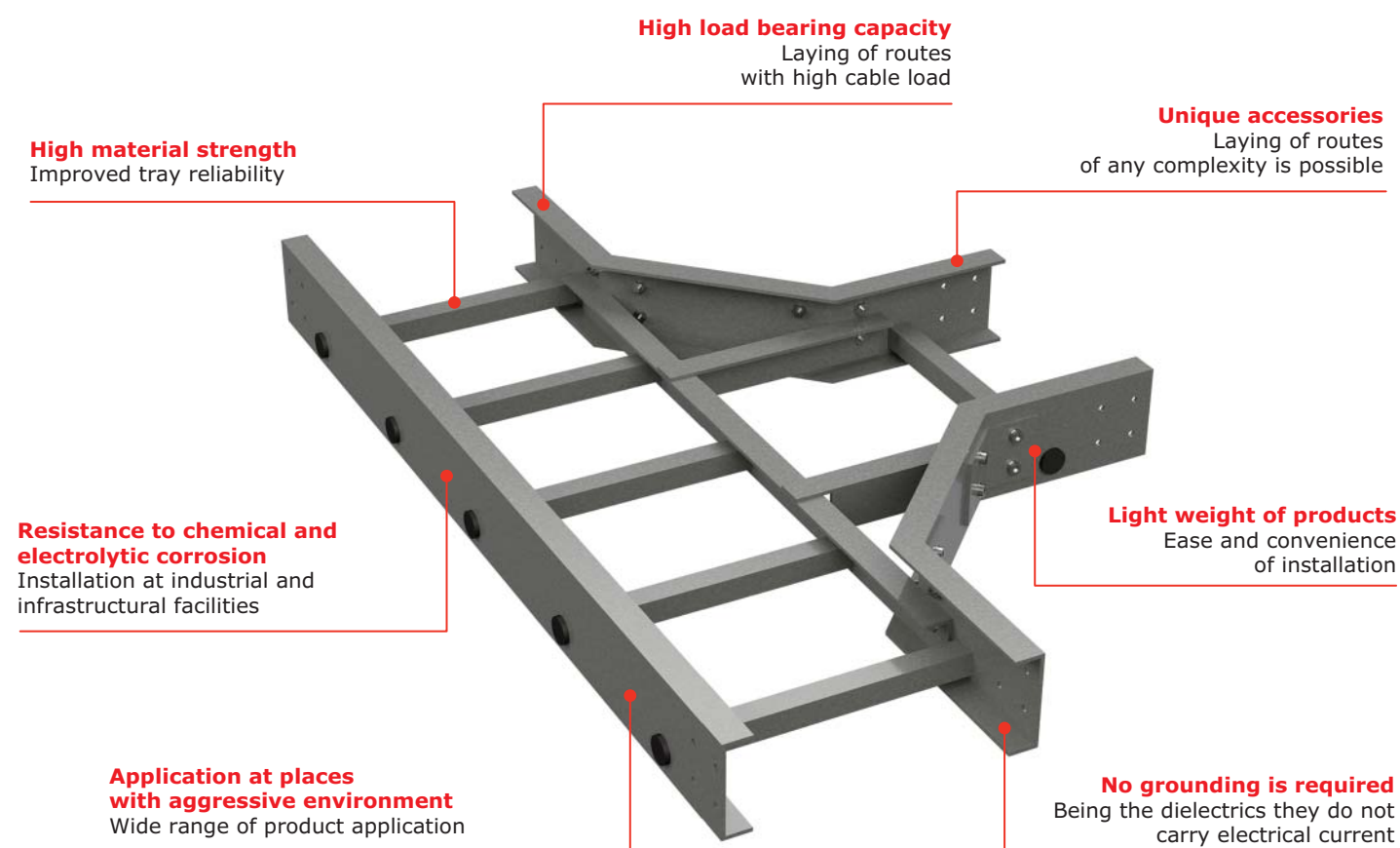
- | | |
|--------------------------------|---|
| ① Perforated cable tray | ⑩ Cable ladder |
| ② 45° angle | ⑪ 90° horizontal angle for a cable ladder |
| ③ X-tapper | ⑫ 90° internal angle for a cable ladder |
| ④ 90° angle | ⑬ 45° angle for a cable ladder |
| ⑤ 90° external vertical angle | ⑭ Double bracket |
| ⑥ Left-side adapter | ⑮ Single bracket |
| ⑦ Central adapter | ⑯ Console with a support |
| ⑧ T-tapper | ⑰ Console with a support for high loads |
| ⑨ Cover for a straight element | |

Characteristics

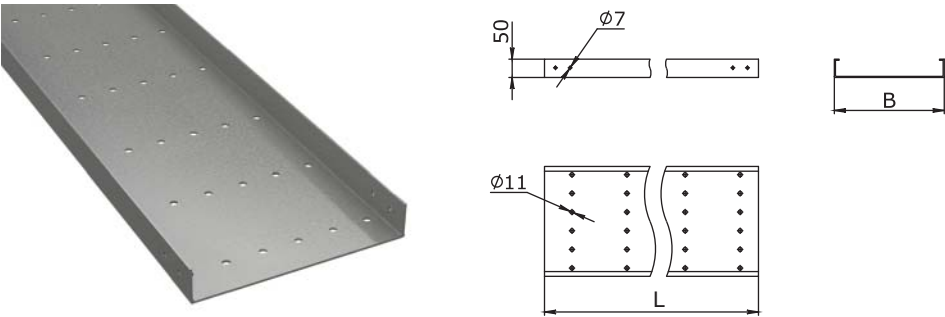
Technical characteristics

Characteristics	Values
Material	polyester, vinylester (on request)
Climatic version according to GOST 15150-69	U1, KhL1, UKhL1, UKhL5, OM1
Mounting and operating temperature, °C	from -80 to +100
Safe operating load tests	according to GOST 52868-2007, cl. 10.3
Shock resistance	at least 20 J according to GOST R 52868-2007

Distinctive features



Perforated trays with side wall height of 50 mm



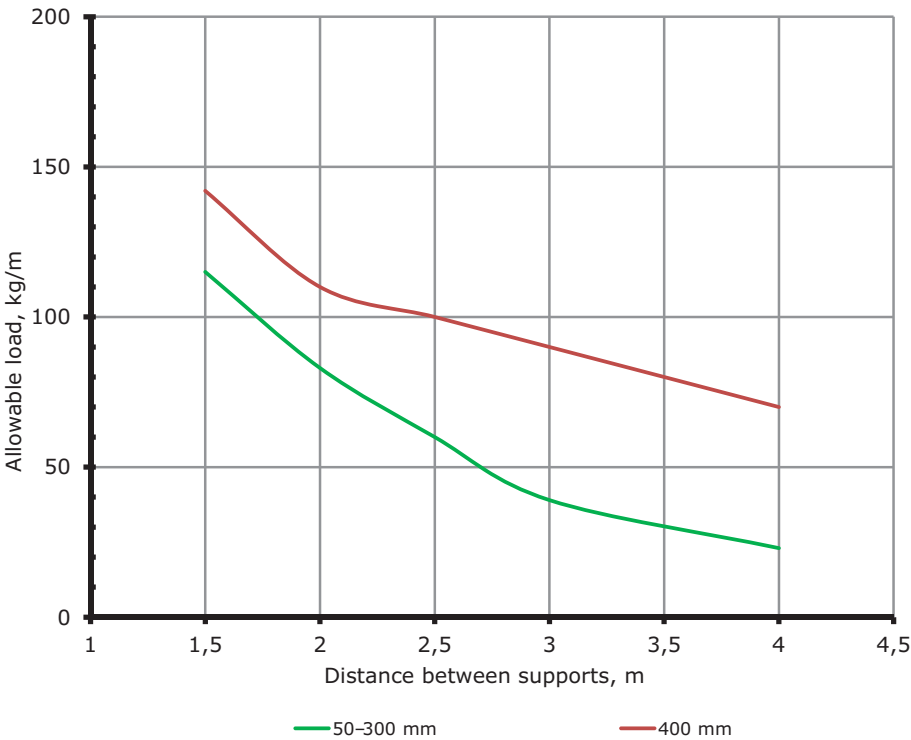
Purpose:

- installation of cable routes for laying of wires and cables.

Height H, mm	Length L, mm	Width B, mm	Thickness, mm	Weight, kg/m	TUA,* mm ²	Code
50	3000	50	3	0.92	2500	GPS30505
		100	3	1.32	4900	GPS30510
		150	3	1.55	7400	GPS30515
		200	3	2	9800	GPS30520
		300	3	2.6	14700	GPS30530
		400	5	4.7	19600	GPS30540

* Theoretically used area of a tray is the tray useful section within which a cable is located

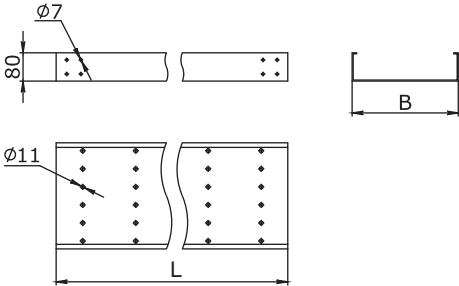
Load curve



Conditions of tray safe operating load tests:

- testing according to GOST 52868, cl. 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length;
- longitudinal bend is not more than 1/100 of the span length;
- lateral bend is not more than 1/20 of the tray width;
- safety factor is at least 1.7 of the claimed load.

Perforated trays with side wall height of 80 mm

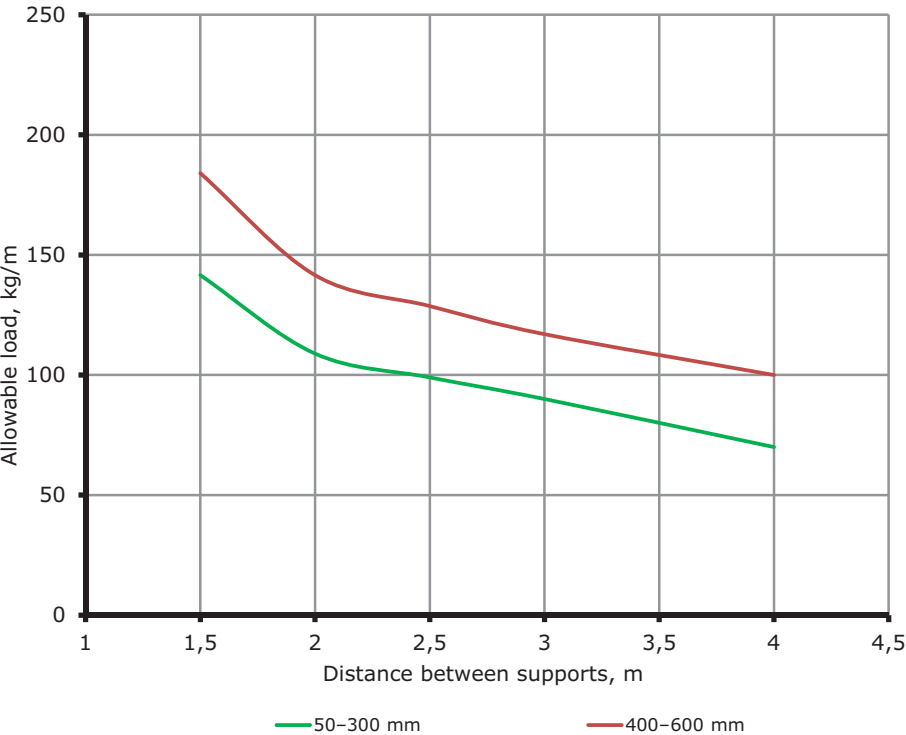


Purpose:
• installation of cable routes for laying of wires and cables.

Height H, mm	Length L, mm	Width B, mm	Thickness, mm	Weight, kg/m	TUA,* mm ²	Code
80	3000	100	3	1.74	7800	GPS30810
		150	3	1.9	11800	GPS30815
		200	3	2.23	15700	GPS30820
		300	3	2.73	23600	GPS30830
		400	5	5.85	31500	GPS30840
		500	5	6.2	39500	GPS30850
		600	5	6.6	48000	GPS30860

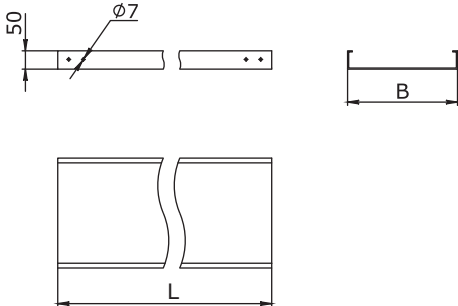
* Theoretically used area of a tray is the tray useful section within which a cable is located

Load curve



Conditions of tray safe operating load tests:
• testing according to GOST 52868, cl. 10.3.3;
• distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length;
• longitudinal bend is not more than 1/100 of the span length;
• lateral bend is not more than 1/20 of the tray width;
• safety factor is at least 1.7 of the claimed load.

Non-perforated trays with side wall height of 50 mm

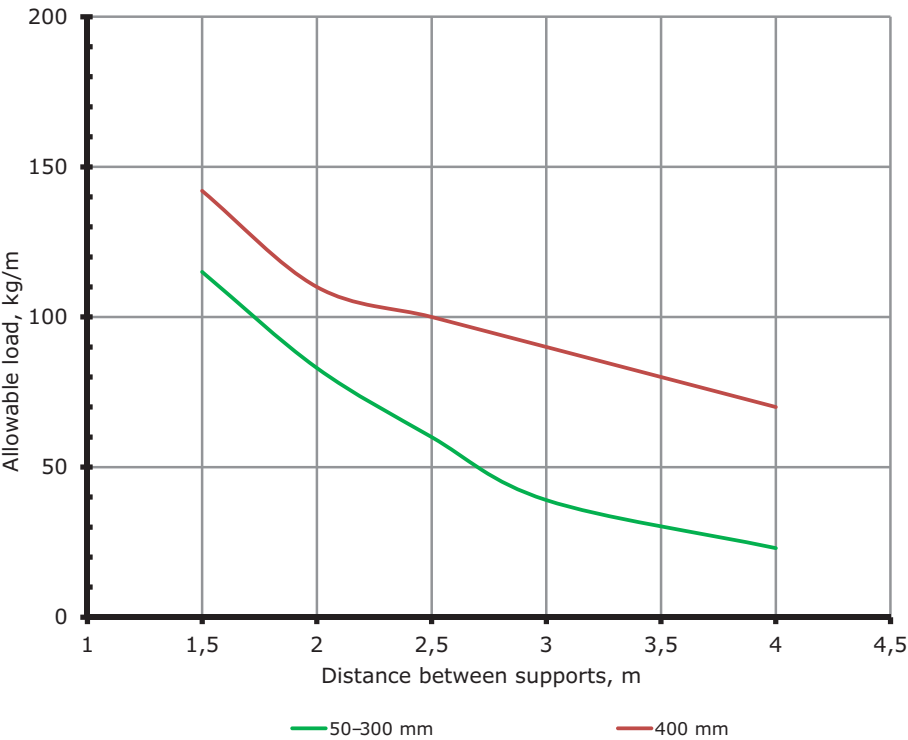


Purpose:
• installation of cable routes for laying of wires and cables.

Height H, mm	Length L, mm	Width B, mm	Thickness, mm	Weight, kg/m	TUA,* mm ²	Code
50	3000	50	3	0.92	2500	GNS30505
		100	3	1.32	4900	GNS30510
		150	3	1.55	7400	GNS30515
		200	3	2	9800	GNS30520
		300	3	2.6	14700	GNS30530
		400	5	4.7	19600	GNS30540

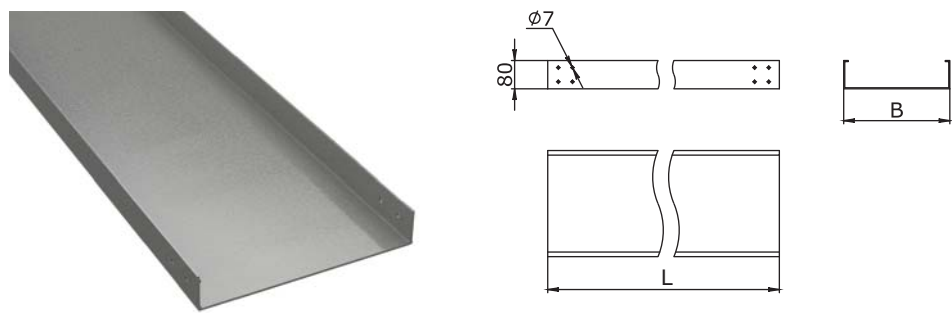
* Theoretically used area of a tray is the tray useful section within which a cable is located

Load curve



Conditions of tray safe operating load tests:
• testing according to GOST 52868, cl. 10.3.3;
• distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length;
• longitudinal bend is not more than 1/100 of the span length;
• lateral bend is not more than 1/20 of the tray width;
• safety factor is at least 1.7 of the claimed load.

Non-perforated trays with side wall height of 80 mm



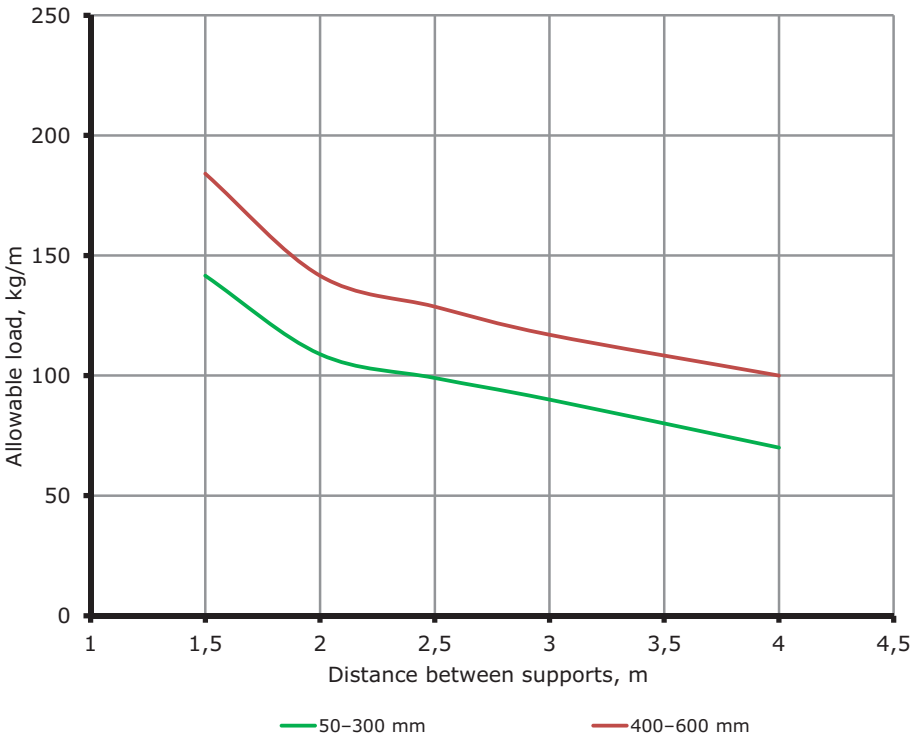
Purpose:

- installation of cable routes for laying of wires and cables.

Height H, mm	Length L, mm	Width B, mm	Thickness, mm	Weight, kg/m	TUA,* mm ²	Code
80	3000	100	3	1.74	7800	GNS30810
		150	3	1.9	11800	GNS30815
		200	3	2.23	15700	GNS30820
		300	3	2.73	23600	GNS30830
		400	5	5.85	31500	GNS30840
		500	5	6.2	39500	GNS30850
		600	5	6.6	48000	GNS30860

* Theoretically used area of a tray is the tray useful section within which a cable is located

Load curve



Conditions of tray safe operating load tests:

- testing according to GOST 52868, cl. 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length;
- longitudinal bend is not more than 1/100 of the span length;
- lateral bend is not more than 1/20 of the tray width;
- safety factor is at least 1.7 of the claimed load.

Cover for a straight element



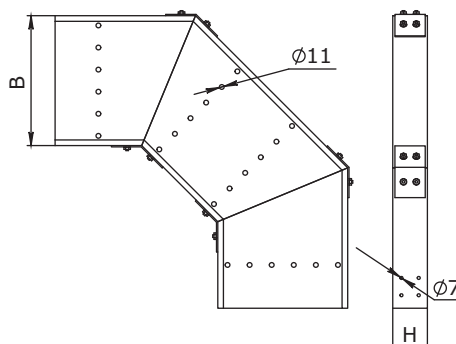
- Purpose:**
- cable protection against external effects.

Length L, mm	Width B, mm	Thickness, mm	Weight, kg/m	Code
3000	50	2	0.32	GKS30005
	100	2	0.52	GKS30010
	150	2	0.72	GKS30015
	200	3	1.45	GKS30020
	300	3	2.06	GKS30030
	400	3	2.67	GKS30040
	500	3	3.27	GKS30050
	600	3	3.82	GKS30060

Cable tray accessories

Angles

Horizontal angle of 90°



Purpose:

- organization of 90° route bend in horizontal plane.

Height H, mm	Width B, mm	Thickness, mm	Code
50	50	3	GCG90505
	100	3	GCG90510
	150	3	GCG90515
	200	3	GCG90520
	300	3	GCG90530
	400	5	GCG90540
80	100	3	GCG90810
	150	3	GCG90815
	200	3	GCG90820
	300	3	GCG90830
	400	5	GCG90840
	500	5	GCG90850
	600	5	GCG90860

Cover for 90° horizontal angle

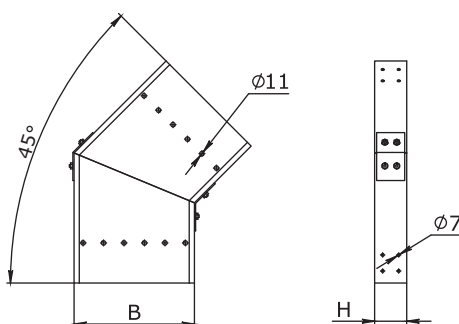


Purpose:

- cable protection against external effects.

Width B, mm	Thickness, mm	Code
50	2	GKG90005
100	2	GKG90010
150	2	GKG90015
200	3	GKG90020
300	3	GKG90030
400	3	GKG90040
500	3	GKG90050
600	3	GKG90060

45° horizontal angle



Purpose:

- organization of 45° route bend in horizontal plane.

Height H, mm	Width B, mm	Thickness, mm	Code
50	50	3	GCG40505
	100	3	GCG40510
	150	3	GCG40515
	200	3	GCG40520
	300	3	GCG40530
	400	5	GCG40540
80	100	3	GCG40810
	150	3	GCG40815
	200	3	GCG40820
	300	3	GCG40830
	400	5	GCG40840
	500	5	GCG40850
	600	5	GCG40860

Cover for 45° horizontal angle

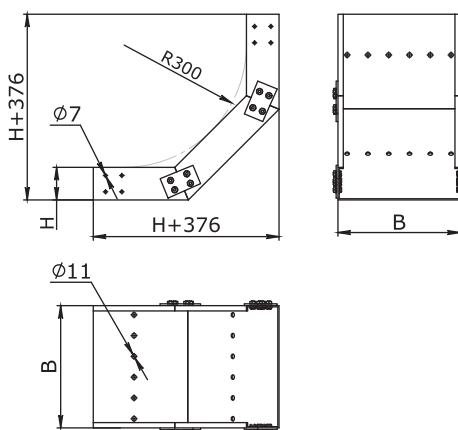


Purpose:

- cable protection against external effects.

Width B, mm	Thickness, mm	Code
50	2	GKG40005
100	2	GKG40010
150	2	GKG40015
200	3	GKG40020
300	3	GKG40030
400	3	GKG40040
500	3	GKG40050
600	3	GKG40060

90° internal vertical angle



Purpose:

- organization of route 90° upward bend.

Height H, mm	Width B, mm	Thickness, mm	Code
50	50	3	GCU90505
	100	3	GCU90510
	150	3	GCU90515
	200	3	GCU90520
	300	3	GCU90530
	400	5	GCU90540
80	100	3	GCU90810
	150	3	GCU90815
	200	3	GCU90820
	300	3	GCU90830
	400	5	GCU90840
	500	5	GCU90850
	600	5	GCU90860

Cover for 90° internal vertical angle

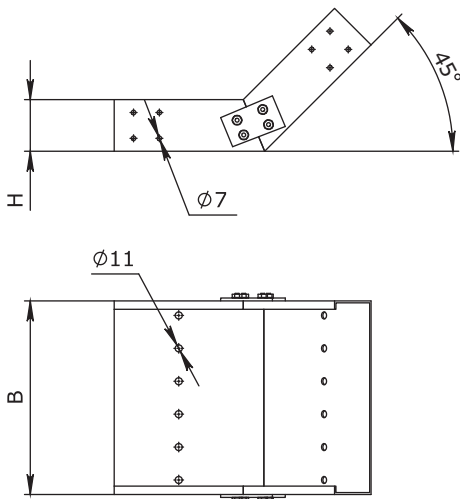


Purpose:

- cable protection against external effects.

Width B, mm	Thickness, mm	Code
50	2	GKU90005
100	2	GKU90010
150	2	GKU90015
200	3	GKU90020
300	3	GKU90030
400	3	GKU90040
500	3	GKU90050
600	3	GKU90060

45° internal vertical angle



Purpose:
• organization of route 45° upward bend.

Height H, mm	Width B, mm	Thickness, mm	Code
50	50	3	GCU40505
	100	3	GCU40510
	150	3	GCU40515
	200	3	GCU40520
	300	3	GCU40530
	400	5	GCU40540
80	100	3	GCU40810
	150	3	GCU40815
	200	3	GCU40820
	300	3	GCU40830
	400	5	GCU40840
	500	5	GCU40850
	600	5	GCU40860

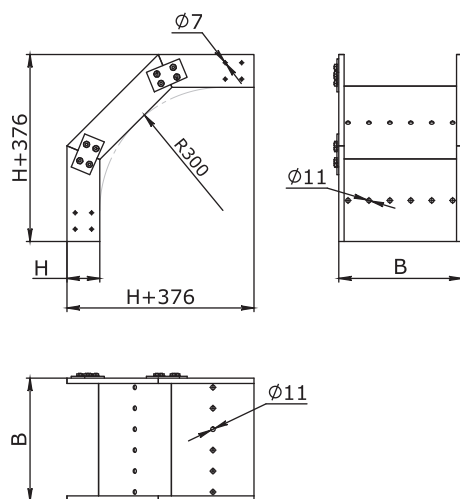
Cover for 45° internal vertical angle



Purpose:
• cable protection against external effects.

Width B, mm	Thickness, mm	Code
50	2	GKU40005
100	2	GKU40010
150	2	GKU40015
200	3	GKU40020
300	3	GKU40030
400	3	GKU40040
500	3	GKU40050
600	3	GKU40060

90° external vertical angle



Purpose:

- organization of route 90° downward bend.

Height H, mm	Width B, mm	Thickness, mm	Code
50	50	3	GCD90505
	100	3	GCD90510
	150	3	GCD90515
	200	3	GCD90520
	300	3	GCD90530
	400	5	GCD90540
80	100	3	GCD90810
	150	3	GCD90815
	200	3	GCD90820
	300	3	GCD90830
	400	5	GCD90840
	500	5	GCD90850
	600	5	GCD90860

Cover for 90° external vertical angle

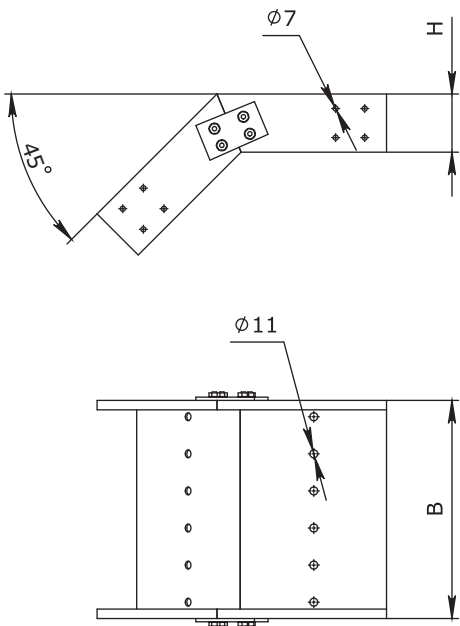


Purpose:

- cable protection against external effects.

Width B, mm	Thickness, mm	Code
50	2	GKD90005
100	2	GKD90010
150	2	GKD90015
200	3	GKD90020
300	3	GKD90030
400	3	GKD90040
500	3	GKD90050
600	3	GKD90060

45° external vertical angle



Purpose:
• organization of route 45° upward bend.

Height H, mm	Width B, mm	Thickness, mm	Code
50	50	3	GCD40505
	100	3	GCD40510
	150	3	GCD40515
	200	3	GCD40520
	300	3	GCD40530
	400	5	GCD40540
80	100	3	GCD40810
	150	3	GCD40815
	200	3	GCD40820
	300	3	GCD40830
	400	5	GCD40840
	500	5	GCD40850
	600	5	GCD40860

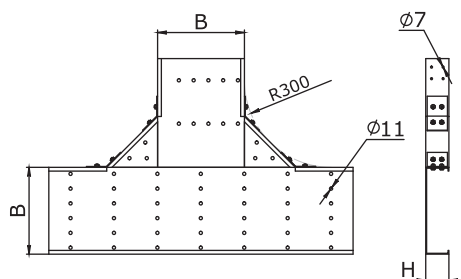
Cover for 45° external vertical angle



Purpose:
• cable protection against external effects.

Width B, mm	Thickness, mm	Code
50	2	GKD40005
100	2	GKD40010
150	2	GKD40015
200	3	GKD40020
300	3	GKD40030
400	3	GKD40040
500	3	GKD40050
600	3	GKD40060

T-tapper



Purpose:

- organization of T-shaped branching of a route in horizontal plane.

Height H, mm	Width B, mm	Thickness, mm	Code
50	50	3	GCT90505
	100	3	GCT90510
	150	3	GCT90515
	200	3	GCT90520
	300	3	GCT90530
	400	5	GCT90540
80	100	3	GCT90810
	150	3	GCT90815
	200	3	GCT90820
	300	3	GCT90830
	400	5	GCT90840
	500	5	GCT90850
	600	5	GCT90860

Cover for T-tapper

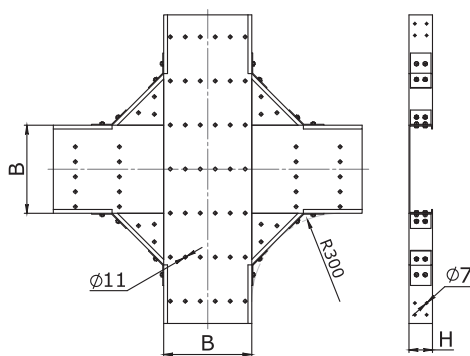


Purpose:

- cable protection against external effects.

Width B, mm	Thickness, mm	Code
50	2	GKT90005
100	2	GKT90010
150	2	GKT90015
200	3	GKT90020
300	3	GKT90030
400	3	GKT90040
500	3	GKT90050
600	3	GKT90060

X-tapper



Purpose:

- organization of X-shaped branching of a route in horizontal plane.

Height H, mm	Width B, mm	Thickness, mm	Code
50	50	3	GCX90505
	100	3	GCX90510
	150	3	GCX90515
	200	3	GCX90520
	300	3	GCX90530
	400	5	GCX90540
80	100	3	GCX90810
	150	3	GCX90815
	200	3	GCX90820
	300	3	GCX90830
	400	5	GCX90840
	500	5	GCX90850
	600	5	GCX90860

Cover for X-tapper

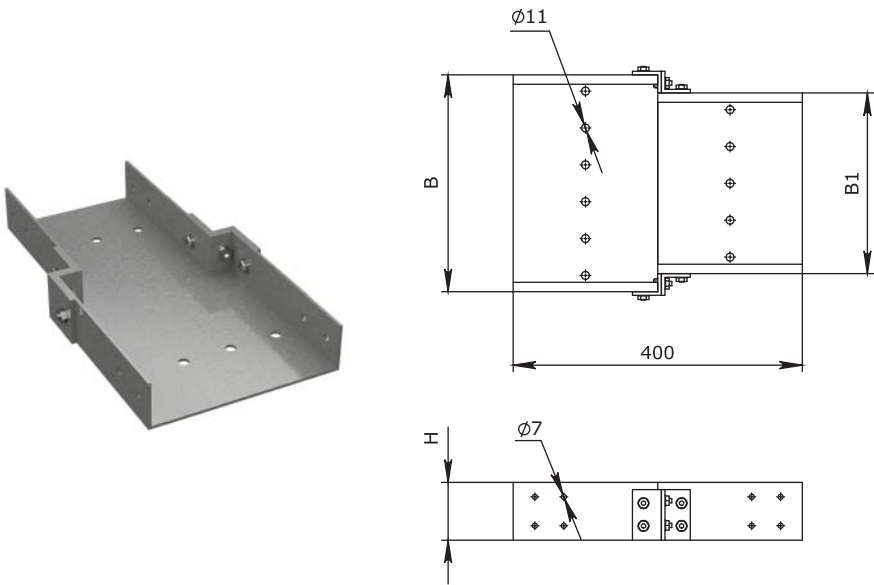


Purpose:

- cable protection against external effects.

Width B, mm	Thickness, mm	Code
50	2	GKX90005
100	2	GKX90010
150	2	GKX90015
200	3	GKX90020
300	3	GKX90030
400	3	GKX90040
500	3	GKX90050
600	3	GKX90060

Central adapter



Purpose:
• organization of symmetrical transfer to a tray with another width.

Height H, mm	Width B, mm	Width B1, mm	Thickness, mm	Code
50	100	50	3	GRC51005
	150	100	3	GRC51510
	200	150	3	GRC52015
	300	200	3	GRC53020
	400	300	5	GRC54030
80	150	100	3	GRC81510
	200	150	3	GRC82015
	300	200	3	GRC83020
	400	300	5	GRC84030
	500	400	5	GRC85040
	600	500	5	GRC86050

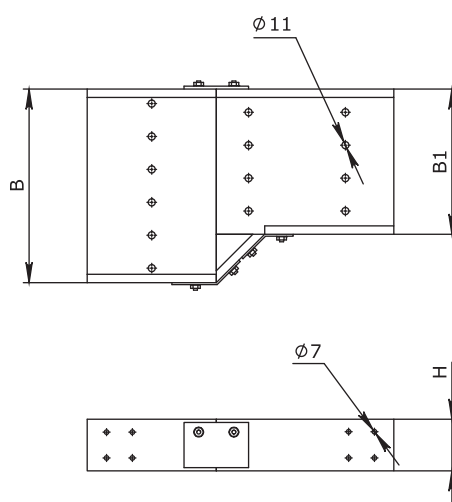
Cover for central adapter



Purpose:
• cable protection against external effects.

Width B, mm	Width B1, mm	Thickness, mm	Code
100	50	2	GKC51005
150	100	2	GKC51510
200	150	3	GKC52015
300	200	3	GKC53020
400	300	3	GKC54030
500	400	3	GKC85040
600	500	3	GKC86050

Left-side adapter



Purpose:

- organization of left-side transfer to a tray with another width.

Height H, mm	Width B, mm	Width B1, mm	Thickness, mm	Code
50	100	50	3	GRL51005
	150	100	3	GRL51510
	200	150	3	GRL52015
	300	200	3	GRL53020
	400	300	5	GRL54030
80	150	100	3	GRL81510
	200	150	3	GRL82015
	300	200	3	GRL83020
	400	300	5	GRL84030
	500	400	5	GRL85040
	600	500	5	GRL86050

Cover for left-side adapter

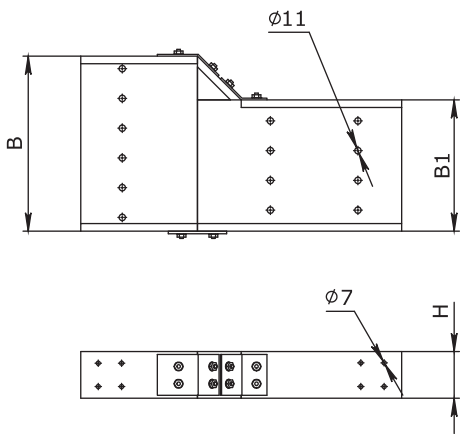


Purpose:

- cable protection against external effects.

Width B, mm	Width B1, mm	Thickness, mm	Code
100	50	2	GKL51005
150	100	2	GKL51510
200	150	3	GKL52015
300	200	3	GKL53020
400	300	3	GKL54030
500	400	3	GKL85040
600	500	3	GKL86050

Right-side adapter



Purpose:
• organization of right-side transfer to a tray with another width.

Height H, mm	Width B, mm	Width B1, mm	Thickness, mm	Code
50	100	50	3	GRR51005
	150	100	3	GRR51510
	200	150	3	GRR52015
	300	200	3	GRR53020
	400	300	5	GRR54030
80	150	100	3	GRR81510
	200	150	3	GRR82015
	300	200	3	GRR83020
	400	300	5	GRR84030
	500	400	5	GRR85040
	600	500	5	GRR86050

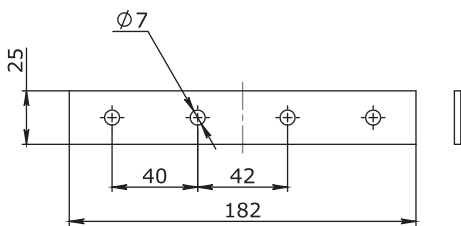
Cover for right-side adapter



Purpose:
• cable protection against external effects.

Width B, mm	Width B1, mm	Thickness, mm	Code
100	50	2	GKR51005
150	100	2	GKR51510
200	150	3	GKR52015
300	200	3	GKR53020
400	300	3	GKR54030
500	400	3	GKR85040
600	500	3	GKR86050

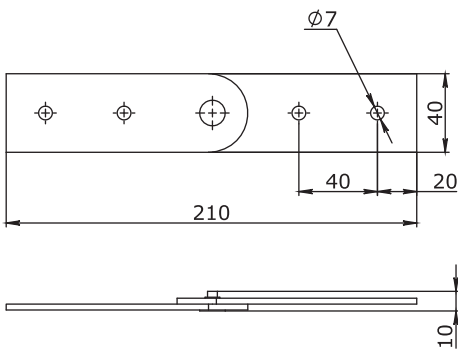
Connecting plate



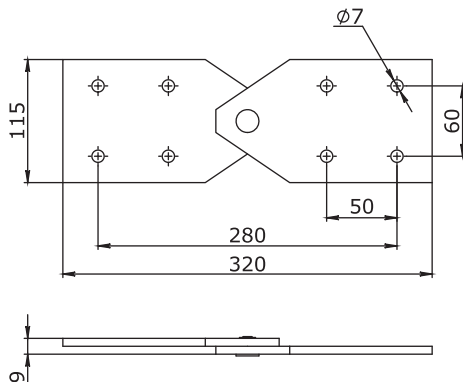
Purpose:
• connection of trays and accessories.

Height H, mm	Thickness, mm	Code
50	3	GPG00500
80	4.5	GPG00800

Vertical hinged tray connector

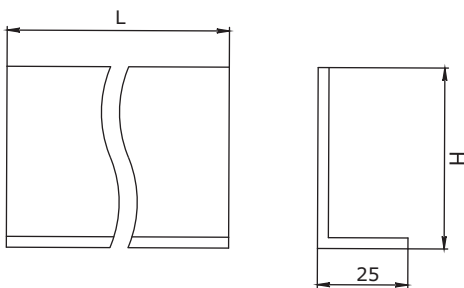


Purpose:
• changing the cable route laying level at a random angle.



Height H, mm	Thickness, mm	Code
50	3	GPV00500
80	4.5	GPV00800

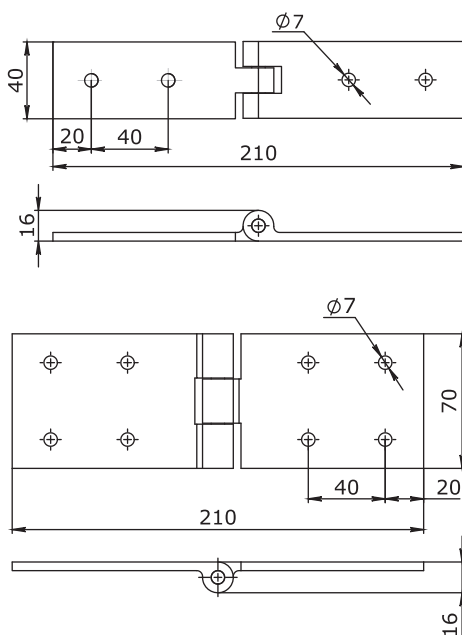
Partition wall



Purpose:
• separation of cable lines within a tray.

Height H, mm	Length L	Thickness, mm	Code
50	3000	2	GEP30005
80	3000	3	GEP30008

Horizontal hinged ladder connector

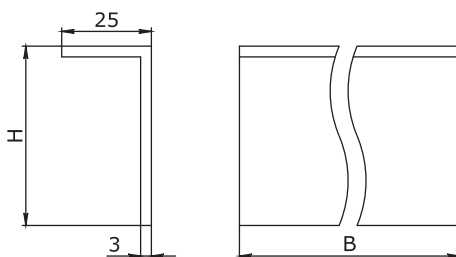


Purpose:

- changing cable route laying level at a random angle.

Height H, mm	Thickness, mm	Code
50	5	GPH00500
80	5	GPH00800

Plug



Purpose:

- for installation into the ladder edge at the route ending points.

Height H, mm	Width B, mm	Code
50	50	GTC00505
	100	GTC00510
	150	GTC00515
	200	GTC00520
	300	GTC00530
	400	GTC00540
80	100	GTC00810
	150	GTC00815
	200	GTC00820
	300	GTC00830
	400	GTC00840
	500	GTC00850
	600	GTC00860

Cover holder

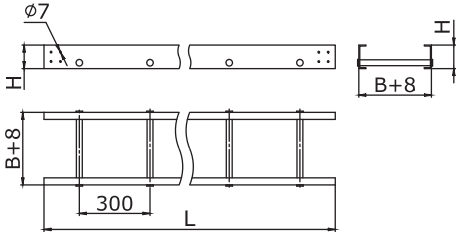


Purpose:

- attachment of ladder cover in case of open-air installation of cable ladders, trays, and perforated trays and ladders under high wind loads.

Height H, mm	Code
50	GCC50000
80	GCC80000

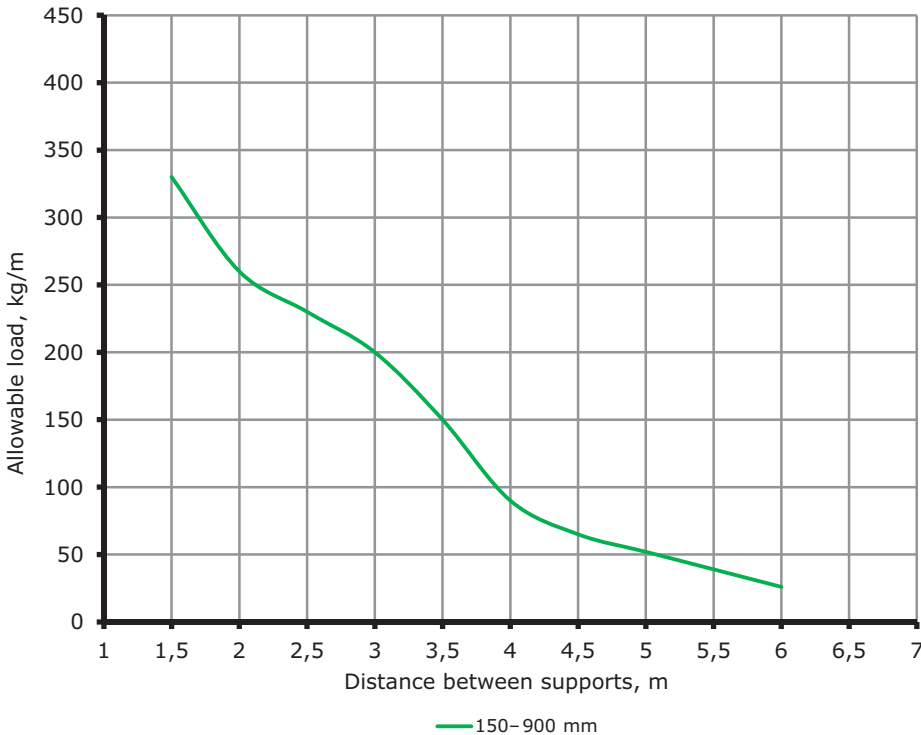
Ladders with side wall height of 100 mm



Purpose:
• installation of cable routes for laying of wires and cables.

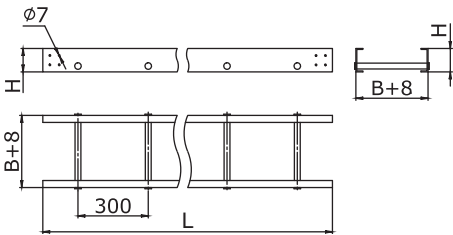
Height H, mm	Length L, mm	Width B, mm	Thickness, mm	Code
100	3000	150	4	GLL31015
		200	4	GLL31020
		300	4	GLL31030
		400	4	GLL31040
		500	4	GLL31050
		600	4	GLL31060
		750	4	GLL31075
		900	4	GLL31090

Load curve



Conditions of tray safe operating load tests:
• testing according to GOST 52868, cl. 10.3.3;
• distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length;
• longitudinal bend is not more than 1/100 of the span length;
• lateral bend is not more than 1/20 of the tray width;
• safety factor is at least 1.7 of the claimed load.

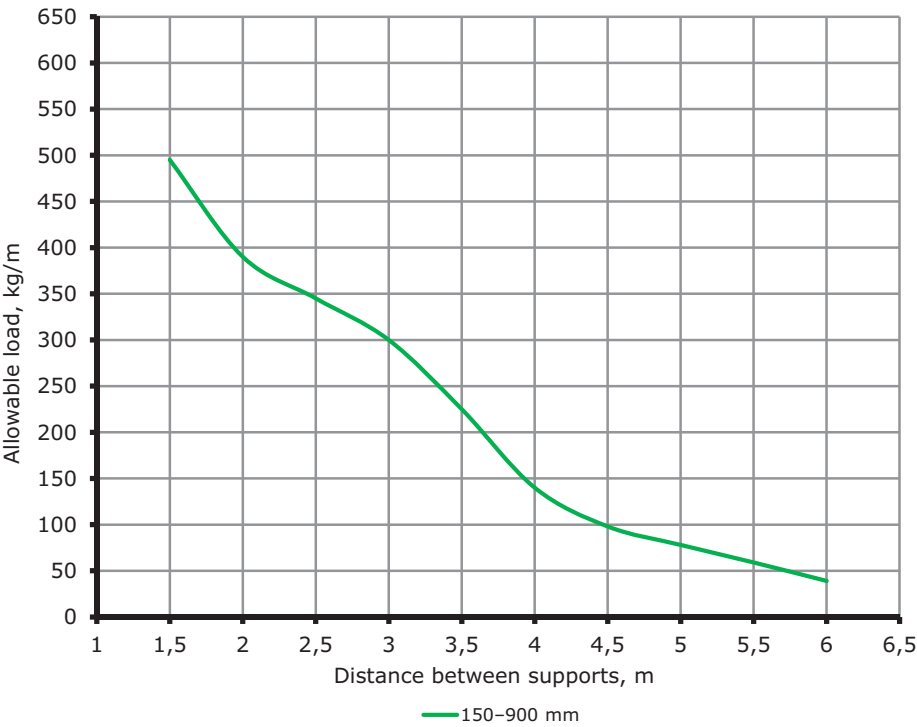
Ladders with side wall height of 150 mm



Purpose:
• installation of cable routes for laying of wires and cables.

Height H, mm	Length L, mm	Width B, mm	Thickness, mm	Code
150	3000	150	4	GLL31515
		200	4	GLL31520
		300	4	GLL31530
		400	4	GLL31540
		500	4	GLL31550
		600	4	GLL31560
		750	4	GLL31575
		900	4	GLL31590

Load curve



Conditions of tray safe operating load tests:
• testing according to GOST 52868, cl. 10.3.3;
• distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length;
• longitudinal bend is not more than 1/100 of the span length;
• lateral bend is not more than 1/20 of the tray width;
• safety factor is at least 1.7 of the claimed load.

Cover for a straight element



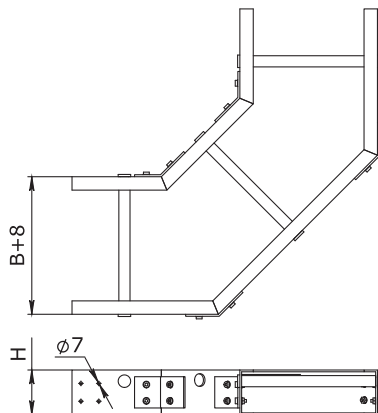
- Purpose:**
- cable protection against external effects.

Length L, mm	Width B, mm	Thickness, mm	Code
3000	150	2	GKS30015
	200	3	GKS30020
	300	3	GKS30030
	400	3	GKS30040
	500	3	GKS30050
	600	3	GKS30060
	750	3	GKS30075
	900	3	GKS30090

Cable ladder accessories

Angles

Horizontal angle of 90°



Purpose:

- organization of 90° route bend in horizontal plane.

Height H, mm	Width B, mm	Thickness, mm	Code
100	150	4	GLG91015
	200	4	GLG91020
	300	4	GLG91030
	400	4	GLG91040
	500	4	GLG91050
	600	4	GLG91060
	750	4	GLG91075
	900	4	GLG91090
150	150	4	GLG91515
	200	4	GLG91520
	300	4	GLG91530
	400	4	GLG91540
	500	4	GLG91550
	600	4	GLG91560
	750	4	GLG91575
	900	4	GLG91590

Cover for 90° horizontal angle

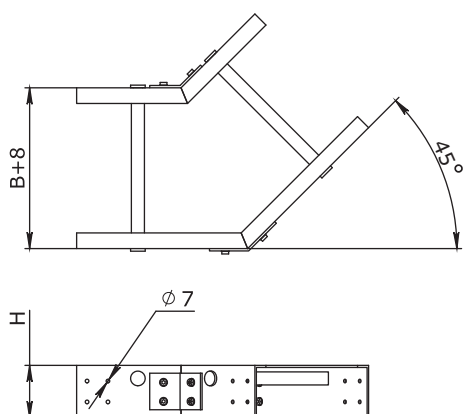


Purpose:

- cable protection against external effects.

Width B, mm	Thickness, mm	Code
150	4	GLK90015
200	4	GLK90020
300	4	GLK90030
400	4	GLK90040
500	4	GLK90050
600	4	GLK90060
750	4	GLK90075
900	4	GLK90090

45° horizontal angle



Purpose:

- organization of 45° route bend.

Height H, mm	Width B, mm	Thickness, mm	Code
100	150	4	GLG41015
	200	4	GLG41020
	300	4	GLG41030
	400	4	GLG41040
	500	4	GLG41050
	600	4	GLG41060
	750	4	GLG41075
	900	4	GLG41090
150	150	4	GLG41515
	200	4	GLG41520
	300	4	GLG41530
	400	4	GLG41540
	500	4	GLG41550
	600	4	GLG41560
	750	4	GLG41575
	900	4	GLG41590

Cover for 45° horizontal angle

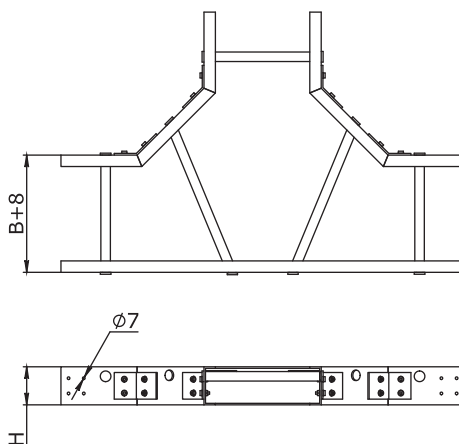


Purpose:

- cable protection against external effects.

Width B, mm	Thickness, mm	Code
150	4	GLK40015
200	4	GLK40020
300	4	GLK40030
400	4	GLK40040
500	4	GLK40050
600	4	GLK40060
750	4	GLK40075
900	4	GLK40090

T-tapper



Purpose:

- organization of T-shaped branching of a route in horizontal plane.

Height H, mm	Width B, mm	Thickness, mm	Code
100	150	4	GLT91015
	200	4	GLT91020
	300	4	GLT91030
	400	4	GLT91040
	500	4	GLT91050
	600	4	GLT91060
	750	4	GLT91075
	900	4	GLT91090
150	150	4	GLT91515
	200	4	GLT91520
	300	4	GLT91530
	400	4	GLT91540
	500	4	GLT91550
	600	4	GLT91560
	750	4	GLT91575
	900	4	GLT91590

Cover for T-tapper

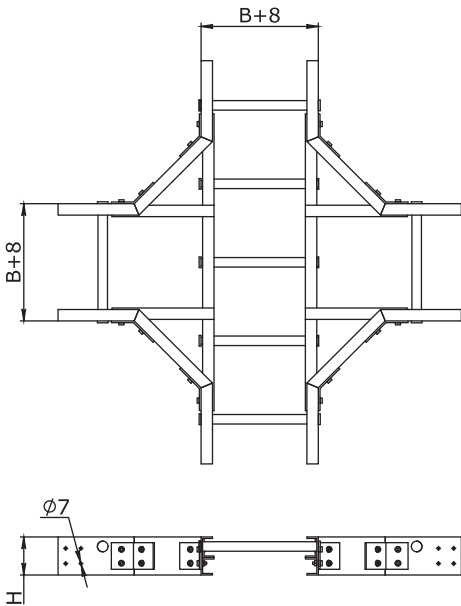


Purpose:

- cable protection against external effects.

Width B, mm	Thickness, mm	Code
150	4	GLT90015
200	4	GLT90020
300	4	GLT90030
400	4	GLT90040
500	4	GLT90050
600	4	GLT90060
750	4	GLT90075
900	4	GLT90090

X-tapper



Purpose:

- organization of X-shaped branching of a route in horizontal plane.

Height H, mm	Width B, mm	Thickness, mm	Code
100	150	4	GLX91015
	200	4	GLX91020
	300	4	GLX91030
	400	4	GLX91040
	500	4	GLX91050
	600	4	GLX91060
	750	4	GLX91075
	900	4	GLX91090
150	150	4	GLX91515
	200	4	GLX91520
	300	4	GLX91530
	400	4	GLX91540
	500	4	GLX91550
	600	4	GLX91560
	750	4	GLX91575
	900	4	GLX91590

Cover for X-tapper

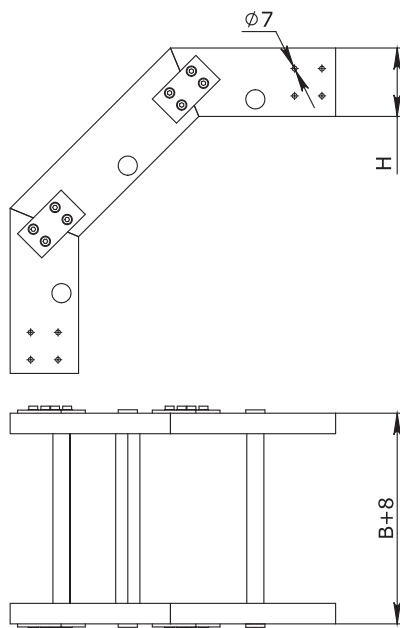


Purpose:

- cable protection against external effects.

Width B, mm	Thickness, mm	Code
150	4	GLX90015
200	4	GLX90020
300	4	GLX90030
400	4	GLX90040
500	4	GLX90050
600	4	GLX90060
750	4	GLX90075
900	4	GLX90090

90° external vertical angle



Purpose:

- organization of route 90° downward bend.

Height H, mm	Width B, mm	Thickness, mm	Code
100	150	4	GLD91015
	200	4	GLD91020
	300	4	GLD91030
	400	4	GLD91040
	500	4	GLD91050
	600	4	GLD91060
	750	4	GLD91075
	900	4	GLD91090
150	150	4	GLD91515
	200	4	GLD91520
	300	4	GLD91530
	400	4	GLD91540
	500	4	GLD91550
	600	4	GLD91560
	750	4	GLD91575
	900	4	GLD91590

Cover for 90° external vertical angle

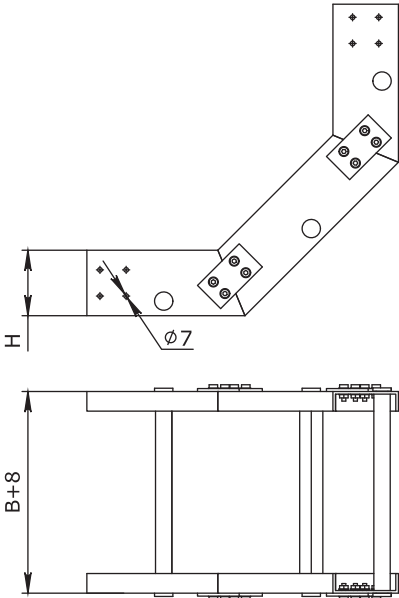


Purpose:

- cable protection against external effects.

Width B, mm	Thickness, mm	Code
150	4	GLD90015
200	4	GLD90020
300	4	GLD90030
400	4	GLD90040
500	4	GLD90050
600	4	GLD90060
750	4	GLD90075
900	4	GLD90090

90° internal vertical angle



Purpose:
• organization of route 90° upward bend.

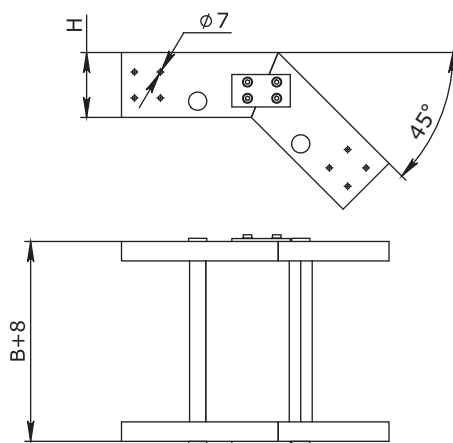
Height H, mm	Width B, mm	Thickness, mm	Code
100	150	4	GLU91015
	200	4	GLU91020
	300	4	GLU91030
	400	4	GLU91040
	500	4	GLU91050
	600	4	GLU91060
	750	4	GLU91075
	900	4	GLU91090
150	150	4	GLU91515
	200	4	GLU91520
	300	4	GLU91530
	400	4	GLU91540
	500	4	GLU91550
	600	4	GLU91560
	750	4	GLU91575
	900	4	GLU91590

Cover for 90° internal vertical angle



Purpose:
• cable protection against external effects.

Width B, mm	Thickness, mm	Code
150	4	GLU90015
200	4	GLU90020
300	4	GLU90030
400	4	GLU90040
500	4	GLU90050
600	4	GLU90060
750	4	GLU90075
900	4	GLU90090

45° external vertical angle

Purpose:

- organization of route 45° downward bend.

Height H, mm	Width B, mm	Thickness, mm	Code
100	150	4	GLD41015
	200	4	GLD41020
	300	4	GLD41030
	400	4	GLD41040
	500	4	GLD41050
	600	4	GLD41060
	750	4	GLD41075
	900	4	GLD41090
150	150	4	GLD41515
	200	4	GLD41520
	300	4	GLD41530
	400	4	GLD41540
	500	4	GLD41550
	600	4	GLD41560
	750	4	GLD41575
	900	4	GLD41590

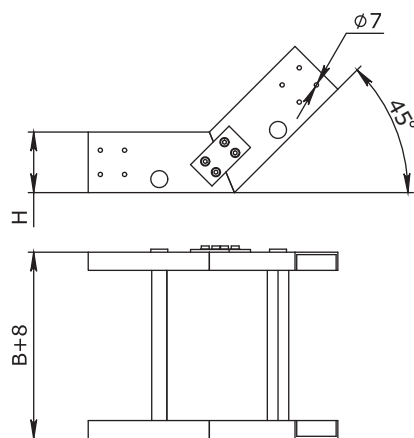
Cover for 45° external vertical angle

Purpose:

- cable protection against external effects.

Width B, mm	Thickness, mm	Code
150	4	GLD40015
200	4	GLD40020
300	4	GLD40030
400	4	GLD40040
500	4	GLD40050
600	4	GLD40060
750	4	GLD40075
900	4	GLD40090

45° internal vertical angle



Purpose:

- organization of route 45° upward bend.

Height H, mm	Width B, mm	Thickness, mm	Code
100	150	4	GLU41015
	200	4	GLU41020
	300	4	GLU41030
	400	4	GLU41040
	500	4	GLU41050
	600	4	GLU41060
	750	4	GLU41075
	900	4	GLU41090
150	150	4	GLU41515
	200	4	GLU41520
	300	4	GLU41530
	400	4	GLU41540
	500	4	GLU41550
	600	4	GLU41560
	750	4	GLU41575
	900	4	GLU41590

Cover for 45° internal vertical angle

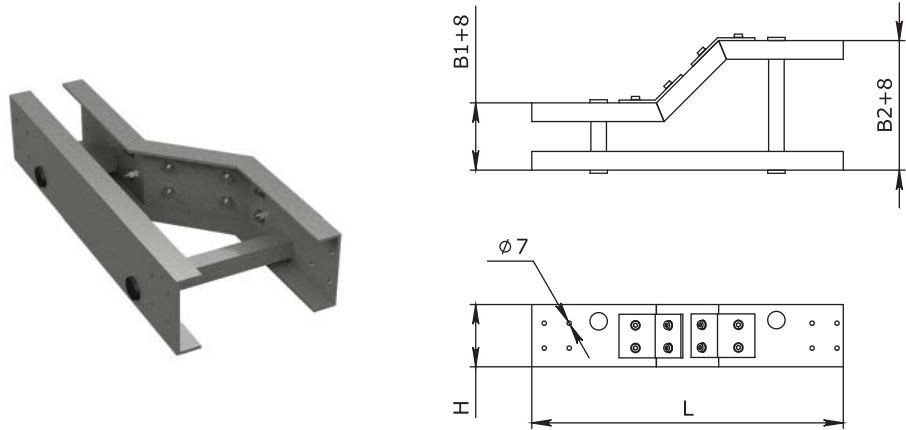


Purpose:

- cable protection against external effects.

Width B, mm	Thickness, mm	Code
150	4	GLU40015
200	4	GLU40020
300	4	GLU40030
400	4	GLU40040
500	4	GLU40050
600	4	GLU40060
750	4	GLU40075
900	4	GLU40090

Left-side adapter



Purpose:
• organization of left-side transfer to a tray with another width.

Height H, mm	Width B, mm	Width B1, mm	Thickness, mm	Code
100	200	150	4	GLL12015
	300	150	4	GLL13015
	300	200	4	GLL13020
	400	150	4	GLL14015
	400	300	4	GLL14030
	500	300	4	GLL15030
	500	400	4	GLL15040
	600	400	4	GLL16040
	600	500	4	GLL16050
	750	500	4	GLL17550
	750	600	4	GLL17560
	900	600	4	GLL19060
	900	750	4	GLL19075
	200	150	4	GLL15215
150	300	150	4	GLL15315
	300	200	4	GLL15320
	400	150	4	GLL15415
	400	300	4	GLL15430
	500	300	4	GLL15530
	500	400	4	GLL15540
	600	400	4	GLL15640
	600	500	4	GLL15650
	750	500	4	GLL15750
	750	600	4	GLL15760
	900	600	4	GLL15960
	900	750	4	GLL15975

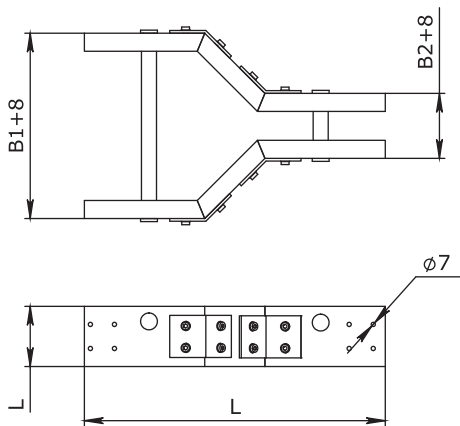
Cover for left-side adapter



- Purpose:**
- cable protection against external effects.

Width B, mm	Width B1, mm	Thickness, mm	Code,
200	150	4	GLL02015
300	150	4	GLL03015
300	200	4	GLL03020
400	150	4	GLL04015
400	300	4	GLL04030
500	300	4	GLL05030
500	400	4	GLL05040
600	400	4	GLL06040
600	500	4	GLL06050
750	500	4	GLL07550
750	600	4	GLL07560
900	600	4	GLL09060
900	750	4	GLL09075

Central adapter



Purpose:
• organization of symmetrical transfer to a tray with another width.

Height H, mm	Width B, mm	Width B1, mm	Thickness, mm	Code
100	200	150	4	GLC12015
	300	150	4	GLC13015
	300	200	4	GLC13020
	400	150	4	GLC14015
	400	300	4	GLC14030
	500	300	4	GLC15030
	500	400	4	GLC15040
	600	400	4	GLC16040
	600	500	4	GLC16050
	750	500	4	GLC17550
	750	600	4	GLC17560
	900	600	4	GLC19060
	900	750	4	GLC19075
150	200	150	4	GLC15215
	300	150	4	GLC15315
	300	200	4	GLC15320
	400	150	4	GLC15415
	400	300	4	GLC15430
	500	300	4	GLC15530
	500	400	4	GLC15540
	600	400	4	GLC15640
	600	500	4	GLC15650
	750	500	4	GLC15750
	750	600	4	GLC15760
	900	600	4	GLC15960
	900	750	4	GLC15975

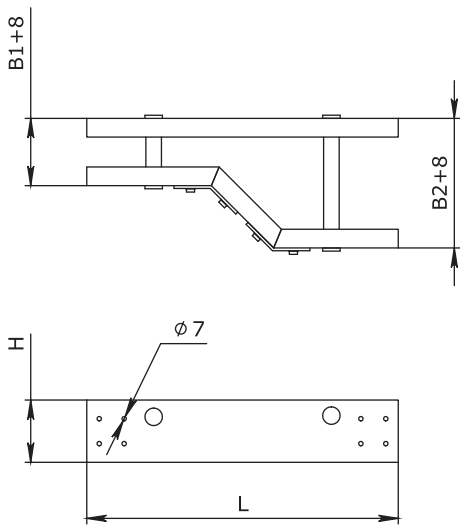
Cover for central adapter



- Purpose:**
- cable protection against external effects.

Width B, mm	Width B1, mm	Thickness, mm	Code,
200	150	4	GLC02015
300	150	4	GLC03015
300	200	4	GLC03020
400	150	4	GLC04015
400	300	4	GLC04030
500	300	4	GLC05030
500	400	4	GLC05040
600	400	4	GLC06040
600	500	4	GLC06050
750	500	4	GLC07550
750	600	4	GLC07560
900	600	4	GLC09060
900	750	4	GLC09075

Right-side adapter



Purpose:

- organization of right-side transfer to a tray with another width.

Height H, mm	Width B, mm	Width B1, mm	Thickness, mm	Code
100	200	150	4	GLR12015
	300	150	4	GLR13015
	300	200	4	GLR13020
	400	150	4	GLR14015
	400	300	4	GLR14030
	500	300	4	GLR15030
	500	400	4	GLR15040
	600	400	4	GLR16040
	600	500	4	GLR16050
	750	500	4	GLR17550
	750	600	4	GLR17560
	900	600	4	GLR19060
	900	750	4	GLR19075
150	200	150	4	GLR15215
	300	150	4	GLR15315
	300	200	4	GLR15320
	400	150	4	GLR15415
	400	300	4	GLR15430
	500	300	4	GLR15530
	500	400	4	GLR15540
	600	400	4	GLR15640
	600	500	4	GLR15650
	750	500	4	GLR15750
	750	600	4	GLR15760
	900	600	4	GLR15960
	900	750	4	GLR15975

Cover for right-side adapter

**Purpose:**

- cable protection against external effects.

Width B, mm	Width B1, mm	Thickness, mm	Code,
200	150	4	GLR02015
300	150	4	GLR03015
300	200	4	GLR03020
400	150	4	GLR04015
400	300	4	GLR04030
500	300	4	GLR05030
500	400	4	GLR05040
600	400	4	GLR06040
600	500	4	GLR06050
750	500	4	GLR07550
750	600	4	GLR07560
900	600	4	GLR09060
900	750	4	GLR09075

Cable ladder holder

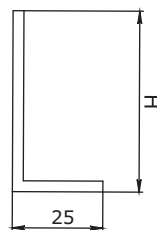
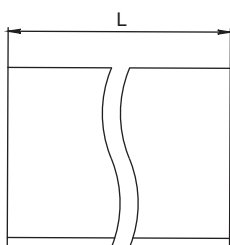


Purpose:

- for attachment of a cable ladder to a console.

Height H, mm	Thickness, mm	Code
100	3	GLP10000
150	4.5	GLP15000

Partition wall

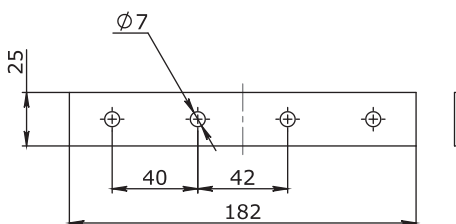


Purpose:

- separation of cable lines within a tray.

Height H, mm	Length L	Thickness, mm	Code
100	3000	2	GEP30010
150	3000	3	GEP30015

Connecting plate



Purpose:

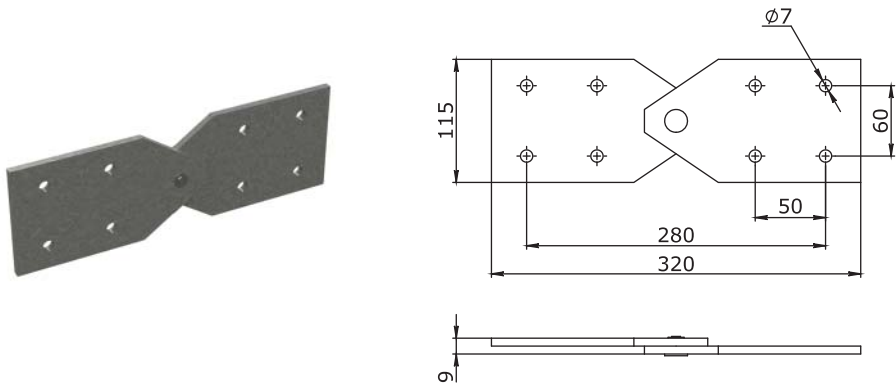
- connection of trays and accessories.

Characteristics:

- 4.5 mm.

Height H, mm	Thickness, mm	Code
100	4.5	GPG01000
150	4.5	GPG01500

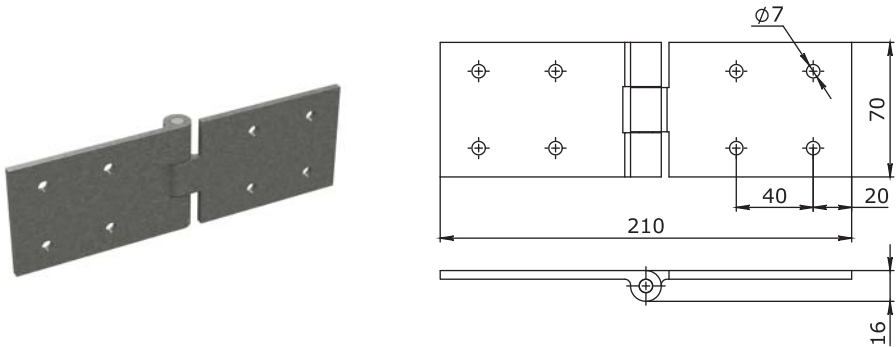
Vertical hinged ladder connector



- Purpose:**
- changing cable route laying level at a random angle.
- Characteristics:**
- 4.5 mm.

Height H, mm	Thickness, mm	Code
100	4.5	GPV01000
150	4.5	GPV01500

Horizontal hinged ladder connector



- Purpose:**
- changing cable route laying level at a random angle.
- Characteristics:**
- material thickness is 5 mm.

Height H, mm	Thickness, mm	Code
100	5	GPH01000
150	5	GPH01500

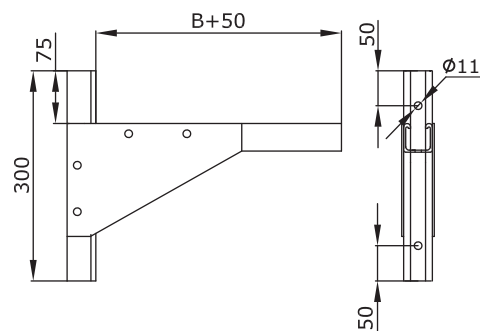
Cover holder



- Purpose:**
- attachment of ladder cover in case of open-air installation of cable ladders, trays, and perforated trays and ladders under high wind loads.

Height H, mm	Code
100	GCC10000
150	GCC15000

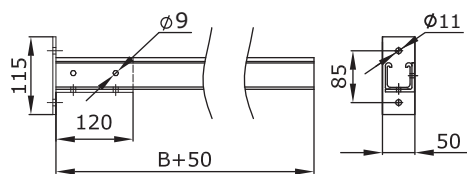
Console with a support



- Purpose:**
- installation of a cable ladder route;
 - attachment to a wall.

Width B, mm	Thickness, mm	Code
50	3	GBM04105
100	3	GBM04110
150	3	GBM04115
200	3	GBM04120
300	3	GBM04130

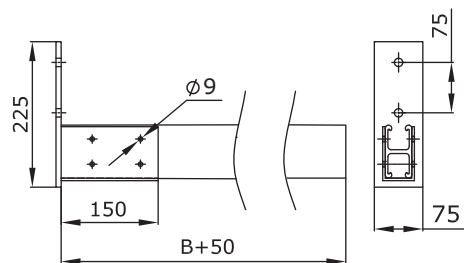
Single bracket



- Purpose:**
- installation of a cable ladder route;
 - attachment to a wall.

Width B, mm	Thickness, mm	Code
50	3	GBP04105
100	3	GBP04110
150	3	GBP04115
200	3	GBP04120
300	3	GBP04130
400	3	GBP04140
500	3	GBP04150
600	3	GBP04160

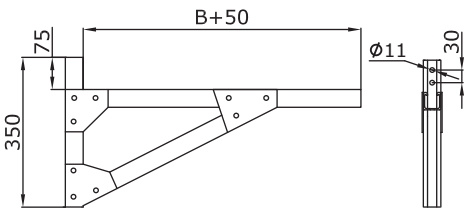
Double bracket



- Purpose:**
- installation of a cable ladder route;
 - attachment to a wall.

Width B, mm	Thickness, mm	Code
500	3	GBD04150
600	3	GBD04160
700	3	GBD04170
750	3	GBD04175

Console with a support for high loads



- Purpose:**
- installation of a cable ladder route;
 - attachment to a wall.

Width B, mm	Thickness, mm	Code
200	3	GBH04120
300	3	GBH04130
400	3	GBH04140
500	3	GBH04150
600	3	GBH04160
700	3	GBH04170
750	3	GBH04175
800	3	GBH04180
900	3	GBH04190
1000	3	GBH04100

Technical information

Table of chemical effects

Chemical environment	Concentration	Polyester		Vinylester	
		21 °C	71 °C	21 °C	71 °C
Acetic acid	5%	S	S	S	S
Acetic acid	25%	S	U	S	S
Acetone	ALL	U	U	U	U
Aluminium sulfate	5%	S	S	S	S
Aluminium potassium sulfate	5%	S	S	S	S
Ammonium hydroxide	10%	S	U	S	65°
Benzene	ALL	U	U	U	U
Benzene monosulphonic acids	5%	S	S	S	S
Calcium chloride	ALL	S	S	S	S
Water chloride	ALL	U	U	S	S
Chromic acid	5%	U	U	S	S
Copper sulfate	ALL	S	S	S	S
Ethylene dichloride	ALL	U	U	U	U
Ethyl ether	ALL	U	U	U	U
Ethylene glycol	ALL	S	S	S	S
Ferric sulfate	ALL	S	S	S	S
Fatty acids	100%	S	S	S	S
Hydrofluosilicic acid	20%	U	U	S	S
Gasoline, automatic	100%	S	U	S	S
Muriatic acid	25%	S	U	S	S
Muriatic acid	37%	S	U	S	S
Kerosene / fuel oil	100%	S	U	S	S
Magnesium chloride	100%	S	S	S	S
Methyl-ethyl ketone	100%	U	U	U	U
Mineral oil	100%	S	S	S	S
Nitric acid	5%	S	S	S	S
Sodium hydrocarbonate	10%	S	S	S	S
Sodium bisulfates	ALL	S	S	S	S
Sodium carbonate	0%	S	U	S	S
Sodium chloride	ALL	S	S	S	S
Sodium hydroxide	5%	U	U	S	50°
Sodium nitrate	ALL	S	S	S	S
Sodium silicate	ALL	S	U	S	S
Sodium sulfate	ALL	S	S	S	S
Styrene	100%	U	U	U	U
Sulfur dioxide	Dry	U	U	S	S
Sulfur dioxide	Wet	U	U	S	S
Sulfuric acid	%	S	S	S	S
Sulfuric acid	10%	S	S	S	S
Sulfuric acid	25%	S	S	S	S
Sulfuric acid	30%	S	S	S	S
Sulfuric acid	50%	U	U	S	S
Toluene	ALL	U	U	U	U
Trisodium phosphate	20%	S	U	S	S
Distilled water	100%	S	S	S	S
Water (city / sea)	100%	S	S	S	S
Zinc sulfate	ALL	S	S	S	S

ALL means at any concentration; S means satisfactory; U means unsatisfactory; temperature of 65°C means that usage under 65°C is recommended.

Data given in this table shows the effects of chemical substances on a glass-reinforced plastic material. The data was obtained during operation of products at real facilities. If glass-reinforced plastic system use is required, contact DKC.



Cable trays "S5 Combitech"

Straight elements	429
Universal accessories	474
Protection system IP44	480
Tool	482

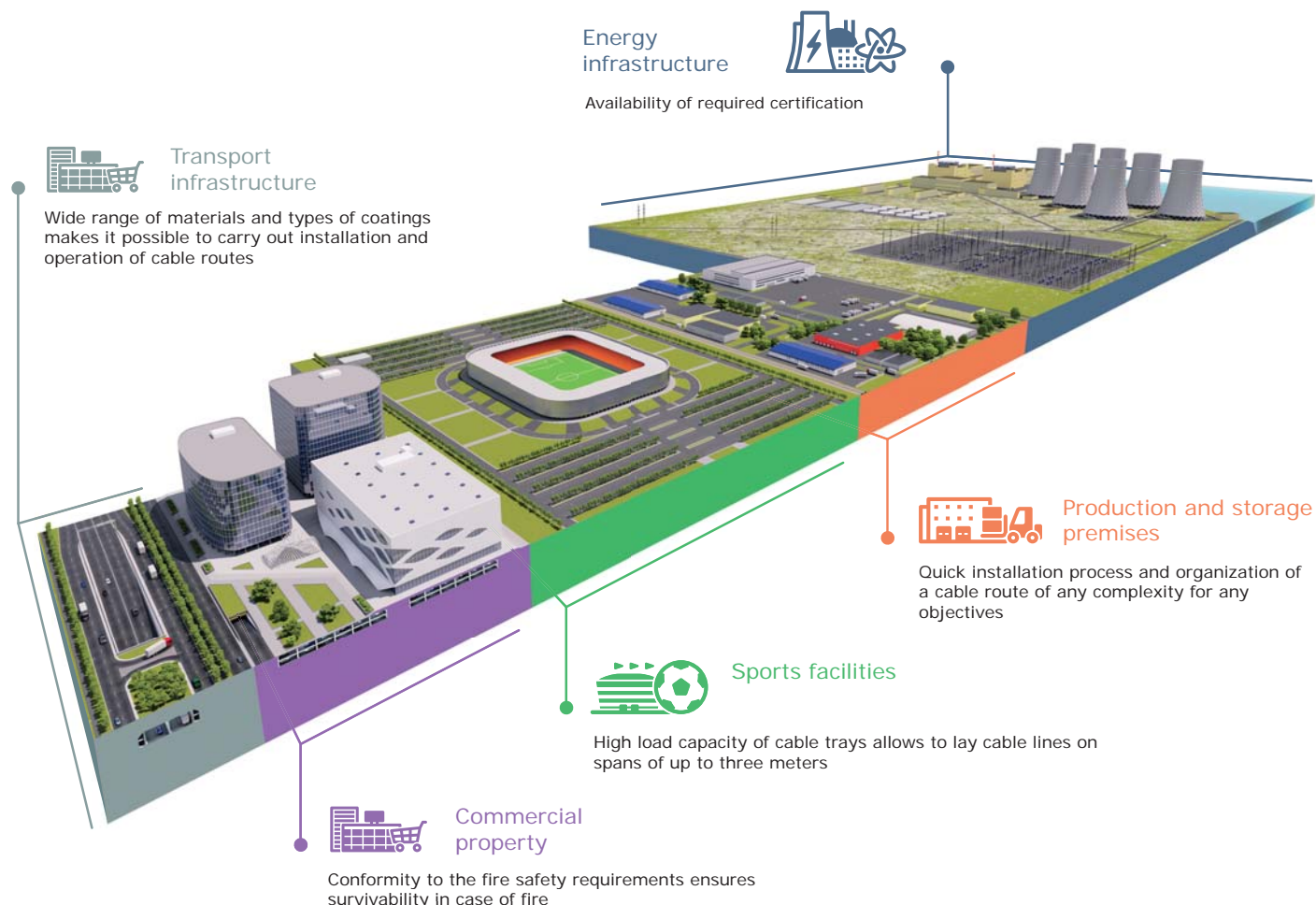
Cable tray system "S5 Combitech"

Application

"S5 Combitech" is the system of metal perforated and non-perforated cable trays designed for laying of wires and cables of power and signal wiring when installing open electrical wirings and open laying cable lines in case of surface, ceiling, inclined and combined types of mounting at the facilities of industrial, commercial and civil construction.

"S5 Combitech" trays are made of a high-quality sheet steel in different climatic versions ensuring long service life and high reliability of a cable route in general.

Special structure of "S5 Combitech" system excludes the possibility of dealing damage to a cable during laying, and lap joint using the original "male-female" connection reduces the time of installation up to 60%. Wide range of system and mounting accessories makes it possible to build a route of any complexity.



Basic advantages



Stamping of the logo DKC serves as counterfeit protection



Improved load capacity and protection of cables against damage



Reinforced perforation provides up to 40% increase in load capacity



Preliminary screw-less attachment



Double continuous ground loop along the tray and cover



Provision of IP44 protection degree

Advantages

High fire resistance

The cable trays have passed fire resistance testing with the result of R-90 which makes it possible to use them for laying of cables that power evacuation and fire-extinguishing systems.

High seismic stability

The trays have been tested at vibrating tables at the testing facility of "VNIIEM Corporation" JC. The results of experimental research have proven the possibility to use the cable trays at regions with seismicity of 9 according to MSK-64 scale, GOST 17516.1-90.

Conformity with European regulations

The cable trays have successfully passed a series of tests provided for by European EN 61537:2007 standard. Once this certificate was received, usage of "S5 Combitech" became possible not only on the territory of Russia, but also abroad. Successful certification of the cable trays in Europe once more proves high quality of the manufactured products.

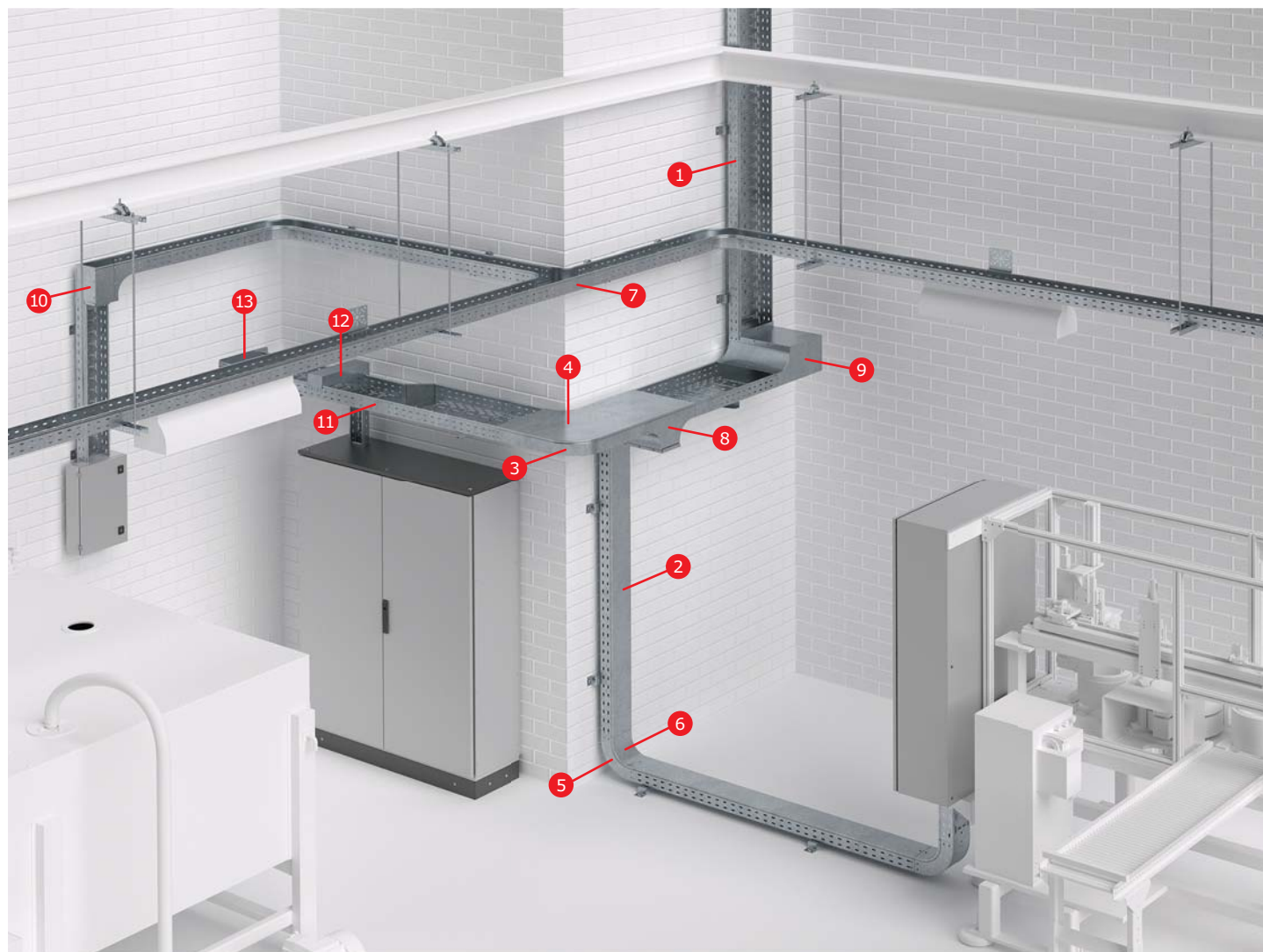
Professional choice

"S5 Combitech" system has certificates of conformity with operating conditions at the facilities of PAO Gazprom and has no restrictions as to operation at Transneft, JSC.

Corrosion resistance in sea water

The cable tray system has been approved by the Russian Maritime Register of Shipping. This makes it possible to operate it at facilities located offshore and at coastal areas.

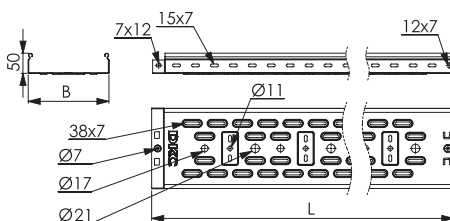
System composition



- | | |
|---|--|
| ① Perforated cable tray | ⑧ TDSA vertical T-tapper – adapter |
| ② Cover for a straight element | ⑨ CSSS 90 Internal vertical angle |
| ③ CPO 90 horizontal angle | ⑩ CDSO 90 External vertical angle |
| ④ Cover for CPO 90 horizontal angle | ⑪ Left-side RRS adapter |
| ⑤ CS 90 internal vertical angle | ⑫ DDS downward vertical T-shaped taper-cover |
| ⑥ Cover for CS 90 internal vertical angle | ⑬ FR connecting flange |
| ⑦ DPT T-tapper | |

Straight elements

Perforated trays with side wall height of 50 mm


Purpose:

- installation of cable routes for laying of wires and cables.

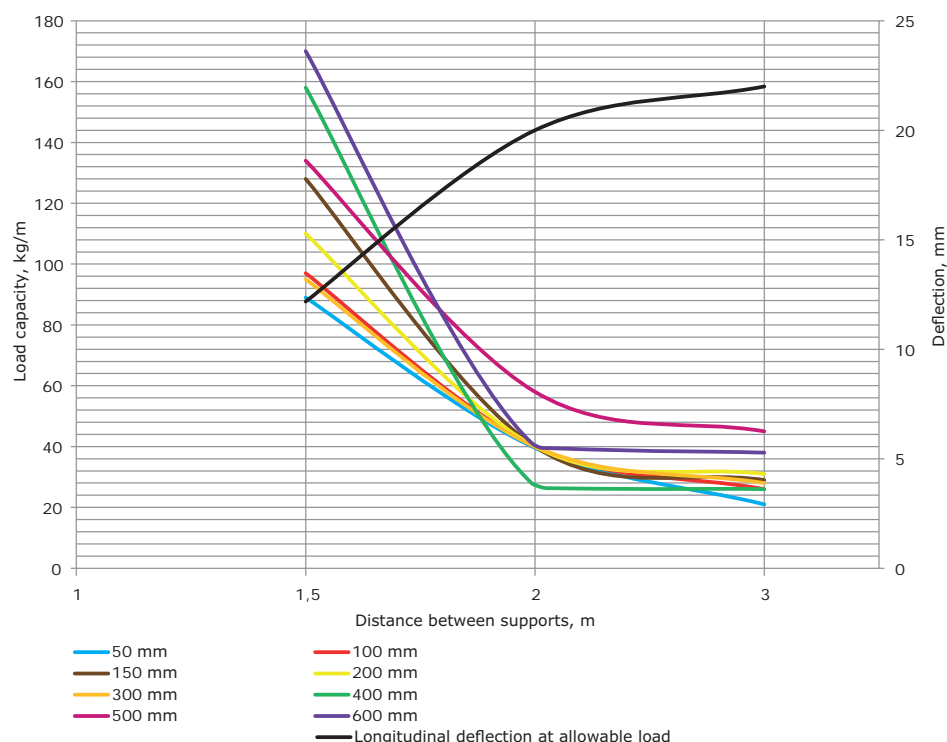
Characteristics:

- version 1 – Sendzimir galvanized steel;
- version 2 – Hot-dip galvanized steel (HDZ);
- version 3 – stainless steel (AISI 304);
- version 4 – zinc flake coating;
- cable trays of INOX version are manufactured without side perforation and with a modified perforation pattern on the bottom;
- cable trays with standard size of 50x50 mm have round holes with diameter of 11 and 17 mm in their bases.

Height H, mm	Length L, mm	Width B, mm	Thickness (vers. 1), mm	Weight (vers. 1), kg/m	TUA,* mm ²	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	3000	50	0.7	0.8	2500	35260	35260HDZ	35260INOX	35260ZL
		100	0.7	1.03	4900	35262	35262HDZ	35262INOX	35262ZL
		150	0.7	1.23	7400	35263	35263HDZ	35263INOX	35263ZL
		200	0.7	1.7	9800	35264	35264HDZ	35264INOX	35264ZL
		300	0.7	2.23	14700	35265	35265HDZ	35265INOX	35265ZL
		400	0.9	3.26	19600	35266	35266HDZ	35266INOX	35266ZL
		500	0.9	4.25	24500	35267	35267HDZ	35267INOX	35267ZL
50	2000	600	0.9	4.94	30000	35268	35268HDZ	35268INOX	35268ZL
		50	0.7	0.8	2500	35250	35250HDZ	35250INOX	35250ZL
		100	0.7	1.03	4900	35252	35252HDZ	35252INOX	35252ZL
		150	0.7	1.23	7400	35253	35253HDZ	35253INOX	35253ZL
		200	0.7	1.7	9800	35254	35254HDZ	35254INOX	35254ZL
		300	0.7	2.23	14700	35255	35255HDZ	35255INOX	35255ZL
		400	0.9	3.26	19600	35256	35256HDZ	35256INOX	35256ZL
		500	0.9	4.25	24500	35257	35257HDZ	35257INOX	35257ZL
		600	0.9	4.94	30000	35258	35258HDZ	35258INOX	35258ZL

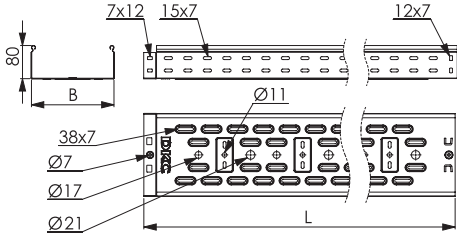
* Theoretically used area of a tray is the tray useful section within which a cable is located

Load diagrams


Load test conditions:

- for versions 1, 2 and 4;
- tests according to GOST R 52868, item 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-013-47022248-2004;
- the maximum linear flecion does not exceed 1/100 of the span;
- the maximum transversal flecion does not exceed 1/20 of the tray base width;
- safety factor is 1,7 of declared load;
- load characteristics on a 3-meter span are related to cable trays with length of 3 meter only.

Perforated trays with side wall height of 80 mm



Purpose:

- installation of cable routes for laying of wires and cables.

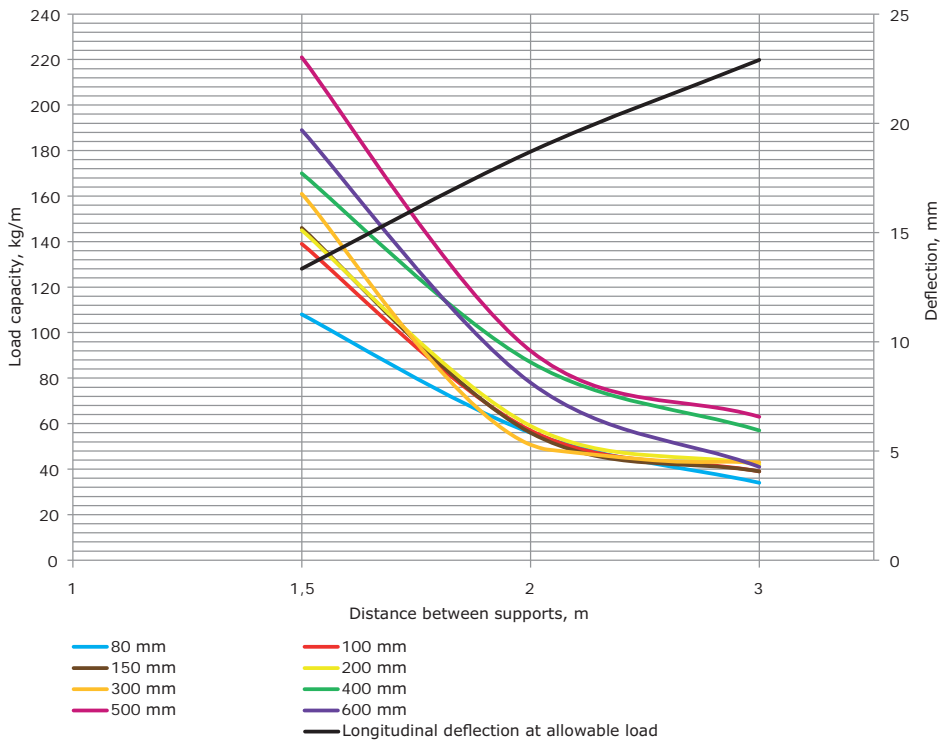
Characteristics:

- version 1 – Sendzimir galvanized steel;
- version 2 – Hot-dip galvanized steel (HDZ);
- version 3 – stainless steel (AISI 304);
- version 4 – zinc flake coating;
- cable trays of INOX version are manufactured without side perforation and with a modified perforation pattern on the bottom;
- cable trays with standard size of 80x80 mm have round holes with diameter of 11 mm in their bases.

Height H, mm	Length L, mm	Width B, mm	Thickness (vers. 1), mm	Weight (vers. 1), kg/m	TUA,* mm²	Code, version 1	Code, version 2	Code, version 3	Code, version 4
80	3000	80	0.7	1.2	6200	35301	35301HDZ	35301INOX	35301ZL
		100	0.7	1.27	7800	35302	35302HDZ	35302INOX	35302ZL
		150	0.7	1.5	11800	35303	35303HDZ	35303INOX	35303ZL
		200	0.7	2	15700	35304	35304HDZ	35304INOX	35304ZL
		300	0.7	2.53	23600	35305	35305HDZ	35305INOX	35305ZL
		400	0.9	3.95	31500	35306	35306HDZ	35306INOX	35306ZL
		500	0.9	4.65	39500	35307	35307HDZ	35307INOX	35307ZL
80	2000	600	0.9	5.35	48000	35308	35308HDZ	35308INOX	35308ZL
		80	0.7	1.2	6200	35311	35311HDZ	35311INOX	35311ZL
		100	0.7	1.27	7800	35312	35312HDZ	35312INOX	35312ZL
		150	0.7	1.5	11800	35313	35313HDZ	35313INOX	35313ZL
		200	0.7	2	15700	35314	35314HDZ	35314INOX	35314ZL
		300	0.7	2.53	23600	35315	35315HDZ	35315INOX	35315ZL
		400	0.9	3.95	31500	35316	35316HDZ	35316INOX	35316ZL
		500	0.9	4.63	39500	35317	35317HDZ	35317INOX	35317ZL
		600	0.9	5.35	48000	35318	35318HDZ	35318INOX	35318ZL

* Theoretically used area of a tray is the tray useful section within which a cable is located

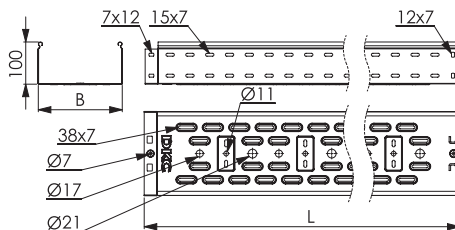
Load diagrams



Load test conditions:

- for versions 1, 2 and 4;
- tests according to GOST R 52868, item 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-013-47022248-2004;
- the maximum linear flecion does not exceed 1/100 of the span;
- the maximum transversal flecion does not exceed 1/20 of the tray base width;
- safety factor is 1,7 of declared load;
- load characteristics on a 3-meter span are related to cable trays with length of 3 meter only.

Perforated trays with side wall height of 100 mm



Purpose:

- installation of cable routes for laying of wires and cables.

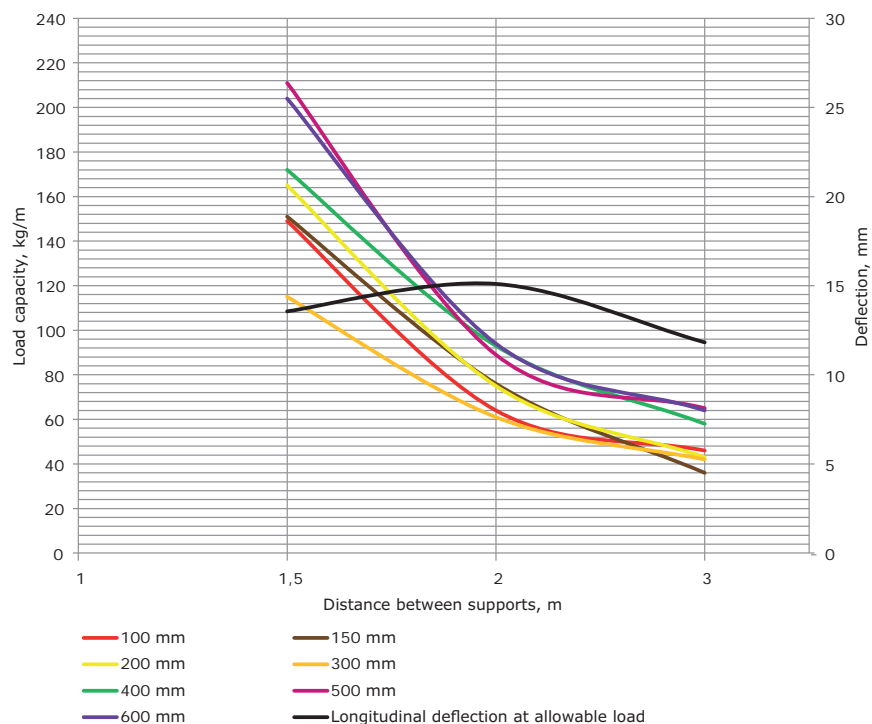
Characteristics:

- version 1 – Sendzimir galvanized steel;
- version 2 – Hot-dip galvanized steel (HDZ);
- version 3 – stainless steel (AISI 304);
- version 4 – zinc flake coating;
- cable trays of INOX version are manufactured without side perforation and with a modified perforation pattern on the bottom.

Height H, mm	Length L, mm	Width B, mm	Thickness (vers. 1), mm	Weight (vers. 1), kg/m	TUA,* mm ²	Code, version 1	Code, version 2	Code, version 3	Code, version 4
100	3000	100	0.7	1.47	9800	35341	35341HDZ	35341INOX	35341ZL
		150	0.7	1.67	14800	35342	35342HDZ	35342INOX	35342ZL
		200	0.7	2.23	19700	35343	35343HDZ	35343INOX	35343ZL
		300	0.7	2.27	29600	35344	35344HDZ	35344INOX	35344ZL
		400	0.9	4.23	39500	35345	35345HDZ	35345INOX	35345ZL
		500	0.9	4.93	49500	35346	35346HDZ	35346INOX	35346ZL
100	2000	600	0.9	5.64	60000	35347	35347HDZ	35347INOX	35347ZL
		100	0.7	1.47	9800	35331	35331HDZ	35331INOX	35331ZL
		150	0.7	1.67	14800	35332	35332HDZ	35332INOX	35332ZL
		200	0.7	2.23	19700	35333	35333HDZ	35333INOX	35333ZL
		300	0.7	2.27	29600	35334	35334HDZ	35334INOX	35334ZL
		400	0.9	4.23	39500	35335	35335HDZ	35335INOX	35335ZL
		500	0.9	4.93	49500	35336	35336HDZ	35336INOX	35336ZL
		600	0.9	5.64	60000	35337	35337HDZ	35337INOX	35337ZL

* Theoretically used area of a tray is the tray useful section within which a cable is located

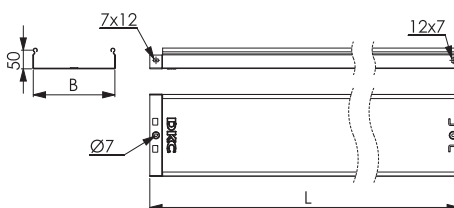
Load diagrams



Load test conditions:

- for versions 1, 2 and 4;
- tests according to GOST R 52868, item 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-013-47022248-2004;
- the maximum linear flecion does not exceed 1/100 of the span;
- the maximum transversal flecion does not exceed 1/20 of the tray base width;
- safety factor is 1,7 of declared load;
- load characteristics on a 3-meter span are related to cable trays with length of 3 meter only.

Non-perforated trays with side wall height of 50 mm



Purpose:

- installation of cable routes for laying of wires and cables.

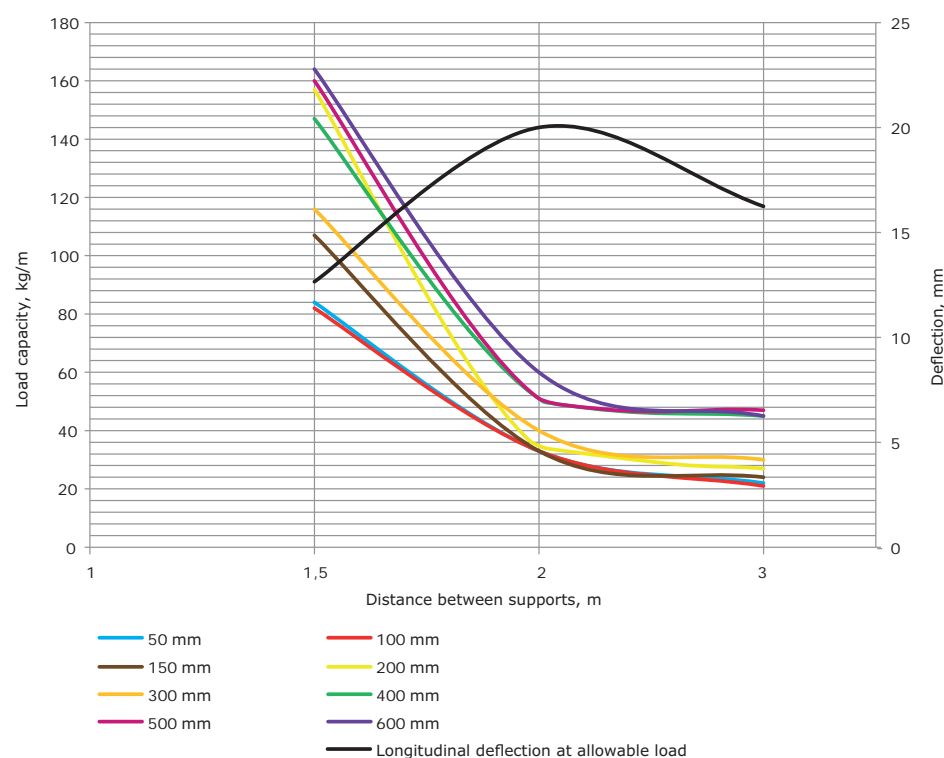
Characteristics:

- version 1 – Sendzimir galvanized steel;
- version 2 – Hot-dip galvanized steel (HDZ);
- version 3 – stainless steel (AISI 304);
- version 4 – zinc flake coating;
- the protection degree provided is up to IP44 in case special seals and metal plates are used.

Height H, mm	Length L, mm	Width B, mm	Thickness (vers. 1), mm	Weight (vers. 1), kg/m	TUA,* mm ²	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	3000	50	0.7	0.90	2500	35020	35020HDZ	35020INOX	35020ZL
		100	0.7	1.27	4900	35022	35022HDZ	35022INOX	35022ZL
		150	0.7	1.54	7400	35023	35023HDZ	35023INOX	35023ZL
		200	0.8	2.08	9800	35024	35024HDZ	35024INOX	35024ZL
		300	0.8	2.72	14700	35025	35025HDZ	35025INOX	35025ZL
		400	1.0	4.16	19600	35026	35026HDZ	35026INOX	35026ZL
		500	1.0	4.96	24500	35027	35027HDZ	35027INOX	35027ZL
50	2000	600	1.0	5.76	30000	35028	35028HDZ	35028INOX	35028ZL
		50	0.7	0.90	2500	35010	35010HDZ	35010INOX	35010ZL
		100	0.7	1.27	4900	35012	35012HDZ	35012INOX	35012ZL
		150	0.7	1.54	7400	35013	35013HDZ	35013INOX	35013ZL
		200	0.8	2.08	9800	35014	35014HDZ	35014INOX	35014ZL
		300	0.8	2.72	14700	35015	35015HDZ	35015INOX	35015ZL
		400	1.0	4.16	19600	35016	35016HDZ	35016INOX	35016ZL
		500	1.0	4.96	24500	35017	35017HDZ	35017INOX	35017ZL
		600	1.0	5.76	30000	35018	35018HDZ	35018INOX	35018ZL

* Theoretically used area of a tray is the tray useful section within which a cable is located

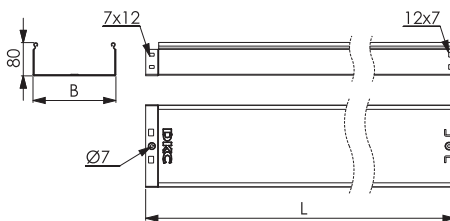
Load diagrams



Load test conditions:

- for versions 1, 2 and 4;
- tests according to GOST R 52868, item 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-013-47022248-2004;
- the maximum linear flection does not exceed 1/100 of the span;
- the maximum transversal flection does not exceed 1/20 of the tray base width;
- safety factor is 1,7 of declared load;
- load characteristics on a 3-meter span are related to cable trays with length of 3 meter only.

Non-perforated trays with side wall height of 80 mm



Purpose:

- installation of cable routes for laying of wires and cables.

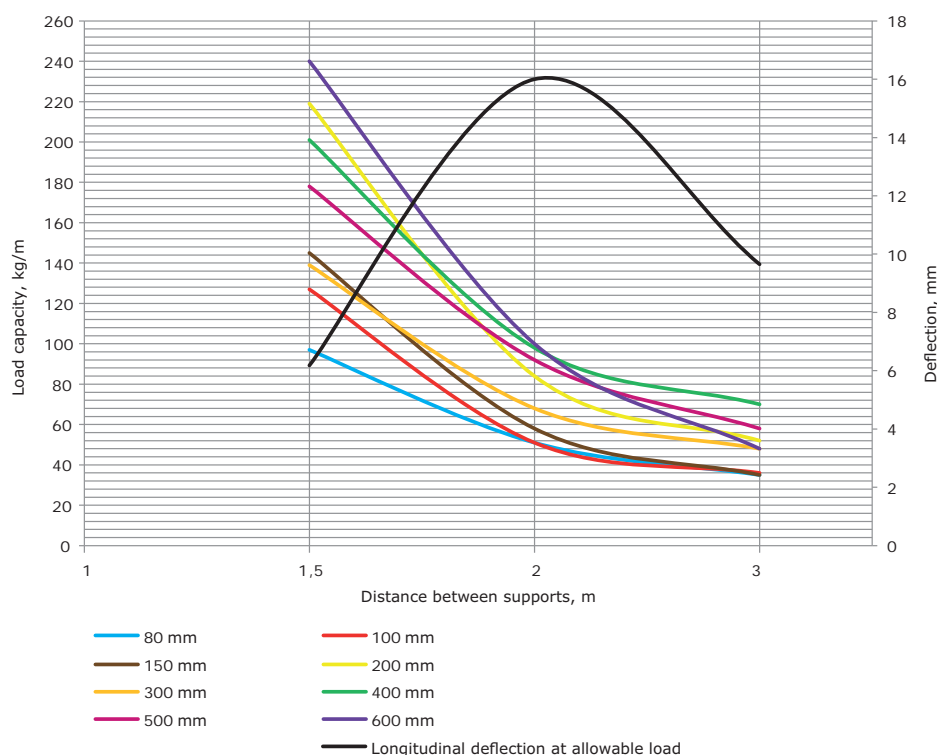
Characteristics:

- version 1 – Sendzimir galvanized steel;
- version 2 – Hot-dip galvanized steel (HDZ);
- version 3 – stainless steel (AISI 304);
- version 4 – zinc flake coating;
- the protection degree provided is up to IP44 in case special seals and metal plates are used

Height H, mm	Length L, mm	Width B, mm	Thickness (vers. 1), mm	Weight (vers. 1), kg/m	TUA,* mm ²	Code, version 1	Code, version 2	Code, version 3	Code, version 4
80	3000	80	0.7	1.48	6200	35061	35061HDZ	35061INOX	35061ZL
		100	0.7	1.6	7800	35062	35062HDZ	35062INOX	35062ZL
		150	0.7	1.88	11800	35063	35063HDZ	35063INOX	35063ZL
		200	0.8	2.46	15700	35064	35064HDZ	35064INOX	35064ZL
		300	0.8	3.1	23600	35065	35065HDZ	35065INOX	35065ZL
		400	1.0	4.64	31500	35066	35066HDZ	35066INOX	35066ZL
		500	1.0	5.44	39500	35067	35067HDZ	35067INOX	35067ZL
80	2000	600	1.0	6.63	48000	35068	35068HDZ	35068INOX	35068ZL
		80	0.7	1.48	6200	35051	35051HDZ	35051INOX	35051ZL
		100	0.7	1.6	7800	35052	35052HDZ	35052INOX	35052ZL
		150	0.7	1.88	11800	35053	35053HDZ	35053INOX	35053ZL
		200	0.8	2.46	15700	35054	35054HDZ	35054INOX	35054ZL
		300	0.8	3.1	23600	35055	35055HDZ	35055INOX	35055ZL
		400	1.0	4.64	31500	35056	35056HDZ	35056INOX	35056ZL
		500	1.0	5.44	39500	35057	35057HDZ	35057INOX	35057ZL
		600	1.0	6.63	48000	35058	35058HDZ	35058INOX	35058ZL

* Theoretically used area of a tray is the tray useful section within which a cable is located

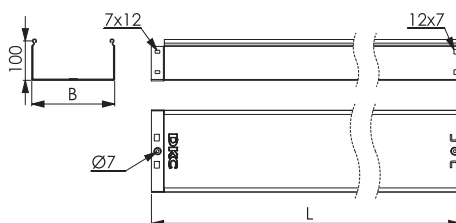
Load diagrams



Load test conditions:

- for versions 1, 2 and 4;
- tests according to GOST R 52868, item 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-013-47022248-2004;
- the maximum linear flecion does not exceed 1/100 of the span;
- the maximum transversal flecion does not exceed 1/20 of the tray base width;
- safety factor is 1,7 of declared load;
- load characteristics on a 3-meter span are related to cable trays with length of 3 meter only.

Non-perforated trays with side wall height of 100 mm



Purpose:

- installation of cable routes for laying of wires and cables.

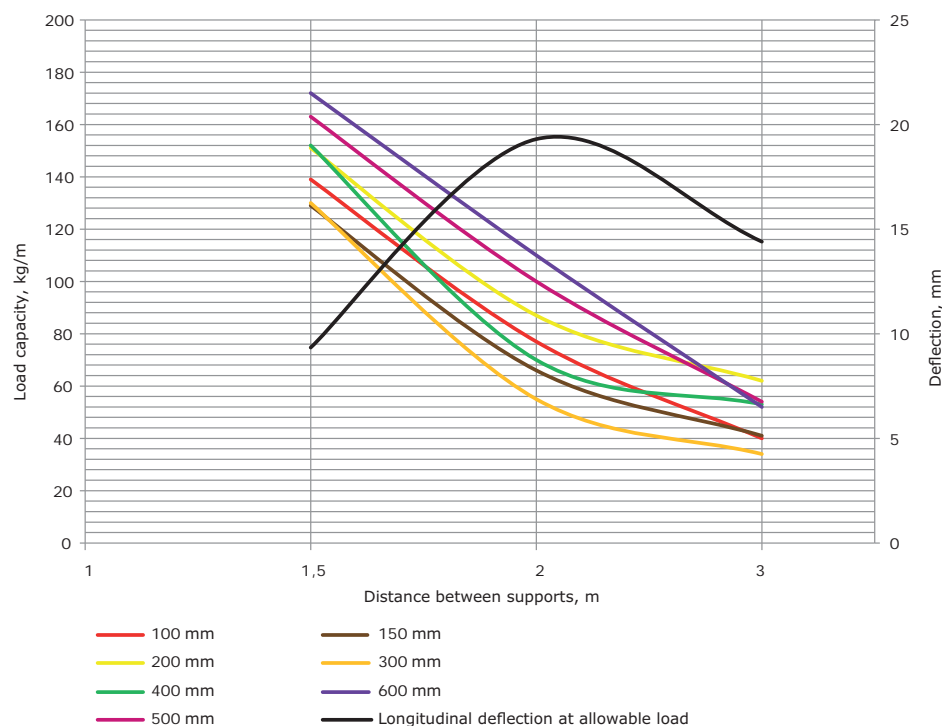
Characteristics:

- version 1 – Sendzimir galvanized steel;
- version 2 – Hot-dip galvanized steel (HDZ);
- version 3 – stainless steel (AISI 304);
- version 4 – zinc flake coating;
- the protection degree provided is up to IP44 in case special seals and metal plates are used

Height H, mm	Length L, mm	Width B, mm	Thickness (vers. 1), mm	Weight (vers. 1), kg/m	TUA,* mm ²	Code, version 1	Code, version 2	Code, version 3	Code, version 4
100	3000	100	0.7	1.75	9800	35101	35101HDZ	35101INOX	35101ZL
		150	0.7	2.1	14800	35102	35102HDZ	35102INOX	35102ZL
		200	0.8	2.71	19700	35103	35103HDZ	35103INOX	35103ZL
		300	0.8	3.36	29600	35104	35104HDZ	35104INOX	35104ZL
		400	1.0	4.96	39500	35105	35105HDZ	35105INOX	35105ZL
		500	1.0	5.76	49500	35106	35106HDZ	35106INOX	35106ZL
100	2000	600	1.0	6.72	60000	35107	35107HDZ	35107INOX	35107ZL
		100	0.7	1.75	9800	35111	35111HDZ	35111INOX	35111ZL
		150	0.7	2.1	14800	35112	35112HDZ	35112INOX	35112ZL
		200	0.8	2.71	19700	35113	35113HDZ	35113INOX	35113ZL
		300	0.8	3.36	29600	35114	35114HDZ	35114INOX	35114ZL
		400	1.0	4.96	39500	35115	35115HDZ	35115INOX	35115ZL
		500	1.0	5.76	49500	35116	35116HDZ	35116INOX	35116ZL
		600	1.0	6.72	60000	35117	35117HDZ	35117INOX	35117ZL

* Theoretically used area of a tray is the tray useful section within which a cable is located.

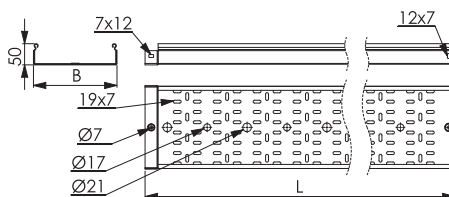
Load diagrams



Load test conditions:

- for versions 1, 2 and 4;
- tests according to GOST R 52868, item 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-013-47022248-2004;
- the maximum linear flecion does not exceed 1/100 of the span;
- the maximum transversal flecion does not exceed 1/20 of the tray base width;
- safety factor is 1,7 of declared load;
- load characteristics on a 3-meter span are related to cable trays with length of 3 meter only.

Perforated trays with height of 50 mm in the special thickness version



Purpose:

- installation of cable routes for laying of wires and cables.

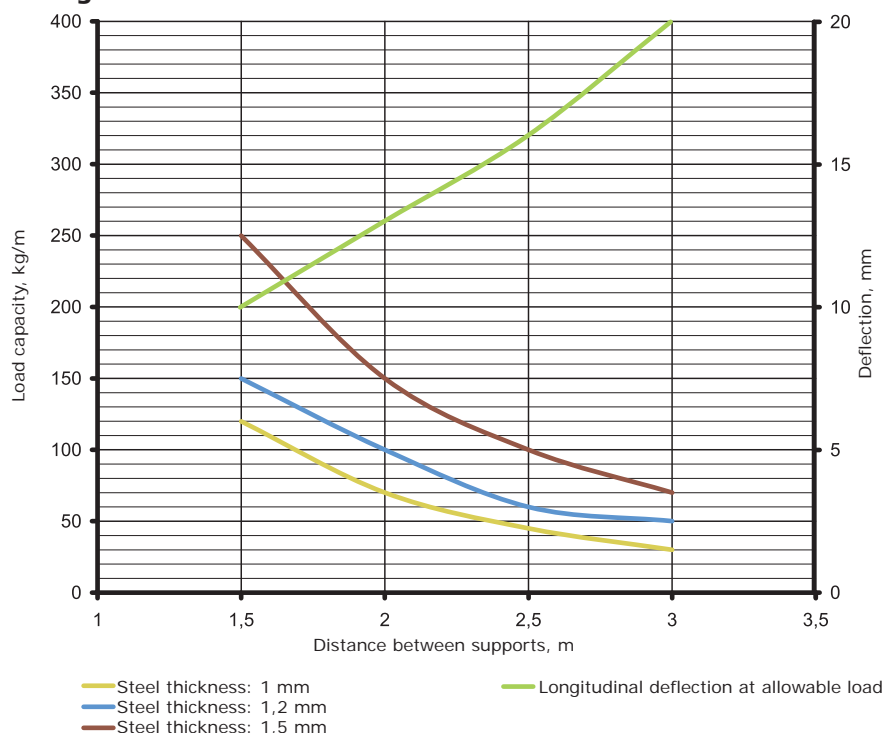
Characteristics:

- version 1 – Sendzimir galvanized steel;
- version 2 – Hot-dip galvanized steel (HDZ);
- version 3 – stainless steel (AISI 304);
- version 4 – zinc flake coating;
- special thickness versions of trays have no side perforation.

Steel thickness, mm	Height H, mm	Length L, mm	Width B, mm	Code, version 1	Code, version 2	Code, version 3	Code, version 4
1.0	50	3000	50	3526010	3526010HDZ	3526010INOX	3526010ZL
			100	3526210	3526210HDZ	3526210INOX	3526210ZL
			150	3526310	3526310HDZ	3526310INOX	3526310ZL
			200	3526410	3526410HDZ	3526410INOX	3526410ZL
			300	3526510	3526510HDZ	3526510INOX	3526510ZL
			400	3526610*	35266HDZ	35266INOX	35266ZL
			500	3526710*	35267HDZ	35267INOX	35267ZL
			600	3526810*	35268HDZ	35268INOX	35268ZL
1.2	50	3000	50	3526012	3526012HDZ	–	3526012ZL
			100	3526212	3526212HDZ	–	3526212ZL
			150	3526312	3526312HDZ	–	3526312ZL
			200	3526412	3526412HDZ	–	3526412ZL
			300	3526512	3526512HDZ	–	3526512ZL
			400	3526612	3526612HDZ	–	3526612ZL
			500	3526712	3526712HDZ	–	3526712ZL
			600	3526812	3526812HDZ	–	3526812ZL
1.5	50	3000	50	3526015	3526015HDZ	–	3526015ZL
			100	3526215	3526215HDZ	–	3526215ZL
			150	3526315	3526315HDZ	–	3526315ZL
			200	3526415	3526415HDZ	–	3526415ZL
			300	3526515	3526515HDZ	–	3526515ZL
			400	3526615	3526615HDZ	–	3526615ZL
			500	3526715	3526715HDZ	–	3526715ZL

* The items are manufactured with side perforation and with a modified perforation pattern on the bottom

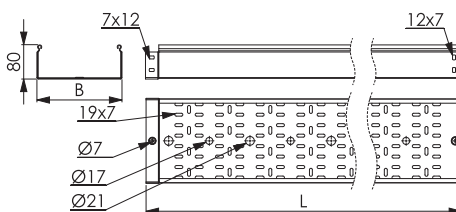
Load diagrams



Load test conditions:

- for versions 1, 2 and 4;
- tests according to GOST R 52868, item 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-013-47022248-2004;
- the maximum linear flecion does not exceed 1/100 of the span;
- the maximum transversal flecion does not exceed 1/20 of the tray base width;
- safety factor is 1,7 of declared load;
- load characteristics on a 3-meter span are related to cable trays with length of 3 meter only.

Perforated trays with height of 80 mm in the special thickness version



Purpose:

- installation of cable routes for laying of wires and cables.

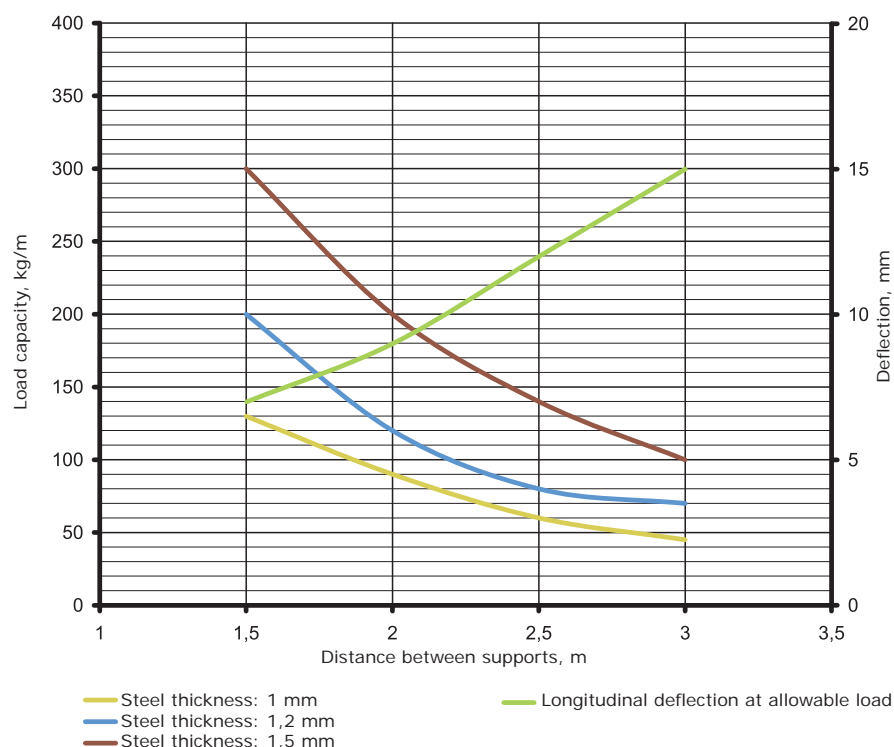
Characteristics:

- version 1 – Sendzimir galvanized steel;
- version 2 – Hot-dip galvanized steel (HDZ);
- version 3 – stainless steel (AISI 304);
- version 4 – zinc flake coating;
- special thickness versions of trays have no side perforation.

Steel thickness, mm	Height H, mm	Length L, mm	Width B, mm	Code, version 1	Code, version 2	Code, version 2	Code, version 4
1.0	80	3000	80	3530110	3530110HDZ	3530110INOX	3530110ZL
			100	3530210	3530210HDZ	3530210INOX	3530210ZL
			150	3530310	3530310HDZ	3530310INOX	3530310ZL
			200	3530410	3530410HDZ	3530410INOX	3530410ZL
			300	3530510	3530510HDZ	3530510INOX	3530510ZL
			400	3530610*	35306HDZ	35306INOX	35306ZL
			500	3530710*	35307HDZ	35307INOX	35307ZL
			600	3530810*	35308HDZ	35308INOX	35308ZL
1.2	80	3000	80	3530112	3530112HDZ	–	3530112ZL
			100	3530212	3530212HDZ	–	3530212ZL
			150	3530312	3530312HDZ	–	3530312ZL
			200	3530412	3530412HDZ	–	3530412ZL
			300	3530512	3530512HDZ	–	3530512ZL
			400	3530612	3530612HDZ	–	3530612ZL
			500	3530712	3530712HDZ	–	3530712ZL
			600	3530812	3530812HDZ	–	3530812ZL
1.5	80	3000	80	3530115	3530115HDZ	–	3530115ZL
			100	3530215	3530215HDZ	–	3530215ZL
			150	3530315	3530315HDZ	–	3530315ZL
			200	3530415	3530415HDZ	–	3530415ZL
			300	3530515	3530515HDZ	–	3530515ZL
			400	3530615	3530615HDZ	–	3530615ZL
			500	3530715	3530715HDZ	–	3530715ZL

* The items are manufactured with side perforation and with a modified perforation pattern on the bottom

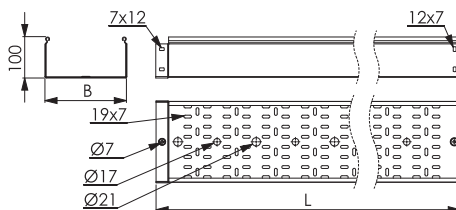
Load diagrams



Load test conditions:

- for versions 1, 2 and 4;
- tests according to GOST R 52868, item 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-013-47022248-2004;
- the maximum linear flecion does not exceed 1/100 of the span;
- the maximum transversal flecion does not exceed 1/20 of the tray base width;
- safety factor is 1,7 of declared load;
- load characteristics on a 3-meter span are related to cable trays with length of 3 meter only.

Perforated trays with height of 100 mm in the special thickness version



Purpose:

- installation of cable routes for laying of wires and cables.

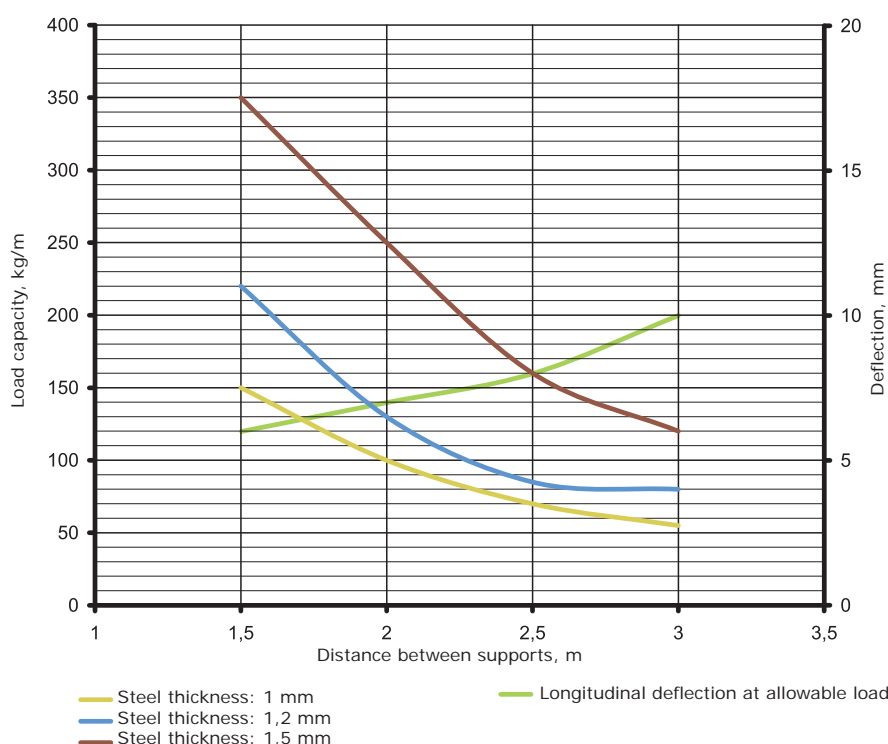
Characteristics:

- version 1 – Sendzimir galvanized steel;
- version 2 – Hot-dip galvanized steel (HDZ);
- version 3 – stainless steel (AISI 304);
- version 4 – zinc flake coating;
- special thickness versions of trays have no side perforation.

Steel thickness, mm	Height H, mm	Length L, mm	Width B, mm	Code, version 1	Code, version 2	Code, version 3	Code, version 4
1.0	100	3000	100	3534110	3534110HDZ	3534110INOX	3534110ZL
			150	3534210	3534210HDZ	3534210INOX	3534210ZL
			200	3534310	3534310HDZ	3534310INOX	3534310ZL
			300	3534410	3534410HDZ	3534410INOX	3534410ZL
			400	3534510*	35345HDZ	35345INOX	35345ZL
			500	3534610*	35346HDZ	35346INOX	35346ZL
			600	3534710*	35347HDZ	35347INOX	35347ZL
1.2	100	3000	100	3534112	3534112HDZ	–	3534112ZL
			150	3534212	3534212HDZ	–	3534212ZL
			200	3534312	3534312HDZ	–	3534312ZL
			300	3534412	3534412HDZ	–	3534412ZL
			400	3534512	3534512HDZ	–	3534512ZL
			500	3534612	3534612HDZ	–	3534612ZL
1.5	100	3000	600	3534712	3534712HDZ	–	3524712ZL
			100	3534115	3534115HDZ	–	3534115ZL
			150	3534215	3534215HDZ	–	3534215ZL
			200	3534315	3534315HDZ	–	3534315ZL
			300	3534415	3534415HDZ	–	3534415ZL
			400	3534515	3534515HDZ	–	3534515ZL
			500	3534615	3534615HDZ	–	3534615ZL

* The items are manufactured with side perforation and with a modified perforation pattern on the bottom

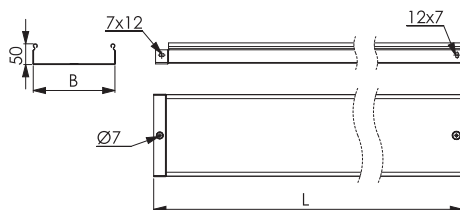
Load diagrams



Load test conditions:

- for versions 1, 2 and 4;
- tests according to GOST R 52868, item 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-013-47022248-2004;
- the maximum linear deflection does not exceed 1/100 of the span;
- the maximum transversal deflection does not exceed 1/20 of the tray base width;
- safety factor is 1,7 of declared load;
- load characteristics on a 3-meter span are related to cable trays with length of 3 meter only.

Non-perforated trays with height of 50 mm in the special thickness version



Purpose:

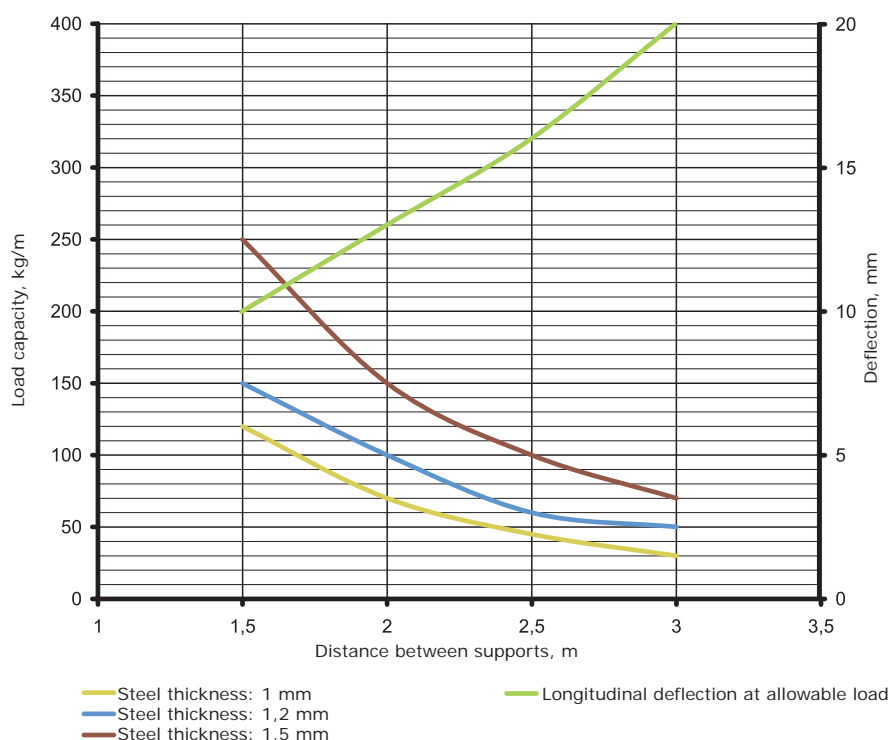
- installation of cable routes for laying of wires and cables.

Characteristics:

- version 1 – Sendzimir galvanized steel;
- version 2 – Hot-dip galvanized steel (HDZ);
- version 3 – stainless steel (AISI 304);
- version 4 – zinc flake coating;
- the protection degree provided is up to IP44 in case special seals and metal plates are used

Steel thickness, mm	Height H, mm	Length L, mm	Width B, mm	Code, version 1	Code, version 2	Code, version 3	Code, version 4
1.0	50	3000	50	3502010	3502010HDZ	3502010INOX	3502010ZL
			100	3502210	3502210HDZ	3502210INOX	3502210ZL
			150	3502310	3502310HDZ	3502310INOX	3502310ZL
			200	3502410	3502410HDZ	3502410INOX	3502410ZL
			300	3502510	3502510HDZ	3502510INOX	3502510ZL
			400	35026	35026HDZ	35026INOX	35026ZL
			500	35027	35027HDZ	35027INOX	35027ZL
			600	35028	35028HDZ	35028INOX	35028ZL
1.2	50	3000	50	3502012	3502012HDZ	–	3502012ZL
			100	3502212	3502212HDZ	–	3502212ZL
			150	3502312	3502312HDZ	–	3502312ZL
			200	3502412	3502412HDZ	–	3502412ZL
			300	3502512	3502512HDZ	–	3502512ZL
			400	3502612	3502612HDZ	–	3502612ZL
			500	3502712	3502712HDZ	–	3502712ZL
			600	3502812	3502812HDZ	–	3502812ZL
1.5	50	3000	50	3502015	3502015HDZ	–	3502015ZL
			100	3502215	3502215HDZ	–	3502215ZL
			150	3502315	3502315HDZ	–	3502315ZL
			200	3502415	3502415HDZ	–	3502415ZL
			300	3502515	3502515HDZ	–	3502515ZL
			400	3502615	3502615HDZ	–	3502615ZL
			500	3502715	3502715HDZ	–	3502715ZL

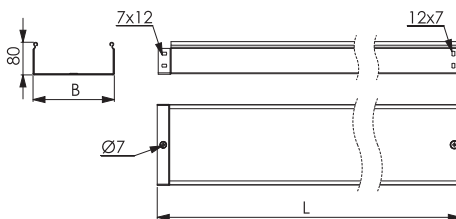
Load diagrams



Load test conditions:

- for versions 1, 2 and 4;
- tests according to GOST R 52868, item 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-013-47022248-2004;
- the maximum linear flecion does not exceed 1/100 of the span;
- the maximum transversal flecion does not exceed 1/20 of the tray base width;
- safety factor is 1,7 of declared load;
- load characteristics on a 3-meter span are related to cable trays with length of 3 meter only.

Non-perforated trays with height of 80 mm in the special thickness version



Purpose:

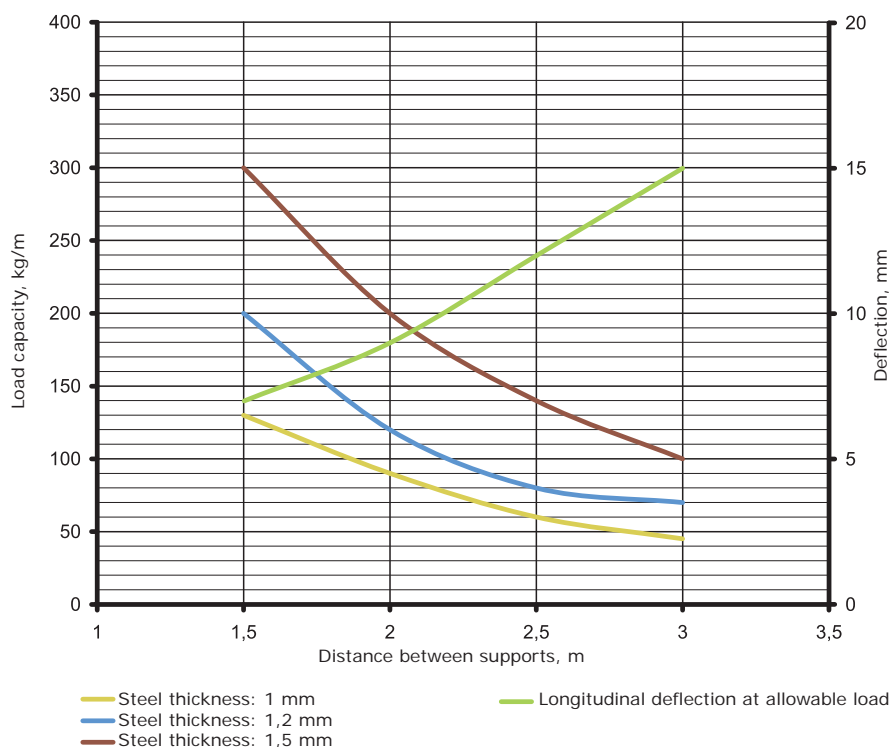
- installation of cable routes for laying of wires and cables.

Characteristics:

- version 1 – Sendzimir galvanized steel;
- version 2 – Hot-dip galvanized steel (HDZ);
- version 3 – stainless steel (AISI 304);
- version 4 – zinc flake coating;
- the protection degree provided is up to IP44 in case special seals and metal plates are used

Steel thickness, mm	Height H, mm	Length L, mm	Width B, mm	Code, version 1	Code, version 2	Code, version 3	Code, version 4
1.0	80	3000	80	3506110	3506110HDZ	3506110INOX	3506110ZL
			100	3506210	3506210HDZ	3506210INOX	3506210ZL
			150	3506310	3506310HDZ	3506310INOX	3506310ZL
			200	3506410	3506410HDZ	3506410INOX	3506410ZL
			300	3506510	3506510HDZ	3506510INOX	3506510ZL
			400	35066	35066HDZ	35066INOX	35066ZL
			500	35067	35067HDZ	35067INOX	35067ZL
1.2	80	3000	600	35068	35068HDZ	35068INOX	35068ZL
			80	3506112	3506112HDZ	–	3506112ZL
			100	3506212	3506212HDZ	–	3506212ZL
			150	3506312	3506312HDZ	–	3506312ZL
			200	3506412	3506412HDZ	–	3506412ZL
			300	3506512	3506512HDZ	–	3506512ZL
			400	3506612	3506612HDZ	–	3506612ZL
1.5	80	3000	500	3506712	3506712HDZ	–	3506712ZL
			600	3506812	3506812HDZ	–	3506812ZL
			80	3506115	3506115HDZ	–	3506115ZL
			100	3506215	3506215HDZ	–	3506215ZL
			150	3506315	3506315HDZ	–	3506315ZL
			200	3506415	3506415HDZ	–	3506415ZL
			300	3506515	3506515HDZ	–	3506515ZL
			400	3506615	3506615HDZ	–	3506615ZL
			500	3506715	3506715HDZ	–	3506715ZL

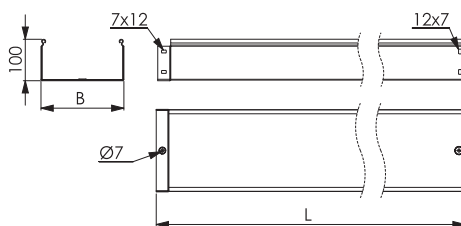
Load diagrams



Load test conditions:

- for versions 1, 2 and 4;
- tests according to GOST R 52868, item 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-013-47022248-2004;
- the maximum linear flecion does not exceed 1/100 of the span;
- the maximum transversal flecion does not exceed 1/20 of the tray base width;
- safety factor is 1,7 of declared load;
- load characteristics on a 3-meter span are related to cable trays with length of 3 meter only.

Non-perforated trays with height of 100 mm in the special thickness version



Purpose:

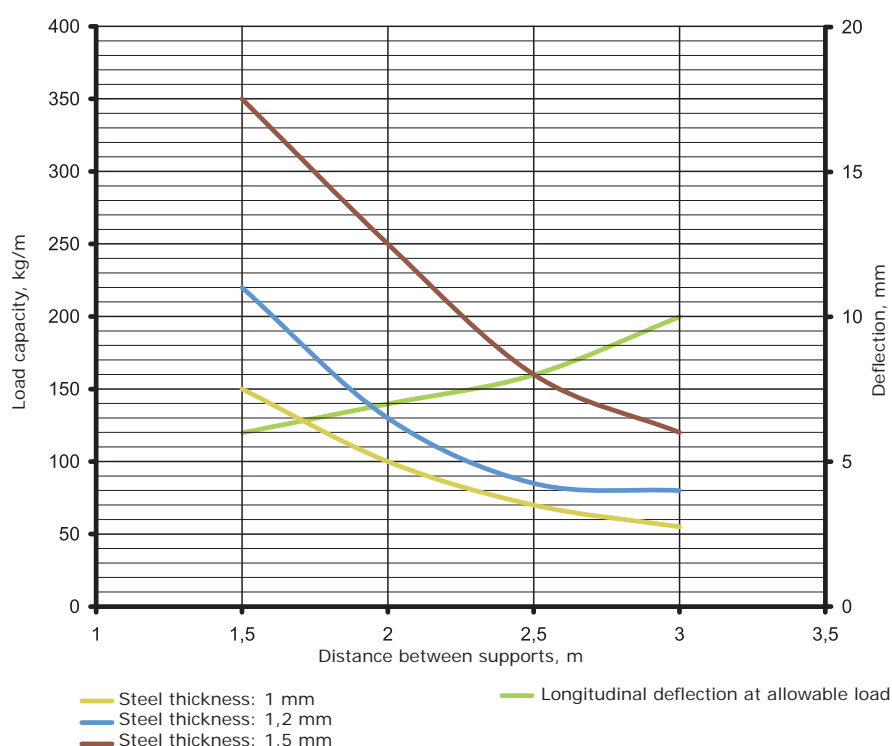
- installation of cable routes for laying of wires and cables.

Characteristics:

- version 1 – Sendzimir galvanized steel;
- version 2 – Hot-dip galvanized steel (HDZ);
- version 3 – stainless steel (AISI 304);
- version 4 – zinc flake coating;
- the protection degree provided is up to IP44 in case special seals and metal plates are used

Steel thickness, mm	Height H, mm	Length L, mm	Width B, mm	Code, version 1	Code, version 2	Code, version 3	Code, version 4
1.0	100	3000	100	3510110	3510110HDZ	3510110INOX	3510110ZL
			150	3510210	3510210HDZ	3510210INOX	3510210ZL
			200	3510310	3510310HDZ	3510310INOX	3510310ZL
			300	3510410	3510410HDZ	3510410INOX	3510410ZL
			400	35105	35105HDZ	35105INOX	35105ZL
			500	35106	35106HDZ	35106INOX	35106ZL
			600	35107	35107HDZ	35107INOX	35107ZL
1.2	100	3000	100	3510112	3510112HDZ	–	3510112ZL
			150	3510212	3510212HDZ	–	3510212ZL
			200	3510312	3510312HDZ	–	3510312ZL
			300	3510412	3510412HDZ	–	3510412ZL
			400	3510512	3510512HDZ	–	3510512ZL
			500	3510612	3510612HDZ	–	3510612ZL
			600	3510712	3510712HDZ	–	3510712ZL
1.5	100	3000	100	3510115	3510115HDZ	–	3510115ZL
			150	3510215	3510215HDZ	–	3510215ZL
			200	3510315	3510315HDZ	–	3510315ZL
			300	3510415	3510415HDZ	–	3510415ZL
			400	3510515	3510515HDZ	–	3510515ZL
			500	3510615	3510615HDZ	–	3510615ZL

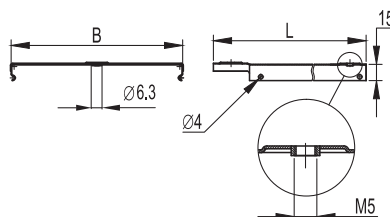
Load diagrams



Load test conditions:

- for versions 1, 2 and 4;
- tests according to GOST R 52868, item 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-013-47022248-2004;
- the maximum linear flecion does not exceed 1/100 of the span;
- the maximum transversal flecion does not exceed 1/20 of the tray base width;
- safety factor is 1,7 of declared load;
- load characteristics on a 3-meter span are related to cable trays with length of 3 meter only.

Cover for a straight element



Purpose:

- cable protection against external effects.

Distinctive features:

- it is latched on a tray by mere pushing (edge C-profile); when used at open air, additional use of 38500ZL or 38500INOX cover holders is recommended (page 478). The tray cover has specially stamped ends for lap joint. To establish a ground loop along the cover, M5x8 screw is used (code CM030508).

Characteristics:

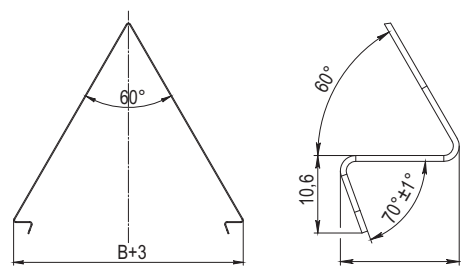
- version 1 – Sendzimir galvanized steel;
- version 2 – Hot-dip galvanized steel (HDZ);
- version 3 – stainless steel (AISI 304);
- version 4 – zinc flake coating.

Length L, mm	Width B, mm	Weight, vers. 1, kg/m	Code, version 1	Code, version 2	Code, version 3	Code, version 4
2000	50	0.4	35510	35510HDZ	35510INOX	35510ZL
	80	0.54	35511	35511HDZ	35511INOX	35511ZL
	100	0.63	35512	35512HDZ	35512INOX	35512ZL
	150	0.87	35513	35513HDZ	35513INOX	35513ZL
	200	1.11	35514	35514HDZ	35514INOX	35514ZL
	300	1.58	35515	35515HDZ	35515INOX	35515ZL
	400	2.05	35516	35516HDZ	35516INOX	35516ZL
	500	2.52	35517	35517HDZ	35517INOX	35517ZL
3000	600	2.98	35518	35518HDZ	35518INOX	35518ZL
	50	0.4	35520	35520HDZ	35520INOX	35520ZL
	80	0.54	35521	35521HDZ	35521INOX	35521ZL
	100	0.63	35522	35522HDZ	35522INOX	35522ZL
	150	0.87	35523	35523HDZ	35523INOX	35523ZL
	200	1.11	35524	35524HDZ	35524INOX	35524ZL
	300	1.58	35525	35525HDZ	35525INOX	35525ZL
	400	2.05	35526	35526HDZ	35526INOX	35526ZL
	500	2.52	35527	35527HDZ	35527INOX	35527ZL
	600	2.98	35528	35528HDZ	35528INOX	35528ZL

Special thickness version of cover

Steel thickness, mm	Length L, mm	Width B, mm	Code, version 1	Code, version 2	Code, version 3	Code, version 4
1.0	3000	50	3552010	3552010HDZ	3552010INOX	3552010ZL
		80	3552110	3552110HDZ	3552110INOX	3552110ZL
		100	3552210	3552210HDZ	3552210INOX	3552210ZL
		150	3552310	3552310HDZ	3552310INOX	3552310ZL
		200	3552410	3552410HDZ	3552410INOX	3552410ZL
		300	3552510	3552510HDZ	3552510INOX	3552510ZL
		400	3552610	3552610HDZ	3552610INOX	3552610ZL
		500	3552710	3552710HDZ	3552710INOX	3552710ZL
1.2	3000	600	3552810	3552810HDZ	3552810INOX	3552810ZL
		50	3552012	3552012HDZ	–	3552012ZL
		80	3552112	3552112HDZ	–	3552112ZL
		100	3552212	3552212HDZ	–	3552212ZL
		150	3552312	3552312HDZ	–	3552312ZL
		200	3552412	3552412HDZ	–	3552412ZL
		300	3552512	3552512HDZ	–	3552512ZL
		400	3552612	3552612HDZ	–	3552612ZL
1.5	3000	500	3552712	3552712HDZ	–	3552712ZL
		600	3552812	3552812HDZ	–	3552812ZL
		50	3552015	3552015HDZ	–	3552015ZL
		80	3552115	3552115HDZ	–	3552115ZL
		100	3552215	3552215HDZ	–	3552215ZL
		150	3552315	3552315HDZ	–	3552315ZL
		200	3552415	3552415HDZ	–	3552415ZL
		300	3552515	3552515HDZ	–	3552515ZL
		400	3552615	3552615HDZ	–	3552615ZL
		500	3552715	3552715HDZ	–	3552715ZL

Gable cover



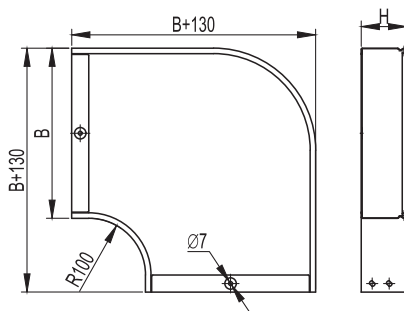
- Purpose:**
- cable protection against snow load.
- Characteristics:**
- thickness is 0.8 mm.
- Distinctive features:**
- SKH500HDZL holder shall be used for installation. The holder is attached with two CM100600HDZ nuts and CM020620HDZ screw. For installation, the screw shall be inserted in the tray hole first, and the cover shall be fitted only after this.

Base width B, mm	Code, version 2	Code, version 4
200	SKS332HDZ	SKS332ZL
300	SKS333HDZ	SKS333ZL
400	SKS334HDZ	SKS334ZL
500	SKS335HDZ	SKS335ZL
600	SKS336HDZ	SKS336ZL

Cable tray accessories

Angles

CPO 90 horizontal angle


Purpose:

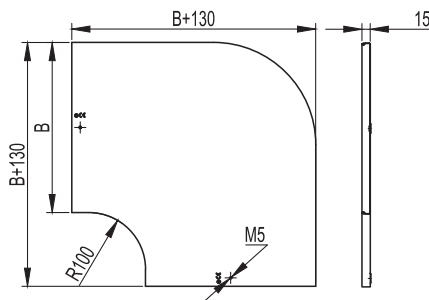
- organization of route 90° bend in horizontal plane.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	50	0.400	36000	36000HDZ	36000INOX	36000ZL
	100	0.600	36002	36002HDZ	36002INOX	36002ZL
	150	0.800	36003	36003HDZ	36003INOX	36003ZL
	200	1.100	36004	36004HDZ	36004INOX	36004ZL
	300	1.800	36005	36005HDZ	36005INOX	36005ZL
	400	2.600	36006	36006HDZ	36006INOX	36006ZL
	500	3.600	36007	36007HDZ	36007INOX	36007ZL
80	600	4.600	36001	36001HDZ	36001INOX	36001ZL
	80	0.600	36021	36021HDZ	36021INOX	36021ZL
	100	0.660	36022	36022HDZ	36022INOX	36022ZL
	150	0.960	36023	36023HDZ	36023INOX	36023ZL
	200	1.300	36024	36024HDZ	36024INOX	36024ZL
	300	2.000	36025	36025HDZ	36025INOX	36025ZL
	400	3.000	36026	36026HDZ	36026INOX	36026ZL
100	500	4.000	36027	36027HDZ	36027INOX	36027ZL
	600	5.000	36028	36028HDZ	36028INOX	36028ZL
	100	0.700	36041	36041HDZ	36041INOX	36041ZL
	150	1.000	36042	36042HDZ	36042INOX	36042ZL
	200	1.370	36043	36043HDZ	36043INOX	36043ZL
	300	2.100	36044	36044HDZ	36044INOX	36044ZL
	400	3.150	36045	36045HDZ	36045INOX	36045ZL
	500	4.200	36046	36046HDZ	36046INOX	36046ZL
	600	5.250	36047	36047HDZ	36047INOX	36047ZL

Cover for CPO 90 horizontal angle


Purpose:

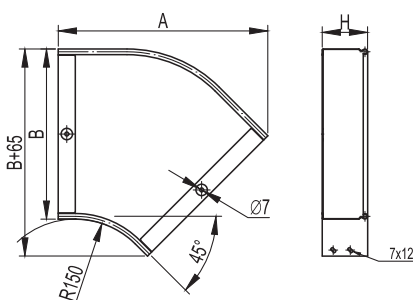
- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.6 mm.

Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.150	38000	38000HDZ	38000INOX	38000ZL
80	0.260	38001	38001HDZ	38001INOX	38001ZL
100	0.350	38002	38002HDZ	38002INOX	38002ZL
150	0.550	38003	38003HDZ	38003INOX	38003ZL
200	0.700	38004	38004HDZ	38004INOX	38004ZL
300	1.400	38005	38005HDZ	38005INOX	38005ZL
400	2.100	38006	38006HDZ	38006INOX	38006ZL
500	3.100	38007	38007HDZ	38007INOX	38007ZL
600	4.100	38008	38008HDZ	38008INOX	38008ZL

* There are no special grooves for attachment of covers on a 50 mm wide cover; attachment of the cover is carried out using blades on the cover ends.

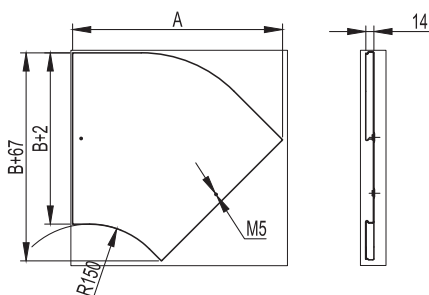
CPO 45 horizontal angle

Purpose:

- organization of route 45° bend in horizontal plane.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	A, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	50	190	0.250	36060	36060HDZ	36060INOX	36060ZL
	100	230	0.400	36062	36062HDZ	36062INOX	36062ZL
	150	270	0.500	36063	36063HDZ	36063INOX	36063ZL
	200	300	0.700	36064	36064HDZ	36064INOX	36064ZL
	300	370	1.000	36065	36065HDZ	36065INOX	36065ZL
	400	440	1.400	36066	36066HDZ	36066INOX	36066ZL
	500	510	1.900	36067	36067HDZ	36067INOX	36067ZL
	600	580	2.300	36068	36068HDZ	36068INOX	36068ZL
80	80	220	0.440	36081	36081HDZ	36081INOX	36081ZL
	100	230	0.500	36082	36082HDZ	36082INOX	36082ZL
	150	270	0.660	36083	36083HDZ	36083INOX	36083ZL
	200	300	0.800	36084	36084HDZ	36084INOX	36084ZL
	300	370	1.200	36085	36085HDZ	36085INOX	36085ZL
	400	440	1.600	36086	36086HDZ	36086INOX	36086ZL
	500	510	2.000	36087	36087HDZ	36087INOX	36087ZL
	600	580	2.400	36088	36088HDZ	36088INOX	36088ZL
100	100	230	0.530	36101	36101HDZ	36101INOX	36101ZL
	150	270	0.700	36102	36102HDZ	36102INOX	36102ZL
	200	300	0.850	36103	36103HDZ	36103INOX	36103ZL
	300	370	1.260	36104	36104HDZ	36104INOX	36104ZL
	400	440	1.700	36105	36105HDZ	36105INOX	36105ZL
	500	510	2.100	36106	36106HDZ	36106INOX	36106ZL
	600	580	2.500	36107	36107HDZ	36107INOX	36107ZL

Cover for CPO 45 horizontal angle

Purpose:

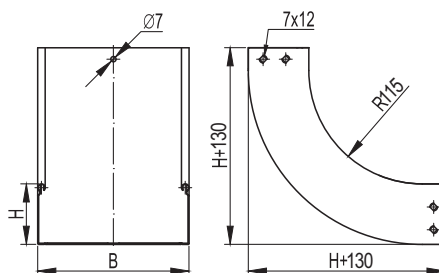
- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.6 mm.

Width B, mm	A, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	190	0.100	38020	38020HDZ	38020INOX	38020ZL
80	220	0.200	38021	38021HDZ	38021INOX	38021ZL
100	230	0.240	38022	38022HDZ	38022INOX	38022ZL
150	270	0.360	38023	38023HDZ	38023INOX	38023ZL
200	300	0.500	38024	38024HDZ	38024INOX	38024ZL
300	370	0.800	38025	38025HDZ	38025INOX	38025ZL
400	440	1.200	38026	38026HDZ	38026INOX	38026ZL
500	510	1.600	38027	38027HDZ	38027INOX	38027ZL
600	580	2.000	38028	38028HDZ	38028INOX	38028ZL

* There are no special grooves for attachment of covers on a 50 mm wide cover; attachment of the cover is carried out using blades on the cover ends.

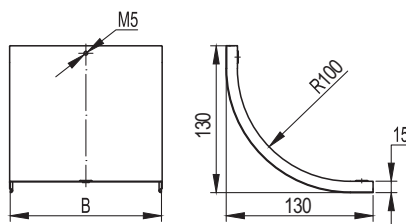
CS 90 internal vertical angle

Purpose:

- organization of route 90° upward bend.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	50	0.35	36660	36660HDZ	36660INOX	36660ZL
	100	0.5	36662	36662HDZ	36662INOX	36662ZL
	150	0.6	36663	36663HDZ	36663INOX	36663ZL
	200	0.7	36664	36664HDZ	36664INOX	36664ZL
	300	0.9	36665	36665HDZ	36665INOX	36665ZL
	400	1.5	36666	36666HDZ	36666INOX	36666ZL
	500	1.8	36667	36667HDZ	36667INOX	36667ZL
	600	2.1	36668	36668HDZ	36668INOX	36668ZL
80	80	0.6	36681	36681HDZ	36681INOX	36681ZL
	100	0.66	36682	36682HDZ	36682INOX	36682ZL
	150	0.78	36683	36683HDZ	36683INOX	36683ZL
	200	0.9	36684	36684HDZ	36684INOX	36684ZL
	300	1.2	36685	36685HDZ	36685INOX	36685ZL
	400	1.4	36686	36686HDZ	36686INOX	36686ZL
	500	1.8	36687	36687HDZ	36687INOX	36687ZL
	600	2.3	36688	36688HDZ	36688INOX	36688ZL
100	100	0.7	36701	36701HDZ	36701INOX	36701ZL
	150	0.82	36702	36702HDZ	36702INOX	36702ZL
	200	0.95	36703	36703HDZ	36703INOX	36703ZL
	300	1.3	36704	36704HDZ	36704INOX	36704ZL
	400	1.5	36705	36705HDZ	36705INOX	36705ZL
	500	1.9	36706	36706HDZ	36706INOX	36706ZL
	600	2.3	36707	36707HDZ	36707INOX	36707ZL

Cover for CS 90 internal vertical angle

Purpose:

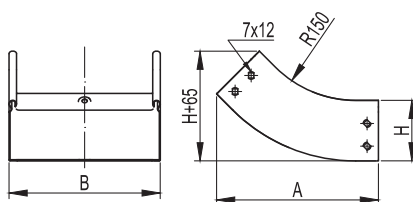
- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.6 mm.

Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.1	38200	38200HDZ	38200INOX	38200ZL
80	0.2	38201	38201HDZ	38201INOX	38201ZL
100	0.25	38202	38202HDZ	38202INOX	38202ZL
150	0.3	38203	38203HDZ	38203INOX	38203ZL
200	0.4	38204	38204HDZ	38204INOX	38204ZL
300	0.6	38205	38205HDZ	38205INOX	38205ZL
400	0.7	38206	38206HDZ	38206INOX	38206ZL
500	0.8	38207	38207HDZ	38207INOX	38207ZL
600	0.9	38208	38208HDZ	38208INOX	38208ZL

* There are no special grooves for attachment of covers on a 50 mm wide cover; attachment of the cover is carried out using blades on the cover ends.

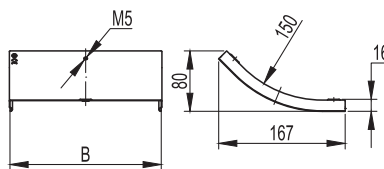
CS 45 internal vertical angle

Purpose:

- organization of route 45° upward bend.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	A, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	50	195	0.25	36720	36720HDZ	36720INOX	36720ZL
	100	195	0.3	36722	36722HDZ	36722INOX	36722ZL
	150	195	0.4	36723	36723HDZ	36723INOX	36723ZL
	200	195	0.5	36724	36724HDZ	36724INOX	36724ZL
	300	195	0.7	36725	36725HDZ	36725INOX	36725ZL
	400	195	0.8	36726	36726HDZ	36726INOX	36726ZL
	500	195	1	36727	36727HDZ	36727INOX	36727ZL
80	600	195	1.2	36728	36728HDZ	36728INOX	36728ZL
	80	210	0.45	36741	36741HDZ	36741INOX	36741ZL
	100	210	0.5	36742	36742HDZ	36742INOX	36742ZL
	150	210	0.6	36743	36743HDZ	36743INOX	36743ZL
	200	210	0.7	36744	36744HDZ	36744INOX	36744ZL
	300	210	0.85	36745	36745HDZ	36745INOX	36745ZL
	400	210	1.1	36746	36746HDZ	36746INOX	36746ZL
100	500	210	1.3	36747	36747HDZ	36747INOX	36747ZL
	600	210	1.5	36748	36748HDZ	36748INOX	36748ZL
	100	230	0.53	36761	36761HDZ	36761INOX	36761ZL
	150	230	0.63	36762	36762HDZ	36762INOX	36762ZL
	200	230	0.74	36763	36763HDZ	36763INOX	36763ZL
	300	230	0.89	36764	36764HDZ	36764INOX	36764ZL
	400	230	1.15	36765	36765HDZ	36765INOX	36765ZL
	500	230	1.37	36766	36766HDZ	36766INOX	36766ZL
	600	230	1.59	36767	36767HDZ	36767INOX	36767ZL

Cover for CS 45 internal vertical angle

Purpose:

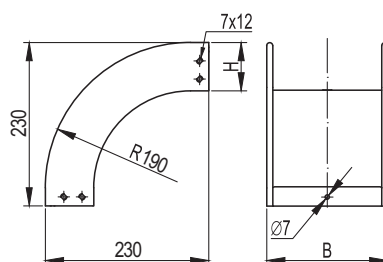
- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.6 mm.

Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.08	38220	38220HDZ	38220INOX	38220ZL
80	0.18	38221	38221HDZ	38221INOX	38221ZL
100	0.2	38222	38222HDZ	38222INOX	38222ZL
150	0.3	38223	38223HDZ	38223INOX	38223ZL
200	0.35	38224	38224HDZ	38224INOX	38224ZL
300	0.5	38225	38225HDZ	38225INOX	38225ZL
400	0.6	38226	38226HDZ	38226INOX	38226ZL
500	0.7	38227	38227HDZ	38227INOX	38227ZL
600	0.8	38228	38228HDZ	38228INOX	38228ZL

* There are no special grooves for attachment of covers on a 50 mm wide cover; attachment of the cover is carried out using blades on the cover ends.

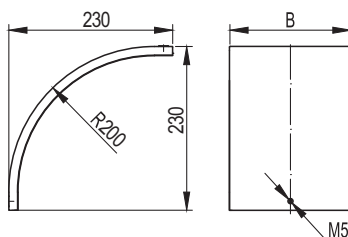
CD 90 external vertical angle

Purpose:

- organization of route 90° downward bend.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 3
50	50	0.45	36780	36780HDZ	36780INOX	36780ZL
	100	0.6	36782	36782HDZ	36782INOX	36782ZL
	150	0.7	36783	36783HDZ	36783INOX	36783ZL
	200	0.8	36784	36784HDZ	36784INOX	36784ZL
	300	1	36785	36785HDZ	36785INOX	36785ZL
	400	1.2	36786	36786HDZ	36786INOX	36786ZL
	500	1.4	36787	36787HDZ	36787INOX	36787ZL
	600	1.6	36788	36788HDZ	36788INOX	36788ZL
80	80	0.6	36801	36801HDZ	36801INOX	36801ZL
	100	0.65	36802	36802HDZ	36802INOX	36802ZL
	150	0.75	36803	36803HDZ	36803INOX	36803ZL
	200	0.85	36804	36804HDZ	36804INOX	36804ZL
	300	1.2	36805	36805HDZ	36805INOX	36805ZL
	400	1.3	36806	36806HDZ	36806INOX	36806ZL
	500	1.4	36807	36807HDZ	36807INOX	36807ZL
	600	1.6	36808	36808HDZ	36808INOX	36808ZL
100	100	0.68	36821	36821HDZ	36821INOX	36821ZL
	150	0.79	36822	36822HDZ	36822INOX	36822ZL
	200	0.89	36823	36823HDZ	36823INOX	36823ZL
	300	1.26	36824	36824HDZ	36824INOX	36824ZL
	400	1.37	36825	36825HDZ	36825INOX	36825ZL
	500	1.47	36826	36826HDZ	36826INOX	36826ZL
	600	1.57	36827	36827HDZ	36827INOX	36827ZL

Cover for CD 90 external vertical angle

Purpose:

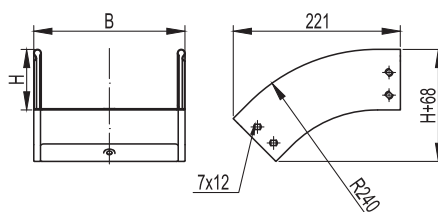
- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.6 mm.

Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.15	38240	38240HDZ	38240INOX	38240ZL
80	0.35	38241	38241HDZ	38241INOX	38241ZL
100	0.4	38242	38242HDZ	38242INOX	38242ZL
150	0.55	38243	38243HDZ	38243INOX	38243ZL
200	0.7	38244	38244HDZ	38244INOX	38244ZL
300	1	38245	38245HDZ	38245INOX	38245ZL
400	1.2	38246	38246HDZ	38246INOX	38246ZL
500	1.4	38247	38247HDZ	38247INOX	38247ZL
600	1.6	38248	38248HDZ	38248INOX	38248ZL

* There are no special grooves for attachment of covers on a 50 mm wide cover; attachment of the cover is carried out using blades on the cover ends.

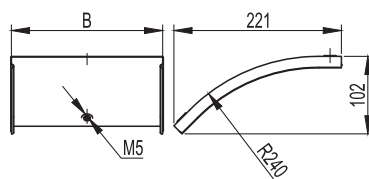
CD 45 external vertical angle

Purpose:

- organization of route 45° downward bend.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	50	0.3	36840	36840HDZ	36840INOX	36840ZL
	100	0.4	36842	36842HDZ	36842INOX	36842ZL
	150	0.5	36843	36843HDZ	36843INOX	36843ZL
	200	0.6	36844	36844HDZ	36844INOX	36844ZL
	300	0.7	36845	36845HDZ	36845INOX	36845ZL
	400	0.8	36846	36846HDZ	36846INOX	36846ZL
	500	1	36847	36847HDZ	36847INOX	36847ZL
	600	1.2	36848	36848HDZ	36848INOX	36848ZL
80	80	0.45	36861	36861HDZ	36861INOX	36861ZL
	100	0.5	36862	36862HDZ	36862INOX	36862ZL
	150	0.55	36863	36863HDZ	36863INOX	36863ZL
	200	0.62	36864	36864HDZ	36864INOX	36864ZL
	300	0.75	36865	36865HDZ	36865INOX	36865ZL
	400	0.9	36866	36866HDZ	36866INOX	36866ZL
	500	1	36867	36867HDZ	36867INOX	36867ZL
	600	1.1	36868	36868HDZ	36868INOX	36868ZL
100	100	0.53	36881	36881HDZ	36881INOX	36881ZL
	150	0.58	36882	36882HDZ	36882INOX	36882ZL
	200	0.65	36883	36883HDZ	36883INOX	36883ZL
	300	0.8	36884	36884HDZ	36884INOX	36884ZL
	400	0.95	36885	36885HDZ	36885INOX	36885ZL
	500	1.07	36886	36886HDZ	36886INOX	36886ZL
	600	1.19	36887	36887HDZ	36887INOX	36887ZL

Cover for CD 45 external vertical angle

Purpose:

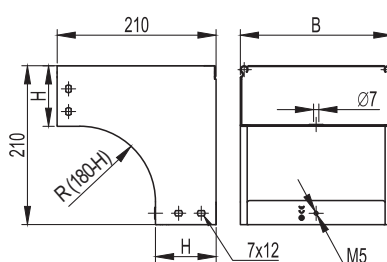
- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.6 mm.

Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.1	38260	38260HDZ	38260INOX	38260ZL
80	0.26	38261	38261HDZ	38261INOX	38261ZL
100	0.3	38262	38262HDZ	38262INOX	38262ZL
150	0.4	38263	38263HDZ	38263INOX	38263ZL
200	0.5	38264	38264HDZ	38264INOX	38264ZL
300	0.65	38265	38265HDZ	38265INOX	38265ZL
400	0.8	38266	38266HDZ	38266INOX	38266ZL
500	1.00	38267	38267HDZ	38267INOX	38267ZL
600	1.2	38268	38268HDZ	38268INOX	38268ZL

* There are no special grooves for attachment of covers on a 50 mm wide cover; attachment of the cover is carried out using blades on the cover ends.

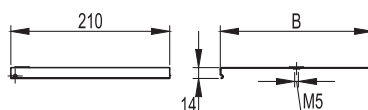
CDV 90 external vertical angle

Purpose:

- organization of 90° downward bend of the tray route while rotating the open part of the tray about itself by 180°.

Characteristics:

- the accessory steel thickness is 1.0 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	100	0.83	37572	37572HDZ	37572INOX	37572ZL
	150	1.03	37573	37573HDZ	37573INOX	37573ZL
	200	1.22	37574	37574HDZ	37574INOX	37574ZL
	300	1.6	37575	37575HDZ	37575INOX	37575ZL
	400	1.99	37576	37576HDZ	37576INOX	37576ZL
	500	2.38	37577	37577HDZ	37577INOX	37577ZL
	600	2.77	37578	37578HDZ	37578INOX	37578ZL
80	80	0.79	37371	37371HDZ	37371INOX	37371ZL
	100	0.86	37372	37372HDZ	37372INOX	37372ZL
	150	1.03	37373	37373HDZ	37373INOX	37373ZL
	200	1.2	37374	37374HDZ	37374INOX	37374ZL
	300	1.54	37375	37375HDZ	37375INOX	37375ZL
	400	1.74	37376	37376HDZ	37376INOX	37376ZL
	500	2.05	37377	37377HDZ	37377INOX	37377ZL
100	600	2.36	37370	37370HDZ	37370INOX	37370ZL
	100	0.93	37472	37472HDZ	37472INOX	37472ZL
	150	1.12	37473	37473HDZ	37473INOX	37473ZL
	200	1.26	37474	37474HDZ	37474INOX	37474ZL
	300	1.59	37475	37475HDZ	37475INOX	37475ZL
	400	1.99	37476	37476HDZ	37476INOX	37476ZL
	500	2.34	37477	37477HDZ	37477INOX	37477ZL
	600	2.69	37478	37478HDZ	37478INOX	37478ZL

Cover for CDV 90 external vertical angle

Purpose:

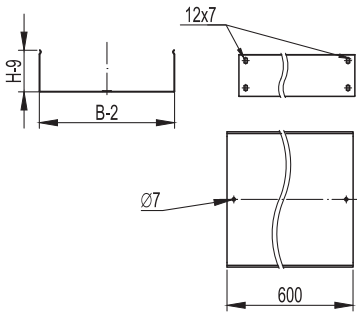
- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.8 mm.

Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
80	0.15	38281	38281HDZ	38281INOX	38281ZL
100	0.18	38341	38341HDZ	38341INOX	38341ZL
150	0.24	38342	38342HDZ	38342INOX	38342ZL
200	0.31	38343	38343HDZ	38343INOX	38343ZL
300	0.44	38344	38344HDZ	38344INOX	38344ZL
400	0.61	38345	38345HDZ	38345INOX	38345ZL
500	0.76	38346	38346HDZ	38346INOX	38346ZL
600	0.91	38347	38347HDZ	38347INOX	38347ZL

Telescopic extension



Purpose:

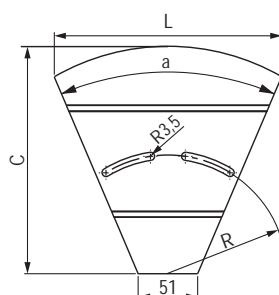
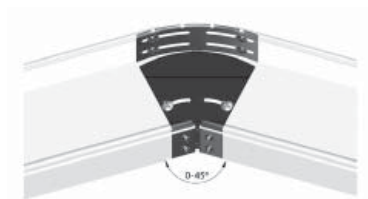
- compensation for changing of tray length under temperature fluctuations. Extension type add-ons shall be located at a distance sufficient for compensation of the tray length ramping. This distance can be determined by temperature calculation.

Characteristics:

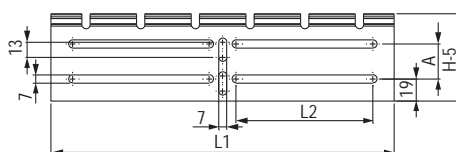
- the length of Telescopic extension for all the standard sizes is 600 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	100	0.65	35262600	35262600HDZ	35262600INOX	35262600ZL
	150	0.79	35263600	35263600HDZ	35263600INOX	35263600ZL
	200	1.07	35264600	35264600HDZ	35264600INOX	35264600ZL
	300	1.39	35265600	35265600HDZ	35265600INOX	35265600ZL
	400	2.13	35266600	35266600HDZ	35266600INOX	35266600ZL
	500	2.54	35267600	35267600HDZ	35267600INOX	35267600ZL
80	80	0.76	35301600	35301600HDZ	35301600INOX	35301600ZL
	100	0.82	35302600	35302600HDZ	35302600INOX	35302600ZL
	150	0.96	35303600	35303600HDZ	35303600INOX	35303600ZL
	200	1.26	35304600	35304600HDZ	35304600INOX	35304600ZL
	300	1.59	35305600	35305600HDZ	35305600INOX	35305600ZL
	400	2.37	35306600	35306600HDZ	35306600INOX	35306600ZL
100	500	2.78	35307600	35307600HDZ	35307600INOX	35307600ZL
	100	0.93	35341600	35341600HDZ	35341600INOX	35341600ZL
	150	1.08	35342600	35342600HDZ	35342600INOX	35342600ZL
	200	1.39	35343600	35343600HDZ	35343600INOX	35343600ZL
	300	1.72	35344600	35344600HDZ	35344600INOX	35344600ZL
	400	2.48	35345600	35345600HDZ	35345600INOX	35345600ZL
	500	2.94	35346600	35346600HDZ	35346600INOX	35346600ZL

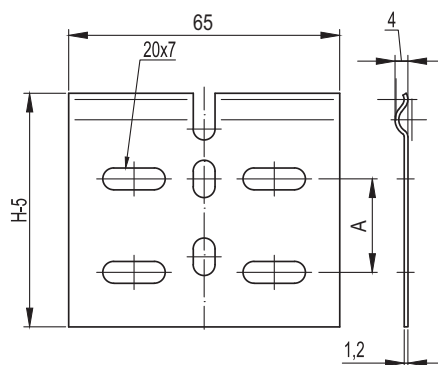
CPO horizontal changeable angle



Base drawing



External plate drawing



Internal plate drawing

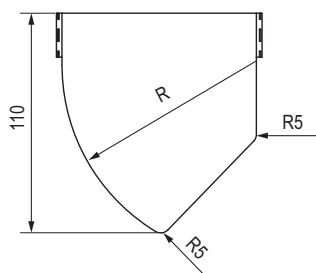
Purpose:

- organization of route bend in horizontal plane at an angle of 0 to 45°.

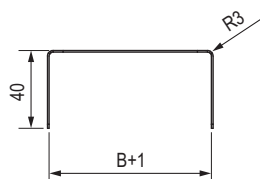
Characteristics:

- the accessory steel thickness is 0.8 mm;
- delivered unassembled and unbent.

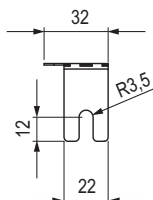
Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	L, mm	C, mm	a, °	L1, mm	L2, mm	A, mm	Code, vers. 1	Code, vers. 2	Code, vers. 3	Code, vers. 4
50	100	0.15	126	95	55	140	38	0	36008	36008HDZL	36008INOX	36008HDZL
	150	0.2	165	145	51	180	63		36009	36009HDZL	36009INOX	36009HDZL
	200	0.27	196	195	46	215	77.5		36010	36010HDZL	36010INOX	36010HDZL
	300	0.44	281	295	48	295	117.5		36011	36011HDZL	36011INOX	36011HDZL
	400	0.72	350	385	48	370	155		360405	360405HDZL	360405INOX	360405HDZL
	500	1.04	431	485	47	455	95		360505	360505HDZL	360505INOX	360505HDZL
	600	1.47	512	585	50	540	110		360605	360605HDZL	360605INOX	360605HDZL
80	80	0.14	107	75	55	120	28	30	36012	36012HDZL	36012INOX	36012HDZL
	100	0.16	126	95	55	140	38		36013	36013HDZL	36013INOX	36013HDZL
	150	0.22	165	145	51	180	63		36014	36014HDZL	36014INOX	36014HDZL
	200	0.3	196	195	46	215	77.5		36015	36015HDZL	36015INOX	36015HDZL
	300	0.48	281	295	48	295	117.5		36016	36016HDZL	36016INOX	36016HDZL
	400	0.81	350	385	48	370	155		360408	360408HDZL	360408INOX	360408HDZL
	500	1.16	431	485	47	455	95		360508	360508HDZL	360508INOX	360508HDZL
	600	1.59	512	585	50	540	110		360608	360608HDZL	360608INOX	360608HDZL
100	100	0.17	126	95	55	140	38	50	36017	36017HDZL	36017INOX	36017HDZL
	150	0.23	165	145	51	180	63		36018	36018HDZL	36018INOX	36018HDZL
	200	0.31	195	195	46	215	77.5		36019	36019HDZL	36019INOX	36019HDZL
	300	0.51	281	295	48	295	117.5		36020	36020HDZL	36020INOX	36020HDZL
	400	0.83	350	385	48	370	155		360410	360410HDZL	360410INOX	360410HDZL
	500	1.2	431	485	47	455	95		360510	360510HDZL	360510INOX	360510HDZL
	600	1.69	512	585	50	540	110		360610	360610HDZL	360610INOX	360610HDZL

Cover for CPO horizontal changeable angle


Main cover drawing



Small cover drawing



Bent part drawing

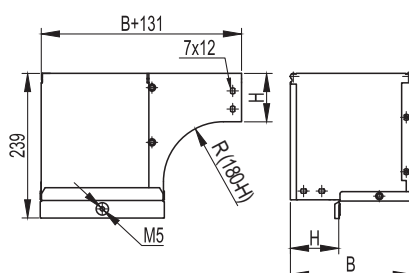
Purpose:

- cable protection against external effects

Characteristics:

- the accessory cover steel thickness is 0.8 mm;
- delivered unbent.

Width B, mm	Weight, vers. 1, kg/pce	R, °	Code, version 1	Code, version 2	Code, version 3	Code, version 4
80	0.06	77	38009	38009HDZL	38009INOX	38009HDZL
100	0.09	97	38010	38010HDZL	38010INOX	38010HDZL
150	0.14	147	38011	38011HDZL	38011INOX	38011HDZL
200	0.21	197	38012	38012HDZL	38012INOX	38012HDZL
300	0.39	297	38013	38013HDZL	38013INOX	38013HDZL
400	0.61	397	38014	38014HDZL	38014INOX	38014HDZL
500	0.89	497	38015	38015HDZL	38015INOX	38015HDZL
600	1.23	597	38016	38016HDZL	38016INOX	38016HDZL

CDSD 90 external vertical angle

Purpose:

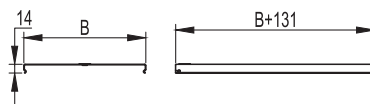
- organization of 90° downward bend of the tray route while rotating the open part of the tray about itself by 90°.

Characteristics:

- the accessory steel thickness is 1.0 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	100	1.128	37502	37502HDZ	37502INOX	37502ZL
	150	1.609	37503	37503HDZ	37503INOX	37503ZL
	200	2.129	37504	37504HDZ	37504INOX	37504ZL
	300	3.289	37505	37505HDZ	37505INOX	37505ZL
	400	4.606	37506	37506HDZ	37506INOX	37506ZL
	500	6.079	37507	37507HDZ	37507INOX	37507ZL
	600	7.552	37508	37508HDZ	37508INOX	37508ZL
80	80*	0.64	37001	37001HDZ	37001INOX	37001ZL
	100	1	37002	37002HDZ	37002INOX	37002ZL
	150	1.45	37003	37003HDZ	37003INOX	37003ZL
	200	1.91	37004	37004HDZ	37004INOX	37004ZL
	300	2.98	37005	37005HDZ	37005INOX	37005ZL
	400	4.16	37006	37006HDZ	37006INOX	37006ZL
	500	5.52	37007	37007HDZ	37007INOX	37007ZL
	600	6.88	37008	37008HDZ	37008INOX	37008ZL
100	100	0.962	37012	37012HDZ	37012INOX	37012ZL
	150	1.434	37013	37013HDZ	37013INOX	37013ZL
	200	1.905	37014	37014HDZ	37014INOX	37014ZL
	300	2.963	37015	37015HDZ	37015INOX	37015ZL
	400	4.18	37016	37016HDZ	37016INOX	37016ZL
	500	5.552	37017	37017HDZ	37017INOX	37017ZL
	600	6.924	37018	37018HDZ	37018INOX	37018ZL

* Delivered without a cover

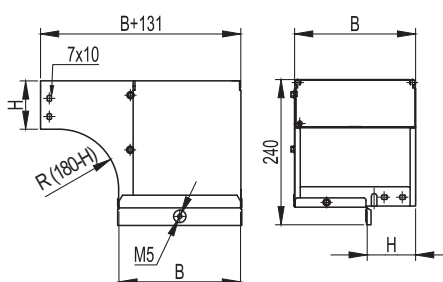
Cover for CDSD 90 external vertical angle

Purpose:

- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.8 mm.

Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
80	0.15	38281	38281HDZ	38281INOX	38281ZL
100	0.17	38282	38282HDZ	38282INOX	38282ZL
150	0.32	38283	38283HDZ	38283INOX	38283ZL
200	0.49	38284	38284HDZ	38284INOX	38284ZL
300	0.92	38285	38285HDZ	38285INOX	38285ZL
400	1.48	38286	38286HDZ	38286INOX	38286ZL
500	2.18	38287	38287HDZ	38287INOX	38287ZL
600	2.88	38288	38288HDZ	38288INOX	38288ZL

CDSS 90 external vertical angle

Purpose:

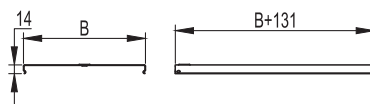
- organization of 90° downward bend of the tray route while rotating the open part of the tray about itself by 90°.

Characteristics:

- the accessory cover steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	100	1.128	37651	37651HDZ	37651INOX	37651ZL
	150	1.609	37652	37652HDZ	37652INOX	37652ZL
	200	2.129	37653	37653HDZ	37653INOX	37653ZL
	300	3.289	37654	37654HDZ	37654INOX	37654ZL
	400	4.606	37655	37655HDZ	37655INOX	37655ZL
	500	6.079	37656	37656HDZ	37656INOX	37656ZL
	600	7.552	37657	37657HDZ	37657INOX	37657ZL
80	80*	0.64	37021	37021HDZ	37021INOX	37021ZL
	100	1	37022	37022HDZ	37022INOX	37022ZL
	150	1.45	37023	37023HDZ	37023INOX	37023ZL
	200	1.91	37024	37024HDZ	37024INOX	37024ZL
	300	2.98	37025	37025HDZ	37025INOX	37025ZL
	400	4.16	37026	37026HDZ	37026INOX	37026ZL
	500	5.52	37027	37027HDZ	37027INOX	37027ZL
	600	6.88	37028	37028HDZ	37028INOX	37028ZL
100	100	0.962	37122	37122HDZ	37122INOX	37122ZL
	150	1.434	37123	37123HDZ	37123INOX	37123ZL
	200	1.905	37124	37124HDZ	37124INOX	37124ZL
	300	2.963	37125	37125HDZ	37125INOX	37125ZL
	400	4.18	37126	37126HDZ	37126INOX	37126ZL
	500	5.552	37127	37127HDZ	37127INOX	37127ZL
	600	6.924	37128	37128HDZ	37128INOX	37128ZL

* Delivered without a cover

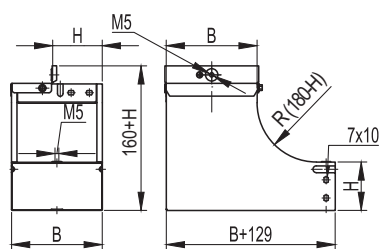
Cover for CDSS 90 external vertical angle

Purpose:

- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.8 mm.

Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
80	0.15	38281	38281HDZ	38281INOX	38281ZL
100	0.17	38282	38282HDZ	38282INOX	38282ZL
150	0.32	38283	38283HDZ	38283INOX	38283ZL
200	0.49	38284	38284HDZ	38284INOX	38284ZL
300	0.92	38285	38285HDZ	38285INOX	38285ZL
400	1.48	38286	38286HDZ	38286INOX	38286ZL
500	2.18	38287	38287HDZ	38287INOX	38287ZL
600	2.78	38288	38288HDZ	38288INOX	38288ZL

Internal vertical angle, CSSD 90 adapter

Purpose:

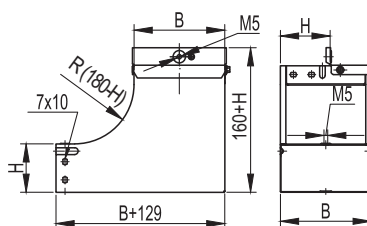
- organization of 90° upward bend of the tray route while rotating the open part of the tray about itself by 90°.

Characteristics:

- the accessory steel thickness is 1.0 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	100	1.21	37661	37661HDZ	37661INOX	37661ZL
	150	1.74	37662	37662HDZ	37662INOX	37662ZL
	200	2.36	37663	37663HDZ	37663INOX	37663ZL
	300	3.81	37664	37664HDZ	37664INOX	37664ZL
	400	5.62	37665	37665HDZ	37665INOX	37665ZL
	500	7.72	37666	37666HDZ	37666INOX	37666ZL
	600	10.15	37667	37667HDZ	37667INOX	37667ZL
80	80*	0.9	37041	37041HDZ	37041INOX	37041ZL
	100	1.120	37042	37042HDZ	37042INOX	37042ZL
	150	1.700	37043	37043HDZ	37043INOX	37043ZL
	200	2.300	37044	37044HDZ	37044INOX	37044ZL
	300	3.69	37045	37045HDZ	37045INOX	37045ZL
	400	5.52	37046	37046HDZ	37046INOX	37046ZL
	500	7.61	37047	37047HDZ	37047INOX	37047ZL
100	600	9.89	37048	37048HDZ	37048INOX	37048ZL
	100	1.1	37142	37142HDZ	37142INOX	37142ZL
	150	1.62	37143	37143HDZ	37143INOX	37143ZL
	200	2.36	37144	37144HDZ	37144INOX	37144ZL
	300	3.87	37145	37145HDZ	37145INOX	37145ZL
	400	6.00	37146	37146HDZ	37146INOX	37146ZL
	500	8.18	37147	37147HDZ	37147INOX	37147ZL
	600	10.46	37148	37148HDZ	37148INOX	37148ZL

* Delivered without a cover

Internal vertical angle, CSSS 90 adapter

Purpose:

- organization of 90° upward bend of the tray route while rotating the open part of the tray about itself by 90°.

Characteristics:

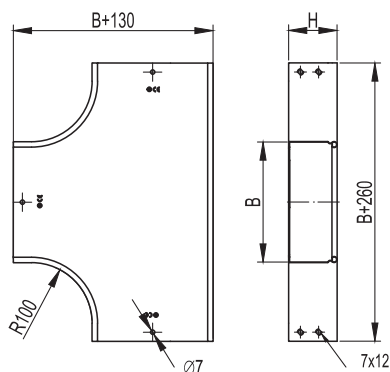
- the accessory steel thickness is 1.0 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	100	1.21	37592	37592HDZ	37592INOX	37592ZL
	150	1.74	37593	37593HDZ	37593INOX	37593ZL
	200	2.36	37594	37594HDZ	37594INOX	37594ZL
	300	3.81	37595	37595HDZ	37595INOX	37595ZL
	400	5.62	37596	37596HDZ	37596INOX	37596ZL
	500	7.72	37597	37597HDZ	37597INOX	37597ZL
80	600	10.15	37598	37598HDZ	37598INOX	37598ZL
	80*	0.9	37061	37061HDZ	37061INOX	37061ZL
	100	1.120	37062	37062HDZ	37062INOX	37062ZL
	150	1.700	37063	37063HDZ	37063INOX	37063ZL
	200	2.300	37064	37064HDZ	37064INOX	37064ZL
	300	3.69	37065	37065HDZ	37065INOX	37065ZL
	400	5.52	37066	37066HDZ	37066INOX	37066ZL
100	500	7.61	37067	37067HDZ	37067INOX	37067ZL
	600	9.89	37068	37068HDZ	37068INOX	37068ZL
	100	1.1	37072	37072HDZ	37072INOX	37072ZL
	150	1.62	37073	37073HDZ	37073INOX	37073ZL
	200	2.36	37074	37074HDZ	37074INOX	37074ZL
	300	3.87	37075	37075HDZ	37075INOX	37075ZL
	400	6.00	37076	37076HDZ	37076INOX	37076ZL
	500	8.18	37077	37077HDZ	37077INOX	37077ZL
	600	10.46	37078	37078HDZ	37078INOX	37078ZL

* Delivered without a cover

Tappers

DPT T-tapper


Purpose:

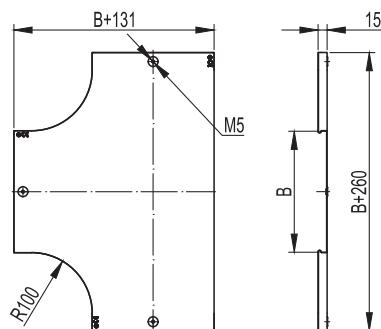
- organization of T-shaped branching of a route in horizontal plane.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 3
50	50	0.6	36120	36120HDZ	36120INOX	36120ZL
	100	0.8	36122	36122HDZ	36122INOX	36122ZL
	150	1.1	36123	36123HDZ	36123INOX	36123ZL
	200	1.7	36124	36124HDZ	36124INOX	36124ZL
	300	2.1	36125	36125HDZ	36125INOX	36125ZL
	400	3.1	36126	36126HDZ	36126INOX	36126ZL
	500	4.2	36127	36127HDZ	36127INOX	36127ZL
80	600	5.3	36128	36128HDZ	36128INOX	36128ZL
	80	0.9	36141	36141HDZ	36141INOX	36141ZL
	100	0.96	36142	36142HDZ	36142INOX	36142ZL
	150	1.3	36143	36143HDZ	36143INOX	36143ZL
	200	1.62	36144	36144HDZ	36144INOX	36144ZL
	300	2.3	36145	36145HDZ	36145INOX	36145ZL
	400	3.4	36146	36146HDZ	36146INOX	36146ZL
100	500	4.4	36147	36147HDZ	36147INOX	36147ZL
	600	5.5	36148	36148HDZ	36148INOX	36148ZL
	100	1	36161	36161HDZ	36161INOX	36161ZL
	150	1.37	36162	36162HDZ	36162INOX	36162ZL
	200	1.7	36163	36163HDZ	36163INOX	36163ZL
	300	2.4	36164	36164HDZ	36164INOX	36164ZL
	400	3.6	36165	36165HDZ	36165INOX	36165ZL
	500	4.62	36166	36166HDZ	36166INOX	36166ZL
	600	5.7	36167	36167HDZ	36167INOX	36167ZL

Cover for DPT T-tapper


Purpose:

- cable protection against external effects.

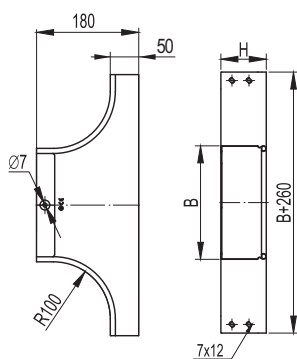
Characteristics:

- the accessory cover steel thickness is 0.6 mm.

Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.25	38040	38040HDZ	38040INOX	38040ZL
80	0.45	38041	38041HDZ	38041INOX	38041ZL
100	0.5	38042	38042HDZ	38042INOX	38042ZL
150	0.7	38043	38043HDZ	38043INOX	38043ZL
200	1	38044	38044HDZ	38044INOX	38044ZL
300	1.8	38045	38045HDZ	38045INOX	38045ZL
400	2.6	38046	38046HDZ	38046INOX	38046ZL
500	3.6	38047	38047HDZ	38047INOX	38047ZL
600	4.6	38048	38048HDZ	38048INOX	38048ZL

* There are no special grooves for attachment of covers on a 50 mm wide cover; attachment of the cover is carried out using blades on the cover ends.

DL T-tapper


Purpose:

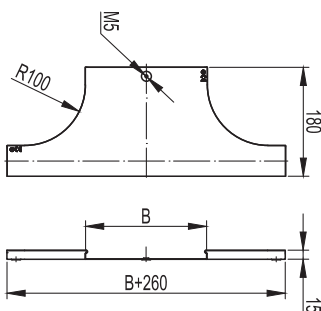
- organization of both T-shaped and X-shaped branching of a route in horizontal plane, or of a downward T-branching in vertical plane in case of installation without a cover.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	50	0.39	36233	36233HDZ	36233INOX	36233ZL
	100	0.5	36235	36235HDZ	36235INOX	36235ZL
	150	0.56	36236	36236HDZ	36236INOX	36236ZL
	200	0.64	36237	36237HDZ	36237INOX	36237ZL
	300	0.76	36238	36238HDZ	36238INOX	36238ZL
	400	0.91	36239	36239HDZ	36239INOX	36239ZL
	500	1.06	36240	36240HDZ	36240INOX	36240ZL
80	600	1.22	36241	36241HDZ	36241INOX	36241ZL
	80	0.57	36249	36249HDZ	36249INOX	36249ZL
	100	0.6	36250	36250HDZ	36250INOX	36250ZL
	150	0.66	36251	36251HDZ	36251INOX	36251ZL
	200	0.74	36252	36252HDZ	36252INOX	36252ZL
	300	0.86	36253	36253HDZ	36253INOX	36253ZL
	400	1.01	36254	36254HDZ	36254INOX	36254ZL
100	500	1.16	36255	36255HDZ	36255INOX	36255ZL
	600	1.32	36256	36256HDZ	36256INOX	36256ZL
	100	0.67	36263	36263HDZ	36263INOX	36263ZL
	150	0.73	36264	36264HDZ	36264INOX	36264ZL
	200	0.81	36265	36265HDZ	36265INOX	36265ZL
	300	0.93	36266	36266HDZ	36266INOX	36266ZL
	400	1.08	36267	36267HDZ	36267INOX	36267ZL
	500	1.23	36268	36268HDZ	36268INOX	36268ZL
	600	1.39	36269	36269HDZ	36269INOX	36269ZL

Cover for DL T-tapper


Purpose:

- cable protection against external effects.

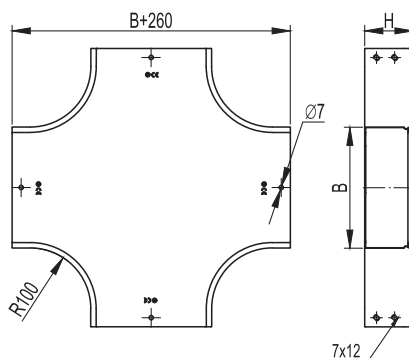
Characteristics:

- the accessory cover steel thickness is 0.6 mm.

Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.19	38361	38361HDZ	38361INOX	38361ZL
80	0.23	38362	38362HDZ	38362INOX	38362ZL
100	0.26	38363	38363HDZ	38363INOX	38363ZL
150	0.31	38364	38364HDZ	38364INOX	38364ZL
200	0.37	38365	38365HDZ	38365INOX	38365ZL
300	0.48	38366	38366HDZ	38366INOX	38366ZL
400	0.59	38367	38367HDZ	38367INOX	38367ZL
500	0.7	38368	38368HDZ	38368INOX	38368ZL
600	0.81	38369	38369HDZ	38369INOX	38369ZL

* There are no special grooves for attachment of covers on a 50 mm wide cover; attachment of the cover is carried out using blades on the cover ends.

DPX X-tapper

**Purpose:**

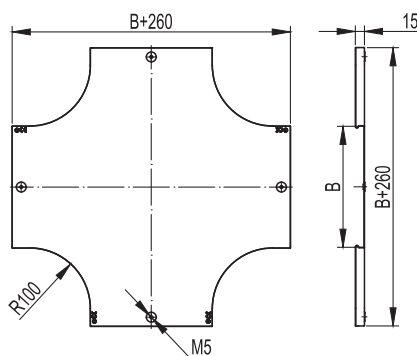
- organization of double-sided X-shaped branching of a route in horizontal plane.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	50	0.75	36180	36180HDZ	36180INOX	36180ZL
	100	1	36182	36182HDZ	36182INOX	36182ZL
	150	1.3	36183	36183HDZ	36183INOX	36183ZL
	200	1.7	36184	36184HDZ	36184INOX	36184ZL
	300	2.4	36185	36185HDZ	36185INOX	36185ZL
	400	3.4	36186	36186HDZ	36186INOX	36186ZL
	500	4.3	36187	36187HDZ	36187INOX	36187ZL
80	600	5.4	36188	36188HDZ	36188INOX	36188ZL
	80	1	36201	36201HDZ	36201INOX	36201ZL
	100	1.1	36202	36202HDZ	36202INOX	36202ZL
	150	1.4	36203	36203HDZ	36203INOX	36203ZL
	200	1.8	36204	36204HDZ	36204INOX	36204ZL
	300	2.6	36205	36205HDZ	36205INOX	36205ZL
	400	3.8	36206	36206HDZ	36206INOX	36206ZL
100	500	4.7	36207	36207HDZ	36207INOX	36207ZL
	600	5.7	36208	36208HDZ	36208INOX	36208ZL
	100	1.16	36221	36221HDZ	36221INOX	36221ZL
	150	1.47	36222	36222HDZ	36222INOX	36222ZL
	200	1.9	36223	36223HDZ	36223INOX	36223ZL
	300	2.75	36224	36224HDZ	36224INOX	36224ZL
	400	4	36225	36225HDZ	36225INOX	36225ZL
	500	4.95	36226	36226HDZ	36226INOX	36226ZL
	600	6.05	36227	36227HDZ	36227INOX	36227ZL

Cover for DPX X-tapper

**Purpose:**

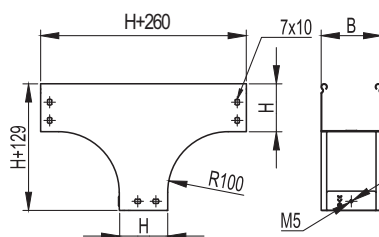
- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.6 mm.

Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.3	38060	38060HDZ	38060INOX	38060ZL
80	0.55	38061	38061HDZ	38061INOX	38061ZL
100	0.6	38062	38062HDZ	38062INOX	38062ZL
150	0.9	38063	38063HDZ	38063INOX	38063ZL
200	1.3	38064	38064HDZ	38064INOX	38064ZL
300	2.1	38065	38065HDZ	38065INOX	38065ZL
400	3	38066	38066HDZ	38066INOX	38066ZL
500	4.2	38067	38067HDZ	38067INOX	38067ZL
600	4.5	38068	38068HDZ	38068INOX	38068ZL

* There are no special grooves for attachment of covers on a 50 mm wide cover; attachment of the cover is carried out using blades on the cover ends.

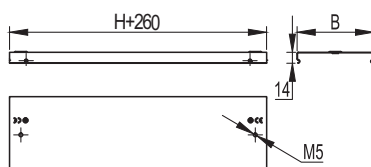
TD vertical T-tapper

Purpose:

- organization of T-shaped downward branching of the tray route.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	100	0.685	37519	37519HDZ	37519INOX	37519ZL
	150	0.855	37513	37513HDZ	37513INOX	37513ZL
	200	0.8	37514	37514HDZ	37514INOX	37514ZL
	300	1.025	37515	37515HDZ	37515INOX	37515ZL
	400	1.385	37516	37516HDZ	37516INOX	37516ZL
	500	2.045	37517	37517HDZ	37517INOX	37517ZL
	600	2.505	37518	37518HDZ	37518INOX	37518ZL
80	80	1	37101	37101HDZ	37101INOX	37101ZL
	100	1.06	37102	37102HDZ	37102INOX	37102ZL
	150	1.23	37103	37103HDZ	37103INOX	37103ZL
	200	1.4	37104	37104HDZ	37104INOX	37104ZL
	300	1.76	37105	37105HDZ	37105INOX	37105ZL
	400	2.06	37106	37106HDZ	37106INOX	37106ZL
	500	2.42	37107	37107HDZ	37107INOX	37107ZL
	600	2.85	37108	37108HDZ	37108INOX	37108ZL
100	100	1.35	37112	37112HDZ	37112INOX	37112ZL
	150	1.25	37113	37113HDZ	37113INOX	37113ZL
	200	1.5	37114	37114HDZ	37114INOX	37114ZL
	300	1.75	37115	37115HDZ	37115INOX	37115ZL
	400	2	37116	37116HDZ	37116INOX	37116ZL
	500	2.25	37117	37117HDZ	37117INOX	37117ZL
	600	2.6	37118	37118HDZ	37118INOX	37118ZL

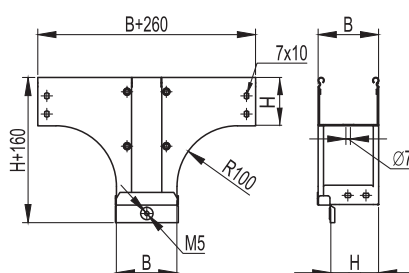
Cover for TD vertical T-tapper

Purpose:

- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.6 mm.

Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
80	0.245	38301	38301HDZ	38301INOX	38301ZL
100	0.290	38302	38302HDZ	38302INOX	38302ZL
150	0.400	38303	38303HDZ	38303INOX	38303ZL
200	0.510	38304	38304HDZ	38304INOX	38304ZL
300	0.720	38305	38305HDZ	38305INOX	38305ZL
400	0.940	38306	38306HDZ	38306INOX	38306ZL
500	1.160	38307	38307HDZ	38307INOX	38307ZL
600	1.38	38309	38309HDZ	38309INOX	38309ZL

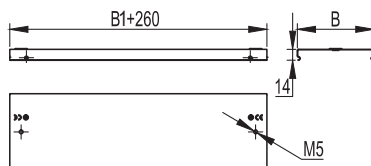
TDS vertical side T-tapper

Purpose:

- organization of downward T-branching of the tray route while rotating the open part of the tray about itself by 90°.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	100	0.73	37582	37582HDZ	37582INOX	37582ZL
	150	1.11	37583	37583HDZ	37583INOX	37583ZL
	200	1.6	37584	37584HDZ	37584INOX	37584ZL
	300	2.71	37585	37585HDZ	37585INOX	37585ZL
	400	3.9	37586	37586HDZ	37586INOX	37586ZL
	500	5.27	37587	37587HDZ	37587INOX	37587ZL
80	600	6.52	37588	37588HDZ	37588INOX	37588ZL
	80	1.05	37161	37161HDZ	37161INOX	37161ZL
	100	1.28	37162	37162HDZ	37162INOX	37162ZL
	150	1.66	37163	37163HDZ	37163INOX	37163ZL
	200	2.15	37164	37164HDZ	37164INOX	37164ZL
	300	3.26	37165	37165HDZ	37165INOX	37165ZL
100	400	4.445	37166	37166HDZ	37166INOX	37166ZL
	500	5.815	37167	37167HDZ	37167INOX	37167ZL
	600	7.06	37168	37168HDZ	37168INOX	37168ZL
	100	1.88	37172	37172HDZ	37172INOX	37172ZL
	150	2.26	37173	37173HDZ	37173INOX	37173ZL
	200	2.75	37174	37174HDZ	37174INOX	37174ZL
	300	3.86	37175	37175HDZ	37175INOX	37175ZL
	400	5.04	37176	37176HDZ	37176INOX	37176ZL
	500	6.42	37177	37177HDZ	37177INOX	37177ZL
	600	7.6	37178	37178HDZ	37178INOX	37178ZL

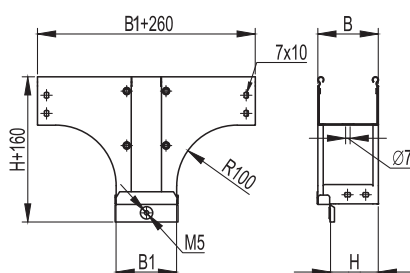
Cover for TDS vertical side T-tapper

Purpose:

- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.6 mm.

Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
80	0.245	38301	38301HDZ	38301INOX	38301ZL
100	0.310	38322	38322HDZ	38322INOX	38322ZL
150	0.480	38323	38323HDZ	38323INOX	38323ZL
200	0.680	38324	38324HDZ	38324INOX	38324ZL
300	1.190	38325	38325HDZ	38325INOX	38325ZL
400	1.830	38326	38326HDZ	38326INOX	38326ZL
500	2.590	38327	38327HDZ	38327INOX	38327ZL
600	3.37	38328	38328HDZ	38328INOX	38328ZL

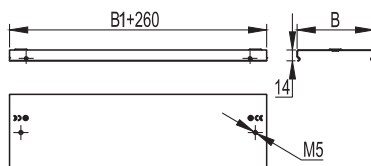
TDSA vertical T-tapper – adapter

Purpose:

- organization of downward T-branching of the tray route with height of 80 mm while rotating the open part of the tray about itself by 90°.
- The base width of the downward branching tray exceeds the width of the initial one.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Width B1, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
80	80	100	1.140	37601	37601HDZ	37601INOX	37601ZL
	80	150	1.300	37602	37602HDZ	37602INOX	37602ZL
	80	200	1.500	37603	37603HDZ	37603INOX	37603ZL
	80	300	1.840	37604	37604HDZ	37604INOX	37604ZL
	100	150	1.460	37605	37605HDZ	37605INOX	37605ZL
	100	200	1.680	37606	37606HDZ	37606INOX	37606ZL
	100	300	2.070	37607	37607HDZ	37607INOX	37607ZL
	150	200	1.920	37610	37610HDZ	37610INOX	37610ZL
	150	300	2.370	37611	37611HDZ	37611INOX	37611ZL
	150	400	2.750	37612	37612HDZ	37612INOX	37612ZL
	200	300	2.680	37614	37614HDZ	37614INOX	37614ZL
	200	400	3.100	37615	37615HDZ	37615INOX	37615ZL
	200	500	3.550	37616	37616HDZ	37616INOX	37616ZL
	300	400	3.800	37617	37617HDZ	37617INOX	37617ZL
	300	500	4.300	37618	37618HDZ	37618INOX	37618ZL

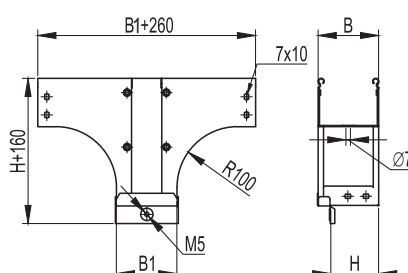
Cover for TDSA vertical T-tapper – adapter

Purpose:

- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.6 mm.

Width B, mm	Width B1, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
80	100	0.260	38381	38381HDZ	38381INOX	38381ZL
80	150	0.300	38382	38382HDZ	38382INOX	38382ZL
80	200	0.330	38383	38383HDZ	38383INOX	38383ZL
80	300	0.400	38384	38384HDZ	38384INOX	38384ZL
100	150	0.350	38385	38385HDZ	38385INOX	38385ZL
100	200	0.390	38386	38386HDZ	38386INOX	38386ZL
100	300	0.480	38387	38387HDZ	38387INOX	38387ZL
150	200	0.540	38390	38390HDZ	38390INOX	38390ZL
150	300	0.650	38391	38391HDZ	38391INOX	38391ZL
150	400	0.770	38392	38392HDZ	38392INOX	38392ZL
200	300	0.830	38394	38394HDZ	38394INOX	38394ZL
200	400	0.980	38395	38395HDZ	38395INOX	38395ZL
200	500	1.130	38396	38396HDZ	38396INOX	38396ZL
300	400	1.400	38397	38397HDZ	38397INOX	38397ZL
300	500	1.600	38398	38398HDZ	38398INOX	38398ZL

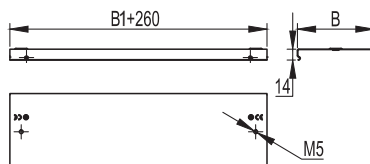
TDSR vertical T-tapper – adapter

Purpose:

- organization of downward T-branching of the tray route with height of 80 mm while rotating the open part of the tray about itself by 90°.
- The base width of the downward branching tray is less than the width of the initial one.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Width B1, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 3
80	100	80	1.200	37620	37620HDZ	37620INOX	37620ZL
	150	80	1.400	37621	37621HDZ	37621INOX	37621ZL
	150	100	1.480	37622	37622HDZ	37622INOX	37622ZL
	200	80	1.480	37623	37623HDZ	37623INOX	37623ZL
	200	100	1.700	37624	37624HDZ	37624INOX	37624ZL
	200	150	1.935	37625	37625HDZ	37625INOX	37625ZL
	300	80	2.050	37626	37626HDZ	37626INOX	37626ZL
	300	100	2.160	37627	37627HDZ	37627INOX	37627ZL
	300	150	2.420	37628	37628HDZ	37628INOX	37628ZL
	300	200	2.730	37629	37629HDZ	37629INOX	37629ZL
	400	150	2.870	37632	37632HDZ	37632INOX	37632ZL
	400	200	3.220	37633	37633HDZ	37633INOX	37633ZL
	500	200	3.750	37638	37638HDZ	37638INOX	37638ZL
	500	300	4.480	37639	37639HDZ	37639INOX	37639ZL
	500	400	4.300	37640	37640HDZ	37640INOX	37640ZL

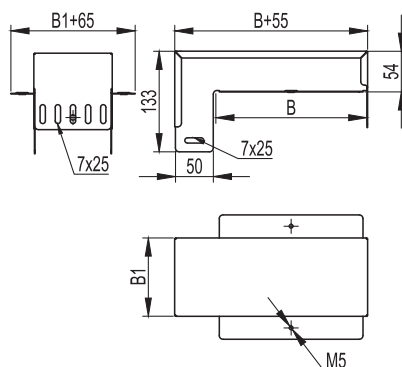
Cover for TDSR vertical T-tapper – adapter

Purpose:

- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.6 mm.

Width B, mm	Width B1, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
100	80	0.290	38302	38302HDZ	38302INOX	38302ZL
150	80	0.400	38303	38303HDZ	38303INOX	38303ZL
150	100	0.420	38400	38400HDZ	38400INOX	38400ZL
200	80	0.500	38304	38304HDZ	38304INOX	38304ZL
200	100	0.530	38401	38401HDZ	38401INOX	38401ZL
200	150	0.600	38402	38402HDZ	38402INOX	38402ZL
300	80	0.720	38305	38305HDZ	38305INOX	38305ZL
300	100	0.760	38403	38403HDZ	38403INOX	38403ZL
300	150	0.870	38404	38404HDZ	38404INOX	38404ZL
300	200	0.980	38405	38405HDZ	38405INOX	38405ZL
400	150	1.130	38407	38407HDZ	38407INOX	38407ZL
400	200	1.270	38408	38408HDZ	38408INOX	38408ZL
500	200	1.570	38412	38412HDZ	38412INOX	38412ZL
500	300	1.900	38413	38413HDZ	38413INOX	38413ZL
500	400	1.600	38414	38414HDZ	38414INOX	38414ZL

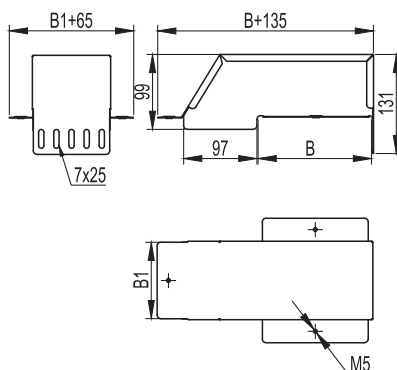
DDS downward vertical T-shaped taper-cover

Purpose:

- organization of downward T-branching while rotating the open part of the tray about itself by 90°. Since sawing of trays is not required, it is convenient to use it in the course of operation.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Width B, mm	Width B1, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
100	50	0.364	37378	37378HDZ	37378INOX	37378ZL
150	50	0.439	37379	37379HDZ	37379INOX	37379ZL
200	50	0.513	37380	37380HDZ	37380INOX	37380ZL
200	100	0.660	37381	37381HDZ	37381INOX	37381ZL
300	50	0.664	37382	37382HDZ	37382INOX	37382ZL
300	100	0.843	37383	37383HDZ	37383INOX	37383ZL
300	150	1.021	37384	37384HDZ	37384INOX	37384ZL

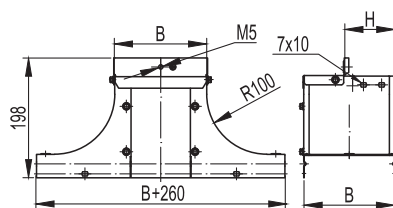
T-shaped taper-cover – DDT adapter

Purpose:

- organization of horizontal T-branching in the course of operation of a cable route since sawing of trays is not required.
- a cable route from which branching is arranged can be of any height.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Width B, mm	Width B1, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
100	100	0.53	36562	36562HDZ	36562INOX	36562ZL
150	100	0.64	36563	36563HDZ	36563INOX	36563ZL
200	100	0.77	36566	36566HDZ	36566INOX	36566ZL
200	150	1.03	36567	36567HDZ	36567INOX	36567ZL
300	100	0.79	36570	36570HDZ	36570INOX	36570ZL
300	150	1.28	36571	36571HDZ	36571INOX	36571ZL
300	200	1.63	36572	36572HDZ	36572INOX	36572ZL

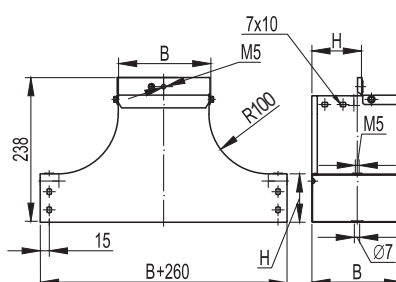
TSS taper-cover (flat)

Purpose:

- organization of upward branching of a route while rotating the open part of the tray about itself by 90°.

Characteristics:

- the accessory steel thickness is 1.0 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	100	0.9	37532	37532HDZ	37532INOX	37532ZL
	150	1.2	37539	37539HDZ	37539INOX	37539ZL
	200	1.5	37534	37534HDZ	37534INOX	37534ZL
	300	1.6	37535	37535HDZ	37535INOX	37535ZL
	400	1.8	37536	37536HDZ	37536INOX	37536ZL
	500	2	37537	37537HDZ	37537INOX	37537ZL
80	600	2.2	37238	37238HDZ	37238INOX	37238ZL
	100	1.2	37232	37232HDZ	37232INOX	37232ZL
	150	1.4	37233	37233HDZ	37233INOX	37233ZL
	200	1.7	37234	37234HDZ	37234INOX	37234ZL
	300	1.8	37235	37235HDZ	37235INOX	37235ZL
	400	2	37226	37226HDZ	37226INOX	37226ZL
100	500	2.21	37227	37227HDZ	37227INOX	37227ZL
	600	2.42	37228	37228HDZ	37228INOX	37228ZL
	100	1.5	37332	37332HDZ	37332INOX	37332ZL
	150	1.7	37333	37333HDZ	37333INOX	37333ZL
	200	2	37334	37334HDZ	37334INOX	37334ZL
	300	2.1	37335	37335HDZ	37335INOX	37335ZL
	400	2.3	37336	37336HDZ	37336INOX	37336ZL
	500	2.51	37337	37337HDZ	37337INOX	37337ZL
	600	2.72	37338	37338HDZ	37338INOX	37338ZL

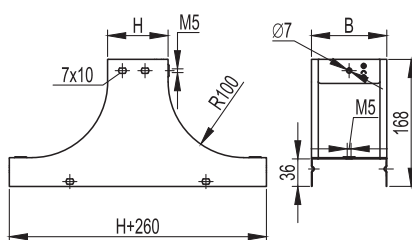
TSS upward T-tapper (flat)

Purpose:

- organization of upward branching of the tray route while rotating the open part of the tray about itself by 90°.

Characteristics:

- the accessory steel thickness is 1.0 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
80	80	1.15	37221	37221HDZ	37221INOX	37221ZL
	100	1.450	37222	37222HDZ	37222INOX	37222ZL
	150	2.050	37223	37223HDZ	37223INOX	37223ZL
	200	2.700	37224	37224HDZ	37224INOX	37224ZL
	300	4.400	37225	37225HDZ	37225INOX	37225ZL

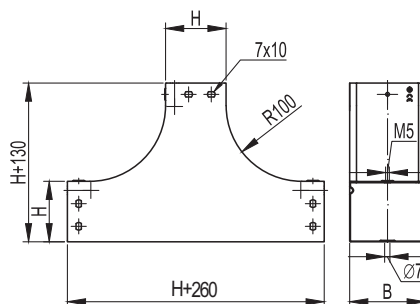
TS taper-cover

Purpose:

- organization of route upward branching.

Characteristics:

- the accessory steel thickness is 1.0 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	100	1.25	37252	37252HDZ	37252INOX	37252ZL
	150	1.05	37253	37253HDZ	37253INOX	37253ZL
	200	1.45	37254	37254HDZ	37254INOX	37254ZL
	300	1.85	37255	37255HDZ	37255INOX	37255ZL
	400	2.25	37256	37256HDZ	37256INOX	37256ZL
	500	2.65	37257	37257HDZ	37257INOX	37257ZL
80	100	1.2	37242	37242HDZ	37242INOX	37242ZL
	150	1.2	37243	37243HDZ	37243INOX	37243ZL
	200	1.7	37244	37244HDZ	37244INOX	37244ZL
	300	1.8	37245	37245HDZ	37245INOX	37245ZL
	400	2	37206	37206HDZ	37206INOX	37206ZL
	500	2.22	37207	37207HDZ	37207INOX	37207ZL
100	100	1.8	37342	37342HDZ	37342INOX	37342ZL
	150	1.9	37343	37343HDZ	37343INOX	37343ZL
	200	2.1	37344	37344HDZ	37344INOX	37344ZL
	300	2.3	37345	37345HDZ	37345INOX	37345ZL
	400	2.5	37346	37346HDZ	37346INOX	37346ZL
	500	2.7	37347	37347HDZ	37347INOX	37347ZL

TS upward T-tapper

Purpose:

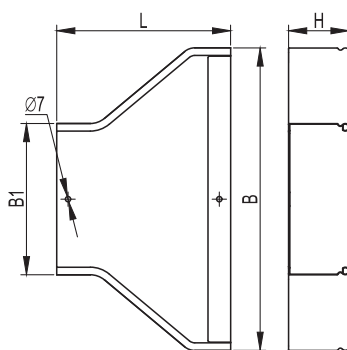
- organization of the tray route upward branching.

Characteristics:

- the accessory steel thickness is 1.0 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
80	80	1.14	37201	37201HDZ	37201INOX	37201ZL
	100	1.280	37202	37202HDZ	37202INOX	37202ZL
	150	1.550	37203	37203HDZ	37203INOX	37203ZL
	200	1.770	37204	37204HDZ	37204INOX	37204ZL
	300	2.530	37205	37205HDZ	37205INOX	37205ZL

RRC adapter

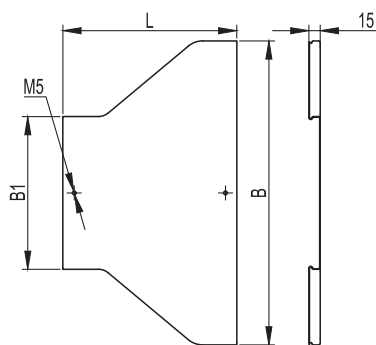
**Purpose:**

- organization of symmetrical transfer to a tray with another width.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Width B1, mm	L, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 4
50	100	50	180	0.40	36308	36308HDZ	36308ZL
	150	100	180	0.43	36309	36309HDZ	36309ZL
	200	100	170	0.45	36310	36310HDZ	36310ZL
	200	150	180	0.50	36311	36311HDZ	36311ZL
	300	100	230	0.68	36312	36312HDZ	36312ZL
	300	150	200	0.67	36313	36313HDZ	36313ZL
	300	200	170	0.60	36314	36314HDZ	36314ZL
	400	200	230	0.76	36315	36315HDZ	36315ZL
	400	300	230	0.86	36316	36316HDZ	36316ZL
	500	200	250	0.91	36317	36317HDZ	36317ZL
	500	300	340	0.98	36318	36318HDZ	36318ZL
	500	400	350	1.20	36319	36319HDZ	36319ZL
	600	300	468	1.34	36420	36420HDZ	36420ZL
	600	400	348	1.28	36421	36421HDZ	36421ZL
80	150	80	180	0.45	36281	36281HDZ	36281ZL
	150	100	180	0.45	36282	36282HDZ	36282ZL
	200	80	180	0.50	36283	36283HDZ	36283ZL
	200	100	170	0.48	36284	36284HDZ	36284ZL
	200	150	180	0.52	36285	36285HDZ	36285ZL
	300	80	245	0.75	36286	36286HDZ	36286ZL
	300	100	230	0.76	36287	36287HDZ	36287ZL
	300	150	200	0.70	36288	36288HDZ	36288ZL
	300	200	170	0.60	36289	36289HDZ	36289ZL
	400	200	180	0.80	36299	36299HDZ	36299ZL
	400	300	230	0.90	36290	36290HDZ	36290ZL
	500	300	340	1.30	36291	36291HDZ	36291ZL
	500	400	350	1.58	36292	36292HDZ	36292ZL
	500	200	350	1.60	36293	36293HDZ	36293ZL
	600	300	468	1.34	36294	36294HDZ	36294ZL
	600	400	348	1.28	36295	36295HDZ	36295ZL
100	150	100	180	0.56	36320	36320HDZ	36320ZL
	200	100	170	0.60	36321	36321HDZ	36321ZL
	200	150	180	0.65	36322	36322HDZ	36322ZL
	300	100	230	0.89	36323	36323HDZ	36323ZL
	300	150	200	0.88	36324	36324HDZ	36324ZL
	300	200	170	0.78	36325	36325HDZ	36325ZL
	400	200	230	1.10	36326	36326HDZ	36326ZL
	400	300	230	1.20	36327	36327HDZ	36327ZL
	500	200	250	1.25	36328	36328HDZ	36328ZL
	500	300	340	1.32	36329	36329HDZ	36329ZL
	500	400	350	1.60	36330	36330HDZ	36330ZL
	600	300	468	1.45	36431	36431HDZ	36431ZL
	600	400	348	1.36	36432	36432HDZ	36432ZL
	600	500	230	1.27	36433	36433HDZ	36433ZL

Cover for RRC adapter

Purpose:

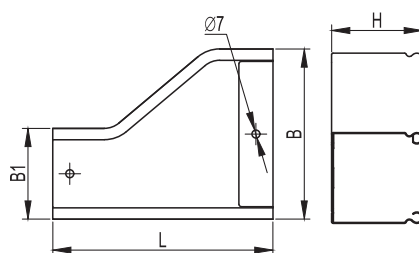
- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.6 mm.

Width B, mm	Width B1, mm	L, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 4
100	50	180	0.20	38079	38079HDZ	38079ZL
150	80	180	0.25	38081	38081HDZ	38081ZL
150	100	180	0.28	38082	38082HDZ	38082ZL
200	80	180	0.30	38083	38083HDZ	38083ZL
200	100	170	0.30	38084	38084HDZ	38084ZL
200	150	180	0.34	38085	38085HDZ	38085ZL
300	80	245	0.50	38086	38086HDZ	38086ZL
300	100	230	0.48	38087	38087HDZ	38087ZL
300	150	200	0.46	38088	38088HDZ	38088ZL
300	200	170	0.44	38089	38089HDZ	38089ZL
400	200	230	0.50	38308	38308HDZ	38308ZL
400	300	230	0.50	38090	38090HDZ	38090ZL
500	200	250	0.50	38093	38093HDZ	38093ZL
500	300	340	0.55	38091	38091HDZ	38091ZL
500	400	350	0.60	38092	38092HDZ	38092ZL
600	300	468	0.60	38191	38191HDZ	38191ZL
600	400	348	0.65	38192	38192HDZ	38192ZL
600	500	230	0.70	38193	38193HDZ	38193ZL

Left-side RRS adapter

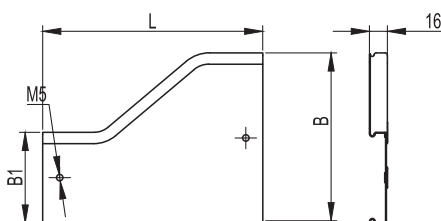
**Purpose:**

- organization of left-side transfer to a tray with another width.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Width B1, mm	L, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 4
50	100	50	180	0.38	36354	36354HDZ	36354ZL
	150	100	170	0.40	36355	36355HDZ	36355ZL
	200	100	230	0.58	36356	36356HDZ	36356ZL
	200	150	180	0.60	36357	36357HDZ	36357ZL
	300	100	350	0.60	36358	36358HDZ	36358ZL
	300	150	290	1.10	36359	36359HDZ	36359ZL
	300	200	230	0.90	36360	36360HDZ	36360ZL
	400	200	340	1.00	36361	36361HDZ	36361ZL
	400	300	230	0.90	36362	36362HDZ	36362ZL
	500	200	470	1.00	36363	36363HDZ	36363ZL
	500	300	350	1.10	36364	36364HDZ	36364ZL
	500	400	320	1.40	36365	36365HDZ	36365ZL
	600	300	468	1.84	36466	36466HDZ	36466ZL
	600	400	348	1.44	36467	36467HDZ	36467ZL
	600	500	230	1.65	36468	36468HDZ	36468ZL
80	100	80	180	0.42	36521	36521HDZ	36521ZL
	150	80	190	0.48	36522	36522HDZ	36522ZL
	150	100	170	0.42	36523	36523HDZ	36523ZL
	200	80	250	0.68	36524	36524HDZ	36524ZL
	200	100	230	0.62	36525	36525HDZ	36525ZL
	200	150	170	0.60	36526	36526HDZ	36526ZL
	300	80	370	1.20	36527	36527HDZ	36527ZL
	300	100	350	1.10	36528	36528HDZ	36528ZL
	300	150	290	1.00	36529	36529HDZ	36529ZL
	300	200	230	0.90	36530	36530HDZ	36530ZL
	400	200	210	1.00	36305	36305HDZ	36305ZL
	400	300	230	1.20	36531	36531HDZ	36531ZL
	500	200	470	1.10	36533	36533HDZ	36533ZL
	500	300	350	1.30	36532	36532HDZ	36532ZL
	500	400	320	1.40	36307	36307HDZ	36307ZL
	600	300	468	1.91	36608	36608HDZ	36608ZL
	600	400	348	1.5	36609	36609HDZ	36609ZL
	600	500	230	1.7	36610	36610HDZ	36610ZL
100	150	100	170	0.50	36366	36366HDZ	36366ZL
	200	100	230	0.60	36367	36367HDZ	36367ZL
	200	150	180	0.68	36368	36368HDZ	36368ZL
	300	100	350	0.70	36369	36369HDZ	36369ZL
	300	150	290	1.10	36370	36370HDZ	36370ZL
	300	200	230	1.15	36371	36371HDZ	36371ZL
	400	200	340	1.20	36372	36372HDZ	36372ZL
	400	300	230	1.10	36373	36373HDZ	36373ZL
	500	200	470	1.20	36374	36374HDZ	36374ZL
	500	300	350	1.35	36375	36375HDZ	36375ZL
	500	400	320	1.80	36376	36376HDZ	36376ZL
	600	300	468	2.11	36477	36477HDZ	36477ZL
	600	400	348	1.6	36478	36478HDZ	36478ZL
	600	500	230	1.8	36479	36479HDZ	36479ZL

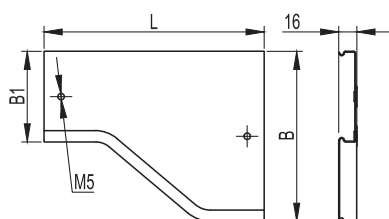
Cover for left-side RRS adapter

Purpose:

- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.6 mm.

Width B, mm	Width B1, mm	L, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 4
100	50	180	0.2	38160	38160HDZ	38160ZL
100	80	180	0.22	38161	38161HDZ	38161ZL
150	80	190	0.26	38162	38162HDZ	38162ZL
150	100	170	0.24	38163	38163HDZ	38163ZL
200	80	250	0.36	38164	38164HDZ	38164ZL
200	100	230	0.38	38165	38165HDZ	38165ZL
200	150	180	0.32	38166	38166HDZ	38166ZL
300	80	370	0.7	38167	38167HDZ	38167ZL
300	100	350	0.72	38168	38168HDZ	38168ZL
300	150	290	0.62	38169	38169HDZ	38169ZL
300	200	230	0.54	38170	38170HDZ	38170ZL
400	200	210	0.65	38313	38313HDZ	38313ZL
400	300	230	0.7	38171	38171HDZ	38171ZL
500	200	470	0.82	38315	38315HDZ	38315ZL
500	300	350	0.9	38172	38172HDZ	38172ZL
500	400	320	1.1	38173	38173HDZ	38173ZL
600	300	468	1.28	38072	38072HDZ	38072ZL
600	400	348	1.2	38073	38073HDZ	38073ZL
600	500	230	0.9	38074	38074HDZ	38074ZL

Cover for right-side RRD adapter

Purpose:

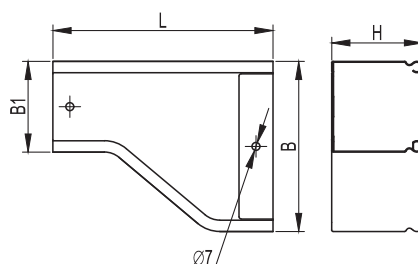
- cable protection against external effects.

Characteristics:

- the accessory cover steel thickness is 0.6 mm.

Width B, mm	Width B1, mm	L, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 4
100	50	180	0.2	38120	38120HDZ	38120ZL
100	80	180	0.22	38121	38121HDZ	38121ZL
150	80	190	0.26	38122	38122HDZ	38122ZL
150	100	170	0.24	38123	38123HDZ	38123ZL
200	80	250	0.36	38124	38124HDZ	38124ZL
200	100	230	0.38	38125	38125HDZ	38125ZL
200	150	180	0.32	38126	38126HDZ	38126ZL
300	80	370	0.7	38127	38127HDZ	38127ZL
300	100	350	0.72	38128	38128HDZ	38128ZL
300	150	290	0.62	38129	38129HDZ	38129ZL
300	200	230	0.54	38130	38130HDZ	38130ZL
400	200	210	0.65	38310	38310HDZ	38310ZL
400	300	230	0.7	38131	38131HDZ	38131ZL
500	200	350	0.82	38316	38316HDZ	38316ZL
500	300	350	0.9	38132	38132HDZ	38132ZL
500	400	320	1.1	38133	38133HDZ	38133ZL
600	300	468	1.28	38032	38032HDZ	38032ZL
600	400	348	1.2	38033	38033HDZ	38033ZL
600	500	230	0.9	38034	38034HDZ	38034ZL

Right-side RRD adapter

**Purpose:**

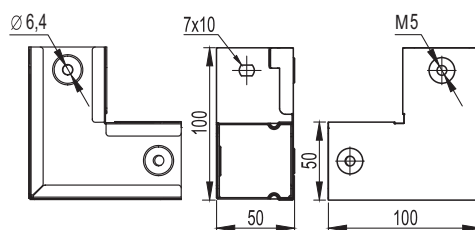
- organization of right-side transfer to a tray with another width.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Width B1, mm	L, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 4
50	100	50	180	0.38	36331	36331HDZ	36331ZL
	150	100	170	0.40	36332	36332HDZ	36332ZL
	200	100	230	0.58	36333	36333HDZ	36333ZL
	200	150	180	0.60	36334	36334HDZ	36334ZL
	300	100	350	0.60	36335	36335HDZ	36335ZL
	300	150	290	1.10	36336	36336HDZ	36336ZL
	300	200	230	0.90	36337	36337HDZ	36337ZL
	400	200	340	1.00	36338	36338HDZ	36338ZL
	400	300	230	0.90	36339	36339HDZ	36339ZL
	500	200	280	1.00	36340	36340HDZ	36340ZL
	500	300	350	1.10	36341	36341HDZ	36341ZL
	500	400	320	1.40	36342	36342HDZ	36342ZL
	600	300	468	1.84	36443	36443HDZ	36443ZL
	600	400	348	1.4	36444	36444HDZ	36444ZL
	600	500	230	1.65	36445	36445HDZ	36445ZL
80	100	80	180	0.42	36401	36401HDZ	36401ZL
	150	80	190	0.48	36402	36402HDZ	36402ZL
	150	100	170	0.42	36403	36403HDZ	36403ZL
	200	80	250	0.68	36404	36404HDZ	36404ZL
	200	100	230	0.62	36405	36405HDZ	36405ZL
	200	150	170	0.60	36406	36406HDZ	36406ZL
	300	80	370	1.20	36407	36407HDZ	36407ZL
	300	100	350	1.10	36408	36408HDZ	36408ZL
	300	150	290	1.00	36409	36409HDZ	36409ZL
	300	200	230	0.90	36410	36410HDZ	36410ZL
	400	200	210	1.00	36301	36301HDZ	36301ZL
	400	300	230	1.20	36411	36411HDZ	36411ZL
	500	200	350	1.10	36377	36377HDZ	36377ZL
	500	300	350	1.30	36412	36412HDZ	36412ZL
	500	400	320	1.40	36413	36413HDZ	36413ZL
	600	300	468	1.91	36414	36414HDZ	36414ZL
	600	400	348	1.5	36415	36415HDZ	36415ZL
	600	500	230	1.7	36416	36416HDZ	36416ZL
100	150	100	170	0.50	36343	36343HDZ	36343ZL
	200	100	230	0.60	36344	36344HDZ	36344ZL
	200	150	180	0.68	36345	36345HDZ	36345ZL
	300	100	350	0.70	36346	36346HDZ	36346ZL
	300	150	290	1.10	36347	36347HDZ	36347ZL
	300	200	230	1.15	36348	36348HDZ	36348ZL
	400	200	340	1.20	36349	36349HDZ	36349ZL
	400	300	230	1.10	36350	36350HDZ	36350ZL
	500	200	280	1.20	36351	36351HDZ	36351ZL
	500	300	350	1.35	36352	36352HDZ	36352ZL
	500	400	320	1.80	36353	36353HDZ	36353ZL
	600	300	468	2.11	36454	36454HDZ	36454ZL
	600	400	348	1.6	36455	36455HDZ	36455ZL
	600	500	230	1.8	36456	36456HDZ	36456ZL

Horizontal 90° blind angle


Purpose:

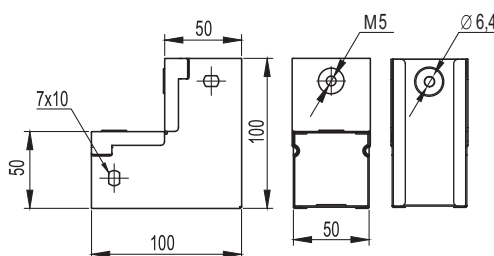
- organization of route 90° bend in horizontal plane.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, kg	Code, version 1	Code, version 3	Code, version 4
50	50	0.23	39000	39000INOX	39000ZL

90° upward blind vertical angle


Purpose:

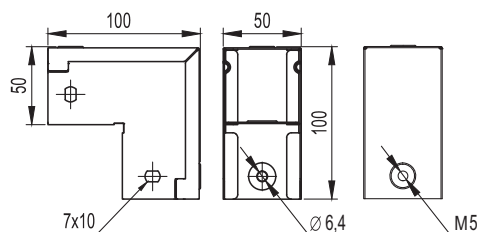
- organization of route 90° upward bend.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, kg	Code, version 1	Code, version 3	Code, version 4
50	50	0.22	39001	39001INOX	39001ZL

90° downward blind vertical angle


Purpose:

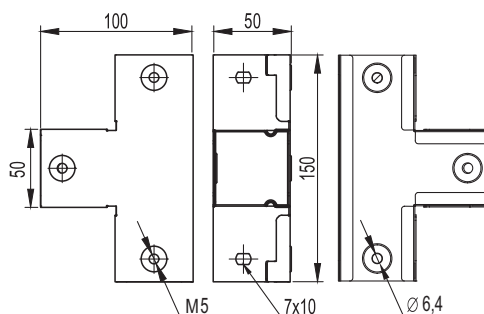
- organization of route 90° downward bend.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, kg	Code, version 1	Code, version 3	Code, version 4
50	50	0.25	39002	39002INOX	39002ZL

Blind horizontal T-tapper


Purpose:

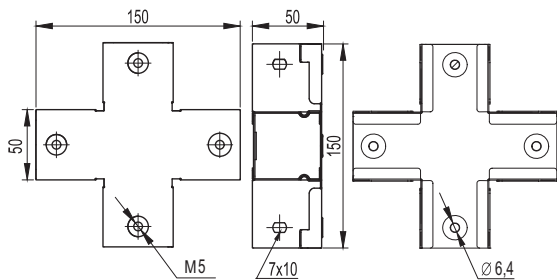
- organization of T-shaped branching of a route in horizontal plane.

Characteristics:

- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, kg	Code, version 1	Code, version 3	Code, version 4
50	50	0.31	39003	39003INOX	39003ZL

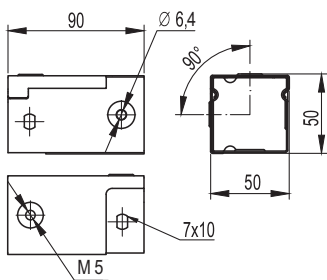
Blind horizontal X-tapper



- Purpose:**
- organization of double-sided X-shaped branching of a route in horizontal plane.
- Characteristics:**
- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, kg	Code, version 1	Code, version 3	Code, version 4
50	50	0.38	39004	39004INOX	39004ZL

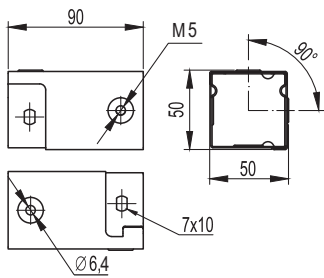
Left plane blind inverter



- Purpose:**
- turning of route plane 90° to the left.
- Characteristics:**
- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, kg	Code, version 1	Code, version 3	Code, version 4
50	50	0.14	39005	39005INOX	39005ZL

Right plane blind inverter

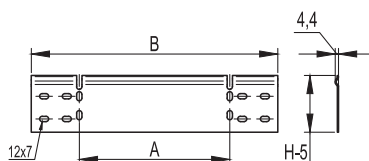


- Purpose:**
- turning of route plane 90° to the right.
- Characteristics:**
- the accessory steel thickness is 0.8 mm.

Height H, mm	Width B, mm	Weight, kg	Code, version 1	Code, version 3	Code, version 4
50	50	0.14	39006	39006INOX	39006ZL

Universal accessories

Simplified reducer


Purpose:

- connection of trays with different width.

Characteristics:

- steel thickness is 1.2 mm;
- it is used in combination with GTO L reinforced connectors of appropriate height if a single-sided reducer is applied;
- delivered unbent.

Height H, mm	Transfer width A, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	100	0.12	LR5100	LR5100HDZL	LR5100INOX	LR5100HDZL
	200	0.18	LR5200	LR5200HDZL	LR5200INOX	LR5200HDZL
	300	0.23	LR5300	LR5300HDZL	LR5300INOX	LR5300HDZL
	400	0.29	LR5400	LR5400HDZL	LR5400INOX	LR5400HDZL
80	100	0.19	LR8100	LR8100HDZL	LR8100INOX	LR8100HDZL
	200	0.27	LR8200	LR8200HDZL	LR8200INOX	LR8200HDZL
	300	0.35	LR8300	LR8300HDZL	LR8300INOX	LR8300HDZL
	400	0.43	LR8400	LR8400HDZL	LR8400INOX	LR8400HDZL
100	100	0.23	LR1100	LR1100HDZL	LR1100INOX	LR1100HDZL
	200	0.32	LR1200	LR1200HDZL	LR1200INOX	LR1200HDZL
	300	0.42	LR1300	LR1300HDZL	LR1300INOX	LR1300HDZL
	400	0.52	LR1400	LR1400HDZL	LR1400INOX	LR1400HDZL

Zinc spray


Composition:

- styrenated alkyd and flake-like pigments of zinc and aluminium (over 90%).

Purpose:

- used both indoors and outdoors to apply a strong, anti-corrosion coating on metal surfaces and for anti-corrosion protection of welds;
- for repair of damaged galvanized coatings.

Characteristics:

- color is RAL 9006, the color of hot galvanized surfaces.
- consumption is 150 ml/m²;
- coating thickness is 30–50 µm;
- dry to touch (20°C) is 15 min;
- full cure (20°C) is 12 h;
- temperature resistance: from –50 to +500 °C;

Application method:

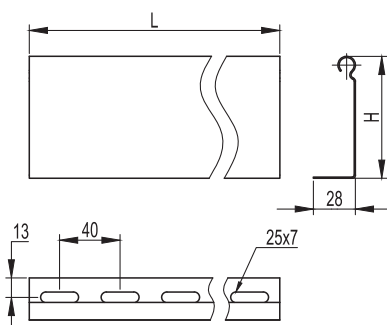
- first, it is necessary to remove rust, clean and degrease surface before application. Spray shall be atomized uniformly, in a cross pattern at temperature of approximately 20°C at distance of 25 cm from the surface.

DIN 50021/53167 salt-spray testing:

- for over 550 hours

Name	Volume, ml	Code
Zinc spray	400	37039HDZ

SEP separator



Purpose:

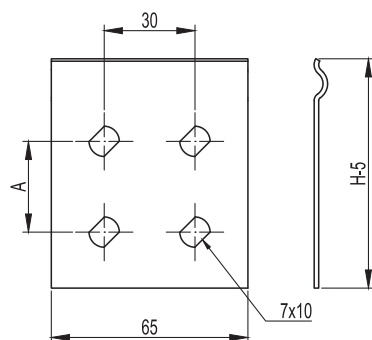
- separation of cables within a tray.

Characteristics:

- steel thickness is 0.8 mm.

Height H, mm	Length L, mm	Weight, vers. 1, kg/m	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	2000	0.48	36470	36470HDZ	36470INOX	36470ZL
50	3000	0.48	36480	36480HDZ	36480INOX	36480ZL
80	2000	0.68	36490	36490HDZ	36490INOX	36490ZL
80	3000	0.68	36500	36500HDZ	36500INOX	36500ZL
100	3000	0.84	36510	36510HDZ	36510INOX	36510ZL

GTO connecting plate



Purpose:

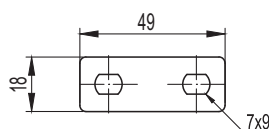
- connection of trays and accessories in case no "male-female" connections are available.

Characteristics:

- steel thickness is 0.8 mm.

Height H, mm	Weight version 1, kg/pce	A, mm	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.03	0	37301	37301HDZL	37301INOX	37301HDZL
80	0.04	30	37303	37303HDZL	37303INOX	37303HDZL
100	0.07	50	37305	37305HDZL	37305INOX	37305HDZL

PTCE plate for grounding



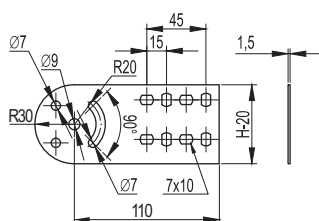
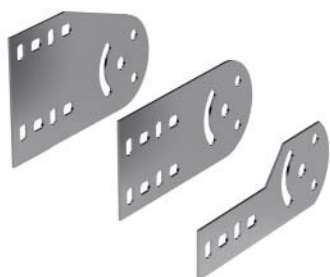
Purpose:

- copper plate with nickel coating serves for transfer of grounding in mated "female-female" and "male-male" connections.

Characteristics:

- thickness is 1 mm.

Height H, mm	Weight, kg/pce	Code
50-80-100	0.03	37501

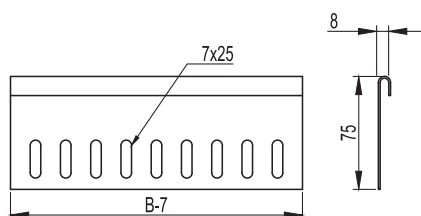
Vertical adjustable joint GSV

Purpose:

- changing the cable route laying level at a various angle.

Characteristics:

- connector thickness is 1.5 mm.

Height H, mm	Weight, version 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.23	30013	30013HDZL	30013INOX	30013HDZL
80	0.25	30014	30014HDZL	30014INOX	30014HDZL
100	0.3	30015	30015HDZL	30015INOX	30015HDZL

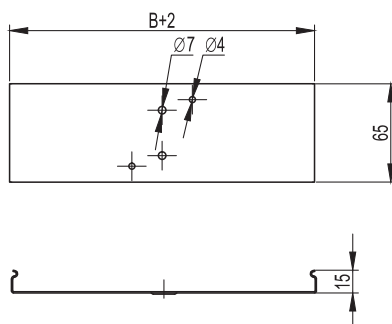
RP protective plate

Purpose:

- protection of a cable from damage inflicted by sharp edges of a tray.

Characteristics:

- attached to the tray base with M6x10 screws and M6 nuts from section "M5 Combitech";
- plate thickness is 1.2 mm.

Height H, mm	Width B, mm	Weight, version 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50 80 100	100	0.08	36900	36900HDZL	36900INOX	36900HDZL
	150	0.11	36910	36910HDZL	36910INOX	36910HDZL
	200	0.15	36920	36920HDZL	36920INOX	36920HDZL
	300	0.31	36940	36940HDZL	36940INOX	36940HDZL
	400	0.30	36920 + 36920	36920HDZL + 36920HDZL	36920INOX + 36920INOX	36920HDZL + 36920HDZL
	500	0.46	36920 + 36940	36920HDZL + 36940HDZL	36920INOX + 36940INOX	36920HDZL + 36940HDZL

CGC connecting plate for tray covers

Purpose:

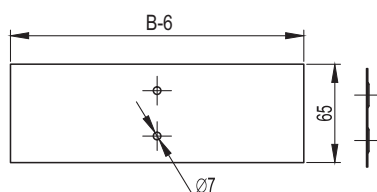
- connection of non-uniformly cut tray covers.

Characteristics:

- attached to tray covers with M6x10 screws and M6 nuts from section "M5 Combitech";
- thickness of plates is 1 mm.

Height H, mm	Width B, mm	Weight, version 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50 80 100	50	0.04	37390	37390HDZL	37390INOX	37390HDZL
	80	0.04	37391	37391HDZL	37391INOX	37391HDZL
	100	0.06	37392	37392HDZL	37392INOX	37392HDZL
	150	0.08	37393	37393HDZL	37393INOX	37393HDZL
	200	0.10	37394	37394HDZL	37394INOX	37394HDZL
	300	0.15	37395	37395HDZL	37395INOX	37395HDZL
	400	0.20	37396	37396HDZL	37396INOX	37396HDZL
	500	0.25	37397	37397HDZL	37397INOX	37397HDZL
	600	0.3	37398	37398HDZL	37398INOX	37398HDZL

CGB connecting plate for tray base



Purpose:

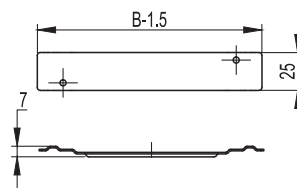
- connection of non-uniformly cut trays.

Characteristics:

- thickness of plates is 1 mm.

Height H, mm	Width B, mm	Weight, version 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50 80 100	50	0.03	37350	37350HDZL	37350INOX	37350HDZL
	80	0.03	37351	37351HDZL	37351INOX	37351HDZL
	100	0.04	37352	37352HDZL	37352INOX	37352HDZL
	150	0.06	37353	37353HDZL	37353INOX	37353HDZL
	200	0.10	37354	37354HDZL	37354INOX	37354HDZL
	300	0.15	37355	37355HDZL	37355INOX	37355HDZL
	400	0.20	37356	37356HDZL	37356INOX	37356HDZL
	500	0.25	37357	37357HDZL	37357INOX	37357HDZL
	600	0.3	37358	37358HDZL	37358INOX	37358HDZL

TRC cable holder



Purpose:

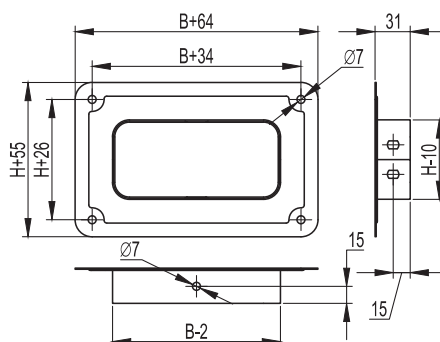
- attachment of cable at vertical portions of a route. Prevents from application of pressure on the tray cover.

Characteristics:

- holder thickness is 1 mm;
- installed with distance of not more than 1.0 m;
- does not require additional connection elements.

Height H, mm	Width B, mm	Weight, version 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50 80 100	80	0.03	37561	37561HDZL	37561INOX	37561HDZL
	100	0.03	37562	37562HDZL	37562INOX	37562HDZL
	150	0.05	37563	37563HDZL	37563INOX	37563HDZL
	200	0.06	37564	37564HDZL	37564INOX	37564HDZL
	300	0.09	37565	37565HDZL	37565INOX	37565HDZL

FR connecting flange



Purpose:

- entry of a cable route into a wall or equipment.

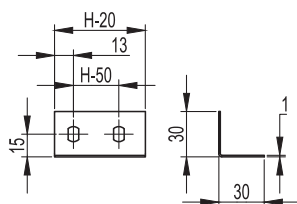
Characteristics:

- thickness of plates is 1 mm.

Height H, mm	Width B, mm	Weight, version 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	50	0.05	37410*	37410HDZL*	37410INOX*	37410HDZL*
80	80	1.12	37431	37431HDZL	37431INOX	37431HDZL
	100	1.16	37432	37432HDZL	37432INOX	37432HDZL
	150	0.24	37433	37433HDZL	37433INOX	37433HDZL
	200	0.26	37434	37434HDZL	37434INOX	37434HDZL
	300	0.36	37435	37435HDZL	37435INOX	37435HDZL
	400	0.55	37436	37436HDZL	37436INOX	37436HDZL
	500	0.6	37437	37437HDZL	37437INOX	37437HDZL

* The item is delivered without the top part of the entry duct

FR support angle



Purpose:

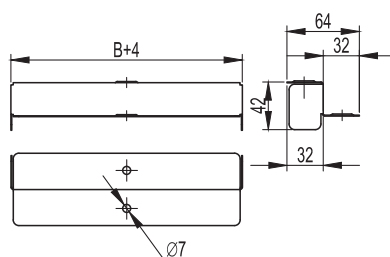
- construction of TC assembled caps and universal adapters;
- also used for entry of a cable route into a wall or equipment.

Characteristics:

- thickness is 1 mm.

Height H, mm	Weight, version 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.15	30199	30199HDZL	30199INOX	30199HDZL
80	0.25	30189	30189HDZL	30189INOX	30189HDZL
100	0.35	30190	30190HDZL	30190INOX	30190HDZL

RB Height reducer



Purpose:

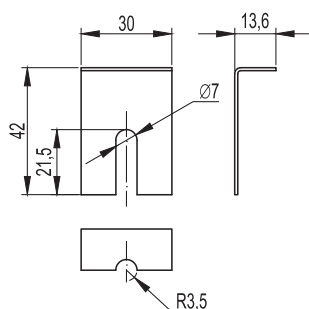
- ensures grounding when connecting trays parts of different height. It is used for cable trays with cover.

Characteristics:

- thickness is 1 mm.

Height H, mm	Width B, mm	Weight, version 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
80-50	100	0.08	36542	36542HDZL	36542INOX	36542HDZL
	150	0.11	36543	36543HDZL	36543INOX	36543HDZL
	200	0.14	36544	36544HDZL	36544INOX	36544HDZL
	300	0.19	36545	36545HDZL	36545INOX	36545HDZL
	400	0.25	36546	36546HDZL	36546INOX	36546HDZL
100-50	500	0.31	36547	36547HDZL	36547INOX	36547HDZL
	100	0.1	36548	36548HDZL	36548INOX	36548HDZL
	150	0.14	36549	36549HDZL	36549INOX	36549HDZL
	200	0.18	36550	36550HDZL	36550INOX	36550HDZL
	300	0.25	36551	36551HDZL	36551INOX	36551HDZL
100-80	400	0.33	36552	36552HDZL	36552INOX	36552HDZL
	500	0.4	36553	36553HDZL	36553INOX	36553HDZL
	100	0.07	36554	36554HDZL	36554INOX	36554HDZL
	150	0.1	36555	36555HDZL	36555INOX	36555HDZL
	200	0.12	36556	36556HDZL	36556INOX	36556HDZL
	300	0.17	36557	36557HDZL	36557INOX	36557HDZL
	400	0.23	36558	36558HDZL	36558INOX	36558HDZL
	500	0.28	36559	36559HDZL	36559INOX	36559HDZL

Cover holder



Purpose:

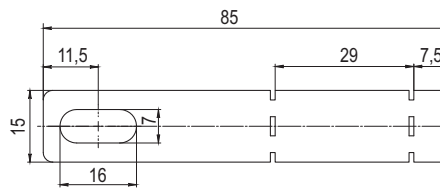
- additional attachment of tray cover in case cable ladders and trays are installed outdoors. The point of installation of the holder is the tray joint.

At least two holders shall be used per one straight element cover. And two holders at each end shall be used for system accessories of a cable tray.

If necessary, denser installation is possible.

Height H, mm	Weight, kg/pce	Code, version 3	Code, version 4
50-80-100	0.15	38500INOX	38500ZL

Gable cover holder



Purpose:

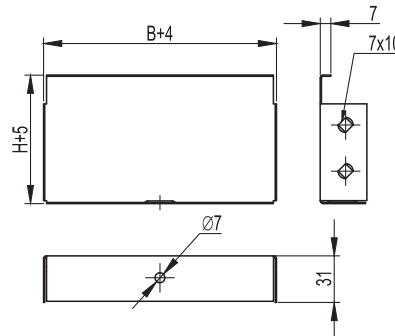
- additional attachment of gable cover under high wind loads.

Characteristics:

- thickness is 1 mm.

Code, version 2	Code, version 4
SKH500HDZL	SKH500HDZL

TC solid cap



Purpose:

- installed into the tray edge at the route ending points.

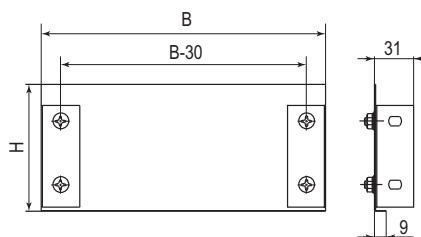
Characteristics:

- thickness is 1 mm.

Height H, mm	Width B, mm	Weight, version 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	50	0.08	37240	37240HDZL	37240INOX	37240HDZL
80	80	0.11	37261	37261HDZL	37261INOX	37261HDZL
	100	0.12	37262	37262HDZL	37262INOX	37262HDZL
	150	0.18	37263	37263HDZL	37263INOX	37263HDZL
	200	0.22	37264	37264HDZL	37264INOX	37264HDZL
	300	0.3	37265	37265HDZL	37265INOX	37265HDZL
	400	0.4	37266	37266HDZL	37266INOX	37266HDZL
	500	0.5	37267	37267HDZL	37267INOX	37267HDZL
	600	0.6	37269*	37269HDZL*	37269INOX*	37269HDZL*

* Manufactured as assemblies

TC assembled cap



Purpose:

- installed into the tray edge at the route ending points.

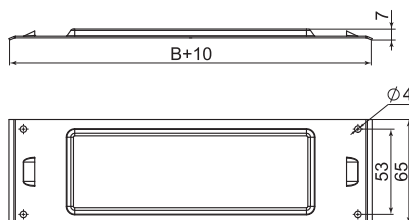
Characteristics:

- thickness is 1 mm.

Height H, mm	Width B, mm	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	100	30193	30193HDZL	30193INOX	30193HDZL
	150	30194	30194HDZL	30194INOX	30194HDZL
	200	30195	30195HDZL	30195INOX	30195HDZL
	300	30196	30196HDZL	30196INOX	30196HDZL
	400	30197	30197HDZL	30197INOX	30197HDZL
	500	30198	30198HDZL	30198INOX	30198HDZL
	600	37268	37268HDZL	37268INOX	37268HDZL
100	100	30265	30265HDZL	30265INOX	30265HDZL
	150	30266	30266HDZL	30266INOX	30266HDZL
	200	30267	30267HDZL	30267INOX	30267HDZL
	300	30268	30268HDZL	30268INOX	30268HDZL
	400	30269	30269HDZL	30269INOX	30269HDZL
	500	30270	30270HDZL	30270INOX	30270HDZL
	600	37270	37270HDZL	37270INOX	37270HDZL

Protection system IP44

IP44 protective base plate


Purpose:

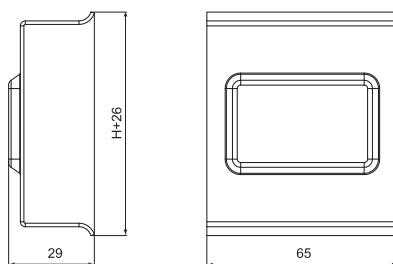
- in combination with sealing plates it allows to provide additional IP44 degree of protection at points of connection between non-perforated trays.

Characteristics:

- steel thickness is 1 mm.

Height, mm	Width B, mm	Weight, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50, 80, 100	50	0.030	30570	30570HDZL	30570INOX	30570HDZL
	80	0.046	30581	30581HDZL	30581INOX	30581HDZL
	100	0.056	30582	30582HDZL	30582INOX	30582HDZL
	150	0.096	30583	30583HDZL	30583INOX	30583HDZL
	200	0.106	30584	30584HDZL	30584INOX	30584HDZL
	300	0.157	30585	30585HDZL	30585INOX	30585HDZL
	400	0.324	30569	30569HDZL	30569INOX	30569HDZL
	500	0.420	30577	30577HDZL	30577INOX	30577HDZL
	600	0.520	30578	30578HDZL	30578INOX	30578HDZL

IP44 protective side plate


Purpose:

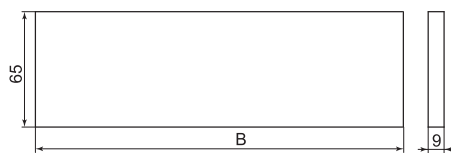
- in combination with sealing plates it allows to provide additional IP44 degree of protection at points of connection between non-perforated trays.

Characteristics:

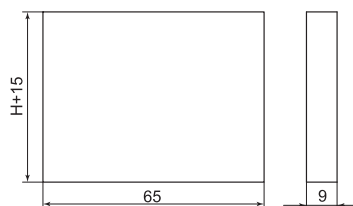
- steel thickness is 1 mm.

Height H, mm	Weight, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.058	30571	30571HDZL	30571INOX	30571HDZL
80	0.075	30580	30580HDZL	30580INOX	30580HDZL
100	0.085	30574	30574HDZL	30574INOX	30574HDZL

IP44 seals



Base plate drawing



Side plate drawing

Purpose:

- allow to provide additional IP44 degree of protection at the point of connection between non-perforated trays in combination with IP44 metal protective plates.

Characteristics:

- operating and mounting temperature is from -30 to +85 °C.

Tray height, mm	Side plate code	Base plate code for trays with width B, mm								
		50	80	100	150	200	300	400	500	600
50	30573P	30572P	30587P	30588P	30589P	30590P	30591P	30592P	30593P	30594P
80	30586P									
100	30575P									

Sticky tape for IP44 for the tray side



Purpose:

- the tape is used to provide IP44 degree of protection of a non-perforated tray (with a cover and metal and sealing plates);
- tape with thickness of 2 mm is used to glue the joint between a tray and a cover.

Characteristics:

- operating and mounting temperature is from -30 to +85 °C.

Width, mm	Thickness, mm	Code	Quantity in a package, m	Weight, kg/m
30	2	37558	10	0.08

Sticky tape for IP44 for the tray joint



Purpose:

- the tape is used to provide IP44 degree of protection of a non-perforated tray (with a cover and metal and sealing plates);
- tape with thickness of 9 mm is designed for additional sealing in combination with metal plates (see the photo for details). Also, the tape may be used instead of rubber seals.

Characteristics:

- operating and mounting temperature is from -30 to +85 °C.

Width, mm	Thickness, mm	Code	Quantity in a package, m	Weight, kg/m
30	9	37557	10	0.15

Tool

Hole puncher with set of matrices


Purpose:

- perforation of holes in side walls of trays with height of 80 and 100 mm.

Name	Maximum metal thickness for perforation	Code
Hole puncher for trays; 4 matrices; hand-held cylinder; case	1.2	37039

Hole puncher matrices (code 37039)


Purpose:

- perforation of holes in side walls of trays with height of 80 and 100 mm when used in combination with 37039 hole puncher.

Matrix diameter, mm	Number in a standard kit, pcs	Matrix code
13	customized	37039013
15.5	customized	37039015
16.5	customized	3703911
17	customized	3703912
18.5	1	3703913
19.5	customized	3703914
21	1	3703915
22.5	1	3703916
24	customized	3703917
25.5	customized	3703918
26.5	customized	3703919
27.5	customized	3703920
28.5	1	3703921
30.5	customized	3703922
32.5	customized	3703923
33.5	customized	3703924
37.5	customized	3703937

Set for trays joints punching


Purpose:

- perforation of mounting holes with height of 80 and 100 mm in combination with 37039 hole puncher.

Name	Maximum metal thickness for perforation	Code
Kit for perforation of holes in tray joints (matrix for joints, punch pin, key)	1.2	37040

Conversion adapter for the hole puncher


Purpose:

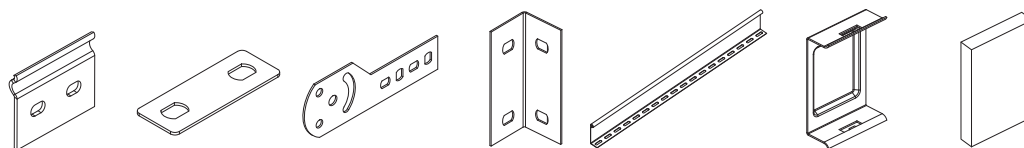
- punch pin fixation.

Name	Code
Conversion adapter for the hole puncher	37099

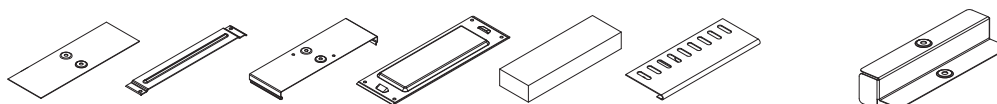
Table of codes of cable tray universal accessories

Versions:

version 1 – Sendzimir galvanized steel;
version 2 – Hot-dip galvanized steel (HDZ);
version 3 – stainless steel (AISI 304);
version 4 – zinc flake coating.



Height H, mm	Version	GTO connecting plate	PTCE plate for grounding	Vertical adjustable joint GSV	FR support angle	SEP separator, L=3000 mm	IP44 protective side plate	
							Metal	Seal
50	version 1	37301	37501	30013	30199	36480	30571	30573P
	version 2	37301HDZL	37501	30013HDZL	30199HDZL	36480HDZ	30571HDZL	30573P
	version 3	37301INOX	37501	30013INOX	30199INOX	36480INOX	30571INOX	30573P
	version 4	37301HDZL	37501	30013HDZL	30199HDZL	36480ZL	30571HDZL	30573P
80	version 1	37303	37501	30014	30189	36500	30580	30586P
	version 2	37303HDZL	37501	30014HDZL	30189HDZL	36500HDZ	30580HDZL	30586P
	version 3	37303INOX	37501	30014INOX	30189INOX	36500INOX	30580INOX	30586P
	version 4	37303HDZL	37501	30014HDZL	30189HDZL	36500ZL	30580HDZL	30586P
100	version 1	37305	37501	30015	30190	36510	30574	30575P
	version 2	37305HDZL	37501	30015HDZL	30190HDZL	36510HDZ	30574HDZL	30575P
	version 3	37305INOX	37501	30015INOX	30190INOX	36510INOX	30574INOX	30575P
	version 4	37305HDZL	37501	30015HDZL	30190HDZL	36510ZL	30574HDZL	30575P



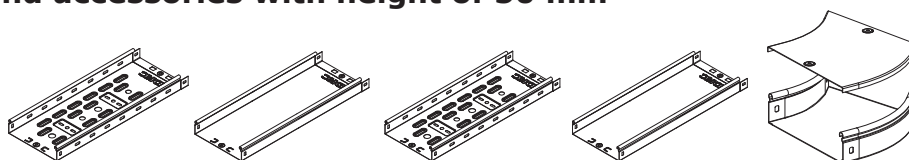
Width B, mm	Version	CGB connecting plate for tray base	TRC cable holder	CGC connecting plate for tray covers	IP44 protective plate (metal)	IP44 protective plate (seal)	RP protective plate	RB Height reducer H80-H50	RB Height reducer H100-H50	RB Height reducer H100-H80
50	version 1	37350	–	37390	30570	30572P	–	–	–	–
	version 2	37350HDZL	–	37390HDZL	30570HDZL	30572P	–	–	–	–
	version 3	37350INOX	–	37390INOX	30570INOX	30572P	–	–	–	–
	version 4	37350HDZL	–	37390HDZL	30570HDZL	30572P	–	–	–	–
80	version 1	37351	37561	37391	30581	30587P	–	–	–	–
	version 2	37351HDZL	37561HDZL	37391HDZL	30581HDZL	30587P	–	–	–	–
	version 3	37351INOX	37561INOX	37391INOX	30581INOX	30587P	–	–	–	–
	version 4	37351HDZL	37561HDZL	37391HDZL	30581HDZL	30587P	–	–	–	–
100	version 1	37352	37562	37392	30582	30588P	36900	36542	36548	36554
	version 2	37352HDZL	37562HDZL	37392HDZL	30582HDZL	30588P	36900HDZL	36542HDZL	36548HDZL	36554HDZL
	version 3	37352INOX	37562INOX	37392INOX	30582INOX	30588P	36900INOX	36542INOX	36548INOX	36554INOX
	version 4	37352HDZL	37562HDZL	37392HDZL	30582HDZL	30588P	36900HDZL	36542HDZL	36548HDZL	36554HDZL
150	version 1	37353	37563	37393	30583	30589P	36910	36543	36549	36555
	version 2	37353HDZL	37563HDZL	37393HDZL	30583HDZL	30589P	36910HDZL	36543HDZL	36549HDZL	36555HDZL
	version 3	37353INOX	37563INOX	37393INOX	30583INOX	30589P	36910INOX	36543INOX	36549INOX	36555INOX
	version 4	37353HDZL	37563HDZL	37393HDZL	30583HDZL	30589P	36910HDZL	36543HDZL	36549HDZL	36555HDZL
200	version 1	37354	37564	37394	30584	30590P	36920	36544	36550	36556
	version 2	37354HDZL	37564HDZL	37394HDZL	30584HDZL	30590P	36920HDZL	36544HDZL	36550HDZL	36556HDZL
	version 3	37354INOX	37564INOX	37394INOX	30584INOX	30590P	36920INOX	36544INOX	36550INOX	36556INOX
	version 4	37354HDZL	37564HDZL	37394HDZL	30584HDZL	30590P	36920HDZL	36544HDZL	36550HDZL	36556HDZL
300	version 1	37355	37565	37395	30585	30591P	36940	36545	36551	36557
	version 2	37355HDZL	37565HDZL	37395HDZL	30585HDZL	30591P	36940HDZL	36545HDZL	36551HDZL	36557HDZL
	version 3	37355INOX	37565INOX	37395INOX	30585INOX	30591P	36940INOX	36545INOX	36551INOX	36557INOX
	version 4	37355HDZL	37565HDZL	37395HDZL	30585HDZL	30591P	36940HDZL	36545HDZL	36551HDZL	36557HDZL
400	version 1	37356	–	37396	30569	30592P	–	36546	36552	36558
	version 2	37356HDZL	–	37396HDZL	30569HDZL	30592P	–	36546HDZL	36552HDZL	36558HDZL
	version 3	37356INOX	–	37396INOX	30569INOX	30592P	–	36546INOX	36552INOX	36558INOX
	version 4	37356HDZL	–	37396HDZL	30569HDZL	30592P	–	36546HDZL	36552HDZL	36558HDZL
500	version 1	37357	–	37397	30577	30593P	–	36547	36553	36559
	version 2	37357HDZL	–	37397HDZL	30577HDZL	30593P	–	36547HDZL	36553HDZL	36559HDZL
	version 3	37357INOX	–	37397INOX	30577HDZ	30593P	–	36547INOX	36553INOX	36559INOX
	version 4	37357HDZL	–	37397HDZL	30577HDZL	30593P	–	36547HDZL	36553HDZL	36559HDZL

Table of codes of cable trays and accessories

Versions:

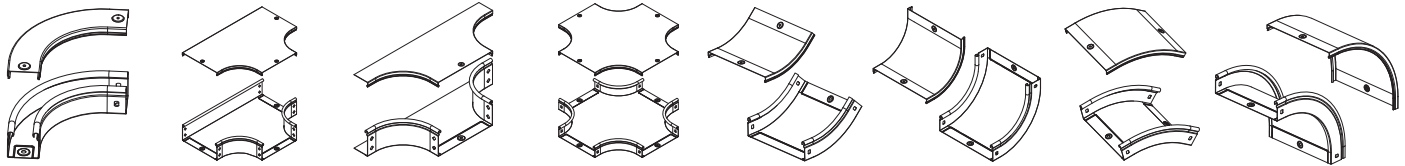
version 1 – Sendzimir galvanized steel;
version 2 – Hot-dip galvanized steel (HDZ);
version 3 – stainless steel (AISI 304);
version 4 – zinc flake coating.

Table of codes of cable trays and accessories with height of 50 mm



Height H, mm	Width B, mm	Version	Perforated tray L=3000 mm	Non-perforated tray L=3000 mm	Perforated tray L=2000 mm	Non-perforated tray L=2000 mm	CPO 45 horizontal angle 45°
50	50	version 1	35260	35020	35250	35010	36060
		versions 2/4	35260HDZ/35260ZL	35020HDZ/35020ZL	35250HDZ/35250ZL	35010HDZ/35010ZL	36060HDZ/36060ZL
		version 3	35260INOX	35020INOX	35250INOX	35010INOX	36060INOX
	100	version 1	35262	35022	35252	35012	36062
		versions 2/4	35262HDZ/35262ZL	35022HDZ/35022ZL	35252HDZ/35252ZL	35012HDZ/35012ZL	36062HDZ/36062ZL
		version 3	35262INOX	35022INOX	35252INOX	35012INOX	36062INOX
	150	version 1	35263	35023	35253	35013	36063
		versions 2/4	35263HDZ/35263ZL	35023HDZ/35023ZL	35253HDZ/35253ZL	35013HDZ/35013ZL	36063HDZ/36063ZL
		version 3	35263INOX	35023INOX	35253INOX	35013INOX	36063INOX
	200	version 1	35264	35024	35254	35014	36064
		versions 2/4	35264HDZ/35264ZL	35024HDZ/35024ZL	35254HDZ/35254ZL	35014HDZ/35014ZL	36064HDZ/36064ZL
		version 3	35264INOX	35024INOX	35254INOX	35014INOX	36064INOX
	300	version 1	35265	35025	35255	35015	36065
		versions 2/4	35265HDZ/35265ZL	35025HDZ/35025ZL	35255HDZ/35255ZL	35015HDZ/35015ZL	36065HDZ/36065ZL
		version 3	35265INOX	35025INOX	35255INOX	35015INOX	36065INOX
	400	version 1	35266	35026	35256	35016	36066
		versions 2/4	35266HDZ/35266ZL	35026HDZ/35026ZL	35256HDZ/35256ZL	35016HDZ/35016ZL	36066HDZ/36066ZL
		version 3	35266INOX	35026INOX	35256INOX	35016INOX	36066INOX
	500	version 1	35267	35027	35257	35017	36067
		versions 2/4	35267HDZ/35267ZL	35027HDZ/35027ZL	35257HDZ/35257ZL	35017HDZ/35017ZL	36067HDZ/36067ZL
		version 3	35267INOX	35027INOX	35257INOX	35017INOX	36067INOX
	600	version 1	35268	35028	35258	35018	36068
		versions 2/4	35268HDZ/35268ZL	35028HDZ/35028ZL	35258HDZ/35258ZL	35018HDZ/35018ZL	36068HDZ/36068ZL
		version 3	35268INOX	35028INOX	35258INOX	35018INOX	36068INOX
Cover	50	version 1	35520	35520	35510	35510	38020
		versions 2/4	35520HDZ/35520ZL	35520HDZ/35520ZL	35510HDZ/35510ZL	35510HDZ/35510ZL	38020HDZ/38020ZL
		version 3	35520INOX	35520INOX	35510INOX	35510INOX	38020INOX
	100	version 1	35522	35522	35512	35512	38022
		versions 2/4	35522HDZ/35522ZL	35522HDZ/35522ZL	35512HDZ/35512ZL	35512HDZ/35512ZL	38022HDZ/38022ZL
		version 3	35522INOX	35522INOX	35512INOX	35512INOX	38022INOX
	150	version 1	35523	35523	35513	35513	38023
		versions 2/4	35523HDZ/35523ZL	35523HDZ/35523ZL	35513HDZ/35513ZL	35513HDZ/35513ZL	38023HDZ/38023ZL
		version 3	35523INOX	35523INOX	35513INOX	35513INOX	38023INOX
	200	version 1	35524	35524	35514	35514	38024
		versions 2/4	35524HDZ/35524ZL	35524HDZ/35524ZL	35514HDZ/35514ZL	35514HDZ/35514ZL	38024HDZ/38024ZL
		version 3	35524INOX	35524INOX	35514INOX	35514INOX	38024INOX
	300	version 1	35525	35525	35515	35515	38025
		versions 2/4	35525HDZ/35525ZL	35525HDZ/35525ZL	35515HDZ/35515ZL	35515HDZ/35515ZL	38025HDZ/38025ZL
		version 3	35525INOX	35525INOX	35515INOX	35515INOX	38025INOX
	400	version 1	35526	35526	35516	35516	38026
		versions 2/4	35526HDZ/35526ZL	35526HDZ/35526ZL	35516HDZ/35516ZL	35516HDZ/35516ZL	38026HDZ/38026ZL
		version 3	35526INOX	35526INOX	35516INOX	35516INOX	38026INOX
	500	version 1	35527	35527	35517	35517	38027
		versions 2/4	35527HDZ/35527ZL	35527HDZ/35527ZL	35517HDZ/35517ZL	35517HDZ/35517ZL	38027HDZ/38027ZL
		version 3	35527INOX	35527INOX	35517INOX	35517INOX	38027INOX
	600	version 1	35528	35528	35518	35518	38028
		versions 2/4	35528HDZ/35528ZL	35528HDZ/35528ZL	35518HDZ/35518ZL	35518HDZ/35518ZL	38028HDZ/38028ZL
		version 3	35528INOX	35528INOX	35518INOX	35518INOX	38028INOX

Table of codes of accessories with height of 50 mm

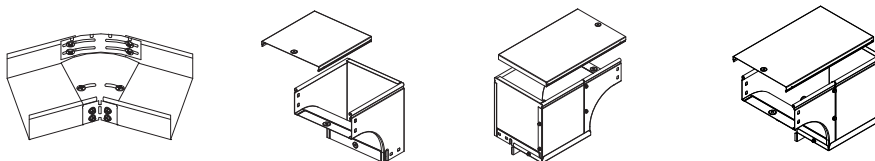


CPO 90 horizontal angle 90°	Blind horizontal DPT T-tapper	DL tapper	DPX X-tapper	CS 45 internal vertical angle, 45°	CS 90 internal vertical angle, 90°	CD 45 external vertical angle, 45°	CD 90 external vertical angle, 90°
36000	36120	36233	36180	36720	36660	36840	36780
36000HDZ/36000ZL	36120HDZ/36120ZL	36233HDZ/36233ZL	36180HDZ/36180ZL	36720HDZ/36720ZL	36660HDZ/36660ZL	36840HDZ/36840ZL	36780HDZ/36780ZL
36000INOX	36120INOX	36233INOX	36180INOX	36720INOX	36660INOX	36840INOX	36780INOX
36002	36122	36235	36182	36722	36662	36842	36782
36002HDZ/36002ZL	36122HDZ/36122ZL	36235HDZ/36235ZL	36182HDZ/36182ZL	36722HDZ/36722ZL	36662HDZ/36662ZL	36842HDZ/36842ZL	36782HDZ/36782ZL
36002INOX	36122INOX	36235INOX	36182INOX	36722INOX	36662INOX	36842INOX	36782INOX
36003	36123	36236	36183	36723	36663	36843	36783
36003HDZ/36003ZL	36123HDZ/36123ZL	36236HDZ/36236ZL	36183HDZ/36183ZL	36723HDZ/36723ZL	36663HDZ/36663ZL	36843HDZ/36843ZL	36783HDZ/36783ZL
36003INOX	36123INOX	36236INOX	36183INOX	36723INOX	36663INOX	36843INOX	36783INOX
36004	36124	36237	36184	36724	36664	36844	36784
36004HDZ/36004ZL	36124HDZ/36124ZL	36237HDZ/36237ZL	36184HDZ/36184ZL	36724HDZ/36724ZL	36664HDZ/36664ZL	36844HDZ/36844ZL	36784HDZ/36784ZL
36004INOX	36124INOX	36237INOX	36184INOX	36724INOX	36664INOX	36844INOX	36784INOX
36005	36125	36238	36185	36725	36665	36845	36785
36005HDZ/36005ZL	36125HDZ/36125ZL	36238HDZ/36238ZL	36185HDZ/36185ZL	36725HDZ/36725ZL	36665HDZ/36665ZL	36845HDZ/36845ZL	36785HDZ/36785ZL
36005INOX	36125INOX	36238INOX	36185INOX	36725INOX	36665INOX	36845INOX	36785INOX
36006	36126	36239	36186	36726	36666	36846	36786
36006HDZ/36006ZL	36126HDZ/36126ZL	36239HDZ/36239ZL	36186HDZ/36186ZL	36726HDZ/36726ZL	36666HDZ/36666ZL	36846HDZ/36846ZL	36786HDZ/36786ZL
36006INOX	36126INOX	36239INOX	36186INOX	36726INOX	36666INOX	36846INOX	36786INOX
36007	36127	36240	36187	36727	36667	36847	36787
36007HDZ/36007ZL	36127HDZ/36127ZL	36240HDZ/36240ZL	36187HDZ/36187ZL	36727HDZ/36727ZL	36667HDZ/36667ZL	36847HDZ/36847ZL	36787HDZ/36787ZL
36007INOX	36127INOX	36240INOX	36187INOX	36727INOX	36667INOX	36847INOX	36787INOX
36001	36128	36241	36188	36728	36668	36848	36788
36001HDZ/36001ZL	36128HDZ/36128ZL	36241HDZ/36241ZL	36188HDZ/36188ZL	36728HDZ/36728ZL	36668HDZ/36668ZL	36848HDZ/36848ZL	36788HDZ/36788ZL
36001INOX	36128INOX	36241INOX	36188INOX	36728INOX	36668INOX	36848INOX	36788INOX
38000	38040	38361	38060	38220	38200	38260	38240
38000HDZ/38000ZL	38040HDZ/38040ZL	38361HDZ/38361ZL	38060HDZ/38060ZL	38220HDZ/38220ZL	38200HDZ/38200ZL	38260HDZ/38260ZL	38240HDZ/38240ZL
38000INOX	38040INOX	38361INOX	38060INOX	38220INOX	38200INOX	38260INOX	38240INOX
38002	38042	38363	38062	38222	38202	38262	38242
38002HDZ/38002ZL	38042HDZ/38042ZL	38363HDZ/38363ZL	38062HDZ/38062ZL	38222HDZ/38222ZL	38202HDZ/38202ZL	38262HDZ/38262ZL	38242HDZ/38242ZL
38002INOX	38042INOX	38363INOX	38062INOX	38222INOX	38202INOX	38262INOX	38242INOX
38003	38043	38364	38063	38223	38203	38263	38243
38003HDZ/38003ZL	38043HDZ/38043ZL	38364HDZ/38364ZL	38063HDZ/38063ZL	38223HDZ/38223ZL	38203HDZ/38203ZL	38263HDZ/38263ZL	38243HDZ/38243ZL
38003INOX	38043INOX	38364INOX	38063INOX	38223INOX	38203INOX	38263INOX	38243INOX
38004	38044	38365	38064	38224	38204	38264	38244
38004HDZ/38004ZL	38044HDZ/38044ZL	38365HDZ/38365ZL	38064HDZ/38064ZL	38224HDZ/38224ZL	38204HDZ/38204ZL	38264HDZ/38264ZL	38244HDZ/38244ZL
38004INOX	38044INOX	38365INOX	38064INOX	38224INOX	38204INOX	38264INOX	38244INOX
38005	38045	38366	38065	38225	38205	38265	38245
38005HDZ/38005ZL	38045HDZ/38045ZL	38366HDZ/38366ZL	38065HDZ/38065ZL	38225HDZ/38225ZL	38205HDZ/38205ZL	38265HDZ/38265ZL	38245HDZ/38245ZL
38005INOX	38045INOX	38366INOX	38065INOX	38225INOX	38205INOX	38265INOX	38245INOX
38006	38046	38367	38066	38226	38206	38266	38246
38006HDZ/38006ZL	38046HDZ/38046ZL	38367HDZ/38367ZL	38066HDZ/38066ZL	38226HDZ/38226ZL	38206HDZ/38206ZL	38266HDZ/38266ZL	38246HDZ/38246ZL
38006INOX	38046INOX	38367INOX	38066INOX	38226INOX	38206INOX	38266INOX	38246INOX
38007	38047	38368	38067	38227	38207	38267	38247
38007HDZ/38007ZL	38047HDZ/38047ZL	38368HDZ/38368ZL	38067HDZ/38067ZL	38227HDZ/38227ZL	38207HDZ/38207ZL	38267HDZ/38267ZL	38247HDZ/38247ZL
38007INOX	38047INOX	38368INOX	38067INOX	38227INOX	38207INOX	38267INOX	38247INOX
38008	38048	38369	38068	38228	38208	38268	38248
38008HDZ/38008ZL	38048HDZ/38048ZL	38369HDZ/38369ZL	38068HDZ/38068ZL	38228HDZ/38228ZL	38208HDZ/38208ZL	38268HDZ/38268ZL	38248HDZ/38248ZL
38008INOX	38048INOX	38369INOX	38068INOX	38228INOX	38208INOX	38268INOX	38248INOX

Table of codes of cable tray accessories with height of 50 mm

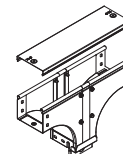
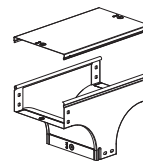
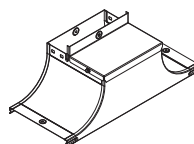
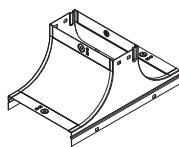
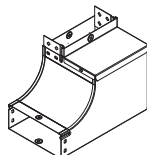
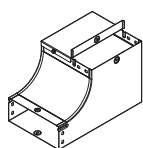
Versions:

version 1 – Sendzimir galvanized steel;
version 2 – Hot-dip galvanized steel (HDZ);
version 3 – stainless steel (AISI 304);
version 4 – zinc flake coating.



Height H, mm	Width B, mm	Version	CPO 0–45° horizontal changeable angle	CDV 90 external vertical angle	CDS 90 external vertical angle, right-side adapter	CDS 90 external vertical angle, left-side adapter
50	100	version 1	36008	37572	37502	37651
		versions 2/4	36008HDZL	37572HDZ/37572ZL	37502HDZ/37502ZL	37651HDZ/37651ZL
		version 3	36008INOX	37572INOX	37502INOX	37651INOX
	150	version 1	36009	37572	37502	37651
		versions 2/4	36009HDZL	37573HDZ/37573ZL	37503HDZ/37503ZL	37652HDZ/37652ZL
		version 3	36009INOX	37572INOX	37502INOX	37651INOX
	200	version 1	36010	37574	37504	37653
		versions 2/4	36010HDZL	37574HDZ/37574ZL	37504HDZ/37504ZL	37653HDZ/37653ZL
		version 1	36010INOX	37574INOX	37504INOX	37653INOX
	300	version 1	36011	37575	37505	37654
		versions 2/4	36011HDZL	37575HDZ/37575ZL	37505HDZ/37505ZL	37654HDZ/37654ZL
		version 3	36011INOX	37575INOX	37505INOX	37654INOX
	400	version 1	360405	37576	37506	37655
		versions 2/4	360405HDZL	37576HDZ/37576ZL	37506HDZ/37506ZL	37655HDZ/37655ZL
		version 3	360405INOX	37576INOX	37506INOX	37655INOX
	500	version 1	360505	37577	37507	37656
		versions 2/4	360505HDZL	37577HDZ/37577ZL	37507HDZ/37507ZL	37656HDZ/37656ZL
		version 3	360505INOX	37577INOX	37507INOX	37656INOX
	600	version 1	360605	37578	37508	37657
		versions 2/4	360605HDZL	37578HDZ/37578ZL	37508HDZ/37508ZL	37657HDZ/37657ZL
		version 3	360605INOX	37578INOX	37508INOX	37657INOX
Cover	100	version 1	38010	38341	38282	38282
		versions 2/4	38010HDZL	38341HDZ/38341ZL	38282HDZ/38282ZL	38282HDZ/38282ZL
		version 3	38010INOX	38341INOX	38282INOX	38282INOX
	150	version 1	38011	38342	38283	38283
		versions 2/4	38011HDZL	38342HDZ/38342ZL	38283HDZ/38283ZL	38283HDZ/38283ZL
		version 3	38011INOX	38342INOX	38283INOX	38283INOX
	200	version 1	38012	38343	38284	38284
		versions 2/4	38012HDZL	38343HDZ/38343ZL	38284HDZ/38284ZL	38284HDZ/38284ZL
		version 3	38012INOX	38343INOX	38284INOX	38284INOX
	300	version 1	38013	38344	38285	38285
		versions 2/4	38013HDZL	38344HDZ/38344ZL	38285HDZ/38285ZL	38285HDZ/38285ZL
		version 3	38013INOX	38344INOX	38285INOX	38285INOX
	400	version 1	38014	38345	38286	38286
		versions 2/4	38014HDZL	38345HDZ/38345ZL	38286HDZ/38286ZL	38286HDZ/38286ZL
		version 3	38014INOX	38345INOX	38286INOX	38286INOX
	500	version 1	38015	38346	38287	38287
		versions 2/4	38015HDZL	38346HDZ/38346ZL	38287HDZ/38287ZL	38287HDZ/38287ZL
		version 3	38015INOX	38346INOX	38287INOX	38287INOX
	600	version 1	38016	38347	38288	38288
		versions 2/4	38016HDZL	38347HDZ/38347ZL	38288HDZ/38288ZL	38288HDZ/38288ZL
		version 3	38016INOX	38347INOX	38288INOX	38288INOX

Table of codes of accessories with height of 50 mm

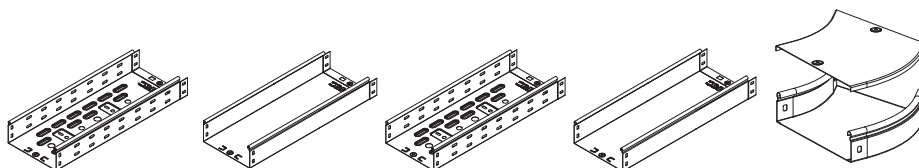


CSSD 90 internal vertical angle, right-side adapter	CSSS 90 internal vertical angle, left-side adapter	TS taper-cover	TSS taper-cover	TD vertical T-tapper	Universal TDS vertical T-tapper
37661	37592	37252	37532	37519	37582
37661HDZ/37661ZL	37592HDZ/37592ZL	37252HDZ/37252ZL	37532HDZ/37532ZL	37519HDZ/37519ZL	37582HDZ/37582ZL
37661INOX	37592INOX	37252INOX	37532INOX	37519INOX	37582INOX
37662	37593	37253	37539	37513	37583
37662HDZ/37662ZL	37593HDZ/37593ZL	37253HDZ/37253ZL	37539HDZ/37539ZL	37513HDZ/37513ZL	37583HDZ/37583ZL
37662INOX	37593INOX	37253INOX	37539INOX	37513INOX	37583INOX
37663	37594	37254	37534	37514	37584
37663HDZ/37663ZL	37594HDZ/37594ZL	37254HDZ/37254ZL	37534HDZ/37534ZL	37514HDZ/37514ZL	37584HDZ/37584ZL
37663INOX	37594INOX	37254INOX	37534INOX	37514INOX	37584INOX
37664	37595	37255	37535	37515	37585
37664HDZ/37664ZL	37595HDZ/37595ZL	37255HDZ/37255ZL	37535HDZ/37535ZL	37515HDZ/37515ZL	37585HDZ/37585ZL
37664INOX	37595INOX	37255INOX	37535INOX	37515INOX	37585INOX
37665	37596	37256	37536	37516	37586
37665HDZ/37665ZL	37596HDZ/37596ZL	37256HDZ/37256ZL	37536HDZ/37536ZL	37516HDZ/37516ZL	37586HDZ/37586ZL
37665INOX	37596INOX	37256INOX	37536INOX	37516INOX	37586INOX
37666	37597	37257	37537	37517	37587
37666HDZ	37597HDZ	37257HDZ	37537HDZ	37517HDZ	37587HDZ
37666INOX	37597INOX	37257INOX	37537INOX	37517INOX	37587INOX
37667	37598	37258	37538	37518	37588
37666HDZ/37666ZL	37597HDZ/37597ZL	37257HDZ/37257ZL	37537HDZ/37537ZL	37517HDZ/37517ZL	37587HDZ/37587ZL
37667INOX	37598INOX	37258INOX	37538INOX	37518INOX	37588INOX
-	-	-	-	38302	38322
-	-	-	-	38302HDZ/38302ZL	38322HDZ/38322ZL
-	-	-	-	38302INOX	38322INOX
-	-	-	-	38303	38323
-	-	-	-	38303HDZ/38303ZL	38323HDZ/38323ZL
-	-	-	-	38303INOX	38323INOX
-	-	-	-	38304	38324
-	-	-	-	38304HDZ/38304ZL	38324HDZ/38324ZL
-	-	-	-	38304INOX	38324INOX
-	-	-	-	38305	38325
-	-	-	-	38305HDZ/38305ZL	38325HDZ/38325ZL
-	-	-	-	38305INOX	38325INOX
-	-	-	-	38306	38326
-	-	-	-	38306HDZ/38306ZL	38326HDZ/38326ZL
-	-	-	-	38306INOX	38326INOX
-	-	-	-	38307	38327
-	-	-	-	38307HDZ/38307ZL	38327HDZ/38327ZL
-	-	-	-	38307INOX	38327INOX
-	-	-	-	38309	38328
-	-	-	-	38309HDZ/38309ZL	38328HDZ/38328ZL
-	-	-	-	38309INOX	38328INOX

Table of codes of cable trays and accessories with height of 80 mm

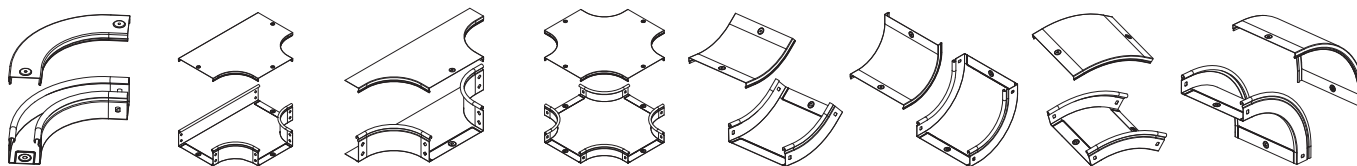
Versions:

version 1 – Sendzimir galvanized steel;
version 2 – Hot-dip galvanized steel (HDZ);
version 3 – stainless steel (AISI 304);
version 4 – zinc flake coating.



Height H, mm	Width B, mm	Version	Perforated cable tray L=3000 mm	Non-perforated cable tray L=3000 mm	Perforated cable tray L=2000 mm	Non-perforated cable tray L=2000 mm	CPO 45 horizontal angle, 45°
80	80	version 1	35301	35061	35311	35051	36081
		versions 2/4	35301HDZ/35301ZL	35061HDZ/35061ZL	35311HDZ/35311ZL	35051HDZ/35051ZL	36081HDZ/36081ZL
		version 3	35301INOX	35061INOX	35311INOX	35051INOX	36081INOX
	100	version 1	35302	35062	35312	35052	36082
		versions 2/4	35302HDZ/35302ZL	35062HDZ/35062ZL	35312HDZ/35312ZL	35052HDZ/35052ZL	36082HDZ/36082ZL
		version 3	35302INOX	35062INOX	35312INOX	35052INOX	36082INOX
	150	version 1	35303	35063	35313	35053	36083
		versions 2/4	35303HDZ/35303ZL	35063HDZ/35063ZL	35313HDZ/35313ZL	35053HDZ/35053ZL	36083HDZ/36083ZL
		version 3	35303INOX	35063INOX	35313INOX	35053INOX	36083INOX
	200	version 1	35304	35064	35314	35054	36084
		versions 2/4	35304HDZ/35304ZL	35064HDZ/35064ZL	35314HDZ/35314ZL	35054HDZ/35054ZL	36084HDZ/36084ZL
		version 3	35304INOX	35064INOX	35314INOX	35054INOX	36084INOX
	300	version 1	35305	35065	35315	35055	36085
		versions 2/4	35305HDZ/35305ZL	35065HDZ/35065ZL	35315HDZ/35315ZL	35055HDZ/35055ZL	36085HDZ/36085ZL
		version 3	35305INOX	35065INOX	35315INOX	35055INOX	36085INOX
	400	version 1	35306	35066	35316	35056	36086
		versions 2/4	35306HDZ/35306ZL	35066HDZ/35066ZL	35316HDZ/35316ZL	35056HDZ/35056ZL	36086HDZ/36086ZL
		version 3	35306INOX	35066INOX	35316INOX	35056INOX	36086INOX
	500	version 1	35307	35067	35317	35057	36087
		versions 2/4	35307HDZ/35307ZL	35067HDZ/35067ZL	35317HDZ/35317ZL	35057HDZ/35057ZL	36087HDZ/36087ZL
		version 3	35307INOX	35067INOX	35317INOX	35057INOX	36087INOX
	600	version 1	35308	35068	35318	35058	36088
		versions 2/4	35308HDZ/35308ZL	35068HDZ/35068ZL	35318HDZ/35318ZL	35058HDZ/35058ZL	36088HDZ/36088ZL
		version 3	35308INOX	35068INOX	35318INOX	35058INOX	36088INOX
Cover	80	version 1	35521	35521	35511	35511	38021
		versions 2/4	35521HDZ/35521ZL	35521HDZ/35521ZL	35511HDZ/35511ZL	35511HDZ/35511ZL	38021HDZ/38021ZL
		version 3	35521INOX	35521INOX	35511INOX	35511INOX	38021INOX
	100	version 1	35522	35522	35512	35512	38022
		versions 2/4	35522HDZ/35522ZL	35522HDZ/35522ZL	35512HDZ/35512ZL	35512HDZ/35512ZL	38022HDZ/38022ZL
		version 3	35522INOX	35522INOX	35512INOX	35512INOX	38022INOX
	150	version 1	35523	35523	35513	35513	38023
		versions 2/4	35523HDZ/35523ZL	35523HDZ/35523ZL	35513HDZ/35513ZL	35513HDZ/35513ZL	38023HDZ/38023ZL
		version 3	35523INOX	35523INOX	35513INOX	35513INOX	38023INOX
	200	version 1	35524	35524	35514	35514	38024
		versions 2/4	35524HDZ/35524ZL	35524HDZ/35524ZL	35514HDZ/35514ZL	35514HDZ/35514ZL	38024HDZ/38024ZL
		version 3	35524INOX	35524INOX	35514INOX	35514INOX	38024INOX
	300	version 1	35525	35525	35515	35515	38025
		versions 2/4	35525HDZ/35525ZL	35525HDZ/35525ZL	35515HDZ/35515ZL	35515HDZ/35515ZL	38025HDZ/38025ZL
		version 3	35525INOX	35525INOX	35515INOX	35515INOX	38025INOX
	400	version 1	35526	35526	35516	35516	38026
		versions 2/4	35526HDZ/35526ZL	35526HDZ/35526ZL	35516HDZ/35516ZL	35516HDZ/35516ZL	38026HDZ/38026ZL
		version 3	35526INOX	35526INOX	35516INOX	35516INOX	38026INOX
	500	version 1	35527	35527	35517	35517	38027
		versions 2/4	35527HDZ/35527ZL	35527HDZ/35527ZL	35517HDZ/35517ZL	35517HDZ/35517ZL	38027HDZ/38027ZL
		version 3	35527INOX	35527INOX	35517INOX	35517INOX	38027INOX
	600	version 1	35528	35528	35518	35518	38028
		versions 2/4	35528HDZ/35528ZL	35528HDZ/35528ZL	35518HDZ/35518ZL	35518HDZ/35518ZL	38028HDZ/38028ZL
		version 3	35528INOX	35528INOX	35518INOX	35518INOX	38028INOX

Table of codes of accessories with height of 80 mm

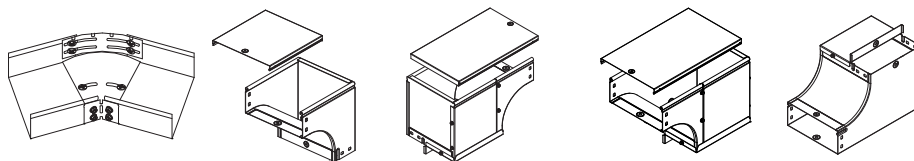


CPO 90 horizontal angle 90°	Horizontal DPT T-tapper	DL tapper	DPX X-tapper	CS 45 internal vertical angle, 45°	CS 90 internal vertical angle, 90°	CS 45 external vertical angle, 45°	CD 90 external vertical angle, 90°
36021	36141	36249	36201	36741	36681	36861	36801
36021HDZ/36021ZL	36141HDZ/36141ZL	36249HDZ/36249ZL	36201HDZ/36201ZL	36741HDZ/36741ZL	36681HDZ/36681ZL	36861HDZ/36861ZL	36801HDZ/36801ZL
36021INOX	36141INOX	36249INOX	36201INOX	36741INOX	36681INOX	36861INOX	36801INOX
36022	36142	36250	36202	36742	36682	36862	36802
36022HDZ/36022ZL	36142HDZ/36142ZL	36250HDZ/36250ZL	36202HDZ/36202ZL	36742HDZ/36742ZL	36682HDZ/36682ZL	36862HDZ/36862ZL	36802HDZ/36802ZL
36022INOX	36142INOX	36250INOX	36202INOX	36742INOX	36682INOX	36862INOX	36802INOX
36023	36143	36251	36203	36743	36683	36863	36803
36023HDZ/36023ZL	36143HDZ/36143ZL	36251HDZ/36251ZL	36203HDZ/36203ZL	36743HDZ/36743ZL	36683HDZ/36683ZL	36863HDZ/36863ZL	36803HDZ/36803ZL
36023INOX	36143INOX	36251INOX	36203INOX	36743INOX	36683INOX	36863INOX	36803INOX
36024	36144	36252	36204	36744	36684	36864	36804
36024HDZ/36024ZL	36144HDZ/36144ZL	36252HDZ/36252ZL	36204HDZ/36204ZL	36744HDZ/36744ZL	36684HDZ/36684ZL	36864HDZ/36864ZL	36804HDZ/36804ZL
36024INOX	36144INOX	36252INOX	36204INOX	36744INOX	36684INOX	36864INOX	36804INOX
36025	36145	36253	36205	36745	36685	36865	36805
36025HDZ/36025ZL	36145HDZ/36145ZL	36253HDZ/36253ZL	36205HDZ/36205ZL	36745HDZ/36745ZL	36685HDZ/36685ZL	36865HDZ/36865ZL	36805HDZ/36805ZL
36025INOX	36145INOX	36253INOX	36205INOX	36745INOX	36685INOX	36865INOX	36805INOX
36026	36146	36254	36206	36746	36686	36866	36806
36026HDZ/36026ZL	36146HDZ/36146ZL	36254HDZ/36254ZL	36206HDZ/36206ZL	36746HDZ/36746ZL	36686HDZ/36686ZL	36866HDZ/36866ZL	36806HDZ/36806ZL
36026INOX	36146INOX	36254INOX	36206INOX	36746INOX	36686INOX	36866INOX	36806INOX
36027	36147	36255	36207	36747	36687	36867	36807
36027HDZ/36027ZL	36147HDZ/36147ZL	36255HDZ/36255ZL	36207HDZ/36207ZL	36747HDZ/36747ZL	36687HDZ/36687ZL	36867HDZ/36867ZL	36807HDZ/36807ZL
36027INOX	36147INOX	36255INOX	36207INOX	36747INOX	36687INOX	36867INOX	36807INOX
36028	36148	36256	36208	36748	36688	36868	36809
36028HDZ/36028ZL	36148HDZ/36148ZL	36256HDZ/36256ZL	36208HDZ/36208ZL	36748HDZ/36748ZL	36688HDZ/36688ZL	36868HDZ/36868ZL	36809HDZ/36809ZL
36028INOX	36148INOX	36256INOX	36208INOX	36748INOX	36688INOX	36868INOX	36809INOX
38001	38041	38362	38061	38221	38201	38261	38241
38001HDZ/38001ZL	38041HDZ/38041ZL	38362HDZ/38362ZL	38061HDZ/38061ZL	38221HDZ/38221ZL	38201HDZ/38201ZL	38261HDZ/38261ZL	38241HDZ/38241ZL
38001INOX	38041INOX	38362INOX	38061INOX	38221INOX	38201INOX	38261INOX	38241INOX
38002	38042	38363	38062	38222	38202	38262	38242
38002HDZ/38002ZL	38042HDZ/38042ZL	38363HDZ/38363ZL	38062HDZ/38062ZL	38222HDZ/38222ZL	38202HDZ/38202ZL	38262HDZ/38262ZL	38242HDZ/38242ZL
38002INOX	38042INOX	38363INOX	38062INOX	38222INOX	38202INOX	38262INOX	38242INOX
38003	38043	38364	38063	38223	38203	38263	38243
38003HDZ/38003ZL	38043HDZ/38043ZL	38364HDZ/38364ZL	38063HDZ/38063ZL	38223HDZ/38223ZL	38203HDZ/38203ZL	38263HDZ/38263ZL	38243HDZ/38243ZL
38003INOX	38043INOX	38364INOX	38063INOX	38223INOX	38203INOX	38263INOX	38243INOX
38004	38044	38365	38064	38224	38204	38264	38244
38004HDZ/38004ZL	38044HDZ/38044ZL	38365HDZ/38365ZL	38064HDZ/38064ZL	38224HDZ/38224ZL	38204HDZ/38204ZL	38264HDZ/38264ZL	38244HDZ/38244ZL
38004INOX	38044INOX	38365INOX	38064INOX	38224INOX	38204INOX	38264INOX	38244INOX
38005	38045	38366	38065	38225	38205	38265	38245
38005HDZ/38005ZL	38045HDZ/38045ZL	38366HDZ/38366ZL	38065HDZ/38065ZL	38225HDZ/38225ZL	38205HDZ/38205ZL	38265HDZ/38265ZL	38245HDZ/38245ZL
38005INOX	38045INOX	38366INOX	38065INOX	38225INOX	38205INOX	38265INOX	38245INOX
38006	38046	38367	38066	38226	38206	38266	38246
38006HDZ/38006ZL	38046HDZ/38046ZL	38367HDZ/38367ZL	38066HDZ/38066ZL	38226HDZ/38226ZL	38206HDZ/38206ZL	38266HDZ/38266ZL	38246HDZ/38246ZL
38006INOX	38046INOX	38367INOX	38066INOX	38226INOX	38206INOX	38266INOX	38246INOX
38007	38047	38368	38067	38227	38207	38267	38247
38007HDZ/38007ZL	38047HDZ/38047ZL	38368HDZ/38368ZL	38067HDZ/38067ZL	38227HDZ/38227ZL	38207HDZ/38207ZL	38267HDZ/38267ZL	38247HDZ/38247ZL
38007INOX	38047INOX	38368INOX	38067INOX	38227INOX	38207INOX	38267INOX	38247INOX
38008	38048	38369	38068	38228	38208	38228	38248
38008HDZ/38008ZL	38048HDZ/38048ZL	38369HDZ/38369ZL	38068HDZ/38068ZL	38228HDZ/38228ZL	38208HDZ/38208ZL	38228HDZ/38228ZL	38248HDZ/38248ZL
38008INOX	38048INOX	38369INOX	38068INOX	38228INOX	38208INOX	38228INOX	38248INOX

Table of codes of cable tray accessories with height of 80 mm

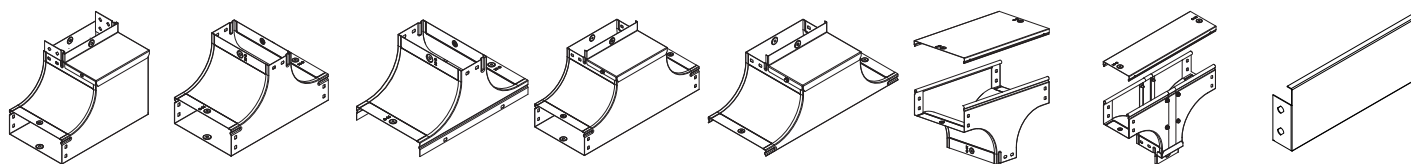
Versions:

version 1 – Sendzimir galvanized steel;
version 2 – Hot-dip galvanized steel (HDZ);
version 3 – stainless steel (AISI 304);
version 4 – zinc flake coating.



Height H, mm	Width B, mm	Version	CPO 0–45° horizontal changeable angle	CDV 90 external vertical angle	CDS 90 external vertical angle, right-side adapter	CDSS 90 external vertical angle, left-side adapter	CSSD 90 internal vertical angle, right-side adapter
80	80	version 1	36012	37371	37001	37021	37041
		versions 2/4	36012HDZL	37371HDZ/37371ZL	37001HDZ/37001ZL	37021HDZ/37021ZL	37041HDZ/37041ZL
		version 3	36012INOX	37371INOX	37001INOX	37021INOX	37041INOX
	100	version 1	36013	37372	37002	37022	37042
		versions 2/4	36013HDZL	37372HDZ/37372ZL	37002HDZ/37002ZL	37022HDZ/37022ZL	37042HDZ/37042ZL
		version 3	36013INOX	37372INOX	37002INOX	37022INOX	37042INOX
	150	version 1	36014	37373	37003	37023	37043
		versions 2/4	36014HDZL	37373HDZ/37373ZL	37003HDZ/37003ZL	37023HDZ/37023ZL	37043HDZ/37043ZL
		version 3	36014INOX	37373INOX	37003INOX	37023INOX	37043INOX
	200	version 1	36015	37374	37004	37024	37044
		versions 2/4	36015HDZL	37374HDZ/37374ZL	37004HDZ/37004ZL	37024HDZ/37024ZL	37044HDZ/37044ZL
		version 3	36015INOX	37374INOX	37004INOX	37024INOX	37044INOX
	300	version 1	36016	37375	37005	37025	37045
		versions 2/4	36016HDZL	37375HDZ/37375ZL	37005HDZ/37005ZL	37025HDZ/37025ZL	37045HDZ/37045ZL
		version 3	36016INOX	37375INOX	37005INOX	37025INOX	37045INOX
	400	version 1	360408	37376	37006	37026	–
		versions 2/4	360408HDZL	37376HDZ/37376ZL	37006HDZ/37006ZL	37026HDZ/37026ZL	–
		version 3	360408INOX	37376INOX	37006INOX	37026INOX	–
	500	version 1	360508	37377	37007	37027	–
		versions 2/4	360508HDZL	37377HDZ/37377ZL	37007HDZ/37007ZL	37027HDZ/37027ZL	–
		version 3	360508INOX	37377INOX	37007INOX	37027INOX	–
	600	version 1	360608	37370	37008	37028	–
		versions 2/4	360608HDZL	37370HDZ/37370ZL	37008HDZ/37008ZL	37028HDZ/37028ZL	–
		version 3	360608INOX	37370INOX	37008INOX	37028INOX	–
Cover	80	version 1	38009	38281	38281	38281	–
		versions 2/4	38009HDZL	38281HDZ/38281ZL	38281HDZ/38281ZL	38281HDZ/38281ZL	–
		version 3	38009INOX	38281INOX	38281INOX	38281INOX	–
	100	version 1	38010	38341	38282	38282	–
		versions 2/4	38010HDZL	38341HDZ/38341ZL	38282HDZ/38282ZL	38282HDZ/38282ZL	–
		version 3	38010INOX	38341INOX	38282INOX	38282INOX	–
	150	version 1	38011	38342	38283	38283	–
		versions 2/4	38011HDZL	38342HDZ/38342ZL	38283HDZ/38283ZL	38283HDZ/38283ZL	–
		version 3	38011INOX	38342INOX	38283INOX	38283INOX	–
	200	version 1	38012	38343	38284	38284	–
		versions 2/4	38012HDZL	38343HDZ/38343ZL	38284HDZ/38284ZL	38284HDZ/38284ZL	–
		version 3	38012INOX	38343INOX	38284INOX	38284INOX	–
	300	version 1	38013	38344	38285	38285	–
		versions 2/4	38013HDZL	38344HDZ/38344ZL	38285HDZ/38285ZL	38285HDZ/38285ZL	–
		version 3	38013INOX	38344INOX	38285INOX	38285INOX	–
	400	version 1	38014	38345	38286	38286	–
		versions 2/4	38014HDZL	38345HDZ/38345ZL	38286HDZ/38286ZL	38286HDZ/38286ZL	–
		version 3	38014INOX	38345INOX	38286INOX	38286INOX	–
	500	version 1	38015	38346	38287	38287	–
		versions 2/4	38015HDZL	38346HDZ/38346ZL	38287HDZ/38287ZL	38287HDZ/38287ZL	–
		version 3	38015INOX	38346INOX	38287INOX	38287INOX	–
	600	version 1	38016	38347	38288	38288	–
		versions 2/4	38016HDZL	38347HDZ/38347ZL	38288HDZ/38288ZL	38288HDZ/38288ZL	–
		version 3	38016INOX	38347INOX	38288INOX	38288INOX	–

Table of codes of accessories with height of 80 mm

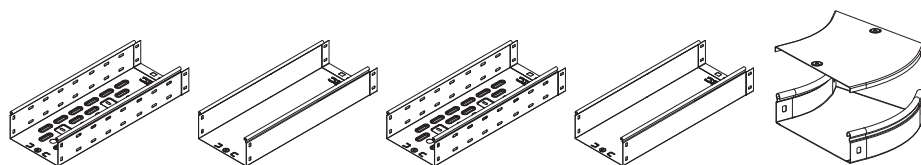


CSSS 90 internal vertical angle, left-side adapter	TS upward T-tapper	TS taper-cover	TSS upward taper	TSS taper-cover	TD vertical T-tapper	Universal TDS vertical T-tapper	TC solid cap
37061	37201	–	37221	–	37101	37161	37261
37061HDZ/37061ZL	37201HDZ/37201ZL	–	37221HDZ/37221ZL	–	37101HDZ/37101ZL	37161HDZ/37161ZL	37261HDZL
37061INOX	37201INOX	–	37221INOX	–	37101INOX	37161INOX	37261INOX
37062	37202	37242	37222	37232	37102	37162	37262
37062HDZ/37062ZL	37202HDZ/37202ZL	37242HDZ/37242ZL	37222HDZ/37222ZL	37232HDZ/37232ZL	37102HDZ/37102ZL	37162HDZ/37162ZL	37262HDZL
37062INOX	37202INOX	37242INOX	37222INOX	37232INOX	37102INOX	37162INOX	37262INOX
37063	37203	37243	37223	37233	37103	37163	37263
37063HDZ/37063ZL	37203HDZ/37203ZL	37243HDZ/37243ZL	37223HDZ/37223ZL	37233HDZ/37233ZL	37103HDZ/37103ZL	37163HDZ/37163ZL	37263HDZL
37063INOX	37203INOX	37243INOX	37223INOX	37233INOX	37103INOX	37163INOX	37263INOX
37064	37204	37244	37224	37234	37104	37164	37264
37064HDZ/37064ZL	37204HDZ/37204ZL	37244HDZ/37244ZL	37224HDZ/37224ZL	37234HDZ/37234ZL	37104HDZ/37104ZL	37164HDZ/37164ZL	37264HDZL
37064INOX	37204INOX	37244INOX	37224INOX	37234INOX	37104INOX	37164INOX	37264INOX
37065	37205	37245	37225	37235	37105	37165	37265
37065HDZ/37065ZL	37205HDZ/37205ZL	37245HDZ/37245ZL	37225HDZ/37225ZL	37235HDZ/37235ZL	37105HDZ/37105ZL	37165HDZ/37165ZL	37265HDZL
37065INOX	37205INOX	37245INOX	37225INOX	37235INOX	37105INOX	37165INOX	37265INOX
–	–	37206	–	37226	37106	37166	37266
–	–	37206HDZ/37206ZL	–	37226HDZ/37226ZL	37106HDZ/37106ZL	37166HDZ/37166ZL	37266HDZL
–	–	37206INOX	–	37226INOX	37106INOX	37166INOX	37266INOX
–	–	37207	–	37227	37107	37167	37267
–	–	37207HDZ/37207ZL	–	37227HDZ/37227ZL	37107HDZ/37107ZL	37167HDZ/37167ZL	37267HDZL
–	–	37207INOX	–	37227INOX	37107INOX	37167INOX	37267INOX
–	–	–	–	37228	37108	37168	–
–	–	–	–	37228HDZ/37228ZL	37108HDZ/37108ZL	37168HDZ/37168ZL	–
–	–	–	–	37228INOX	37108INOX	37168INOX	–
–	–	–	–	–	38301	38301	–
–	–	–	–	–	38301HDZ	38301HDZ	–
–	–	–	–	–	38301INOX	38301INOX	–
–	–	–	–	–	38302	38322	–
–	–	–	–	–	38301HDZ/38301ZL	38301HDZ/38301ZL	–
–	–	–	–	–	38302INOX	38322INOX	–
–	–	–	–	–	38303	38323	–
–	–	–	–	–	38303HDZ/38303ZL	38323HDZ/38323ZL	–
–	–	–	–	–	38303INOX	38323INOX	–
–	–	–	–	–	38304	38324	–
–	–	–	–	–	38304HDZ/38304ZL	38324HDZ/38324ZL	–
–	–	–	–	–	38304INOX	38324INOX	–
–	–	–	–	–	38305	38325	–
–	–	–	–	–	38305HDZ/38305ZL	38325HDZ/38325ZL	–
–	–	–	–	–	38305INOX	38325INOX	–
–	–	–	–	–	38306	38326	–
–	–	–	–	–	38306HDZ/38306ZL	38326HDZ/38326ZL	–
–	–	–	–	–	38306INOX	38326INOX	–
–	–	–	–	–	38307	38327	–
–	–	–	–	–	38307HDZ/38307ZL	38327HDZ/38327ZL	–
–	–	–	–	–	38307INOX	38327INOX	–
–	–	–	–	–	38309	38328	–
–	–	–	–	–	38309HDZ/38309ZL	38328HDZ/38328ZL	–
–	–	–	–	–	38309INOX	38328INOX	–

Table of codes of cable trays and accessories with height of 100 mm

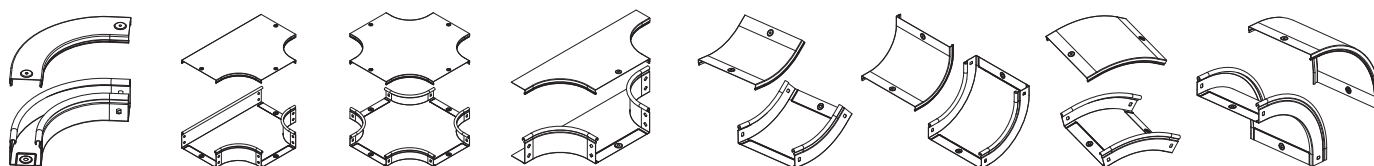
Versions:

version 1 – Sendzimir galvanized steel;
version 2 – Hot-dip galvanized steel (HDZ);
version 3 – stainless steel (AISI 304);
version 4 – zinc flake coating.



Height H, mm	Width B, mm	Version	Perforated tray L=3000 mm	Non-perforated tray L=3000 mm	Perforated tray L=2000 mm	Non-perforated tray L=2000 mm	CPO 45 horizontal angle, 45°
100	100	version 1	35341	35101	35331	35111	36101
		versions 2/4	35341HDZ/35341ZL	35101HDZ/35101ZL	35331HDZ/35331ZL	35111HDZ/35111ZL	36101HDZ/36101ZL
		version 3	35341INOX	35101INOX	35331INOX	35111INOX	36101INOX
	150	version 1	35342	35102	35332	35112	36102
		versions 2/4	35342HDZ/35342ZL	35102HDZ/35102ZL	35332HDZ/35332ZL	35112HDZ/35112ZL	36102HDZ/36102ZL
		version 3	35342INOX	35102INOX	35332INOX	35112INOX	36102INOX
	200	version 1	35343	35103	35333	35113	36103
		versions 2/4	35343HDZ/35343ZL	35103HDZ/35103ZL	35333HDZ/35333ZL	35113HDZ/35113ZL	36103HDZ/36103ZL
		version 3	35343INOX	35103INOX	35333INOX	35113INOX	36103INOX
	300	version 1	35344	35104	35334	35114	36104
		versions 2/4	35344HDZ/35344ZL	35104HDZ/35104ZL	35334HDZ/35334ZL	35114HDZ/35114ZL	36104HDZ/36104ZL
		version 3	35344INOX	35104INOX	35334INOX	35114INOX	36104INOX
	400	version 1	35345	35105	35335	35115	36105
		versions 2/4	35345HDZ/35345ZL	35105HDZ/35105ZL	35335HDZ/35335ZL	35115HDZ/35115ZL	36105HDZ/36105ZL
		version 3	35345INOX	35105INOX	35335INOX	35115INOX	36105INOX
	500	version 1	35346	35106	35336	35116	36106
		versions 2/4	35346HDZ/35346ZL	35106HDZ/35106ZL	35336HDZ/35336ZL	35116HDZ/35116ZL	36106HDZ/36106ZL
		version 3	35346INOX	35106INOX	35336INOX	35116INOX	36106INOX
	600	version 1	35347	35107	35337	35117	36107
		versions 2/4	35347HDZ/35347ZL	35107HDZ/35107ZL	35337HDZ/35337ZL	35117HDZ/35117ZL	36107HDZ/36107ZL
		version 3	35347INOX	35107INOX	35337INOX	35117INOX	36107INOX
Cover	100	version 1	35522	35522	35512	35512	38022
		versions 2/4	35522HDZ/35522ZL	35522HDZ/35522ZL	35512HDZ/35512ZL	35512HDZ/35512ZL	38022HDZ/38022ZL
		version 3	35522INOX	35522INOX	35512INOX	35512INOX	38022INOX
	150	version 1	35523	35523	35513	35513	38023
		versions 2/4	35523HDZ/35523ZL	35523HDZ/35523ZL	35513HDZ/35513ZL	35513HDZ/35513ZL	38023HDZ/38023ZL
		version 3	35523INOX	35523INOX	35513INOX	35513INOX	38023INOX
	200	version 1	35524	35524	35514	35514	38024
		versions 2/4	35524HDZ/35524ZL	35524HDZ/35524ZL	35514HDZ/35514ZL	35514HDZ/35514ZL	38024HDZ/38024ZL
		version 3	35524INOX	35524INOX	35514INOX	35514INOX	38024INOX
	300	version 1	35525	35525	35515	35515	38025
		versions 2/4	35525HDZ/35525ZL	35525HDZ/35525ZL	35515HDZ/35515ZL	35515HDZ/35515ZL	38025HDZ/38025ZL
		version 3	35525INOX	35525INOX	35515INOX	35515INOX	38025INOX
	400	version 1	35526	35526	35516	35516	38026
		versions 2/4	35526HDZ/35526ZL	35526HDZ/35526ZL	35516HDZ/35516ZL	35516HDZ/35516ZL	38026HDZ/38026ZL
		version 3	35526INOX	35526INOX	35516INOX	35516INOX	38026INOX
	500	version 1	35527	35527	35517	35517	38027
		versions 2/4	35527HDZ/35527ZL	35527HDZ/35527ZL	35517HDZ/35517ZL	35517HDZ/35517ZL	38027HDZ/38027ZL
		version 3	35527INOX	35527INOX	35517INOX	35517INOX	38027INOX
	600	version 1	35528	35528	35518	35518	38028
		versions 2/4	35528HDZ/35528ZL	35528HDZ/35528ZL	35518HDZ/35518ZL	35518HDZ/35518ZL	38028HDZ/38028ZL
		version 3	35528INOX	35528INOX	35518INOX	35518INOX	38028INOX

Table of codes of accessories with height of 100 mm

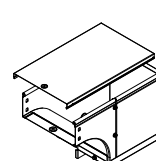
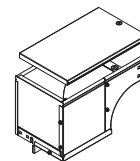
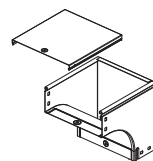
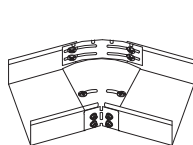


CPO 90 horizontal angle, 90°	Horizontal DPT T-tapper	DPX X-tapper	DL tapper	CS 45 internal vertical angle, 45°	CS 90 internal vertical angle, 90°	CD 45 external vertical angle, 45°	CD 90 external vertical angle, 90°
36041	36161	36221	36263	36761	36701	36881	36821
36041HDZ/36041ZL	36161HDZ/36161ZL	36221HDZ/36221ZL	36263HDZ/36263ZL	36761HDZ/36761ZL	36701HDZ/36701ZL	36881HDZ/36881ZL	36821HDZ/36821ZL
36041INOX	36161INOX	36221INOX	36263INOX	36761INOX	36701INOX	36881INOX	36821INOX
36042	36162	36222	36264	36762	36702	36882	36822
36042HDZ/36042ZL	36162HDZ/36162ZL	36222HDZ/36222ZL	36264HDZ/36264ZL	36762HDZ/36762ZL	36702HDZ/36702ZL	36882HDZ/36882ZL	36822HDZ/36822ZL
36042INOX	36162INOX	36222INOX	36264INOX	36762INOX	36702INOX	36882INOX	36822INOX
36043	36163	36223	36265	36763	36703	36883	36823
36043HDZ/36043ZL	36163HDZ/36163ZL	36223HDZ/36223ZL	36265HDZ/36265ZL	36763HDZ/36763ZL	36703HDZ/36703ZL	36883HDZ/36883ZL	36823HDZ/36823ZL
36043INOX	36163INOX	36223INOX	36265INOX	36763INOX	36703INOX	36883INOX	36823INOX
36044	36164	36224	36266	36764	36704	36884	36824
36044HDZ/36044ZL	36164HDZ/36164ZL	36224HDZ/36224ZL	36266HDZ/36266ZL	36764HDZ/36764ZL	36704HDZ/36704ZL	36884HDZ/36884ZL	36824HDZ/36824ZL
36044INOX	36164INOX	36224INOX	36266INOX	36764INOX	36704INOX	36884INOX	36824INOX
36045	36165	36225	36267	36765	36705	36885	36825
36045HDZ/36045ZL	36165HDZ/36165ZL	36225HDZ/36225ZL	36267HDZ/36267ZL	36765HDZ/36765ZL	36705HDZ/36705ZL	36885HDZ/36885ZL	36825HDZ/36825ZL
36045INOX	36165INOX	36225INOX	36267INOX	36765INOX	36705INOX	36885INOX	36825INOX
36046	36166	36226	36268	36766	36706	36886	36826
36046HDZ/36046ZL	36166HDZ/36166ZL	36226HDZ/36226ZL	36268HDZ/36268ZL	36766HDZ/36766ZL	36706HDZ/36706ZL	36886HDZ/36886ZL	36826HDZ/36826ZL
36046INOX	36166INOX	36226INOX	36268INOX	36766INOX	36706INOX	36886INOX	36826INOX
36047	36167	36227	36269	36767	36707	36887	36827
36047HDZ/36047ZL	36167HDZ/36167ZL	36227HDZ/36227ZL	36269HDZ/36269ZL	36767HDZ/36767ZL	36707HDZ/36707ZL	36887HDZ/36887ZL	36827HDZ/36827ZL
36047INOX	36167INOX	36227INOX	36269INOX	36767INOX	36707INOX	36887INOX	36827INOX
38002	38042	38062	38363	38222	38202	38262	38242
38002HDZ/38002ZL	38042HDZ/38042ZL	38062HDZ/38062ZL	38363HDZ/38363ZL	38222HDZ/38222ZL	38202HDZ/38202ZL	38262HDZ/38262ZL	38242HDZ/38242ZL
38002INOX	38042INOX	38062INOX	38363INOX	38222INOX	38202INOX	38262INOX	38242INOX
38003	38043	38063	38364	38223	38203	38263	38243
38003HDZ/38003ZL	38043HDZ/38043ZL	38063HDZ/38063ZL	38364HDZ/38364ZL	38223HDZ/38223ZL	38203HDZ/38203ZL	38263HDZ/38263ZL	38243HDZ/38243ZL
38003INOX	38043INOX	38063INOX	38364INOX	38223INOX	38203INOX	38263INOX	38243INOX
38004	38044	38064	38365	38224	38204	38264	38244
38004HDZ/38004ZL	38044HDZ/38044ZL	38064HDZ/38064ZL	38365HDZ/38365ZL	38224HDZ/38224ZL	38204HDZ/38204ZL	38264HDZ/38264ZL	38244HDZ/38244ZL
38004INOX	38044INOX	38064INOX	38365INOX	38224INOX	38204INOX	38264INOX	38244INOX
38005	38045	38065	38366	38225	38205	38265	38245
38005HDZ/38005ZL	38045HDZ/38045ZL	38065HDZ/38065ZL	38366HDZ/38366ZL	38225HDZ/38225ZL	38205HDZ/38205ZL	38265HDZ/38265ZL	38245HDZ/38245ZL
38005INOX	38045INOX	38065INOX	38366INOX	38225INOX	38205INOX	38265INOX	38245INOX
38006	38046	38066	38367	38226	38206	38266	38246
38006HDZ/38006ZL	38046HDZ/38046ZL	38066HDZ/38066ZL	38367HDZ/38367ZL	38226HDZ/38226ZL	38206HDZ/38206ZL	38266HDZ/38266ZL	38246HDZ/38246ZL
38006INOX	38046INOX	38066INOX	38367INOX	38226INOX	38206INOX	38266INOX	38246INOX
38007	38047	38067	38368	38227	38207	38267	38247
38006HDZ/38006ZL	38046HDZ/38046ZL	38066HDZ/38066ZL	38367HDZ/38367ZL	38226HDZ/38226ZL	38206HDZ/38206ZL	38266HDZ/38266ZL	38246HDZ/38246ZL
38007INOX	38047INOX	38067INOX	38368INOX	38227INOX	38207INOX	38267INOX	38247INOX
38008	38048	38068	38369	38228	38208	38228	38248
38008HDZ/38008ZL	38048HDZ/38048ZL	38068HDZ/38068ZL	38369HDZ/38369ZL	38228HDZ/38228ZL	38208HDZ/38208ZL	38228HDZ/38228ZL	38248HDZ/38248ZL
38008INOX	38048INOX	38068INOX	38369INOX	38228INOX	38208INOX	38228INOX	38248INOX

Table of codes of cable tray accessories with height of 100 mm

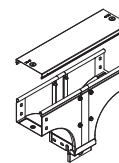
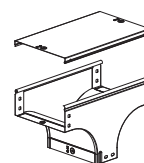
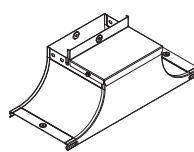
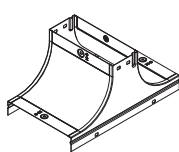
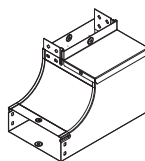
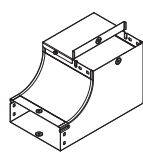
Versions:

version 1 – Sendzimir galvanized steel;
version 2 – Hot-dip galvanized steel (HDZ);
version 3 – stainless steel (AISI 304);
version 4 – zinc flake coating.



Height H, mm	Width B, mm	Version	CPO 0-45° horizontal changeable angle	CDV 90 external vertical angle	CDS 90 external vertical angle right-side adapter	CDSS 90 external vertical angle left-side adapter
100	100	version 1	36017	37472	37012	37122
		versions 2/4	36017HDZL	37472HDZ/37472ZL	37012HDZ/37012ZL	37122HDZ/37122ZL
		version 3	36017INOX	37472INOX	37012INOX	37122INOX
	150	version 1	36018	37473	37013	37123
		versions 2/4	36018HDZL	37473HDZ/37473ZL	37013HDZ/37013ZL	37123HDZ/37123ZL
		version 3	36018INOX	37473INOX	37013INOX	37123INOX
	200	version 1	36019	37474	37014	37124
		versions 2/4	36019HDZL	37474HDZ/37474ZL	37014HDZ/37014ZL	37124HDZ/37124ZL
		version 3	36019INOX	37474INOX	37014INOX	37124INOX
	300	version 1	36020	37475	37015	37125
		versions 2/4	36020HDZL	37475HDZ/37475ZL	37015HDZ/37015ZL	37125HDZ/37125ZL
		version 3	36020INOX	37475INOX	37015INOX	37125INOX
	400	version 1	360410	37476	37016	37126
		versions 2/4	360410HDZL	37476HDZ/37476ZL	37016HDZ/37016ZL	37126HDZ/37126ZL
		version 3	360410INOX	37476INOX	37016INOX	37126INOX
	500	version 1	360510	37477	37017	37127
		versions 2/4	360510HDZL	37477HDZ/37477ZL	37017HDZ/37017ZL	37127HDZ/37127ZL
		version 3	360510INOX	37477INOX	37017INOX	37127INOX
	600	version 1	360610	37478	37018	37128
		versions 2/4	360610HDZL	37478HDZ/37478ZL	37018HDZ/37018ZL	37128HDZ/37128ZL
		version 3	360610INOX	37478INOX	37018INOX	37128INOX
Cover	100	version 1	38010	38341	38282	38282
		versions 2/4	38010HDZL	38341HDZ/38341ZL	38282HDZ/38282ZL	38282HDZ/38282ZL
		version 3	38010INOX	38341INOX	38282INOX	38282INOX
	150	version 1	38011	38342	38283	38283
		versions 2/4	38011HDZL	38342HDZ/38342ZL	38283HDZ/38283ZL	38283HDZ/38283ZL
		version 3	38011INOX	38342INOX	38283INOX	38283INOX
	200	version 1	38012	38343	38284	38284
		versions 2/4	38012HDZL	38343HDZ/38343ZL	38284HDZ/38284ZL	38284HDZ/38284ZL
		version 3	38012INOX	38343INOX	38284INOX	38284INOX
	300	version 1	38013	38344	38285	38285
		versions 2/4	38013HDZL	38344HDZ/38344ZL	38285HDZ/38285ZL	38285HDZ/38285ZL
		version 3	38013INOX	38344INOX	38285INOX	38285INOX
	400	version 1	38014	38345	38286	38286
		versions 2/4	38014HDZL	38345HDZ/38345ZL	38286HDZ/38286ZL	38286HDZ/38286ZL
		version 3	38014INOX	38345INOX	38286INOX	38286INOX
	500	version 1	38015	38346	38287	38287
		versions 2/4	38015HDZL	38346HDZ/38346ZL	38287HDZ/38287ZL	38287HDZ/38287ZL
		version 3	38015INOX	38346INOX	38287INOX	38287INOX
	600	version 1	38016	38347	38288	38288
		versions 2/4	38016HDZL	38347HDZ/38347ZL	38288HDZ/38288ZL	38288HDZ/38288ZL
		version 3	38016INOX	38347INOX	38288INOX	38288INOX

Table of codes of accessories with height of 100 mm



CSSD 90 internal vertical angle, right-side adapter	CSSS 90 internal vertical angle, left-side adapter	TS taper-cover	TSS taper-cover	TD vertical T-tapper	Universal TDS vertical T-tapper
37142	37072	37342	37332	37112	37172
37142HDZ/37142ZL	37072HDZ/37072ZL	37342HDZ/37342ZL	37332HDZ/37332ZL	37112HDZ/37112ZL	37172HDZ/37172ZL
37142INOX	37072INOX	37342INOX	37332INOX	37112INOX	37172INOX
37143	37073	37343	37333	37113	37173
37143HDZ/37143ZL	37073HDZ/37073ZL	37343HDZ/37343ZL	37333HDZ/37333ZL	37113HDZ/37113ZL	37173HDZ/37173ZL
37143INOX	37073INOX	37343INOX	37333INOX	37113INOX	37173INOX
37144	37074	37344	37334	37114	37174
37144HDZ/37144ZL	37074HDZ/37074ZL	37344HDZ/37344ZL	37334HDZ/37334ZL	37114HDZ/37114ZL	37174HDZ/37174ZL
37144INOX	37074INOX	37344INOX	37334INOX	37114INOX	37174INOX
37145	37075	37345	37335	37115	37175
37145HDZ/37145ZL	37075HDZ/37075ZL	37345HDZ/37345ZL	37335HDZ/37335ZL	37115HDZ/37115ZL	37175HDZ/37175ZL
37145INOX	37075INOX	37345INOX	37335INOX	37115INOX	37175INOX
37146	37076	37346	37336	37116	37176
37146HDZ/37146ZL	37076HDZ/37076ZL	37346HDZ/37346ZL	37336HDZ/37336ZL	37116HDZ/37116ZL	37176HDZ/37176ZL
37146INOX	37076INOX	37346INOX	37336INOX	37116INOX	37176INOX
37147	37077	37347	37337	37117	37177
37147HDZ/37147ZL	37077HDZ/37077ZL	37347HDZ/37347ZL	37337HDZ/37337ZL	37117HDZ/37117ZL	37177HDZ/37177ZL
37147INOX	37077INOX	37347INOX	37337INOX	37117INOX	37177INOX
37148	37078	37348	37338	37118	37178
37148HDZ/37148ZL	37078HDZ/37078ZL	37348HDZ/37348ZL	37338HDZ/37338ZL	37118HDZ/37118ZL	37178HDZ/37178ZL
37148INOX	37078INOX	37348INOX	37338INOX	37118INOX	37178INOX
-	-	-	-	38302	38322
-	-	-	-	38302HDZ/38302ZL	38322HDZ/38322ZL
-	-	-	-	38302INOX	38322INOX
-	-	-	-	38303	38323
-	-	-	-	38303HDZ/38303ZL	38323HDZ/38323ZL
-	-	-	-	38303INOX	38323INOX
-	-	-	-	38304	38324
-	-	-	-	38304HDZ/38304ZL	38324HDZ/38324ZL
-	-	-	-	38304INOX	38324INOX
-	-	-	-	38305	38325
-	-	-	-	38305HDZ/38305ZL	38325HDZ/38325ZL
-	-	-	-	38305INOX	38325INOX
-	-	-	-	38306	38326
-	-	-	-	38306HDZ/38306ZL	38326HDZ/38326ZL
-	-	-	-	38306INOX	38326INOX
-	-	-	-	38307	38327
-	-	-	-	38307HDZ/38307ZL	38327HDZ/38327ZL
-	-	-	-	38307INOX	38327INOX
-	-	-	-	38309	38328
-	-	-	-	38309HDZ/38309ZL	38328HDZ/38328ZL
-	-	-	-	38309INOX	38328INOX

Table of furnishing with mounting elements

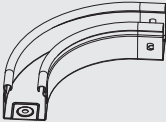
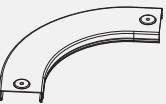
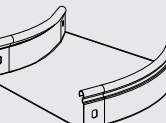
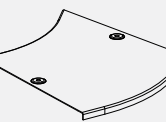
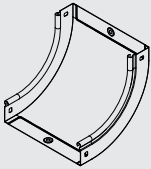
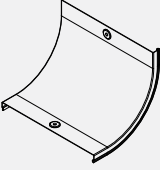
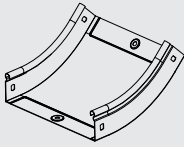
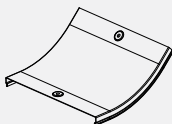
Accessory	Height H, mm	Width B, mm	Code of accessory	Description of mounting element	Code of mounting element	Number, pcs
 <p>CPO 90 horizontal angle, 90°</p>	50	50	36000	GTO H50 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, hexagon nut with serrate flange M6	37301 37501 CM010610 CM100600	4 2 12 12
		100	36002			
		150	36003			
		200	36004			
		300	36005			
		400	36006			
	80	500	36007			
		80	36021	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	4 2 20 20
		100	36022			
		150	36023			
		200	36024			
		300	36025			
	100	400	36026			
		500	36027			
		100	36041	GTO H100 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, hexagon nut with serrate flange M6	37305 37501 CM010610 CM100600	4 2 20 20
		150	36042			
		200	36043			
		300	36044			
		400	36045			
		500	36046			
 <p>CPO 90 horizontal cover, 90°</p>	15	50	38000	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	2 4
		80	38001			
		100	38002			
		150	38003			
		200	38004			
		300	38005			
		400	38006			
 <p>CPO 45 horizontal angle, 45°</p>	50	500	38007			
		50	36060	GTO H50 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, hexagon nut with serrate flange M6	37301 37501 CM010610 CM100600	4 2 12 12
		100	36062			
		150	36063			
		200	36064			
		300	36065			
	80	400	36066			
		500	36067	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	4 2 20 20
		80	36081			
		100	36082			
		150	36083			
		200	36084			
	100	300	36085			
		400	36086			
		500	36087	GTO H100 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, hexagon nut with serrate flange M6	37305 37501 CM010610 CM100600	4 2 20 20
		100	36101			
		150	36102			
		200	36103			
		300	36104			
		400	36105			
 <p>Cover for CPO 45 horizontal angle, 45°</p>	15	500	36106			
		50	38020	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	2 4
		80	38021			
		100	38022			
		150	38023			
		200	38024			
		300	38025			
		400	38026			
		500	38027			

Table of furnishing with mounting elements

Accessory	Height H, mm	Width B, mm	Code of accessory	Description of mounting element	Code of mounting element	Number, pcs
 <p>CS 90 internal vertical angle, 90°</p>	50	50	36660	GTO H50 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37301 37501 CM010610 CM100600	4 2 12 12
		100	36662			
		150	36663			
		200	36664			
		300	36665			
		400	36666			
		500	36667			
	80	80	36681	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	4 2 20 20
		100	36682			
		150	36683			
		200	36684			
		300	36685			
		400	36686			
		500	36687			
	100	100	36701	GTO H100 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37305 37501 CM010610 CM100600	4 2 20 20
		150	36702			
		200	36703			
		300	36704			
		400	36705			
 <p>Cover for CS 90 internal vertical angle, 90°</p>	15	50	38200	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	2 4
		80	38201			
		100	38202			
		150	38203			
		200	38204			
		300	38205			
		400	38206			
		500	38207			
 <p>CS 45 internal vertical angle, 45°</p>	50	50	36720	GTO H50 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37301 37501 CM010610 CM100600	4 2 12 12
		100	36722			
		150	36723			
		200	36724			
		300	36725			
		400	36726			
		500	36727			
	80	80	36741	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	4 2 20 20
		100	36742			
		150	36743			
		200	36744			
		300	36745			
		400	36746			
		500	36747			
	100	100	36761	GTO H100 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37305 37501 CM010610 CM100600	4 2 20 20
		150	36762			
		200	36763			
		300	36764			
		400	36765			
 <p>Cover for CS 45 vertical internal angle, 45°</p>	15	50	38220	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	2 4
		80	38221			
		100	38222			
		150	38223			
		200	38224			
		300	38225			
		400	38226			
		500	38227			

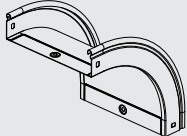
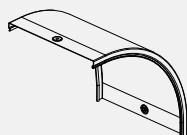
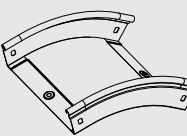
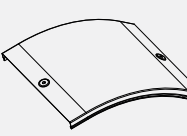
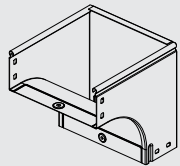
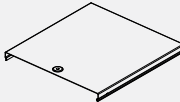
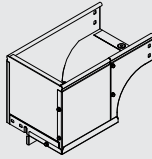
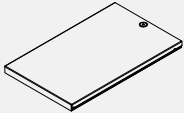
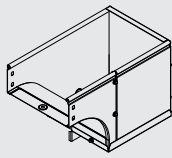
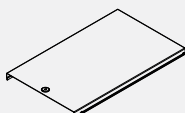
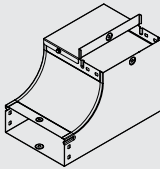
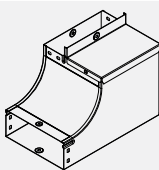
Accessory	Height H, mm	Width B, mm	Code of accessory	Description of mounting element	Code of mounting element	Number, pcs
 <p>CD 90 external vertical angle, 90°</p>	50	50	36780	GTO H50 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37301 37501 CM010610 CM100600	4 2 12 12
		100	36782			
		150	36783			
		200	36784			
		300	36785			
		400	36786			
	80	500	36787	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	4 2 20 20
		80	36801			
		100	36802			
		150	36803			
		200	36804			
		300	36805			
	100	400	36806	GTO H100 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37305 37501 CM010610 CM100600	4 2 20 20
		500	36807			
		100	36821			
		150	36822			
		200	36823			
 <p>Cover for CD 90 external vertical angle, 90°</p>	15	300	36824	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	2 4
		400	36825			
		500	36826			
		50	38240			
		80	38241			
		100	38242			
		150	38243			
 <p>CD 45 external vertical angle, 45°</p>	50	200	38244	GTO H50 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37301 37501 CM010610 CM100600	4 2 12 12
		300	38245			
		400	38246			
		500	38247			
		80	36840			
		100	36842			
	80	150	36843	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	4 2 20 20
		200	36844			
		300	36845			
		400	36846			
		500	36847			
		80	36861			
	100	100	36862	GTO H100 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37305 37501 CM010610 CM100600	4 2 20 20
		150	36863			
		200	36864			
		300	36865			
		400	36866			
		500	36867			
 <p>Cover for CD 45 external vertical angle, 45°</p>	15	100	36881	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	2 4
		150	36882			
		200	36883			
		300	36884			
		400	36885			
		500	36886			
		50	38260			
		80	38261			
		100	38262	GTO H50 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37301 37501 CM010610 CM100600	4 2 12 12
		150	38263			
		200	38264			
		300	38265			
		400	38266			
		500	38267			
		50	38260			

Table of furnishing with mounting elements

Accessory	Height H, mm	Width B, mm	Code of accessory	Description of mounting element	Code of mounting element	Number, pcs
 CDV 90 external vertical angle	80	80	37371	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	4 2 20 20
		100	37372			
		150	37373			
		200	37374			
		300	37375			
		400	37376			
		500	37377			
 Cover for CDV 90 external vertical angle,	80	80	38281	Hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	1 2
		100	38341			
		150	38342			
		200	38343			
		300	38344			
		400	38345			
		500	38346			
 CDSD 90 external vertical angle, right-side adapter	80	80	37001	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	4 2 20 20
		100	37002			
		150	37003			
		200	37004			
		300	37005			
		400	37006			
		500	37007			
 Cover for CDSD 90 external vertical angle, right-side adapter	80	80	38281	Hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	1 2
		100	38282			
		150	38283			
		200	38284			
		300	38285			
		400	38286			
		500	38287			
 CDSS 90 external vertical angle, left-side adapter	80	80	37021	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	4 2 20 20
		100	37022			
		150	37023			
		200	37024			
		300	37025			
		400	37026			
		500	37027			
 Cover for CDSS 90 external vertical angle, left-side adapter	80	80	38281	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	1 2
		100	38282			
		150	38283			
		200	38284			
		300	38285			
		400	38286			
		500	38287			
 CSSD 90 internal vertical angle, right-side adapter	80	80	37041	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, hexagon nut with serrate flange M6, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37303 37501 CM010610 CM100600 CM030508	4 4 20 20 4
		100	37042			
		150	37043			
		200	37044			
		300	37045			
		-	-			
		-	-			
 CSSS 90 internal vertical angle, left-side adapter	80	80	37061	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, hexagon nut with serrate flange M6, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37303 37501 CM010610 CM100600 CM030508	4 4 20 20 4
		100	37062			
		150	37063			
		200	37064			
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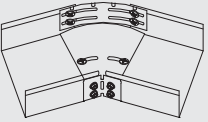
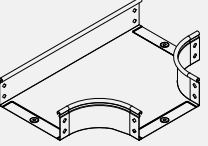
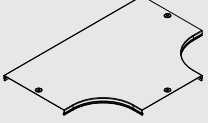
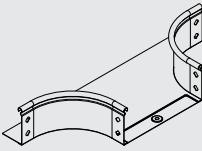
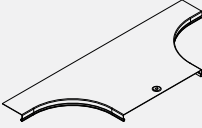
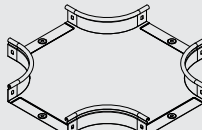
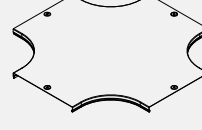
Accessory	Height H, mm	Width B, mm	Code of accessory	Description of mounting element	Code of mounting element	Number, pcs
 <p>CPO 0–45° horizontal changeable angle</p>	50	100	36008	Square neck bolt M6x10, Hexagon nut with serrate flange M6	CM010610 CM100600	6 6
		150	36009			
		200	36010			
		300	36011			
		400	360405			
		500	360505			
		600	360605			
	80	80	36012	Square neck bolt M6x10, Hexagon nut with serrate flange M6	CM010610 CM100600	10 10
		100	36013			
		150	36014			
		200	36015			
		300	36016			
		400	360408			
		500	360508			
		600	360608			
	100	100	36017	Square neck bolt M6x10, Hexagon nut with serrate flange M6	CM010610 CM100600	10 10
		150	36018			
		200	36019			
		300	36020			
		400	3601410			
		500	360510			
 <p>Horizontal DPT T-tapper</p>	50	50	36120	GTO H50 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37301 37501 CM010610 CM100600	6 3 18 18
		100	36122			
		150	36123			
		200	36124			
		300	36125			
		400	36126			
		500	36127			
	80	80	36141	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	6 3 30 30
		100	36142			
		150	36143			
		200	36144			
		300	36145			
		400	36146			
		500	36147			
	100	100	36161	GTO H100 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37305 37501 CM010610 CM100600	6 3 30 30
		150	36162			
		200	36163			
		300	36164			
		400	36165			
		500	36166			
 <p>Cover for horizontal DPT T-tapper</p>	50	50	38040	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	3 6
		80	38041			
		100	38042			
		150	38043			
		200	38044			
		300	38045			
		400	38046			
		500	38047			

Table of furnishing with mounting elements

Accessory	Height H, mm	Width B, mm	Code of accessory	Description of mounting element	Code of mounting element	Number, pcs
 DL taper	50	50	36233	GTO H50 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37301 37501 CM010610 CM100600	2 1 8 8
		100	36235			
		150	36236			
		200	36237			
		300	36238			
		400	36239			
		500	36240			
	80	80	36249	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	2 1 14 14
		100	36250			
		150	36251			
		200	36252			
		300	36253			
		400	36254			
		500	36255			
	100	100	36263	GTO H100 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37305 37501 CM010610 CM100600	2 1 14 14
		150	36264			
		200	36265			
		300	36266			
		400	36267			
		500	36268			
 Cover for DL taper	50	50	38361	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	2 4
		80	38362			
		100	38363			
		150	38364			
		200	38365			
		300	38366			
		400	38367			
		500	38368			
 DPX taper	50	50	36180	GTO H50 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37301 37501 CM010610 CM100600	8 4 24 24
		100	36182			
		150	36183			
		200	36184			
		300	36185			
		400	36186			
		500	36187			
	80	80	36201	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	8 4 40 40
		100	36202			
		150	36203			
		200	36204			
		300	36205			
		400	36206			
		500	36207			
	100	100	36221	GTO H100 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37305 37501 CM010610 CM100600	8 4 40 40
		150	36222			
		200	36223			
		300	36224			
		400	36225			
		500	36226			
 Cover for DPX X-tapper	50	50	38060	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	4 8
		80	38061			
		100	38062			
		150	38063			
		200	38064			
		300	38065			
		400	38066			
		500	38067			

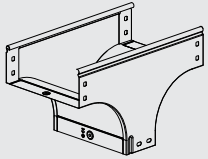

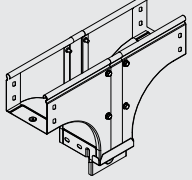
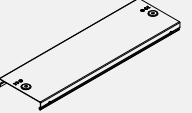
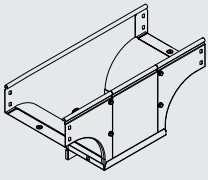
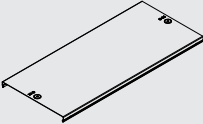
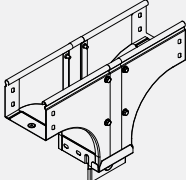
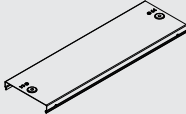
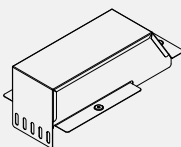
Accessory	Height H, mm	Width B, mm	Code of accessory	Description of mounting element	Code of mounting element	Number, pcs
 TD vertical T-tapper	80	80	37101	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	6 3 30 30
		100	37102			
		150	37103			
		200	37104			
		300	37105			
		400	37106			
		500	37107			
		-	-			
 Cover for TD vertical T-tapper	80	80	38301	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	3 6
		100	38302			
		150	38303			
		200	38304			
		300	38305			
		400	38306			
		500	38307			
 Universal TDS vertical T-tapper	80	80	37161	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	6 3 30 30
		100	37162			
		150	37163			
		200	37164			
		300	37165			
		400	37166			
		500	37167			
		-	-			
 Cover for universal TDS vertical T-tapper	80	80	38301	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	3 6
		100	38322			
		150	38323			
		200	38324			
		300	38325			
		400	38326			
		500	38327			
 TDSA vertical T-shaped taper-adapter	80	80/100	37601	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	6 3 30 30
		80/150	37602			
		80/200	37603			
		80/300	37604			
		100/150	37605			
		100/200	37606			
		100/300	37607			
		150/200	37610			
		150/300	37611			
		150/400	37612			
		200/300	37614			
		200/400	37615			
		200/500	37616			
		300/400	37617			
		300/500	37618			

Table of furnishing with mounting elements

Accessory	Height H, mm	Width B, mm	Code of accessory	Description of mounting element	Code of mounting element	Number, pcs
 <p>Cover for TDSA vertical T-shaped taper-adapter</p>	80	80/100	38381	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	3 6
		80/150	38382			
		80/200	38383			
		80/300	38384			
		100/150	38485			
		100/200	38486			
		100/300	38387			
		150/200	38390			
		150/300	38391			
		150/400	38392			
		200/300	38394			
		200/400	38395			
		200/500	38396			
		300/400	38397			
		300/500	38398			
 <p>TDSR vertical T-shaped taper-adapter</p>	80	100/80	37620	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	6 3 30 30
		150/80	37621			
		150/100	37622			
		200/80	37623			
		200/100	37624			
		200/150	37625			
		300/80	37626			
		300/100	37627			
		300/150	37628			
		300/200	37629			
		400/150	37632			
		400/200	37633			
		500/200	37638			
		500/300	37639			
 <p>Cover for TDSR vertical T-shaped taper-adapter</p>	80	100/80	38302	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	3 6
		150/80	38303			
		150/100	38400			
		200/80	38304			
		200/100	38401			
		200/150	38402			
		300/80	38305			
		300/100	38403			
		300/150	38404			
		300/200	38405			
		400/150	38407			
		400/200	38408			
		500/200	38412			
		500/300	38413			
 <p>DDT T-shaped taper-cover-adapter</p>	50 80 100	100/100	36562	PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6, M5x8 screw for electrical connection	37501 CM010610 CM100600 CM030508	3 2 2 6
		150/100	36563			
		200/100	36566			
		200/150	36567			
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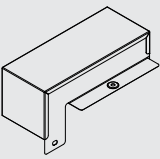
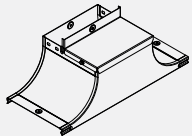
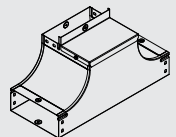
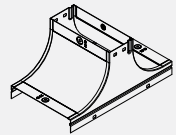
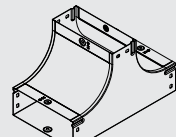
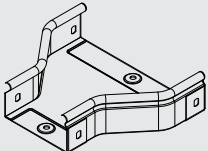
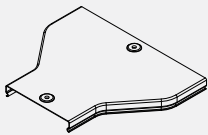
Accessory	Height H, mm	Width B, mm	Code of accessory	Description of mounting element	Code of mounting element	Number, pcs
 DDS T-shaped vertical downward taper-cover, inverted	50 80 100	100/50	37378	GTO H50 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, hexagon nut with serrate flange M6, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37301 37501 CM010610 CM100600 CM030508	2 3 4 4 6
		150/50	37379			
		200/50	37380			
		200/100	37381			
		300/50	37382			
		300/100	37383			
		300/150	37384			
 TSS taper-cover	80	100	37232	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, hexagon nut with serrate flange M6, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37303 37501 CM010610 CM100600 CM030508	2 4 10 10 6
		150	37233			
		200	37234			
		300	37235			
		400	37226			
		500	37227			
 TSS upward taper	80	80	37221	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, hexagon nut with serrate flange M6, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37303 37501 CM010610 CM100600 CM030508	6 6 30 30 6
		100	37222			
		150	37223			
		200	37224			
		300	37225			
 TS taper-cover	80	100	37242	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, hexagon nut with serrate flange M6, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37303 37501 CM010610 CM100600 CM030508	2 4 10 10 6
		200	37243			
		300	37244			
		400	37206			
		500	37207			
 TS upward T-taper	80	80	37201	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, hexagon nut with serrate flange M6, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37303 37501 CM010610 CM100600 CM030508	6 6 30 30 6
		100	37202			
		150	37203			
		200	37204			
		300	37205			

Table of furnishing with mounting elements

Accessory	Height H, mm	Width B, mm	Code of accessory	Description of mounting element	Code of mounting element	Number, pcs
 <p>RRC adapter</p>	50	100/50	36308	GTO H50 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37301 37501 CM010610 CM100600	4 2 12 12
		150/100	36309			
		200/100	36310			
		200/150	36311			
		300/100	36312			
		300/150	36313			
		300/200	36314			
		400/200	36315			
		400/300	36316			
		500/200	36317			
	80	500/300	36318	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	4 2 20 20
		500/400	36319			
		150/80	36281			
		150/100	36282			
		200/80	36283			
		200/100	36284			
		200/150	36285			
		300/80	36286			
		300/100	36287			
		300/150	36288			
	100	300/200	36289	GTO H100 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37305 37501 CM010610 CM100600	4 2 20 20
		400/200	36299			
		400/300	36290			
		500/300	36291			
		500/400	36292			
		150/100	36320			
		200/100	36321			
		200/150	36322			
		300/100	36323			
		300/150	36324			
 <p>Cover for RRC adapter</p>	15	300/200	36325	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	2 4
		400/200	36326			
		400/300	36327			
		500/200	36328			
		500/300	36329			
		500/400	36330			
		100/50	38079			
		150/80	38081			
		150/100	38082			
		200/80	38083			
		200/100	38084			
		200/150	38085			
		300/80	38086			
		300/100	38087			
		300/150	38088			
		300/200	38089			
		400/200	38308			
		400/300	38090			
		500/200	38393			
		500/300	38091			
		500/400	38092			

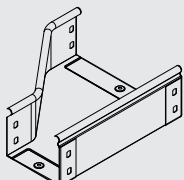
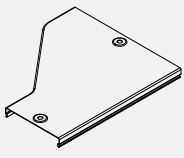
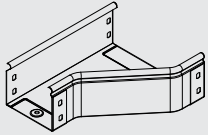
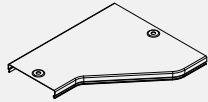
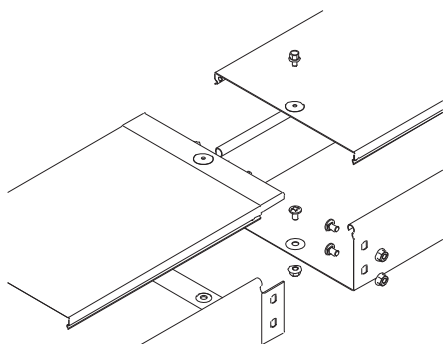
Accessory	Height H, mm	Width B, mm	Code of accessory	Description of mounting element	Code of mounting element	Number, pcs
 <p>RRS left-side adapter</p>	50	100/50	36354	GTO H50 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37301 37501 CM010610 CM100600	4 2 12 12
		150/100	36355			
		200/100	36356			
		200/150	36357			
		300/100	36358			
		300/150	36359			
		300/200	36360			
		400/200	36361			
		400/300	36362			
		500/200	36363			
	80	500/300	36364			
		500/400	36365			
		100/80	36521	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	4 2 20 20
		150/80	36522			
		150/100	36523			
		200/80	36524			
		200/100	36525			
		200/150	36526			
		300/80	36527			
		300/100	36528			
		300/150	36529			
		300/200	36530			
	100	400/200	36305			
		400/300	36531			
		500/300	36532			
		500/400	36307			
		150/100	36366	GTO H100 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37305 37501 CM010610 CM100600	4 2 20 20
		200/100	36367			
		200/150	36368			
		300/100	36369			
		300/150	36370			
		300/200	36371			
		400/200	36372			
		400/300	36373			
		500/200	36374			
		500/300	36375			
 <p>Cover for RRS left-side adapter</p>	15	500/400	36376			
		100/50	38160	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	2 4
		100/80	38161			
		150/80	38162			
		150/100	38163			
		200/80	38164			
		200/100	38165			
		200/150	38166			
		300/80	38167			
		300/100	38168			
		300/150	38169			
		300/200	38170			
		400/200	38313			
		400/300	38171			
		500/200	38315			
		500/300	38172			
		500/400	38173			

Table of furnishing with mounting elements

Accessory	Height H, mm	Width B, mm	Code of accessory	Description of mounting element	Code of mounting element	Number, pcs
 RRD right-side adapter	50	100/50	36331	GTO H50 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37301 37501 CM010610 CM100600	4 2 12 12
		150/100	36332			
		200/100	36333			
		200/150	36334			
		300/100	36335			
		300/150	36336			
		300/200	36337			
		400/200	36338			
		400/300	36339			
		500/200	36340			
		500/300	36341			
		500/400	36342			
	80	100/80	36401	GTO H80 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37303 37501 CM010610 CM100600	4 2 20 20
		150/80	36402			
		150/100	36403			
		200/80	36404			
		200/100	36405			
		200/150	36406			
		300/80	36407			
		300/100	36408			
		300/150	36409			
		300/200	36410			
		400/200	36301			
		400/300	36411			
	100	500/300	36412	GTO H100 connecting plate, PTCE plate for grounding, Square neck bolt M6x10, Hexagon nut with serrate flange M6	37305 37501 CM010610 CM100600	4 2 20 20
		500/400	36413			
		150/100	36343			
		200/100	36344			
		200/150	36345			
		300/100	36346			
		300/150	36347			
		300/200	36348			
		400/200	36349			
		400/300	36350			
 Cover for RRD right-side adapter	15	500/200	36351	PTCE plate for grounding, hexagon flange bolt M5x8 for ensuring electrical contact between covers	37501 CM030508	2 4
		500/300	36352			
		500/400	36353			
		100/50	38120			
		100/80	38121			
		150/80	38122			
		150/100	38123			
		200/80	38124			
		200/100	38125			
		200/150	38126			
		300/80	38127			
		300/100	38128			
		300/150	38129			
		300/200	38130			
		400/200	38310			
		400/300	38131			
		500/200	38316			
		500/300	38132			
		500/400	38133			

Scheme installation

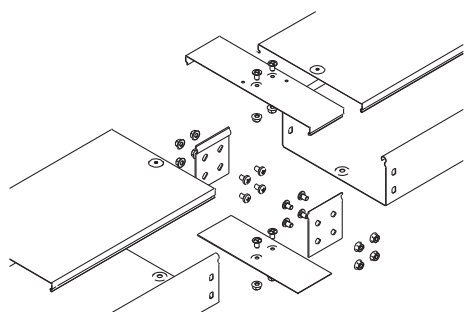
"Male-female" tray connection


Description:

- in case of tray connection "male-female" stamped tie-bars and strakes only screws and nuts are required. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
Cover complete set			
50, 80, 100	hexagon flange bolt M5x8 for ensuring electrical contact between covers	1	CM030508
Tray complete set			
50	square neck bolt M6x10	3	CM010610
	hexagon nut M6 with serrate flange	3	CM100600
80	square neck bolt M6x10	5	CM010610
	hexagon nut M6 with serrate flange	5	CM100600
100	square neck bolt M6x10	5	CM010610
	hexagon nut M6 with serrate flange	5	CM100600

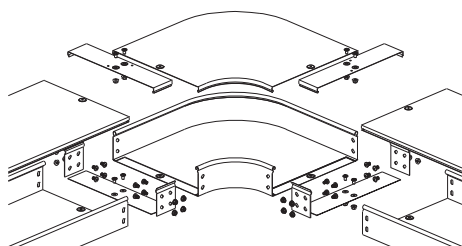
Connection of trays at single-type endings


Description:

- GTO connectors and CGB connecting plates are used to connect single-type endings and points of cut. These mounting accessories are installed in the inner part of a tray. To connect covers, CGC connecting plates that are installed on covers at the top are used. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
Cover complete set			
50, 80, 100	CGC junction plate	1	depending on the tray width
	square neck bolt M6x10	2	CM010610
	hexagon nut M6 with serrate flange	2	CM100600
Tray complete set			
50	square neck bolt M6x10	6	CM010610
	hexagon nut M6 with serrate flange	6	CM100600
	GTO H50 attachment plate	2	37301
	CGB junction plate	1	depending on the tray width
80	square neck bolt M6x10	10	CM010610
	hexagon nut M6 with serrate flange	10	CM100600
	GTO H80 attachment plate	2	37303
	CGB junction plate	1	depending on the tray width
100	square neck bolt M6x10	10	CM010610
	hexagon nut M6 with serrate flange	10	CM100600
	GTO H100 attachment plate	2	37305
	CGB junction plate	1	depending on the tray width

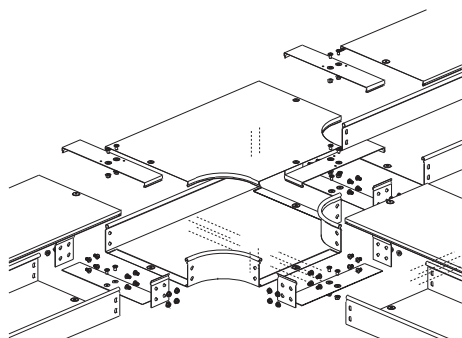
Horizontal angle


Description:

- to bend a route at angle of 45 and 90°, CPO45/CPO90 horizontal angle shall be used. GTO connector and CGB connecting plates are used for installation of horizontal angles. These mounting accessories are installed in the inner part of a tray. To connect covers, CGC connecting plates that are installed on covers at the top are used. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
Cover complete set			
50, 80, 100	hexagon flange bolt M5x8 for ensuring electrical contact between covers	2	CM030508
	CGC junction plate	2	depending on the tray width
	square neck bolt M6x10	2	CM010610
	hexagon nut M6 with serrate flange	2	CM100600
Accessory complete set			
50	square neck bolt M6x10	12	CM010610
	hexagon nut M6 with serrate flange	12	CM100600
	GTO H50 attachment plate	4	37301
	CGB junction plate	2	depending on the tray width
80	square neck bolt M6x10	20	CM010610
	hexagon nut M6 with serrate flange	20	CM100600
	GTO H80 attachment plate	4	37303
	CGB junction plate	2	depending on the tray width
100	square neck bolt M6x10	20	CM010610
	hexagon nut M6 with serrate flange	20	CM100600
	GTO H100 attachment plate	4	37305
	CGB junction plate	2	depending on the tray width

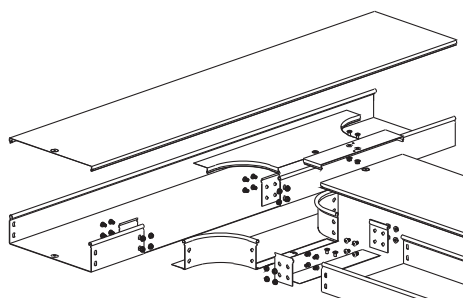
Horizontal T-tapper


Description:

- to branch a route, DPT T-tapper shall be used. GTO connector and CGB connecting plates are used for installation of T-tappers. These mounting accessories are installed in the inner part of a tray. To connect covers, CGC connecting plates that are installed on covers at the top are used. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
Cover complete set			
50, 80, 100	hexagon flange bolt M5x8 for ensuring electrical contact between covers	3	CM030508
	CGC junction plate	3	depending on the tray width
	square neck bolt M6x10	3	CM010610
	hexagon nut M6 with serrate flange	3	CM100600
Accessory complete set			
50	square neck bolt M6x10	18	CM010610
	hexagon nut M6 with serrate flange	18	CM100600
	GTO H50 attachment plate	6	37301
	CGB junction plate	3	depending on the tray width
80	square neck bolt M6x10	30	CM010610
	hexagon nut M6 with serrate flange	30	CM100600
	GTO H80 attachment plate	6	37303
	CGB junction plate	3	depending on the tray width
100	square neck bolt M6x10	30	CM010610
	hexagon nut M6 with serrate flange	30	CM100600
	GTO H100 attachment plate	6	37305
	CGB junction plate	3	depending on the tray width

T-branch

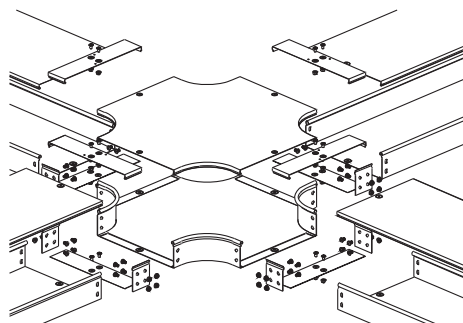


Description:

- to branch a route, DL T-tapper shall be used. GTO connector and CGB connecting plates are used for installation of DL-tappers. These mounting accessories are installed in the inner part of a tray. To connect covers, CGC connecting plates that are installed on covers at the top are used. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
Cover complete set			
50, 80, 100	hexagon flange bolt M5x8 for ensuring electrical contact between covers	1	CM030508
	CGC junction plate	1	depending on the tray width
	square neck bolt M6x10	1	CM010610
	hexagon nut M6 with serrate flange	1	CM100600
Accessory complete set			
50	square neck bolt M6x10	10	CM010610
	hexagon nut M6 with serrate flange	10	CM100600
	GTO H50 attachment plate	4	37301
	CGB junction plate	1	depending on the tray width
80	square neck bolt M6x10	18	CM010610
	hexagon nut M6 with serrate flange	18	CM100600
	GTO H80 attachment plate	4	37303
	CGB junction plate	1	depending on the tray width
100	square neck bolt M6x10	18	CM010610
	hexagon nut M6 with serrate flange	18	CM100600
	GTO H100 attachment plate	4	37305
	CGB junction plate	1	depending on the tray width

X-tapper

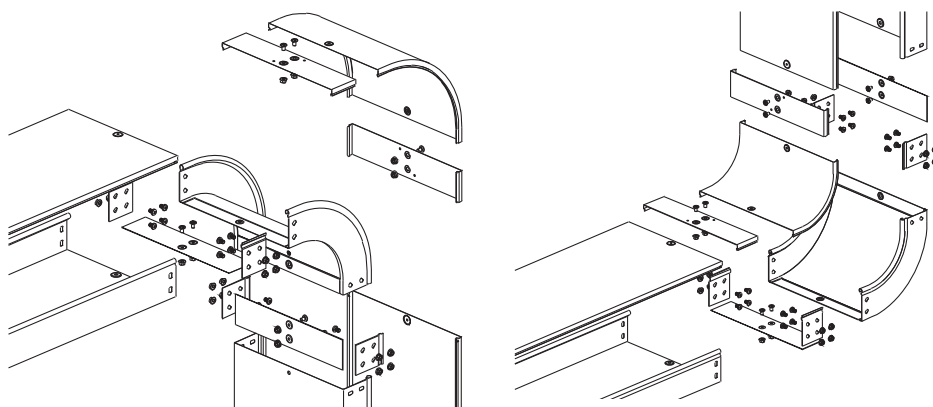


Description:

- to organize a two-sided X-shaped branching of a route, DPX X-tapper shall be used. GTO connector and CGB connecting plates are used for installation of DPX-tappers. These mounting accessories are installed in the inner part of a tray. To connect covers, CGC connecting plates that are installed on covers at the top are used. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
Cover complete set			
50, 80, 100	hexagon flange bolt M5x8 for ensuring electrical contact between covers	4	CM030508
	CGC junction plate	4	depending on the tray width
	square neck bolt M6x10	4	CM010610
	hexagon nut M6 with serrate flange	4	CM100600
Accessory complete set			
50	square neck bolt M6x10	24	CM010610
	hexagon nut M6 with serrate flange	24	CM100600
	GTO H50 attachment plate	8	37301
	CGB junction plate	4	depending on the tray width
80	square neck bolt M6x10	40	CM010610
	hexagon nut M6 with serrate flange	40	CM100600
	GTO H80 attachment plate	8	37303
	CGB junction plate	4	depending on the tray width
100	square neck bolt M6x10	40	CM010610
	hexagon nut M6 with serrate flange	40	CM100600
	GTO H100 attachment plate	8	37305
	CGB junction plate	4	depending on the tray width

External and internal vertical angles

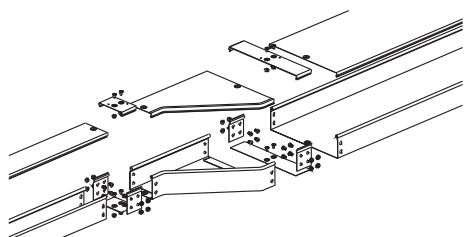


Description:

- to organize a route upward/downward bend at 45/90°, CS/CD 90/45 angles shall be used. GTO connector and CGB connecting plates are used for installation of vertical angles. These mounting accessories are installed in the inner part of a tray. To connect covers, CGC connecting plates that are installed on covers at the top are used. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
Cover complete set			
50, 80, 100	hexagon flange bolt M5x8 for ensuring electrical contact between covers	2	CM030508
	CGC junction plate	2	depending on the tray width
	square neck bolt M6x10	2	CM010610
	hexagon nut M6 with serrate flange	2	CM100600
Accessory complete set			
50	square neck bolt M6x10	12	CM010610
	hexagon nut M6 with serrate flange	12	CM100600
	GTO H50 attachment plate	4	37301
	CGB junction plate	2	depending on the tray width
80	square neck bolt M6x10	20	CM010610
	hexagon nut M6 with serrate flange	20	CM100600
	GTO H80 attachment plate	4	37303
	CGB junction plate	2	depending on the tray width
100	square neck bolt M6x10	20	CM010610
	hexagon nut M6 with serrate flange	20	CM100600
	GTO H100 attachment plate	4	37305
	CGB junction plate	2	depending on the tray width

Width transition

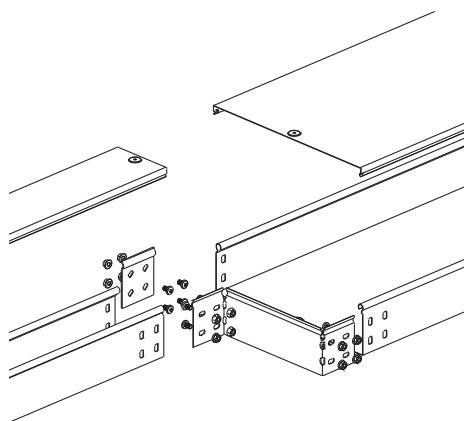


Description:

- to organize a width transition of a route, RRS/RRC/RRD adapters shall be used. GTO connector and CGB connecting plates are used for installation of the adapters. These mounting accessories are installed in the inner part of a tray. To connect covers, CGC connecting plates that are installed on covers at the top are used. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
Cover complete set			
50, 80, 100	hexagon flange bolt M5x8 for ensuring electrical contact between covers	2	CM030508
	CGC junction plate	2	depending on the tray width
	square neck bolt M6x10	2	CM010610
	hexagon nut M6 with serrate flange	2	CM100600
Accessory complete set			
50	square neck bolt M6x10	12	CM010610
	hexagon nut M6 with serrate flange	12	CM100600
	GTO H50 attachment plate	4	37301
	CGB junction plate	2	depending on the tray width
80	square neck bolt M6x10	20	CM010610
	hexagon nut M6 with serrate flange	20	CM100600
	GTO H80 attachment plate	4	37303
	CGB junction plate	2	depending on the tray width
100	square neck bolt M6x10	20	CM010610
	hexagon nut M6 with serrate flange	20	CM100600
	GTO H100 attachment plate	4	37305
	CGB junction plate	2	depending on the tray width

Width transition simplified

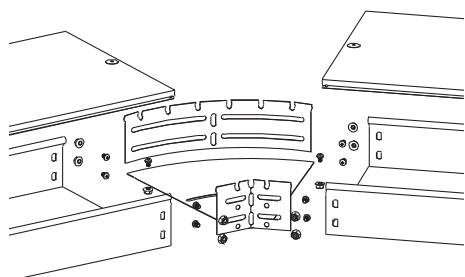


Description:

- a simplified reducer shall be used for simplified organization of route width transition. GTO connector is used for installation of adapters. The connector is installed in the inner part of a tray. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50	square neck bolt M6x10	6	CM010610
	hexagon nut M6 with serrate flange	6	CM100600
	GTO H50 attachment plate	1	37301
80	square neck bolt M6x10	12	CM010610
	hexagon nut M6 with serrate flange	12	CM100600
	GTO H80 attachment plate	1	37303
100	square neck bolt M6x10	12	CM010610
	hexagon nut M6 with serrate flange	12	CM100600
	GTO H100 attachment plate	1	37305

Horizontal route bend

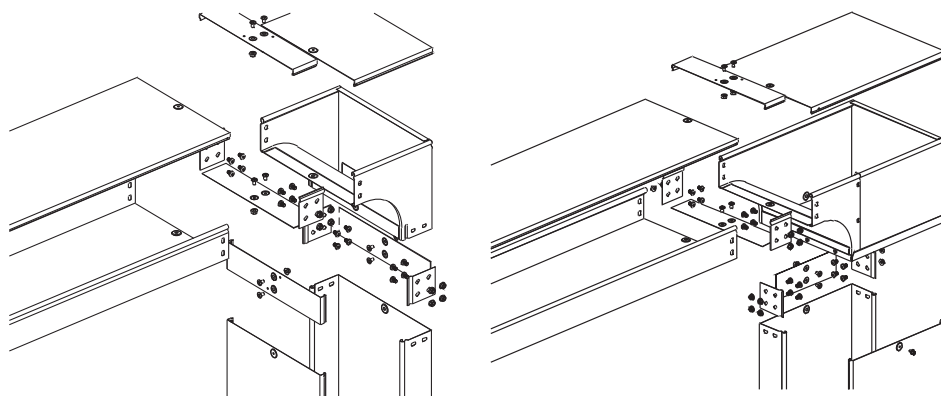


Description:

- to organize a route 0–45° bend in horizontal plane, CPO horizontal changeable angle shall be used. Only fasteners are required for installation of a horizontal changeable angle. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50	square neck bolt M6x10	6	CM010610
	hexagon nut M6 with serrate flange	6	CM100600
80	square neck bolt M6x10	10	CM010610
	hexagon nut M6 with serrate flange	10	CM100600
100	square neck bolt M6x10	10	CM010610
	hexagon nut M6 with serrate flange	10	CM100600

CDV90/CDSS90/CDSD90 external vertical angle

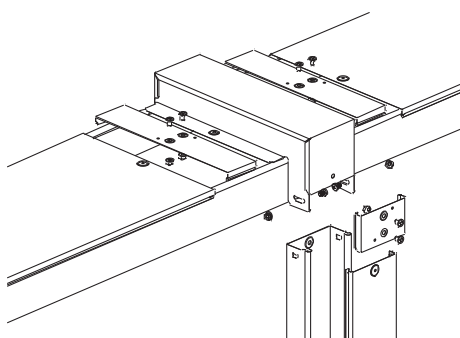


Description:

- GTO connector and CGB connecting plates are used for installation of external vertical angles. These mounting accessories are installed in the inner part of a tray. To connect covers, CGC connecting plates that are installed on covers at the top are used. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
Cover complete set			
50, 80, 100	hexagon flange bolt M5x8 for ensuring electrical contact between covers	2	CM030508
	CGC junction plate	2	depending on the tray width
	square neck bolt M6x10	2	CM010610
	hexagon nut M6 with serrate flange	2	CM100600
Accessory complete set			
50	square neck bolt M6x10	12	CM010610
	hexagon nut M6 with serrate flange	12	CM100600
	GTO H50 attachment plate	4	37301
	CGB junction plate	2	depending on the tray width
80	square neck bolt M6x10	20	CM010610
	hexagon nut M6 with serrate flange	20	CM100600
	GTO H80 attachment plate	4	37303
	CGB junction plate	2	depending on the tray width
100	square neck bolt M6x10	20	CM010610
	hexagon nut M6 with serrate flange	20	CM100600
	GTO H100 attachment plate	4	37305
	CGB junction plate	2	depending on the tray width

DDS downward vertical T-shaped taper-cover

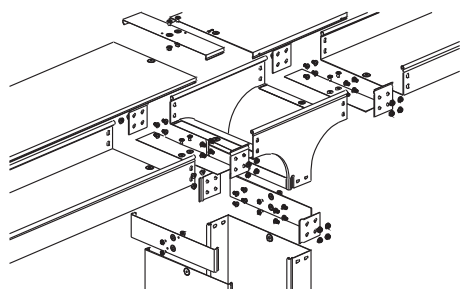


Description:

- to organize T-branching, DDS downward taper-cover shall be used. CGC connecting plates that are installed on covers at the top are required for installation. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50, 80, 100	CGC junction plate	3	depending on the tray width
	square neck bolt M6x10	8	CM010610
	hexagon nut M6 with serrate flange	2	CM100600
	hexagon flange bolt M5x8 for ensuring electrical contact between covers	2	CM030508

TD vertical T-tapper

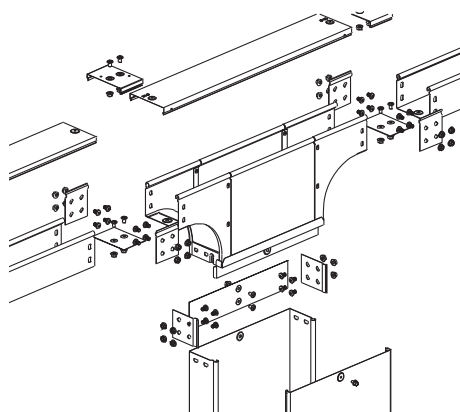


Description:

- GTO connector and CGB connecting plates are used for installation of TD taper. These mounting accessories are installed in the inner part of a tray. To connect covers, CGC connecting plates that are installed on covers at the top are used. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
Cover complete set			
50, 80, 100	hexagon flange bolt M5x8 for ensuring electrical contact between covers	3	CM030508
	CGC junction plate	3	depending on the tray width
	square neck bolt M6x10	3	CM010610
	hexagon nut M6 with serrate flange	3	CM100600
Accessory complete set			
50	square neck bolt M6x10	18	CM010610
	hexagon nut M6 with serrate flange	18	CM100600
	GTO H50 attachment plate	6	37301
	CGB junction plate	3	depending on the tray width
80	square neck bolt M6x10	30	CM010610
	hexagon nut M6 with serrate flange	30	CM100600
	GTO H80 attachment plate	6	37303
	CGB junction plate	3	depending on the tray width
100	square neck bolt M6x10	30	CM010610
	hexagon nut M6 with serrate flange	30	CM100600
	GTO H100 attachment plate	6	37305
	CGB junction plate	3	depending on the tray width

TDS/TDSA/TDSR vertical T-tapper

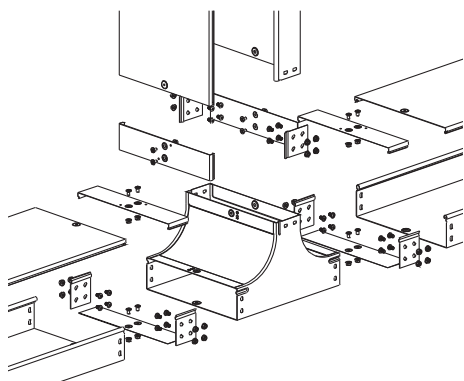


Description:

- GTO connector and CGB connecting plates are used for installation of the taper. These mounting accessories are installed in the inner part of a tray. To connect covers, CGC connecting plates that are installed on covers at the top are used. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
Cover complete set			
50, 80, 100	hexagon flange bolt M5x8 for ensuring electrical contact between covers	3	CM030508
	CGC junction plate	2	depending on the tray width
	square neck bolt M6x10	2	CM010610
	hexagon nut M6 with serrate flange	2	CM100600
Accessory complete set			
50	square neck bolt M6x10	18	CM010610
	hexagon nut M6 with serrate flange	18	CM100600
	GTO H50 attachment plate	6	37301
	CGB junction plate	3	depending on the tray width
80	square neck bolt M6x10	30	CM010610
	hexagon nut M6 with serrate flange	30	CM100600
	GTO H80 attachment plate	6	37303
	CGB junction plate	3	depending on the tray width
100	square neck bolt M6x10	30	CM010610
	hexagon nut M6 with serrate flange	30	CM100600
	GTO H100 attachment plate	6	37305
	CGB junction plate	3	depending on the tray width

TS taper

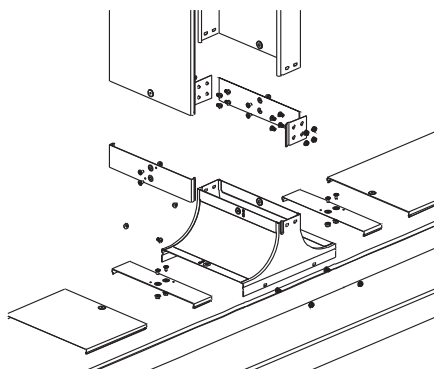


Description:

- GTO connector and CGB connecting plates are used for installation of TS taper. These mounting accessories are installed in the inner part of a tray. To connect covers, CGC connecting plates that are installed on covers at the top are used. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
Cover complete set			
50, 80, 100	hexagon flange bolt M5x8 for ensuring electrical contact between covers	3	CM030508
	CGC junction plate	3	depending on the tray width
	square neck bolt M6x10	3	CM010610
	hexagon nut M6 with serrate flange	3	CM100600
Accessory complete set			
50	square neck bolt M6x10	18	CM010610
	hexagon nut M6 with serrate flange	18	CM100600
	GTO H50 attachment plate	6	37301
	CGB junction plate	3	depending on the tray width
80	square neck bolt M6x10	30	CM010610
	hexagon nut M6 with serrate flange	30	CM100600
	GTO H80 attachment plate	6	37303
	CGB junction plate	3	depending on the tray width
100	square neck bolt M6x10	30	CM010610
	hexagon nut M6 with serrate flange	30	CM100600
	GTO H100 attachment plate	6	37305
	CGB junction plate	3	depending on the tray width

TS taper-cover

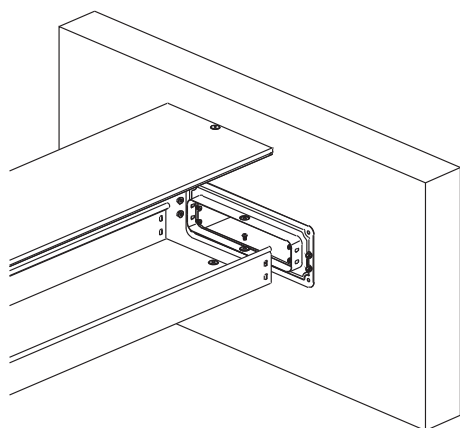


Description:

- GTO connector and CGB connecting plates are used for installation of TS taper-cover. These mounting accessories are installed in the inner part of a tray. To connect covers, CGC connecting plates that are installed on covers at the top are used. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
Cover complete set			
50, 80, 100	hexagon flange bolt M5x8 for ensuring electrical contact between covers	3	CM030508
	CGC junction plate	3	depending on the tray width
	square neck bolt M6x10	3	CM010610
	hexagon nut M6 with serrate flange	3	CM100600
Accessory complete set			
50	square neck bolt M6x10	16	CM010610
	hexagon nut M6 with serrate flange	16	CM100600
	GTO H50 attachment plate	2	37301
	CGB junction plate	1	depending on the tray width
80	square neck bolt M6x10	20	CM010610
	hexagon nut M6 with serrate flange	20	CM100600
	GTO H80 attachment plate	2	37303
	CGB junction plate	1	depending on the tray width
100	square neck bolt M6x10	20	CM010610
	hexagon nut M6 with serrate flange	20	CM100600
	GTO H100 attachment plate	2	37305
	CGB junction plate	1	depending on the tray width

Entry into wall

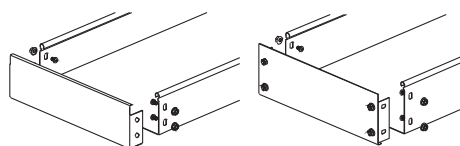


Description:

- for entry of a cable route into a wall or other equipment, FR connecting flange shall be used. Only fasteners are required for installation of FR flange. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50	square neck bolt M6x10	3	CM010610
	hexagon nut M6 with serrate flange	3	CM100600
80	square neck bolt M6x10	5	CM010610
	hexagon nut M6 with serrate flange	5	CM100600
100	square neck bolt M6x10	5	CM010610
	hexagon nut M6 with serrate flange	5	CM100600

Route ending

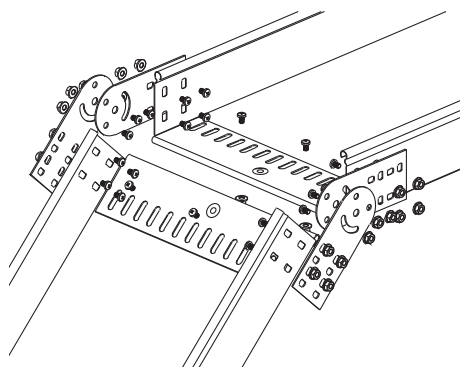


Description:

- to end a route, TC assembled/solid cap shall be used. Only fasteners are required for installation of TC plugs. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50	square neck bolt M6x10	2	CM010610
	hexagon nut M6 with serrate flange	2	CM100600
80	square neck bolt M6x10	5	CM010610
	hexagon nut M6 with serrate flange	5	CM100600
100	square neck bolt M6x10	4	CM010610
	hexagon nut M6 with serrate flange	4	CM100600

Changing route angle using a hinge

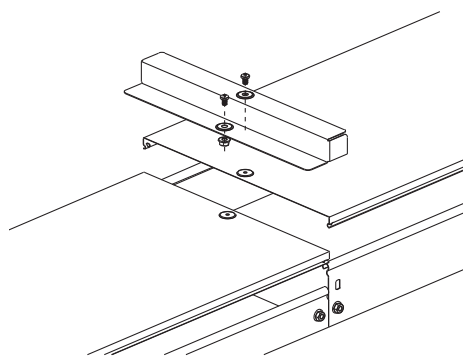


Description:

- Vertical adjustable joint GSV are used for route inclination at a various angle. The connectors are installed on the outside of each side and are interconnected. The GSV connectors after installation are attached at a required angle by means of screw and nut. Nuts are located on the outside surfaces of sides.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50	square neck bolt M6x10	16	CM010610
	hexagon nut M6 with serrate flange	16	CM100600
80	square neck bolt M6x10	24	CM010610
	hexagon nut M6 with serrate flange	24	CM100600
100	square neck bolt M6x10	24	CM010610
	hexagon nut M6 with serrate flange	24	CM100600

Height adjustable adapter

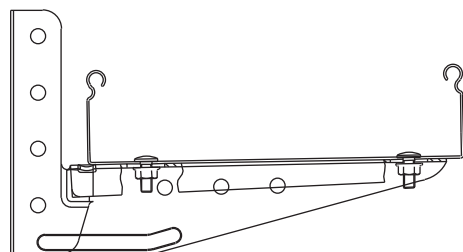


Description:

- for heightwise transfer of trays, RB adapter shall be used. Only screws are required for installation of RB adapter.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50, 80, 100	square neck bolt M6x10	2	CM010610
	hexagon nut M6 with serrate flange	2	CM100600

Attachment to bracket

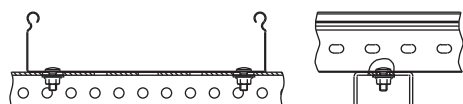


Description:

- trays shall be attached to ML brackets with screws and nuts.

Description of mounting element	Q-ty, pcs	Code
Mushroom head square neck bolt M6x16	2	CM010616
Hexagon nut M6 with serrate flange	2	CM100600

Attachment to profile



Description:

- trays shall be attached to profiles with screws and nuts.

Description of mounting element	Q-ty, pcs	Code
Mushroom head square neck bolt M6x16	2	CM010616
Hexagon nut M6 with serrate flange	2	CM100600





Cable ladder system "L5 Combitech"

Straight elements	522
Mounting accessories	525
System accessories	531

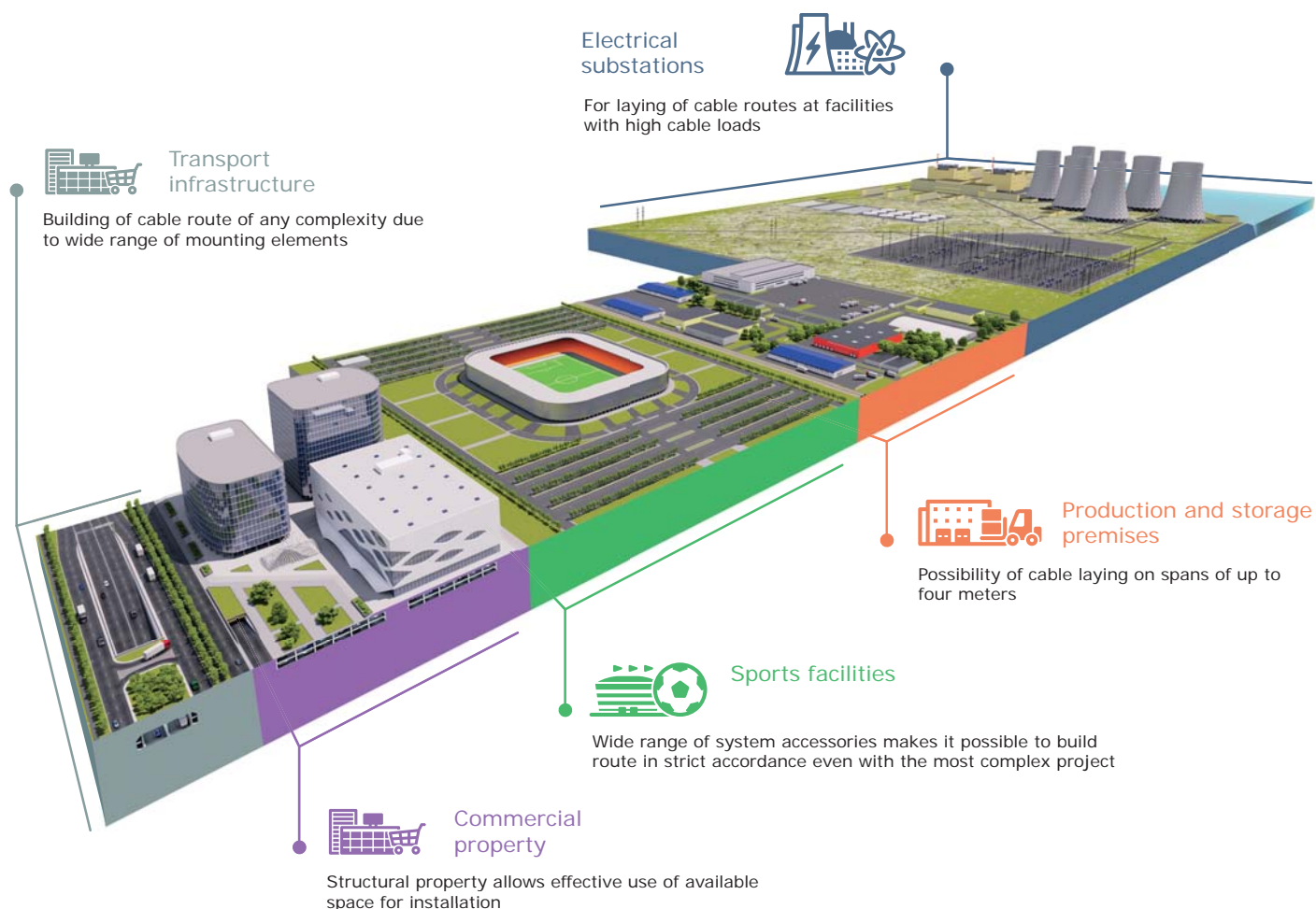
Cable ladder system "L5 Combitech"

Application

"L5 Combitech" is the system of cable ladders for open laying of cables and insulated wires at facilities of industrial, commercial and civil construction. In comparison with mesh trays and cable trays cable ladders have improved load bearing capacity. It allows application for cable laying on spans of up to 4 m.

"L5 Combitech" ladders are made of high-quality sheet steel in different climatic versions ensuring long service life and high reliability of a cable route in general.

Special structure of system elements excludes cable damage during laying and reduces time for installation up to 60%, and wide range of system and mounting accessories makes it possible to build a route in strict accordance even with the most complex project.



Distinctive features

Compatibility with cable trays

Makes it possible to apply accessories of unique configuration

High load bearing capacity

290 kg/m on a span of 1.5 m and up to 130 kg/m on a span of 3 m

"Male-female" connection

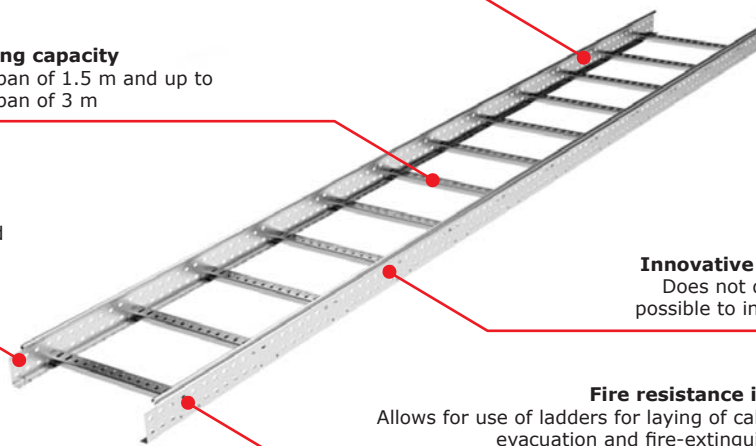
Special connectors are not required thus simplifying and accelerating rout installation

Innovative assembly technology "Clinching"

Does not disturb zinc coating of steel making it possible to increase service life of the entire route

Fire resistance indicator R-90

Allows for use of ladders for laying of cables that power evacuation and fire-extinguishing systems.



Advantages

Smooth configuration of accessories

Ensures the required cable bend radius, excludes its damage during laying, makes it possible to use accessory internal volume.

High seismic stability

Cable ladders have been tested at vibrating tables in the laboratories of TsNIISK n.a. V.A. Kucherenko. The results of experimental research have proven the possibility to use cable ladders at regions with seismicity of 7-9.

Conformity with European regulations

The cable ladders have successfully passed a series of tests provided for by European EN 61537:2007 standard. Once this certificate was awarded, usage of "L5 Combitech" became possible not only on the territory of Russia, but also abroad. Successful certification of the cable ladders in Europe once more proves high quality of the manufactured ladders.

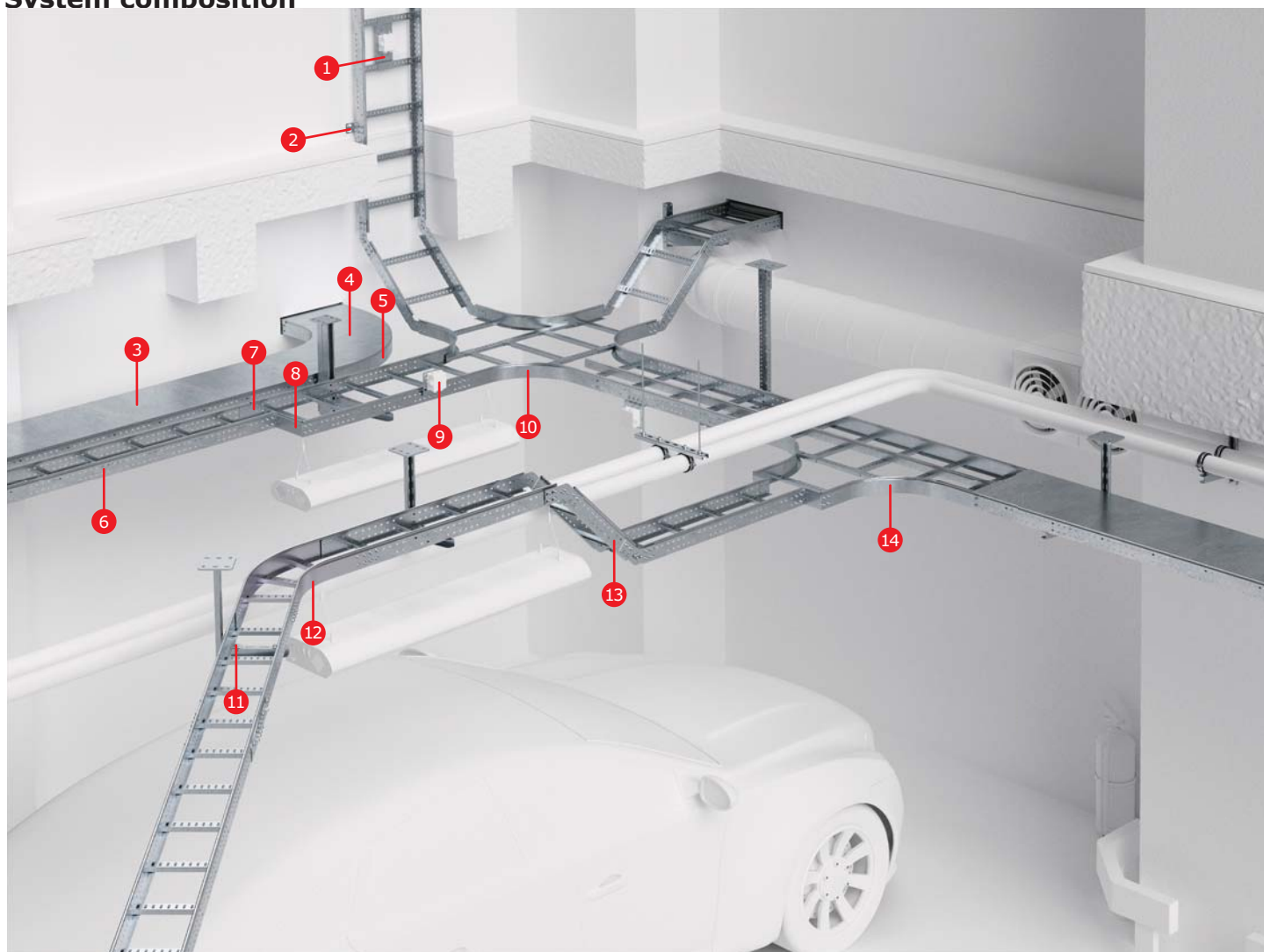
Professional choice

"L5 Combitech" system has certificates of conformity with operating conditions at the facilities of PAO Gazprom and has no restrictions as to operation at Transneft, JSC. It confirms that ladders conform to all the high requirements specified by the leading companies of Russian industry.

Resistance to sea water corrosion

The cable ladder system has been approved by the Russian Maritime Register of Shipping. This makes it possible to operate it at facilities located offshore and at coastal areas.

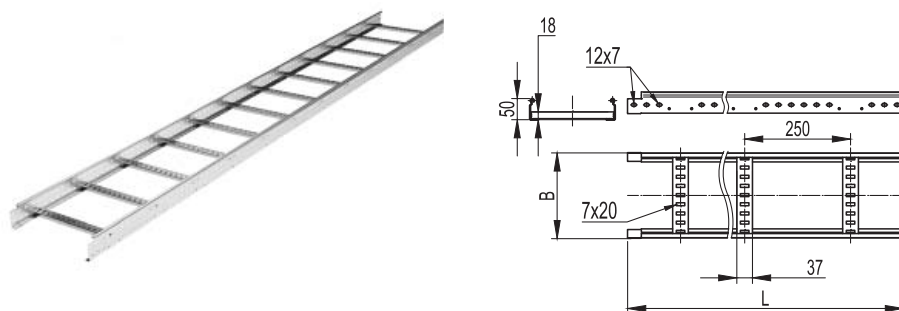
System composition



- | | |
|-----------------------------|---------------------------|
| 1 Horizontal mounting plate | 8 Lightweight reducer |
| 2 Wall attachment | 9 Vertical mounting plate |
| 3 Straight element cover | 10 R300 X-tapper |
| 4 Accessory cover | 11 Ladder clamp |
| 5 R300/R600 90° bend | 12 R300/R600 45° bend |
| 6 Straight element | 13 Vertical hinged angle |
| 7 Reinforced connector | 14 R300 T-tapper |

Straight elements

Cable ladder with a height of 50 mm



Purpose:

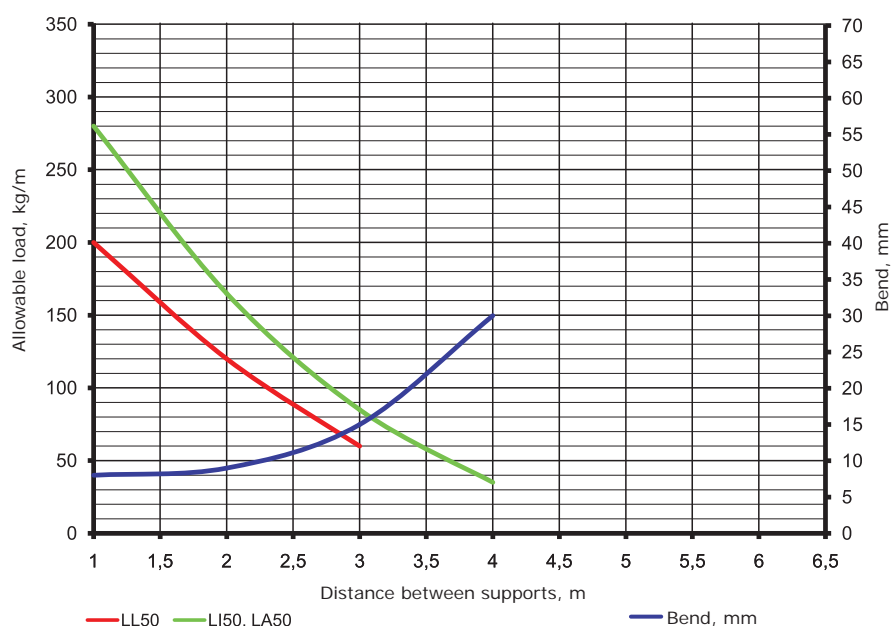
- cabling on straight sections.

Characteristics:

- cross beam thickness is 1.0 mm.

Height, mm	Length L, mm	Width B, mm	Side rail thickness, mm	TUA, mm ²	Weight, vers. 1, kg/m	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50 "Standard"	3000	200	1.2	6400	2.1	LL5020	LL5020HDZ	LL5020INOX	LL5020ZL
		300	1.2	9600	2.3	LL5030	LL5030HDZ	LL5030INOX	LL5030ZL
		400	1.2	12800	2.5	LL5040	LL5040HDZ	LL5040INOX	LL5040ZL
		500	1.2	16000	2.73	LL5050	LL5050HDZ	LL5050INOX	LL5050ZL
		600	1.2	19200	2.89	LL5060	LL5060HDZ	LL5060INOX	LL5060ZL
50 "Plus"	3000	200	1.5	6400	2.57	LI5020	LI5020HDZ	-	LI5020ZL
		300	1.5	9600	2.77	LI5030	LI5030HDZ	-	LI5030ZL
		400	1.5	12800	2.97	LI5040	LI5040HDZ	-	LI5040ZL
		500	1.5	16000	3.21	LI5050	LI5050HDZ	-	LI5050ZL
		600	1.5	19200	3.37	LI5060	LI5060HDZ	-	LI5060ZL
	6000	200	1.5	6400	2.57	LA5020	LA5020HDZ	-	LA5020ZL
		300	1.5	9600	2.77	LA5030	LA5030HDZ	-	LA5030ZL
		400	1.5	12800	2.97	LA5040	LA5040HDZ	-	LA5040ZL
		500	1.5	16000	3.21	LA5050	LA5050HDZ	-	LA5050ZL
		600	1.5	19200	3.37	LA5060	LA5060HDZ	-	LA5060ZL

Load curves for trays with a height of 50 m

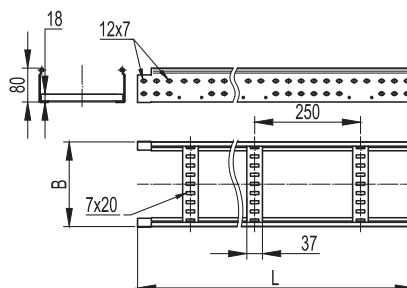


Conditions of tray

safe operating load tests:

- for versions 1, 2 and 4;
- testing according to GOST 52868, cl. 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-002-73438690-2008;
- mating of straight sections on spans of up to 2 m by means of "male-female" connection;
- mating of straight sections on spans of 2–4 m by means of GTO L internal connector;
- mating of straight sections on spans of 4 m and more by means of GTO LI external connector;
- longitudinal bend is not more than 1/100 of the span length;
- lateral bend is not more than 1/20 of the ladder width;
- safety factor is at least 1.7 of the claimed load.

Cable ladder with a height of 80 mm

**Purpose:**

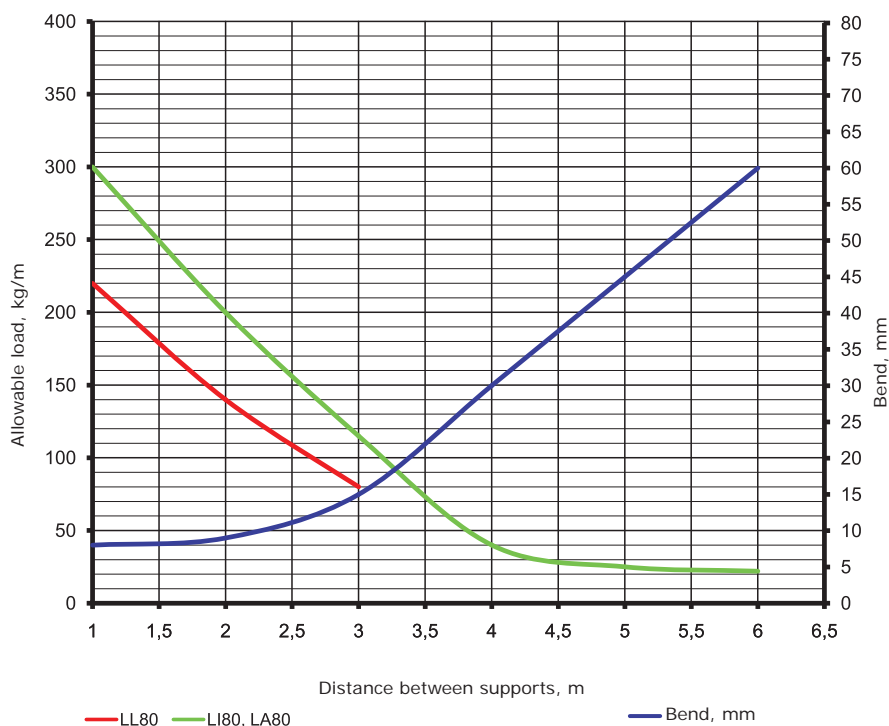
- cabling on straight sections.

Characteristics:

- cross beam thickness is 1.0 mm.

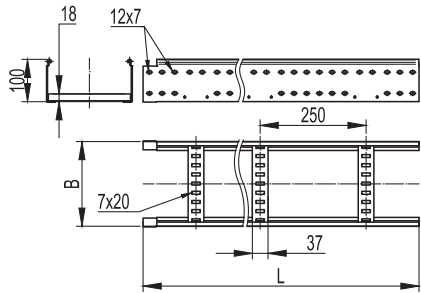
Height, mm	Length L, mm	Width B, mm	Side rail thickness, mm	TUA, mm ²	Weight, vers. 1, kg/m	Code, version 1	Code, version 2	Code, version 3	Code, version 4
80 "Standard"	3000	200	1.2	12400	2.62	LL8020	LL8020HDZ	LL8020INOX	LL8020ZL
		300	1.2	18600	2.82	LL8030	LL8030HDZ	LL8030INOX	LL8030ZL
		400	1.2	24800	3.02	LL8040	LL8040HDZ	LL8040INOX	LL8040ZL
		500	1.2	31000	3.25	LL8050	LL8050HDZ	LL8050INOX	LL8050ZL
		600	1.2	37200	3.41	LL8060	LL8060HDZ	LL8060INOX	LL8060ZL
80 "Plus"	3000	200	1.5	12400	3.05	LI8020	LI8020HDZ	–	LI8020ZL
		300	1.5	18600	3.25	LI8030	LI8030HDZ	–	LI8030ZL
		400	1.5	24800	3.45	LI8040	LI8040HDZ	–	LI8040ZL
		500	1.5	31000	3.69	LI8050	LI8050HDZ	–	LI8050ZL
		600	1.5	37200	3.85	LI8060	LI8060HDZ	–	LI8060ZL
	6000	200	1.5	12400	3.05	LA8020	LA8020HDZ	–	LA8020ZL
		300	1.5	18600	3.25	LA8030	LA8030HDZ	–	LA8030ZL
		400	1.5	24800	3.45	LA8040	LA8040HDZ	–	LA8040ZL
		500	1.5	31000	3.69	LA8050	LA8050HDZ	–	LA8050ZL
		600	1.5	37200	3.85	LA8060	LA8060HDZ	–	LA8060ZL

Load curves for trays with a height of 80 mm

**Conditions of tray****safe operating load tests:**

- for versions 1, 2 and 4;
- testing according to GOST 52868, cl. 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-002-73438690-2008;
- mating of straight sections on spans of up to 2 m by means of "male-female" connection;
- mating of straight sections on spans of 2–4 m by means of GTO L internal connector;
- mating of straight sections on spans of 4 m and more by means of GTO LI external connector;
- longitudinal bend is not more than 1/100 of the span length;
- lateral bend is not more than 1/20 of the ladder width;
- safety factor is at least 1.7 of the claimed load.

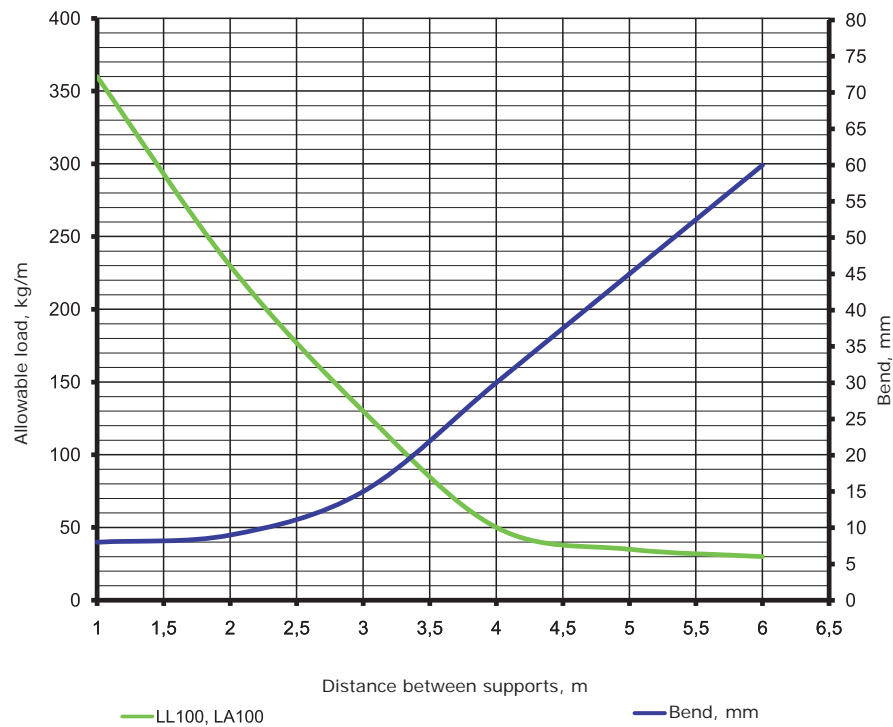
Cable ladder with a height of 100 mm



- Purpose:**
- cabling on straight sections.
- Characteristics:**
- cross beam thickness is 1.0 mm.

Height, mm	Length L, mm	Width B, mm	Side rail thickness, mm	TUA, mm ²	Weight, vers. 1, kg/m	Code, version 1	Code, version 2	Code, version 3	Code, version 4
100 "Standard"	3000	200	1.5	16400	3.47	LL1020	LL1020HDZ	LL1020INOX	LL1020ZL
		300	1.5	24600	3.67	LL1030	LL1030HDZ	LL1030INOX	LL1030ZL
		400	1.5	32800	3.87	LL1040	LL1040HDZ	LL1040INOX	LL1040ZL
		500	1.5	41000	4.11	LL1050	LL1050HDZ	LL1050INOX	LL1050ZL
		600	1.5	49200	4.27	LL1060	LL1060HDZ	LL1060INOX	LL1060ZL
100 "Standard"	6000	200	1.5	16400	3.47	LA1020	LA1020HDZ	–	LA1020ZL
		300	1.5	24600	3.67	LA1030	LA1030HDZ	–	LA1030ZL
		400	1.5	32800	3.87	LA1040	LA1040HDZ	–	LA1040ZL
		500	1.5	41000	4.11	LA1050	LA1050HDZ	–	LA1050ZL
		600	1.5	49200	4.27	LA1060	LA1060HDZ	–	LA1060ZL

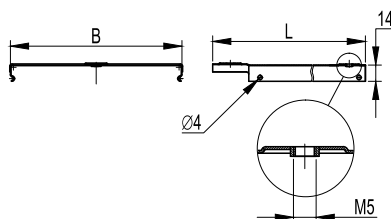
Load curves for trays with a height of 100 mm



- Conditions of tray safe operating load tests:**
- for versions 1, 2 and 4;
 - testing according to GOST 52868, cl. 10.3.3;
 - distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-002-73438690-2008;
 - mating of straight sections on spans of up to 2 m by means of "male-female" connection;
 - mating of straight sections on spans of 2–4 m by means of GTO L internal connector;
 - mating of straight sections on spans of 4 m and more by means of GTO LI external connector;
 - longitudinal bend is not more than 1/100 of the span length;
 - lateral bend is not more than 1/20 of the ladder width;
 - safety factor is at least 1.7 of the claimed load.

Mounting accessories

Cover for a straight element



Purpose:

- cable protection against external effects.

Distinctive features:

- installed by latching on C-profile of side rail.

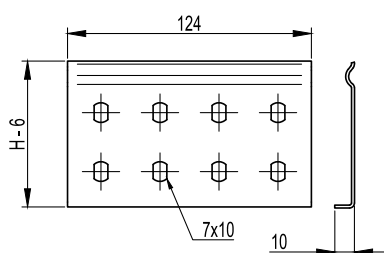
Length L, mm	Width B, mm	Thickness, vers. 1, mm	Weight, vers. 1, kg/m	Code, version 1	Code, version 2	Code, version 3	Code, version 4
3000	200	0.6	1.11	35524	35524HDZ	35524INOX	35524ZL
	300	0.6	1.58	35525	35525HDZ	35525INOX	35525ZL
	400	0.6	2.05	35526	35526HDZ	35526INOX	35526ZL
	500	0.7	2.52	35527	35527HDZ	35527INOX	35527ZL
	600	0.7	2.98	35528	35528HDZ	35528INOX	35528ZL

Special thickness version of covers

Length L, mm	Width B, mm	Thickness is 1.0 mm		Thickness is 1.2 mm		Thickness is 1.5 mm	
		Weight, kg/m	Code	Weight, kg/m	Code	Weight, kg/m	Code
3000	200	1.83	3552410	2.19	3552412	2.74	3552415
	300	2.61	3552510	3.13	3552512	3.91	3552515
	400	3.4	3552610	4.07	3552612	5.09	3552615
	500	4.18	3552710	5.02	3552712	6.27	3552715
	600	4.97	3552810	5.96	3552812	7.45	3552815

It is possible to manufacture customized covers with thickness of 1.0, 1.2, and 1.5 mm, in versions 1, 2, 4, and 5

GTO L reinforced connector



Purpose:

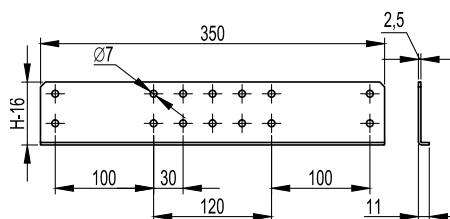
- connection of straight elements with accessories;
- connection of single-type "male" or "female" endings;
- connection of elements at points of cut;
- connections of straight elements on heavy loaded route sections.

Characteristics:

- steel thickness is 1.5 mm.

Height H, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.071	LG5000	LG5000HDZL	LG5000INOX	LG5000HDZL
80	0.112	LG8000	LG8000HDZL	LG8000INOX	LG8000HDZL
100	0.144	LG1000	LG1000HDZL	LG1000INOX	LG1000HDZL

GTO L external connector

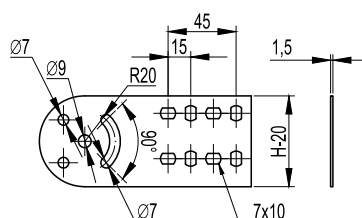


Purpose:

- connection of straight elements on large spans;
- connection of straight elements on heavy loaded sections;

Height H, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.268	LG5200	LG5200HDZL	-	LG5200HDZL
80	0.461	LG8200	LG8200HDZL	-	LG8200HDZL
100	0.600	LG1200	LG1200HDZL	-	LG1200HDZL

GSV hinged connector

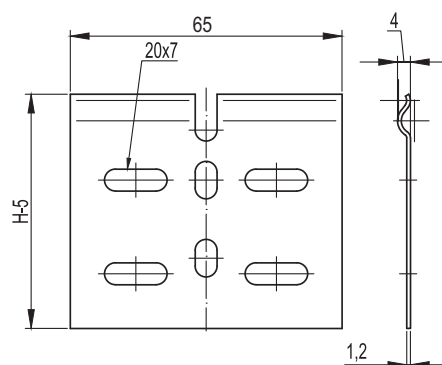


Purpose:

- vertical route inclination at a random angle.

Height H, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.230	30013	30013HDZL	30013INOX	30013HDZL
80	0.250	30014	30014HDZL	30014INOX	30014HDZL
100	0.300	30015	30015HDZL	30015INOX	30015HDZL

Adjustable horizontal connector, internal

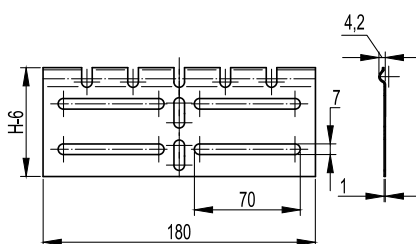


Purpose:

- route bend in horizontal plane.

Height H, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.021	LP0050	LP0050HDZL	LP0050INOX	LP0050HDZL
80	0.037	LP0080	LP0080HDZL	LP0080INOX	LP0080HDZL
100	0.043	LP0100	LP0100HDZL	LP0100INOX	LP0100HDZL

Adjustable horizontal connector, external

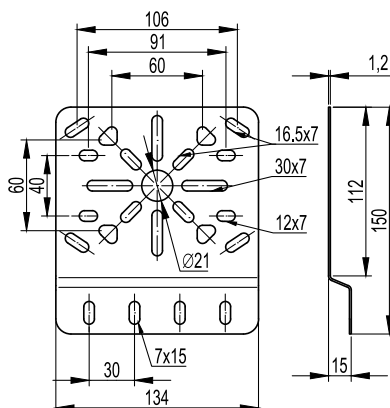


Purpose:

- route bend in horizontal plane.

Height H, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	0.051	LP0051	LP0051HDZL	LP0051INOX	LP0051HDZL
80	0.113	LP0081	LP0081HDZL	LP0081INOX	LP0081HDZL
100	0.139	LP0101	LP0101HDZL	LP0101INOX	LP0101HDZL

Vertical mounting plate

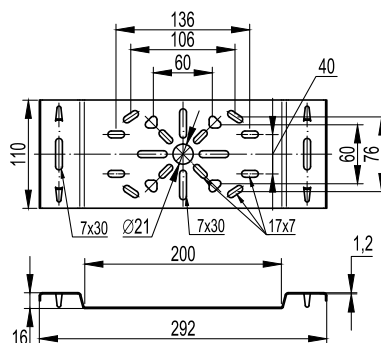
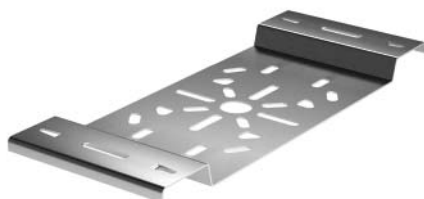


Purpose:

- installation of junction boxes to side rails.

Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 3
0.176	LP3000	LP3000HDZL	LP3000INOX	LP3000HDZL

Horizontal mounting plate

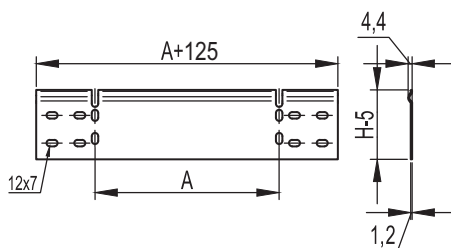


Purpose:

- installation of junction boxes to cross beams.

Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
0.312	LP4000	LP4000HDZL	LP4000INOX	LP4000HDZL

Lightweight reducer

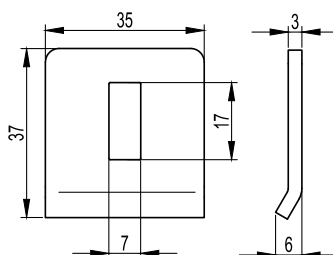
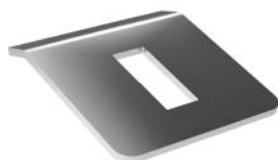


Purpose:

- connection of ladders different in width;

Height H, mm	Transfer width A, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	100	0.100	LR5100	LR5100HDZL	LR5100INOX	LR5100HDZL
	200	0.158	LR5200	LR5200HDZL	LR5200INOX	LR5200HDZL
	300	0.212	LR5300	LR5300HDZL	LR5300INOX	LR5300HDZL
	400	0.260	LR5400	LR5400HDZL	LR5400INOX	LR5400HDZL
80	100	0.157	LR8100	LR8100HDZL	LR8100INOX	LR8100HDZL
	200	0.245	LR8200	LR8200HDZL	LR8200INOX	LR8200HDZL
	300	0.331	LR8300	LR8300HDZL	LR8300INOX	LR8300HDZL
	400	0.417	LR8400	LR8400HDZL	LR8400INOX	LR8400HDZL
100	100	0.202	LR1100	LR1100HDZL	LR1100INOX	LR1100HDZL
	200	0.308	LR1200	LR1200HDZL	LR1200INOX	LR1200HDZL
	300	0.393	LR1300	LR1300HDZL	LR1300INOX	LR1300HDZL
	400	0.522	LR1400	LR1400HDZL	LR1400INOX	LR1400HDZL

Ladder clamp

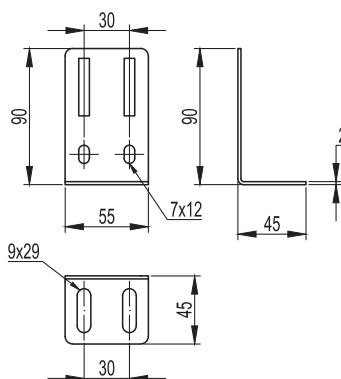


Purpose:

- attachment of cable ladders to brackets and suspenders.

Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
0.028	LP1000	LP1000HDZL	LP1000INOX	LP1000HDZL

Wall fastener (bracket)



Purpose:

- ladder vertical installation;
- ladder floor installation.

Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
0.096	LP5000	LP5000HDZL	LP5000INOX	LP5000HDZL

SEP partition wall



Partition wall with height of 30 mm



Partition wall with height of 50-80 mm

Purpose:

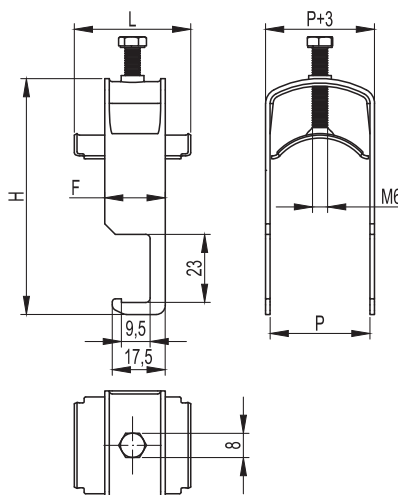
- separation of cables within a tray.

Distinctive features:

- partition wall height shall be one size smaller for installation together with cover.

Height H, mm	Length L, mm	Weight, vers. 1, kg/m	Code, version 1	Code, version 2	Code, version 3	Code, version 4
30	1500	0.380	36460	36460HDZ	36460INOX	36460ZL
50	3000	0.480	36480	36480HDZ	36480INOX	36480ZL
80	3000	0.680	36500	36500HDZ	36500INOX	36500ZL

BHL cable holder

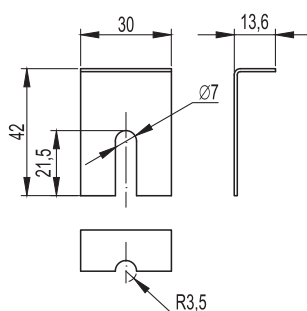


Purpose:

- attachment of cables to ladder cross beams.

Cable diameter, mm	Steel thickness, mm	Clamp length F, mm	Height H, mm	Width P, mm	Weight, kg	Code, version 1
8-14	1.5	20	49	16	0.029	BHL0814
14-20	1.5	20	54	22	0.037	BHL1420
20-26	1.5	20	60	28	0.042	BHL2026
26-32	1.5	20	66	34	0.047	BHL2632
32-38	1.5	20	77	40	0.057	BHL3238
38-44	1.5	20	83	46	0.063	BHL3844
44-50	2.5	25	89	52	0.114	BHL4450
50-56	2.5	25	95	58	0.125	BHL5056
56-63	2.5	25	100	64	0.138	BHL5662
62-68	2.5	25	107	70	0.152	BHL6268
68-74	2.5	25	113	76	0.164	BHL6874

Cover holder

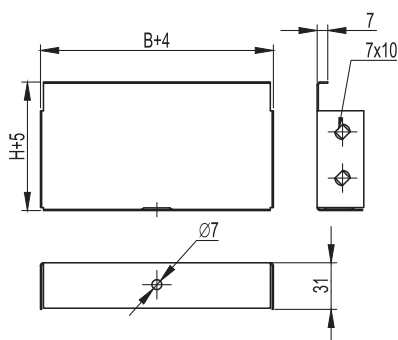


Purpose:

- additional attachment of ladder cover in case of open-air installation under high wind loads.

Height H, mm	Weight, version 1, kg/pce	Code, version 3	Code, version 4
50-80-100	0.15	38500INOX	38500ZL

TC solid plug



Purpose:

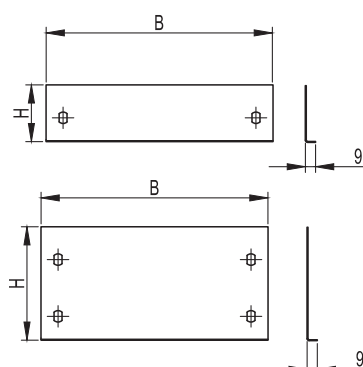
- installed into the ladder edge at the route ending points.

Characteristics:

- thickness is 1 mm.

Height H, mm	Width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 2
80	200	0.22	37264	37264HDZL	37264INOX	37264HDZL
	300	0.3	37265	37265HDZL	37265INOX	37265HDZL
	400	0.4	37266	37266HDZL	37266INOX	37266HDZL
	500	0.5	37267	37267HDZL	37267INOX	37267HDZL
	600	0.6	37269	37269HDZL	37269INOX	37269HDZL

TC assembled plug



Purpose:

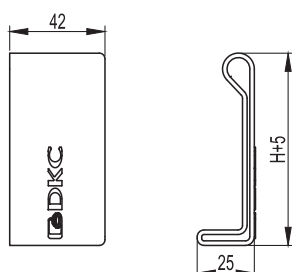
- installed into the ladder edge at the route ending points.

Characteristics:

- thickness is 1 mm.

Height H, mm	Width B, mm	Code, version 1	Code, version 2	Code, version 4
100	200	30267	30267HDZL	30267HDZL
	300	30268	30268HDZL	30268HDZL
	400	30269	30269HDZL	30269HDZL
	500	30270	30270HDZL	30270HDZL
	600	37270	37270HDZL	37270HDZL

End plugs



Purpose:

- marking of route ending;
- personnel protection.

Characteristics:

- material: polyethylene;
- color: red RAL 3020.

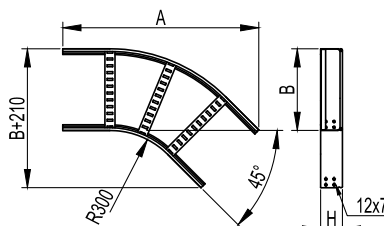
Scope of supply:

- two plugs – left and right.

Height H, mm	Weight, kg/kit	Code
50	0.007	LS5000
80	0.010	LS8000
100	0.012	LS1000

System accessories

R300 45° horizontal angle

**Purpose:**

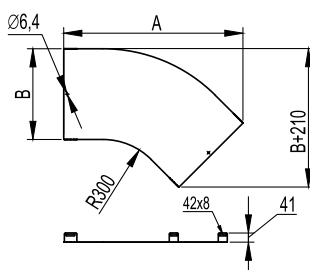
- 45° route bend in horizontal plane;

Characteristics:

- side rail thickness is 1.2 mm;
- cross beam thickness is 1.0 mm.

Height H, mm	Base width B, mm	Device total length A, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	200	650	1.4	LC0532	LC0532HDZ	LC0532INOX	LC0532ZL
	300	720	1.7	LC0533	LC0533HDZ	LC0533INOX	LC0533ZL
	400	790	1.9	LC0534	LC0534HDZ	LC0534INOX	LC0534ZL
	500	860	2.4	LC0535	LC0535HDZ	LC0535INOX	LC0535ZL
	600	930	2.6	LC0536	LC0536HDZ	LC0536INOX	LC0536ZL
80	200	650	1.8	LC0832	LC0832HDZ	LC0832INOX	LC0832ZL
	300	720	2.0	LC0833	LC0833HDZ	LC0833INOX	LC0833ZL
	400	790	2.3	LC0834	LC0834HDZ	LC0834INOX	LC0834ZL
	500	860	2.8	LC0835	LC0835HDZ	LC0835INOX	LC0835ZL
	600	930	3.1	LC0836	LC0836HDZ	LC0836INOX	LC0836ZL
100	200	650	2.0	LC0132	LC0132HDZ	LC0132INOX	LC0132ZL
	300	720	2.3	LC0133	LC0133HDZ	LC0133INOX	LC0133ZL
	400	790	2.5	LC0134	LC0134HDZ	LC0134INOX	LC0134ZL
	500	860	3.1	LC0135	LC0135HDZ	LC0135INOX	LC0135ZL
	600	930	3.4	LC0136	LC0136HDZ	LC0136INOX	LC0136ZL

Cover for R300 45° horizontal angle

**Purpose:**

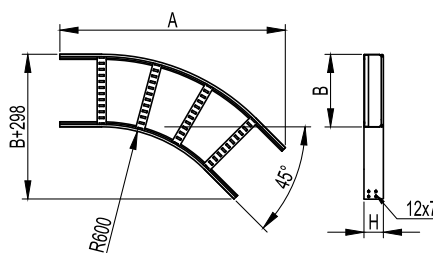
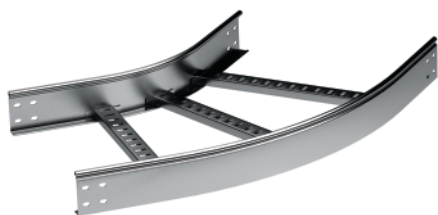
- additional protection of cable against external effects.

Characteristics:

- steel thickness is 1.0 mm.

Base width B, mm	Device total length A, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
200	650	0.8	LK0230	LK0230HDZ	LK0230INOX	LK0230ZL
300	720	1.3	LK0330	LK0330HDZ	LK0330INOX	LK0330ZL
400	790	1.9	LK0430	LK0430HDZ	LK0430INOX	LK0430ZL
500	860	2.5	LK0530	LK0530HDZ	LK0530INOX	LK0530ZL
600	930	3.1	LK0630	LK0630HDZ	LK0630INOX	LK0630ZL

R600 45° horizontal angle


Purpose:

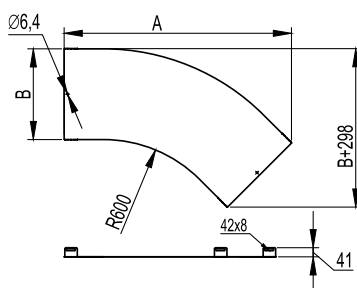
- 45° route bend in horizontal plane;
- parallel installation of cable routes.

Characteristics:

- side rail thickness is 1.2 mm;
- cross beam thickness is 1.0 mm.

Height H, mm	Base width B, mm	Device total length A, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	200	862	1.9	LC0562	LC0562HDZ	LC0562INOX	LC0562ZL
	300	932	2.2	LC0563	LC0563HDZ	LC0563INOX	LC0563ZL
	400	1002	2.5	LC0564	LC0564HDZ	LC0564INOX	LC0564ZL
	500	1073	3.0	LC0565	LC0565HDZ	LC0565INOX	LC0565ZL
	600	1143	3.4	LC0566	LC0566HDZ	LC0566INOX	LC0566ZL
80	200	862	2.4	LC0862	LC0862HDZ	LC0862INOX	LC0862ZL
	300	932	2.7	LC0863	LC0863HDZ	LC0863INOX	LC0863ZL
	400	1002	3.0	LC0864	LC0864HDZ	LC0864INOX	LC0864ZL
	500	1073	3.6	LC0865	LC0865HDZ	LC0865INOX	LC0865ZL
	600	1143	3.9	LC0866	LC0866HDZ	LC0866INOX	LC0866ZL
100	200	862	2.7	LC0162	LC0162HDZ	LC0162INOX	LC0162ZL
	300	932	3.0	LC0163	LC0163HDZ	LC0163INOX	LC0163ZL
	400	1002	3.3	LC0164	LC0164HDZ	LC0164INOX	LC0164ZL
	500	1073	4.0	LC0165	LC0165HDZ	LC0165INOX	LC0165ZL
	600	1143	4.3	LC0166	LC0166HDZ	LC0166INOX	LC0166ZL

Cover for R600 45° horizontal angle


Purpose:

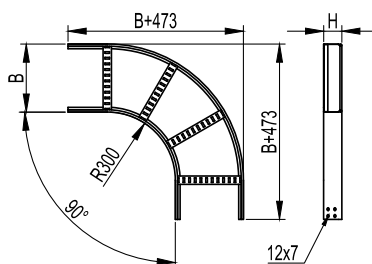
- additional protection of cable against external effects.

Characteristics:

- steel thickness is 1.0 mm.

Base width B, mm	Device total length A, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
200	862	1.2	LK0260	LK0260HDZ	LK0260INOX	LK0260ZL
300	932	1.9	LK0360	LK0360HDZ	LK0360INOX	LK0360ZL
400	1002	2.6	LK0460	LK0460HDZ	LK0460INOX	LK0460ZL
500	1073	3.4	LK0560	LK0560HDZ	LK0560INOX	LK0560ZL
600	1143	4.3	LK0660	LK0660HDZ	LK0660INOX	LK0660ZL

R300 90° horizontal angle


Purpose:

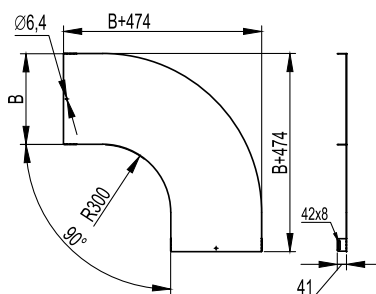
- 90° route bend in horizontal plane.

Characteristics:

- side rail thickness is 1.2 mm;
- cross beam thickness is 1.0 mm.

Height H, mm	Base width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	200	2.1	LC5320	LC5320HDZ	LC5320INOX	LC5320ZL
	300	2.4	LC5330	LC5330HDZ	LC5330INOX	LC5330ZL
	400	3.0	LC5340	LC5340HDZ	LC5340INOX	LC5340ZL
	500	3.3	LC5350	LC5350HDZ	LC5350INOX	LC5350ZL
	600	4.0	LC5360	LC5360HDZ	LC5360INOX	LC5360ZL
80	200	2.6	LC8320	LC8320HDZ	LC8320INOX	LC8320ZL
	300	2.9	LC8330	LC8330HDZ	LC8330INOX	LC8330ZL
	400	3.6	LC8340	LC8340HDZ	LC8340INOX	LC8340ZL
	500	4.0	LC8350	LC8350HDZ	LC8350INOX	LC8350ZL
	600	4.7	LC8360	LC8360HDZ	LC8360INOX	LC8360ZL
100	200	2.9	LC1320	LC1320HDZ	LC1320INOX	LC1320ZL
	300	3.4	LC1330	LC1330HDZ	LC1330INOX	LC1330ZL
	400	3.9	LC1340	LC1340HDZ	LC1340INOX	LC1340ZL
	500	4.4	LC1350	LC1350HDZ	LC1350INOX	LC1350ZL
	600	4.4	LC1360	LC1360HDZ	LC1360INOX	LC1360ZL

Cover for R300 90° horizontal angle


Purpose:

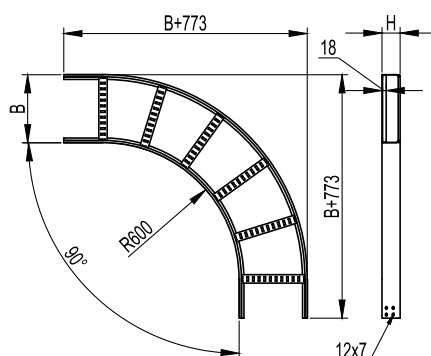
- additional protection of cable against external effects.

Characteristics:

- steel thickness is 1.0 mm.

Base width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
200	1.6	LK0023	LK0023HDZ	LK0023INOX	LK0023ZL
300	2.6	LK0033	LK0033HDZ	LK0033INOX	LK0033ZL
400	3.7	LK0043	LK0043HDZ	LK0043INOX	LK0043ZL
500	4.9	LK0053	LK0053HDZ	LK0053INOX	LK0053ZL
600	6.2	LK0063	LK0063HDZ	LK0063INOX	LK0063ZL

R600 90° horizontal angle



Purpose:

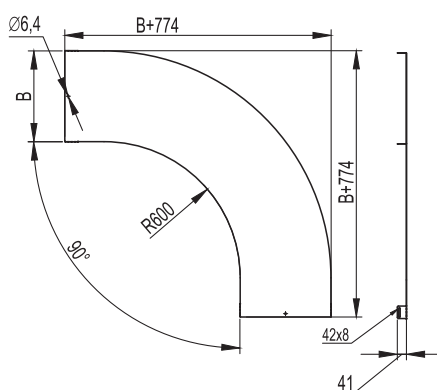
- 90° route bend in horizontal plane;
- cable laying with special requirements to minimum bend radius;
- parallel installation of cable routes.

Characteristics:

- side rail thickness is 1.2 mm;
- cross beam thickness is 1.0 mm.

Height H, mm	Base width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	200	2.8	LC5620	LC5620HDZ	LC5620INOX	LC5620ZL
	300	3.2	LC5630	LC5630HDZ	LC5630INOX	LC5630ZL
	400	3.7	LC5640	LC5640HDZ	LC5640INOX	LC5640ZL
	500	4.1	LC5650	LC5650HDZ	LC5650INOX	LC5650ZL
	600	4.8	LC5660	LC5660HDZ	LC5660INOX	LC5660ZL
80	200	3.5	LC8620	LC8620HDZ	LC8620INOX	LC8620ZL
	300	3.9	LC8630	LC8630HDZ	LC8630INOX	LC8630ZL
	400	4.5	LC8640	LC8640HDZ	LC8640INOX	LC8640ZL
	500	5.0	LC8650	LC8650HDZ	LC8650INOX	LC8650ZL
	600	5.3	LC8660	LC8660HDZ	LC8660INOX	LC8660ZL
100	200	4.1	LC1620	LC1620HDZ	LC1620INOX	LC1620ZL
	300	4.5	LC1630	LC1630HDZ	LC1630INOX	LC1630ZL
	400	5.1	LC1640	LC1640HDZ	LC1640INOX	LC1640ZL
	500	5.6	LC1650	LC1650HDZ	LC1650INOX	LC1650ZL
	600	6.4	LC1660	LC1660HDZ	LC1660INOX	LC1660ZL

Cover for R600 90° horizontal angle



Purpose:

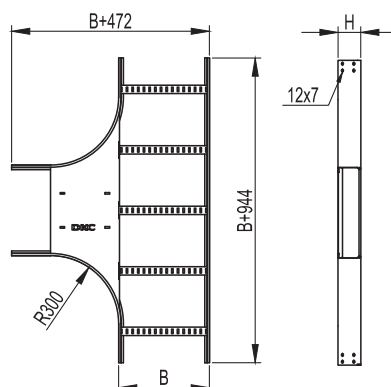
- additional protection of cable against environmental exposure.

Characteristics:

- steel thickness is 1.0 mm.

Base width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
200	2.4	LK0026	LK0026HDZ	LK0026INOX	LK0026ZL
300	3.7	LK0036	LK0036HDZ	LK0036INOX	LK0036ZL
400	5.2	LK0046	LK0046HDZ	LK0046INOX	LK0046ZL
500	6.7	LK0056	LK0056HDZ	LK0056INOX	LK0056ZL
600	8.5	LK0066	LK0066HDZ	LK0066INOX	LK0066ZL

R300 T-tapper


Purpose:

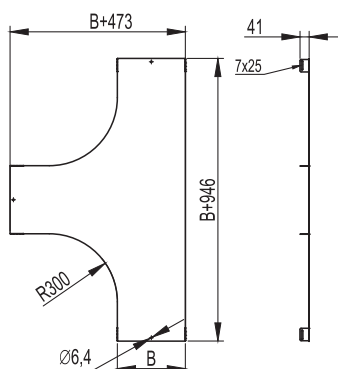
- installation of route branches in horizontal plane;
- on request R600.

Characteristics:

- side rail thickness is 1.2 mm;
- cross beam thickness is 1.0 mm.

Height H, mm	Base width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	200	3.9	LT5302	LT5302HDZ	LT5302INOX	LT5302ZL
	300	4.5	LT5303	LT5303HDZ	LT5303INOX	LT5303ZL
	400	5.6	LT5304	LT5304HDZ	LT5304INOX	LT5304ZL
	500	6.3	LT5305	LT5305HDZ	LT5305INOX	LT5305ZL
	600	6.9	LT5306	LT5306HDZ	LT5306INOX	LT5306ZL
80	200	4.7	LT8302	LT8302HDZ	LT8302INOX	LT8302ZL
	300	5.3	LT8303	LT8303HDZ	LT8303INOX	LT8303ZL
	400	6.4	LT8304	LT8304HDZ	LT8304INOX	LT8304ZL
	500	7.1	LT8305	LT8305HDZ	LT8305INOX	LT8305ZL
	600	7.8	LT8306	LT8306HDZ	LT8306INOX	LT8306ZL
100	200	5.2	LT1302	LT1302HDZ	LT1302INOX	LT1302ZL
	300	5.9	LT1303	LT1303HDZ	LT1303INOX	LT1303ZL
	400	6.9	LT1304	LT1304HDZ	LT1304INOX	LT1304ZL
	500	7.6	LT1305	LT1305HDZ	LT1305INOX	LT1305ZL
	600	8.3	LT1306	LT1306HDZ	LT1306INOX	LT1306ZL

Cover for R300 T-tapper


Purpose:

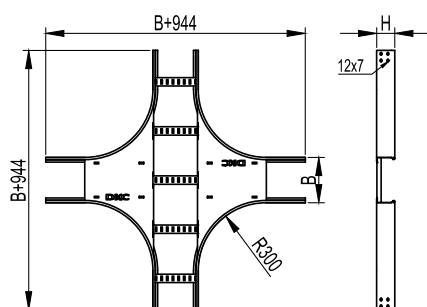
- additional protection of cable against environmental exposure.

Characteristics:

- steel thickness is 1.0 mm.

Base width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
200	3.00	LK0203	LK0203HDZ	LK0203INOX	LK0203ZL
300	4.50	LK0303	LK0303HDZ	LK0303INOX	LK0303ZL
400	6.30	LK0403	LK0403HDZ	LK0403INOX	LK0403ZL
500	7.60	LK0503	LK0503HDZ	LK0503INOX	LK0503ZL
600	8.90	LK0603	LK0603HDZ	LK0603INOX	LK0603ZL

R300 X-tapper



Purpose:

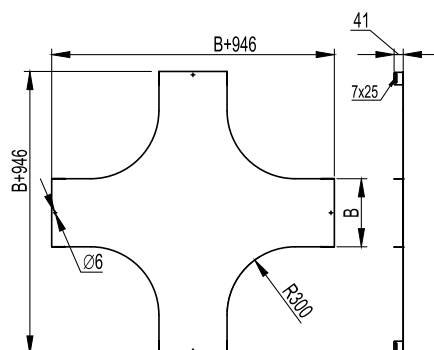
- installation of route crossing points in horizontal plane;
- on request R600.

Characteristics:

- side rail thickness is 1.2 mm;
- cross beam thickness is 1.0 mm.

Height H, mm	Base width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	200	5.5	LX5302	LX5302HDZ	LX5302INOX	LX5302ZL
	300	6.3	LX5303	LX5303HDZ	LX5303INOX	LX5303ZL
	400	7.6	LX5304	LX5304HDZ	LX5304INOX	LX5304ZL
	500	8.5	LX5305	LX5305HDZ	LX5305INOX	LX5305ZL
	600	9.4	LX5306	LX5306HDZ	LX5306INOX	LX5306ZL
80	200	6.3	LX8302	LX8302HDZ	LX8302INOX	LX8302ZL
	300	7.1	LX8303	LX8303HDZ	LX8303INOX	LX8303ZL
	400	8.5	LX8304	LX8304HDZ	LX8304INOX	LX8304ZL
	500	9.4	LX8305	LX8305HDZ	LX8305INOX	LX8305ZL
	600	10.3	LX8306	LX8306HDZ	LX8306INOX	LX8306ZL
100	200	6.9	LX1302	LX1302HDZ	LX1302INOX	LX1302ZL
	300	7.7	LX1303	LX1303HDZ	LX1303INOX	LX1303ZL
	400	9.1	LX1304	LX1304HDZ	LX1304INOX	LX1304ZL
	500	10.0	LX1305	LX1305HDZ	LX1305INOX	LX1305ZL
	600	10.9	LX1306	LX1306HDZ	LX1306INOX	LX1306ZL

Cover for R300 X-tapper



Purpose:

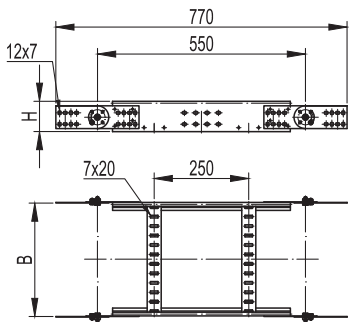
- additional protection of cable against environmental exposure.

Characteristics:

- steel thickness is 1.0 mm.

Base width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
200	4.10	LK2003	LK2003HDZ	LK2003INOX	LK2003ZL
300	6.00	LK3003	LK3003HDZ	LK3003INOX	LK3003ZL
400	8.10	LK4003	LK4003HDZ	LK4003INOX	LK4003ZL
500	10.30	LK5003	LK5003HDZ	LK5003INOX	LK5003ZL
600	16.10	LK6003	LK6003HDZ	LK6003INOX	LK6003ZL

Vertical hinged angle



- Purpose:**
- installation of route lifting and lowering points;
 - route inclination at a random angle;
 - transfer to another laying plane.
- Distinctive features:**
- several sections are installed in succession to increase bend radius.
- Characteristics:**
- side rail thickness is 1.2 mm;
 - cross beam thickness is 1.0 mm.

Height H, mm	Base width B, mm	Weight, vers. 1, kg/pce	Code, version 1	Code, version 2	Code, version 3	Code, version 4
50	200	2.9	LE5002	LE5002HDZ	LE5002INOX	LE5002ZL
	300	3.0	LE5003	LE5003HDZ	LE5003INOX	LE5003ZL
	400	3.1	LE5004	LE5004HDZ	LE5004INOX	LE5004ZL
	500	3.2	LE5005	LE5005HDZ	LE5005INOX	LE5005ZL
	600	3.3	LE5006	LE5006HDZ	LE5006INOX	LE5006ZL
80	200	3.4	LE8002	LE8002HDZ	LE8002INOX	LE8002ZL
	300	3.5	LE8003	LE8003HDZ	LE8003INOX	LE8003ZL
	400	3.6	LE8004	LE8004HDZ	LE8004INOX	LE8004ZL
	500	3.7	LE8005	LE8005HDZ	LE8005INOX	LE8005ZL
	600	3.8	LE8006	LE8006HDZ	LE8006INOX	LE8006ZL
100	200	4.0	LE1002	LE1002HDZ	LE1002INOX	LE1002ZL
	300	4.1	LE1003	LE1003HDZ	LE1003INOX	LE1003ZL
	400	4.2	LE1004	LE1004HDZ	LE1004INOX	LE1004ZL
	500	4.3	LE1005	LE1005HDZ	LE1005INOX	LE1005ZL
	600	4.4	LE1006	LE1006HDZ	LE1006INOX	LE1006ZL

Compatibility table

Mounting accessories

Versions:

- version 1 is steel galvanized by the Sendzimir method;
- version 2 includes hot dip galvanizing;
- version 3 is stainless steel of AISI 304 grade;
- version 4 includes zinc lamellar coating.



Element height, mm	Version	Lightweight reducer, transfer width, mm			
		100	200	300	400
50	version 1	LR5100	LR5200	LR5300	LR5400
	version 2	LR5100HDZL	LR5200HDZL	LR5300HDZL	LR5400HDZL
	version 3	LR5100INOX	LR5200INOX	LR5300INOX	LR5400INOX
	version 4	LR5100HDZL	LR5200HDZL	LR5300HDZL	LR5400HDZL
80	version 1	LR8100	LR8200	LR8300	LR8400
	version 2	LR8100HDZL	LR8200HDZL	LR8300HDZL	LR8400HDZL
	version 3	LR8100INOX	LR8200INOX	LR8300INOX	LR8400INOX
	version 4	LR8100HDZL	LR8200HDZL	LR8300HDZL	LR8400HDZL
100	version 1	LR1100	LR1200	LR1300	LR1400
	version 2	LR1100HDZL	LR1200HDZL	LR1300HDZL	LR1400HDZL
	version 3	LR1100INOX	LR1200INOX	LR1300INOX	LR1400INOX
	version 4	LR1100HDZL	LR1200HDZL	LR1300HDZL	LR1400HDZL



Element height, mm	Version	Adjustable horizontal connector, internal	Adjustable horizontal connector, external	Reinforced horizontal connector, GTO L	GTO LI external connector	GSV hinged ladder connector
50	version 1	LP0050	LP0051	LG5000	LG5200	30013
	version 2	LP0050HDZL	LP0051HDZL	LG5000HDZL	LG5200HDZL	30013HDZL
	version 3	LP0050INOX	LP0051INOX	LG5000INOX	–	30013INOX
	version 4	LP0050HDZL	LP0051HDZL	LG5000HDZL	LG5200HDZL	30013HDZL
80	version 1	LP0080	LP0081	LG8000	LG8200	30014
	version 2	LP0080HDZL	LP0081HDZL	LG8000HDZL	LG8200HDZL	30014HDZL
	version 3	LP0080INOX	LP0081INOX	LG8000INOX	–	30014INOX
	version 4	LP0080HDZL	LP0081HDZL	LG8000HDZL	LG8200HDZL	30014HDZL
100	version 1	LP0100	LP0101	LG1000	LG1200	30015
	version 2	LP0100HDZL	LP0101HDZL	LG1000HDZL	LG1200HDZL	30015HDZL
	version 3	LP0100INOX	LP0101INOX	LG1000INOX	–	30015INOX
	version 4	LP0100HDZL	LP0101HDZL	LG1000HDZL	LG1200HDZL	30015HDZL



Element height, mm	Version	SEP partition wall, 3000 mm	Ladder wall fastener (bracket)	Cable ladder clamp	Vertical mounting plate	Horizontal mounting plate	Plastic end plugs RAL 3020
50	version 1	36460	LP5000	LP1000	LP3000	LP4000	LS5000
	version 2	36460HDZ	LP5000HDZL	–	LP3000HDZL	LP4000HDZL	–
	version 3	36460INOX	LP5000INOX	LP1000INOX	LP3000INOX	LP4000INOX	–
	version 4	36460ZL	LP5000HDZL	LP1000HDZL	LP3000HDZL	LP4000HDZL	–
80	version 1	36480	LP5000	LP1000	LP3000	LP4000	LS8000
	version 2	36480HDZ	LP5000HDZL	–	LP3000HDZL	LP4000HDZL	–
	version 3	36480INOX	LP5000INOX	LP1000INOX	LP3000INOX	LP4000INOX	–
	version 4	36480ZL	LP5000HDZL	LP1000HDZL	LP3000HDZL	LP4000HDZL	–
100	version 1	36500	LP5000	LP1000	LP3000	LP4000	LS1000
	version 2	36500HDZ	LP5000HDZL	–	LP3000HDZL	LP4000HDZL	–
	version 3	36500INOX	LP5000INOX	LP1000INOX	LP3000INOX	LP4000INOX	–
	version 4	36500ZL	LP5000HDZL	LP1000HDZL	LP3000HDZL	LP4000HDZL	–

System accessories with a height of 50 mm

Versions:

- version 1 is steel galvanized by the Sendzimir method;
- version 2 includes hot dip galvanizing;
- version 3 is stainless steel of AISI 304 grade;
- version 4 includes zinc lamellar coating.



Height, mm	Width, mm	Version	Straight element, 3000 mm, "Standard"	Straight element, 3000 mm, "Plus"	Straight element, 6000 mm
50	200	version 1	LL5020	LI5020	LA5020
		version 2	LL5020HDZ	LI5020HDZ	LA5020HDZ
		version 3	LL5020INOX	–	–
		version 4	LL5020ZL	LI5020ZL	LA5020ZL
	300	version 1	LL5030	LI5030	LA5030
		version 2	LL5030HDZ	LI5030HDZ	LA5030HDZ
		version 3	LL5030INOX	–	–
		version 4	LL5030ZL	LI5030ZL	LA5030ZL
	400	version 1	LL5040	LI5040	LA5040
		version 2	LL5040HDZ	LI5040HDZ	LA5040HDZ
		version 3	LL5040INOX	–	–
		version 4	LL5040ZL	LI5040ZL	LA5040ZL
	500	version 1	LL5050	LI5050	LA5050
		version 2	LL5050HDZ	LI5050HDZ	LA5050HDZ
		version 3	LL5050INOX	–	–
		version 4	LL5050ZL	LI5050ZL	LA5050ZL
	600	version 1	LL5060	LI5060	LA5060
		version 2	LL5060HDZ	LI5060HDZ	LA5060HDZ
		version 3	LL5060INOX	–	–
		version 4	LL5060ZL	LI5060ZL	LA5060ZL



Height, mm	Width, mm	Version	45° angle R300	45° angle R600	90° angle R300	90° angle R600	T-tapper	X-tapper	Vertical hinged angle
50	200	version 1	LC0532	LC0562	LC5320	LC5620	LT5302	LX5302	LE5002
		version 2	LC0532HDZ	LC0562HDZ	LC5320HDZ	LC5620HDZ	LT5302HDZ	LX5302HDZ	LE5002HDZ
		version 3	LC0532INOX	LC0562INOX	LC5320INOX	LC5620INOX	LT5302INOX	LX5302INOX	LE5002INOX
		version 4	LC0532ZL	LC0562ZL	LC5320ZL	LC5620ZL	LT5302ZL	LX5302ZL	LE5002ZL
	300	version 1	LC0533	LC0563	LC5330	LC5630	LT5303	LX5303	LE5003
		version 2	LC0533HDZ	LC0563HDZ	LC5330HDZ	LC5630HDZ	LT5303HDZ	LX5303HDZ	LE5003HDZ
		version 3	LC0533INOX	LC0563INOX	LC5330INOX	LC5630INOX	LT5303INOX	LX5303INOX	LE5003INOX
		version 4	LC0532ZL	LC0562ZL	LC5320ZL	LC5620ZL	LT5302ZL	LX5302ZL	LE5002ZL
	400	version 1	LC0534	LC0564	LC5340	LC5640	LT5304	LX5304	LE5004
		version 2	LC0534HDZ	LC0564HDZ	LC5340HDZ	LC5640HDZ	LT5304HDZ	LX5304HDZ	LE5004HDZ
		version 3	LC0534INOX	LC0564INOX	LC5340INOX	LC5640INOX	LT5304INOX	LX5304INOX	LE5004INOX
		version 4	LC0532ZL	LC0562ZL	LC5320ZL	LC5620ZL	LT5302ZL	LX5302ZL	LE5002ZL
	500	version 1	LC0535	LC0565	LC5350	LC5650	LT5305	LX5305	LE5005
		version 2	LC0535HDZ	LC0565HDZ	LC5350HDZ	LC5650HDZ	LT5305HDZ	LX5305HDZ	LE5005HDZ
		version 3	LC0535INOX	LC0565INOX	LC5350INOX	LC5650INOX	LT5305INOX	LX5305INOX	LE5005INOX
		version 4	LC0532ZL	LC0562ZL	LC5320ZL	LC5620ZL	LT5302ZL	LX5302ZL	LE5002ZL
	600	version 1	LC0536	LC0566	LC5360	LC5660	LT5306	LX5306	LE5006
		version 2	LC0536HDZ	LC0566HDZ	LC5360HDZ	LC5660HDZ	LT5306HDZ	LX5306HDZ	LE5006HDZ
		version 3	LC0536INOX	LC0566INOX	LC5360INOX	LC5660INOX	LT5306INOX	LX5306INOX	LE5006INOX
		version 4	LC0536ZL	LC0566ZL	LC5360ZL	LC5660ZL	LT5306ZL	LX5306ZL	LE5006ZL

Covers


Width, mm	Version	Straight cover, 3000 mm
200	version 1	35524
	version 2	35524HDZ
	version 3	35524INOX
	version 4	35524ZL
300	version 1	35525
	version 2	35525HDZ
	version 3	35525INOX
	version 4	35525ZL
400	version 1	35526
	version 2	35526HDZ
	version 3	35526INOX
	version 4	35526ZL
500	version 1	35527
	version 2	35527HDZ
	version 3	35527INOX
	version 4	35527ZL
600	version 1	35528
	version 2	35528HDZ
	version 3	35528INOX
	version 4	35528ZL



Width, mm	Version	Cover for 45° angle R300	Cover for 45° angle R600	Cover for 90° angle R300	Cover for 90° angle R600	Cover for T-tapper	Cover for X-tapper	Cover on vertical hinged angle
200	version 1	LK0230	LK0260	LK0023	LK0026	LK0203	LK2003	–
	version 2	LK0230HDZ	LK0260HDZ	LK0023HDZ	LK0026HDZ	LK0203HDZ	LK2003HDZ	–
	version 3	LK0230INOX	LK0260INOX	LK0023INOX	LK0026INOX	LK0203INOX	LK2003INOX	–
	version 4	LK0230ZL	LK0260ZL	LK0260ZL	LK0260ZL	LK0203ZL	LK2003ZL	–
300	version 1	LK0330	LK0360	LK0033	LK0036	LK0303	LK3003	–
	version 2	LK0330HDZ	LK0360HDZ	LK0033HDZ	LK0036HDZ	LK0303HDZ	LK3003HDZ	–
	version 3	LK0330INOX	LK0360INOX	LK0033INOX	LK0036INOX	LK0303INOX	LK3003INOX	–
	version 4	LK0330ZL	LK0360ZL	LK0033ZL	LK0036ZL	LK0303ZL	LK3003ZL	–
400	version 1	LK0430	LK0460	LK0043	LK0046	LK0403	LK4003	–
	version 2	LK0430HDZ	LK0460HDZ	LK0043HDZ	LK0046HDZ	LK0403HDZ	LK4003HDZ	–
	version 3	LK0430INOX	LK0460INOX	LK0043INOX	LK0046INOX	LK0403INOX	LK4003INOX	–
	version 4	LK0430ZL	LK0460ZL	LK0043ZL	LK0046ZL	LK0403ZL	LK4003ZL	–
500	version 1	LK0530	LK0560	LK0053	LK0056	LK0503	LK5003	–
	version 2	LK0530HDZ	LK0560HDZ	LK0053HDZ	LK0056HDZ	LK0503HDZ	LK5003HDZ	–
	version 3	LK0530INOX	LK0560INOX	LK0053INOX	LK0056INOX	LK0503INOX	LK5003INOX	–
	version 4	LK0530ZL	LK0560ZL	LK0053ZL	LK0056ZL	LK0503ZL	LK5003ZL	–
600	version 1	LK0630	LK0660	LK0063	LK0066	LK0603	LK6003	–
	version 2	LK0630HDZ	LK0660HDZ	LK0063HDZ	LK0066HDZ	LK0603HDZ	LK6003HDZ	–
	version 3	LK0630INOX	LK0660INOX	LK0063INOX	LK0066INOX	LK0603INOX	LK6003INOX	–
	version 4	LK0630ZL	LK0660ZL	LK0063ZL	LK0066ZL	LK0603ZL	LK6003ZL	–

System accessories with a height of 80 mm

Versions:

- version 1 is steel galvanized by the Sendzimir method;
- version 2 includes hot dip galvanizing;
- version 3 is stainless steel of AISI 304 grade;
- version 4 includes zinc lamellar coating.



Height, mm	Width, mm	Version	Straight element, 3000 mm, "Standard"	Straight element, 3000 mm, "Plus"	Straight element, 6000 mm
80	200	version 1	LL8020	LI8020	LA8020
		version 2	LL8020HDZ	LI8020HDZ	LA8020HDZ
		version 3	LL8020INOX	–	–
		version 4	LL8020ZL	LI8020ZL	LA8020ZL
	300	version 1	LL8030	LI8030	LA8030
		version 2	LL8030HDZ	LI8030HDZ	LA8030HDZ
		version 3	LL8030INOX	–	–
		version 4	LL8030ZL	LI8030ZL	LA8030ZL
	400	version 1	LL8040	LI8040	LA8040
		version 2	LL8040HDZ	LI8040HDZ	LA8040HDZ
		version 3	LL8040INOX	–	–
		version 4	LL8040ZL	LI8040ZL	LA8040ZL
	500	version 1	LL8050	LI8050	LA8050
		version 2	LL8050HDZ	LI8050HDZ	LA8050HDZ
		version 3	LL8050INOX	–	–
		version 4	LL8050ZL	LI8050ZL	LA8050ZL
	600	version 1	LL8060	LI8060	LA8060
		version 2	LL8060HDZ	LI8060HDZ	LA8060HDZ
		version 3	LL8060INOX	–	–
		version 4	LL8060ZL	LI8060ZL	LA8060ZL



Height, mm	Width, mm	Version	45° angle R300	45° angle R600	90° angle R300	90° angle R600	T-tapper	X-tapper	Vertical hinged angle
80	200	version 1	LC0832	LC0862	LC8320	LC8620	LT8302	LX8302	LE8002
		version 2	LC0832HDZ	LC0862HDZ	LC8320HDZ	LC8620HDZ	LT8302HDZ	LX8302HDZ	LE8002HDZ
		version 3	LC0832INOX	LC0862INOX	LC8320INOX	LC8620INOX	LT8302INOX	LX8302INOX	LE8002INOX
		version 4	LC0832ZL	LC0862ZL	LC8320ZL	LC8620ZL	LT5302ZL	LX5302ZL	LE5002ZL
	300	version 1	LC0833	LC0863	LC8330	LC8630	LT8303	LX8303	LE8003
		version 2	LC0833HDZ	LC0863HDZ	LC8330HDZ	LC8630HDZ	LT8303HDZ	LX8303HDZ	LE8003HDZ
		version 3	LC0833INOX	LC0863INOX	LC8330INOX	LC8630INOX	LT8303INOX	LX8303INOX	LE8003INOX
		version 4	LC0832ZL	LC0862ZL	LC8320ZL	LC8620ZL	LT5302ZL	LX5302ZL	LE5002ZL
	400	version 1	LC0834	LC0864	LC8340	LC8640	LT8304	LX8304	LE8004
		version 2	LC0834HDZ	LC0864HDZ	LC8340HDZ	LC8640HDZ	LT8304HDZ	LX8304HDZ	LE8004HDZ
		version 3	LC0834INOX	LC0864INOX	LC8340INOX	LC8640INOX	LT8304INOX	LX8304INOX	LE8004INOX
		version 4	LC0832ZL	LC0862ZL	LC8320ZL	LC8620ZL	LT5302ZL	LX5302ZL	LE5002ZL
	500	version 1	LC0835	LC0865	LC8350	LC8650	LT8305	LX8305	LE8005
		version 2	LC0835HDZ	LC0865HDZ	LC8350HDZ	LC8650HDZ	LT8305HDZ	LX8305HDZ	LE8005HDZ
		version 3	LC0835INOX	LC0865INOX	LC8350INOX	LC8650INOX	LT8305INOX	LX8305INOX	LE8005INOX
		version 4	LC0832ZL	LC0862ZL	LC8320ZL	LC8620ZL	LT5302ZL	LX5302ZL	LE5002ZL
	600	version 1	LC0836	LC0866	LC8360	LC8660	LT8306	LX8306	LE8006
		version 2	LC0836HDZ	LC0866HDZ	LC8360HDZ	LC8660HDZ	LT8306HDZ	LX8306HDZ	LE8006HDZ
		version 3	LC0836INOX	LC0866INOX	LC8360INOX	LC8660INOX	LT8306INOX	LX8306INOX	LE8006INOX
		version 4	LC0836ZL	LC0866ZL	LC8360ZL	LC8660ZL	LT8306ZL	LX8306ZL	LE8006ZL

Covers


Width, mm	Version	Straight cover, 3000 mm
200	version 1	35524
	version 2	35524HDZ
	version 3	35524INOX
	version 4	35524ZL
300	version 1	35525
	version 2	35525HDZ
	version 3	35525INOX
	version 4	35525ZL
400	version 1	35526
	version 2	35526HDZ
	version 3	35526INOX
	version 4	35526ZL
500	version 1	35527
	version 2	35527HDZ
	version 3	35527INOX
	version 4	35527ZL
600	version 1	35528
	version 2	35528HDZ
	version 3	35528INOX
	version 4	35528ZL



Width, mm	Version	Cover for 45° angle R300	Cover for 45° angle R600	Cover for 90° angle R300	Cover for 90° angle R600	Cover for T-tapper	Cover for X-tapper	Cover On vertical hinged angle
200	version 1	LK0230	LK0260	LK0023	LK0026	LK0203	LK2003	–
	version 2	LK0230HDZ	LK0260HDZ	LK0023HDZ	LK0026HDZ	LK0203HDZ	LK2003HDZ	–
	version 3	LK0230INOX	LK0260INOX	LK0023INOX	LK0026INOX	LK0203INOX	LK2003INOX	–
	version 4	LK0230ZL	LK0260ZL	LK0260ZL	LK0260ZL	LK0203ZL	LK2003ZL	–
300	version 1	LK0330	LK0360	LK0033	LK0036	LK0303	LK3003	–
	version 2	LK0330HDZ	LK0360HDZ	LK0033HDZ	LK0036HDZ	LK0303HDZ	LK3003HDZ	–
	version 3	LK0330INOX	LK0360INOX	LK0033INOX	LK0036INOX	LK0303INOX	LK3003INOX	–
	version 4	LK0330ZL	LK0360ZL	LK0033ZL	LK0036ZL	LK0303ZL	LK3003ZL	–
400	version 1	LK0430	LK0460	LK0043	LK0046	LK0403	LK4003	–
	version 2	LK0430HDZ	LK0460HDZ	LK0043HDZ	LK0046HDZ	LK0403HDZ	LK4003HDZ	–
	version 3	LK0430INOX	LK0460INOX	LK0043INOX	LK0046INOX	LK0403INOX	LK4003INOX	–
	version 4	LK0430ZL	LK0460ZL	LK0043ZL	LK0046ZL	LK0403ZL	LK4003ZL	–
500	version 1	LK0530	LK0560	LK0053	LK0056	LK0503	LK5003	–
	version 2	LK0530HDZ	LK0560HDZ	LK0053HDZ	LK0056HDZ	LK0503HDZ	LK5003HDZ	–
	version 3	LK0530INOX	LK0560INOX	LK0053INOX	LK0056INOX	LK0503INOX	LK5003INOX	–
	version 4	LK0530ZL	LK0560ZL	LK0053ZL	LK0056ZL	LK0503ZL	LK5003ZL	–
600	version 1	LK0630	LK0660	LK0063	LK0066	LK0603	LK6003	–
	version 2	LK0630HDZ	LK0660HDZ	LK0063HDZ	LK0066HDZ	LK0603HDZ	LK6003HDZ	–
	version 3	LK0630INOX	LK0660INOX	LK0063INOX	LK0066INOX	LK0603INOX	LK6003INOX	–
	version 4	LK0630ZL	LK0660ZL	LK0063ZL	LK0066ZL	LK0603ZL	LK6003ZL	–

System accessories with a height of 100 mm

Versions:

version 1 is steel galvanized by the Sendzimir method;
version 2 includes hot dip galvanizing;
version 3 is stainless steel of AISI 304 grade;
version 4 includes zinc lamellar coating.



Height, mm	Width, mm	Version	Straight element, 3000 mm, "Standard"	Straight element, 6000 mm
100	200	version 1	LL1020	LA1020
		version 2	LL1020HDZ	LA1020HDZ
		version 3	LL1020INOX	-
		version 4	LL1020ZL	LA1020ZL
	300	version 1	LL1030	LA1030
		version 2	LL1030HDZ	LA1030HDZ
		version 3	LL1030INOX	-
		version 4	LL1030ZL	LA1030ZL
	400	version 1	LL1040	LA1040
		version 2	LL1040HDZ	LA1040HDZ
		version 3	LL1040INOX	-
		version 4	LL1040ZL	LA1040ZL
	500	version 1	LL1050	LA1050
		version 2	LL1050HDZ	LA1050HDZ
		version 3	LL1050INOX	-
		version 4	LL1050ZL	LA1050ZL
	600	version 1	LL1060	LA1060
		version 2	LL1060HDZ	LA1060HDZ
		version 3	LL1060INOX	-
		version 4	LL1060ZL	LA1060ZL



Height, mm	Width, mm	Version	45° angle R300	45° angle R600	90° angle R300	90° angle R600	T-tapper	X-tapper	Vertical hinged angle
100	200	version 1	LC0132	LC0162	LC1320	LC1620	LT1302	LX1302	LE1002
		version 2	LC0132HDZ	LC0162HDZ	LC1320HDZ	LC1620HDZ	LT1302HDZ	LX1302HDZ	LE1002HDZ
		version 3	LC0132INOX	LC0162INOX	LC1320INOX	LC1620INOX	LT1302INOX	LX1302INOX	LE1002INOX
		version 4	LC0132ZL	LC0162ZL	LC1320ZL	LC1620ZL	LT1302ZL	LX1302ZL	LE1002ZL
	300	version 1	LC0133	LC0163	LC1330	LC1630	LT1303	LX1303	LE1003
		version 2	LC0133HDZ	LC0163HDZ	LC1330HDZ	LC1630HDZ	LT1303HDZ	LX1303HDZ	LE1003HDZ
		version 3	LC0133INOX	LC0163INOX	LC1330INOX	LC1630INOX	LT1303INOX	LX1303INOX	LE1003INOX
		version 4	LC0132ZL	LC0162ZL	LC1320ZL	LC1620ZL	LT1302ZL	LX1302ZL	LE1002ZL
	400	version 1	LC0134	LC0164	LC1340	LC1640	LT1304	LX1304	LE1004
		version 2	LC0134HDZ	LC0164HDZ	LC1340HDZ	LC1640HDZ	LT1304HDZ	LX1304HDZ	LE1004HDZ
		version 3	LC0134INOX	LC0164INOX	LC1340INOX	LC1640INOX	LT1304INOX	LX1304INOX	LE1004INOX
		version 4	LC0132ZL	LC0162ZL	LC1320ZL	LC1620ZL	LT1302ZL	LX1302ZL	LE1002ZL
	500	version 1	LC0135	LC0165	LC1350	LC1650	LT1305	LX1305	LE1005
		version 2	LC0135HDZ	LC0165HDZ	LC1350HDZ	LC1650HDZ	LT1305HDZ	LX1305HDZ	LE1005HDZ
		version 3	LC0135INOX	LC0165INOX	LC1350INOX	LC1650INOX	LT1305INOX	LX1305INOX	LE1005INOX
		version 4	LC0132ZL	LC0162ZL	LC1320ZL	LC1620ZL	LT1302ZL	LX1302ZL	LE1002ZL
	600	version 1	LC0136	LC0166	LC1360	LC1660	LT1306	LX1306	LE1006
		version 2	LC0136HDZ	LC0166HDZ	LC1360HDZ	LC1660HDZ	LT1306HDZ	LX1306HDZ	LE1006HDZ
		version 3	LC0136INOX	LC0166INOX	LC1360INOX	LC1660INOX	LT1306INOX	LX1306INOX	LE1006INOX
		version 4	LC0132ZL	LC0162ZL	LC1320ZL	LC1620ZL	LT1302ZL	LX1302ZL	LE1002ZL

Covers

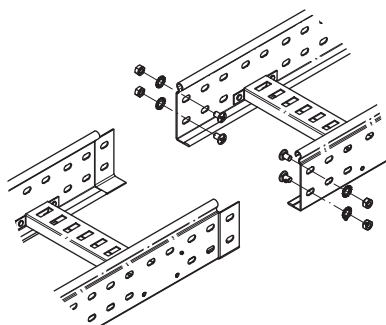

Width, mm	Version	Straight cover, 3000 mm
200	version 1	35524
	version 2	35524HDZ
	version 3	35524INOX
	version 4	35524ZL
300	version 1	35525
	version 2	35525HDZ
	version 3	35525INOX
	version 4	35525ZL
400	version 1	35526
	version 2	35526HDZ
	version 3	35526INOX
	version 4	35526ZL
500	version 1	35527
	version 2	35527HDZ
	version 3	35527INOX
	version 4	35527ZL
600	version 1	35528
	version 2	35528HDZ
	version 3	35528INOX
	version 4	35528ZL



Width, mm	Version	Cover for 45° angle R300	Cover for 45° angle R600	Cover for 90° angle R300	Cover for 90° angle R600	Cover for T-tapper	Cover for X-tapper	Cover on vertical hinged angle
200	version 1	LK0230	LK0260	LK0023	LK0026	LK0203	LK2003	–
	version 2	LK0230HDZ	LK0260HDZ	LK0023HDZ	LK0026HDZ	LK0203HDZ	LK2003HDZ	–
	version 3	LK0230INOX	LK0260INOX	LK0023INOX	LK0026INOX	LK0203INOX	LK2003INOX	–
	version 4	LK0230ZL	LK0260ZL	LK0260ZL	LK0260ZL	LK0203ZL	LK2003ZL	–
300	version 1	LK0330	LK0360	LK0033	LK0036	LK0303	LK3003	–
	version 2	LK0330HDZ	LK0360HDZ	LK0033HDZ	LK0036HDZ	LK0303HDZ	LK3003HDZ	–
	version 3	LK0330INOX	LK0360INOX	LK0033INOX	LK0036INOX	LK0303INOX	LK3003INOX	–
	version 4	LK0330ZL	LK0360ZL	LK0033ZL	LK0036ZL	LK0303ZL	LK3003ZL	–
400	version 1	LK0430	LK0460	LK0043	LK0046	LK0403	LK4003	–
	version 2	LK0430HDZ	LK0460HDZ	LK0043HDZ	LK0046HDZ	LK0403HDZ	LK4003HDZ	–
	version 3	LK0430INOX	LK0460INOX	LK0043INOX	LK0046INOX	LK0403INOX	LK4003INOX	–
	version 4	LK0430ZL	LK0460ZL	LK0043ZL	LK0046ZL	LK0403ZL	LK4003ZL	–
500	version 1	LK0530	LK0560	LK0053	LK0056	LK0503	LK5003	–
	version 2	LK0530HDZ	LK0560HDZ	LK0053HDZ	LK0056HDZ	LK0503HDZ	LK5003HDZ	–
	version 3	LK0530INOX	LK0560INOX	LK0053INOX	LK0056INOX	LK0503INOX	LK5003INOX	–
	version 4	LK0530ZL	LK0560ZL	LK0053ZL	LK0056ZL	LK0503ZL	LK5003ZL	–
600	version 1	LK0630	LK0660	LK0063	LK0066	LK0603	LK6003	–
	version 2	LK0630HDZ	LK0660HDZ	LK0063HDZ	LK0066HDZ	LK0603HDZ	LK6003HDZ	–
	version 3	LK0630INOX	LK0660INOX	LK0063INOX	LK0066INOX	LK0603INOX	LK6003INOX	–
	version 4	LK0630ZL	LK0660ZL	LK0063ZL	LK0066ZL	LK0603ZL	LK6003ZL	–

Scheme installation

"Male-female" connection

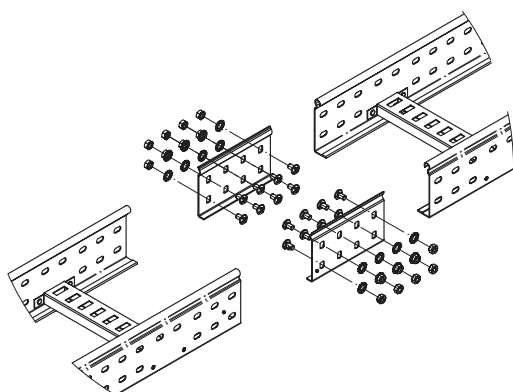

Description:

In case of ladder connection by means of "male-female" stamped tie-bars and strakes only fasteners are required.

Nuts are located on the outside of side rails.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50	M6x10 Phillips screw	2	CM010610
	M6 hexagon nut	2	CM110600
	M6 lock washer	2	CM220600
80	M6x10 Phillips screw	4	CM010610
	M6 hexagon nut	4	CM110600
	M6 lock washer	4	CM220600
100	M6x10 Phillips screw	4	CM010610
	M6 hexagon nut	4	CM110600
	M6 lock washer	4	CM220600

Connection of single-type endings and points of cut

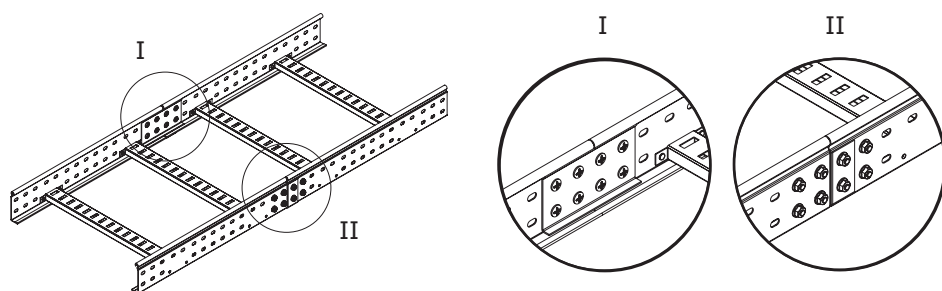

Description:

GTO L reinforced connectors are used for connection of single-type endings and points of cut. Connectors are installed on the inside of side rails.

Nuts are located on the outside of side rails.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50	M6x10 Phillips screw	8	CM010610
	M6 hexagon nut	8	CM110600
	M6 lock washer	8	CM220600
	horizontal reinforced connector, GTO L	2	LG5000
80	M6x10 Phillips screw	16	CM010610
	M6 hexagon nut	16	CM110600
	M6 lock washer	16	CM220600
	horizontal reinforced connector, GTO L	2	LG8000
100	M6x10 Phillips screw	16	CM010610
	M6 hexagon nut	16	CM110600
	M6 lock washer	16	CM220600
	horizontal reinforced connector, GTO L	2	LG1000

Reinforced connection

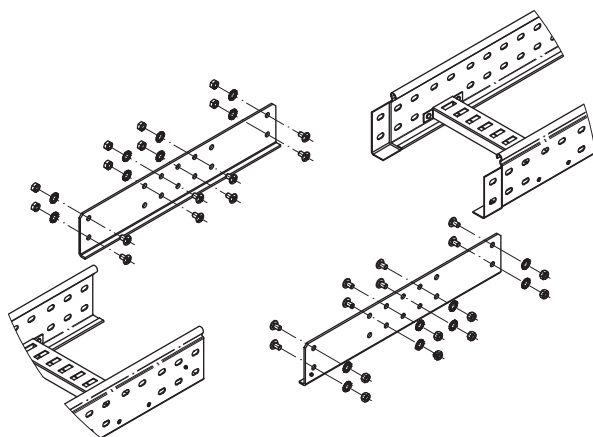


Description:

GTO L reinforced connectors are used for increase of load bearing capacity of route section. Connectors are installed on the inside of side rails additionally to "male-female" connector. Nuts are located on the outside of side rails.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50	M6x10 Phillips screw	8	CM010610
	M6 hexagon nut	8	CM110600
	M6 lock washer	8	CM220600
	horizontal reinforced connector, GTO L	2	LG5000
80	M6x10 Phillips screw	16	CM010610
	M6 hexagon nut	16	CM110600
	M6 lock washer	16	CM220600
	horizontal reinforced connector, GTO L	2	LG8000
100	M6x10 Phillips screw	16	CM010610
	M6 hexagon nut	16	CM110600
	M6 lock washer	16	CM220600
	horizontal reinforced connector, GTO L	2	LG1000

External connector

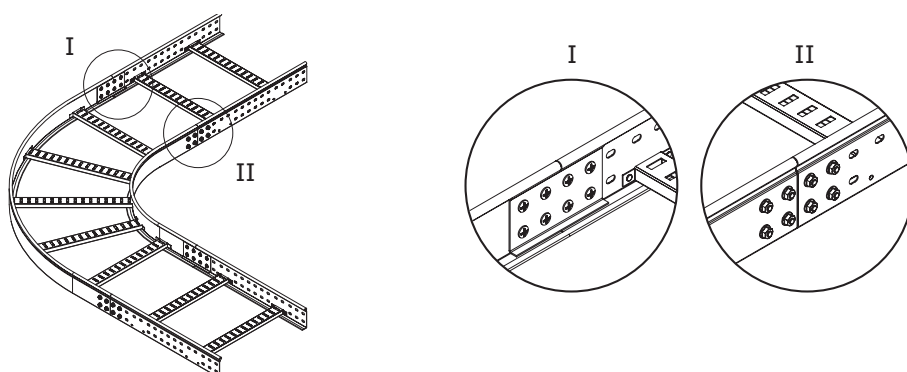


Description:

External connectors are used for connection of heavy loaded route sections on spans of more than four meters. GTO LI connectors are installed on the outside of cable ladder additionally to "male-female" connector. Nuts are located on the outside of side rails.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50	M6x10 Phillips screw	14	CM010610
	M6 hexagon nut	14	CM110600
	M6 lock washer	14	CM220600
	GTO 50 LI internal connector	2	LG5200
80	M6x10 Phillips screw	28	CM010610
	M6 hexagon nut	28	CM110600
	M6 lock washer	28	CM220600
	GTO 80 LI internal connector	2	LG8200
100	M6x10 Phillips screw	28	CM010610
	M6 hexagon nut	28	CM110600
	M6 lock washer	28	CM220600
	GTO 100 LI internal connector	2	LG1200

45° and 90° horizontal angle

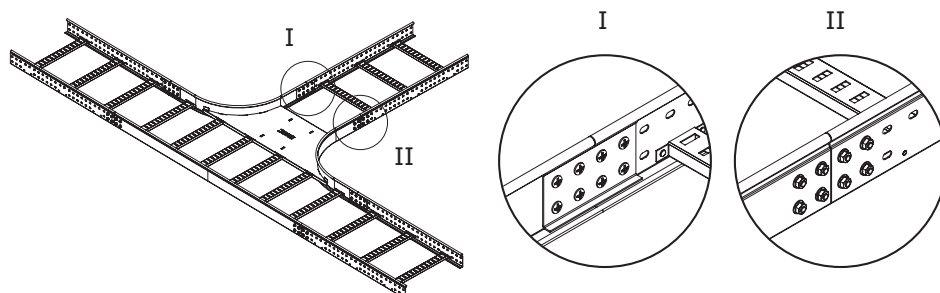


Description:

GTO L reinforced connectors are used for installation of horizontal angles. Connectors are installed on the inside of side rails. Nuts are located on the outside of side rails.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50	M6x10 Phillips screw	16	CM010610
	M6 hexagon nut	16	CM110600
	M6 lock washer	16	CM220600
	horizontal reinforced connector, GTO L	4	LG5000
80	M6x10 Phillips screw	32	CM010610
	M6 hexagon nut	32	CM110600
	M6 lock washer	32	CM220600
	horizontal reinforced connector, GTO L	4	LG8000
100	M6x10 Phillips screw	32	CM010610
	M6 hexagon nut	32	CM110600
	M6 lock washer	32	CM220600
	horizontal reinforced connector, GTO L	4	LG1000

T-tapper

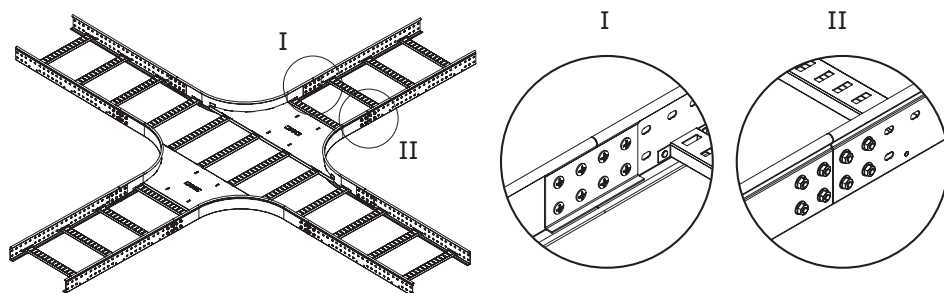


Description:

GTO L reinforced connectors are used for installation of T-tappers. Connectors are installed on the inside of ladder and accessory. Nuts are located on the outside of side rails.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50	M6x10 Phillips screw	24	CM010610
	M6 hexagon nut	24	CM110600
	M6 lock washer	24	CM220600
	horizontal reinforced connector, GTO L	6	LG5000
80	M6x10 Phillips screw	48	CM010610
	M6 hexagon nut	48	CM110600
	M6 lock washer	48	CM220600
	horizontal reinforced connector, GTO L	6	LG8000
100	M6x10 Phillips screw	48	CM010610
	M6 hexagon nut	48	CM110600
	M6 lock washer	48	CM220600
	horizontal reinforced connector, GTO L	6	LG1000

X-tapper

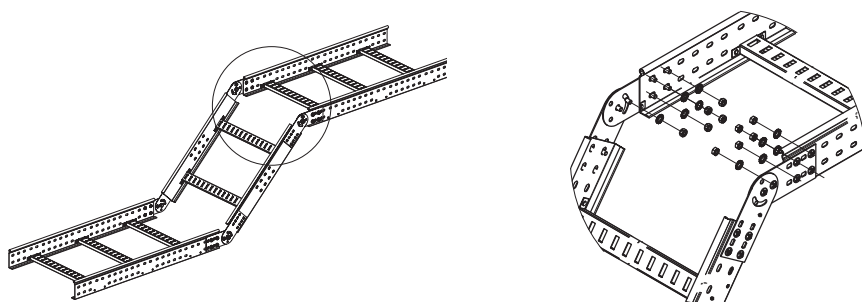


Description:

GTO L reinforced connectors are used for installation of X-tappers. Connectors are installed on the inside of ladder and accessory. Nuts are located on the outside of side rails.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50	M6x10 Phillips screw	32	CM010610
	M6 hexagon nut	32	CM110600
	M6 lock washer	32	CM220600
	horizontal reinforced connector, GTO L	8	LG5000
80	M6x10 Phillips screw	64	CM010610
	M6 hexagon nut	64	CM110600
	M6 lock washer	64	CM220600
	horizontal reinforced connector, GTO L	8	LG8000
100	M6x10 Phillips screw	64	CM010610
	M6 hexagon nut	64	CM110600
	M6 lock washer	64	CM220600
	horizontal reinforced connector, GTO L	8	LG1000

Vertical hinged angle

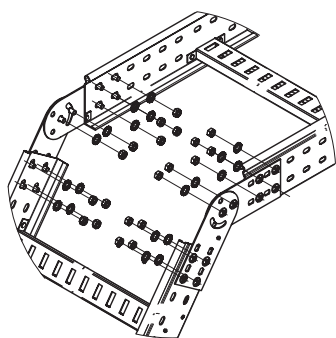


Description:

In case of hinged angles installation only fasteners are required. Nuts are located on the outside of side rails. Hinges after installation are attached at a required angle by means of screw and nut.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50	M6x10 Phillips screw	12	CM010610
	M6 hexagon nut	12	CM110600
	M6 lock washer	12	CM220600
80	M6x10 Phillips screw	20	CM010610
	M6 hexagon nut	20	CM110600
	M6 lock washer	20	CM220600
100	M6x10 Phillips screw	20	CM010610
	M6 hexagon nut	20	CM110600
	M6 lock washer	20	CM220600

Hinged connector

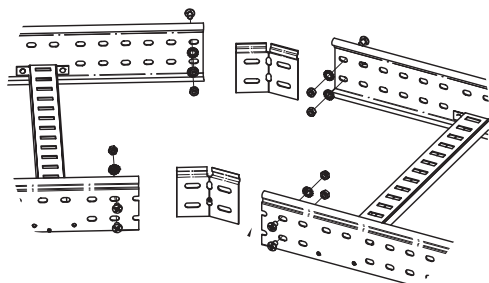


Description:

Hinged connectors are used for route inclination at a random angle. Connectors are installed on the outside of each side rail and are interconnected. Hinges after installation are attached at a required angle by means of screw and nut. Nuts are located on the outside of side rails.

Height, mm	Description of mounting element	Q-ty, pcs	Code of mounting element
50	M6x10 Phillips screw	12	CM010610
	M6 hexagon nut	12	CM110600
	M6 lock washer	12	CM220600
	GSV hinged ladder connector	4	30013
80	M6x10 Phillips screw	20	CM010610
	M6 hexagon nut	20	CM110600
	M6 lock washer	20	CM220600
	GSV hinged ladder connector	4	30014
100	M6x10 Phillips screw	20	CM010610
	M6 hexagon nut	20	CM110600
	M6 lock washer	20	CM220600
	GSV hinged ladder connector	4	30015

Horizontal route bend

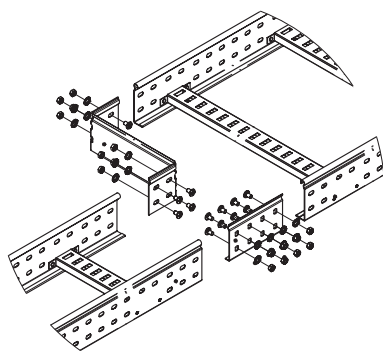


Description:

Adjustable horizontal connectors are used for route bend in horizontal plane. Connectors are installed on the inside of side rails. Nuts are located on the outside of side rails.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50	M6x10 Phillips screw	4	CM010610
	M6 hexagon nut	4	CM110600
	M6 lock washer	4	CM220600
	adjustable horizontal connector, internal	2	LP0050
80	M6x10 Phillips screw	8	CM010610
	M6 hexagon nut	8	CM110600
	M6 lock washer	8	CM220600
	adjustable horizontal connector, internal	2	LP0080
100	M6x10 Phillips screw	8	CM010610
	M6 hexagon nut	8	CM110600
	M6 lock washer	8	CM220600
	adjustable horizontal connector, internal	2	LP0100

Connection of trays different in width

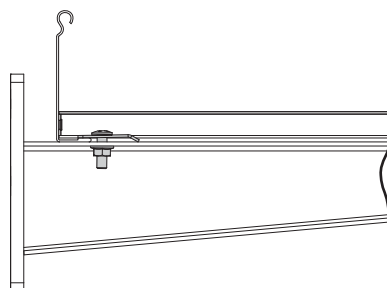
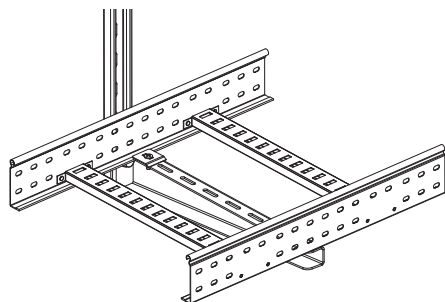


Description:

Lightweight reducers are used for connection of ladders of different width.
Reducers are supplied unbent and are bent prior to installation.
Reducer is installed on the inside of side rail.
GTO L reinforced connector with corresponding height is installed the opposite side rail.
Installation of reducers on both sides of the ladder is possible – double-sided reducer.
Nuts are located on the outside of side rails.

Height, mm	Description of mounting element	Q-ty, pcs	Code
50	M6x10 Phillips screw	4	CM010610
	M6 hexagon nut	4	CM110600
	M6 lock washer	4	CM220600
	GTO L reinforced connector	1	LG5000
80	M6x10 Phillips screw	8	CM010610
	M6 hexagon nut	8	CM110600
	M6 lock washer	8	CM220600
	GTO L reinforced connector	1	LG8000
100	M6x10 Phillips screw	8	CM010610
	M6 hexagon nut	8	CM110600
	M6 lock washer	8	CM220600
	GTO L reinforced connector	1	LG1000

Attachment to bracket

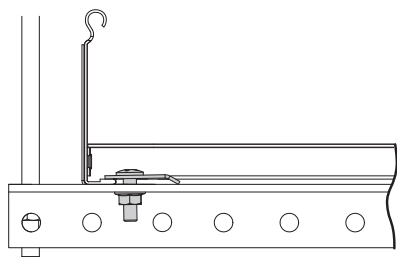
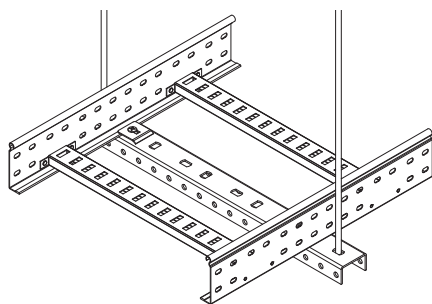


Description:

Ladders are attached to brackets by means of clamps.
Clamps are installed on bracket and fix the inner side of side rail.
Nuts are located in the bottom of brackets.

Description of mounting element	Q-ty, pcs	Code of mounting element
M6x20 smooth head screw	2	CM010620
Hexagon nut with serrate flange, M6	2	CM100600
Cable ladder clamp	2	LP1000

Attachment to profile

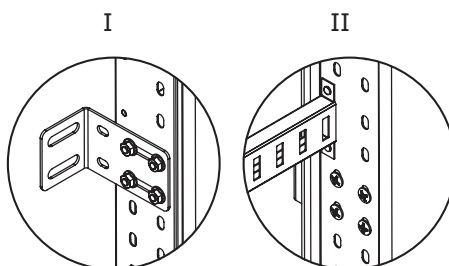
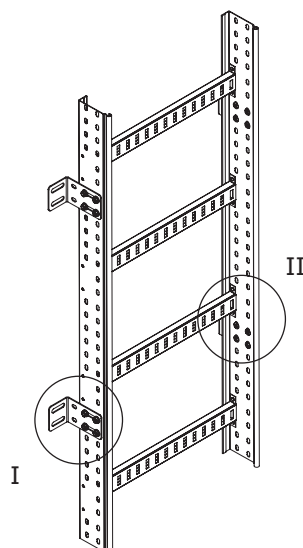


Description:

Ladders are attached to profiles by means of clamps.
Clamps are installed on profile and fix the inner side of side rail.
Nuts are located in the bottom of profiles.

Description of mounting element	Q-ty, pcs	Code
M6x20 smooth head screw	2	CM010620
Hexagon nut with serrate flange, M6	2	CM100600
Cable ladder clamp	2	LP1000

Vertical installation

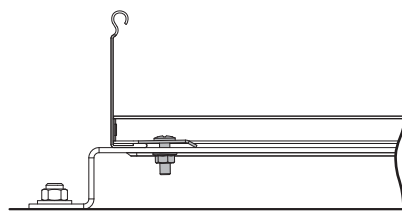
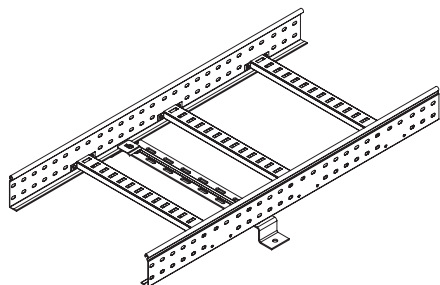


Description:

Vertical installation of cable ladders is performed by means of wall fasteners.
Fasteners are installed on the inside of side rails.
Distance between fasteners is 1 m maximum.
Anchors are used for attachment of fasteners to bearing surface.

Description of mounting element	Q-ty, pcs	Code
M6x10 Phillips screw	8	CM010610
Hexagon nut with serrate flange, M6	8	CM100600
Ladder wall fastener (bracket)	2	LP5000

Floor installation

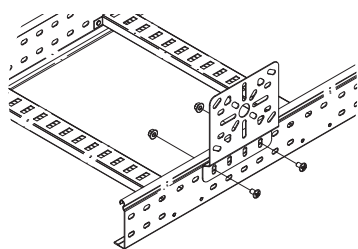


Description:

BMM-10 clamp for floor installation of cable ladders.
Ladders are attached to BMM-10 fastener by means of clamps.
Clamps are installed on fastener and fix the inner side of side rail.
Nuts are located in the bottom of fastener.

Description of mounting element	Q-ty, pcs	Code
M6x20 smooth head screw	2	CM010620
Hexagon nut with serrate flange, M6	2	CM100600
Cable ladder clamp	2	LP1000

Vertical mounting plate

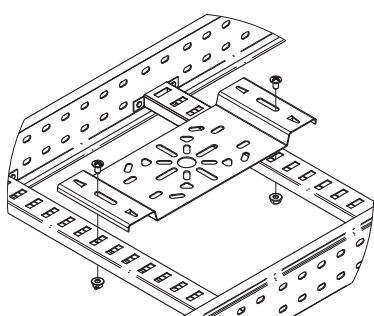


Description:

Installed on the outside of side rail.
Nuts are located on the outside of side rail.

Description of mounting element	Q-ty, pcs	Code
M6x10 Phillips screw	2	CM010610
Hexagon nut with serrate flange, M6	2	CM100600
Vertical mounting plate	1	LP3000

Horizontal mounting plate

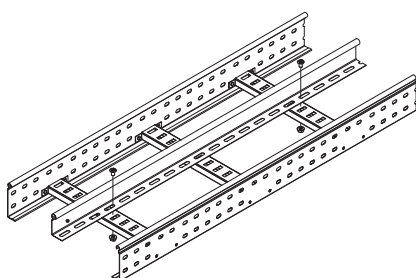


Description:

Installed on ladder cross beam.
Nuts are located in the bottom of cross beam.
Screwless attachment is possible by means of quick-lock fastening blades on the plate.

Description of mounting element	Q-ty, pcs	Code
M6x10 Phillips screw	2	CM010610
Hexagon nut with serrate flange, M6	2	CM100600
Horizontal mounting plate	1	LP4000

SEP partition wall



Description:

Installed on ladder cross beam.
Attachment pitch is 1–1.5 m
Nuts are located in the bottom of cross beam.
Partition wall height shall be one size smaller for installation together with cover.

Description of mounting element	Q-ty, pcs	Code
M6x10 Phillips screw	3	CM010610
Hexagon nut with serrate flange, M6	3	CM100600



Heavy-Duty cable ladder system "U5 Combitech"

Heavy-Duty cable ladder	556
Cable ladder system accessories	560
Heavy-Duty cable tray	565
Cable tray system accessories	573
Mounting accessories	581

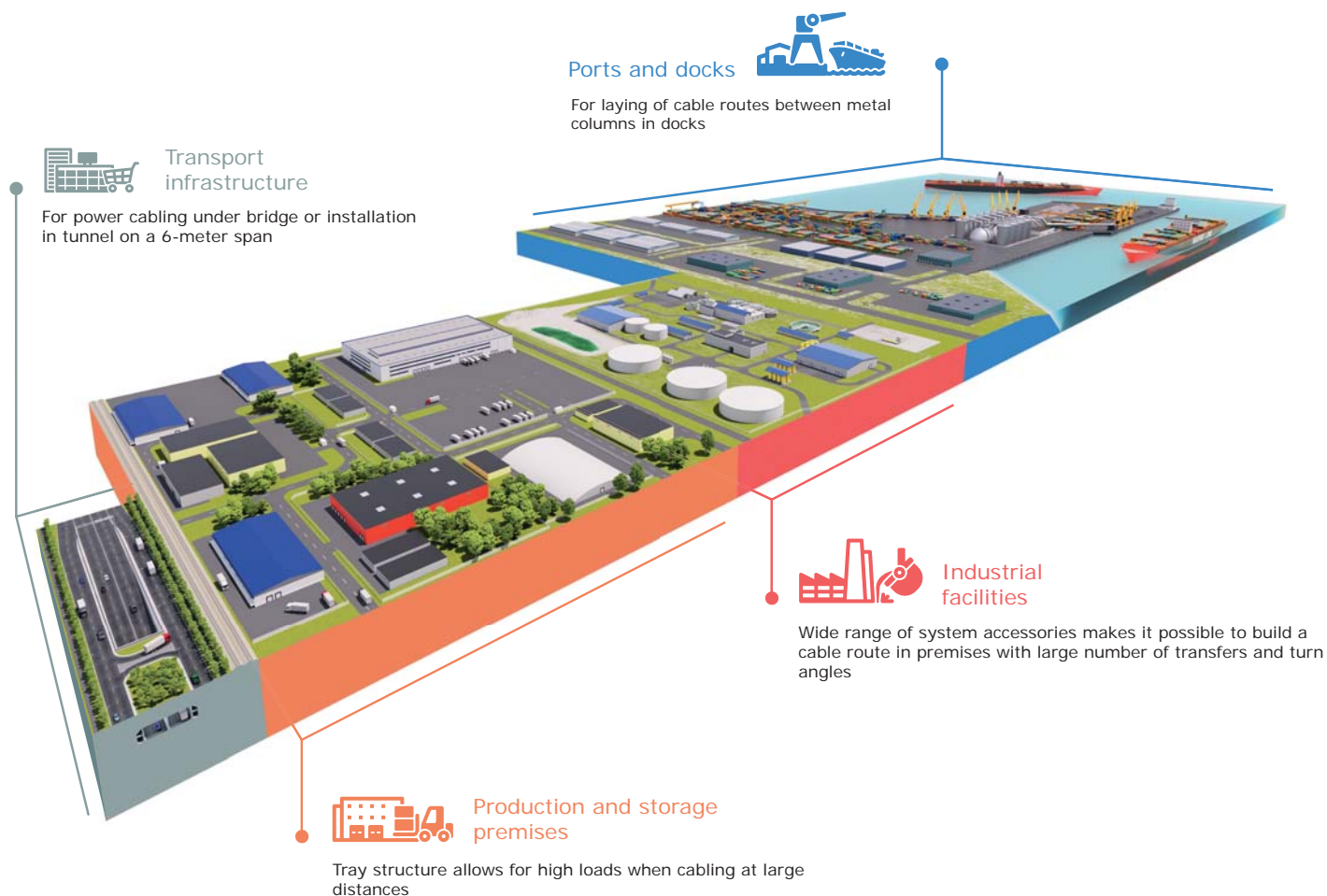
Heavy-Duty cable ladder system "U5 Combitech"

Application

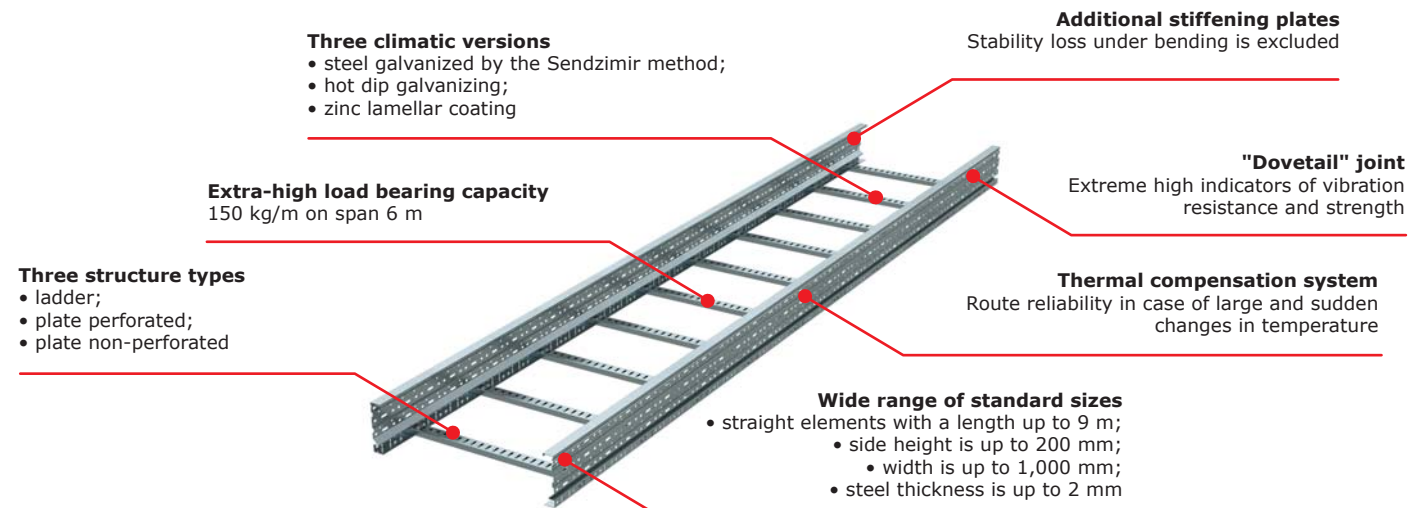
"U5 Combitech" is an industrial cable tray system for cable laying on large spans.

Tray structure is developed for formation of reliable cable routes at facilities with high cable loads with large distances between supports. Special side rail structure allows for installation of trays with a width up to 1 meter and length up to 9 meters with maintenance of high route load capacity.

The system is also recommended for use under conditions where standard trays are difficult to use: in areas with high wind and snow loads, in case of sudden changes in temperature and route icing.



Distinctive features



Advantages

Smooth configuration of accessories

Side rails of accessories have smooth bend. It allows for the most efficient use of accessory internal volume, prevents cable damage when laying and ensures the necessary cable bend radius.

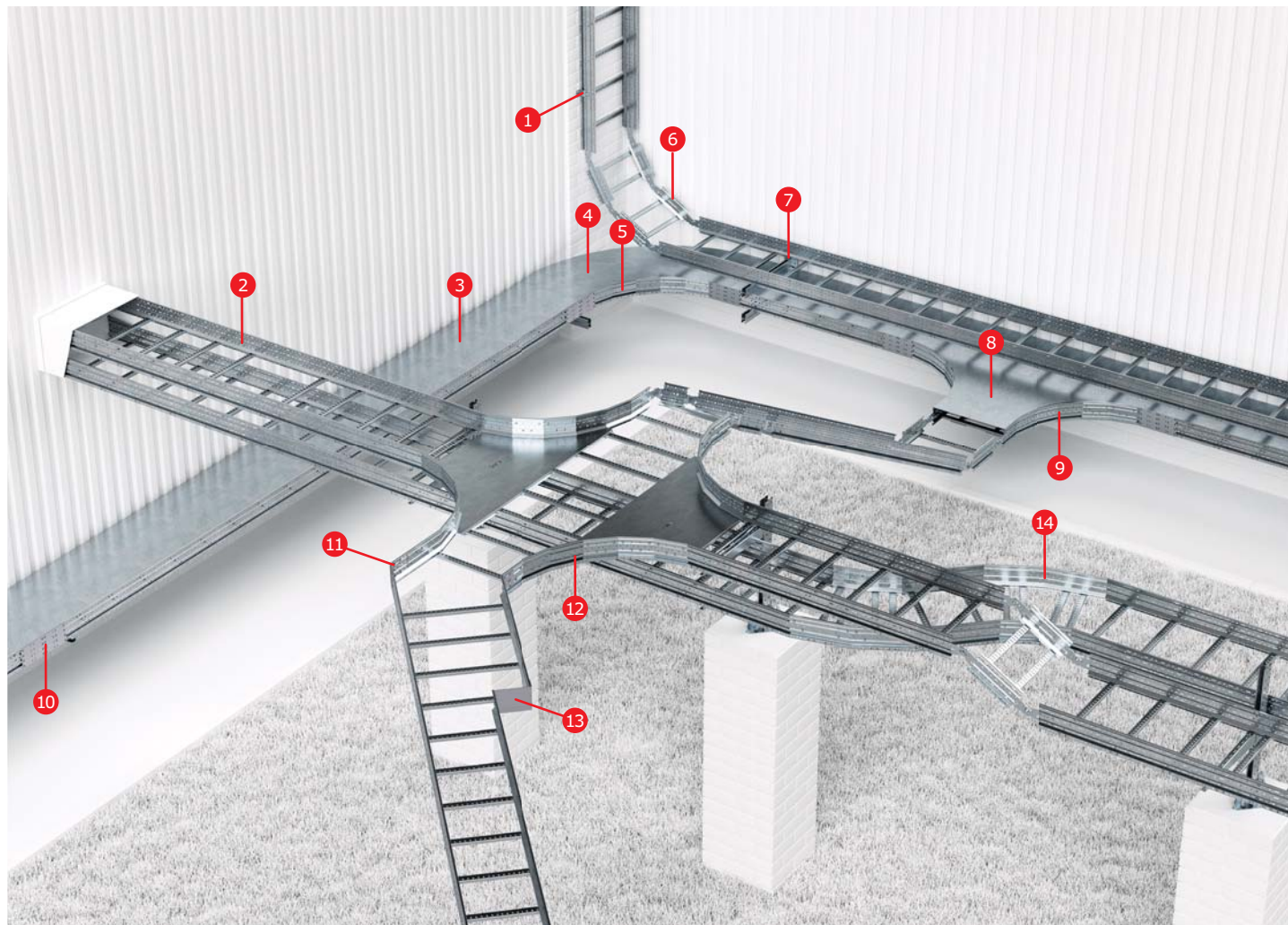
Thermal compensation

Special-shaped perforation allows for free movement and changeable gap in the element connections. It guarantees integrity of long routes during the metal thermal expansions.

Certification

Numerous tests confirm high quality of industrial trays and their complete compliance with all the Russian and international regulations as well as requirements of the Russian Maritime Register of Shipping.

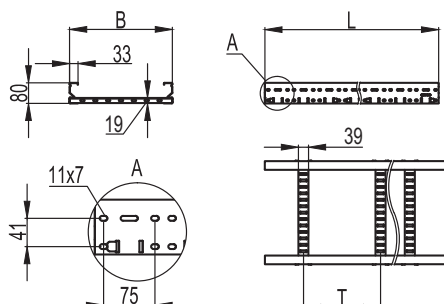
System composition



- | | |
|--------------------------|--------------------|
| 1 Wall attachment | 8 Accessory cover |
| 2 Straight element | 9 T-tapper |
| 3 Straight element cover | 10 Connector |
| 4 Accessory cover | 11 Angle connector |
| 5 90° bend | 12 X-tapper |
| 6 Vertical hinged angle | 13 Reducing/plug |
| 7 Tray clamp | 14 45° bend |

Heavy-Duty cable ladder

Straight elements with a height of 80 mm

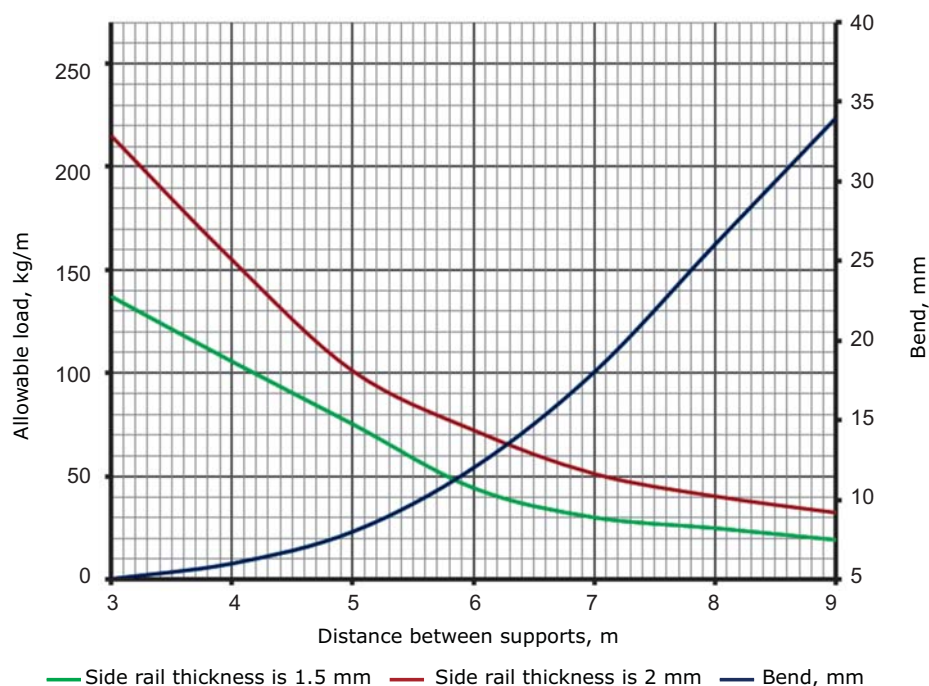


Purpose:

- cabling on straight sections;
- T=300 mm;
- on request tray length is 9 meters (versions: 1, 4).

Height, mm	Side rail thickness, mm	Width B, mm	Cross beam pitch T, mm	TUA, mm ²	Length L, mm					
					3000			6000		
					code, vers. 1	code, vers. 2	code, vers. 4	code, vers. 1	code, vers. 2	code, vers. 4
80	1.5	200	300	12000	ULM382	ULM382HDZ	ULM382ZL	ULM682	ULM682HDZ	ULM682ZL
		300	300	18000	ULM383	ULM383HDZ	ULM383ZL	ULM683	ULM683HDZ	ULM683ZL
		400	300	24000	ULM384	ULM384HDZ	ULM384ZL	ULM684	ULM684HDZ	ULM684ZL
		500	300	30000	ULM385	ULM385HDZ	ULM385ZL	ULM685	ULM685HDZ	ULM685ZL
		600	300	36000	ULM386	ULM386HDZ	ULM386ZL	ULM686	ULM686HDZ	ULM686ZL
		700	300	42000	ULM387	ULM387HDZ	ULM387ZL	ULM687	ULM687HDZ	ULM687ZL
		800	300	48000	ULM388	ULM388HDZ	ULM388ZL	ULM688	ULM688HDZ	ULM688ZL
		900	300	54000	ULM389	ULM389HDZ	ULM389ZL	ULM689	ULM689HDZ	ULM689ZL
		1000	300	60000	ULM380	ULM380HDZ	ULM380ZL	ULM680	ULM680HDZ	ULM680ZL
	2.0	200	300	12000	ULH382	ULH382HDZ	ULH382ZL	ULH682	ULH682HDZ	ULH682ZL
		300	300	18000	ULH383	ULH383HDZ	ULH383ZL	ULH683	ULH683HDZ	ULH683ZL
		400	300	24000	ULH384	ULH384HDZ	ULH384ZL	ULH684	ULH684HDZ	ULH684ZL
		500	300	30000	ULH385	ULH385HDZ	ULH385ZL	ULH685	ULH685HDZ	ULH685ZL
		600	300	36000	ULH386	ULH386HDZ	ULH386ZL	ULH686	ULH686HDZ	ULH686ZL
		700	300	42000	ULH387	ULH387HDZ	ULH387ZL	ULH687	ULH687HDZ	ULH687ZL
		800	300	48000	ULH388	ULH388HDZ	ULH388ZL	ULH688	ULH688HDZ	ULH688ZL
		900	300	54000	ULH389	ULH389HDZ	ULH389ZL	ULH689	ULH689HDZ	ULH689ZL
		1000	300	60000	ULH380	ULH380HDZ	ULH380ZL	ULH680	ULH680HDZ	ULH680ZL

Load curves for trays with a height of 80 mm

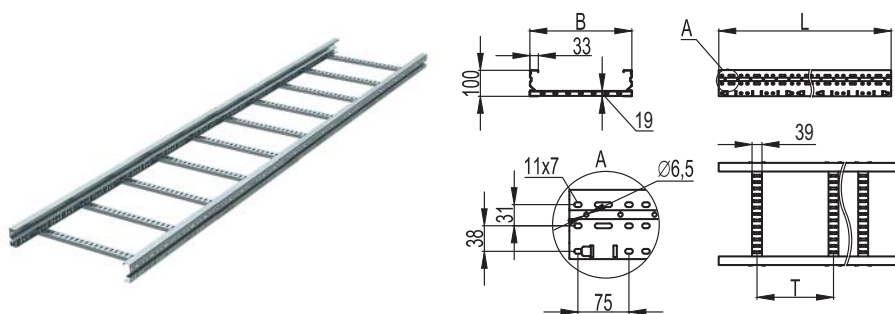


Conditions of tray

safe operating load tests:

- testing according to GOST R 52868, cl. 10.3.3;
- safety factor is at least 1.7 of the claimed load.

Straight elements with a height of 100 mm

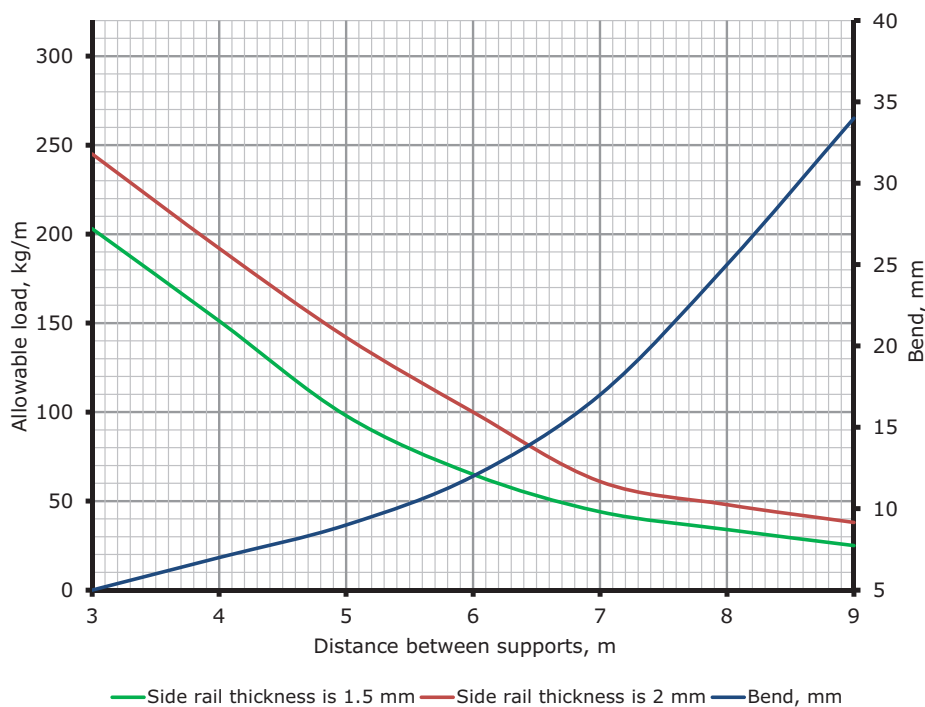


Purpose:

- cabling on straight sections;
- T=300 mm;
- on request tray length is 9 meters (versions: 1, 4).

Height, mm	Side rail thickness, mm	Width B, mm	Cross beam pitch T, mm	TUA, mm ²	Length L, mm					
					3000			6000		
					code, vers. 1	code, vers. 2	code, vers. 4	code, vers. 1	code, vers. 2	code, vers. 4
100	1.5	200	300	16000	ULM312	ULM312HDZ	ULM312ZL	ULM612	ULM612HDZ	ULM612ZL
		300	300	24000	ULM313	ULM313HDZ	ULM313ZL	ULM613	ULM613HDZ	ULM613ZL
		400	300	32000	ULM314	ULM314HDZ	ULM314ZL	ULM614	ULM614HDZ	ULM614ZL
		500	300	40000	ULM315	ULM315HDZ	ULM315ZL	ULM615	ULM615HDZ	ULM615ZL
		600	300	48000	ULM316	ULM316HDZ	ULM316ZL	ULM616	ULM616HDZ	ULM616ZL
		700	300	56000	ULM317	ULM317HDZ	ULM317ZL	ULM617	ULM617HDZ	ULM617ZL
		800	300	64000	ULM318	ULM318HDZ	ULM318ZL	ULM618	ULM618HDZ	ULM618ZL
		900	300	72000	ULM319	ULM319HDZ	ULM319ZL	ULM619	ULM619HDZ	ULM619ZL
		1000	300	80000	ULM310	ULM310HDZ	ULM310ZL	ULM610	ULM610HDZ	ULM610ZL
	2.0	200	300	16000	ULH312	ULH312HDZ	ULH312ZL	ULH612	ULH612HDZ	ULH612ZL
		300	300	24000	ULH313	ULH313HDZ	ULH313ZL	ULH613	ULH613HDZ	ULH613ZL
		400	300	32000	ULH314	ULH314HDZ	ULH314ZL	ULH614	ULH614HDZ	ULH614ZL
		500	300	40000	ULH315	ULH315HDZ	ULH315ZL	ULH615	ULH615HDZ	ULH615ZL
		600	300	48000	ULH316	ULH316HDZ	ULH316ZL	ULH616	ULH616HDZ	ULH616ZL
		700	300	56000	ULH317	ULH317HDZ	ULH317ZL	ULH617	ULH617HDZ	ULH617ZL
		800	300	64000	ULH318	ULH318HDZ	ULH318ZL	ULH618	ULH618HDZ	ULH618ZL
		900	300	72000	ULH319	ULH319HDZ	ULH319ZL	ULH619	ULH619HDZ	ULH619ZL
		1000	300	80000	ULH310	ULH310HDZ	ULH310ZL	ULH610	ULH610 HDZ	ULH610 ZL

Load curves for trays with a height of 100 mm

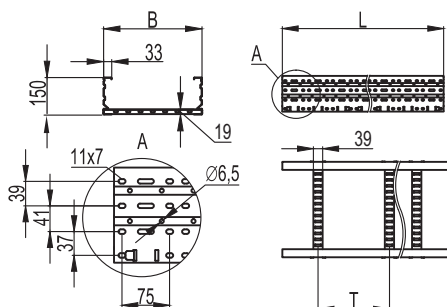


Conditions of tray

safe operating load tests:

- testing according to GOST R 52868, cl. 10.3.3;
- safety factor is at least 1.7 of the claimed load.

Straight elements with a height of 150 mm

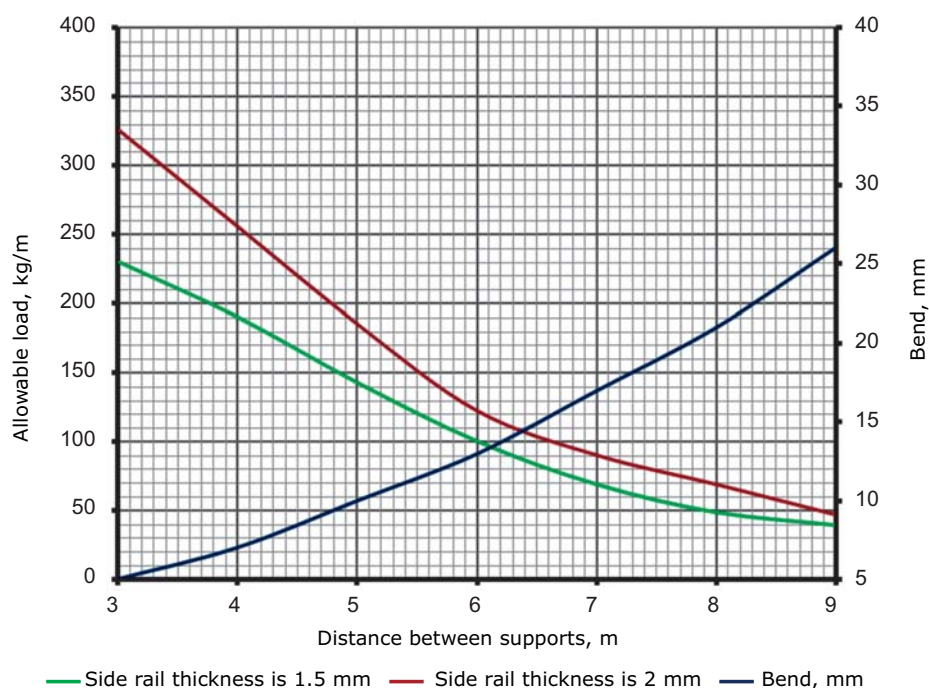


Purpose:

- cabling on straight sections;
- T=300 mm;
- on request tray length is 9 meters (versions: 1, 4).

Height, mm	Side rail thickness, mm	Width B, mm	Cross beam pitch T, mm	TUA, mm ²	Length L, mm					
					3000			6000		
					code, vers. 1	code, vers. 2	code, vers. 4	code, vers. 1	code, vers. 2	code, vers. 4
150	1.5	200	300	26000	ULM352	ULM352HDZ	ULM352ZL	ULM652	ULM652HDZ	ULM652ZL
		300	300	39000	ULM353	ULM353HDZ	ULM353ZL	ULM653	ULM653HDZ	ULM653ZL
		400	300	52000	ULM354	ULM354HDZ	ULM354ZL	ULM654	ULM654HDZ	ULM654ZL
		500	300	65000	ULM355	ULM355HDZ	ULM355ZL	ULM655	ULM655HDZ	ULM655ZL
		600	300	78000	ULM356	ULM356HDZ	ULM356ZL	ULM656	ULM656HDZ	ULM656ZL
		700	300	91000	ULM357	ULM357HDZ	ULM357ZL	ULM657	ULM657HDZ	ULM657ZL
		800	300	104000	ULM358	ULM358HDZ	ULM358ZL	ULM658	ULM658HDZ	ULM658ZL
		900	300	117000	ULM359	ULM359HDZ	ULM359ZL	ULM659	ULM659HDZ	ULM659ZL
		1000	300	130000	ULM350	ULM350HDZ	ULM350ZL	ULM650	ULM650HDZ	ULM650ZL
	2.0	200	300	26000	ULH352	ULH352HDZ	ULH352ZL	ULH652	ULH652HDZ	ULH652ZL
		300	300	39000	ULH353	ULH353HDZ	ULH353ZL	ULH653	ULH653HDZ	ULH653ZL
		400	300	52000	ULH354	ULH354HDZ	ULH354ZL	ULH654	ULH654HDZ	ULH654ZL
		500	300	65000	ULH355	ULH355HDZ	ULH355ZL	ULH655	ULH655HDZ	ULH655ZL
		600	300	78000	ULH356	ULH356HDZ	ULH356ZL	ULH656	ULH656HDZ	ULH656ZL
		700	300	91000	ULH357	ULH357HDZ	ULH357ZL	ULH657	ULH657HDZ	ULH657ZL
		800	300	104000	ULH358	ULH358HDZ	ULH358ZL	ULH658	ULH658HDZ	ULH658ZL
		900	300	117000	ULH359	ULH359HDZ	ULH359ZL	ULH659	ULH659HDZ	ULH659ZL
		1000	300	130000	ULH350	ULH350HDZ	ULH350ZL	ULH650	ULH650HDZ	ULH650ZL

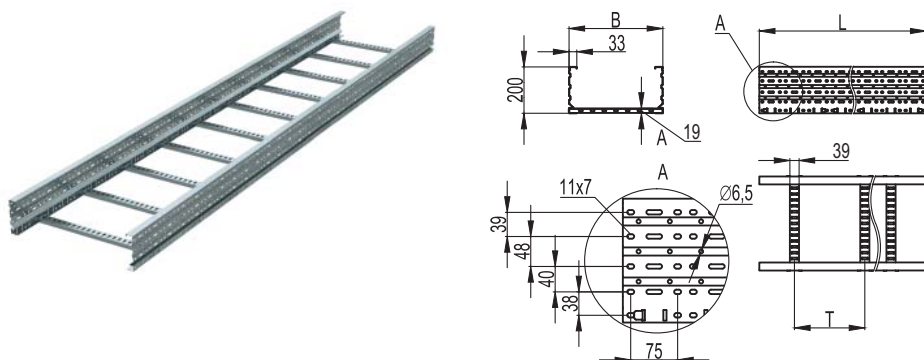
Load curves for trays with a height of 150 mm



Conditions of tray safe operating load tests:

- testing according to GOST R 52868, cl. 10.3.3;
- safety factor is at least 1.7 of the claimed load.

Straight elements with a height of 200 mm

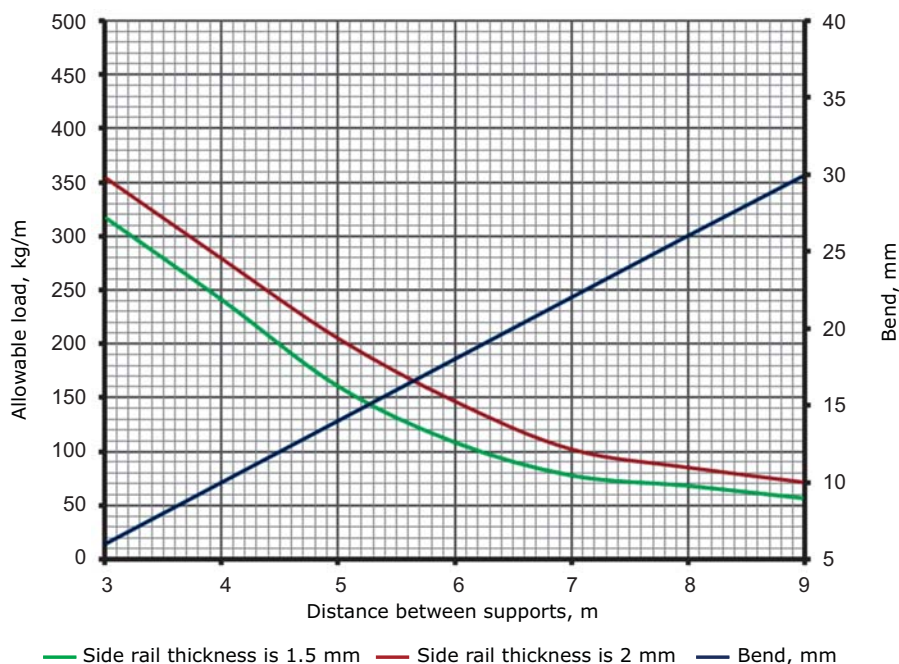


Purpose:

- cabling on straight sections;
- T=300 mm;
- on request tray length is 9 meters (versions: 1, 4).

Height, mm	Side rail thickness, mm	Width B, mm	Cross beam pitch T, mm	TUA, mm ²	Length L, mm					
					3000			6000		
					code, vers. 1	code, vers. 2	code, vers. 4	code, vers. 1	code, vers. 2	code, vers. 4
200	1.5	200	300	36000	ULM322	ULM322HDZ	ULM322ZL	ULM622	ULM622HDZ	ULM622ZL
		300	300	54000	ULM323	ULM323HDZ	ULM323ZL	ULM623	ULM623HDZ	ULM623ZL
		400	300	72000	ULM324	ULM324HDZ	ULM324ZL	ULM624	ULM624HDZ	ULM624ZL
		500	300	90000	ULM325	ULM325HDZ	ULM325ZL	ULM625	ULM625HDZ	ULM625ZL
		600	300	108000	ULM326	ULM326HDZ	ULM326ZL	ULM626	ULM626HDZ	ULM626ZL
		700	300	126000	ULM327	ULM327HDZ	ULM327ZL	ULM627	ULM627HDZ	ULM627ZL
		800	300	144000	ULM328	ULM328HDZ	ULM328ZL	ULM628	ULM628HDZ	ULM628ZL
		900	300	162000	ULM329	ULM329HDZ	ULM329ZL	ULM629	ULM629HDZ	ULM629ZL
		1000	300	180000	ULM320	ULM320HDZ	ULM320ZL	ULM620	ULM620HDZ	ULM620ZL
	2.0	200	300	36000	ULH322	ULH322HDZ	ULH322ZL	ULH622	ULH622HDZ	ULH622ZL
		300	300	54000	ULH323	ULH323HDZ	ULH323ZL	ULH623	ULH623HDZ	ULH623ZL
		400	300	72000	ULH324	ULH324HDZ	ULH324ZL	ULH624	ULH624HDZ	ULH624ZL
		500	300	90000	ULH325	ULH325HDZ	ULH325ZL	ULH625	ULH625HDZ	ULH625ZL
		600	300	108000	ULH326	ULH326HDZ	ULH326ZL	ULH626	ULH626HDZ	ULH626ZL
		700	300	126000	ULH327	ULH327HDZ	ULH327ZL	ULH627	ULH627HDZ	ULH627ZL
		800	300	144000	ULH328	ULH328HDZ	ULH328ZL	ULH628	ULH628HDZ	ULH628ZL
		900	300	162000	ULH329	ULH329HDZ	ULH329ZL	ULH629	ULH629HDZ	ULH629ZL
		1000	300	180000	ULH320	ULH320HDZ	ULH320ZL	ULH620	ULH620HDZ	ULH620ZL

Load curves for trays with a height of 200 mm



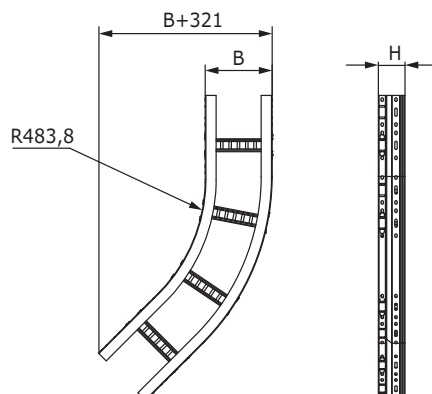
Conditions of tray

safe operating load tests:

- testing according to GOST R 52868, cl. 10.3.3;
- safety factor is at least 1.7 of the claimed load.

Cable ladder system accessories

Horizontal ladder angle 45°

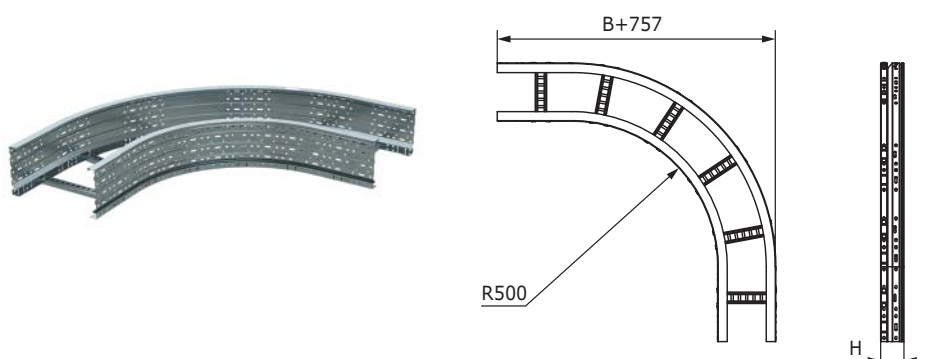


Purpose:

- 45° route bend in horizontal plane;
- on request R600-1000.

H height, mm	Base width B, mm	Code, vers. 1	Code, vers. 2	Code, vers. 4
80	200	ULC682	ULC682HDZ	ULC682ZL
	300	ULC683	ULC683HDZ	ULC683ZL
	400	ULC684	ULC684HDZ	ULC684ZL
	500	ULC685	ULC685HDZ	ULC685ZL
	600	ULC686	ULC686HDZ	ULC686ZL
	700	ULC687	ULC687HDZ	ULC687ZL
	800	ULC688	ULC688HDZ	ULC688ZL
	900	ULC689	ULC689HDZ	ULC689ZL
	1000	ULC680	ULC680HDZ	ULC680ZL
100	200	ULC612	ULC612HDZ	ULC612ZL
	300	ULC613	ULC613HDZ	ULC613ZL
	400	ULC614	ULC614HDZ	ULC614ZL
	500	ULC615	ULC615HDZ	ULC615ZL
	600	ULC616	ULC616HDZ	ULC616ZL
	700	ULC617	ULC617HDZ	ULC617ZL
	800	ULC618	ULC618HDZ	ULC618ZL
	900	ULC619	ULC619HDZ	ULC619ZL
	1000	ULC610	ULC610HDZ	ULC610ZL
150	200	ULC652	ULC652HDZ	ULC652ZL
	300	ULC653	ULC653HDZ	ULC653ZL
	400	ULC654	ULC654HDZ	ULC654ZL
	500	ULC655	ULC655HDZ	ULC655ZL
	600	ULC656	ULC656HDZ	ULC656ZL
	700	ULC657	ULC657HDZ	ULC657ZL
	800	ULC658	ULC658HDZ	ULC658ZL
	900	ULC659	ULC659HDZ	ULC659ZL
	1000	ULC650	ULC650HDZ	ULC650ZL
200	200	ULC622	ULC622HDZ	ULC622ZL
	300	ULC623	ULC623HDZ	ULC623ZL
	400	ULC624	ULC624HDZ	ULC624ZL
	500	ULC625	ULC625HDZ	ULC625ZL
	600	ULC626	ULC626HDZ	ULC626ZL
	700	ULC627	ULC627HDZ	ULC627ZL
	800	ULC628	ULC628HDZ	ULC628ZL
	900	ULC629	ULC629HDZ	ULC629ZL
	1000	ULC620	ULC620HDZ	ULC620ZL

Horizontal ladder angle 90°

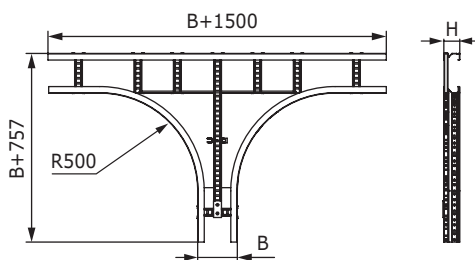


Purpose:

- 90° route bend in horizontal plane;
- on request R600-1000.

H height, mm	Base width B, mm	Code, vers. 1	Code, vers. 2	Code, vers. 4
80	200	ULD682	ULD682HDZ	ULD682ZL
	300	ULD683	ULD683HDZ	ULD683ZL
	400	ULD684	ULD684HDZ	ULD684ZL
	500	ULD685	ULD685HDZ	ULD685ZL
	600	ULD686	ULD686HDZ	ULD686ZL
	700	ULD687	ULD687HDZ	ULD687ZL
	800	ULD688	ULD688HDZ	ULD688ZL
	900	ULD689	ULD689HDZ	ULD689ZL
	1000	ULD680	ULD680HDZ	ULD680ZL
100	200	ULD612	ULD612HDZ	ULD612ZL
	300	ULD613	ULD613HDZ	ULD613ZL
	400	ULD614	ULD614HDZ	ULD614ZL
	500	ULD615	ULD615HDZ	ULD615ZL
	600	ULD616	ULD616HDZ	ULD616ZL
	700	ULD617	ULD617HDZ	ULD617ZL
	800	ULD618	ULD618HDZ	ULD618ZL
	900	ULD619	ULD619HDZ	ULD619ZL
	1000	ULD610	ULD610HDZ	ULD610ZL
150	200	ULD652	ULD652HDZ	ULD652ZL
	300	ULD653	ULD653HDZ	ULD653ZL
	400	ULD654	ULD654HDZ	ULD654ZL
	500	ULD655	ULD655HDZ	ULD655ZL
	600	ULD656	ULD656HDZ	ULD656ZL
	700	ULD657	ULD657HDZ	ULD657ZL
	800	ULD658	ULD658HDZ	ULD658ZL
	900	ULD659	ULD659HDZ	ULD659ZL
	1000	ULD650	ULD650HDZ	ULD650ZL
200	200	ULD622	ULD622HDZ	ULD622ZL
	300	ULD623	ULD623HDZ	ULD623ZL
	400	ULD624	ULD624HDZ	ULD624ZL
	500	ULD625	ULD625HDZ	ULD625ZL
	600	ULD626	ULD626HDZ	ULD626ZL
	700	ULD627	ULD627HDZ	ULD627ZL
	800	ULD628	ULD628HDZ	ULD628ZL
	900	ULD629	ULD629HDZ	ULD629ZL
	1000	ULD620	ULD620HDZ	ULD620ZL

Ladder T-tapper

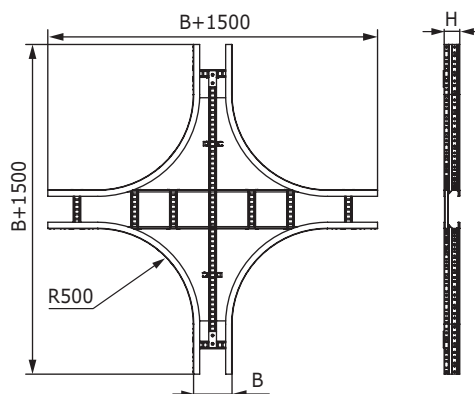
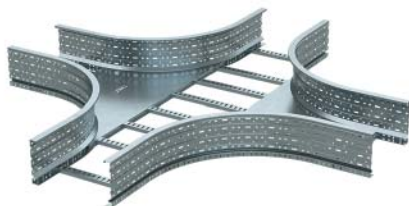


Purpose:

- installation of route branches in horizontal plane;
- on request R600-1000.

H height, mm	Base width B, mm	Code, vers. 1	Code, vers. 2	Code, vers. 4
80	200	ULT682	ULT682HDZ	ULT682ZL
	300	ULT683	ULT683HDZ	ULT683ZL
	400	ULT684	ULT684HDZ	ULT684ZL
	500	ULT685	ULT685HDZ	ULT685ZL
	600	ULT686	ULT686HDZ	ULT686ZL
	700	ULT687	ULT687HDZ	ULT687ZL
	800	ULT688	ULT688HDZ	ULT688ZL
	900	ULT689	ULT689HDZ	ULT689ZL
	1000	ULT680	ULT680HDZ	ULT680ZL
100	200	ULT612	ULT612HDZ	ULT612ZL
	300	ULT613	ULT613HDZ	ULT613ZL
	400	ULT614	ULT614HDZ	ULT614ZL
	500	ULT615	ULT615HDZ	ULT615ZL
	600	ULT616	ULT616HDZ	ULT616ZL
	700	ULT617	ULT617HDZ	ULT617ZL
	800	ULT618	ULT618HDZ	ULT618ZL
	900	ULT619	ULT619HDZ	ULT619ZL
	1000	ULT610	ULT610HDZ	ULT610ZL
150	200	ULT652	ULT652HDZ	ULT652ZL
	300	ULT653	ULT653HDZ	ULT653ZL
	400	ULT654	ULT654HDZ	ULT654ZL
	500	ULT655	ULT655HDZ	ULT655ZL
	600	ULT656	ULT656HDZ	ULT656ZL
	700	ULT657	ULT657HDZ	ULT657ZL
	800	ULT658	ULT658HDZ	ULT658ZL
	900	ULT659	ULT659HDZ	ULT659ZL
	1000	ULT650	ULT650HDZ	ULT650ZL
200	200	ULT622	ULT622HDZ	ULT622ZL
	300	ULT623	ULT623HDZ	ULT623ZL
	400	ULT624	ULT624HDZ	ULT624ZL
	500	ULT625	ULT625HDZ	ULT625ZL
	600	ULT626	ULT626HDZ	ULT626ZL
	700	ULT627	ULT627HDZ	ULT627ZL
	800	ULT628	ULT628HDZ	ULT628ZL
	900	ULT629	ULT629HDZ	ULT629ZL
	1000	ULT620	ULT620HDZ	ULT620ZL

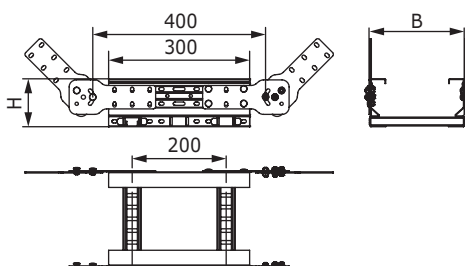
X-tapper


Purpose:

- installation of route crossing points in horizontal plane;
- on request R600-1000.

H height, mm	Base width B, mm	Code, vers. 1	Code, vers. 2	Code, vers. 4
80	200	ULX682	ULX682HDZ	ULX682ZL
	300	ULX683	ULX683HDZ	ULX683ZL
	400	ULX684	ULX684HDZ	ULX684ZL
	500	ULX685	ULX685HDZ	ULX685ZL
	600	ULX686	ULX686HDZ	ULX686ZL
	700	ULX687	ULX687HDZ	ULX687ZL
	800	ULX688	ULX688HDZ	ULX688ZL
	900	ULX689	ULX689HDZ	ULX689ZL
	1000	ULX680	ULX680HDZ	ULX680ZL
100	200	ULX612	ULX612HDZ	ULX612ZL
	300	ULX613	ULX613HDZ	ULX613ZL
	400	ULX614	ULX614HDZ	ULX614ZL
	500	ULX615	ULX615HDZ	ULX615ZL
	600	ULX616	ULX616HDZ	ULX616ZL
	700	ULX617	ULX617HDZ	ULX617ZL
	800	ULX618	ULX618HDZ	ULX618ZL
	900	ULX619	ULX619HDZ	ULX619ZL
	1000	ULX610	ULX610HDZ	ULX610ZL
150	200	ULX652	ULX652HDZ	ULX652ZL
	300	ULX653	ULX653HDZ	ULX653ZL
	400	ULX654	ULX654HDZ	ULX654ZL
	500	ULX655	ULX655HDZ	ULX655ZL
	600	ULX656	ULX656HDZ	ULX656ZL
	700	ULX657	ULX657HDZ	ULX657ZL
	800	ULX658	ULX658HDZ	ULX658ZL
	900	ULX659	ULX659HDZ	ULX659ZL
	1000	ULX650	ULX650HDZ	ULX650ZL
200	200	ULX622	ULX622HDZ	ULX622ZL
	300	ULX623	ULX623HDZ	ULX623ZL
	400	ULX624	ULX624HDZ	ULX624ZL
	500	ULX625	ULX625HDZ	ULX625ZL
	600	ULX626	ULX626HDZ	ULX626ZL
	700	ULX627	ULX627HDZ	ULX627ZL
	800	ULX628	ULX628HDZ	ULX628ZL
	900	ULX629	ULX629HDZ	ULX629ZL
	1000	ULX620	ULX620HDZ	ULX620ZL

Vertical ladder angle



Purpose:

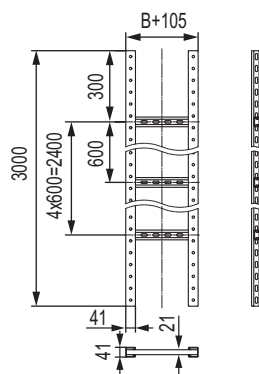
- installation of route lifting and lowering points;
- route inclination at a random angle;
- transfer to another laying plane.

Distinctive features:

- several sections are installed in succession to increase bend radius.

H height, mm	Base width B, mm	Code, vers. 1	Code, vers. 2	Code, vers. 4
80	200	ULF082	ULF082HDZ	ULF082ZL
	300	ULF083	ULF083HDZ	ULF083ZL
	400	ULF084	ULF084HDZ	ULF084ZL
	500	ULF085	ULF085HDZ	ULF085ZL
	600	ULF086	ULF086HDZ	ULF086ZL
	700	ULF087	ULF087HDZ	ULF087ZL
	800	ULF088	ULF088HDZ	ULF088ZL
	900	ULF089	ULF089HDZ	ULF089ZL
	1000	ULF080	ULF080HDZ	ULF080ZL
100	200	ULF012	ULF012HDZ	ULF012ZL
	300	ULF013	ULF013HDZ	ULF013ZL
	400	ULF014	ULF014HDZ	ULF014ZL
	500	ULF015	ULF015HDZ	ULF015ZL
	600	ULF016	ULF016HDZ	ULF016ZL
	700	ULF017	ULF017HDZ	ULF017ZL
	800	ULF018	ULF018HDZ	ULF018ZL
	900	ULF019	ULF019HDZ	ULF019ZL
	1000	ULF010	ULF010HDZ	ULF010ZL
150	200	ULF052	ULF052HDZ	ULF052ZL
	300	ULF053	ULF053HDZ	ULF053ZL
	400	ULF054	ULF054HDZ	ULF054ZL
	500	ULF055	ULF055HDZ	ULF055ZL
	600	ULF056	ULF056HDZ	ULF056ZL
	700	ULF057	ULF057HDZ	ULF057ZL
	800	ULF058	ULF058HDZ	ULF058ZL
	900	ULF059	ULF059HDZ	ULF059ZL
	1000	ULF050	ULF050HDZ	ULF050ZL
200	200	ULF022	ULF022HDZ	ULF022ZL
	300	ULF023	ULF023HDZ	ULF023ZL
	400	ULF024	ULF024HDZ	ULF024ZL
	500	ULF025	ULF025HDZ	ULF025ZL
	600	ULF026	ULF026HDZ	ULF026ZL
	700	ULF027	ULF027HDZ	ULF027ZL
	800	ULF028	ULF028HDZ	ULF028ZL
	900	ULF029	ULF029HDZ	ULF029ZL
	1000	ULF020	ULF020HDZ	ULF020ZL

Vertical ladder



Purpose:

- cabling in vertical position.

Characteristics:

- length is 3,000 mm;
- thickness is 2.5 mm.

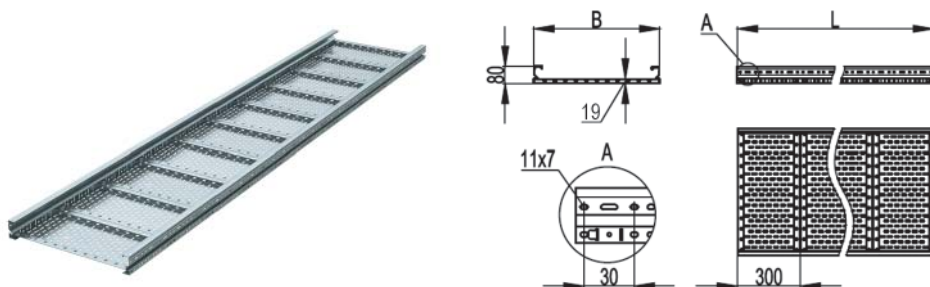
Advantage:

- high indicator of safe operating load (SOL is 150 kg/m) if distance between supports is 3 m, confirmed by test result.

Width, mm	Code, vers. 2
200	UVC302HDZ
300	UVC303HDZ
400	UVC304HDZ
500	UVC305HDZ
600	UVC306HDZ
700	UVC307HDZ
800	UVC308HDZ
900	UVC309HDZ
1000	UVC300HDZ

Heavy-Duty cable tray

Straight elements with a height of 80 mm, perforated

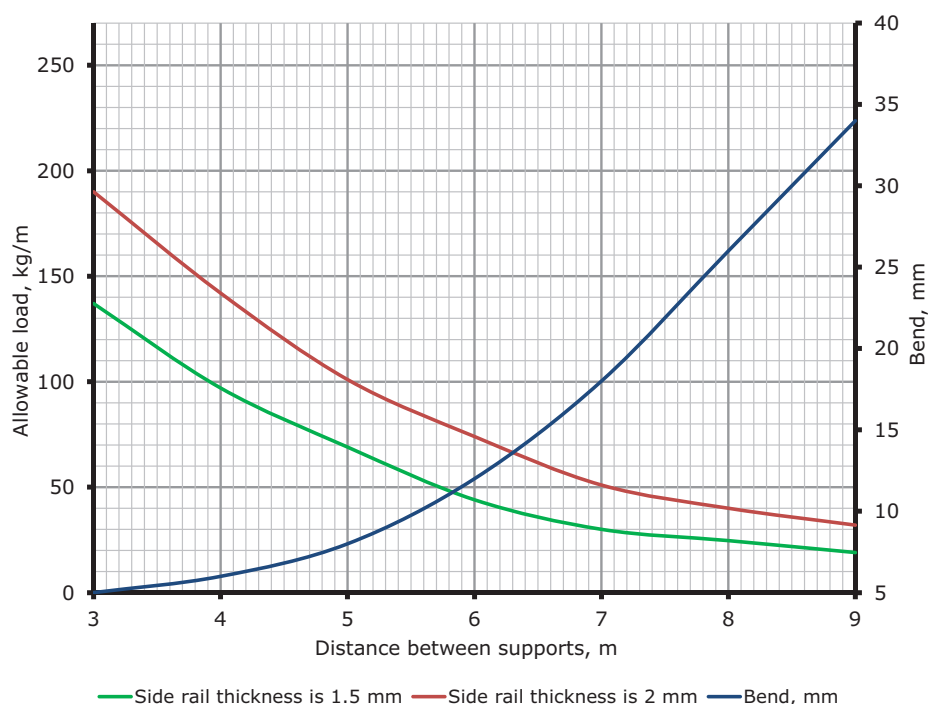


Purpose:

- cabling on straight sections;
- manufacturing of trays with a length of 9 meters on request (versions: 1, 4).

Height, mm	Side rail thickness, mm	Width B, mm	TUA, mm ²	Weight, vers. 1, kg/m	Length L, mm					
					3000			6000		
					code, vers. 1	code, vers. 2	code, vers. 4	code, vers. 1	code, vers. 2	code, vers. 4
80	1.5	200	12000	4.72	USM382	USM382HDZ	USM382ZL	USM682	USM682HDZ	USM682ZL
		300	18000	5.62	USM383	USM383HDZ	USM383ZL	USM683	USM683HDZ	USM683ZL
		400	24000	6.52	USM384	USM384HDZ	USM384ZL	USM684	USM684HDZ	USM684ZL
		500	30000	7.42	USM385	USM385HDZ	USM385ZL	USM685	USM685HDZ	USM685ZL
		600	36000	8.32	USM386	USM386HDZ	USM386ZL	USM686	USM686HDZ	USM686ZL
		700	42000	9.22	USM387	USM387HDZ	USM387ZL	USM687	USM687HDZ	USM687ZL
		800	48000	10.12	USM388	USM388HDZ	USM388ZL	USM688	USM688HDZ	USM688ZL
		900	54000	11.02	USM389	USM389HDZ	USM389ZL	USM689	USM689HDZ	USM689ZL
		1000	60000	11.92	USM380	USM380HDZ	USM380ZL	USM680	USM680HDZ	USM680ZL
	2.0	200	12000	5.36	USH382	USH382HDZ	USH382ZL	USH682	USH682HDZ	USH682ZL
		300	18000	6.11	USH383	USH383HDZ	USH383ZL	USH683	USH683HDZ	USH683ZL
		400	24000	6.86	USH384	USH384HDZ	USH384ZL	USH684	USH684HDZ	USH684ZL
		500	30000	7.61	USH385	USH385HDZ	USH385ZL	USH685	USH685HDZ	USH685ZL
		600	36000	8.36	USH386	USH386HDZ	USH386ZL	USH686	USH686HDZ	USH686ZL
		700	42000	9.06	USH387	USH387HDZ	USH387ZL	USH687	USH687HDZ	USH687ZL
		800	48000	9.76	USH388	USH388HDZ	USH388ZL	USH688	USH688HDZ	USH688ZL
		900	54000	10.46	USH389	USH389HDZ	USH389ZL	USH689	USH689HDZ	USH689ZL
		1000	60000	12.16	USH380	USH380HDZ	USH380ZL	USH680	USH680HDZ	USH680ZL

Load curves for trays with a height of 80 mm

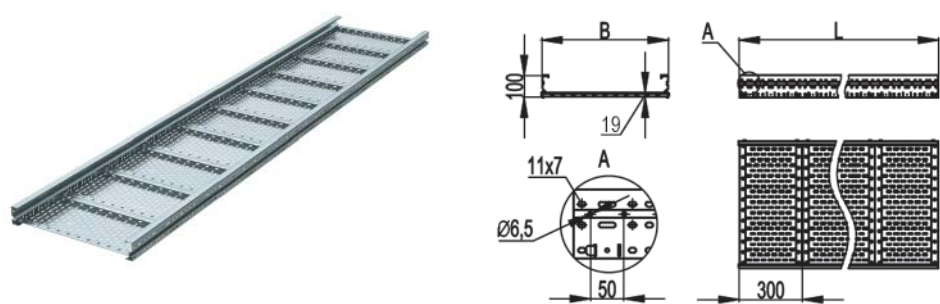


Conditions of tray

safe operating load tests:

- testing according to GOST R 52868, cl. 10.3.3;
- safety factor is at least 1.7 of the claimed load.

Straight elements with a height of 100 mm, perforated

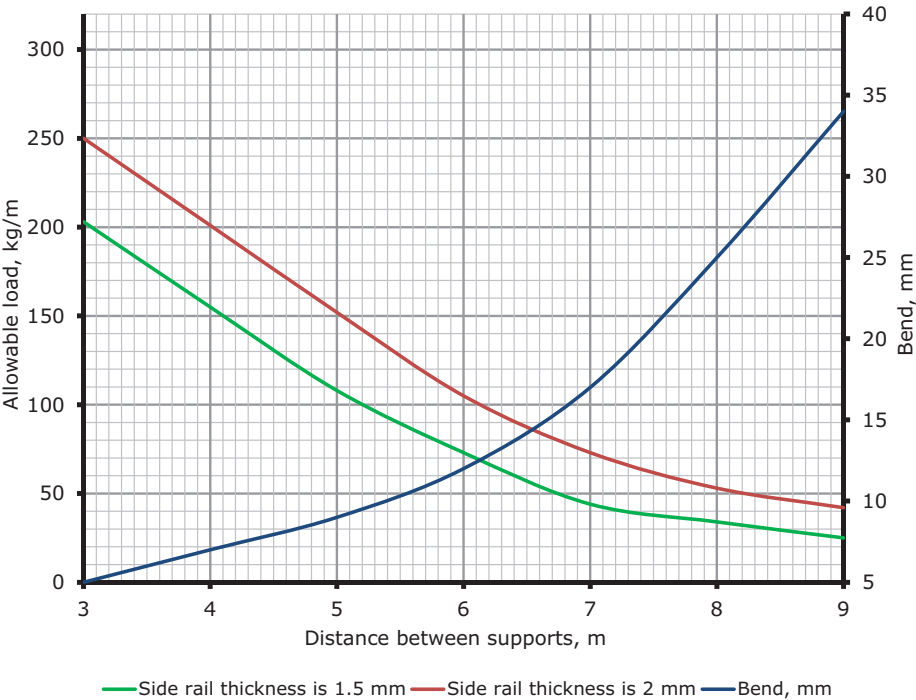


Purpose:

- cabling on straight sections;
- manufacturing of trays with a length of 9 meters on request (versions: 1, 4).

Height, mm	Side rail thickness, mm	Width B, mm	TUA, mm ²	Weight vers. 1, kg/m	Length L, mm					
					3000			6000		
					code, vers. 1	code, vers. 2	code, vers. 4	code, vers. 1	code, vers. 2	code, vers. 4
100	1.5	200	16000	5.31	USM312	USM312HDZ	USM312ZL	USM612	USM612HDZ	USM612ZL
		300	24000	6.21	USM313	USM313HDZ	USM313ZL	USM613	USM613HDZ	USM613ZL
		400	32000	7.11	USM314	USM314HDZ	USM314ZL	USM614	USM614HDZ	USM614ZL
		500	40000	8.01	USM315	USM315HDZ	USM315ZL	USM615	USM615HDZ	USM615ZL
		600	48000	8.91	USM316	USM316HDZ	USM316ZL	USM616	USM616HDZ	USM616ZL
		700	56000	9.81	USM317	USM317HDZ	USM317ZL	USM617	USM617HDZ	USM617ZL
		800	64000	10.71	USM318	USM318HDZ	USM318ZL	USM618	USM618HDZ	USM618ZL
		900	72000	11.61	USM319	USM319HDZ	USM319ZL	USM619	USM619HDZ	USM619ZL
		1000	80000	12.51	USM310	USM310HDZ	USM310ZL	USM610	USM610HDZ	USM610ZL
	2.0	200	16000	6.15	USH312	USH312HDZ	USH312ZL	USH612	USH612HDZ	USH612ZL
		300	24000	6.90	USH313	USH313HDZ	USH313ZL	USH613	USH613HDZ	USH613ZL
		400	32000	7.65	USH314	USH314HDZ	USH314ZL	USH614	USH614HDZ	USH614ZL
		500	40000	8.40	USH315	USH315HDZ	USH315ZL	USH615	USH615HDZ	USH615ZL
		600	48000	9.15	USH316	USH316HDZ	USH316ZL	USH616	USH616HDZ	USH616ZL
		700	56000	10.00	USH317	USH317HDZ	USH317ZL	USH617	USH617HDZ	USH617ZL
		800	64000	10.85	USH318	USH318HDZ	USH318ZL	USH618	USH618HDZ	USH618ZL
		900	72000	11.55	USH319	USH319HDZ	USH319ZL	USH619	USH619HDZ	USH619ZL
		1000	80000	13.15	USH310	USH310HDZ	USH310ZL	USH610	USH610HDZ	USH610ZL

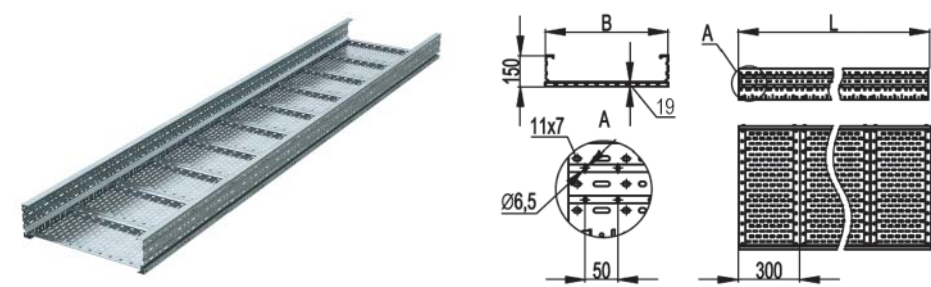
Load curves for trays with a height of 100 mm



Conditions of tray safe operating load tests:

- testing according to GOST R 52868, cl. 10.3.3;
- safety factor is at least 1.7 of the claimed load.

Straight elements with a height of 150 mm, perforated

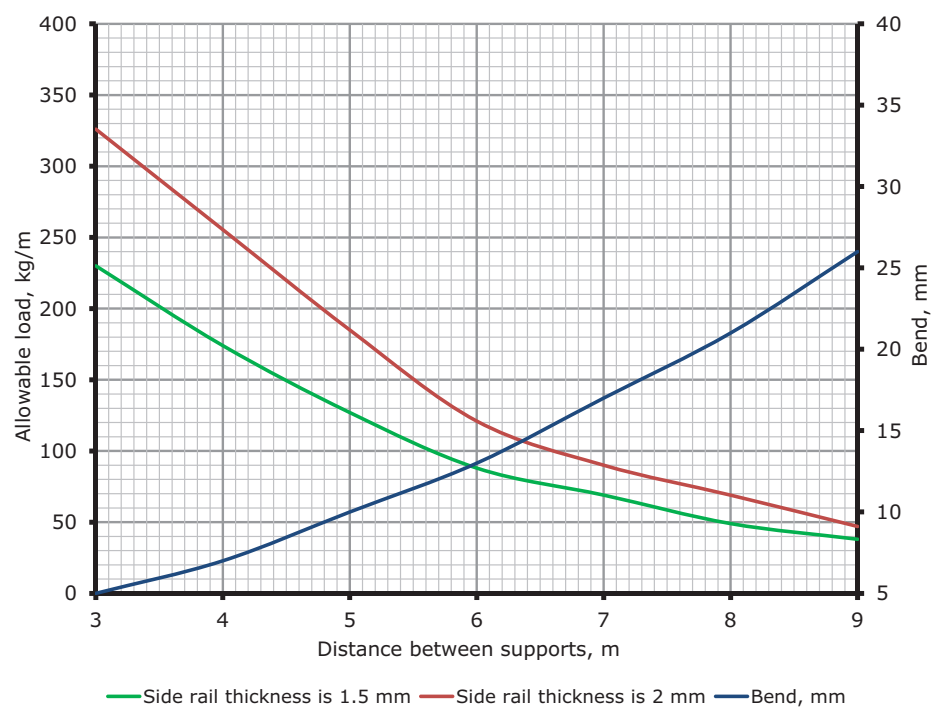


Purpose:

- cabling on straight sections;
- manufacturing of trays with a length of 9 meters on request (versions: 1, 4).

Height, mm	Side rail thickness, mm	Width B, mm	Width of bottom plates T, mm	TUA, mm ²	Weight vers. 1, kg/m	Length L, mm					
						3000			6000		
						code, vers. 1	code, vers. 2	code, vers. 4	code, vers. 1	code, vers. 2	code, vers. 4
150	1.5	200	300	26000	6.52	USM352	USM352HDZ	USM352ZL	USM652	USM652HDZ	USM652ZL
		300	300	39000	7.42	USM353	USM353HDZ	USM353ZL	USM653	USM653HDZ	USM653ZL
		400	300	52000	8.31	USM354	USM354HDZ	USM354ZL	USM654	USM654HDZ	USM654ZL
		500	300	65000	9.21	USM355	USM355HDZ	USM355ZL	USM655	USM655HDZ	USM655ZL
		600	300	78000	10.11	USM356	USM356HDZ	USM356ZL	USM656	USM656HDZ	USM656ZL
		700	200	91000	11.01	USM357	USM357HDZ	USM357ZL	USM657	USM657HDZ	USM657ZL
		800	200	104000	11.91	USM358	USM358HDZ	USM358ZL	USM658	USM658HDZ	USM658ZL
		900	200	117000	12.81	USM359	USM359HDZ	USM359ZL	USM659	USM659HDZ	USM659ZL
		1000	200	130000	13.71	USM350	USM350HDZ	USM350ZL	USM650	USM650HDZ	USM650ZL
	2.0	200	300	26000	7.75	USH352	USH352HDZ	USH352ZL	USH652	USH652HDZ	USH652ZL
		300	300	39000	8.50	USH353	USH353HDZ	USH353ZL	USH653	USH653HDZ	USH653ZL
		400	300	52000	9.25	USH354	USH354HDZ	USH354ZL	USH654	USH654HDZ	USH654ZL
		500	300	65000	10.00	USH355	USH355HDZ	USH355ZL	USH655	USH655HDZ	USH655ZL
		600	300	78000	10.75	USH356	USH356HDZ	USH356ZL	USH656	USH656HDZ	USH656ZL
		700	200	91000	11.50	USH357	USH357HDZ	USH357ZL	USH657	USH657HDZ	USH657ZL
		800	200	104000	12.25	USH358	USH358HDZ	USH358ZL	USH658	USH658HDZ	USH658ZL
		900	200	117000	13.00	USH359	USH359HDZ	USH359ZL	USH659	USH659HDZ	USH659ZL
		1000	200	130000	13.75	USH350	USH350HDZ	USH350ZL	USH650	USH650HDZ	USH650ZL

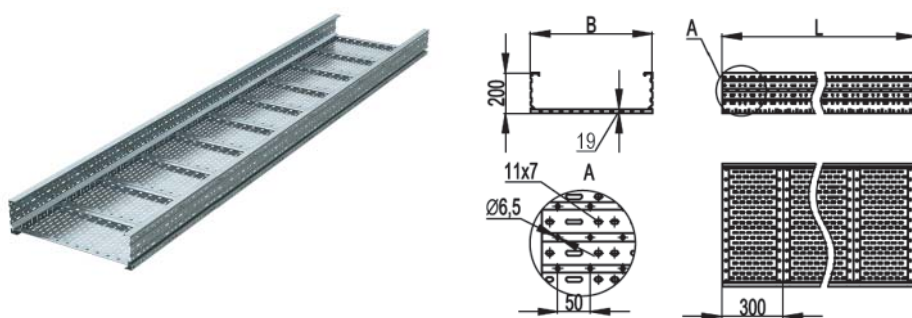
Load curves for trays with a height of 150 mm



**Conditions of tray
safe operating load tests:**

- testing according to GOST R 52868, cl. 10.3.3;
- safety factor is at least 1.7 of the claimed load.

Straight elements with a height of 200 mm, perforated

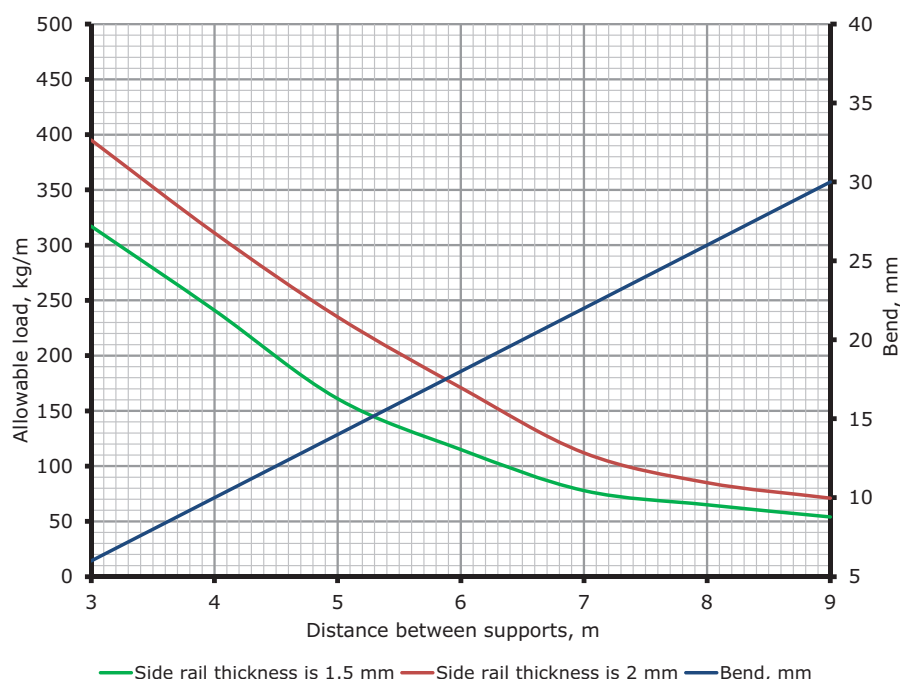


Purpose:

- cabling on straight sections;
- manufacturing of trays with a length of 9 meters on request (versions: 1, 4).

Height, mm	Side rail thickness, mm	Width B, mm	Width of bottom plates T, mm	TUA, mm ²	Weight, vers. 1, kg/m	Length L, mm					
						3000			6000		
						code, vers. 1	code, vers. 2	code, vers. 4	code, vers. 1	code, vers. 2	code, vers. 4
200	1.5	200	300	36000	7.72	USM322	USM322HDZ	USM322ZL	USM622	USM622HDZ	USM622ZL
		300	300	54000	8.62	USM323	USM323HDZ	USM323ZL	USM623	USM623HDZ	USM623ZL
		400	300	72000	9.52	USM324	USM324HDZ	USM324ZL	USM624	USM624HDZ	USM624ZL
		500	300	90000	10.41	USM325	USM325HDZ	USM325ZL	USM625	USM625HDZ	USM625ZL
		600	300	108000	11.31	USM326	USM326HDZ	USM326ZL	USM626	USM626HDZ	USM626ZL
		700	200	126000	12.21	USM327	USM327HDZ	USM327ZL	USM627	USM627HDZ	USM627ZL
		800	200	144000	13.11	USM328	USM328HDZ	USM328ZL	USM628	USM628HDZ	USM628ZL
		900	200	162000	14.01	USM329	USM329HDZ	USM329ZL	USM629	USM629HDZ	USM629ZL
		1000	200	180000	14.91	USM320	USM320HDZ	USM320ZL	USM620	USM620HDZ	USM620ZL
	2.0	200	300	36000	9.36	USH322	USH322HDZ	USH322ZL	USH622	USH622HDZ	USH622ZL
		300	300	54000	10.11	USH323	USH323HDZ	USH323ZL	USH623	USH623HDZ	USH623ZL
		400	300	72000	10.86	USH324	USH324HDZ	USH324ZL	USH624	USH624HDZ	USH624ZL
		500	300	90000	11.60	USH325	USH325HDZ	USH325ZL	USH625	USH625HDZ	USH625ZL
		600	300	108000	12.35	USH326	USH326HDZ	USH326ZL	USH626	USH626HDZ	USH626ZL
		700	200	126000	13.10	USH327	USH327HDZ	USH327ZL	USH627	USH627HDZ	USH627ZL
		800	200	144000	13.85	USH328	USH328HDZ	USH328ZL	USH628	USH628HDZ	USH628ZL
		900	200	162000	14.60	USH329	USH329HDZ	USH329ZL	USH629	USH629HDZ	USH629ZL
		1000	200	180000	15.35	USH320	USH320HDZ	USH320ZL	USH620	USH620HDZ	USH620ZL

Load curves for trays with a height of 200 mm



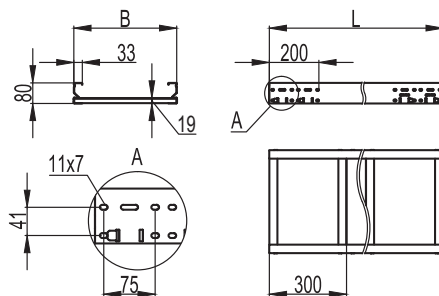
Conditions of tray

safe operating load tests:

- testing according to GOST R 52868, cl. 10.3.3;
- safety factor is at least 1.7 of the claimed load.

Non-perforated cable tray

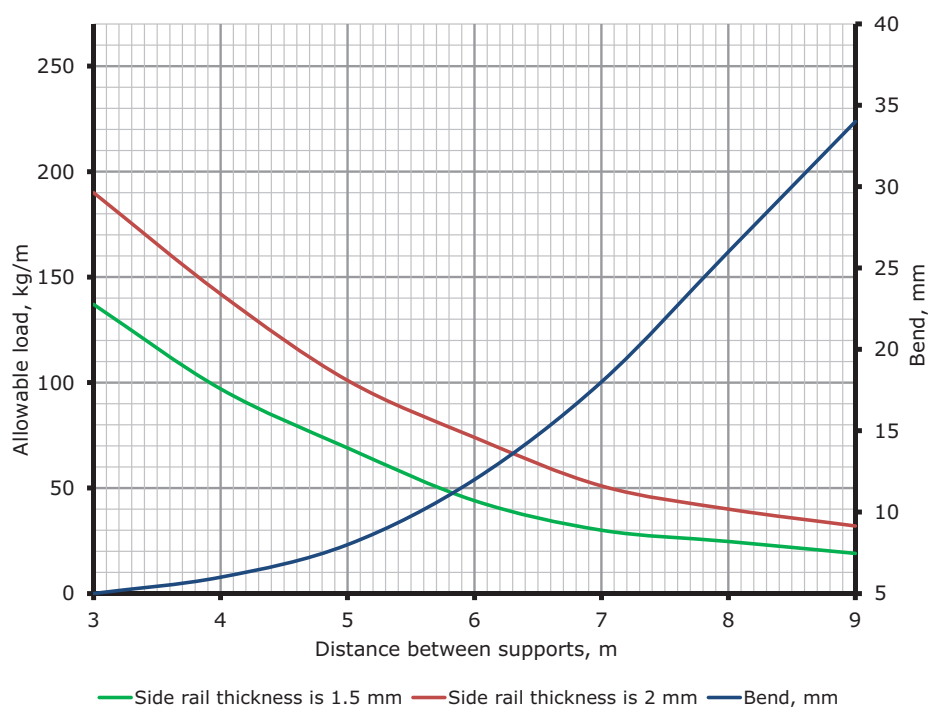
Straight elements with a height of 80 mm, non-perforated


Purpose:

- cabling on straight sections;
- manufacturing of trays with a length of 9 meters on request (versions: 1, 4).

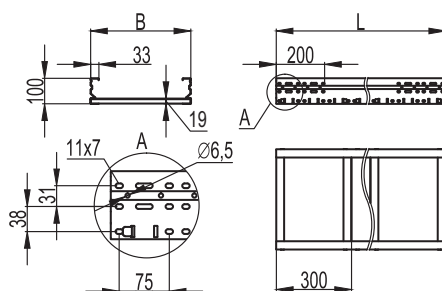
Height, mm	Side rail thickness, mm	Width B, mm	TUA, mm ²	Weight, vers. 1, kg/m	Length L, mm					
					3000			6000		
					code, vers. 1	code, vers. 2	code, vers. 4	code, vers. 1	code, vers. 2	code, vers. 4
80	1.5	200	12000	9.44	UNM382	UNM382HDZ	UNM382ZL	UNM682	UNM682HDZ	UNM682ZL
		300	18000	11.24	UNM383	UNM383HDZ	UNM383ZL	UNM683	UNM683HDZ	UNM683ZL
		400	24000	13.04	UNM384	UNM384HDZ	UNM384ZL	UNM684	UNM684HDZ	UNM684ZL
		500	30000	14.84	UNM385	UNM385HDZ	UNM385ZL	UNM685	UNM685HDZ	UNM685ZL
		600	36000	16.64	UNM386	UNM386HDZ	UNM386ZL	UNM686	UNM686HDZ	UNM686ZL
		700	42000	18.44	UNM387	UNM387HDZ	UNM387ZL	UNM687	UNM687HDZ	UNM687ZL
		800	48000	20.24	UNM388	UNM388HDZ	UNM388ZL	UNM688	UNM688HDZ	UNM688ZL
		900	54000	22.04	UNM389	UNM389HDZ	UNM389ZL	UNM689	UNM689HDZ	UNM689ZL
		1000	60000	23.84	UNM380	UNM380HDZ	UNM380ZL	UNM680	UNM680HDZ	UNM680ZL
	2.0	200	12000	10.72	UNH382	UNH382HDZ	UNH382ZL	UNH682	UNH682HDZ	UNH682ZL
		300	18000	12.22	UNH383	UNH383HDZ	UNH383ZL	UNH683	UNH683HDZ	UNH683ZL
		400	24000	13.72	UNH384	UNH384HDZ	UNH384ZL	UNH684	UNH684HDZ	UNH684ZL
		500	30000	15.22	UNH385	UNH385HDZ	UNH385ZL	UNH685	UNH685HDZ	UNH685ZL
		600	36000	16.72	UNH386	UNH386HDZ	UNH386ZL	UNH686	UNH686HDZ	UNH686ZL
		700	42000	18.12	UNH387	UNH387HDZ	UNH387ZL	UNH687	UNH687HDZ	UNH687ZL
		800	48000	19.52	UNH388	UNH388HDZ	UNH388ZL	UNH688	UNH688HDZ	UNH688ZL
		900	54000	20.92	UNH389	UNH389HDZ	UNH389ZL	UNH689	UNH689HDZ	UNH689ZL
		1000	60000	24.32	UNH380	UNH380HDZ	UNH380ZL	UNH680	UNH680HDZ	UNH680ZL

Load curves for trays with a height of 80 mm


Conditions of tray
safe operating load tests:

- testing according to GOST R 52868, cl. 10.3.3;
- safety factor is at least 1.7 of the claimed load.

Straight elements with a height of 100 mm, non-perforated

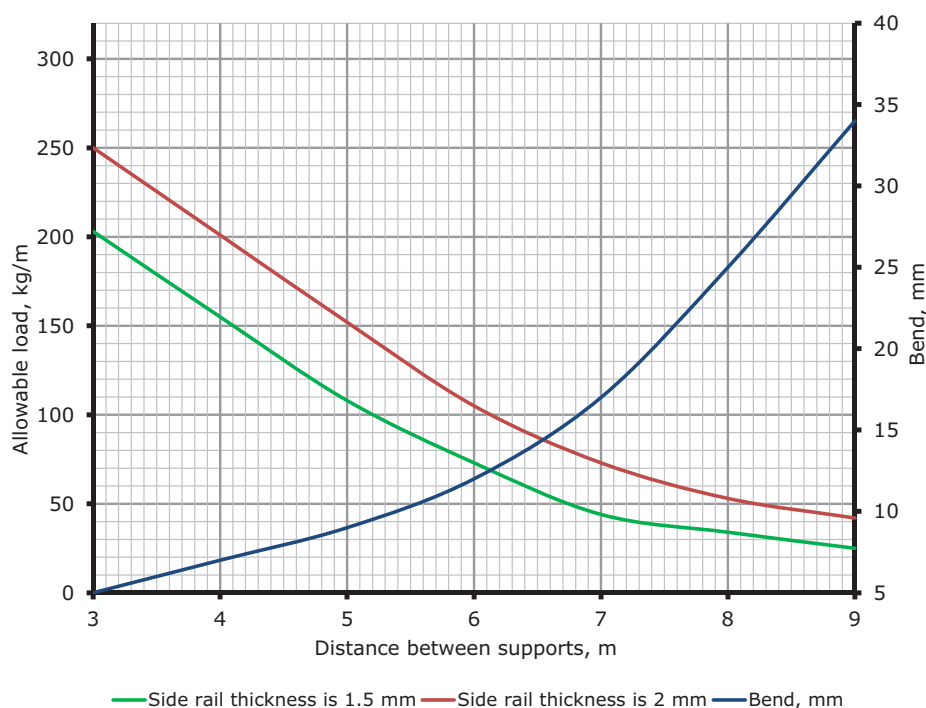


Purpose:

- cabling on straight sections;
- manufacturing of trays with a length of 9 meters on request (versions: 1, 4).

Height, mm	Side rail thickness, mm	Width B, mm	TUA, mm ²	Weight, vers. 1, kg/m	Length L, mm					
					3000			6000		
					code, vers. 1	code, vers. 2	code, vers. 4	code, vers. 1	code, vers. 2	code, vers. 4
100	1.5	200	16000	10.62	UNM312	UNM312HDZ	UNM312ZL	UNM612	UNM612HDZ	UNM612ZL
		300	24000	12.42	UNM313	UNM313HDZ	UNM313ZL	UNM613	UNM613HDZ	UNM613ZL
		400	32000	14.22	UNM314	UNM314HDZ	UNM314ZL	UNM614	UNM614HDZ	UNM614ZL
		500	40000	16.02	UNM315	UNM315HDZ	UNM315ZL	UNM615	UNM615HDZ	UNM615ZL
		600	48000	17.82	UNM316	UNM316HDZ	UNM316ZL	UNM616	UNM616HDZ	UNM616ZL
		700	56000	19.62	UNM317	UNM317HDZ	UNM317ZL	UNM617	UNM617HDZ	UNM617ZL
		800	64000	21.42	UNM318	UNM318HDZ	UNM318ZL	UNM618	UNM618HDZ	UNM618ZL
		900	72000	23.22	UNM319	UNM319HDZ	UNM319ZL	UNM619	UNM619HDZ	UNM619ZL
		1000	80000	25.02	UNM310	UNM310HDZ	UNM310ZL	UNM610	UNM610HDZ	UNM610ZL
	2.0	200	16000	12.30	UNH312	UNH312HDZ	UNH312ZL	UNH612	UNH612HDZ	UNH612ZL
		300	24000	13.80	UNH313	UNH313HDZ	UNH313ZL	UNH613	UNH613HDZ	UNH613ZL
		400	32000	15.30	UNH314	UNH314HDZ	UNH314ZL	UNH614	UNH614HDZ	UNH614ZL
		500	40000	16.80	UNH315	UNH315HDZ	UNH315ZL	UNH615	UNH615HDZ	UNH615ZL
		600	48000	18.30	UNH316	UNH316HDZ	UNH316ZL	UNH616	UNH616HDZ	UNH616ZL
		700	56000	20.00	UNH317	UNH317HDZ	UNH317ZL	UNH617	UNH617HDZ	UNH617ZL
		800	64000	21.70	UNH318	UNH318HDZ	UNH318ZL	UNH618	UNH618HDZ	UNH618ZL
		900	72000	23.10	UNH319	UNH319HDZ	UNH319ZL	UNH619	UNH619HDZ	UNH619ZL
		1000	80000	26.30	UNH310	UNH310HDZ	UNH310ZL	UNH610	UNH610HDZ	UNH610ZL

Load curves for trays with a height of 100 mm

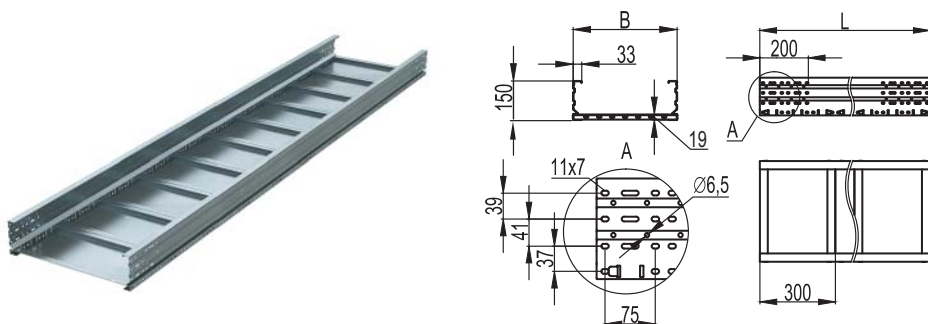


Conditions of tray

safe operating load tests:

- testing according to GOST R 52868, cl. 10.3.3;
- safety factor is at least 1.7 of the claimed load.

Straight elements with a height of 150 mm, non-perforated

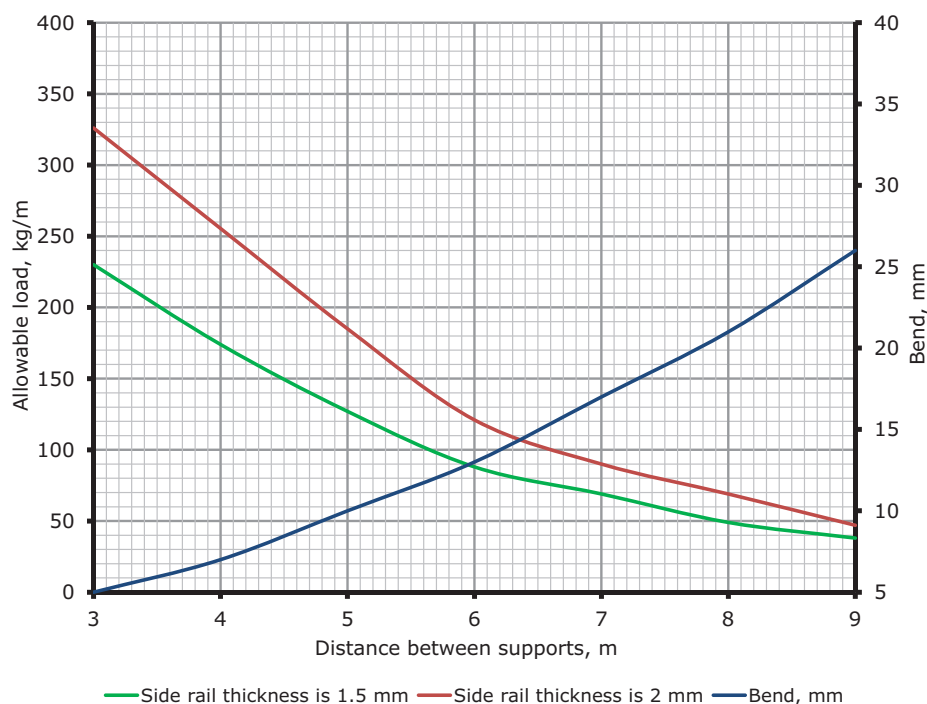


Purpose:

- cabling on straight sections;
- manufacturing of trays with a length of 9 meters on request (versions: 1, 4).

Height, mm	Side rail thickness, mm	Width B, mm	Width of bottom plates T, mm	TUA, mm ²	Weight, vers. 1, kg/m	Length L, mm					
						3000			6000		
						code, vers. 1	code, vers. 2	code, vers. 4	code, vers. 1	code, vers. 2	code, vers. 4
150	1.5	200	300	26000	13.04	UNM352	UNM352HDZ	UNM352ZL	UNM652	UNM652HDZ	UNM652ZL
		300	300	39000	14.84	UNM353	UNM353HDZ	UNM353ZL	UNM653	UNM653HDZ	UNM653ZL
		400	300	52000	16.62	UNM354	UNM354HDZ	UNM354ZL	UNM654	UNM654HDZ	UNM654ZL
		500	300	65000	18.42	UNM355	UNM355HDZ	UNM355ZL	UNM655	UNM655HDZ	UNM655ZL
		600	300	78000	20.22	UNM356	UNM356HDZ	UNM356ZL	UNM656	UNM656HDZ	UNM656ZL
		700	200	91000	22.02	UNM357	UNM357HDZ	UNM357ZL	UNM657	UNM657HDZ	UNM657ZL
		800	200	104000	23.82	UNM358	UNM358HDZ	UNM358ZL	UNM658	UNM658HDZ	UNM658ZL
		900	200	117000	25.62	UNM359	UNM359HDZ	UNM359ZL	UNM659	UNM659HDZ	UNM659ZL
		1000	200	130000	27.42	UNM350	UNM350HDZ	UNM350ZL	UNM650	UNM650HDZ	UNM650ZL
	2.0	200	300	26000	15.50	UNH352	UNH352HDZ	UNH352ZL	UNH652	UNH652HDZ	UNH652ZL
		300	300	39000	17.00	UNH353	UNH353HDZ	UNH353ZL	UNH653	UNH653HDZ	UNH653ZL
		400	300	52000	18.50	UNH354	UNH354HDZ	UNH354ZL	UNH654	UNH654HDZ	UNH654ZL
		500	300	65000	20.00	UNH355	UNH355HDZ	UNH355ZL	UNH655	UNH655HDZ	UNH655ZL
		600	300	78000	21.50	UNH356	UNH356HDZ	UNH356ZL	UNH656	UNH656HDZ	UNH656ZL
		700	200	91000	23.00	UNH357	UNH357HDZ	UNH357ZL	UNH657	UNH657HDZ	UNH657ZL
		800	200	104000	24.50	UNH358	UNH358HDZ	UNH358ZL	UNH658	UNH658HDZ	UNH658ZL
		900	200	117000	26.00	UNH359	UNH359HDZ	UNH359ZL	UNH659	UNH659HDZ	UNH659ZL
		1000	200	130000	27.50	UNH350	UNH350HDZ	UNH350ZL	UNH650	UNH650HDZ	UNH650ZL

Load curves for trays with a height of 150 mm

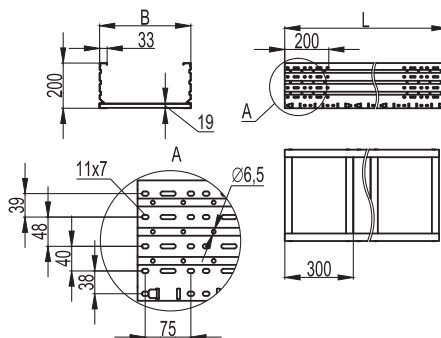


Conditions of tray

safe operating load tests:

- testing according to GOST R 52868, cl. 10.3.3;
- safety factor is at least 1.7 of the claimed load.

Straight elements with a height of 200 mm, non-perforated

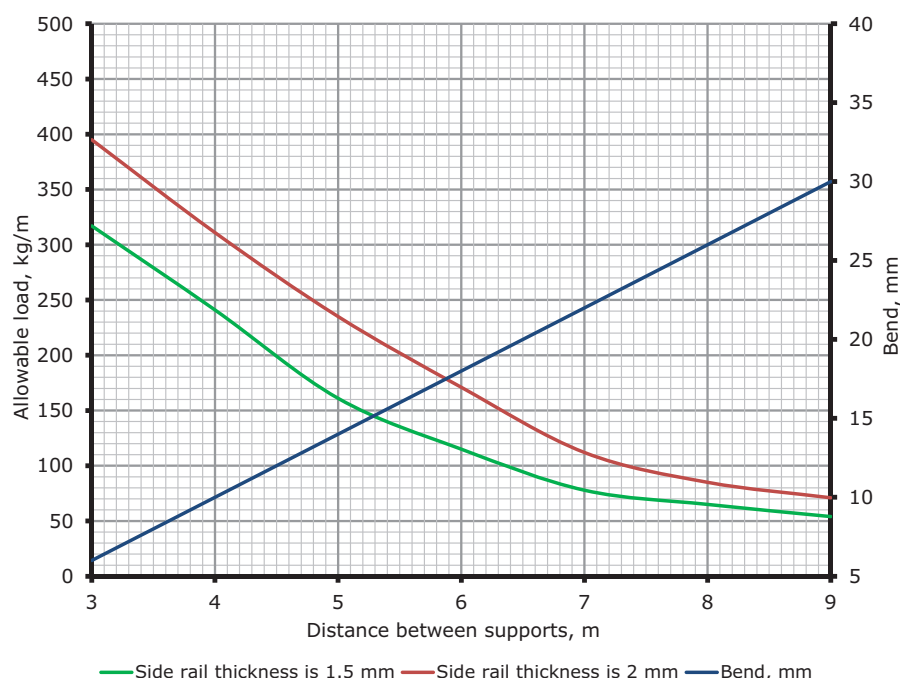


Purpose:

- cabling on straight sections;
- manufacturing of trays with a length of 9 meters on request (versions: 1, 4).

Height, mm	Side rail thickness, mm	Width B, mm	Width of bottom plates T, mm	TUA, mm ²	Weight, vers. 1, kg/m	Length L, mm					
						3000			6000		
						code, vers. 1	code, vers. 2	code, vers. 4	code, vers. 1	code, vers. 2	code, vers. 4
200	1.5	200	300	36000	15.44	UNM322	UNM322HDZ	UNM322ZL	UNM622	UNM622HDZ	UNM622ZL
		300	300	54000	17.24	UNM323	UNM323HDZ	UNM323ZL	UNM623	UNM623HDZ	UNM623ZL
		400	300	72000	19.04	UNM324	UNM324HDZ	UNM324ZL	UNM624	UNM624HDZ	UNM624ZL
		500	300	90000	20.82	UNM325	UNM325HDZ	UNM325ZL	UNM625	UNM625HDZ	UNM625ZL
		600	300	108000	22.62	UNM326	UNM326HDZ	UNM326ZL	UNM626	UNM626HDZ	UNM626ZL
		700	200	126000	24.42	UNM327	UNM327HDZ	UNM327ZL	UNM627	UNM627HDZ	UNM627ZL
		800	200	144000	26.22	UNM328	UNM328HDZ	UNM328ZL	UNM628	UNM628HDZ	UNM628ZL
		900	200	162000	28.02	UNM329	UNM329HDZ	UNM329ZL	UNM629	UNM629HDZ	UNM629ZL
		1000	200	180000	29.82	UNM320	UNM320HDZ	UNM320ZL	UNM620	UNM620HDZ	UNM620ZL
	2.0	200	300	36000	18.72	UNH322	UNH322HDZ	UNH322ZL	UNH622	UNH622HDZ	UNH622ZL
		300	300	54000	20.22	UNH323	UNH323HDZ	UNH323ZL	UNH623	UNH623HDZ	UNH623ZL
		400	300	72000	21.72	UNH324	UNH324HDZ	UNH324ZL	UNH624	UNH624HDZ	UNH624ZL
		500	300	90000	23.20	UNH325	UNH325HDZ	UNH325ZL	UNH625	UNH625HDZ	UNH625ZL
		600	300	108000	24.70	UNH326	UNH326HDZ	UNH326ZL	UNH626	UNH626HDZ	UNH626ZL
		700	200	126000	26.20	UNH327	UNH327HDZ	UNH327ZL	UNH627	UNH627HDZ	UNH627ZL
		800	200	144000	27.70	UNH328	UNH328HDZ	UNH328ZL	UNH628	UNH628HDZ	UNH628ZL
		900	200	162000	29.20	UNH329	UNH329HDZ	UNH329ZL	UNH629	UNH629HDZ	UNH629ZL
		1000	200	180000	30.70	UNH320	UNH320HDZ	UNH320ZL	UNH620	UNH620HDZ	UNH620ZL

Load curves for trays with a height of 200 mm



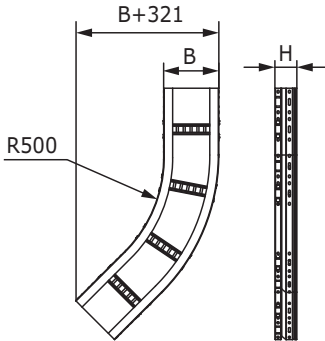
Conditions of tray

safe operating load tests:

- testing according to GOST R 52868, cl. 10.3.3;
- safety factor is at least 1.7 of the claimed load.

Cable tray system accessories

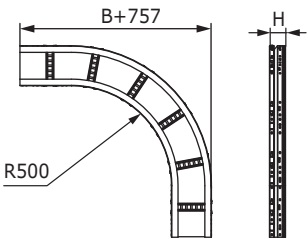
Horizontal sheet angle 45°



- Purpose:**
- 45° route bend in horizontal plane;
 - on request R600-1000.

H height, mm	Base width B, mm	Code, vers. 1	Code, vers. 2	Code, vers. 4
80	200	USC682	USC682HDZ	USC682ZL
	300	USC683	USC683HDZ	USC683ZL
	400	USC684	USC684HDZ	USC684ZL
	500	USC685	USC685HDZ	USC685ZL
	600	USC686	USC686HDZ	USC686ZL
	700	USC687	USC687HDZ	USC687ZL
	800	USC688	USC688HDZ	USC688ZL
	900	USC689	USC689HDZ	USC689ZL
	1000	USC680	USC680HDZ	USC680ZL
100	200	USC612	USC612HDZ	USC612ZL
	300	USC613	USC613HDZ	USC613ZL
	400	USC614	USC614HDZ	USC614ZL
	500	USC615	USC615HDZ	USC615ZL
	600	USC616	USC616HDZ	USC616ZL
	700	USC617	USC617HDZ	USC617ZL
	800	USC618	USC618HDZ	USC618ZL
	900	USC619	USC619HDZ	USC619ZL
	1000	USC610	USC610HDZ	USC610ZL
150	200	USC652	USC652HDZ	USC652ZL
	300	USC653	USC653HDZ	USC653ZL
	400	USC654	USC654HDZ	USC654ZL
	500	USC655	USC655HDZ	USC655ZL
	600	USC656	USC656HDZ	USC656ZL
	700	USC657	USC657HDZ	USC657ZL
	800	USC658	USC658HDZ	USC658ZL
	900	USC659	USC659HDZ	USC659ZL
	1000	USC650	USC650HDZ	USC650ZL
200	200	USC622	USC622HDZ	USC622ZL
	300	USC623	USC623HDZ	USC623ZL
	400	USC624	USC624HDZ	USC624ZL
	500	USC625	USC625HDZ	USC625ZL
	600	USC626	USC626HDZ	USC626ZL
	700	USC627	USC627HDZ	USC627ZL
	800	USC628	USC628HDZ	USC628ZL
	900	USC629	USC629HDZ	USC629ZL
	1000	USC620	USC620HDZ	USC620ZL

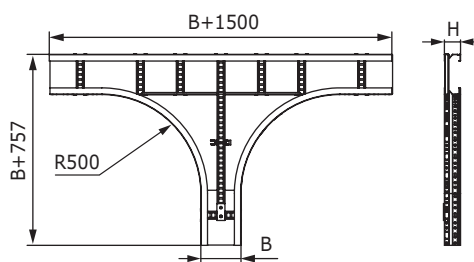
Horizontal sheet angle 90°



- Purpose:**
- 90° route bend in horizontal plane;
 - on request R600-1000.

H height, mm	Base width B, mm	Code, vers. 1	Code, vers. 2	Code, vers. 4
80	200	USD682	USD682HDZ	USD682ZL
	300	USD683	USD683HDZ	USD683ZL
	400	USD684	USD684HDZ	USD684ZL
	500	USD685	USD685HDZ	USD685ZL
	600	USD686	USD686HDZ	USD686ZL
	700	USD687	USD687HDZ	USD687ZL
	800	USD688	USD688HDZ	USD688ZL
	900	USD689	USD689HDZ	USD689ZL
	1000	USD680	USD680HDZ	USD680ZL
100	200	USD612	USD612HDZ	USD612ZL
	300	USD613	USD613HDZ	USD613ZL
	400	USD614	USD614HDZ	USD614ZL
	500	USD615	USD615HDZ	USD615ZL
	600	USD616	USD616HDZ	USD616ZL
	700	USD617	USD617HDZ	USD617ZL
	800	USD618	USD618HDZ	USD618ZL
	900	USD619	USD619HDZ	USD619ZL
	1000	USD610	USD610HDZ	USD610ZL
150	200	USD652	USD652HDZ	USD652ZL
	300	USD653	USD653HDZ	USD653ZL
	400	USD654	USD654HDZ	USD654ZL
	500	USD655	USD655HDZ	USD655ZL
	600	USD656	USD656HDZ	USD656ZL
	700	USD657	USD657HDZ	USD657ZL
	800	USD658	USD658HDZ	USD658ZL
	900	USD659	USD659HDZ	USD659ZL
	1000	USD650	USD650HDZ	USD650ZL
200	200	USD622	USD622HDZ	USD622ZL
	300	USD623	USD623HDZ	USD623ZL
	400	USD624	USD624HDZ	USD624ZL
	500	USD625	USD625HDZ	USD625ZL
	600	USD626	USD626HDZ	USD626ZL
	700	USD627	USD627HDZ	USD627ZL
	800	USD628	USD628HDZ	USD628ZL
	900	USD629	USD629HDZ	USD629ZL
	1000	USD620	USD620HDZ	USD620ZL

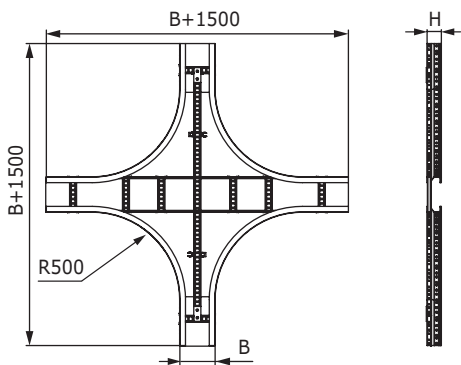
Sheet T-tapper


Purpose:

- installation of route branches in horizontal plane;
- on request R600-1000.

H height, mm	Base width B, mm	Code, vers. 1	Code, vers. 2	Code, vers. 4
80	200	UST682	UST682HDZ	UST682ZL
	300	UST683	UST683HDZ	UST683ZL
	400	UST684	UST684HDZ	UST684ZL
	500	UST685	UST685HDZ	UST685ZL
	600	UST686	UST686HDZ	UST686ZL
	700	UST687	UST687HDZ	UST687ZL
	800	UST688	UST688HDZ	UST688ZL
	900	UST689	UST689HDZ	UST689ZL
100	1000	UST680	UST680HDZ	UST680ZL
	200	UST612	UST612HDZ	UST612ZL
	300	UST613	UST613HDZ	UST613ZL
	400	UST614	UST614HDZ	UST614ZL
	500	UST615	UST615HDZ	UST615ZL
	600	UST616	UST616HDZ	UST616ZL
	700	UST617	UST617HDZ	UST617ZL
	800	UST618	UST618HDZ	UST618ZL
150	900	UST619	UST619HDZ	UST619ZL
	1000	UST610	UST610HDZ	UST610ZL
	200	UST652	UST652HDZ	UST652ZL
	300	UST653	UST653HDZ	UST653ZL
	400	UST654	UST654HDZ	UST654ZL
	500	UST655	UST655HDZ	UST655ZL
	600	UST656	UST656HDZ	UST656ZL
	700	UST657	UST657HDZ	UST657ZL
200	800	UST658	UST658HDZ	UST658ZL
	900	UST659	UST659HDZ	UST659ZL
	1000	UST650	UST650HDZ	UST650ZL
	200	UST622	UST622HDZ	UST622ZL
	300	UST623	UST623HDZ	UST623ZL
	400	UST624	UST624HDZ	UST624ZL
	500	UST625	UST625HDZ	UST625ZL
	600	UST626	UST626HDZ	UST626ZL
	700	UST627	UST627HDZ	UST627ZL
	800	UST628	UST628HDZ	UST628ZL
	900	UST629	UST629HDZ	UST629ZL
	1000	UST620	UST620HDZ	UST620ZL

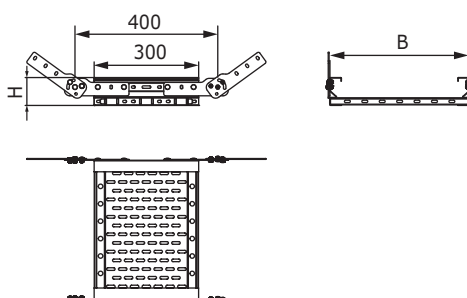
Sheet X-tapper



- Purpose:**
- installation of route crossing points in horizontal plane;
 - on request R600-1000.

H height, mm	Base width B, mm	Code, vers. 1	Code, vers. 2	Code, vers. 4
80	200	USX682	USX682HDZ	USX682ZL
	300	USX683	USX683HDZ	USX683ZL
	400	USX684	USX684HDZ	USX684ZL
	500	USX685	USX685HDZ	USX685ZL
	600	USX686	USX686HDZ	USX686ZL
	700	USX687	USX687HDZ	USX687ZL
	800	USX688	USX688HDZ	USX688ZL
	900	USX689	USX689HDZ	USX689ZL
100	1000	USX680	USX680HDZ	USX680ZL
	200	USX612	USX612HDZ	USX612ZL
	300	USX613	USX613HDZ	USX613ZL
	400	USX614	USX614HDZ	USX614ZL
	500	USX615	USX615HDZ	USX615ZL
	600	USX616	USX616HDZ	USX616ZL
	700	USX617	USX617HDZ	USX617ZL
	800	USX618	USX618HDZ	USX618ZL
150	900	USX619	USX619HDZ	USX619ZL
	1000	USX610	USX610HDZ	USX610ZL
	200	USX652	USX652HDZ	USX652ZL
	300	USX653	USX653HDZ	USX653ZL
	400	USX654	USX654HDZ	USX654ZL
	500	USX655	USX655HDZ	USX655ZL
	600	USX656	USX656HDZ	USX656ZL
	700	USX657	USX657HDZ	USX657ZL
200	800	USX658	USX658HDZ	USX658ZL
	900	USX659	USX659HDZ	USX659ZL
	1000	USX650	USX650HDZ	USX650ZL
	200	USX622	USX622HDZ	USX622ZL
	300	USX623	USX623HDZ	USX623ZL
	400	USX624	USX624HDZ	USX624ZL
	500	USX625	USX625HDZ	USX625ZL
	600	USX626	USX626HDZ	USX626ZL
	700	USX627	USX627HDZ	USX627ZL
	800	USX628	USX628HDZ	USX628ZL
	900	USX629	USX629HDZ	USX629ZL
	1000	USX620	USX620HDZ	USX620ZL

Vertical sheet angle



Purpose:

- installation of route lifting and lowering points;
- route inclination at a random angle;
- transfer to another laying plane.

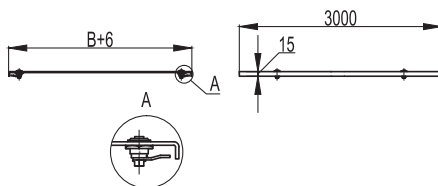
Distinctive features:

- several sections are installed in succession to increase bend radius.

H height, mm	Base width B, mm	Code, vers. 1	Code, vers. 2	Code, vers. 4
80	200	USF082	USF082HDZ	USF082ZL
	300	USF083	USF083HDZ	USF083ZL
	400	USF084	USF084HDZ	USF084ZL
	500	USF085	USF085HDZ	USF085ZL
	600	USF086	USF086HDZ	USF086ZL
	700	USF087	USF087HDZ	USF087ZL
	800	USF088	USF088HDZ	USF088ZL
	900	USF089	USF089HDZ	USF089ZL
	1000	USF080	USF080HDZ	USF080ZL
100	200	USF012	USF012HDZ	USF012ZL
	300	USF013	USF013HDZ	USF013ZL
	400	USF014	USF014HDZ	USF014ZL
	500	USF015	USF015HDZ	USF015ZL
	600	USF016	USF016HDZ	USF016ZL
	700	USF017	USF017HDZ	USF017ZL
	800	USF018	USF018HDZ	USF018ZL
	900	USF019	USF019HDZ	USF019ZL
	1000	USF010	USF010HDZ	USF010ZL
150	200	USF052	USF052HDZ	USF052ZL
	300	USF053	USF053HDZ	USF053ZL
	400	USF054	USF054HDZ	USF054ZL
	500	USF055	USF055HDZ	USF055ZL
	600	USF056	USF056HDZ	USF056ZL
	700	USF057	USF057HDZ	USF057ZL
	800	USF058	USF058HDZ	USF058ZL
	900	USF059	USF059HDZ	USF059ZL
	1000	USF050	USF050HDZ	USF050ZL
200	200	USF022	USF022HDZ	USF022ZL
	300	USF023	USF023HDZ	USF023ZL
	400	USF024	USF024HDZ	USF024ZL
	500	USF025	USF025HDZ	USF025ZL
	600	USF026	USF026HDZ	USF026ZL
	700	USF027	USF027HDZ	USF027ZL
	800	USF028	USF028HDZ	USF028ZL
	900	USF029	USF029HDZ	USF029ZL
	1000	USF020	USF020HDZ	USF020ZL

Covers

Cover with retainers


Purpose:

- cable protection against external effects;
- used in case of horizontal cable route laying.

Distinctive features:

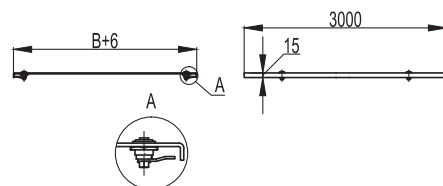
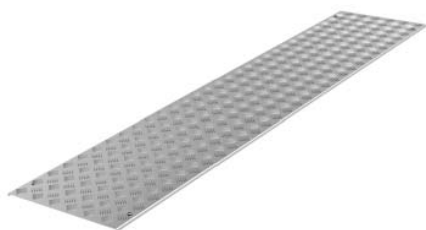
- installed using 4 rotating retainers;
- straight cover holder UKH400HDZL is used additionally under high wind loads.

Characteristics:

- thickness is 1.5 mm.

Base width B, mm	Code, vers. 1	Code, vers. 2	Code, vers. 4
200	UKS302	UKS302HDZ	UKS302ZL
300	UKS303	UKS303HDZ	UKS303ZL
400	UKS304	UKS304HDZ	UKS304ZL
500	UKS305	UKS305HDZ	UKS305ZL
600	UKS306	UKS306HDZ	UKS306ZL
700	UKS307	UKS307HDZ	UKS307ZL
800	UKS308	UKS308HDZ	UKS308ZL
900	UKS309	UKS309HDZ	UKS309ZL
1000	UKS300	UKS300HDZ	UKS300ZL

Rifflé cover with retainers


Purpose:

- cable protection against external effects;
- floor-mounted laying.

Distinctive features:

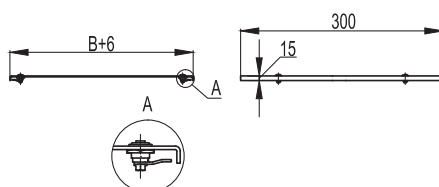
- installed using 4 rotating retainers.

Characteristics:

- material: aluminium;
- thickness is 3 mm.

Base width B, mm	Code
200	UKS312
300	UKS313
400	UKS314
500	UKS315
600	UKS316
700	UKS317
800	UKS318
900	UKS319
1000	UKS310

Vertical angle cover


Purpose:

- cable protection against external effects.

Characteristics:

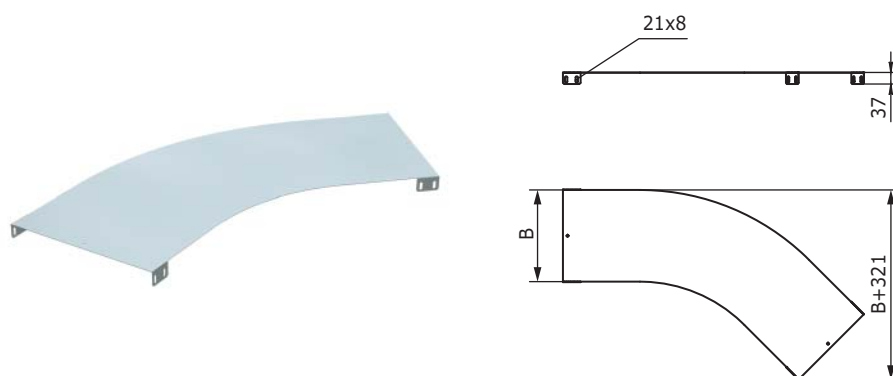
- length is 300 mm;
- thickness is 1.5 mm.

Mounting elements:

- holder UKH300HDZL shall be used with large mounting angles.

Base width, mm	Code, vers. 1	Code, vers. 2	Code, vers. 4
200	UKF302	UKF302HDZ	UKF302ZL
300	UKF303	UKF303HDZ	UKF303ZL
400	UKF304	UKF304HDZ	UKF304ZL
500	UKF305	UKF305HDZ	UKF305ZL
600	UKF306	UKF306HDZ	UKF306ZL
700	UKF307	UKF307HDZ	UKF307ZL
800	UKF308	UKF308HDZ	UKF308ZL
900	UKF309	UKF309HDZ	UKF309ZL
1000	UKF300	UKF300HDZ	UKF300ZL

Cover for 45° horizontal angle


Purpose:

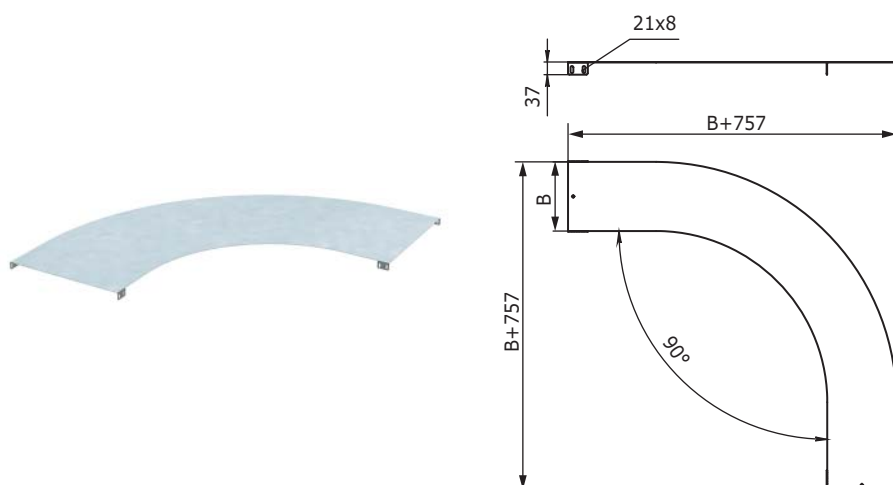
- cable protection against external effects;
- thickness is 1 mm.

Mounting elements:

- the following fasteners are used for connection: M6x10 bolt (code CM010610), M6 nut (code CM100600).

Base width B, mm	Code, vers. 1	Code, vers. 4
200	UKC602	UKC602ZL
300	UKC603	UKC603ZL
400	UKC604	UKC604ZL
500	UKC605	UKC605ZL
600	UKC606	UKC606ZL
700	UKC607	UKC607ZL
800	UKC608	UKC608ZL
900	UKC609	UKC609ZL
1000	UKC600	UKC600ZL

Cover for 90° horizontal angle


Purpose:

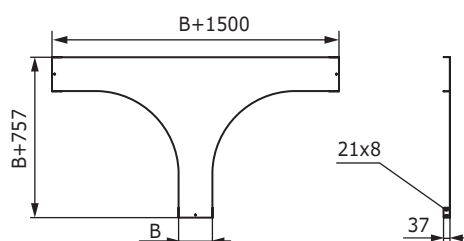
- cable protection against environmental exposure;
- thickness is 1 mm.

Mounting elements:

- the following fasteners are used for connection: M6x10 bolt (code CM010610), M6 nut (code CM100600).

Base width B, mm	Code, vers. 1	Code, vers. 4
200	UKD602	UKD602ZL
300	UKD603	UKD603ZL
400	UKD604	UKD604ZL
500	UKD605	UKD605ZL
600	UKD606	UKD606ZL
700	UKD607	UKD607ZL
800	UKD608	UKD608ZL
900	UKD609	UKD609ZL
1000	UKD600	UKD600ZL

Cover for T-tapper


Purpose:

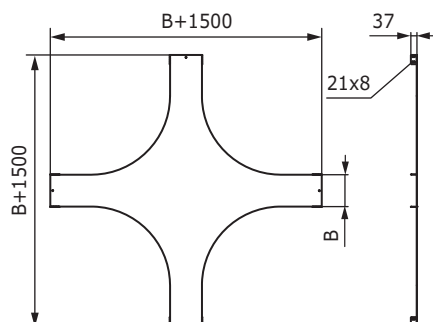
- cable protection against external effects;
- thickness is 1 mm.

Mounting elements:

- the following fasteners are used for connection: M6x10 bolt (code CM010610), M6 nut (code CM100600).

Base width B, mm	Code, vers. 1	Code, vers. 4
200	UKT602	UKT602ZL
300	UKT603	UKT603ZL
400	UKT604	UKT604ZL
500	UKT605	UKT605ZL
600	UKT606	UKT606ZL
700	UKT607	UKT607ZL
800	UKT608	UKT608ZL
900	UKT609	UKT609ZL
1000	UKT600	UKT600ZL

Cover for X-tapper


Purpose:

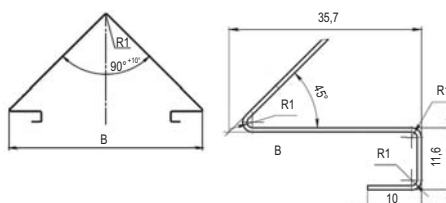
- cable protection against external effects;
- thickness is 1 mm.

Mounting elements:

- the following fasteners are used for connection: M6x10 bolt (code CM010610), M6 nut (code CM100600).

Base width B, mm	Code, vers. 1	Code, vers. 4
200	UKX602	UKX602ZL
300	UKX603	UKX603ZL
400	UKX604	UKX604ZL
500	UKX605	UKX605ZL
600	UKX606	UKX606ZL
700	UKX607	UKX607ZL
800	UKX608	UKX608ZL
900	UKX609	UKX609ZL
1000	UKX600	UKX600ZL

Inverted-V cover


Purpose:

- cable protection against snow load.

Distinctive features:

- conformity with SNiP 2.01.07-85.

Characteristics:

- thickness is 0.8 mm.

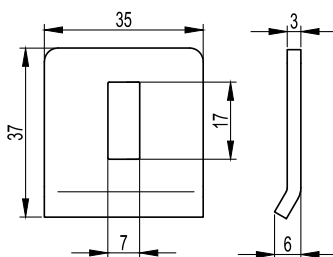
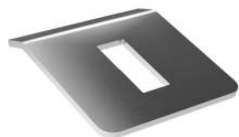
Mounting elements:

- in the areas with high wind load holder UKH500HDZL shall be used.

B base width, mm	Code, vers. 2	Code, vers. 4
200	UKS322HDZ	UKS322ZL
300	UKS323HDZ	UKS323ZL
400	UKS324HDZ	UKS324ZL
500	UKS325HDZ	UKS325ZL
600	UKS326HDZ	UKS326ZL
700	UKS327HDZ	UKS327ZL
800	UKS328HDZ	UKS328ZL
900	UKS329HDZ	UKS329ZL
1000	UKS320HDZ	UKS320ZL

Mounting accessories

Tray clamp



Purpose:

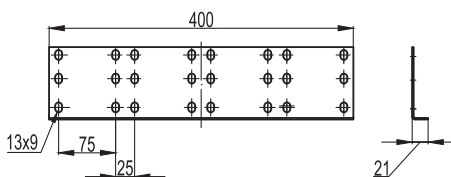
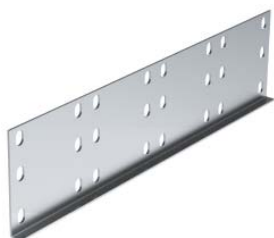
- attachment of cable ladders to brackets and suspenders.

Mounting elements:

- the following fasteners are used for connection: M6x16 bolt (code CM010616), M6 nut (code CM100600).

Weight, version 1, kg/pce	Code, vers. 1	Code, vers. 2	Code, vers. 3	Code, vers. 4
0.003	LP1000	LP1000HDZL	LP1000INOX	LP1000HDZL

Horizontal connector



Purpose:

- interconnection of elements.

Characteristics:

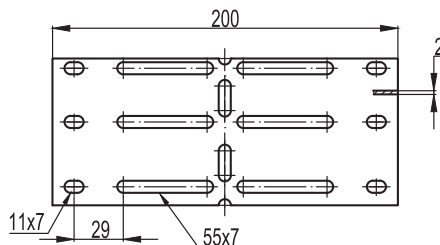
- steel thickness is 2.5 mm.

Mounting elements:

- the following fasteners are used for connection: M6x16 bolt (code CM010616), M6 nut (code CM100600).

Tray height, mm	Number of bolted connections, pcs	Code, vers. 1	Code, vers. 2	Code, vers. 4
80	8	UGH480	UGH480HDZL	UGH480HDZL
100	8	UGH410	UGH410HDZL	UGH410HDZL
150	8	UGH450	UGH450HDZL	UGH450HDZL
200	12	UGH420	UGH420HDZL	UGH420HDZL

Angle connector



Purpose:

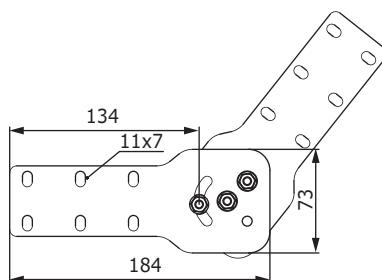
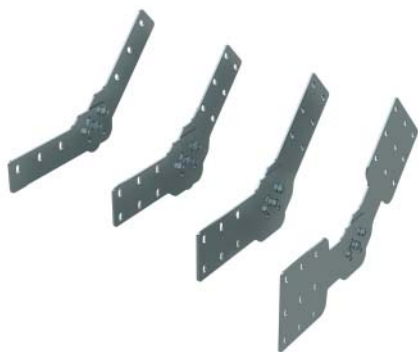
- route bend in horizontal plane at a random angle.

Mounting elements:

- the following fasteners are used for connection: M6x16 bolt (code CM010616), M6 nut (code CM100600).

Tray height, mm	Code, vers. 1	Code, vers. 2	Code, vers. 4
80	UHH080	UHH080HDZL	UHH080HDZL
100	UHH010	UHH010HDZL	UHH010HDZL
150	UHH050	UHH050HDZL	UHH050HDZL
200	UHH020	UHH020HDZL	UHH020HDZL

Hinged connector



Purpose:

- route inclination at a random angle.

Characteristics:

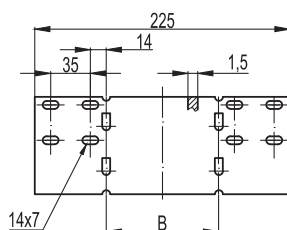
- steel thickness is 2 mm.

Mounting elements:

- the following fasteners are used for connection: M6x16 bolt (code CM010616), M6 nut (code CM100600).

Tray height, mm	Code, vers. 1	Code, vers. 2	Code, vers. 4
80	UVH080	UVH080HDZL	UVH080HDZL
100	UVH010	UVH010HDZL	UVH010HDZL
150	UVH050	UVH050HDZL	UVH050HDZL
200	UVH020	UVH020HDZL	UVH020HDZL

Reducing plug



Purpose:

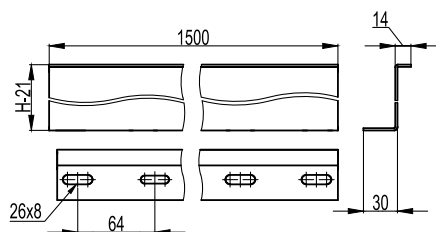
- connection of trays different in width;
- end plug at the route ending points.

Mounting elements:

- the following fasteners are used for connection: M6x16 bolt (code CM010616), M6 nut (code CM100600).

Tray height, mm	B transfer width, mm	Code, vers. 1	Code, vers. 2	Code, vers. 4
80	100	URH081	URH081HDZL	URH081HDZL
	200	URH082	URH082HDZL	URH082HDZL
	300	URH083	URH083HDZL	URH083HDZL
	400	URH084	URH084HDZL	URH084HDZL
	500	URH085	URH085HDZL	URH085HDZL
	600	URH086	URH086HDZL	URH086HDZL
	700	URH087	URH087HDZL	URH087HDZL
	800	URH088	URH088HDZL	URH088HDZL
	900	URH089	URH089HDZL	URH089HDZL
	1000	URH080	URH080HDZL	URH080HDZL
100	100	URH011	URH011HDZL	URH011HDZL
	200	URH012	URH012HDZL	URH012HDZL
	300	URH013	URH013HDZL	URH013HDZL
	400	URH014	URH014HDZL	URH014HDZL
	500	URH015	URH015HDZL	URH015HDZL
	600	URH016	URH016HDZL	URH016HDZL
	700	URH017	URH017HDZL	URH017HDZL
	800	URH018	URH018HDZL	URH018HDZL
	900	URH019	URH019HDZL	URH019HDZL
	1000	URH010	URH010HDZL	URH010HDZL
150	100	URH051	URH051HDZL	URH051HDZL
	200	URH052	URH052HDZL	URH052HDZL
	300	URH053	URH053HDZL	URH053HDZL
	400	URH054	URH054HDZL	URH054HDZL
	500	URH055	URH055HDZL	URH055HDZL
	600	URH056	URH056HDZL	URH056HDZL
	700	URH057	URH057HDZL	URH057HDZL
	800	URH058	URH058HDZL	URH058HDZL
	900	URH059	URH059HDZL	URH059HDZL
	1000	URH050	URH050HDZL	URH050HDZL
200	100	URH021	URH021HDZL	URH021HDZL
	200	URH022	URH022HDZL	URH022HDZL
	300	URH023	URH023HDZL	URH023HDZL
	400	URH024	URH024HDZL	URH024HDZL
	500	URH025	URH025HDZL	URH025HDZL
	600	URH026	URH026HDZL	URH026HDZL
	700	URH027	URH027HDZL	URH027HDZL
	800	URH028	URH028HDZL	URH028HDZL
	900	URH029	URH029HDZL	URH029HDZL
	1000	URH020	URH020HDZL	URH020HDZL

Partition wall



Purpose:

- separation of cable groups within a tray.

Characteristics:

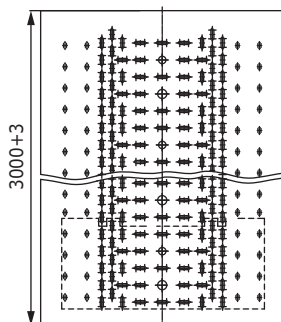
- steel thickness is 2 mm.

Mounting elements:

- the following fasteners are used for connection: M6x16 bolt (code CM010616), M6 nut (code CM100600).

H height, mm	Code, vers. 1	Code, vers. 2	Code, vers. 4
80	UPH080	UPH080HDZL	UPH080HDZL
100	UPH010	UPH010HDZL	UPH010HDZL
150	UPH050	UPH050HDZL	UPH050HDZL
200	UPH020	UPH020HDZL	UPH020HDZL

Bottom insert



Purpose:

- cable protection against external effects;
- prevention of deflection of thin-walled cable.

Characteristics:

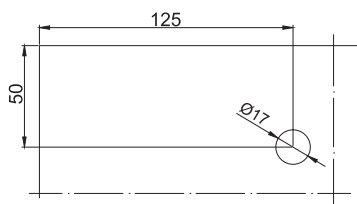
- length is 3,000 mm;
- thickness is 1 mm.

Mounting elements:

- the following fasteners are used for connection: M6x16 bolt (code CM010616), M6 nut (code CM100600).

Width of base of used tray, mm	Code, vers. 1	Code, vers. 2
200	UDM302	UDM302HDZ
300	UDM303	UDM303HDZ
400	UDM304	UDM304HDZ
500	UDM305	UDM305HDZ
600	UDM306	UDM306HDZ
700	UDM307	UDM307HDZ
800	UDM308	UDM308HDZ
900	UDM309	UDM309HDZ

Lock for attachment of cover with retainer

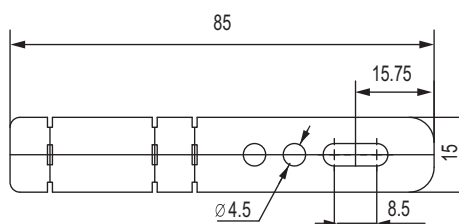


Purpose:

- installation on the cover in case of independent change of cover length at a facility.

Code
UKZ200

Inverted-V cover holder


Purpose:

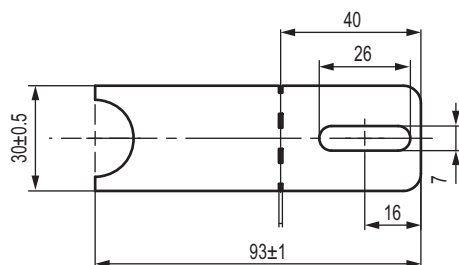
- additional attachment of inverted-V cover under high wind loads.

Characteristics:

- thickness is 1 mm.

Code, vers. 2	Code, vers. 4
UKH500HDZL	UKH500HDZL

Vertical angle cover holder


Purpose:

- additional attachment with large UKF hinged angle cover mounting angles.

Characteristics:

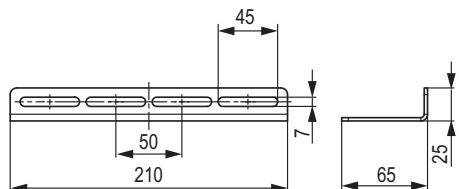
- thickness is 1.5 mm.

Mounting elements:

- the following fasteners are used for connection: M6x20 bolt (CM010620HDZ) – 1 pce, M6 nut (CM100600) – 2 pcs.

Code, vers. 1	Code, vers. 2	Code, vers. 4
UKH300	UKH300HDZL	UKH300HDZL

Attachment to structural beam


Purpose:

- tray attachment to structural beam.

Characteristics:

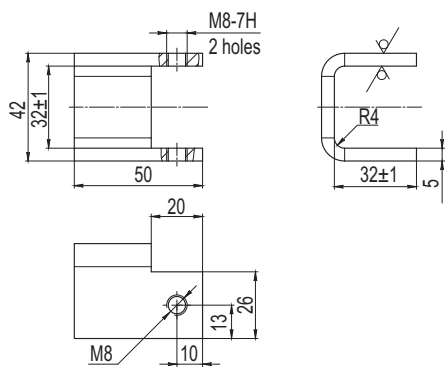
- thickness is 2.5 mm.

Mounting elements:

- in the kit.

Code, vers. 2	Code, vers. 4
UGB500HDZL	UGB500HDZL

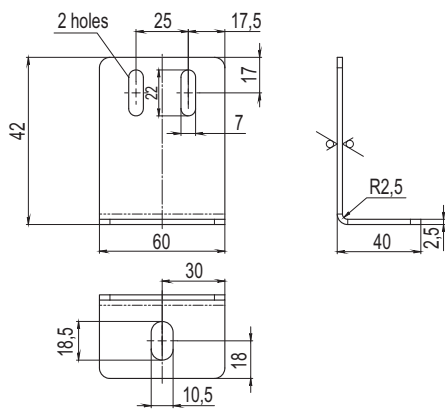
Attachment to beam for a cable ladder



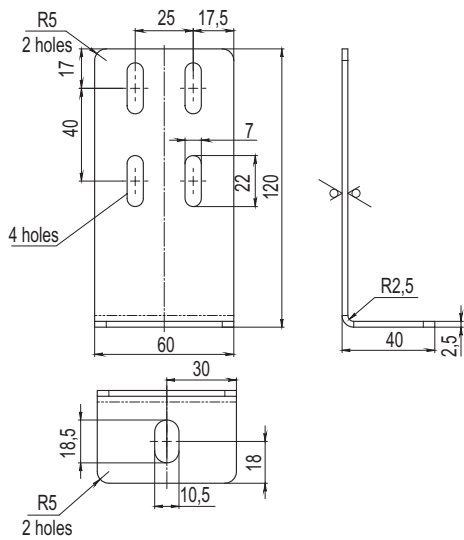
- Purpose:**
- attachment of cable ladder to structural beam.
- Characteristics:**
- thickness is 5 mm.
- Mounting elements:**
- in the kit.

Code, vers. 2
UGB400HDZ

Wall tray attachment

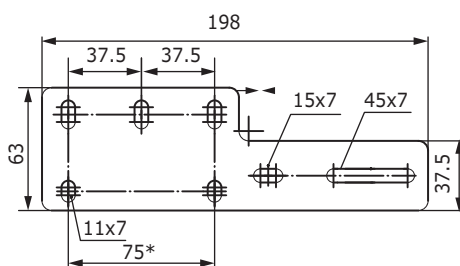


- Purpose:**
- vertical tray installation if the distance between attachment is up to 1 m.
- Characteristics:**
- thickness is 2.5 mm.



Tray side height, mm	Code, version 1	Code, version 2	Code, version 4
80	UGB100	UGB100HDZL	UGB100HDZL
100			
150	UGB200	UGB200HDZL	UGB200HDZL
200			

Universal adapter



Purpose:

- connection of "U5 Combitech" series trays with "L5 Combitech" and "S5 Combitech" trays regardless of tray height.

Characteristics:

- length is 200 mm;
- thickness is 2.5 mm.

Mounting elements:

- the following fasteners are used for connection: M6x16 bolt (code CM010616), M6 nut (code CM100600).

Code, vers. 1	Code, vers. 2	Code, vers. 4
UGH200	UGH200HDZL	UGH200HDZL

Straight cover lifting device



Purpose:

- provision of additional ventilation of cable route;
- this lifting device is installed every meter of straight cover.

Characteristics:

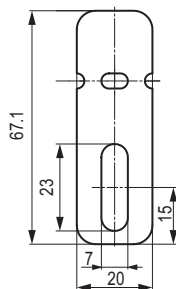
- thickness is 1.5 mm;
- straight cover lifting device height is up to 50 mm.

Mounting elements:

- using M6x20 bolt (CM010620, 4 pcs) and M6 nut (CM100600, 4 pcs);
- using M6x20 bolt (CM010620, 4 pcs), M6 nut (CM100600, 2 pcs), M6 pre-installed cage nut (CM100600, 2 pcs)

Code, vers. 1	Code, vers. 2	Code, vers. 4
UKH600	UKH600HDZL	UKH600HDZL

Straight cover holder



Purpose:

- additional attachment under high wind loads.

Characteristics:

- thickness is 2 mm.

Mounting elements:

- the following fasteners are used for connection: M6x20 bolt (CM010620HDZ) – 1 pce, M6 nut (CM100600) – 2 pcs.

Code, vers. 2	Code, vers. 4
UKH400HDZL	UKH400HDZL

Compatibility table



Element height, mm	Version	Horizontal connector	Adjustable horizontal connector, internal	Hinged connector	Cable ladder clamp	Partition wall
80	vers. 1	UGH480	UHH080	UVH080	LP1000	UPH080
	vers. 2	UGH480HDZL	UHH080HDZL	UVH080HDZL	LP1000HDZL	UPH080HDZL
	vers. 4	UGH480HDZL	UHH080HDZL	UVH080HDZL	LP1000HDZL	UPH080HDZL
100	vers. 1	UGH410	UHH010	UVH010	LP1000	UPH010
	vers. 2	UGH410HDZL	UHH010HDZL	UVH010HDZL	LP1000HDZL	UPH010HDZL
	vers. 4	UGH410HDZL	UHH010HDZL	UVH010HDZL	LP1000HDZL	UPH010HDZL
150	vers. 1	UGH450	UHH050	UVH050	LP1000	UPH050
	vers. 2	UGH450HDZL	UHH050HDZL	UVH050HDZL	LP1000HDZL	UPH050HDZL
	vers. 4	UGH450HDZL	UHH050HDZL	UVH050HDZL	LP1000HDZL	UPH050HDZL
200	vers. 1	UGH420	UHH020	UVH020	LP1000	UPH020
	vers. 2	UGH420HDZL	UHH020HDZL	UVH020HDZL	LP1000HDZL	UPH020HDZL
	vers. 4	UGH420HDZL	UHH020HDZL	UVH020HDZL	LP1000HDZL	UPH020HDZL

System accessories with a height of 80 mm

Versions:

- version 1 is steel galvanized by the Sendzimir method;
- version 2 includes hot dip galvanizing;
- version 4 includes zinc lamellar coating.



Height, mm	Width, mm	Ver sion	Cable ladder				Cable tray			
			thickness is 1.5 mm		thickness is 2 mm		thickness is 1.5 mm		thickness is 2 mm	
			3 meters	6 meters	3 meters	6 meters	3 meters	6 meters	3 meters	6 meters
80	200	vers. 1	ULM382	ULM682	ULH382	ULH682	USM382	USM682	USH382	USH682
		vers. 2	ULM382HDZ	ULM682HDZ	ULH382HDZ	ULH682HDZ	USM382HDZ	USM682HDZ	USH382HDZ	USH682HDZ
		vers. 4	ULM382ZL	ULM682ZL	ULH382ZL	ULH682ZL	USM382ZL	USM682ZL	USH382ZL	USH682ZL
	300	vers. 1	ULM383	ULM683	ULH383	ULH683	USM383	USM683	USH383	USH683
		vers. 2	ULM383HDZ	ULM683HDZ	ULH383HDZ	ULH683HDZ	USM383HDZ	USM683HDZ	USH383HDZ	USH683HDZ
		vers. 4	ULM383ZL	ULM683ZL	ULH383ZL	ULH683ZL	USM383ZL	USM683ZL	USH383ZL	USH683ZL
	400	vers. 1	ULM384	ULM684	ULH384	ULH684	USM384	USM684	USH384	USH684
		vers. 2	ULM384HDZ	ULM684HDZ	ULH384HDZ	ULH684HDZ	USM384HDZ	USM684HDZ	USH384HDZ	USH684HDZ
		vers. 4	ULM384ZL	ULM684ZL	ULH384ZL	ULH684ZL	USM384ZL	USM684ZL	USH384ZL	USH684ZL
	500	vers. 1	ULM385	ULM685	ULH385	ULH685	USM385	USM685	USH385	USH685
		vers. 2	ULM385HDZ	ULM685HDZ	ULH385HDZ	ULH685HDZ	USM385HDZ	USM685HDZ	USH385HDZ	USH685HDZ
		vers. 4	ULM385ZL	ULM685ZL	ULH385ZL	ULH685ZL	USM385ZL	USM685ZL	USH385ZL	USH685ZL
	600	vers. 1	ULM386	ULM686	ULH386	ULH686	USM386	USM686	USH386	USH686
		vers. 2	ULM386HDZ	ULM686HDZ	ULH386HDZ	ULH686HDZ	USM386HDZ	USM686HDZ	USH386HDZ	USH686HDZ
		vers. 4	ULM386ZL	ULM686ZL	ULH386ZL	ULH686ZL	USM386ZL	USM686ZL	USH386ZL	USH686ZL
	700	vers. 1	ULM387	ULM687	ULH387	ULH687	USM387	USM687	USH387	USH687
		vers. 2	ULM387HDZ	ULM687HDZ	ULH387HDZ	ULH687HDZ	USM387HDZ	USM687HDZ	USH387HDZ	USH687HDZ
		vers. 4	ULM387ZL	ULM687ZL	ULH387ZL	ULH687ZL	USM387ZL	USM687ZL	USH387ZL	USH687ZL
	800	vers. 1	ULM388	ULM688	ULH388	ULH688	USM388	USM688	USH388	USH688
		vers. 2	ULM388HDZ	ULM688HDZ	ULH388HDZ	ULH688HDZ	USM388HDZ	USM688HDZ	USH388HDZ	USH688HDZ
		vers. 4	ULM388ZL	ULM688ZL	ULH388ZL	ULH688ZL	USM388ZL	USM688ZL	USH388ZL	USH688ZL
	900	vers. 1	ULM389	ULM689	ULH389	ULH689	USM389	USM689	USH389	USH689
		vers. 2	ULM389HDZ	ULM689HDZ	ULH389HDZ	ULH689HDZ	USM389HDZ	USM689HDZ	USH389HDZ	USH689HDZ
		vers. 4	ULM389ZL	ULM689ZL	ULH389ZL	ULH689ZL	USM389ZL	USM689ZL	USH389ZL	USH689ZL
	1000	vers. 1	ULM380	ULM680	ULH380	ULH680	USM380	USM680	USH380	USH680
		vers. 2	ULM380HDZ	ULM680HDZ	ULH380HDZ	ULH680HDZ	USM380HDZ	USM680HDZ	USH380HDZ	USH680HDZ
		vers. 4	ULM380ZL	ULM680ZL	ULH380ZL	ULH680ZL	USM380ZL	USM680ZL	USH380ZL	USH680ZL



Height, mm	Width, mm	Ver sion	45° angle		90° angle		T-tapper		X-tapper		Vertical angle	
			lad der	sheet	lad der	sheet	lad der	sheet	lad der	sheet	lad der	sheet
80	200	vers. 1	ULC682	USC682	ULD682	USD682	ULT682	UST682	ULX682	USX682	ULF082	USF082
		vers. 2	ULC682HDZ	USC682HDZ	ULD682HDZ	USD682HDZ	ULT682HDZ	UST682HDZ	ULX682HDZ	USX682HDZ	ULF082HDZ	USF082HDZ
		vers. 4	ULC682ZL	USC682ZL	ULD682ZL	USD682ZL	ULT682ZL	UST682ZL	ULX682ZL	USX682ZL	ULF082ZL	USF082ZL
	300	vers. 1	ULC683	USC683	ULD683	USD683	ULT683	UST683	ULX683	USX683	ULF083	USF083
		vers. 2	ULC683HDZ	USC683HDZ	ULD683HDZ	USD683HDZ	ULT683HDZ	UST683HDZ	ULX683HDZ	USX683HDZ	ULF083HDZ	USF083HDZ
		vers. 4	ULC683ZL	USC683ZL	ULD683ZL	USD683ZL	ULT683ZL	UST683ZL	ULX683ZL	USX683ZL	ULF083ZL	USF083ZL
	400	vers. 1	ULC684	USC684	ULD684	USD684	ULT684	UST684	ULX684	USX684	ULF084	USF084
		vers. 2	ULC684HDZ	USC684HDZ	ULD684HDZ	USD684HDZ	ULT684HDZ	UST684HDZ	ULX684HDZ	USX684HDZ	ULF084HDZ	USF084HDZ
		vers. 4	ULC684ZL	USC684ZL	ULD684ZL	USD684ZL	ULT684ZL	UST684ZL	ULX684ZL	USX684ZL	ULF084ZL	USF084ZL
	500	vers. 1	ULC685	USC685	ULD685	USD685	ULT685	UST685	ULX685	USX685	ULF085	USF085
		vers. 2	ULC685HDZ	USC685HDZ	ULD685HDZ	USD685HDZ	ULT685HDZ	UST685HDZ	ULX685HDZ	USX685HDZ	ULF085HDZ	USF085HDZ
		vers. 4	ULC685ZL	USC685ZL	ULD685ZL	USD685ZL	ULT685ZL	UST685ZL	ULX685ZL	USX685ZL	ULF085ZL	USF085ZL
	600	vers. 1	ULC686	USC686	ULD686	USD686	ULT686	UST686	ULX686	USX686	ULF086	USF086
		vers. 2	ULC686HDZ	USC686HDZ	ULD686HDZ	USD686HDZ	ULT686HDZ	UST686HDZ	ULX686HDZ	USX686HDZ	ULF086HDZ	USF086HDZ
		vers. 4	ULC686ZL	USC686ZL	ULD686ZL	USD686ZL	ULT686ZL	UST686ZL	ULX686ZL	USX686ZL	ULF086ZL	USF086ZL
	700	vers. 1	ULC687	USC687	ULD687	USD687	ULT687	UST687	ULX687	USX687	ULF087	USF087
		vers. 2	ULC687HDZ	USC687HDZ	ULD687HDZ	USD687HDZ	ULT687HDZ	UST687HDZ	ULX687HDZ	USX687HDZ	ULF087HDZ	USF087HDZ
		vers. 4	ULC687ZL	USC687ZL	ULD687ZL	USD687ZL	ULT687ZL	UST687ZL	ULX687ZL	USX687ZL	ULF087ZL	USF087ZL
	800	vers. 1	ULC688	USC688	ULD688	USD688	ULT688	UST688	ULX688	USX688	ULF088	USF088
		vers. 2	ULC688HDZ	USC688HDZ	ULD688HDZ	USD688HDZ	ULT688HDZ	UST688HDZ	ULX688HDZ	USX688HDZ	ULF088HDZ	USF088HDZ
		vers. 4	ULC688ZL	USC688ZL	ULD688ZL	USD688ZL	ULT688ZL	UST688ZL	ULX688ZL	USX688ZL	ULF088ZL	USF088ZL
	900	vers. 1	ULC689	USC689	ULD689	USD689	ULT689	UST689	ULX689	USX689	ULF089	USF089
		vers. 2	ULC689HDZ	USC689HDZ	ULD689HDZ	USD689HDZ	ULT689HDZ	UST689HDZ	ULX689HDZ	USX689HDZ	ULF089HDZ	USF089HDZ
		vers. 4	ULC689ZL	USC689ZL	ULD689ZL	USD689ZL	ULT689ZL	UST689ZL	ULX689ZL	USX689ZL	ULF089ZL	USF089ZL
	1000	vers. 1	ULC680	USC680	ULD680	USD680	ULT680	UST680	ULX680	USX680	ULF080	USF080
		vers. 2	ULC680HDZ	USC680HDZ	ULD680HDZ	USD680HDZ	ULT680HDZ	UST680HDZ	ULX680HDZ	USX680HDZ	ULF080HDZ	USF080HDZ
		vers. 4	ULC680ZL	USC680ZL	ULD680ZL	USD680ZL	ULT680ZL	UST680ZL	ULX680ZL	USX680ZL	ULF080ZL	USF080ZL

Covers


Width, mm	Version	Cover with retainers	Rifflled cover with retainers*
200	vers. 1	UKS302	UKS312
	vers. 2	UKS302HDZ	-
	vers. 4	UKS302ZL	-
300	vers. 1	UKS303	UKS313
	vers. 2	UKS303HDZ	-
	vers. 4	UKS303ZL	-
400	vers. 1	UKS304	UKS314
	vers. 2	UKS304HDZ	-
	vers. 4	UKS304ZL	-
500	vers. 1	UKS305	UKS315
	vers. 2	UKS305HDZ	-
	vers. 4	UKS305ZL	-
600	vers. 1	UKS306	UKS316
	vers. 2	UKS306HDZ	-
	vers. 4	UKS306ZL	-
700	vers. 1	UKS307	UKS317
	vers. 2	UKS307HDZ	-
	vers. 4	UKS307ZL	-
800	vers. 1	UKS308	UKS318
	vers. 2	UKS308HDZ	-
	vers. 4	UKS308ZL	-
900	vers. 1	UKS309	UKS319
	vers. 2	UKS309HDZ	-
	vers. 4	UKS309ZL	-
1000	vers. 1	UKS300	UKS310
	vers. 2	UKS300HDZ	-
	vers. 4	UKS300ZL	-

* Material is aluminium



Width, mm	Version	Cover for 45° angle	Cover for 90° angle	Cover for T-tapper	Cover for X-tapper
200	vers. 1	UKC602	UKD602	UKT602	UKX602
	vers. 2	–	–	–	–
	vers. 4	UKC602ZL	UKD602ZL	UKT602ZL	UKX602ZL
300	vers. 1	UKC603	UKD603	UKT603	UKX603
	vers. 2	–	–	–	–
	vers. 4	UKC603ZL	UKD603ZL	UKT603ZL	UKX603ZL
400	vers. 1	UKC604	UKD604	UKT604	UKX604
	vers. 2	–	–	–	–
	vers. 4	UKC604ZL	UKD604ZL	UKT604ZL	UKX604ZL
500	vers. 1	UKC605	UKD605	UKT605	UKX605
	vers. 2	–	–	–	–
	vers. 4	UKC605ZL	UKD605ZL	UKT605ZL	UKX605ZL
600	vers. 1	UKC606	UKD606	UKT606	UKX606
	vers. 2	–	–	–	–
	vers. 4	UKC606ZL	UKD606ZL	UKT606ZL	UKX606ZL
700	vers. 1	UKC607	UKD607	UKT607	UKX607
	vers. 2	–	–	–	–
	vers. 4	UKC607ZL	UKD607ZL	UKT607ZL	UKX607ZL
800	vers. 1	UKC608	UKD608	UKT608	UKX608
	vers. 2	–	–	–	–
	vers. 4	UKC608ZL	UKD608ZL	UKT608ZL	UKX608ZL
900	vers. 1	UKC609	UKD609	UKT609	UKX609
	vers. 2	–	–	–	–
	vers. 4	UKC609ZL	UKD609ZL	UKT609ZL	UKX609ZL
1000	vers. 1	UKC600	UKD600	UKT600	UKX600
	vers. 2	–	–	–	–
	vers. 4	UKC600ZL	UKD600ZL	UKT600ZL	UKX600ZL

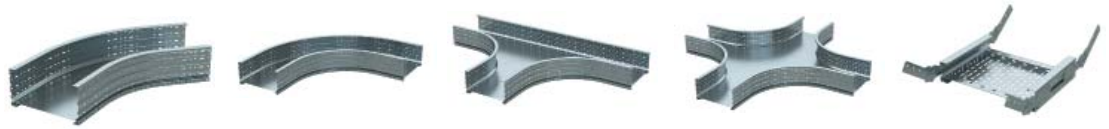
System accessories with a height of 100 mm

Versions:

- version 1 is steel galvanized by the Sendzimir method;
- version 2 includes hot dip galvanizing;
- version 4 includes zinc lamellar coating.



Height, mm	Width, mm	Ver sion	Cable ladder				Cable tray			
			thickness is 1.5 mm		thickness is 2 mm		thickness is 1.5 mm		thickness is 2 mm	
			3 meters	6 meters	3 meters	6 meters	3 meters	6 meters	3 meters	6 meters
100	200	vers. 1	ULM312	ULM612	ULH312	ULH612	USM312	USM612	USH312	USH612
		vers. 2	ULM312HDZ	ULM612HDZ	ULH312HDZ	ULH612HDZ	USM312HDZ	USM612HDZ	USH312HDZ	USH612HDZ
		vers. 4	ULM312ZL	ULM612ZL	ULH312ZL	ULH612ZL	USM312ZL	USM612ZL	USH312ZL	USH612ZL
	300	vers. 1	ULM313	ULM613	ULH313	ULH613	USM313	USM613	USH313	USH613
		vers. 2	ULM313HDZ	ULM613HDZ	ULH313HDZ	ULH613HDZ	USM313HDZ	USM613HDZ	USH313HDZ	USH613HDZ
		vers. 4	ULM313ZL	ULM613ZL	ULH313ZL	ULH613ZL	USM313ZL	USM613ZL	USH313ZL	USH613ZL
	400	vers. 1	ULM314	ULM614	ULH314	ULH614	USM314	USM614	USH314	USH614
		vers. 2	ULM314HDZ	ULM614HDZ	ULH314HDZ	ULH614HDZ	USM314HDZ	USM614HDZ	USH314HDZ	USH614HDZ
		vers. 4	ULM314ZL	ULM614ZL	ULH314ZL	ULH614ZL	USM314ZL	USM614ZL	USH314ZL	USH614ZL
	500	vers. 1	ULM315	ULM615	ULH315	ULH615	USM315	USM615	USH315	USH615
		vers. 2	ULM315HDZ	ULM615HDZ	ULH315HDZ	ULH615HDZ	USM315HDZ	USM615HDZ	USH315HDZ	USH615HDZ
		vers. 4	ULM315ZL	ULM615ZL	ULH315ZL	ULH615ZL	USM315ZL	USM615ZL	USH315ZL	USH615ZL
	600	vers. 1	ULM316	ULM616	ULH316	ULH616	USM316	USM616	USH316	USH616
		vers. 2	ULM316HDZ	ULM616HDZ	ULH316HDZ	ULH616HDZ	USM316HDZ	USM616HDZ	USH316HDZ	USH616HDZ
		vers. 4	ULM316ZL	ULM616ZL	ULH316ZL	ULH616ZL	USM316ZL	USM616ZL	USH316ZL	USH616ZL
	700	vers. 1	ULM317	ULM617	ULH317	ULH617	USM317	USM617	USH317	USH617
		vers. 2	ULM317HDZ	ULM617HDZ	ULH317HDZ	ULH617HDZ	USM317HDZ	USM617HDZ	USH317HDZ	USH617HDZ
		vers. 4	ULM317ZL	ULM617ZL	ULH317ZL	ULH617ZL	USM317ZL	USM617ZL	USH317ZL	USH617ZL
	800	vers. 1	ULM318	ULM618	ULH318	ULH618	USM318	USM618	USH318	USH618
		vers. 2	ULM318HDZ	ULM618HDZ	ULH318HDZ	ULH618HDZ	USM318HDZ	USM618HDZ	USH318HDZ	USH618HDZ
		vers. 4	ULM318ZL	ULM618ZL	ULH318ZL	ULH618ZL	USM318ZL	USM618ZL	USH318ZL	USH618ZL
	900	vers. 1	ULM319	ULM619	ULH319	ULH619	USM319	USM619	USH319	USH619
		vers. 2	ULM319HDZ	ULM619HDZ	ULH319HDZ	ULH619HDZ	USM319HDZ	USM619HDZ	USH319HDZ	USH619HDZ
		vers. 4	ULM319ZL	ULM619ZL	ULH319ZL	ULH619ZL	USM319ZL	USM619ZL	USH319ZL	USH619ZL
	1000	vers. 1	ULM310	ULM610	ULH310	ULH610	USM310	USM610	USH310	USH610
		vers. 2	ULM310HDZ	ULM610HDZ	ULH310HDZ	ULH610HDZ	USM310HDZ	USM610HDZ	USH310HDZ	USH610HDZ
		vers. 4	ULM310ZL	ULM610ZL	ULH310ZL	ULH610ZL	USM310ZL	USM610ZL	USH310ZL	USH610ZL



Height, mm	Width, mm	Ver sion	45° angle		90° angle		T-tapper		X-tapper		Vertical angle	
			lad der	sheet	lad der	sheet	lad der	sheet	lad der	sheet	lad der	sheet
100	200	vers. 1	ULC612	USC612	ULD612	USD612	ULT612	UST612	ULX612	USX612	ULF012	USF012
		vers. 2	ULC612HDZ	USC612HDZ	ULD612HDZ	USD612HDZ	ULT612HDZ	UST612HDZ	ULX612HDZ	USX612HDZ	ULF012HDZ	USF012HDZ
		vers. 4	ULC612ZL	USC612ZL	ULD612ZL	USD612ZL	ULT612ZL	UST612ZL	ULX612ZL	USX612ZL	ULF012ZL	USF012ZL
	300	vers. 1	ULC613	USC613	ULD613	USD613	ULT613	UST613	ULX613	USX613	ULF013	USF013
		vers. 2	ULC613HDZ	USC613HDZ	ULD613HDZ	USD613HDZ	ULT613HDZ	UST613HDZ	ULX613HDZ	USX613HDZ	ULF013HDZ	USF013HDZ
		vers. 4	ULC613ZL	USC613ZL	ULD613ZL	USD613ZL	ULT613ZL	UST613ZL	ULX613ZL	USX613ZL	ULF013ZL	USF013ZL
	400	vers. 1	ULC614	USC614	ULD614	USD614	ULT614	UST614	ULX614	USX614	ULF014	USF014
		vers. 2	ULC614HDZ	USC614HDZ	ULD614HDZ	USD614HDZ	ULT614HDZ	UST614HDZ	ULX614HDZ	USX614HDZ	ULF014HDZ	USF014HDZ
		vers. 4	ULC614ZL	USC614ZL	ULD614ZL	USD614ZL	ULT614ZL	UST614ZL	ULX614ZL	USX614ZL	ULF014ZL	USF014ZL
	500	vers. 1	ULC615	USC615	ULD615	USD615	ULT615	UST615	ULX615	USX615	ULF015	USF015
		vers. 2	ULC615HDZ	USC615HDZ	ULD615HDZ	USD615HDZ	ULT615HDZ	UST615HDZ	ULX615HDZ	USX615HDZ	ULF015HDZ	USF015HDZ
		vers. 4	ULC615ZL	USC615ZL	ULD615ZL	USD615ZL	ULT615ZL	UST615ZL	ULX615ZL	USX615ZL	ULF015ZL	USF015ZL
	600	vers. 1	ULC616	USC616	ULD616	USD616	ULT616	UST616	ULX616	USX616	ULF016	USF016
		vers. 2	ULC616HDZ	USC616HDZ	ULD616HDZ	USD616HDZ	ULT616HDZ	UST616HDZ	ULX616HDZ	USX616HDZ	ULF016HDZ	USF016HDZ
		vers. 4	ULC616ZL	USC616ZL	ULD616ZL	USD616ZL	ULT616ZL	UST616ZL	ULX616ZL	USX616ZL	ULF016ZL	USF016ZL
	700	vers. 1	ULC617	USC617	ULD617	USD617	ULT617	UST617	ULX617	USX617	ULF017	USF017
		vers. 2	ULC617HDZ	USC617HDZ	ULD617HDZ	USD617HDZ	ULT617HDZ	UST617HDZ	ULX617HDZ	USX617HDZ	ULF017HDZ	USF017HDZ
		vers. 4	ULC617ZL	USC617ZL	ULD617ZL	USD617ZL	ULT617ZL	UST617ZL	ULX617ZL	USX617ZL	ULF017ZL	USF017ZL
	800	vers. 1	ULC618	USC618	ULD618	USD618	ULT618	UST618	ULX618	USX618	ULF018	USF018
		vers. 2	ULC618HDZ	USC618HDZ	ULD618HDZ	USD618HDZ	ULT618HDZ	UST618HDZ	ULX618HDZ	USX618HDZ	ULF018HDZ	USF018HDZ
		vers. 4	ULC618ZL	USC618ZL	ULD618ZL	USD618ZL	ULT618ZL	UST618ZL	ULX618ZL	USX618ZL	ULF018ZL	USF018ZL
	900	vers. 1	ULC619	USC619	ULD619	USD619	ULT619	UST619	ULX619	USX619	ULF019	USF019
		vers. 2	ULC619HDZ	USC619HDZ	ULD619HDZ	USD619HDZ	ULT619HDZ	UST619HDZ	ULX619HDZ	USX619HDZ	ULF019HDZ	USF019HDZ
		vers. 4	ULC619ZL	USC619ZL	ULD619ZL	USD619ZL	ULT619ZL	UST619ZL	ULX619ZL	USX619ZL	ULF019ZL	USF019ZL
	1000	vers. 1	ULC610	USC610	ULD610	USD610	ULT610	UST610	ULX610	USX610	ULF010	USF010
		vers. 2	ULC610HDZ	USC610HDZ	ULD610HDZ	USD610HDZ	ULT610HDZ	UST610HDZ	ULX610HDZ	USX610HDZ	ULF010HDZ	USF010HDZ
		vers. 4	ULC610ZL	USC610ZL	ULD610ZL	USD610ZL	ULT610ZL	UST610ZL	ULX610ZL	USX610ZL	ULF010ZL	USF010ZL

Covers


Width, mm	Version	Cover with retainers	Ribbed cover with retainers*
200	vers. 1	UKS302	UKS312
	vers. 2	UKS302HDZ	-
	vers. 4	UKS302ZL	-
300	vers. 1	UKS303	UKS313
	vers. 2	UKS303HDZ	-
	vers. 4	UKS303ZL	-
400	vers. 1	UKS304	UKS314
	vers. 2	UKS304HDZ	-
	vers. 4	UKS304ZL	-
500	vers. 1	UKS305	UKS315
	vers. 2	UKS305HDZ	-
	vers. 4	UKS305ZL	-
600	vers. 1	UKS306	UKS316
	vers. 2	UKS306HDZ	-
	vers. 4	UKS306ZL	-
700	vers. 1	UKS307	UKS317
	vers. 2	UKS307HDZ	-
	vers. 4	UKS307ZL	-
800	vers. 1	UKS308	UKS318
	vers. 2	UKS308HDZ	-
	vers. 4	UKS308ZL	-
900	vers. 1	UKS309	UKS319
	vers. 2	UKS309HDZ	-
	vers. 4	UKS309ZL	-
1000	vers. 1	UKS300	UKS310
	vers. 2	UKS300HDZ	-
	vers. 4	UKS300ZL	-

* Material is aluminium



Width, mm	Version	Cover for 45° angle	Cover for 90° angle	Cover for T-tapper	Cover for X-tapper
200	vers. 1	UKC602	UKD602	UKT602	UKX602
	vers. 2	–	–	–	–
	vers. 4	UKC602ZL	UKD602ZL	UKT602ZL	UKX602ZL
300	vers. 1	UKC603	UKD603	UKT603	UKX603
	vers. 2	–	–	–	–
	vers. 4	UKC603ZL	UKD603ZL	UKT603ZL	UKX603ZL
400	vers. 1	UKC604	UKD604	UKT604	UKX604
	vers. 2	–	–	–	–
	vers. 4	UKC604ZL	UKD604ZL	UKT604ZL	UKX604ZL
500	vers. 1	UKC605	UKD605	UKT605	UKX605
	vers. 2	–	–	–	–
	vers. 4	UKC605ZL	UKD605ZL	UKT605ZL	UKX605ZL
600	vers. 1	UKC606	UKD606	UKT606	UKX606
	vers. 2	–	–	–	–
	vers. 4	UKC606ZL	UKD606ZL	UKT606ZL	UKX606ZL
700	vers. 1	UKC607	UKD607	UKT607	UKX607
	vers. 2	–	–	–	–
	vers. 4	UKC607ZL	UKD607ZL	UKT607ZL	UKX607ZL
800	vers. 1	UKC608	UKD608	UKT608	UKX608
	vers. 2	–	–	–	–
	vers. 4	UKC608ZL	UKD608ZL	UKT608ZL	UKX608ZL
900	vers. 1	UKC609	UKD609	UKT609	UKX609
	vers. 2	–	–	–	–
	vers. 4	UKC609ZL	UKD609ZL	UKT609ZL	UKX609ZL
1000	vers. 1	UKC600	UKD600	UKT600	UKX600
	vers. 2	–	–	–	–
	vers. 4	UKC600ZL	UKD600ZL	UKT600ZL	UKX600ZL

System accessories with a height of 150 mm

Versions:

- version 1 is steel galvanized by the Sendzimir method;
- version 2 includes hot dip galvanizing;
- version 4 includes zinc lamellar coating.



Height, mm	Width, mm	Ver sion	Cable ladder				Cable tray			
			thickness is 1.5 mm		thickness is 2 mm		thickness is 1.5 mm		thickness is 2 mm	
			3 meters	6 meters	3 meters	6 meters	3 meters	6 meters	3 meters	6 meters
150	200	vers. 1	ULM352	ULM652	ULH352	ULH652	USM352	USM652	USH352	USH652
		vers. 2	ULM352HDZ	ULM652HDZ	ULH352HDZ	ULH652HDZ	USM352HDZ	USM652HDZ	USH352HDZ	USH652HDZ
		vers. 4	ULM352HDZ	ULM652HDZ	ULH352HDZ	ULH652HDZ	USM352HDZ	USM652HDZ	USH352HDZ	USH652HDZ
	300	vers. 1	ULM353	ULM653	ULH353	ULH653	USM353	USM653	USH353	USH653
		vers. 2	ULM353HDZ	ULM653HDZ	ULH353HDZ	ULH653HDZ	USM353HDZ	USM653HDZ	USH353HDZ	USH653HDZ
		vers. 4	ULM353HDZ	ULM653HDZ	ULH353HDZ	ULH653HDZ	USM353HDZ	USM653HDZ	USH353HDZ	USH653HDZ
	400	vers. 1	ULM354	ULM654	ULH354	ULH654	USM354	USM654	USH354	USH654
		vers. 2	ULM354HDZ	ULM654HDZ	ULH354HDZ	ULH654HDZ	USM354HDZ	USM654HDZ	USH354HDZ	USH654HDZ
		vers. 4	ULM354HDZ	ULM654HDZ	ULH354HDZ	ULH654HDZ	USM354HDZ	USM654HDZ	USH354HDZ	USH654HDZ
	500	vers. 1	ULM355	ULM655	ULH355	ULH655	USM355	USM655	USH355	USH655
		vers. 2	ULM355HDZ	ULM655HDZ	ULH355HDZ	ULH655HDZ	USM355HDZ	USM655HDZ	USH355HDZ	USH655HDZ
		vers. 4	ULM355HDZ	ULM655HDZ	ULH355HDZ	ULH655HDZ	USM355HDZ	USM655HDZ	USH355HDZ	USH655HDZ
	600	vers. 1	ULM356	ULM656	ULH356	ULH656	USM356	USM656	USH356	USH656
		vers. 2	ULM356HDZ	ULM656HDZ	ULH356HDZ	ULH656HDZ	USM356HDZ	USM656HDZ	USH356HDZ	USH656HDZ
		vers. 4	ULM356HDZ	ULM656HDZ	ULH356HDZ	ULH656HDZ	USM356HDZ	USM656HDZ	USH356HDZ	USH656HDZ
	700	vers. 1	ULM357	ULM657	ULH357	ULH657	USM357	USM657	USH357	USH657
		vers. 2	ULM357HDZ	ULM657HDZ	ULH357HDZ	ULH657HDZ	USM357HDZ	USM657HDZ	USH357HDZ	USH657HDZ
		vers. 4	ULM357HDZ	ULM657HDZ	ULH357HDZ	ULH657HDZ	USM357HDZ	USM657HDZ	USH357HDZ	USH657HDZ
	800	vers. 1	ULM358	ULM658	ULH358	ULH658	USM358	USM658	USH358	USH658
		vers. 2	ULM358HDZ	ULM658HDZ	ULH358HDZ	ULH658HDZ	USM358HDZ	USM658HDZ	USH358HDZ	USH658HDZ
		vers. 4	ULM358HDZ	ULM658HDZ	ULH358HDZ	ULH658HDZ	USM358HDZ	USM658HDZ	USH358HDZ	USH658HDZ
	900	vers. 1	ULM359	ULM659	ULH359	ULH659	USM359	USM659	USH359	USH659
		vers. 2	ULM359HDZ	ULM659HDZ	ULH359HDZ	ULH659HDZ	USM359HDZ	USM659HDZ	USH359HDZ	USH659HDZ
		vers. 4	ULM359HDZ	ULM659HDZ	ULH359HDZ	ULH659HDZ	USM359HDZ	USM659HDZ	USH359HDZ	USH659HDZ
	1000	vers. 1	ULM350	ULM650	ULH350	ULH650	USM350	USM650	USH350	USH650
		vers. 2	ULM350HDZ	ULM650HDZ	ULH350HDZ	ULH650HDZ	USM350HDZ	USM650HDZ	USH350HDZ	USH650HDZ
		vers. 4	ULM350HDZ	ULM650HDZ	ULH350HDZ	ULH650HDZ	USM350HDZ	USM650HDZ	USH350HDZ	USH650HDZ



Height, mm	Width, mm	Ver sion	45° angle		90° angle		T-tapper		X-tapper		Vertical angle	
			lad der	sheet	lad der	sheet	lad der	sheet	lad der	sheet	lad der	sheet
150	200	vers. 1	ULC652	USC652	ULD652	USD652	ULT652	UST652	ULX652	USX652	ULF052	USF052
		vers. 2	ULC652HDZ	USC652HDZ	ULD652HDZ	USD652HDZ	ULT652HDZ	UST652HDZ	ULX652HDZ	USX652HDZ	ULF052HDZ	USF052HDZ
		vers. 4	ULC652ZL	USC652ZL	ULD652ZL	USD652ZL	ULT652ZL	UST652ZL	ULX652ZL	USX652ZL	ULF052ZL	USF052ZL
	300	vers. 1	ULC653	USC653	ULD653	USD653	ULT653	UST653	ULX653	USX653	ULF053	USF053
		vers. 2	ULC653HDZ	USC653HDZ	ULD653HDZ	USD653HDZ	ULT653HDZ	UST653HDZ	ULX653HDZ	USX653HDZ	ULF053HDZ	USF053HDZ
		vers. 4	ULC653ZL	USC653ZL	ULD653ZL	USD653ZL	ULT653ZL	UST653ZL	ULX653ZL	USX653ZL	ULF053ZL	USF053ZL
	400	vers. 1	ULC654	USC654	ULD654	USD654	ULT654	UST654	ULX654	USX654	ULF054	USF054
		vers. 2	ULC654HDZ	USC654HDZ	ULD654HDZ	USD654HDZ	ULT654HDZ	UST654HDZ	ULX654HDZ	USX654HDZ	ULF054HDZ	USF054HDZ
		vers. 4	ULC654ZL	USC654ZL	ULD654ZL	USD654ZL	ULT654ZL	UST654ZL	ULX654ZL	USX654ZL	ULF054ZL	USF054ZL
	500	vers. 1	ULC655	USC655	ULD655	USD655	ULT655	UST655	ULX655	USX655	ULF055	USF055
		vers. 2	ULC655HDZ	USC655HDZ	ULD655HDZ	USD655HDZ	ULT655HDZ	UST655HDZ	ULX655HDZ	USX655HDZ	ULF055HDZ	USF055HDZ
		vers. 4	ULC655ZL	USC655ZL	ULD655ZL	USD655ZL	ULT655ZL	UST655ZL	ULX655ZL	USX655ZL	ULF055ZL	USF055ZL
	600	vers. 1	ULC656	USC656	ULD656	USD656	ULT656	UST656	ULX656	USX656	ULF056	USF056
		vers. 2	ULC656HDZ	USC656HDZ	ULD656HDZ	USD656HDZ	ULT656HDZ	UST656HDZ	ULX656HDZ	USX656HDZ	ULF056HDZ	USF056HDZ
		vers. 4	ULC656ZL	USC656ZL	ULD656ZL	USD656ZL	ULT656ZL	UST656ZL	ULX656ZL	USX656ZL	ULF056ZL	USF056ZL
	700	vers. 1	ULC657	USC657	ULD657	USD657	ULT657	UST657	ULX657	USX657	ULF057	USF057
		vers. 2	ULC657HDZ	USC657HDZ	ULD657HDZ	USD657HDZ	ULT657HDZ	UST657HDZ	ULX657HDZ	USX657HDZ	ULF057HDZ	USF057HDZ
		vers. 4	ULC657ZL	USC657ZL	ULD657ZL	USD657ZL	ULT657ZL	UST657ZL	ULX657ZL	USX657ZL	ULF057ZL	USF057ZL
	800	vers. 1	ULC658	USC658	ULD658	USD658	ULT658	UST658	ULX658	USX658	ULF058	USF058
		vers. 2	ULC658HDZ	USC658HDZ	ULD658HDZ	USD658HDZ	ULT658HDZ	UST658HDZ	ULX658HDZ	USX658HDZ	ULF058HDZ	USF058HDZ
		vers. 4	ULC658ZL	USC658ZL	ULD658ZL	USD658ZL	ULT658ZL	UST658ZL	ULX658ZL	USX658ZL	ULF058ZL	USF058ZL
	900	vers. 1	ULC659	USC659	ULD659	USD659	ULT659	UST659	ULX659	USX659	ULF059	USF059
		vers. 2	ULC659HDZ	USC659HDZ	ULD659HDZ	USD659HDZ	ULT659HDZ	UST659HDZ	ULX659HDZ	USX659HDZ	ULF059HDZ	USF059HDZ
		vers. 4	ULC659ZL	USC659ZL	ULD659ZL	USD659ZL	ULT659ZL	UST659ZL	ULX659ZL	USX659ZL	ULF059ZL	USF059ZL
	1000	vers. 1	ULC650	USC650	ULD650	USD650	ULT650	UST650	ULX650	USX650	ULF050	USF050
		vers. 2	ULC650HDZ	USC650HDZ	ULD650HDZ	USD650HDZ	ULT650HDZ	UST650HDZ	ULX650HDZ	USX650HDZ	ULF050HDZ	USF050HDZ
		vers. 4	ULC650ZL	USC650ZL	ULD650ZL	USD650ZL	ULT650ZL	UST650ZL	ULX650ZL	USX650ZL	ULF050ZL	USF050ZL

Covers



Width, mm	Version	Cover with retainers	Rifflid cover with retainers*
200	vers. 1	UKS302	UKS312
	vers. 2	UKS302HDZ	-
	vers. 4	UKS302ZL	-
300	vers. 1	UKS303	UKS313
	vers. 2	UKS303HDZ	-
	vers. 4	UKS303ZL	-
400	vers. 1	UKS304	UKS314
	vers. 2	UKS304HDZ	-
	vers. 4	UKS304ZL	-
500	vers. 1	UKS305	UKS315
	vers. 2	UKS305HDZ	-
	vers. 4	UKS305ZL	-
600	vers. 1	UKS306	UKS316
	vers. 2	UKS306HDZ	-
	vers. 4	UKS306ZL	-
700	vers. 1	UKS307	UKS317
	vers. 2	UKS307HDZ	-
	vers. 4	UKS307ZL	-
800	vers. 1	UKS308	UKS318
	vers. 2	UKS308HDZ	-
	vers. 4	UKS308ZL	-
900	vers. 1	UKS309	UKS319
	vers. 2	UKS309HDZ	-
	vers. 4	UKS309ZL	-
1000	vers. 1	UKS300	UKS310
	vers. 2	UKS300HDZ	-
	vers. 4	UKS300ZL	-

* Material is aluminium



Width, mm	Version	Cover for 45° angle	Cover for 90° angle	Cover for T-tapper	Cover for X-tapper
200	vers. 1	UKC602	UKD602	UKT602	UKX602
	vers. 2	–	–	–	–
	vers. 4	UKC602ZL	UKD602ZL	UKT602ZL	UKX602ZL
300	vers. 1	UKC603	UKD603	UKT603	UKX603
	vers. 2	–	–	–	–
	vers. 4	UKC603ZL	UKD603ZL	UKT603ZL	UKX603ZL
400	vers. 1	UKC604	UKD604	UKT604	UKX604
	vers. 2	–	–	–	–
	vers. 4	UKC604ZL	UKD604ZL	UKT604ZL	UKX604ZL
500	vers. 1	UKC605	UKD605	UKT605	UKX605
	vers. 2	–	–	–	–
	vers. 4	UKC605ZL	UKD605ZL	UKT605ZL	UKX605ZL
600	vers. 1	UKC606	UKD606	UKT606	UKX606
	vers. 2	–	–	–	–
	vers. 4	UKC606ZL	UKD606ZL	UKT606ZL	UKX606ZL
700	vers. 1	UKC607	UKD607	UKT607	UKX607
	vers. 2	–	–	–	–
	vers. 4	UKC607ZL	UKD607ZL	UKT607ZL	UKX607ZL
800	vers. 1	UKC608	UKD608	UKT608	UKX608
	vers. 2	–	–	–	–
	vers. 4	UKC608ZL	UKD608ZL	UKT608ZL	UKX608ZL
900	vers. 1	UKC609	UKD609	UKT609	UKX609
	vers. 2	–	–	–	–
	vers. 4	UKC609ZL	UKD609ZL	UKT609ZL	UKX609ZL
1000	vers. 1	UKC600	UKD600	UKT600	UKX600
	vers. 2	–	–	–	–
	vers. 4	UKC600ZL	UKD600ZL	UKT600ZL	UKX600ZL

System accessories with a height of 200 mm

Versions:

- version 1 is steel galvanized by the Sendzimir method;
- version 2 includes hot dip galvanizing.



Height, mm	Width, mm	Ver sion	Cable ladder				Cable tray			
			thickness is 1.5 mm		thickness is 2 mm		thickness is 1.5 mm		thickness is 2 mm	
			3 meters	6 meters	3 meters	6 meters	3 meters	6 meters	3 meters	6 meters
200	200	vers. 1	ULM322	ULM622	ULH322	ULH622	USM322	USM622	USH322	USH622
		vers. 2	ULM322HDZ	ULM622HDZ	ULH322HDZ	ULH622HDZ	USM322HDZ	USM622HDZ	USH322HDZ	USH622HDZ
		vers. 4	ULM322ZL	ULM622ZL	ULH322ZL	ULH622ZL	USM322ZL	USM622ZL	USH322ZL	USH622ZL
	300	vers. 1	ULM323	ULM623	ULH323	ULH623	USM323	USM623	USH323	USH623
		vers. 2	ULM323HDZ	ULM623HDZ	ULH323HDZ	ULH623HDZ	USM323HDZ	USM623HDZ	USH323HDZ	USH623HDZ
		vers. 4	ULM323ZL	ULM623ZL	ULH323ZL	ULH623ZL	USM323ZL	USM623ZL	USH323ZL	USH623ZL
	400	vers. 1	ULM324	ULM624	ULH324	ULH624	USM324	USM624	USH324	USH624
		vers. 2	ULM324HDZ	ULM624HDZ	ULH324HDZ	ULH624HDZ	USM324HDZ	USM624HDZ	USH324HDZ	USH624HDZ
		vers. 4	ULM324ZL	ULM624ZL	ULH324ZL	ULH624ZL	USM324ZL	USM624ZL	USH324ZL	USH624ZL
	500	vers. 1	ULM325	ULM625	ULH325	ULH625	USM325	USM625	USH325	USH625
		vers. 2	ULM325HDZ	ULM625HDZ	ULH325HDZ	ULH625HDZ	USM325HDZ	USM625HDZ	USH325HDZ	USH625HDZ
		vers. 4	ULM325ZL	ULM625ZL	ULH325ZL	ULH625ZL	USM325ZL	USM625ZL	USH325ZL	USH625ZL
	600	vers. 1	ULM326	ULM626	ULH326	ULH626	USM326	USM626	USH326	USH626
		vers. 2	ULM326HDZ	ULM626HDZ	ULH326HDZ	ULH626HDZ	USM326HDZ	USM626HDZ	USH326HDZ	USH626HDZ
		vers. 4	ULM326ZL	ULM626ZL	ULH326ZL	ULH626ZL	USM326ZL	USM626ZL	USH326ZL	USH626ZL
	700	vers. 1	ULM327	ULM627	ULH327	ULH627	USM327	USM627	USH327	USH627
		vers. 2	ULM327HDZ	ULM627HDZ	ULH327HDZ	ULH627HDZ	USM327HDZ	USM627HDZ	USH327HDZ	USH627HDZ
		vers. 4	ULM327ZL	ULM627ZL	ULH327ZL	ULH627ZL	USM327ZL	USM627ZL	USH327ZL	USH627ZL
	800	vers. 1	ULM328	ULM628	ULH328	ULH628	USM328	USM628	USH328	USH628
		vers. 2	ULM328HDZ	ULM628HDZ	ULH328HDZ	ULH628HDZ	USM328HDZ	USM628HDZ	USH328HDZ	USH628HDZ
		vers. 4	ULM328ZL	ULM628ZL	ULH328ZL	ULH628ZL	USM328ZL	USM628ZL	USH328ZL	USH628ZL
	900	vers. 1	ULM329	ULM629	ULH329	ULH629	USM329	USM629	USH329	USH629
		vers. 2	ULM329HDZ	ULM629HDZ	ULH329HDZ	ULH629HDZ	USM329HDZ	USM629HDZ	USH329HDZ	USH629HDZ
		vers. 4	ULM329ZL	ULM629ZL	ULH329ZL	ULH629ZL	USM329ZL	USM629ZL	USH329ZL	USH629ZL
	1000	vers. 1	ULM320	ULM620	ULH320	ULH620	USM320	USM620	USH320	USH620
		vers. 2	ULM320HDZ	ULM620HDZ	ULH320HDZ	ULH620HDZ	USM320HDZ	USM620HDZ	USH320HDZ	USH620HDZ
		vers. 4	ULM320ZL	ULM620ZL	ULH320ZL	ULH620ZL	USM320ZL	USM620ZL	USH320ZL	USH620ZL



Height, mm	Width, mm	Ver sion	45° angle		90° angle		T-tapper		X-tapper		Vertical angle	
			lad der	sheet	lad der	sheet	lad der	sheet	lad der	sheet	lad der	sheet
200	200	vers. 1	ULC622	USC622	ULD622	USD622	ULT622	UST622	ULX622	USX622	ULF022	USF022
		vers. 2	ULC622HDZ	USC622HDZ	ULD622HDZ	USD622HDZ	ULT622HDZ	UST622HDZ	ULX622HDZ	USX622HDZ	ULF022HDZ	USF022HDZ
		vers. 4	ULC622ZL	USC622ZL	ULD622ZL	USD622ZL	ULT622ZL	UST622ZL	ULX622ZL	USX622ZL	ULF022ZL	USF022ZL
	300	vers. 1	ULC623	USC623	ULD623	USD623	ULT623	UST623	ULX623	USX623	ULF023	USF023
		vers. 2	ULC623HDZ	USC623HDZ	ULD623HDZ	USD623HDZ	ULT623HDZ	UST623HDZ	ULX623HDZ	USX623HDZ	ULF023HDZ	USF023HDZ
		vers. 4	ULC623ZL	USC623ZL	ULD623ZL	USD623ZL	ULT623ZL	UST623ZL	ULX623ZL	USX623ZL	ULF023ZL	USF023ZL
	400	vers. 1	ULC624	USC624	ULD624	USD624	ULT624	UST624	ULX624	USX624	ULF024	USF024
		vers. 2	ULC624HDZ	USC624HDZ	ULD624HDZ	USD624HDZ	ULT624HDZ	UST624HDZ	ULX624HDZ	USX624HDZ	ULF024HDZ	USF024HDZ
		vers. 4	ULC624ZL	USC624ZL	ULD624ZL	USD624ZL	ULT624ZL	UST624ZL	ULX624ZL	USX624ZL	ULF024ZL	USF024ZL
	500	vers. 1	ULC625	USC625	ULD625	USD625	ULT625	UST625	ULX625	USX625	ULF025	USF025
		vers. 2	ULC625HDZ	USC625HDZ	ULD625HDZ	USD625HDZ	ULT625HDZ	UST625HDZ	ULX625HDZ	USX625HDZ	ULF025HDZ	USF025HDZ
		vers. 4	ULC625ZL	USC625ZL	ULD625ZL	USD625ZL	ULT625ZL	UST625ZL	ULX625ZL	USX625ZL	ULF025ZL	USF025ZL
	600	vers. 1	ULC626	USC626	ULD626	USD626	ULT626	UST626	ULX626	USX626	ULF026	USF026
		vers. 2	ULC626HDZ	USC626HDZ	ULD626HDZ	USD626HDZ	ULT626HDZ	UST626HDZ	ULX626HDZ	USX626HDZ	ULF026HDZ	USF026HDZ
		vers. 4	ULC626ZL	USC626ZL	ULD626ZL	USD626ZL	ULT626ZL	UST626ZL	ULX626ZL	USX626ZL	ULF026ZL	USF026ZL
	700	vers. 1	ULC627	USC627	ULD627	USD627	ULT627	UST627	ULX627	USX627	ULF027	USF027
		vers. 2	ULC627HDZ	USC627HDZ	ULD627HDZ	USD627HDZ	ULT627HDZ	UST627HDZ	ULX627HDZ	USX627HDZ	ULF027HDZ	USF027HDZ
		vers. 4	ULC627ZL	USC627ZL	ULD627ZL	USD627ZL	ULT627ZL	UST627ZL	ULX627ZL	USX627ZL	ULF027ZL	USF027ZL
	800	vers. 1	ULC628	USC628	ULD628	USD628	ULT628	UST628	ULX628	USX628	ULF028	USF028
		vers. 2	ULC628HDZ	USC628HDZ	ULD628HDZ	USD628HDZ	ULT628HDZ	UST628HDZ	ULX628HDZ	USX628HDZ	ULF028HDZ	USF028HDZ
		vers. 4	ULC628ZL	USC628ZL	ULD628ZL	USD628ZL	ULT628ZL	UST628ZL	ULX628ZL	USX628ZL	ULF028ZL	USF028ZL
	900	vers. 1	ULC629	USC629	ULD629	USD629	ULT629	UST629	ULX629	USX629	ULF029	USF029
		vers. 2	ULC629HDZ	USC629HDZ	ULD629HDZ	USD629HDZ	ULT629HDZ	UST629HDZ	ULX629HDZ	USX629HDZ	ULF029HDZ	USF029HDZ
		vers. 4	ULC629ZL	USC629ZL	ULD629ZL	USD629ZL	ULT629ZL	UST629ZL	ULX629ZL	USX629ZL	ULF029ZL	USF029ZL
	1000	vers. 1	ULC620	USC620	ULD620	USD620	ULT620	UST620	ULX620	USX620	ULF020	USF020
		vers. 2	ULC620HDZ	USC620HDZ	ULD620HDZ	USD620HDZ	ULT620HDZ	UST620HDZ	ULX620HDZ	USX620HDZ	ULF020HDZ	USF020HDZ
		vers. 4	ULC620ZL	USC620ZL	ULD620ZL	USD620ZL	ULT620ZL	UST620ZL	ULX620ZL	USX620ZL	ULF020ZL	USF020ZL

Covers



Width, mm	Version	Cover with retainers	Riffled cover with retainers*
200	vers. 1	UKS302	UKS312
	vers. 2	UKS302HDZ	-
	vers. 4	UKS302ZL	-
300	vers. 1	UKS303	UKS313
	vers. 2	UKS303HDZ	-
	vers. 4	UKS303ZL	-
400	vers. 1	UKS304	UKS314
	vers. 2	UKS304HDZ	-
	vers. 4	UKS304ZL	-
500	vers. 1	UKS305	UKS315
	vers. 2	UKS305HDZ	-
	vers. 4	UKS305ZL	-
600	vers. 1	UKS306	UKS316
	vers. 2	UKS306HDZ	-
	vers. 4	UKS306ZL	-
700	vers. 1	UKS307	UKS317
	vers. 2	UKS307HDZ	-
	vers. 4	UKS307ZL	-
800	vers. 1	UKS308	UKS318
	vers. 2	UKS308HDZ	-
	vers. 4	UKS308ZL	-
900	vers. 1	UKS309	UKS319
	vers. 2	UKS309HDZ	-
	vers. 4	UKS309ZL	-
1000	vers. 1	UKS300	UKS310
	vers. 2	UKS300HDZ	-
	vers. 4	UKS300ZL	-

* Material is aluminium



Width, mm	Ver sion	Cover for 45° angle	Cover for 90° angle	Cover for T-tapper	Cover for X-tapper
200	vers. 1	UKC602	UKD602	UKT602	UKX602
	vers. 2	–	–	–	–
	vers. 4	UKC602ZL	UKD602ZL	UKT602ZL	UKX602ZL
300	vers. 1	UKC603	UKD603	UKT603	UKX603
	vers. 2	–	–	–	–
	vers. 4	UKC603ZL	UKD603ZL	UKT603ZL	UKX603ZL
400	vers. 1	UKC604	UKD604	UKT604	UKX604
	vers. 2	–	–	–	–
	vers. 4	UKC604ZL	UKD604ZL	UKT604ZL	UKX604ZL
500	vers. 1	UKC605	UKD605	UKT605	UKX605
	vers. 2	–	–	–	–
	vers. 4	UKC605ZL	UKD605ZL	UKT605ZL	UKX605ZL
600	vers. 1	UKC606	UKD606	UKT606	UKX606
	vers. 2	–	–	–	–
	vers. 4	UKC606ZL	UKD606ZL	UKT606ZL	UKX606ZL
700	vers. 1	UKC607	UKD607	UKT607	UKX607
	vers. 2	–	–	–	–
	vers. 4	UKC607ZL	UKD607ZL	UKT607ZL	UKX607ZL
800	vers. 1	UKC608	UKD608	UKT608	UKX608
	vers. 2	–	–	–	–
	vers. 4	UKC608ZL	UKD608ZL	UKT608ZL	UKX608ZL
900	vers. 1	UKC609	UKD609	UKT609	UKX609
	vers. 2	–	–	–	–
	vers. 4	UKC609ZL	UKD609ZL	UKT609ZL	UKX609ZL
1000	vers. 1	UKC600	UKD600	UKT600	UKX600
	vers. 2	–	–	–	–
	vers. 4	UKC600ZL	UKD600ZL	UKT600ZL	UKX600ZL





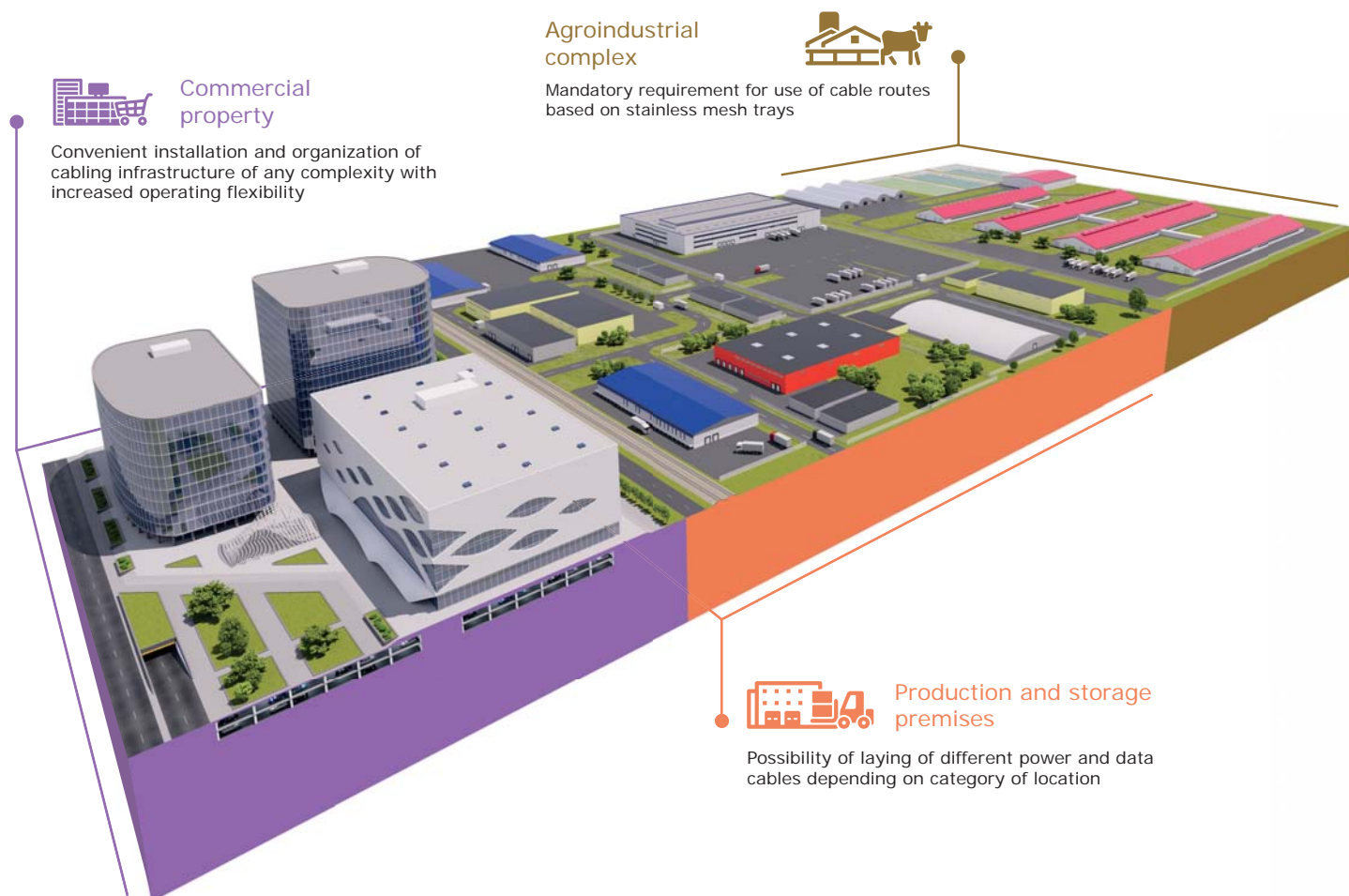
Mesh trays "F5 Combitech"

Straight elements	608
Mounting accessories	612
Joint for mesh tray	620
Tool	622

Mesh trays

Application

Mesh trays are designed for organization of cabling infrastructure mainly within the buildings and structures. Wide range of standard sizes makes it possible to meet any views of customers, special versions enhance possibilities of using mesh trays in aggressive media. In comparison with other types of trays cable route installation is significantly simplified, especially with a large number of bends and branches that makes this type of trays preferable in case of installation of cable routes with complex configuration.

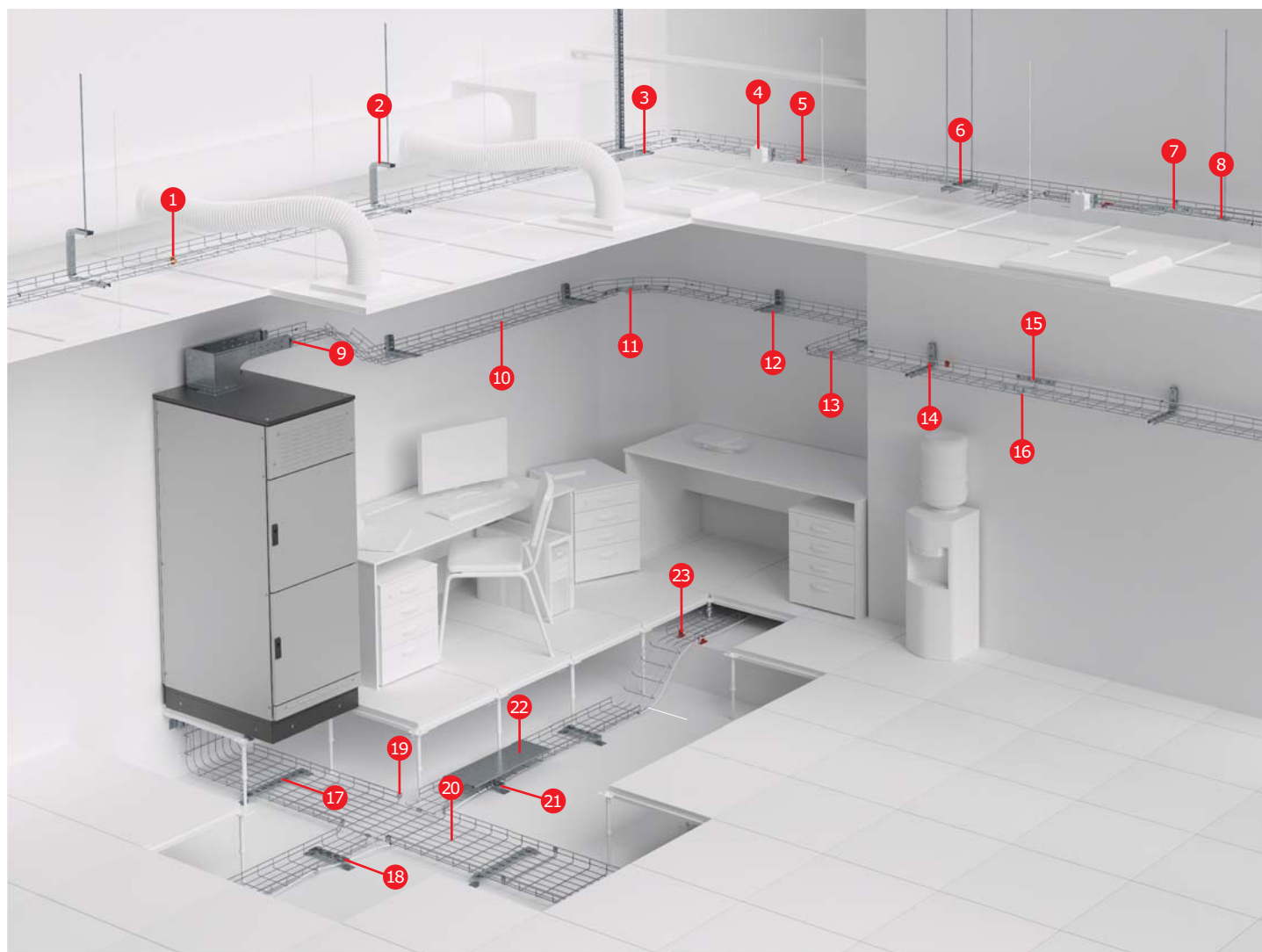


Advantages

"F5 Combitech" system has the following advantages:

- DKC mesh tray is manufactured on the basis of the unique patented technology. Edge welding of upper warp wire (so-called T-connection) is used in the structure. This type of structure is safe for mounter and prevents cable damage over sharp wire edges;
 - structural property of tray walls ensures its high strength characteristics. Use for manufacturing of mesh tray with a thickness of 4 and 5 mm makes it possible to ensure high load capacity;
 - use in the premises of mesh tray ensures fast and convenient system branching as well as connection of electrical appliances (electric lamps and light fixtures) to the cable;
 - natural ventilation of cable route is ensured when using mesh tray "F5 Combitech" that prevents its overheating. Easy access to cables and possibility to prevent dust and dirt accumulation are ensured;
 - mesh trays "F5 Combitech" do not require a large number of accessories. System is installed directly at a facility. Any branches and bends are made in manual way using only two types of tools: nippers and wrench.
- It allows for saving up to 60% of installation period and reduces economic expenditures;
- "F5 Combitech" system includes wide range of standard sizes of mesh trays with wall height of 30, 50, 80, 100 mm and base width from 50 to 600 mm;
 - DKC supplies wide range of universal fasteners which allow for organization of cable system of any complexity. Formation of multilevel systems is possible when maintaining easy access to cable routes;
 - the basic principles of DKC cable support products are maintained: portability and compatibility. Structural design allows for compatibility of "F5 Combitech" system with "S5 Combitech" (based on perforated/non-perforated metal trays), "L5 Combitech" (based on cable ladders) or "Octopus" (based on plastic corrugated tubes) and "Express" (based on rigid plastic tubes) systems;
 - possible use of cover of cable tray system (holders for cover shall be used);
 - possible use of partition wall of cable tray system. Partition wall is attached to mesh tray using special attachment kits;
 - ultra-high galvanizing quality is owing to four-stage technology of surface cleaning: chemical degreasing, electrochemical etching, electrochemical degreasing, chemical etching as well as advanced structural and process methods of electrolyte cleanness;
 - in case of open fire (fire) mesh tray installed according to DKC Technical Regulations for installation of fire-resistant cable support structures, maintains load bearing capacity (R) within 90 minutes that is confirmed by non-mandatory certification tests.

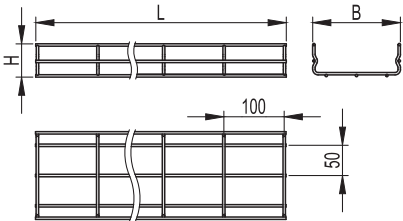
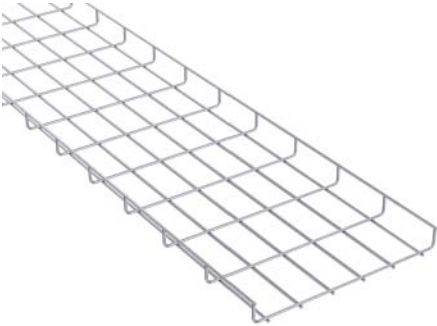
System composition



- | | |
|---|--|
| ① Reinforced grounding terminal for mesh tray | ⑬ Attachment kit No. 1 for installation of mesh tray |
| ② FBA-30 light-duty ceiling bracket for mesh tray | ⑭ FBC-30 light-duty bracket for mesh tray |
| ③ BM bracket for mesh tray | ⑮ Screwless attachment for mesh tray |
| ④ Mounting plate | ⑯ Screwless type clamp for mesh tray |
| ⑤ Limiter of cable bend radius | ⑰ TM fastener to a wall for vertical installation |
| ⑥ FPL-21 C-profile for mesh tray | ⑱ Attachment kit No. 3 for installation of mesh tray |
| ⑦ Connecting plate with a hole in the center | ⑲ Mesh tray with a height of 50 mm |
| ⑧ Plate for mesh tray suspension on a stud | ⑳ Holder for cover |
| ⑨ Adapter from mesh to cable tray | ㉑ Cover with grounding on tray |
| ⑩ L3000 mesh tray 50x200 | ㉒ Fastener kit for floor mounting |
| ⑪ Connector with seven holes | |
| ⑫ ML bracket for mesh tray | |

Straight elements

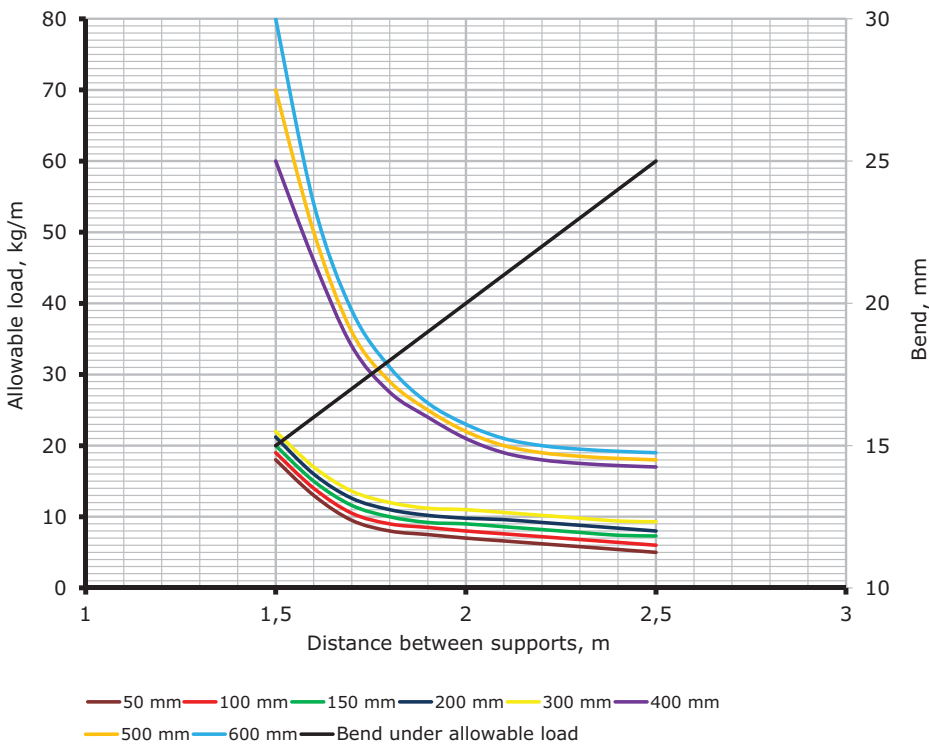
Mesh tray with a height of 30 mm



- Purpose:**
- laying of straight sections of a cable route; manufacturing of bends and branches for a cable route.
- Installation conditions:**
- it is necessary to use additional supports on both sides of each system accessory, for accessory "Bend with large bend radius" additional support is also necessary in the center.
- Characteristics:**
- wire diameter is 4 mm for tray base 50, 100, 150, 200 and 300 mm;
 - wire diameter is 5 mm for tray base 400, 500 and 600 mm.

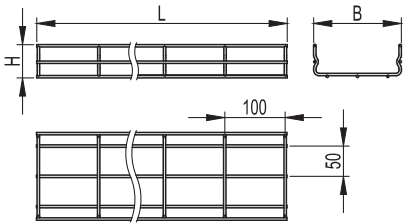
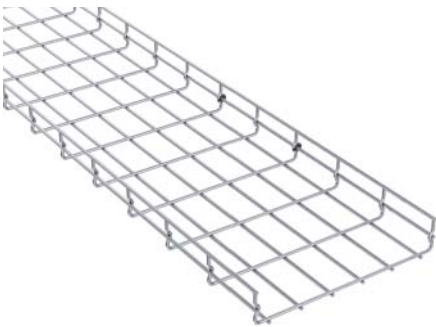
Height H, mm	Length L, mm	Base B, mm	Weight, version 1, kg/m	Diameter of wire, mm	Code, version 1	Code, version 2	Code, version 3
30	3000	50	0.38	4	FC3005	FC3005HDZ	FC3005INOX
		100	0.53	4	FC3010	FC3010HDZ	FC3010INOX
		150	0.68	4	FC3015	FC3015HDZ	FC3015INOX
		200	0.82	4	FC3020	FC3020HDZ	FC3020INOX
		300	0.92	4	FC3030	FC3030HDZ	FC3030INOX
		400	2.20	5	FC3040	FC3040HDZ	FC3040INOX
		500	2.66	5	FC3050	FC3050HDZ	FC3050INOX
		600	3.12	5	FC3060	FC3060HDZ	FC3060INOX

Load curves



- Conditions of tray safe operating load tests:**
- for versions 1 and 2;
 - allowable load curves relate to mesh tray straight elements;
 - testing according to pattern of GOST R 52868, cl. 10.3.3;
 - distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-001-73438690-2006;
 - safety factor is at least 1.7 of the claimed load.

Mesh tray with a height of 50 mm



Purpose:

- laying of straight sections of a cable route; manufacturing of bends and branches for a cable route.

Installation conditions:

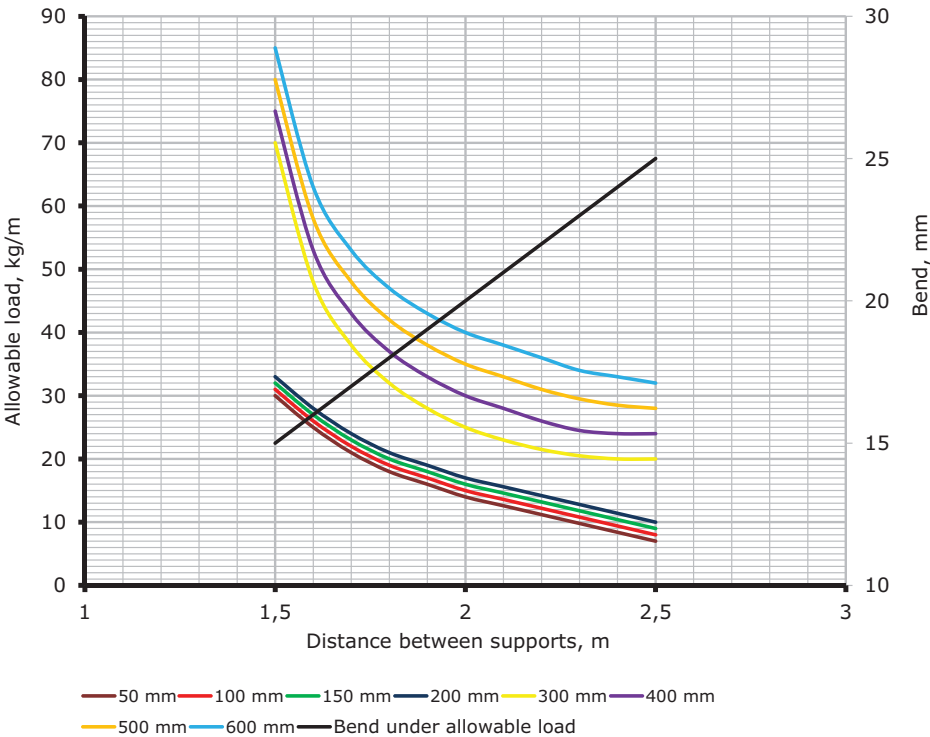
- it is necessary to use additional supports on both sides of each system accessory. For accessory "Bend with large bend radius" additional support is also necessary in the center.

Characteristics:

- wire diameter is 4 mm for tray base 50, 100, 150 and 200 mm;
- wire diameter is 5 mm for tray base 300, 400, 500 and 600 mm.

Height H, mm	Length L, mm	Base B, mm	Weight, version 1, kg/m	Diameter of wire, mm	Code, version 1	Code, version 2	Code, version 3
50	3000	50	0.62	4	FC5005	FC5005HDZ	FC5005INOX
		100	0.77	4	FC5010	FC5010HDZ	FC5010INOX
		150	0.91	4	FC5015	FC5015HDZ	FC5015INOX
		200	1.06	4	FC5020	FC5020HDZ	FC5020INOX
		300	2.11	5	FC5030	FC5030HDZ	FC5030INOX
		400	2.57	5	FC5040	FC5040HDZ	FC5040INOX
		500	3.03	5	FC5050	FC5050HDZ	FC5050INOX
		600	3.49	5	FC5060	FC5060HDZ	FC5060INOX

Load curves

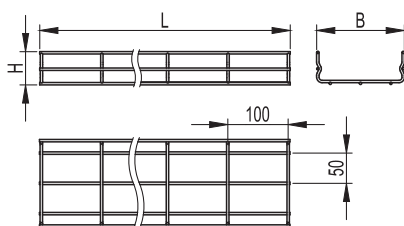
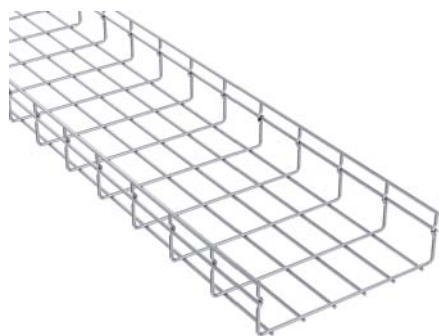


Conditions of tray

safe operating load tests:

- for versions 1 and 2;
- allowable load curves relate to mesh tray straight elements;
- testing according to pattern of GOST R 52868, cl. 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-001-73438690-2006;
- safety factor is at least 1.7 of the claimed load.

Mesh tray with a height of 80 mm



Purpose:

- laying of straight sections of a cable route;
- manufacturing of bends and branches for a cable route.

Installation conditions:

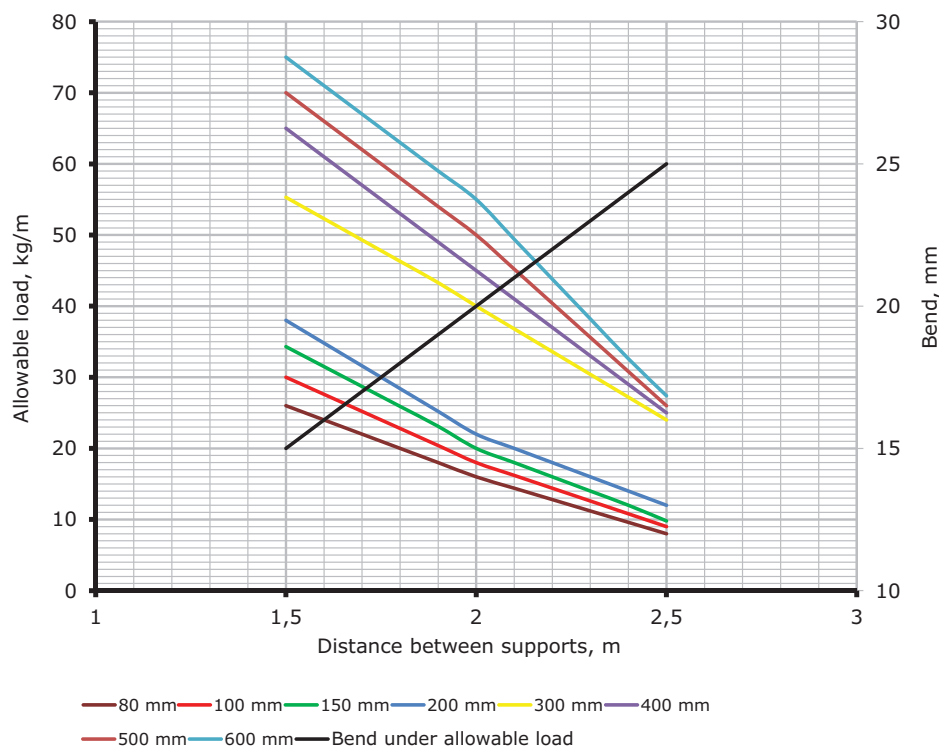
- it is necessary to use additional supports on both sides of each system accessory.
- For accessory "Bend with large bend radius" additional support is also necessary in the center.

Characteristics:

- wire diameter is 4 mm for tray base 50, 100, 150 and 200 mm;
- wire diameter is 5 mm for tray base 300, 400, 500 and 600 mm.

Height H, mm	Length L, mm	Base B, mm	Weight, version 1, kg/m	Diameter of wire, mm	Code, version 1	Code, version 2	Code, version 3
80	3000	80	0.81	4	FC8008	FC8008HDZ	FC8008INOX
		100	0.83	4	FC8010	FC8010HDZ	FC8010INOX
		150	0.97	4	FC8015	FC8015HDZ	FC8015INOX
		200	1.12	4	FC8020	FC8020HDZ	FC8020INOX
		300	2.20	5	FC8030	FC8030HDZ	FC8030INOX
		400	2.66	5	FC8040	FC8040HDZ	FC8040INOX
		500	3.12	5	FC8050	FC8050HDZ	FC8050INOX
		600	3.58	5	FC8060	FC8060HDZ	FC8060INOX

Load curves

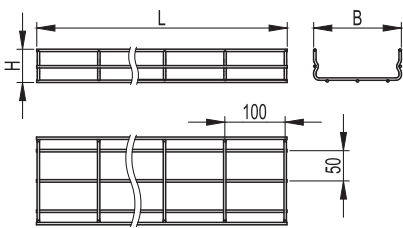
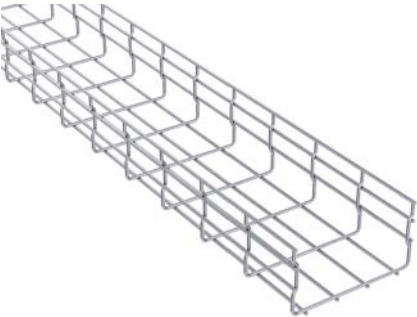


Conditions of tray

safe operating load tests:

- for versions 1 and 2;
- allowable load curves relate to mesh tray straight elements;
- testing according to pattern of GOST R 52868, cl. 10.3.3;
- distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-001-73438690-2006;
- safety factor is at least 1.7 of the claimed load.

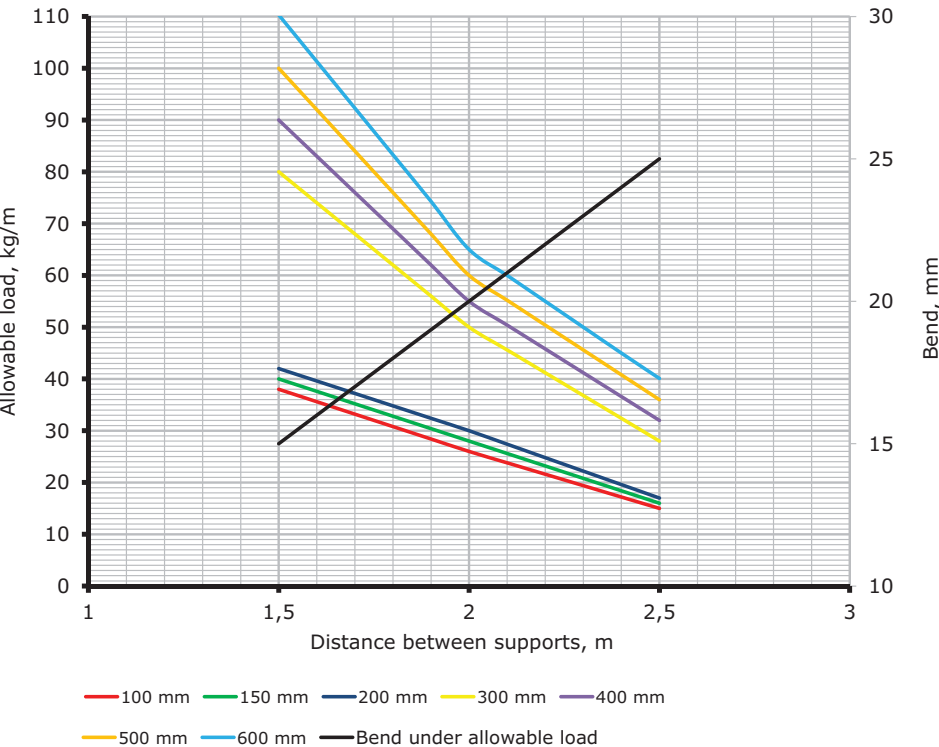
Mesh tray with a height of 100 mm



- Purpose:**
- laying of straight sections of a cable route; manufacturing of bends and branches for a cable route.
- Installation conditions:**
- it is necessary to use additional supports on both sides of each system accessory. For accessory "Bend with large bend radius" additional support is also necessary in the center.
- Characteristics:**
- wire diameter is 4 mm for tray base 50, 100, 150 and 200 mm;
 - wire diameter is 5 mm for tray base 300, 400, 500 and 600 mm.

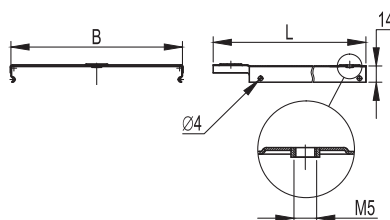
Height H, mm	Length L, mm	Base B, mm	Weight, version 1, kg/m	Diameter of wire, mm	Code, version 1	Code, version 2	Code, version 3
100	3000	100	1.06	4	FC1010	FC1010HDZ	FC1010INOX
		150	1.21	4	FC1015	FC1015HDZ	FC1015INOX
		200	1.35	4	FC1020	FC1020HDZ	FC1020INOX
		300	2.57	5	FC1030	FC1030HDZ	FC1030INOX
		400	3.03	5	FC1040	FC1040HDZ	FC1040INOX
		500	3.49	5	FC1050	FC1050HDZ	FC1050INOX
		600	3.95	5	FC1060	FC1060HDZ	FC1060INOX

Load curves



- Conditions of tray safe operating load tests:**
- for versions 1 and 2;
 - allowable load curves relate to mesh tray straight elements;
 - testing according to pattern of GOST R 52868, cl. 10.3.3;
 - distance from the mating point of straight sections in an end span to a support is 1/4–1/5 of the span length, and test patterns conform to TS 3449-001-73438690-2006;
 - safety factor is at least 1.7 of the claimed load.

Tray cover



Purpose:

- cable protection against external effects.

Distinctive features:

- it is latched on a tray by mere pushing (edge C-profile). The tray cover has specially stamped ends for lap joint. To establish a ground loop along the cover, M5x8 screw (code CM030508) is used.
- Covers in hot dip galvanized version HDZ have connection holes on both sides. Hole diameter is 6.3 mm.

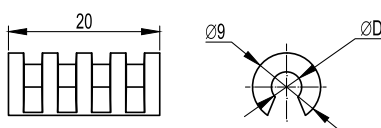
Characteristics:

- version 1 includes steel galvanized by the Sendzimir method;
- version 2 includes hot dip galvanizing after manufacture;
- version 3 includes stainless steel (AISI 304);
- version 4 includes zinc lamellar coating.

Length L, mm	Width B, mm	Weight, version 1, kg/m	Code, version 1	Code, version 2	Code, version 3
3000	50	0.4	35520	35520HDZ	35520INOX
	80	0.54	35521	35521HDZ	35521INOX
	100	0.63	35522	35522HDZ	35522INOX
	150	0.87	35523	35523HDZ	35523INOX
	200	1.11	35524	35524HDZ	35524INOX
	300	1.58	35525	35525HDZ	35525INOX
	400	2.05	35526	35526HDZ	35526INOX
	500	2.52	35527	35527HDZ	35527INOX
2000	600	2.98	35528	35528HDZ	35528INOX
	50	0.4	35510	35510HDZ	35510INOX
	80	0.54	35511	35511HDZ	35511INOX
	100	0.63	35512	35512HDZ	35512INOX
	150	0.87	35513	35513HDZ	35513INOX
	200	1.11	35514	35514HDZ	35514INOX
	300	1.58	35515	35515HDZ	35515INOX
	400	2.05	35516	35516HDZ	35516INOX
	500	2.52	35517	35517HDZ	35517INOX

Mounting accessories

Holder for cover



Purpose:

- cover attachment on a mesh tray. Two holders are required per cover running meter.

Distinctive features:

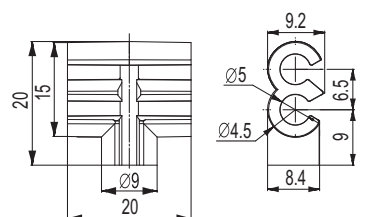
- two standard sizes depending on diameter of tray wire.

Characteristics:

- material is polypropylene.

Diameter of tray wire D, mm	Color	Weight, kg	Code
4	red	0.001	FC37004
5	gray	0.001	FC37005

Universal holder for cover



Purpose:

- cover attachment on a mesh tray which sections are connected using screwless fastener FC37304.

Distinctive features:

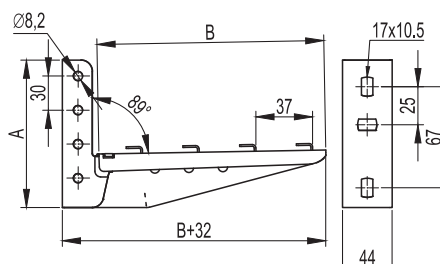
- universal holder can be used for cover attachment on trays with wire diameter of 4 and 5 mm.

Characteristics:

- material is elastic polypropylene.

Diameter of tray wire D, mm	Color	Weight, kg	Code
4/5	red	0.001	FC37006

ML bracket for mesh tray



Purpose:

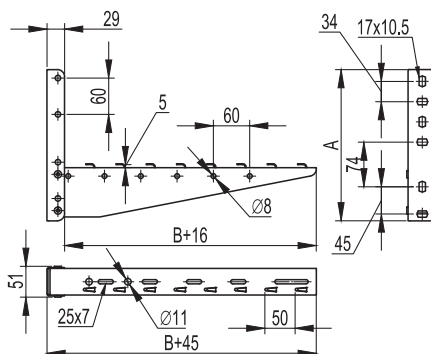
- screwless attachment of mesh tray.

Distinctive features:

- attached to a wall;
- possible installation in PSM, PSL profile with M8x60 bolts and M8 nuts.

Thickness, mm	Width B, mm	Max. load, kg	Height A, mm	Weight, version 1, kg	Code, version 1	Code, version 3
1.5	100	145	125	0.455	FC34105	FC34101INOX
	150	136	130	0.475	FC34106	FC34102INOX
	200	120	130	0.500	FC34107	FC34103INOX
	300	96	140	0.770	FC34108	FC34104INOX
2	100	179	125	0.495	FC34101	-
	150	170	130	0.533	FC34102	-
	200	150	130	0.590	FC34103	-
	300	120	140	0.870	FC34104	-

Assembled ML bracket for mesh tray



Purpose:

- screwless attachment of mesh tray.

Distinctive features:

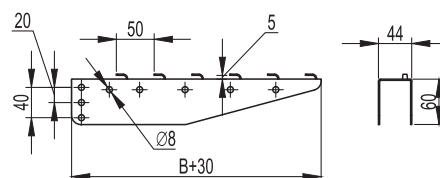
- attached to a wall;
- can not be installed in PSM, PSL profile.

Characteristics:

- steel with thickness of 1.5 mm.

Width B, mm	Max. load, kg	Height A, mm	Weight, version 1, kg	Code, version 1
400	190	250	1.158	FC33833
500	170	250	1.375	FC33834
600	150	250	1.45	FC33835

BM bracket for mesh tray



Purpose:

- screwless attachment of mesh tray.

Distinctive features:

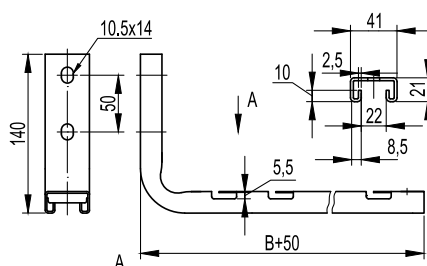
- installed in PSM, PSL profile with M8x60 bolts and M8 nuts.

Characteristics:

- steel with thickness of 1.5 mm.

Width B, mm	Max. load, kg	Weight, version 1, kg	Code, version 1
100	300	0.190	FC34179
150	290	0.280	FC34180
200	250	0.300	FC34182
300	190	0.490	FC34183
400	190	0.740	FC34184
500	170	0.950	FC34185
600	150	1.200	FC34186

FBC-30 light-duty bracket for mesh tray



Purpose:

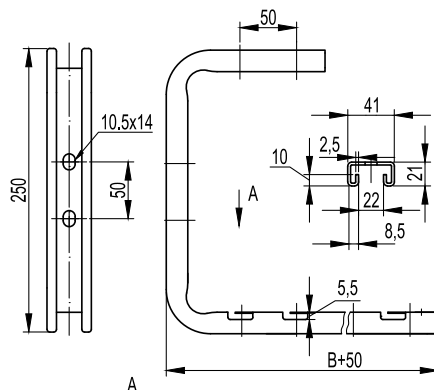
- screwless installation of route based on the mesh tray.

Characteristics:

- attached to a wall;
- steel thickness is 2 mm.

Max. tray width B, mm	Height, mm	Max. load, kg	Weight, version 1, kg	Code, version 1
100	140	100	0.400	FBC3010
200	140	80	0.670	FBC3020
300	140	70	0.63	FBC3030
400	140	50	0.76	FBC3040

FBA-30 light-duty ceiling bracket for mesh tray



Purpose:

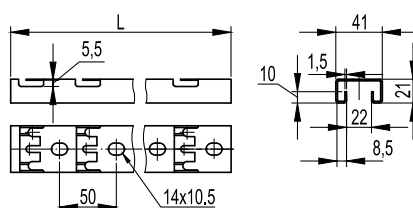
- screwless installation of route based on the mesh tray.

Characteristics:

- attached to a wall, ceiling;
- steel thickness is 2 mm.

Max. tray width B, mm	Height, mm	Max. load, kg	Weight, version 1, kg	Code, version 1
100	250	100	0.800	FBA3010
200	250	80	1.080	FBA3020
300	250	70	0.99	FBA3030
400	250	50	1.1	FBA3040

FPL-21 C-profile for mesh tray



Purpose:

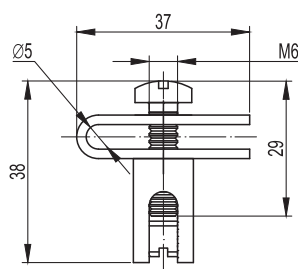
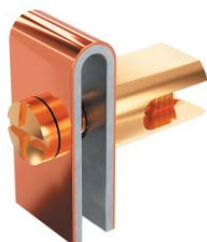
- suspension of mesh tray on studs;
- screwless attachment of mesh tray.

Characteristics:

- C-profile;
- steel thickness is 1.5 mm.

Max. tray width, mm	Length L, mm	Weight, version 1, kg	Code, version 1
100	180	0.150	FPL2101
200	280	0.200	FPL2102
300	380	0.305	FPL2103
400	480	0.400	FPL2104
500	580	0.495	FPL2105
600	680	0.585	FPL2106
700	780	0.500	FPL2107
800	880	0.600	FPL2108
1000	1080	0.700	FPL2110
1200	1280	0.800	FPL2112
1800	1880	1.000	FPL2118
2000	2080	1.400	FPL2120
3000	3080	2.100	FPL2130

Reinforced grounding terminal for mesh tray



Purpose:

- grounding of power routes in the trays with side height of 50, 80 and 100 mm.

Distinctive features:

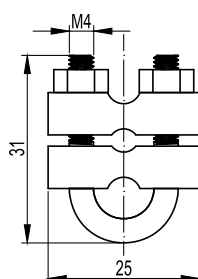
- not used with mesh trays with side height of 30 mm.

Characteristics:

- grounding of mesh trays is performed every 20 meters;
- possible section area of used grounding wire is from 0.8 mm² to 78.5 mm² (wire diameter is from 1 to 10 mm).

Weight, kg	Code
0.040	FC37303

Grounding terminal for mesh tray



Purpose:

- grounding of power routes for all the tray standard sizes.

Distinctive features:

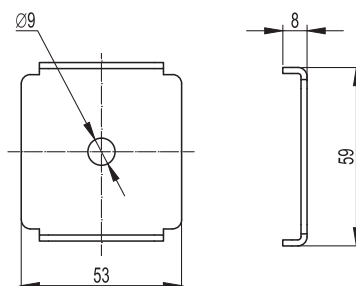
- flexibility.

Characteristics:

- grounding of mesh trays is performed every 20 meters;
- possible section area of used grounding wire is from 7.0 mm² to 78.5 mm² (wire diameter is from 3 to 10 mm).

Weight, kg	Code
0.030	FC37302

Plate for mesh tray suspension on a stud



Purpose:

- mesh tray suspension to a ceiling on one stud.

Distinctive features:

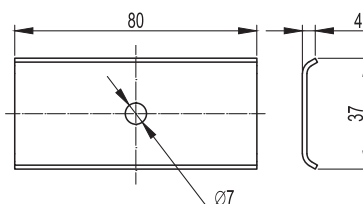
- one stud is installed for each suspension point in the tray center;
- one suspension requires two plates and two hexagon nuts with serrate flange.

Characteristics:

- suspension of mesh tray with a width up to 300 mm inclusive;
- suspension on M8 stud;
- when using washers suspension on M6 stud is possible.

Weight, version 1, kg	Code, version 1	Code, version 3
0.030	FC37311	FC37311INOX

Connecting plate with a hole in the center



Purpose:

- interconnection of mesh trays with side height of 50, 80 or 100 mm.

Distinctive features:

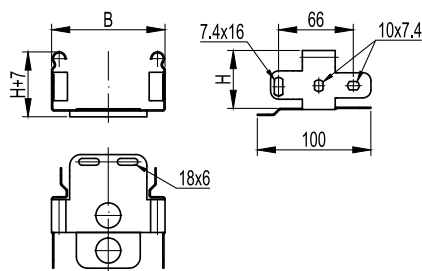
- not used with mesh trays with side height of 30 mm.

Characteristics:

- steel with thickness of 1.5 mm.

Weight, version 1, kg	Code, version 1
0.031	FC37306

Adapter from mesh to cable tray



Purpose:

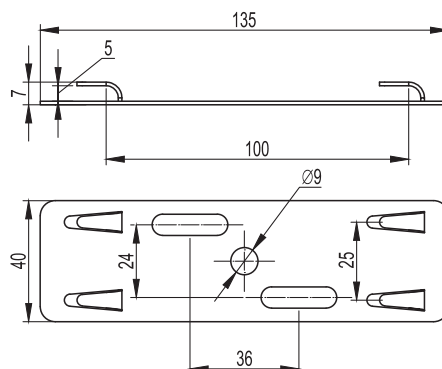
- allows for transfer from a cable route based on cable trays and cable ladders to a mesh tray.

Characteristics:

- steel with thickness of 1.0 mm.

Height H, mm	B base, mm	Code, version 1
50	50	FC15005
	100	FC15010
	150	FC15015
	200	FC15020
	300	FC15030
	400	FC15040
	500	FC15050
	600	FC15060
80	80	FC18008
	100	FC18010
	150	FC18015
	200	FC18020
	300	FC18030
	400	FC18040
	500	FC18050
	600	FC18060
100	100	FC11010
	150	FC11015
	200	FC11020
	300	FC11030
	400	FC11040
	500	FC11050
	600	FC11060

Holder for mesh tray with base 50 mm



Purpose:

- attachment of mesh trays FC3005 and FC5005 to bracket or profile, also used as a base for attachment on a stud;
- screwless attachment of mesh tray.

Distinctive features:

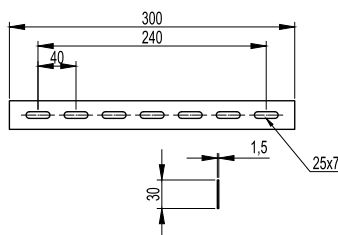
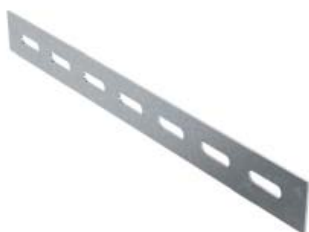
- one stud is installed for each suspension point in the tray center.

Characteristics:

- suspension of mesh tray with a width up to 300 mm inclusive;
- maximum allowable load on a holder is 18 kg;
- steel with thickness of 1.0 mm.

Weight, version 1, kg	Code, version 1	Code, version 3
0.060	FC37305	FC37305INOX

Connector with seven holes



Purpose:

- manufacturing of a number of system accessories (bend with a large radius, reducer) as well as interconnection of mesh trays.

Distinctive features:

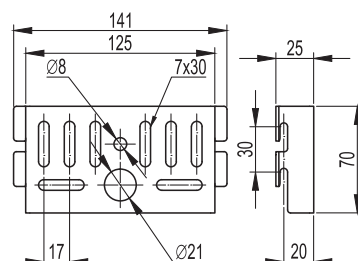
- capability to use for connection of mesh trays with those cable.

Characteristics:

- steel with thickness of 1.5 mm.

Weight, version 1, kg	Code, version 1	Code, version 3
0.100	FC34247	FC34247INOX

Mounting plate



Purpose:

- installation of junction boxes.

Distinctive features:

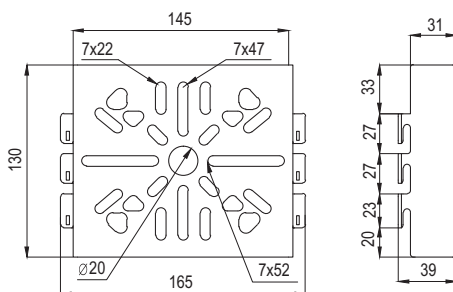
- also may be used for wall attachment of trays with a width up to 150 mm.

Characteristics:

- steel with thickness of 2.0 mm.

Weight, version 1, kg	Code, version 1	Code, version 3
0.150	FC37310	FC37310INOX

Increased mounting plates 145x130 mm



Purpose:

- installation of junction boxes, industrial plugs, video surveillance systems, signalling and special equipment.

Distinctive features:

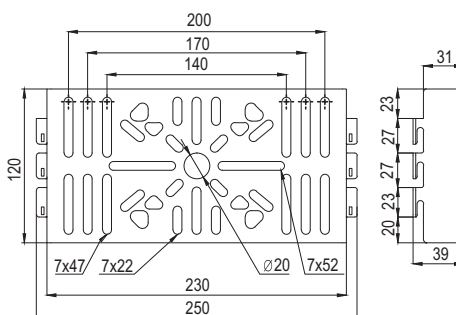
- may be used for wall attachment of trays with a width up to 300 mm;
- equipment is attached to perforated plates with fasteners "M5 Combitech" (CM100500+CM080520);
- equipment is attached to non-perforated plates with self-drilling and self-tapping screws on metal.

Characteristics:

- steel with thickness of 2 mm.

Weight, version 1, kg	Code, version 1	Note
0.370	FC37312	non-perforated
0.430	FC37313	perforated

Increased mounting plates 230x120 mm



Purpose:

- installation of junction boxes, industrial plugs, video surveillance systems, signalling and special equipment.

Distinctive features:

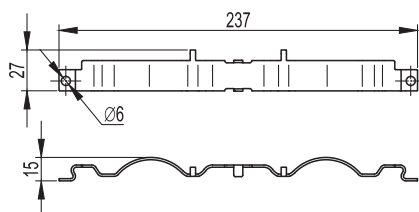
- may be used for wall attachment of trays with a width up to 300 mm;
- equipment is attached to perforated plates with fasteners M5 (CM100500+CM080520);
- equipment is attached to non-perforated plates with self-drilling and self-tapping screws on metal.

Characteristics:

- steel with thickness of 2 mm.

Weight, version 1, kg	Code, version 1	Note
0.440	FC37314	non-perforated
0.550	FC37315	perforated

Screwless attachment for mesh tray



Purpose:

- connection of mesh tray straight elements.

Distinctive features:

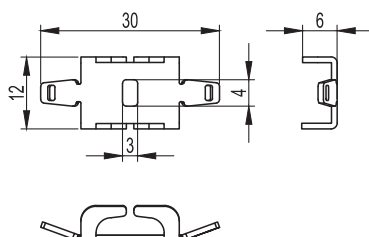
- no additional tools are required for installation.

Characteristics:

- steel with thickness of 1.5 mm.

Weight, version 1, kg	Code, version 1	Code, version 3
0.070	FC37304	FC37304INOX

Screwless type clamp for mesh tray



Purpose:

- connection of mesh tray bases.

Distinctive features:

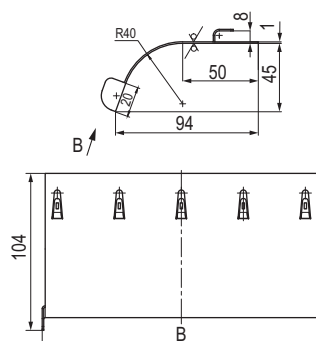
- pliers are required for installation.

Characteristics:

- steel with thickness of 1.5 mm.

Weight, version 1, kg	Code, version 1	Code, version 3
0.007	FC37307	FC37307INOX

Metal limiters of cable bend radius



Purpose:

- organization of dropdowns of power cables both to equipment and for transfer along the height of large cable groups combined into bundles.

Distinctive features:

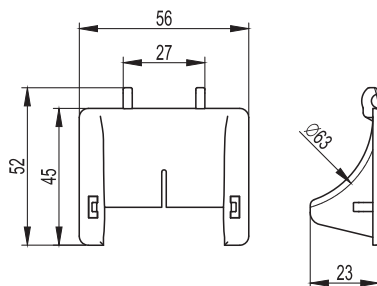
- radius R=40 mm allows for preventing bends and cable damage;
- screwless attachment to tray base by using fast attachment elements.

Characteristics:

- steel with thickness of 1 mm.

Max. tray base width B, mm	Weight, version 1, kg	Code of version 1
100	0.060	FC37010
150	0.090	FC37015
200	0.130	FC37020
300	0.200	FC37030
400	0.310	FC37045

Limiter of cable bend radius



Purpose:

- required when using cables critical for small bend radius.

Distinctive features:

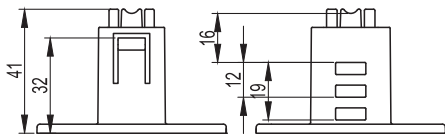
- no additional tools are required for installation.

Characteristics:

- material is ABS plastic.

Weight, kg	Code
0.004	FC37009

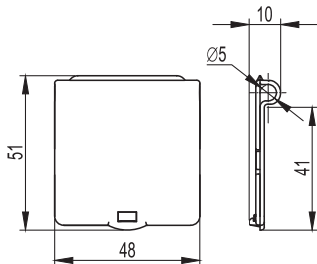
Fastener kit for floor mounting



- Purpose:**
- mesh tray floor installation.
- Distinctive features:**
- kit includes two elements: fastener and telescopic extension cord.
- Characteristics:**
- possible height versions: 40, 47, 55 or 63 mm;
 - material is ABS plastic.

Weight, kg	Code
0.011	FC37230

Marking plate

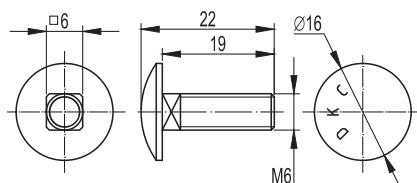


- Purpose:**
- marking of cable systems based on mesh trays.
- Distinctive features:**
- label with the necessary information is placed within the plate.
- Characteristics:**
- material is polystyrene.

Weight, kg	Code
0.006	FC37008

Joint for mesh tray

Screw for installation of mesh tray


Purpose:

- interconnection of mesh tray sections, manufacturing of system accessories. Mesh tray attachment to mounting accessories.

Distinctive features:

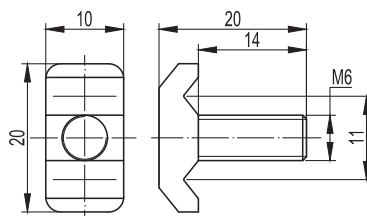
- used within attachment kits No. 1 and No. 4.

Characteristics:

- strength class 4,8 for version 1.

Designation	Pcs/package	Package weight, kg	Code, version 1	Code, version 2	Code, version 3
M6x20	50	0.35	CM050620	CM050620HDZ	CM050620INOX

Screw with special head for mesh tray


Purpose:

- interconnection of mesh tray sections, manufacturing of system accessories. Mesh tray attachment to mounting accessories.

Distinctive features:

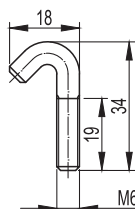
- used within attachment kits No. 3 and No. 5.

Characteristics:

- strength class 4,8 for version 1.

Designation	Pcs/package	Package weight, kg	Code, version 1
M6x14	50	0.41	CM060614

Hook bolt for mechanical connection of mesh tray


Purpose:

- attachment of mesh tray to mounting accessories.

Distinctive features:

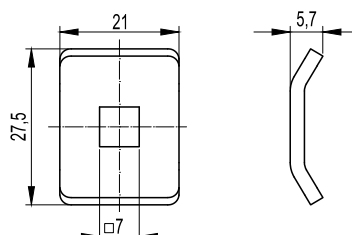
- used within attachment kit No. 2.

Characteristics:

- strength class 4,8 for version 1.

Designation	Pcs/package	Package weight, kg	Code, version 1
M6x20	50	0.32	CM070620

Washer for connection of mesh tray


Purpose:

- interconnection of mesh trays, manufacturing of system accessories of mesh tray, mesh tray attachment to mounting accessories.

Distinctive features:

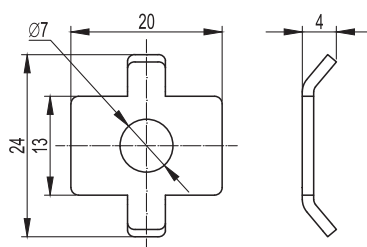
- used within attachment kits No. 1 and No. 4.

Characteristics:

- for use with M6x20 screw.

Hole dimension, mm	Pcs/package	Package weight, kg	Code, version 1	Code, version 2	Code, version 3
7X7	50	0.50	CM170600	CM170600HDZ	CM170600INOX

Four-tab washer for connection of mesh tray



Purpose:

- interconnection of mesh trays, manufacturing of system accessories of mesh tray.

Distinctive features:

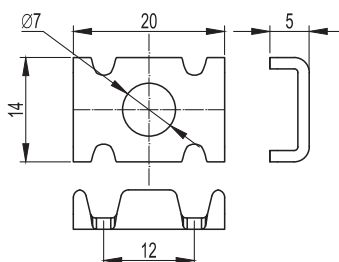
- used within attachment kit No. 1.

Characteristics:

- for use with M6x20 screw.

Hole diameter, mm	Pcs/package	Package weight, kg	Code, version 1	Code, version 2	Code, version 3
7	50	0.30	CM180600	CM180600HDZ	CM180600INOX

Washer with special head for connection of mesh tray



Purpose:

- interconnection of mesh trays, manufacturing of system accessories of mesh tray, mesh tray attachment to mounting accessories.

Distinctive features:

- used within attachment kit No. 3.

Characteristics:

- for use with M6x14 screw.

Diameter of hole, mm	Pcs/package	Package weight, kg	Code, version 1
7	50	0.10	CM190600

Scheme installation

KitNo. 1



Purpose:

- used for connection of mesh trays by abutment as well as when manufacturing system accessories (bends, T-branches, reducers, etc.). Possible supply of hot dip galvanized and stainless versions.

Name	Pcs/package	Code, version 1		Code, version 2	Code, version 3
M6x20 screw	50	CM050620	kit assembly CM350001	CM050620HDZ	CM050620INOX
Washer		CM170600		CM170600HDZ	CM170600INOX
Four-tab washer		CM180600		CM180600HDZ	CM180600INOX
M6 nut		CM100600		CM100600HDZ	CM100600INOX

KitNo. 2



Purpose:

- used for attachment of mesh trays to mounting accessories (brackets and profiles). When using special field-installable mounting accessories with mesh tray screwless attachment system, use of this kit is not required.

Name	Code, version 1
M6x20 hook	CM070620
M6 nut	CM100600
Four-tab washer	CM180600

KitNo. 3



Purpose:

- used for connection of mesh trays by abutment as well as when manufacturing system accessories (bends, T-branches, reducers, etc.).

Name	Pcs/package	Code, version 1	
M6x14 screw	50	CM060614	kit assembly CM350003
Washer with special head		CM190600	
M6 nut		CM100600	

KitNo. 4



Purpose:

- used for connection of mesh trays and manufacturing of system accessories using FC3730 connecting plate or FC3424 connector. It is possible to use for mesh tray attachment to mounting accessories (brackets and profile). Possible supply of hot dip galvanized and stainless versions.

Name	Code, version 1	Code, version 2	Code, version 3
M6x20 screw	CM050620	CM050620HDZ	CM050620INOX
Washer	CM170600	CM170600HDZ	CM170600INOX
M6 nut	CM100600	CM100600HDZ	CM100600INOX

KitNo. 5



Purpose:

- used for connection of mesh trays and manufacturing of system accessories using FC37306 connecting plate or FC34247 connector. It is possible to use for mesh tray attachment to mounting accessories (brackets and profile).

Name	Code, version 1
M6x14 screw	CM060614
M6 nut	CM100600

Tool

Nippers for mesh trays



Purpose:

- manufacturing of system accessories (bends, tappers, etc.) during the installation of cable line based on mesh trays.

Distinctive features:

- individual package.

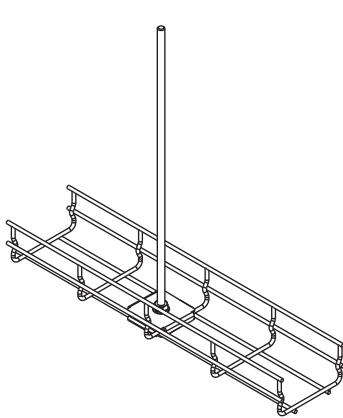
Characteristics:

- for wire up to 6 mm inclusive.

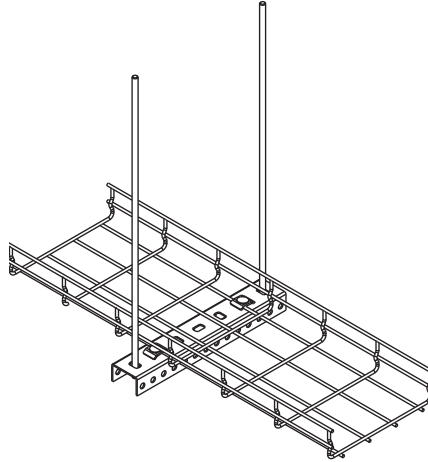
Package weight, kg	Code
1.5	FC37040

Installation examples

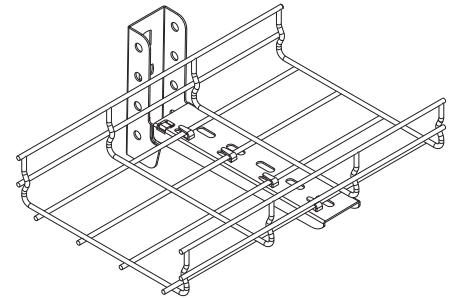
Attachment of mesh trays to wall and ceiling



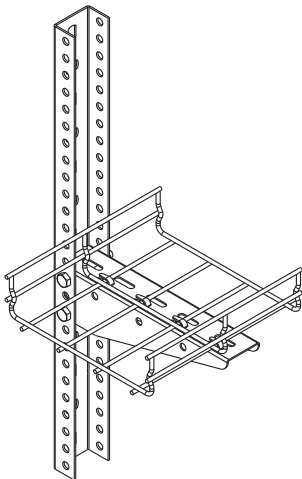
Tray installation using plate for mesh tray suspension on one stud



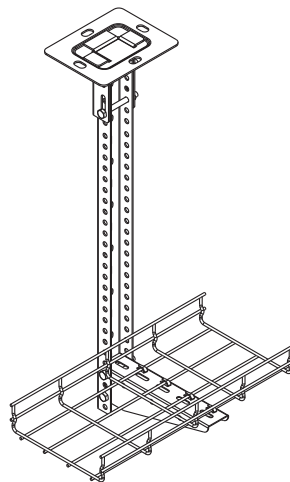
Suspension of mesh tray on two studs and BPM-29/BPL-29 profile



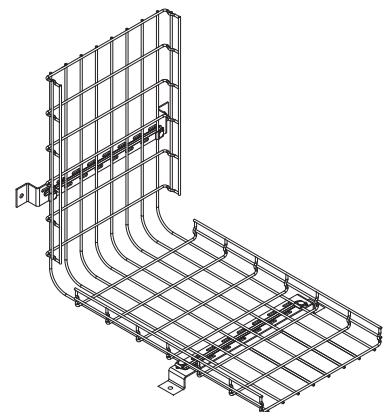
Attachment to a wall using ML bracket



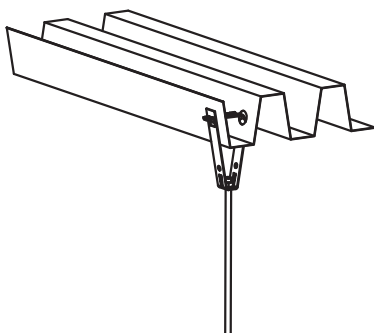
Attachment to a wall using BM bracket and BPM-29/BPL-29 profile



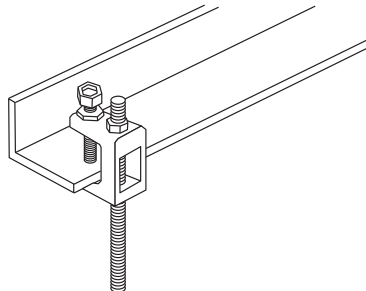
Suspension of mesh tray to a ceiling using BSF-29 ceiling fastener, BM bracket and BPM-29/BPL-29 profile



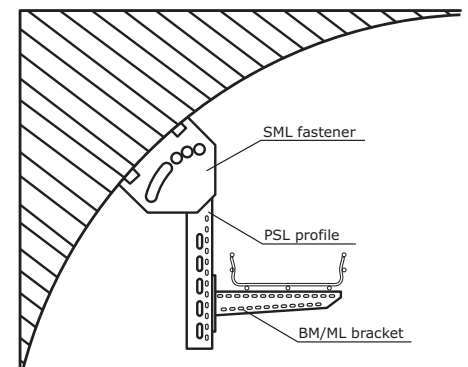
Tray installation using TM fastener to a wall or floor



Suspension on a stud to a ceiling of profiled flooring using special fastener



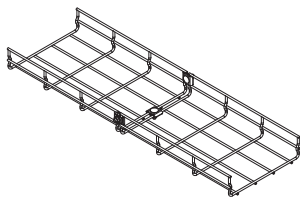
Stud attachment with G-crimp to beam channel or beam



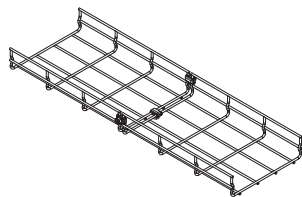
Universal method of attachment to ceilings of non-standard profile

Types of tray connection

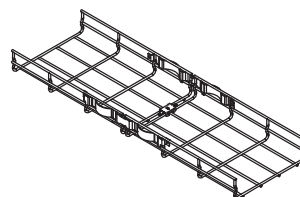
Screw and screwless



Tray connection using attachment kit No. 1

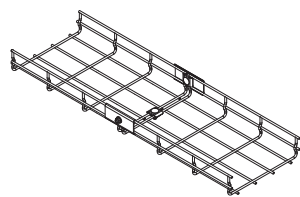


Tray connection using attachment kit No. 3

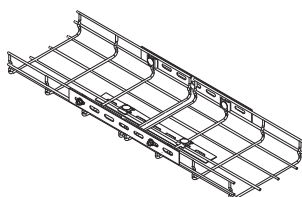


Screwless connection of mesh trays

Connecting plates



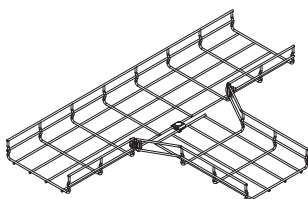
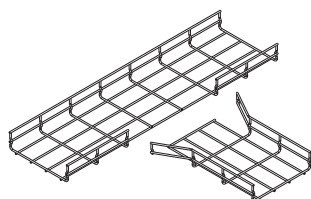
Tray connection using plates with a hole



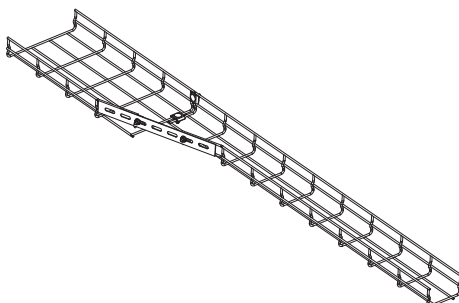
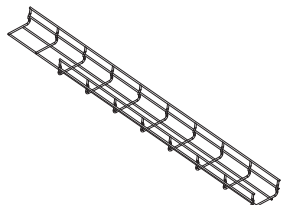
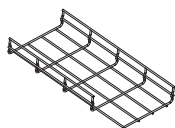
Tray connection using connector with 7 holes

Examples of manufacturing of system accessories

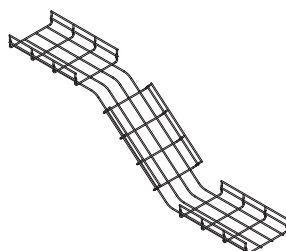
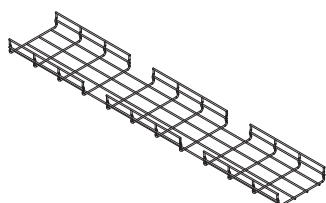
T-branch



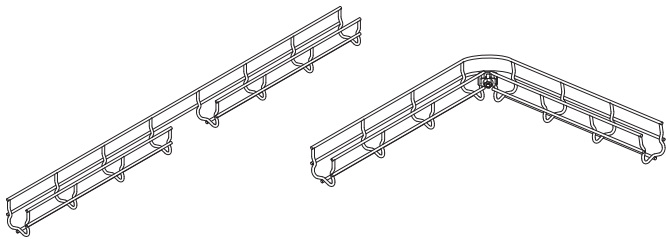
Reducer



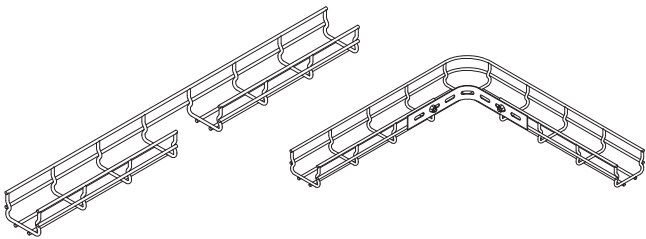
Level change



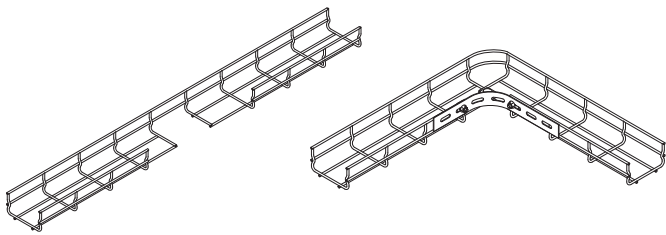
Bend with a small bend radius



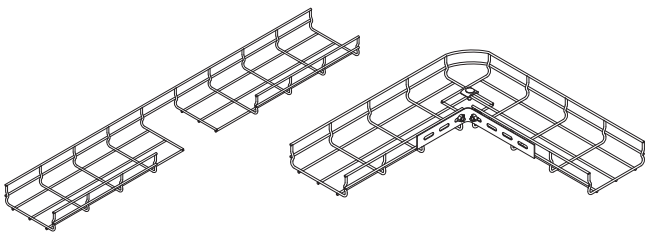
Base 50 mm



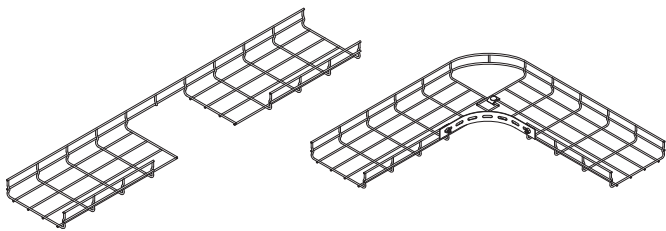
Base 80 mm



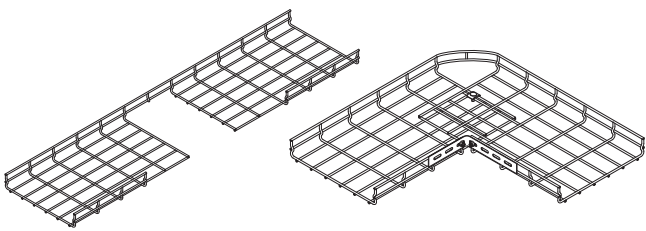
Base 100 mm



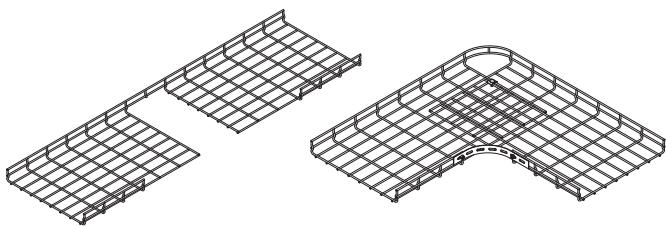
Base 150 mm



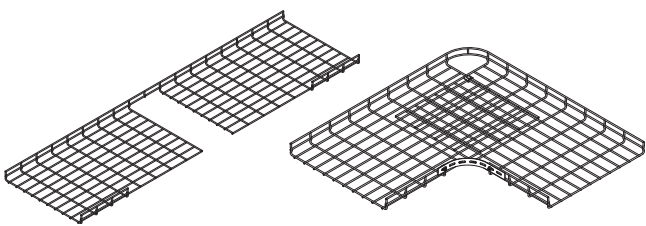
Base 200 mm



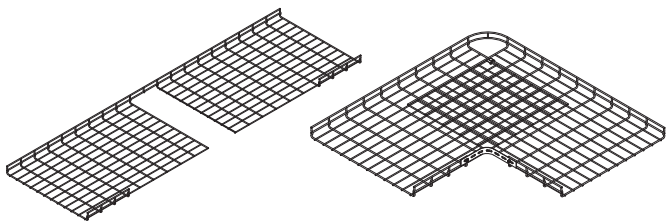
Base 300 mm



Base 400 mm

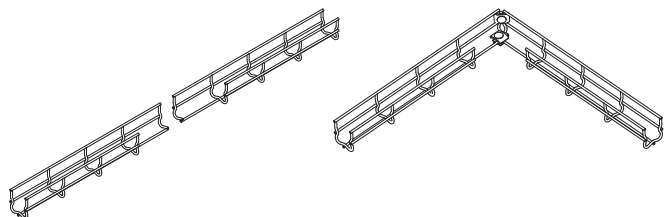


Base 500 mm

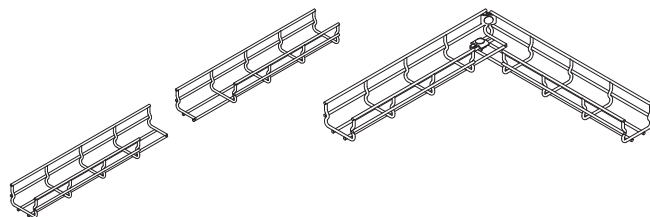


Base 600 mm

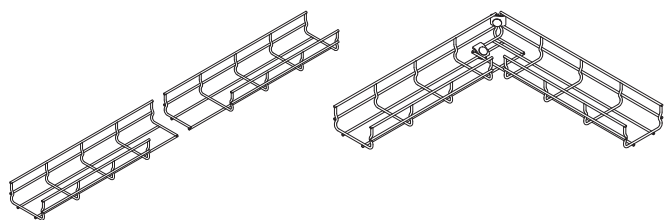
Bend at a right angle



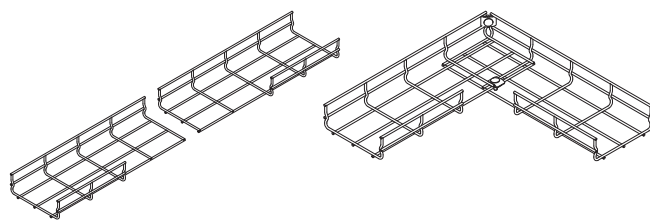
Base 50 mm



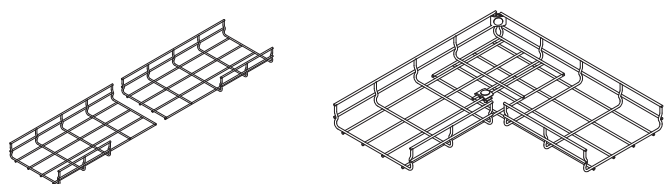
Base 80 mm



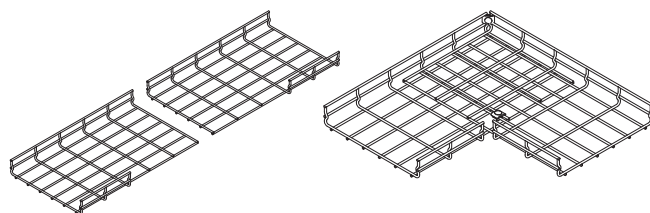
Base 100 mm



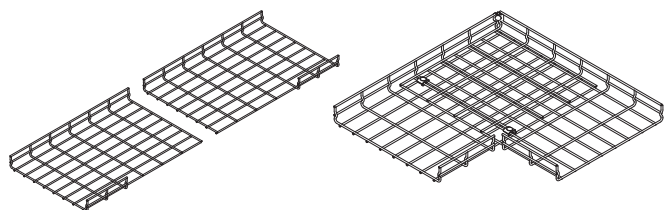
Base 150 mm



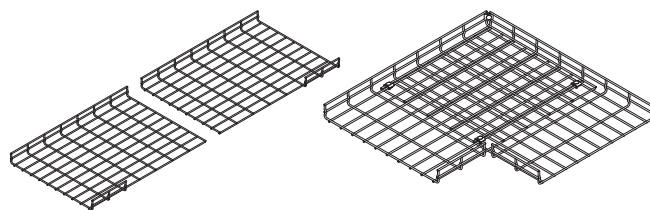
Base 200 mm



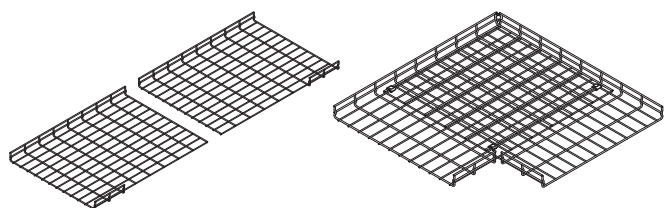
Base 300 mm



Base 400 mm

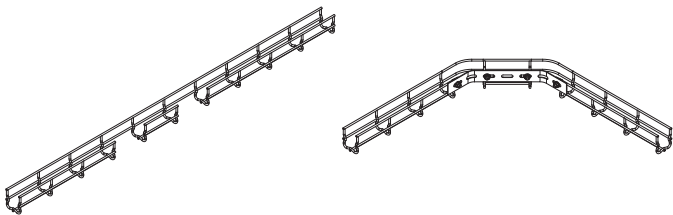


Base 500 mm

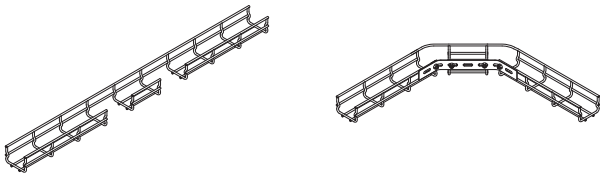


Base 600 mm

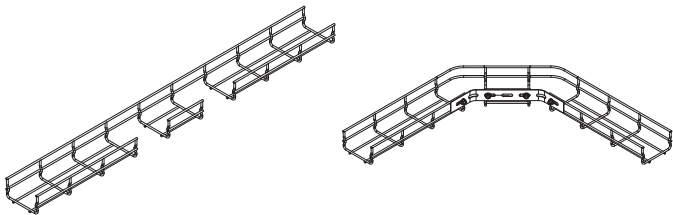
Bend with a large bend radius



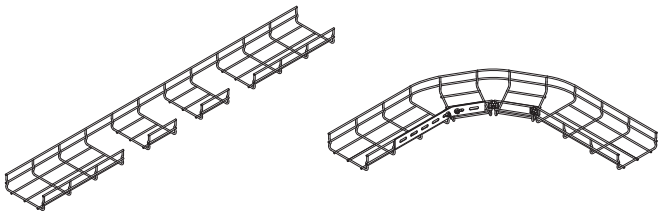
Base 50 mm



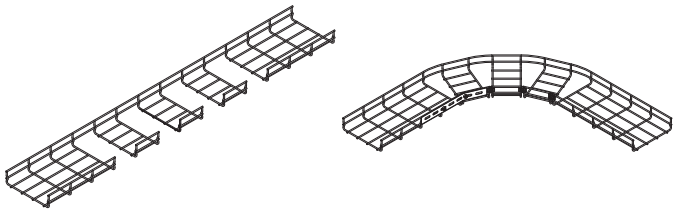
Base 80 mm



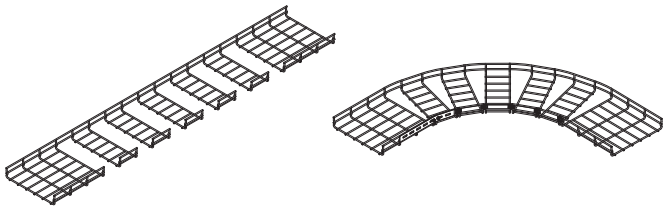
Base 100 mm



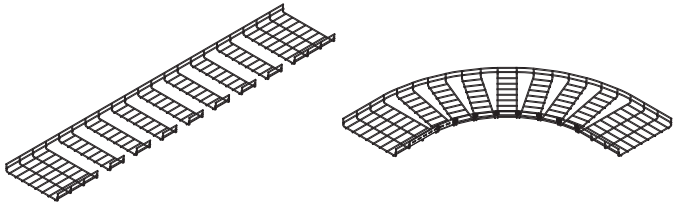
Base 150 mm



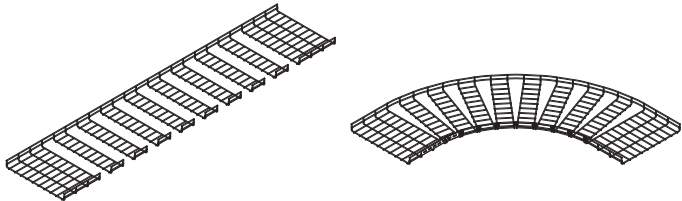
Base 200 mm



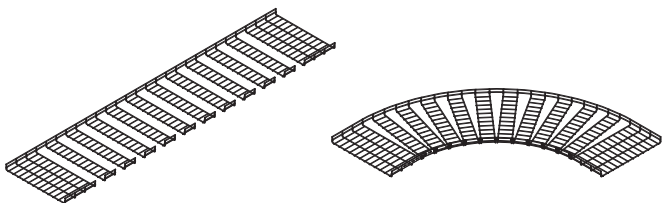
Base 300 mm



Base 400 mm



Base 500 mm



Base 600 mm

Furnishing table

For connection of mesh trays

Standard size of mesh tray, mm	Screw connection of trays	Screwless attachment		Connecting plate with a hole in the center			Connector with 7 holes	
	Kit No. 1 or No. 3	FC37304	FC37307	FC37306	Kit No. 4 or No. 5	Kit No. 1 or No. 3	FC34247	Kit No. 4 or No. 5
100x100	3	2	1	2	2	1	3	6
100x150	3	2	1	2	2	1	3	6
100x200	3	2	1	2	2	1	3	6
100x300	4	2	2	2	2	2	3	6
100x400	5	2	2	2	2	3	4	8
100x500	5	2	2	2	2	3	4	8
100x600	5	2	2	2	2	3	4	8
30x50	2	2	0	–	–	–	2	4
30x100	3	2	0	–	–	–	2	4
30x150	3	2	1	–	–	–	3	6
30x200	3	2	1	–	–	–	3	6
30x300	4	2	1	–	–	–	3	6
30x400	4	2	2	–	–	–	3	6
30x500	4	2	2	–	–	–	3	6
30x600	5	2	2	–	–	–	3	6
50x50	2	2	0	2	2	0	2	4
50x100	3	2	0	2	2	0	2	4
50x150	3	2	1	2	2	1	3	6
50x200	3	2	1	2	2	1	3	6
50x300	4	2	1	2	2	1	3	6
50x400	4	2	2	2	2	2	3	6
50x500	4	2	2	2	2	2	4	8
50x600	5	2	2	2	2	3	4	8
80x80	3	2	0	2	2	0	3	6
80x100	3	2	1	2	2	1	3	6
80x150	3	2	1	2	2	1	3	6
80x200	3	2	1	2	2	1	3	6
80x300	4	2	2	2	2	2	3	6
80x400	4	2	2	2	2	2	3	6
80x500	5	2	2	2	2	3	4	8
80x600	5	2	2	2	2	3	4	8

For accessories of mesh trays

Standard size of mesh tray, mm	T-branch*	Reducer **			Small bend radius		Bend at a right angle	Large bend radius	
	Kit No. 1 or No. 3	FC34247	Kit No. 4 or No. 5	Kit No. 1 or No. 3	FC34247	Kit No. 1 or No. 3	Kit No. 1 or No. 3	FC34247	Kit No. 1 or No. 3
100x100	3	1	2	2	1	3	2	1	3
100x150	3	1	2	2	1	3	2	1	4
100x200	3	1	2	2	1	3	2	1	5
100x300	4	1	2	3	1	3	2	1	7
100x400	4	1	2	4	1	3	2	1	9
100x500	4	1	2	4	1	3	2	1	11
100x600	4	1	2	4	1	3	2	1	13
30x50	3	1	2	1	0	1	2	1	2
30x100	3	1	2	2	1	3	2	1	3
30x150	3	1	2	2	1	3	2	1	4
30x200	3	1	2	2	1	3	2	1	5
30x300	4	1	2	3	1	3	2	1	7
30x400	4	1	2	3	1	3	2	1	9
30x500	4	1	2	3	1	3	2	1	11
30x600	4	1	2	4	1	3	2	1	13
50x50	3	1	2	1	0	1	2	1	2
50x100	3	1	2	2	1	3	2	1	3
50x150	3	1	2	2	1	3	2	1	4
50x200	3	1	2	2	1	3	2	1	5
50x300	4	1	2	3	1	3	2	1	7
50x400	4	1	2	3	1	3	2	1	9
50x500	4	1	2	3	1	3	2	1	11
50x600	4	1	2	4	1	3	2	1	13
80x80	3	1	2	2	1	2	2	1	3
80x100	3	1	2	2	1	3	2	1	3
80x150	3	1	2	2	1	3	2	1	4
80x200	3	1	2	2	1	3	2	1	5
80x300	4	1	2	3	1	3	2	1	7
80x400	4	1	2	3	1	3	2	1	9
80x500	4	1	2	4	1	3	2	1	11
80x600	4	1	2	4	1	3	2	1	13

* It is necessary to select adjoining tray in the table for T-branch

** It is necessary to select smaller tray in the table for reducer





Mounting system "B5 Combitech"

Profiles	634
Connection elements	647
Brackets	652
Vertical supports and traverses	663
Clamps	673
Holders	675
Universal support structures	681

Mounting system "B5 Combitech"

System description

The "B5 Combitech" mounting system is used together with all DKC metal tray systems, as well as with the "Hercules" lighting and main busbar. Nevertheless, it is possible to employ the "B5 Combitech" system for laying of cable routes and utility line systems without the use of metal tray systems. System elements are fully compatible with each other that allows creating structures of any scale and complexity. All basic elements of the "B5 Combitech" system are combined by means of bolted connections, thus simplifying and accelerating installation considerably.

Application

The "B5 Combitech" system is the universal system of mounting elements and support structures for application in different fields: in cable support systems, telecommunications and communication systems, utility line systems (air lines, pipelines, etc.)



Cable support systems



Telecommunications and communication systems

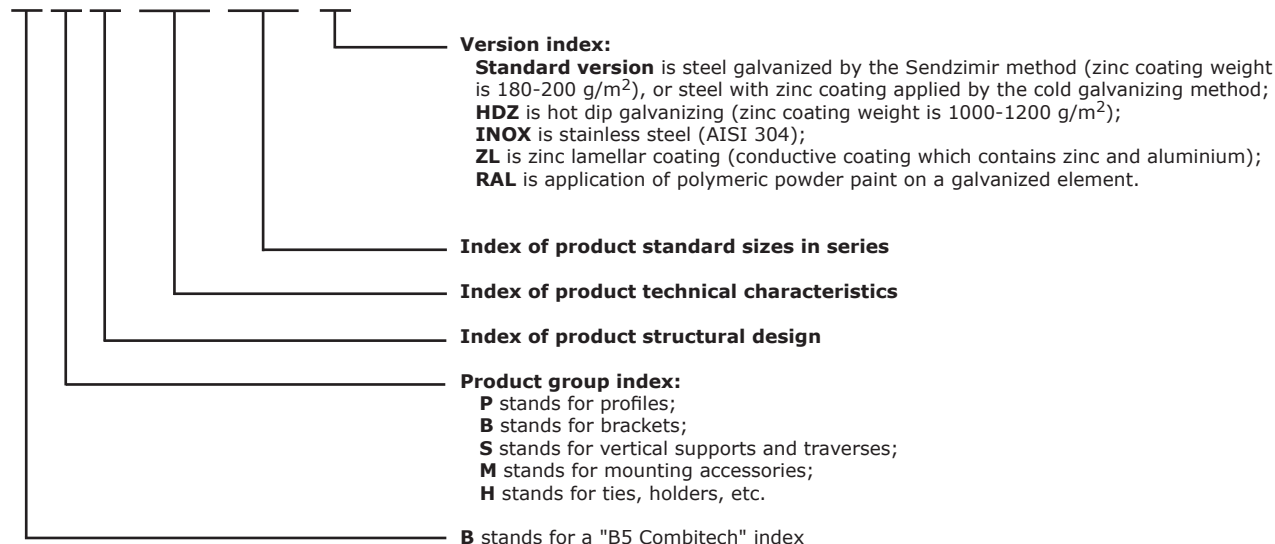


Utility line systems

Coding system

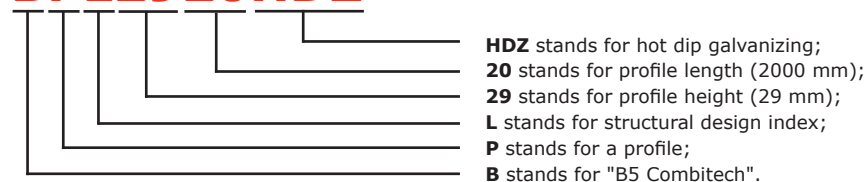
For the purpose of more convenient use we have developed the "B5 Combitech" system coding method. Coding comprises primary indexes of product characteristics, using which one can easily identify belonging of the code to the corresponding group, and determine basic standard sizes of the certain product.

BXX XX XX X

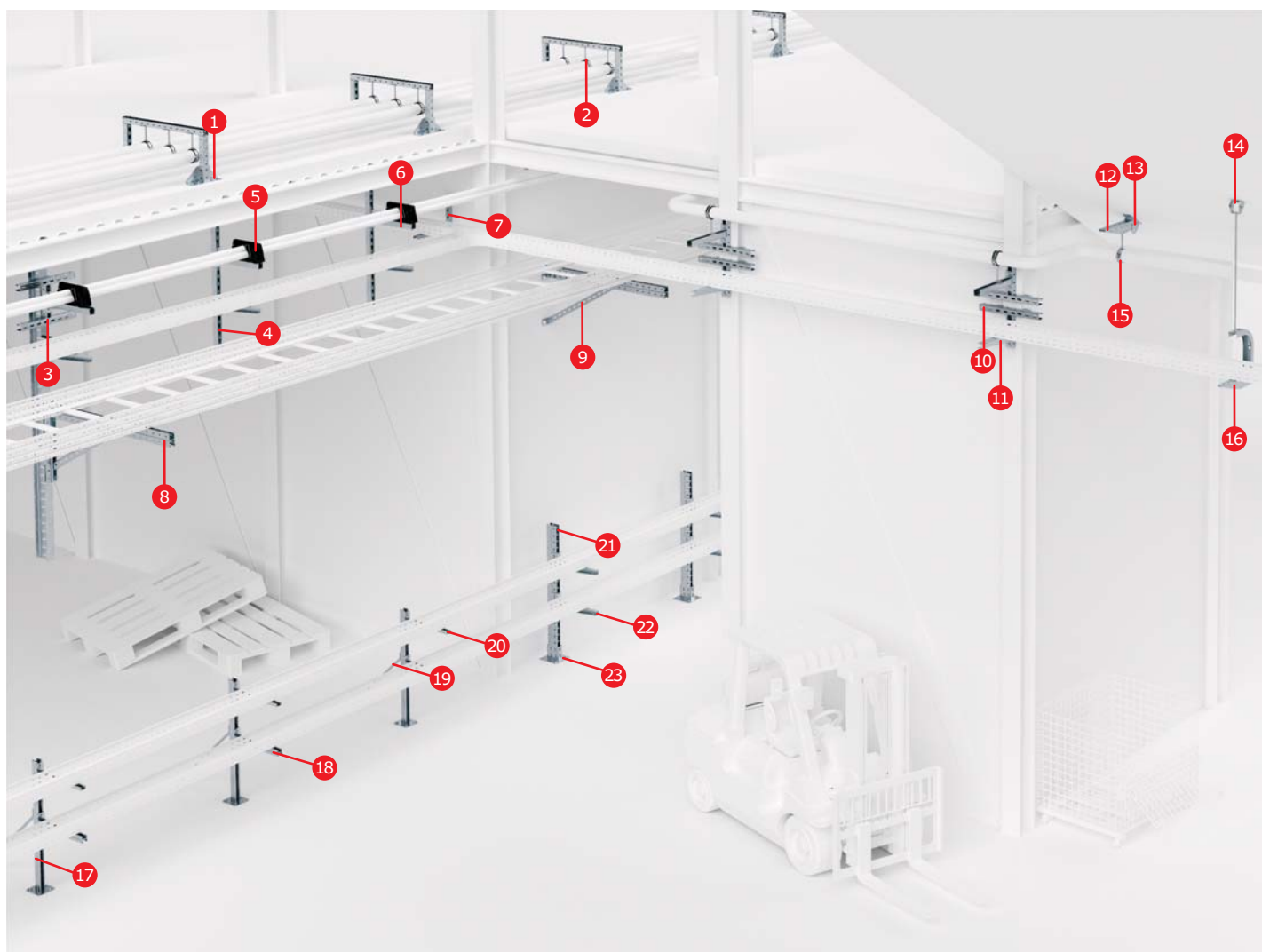


Example use

BPL2920HDZ



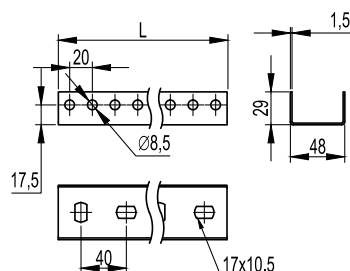
System composition



- | | |
|--|--|
| 1 Fastener with platform for BPM-41 profile | 13 BSV-29 ceiling fastener |
| 2 BHT-20 clip with insulation for average loads | 14 BSV-10 universal hinge |
| 3 H-fastener to vertical double T-beam | 15 BHT-30 clip for heavy loads |
| 4 BPM-41 C-profile | 16 BBA-20 ceiling bracket |
| 5 BHR-35 cable holder for attachment in triangle | 17 BSD-21 double vertical support |
| 6 BBP-41 single bracket | 18 BBD-21 double bracket |
| 7 BBC-30 light-duty bracket | 19 Gib for BMU-60 brackets and vertical supports |
| 8 BBS-41 assembled heavy-duty bracket | 20 BBP-21 single bracket |
| 9 BBS-41 heavy-duty bracket with gib | 21 BPD-41 double C-profile |
| 10 T-fastener to vertical double T-beam | 22 BBF-60 quick lock bracket |
| 11 BBH-60 reinforced bracket | 23 BSF-82 ceiling fastener |
| 12 BBM-50 bracket | |

Profiles

BPL-29 profile (PSL)


Applications:

- installation of BBL-40, BBL-50 and BBM-50 brackets;
- attachment to a wall;
- suspension on studs;
- installation to BSV-29/BSF-29 fasteners.

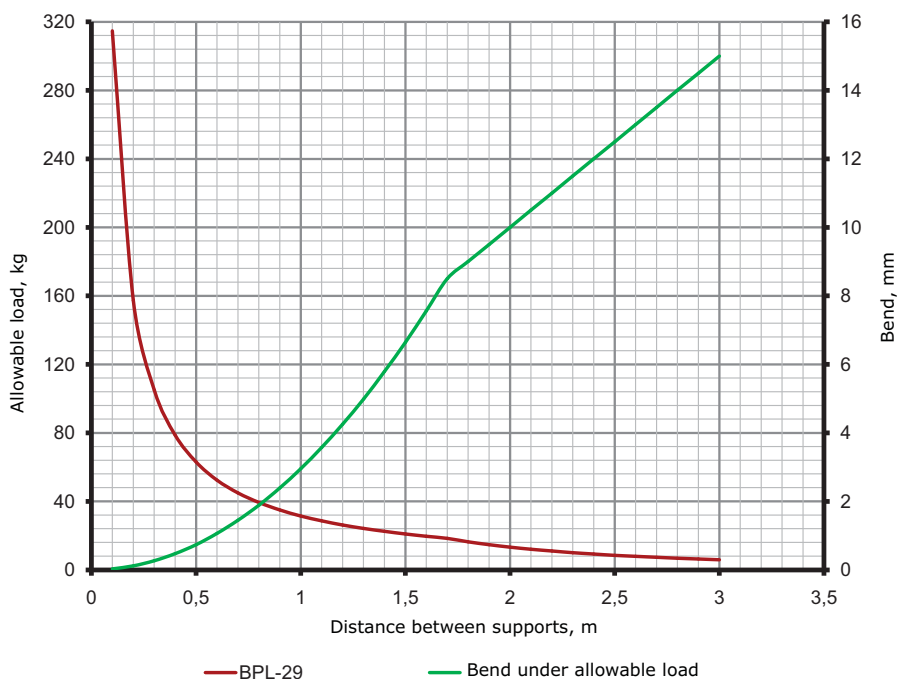
Characteristics:

- U-profile;
- steel thickness is 1.5 mm.

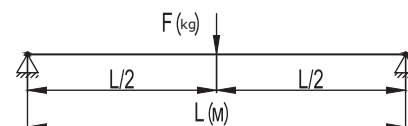
Length L, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
300	0.31	–	BPL2903	BPL2903HDZ	BPL2903INOX	BPL2903ZL
400	0.42	–	BPL2904	BPL2904HDZ	BPL2904INOX	BPL2904ZL
500	0.52	–	BPL2905	BPL2905HDZ	BPL2905INOX	BPL2905ZL
600	0.63	–	BPL2906	BPL2906HDZ	BPL2906INOX	BPL2906ZL
700	0.73	–	BPL2907	BPL2907HDZ	BPL2907INOX	BPL2907ZL
800	0.82	–	BPL2908	BPL2908HDZ	BPL2908INOX	BPL2908ZL
1000	1.02	–	BPL2910	BPL2910HDZ	BPL2910INOX	BPL2910ZL
1200	1.26	–	BPL2912	BPL2912HDZ	BPL2912INOX	BPL2912ZL
1800	1.87	–	BPL2918	BPL2918HDZ	BPL2918INOX	BPL2918ZL
2000	2.33	34120	BPL2920	BPL2920HDZ	BPL2920INOX	BPL2920ZL
3000	3.50	34128	BPL2930	BPL2930HDZ	BPL2930INOX	BPL2930ZL
6000	7.00	–	BPL2960	BPL2960HDZ	–	BPL2960ZL

Apart from standard lengths, it is possible to manufacture profiles of any length within the interval of 300 to 3000 mm with pitch of 100 mm.

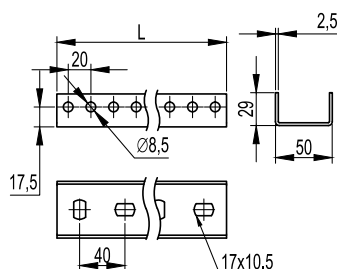
Load curves


Profile calculation conditions

- for versions 1, 2 and 4;
- testing according to GOST R 52868;
- loading diagram, hinged profile with length L (mm), with applied load F (kg) at the profile center;
- $[\sigma] = 165$ MPa – allowable stresses for cold-worked steel with account of safety factor for the material;
- loads F (kg) and bends f (mm) are calculated with account of the fact that allowable stresses for steel $[\sigma]$ and maximum bend equal to $L/20$ are not exceeded.



BPM-29 profile (PSM)



Applications:

- installation of BBL-40, BBL-50 and BBM-50 brackets;
- attachment to a wall;
- suspension on studs;
- installation to BSV-29/BSF-29 fasteners.

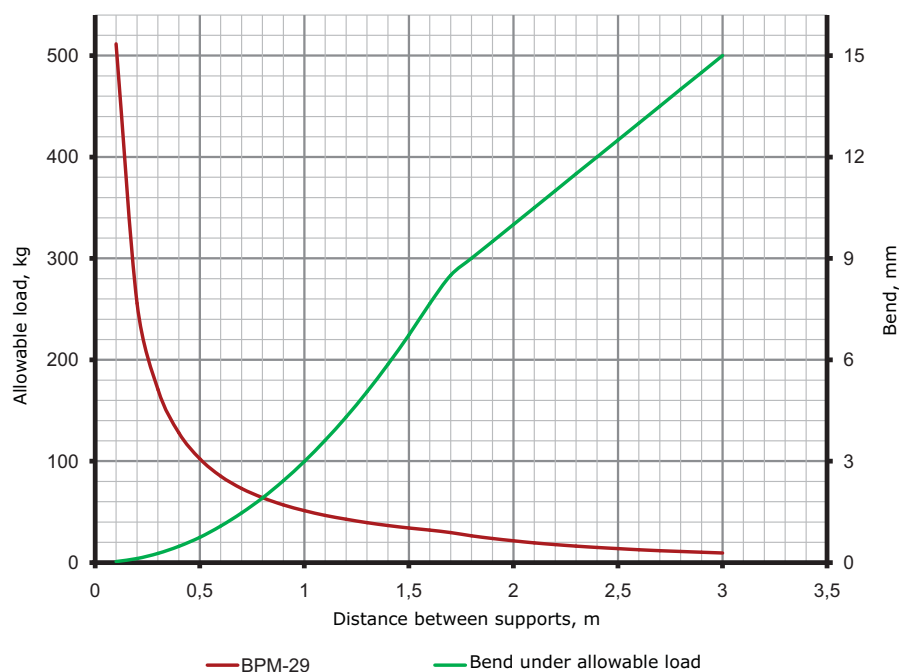
Characteristics:

- U-profile;
- steel thickness is 2.5 mm.

Length L, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
300	0.50	–	BPM2903	BPM2903HDZ	BPM2903INOX	BPM2903ZL
400	0.67	–	BPM2904	BPM2904HDZ	BPM2904INOX	BPM2904ZL
500	0.84	–	BPM2905	BPM2905HDZ	BPM2905INOX	BPM2905ZL
600	1.00	–	BPM2906	BPM2906HDZ	BPM2906INOX	BPM2906ZL
700	1.17	–	BPM2907	BPM2907HDZ	BPM2907INOX	BPM2907ZL
800	1.34	–	BPM2908	BPM2908HDZ	BPM2908INOX	BPM2908ZL
1000	1.68	–	BPM2910	BPM2910HDZ	BPM2910INOX	BPM2910ZL
1200	2.00	–	BPM2912	BPM2912HDZ	BPM2912INOX	BPM2912ZL
1800	3.01	–	BPM2918	BPM2918HDZ	BPM2918INOX	BPM2918ZL
2000	3.34	34130	BPM2920	BPM2920HDZ	BPM2920INOX	BPM2920ZL
3000	5.01	34181	BPM2930	BPM2930HDZ	BPM2930INOX	BPM2930ZL
6000	9.64	–	BPM2960	BPM2960HDZ	–	BPM2960ZL

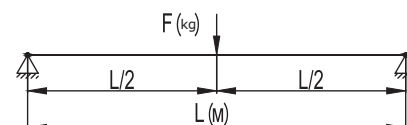
Apart from standard lengths, it is possible to manufacture profiles of any length within the interval of 300 to 3000 mm with pitch of 100 mm.

Load curves

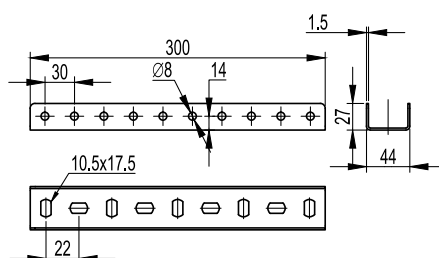


Profile calculation conditions

- for versions 1, 2 and 4;
- testing according to GOST R 52868;
- loading diagram, hinged profile with length L (mm), with applied load F (kg) at the profile center;
- $[\sigma] = 165 \text{ MPa}$ – allowable stresses for cold-worked steel with account of safety factor for the material;
- loads F (kg) and bends f (mm) are calculated with account of the fact that allowable stresses for steel $[\sigma]$ and maximum bend equal to $L/20$ are not exceeded.



BPN-29 connector (for BPL-29/BPM-29/BPF profiles)



Applications:

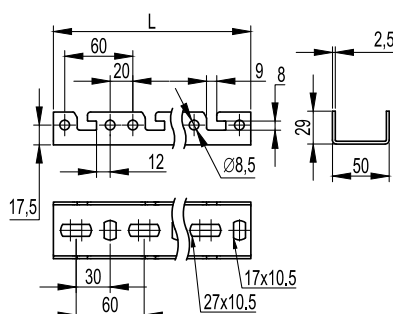
- connection of BPL-29/BPM-29/BPF profiles.

Characteristics:

- U-profile;
- steel thickness is 1.5 mm;
- fasteners used are M8x60 bolts and M8 hexagon nuts with serrate flanges in the amount of 8 pcs for a connection.

Length L, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
300	0.47	34122	BPN2903	BPN2903HDZ	BPN2903INOX	BPN2903ZL

BPF fast attachment profile



Applications:

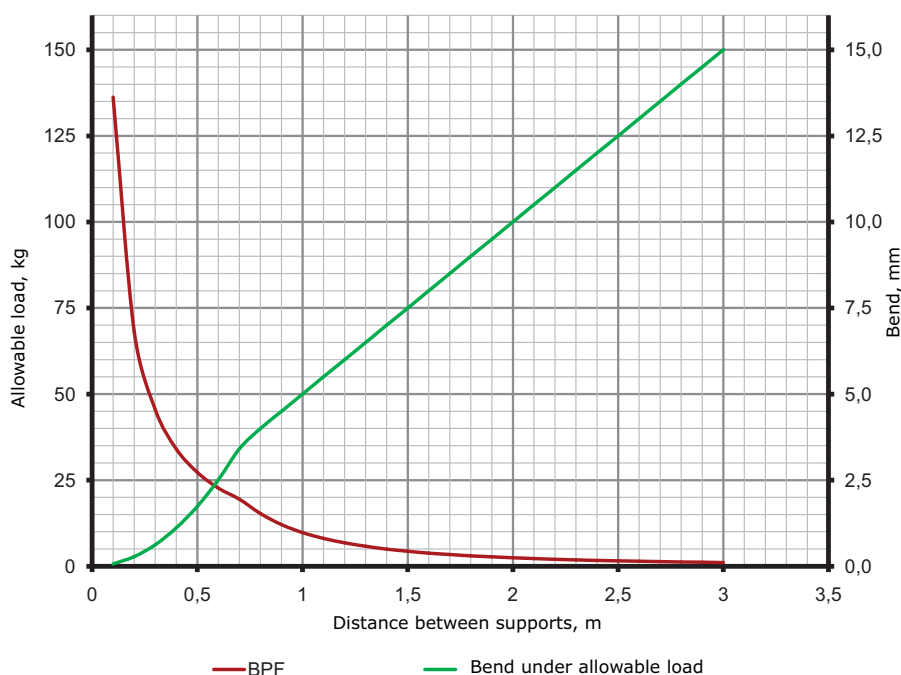
- installation of BBF fast attachment brackets;
- attachment to a wall;
- installation to BSV-29/BSF-29 fasteners.

Characteristics:

- U-profile;
- steel thickness is 2.5 mm.

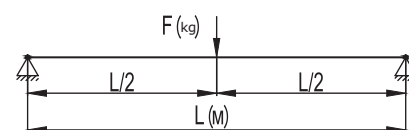
Length L, mm	Weight, kg	Code, vers. 1	Code, vers. 2	Code, vers. 3	Code, vers. 4
400	0.65	BPF2904	BPF2904HDZ	BPF2904INOX	BPF2904ZL
600	0.92	BPF2906	BPF2906HDZ	BPF2906INOX	BPF2906ZL
800	1.30	BPF2908	BPF2908HDZ	BPF2908INOX	BPF2908ZL
1000	1.62	BPF2910	BPF2910HDZ	BPF2910INOX	BPF2910ZL
1200	1.84	BPF2912	BPF2912HDZ	BPF2912INOX	BPF2912ZL
1800	2.92	BPF2918	BPF2918HDZ	BPF2918INOX	BPF2918ZL
2000	3.24	BPF2920	BPF2920HDZ	BPF2920INOX	BPF2920ZL
3000	4.86	BPF2930	BPF2930HDZ	BPF2930INOX	BPF2930ZL

Load curves

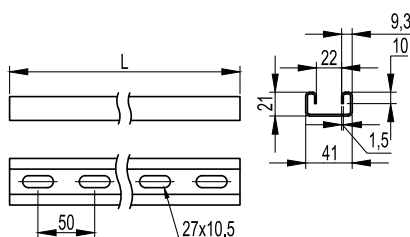


Profile calculation conditions

- for versions 1, 2 and 4;
- testing according to GOST R 52868;
- loading diagram, hinged profile with length L (mm), with applied load F (kg) at the profile center;
- $[\sigma] = 165 \text{ MPa}$ – allowable stresses for cold-worked steel with account of safety factor for the material;
- loads F (kg) and bends f (mm) are calculated with account of the fact that allowable stresses for steel $[\sigma]$ and maximum bend equal to $L/20$ are not exceeded.



BPL-21 profile



Applications:

- installation of brackets: BBH-60, BBH-70, BBD-21, BBP-21/41;
- attachment to a wall;
- attachment to a vertical support;
- suspension of trays and lighting devices on studs;
- as cable support routes for lighting devices.

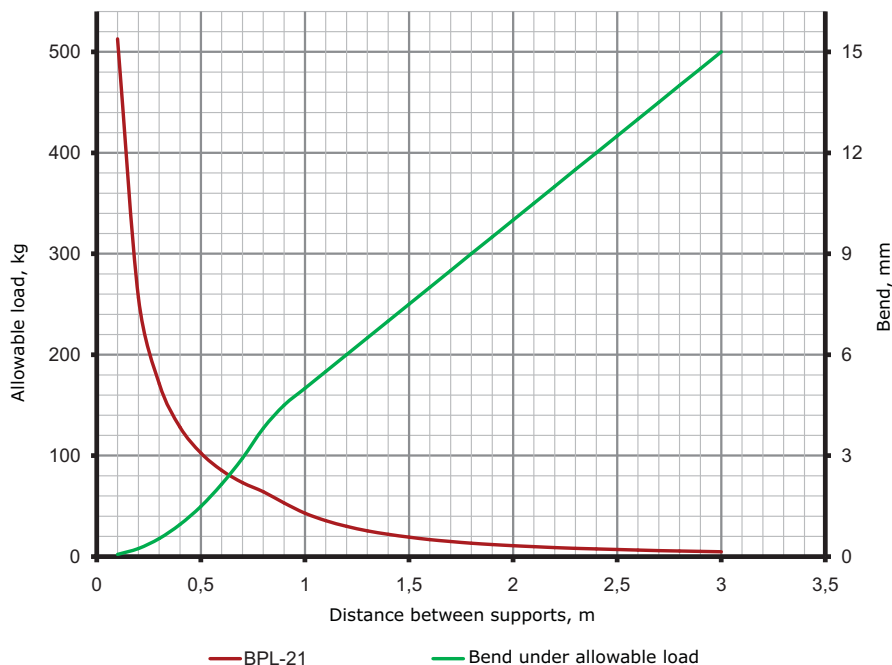
Characteristics:

- C-profile;
- steel thickness is 1.5 mm.

Length L, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
300	0.33	–	BPL2103	BPL2103HDZ	BPL2103INOX	BPL2103ZL
400	0.44	–	BPL2104	BPL2104HDZ	BPL2104INOX	BPL2104ZL
500	0.55	–	BPL2105	BPL2105HDZ	BPL2105INOX	BPL2105ZL
600	0.66	–	BPL2106	BPL2106HDZ	BPL2106INOX	BPL2106ZL
700	0.77	–	BPL2107	BPL2107HDZ	BPL2107INOX	BPL2107ZL
800	0.88	–	BPL2108	BPL2108HDZ	BPL2108INOX	BPL2108ZL
1000	1.10	–	BPL2110	BPL2110HDZ	BPL2110INOX	BPL2110ZL
1200	1.32	–	BPL2112	BPL2112HDZ	BPL2112INOX	BPL2112ZL
1800	1.98	–	BPL2118	BPL2118HDZ	BPL2118INOX	BPL2118ZL
2000	2.20	–	BPL2120	BPL2120HDZ	BPL2120INOX	BPL2120ZL
3000	3.30	34022	BPL2130	BPL2130HDZ	BPL2130INOX	BPL2130ZL
6000	6.6	–	BPL2160	BPL2160HDZ	–	BPL2160ZL

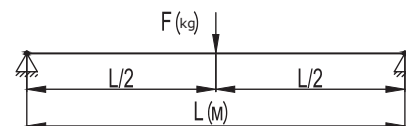
Apart from standard lengths, it is possible to manufacture profiles of any length within the interval of 300 to 3000 mm with pitch of 100 mm.

Load curves

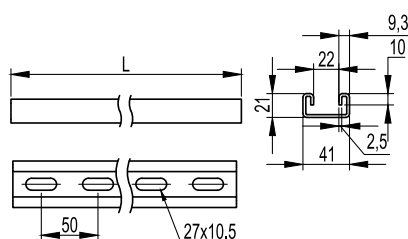


Profile calculation conditions

- for versions 1, 2 and 4;
- testing according to GOST R 52868;
- loading diagram, hinged profile with length L (mm), with applied load F (kg) at the profile center;
- $[\sigma] = 165 \text{ MPa}$ – allowable stresses for cold-worked steel with account of safety factor for the material;
- loads F (kg) and bends f (mm) are calculated with account of the fact that allowable stresses for steel $[\sigma]$ and maximum bend equal to $L/20$ are not exceeded.



BPM-21 profile



Applications:

- installation of brackets: BBH-60, BBH-70, BBD-21, BBP-21/41;
- attachment to a wall;
- attachment to a vertical support;
- suspension of trays and lighting devices on studs;
- as cable support routes for lighting devices.

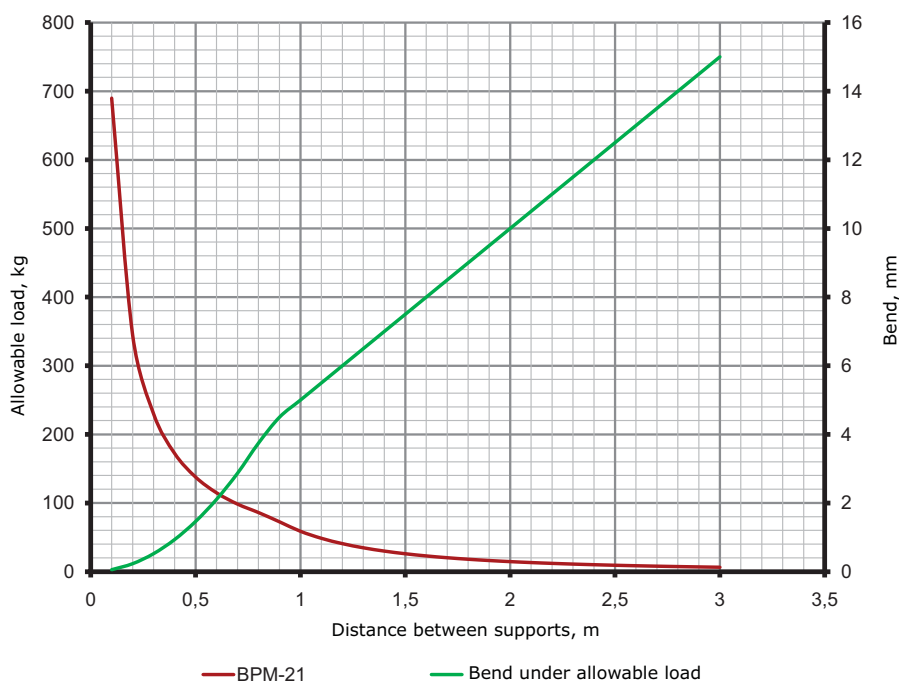
Characteristics:

- C-profile;
- steel thickness is 2.5 mm.

Length L, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
300	0.52	–	BPM2103	BPM2103HDZ	BPM2103INOX	BPM2103ZL
400	0.70	–	BPM2104	BPM2104HDZ	BPM2104INOX	BPM2104ZL
500	0.87	–	BPM2105	BPM2105HDZ	BPM2105INOX	BPM2105ZL
600	1.04	–	BPM2106	BPM2106HDZ	BPM2106INOX	BPM2106ZL
700	1.22	–	BPM2107	BPM2107HDZ	BPM2107INOX	BPM2107ZL
800	1.39	–	BPM2108	BPM2108HDZ	BPM2108INOX	BPM2108ZL
1000	1.74	–	BPM2110	BPM2110HDZ	BPM2110INOX	BPM2110ZL
1200	2.09	–	BPM2112	BPM2112HDZ	BPM2112INOX	BPM2112ZL
1800	3.13	–	BPM2118	BPM2118HDZ	BPM2118INOX	BPM2118ZL
2000	3.48	–	BPM2120	BPM2120HDZ	BPM2120INOX	BPM2120ZL
3000	5.22	34023	BPM2130	BPM2130HDZ	BPM2130INOX	BPM2130ZL
6000	10.44	–	BPM2160	BPM2160HDZ	–	BPM2160ZL

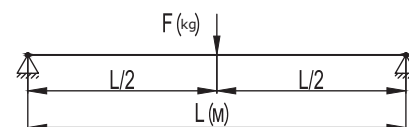
Apart from standard lengths, it is possible to manufacture profiles of any length within the interval of 300 to 3000 mm with pitch of 100 mm.

Load curves



Profile calculation conditions

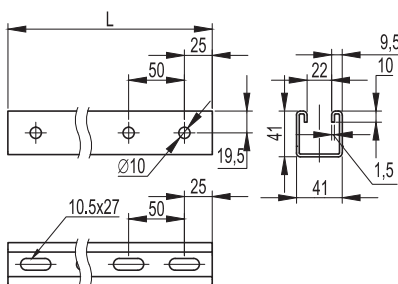
- for versions 1, 2 and 4;
- testing according to GOST R 52868;
- loading diagram, hinged profile with length L (mm), with applied load F (kg) at the profile center;
- $[\sigma] = 165 \text{ MPa}$ – allowable stresses for cold-worked steel with account of safety factor for the material;
- loads F (kg) and bends f (mm) are calculated with account of the fact that allowable stresses for steel $[\sigma]$ and maximum bend equal to $L/20$ are not exceeded.



Recommended kit for attachment of brackets to BPL-21 and BPM-21 profiles

Code	Description	Q-ty, pcs
CM041030	screw for attachment to M10x30 profile	2
CM101000	hexagon nut with serrate flange, M10	2

BPL-41 profile



Applications:

- installation of brackets: BBH-60, BBH-70, BBD-21, BBP-21/41;
- attachment to a wall;
- attachment to a vertical support;
- suspension of trays and lighting devices on studs;
- as cable support routes for lighting devices.

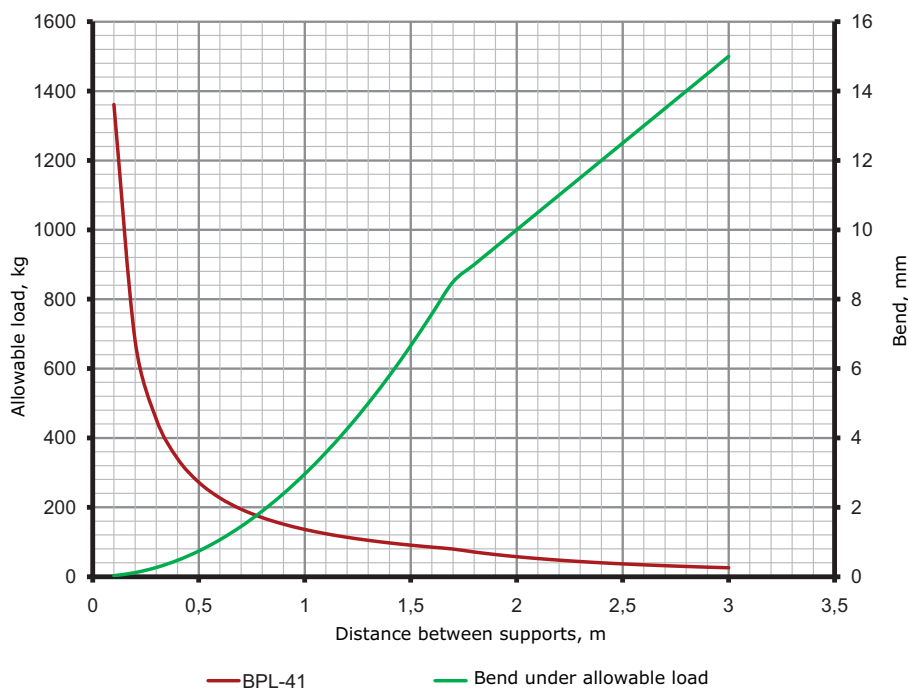
Characteristics:

- C-profile;
- steel thickness is 1.5 mm.

Length L, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
300	0.45	–	BPL4103	BPL4103HDZ	BPL4103INOX	BPL4103ZL
400	0.60	–	BPL4104	BPL4104HDZ	BPL4104INOX	BPL4104ZL
500	0.75	–	BPL4105	BPL4105HDZ	BPL4105INOX	BPL4105ZL
600	0.90	–	BPL4106	BPL4106HDZ	BPL4106INOX	BPL4106ZL
700	1.05	–	BPL4107	BPL4107HDZ	BPL4107INOX	BPL4107ZL
800	1.20	–	BPL4108	BPL4108HDZ	BPL4108INOX	BPL4108ZL
1000	1.50	–	BPL4110	BPL4110HDZ	BPL4110INOX	BPL4110ZL
1200	1.80	–	BPL4112	BPL4112HDZ	BPL4112INOX	BPL4112ZL
1800	2.70	–	BPL4118	BPL4118HDZ	BPL4118INOX	BPL4118ZL
2000	3.00	–	BPL4120	BPL4120HDZ	BPL4120INOX	BPL4120ZL
3000	4.50	34021	BPL4130	BPL4130HDZ	BPL4130INOX	BPL4130ZL
6000	12.00	–	BPL4160	BPL4160HDZ	–	BPL4160ZL

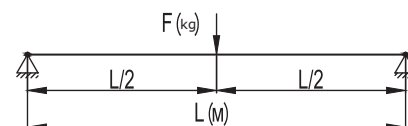
Apart from standard lengths, it is possible to manufacture profiles of any length within the interval of 300 to 3000 mm with pitch of 100 mm.

Load curves

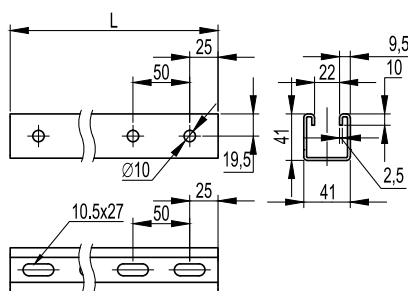


Profile calculation conditions

- for versions 1, 2 and 4;
- testing according to GOST R 52868;
- loading diagram, hinged profile with length L (mm), with applied load F (kg) at the profile center;
- $[\sigma] = 165 \text{ MPa}$ – allowable stresses for cold-worked steel with account of safety factor for the material;
- loads F (kg) and bends f (mm) are calculated with account of the fact that allowable stresses for steel $[\sigma]$ and maximum bend equal to $L/20$ are not exceeded.



BPM-41 profile



Applications:

- installation of brackets: BBH-60, BBH-70, BBD-21, BBP-21/41;
- attachment to a wall;
- attachment to a vertical support;
- suspension of trays and lighting devices on studs;
- as cable support routes for lighting devices.

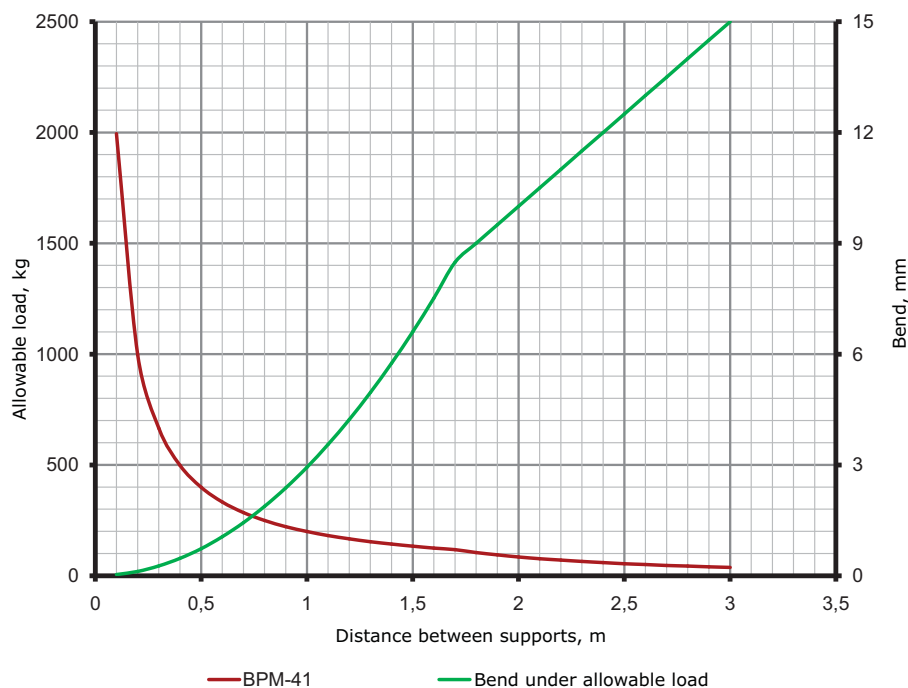
Characteristics:

- C-profile;
- steel thickness is 2.5 mm.

Length L, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
300	0.76	–	BPM4103	BPM4103HDZ	BPM4103INOX	BPM4103ZL
400	1.01	–	BPM4104	BPM4104HDZ	BPM4104INOX	BPM4104ZL
500	1.26	–	BPM4105	BPM4105HDZ	BPM4105INOX	BPM4105ZL
600	1.51	–	BPM4106	BPM4106HDZ	BPM4106INOX	BPM4106ZL
700	1.76	–	BPM4107	BPM4107HDZ	BPM4107INOX	BPM4107ZL
800	2.02	–	BPM4108	BPM4108HDZ	BPM4108INOX	BPM4108ZL
1000	2.52	–	BPM4110	BPM4110HDZ	BPM4110INOX	BPM4110ZL
1200	3.02	–	BPM4112	BPM4112HDZ	BPM4112INOX	BPM4112ZL
1800	4.54	–	BPM4118	BPM4118HDZ	BPM4118INOX	BPM4118ZL
2000	5.04	–	BPM4120	BPM4120HDZ	BPM4120INOX	BPM4120ZL
3000	7.56	34024	BPM4130	BPM4130HDZ	BPM4130INOX	BPM4130ZL
6000	15.12	–	BPM4160	BPM4160HDZ	–	BPM4160ZL

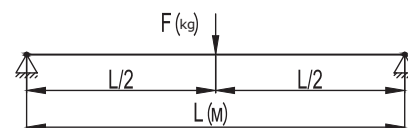
Apart from standard lengths, it is possible to manufacture profiles of any length within the interval of 300 to 3000 mm with pitch of 100 mm.

Load curves



Profile calculation conditions

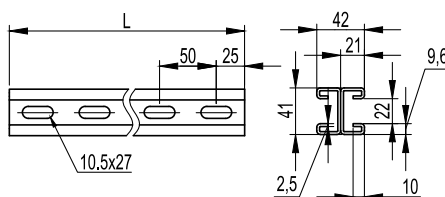
- for versions 1, 2 and 4;
- testing according to GOST R 52868;
- loading diagram, hinged profile with length L (mm), with applied load F (kg) at the profile center;
- $[\sigma] = 165 \text{ MPa}$ – allowable stresses for cold-worked steel with account of safety factor for the material;
- loads F (kg) and bends f (mm) are calculated with account of the fact that allowable stresses for steel $[\sigma]$ and maximum bend equal to $L/20$ are not exceeded.



Recommended kit for attachment of brackets to BPL-41 and BPM-41 profiles

Code	Description	Q-ty, pcs
CM041030	screw for attachment to M10x30 profile	2
CM101000	hexagon nut with serrate flange, M10	2

BPD-21 double profile



Applications:

- installation of brackets: BBH-60, BBH-70, BBD-21, BBP-21/41;
- attachment to a vertical support;
- suspension of trays and lighting devices on studs;
- as cable support routes for lighting devices.

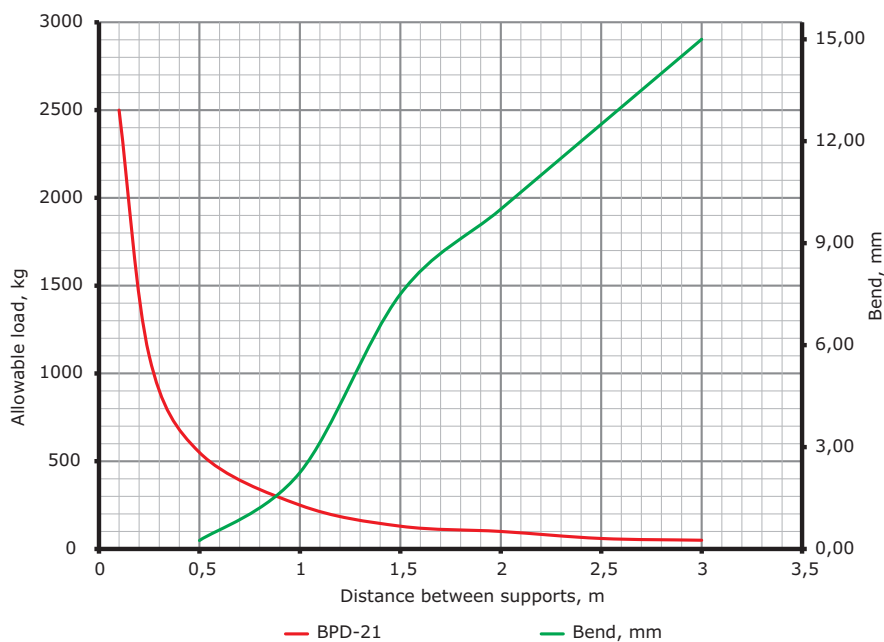
Characteristics:

- C-profile;
- steel thickness is 2.5 mm.

Length L, mm	Weight, kg	Code, vers. 2	Code, vers. 3
300	1.10	BPD2103HDZ	-
400	1.46	BPD2104HDZ	-
500	1.83	BPD2105HDZ	-
600	2.20	BPD2106HDZ	-
700	2.56	BPD2107HDZ	-
800	2.93	BPD2108HDZ	-
1000	3.66	BPD2110HDZ	-
1200	4.39	BPD2112HDZ	-
1800	6.59	BPD2118HDZ	-
2000	7.32	BPD2120HDZ	BPD2120INOX
3000	10.98	BPD2130HDZ	BPD2130INOX
6000	21.96	BPD2160HDZ	-

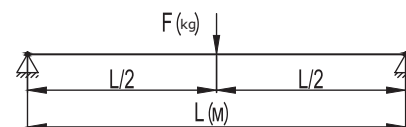
Apart from standard lengths in version 2, it is possible to manufacture profiles of any length within the interval of 300 to 3000 mm with pitch of 100 mm.

Load curves

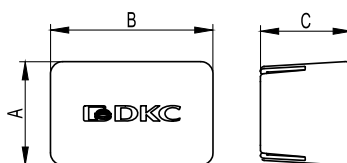
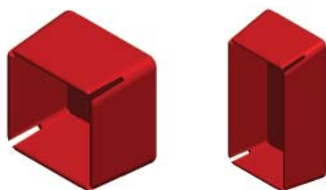


Profile calculation conditions

- for versions 1, 2 and 4;
- testing according to GOST R 52868;
- loading diagram, hinged profile with length L (mm), with applied load F (kg) at the profile center;
- $[\sigma] = 165 \text{ MPa}$ – allowable stresses for cold-worked steel with account of safety factor for the material;
- loads F (kg) and bends f (mm) are calculated with account of the fact that allowable stresses for steel $[\sigma]$ and maximum bend equal to $L/20$ are not exceeded.



End plugs for profiles



Applications:

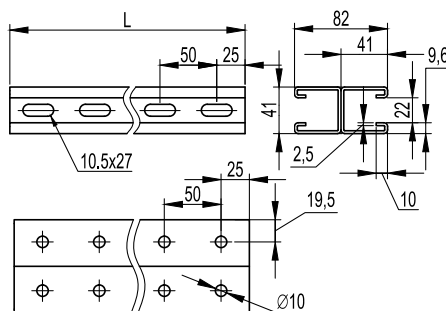
- for prevention of damage over sharp edges of profiles, brackets and vertical supports in the course of route installation, as well as for aesthetic purposes.

Characteristics:

- production material: polyethylene;
- color: red RAL 3020.

Description	A	B	C	Weight, kg	Old code	New code
For BPL-21 and BPM-21 profiles	25	44	60	0.01	LS0021	BPO4121
For BPL-29, BPM-29 and BPF-29 profiles	34	54	60	0.01	LS0030	BPO5029
For BPL-41, BPM-41 and BPD-21 profiles	44	44	60	0.01	LS0041	BPO4141
For BPD-41 profile	44	87	60	0.01	LS0082	BPO4182

BPD-41 profile



Applications:

- installation of brackets: BBH-60, BBH-70, BBD-21, BBP-21/41;
- attachment to a vertical support;
- suspension of trays and lighting devices on studs;
- as cable support routes for lighting devices.

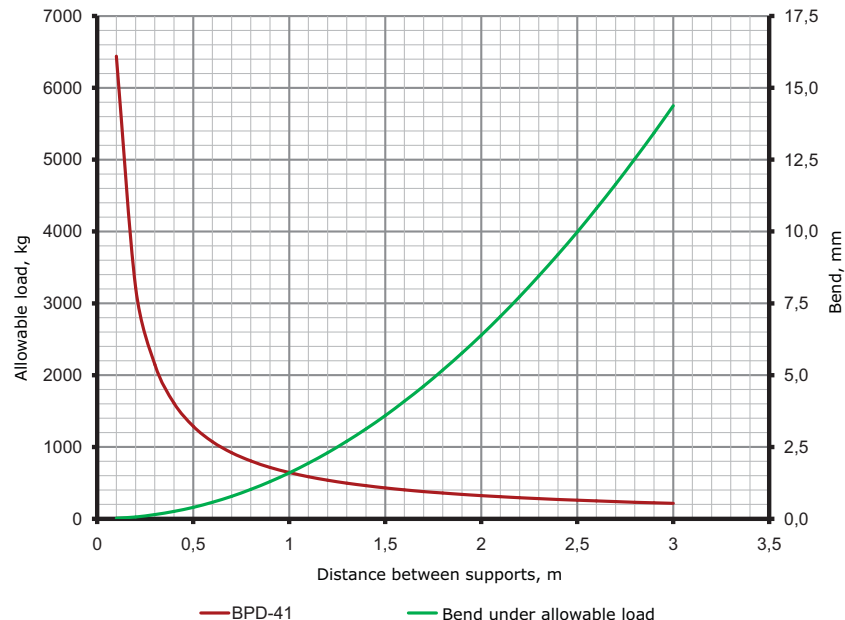
Characteristics:

- C-profile;
- steel thickness is 2.5 mm.

Length L, mm	Weight, kg	Code, vers. 2	Code, vers. 3
300	1.51	BPD4103HDZ	–
400	2.02	BPD4104HDZ	–
500	2.52	BPD4105HDZ	–
600	3.02	BPD4106HDZ	–
700	3.53	BPD4107HDZ	–
800	4.03	BPD4108HDZ	–
1000	5.04	BPD4110HDZ	–
1200	6.05	BPD4112HDZ	–
1800	9.07	BPD4118HDZ	–
2000	10.08	BPD4120HDZ	BPD4120INOX
3000	15.12	BPD4130HDZ	BPD4130INOX
6000	31.8	BPD4160HDZ	–

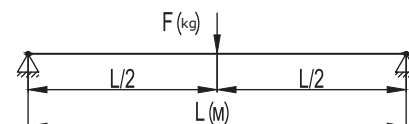
Apart from standard lengths in version 2, it is possible to manufacture profiles of any length within the interval of 300 to 3000 mm with pitch of 100 mm.

Load curves



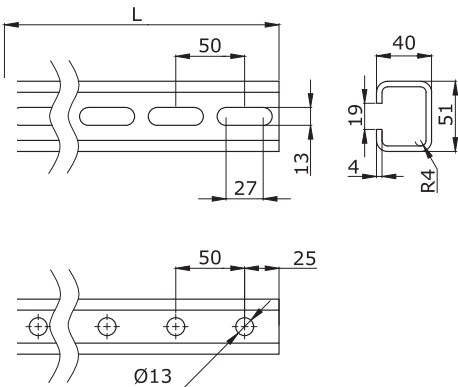
Profile calculation conditions

- for versions 1, 2 and 4;
- testing according to GOST R 52868;
- loading diagram, hinged profile with length L (mm), with applied load F (kg) at the profile center;
- $[\sigma] = 165 \text{ MPa}$ – allowable stresses for cold-worked steel with account of safety factor for the material;
- loads F (kg) and bends f (mm) are calculated with account of the fact that allowable stresses for steel $[\sigma]$ and maximum bend equal to $L/20$ are not exceeded.



Recommended kit for attachment of brackets to BPD-21 and BPD-41 profiles		
Code	Description	Q-ty, pcs
CM041030	screw for attachment to M10x30 profile	2
CM101000	hexagon nut with serrate flange, M10	2

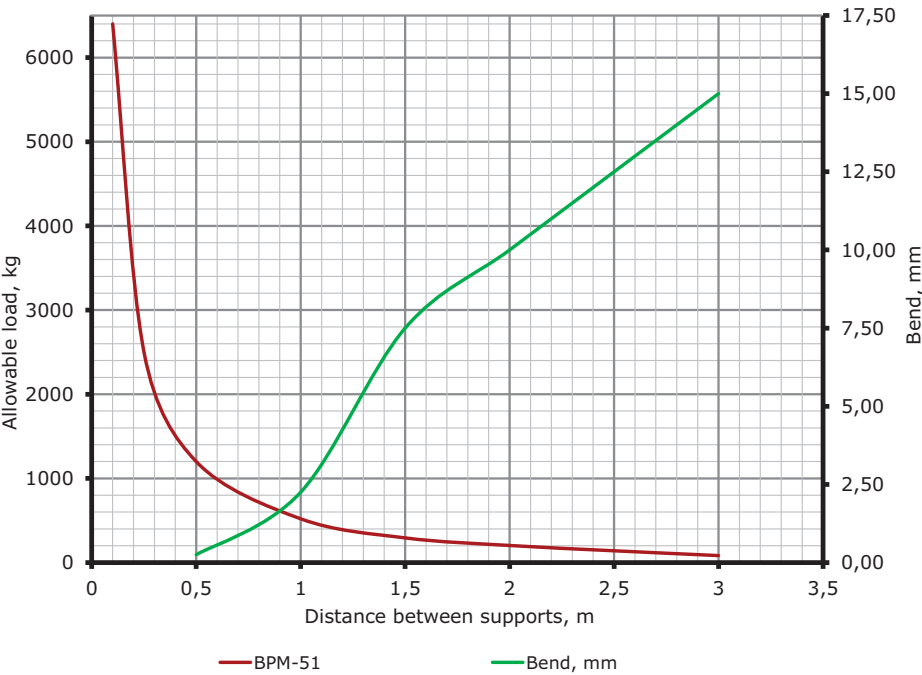
BPM-51 profile



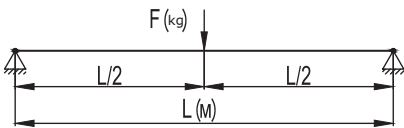
- Applications:**
- installation of brackets: BBH-60, BBH-70, BBD-21, BBP-21/41;
 - welding to girders and other bearing structures.
- Characteristics:**
- C-profile;
 - thickness is 4 mm.

Length L, mm	Weight, kg	Code, vers. 2
800	3.52	BPM5108HDZ
1000	4.40	BPM5110HDZ
1200	5.28	BPM5112HDZ
1800	7.92	BPM5118HDZ
2000	8.80	BPM5120HDZ
3000	13.20	BPM5130HDZ

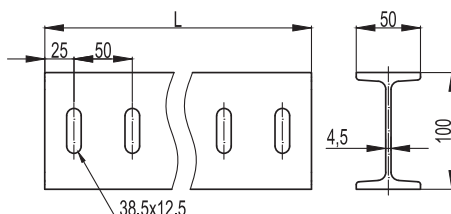
Load curves



- Profile calculation conditions**
- for versions 1, 2 and 4;
 - testing according to GOST R 52868;
 - loading diagram, hinged profile with length L (mm), with applied load F (kg) at the profile center;
 - $[\sigma]=165$ MPa – allowable stresses for cold-worked steel with account of safety factor for the material;
 - loads F (kg) and bends f (mm) are calculated with account of the fact that allowable stresses for steel $[\sigma]$ and maximum bend equal to $L/20$ are not exceeded.



BPM-50 I-profile



Applications:

- installation of BBD-41, BBF60 brackets;
- attachment to BSF5001HDZ and BSF5002HDZ bases;
- installation to ceiling and floor;
- suspension of trays.

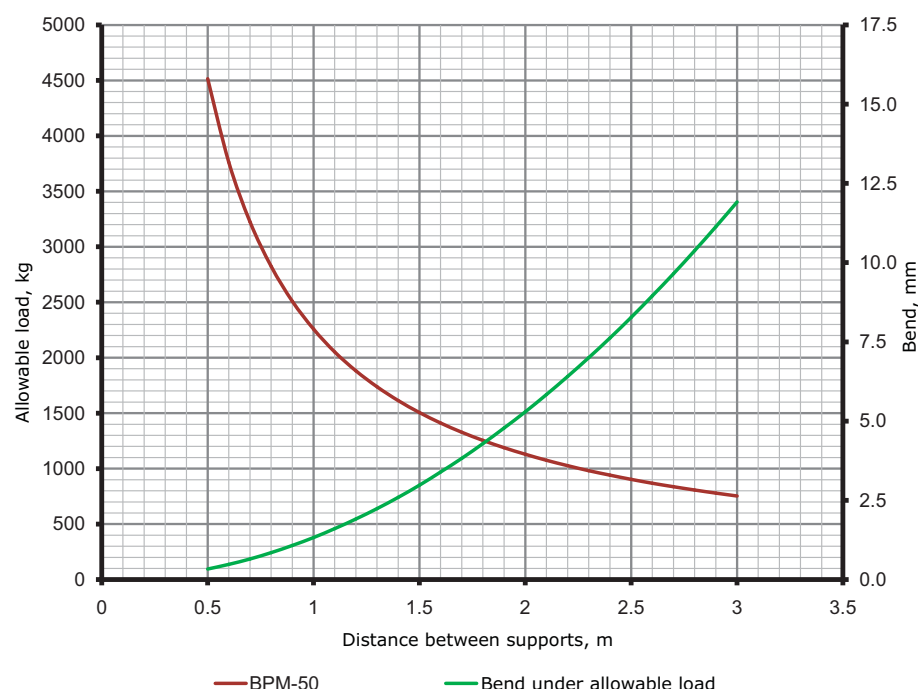
Characteristics:

I-profile.

Length L, mm	Weight, kg	Code, vers. 2
300	2.83	BPM5003HDZ
400	3.77	BPM5004HDZ
500	4.71	BPM5005HDZ
600	5.66	BPM5006HDZ
700	6.60	BPM5007HDZ
800	7.54	BPM5008HDZ
1000	9.43	BPM5010HDZ
1200	11.31	BPM5012HDZ
1800	16.97	BPM5018HDZ
2000	18.86	BPM5020HDZ
3000	28.29	BPM5030HDZ
6000	56.57	BPM5060HDZ

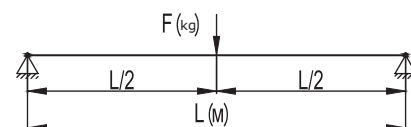
Apart from standard lengths, it is possible to manufacture profiles of any length within the interval of 300 to 3000 mm with pitch of 100 mm.

Load curves

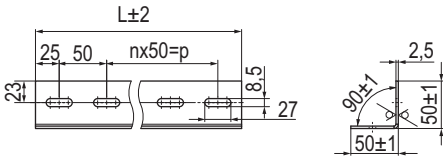


Profile calculation conditions

- for versions 1, 2 and 4;
- testing according to GOST R 52868;
- loading diagram, hinged profile with length L (mm), with applied load F (kg) at the profile center;
- $[\sigma] = 165$ MPa – allowable stresses for cold-worked steel with account of safety factor for the material;
- loads F (kg) and bends f (mm) are calculated with account of the fact that allowable stresses for steel $[\sigma]$ and maximum bend equal to $L/20$ are not exceeded.



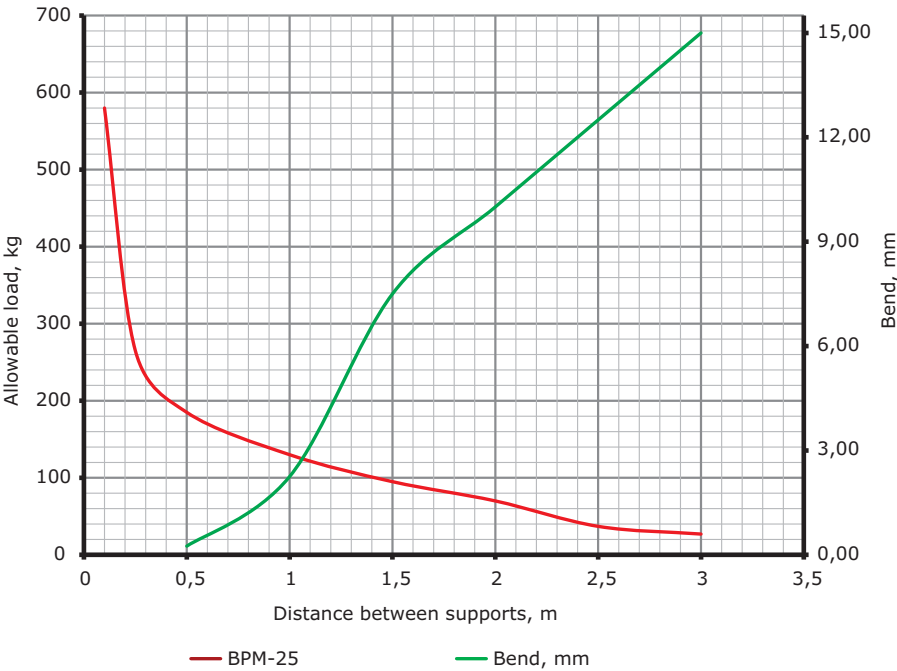
BPM-25 L-profile



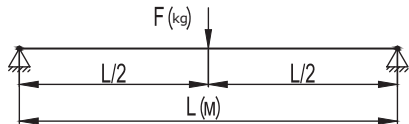
- Applications:**
- installation of vertical cable routes;
 - suspension of equipment to walls/ceiling.
- Characteristics:**
- L-profile;
 - thickness is 2.5 mm.

Length L, mm	Weight, kg	Code, vers. 1	Code, vers. 2	Code, vers. 3	Code, vers. 4
1000	1.72	BPM2510	BPM2510HDZ	BPM2510INOX	BPM2510ZL
2000	3.44	BPM2520	BPM2520HDZ	BPM2520INOX	BPM2520ZL
3000	5.16	BPM2530	BPM2530HDZ	BPM2530INOX	BPM2530ZL

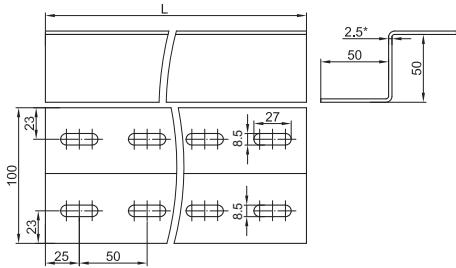
Load curves



- Profile calculation conditions**
- for versions 1, 2 and 4;
 - testing according to GOST R 52868;
 - loading diagram, hinged profile with length L (mm), with applied load F (kg) at the profile center;
 - $[\sigma]=165$ MPa – allowable stresses for cold-worked steel with account of safety factor for the material;
 - loads F (kg) and bends f (mm) are calculated with account of the fact that allowable stresses for steel $[\sigma]$ and maximum bend equal to $L/20$ are not exceeded.



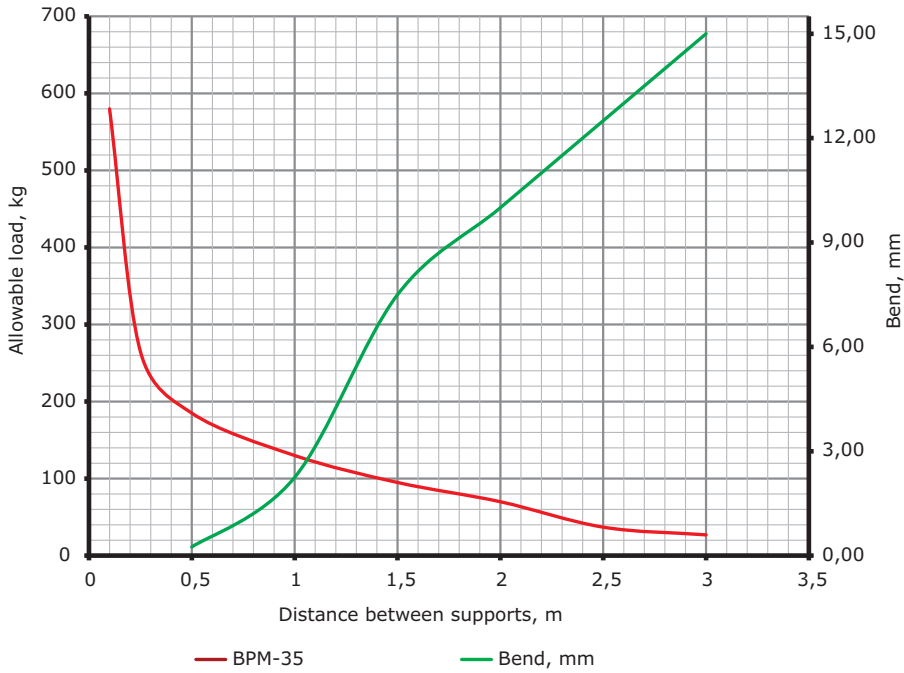
BPM-35 Z-profile



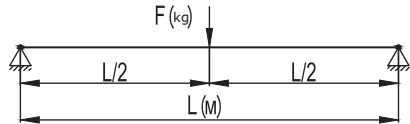
- Applications:**
- installation of vertical cable routes;
 - suspension of equipment to walls/ceiling.
- Characteristics:**
- Z-profile;
 - thickness is 2.5 mm.

Length L, mm	Weight, kg	Code, vers. 1	Code, vers. 2	Code, vers. 3	Code, vers. 4
1000	2.65	BPM3510	BPM3510HDZ	BPM3510INOX	BPM3510ZL
2000	5.3	BPM3520	BPM3520HDZ	BPM3520INOX	BPM3520ZL
3000	7.95	BPM3530	BPM3530HDZ	BPM3530INOX	BPM3530ZL

Load curves

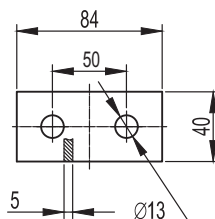
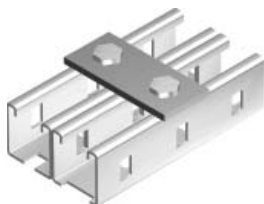


- Profile calculation conditions**
- for versions 1, 2 and 4;
 - testing according to GOST R 52868;
 - loading diagram, hinged profile with length L (mm), with applied load F (kg) at the profile center;
 - $[\sigma]=165$ MPa – allowable stresses for cold-worked steel with account of safety factor for the material;
 - loads F (kg) and bends f (mm) are calculated with account of the fact that allowable stresses for steel $[\sigma]$ and maximum bend equal to $L/20$ are not exceeded.



Connection elements

BMD-10 connecting plate with 2 holes, length of 90 mm



Applications:

- creation of complex structures on the basis of C-profiles.

Characteristics:

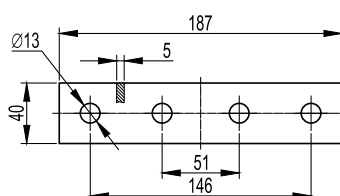
- plate thickness is 5 mm.

Note:

- used with profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41.

Weight, kg	Old code	Code, vers. 2
0.17	34002HDZ	BMD1011HDZ

BMD-10 connecting plate with 4 holes, length of 190 mm



Applications:

- creation of complex structures on the basis of C-profiles.

Characteristics:

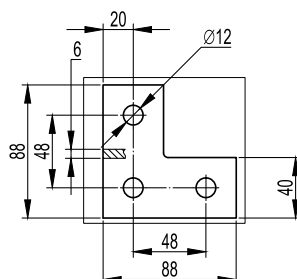
- plate thickness is 5 mm.

Note:

- used with profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41.

Weight, kg	Old code	Code, vers. 2
0.35	34004HDZ	BMD1012HDZ

BMD-10 connecting plate, L-shaped



Applications:

- creation of complex structures on the basis of C-profiles.

Characteristics:

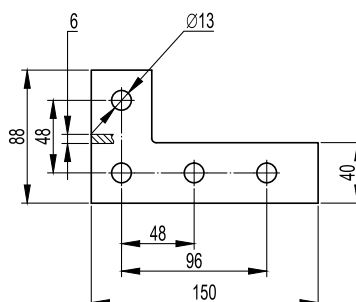
- plate thickness is 6 mm.

Note:

- used with profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41.

Weight, kg	Old code	Code, vers. 2
0.25	34007HDZ	BMD1021HDZ

BMD-10 extended connecting plate, L-shaped



Applications:

- creation of complex structures on the basis of C-profiles.

Characteristics:

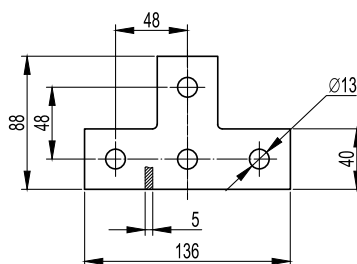
- plate thickness is 6 mm.

Note:

- used with profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41.

Weight, kg	Old code	Code, vers. 2
0.33	34008HDZ	BMD1022HDZ

BMD-10 connecting plate, T-shaped


Applications:

- creation of complex structures on the basis of C-profiles.

Characteristics:

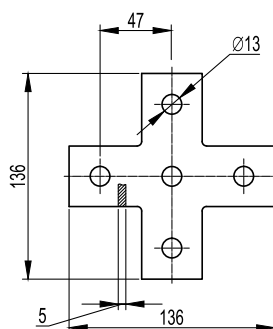
- plate thickness is 5 mm.

Note:

- used with profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41.

Weight, kg	Old code	Code, vers. 2
0.33	34009HDZ	BMD1031HDZ

BMD-10 connecting plate, X-shaped


Applications:

- creation of complex structures on the basis of C-profiles.

Characteristics:

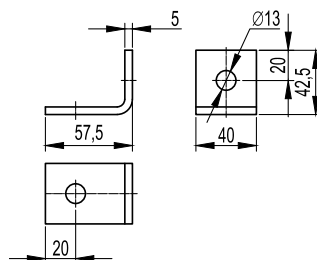
- plate thickness is 5 mm.

Note:

- used with profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41.

Weight, kg	Old code	Code, vers. 2
0.41	34010HDZ	BMD1041HDZ

BMC-10 single fastening angle


Applications:

- creation of complex structures on the basis of C-profiles.

Characteristics:

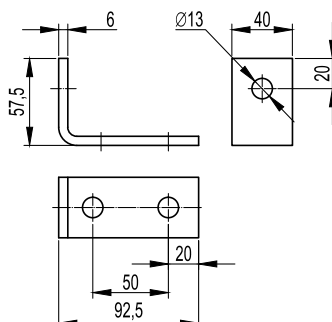
- plate thickness is 5 mm.

Note:

- used with profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41.

Weight, kg	Old code	Code, vers. 2
0.16	34011HDZ	BMC1011HDZ

BMC-10 extended single angle, 92 mm


Applications:

- creation of complex structures on the basis of C-profiles.

Characteristics:

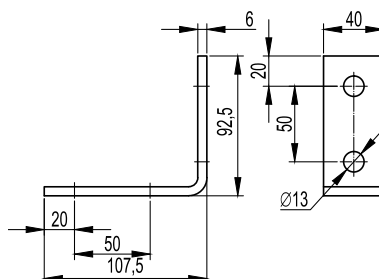
- plate thickness is 6 mm.

Note:

- used with profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41.

Weight, kg	Old code	Code, vers. 2
0.25	34013HDZ	BMC1012HDZ

BMC-10 fastening angle, double



Applications:

- creation of complex structures on the basis of C-profiles.

Characteristics:

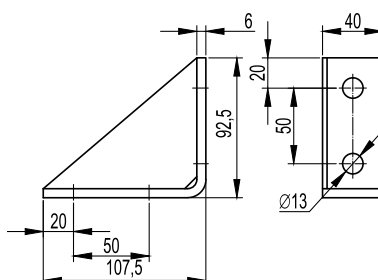
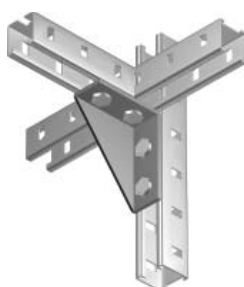
- plate thickness is 6 mm.

Note:

- used with profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41.

Weight, kg	Old code	Code, vers. 2
0.33	34014HDZ	BMC1021HDZ

BMC-10 reinforced double fastening angle, left



Applications:

- creation of complex structures on the basis of C-profiles.

Characteristics:

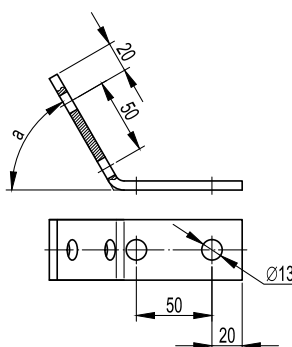
- plate thickness is 6 mm.

Note:

- used with profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41.

Weight, kg	Old code	Code, vers. 2
0.42	34015HDZ	BMC1022HDZ

BMC-10 fastening angle, double



Applications:

- creation of complex structures on the basis of C-profiles.

Characteristics:

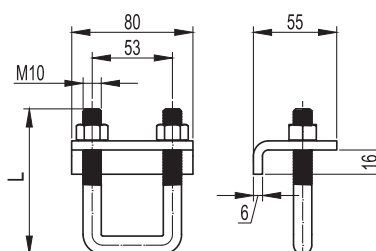
- plate thickness is 6 mm.

Note:

- used with profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41.

Weight, kg	Angle α , °	Code, vers. 2
0.33	30	BMC1023HDZ
0.33	45	BMC1024HDZ
0.33	60	BMC1026HDZ

Fastener for attachment to BMH-10 metal beams



Applications:

- attachment of a profile to an H-beam without drilling and welding works.

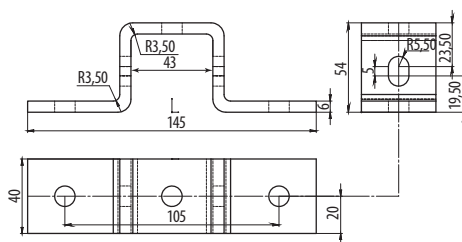
Note:

- used with C-profiles: BPL-41, BPM-41, BPD-21 and BPD-41.

Load, kg	Height L, mm	Weight, kg	Code, vers. 2
750*	96	0.6	BMH1010HDZ
600*	120	0.8	BMH2010HDZ

* The maximum load on two fasteners is specified

Wall fastener for BMD-10 C-profile

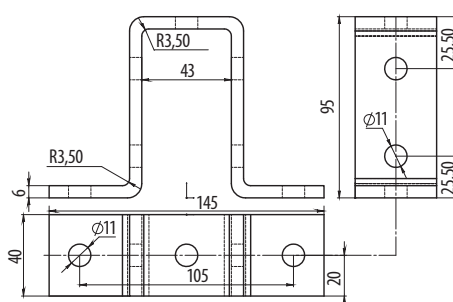


Applications:

- attachment of BPL-41, BPM-41, BPD-21 profiles to bearing structures by welding.

Weight, kg	Code, vers. 2
0.37	BMD1051HDZ

Wall fastener for BMD-10 double C-profile

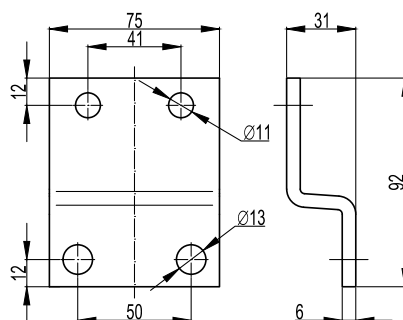


Applications:

- attachment of a BPD-41 profile to bearing structures by welding.

Weight, kg	Code, vers. 2
0.49	BMD1052HDZ

Plate for BBD41 brackets fastening to I-profile

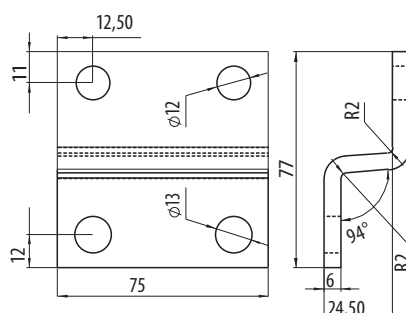


Purpose:

- mounting of BBD-41 bracket to BPM-50 profile.

Weight, kg	Code, vers. 2
0.60	BMD2001HDZ

Plate for BBF60 brackets fastening to I-profile

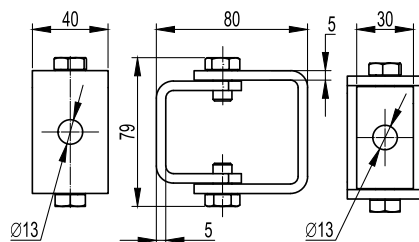


Purpose:

- mounting of a BBF-60 bracket to BPM-50 profile.

Weight, kg	Code, vers. 2
0.32	BMD2002HDZ

BSV-10 universal hinge



Applications:

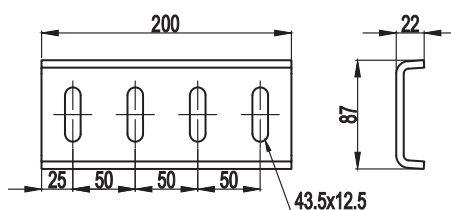
- installation of BHR polyamide holders on brackets at random angle, also may be used for organization of spacing with a stud.

Note:

- two holes for M12 fasteners.

Weight, kg	Code, vers. 2
0.20	BSV1012

Plate for connection of BPM-50 I-profiles by abutment



Applications:

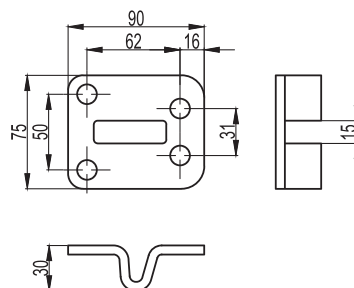
- connection of BPM-50 I-profiles by abutment.

Characteristics:

- thickness is 6 mm.

Weight, kg	Code, vers. 2
0.95	BMD2011HDZ

Plate for T-connection of BPM-50 I-profiles



Applications:

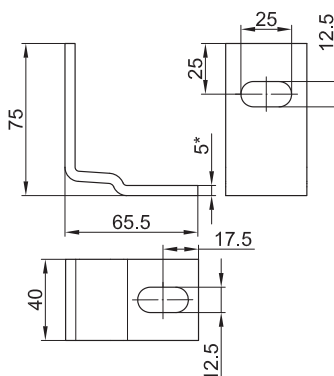
- connection of BPM-50 I-profiles at angle of 90°.

Characteristics:

- thickness is 6 mm.

Weight, kg	Code, vers. 2
0.34	BMD2031HDZ

Plate for fastening of BPM-50 I-profile to a wall



Purpose:

- wall fastening of I-shaped profile BPM-50.

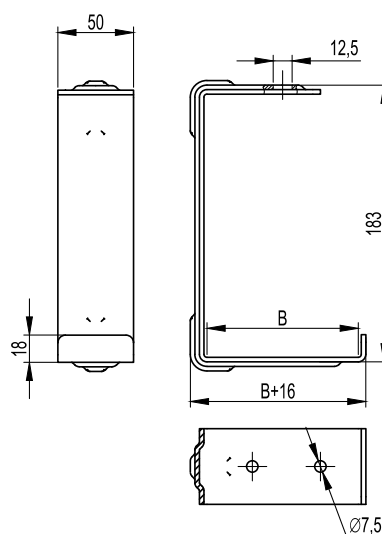
Characteristics:

- thickness – 5 mm.

Load, kg	Weight, kg	Code, vers. 2
820*	0.2	BMD2032HDZ

* The maximum load on two fasteners is specified

BBA-10 ceiling bracket


Applications:

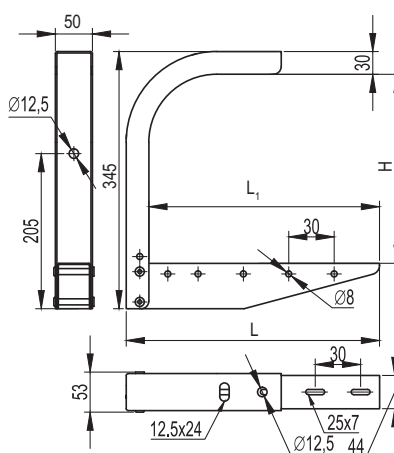
- installation of a tray route with low load;
- suspension on a stud;
- attachment to a ceiling;
- attachment to a wall.

Characteristics:

steel thickness is 3 mm.

Max. tray width B, mm	Load, kg	Length, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
50	68	66	0.35	34109	BBA1005	BBA1005HDZ	BBA1005INOX	BBA1005ZL
100	63	116	0.44	34110	BBA1010	BBA1010HDZ	BBA1010INOX	BBA1010ZL
150	55	166	0.54	34111	BBA1015	BBA1015HDZ	BBA1015INOX	BBA1015ZL

BBA-20 ceiling bracket


Applications:

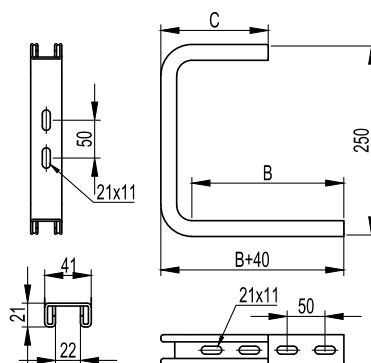
- installation of a tray route with low load;
- suspension on a stud;
- attachment to a ceiling;
- attachment to a wall.

Characteristics:

steel thickness is 1.5 mm.

Max. tray width, mm	Load, kg	Length L, mm	Length L ₁ , mm	Height H, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 4
200	120	234	205	255	1.05	34112	BBA2020	BBA2020HDZ	BBA2020ZL
300	105	334	305	255	1.31	34113	BBA2030	BBA2030HDZ	BBA2030ZL
400	80	444	415	225	1.65	34114	BBA2040	BBA2040HDZ	BBA2040ZL
500	65	544	515	225	1.95	34115	BBA2050	BBA2050HDZ	BBA2050ZL
600	55	644	615	225	2.26	34116	BBA2060	BBA2060HDZ	BBA2060ZL

BBA-30 ceiling bracket (DS)



Applications:

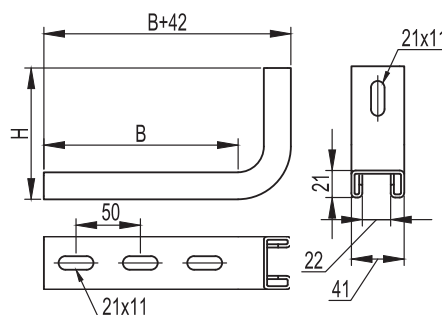
- installation of a tray route with low load;
- attachment to a ceiling;
- attachment to a wall.

Characteristics:

- steel thickness is 2.5 mm;
- BBA3010, BBA3015 – 3 holes in the base;
- BBA3020, BBC3030, BBC3040 – 2 holes in the base.

Max. tray width B, mm	Load, kg	Length, mm	C	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
100	285	140	95	0.80	34160	BBA3010	BBA3010HDZ	BBA3010INOX	BBA3010ZL
150	260	190	95	0.90	34161	BBA3015	BBA3015HDZ	BBA3015INOX	BBA3015ZL
200	190	240	142	1.08	34162	BBA3020	BBA3020HDZ	BBA3020INOX	BBA3020ZL
300	130	340	142	1.27	34163	BBA3030	BBA3030HDZ	BBA3030INOX	BBA3030ZL
400	105	440	142	1.46	34164	BBA3040	BBA3040HDZ	BBA3040INOX	BBA3040ZL

BBC-30 bracket (DW)



Applications:

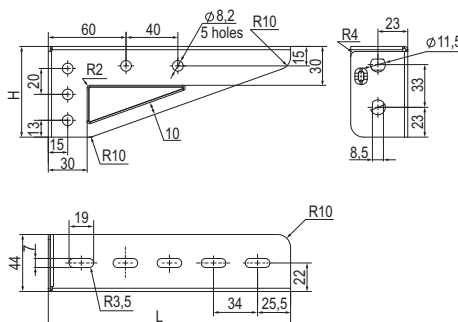
- installation of a tray route with low load;
- attachment to a wall.

Characteristics:

- steel thickness is 2.5 mm
- BBC3010, BBC3015 – 1 hole in the base;
- BBC3020, 3030, 3040 – 2 holes in the base.

Max. tray width B, mm	Load, kg	Length, mm	Height H, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
100	280	142	100	0.4	34150	BBC3010	BBC3010HDZ	BBC3010INOX	BBC3010ZL
150	170	192	100	0.5	34151	BBC3015	BBC3015HDZ	BBC3015INOX	BBC3015ZL
200	130	242	140	0.67	34152	BBC3020	BBC3020HDZ	BBC3020INOX	BBC3020ZL
300	115	342	140	0.86	34153	BBC3030	BBC3030HDZ	BBC3030INOX	BBC3030ZL
400	95	442	140	1.05	34154	BBC3040	BBC3040HDZ	BBC3040INOX	BBC3040ZL

BBL-30 light-duty bracket

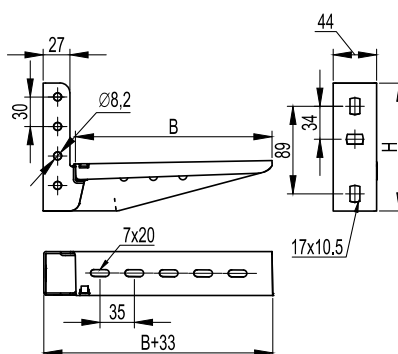


Applications:

- installation of a cable tray route;
- attachment to a wall;
- attachment to BPL-29 and BPM-29 profiles.

Max. tray width B, mm	Load during attachment to a wall, kg	Load during attachment to a U-profile, kg	Length L, mm	Height H, mm	Steel thickness, mm	Weight, kg	Code, vers. 1
100	70	160	137	65	1.2	0.14	BBL3010
150	65	115	187	70	1.2	0.18	BBL3015
200	75	140	237	85	1.5	0.31	BBL3020
300	70	125	337	95	1.5	0.44	BBL3030

Bracket BBL-40 (light, ML)


Purpose:

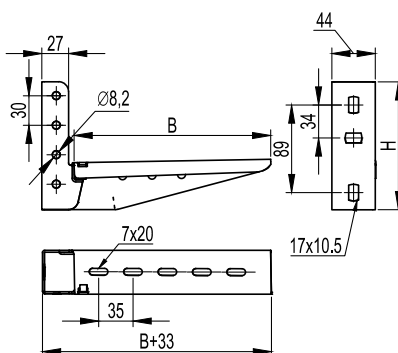
- mounting of cable tray line;
- fastening to wall;
- fastening to BPL-29 and BPM-29;
- fastening to BSV-29 inclined brackets.

Characteristics:

- steel thickness for versions 1, 2 and 4 – 2 mm.
- steel thickness for version 3 – 1.5 mm.

Max. tray width B, mm	Load, kg	Length, mm	Height H, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 4
100	200	133	125	0.21	34105	BBL4010	BBL4010HDZ	BBL4010ZL
150	160	183	130	0.28	34106	BBL4015	BBL4015HDZ	BBL4015ZL
200	125	233	130	0.34	34107	BBL4020	BBL4020HDZ	BBL4020ZL
300	95	333	140	0.45	34108	BBL4030	BBL4030HDZ	BBL4030ZL

BBL-50 bracket (ML solid)


Purpose:

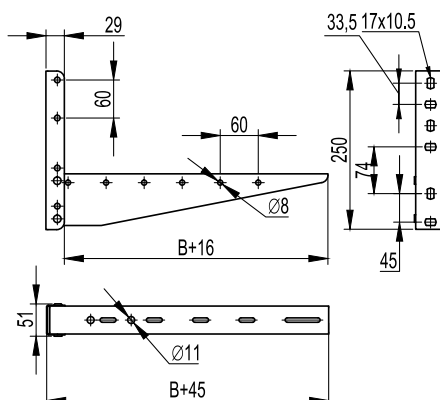
- mounting of cable tray line;
- fastening to wall;
- fastening to BPL-29 and BPM-29;
- fastening to BSV-29 inclined brackets.

Characteristics:

- steel thickness for versions 1, 2 and 4 – 2 mm.
- steel thickness for version 3 – 1.5 mm.

Max. tray width B, mm	Load, kg	Length, mm	Height H, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
100	350	133	125	0.29	34101	BBL5010	BBL5010HDZ	BBL5010INOX	BBL5010ZL
150	245	183	130	0.38	34102	BBL5015	BBL5015HDZ	BBL5015INOX	BBL5015ZL
200	200	233	130	0.45	34103	BBL5020	BBL5020HDZ	BBL5020INOX	BBL5020ZL
300	175	333	140	0.61	34104	BBL5030	BBL5030HDZ	BBL5030INOX	BBL5030ZL

BBL-55 bracket (reinforced, ML)


Applications:

- installation of a cable tray route;
- attachment to a wall.

Characteristics:

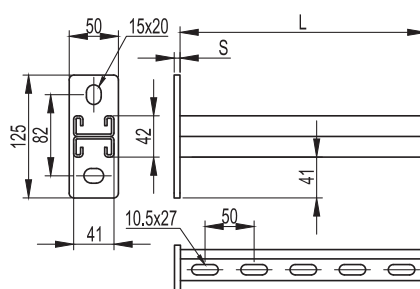
- steel thickness is 1.5 mm.

Note:

- it is possible to install this part into BPL-29 and BPM-29 profiles only on the profile open side.

Max. tray width B, mm	Load, kg	Length, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
400	280	445	1.04	33833	BBL5540	BBL5540HDZ	BBL5540INOX	BBL5540ZL
500	240	545	1.28	33834	BBL5550	BBL5550HDZ	BBL5550INOX	BBL5550ZL
600	160	645	1.52	33835	BBL5560	BBL5560HDZ	BBL5560INOX	BBL5560ZL

BBD-21 bracket (double, 41x21)



Applications:

- installation of a tray route, suspended elements and structures;
- attachment to a wall/ceiling;
- attachment to profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41, BPM-51;
- attachment to a single and double vertical support.

Characteristics:

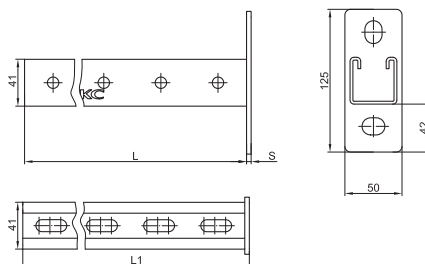
- possibility of double-sided installation;
- double C-profile of a 41x21 bracket;
- bracket profile thickness is 2.5 mm;
- center-to-center distance between bracket plate holes is 82 mm.

Note:

- there are 2 holes for M10 fasteners in the base.

Max. tray width, mm	Load, kg	Load, kg (with BMU6020)	Load, kg (with BMU6030)	Length L, mm	Plate thickness S, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 4
200	530	-	-	250	6	1.16	34052	BBD2120	BBD2120HDZ	BBD2120ZL
300	440	-	-	350	6	1.46	34053	BBD2130	BBD2130HDZ	BBD2130ZL
400	350	530	-	450	8	1.98	34054	BBD2140	BBD2140HDZ	BBD2140ZL
500	260	440	530	550	8	2.34	34055	BBD2150	BBD2150HDZ	BBD2150ZL
600	170	350	440	650	8	2.66	34056	BBD2160	BBD2160HDZ	BBD2160ZL

BBP-41 bracket (single, 41x41)



Applications:

- installation of a tray route, suspended elements and structures;
- attachment to a wall/ceiling;
- attachment to profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41, BPM-51;
- attachment to a single and double vertical support.

Characteristics:

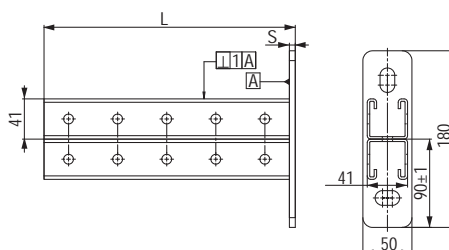
- C-profile of a 41x41 bracket;
- bracket profile thickness is 2.5 mm;
- center-to-center distance between bracket plate holes is 82 mm.

Note:

- there are 2 holes for M10 fasteners in the base.

Max. tray width, mm	Load, kg	Load, kg (with BMU6020)	Load, kg (with BMU6030)	Length L, mm	Plate thickness S, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
200	400	-	-	250	6	1.07	34042	BBP4120	BBP4120HDZ	BBP4120INOX	BBP4120ZL
300	350	-	-	350	6	1.33	34043	BBP4130	BBP4130HDZ	BBP4130INOX	BBP4130ZL
400	300	400	-	450	8	1.60	34044	BBP4140	BBP4140HDZ	BBP4140INOX	BBP4140ZL
500	250	350	400	550	8	1.86	34045	BBP4150	BBP4150HDZ	BBP4150INOX	BBP4150ZL
600	200	300	350	650	8	2.13	34046	BBP4160	BBP4160HDZ	BBP4160INOX	BBP4160ZL

BBD-41 bracket (double, 41x41)



Applications:

- installation of a tray route, suspended elements and structures;
- attachment to a wall/ceiling;
- attachment to profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41, BPM-51;
- attachment to a single and double vertical support.

Characteristics:

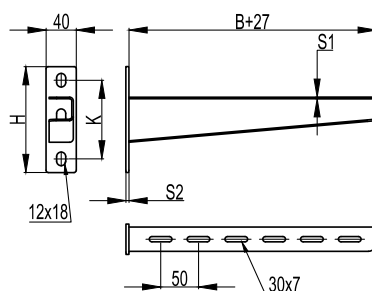
- possibility of double-sided installation;
- double C-profile of a 41x41 bracket;
- bracket profile thickness is 2.5 mm;
- center-to-center distance between bracket plate holes is 120 mm.

Note:

- there are 2 holes for M10 fasteners in the base.

Max. tray width, mm	Load, kg	Length L, mm	Plate thickness S, mm	Weight, kg	Code, vers. 2
200	630	250	6	1.88	BBD4120HDZ
300	490	350	6	2.46	BBD4130HDZ
400	420	450	8	3.19	BBD4140HDZ
500	320	550	8	3.77	BBD4150HDZ
600	300	650	8	4.34	BBD4160HDZ

BBH-60 bracket, reinforced



Applications:

- installation of a cable tray route with high load;
- attachment to a single and double vertical support;
- attachment to profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41, BPM-51;
- attachment to a wall.

Characteristics:

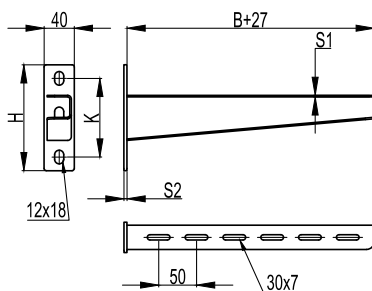
- bracket shelf width is 32 mm.

Note:

- there are 2 holes for M10 fasteners in the base;
- S1 is bracket shelf thickness;
- S2 is wall plate thickness.

Max. tray width B, mm	Load, kg	Length, mm	Bracket shelf thickness S1, mm	Plate thickness S2, mm	Height H, mm	Height K, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
200	370	231	2	4	132	96	0.48	LP6002	BBH6020	BBH6020HDZ	BBH6020INOX	BBH6020ZL
300	360	331	2	4	140	104	0.67	LP6003	BBH6030	BBH6030HDZ	BBH6030INOX	BBH6030ZL
400	350	433	2.5	6	156	114	1.08	LP6004	BBH6040	BBH6040HDZ	BBH6040INOX	BBH6040ZL
500	330	533	2.5	6	158	122	1.27	LP6005	BBH6050	BBH6050HDZ	BBH6050INOX	BBH6050ZL
600	320	633	2.5	6	167	131	1.88	LP6006	BBH6060	BBH6060HDZ	BBH6060INOX	BBH6060ZL

BBH-70 bracket, reinforced, heavy-duty



Applications:

- installation of a cable tray route with high load;
- attachment to a single and double vertical support;
- attachment to profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41, BPM-51;
- attachment to a wall.

Characteristics:

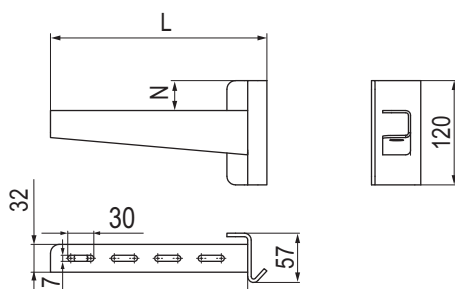
- bracket shelf width is 32 mm.

Note:

- there are 2 holes for M10 fasteners in the base;
- S1 is bracket shelf thickness;
- S2 is wall plate thickness.

Max. tray width B, mm	Load, kg	Length, mm	Bracket shelf thickness S1, mm	Plate thickness S2, mm	Height H, mm	Height K, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
200	450	233	2.5	6	132	96	0.61	LH6002	BBH7020	BBH7020HDZ	BBH7020INOX	BBH7020ZL
300	420	333	2.5	6	140	104	0.88	LH6003	BBH7030	BBH7030HDZ	BBH7030INOX	BBH7030ZL
400	400	435	3	8	156	114	1.32	LH6004	BBH7040	BBH7040HDZ	BBH7040INOX	BBH7040ZL
500	390	535	3	8	158	122	1.62	LH6005	BBH7050	BBH7050HDZ	BBH7050INOX	BBH7050ZL
600	380	635	3	8	167	131	1.97	LH6006	BBH7060	BBH7060HDZ	BBH7060INOX	BBH7060ZL

BBH-75 bracket for BPM-50 I-profile



Applications:

- attachment to a BPM-50 I-profile.

Characteristics:

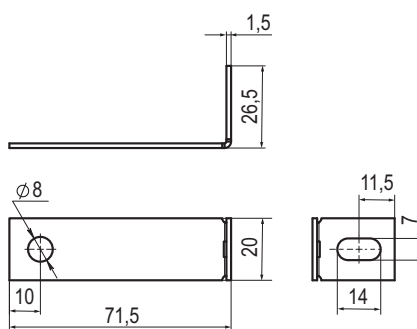
- thickness of a bracket base plate and a connecting plate is 4 mm.

Note:

- scope of supply includes a bracket, a connecting plate, three M10x35 bolts, three M10 nuts and three M10 washers.

Max. tray width, mm	Load, kg	Length L, mm	Plate thickness S, mm	Height H, mm	Weight, kg	Code, vers. 2
200	375	249	2.5	120	1.03	BBH7520HDZ
300	320	349	2.5	120	1.24	BBH7530HDZ
400	315	449	3	120	1.62	BBH7540HDZ
500	270	549	3	120	1.91	BBH7550HDZ
600	260	649	3	120	2.22	BBH7560HDZ

Holder of fire-resistant partition for BBL/BBM brackets



Applications:

- installation of heat-resistant and fire-resistant partition walls between horizontal rows of cables.

Characteristics:

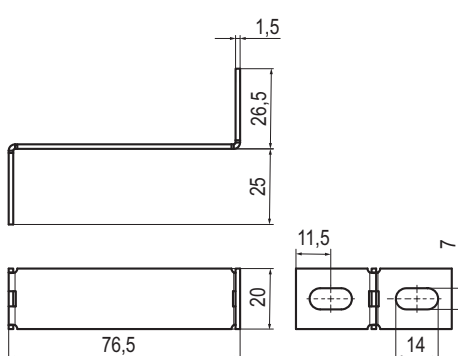
- steel thickness is 1.5 mm.

Note:

- used with BBL-40/50 and BBM-50 brackets, two BMZ1501 holders are required for attachment of a partition wall to brackets.

Width, mm	Weight, kg	Code, vers. 1	Code, vers. 4
20	0.020	BMZ1501	BMZ1501ZL

Holder of fire-resistant partition for BBH-60/70, BBH-75, BBF-60 brackets



Applications:

- installation of heat-resistant and fire-resistant partition walls between horizontal rows of cables.

Characteristics:

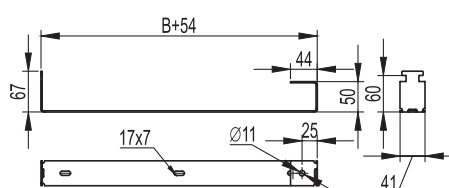
- steel thickness is 1.5 mm.

Note:

- used with BBH-60/70, BBF-60 and BBH-75 brackets, two BMZ1502 holders are required for attachment of a partition wall to brackets.

Width, mm	Weight, kg	Code, vers. 1	Code, vers. 4
20	0.029	BMZ1502	BMZ1502ZL

BMZ-15 holder of fire-resistant partition



Purpose:

- installation of heat- and fire-resistant partitions between horizontal rows of cables.

Characteristics:

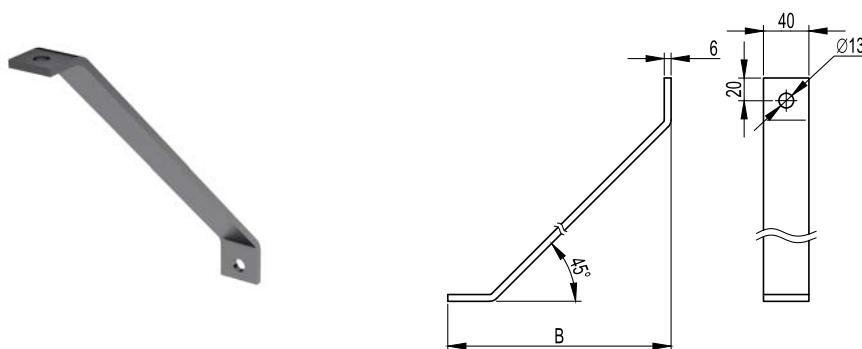
- separator width – from 200 to 600 mm;
- steel thickness – 1.5 mm.

Note:

- compatible with all bracket types from C-shaped profiles (BBP-21, BBP-41, BBD-21).

Max. partition wall width B, mm	Width, mm	Weight, kg	Code, vers. 1	Code, vers. 4
200	254	0.12	BMZ1520	BMZ1520ZL
300	354	0.17	BMZ1530	BMZ1530ZL
400	454	0.23	BMZ1540	BMZ1540ZL
500	554	0.29	BMZ1550	BMZ1550ZL
600	654	0.35	BMZ1560	BMZ1560ZL

Gib for BMU-60 brackets and vertical supports



Applications:

- increase of load bearing capacity of brackets and vertical supports based on a C-profile.

Characteristics:

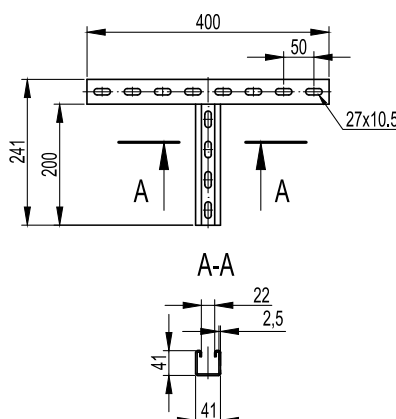
- there is 1 hole for M12 fasteners in the base.

Note:

- used with all bracket types from C-profiles (BBP-21, BBP-41, BBD-21) and vertical supports (BSP-21, BSD-21, BSD-41).

Length B, mm	Weight, kg	Code, vers. 2
200	0.60	BMU6020HDZ
300	0.87	BMU6030HDZ
500	1.42	BMU6050HDZ

BMH-30 T-fastener to vertical double T-beam



Purpose:

- fastening of brackets to vertical double T-beams.

Characteristics:

- C-shaped profile;
- T-shaped fastening form.

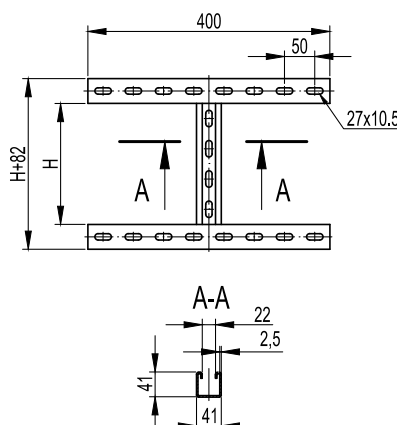
Note:

- compatible with brackets: BBH-60, BBH-70, BBD-21, BBP-21/41.

Max. beam width, mm	Load, kg*	Weight, kg	Code, vers. 2
300	250	1.01	BMH3020HDZ

* On condition of use of a fastener together with 2 closing G- s (CM301001). Tightening torque of bolts supporting G-cramps is 40.2 Nm

BMH-40 H-fastener to vertical double T-beam



Purpose:

- fastening of brackets to vertical double T-beams.

Characteristics:

- C-shaped profile;
- H-shaped fastener.

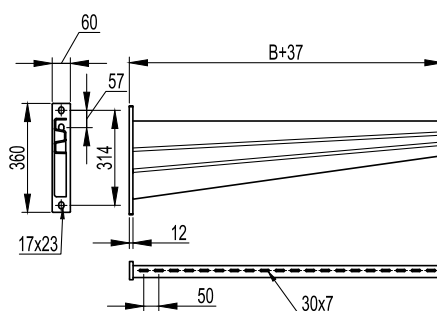
Note:

- compatible with brackets: BBH-60, BBH-70, BBD-21, BBP-21/41.

Max. beam width, mm	Load, kg*	Height H, mm	Weight, kg	Code, vers. 2
300	350	200	1.52	BMH4020HDZ
300	350	400	2.02	BMH4040HDZ

* On condition of use of a fastener together with 4 closing G-cramps (CM301001). Tightening torque of bolts supporting G-cramps is 40.2 Nm

BBH-80 heavy-duty bracket



Applications:

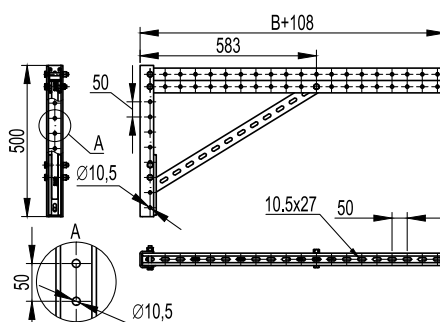
- installation of a cable tray route with high load;
- attachment to a single and double vertical support;
- attachment to profiles: BPM-41, BPD-21, BPD-41, BPM-51;
- attachment to a wall.

Characteristics:

- bracket shelf thickness is 4 mm.

Max. tray width B, mm	Load, kg	Weight, kg	Code, vers. 2
700	1140	8.04	BBH8070HDZ
800	980	9.18	BBH8080HDZ
900	680	10.33	BBH8090HDZ
1000	620	11.48	BBH8000HDZ

BBD-41 heavy-duty bracket

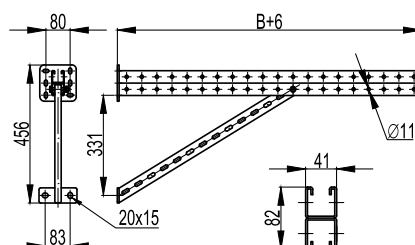


Applications:

- installation of a cable tray route with high load;
- attachment to a BPM-50 I-profile.

Max. tray width B, mm	Load, kg	Weight, kg	Code, vers. 2
700	1100	9.16	BBD4170HDZ
800	900	9.53	BBD4180HDZ
900	770	9.89	BBD4190HDZ
1000	630	10.26	BBD4100HDZ

BBS-41 heavy-duty bracket

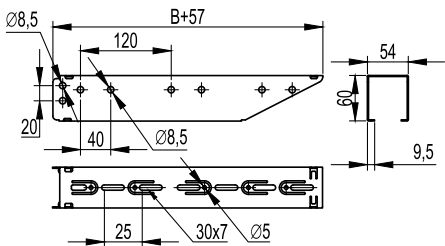


Applications:

- installation of a cable tray route with high load;
- attachment to a wall.

Max. tray width B, mm	Load, kg	Weight, kg	Code, vers. 2
700	1100	6.0	BBS4170HDZ
800	900	6.4	BBS4180HDZ
900	770	6.8	BBS4190HDZ
1000	630	7.2	BBS4100HDZ

BBF-50 quick lock bracket

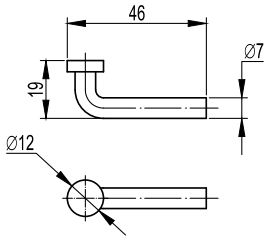


- Applications:**
- installation of a cable tray route;
 - attachment to a BPF series profile.
- Characteristics:**
- fast attachment structure;
 - bracket U-profile;
 - steel thickness is 1.5 mm.

Max. tray width B, mm	Load, kg*	Length, mm	Weight, kg	Code, vers. 1	Code, vers. 2	Code, vers. 3	Code, vers. 4
100	280	157	0.23	BBF5010	BBF5010HDZ	BBF5010INOX	BBF5010ZL
150	270	207	0.33	BBF5015	BBF5015HDZ	BBF5015INOX	BBF5015ZL
200	240	257	0.44	BBF5020	BBF5020HDZ	BBF5020INOX	BBF5020ZL
300	200	357	0.65	BBF5030	BBF5030HDZ	BBF5030INOX	BBF5030ZL
400	160	457	0.86	BBF5040	BBF5040HDZ	BBF5040INOX	BBF5040ZL
500	120	557	1.08	BBF5050	BBF5050HDZ	BBF5050INOX	BBF5050ZL
600	80	657	1.29	BBF5060	BBF5060HDZ	BBF5060INOX	BBF5060ZL

* On condition of use of brackets together with two BBF5001HDZ retainers

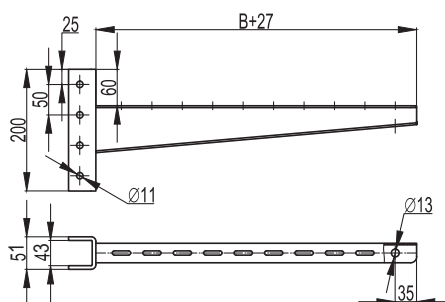
BBF bracket retainer



- Applications:**
- pin for attachment of a BBF-50 bracket to a BPF profile;
 - excludes the possibility of removal of a BBF bracket from a BPF profile without preliminary removal of a retainer;
 - mandatory for installation at locations, where the probability of mechanical effects on installed brackets exists.
- Characteristics:**
- diameter is 7 mm.

Description	Weight, kg	Code, vers. 2
BBF-50 bracket retainer	0.01	BBF5001HDZ

BBF-60 quick lock bracket



Purpose:

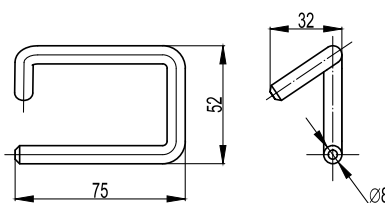
- mounting of cable trays lines;
- fastening to BPM-41 and BPD-41 profiles together with pin BBF5002HDZ;
- fastening to I-shaped profile BPM-50.

Characteristics:

- easy-fixed construction;
- thickness of bracket shelf – 2.5 mm for dimension types of 200 and 300 mm; 3 mm for dimension types of 400, 500, 600 mm;
- bracket base thickness – 4 mm.

Max. tray width B, mm	Load, kg	Length, mm	Weight, kg	Code, vers. 1	Code, vers. 2
200	450	271	1.55	BBF6020	BBF6020HDZ
300	420	371	1.75	BBF6030	BBF6030HDZ
400	400	471	2.21	BBF6040	BBF6040HDZ
500	390	571	2.49	BBF6050	BBF6050HDZ
600	380	671	2.77	BBF6060	BBF6060HDZ

BBF bracket retainer



Applications:

- pin for attachment of a BBF-60 bracket to a profile;
- mandatory for installation together with a BBF-60 bracket.

Characteristics:

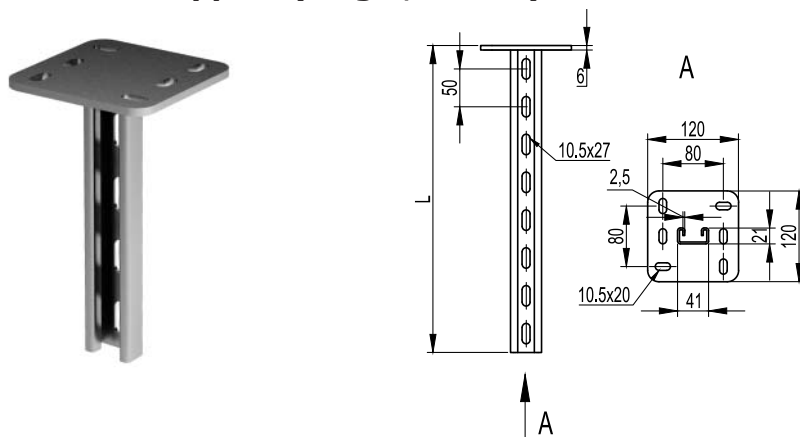
- diameter is 8 mm.

Description	Weight, kg	Code, vers. 2
BBF-60 bracket retainer	0.01	BBF5002HDZ

Recommended kit for attachment of BBF-60 bracket to BPM-50 I-profile

Code	Description	Q-ty, pcs
BMD2002HDZ	Plate for BBF60 brackets fastening to I-profile, hot dip galvanized	2
CM081090HDZ	M10x90 hexagon bolt, hot dip galvanized	2
CM241000HDZ	M10 plain washer, hot dip galvanized	2
CM131000HDZ	M10 split washer, hot dip galvanized	2
CM111000HDZ	M10 hexagon nut, hot dip galvanized	2
CM081240HDZ	M12x40 hexagon bolt, hot dip galvanized	2
CM131200HDZ	M12 split washer, hot dip galvanized	2
CM111200HDZ	M12 hexagon nut, hot dip galvanized	2
CM241200HDZ	M12 plain washer, hot dip galvanized	2

BSP-21 vertical support (single, 41x21)



Applications:

- installation of brackets: BBH-60, BBH-70, BBD-21, BBP-21/41;
- single-sided installation of cable routes;
- ceiling or floor mounting.

Characteristics:

- C-profile of a 41x21 vertical support;
- vertical support profile thickness is 2.5 mm;
- plate thickness is 6 mm.

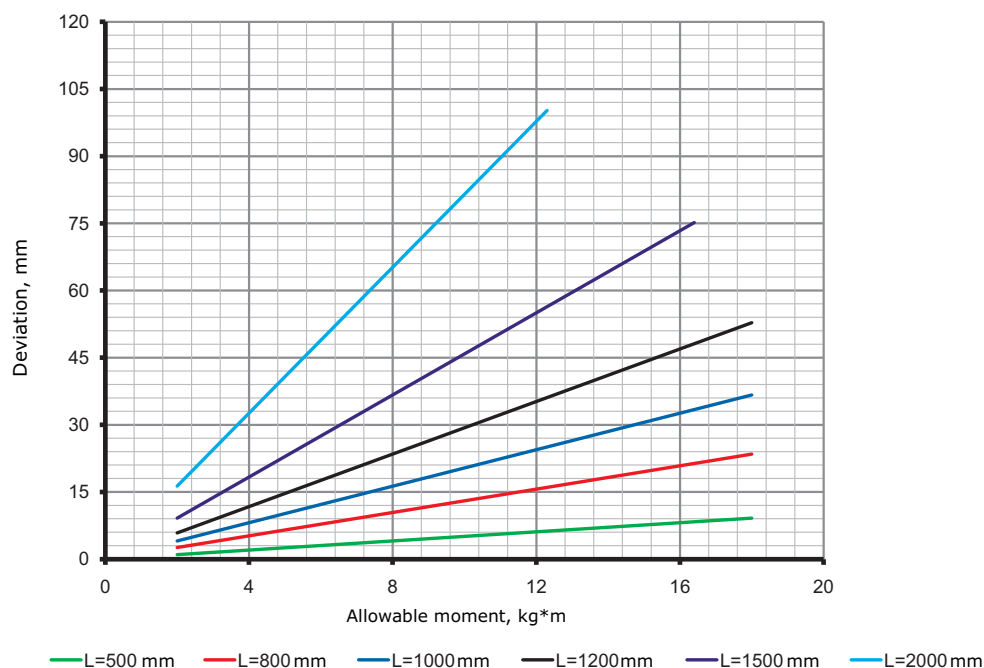
Note:

- there are 6 holes for M10 fasteners in the base.

Length L, mm	Weight, kg	M prelim, kg*m	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
200	0.78	18	LP7002	BSP2102	BSP2102HDZ	BSP2102INOX	BSP2102ZL
300	1.17	18	LP7003	BSP2103	BSP2103HDZ	BSP2103INOX	BSP2103ZL
400	1.36	18	LP7004	BSP2104	BSP2104HDZ	BSP2104INOX	BSP2104ZL
500	1.55	18	LP7005	BSP2105	BSP2105HDZ	BSP2105INOX	BSP2105ZL
600	1.74	18	LP7006	BSP2106	BSP2106HDZ	BSP2106INOX	BSP2106ZL
800	2.12	18	LP7008	BSP2108	BSP2108HDZ	BSP2108INOX	BSP2108ZL
1000	2.50	18	LP7010	BSP2110	BSP2110HDZ	BSP2110INOX	BSP2110ZL
1200	2.88	18	LP7012	BSP2112	BSP2112HDZ	BSP2112INOX	BSP2112ZL
1500	3.45	16.4	LP7015	BSP2115	BSP2115HDZ	BSP2115INOX	BSP2115ZL
2000	4.40	12.3	LP7020	BSP2120	BSP2120HDZ	BSP2120INOX	BSP2120ZL

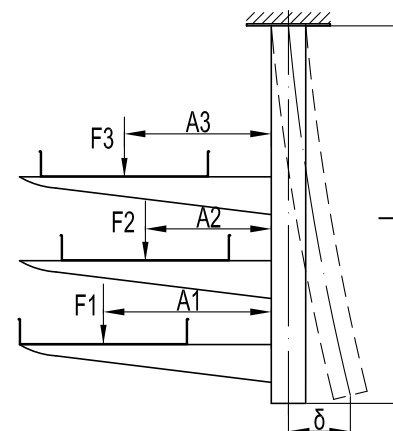
Apart from standard lengths in versions 2 and 3, it is possible to manufacture vertical supports of any length within the interval of 200 to 2000 mm with pitch of 100 mm.

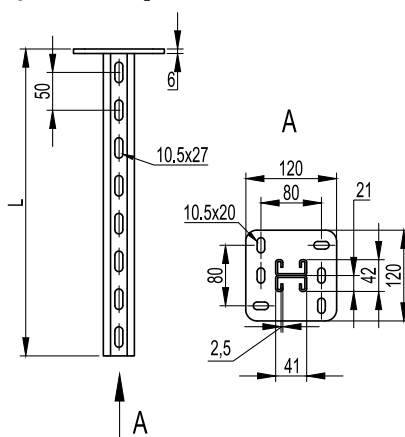
Load curves



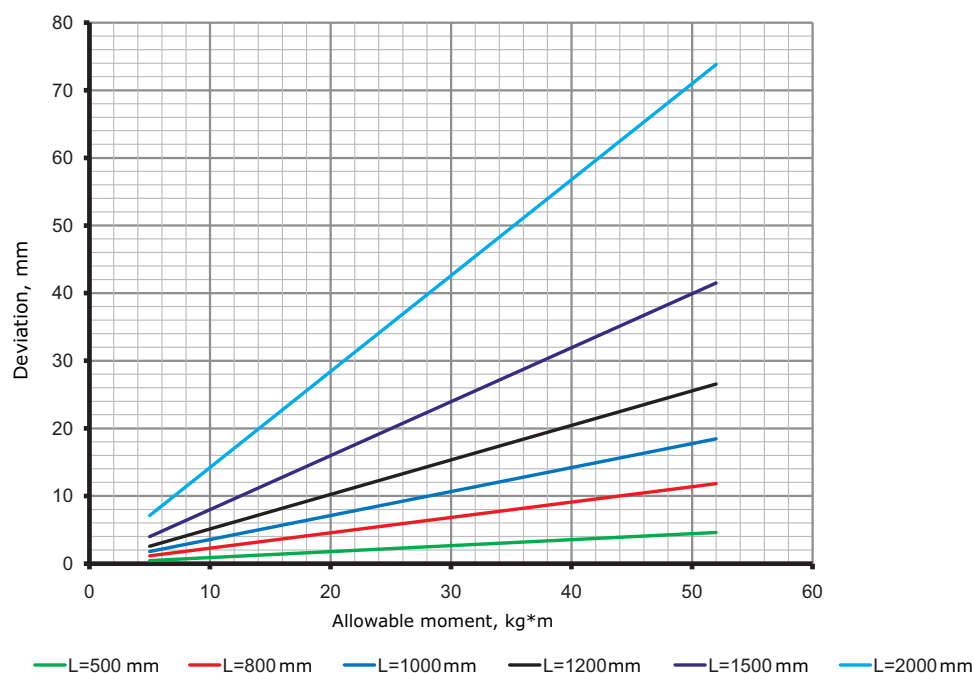
Maximum bend determination:

- for versions 1 and 2;
- testing according to GOST R 52868;
- total moment ΣM is calculated as follows: $\Sigma M = F_1 \cdot A_1 + F_2 \cdot A_2 + F_3 \cdot A_3$, where F_1, F_2, F_3 are loads in the bracket center, kg; A_1, A_2, A_3 are load action arms, m;
- curve deviation is determined.

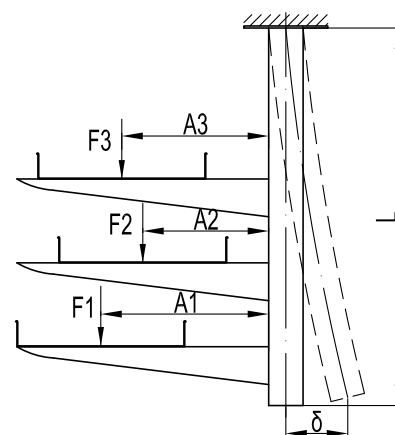




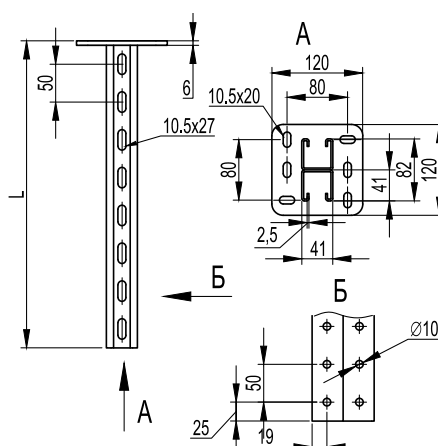
- there are 6 holes for M10 fasteners in the base.



- for versions 1 and 2;
- testing according to GOST R 52868;
- total moment ΣM is calculated as follows:
 $\Sigma M = F_1 \cdot A_1 + F_2 \cdot A_2 + F_3 \cdot A_3$, where F_1, F_2, F_3
 are loads in the bracket center, kg;
 A_1, A_2, A_3 are load action arms, m;
- curve deviation is determined.



BSD-41 vertical support (double, 41x41)



Applications:

- installation of brackets: BBH-60, BBH-70, BBH-80, BBD-21, BBP-21/41;
- single/double-sided and parallel installation of cable routes;

- installation of suspended structures;

- ceiling or floor mounting. **Characteristics:**

- double C-profile of a 41x41 vertical support;
- vertical support profile thickness is 2.5 mm;
- plate thickness is 6 mm.

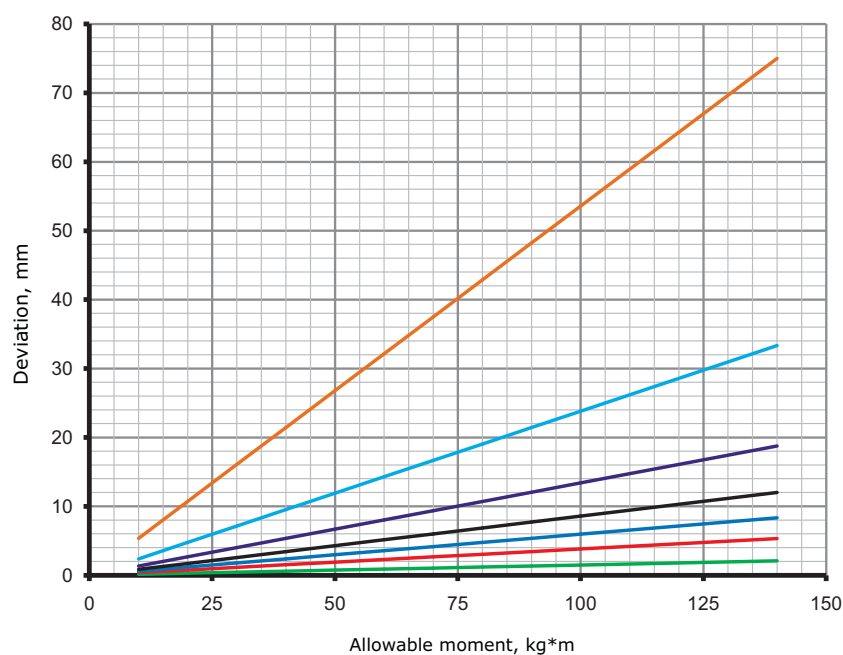
Note:

- there are 6 holes for M10 fasteners in the base.

Length L, mm	Weight, kg	M prelim, kg*m	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
200	1.67	140	LP8002	BSD4102	BSD4102HDZ	BSD4102INOX	BSD4102ZL
300	2.21	140	LP8003	BSD4103	BSD4103HDZ	BSD4103INOX	BSD4103ZL
400	2.74	140	LP8004	BSD4104	BSD4104HDZ	BSD4104INOX	BSD4104ZL
500	3.27	140	LP8005	BSD4105	BSD4105HDZ	BSD4105INOX	BSD4105ZL
600	3.80	140	LP8006	BSD4106	BSD4106HDZ	BSD4106INOX	BSD4106ZL
800	4.87	140	LP8008	BSD4108	BSD4108HDZ	BSD4108INOX	BSD4108ZL
1000	5.70	140	LP8010	BSD4110	BSD4110HDZ	BSD4110INOX	BSD4110ZL
1200	6.72	140	LP8012	BSD4112	BSD4112HDZ	BSD4112INOX	BSD4112ZL
1500	8.59	140	LP8015	BSD4115	BSD4115HDZ	BSD4115INOX	BSD4115ZL
2000	11.2	140	LP8020	BSD4120	BSD4120HDZ	BSD4120INOX	BSD4120ZL

Apart from standard lengths in versions 2 and 3, it is possible to manufacture vertical supports of any length within the interval of 200 to 3000 mm with pitch of 100 mm.

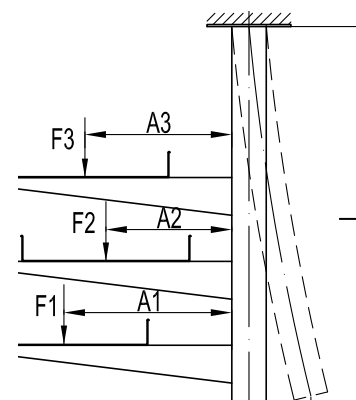
Load curves



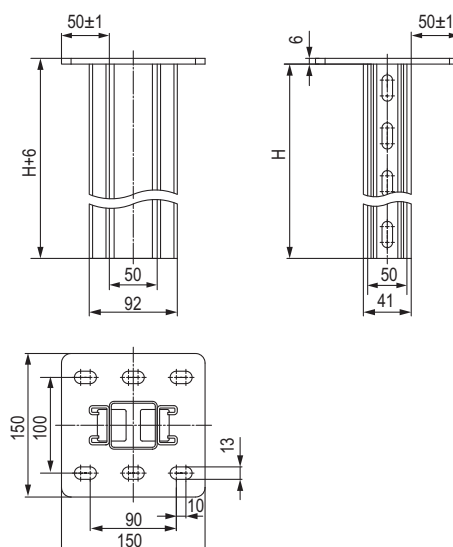
— L=500 mm — L=800 mm — L=1000 mm — L=1200 mm — L=1500 mm — L=2000 mm — L=3000 mm

Maximum bend determination:

- for versions 1 and 2;
- testing according to GOST R 52868;
- total moment ΣM is calculated as follows: $\Sigma M = F_1 \cdot A_1 + F_2 \cdot A_2 + F_3 \cdot A_3$, where F_1, F_2, F_3 are loads in the bracket center, kg; A_1, A_2, A_3 are load action arms, m;
- curve deviation is determined.



BSD-92 vertical support (double reinforced, 92×41)



Applications:

- installation of brackets: BBH-60, BBH-70, BBH-80, BBD-21, BBP-21/41;
- single/double-sided and parallel installation of cable routes;
- installation of suspended structures;
- ceiling or floor mounting.

Characteristics:

- double C-profile of a 41x21 vertical support;
- vertical support profile thickness is 2.5 mm;
- plate thickness is 6 mm;
- tube thickness is 2 mm;

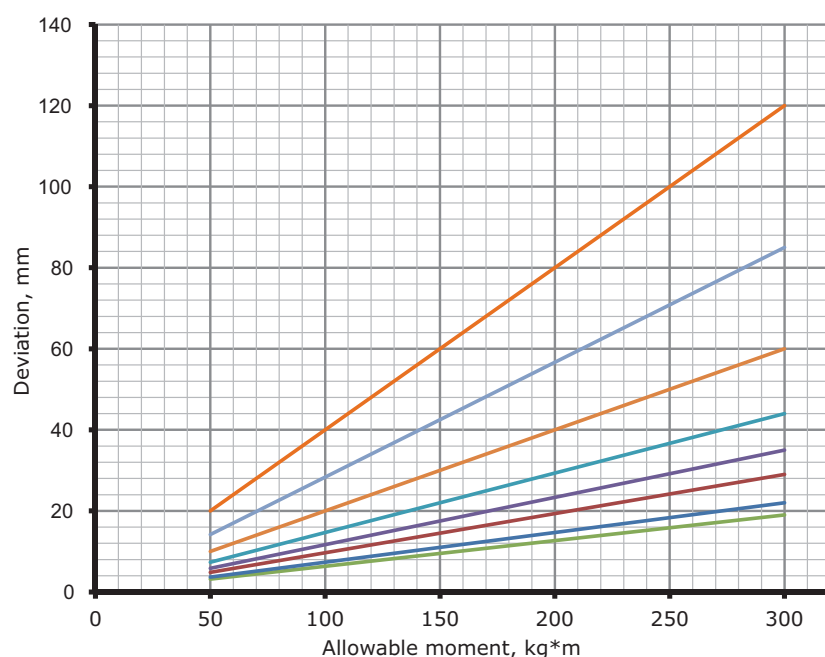
Note:

- there are 6 holes for M12 fasteners in the base.

Length L, mm	Weight, kg	M prelim, kg*m	Code, vers. 2
500	4.63	300	BSD9205HDZ
600	5.37	300	BSD9206HDZ
800	6.83	300	BSD9208HDZ
1000	8.31	300	BSD9210HDZ
1200	9.77	300	BSD9212HDZ
1500	11.97	300	BSD9215HDZ
2000	15.64	300	BSD9220HDZ
3000	22.98	300	BSD9230HDZ

Apart from standard lengths in versions, it is possible to manufacture vertical supports of any length within the interval of 200 to 3000 mm with pitch of 100 mm.

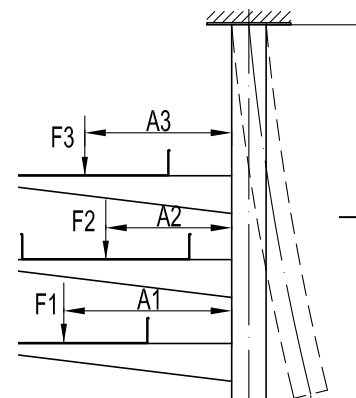
Load curves



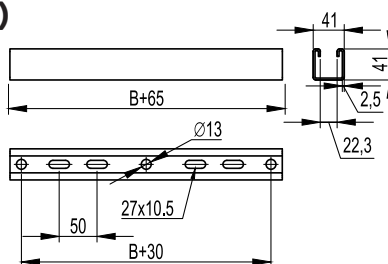
— L=500 mm — L=600 mm — L=800 mm — L=1000 mm — L=1200 mm
 — L=1500 mm — L=2000 mm — L=3000 mm

Maximum bend determination:

- for versions 1 and 2;
- testing according to GOST R 52868;
- total moment ΣM is calculated as follows: $\Sigma M = F1 \cdot A1 + F2 \cdot A2 + F3 \cdot A3$, where $F1, F2, F3$ are loads in the bracket center, kg; $A1, A2, A3$ are load action arms, m;
- curve deviation is determined.



BST-41 traverse (single, 41x41)



Applications:

- installation of a cable tray route with attachment to a ceiling using studs;
- installation of suspended structures.

Characteristics:

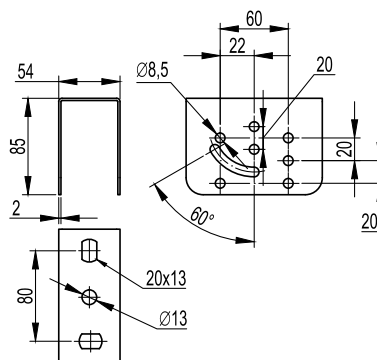
- C-profile of a 41x41 traverse;
- traverse profile thickness is 2.5 mm.

Note:

- it is possible to install this part both on one (central vertical support) and two studs.

Max. tray width, mm	Length L, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
300	365	0.91	LP2003	BST4130	BST4130HDZ	BST4130INOX	BST4130ZL
400	465	1.16	LP2004	BST4140	BST4140HDZ	BST4140INOX	BST4140ZL
500	565	1.41	LP2005	BST4150	BST4150HDZ	BST4150INOX	BST4150ZL
600	665	1.62	LP2006	BST4160	BST4160HDZ	BST4160INOX	BST4160ZL

BSV-29 ceiling fastener (SML)

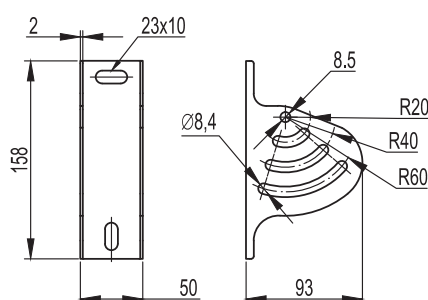


Applications:

- organization of cable route suspension;
- installation of BPL-29 and BPM-29 profiles;
- installation of BBL-40, BBL-50 and BBM-50 series brackets;
- attachment to the inclined and straight surface.

Load, kg	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
250	0.40	34141	BSV2901	BSV2901HDZ	BSV2901INOX	BSV2901ZL

BSV-29 ceiling fastener (SSC)

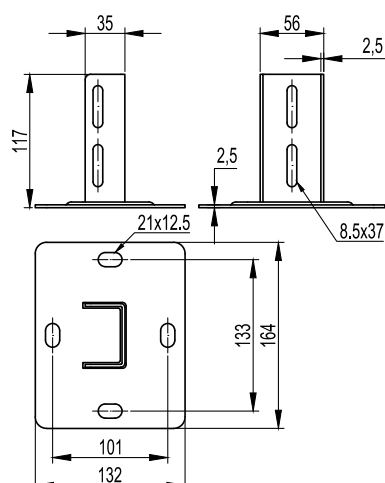


Applications:

- organization of cable route suspension;
- installation of BBL-40, BBL-50 and BBM-50 series brackets;
- attachment to the inclined and straight surface.

Load, kg	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
250	0.30	34145	BSV2902	BSV2902HDZ	BSV2902INOX	BSV2902ZL

BSF-29 ceiling fastener (SSM)



Applications:

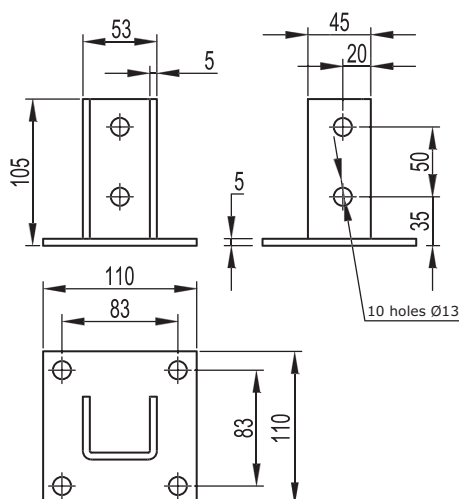
- organization of cable route suspension;
- installation of BPL-29 and BPM-29 profiles;
- installation of BBL-40, BBL-50 series brackets;
- as a floor-mounted support;
- attachment to the straight surface.

Note:

- there are 4 holes for M8 fasteners in the base.

Load, kg	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
800	0.68	34143	BSF2901	BSF2901HDZ	BSF2901INOX	BSF2901ZL

BSF-41 ceiling fastener (SSH)



Applications:

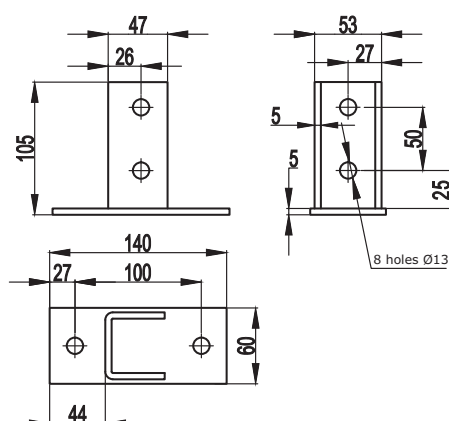
- organization of cable route suspension;
- installation of profiles: BPL-41; BPM-41, BPD-21;
- as a floor-mounted support;
- attachment to the straight surface.

Note:

- there are 4 holes for M12 fasteners in the base.

Load, kg	Weight, kg	Old code	New code, vers. 2
800	0.99	34020HDZ	BSF4101HDZ

BSF-41 ceiling fastener with narrow platform



Applications:

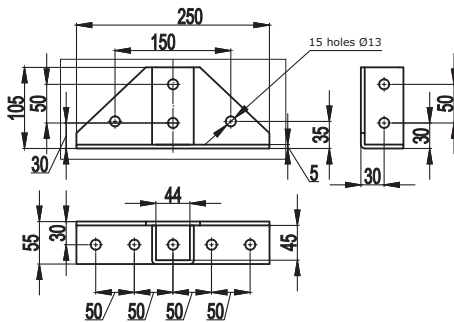
- organization of cable route suspension;
- installation of profiles: BPL-41; BPM-41, BPD-21;
- as a floor-mounted support;
- attachment to the straight surface.

Note:

- there are 4 holes for M12 fasteners in the base.

Load, kg	Weight, kg	Code, vers. 2
500	0.84	BSF4102HDZ

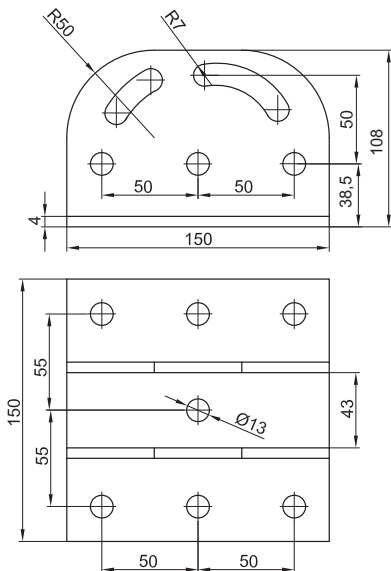
BSF-41 ceiling fastener with narrow platform, reinforced



- Applications:**
- organization of cable route suspension;
 - installation of profiles: BPL-41; BPM-41, BPD-21;
 - as a floor-mounted support;
 - attachment to the straight surface.
- Note:**
- there are 4 holes for M12 fasteners in the base.

Load, kg	Weight, kg	Code, vers. 2
800	1.72	BSF4103HDZ

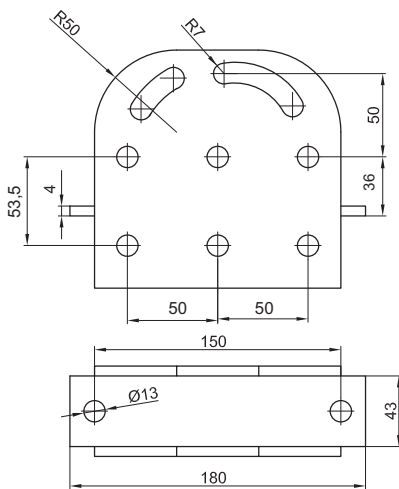
BSF-41 ceiling fastener with platform, hinged



- Applications:**
- organization of cable route suspension;
 - installation of BPL-41, BPM-41 profiles at angle;
 - as a floor-mounted support;
 - attachment to the straight surface.
- Note:**
- there are 4 holes for M12 fasteners in the base.

Weight, kg	Code, vers. 2
2.07	BSF4104HDZ

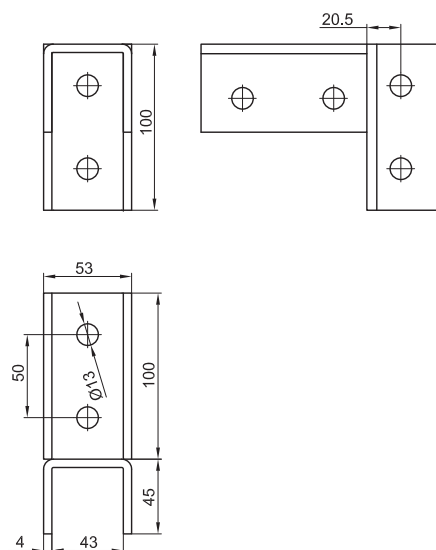
BSF-41 profile fastener, hinged



- Applications:**
- connection of BPL-41, BPM-41 profiles at angle.

Weight, kg	Code, vers. 2
1.72	BSF4105HDZ

BSF-41 profile connector

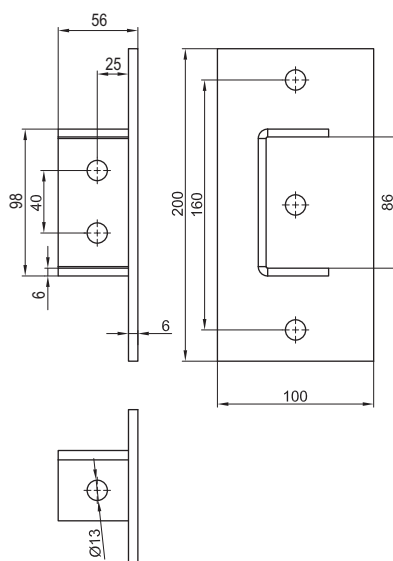


Applications:

- T-connection of BPL-41, BPM-41 profiles.

Weight, kg	Code, vers. 2
0.93	BSF4106HDZ

BSF-82 ceiling fastener



Applications:

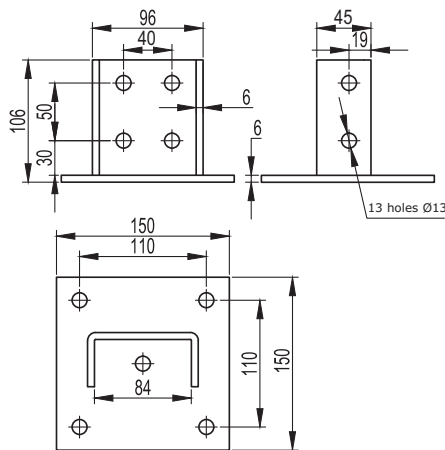
- organization of cable route suspension;
- installation of BPD-41 profiles;
- as a floor-mounted support;
- attachment to the straight surface.

Note:

- there are 4 holes for M12 fasteners in the base.

Load, kg	Weight, kg	Code, vers. 2
800	1.30	BSF8202HDZ

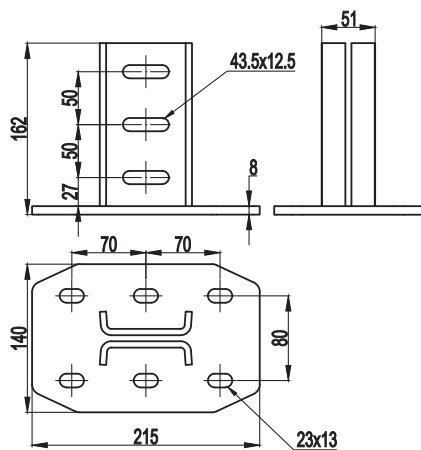
BSF-82 ceiling fastener, reinforced



- Applications:**
- organization of cable route suspension;
 - installation of BPD-41 profiles;
 - as a floor-mounted support;
 - attachment to the straight surface.
- Note:**
- there are 4 holes for M12 fasteners in the base.

Load, kg	Weight, kg	Code, vers. 2
1000	1.75	BSF8201HDZ

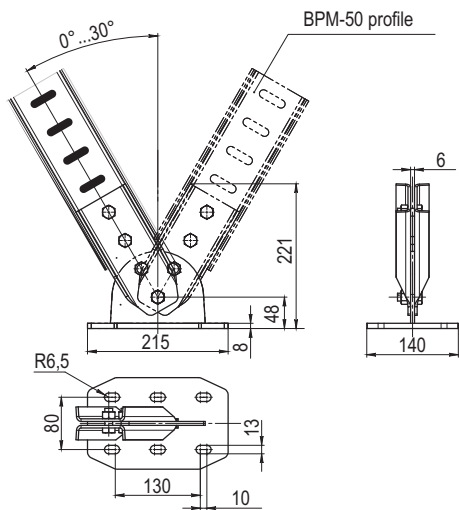
BSF-50 ceiling fastener



- Applications:**
- organization of cable route suspension;
 - installation of BPM-50 profiles;
 - as a floor-mounted support.

Weight, kg	Code, vers. 2
3.26	BSF5001HDZ

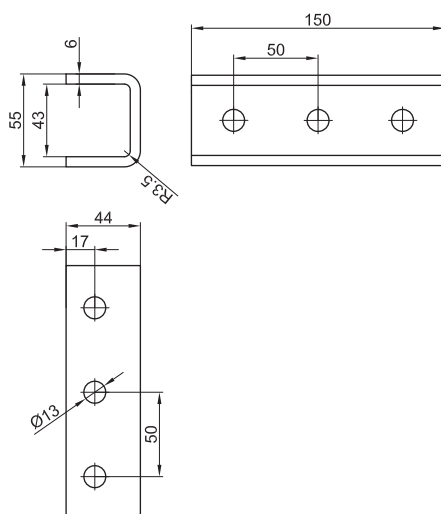
BSF-50 ceiling fastener, hinged



- Applications:**
- organization of cable route suspension at angle;
 - installation of BPM-50 profiles.
- Characteristics:**
- connecting plate thickness is 4 mm.
- Note:**
- scope of supply includes a base, two connecting plates, four M12×30 bolts with strength class 8.8, four M12 nuts with strength class 8 and four 12 nuts.

Weight, kg	Code, vers. 2
3.71	BSF5002HDZ

BSW-41 welded fastener

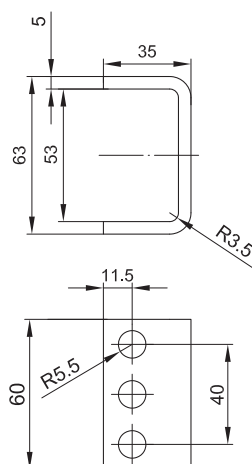


Applications:

- welding to girders and other bearing structures for further attachment of BPD-41/ BPM-41/BPL-41 profiles.

Weight, kg	Code
1.45	BSW4101

BSW-29 welded fastener

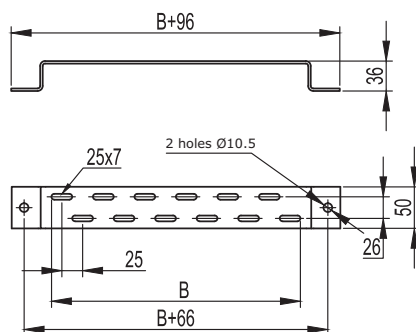


Applications:

- welding to girders and other bearing structures for further attachment of BPL-29/ BPM-29 profiles.

Weight, kg	Code
0.4	BSW2901

BMM-10 clamp (TM)

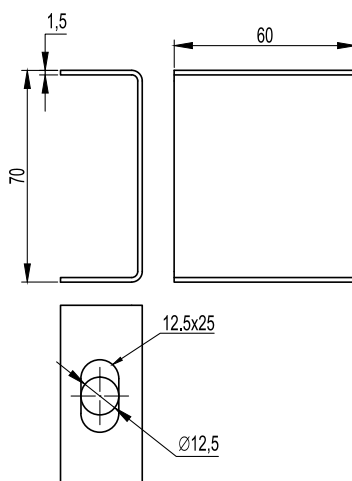


Applications:

- vertical and floor installation of trays;
- organization of suspension on studs.

Max. tray width B, mm	Length, mm	Thickness, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
100	196	2	0.31	30690	BMM1010	BMM1010HDZ	BMM1010INOX	BMM1010ZL
150	246	2	0.37	30691	BMM1015	BMM1015HDZ	BMM1015INOX	BMM1015ZL
200	296	2	0.43	30692	BMM1020	BMM1020HDZ	BMM1020INOX	BMM1020ZL
300	396	2	0.55	30693	BMM1030	BMM1030HDZ	BMM1030INOX	BMM1030ZL
400	496	3	0.68	30694	BMM1040	BMM1040HDZ	BMM1040INOX	BMM1040ZL
500	596	3	0.78	30695	BMM1050	BMM1050HDZ	BMM1050INOX	BMM1050ZL

BML-10 clamp (TM, reduced-weight)



Applications:

- organization of cable route suspension on studs to a ceiling.

Characteristics:

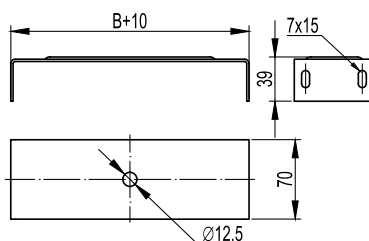
- steel thickness is 1.5 mm.

Note:

- prevents stud fracture in case of route swinging when laying additional cables;
- to increase rigidity, it is recommended to use two clamps connected in an inversed manner by running a stud through them.

Load, kg	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
60	0.17	34290	BML1007	BML1007HDZ	BML1007INOX	BML1007ZL

BMT-10 (SPC) tray clamp



Applications:

- central suspension of a cable route with low load on one stud.

Characteristics:

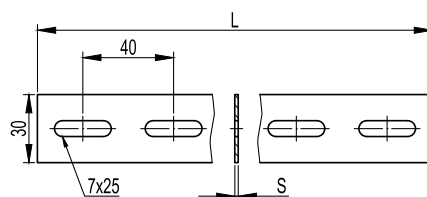
- steel thickness is 2 mm.

Note:

- it is possible to install a 50x50 mm tray without a clamp only using a stud, nuts and washers; a stud is attached in a hole in the tray center.

Max. tray width B, mm	Length, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
100	110	0.20	34312	BMT1010	BMT1010HDZ	BMT1010INOX	BMT1010ZL
150	160	0.25	34313	BMT1015	BMT1015HDZ	BMT1015INOX	BMT1015ZL
200	210	0.31	34314	BMT1020	BMT1020HDZ	BMT1020INOX	BMT1020ZL
300	310	0.42	34315	BMT1030	BMT1030HDZ	BMT1030INOX	BMT1030ZL
400	410	0.54	34316	BMT1040	BMT1040HDZ	BMT1040INOX	BMT1040ZL
500	510	0.65	34317	BMT1050	BMT1050HDZ	BMT1050INOX	BMT1050ZL

BMA-10 connector (BA)


Applications:

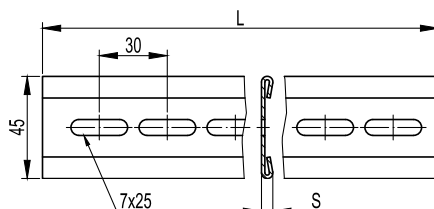
- connection of mounting elements and suspension of structures.

Characteristics:

- connector has perforation with slots of 7x25 mm and pitch of 40 mm.

Length L, mm	Load, kg	Plate thickness S, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
2000	569	2	0.40	36450	BMA1023	BMA1023HDZ	BMA1023INOX	BMA1023ZL
1000	569	1.5	0.30	37910	BMA1013	BMA1013HDZ	BMA1013INOX	BMA1013ZL

BMA-10 connector (BAR)


Applications:

- connection of mounting elements and suspension of structures.

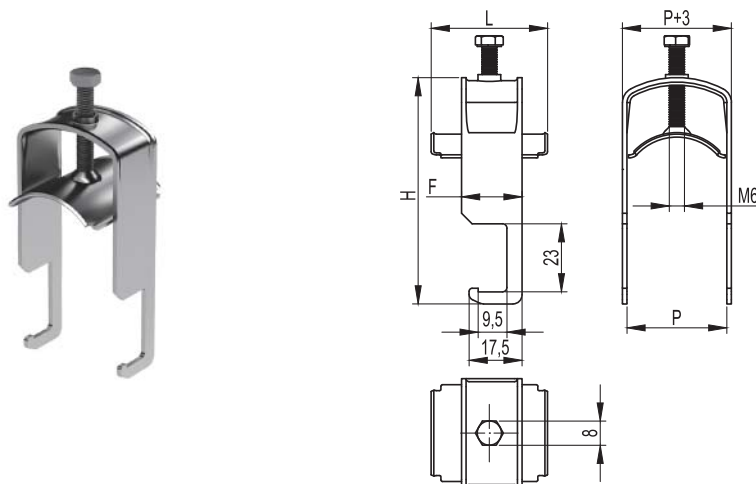
Characteristics:

- BAR connector has perforation with slots of 7x25 mm and pitch of 30 mm, as well as edging for higher rigidity.

Length L, mm	Load, kg	Plate thickness S, mm	Weight, kg	Old code	New code, vers. 1	New code, vers. 2	New code, vers. 3	New code, vers. 4
2000	759	1.5	0.15	34250	BMA1015	BMA1015HDZ	BMA1015INOX	BMA1015ZL

Metal holders

BHL cable holder (for attachment to tray/profile)


Applications:

- attachment of cables to a cable ladder.

Characteristics:

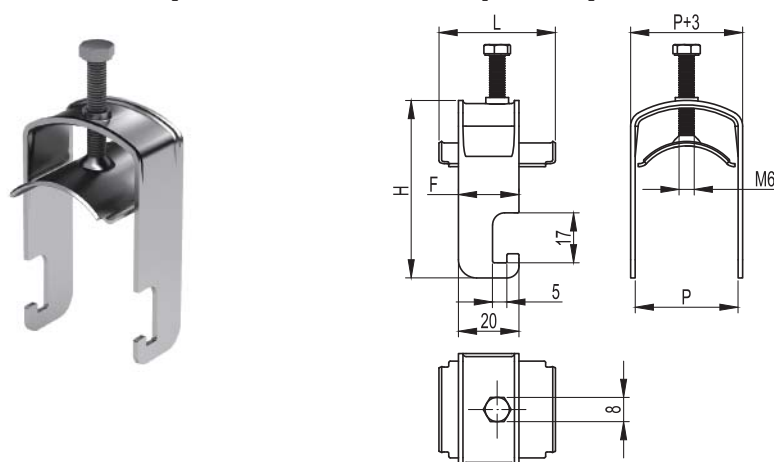
- attachment of cables: from 8 to 74 mm;
- maximum tightening torque is 6 N*m.

Note:

- it is possible to use this part for attachment to a C-profile;
- it is possible to heat a holder when using it together with single-core single-phase cables;
- it is possible to use this part together with a BHR8010 silicon gasket to prevent cable damage.

Diameter, mm	Steel thickness, mm	F, mm	Height H, mm	Width P, mm	Weight, kg	Code
8-14	1.5	19	49	16	0.03	BHL0814
14-20	1.5	19	54	22	0.04	BHL1420
20-26	1.5	19	60	28	0.04	BHL2026
26-32	1.5	19	66	34	0.05	BHL2632
32-38	1.5	19	77	40	0.06	BHL3238
38-44	1.5	19	83	46	0.06	BHL3844
44-50	2.5	24	89	52	0.11	BHL4450
50-56	2.5	24	95	58	0.13	BHL5056
56-63	2.5	24	100	64	0.14	BHL5662
62-68	2.5	24	107	70	0.15	BHL6268
68-74	2.5	24	113	76	0.16	BHL6874

BHP cable holder (for attachment to profile)


Applications:

- attachment of cables to BPL-21, BPL-41, BPM-21, BPM-41, BPD-41, BPD-21 C-profiles and brackets based on a C-profile (BBP-21, BBP-41, BBD-21).

Characteristics:

- attachment of cables: from 8 to 74 mm;
- maximum tightening torque is 6 N*m.

Note:

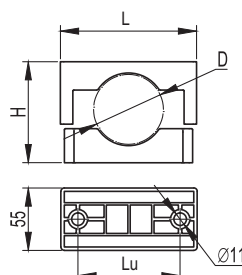
- it is possible to heat a holder when using it together with single-core single-phase cables;
- it is possible to use this part together with a BHR8010 silicon gasket to prevent cable damage.

Diameter, mm	Steel thickness, mm	F, mm	Height H, mm	Width P, mm	Weight, kg	Code
8-14	1.5	19	49	16	0.03	BHP0814
14-20	1.5	19	54	22	0.04	BHP1420
20-26	1.5	19	60	28	0.04	BHP2026
26-32	1.5	19	66	34	0.05	BHP2632
32-38	1.5	19	77	40	0.06	BHP3238
38-44	1.5	19	83	46	0.06	BHP3844
44-50	2.5	24	89	52	0.12	BHP4450
50-56	2.5	24	95	58	0.13	BHP5056
56-63	2.5	24	100	64	0.14	BHP5662
62-68	2.5	24	107	70	0.15	BHP6268
68-74	2.5	24	113	76	0.16	BHP6874

Solutions for laying of medium and high-voltage cables

Special fasteners meeting strict requirements to reliability, ease of installation, and application of environmentally friendly and modern materials have been developed to resolve problems of laying of power cables designed for 10-35 kV, 110-220 and 500 kV. In combination with other elements of the "B5 Combitech" system, these fasteners allow forming cable routes of any complexity and at any angle to the horizon. 10-35 kV and 110-220 kV cables are widely used for power transmission and distribution, especially in big cities and at industrial enterprises, where energy consumption and load density levels are extremely high.

BHR-20 cable holder


Purpose:

- attachment of single-core and multi-core cables.

Installation conditions:

- indoors or outdoors.

Distinctive features:

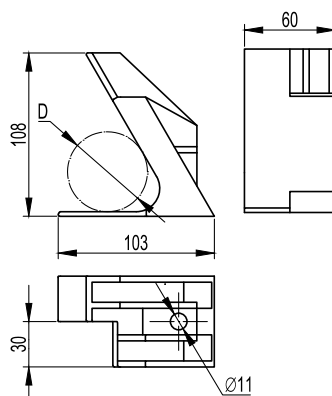
- made of high-strength reinforced polymer.

Characteristics:

- cable diameter is from 25 to 60 mm;
- operating temperature is from -60 to +150 °C.

Diameter D, mm	Max. height H, mm	Length L, mm	Length Lu, mm	Weight, kg	Code
25-40	70	90	60	0.14	BHR2004
40-60	95	120	90	0.20	BHR2006

BHR-10 cable holder


Purpose:

- attachment of all types of medium-voltage cables and single-phase high-voltage cables when laying them both in plane and in triangle.

Installation conditions:

- indoors or outdoors.

Distinctive features:

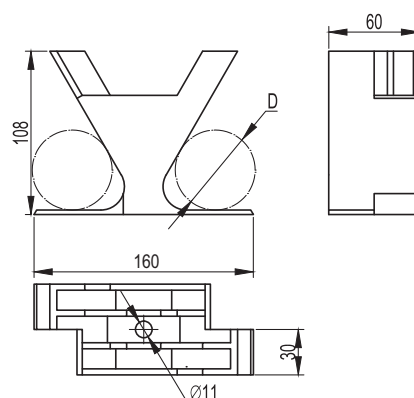
- made of high-strength reinforced polymer.

Characteristics:

- cable diameter is from 30 to 40 mm;
- resistance to dynamic loads is 10 kN;
- operating temperature is from -60 to +150 °C.

Diameter D, mm	Weight, kg	Code
30-40	0.22	BHR1004

BHR-11 cable holder


Purpose:

- attachment of all types of medium-voltage cables and single-phase high-voltage cables when laying them both in plane and in triangle.

Installation conditions:

- indoors or outdoors.

Distinctive features:

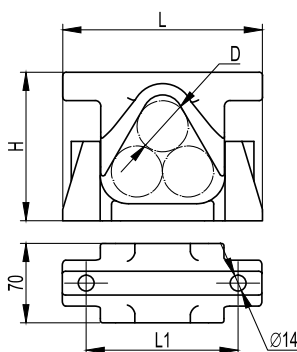
- made of high-strength reinforced polymer.

Characteristics:

- cable diameter is from 30 to 40 mm;
- resistance to dynamic loads is 10 kN;
- operating temperature is from -60 to +150 °C.

Diameter D, mm	Weight, kg	Code
30-40	0.20	BHR1104

BHR-35 cable holder



Purpose:

- installation of a medium-voltage three-circuit cable line with cabling in triangle.

Installation conditions:

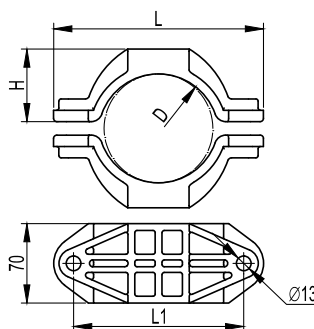
- indoors or outdoors.
- Distinctive features:**
- made of high-strength reinforced polymer.

Characteristics:

- cable diameter is from 35 to 70 mm;
- resistance to dynamic loads is 20 kN;
- operating temperature is from -60 to +150 °C.

Diameter D, mm	Width L, mm	Width L1, mm	Max. height H, mm	Weight, kg	Code
35-55	176	134	150	0.63	BHR3505
40-70	213	173	190	1	BHR3507

BHR-20 cable holder



Purpose:

- attachment of single-phase power cables designed for voltage classes of 110-220, 500 kV.

Installation conditions:

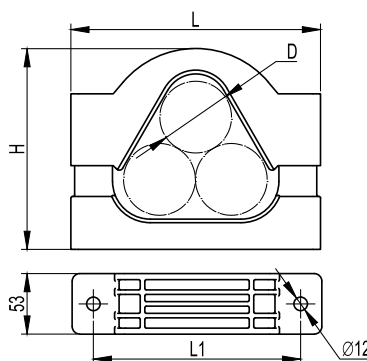
- indoors or outdoors.
- Distinctive features:**
- made of high-strength reinforced polymer.

Characteristics:

- cable diameter is from 65 to 150 mm;
- resistance to dynamic loads is 20 kN;
- operating temperature is from -60 to +150 °C.

Diameter D, mm	Width L, mm	Width L1, mm	Height H, mm	Weight, kg	Code
65-90	175	140	50	0.37	BHR2009
85-105	185	150	64	0.45	BHR2010
100-125	204	170	67	0.47	BHR2012
125-150	234	200	81	0.60	BHR2015

BHR-40 cable holder



Purpose:

- attachment of single-phase power cables designed for voltage classes of 110-220, 500 kV.

Installation conditions:

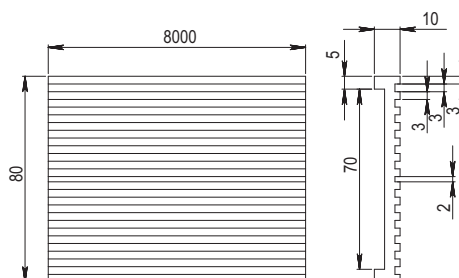
- indoors or outdoors.
- Distinctive features:**
- made of high-strength reinforced polymer.

Characteristics:

- cable diameter is from 65 to 135 mm;
- resistance to dynamic loads is 20 kN;
- operating temperature is from -60 to +150 °C.

Diameter D, mm	Width L, mm	Width L1, mm	Max. height H, mm	Weight, kg	Code
65-90	290	234	260	2.42	BHR4009
85-110	330	274	296	3.08	BHR4011
110-135	380	324	335	3.47	BHR4013

Heat-resistant silicon gasket for BHR-80 cable holders


Purpose:

- to prevent cable damage and slipping when laying it at vertical sections.

Characteristics:

- cabling is made of non-combustible material;
- dielectric strength is 18-20 kV/mm;
- ordered in meters with account of consumption of 0.2 m per one BHR-20 series fastener, 0.3 m per one BHR-35 series fastener, and 0.4 m per one BHR-40 fastener.

Note:

- cabling is made of non-combustible silicon; it is possible use this part together with BHL/BHP metal holders to prevent cable damage.

Weight, kg/m	Code
0.58	BHR8010

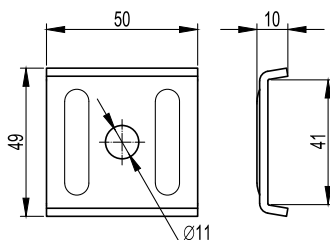
Recommended kit for attachment of cable holders to C-profiles and brackets on the basis of C-profiles			
Cable holder	Description	Q-ty, pcs	Code
BHR2004, BHR2006	M10x1000 threaded stud*	1	CM201001
	M10x40 Profile nut	2	CM141000
	M10 Plain washer DIN9021	2	CM121000
	M10 hexagon nut with serrate flange	4	CM101000
BHR1004, BHR1104	M10x100 threaded stud*	1	CM201010
	M10x40 Profile nut	1	CM141000
	M10 Plain washer DIN9021	1	CM121000
	M10 hexagon nut with serrate flange	2	CM101000
BHR3505, BHR3507	M10x1000 threaded stud*	1	CM201001
	M10x40 Profile nut	2	CM141000
	M10 Plain washer DIN9021	2	CM121000
	M10 hexagon nut with serrate flange	4	CM101000
BHR2009, BHR2010, BHR2012, BHR2015	M10x1000 threaded stud*	1	CM201001
	M10x40 Profile nut	2	CM141000
	M10 Plain washer DIN9021	2	CM121000
	M10 hexagon nut with serrate flange	4	CM101000
BHR4009, BHR4011, BHR4013	M10x1000 stud*	1	CM201001
	nut for M10x40 profile suspension	2	CM141000
	M10 fender washer DIN9021	2	CM121000
	M10 hexagon nut with serrate flange	4	CM101000

* A stud should be cut into segments of the required length

Solutions for laying of utility lines

Apart from installation of cable support systems, "B5 Combitech" offers broad options for creation of support structures for different utility lines (water supply, heating, ventilation, air conditioning systems, etc.). Versatility and compatibility of all system elements makes it possible to scale to certain tasks without effort, thus optimizing costs and reducing the installation time.

Supporting plate for BHM-41 C-profiles


Applications:

- attachment of a M10 stud to a C-profile.

Characteristics:

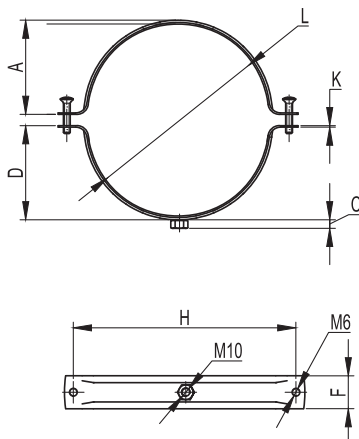
- there is 1 hole for M10 fasteners in the base;
- steel thickness is 2 mm.

Note:

- used with all types of C-profiles: BPL-21, BPL-41, BPM-21, BPM-41, BPD-21, BPD-41.

Weight, kg	Code, vers. 1	Code, vers. 4
0.06	BHM4141	BHM4141HDZL

BHT-30 clip for heavy loads


Purpose:

- mounting of water-supply, heating, gas-supply pipes, as well as pipes for industrial usage.

Mounting conditions:

- inside the premises, in open air under tents.

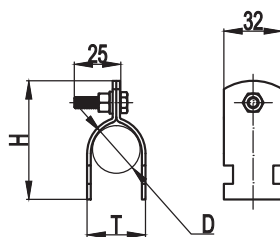
Distinctive features:

- mounting to ceiling, walls, C-shaped profiles and brackets of C-shaped sections.

Characteristics:

- pipes diameter - from 50 to 400 mm;
- operation temperature - from -40 to +90 °C;
- maximum static load for suspended mounting - 350 kg;
- maximum static load for side mounting - 175 kg.

Max. diameter L, mm	Height A, mm	Height D, mm	Width H, mm	K, mm	C, mm	F, mm	Code, vers. 1
50	24.8	24.8	75.8	2.4	11	29	BHT3050
63	31.6	31.6	88.9	2.4	11	29	BHT3063
75	39.3	39.3	110.9	2.4	11	29	BHT3075
80	40.0	40.0	109.2	2.4	11	29	BHT3080
90	44.4	44.4	120.0	2.4	11	29	BHT3090
100	51.0	51.0	131.3	2.4	11	29	BHT3100
110	55.5	55.5	141.7	2.4	11	29	BHT3110
125	63.4	63.4	157.1	2.4	11	29	BHT3125
130	64.5	64.5	162.5	2.4	11	29	BHT3130
140	67.3	67.3	173.4	2.4	11	29	BHT3140
160	77.0	77.0	190.9	2.4	11	29	BHT3160
200	98.2	98.2	240.5	2.4	11	29	BHT3200
250	125.0	125.0	277.7	2.4	11	29	BHT3250
315	150.3	150.3	367.3	2.4	11	29	BHT3315
350	176.0	176.0	376.0	2.4	11	29	BHT3350
400	196.0	196.0	429.0	2.4	11	29	BHT3400

BHT-15 dismantlable clip

Purpose:

- mounting of water-supply, heating, gas-supply pipes, as well as pipes for industrial usage.

Mounting conditions:

- inside the premises, in open air under tents.

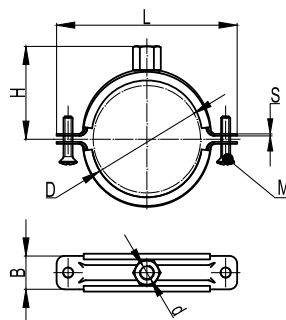
Distinctive features:

- mounting into a C-shaped profile and brackets of C-shaped profile.

Characteristics:

- pipe diameter – from 1/2 to 5";
- operation temperature – from -40 to +90 °C.

D min, mm	D max, mm	Height H, mm	T, mm	Code
20.3	22	60	24.3	BHT1505
25.7	27	65	29.7	BHT1508
32.4	34	77	36.4	BHT1510
41.2	43	87	45.2	BHT1512
47.4	49	92	51.4	BHT1515
59.5	61	102	63.5	BHT1520
72.2	76	118	76.2	BHT1525
87.9	89	140	91.9	BHT1530
113	115	165	117	BHT1540
139	142	186	143	BHT1550

BHT-20 clip with insulation for average loads

Purpose:

- mounting of water-supply, heating, gas-supply pipes, as well as pipes for industrial usage;

- inside the premises, in open air under tents.

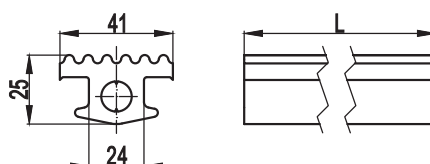
Distinctive features:

- mounting to a ceiling, walls, into C-shaped profiles and brackets of C-shaped sections.

Characteristics:

- pipe diameter – from 12 to 220 mm;
- operation temperature – from -40 to +90 °C;
- maximum static load for suspended mounting – 200 kg;
- maximum static load for side mounting – 100 kg.

Max. diameter D, mm	Height H, mm	Width L, mm	Width B, mm	M, mm	S, mm	d	Code
16	18	54	20	M6x18	2	M8	BHT2014
19	19.8	59	20	M6x18	2	M8	BHT2038
25	22	64	20	M6x18	2	M8	BHT2012
30	25	70	20	M6x18	2	M8	BHT2034
36	28	77	20	M6x18	2	M8	BHT2100
42	30.7	82	20	M6x18	2	M8	BHT2114
51	35	91	20	M6x18	2	M10	BHT2112
64	41.5	103	20	M6x18	2	M10	BHT2200
80	49.5	114	25	M6x18	2	M10	BHT2212
92	57.7	132	25	M6x18	2	M10	BHT2300
118	70.5	158	25	M6x25	2	M10	BHT2400
142	83.5	183	25	M6x25	2	M10	BHT2500
166	95.5	204	25	M6x25	2	M12	BHT2600
220	118	262	25	M6x25	2	M12	BHT2800

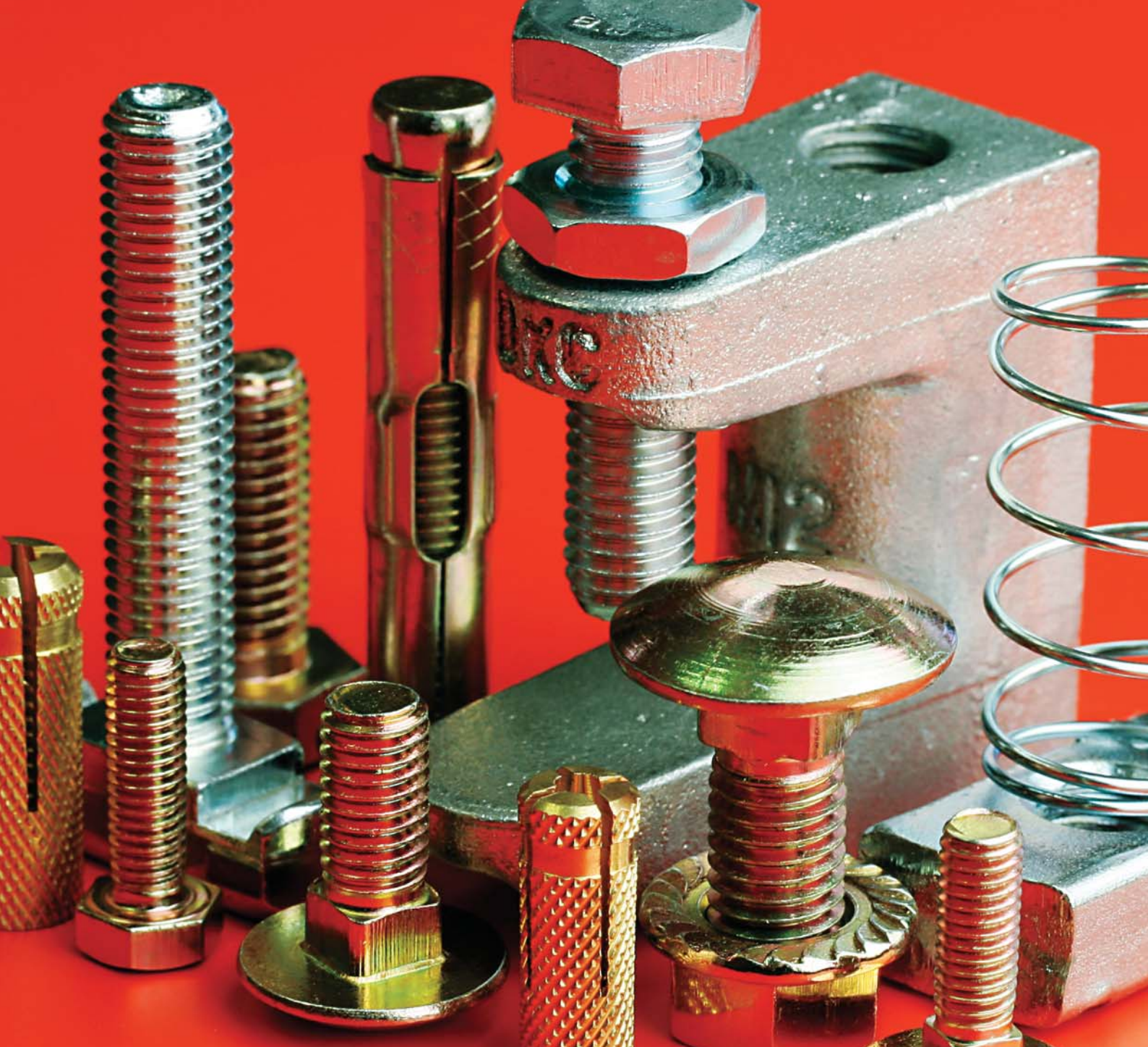
Noise-absorbing liner for BHT-41 profile

Applications:

- acoustic insulation for installation of air lines.

Note:

- used together with C-profiles: BPL-41, BPM-41, BPD-41.

Weight, kg/m	Code
0.63	BHT4125



Fastening system "M5 Combitech"

Metric fasteners	683
Anchors, wall plugs	691
Rigging	698
Tool	705

Fastening system

Application

"M5 Combitech" fastening system is a universal system of fastening elements for formation of cable routes based on DKC metal trays and mounting elements. Wide range of standard and special fastening devices allows meeting client's demands in a best way depending on installation conditions and further operation of the cable route.



Commercial property

For installation of cable route systems based on cable trays and mesh trays. Attachment of mounting structures to a floor, walls and ceiling



Industrial facilities

Depending on application conditions, are used for connection of elements of cable routes, as well as for installation of special structures. Use of fastenings to a profile, beam channel and profiled flooring



Food and chemical enterprises

Installation of cable routes of corrosion resistant steel, where all applicable fastening elements shall be made of stainless steel

Advantages

"M5 Combitech" system has the following basic advantages:

- delivery period – the most common items are supported at the warehouse in a sufficient number;
- wide range of fasteners simplifies installation of mounting elements depending on required load capacity of a cable route and material of structures;
- high quality of fasteners – each parcel passes quality control at a manufacturing plant and during receipt to DKC warehouse;
- convenient package reduces transport costs during delivery to an object, reduces time expenditures during installation;
- different versions of fastening devices allow correct monitoring of a cable route system considering operating conditions;
- replaceability – it is always possible to select an analogue of an absent item upon necessity of a delivery directly from the warehouse.

Code formation structure

Galvanized steel (standard version)

Device code without additional letters and designations is used when ordering standard versions "Galvanized steel" for fasteners.

Example of code of M6x10 phillips screw in "Galvanized steel" version: CM010610.

Hot dip galvanized steel (HDZ)

"HDZ" letters are added to standard device code when ordering special "Hot drip galvanized steel" version.

Example of code of M6x10 phillips screw in "Hot dip galvanized steel" version: CM010610HDZ.

Stainless steel (INOX)

"INOX" or "INOX316L" letters, depending on a type of stainless steel, are added to standard device code when ordering special "Stainless steel" version.

Example of code of M6x10 phillips screw in "Stainless steel" version and made of AISI 304 (A2) type stainless steel: CM010610INOX.

Example of code of M6x10 semicylindrical head screw in "Stainless steel" version and made of AISI 316L (A4) type stainless steel: CM090610INOX316L.

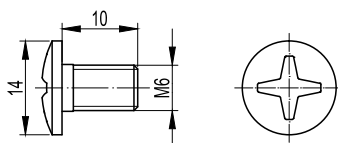
Zinc lamellar coating (ZL)

"ZL" letters are added to standard device code when ordering special "Zinc lamellar coating" version.

Example of code of M8x2000 cramp in "Zinc lamellar coating" version: CM200802ZL.

Metric fasteners

Square neck bolt M6x10

**Purpose:**

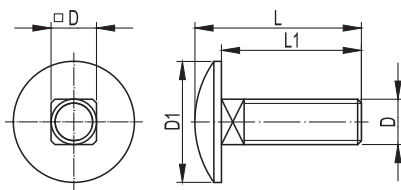
- connection of sheet or ladder trays, fixing of sheet and ladder trays to the mounting accessories.

Characteristics:

- 4,8 strength class for the version 1.

Description	Pcs./pack.	Weight of pack, kg	Code, ver. 1	Code, ver. 2	Code, ver. 3
M6x10	200	0.90	CM010610	CM010610HDZ	CM010610INOX

Mushroom head square neck bolt M6x16

**Purpose:**

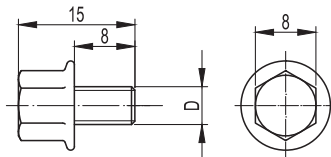
- connection of sheet or ladder trays, fixing of sheet and ladder trays to the mounting accessories.

Characteristics:

- 4,8 strength class for the version 1.

Description DxL1	L, mm	D1, mm	Pcs./pack.	Weight of pack, kg	Code, ver. 1	Code, ver. 2	Code, ver. 3	Code, ver. 3, AISI 316L
M6x16	19.88	16.55	100	0.60	CM010616	–	CM010616INOX	CM010616INOX316L
M6x20	23.88	16.55	100	0.74	CM010620	CM010620HDZ	–	–
M6x25	28.88	16.55	100	0.80	CM010625	–	–	–
M8x20	24.88	20.65	50	0.80	CM010820	–	–	–
M10x25	30.38	24.65	50	1.40	CM011025	–	–	–

Hexagon flange bolt M5x8 for ensuring electrical contact between covers

**Purpose:**

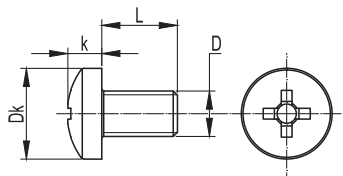
- overlap connection of tray's covers; ensure electric contact.

Characteristics:

- 4,8 strength class for the version 1.

Description Dx8	Pcs./pack.	Weight of pack, kg	Code, ver. 1	Code, ver. 2	Code, ver. 3
M5x8	200	0.88	CM030508	CM030508HDZ	CM030508INOX
M6x8	200	1.24	CM030608	–	CM030608INOX

Screw with semicylindrical head

**Purpose:**

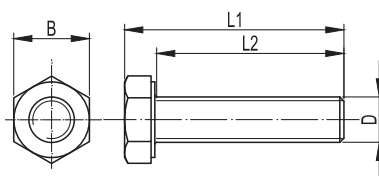
- connection of mounting elements.

Characteristics:

- 4,8 strength class for the version 1.

Description DxL	Dk, mm	k, mm	Pcs./pack.	Weight of pack, kg	Code, ver. 1	Code, ver. 3, AISI 316L
M6x10	12	4.6	200	1.0	CM090610	CM090610INOX316L
M6x20	12	4.6	200	1	–	CM090620INOX316L

Hexagon bolt DIN 933


Purpose:

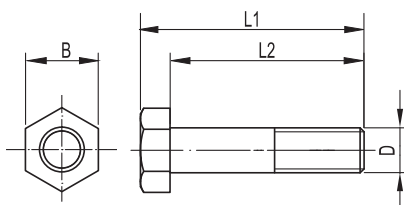
- connection of mounting elements, together with anchors – fixing of mounting constructions to walls, ceiling or floor.

Characteristics:

- 4,8 strength class for the version 1.

Description DxL2	L1, mm	B, mm	Pcs./pack.	Weight of pack, kg	Code, ver. 1	Code, ver. 2	Code, ver. 3	Code, ver. 3, AISI 316L
M4x16	18.8	7	200	0.38	CM080416	–	–	–
M5x20	23.5	8	100	0.40	CM080520	–	–	–
M6x8	12	10	200	0.80	CM020608	–	–	–
M6x12	16	10	200	1.00	CM020612	CM020612HDZ	–	–
M6x20	24	10	200	1.20	CM020620	CM020620HDZ	–	CM020620INOX316L
M6x25	29	10	100	0.70	CM080625	–	–	CM080625INOX316L
M6x45	49	10	100	1.20	CM080645	–	–	CM080645INOX316L
M8x16	21.3	13	100	1.10	CM020816	CM020816HDZ	CM020816INOX	CM020816INOX316L
M8x25	30.3	13	100	1.40	CM020825	CM020825HDZ	–	–
M8x30	35.3	13	80	1.30	CM080830	–	CM080830INOX	CM080830INOX316L
M8x40	45.3	13	70	1.31	CM080840	–	–	–
M8x50	55.3	13	60	1.44	CM080850	–	–	–
M8x80	85.3	13	40	1.2	CM080880	CM080880HDZ	–	–
M10x25	31.4	17	50	1.25	CM021025	CM021025HDZ	–	–
M10x35	41.4	17	40	1.44	CM081035	CM081035HDZ	CM081035INOX	CM081035INOX316L
M10x40	46.4	17	40	1.56	CM081040	–	–	–
M10x50	56.4	17	50	1.85	CM021050	–	–	–
M10x60	66.4	17	30	1.38	CM081060	CM081060HDZ	–	–
M10x70	76.4	17	30	1.38	CM081070	–	–	–
M10x80	86.4	17	30	1.53	CM081080	CM081080HDZ	–	–
M10x90	96.4	17	30	1.68	CM081090	CM081090HDZ	–	–
M10x100	106.4	17	20	1.22	CM081010	–	–	–
M10x110	116.4	17	20	1.32	CM081011	–	–	–
M10x120	126.4	17	20	1.42	CM081012	–	–	–
M12x40	47.5	19	30	1.50	CM081240	CM081240HDZ	CM081240INOX	CM081240INOX316L
M12x80	87.5	19	20	1.40	CM081280	–	–	–
M14x40	48.8	22	20	1.56	CM081440	–	–	–
M16x45	55	24	15	1.50	CM081645	–	–	–
M16x60	70	24	15	1.65	CM081660	–	–	–

Part thread hexagon head bolt DIN 933


Purpose:

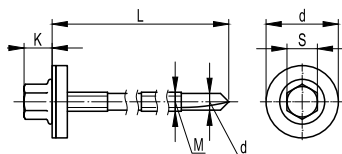
- bolt M8x60 fixes SML, SSC ceiling fasteners and ML, BM brackets to PSL, PSM profiles. Bolt M8x70 fixes SSM ceiling fasteners to PSL, PSM profiles.

Characteristics:

- 4,8 strength class for the version 1.

Description DxL2	L1, mm	B, mm	Pcs./pack.	Weight of pack, kg	Code, ver. 1	Code, ver. 2	Code, ver. 3	Code, ver. 3, AISI 316L
M8x60	65.3	13	50	1.3	CM020860	CM020860HDZ	–	CM020860INOX316L
M8x70	75.3	13	40	1.2	CM020870	CM020870HDZ	CM020870INOX	CM020870INOX316L

Self-cutting screw with washer for fastening of sandwich panels



Purpose:

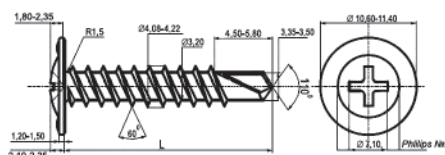
- fastening of lightning diverter strip and bearing structures to sandwich panels.

Characteristics:

- drill no.: 5.

Diameter M, mm	Head diameter D/ head diameter S, mm	Length L, mm	Fixing layers thickness, mm	Rotational speed of the drill, turnover/min	Tensile strength, kN	Shear strength, kN	Pcs./ pack.	Weight of pack, kg	Code, ver. 1
5.5	19/8	105	50-70	1000	11	7.8	50	0.95	CM273100
5.5	19/8	135	70-100	1000	11	7.8	50	1.00	CM273130
5.5	19/8	155	80-120	1000	11	7.8	50	1.00	CM273150
5.5	19/8	185	100-150	1000	11	7.8	100	2.90	CM273180

Self-tapping screw with pressure pad and drill



Purpose:

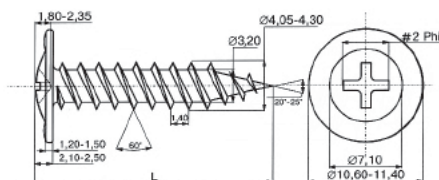
- attachment of different metal structures with thickness of up to 2 mm and sheet materials between each other and to bearing surfaces without preliminary drilling.

Characteristics:

- strength class 4.8 for version 1.

Diameter, mm	Length, mm	Pcs./pack.	Weight of pack, kg	Code, ver. 1
4.2	13	200	0.35	CM274013
4.2	16	200	0.39	CM274016
4.2	19	200	0.42	CM274019
4.2	25	200	0.50	CM274025
4.2	32	200	0.59	CM274032
4.2	41	200	0.72	CM274041
4.2	51	200	0.85	CM274051
4.2	76	100	0.57	CM274076

Sharp self-tapping screw



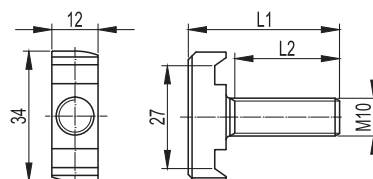
Purpose:

- attachment of different metal structures with thickness of up to 0.9 mm and sheet materials between each other and to bearing surfaces without preliminary drilling. Attachment of billots, rails, fiberboards, siding.

Characteristics:

- strength class 4.8 for version 1.

Diameter, mm	Length, mm	Pcs./pack.	Weight of pack, kg	Code, ver. 1
4.2	13	200	0.28	CM275013
4.2	16	200	0.32	CM275016
4.2	19	200	0.37	CM275019
4.2	25	200	0.45	CM275025
4.2	32	200	0.53	CM275032
4.2	41	200	0.65	CM275041
4.2	51	200	0.84	CM275051
4.2	76	100	0.52	CM275076

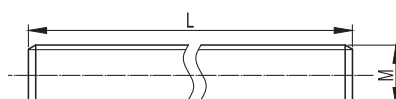
T-bolt

Purpose:

- attachment of heavy-duty brackets to different types of a C-profile, to single and double suspenders. Also allows attaching to traverses and brackets based on the C-profile.

Characteristics:

- strength class 4.8 for version 1.

Description M10xL2	L1, mm	Pcs/pack.	Weight of pack, kg	Code, ver. 1
M10x30	40	50	2.10	CM041030
M10x50	60	50	2.60	CM041050

DIN 975/976 threaded stud

Purpose:

- suspension of cable support routes.

Characteristics:

- strength class 4.8 for version 1.

Description MxL	L, m	Q-ty in a package, m	Weight of pack, kg	Code, ver. 1	Code, ver. 3	Code, ver. 3, AISI 316L	Code, ver. 4
M6x1000	1	100	16.6	CM200601	CM200601INOX	CM200601INOX316L	-
M6x2000	2	100	16.6	CM200602	CM200602INOX	CM200602INOX316L	-
M8x1000	1	50	15.1	CM200801	CM200801INOX	CM200801INOX316L	CM200801ZL
M8x2000	2	50	15.1	CM200802	CM200802INOX	CM200802INOX316L	CM200802ZL
M10x1000	1	25	11.65	CM201001	CM201001INOX	CM201001INOX316L	CM201001ZL
M10x2000	2	50	23.3	CM201002	CM201002INOX	CM201002INOX316L	CM201002ZL
M12x1000	1	20	14.1	CM201201	CM201201INOX	CM201201INOX316L	CM201201ZL
M12x2000	2	20	14.1	CM201202	CM201202INOX	CM201202INOX316L	CM201202ZL
M16x1000	1	1	1.11	CM201601	-	-	-

DIN 975/976 short threaded stud

Purpose:

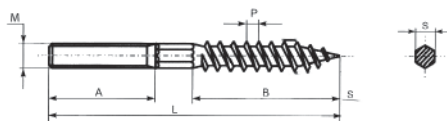
- attachment of tube ties to profiles and brackets, connection of mounting accessories between each other.

Characteristics:

- strength class 4.8 for version 1.

Description MxL	L, mm	Q-ty in a package, pcs	Weight of pack, kg	Code, ver. 1
M8x40	40	100	1.02	CM200804
M8x60	60	100	1.32	CM200806
M8x80	80	100	1.85	CM200808
M8x100	100	100	2.35	CM200810
M10x40	40	50	1.09	CM201004
M10x60	60	50	1.33	CM201006
M10x80	80	50	1.81	CM201008
M10x100	100	50	2.06	CM201010
M12x80	80	50	3.62	CM201208
M12x100	100	50	4.12	CM201210

Threaded rod – screw



Purpose:

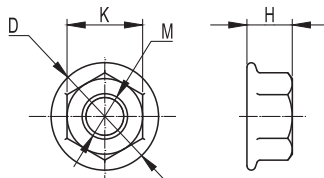
- attachment of tube ties and other mounting accessories to wooden bases, or to brick, concrete, natural stone using a rawplug of a corresponding size.

Characteristics:

- strength class 4.8 for version 1.

Description MxL	L, mm	A, mm	B, mm	P, mm	Q-ty in a package, pcs	Weight of pack, kg	Code, ver. 1
M8x60	60	20	30	3	100	1.32	CM260806
M8x80	80	30	40	3	100	1.85	CM260808
M8x100	100	40	50	3	100	2.35	CM260810
M8x120	120	50	50	3	100	2.99	CM260812
M8x150	150	50	50	3	100	4.03	CM260815
M10x80	80	20	45	3	50	1.81	CM261008
M10x100	100	40	45	3	50	2.06	CM261010
M10x120	120	40	55	3	50	2.33	CM261012
M10x150	150	50	55	3	50	3.07	CM261015

DIN 6923 Hexagon nut with serrate flange



Purpose:

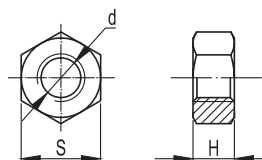
- connection of cable trays between each other and attachment of trays to mounting accessories.

Characteristics:

- strength class 5 for version 1.

Description M	K, mm	D, mm	H, mm	Pcs/pack.	Weight of pack, kg	Code, ver. 1	Code, ver. 2	Code, ver. 3	Code, ver. 3, AISI 316L
M5	8	11.8	5	200	0.36	CM100500	CM100500HDZ	–	–
M6	10	14.2	6	200	0.8	CM100600	CM100600HDZ	CM100600INOX	CM100600INOX316L
M8	13	17.9	8	100	0.8	CM100800	CM100800HDZ	CM100800INOX	CM100800INOX316L
M10	16	21.8	10	100	1.1	CM101000	CM101000HDZ	CM101000INOX	CM101000INOX316L
M12	18	26.0	12	50	0.9	CM101200	CM101200HDZ	CM101200INOX	CM101200INOX316L

DIN 934 hexagon nut



Purpose:

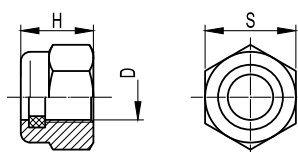
- connection of mounting accessories between each other and attachment of cable trays to mounting accessories.

Characteristics:

- strength class 5 for version 1.

Description d	S, mm	Height H, mm	Pcs/pack.	Weight of pack, kg	Code, ver. 1	Code, ver. 2	Code, ver. 3	Code, ver. 3, AISI 316L
M6	10	5.2	200	0.5	CM110600	CM110600HDZ	CM110600INOX	CM110600INOX316L
M8	13	6.8	100	0.5	CM110800	CM110800HDZ	CM110800INOX	CM110800INOX316L
M10	16	8.4	100	0.6	CM111000	CM111000HDZ	CM111000INOX	CM111000INOX316L
M12	18	10.8	50	0.8	CM111200	CM111200HDZ	CM111200INOX	CM111200INOX316L
M16	24	12.3	30	1	CM111600	–	–	–

DIN 985 self-locking nut



Purpose:

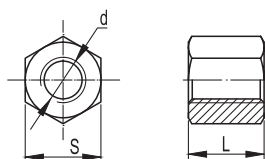
- connection of mounting accessories between each other and attachment of cable trays to the mounting accessories.

Characteristics:

- strength class 5 for version 1.

Description d	S, mm	Height H, mm	Pcs/pack.	Weight of pack, kg	Code, ver. 1
M6	10	6	200	0.4	CM250600
M8	13	8	100	0.5	CM250800
M10	16	10	100	1.1	CM251000
M12	18	12	50	0.8	CM251200

DIN 6334 connecting nut


Purpose:

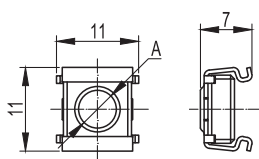
- connection of threaded studs between each other.

Characteristics:

- strength class 5 for version 1.

Description dxL	S, mm	Pcs/pack.	Weight of pack, kg	Code, ver. 1	Code, ver. 3
M6x25	10	150	1.50	CM210625	CM210625INOX
M8x25	13	100	1.75	CM210825	CM210825INOX
M10x30	17	50	1.90	CM211030	CM211030INOX
M12x40	19	50	3.00	CM211240	CM211240INOX

Cage nut


Purpose:

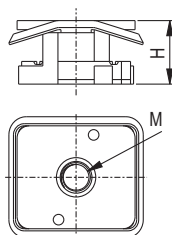
- attachment of mounting accessories in electrotechnical enclosures;
- installed in standard perforation.

Characteristics:

- strength class 5 for version 1.

Description A	Pcs/pack.	Weight of pack, kg	Code, ver. 1
M6	50	0.3	CM230600
M8	50	0.6	CM230800

Mounting nut


Purpose:

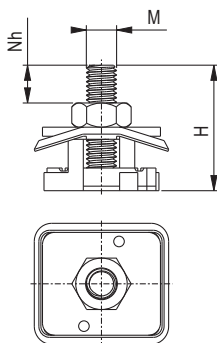
- installation of tube ties and other mounting accessories in BPL-21, BPM-21, BPL-41, BPM-41, BPD-41 C-profile and BBP-41 bracket with a stud.

Characteristics:

- strength class 5 for version 1.

Description M	H, mm	Pcs/pack.	Weight of pack, kg	Code, ver. 1
M8	21	20	5.4	CM340800
M10	21	20	6.3	CM341000
M12	21	20	6.0	CM341200

Mounting nut with stud


Purpose:

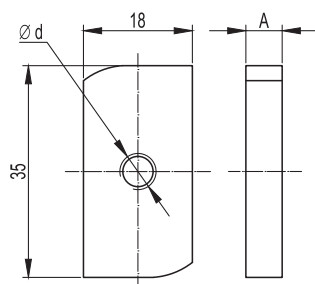
- installation of tube ties and other mounting accessories in BPL-21, BPM-21, BPL-41, BPM-41, BPD-41 C-profile and BBP-41 bracket.

Characteristics:

- strength class 5 for version 1.

Description M	H, mm	Nh, mm	Pcs/pack.	Weight of pack, kg	Code, ver. 1
M8	50	13	15	7.5	CM350840
M8	70	33	10	8.1	CM350860
M10	50	11	15	9.3	CM351040
M10	70	31	10	10.2	CM351060

Profile nut


Purpose:

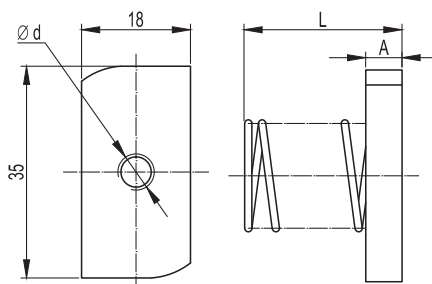
- fastening of brackets to C-shaped profile, suspension and traverses on the base of C-shaped profile of 21x41 and 41x41 dimension type.

Characteristics:

- 5 strength class for the version 1.

Description d	A, mm	Pcs/pack.	Weight of pack, kg	Code, ver. 1	Code, ver. 2	Code, ver. 3
M6	5.5	100	2.40	CM140600	CM140600HDZ	-
M8	7.5	100	3.40	CM140800	-	-
M10	8.8	100	3.70	CM141000	CM141000HDZ	CM141000INOX
M12	11.5	100	4.40	CM141200	-	-

Spring nut


Purpose:

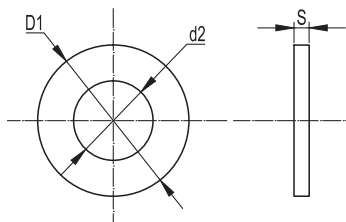
- fastening of brackets to C-shaped profile, suspension and traverses on the base of C-shaped profile. Nut with standard spring is compatible with profile of 21x41 dimension type, nut with extended spring – with 41x41 profile.

Characteristics:

- 5 strength class for the version 1.

Spring	Description d	A, mm	L, mm	Pcs/pack.	Weight of pack, kg	Code, ver. 1
Standard	M6	5.5	25.5	50	1.5	CM150600
	M8	7.5	27.5	50	1.8	CM150800
	M10	8.8	28.8	50	2.0	CM151000
	M12	11.5	31.5	50	2.5	CM151200
Extended	M6	5.5	45.5	50	1.5	CM160600
	M8	7.5	47.5	50	1.8	CM160800
	M10	8.8	48.8	50	2.0	CM161000
	M12	11.5	51.5	50	2.5	CM161200

Plain washer DIN 125

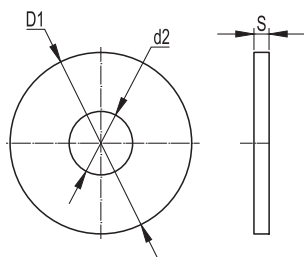

Purpose:

- connection of mounting elements.

Distinctive features:

- narrow edges.

Description	d2, mm	D1, mm	S, mm	Pcs/pack.	Weight of pack, kg	Code, ver. 1	Code, ver. 2
M4	4.5	9	0.8	500	0.16	CM240400	-
M5	5.5	10	1.0	500	0.22	CM240500	-
M6	6.6	12	1.6	200	0.2	CM240600	CM240600HDZ
M8	9.0	16	1.6	100	0.2	CM240800	CM240800HDZ
M10	11.0	20	2.0	100	0.4	CM241000	CM241000HDZ
M12	13.5	24	2.5	50	0.31	CM241200	CM241200HDZ
M14	15.5	28	2.5	50	0.43	CM241400	-
M16	17.5	30	3.0	40	0.46	CM241600	-

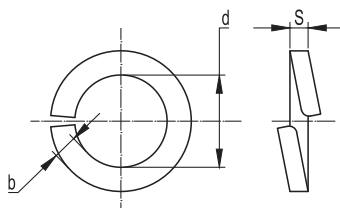
Plain washer DIN 9021

Purpose:

- connection of mounting elements.

Distinctive features:

- wide edges.

Description	d2, mm	D1, mm	S, mm	Pcs/ pack.	Weight of pack, kg	Code, ver. 1	Code, ver. 2	Code, ver. 3	Code, ver. 3, AISI 316L
M4	4.5	12	1.0	500	0.22	CM120400	–	–	–
M5	5.5	15	1.2	500	0.26	CM120500	–	–	–
M6	6.6	18	1.6	200	0.60	CM120600	CM120600HDZ	CM120600INOX	CM120600INOX316L
M8	9.0	24	2.0	100	0.36	CM120800	–	CM120800INOX	CM120800INOX316L
M10	11.0	30	2.5	100	0.38	CM121000	–	CM121000INOX	CM121000INOX316L
M12	13.5	37	3.0	50	0.41	CM121200	–	CM121200INOX	CM121200INOX316L
M14	15.5	44	3.0	50	0.60	CM121400	–	–	–
M16	17.5	50	3.0	40	0.68	CM121600	–	–	–

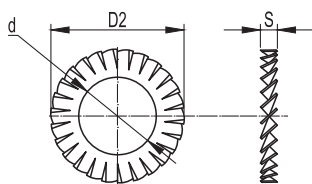
Split washer DIN 127

Purpose:

- connection of mounting elements.

Distinctive features:

- prevents unscrewing rotation of the fastening.

Description	d, mm	b, mm	S, mm	Pcs/ pack.	Package weight, kg	Code, ver. 1	Code, ver. 2	Code, ver. 3	Code, ver. 3, AISI 316L
M6	6.1	1.6	1.2	400	0.4	CM130600	CM130600HDZ	CM130600INOX	CM130600INOX316L
M8	8.2	2.0	1.6	200	0.4	CM130800	CM130800HDZ	CM130800INOX	CM130800INOX316L
M10	10.2	2.5	2.0	100	0.4	CM131000	CM131000HDZ	CM131000INOX	CM131000INOX316L
M12	12.2	3.5	2.5	50	0.4	CM131200	CM131200HDZ	CM131200INOX	CM131200INOX316L

Toothed lock washer DIN 6798A

Purpose:

- connection of DKC ladder trays.

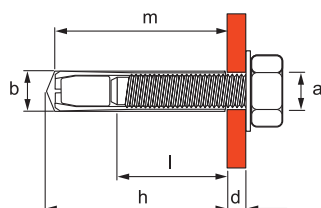
Distinctive features:

- prevents unscrewing rotation of the fastening.

Description	d, mm	D2, mm	S, mm	Pcs/pack.	Package weight, kg	Code, ver. 1	Code, ver. 2	Code, ver. 3	Code, ver. 3, AISI 316L
M6	6.4	11.0	1.4	200	0.10	CM220600	CM220600HDZ	CM220600INOX	CM220600INOX316L
M8	8.4	15.0	1.8	200	0.15	CM220800	–	CM220800INOX	CM220800INOX316L
M10	10.5	18.0	1.8	100	0.13	CM221000	–	CM221000INOX	CM221000INOX316L
M12	12.5	20.0	1.8	100	0.16	CM221200	CM221200HDZ	CM221200INOX	CM221200INOX316L

Anchors, wall plugs

Drop in metal anchor



Purpose:

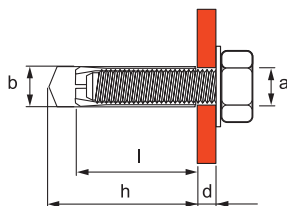
- fastening of heavy constructions to concrete, natural stone and solid brick.

Distinctive features:

- economic and quick mounting;
- shallow depth of the drilled hole;
- the fastener can be loosened at any time;
- for ease installation a special tool for drop in metal anchors (code: CMT00002) is used.

Thread diameter	Anchor length, mm	Drill diameter, mm	Inner thread depth, mm	Drilling depth, mm	Wrench torque, Hm	Min distance between anchors, mm	Min distance from edge, mm	Rupture load for concrete C 30/37, kN*	Pcs/ pack.	Weight of pack, kg	Code, ver. 1	Code, ver. 2
a	m	b	l	h								
M6	25	8	11.5	27	4	48	48	5.63	200	1.2	CM400625	–
M8	30	10	13.5	32	8	64	64	7.73	100	1.2	CM400830	CM400830HDZ
M10	40	12	16	42	15	80	80	11.79	70	1.12	CM401040	CM401040HDZ
M12	50	15	21	53	35	96	96	18.12	30	1.5	CM401250	–
M16	65	20	26	68	60	128	128	26.87	15	1.65	CM401665	–

Brass metal anchor



Purpose:

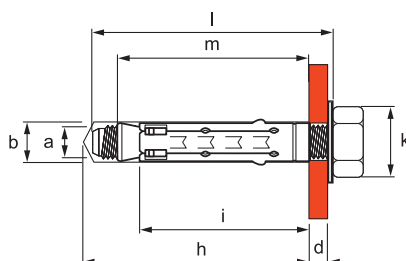
- fastening of light constructions to concrete, natural stone and solid brick.

Distinctive features:

- easy to drive;
- suitable for compressive zone of concrete;
- high bearing capacity both in compression and tension zone.

Thread diameter	Anchor length, mm	Drill diameter, mm	Drilling depth, mm	Min distance between anchors, mm	Min distance from edge, mm	Rupture load for concrete C 20/25, kN	Pcs/ pack.	Weight of pack, kg	Code
a	l	b	h						
M4	16	5	20	32	32	0.5	200	0.5	CM410416
M5	21	6.5	25	40	40	0.8	200	0.64	CM410421
M6	24	8	28	48	48	1.3	200	0.95	CM410625
M8	31	10	35	64	64	2	100	0.72	CM410831
M10	34	12	39	80	80	2.5	90	1.3	CM411034
M12	41	15	46	96	96	3.1	50	1.3	CM411241
M14	43	20	50	112	112	4.2	25	1.6	CM411443
M16	45	22	52	128	128	5	20	1.5	CM411645

Sleeve metal anchor



Purpose:

- fastening of heavy constructions to concrete, natural stone and solid brick.

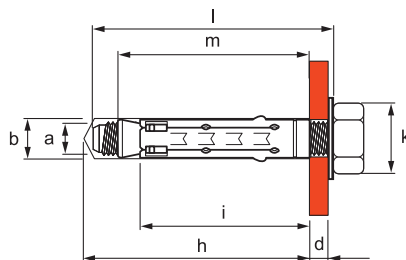
Distinctive features:

- multipurpose;
- possibility of repeated demounting;
- plastic end cap prevents from drilling dust.

Thread diameter	Anchor length, mm	Drill diameter, mm	Sleeve length, mm	Drilling depth, mm	Wrench torque, Hm	Min distance between anchors, mm	Min distance from edge, mm	Rupture load for concrete C 20/25, kN		Pcs/ pack.	Weight of pack, kg	Code, ver. 1
a	m	b	i	h				tear*	cut			
M6	48	10	40	55	10	48	48	7.91	12.80	50	1	CM420645
M8	54	12	45	60	25	64	64	8.26	18.40	50	1.05	CM420850
M10	64	15	52	67	45	80	80	16.47	21.20	30	1.54	CM421060
M12	80	18	65	80	75	96	96	21.08	39.20	20	2.5	CM421274

* Value for static loadings

Sleeve metal anchor with bolt



Purpose:

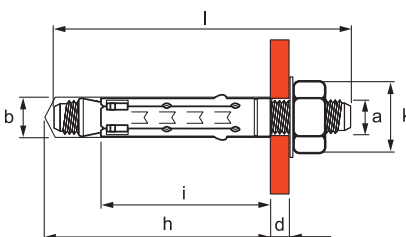
- fastening of heavy constructions to concrete, natural stone and solid brick.

Distinctive features:

- in set with bolt;
- multipurpose;
- possibility of repeated demounting;
- plastic end cap prevents from drilling dust.

Thread diameter	Anchor length, mm	Drill diameter, mm	Sleeve length, mm	Drilling depth, mm	Max thick. of fastened material, mm	Wrench torque, Hm	Min distance between anchors, mm	Min distance from edge, mm	Rupture load for concrete C 20/25, kN		Pcs/pack.	Weight of pack, kg	Code, ver. 1
									tear*	cut			
a	l	b	i	h	d								
M6	55	10	40	55	5	10	48	48	7.91	12.80	40	1	CM430645
M8	60	12	45	60	10	25	64	64	8.26	18.40	25	1.05	CM430850
M10	80	15	52	67	20	45	80	80	16.47	21.20	20	1.54	CM431060
M12	90	18	65	80	25	75	96	96	21.08	39.20	20	2.5	CM431274

Sleeve metal anchor with stud



Purpose:

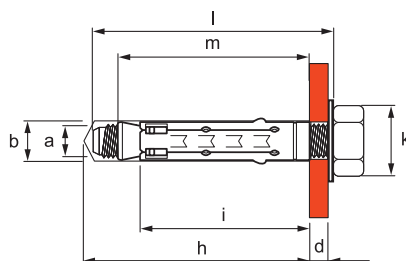
- fastening of heavy constructions to concrete, natural stone and solid brick.

Distinctive features:

- in set with pin and nut;
- multipurpose;
- possibility of repeated demounting;
- plastic end cap prevents from drilling dust.

Thread diameter	Anchor length, mm	Drill diameter, mm	Sleeve length, mm	Drilling depth, mm	Max thick. of fastened material, mm	Wrench torque, Hm	Min distance between anchors, mm	Min. distance from edge, mm	Rupture load for concrete C 20/25, kN		Pcs/pack.	Weight of pack, kg	Code, ver. 1
									tear*	cut			
a	l	b	i	h	d								
M6	60	10	40	55	5	6	48	48	7.91	12.80	40	1	CM440645
M8	70	12	45	60	10	15	64	64	8.26	18.40	25	1.15	CM440850
M10	90	15	52	67	20	30	80	80	16.48	21.20	20	1.56	CM441060
M12	110	18	65	80	25	50	96	96	21.08	39.20	20	2.6	CM441274

Heavy sleeve metal anchor



Purpose:

- fastening of heavy constructions to concrete, natural stone and solid brick.

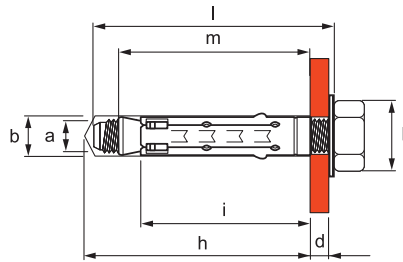
Distinctive features:

- collapsing legs prevent unscrewing at mounting;
- possibility of repeated demounting;
- plastic end cap prevents from drilling dust.

Thread diameter	Anchor length, mm	Drill diameter, mm	Sleeve length, mm	Drilling depth, mm	Min distance between anchors, mm	Min distance from edge, mm	Rupture load for concrete C 20/25, kN		Pcs/pack.	Weight of pack, kg	Code, ver. 1
							tear*	cut			
a	m	b	i	h							
M6	40	12	30	45	48	48	9.60	12.80	50	0.75	CM450645
M8	47	14	35	50	64	64	9.85	18.40	50	1.2	CM450850
M10	55	16	43	58	80	80	14.06	21.20	30	1.08	CM451065
M12	70	20	55	70	96	96	28.73	39.20	20	1.3	CM451275

* Value for static loadings

Heavy sleeve metal anchor with bolt



Purpose:

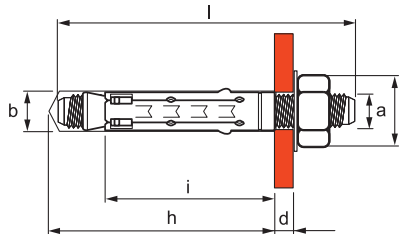
- fastening of heavy constructions to concrete, natural stone and solid brick.

Distinctive features:

- in set with bolt;
- collapsing legs prevent unscrewing at mounting;
- possibility of repeated demounting;
- plastic end cap prevents from drilling dust.

Thread diameter	Anchor length, mm	Drill diameter, mm	Sleeve length, mm	Drilling depth, mm	Max thick. of fastened material, mm	Wrench torque, Hm	Min distance between anchors, mm	Min distance from edge, mm	Rupture load for concrete C 20/25, kN		Pcs/ pack.	Weight of pack, kg	Code, ver. 1
									tear*	cut			
M6	55	12	30	45	5	10	48	48	9.60	12.80	40	1.2	CM460645
M8	60	14	35	50	10	25	64	64	9.85	18.40	25	1.35	CM460850
M10	80	16	43	58	20	45	80	80	14.06	21.20	20	1.8	CM461065
M12	90	20	55	70	25	75	96	96	28.73	39.20	20	3.2	CM461275

Heavy sleeve metal anchor with stud



Purpose:

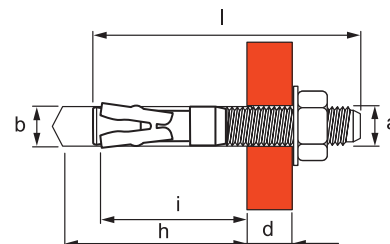
- fastening of heavy constructions to concrete, natural stone and solid brick.

Distinctive features:

- in set with washer and nut;
- collapsing legs prevent unscrewing at mounting;
- possibility of repeated demounting;
- plastic end cap prevents from drilling dust.

Thread diameter	Anchor length, mm	Drill diameter, mm	Sleeve length, mm	Drilling depth, mm	Max thickness of fastened material, mm	Wrench torque, Hm	Min distance between anchors, mm	Min distance from edge, mm	Rupture load for concrete C 20/25, kN		Pcs/ pack.	Weight of pack, kg	Code, ver. 1
									tear*	cut			
M6	60	12	30	45	10	5	48	48	9.60	12.80	40	1.2	CM470645
M8	70	14	35	50	15	15	64	64	9.85	18.40	25	1.4	CM470850
M10	90	16	43	58	15	30	80	80	14.06	21.20	20	2	CM471065
M12	100	20	55	70	20	50	96	96	28.73	39.20	20	3.2	CM471275

Stud metal anchor



Purpose:

- fastening of heavy constructions to concrete, natural stone and solid brick.

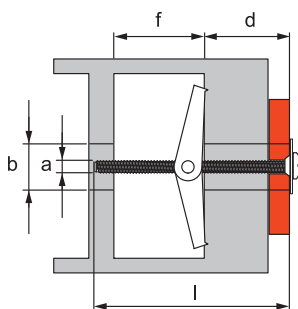
Distinctive features:

- in set with washer and nut;
- doesn't require accuracy of drilling depth and hole cleaning;
- quick mounting.

Thread diameter	Anchor length, mm	Drill diameter, mm	Drilling depth, mm	Max thickness of fastened material, mm	Wrench torque, Hm	Min distance between anchors, mm	Min distance from edge, mm	Rupture load for concrete C 20/25, kN		Pcs/ package	Weight of pack, kg	Code, ver. 1
								tear*	cut			
M6	45	6	41	10	10	48	48	4.91	5.60	100	1.11	CM480645
M6	55	6	41	20	10	48	48	5.28	5.60	100	1.25	CM480655
M8	50	8	48	10	20	64	64	8.82	11.20	60	1.38	CM480850
M8	53	8	48	10	20	64	64	9.60	11.20	60	1.38	CM480853
M8	65	8	48	25	20	64	64	9.63	11.20	50	1.3	CM480865
M10	60	10	48	10	45	80	80	8.98	18.40	35	1.19	CM481060
M10	75	10	60	25	45	80	80	10.04	18.40	30	1.2	CM481075
M10	100	10	72	40	45	80	80	8.98	18.40	25	1.63	CM481001
M10	110	10	82	42	45	80	80	10.04	18.40	50	2	CM481011
M12	75	12	72	10	65	96	96	13.56	26.60	20	1.2	CM481275
M12	100	12	72	40	65	96	96	16.99	26.60	30	2.7	CM481201
M16	125	16	91	45	120	128	128	19.24	43.20	15	3	CM481612

* Value for static loadings

Spring toggle anchor with stud



Purpose:

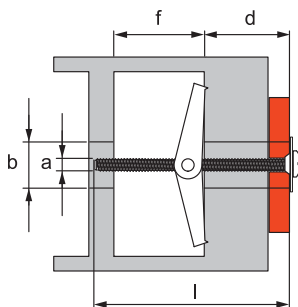
- fastening to plasterboard, chipboard and similar thin wall constructions.

Distinctive features:

- doesn't require accuracy of drilling depth and hole cleaning;
- quick mounting.

Thread diameter	Length, mm	Drill diameter, mm	Min depth of hollows, mm	Max thickness of fastening, mm	Tear strength, kN	Pcs/pack.	Weight of pack, kg	Code, ver. 1
a	l	b	f	d				
M3	95	10	25	60	0.4	20	0.24	CM500310
M3	95	12	28	57	0.4	20	0.28	CM500312
M4	95	14	32	53	0.4	20	0.42	CM500414

Spring toggle anchor with ring



Purpose:

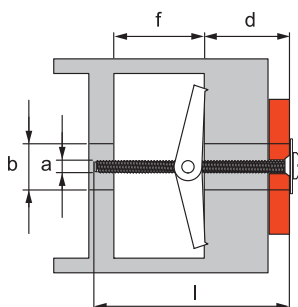
- fastening to plasterboard, chipboard and similar thin wall constructions.

Distinctive features:

- doesn't require accuracy of drilling depth and hole cleaning;
- quick mounting.

Thread diameter	Length, mm	Drill diameter, mm	Min depth of hollows, mm	Max thickness of fastening, mm	Tear strength, kN	Pcs/pack.	Weight of pack, kg	Code, ver. 1
a	l	b	f	d				
M3	65	10	25	35	0.4	20	0.14	CM510310
M3	65	12	28	33	0.4	20	0.28	CM510312
M4	65	14	32	31	0.5	20	0.44	CM510414

Spring toggle anchor with hook



Purpose:

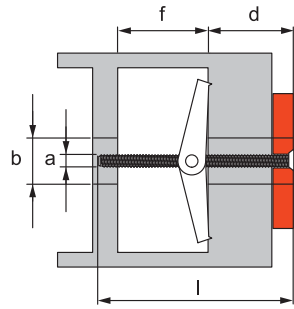
- fastening to plasterboard, chipboard and similar thin wall constructions.

Distinctive features:

- doesn't require accuracy of drilling depth and hole cleaning;
- quick mounting.

Thread diameter	Length, mm	Drill diameter, mm	Min depth of hollows, mm	Max thickness of fastening, mm	Tear strength, kN	Pcs/pack.	Weight of pack, kg	Code, ver. 1
a	l	b	f	d				
M3	65	12	25	35	0.4	20	0.40	CM520310
M4	65	14	32	31	0.5	20	0.50	CM520414

Spring toggle anchor with screw



Purpose:

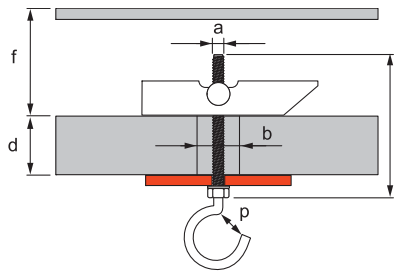
- fastening to plasterboard, chipboard and similar thin wall constructions.

Distinctive features:

- doesn't require accuracy of drilling depth and hole cleaning;
- quick mounting.

Thread diameter	Length, mm	Drill diameter, mm	Min depth of hollows, mm	Max thickness of fastening, mm	Tear strength, kN	Pcs/pack.	Weight of pack, kg	Code, ver. 1
a	l	b	f	d				
M3	75	12	25	45	0.4	25	0.40	CM530310
M4	75	14	32	40	0.5	25	0.50	CM530414

Toggle anchor with stud



Purpose:

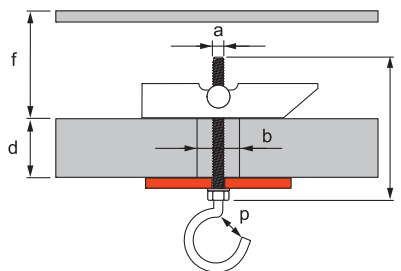
- fastening to plasterboard, chipboard and similar thin wall constructions.

Distinctive features:

- doesn't require accuracy of drilling depth and hole cleaning;
- quick mounting.

Thread diameter	Length, mm	Drill diameter, mm	Min depth of hollows, mm	Max thickness of fastening, mm	Tear strength, kN	Pcs/pack.	Weight of pack, kg	Code, ver. 1
a	l	b	f	d				
M6	100	16	69	31	0.72	25	1.10	CM540616

Toggle anchor with hook



Purpose:

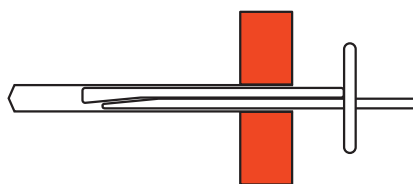
- fastening to plasterboard, chipboard and similar thin wall constructions.

Distinctive features:

- doesn't require accuracy of drilling depth and hole cleaning;
- quick mounting.

Thread diameter	Length, mm	Drill diameter, mm	Min depth of hollows, mm	Max thickness of fastening, mm	Tear strength, kN	Pcs/pack.	Weight of pack, kg	Code, ver. 1
a	l	b	f	d				
M6	100	16	69	31	0.72	25	1.10	CM550616

Ceiling wedge anchor



Purpose:

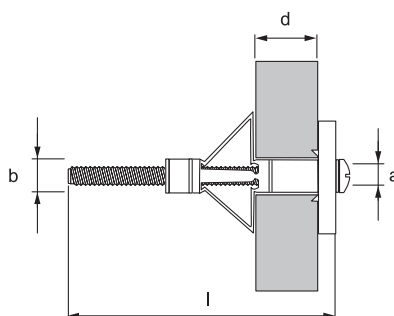
- fastening of light constructions to concrete, natural stone and solid brick.

Distinctive features:

- quick mounting;
- non-removable mounting.

Size	Drill diameter, mm	Drilling depth, mm	Anchoring depth, mm	Min distance between anchors, mm	Min distance from edge, mm	Rupture load for concrete C 20/25, kN		Pcs/pack.	Weight of pack, kg	Code, ver. 1
						tear	cut			
6x35	6	45	32	200	100	0.5	0.5	100	1.05	CM490635
6x65	6	75	32	200	100	0.5	0.5	70	1.05	CM490665

Cavity metal anchor with screw



Purpose:

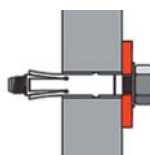
- fastening to plasterboard, chipboard and similar thin wall constructions.

Distinctive features:

- high holding strength due to a secure contact of supporting elements with rear panel;
- ends of anchor prevent it from falling back through the hole;
- anti-rotation barbs incorporated in the flange prevent the anchor from spinning.

Description	Screw length, mm	Drill diameter, mm	Thickness of wall to fix wall plug, mm	Tear strength, kN plasterboard, 13 mm	Pcs/pack.	Weight of pack, kg	Code, ver. 1
a	l	b	d				
M4x20	28	7	0-4	0.1	200	1.00	CM560420
M4x32	41	7	3-9	0.1	100	0.65	CM560432
M4x38	47	7	8-15	0.1	100	0.73	CM560438
M4x45	54	7	16-21	0.1	90	0.81	CM560445
M4x59	67	7	24-34	0.1	75	0.90	CM560459
M5x52	60	9	9-21	0.2	50	1.10	CM560552
M5x65	74	9	24-32	0.2	40	0.80	CM560565
M6x52	60	10	9-21	0.2	40	0.90	CM560652
M6x65	74	10	24-32	0.2	30	0.90	CM560665

Metal anchor for hollow plates



Purpose:

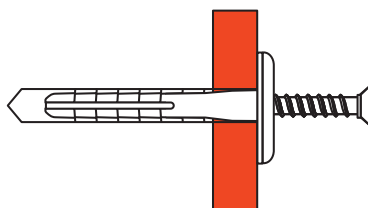
- fastening of light constructions to hollow reinforced concrete slabs of overhead constructions.

Distinctive features:

- doesn't require accuracy of drilling depth and hole cleaning;
- quick mounting.

Thread diameter	Anchor length, mm	Drill diameter, mm	Drilling depth, mm	Tear strength for concrete C45/55, kN	Pcs/pack.	Code, ver. 1
M8	30	10	55	0.7	100	CM570830

Screw with C-type anchor



Purpose:

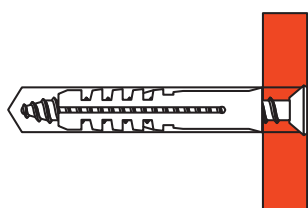
- fastening of light constructions to concrete, natural stone and solid brick.

Distinctive features:

- quick mounting;
- cap hides screw head.

Description	Anchor's length, mm	Drill diameter, mm	Anchor type	Pcs/pack.	Weight of pack, kg	Code, ver. 1
4x35	35	6	C6	100	0.18	CM06520

Screw with V-type anchor



Purpose:

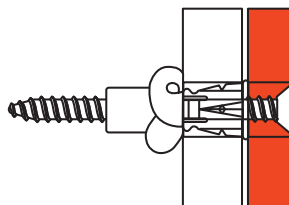
- fastening of light constructions to concrete, natural stone and solid brick.

Distinctive features:

- quick mounting;
- doesn't require accuracy of drilling depth and hole cleaning.

Description	Anchor's length, mm	Drill diameter, mm	Anchor type	Pcs/pack.	Weight of pack, kg	Code, ver. 1
4x30	25	5	V5	100	0.15	CM06521
4.5x40	30	6	V6	100	0.20	CM06522
5x50	40	8	V8	100	0.30	CM06523

Screw with F-type anchor



Purpose:

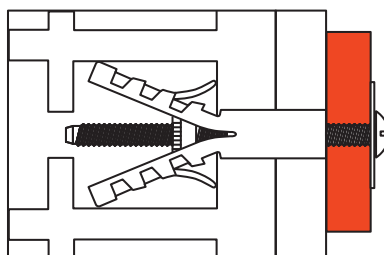
- fastening of light constructions to concrete, natural stone and solid brick as well as to thick wall panels and plates.

Distinctive features:

- quick mounting;
- doesn't require accuracy of drilling depth and hole cleaning.

Description	Anchor's length, mm	Drill diameter, mm	Anchor type	Pcs/pack.	Weight of pack, kg	Code, ver. 1
3.5x50	35	6	F6	100	0.30	CM06541
4.5x50	50	8	F8	100	0.30	CM06542

Screw with M-type anchor



Purpose:

- fastening of light constructions to concrete, natural stone and solid brick as well as to thick wall panels and plates.

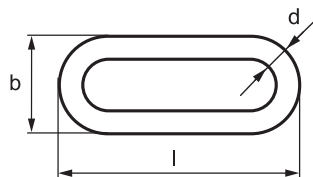
Distinctive features:

- quick mounting;
- doesn't require accuracy of drilling depth and hole cleaning.

Description	Anchor's length, mm	Drill diameter, mm	Anchor type	Pcs/pack.	Weight of pack, kg	Code, ver. 1
M4x45	40	8	M8	100	0.40	06551
M4x50	50	8	M8	100	0.55	06552

Rigging

Chain


Purpose:

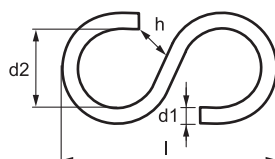
- suspension of light cable lines.

Distinctive features:

- quick mounting;
- suspension at high altitude is possible.

Link thickness d, mm	Link length l, mm	Link width b, mm	Max. load, kg	Pcs/pack.	Weight of pack, kg	Code, ver. 1
2.5	29	10	55	30	3.21	CM610010

S-hook


Purpose:

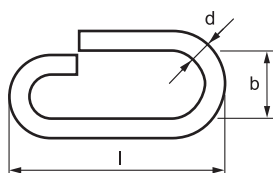
- chain connection.

Distinctive features:

- quick mounting;
- possibility of repeated demounting.

Thickness d1, mm	Length l, mm	Width d2, mm	Gap h, mm	Pcs/pack.	Weight of pack, kg	Code, ver. 1
5	43	13	6	100	1.5	CM610020

Chain connector


Purpose:

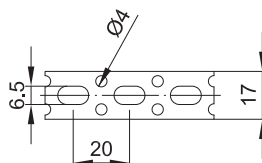
- chain connection, fastening to perforated trays.

Distinctive features:

- quick mounting;
- possibility of repeated demounting.

Thickness d, mm	Length l, mm	Width b, mm	Pcs/pack.	Weight of pack, kg	Code, ver. 1
4	30	9	100	0.74	CM610030

Steel roll


Purpose:

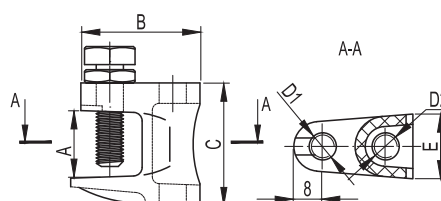
- fastening of mounting structures and cable lines to ceiling and wall.

Distinctive features:

- quick mounting;
- suspension at high altitude is possible.

Width b, mm	Mounting size d1, mm	Mounting size d2, mm	Thickness, mm	Pitch of holes, mm	Max. load, kg	Pcs/pack., m	Weight of pack, kg	Code, ver. 1
17	6	4	0.6	20	50	25	1.4	CM610040
25	9	4	0.8	33	75	25	3	CM610050

Clamp


Purpose:

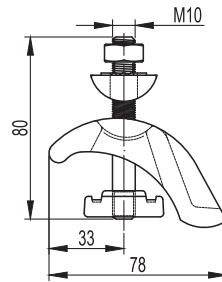
- vertical fastening of pins to channel when drilling and welding is not possible.

Distinctive features:

- quick mounting;
- possibility of repeated demounting.

Description D2 mm	Gap A, mm	Thread D1, mm	Length B, mm	Width E, mm	Height C, mm	Max. load, kg	Pcs/pack.	Weight of pack, kg	Code, ver. 1	Code, ver. 2
M6	18	M8	35	19	36	120	14	1.26	CM300600	–
M8	18	M8	35	19	36	180	14	1.61	CM300800	CM300800HDZ
M10	20	M10	40	22	42	250	12	1.92	CM301000	–
M12	26	M10	48.5	24	54	350	6	1.50	CM301200	–

Locking clamp



Purpose:

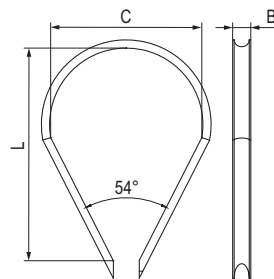
- fastening of mounting channel to double channel (double tee beam) without drilling and welding works.

Distinctive features:

- quick mounting;
- possibility of repeated demounting.

Description	Maximum gap, mm	Maximum load, kg;	Pcs/pack.	Weight of pack, kg	Code, ver. 1
M10	30	1500	4	1.52	CM301001

DIN 6899 rope thimble



Purpose:

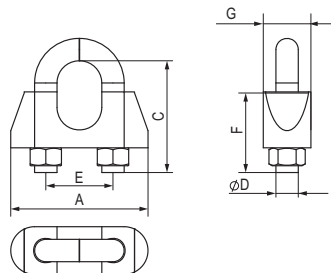
- used when creating hinges of steel cable lanyard and ropes, as well as for protection against chafing in sections of bending of the hinges. Used in case of rigging works, mounting works, attachment of hooks and mounting blocks to a rope.

Distinctive features:

- ease and high installation speed;
- possibility of repetitive removal of a structure.

Rope thickness, mm	L, mm	Q-ty in a package, pcs	Weight of pack, kg	Code, ver. 1
2 or 3	18	200	3.16	CM621003
4	21	200	10.40	CM621004
5	25	100	8.20	CM621005
6	30	100	11.86	CM621006

DIN 741 rope clamp



Purpose:

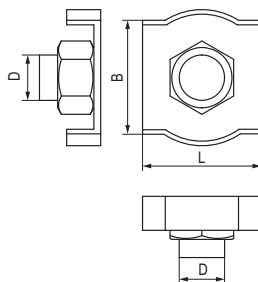
- used for creation of hinges at ends of ropes and for connection of ropes between each other.

Distinctive features:

- ease and high installation speed;
- possibility of repetitive removal of a structure.

Rope thickness, mm	C, mm	E, mm	Q-ty in a package, pcs	Weight of pack, kg	Code, ver. 1
3	16.6	9	100	1.40	CM624003
5	19.55	11	100	2.10	CM624005
6	23.65	13	50	1.10	CM624006

Simplex rope clamp


Purpose:

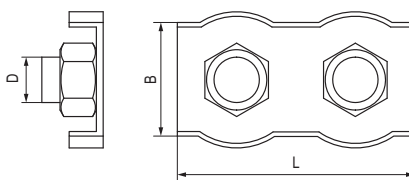
- allows removing steel wire ropes, making hinges and padeyes at ends. Is used when performing general construction works, mounting and rigging works.

Distinctive features:

- ease and high installation speed;
- possibility of repetitive removal of a structure.

Rope thickness, mm	L, mm	B, mm	Pcs/pack.	Weight of pack, kg	Code, ver. 1
2	15	11.5	200	1.00	CM622002
3	18	14.5	200	1.40	CM622003
4	20	16.5	100	1.30	CM622004
5	24	20.0	60	1.00	CM622005
6	29	24.5	40	1.00	CM622006

Duplex rope clamp


Purpose:

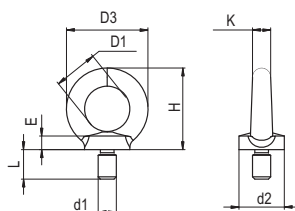
- allows performing removal and connection of ropes, making hinges and padeyes at ends. Duplex double clamp is more enforced than Simplex clamp for rope splicing. Is used when performing general construction works, mounting and rigging works.

Distinctive features:

- ease and high installation speed;
- possibility of repetitive removal of a structure.

Rope thickness, mm	L, mm	B, mm	Pcs/pack.	Weight of pack, kg	Code, ver. 1
2	38	7.5	100	0.90	CM623002
3	38	10	100	1.40	CM623003
4	47	12	50	1.25	CM623004
5	51	14	30	1.00	CM623005
6	63	17	20	1.00	CM623006

DIN 580 eye bolt


Purpose:

- used for attachment of lanyards and ropes to cargoes, and for suspension and attachment of structures.

Distinctive features:

- high installation speed.

Thread diameter	H, mm	d1, mm	Operating load, kg;	Pcs/pack.	Weight of pack, kg	Code, ver. 1
M6	31	16	80	50	2.90	CM610061
M8	36	20	140	20	1.18	CM610062
M10	45	25	230	10	2.40	CM610063
M12	53	30	340	10	1.82	CM610064
M16	62	35	700	10	3.00	CM610065

DIN 3055 steel wire rope



Purpose:

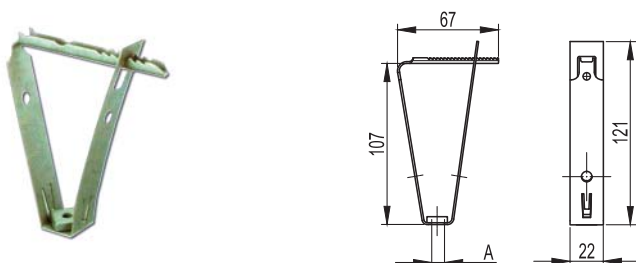
- used for suspension of metal structures and mounting accessories.

Distinctive features:

- ease and high installation speed.

Rope thickness, mm	Operating load, kg;	Q-ty in a package, m	Weight of pack, kg	Code, ver. 1
2	48	200	3.16	CM625502
3	108	200	6.42	CM625503
4	192	200	10.40	CM625504
5	300	100	8.20	CM625505
6	432	100	11.86	CM625506

Ceiling fastener to profiled flooring



Purpose:

- suspension of studs to a ceiling of profiled flooring.

Characteristics:

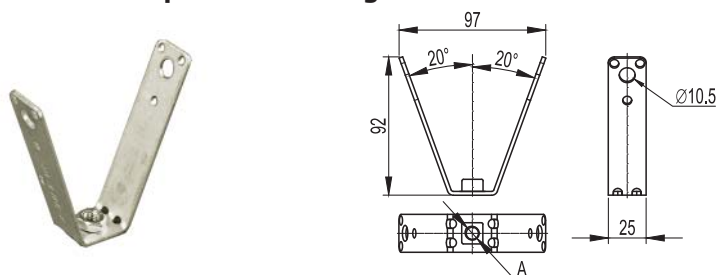
- thickness is 1 mm.

Distinctive features:

- used with profiled flooring with thickness of 50 mm.

Description A	Pcs/pack.	Weight of pack, kg	Code, ver. 1
M8	50	3.50	CM310800
M10	50	3.50	CM311000

V-shaped fastener to profiled flooring



Purpose:

- suspension of studs to a ceiling of profiled flooring.

Characteristics:

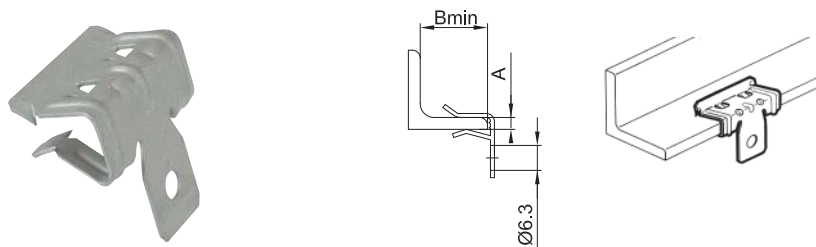
- thickness is 2.5 mm.

Distinctive features:

- used with profiled flooring with thickness of 50-100 mm.

Description A	Pcs/pack.	Package weight, kg	Code, ver. 1
M8	50	5.5	CM330800
M10	50	5.5	CM331000

Horizontal fastener for rope to beam



Purpose:

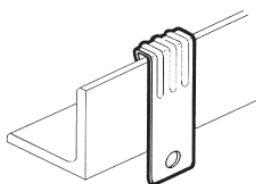
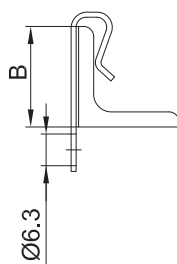
- installation on a beam in a horizontal plane (on the side) for further attachment of rope or chain.

Distinctive features:

- different positions shall be used depending on thickness of a beam;
- possibility of repetitive removal of a structure.

Beam thickness A, mm	B, mm	Max. load, kg	Pcs/pack.	Weight of pack, kg	Code, ver. 1
1.5-4	18	70	100	3	CM611003
4-10	25	90	100	3	CM611008
10-15	25	90	100	3	CM611014
15-20	25	90	100	3	CM611020

Vertical fastener for rope to beam


Purpose:

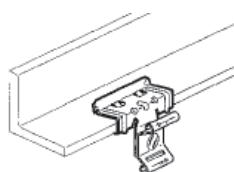
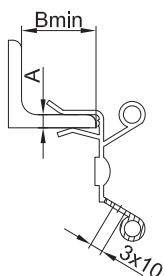
- installation on a beam in a vertical plane (at the top) for further attachment of rope or chain.

Distinctive features:

- different positions shall be used depending on thickness of a beam;
- possibility of repetitive removal of a structure.

Beam thickness A, mm	B, mm	Max. load, kg	Pcs/pack.	Weight of pack, kg	Code, ver. 1
1.5-5	30	70	100	3	CM612006
5-7	30	70	100	3	CM612007

Horizontal fastener for tie to beam


Purpose:

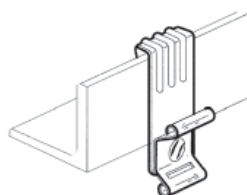
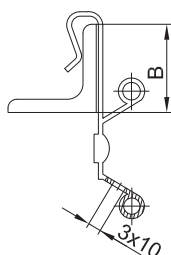
- installation on a beam in a horizontal plane (on the side) for further attachment of tubes/cables using a tie.

Distinctive features:

- different positions shall be used depending on thickness of a beam;
- possibility of repetitive removal of structures.

Beam thickness A, mm	B, mm	Max. load, kg	Pcs/pack.	Weight of pack, kg	Code, ver. 1
1.5-4	18	15	100	3	CM613004
4-10	25	15	100	3	CM613010
10-15	25	15	100	3	CM613015
15-20	25	15	100	3	CM613020

Vertical fastener for tie to beam


Purpose:

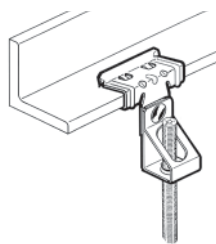
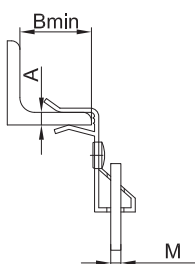
- installation on a beam in a vertical plane (at the top) for further attachment of tubes/cables using a tie.

Distinctive features:

- different positions shall be used depending on thickness of a beam;
- possibility of repetitive removal of structures.

Beam thickness A, mm	B, mm	Max. load, kg	Pcs/pack.	Weight of pack, kg	Code, ver. 1
1.5-5	30	70	100	3	CM619005
5-7	30	70	100	3	CM619007

Horizontal fastener for stud to beam


Purpose:

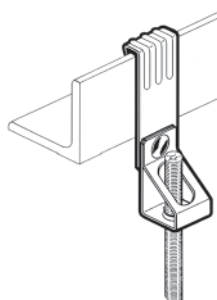
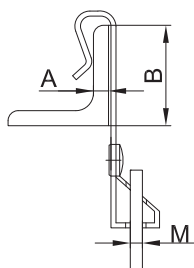
- installation on a beam in a horizontal plane (on the side) for further attachment of a stud.

Distinctive features:

- different positions shall be used depending on thickness of a beam;
- possibility of repetitive removal of structures.

Beam thickness A, mm	Stud diameter, mm	B, mm	Max. load, kg	Pcs/pack.	Weight of pack, kg	Code, ver. 1
1.5-4	M6	18	70	100	3	CM614604
4-10	M6	25	70	100	3	CM614610
10-15	M6	25	70	100	3	CM614615
15-20	M6	25	70	100	3	CM614620
1.5-4	M8	18	70	100	3	CM614804
4-10	M8	25	70	100	3	CM614810
10-15	M8	25	70	100	3	CM614815
15-20	M8	25	70	100	3	CM614820
1.5-4	M10	18	70	100	3	CM614104
4-10	M10	25	70	100	3	CM614110
10-15	M10	25	70	100	3	CM614115
15-20	M10	25	70	100	3	CM614120

Vertical fastener for stud to beam


Purpose:

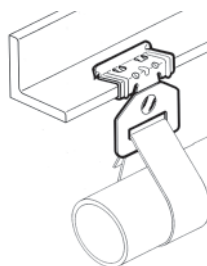
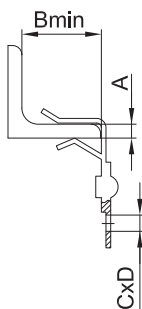
- installation on a beam in a vertical plane (at the top) for further attachment of a stud.

Distinctive features:

- different positions shall be used depending on thickness of a beam;
- possibility of repetitive removal.

Beam thickness A, mm	Stud diameter, mm	B, mm	Max. load, kg	Pcs/pack.	Weight of pack, kg	Code, ver. 1
1.5-5	M6	30	70	100	3	CM620605
5-7	M6	30	70	100	3	CM620607
1.5-5	M8	30	70	100	3	CM620805
5-7	M8	30	70	100	3	CM620807
1.5-5	M10	30	70	100	3	CM620105
5-7	M10	30	70	100	3	CM620107

Horizontal fastener for mounting tape to beam



Purpose:

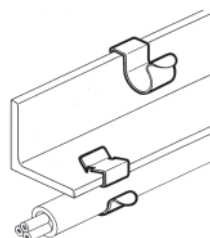
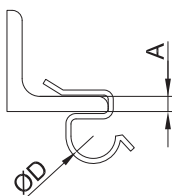
- installation on a beam in a horizontal plane (on the side) for further attachment of tubes/cables using a mounting tape.

Distinctive features:

- different positions shall be used depending on thickness of a beam;
- possibility of repetitive removal of structures.

Beam thickness A, mm	B, mm	CxD, mm	Max. load, kg	Pcs/pack.	Weight of pack, kg	Code, ver. 1
1.5-4	18	28×6.5	45	100	3	CM616004
4-10	25	28×6.5	45	100	3	CM616010
10-15	25	28×6.5	45	100	3	CM616015
15-20	25	28×6.5	45	100	3	CM616020

Clip for attachment of tube to a beam



Purpose:

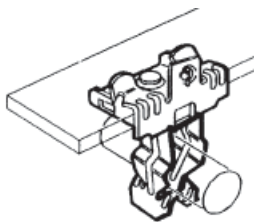
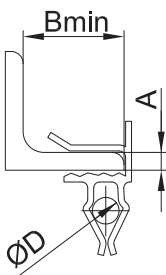
- installation on a beam in a horizontal plane (on the side), or to an upper edge for attachment of tubes/cables.

Distinctive features:

- different positions shall be used depending on thickness of a beam;
- possibility of repetitive removal of structures.

Beam thickness A, mm	D, mm	Pcs/pack.	Weight of pack, kg	Code, ver. 1
1-4	8-9	100	1	CM617409
1-4	10-11	100	1	CM617411
1-4	12-14	100	1	CM617414
1-4	15-18	100	1	CM617418
1-4	19-24	100	1	CM617424
1-4	25-30	100	1	CM617430
4-7.5	8-9	100	1	CM617709
4-7.5	10-11	100	1	CM617711
4-7.5	12-14	100	1	CM617714
4-7.5	15-18	100	1	CM617718
4-7.5	19-24	100	1	CM617724
4-7.5	25-30	100	1	CM617730
7.5-12	8-9	100	1	CM617109
7.5-12	10-11	100	1	CM617111
7.5-12	12-14	100	1	CM617114
7.5-12	15-18	100	1	CM617118
7.5-12	19-24	100	1	CM617124
7.5-12	25-30	100	1	CM617130

Holder for attachment of tube to beam

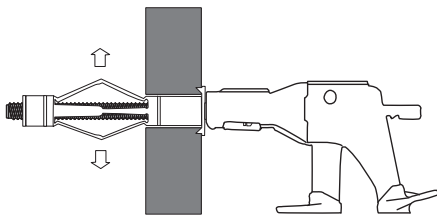


- Purpose:**
- installation on a beam in a horizontal plane (on the side) for further attachment of tubes/cables.
- Distinctive features:**
- different positions shall be used depending on thickness of a beam;
 - possibility of repetitive removal of structures.

Beam thickness A, mm	B, mm	D, mm	Max. load, kg	Pcs/pack.	Weight of pack, kg	Code, ver. 1
4-10	35	18-22	11	100	4	CM618122
4-10	35	22-30	11	100	4	CM618130
4-10	35	30-35	11	100	4	CM618135
10-15	35	18-22	11	100	4	CM618222
10-15	35	22-30	11	100	4	CM618230
10-15	35	30-35	11	100	4	CM618235
15-20	35	18-22	11	100	4	CM618322
15-20	35	22-30	11	100	4	CM618330
15-20	35	30-35	11	100	4	CM618335

Tool

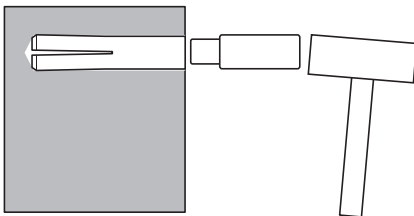
Fixing tool for metal dowels



- Purpose:**
- installation of metal dowels.
- Distinctive features:**
- individual package.
- Characteristics:**
- for all standard sizes of metal dowels.

Weight of pack, kg	Code
0.44	CMT00001

Tool for installation of drop-in anchor

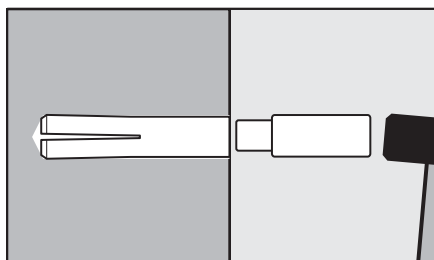


- Purpose:**
- for landing of driven in steel anchors into a drilled hole.
- Distinctive features:**
- individual package.
- Characteristics:**
- for an anchor from M6 to M16.

Weight of pack, kg	Code
1.14	CMT00002

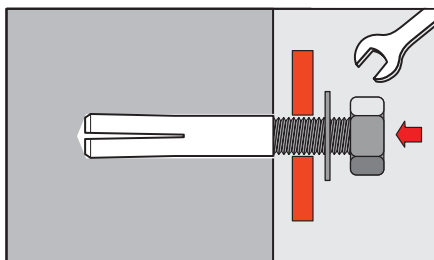
Mounting instructions

Steel drop-in anchor



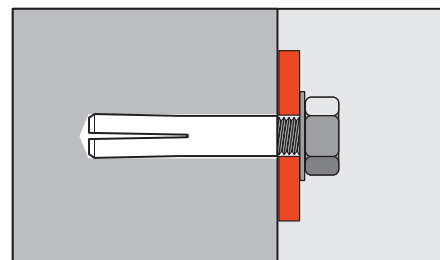
1. Set the anchor

Drill a hole sized as per instructions. Clean out the hole. Drive the anchor into the hole, wedge it with hammer and special tools



2. Fix the mounted part

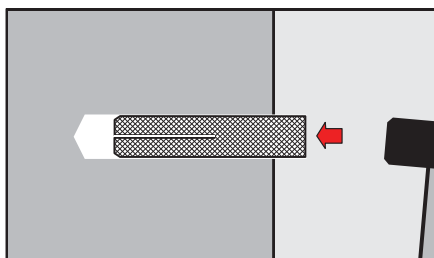
Screw the bolt, screw or pin in with a mounted part suspended on them



3. Make a final fastening

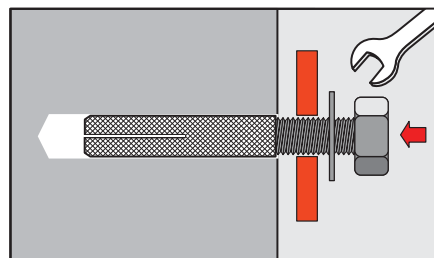
Screwing the bolt, screw or pin in guarantees additional wedging and fastening

Brass slotted anchor



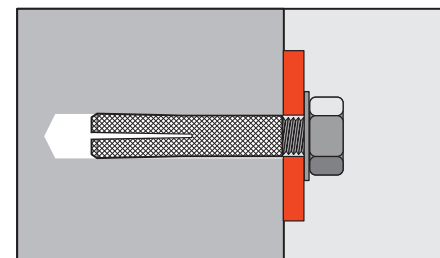
1. Set the anchor

Drill a hole sized as per instructions. Clean out the hole. Drive the anchor into the hole



2. Fix the mounted part

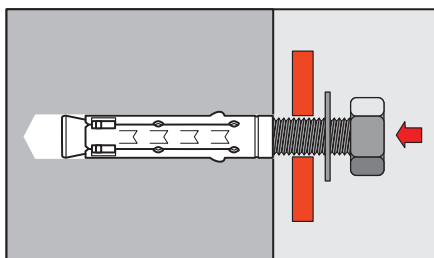
Screw the bolt, screw or pin in with a mounted part suspended on them



3. Make a final fastening

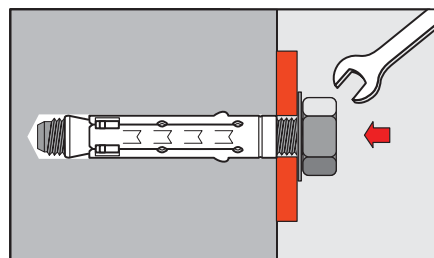
Tightening of bolt, screw or stud guarantees additional wedging and fastening

Standard, reinforced, wedge anchor



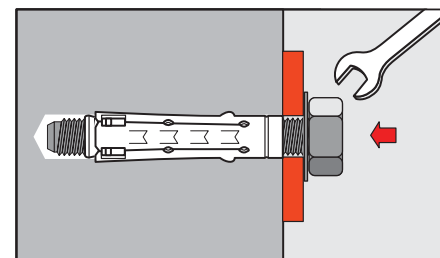
1. Set the anchor

Drill a hole sized as per instructions. Clean out the hole. Drive the anchor into the hole



2. Fix the mounted part

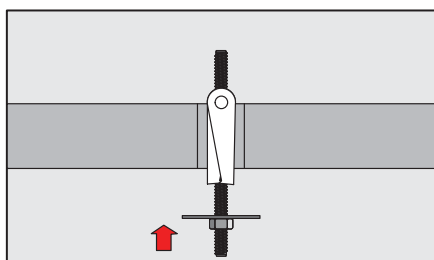
Set the mounted part and fix it with bolt, screw or pin and nut



3. Make a final fastening

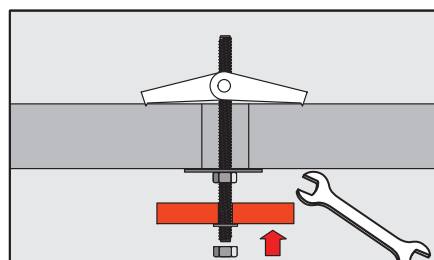
Tightening of bolt, screw or stud guarantees additional wedging and fastening

Toggle anchor for hollow constructions (with pin, hook, oval head, screw)



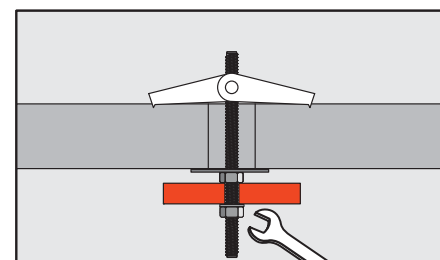
1. Set the anchor

Drill a hole sized as per instructions. Drive the anchor into the hole



2. Fix the mounted part

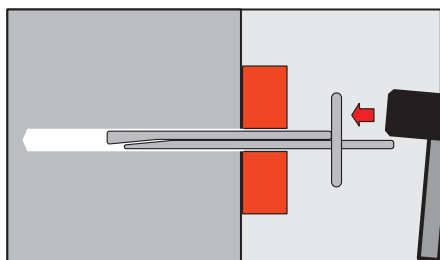
When a screw is inserted the wings expand under spring pressure



3. Make a final fastening

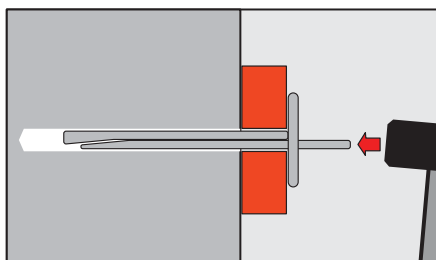
Tightening of nut guarantees final fastening of anchor

Ceiling wedge anchor



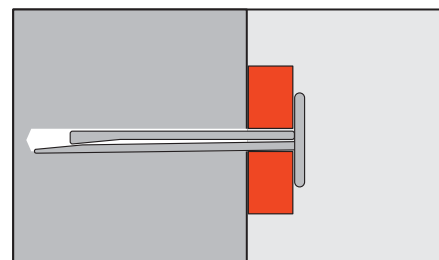
1. Set the anchor

Drill a hole sized as per instructions, clean it out. Drive the anchor through the mounted part into the hole



2. Fix the mounted part

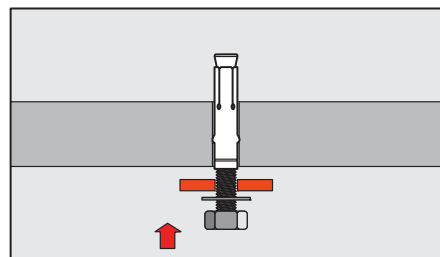
When a screw is inserted its wedge parts shift from one another and expand into the drilled hole providing a secure fastening



3. Make a final fastening

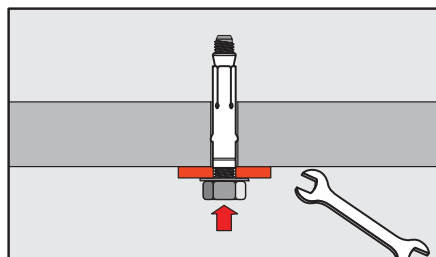
Drive anchor through material to be fastened until washer is flush to surface of material

Hollow plates anchors



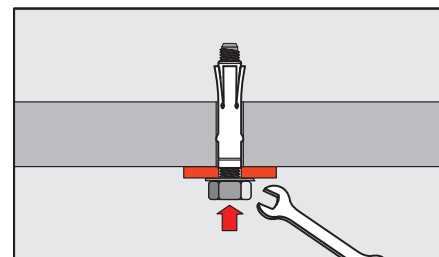
1. Set the anchor

Drill a hole sized as per instructions. Clean out the hole. Drive the anchor into the hole



2. Fix the mounted part

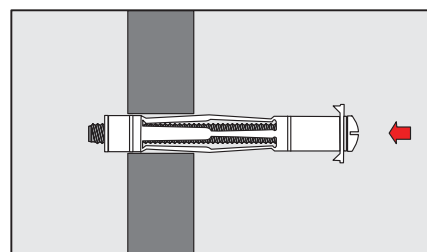
Screw in bolt, screw, stud or nut and a mounted part suspended on them



3. Make a final fastening

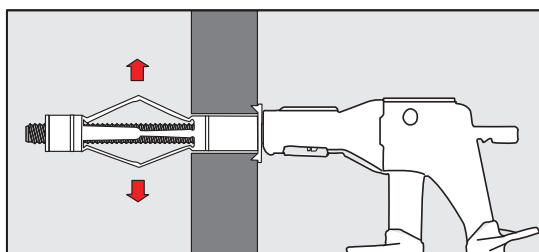
Tightening of bolt, screw or nut guarantees additional wedging and fastening of anchor

Hollow constructions anchor



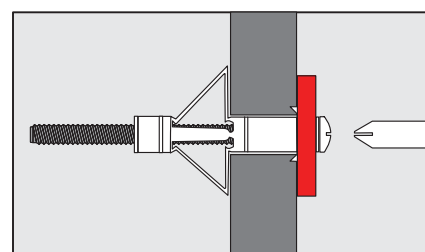
1. Set the anchor

Drill a hole sized as per instructions. Drive the anchor into the hole



2. Fix the wall plug

Fix the wall plug with special mounting pincers



3. Fix the mounted part

Fix the mounted part with a screwdriver



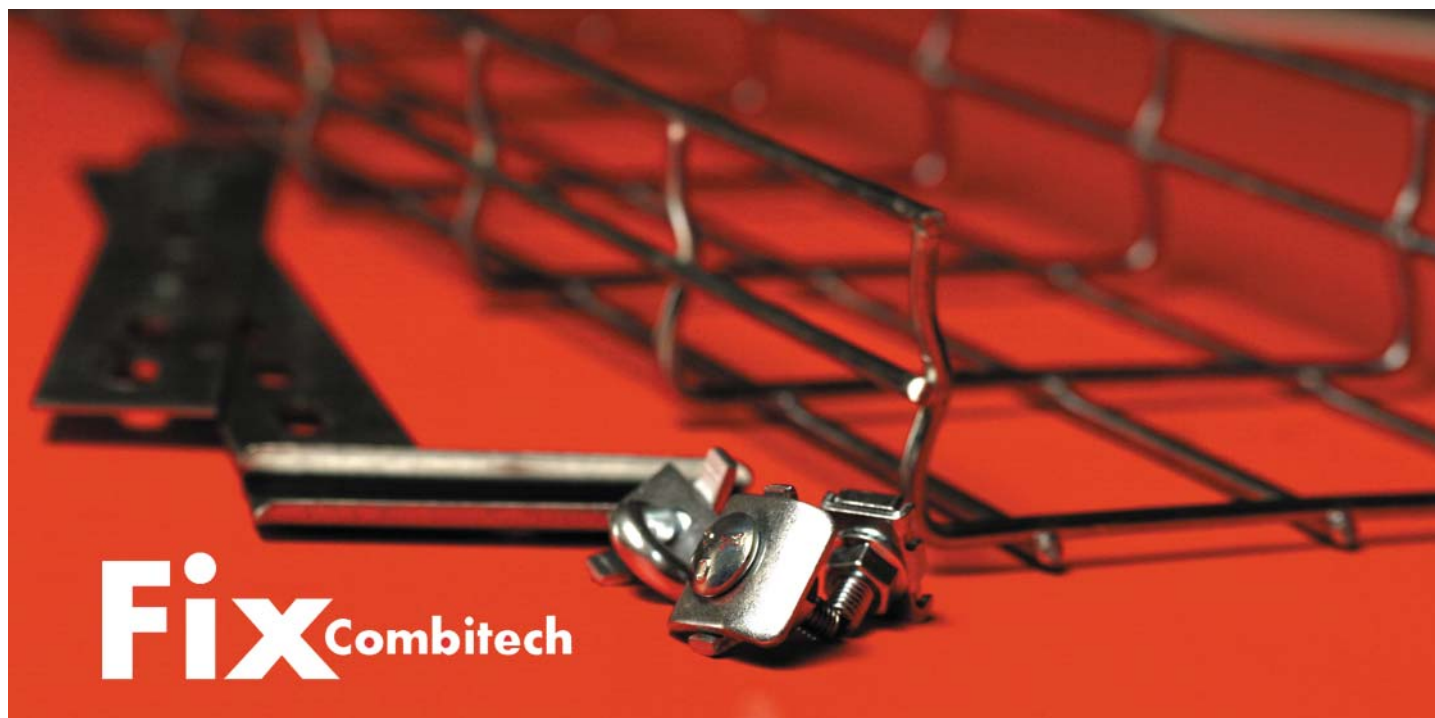


Fix Combitech

Software

Program for calculation of accessories and fasteners 710

Program for calculation of accessories and fasteners



Program purpose

FIX Combitech program is intended for work with DKC cable support systems: mesh cable trays, cable ladders and mesh trays, as well as vertical support system and mounting elements. Libraries of products in the following versions are available for design: standard galvanizing by the Sendzimir method, hot galvanizing, stainless steel, painting. The program has usable interface, is easily installed and available free of charge.

Key features

Innovative solutions are applied in FIX Combitech for quick and easy equipment calculation:

- saving of the project with possibility of further editing;
- base update of equipment and installation solutions in online mode;
- organization of network database for several users;
- creation of own installation solutions and saving in the program;
- possibility to "cancel entry" and "repeat entry" of data;
- built-in "DKC electronic catalog" with product search by code;
- possibility to view certificates, catalogs, manual of standard solutions in pdf format in section "Directories" has been added;
- possibility to export of performed calculation to html, Excel, and Word formats.

Advantages of new version of FIX Combitech program

New version of FIX Combitech program has a variety of advantages:

- automatic calculation of DKC cable ducts: "In-liner Classic", "In-liner Front", "In-liner Aero";
- innovative graphic editor of Working Spaces making it possible to arrange DKC wiring devices according to your wishes;
- possibility of WD installation into wall, in cable duct, under floor box, minitower, column;
- standard WD sets;
- zinc lamellar version is added for metal trays.

Project editor

Complete project of cable route consisting of trays, fasteners, and accessories is formed gradually in this operation mode. You can switch to DKS electronic catalog to view all the available products.

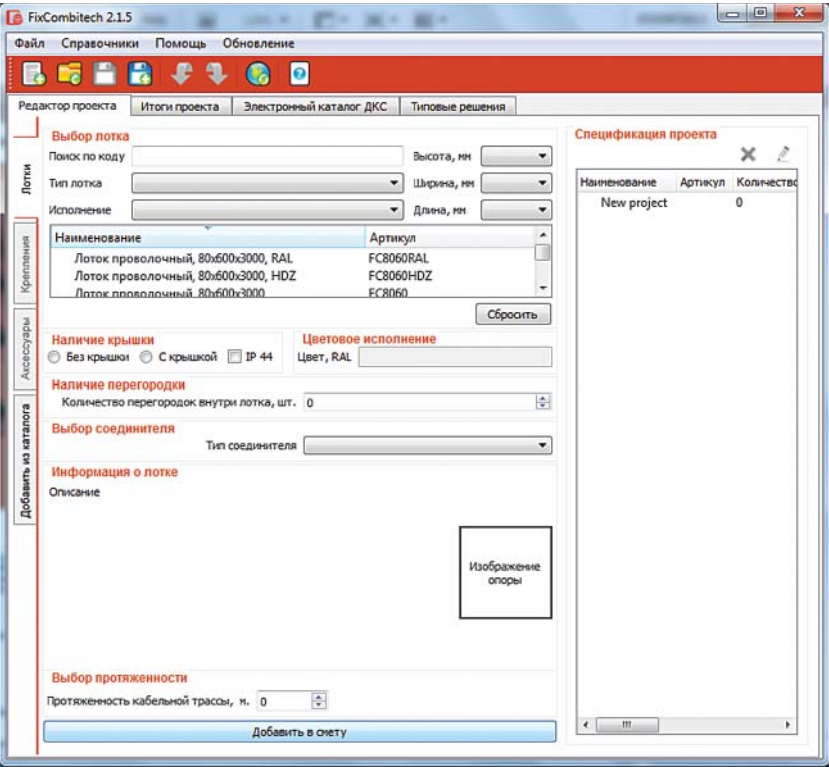


Figure 1 – Project editor

Trays

In order to narrow search in a range of trays the filter set is provided in the program for selection of the required tray (see Figure 2). All filters are mutually dependent except for "Search by Code" field, i.e. variants in filters are selected on the basis of already selected filters. For example, if there are trays of only two sizes (50 and 100 mm) for non-perforated type then only these sizes will be displayed in "Height" filter. When the tray is added it is possible to continue adding of trays on the same tab or to switch to other tabs for adding of optional parts of route.

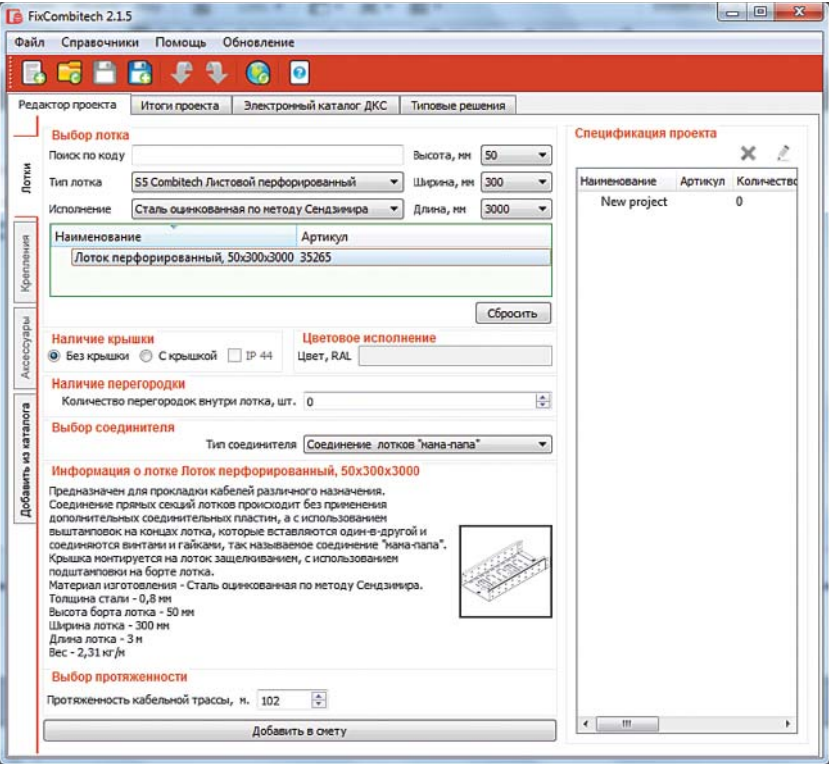


Figure 2 – Tray selection

Fasteners

In this section it is possible to select the required fastener variant from the project for specific type of support surface for each adding to "Tray Specification" (see Figure 3).

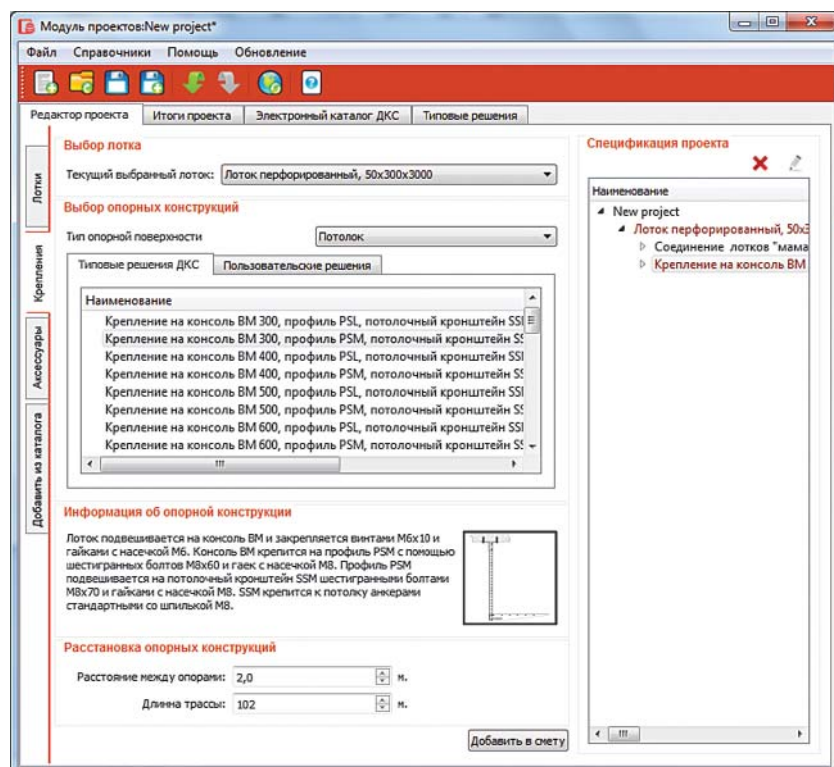


Figure 3 – Project editor, selection of fasteners

Accessories

This section makes it possible to select the necessary accessories for trays added to the project (see Figure 4).

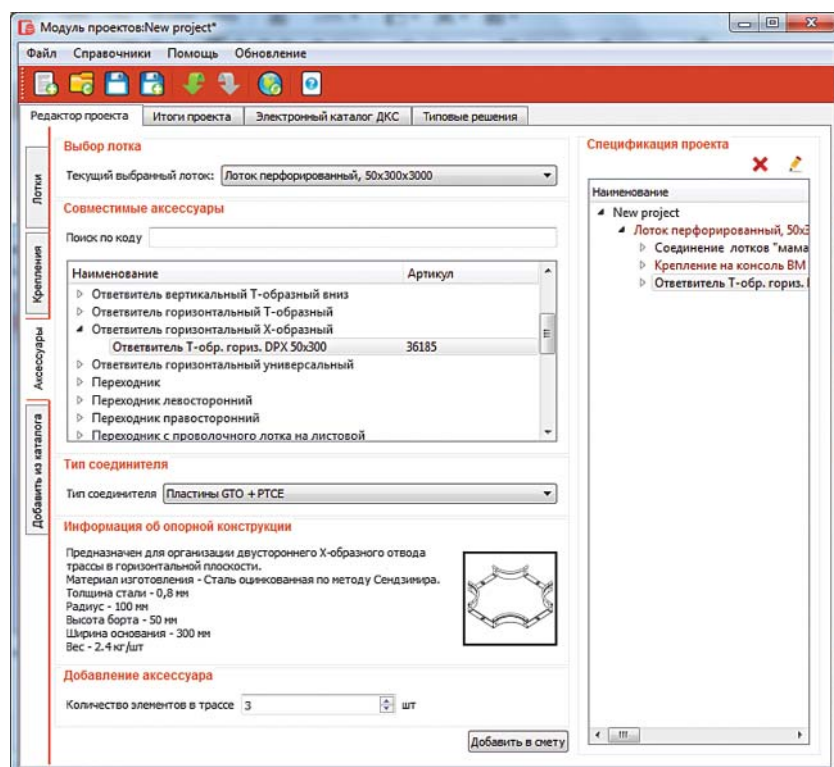


Figure 4 – Project editor, selection of accessories

Adding from catalog

In this section all catalog products are displayed in a form of tree list with characteristics and images which may be added manually.

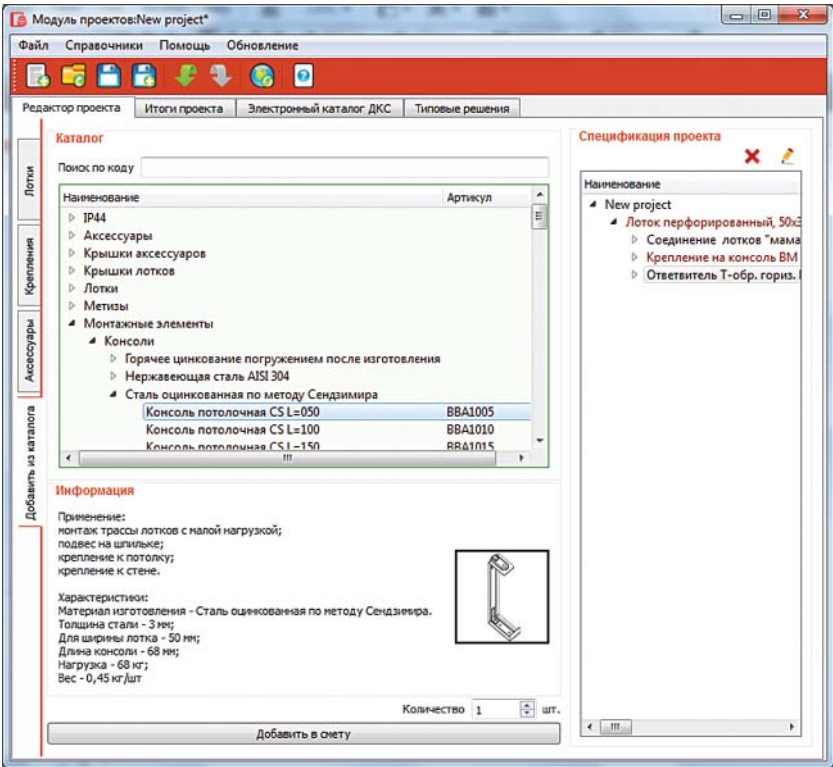


Figure 5 – Adding from catalog

Project results

The section includes name of current project, general information on selected elements, project notes, as well as export functions to different formats.

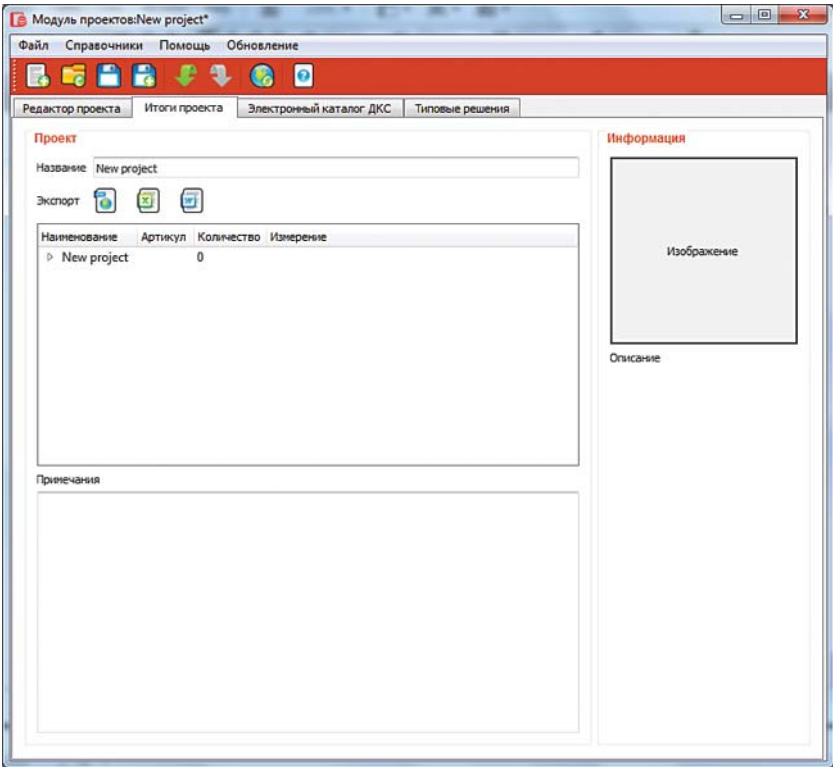


Figure 6 – Project results
This tab has panel with buttons for export of current project to different formats:
1. HTML;
2. MS Excel;
3. MS Word.

DKC electronic catalog

Contains detailed description of all available products with images and search function by product code.

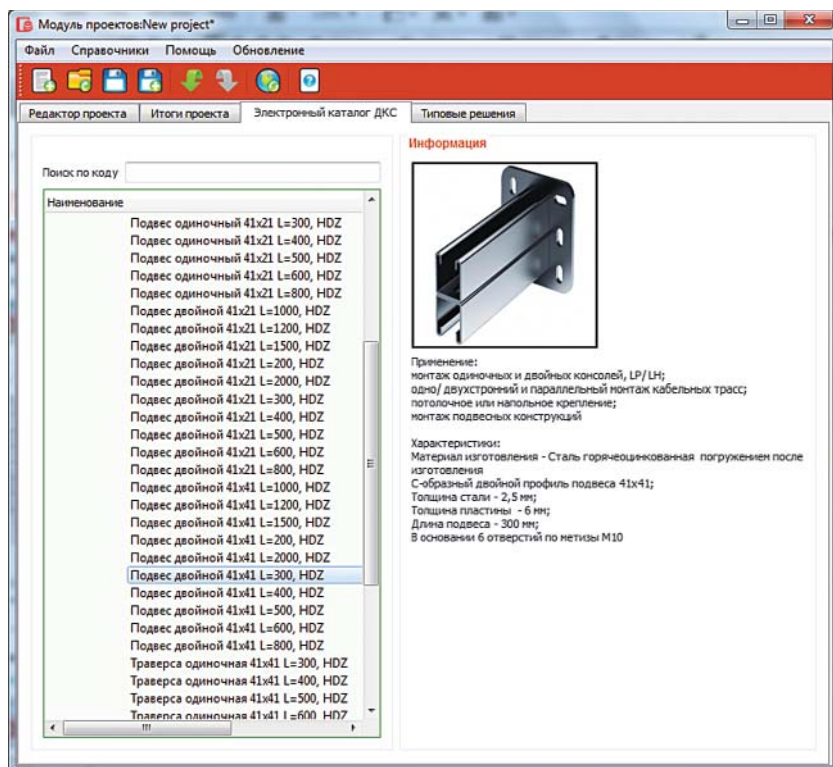


Figure 7 – DKC electronic catalog

Standard solutions

Interface of "Standard Solutions" tab is divided in 5 basic parts which make it possible to create user solution for further application both in this and other projects.

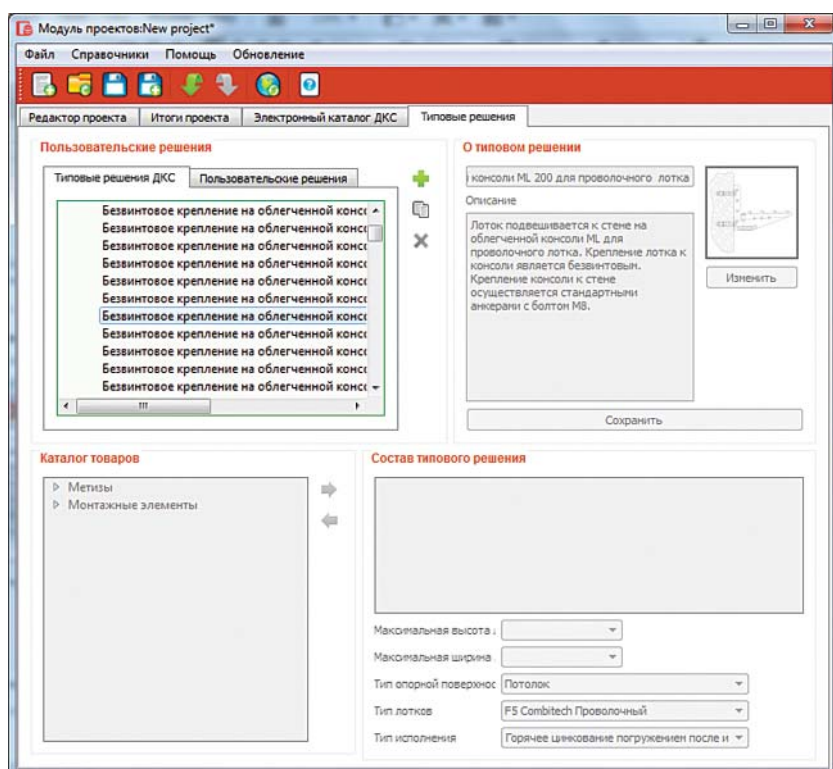
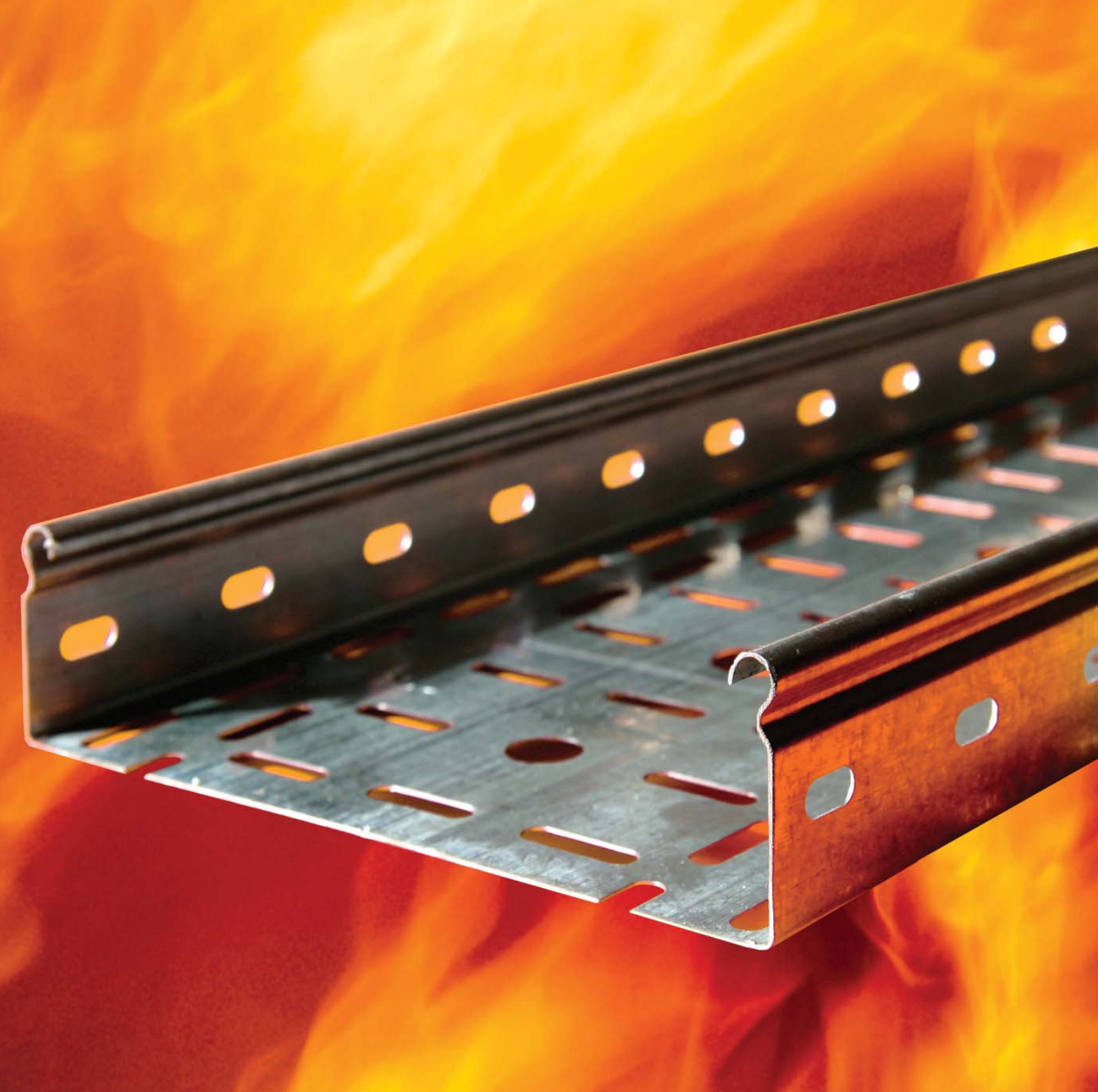


Figure 8 – Interface of "Standard Solutions" tab



Fire protection systems "Vulcan"

Product description	716
Penetration of fire-resistant pillow blocks	717
Penetration of fire-resistant slabs	718
Penetration of fire-resistant breeze blocks	719
Additional components	720
System of fire-resistant partition	722
System of DG fire-resistant slabs	723

Fire-resistant penetrations

Federal Law No. 123-FL dated July 22, 2008

"Technical Regulation on Fire Safety Requirements", Article 82, clause 7.

"... Passage points of cable ducts, ducts, cables and wires through building structures with the specified fire resistance limit shall provide for cable penetrations with the fire resistance limit not lower than that of these structures".

Application

Cable penetrations is a general term for filling of passage points of cable support trays and cable ducts, plastic tubes and separate cables going through walls, ceiling partition, or special fire barriers. Cable penetration filling may be carried out in different ways and using various materials.

Basic requirements imposed on cable penetrations in regulatory documents are as follows:

- material non-combustibility;
- possibility to replace a cable in a cable penetration already in place.

Types of cable penetrations

DKC offers a wide range of cable penetrations on the basis of different technical solutions which may be combined between each other depending on complexity of communication lines passing through a penetration, as well as a variety of additional components designed for increase of penetration fire resistance and extension of application of DKC cable support systems.

A cable penetration of DB fire-resistant pillow blocks is the easiest one for installation. Pillow blocks are compactly placed in a penetration aperture; they may be easily removed, if it is necessary to lay an additional cable. Filler of a fire-resistant pillow block contains vermiculite, i.e. the material having high water saturation factor (up to 500%).

When exposed to heat, water contained in vermiculite starts evaporating instantly. Water vapor inflates the pillow block which forms a leak tight seal within the aperture of the cable penetration and thus prevents flame propagation inside the protected premises.

DP fire-resistant slabs consisting of mineral fiber which does not melt even at the temperature of 1000 °C and coated with special flame retardant are the most widespread method of organization of cable penetrations. The basic advantage of fire-resistant slabs is the possibility to create penetrations with very large surface area that allows installing penetrations for complex cable routes with several tiers of cable trays.

Application of a fire-resistant penetration composed of DT fire-resistant breeze blocks makes it possible to avoid use of components containing finely dispersed compounds and mineral fibers. Ease of use of a breeze block allows reducing the installation time considerably, since for this purpose it is only necessary to cut a breeze block into pieces corresponding to the width of the tray base or penetration aperture.

Additional components

Additional components of the system may not be used separately as independent cable penetrations. DF fire-resistant foam is used for sealing of joints and slits in walls or partition, as well as for filling of cracks, holes, ventilation ducts, installation of doors and windows.

Fire-resistant sealant is designed for leak tight filling of joints and slits when installing a penetration on the basis of fire-resistant slabs, pillow blocks and breeze blocks.

Advantages

High fire resistance degree confirmed by certification tests.

System of components which allows extending the application of DKC cable support systems.

Ease of installation not requiring special skills.

Fire resistance degree

The basic indicator of efficiency of a fire-resistant penetration is the fire resistance limit which is determined in the course of performance of special tests, and shall be confirmed by a certificate of conformity to the requirements of the Technical Regulation on Fire Safety Requirements.

Identification of the fire resistance limit of a penetration comprises designations, so called specified limit states, and a digit corresponding to the time required to achieve one of these states (first one in time) in minutes.

There are three types of limit states identified as the IET index:

- Letter I (Insulation) means loss of thermal insulating capacity of a fire-resistant penetration as a result of temperature increase on the unheated surface of the penetration material by more than 140 °C.
- Letter E (Integrity) means loss of material integrity of a fire-resistant penetration as a result of formation of cracks or holes in the structure thereof, through which combustion products and flame reach the unheated surface.
- Letter T (Temperature) means reaching of the critical heating temperature of the product element material in the unheated area of a penetration.

Conformity to standards:

GOST R 53310-2009 "Through penetration for cables, hermetic inputs and through penetration of electric current types. Requirements of fire safety.

Fire resistance test methods"

GOST 30247.0-94 "Elements of building constructions. Fire resistance tests methods. General requirements."

GOST 30247.1-94 "Elements of building constructions. Fire resistance tests methods. Load bearing and separating constructions."

Penetration of DB fire-resistant pillow blocks



Description

DB fire-resistant pillow blocks are designed for installation of penetrations at crossing points with cable support trays of walls or partition. DB pillow blocks are not exposed to water or moisture, do not decay or promote formation of mold, so they may be used for a long time in damp non-ventilated premises.

Structure

A penetration comprises compacted pillow blocks, the shell whereof is made of high-quality fiberglass and sewn with metal threads which ensure its total leak tightness. Silicon and polyurethane-based compositions are used as refractory coating of the shell. The inside of the pillow block is filled with moisture-resistant expanding bloating filler which does not contain halogens, formaldehyde, mineral fibers and asbestos.

The penetration service life is more than 10 years.

Operating principle

When exposed to high temperature ($>200\text{ }^{\circ}\text{C}$), fire-resistant pillow blocks inflate by more than 40% of their initial volume, thus forming leak tight seal which prevents further propagation of open fire and heat.

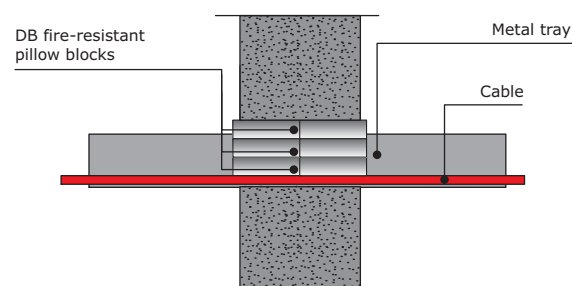
Dimension, mm	Weight, g	Fire resistance limit	Code
120x100x25	310	120 minutes	DB1801
120x150x30	500	120 minutes	DB1802
120x200x30	650	120 minutes	DB1803
120x250x35	750	120 minutes	DB1804
120x300x35	1050	120 minutes	DB1805

Additional components

Name	Package	Code
DS fire-resistant sealant	Bucket, 20 kg	DS1201
	Cartridge, 300 ml	DS1202

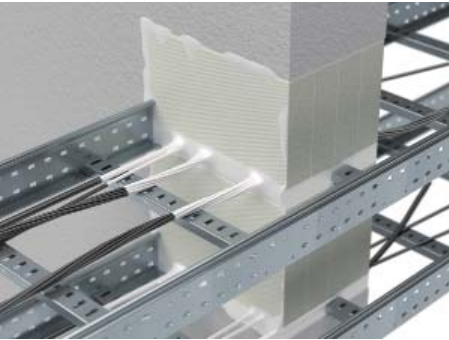
Installation of cable penetration of DB fire-resistant pillow blocks

DB fire-resistant pillow blocks with the width corresponding to the tray base width are used for penetration filling (i.e. it is necessary to use pillow blocks 200x120 mm for a tray with the base width of 200 mm). It is necessary to place two rows of pillow blocks with the total filling depth of 240 mm for provision of the specified fire resistance limit of 120 minutes. Pillow blocks are placed one above the other across cables passing along a tray until full and compact filling of the penetration aperture. In order to ensure protection against smoke ingress, it is required to fill all existing slits between filled elements and penetration aperture with DS fire-resistant sealant. Furthermore, it is recommended to apply a sealant layer with thickness of at least 3 mm on cables passing through a penetration. The cable section length for sealant application comprises 0.5 m on each penetration side. If dimensions of the penetration aperture is larger than those of the tray passing through it, or the penetration represents a complex structure consisting of several trays, it is required to fill the space around trays with DP refractory slabs.



Installation of penetration of DB fire-resistant pillow blocks for metal cable tray

Penetration of DP fire-resistant slabs



Description
 DP fire-resistant slabs are the basis for installation of fire-resistant penetrations at crossing points of walls or partition with complex multistage cable tray systems.

Structure
 A DP slab consists of mineral fiber of high density ($\sim 150 \text{ kg/m}^3$) with fire-resistant coating applied on both sides. Edges and joints of fire-resistant slabs shall be treated with DS refractory sealant during installation to ensure protection against smoke, and to provide the structure with required structural rigidity in case of vertical installation. The penetration service life is more than 10 years.

Operating principle
 When exposed to high temperature ($>200 \text{ }^\circ\text{C}$), fire-resistant coating of a slab inflates and prevents fire propagation through a penetration, whereas the slab ensures necessary heat insulation.

Dimension, mm	Fire resistance limit	Code
1000x500x52	120 minutes	DP1201

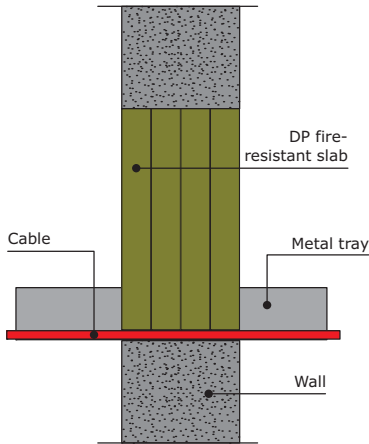
Additional components

Name	Package	Code
DS fire-resistant sealant	Bucket, 20 kg	DS1201
	Cartridge, 300 ml	DS1202

Installation of cable penetration of DP fire-resistant slabs

The aperture where a penetration will be installed shall be measured initially. The obtained dimensions shall be transferred to a slab (or several slabs laid in the form of the aperture) with mandatory marking of passing embedded parts of the penetration (cable trays, separate cables, busbars, tubes). Then, it is necessary to cut the marked pieces with a sharp knife or a hand saw; for the purpose of compact "alignment" the pieces cut shall be slightly larger (approximately 0.2-0.3 mm on each side). The filling depth shall comprise at least 200 mm for the specified fire resistance limit (120 minutes), i.e. it is necessary to install four pieces of a DP slab one after the other.

For better sealing it is required to apply a layer of DS fire-resistant sealant (with thickness of at least 3 mm) on all elements (fire-resistant panels, cables), thus filling all existing slits. The cable section length for sealant application comprises 0.5 m on each penetration side.



Installation of penetration of fire-resistant slabs for metal cable tray.

Penetration of DT fire-resistant breeze blocks



Description

DT fire-resistant breeze blocks are the basis for creation of leak tight fire-resistant penetrations at passage points of metal trays through walls or partition. The distinctive feature of penetrations of this type is ease of installation with the possibility of fast laying of an additional cable in a penetration which is already in place, as well as absence of dust and liquid components which require drying.

Structure

A penetration is composed of compacted breeze blocks.

Slits and joints shall be filled with DS sealant.

Operating principle

When exposed to high temperature ($>200\text{ }^{\circ}\text{C}$), breeze blocks start expanding, at the same time producing a large amount of carbon foam which prevents further fire propagation.

The penetration service life is more than 10 years.

Dimension, mm	Fire resistance limit	Code
1000x120x30	120 minutes	DT1201

Additional components

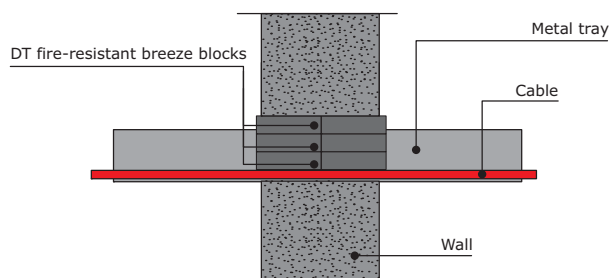
Name	Package	Code
DS fire-resistant sealant	Bucket, 20 kg	DS1201
	Cartridge, 300 ml	DS1202

Installation of cable penetration of DT fire-resistant breeze blocks

A DT breeze block shall be cut with a sharp knife into pieces with width by 0.5 mm more than cable tray width. It is necessary to place two rows of DT breeze blocks with the total filling depth of 240 mm for provision of the specified fire resistance limit of 90 minutes. Pre-cut pieces of breeze blocks are placed one above the other across cables passing along a tray until full and compact filling of the penetration aperture.

In order to ensure protection against smoke ingress, it is recommended to fill all existing slits between filled elements and penetration aperture with DS fire-resistant sealant. Furthermore, it is recommended to apply a sealant layer with thickness of at least 3 mm on cables passing through a penetration. The cable section length for sealant application comprises 0.5 m on each penetration side.

If dimensions of the penetration aperture is larger than those of the tray passing through it, or the penetration represents a complex structure consisting of several trays, it is required to fill the space around trays with DP refractory slabs.



Installation of penetration of fire-resistant breeze blocks for metal cable tray

DF fire-resistant foam



Description

DF single-component fire-resistant foam is used for fast sealing of joints and slits in walls or partition, as well as for filling of cracks, holes, ventilation ducts, installation of doors and windows. Ultimate yield of one can is approximately 25 l. DF fire-resistant foam is a combustible material. Avoid heating the can on sunlight and do not use the product at temperature higher than 50 °C.

Technical characteristics

Fire resistance limit	150 minutes
Mounting temperature	from +5 to +40 °C
Storage/transportation temperature	from +3 to +40 °C
Color	pink
Shelf life	8 months
Filling depth	200 mm at gap width of 30 mm

Package	Code
Can, 740 ml	DF1201

DN double-component fire-resistant foam



Description

DN double-component fire-resistant foam is used for creation of leak tight fire-resistant penetrations at passage points of metal trays through walls or partition. The volume filled after application is 1200–2000 ml.

Technical characteristics

Fire resistance limit	IET 180
Mounting temperature	from +15 to +25 °C
Storage/transportation temperature	from +5 to +30 °C
Color	red/brown
Shelf life	3 years
Filling depth	at least 200 mm

Package	Code
Cartridge, 325 ml	DN1201
Spray gun for double-component foam, 1 pce	DN1202

DS fire-resistant sealant



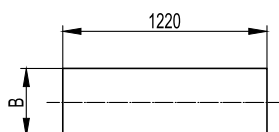
Description
Water-acrylic-based fire-resistant sealant is designed for leak tight filling of joints and slits when installing a penetration on the basis of fire-resistant slabs, pillow blocks and breeze blocks.

Technical characteristics

Mounting temperature	from +5 to +45 °C
Storage temperature	from +3 to +40 °C
Solidification rate	3 mm over 24 hours
Setting rate	10 minutes
Deformation limit	20% of the initial level
Color	white
Shelf life	8 months

Package	Code
Bucket, 20 kg	DS1201
Cartridge, 300 ml	DS1202

Fire-resistant partition for cable lines



Description:

DD fire-resistant cable partition are designed for separation of cable lines, thus preventing fire propagation in case of occurrence thereof. According to the applicable regulations of the Russian Federation, installation of fire-resistant partition is necessary when laying the following:

- mutually redundant circuits (in one duct);
- circuits of operating and emergency evacuation lighting (in one duct);
- circuits of up to 42 V with circuits of higher than 42 V (in one duct);
- control and communication cables with power cables (in a cable structure);
- power cables of up to 1 kV and higher than 1 kV (in a cable structure);
- operating and spare cables of higher than 1 kV supplying power to consumers of category I (in a cable structure).

Structure:

C-section brackets manufactured by DKC in BBP-21, BBP-41 or BBD-21 series and supplemented by BMZ-15 special holders are used for horizontal installation of partition. In case of vertical installation, a partition wall is attached inside the duct to a SEP metal partition wall.

Characteristics:

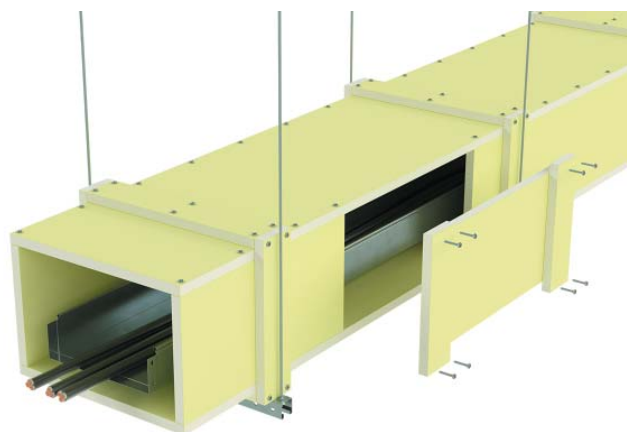
- thickness is 10 mm;
- fire resistance limit E15 during testing according to GOST 30247.0-94 and GOST 30247.1-94.

Rated width, mm	Actual width B, mm	Weight, kg	Code
50	50	0.57	DD0510
80	80	0.95	DD0810
100	100	1.21	DD1010
200	250	3.18	DD2010
300	350	4.45	DD3010
400	450	5.72	DD4010
500	550	6.99	DD5010
600	650	8.26	DD6010

Compatibility table of mounting elements

Rated width, mm	Partition wall code	Holder code	Bracket code
200	DD2010	BMZ1520	BBD2120
300	DD3010	BMZ1530	BBD2130
400	DD4010	BMZ1540	BBD2140
500	DD5010	BMZ1550	BBD2150
600	DD6010	BMZ1560	BBD2160

DG fire-resistant slabs



Purpose:

DG fire-resistant slabs are designed for protection of cable lines against fire in case of occurrence thereof. Survivability in case of fire effect on a line is 60-150 minutes according to GOST 53316-2009.

Installation conditions of fire-resistant slabs:

- maximum distance between supports is 1200 mm;
- maximum load on a duct is 20 kg/m;
- it is possible to install a duct with 3 and 4 walls

Characteristics:

- flame-resistant material: 2 layers of glass-reinforced plastic, gypsum-silicate base;
- moisture protection;
- fungus proofing.

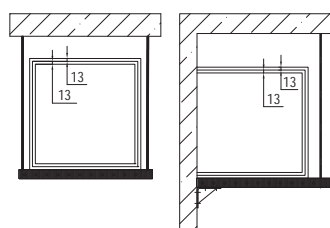
Name	Width, mm	Length, mm	Weight, kg/m ²	Code
Fire-resistant slab 2000x1200x12.7 mm	1200	2000	10.20	DG1213
Fire-resistant slab 2200x610x25.4 mm	610	2200	20.40	DG0625

Name	Width, mm	Height, mm	Length, mm	Code
Mounting angle for fire-resistant slabs 30x30x3000 mm	30	30	3000	DG3030

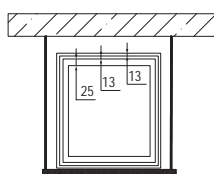
Compatibility table of mounting elements per 1 meter of duct

Name of elements	Number of elements for suspension			Unit of measurement	Description	Code
	60 min	90 min	150 min			
	installation for scheme with 3 and 4 walls		installation for scheme with 3 walls			
Fire-resistant slab 2000x1200x12.7 mm	4	4	4	m ²	duct frame	DG1213
Fire-resistant slab 2200x610x25.4 mm	0	2	2	m ²		DG0625
Mounting angle for fire-resistant slabs 30x30x3000 mm	4	4	4	m		DG3030
Self-tapping screws for attachment of slabs with each other	80	120	120	pcs		self-tapping screws
Fire-resistant sealant, bucket 20 kg	2	4	4	kg		DS1201
M8 drop-in anchor	2	2	2	pcs	duct vertical support	CM400830
BPM-41 profile	1	1	1	pcs		BPM4106
Screw for attachment to DB or LAS profile M10x30	2	2	2	pcs		CM041030
M8 hexagon nut with serrate flange	2	2	2	pcs		CM100800
Supporting plate for C-profiles	2	2	2	pcs		BHM4141
Stud M8x2000	4	4	4	m	attachment to a wall/ ceiling (three-sided duct)	CM200802
M8 drop-in anchor	1	1	1	pcs		CM400830
BPM-41 profile	1	1	1	pcs		BPM4106
Screw for attachment to DB or LAS profile M10x30	2	2	2	pcs		CM041030
M8 hexagon nut with serrate flange	4	4	4	pcs		CM100800
Supporting plate for C-profiles	2	2	2	pcs		BHM4141
Stud M8x2000	2	2	2	m		CM200802
BMC-10 double angle	1	1	1	pcs		BMC1022HDZ

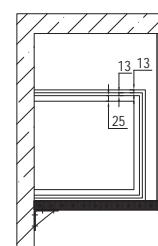
Installation examples



Installation for scheme with 3 walls
(60 min)



Installation for scheme with 3 walls
(90 min)



Installation for scheme with 3 walls
(150 min)





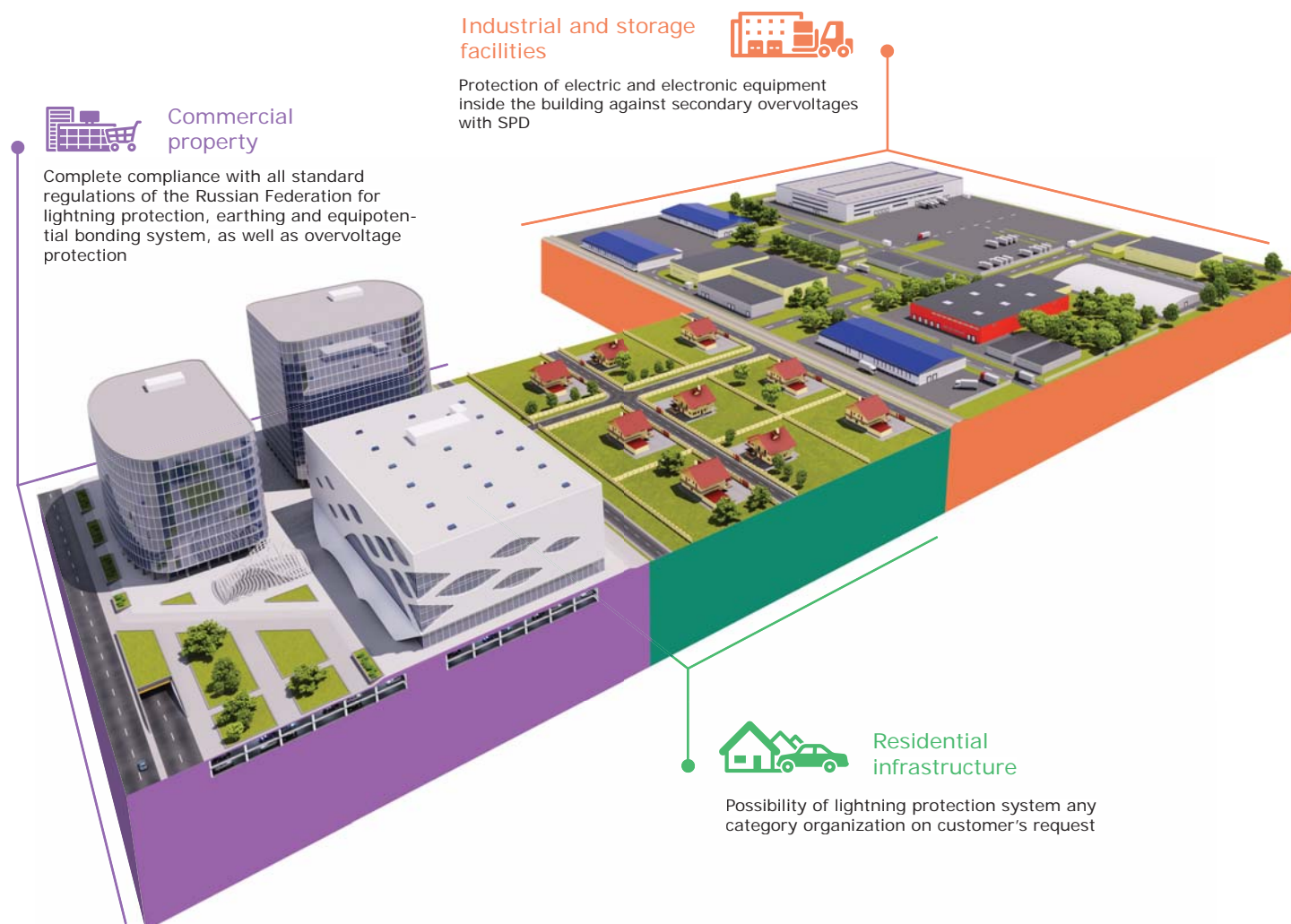
Lightning protection and grounding system "Jupiter"

Conductors	729
Air-termination rods.....	730
Holders.....	735
Earthing	741
Connectors and clamps	744
Accessories	746
Dielectric bars insulated lightning protection system	748
High voltage conductor insulated lightning protection system	750

Lightning protection and grounding system "Jupiter"

Application area

"Jupiter" system is designed for construction of lightning protection, earthing and equipotential bonding system. Applied conductors have hot dip galvanized coating with corrosion resistance ensuring long service life. Wide range of connectors and holders makes system mounting quick and provides attachment of conductors to any surface easily. System characteristics meet all the regulatory requirements applicable in the Russian Federation which makes it possible to use it both in private and industrial construction.

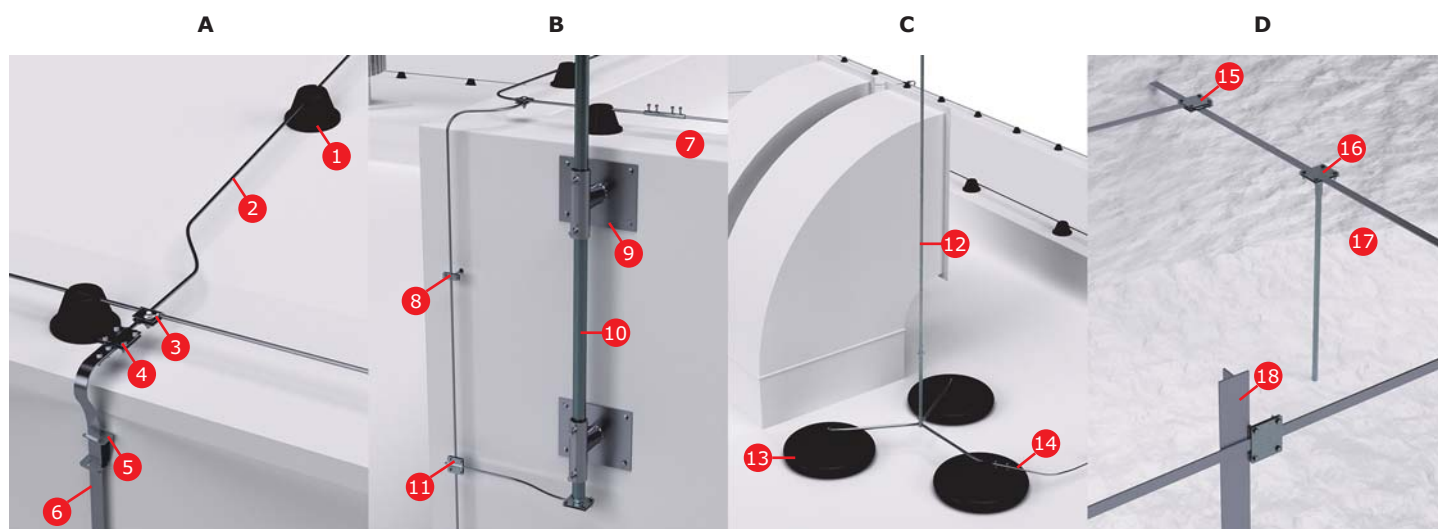
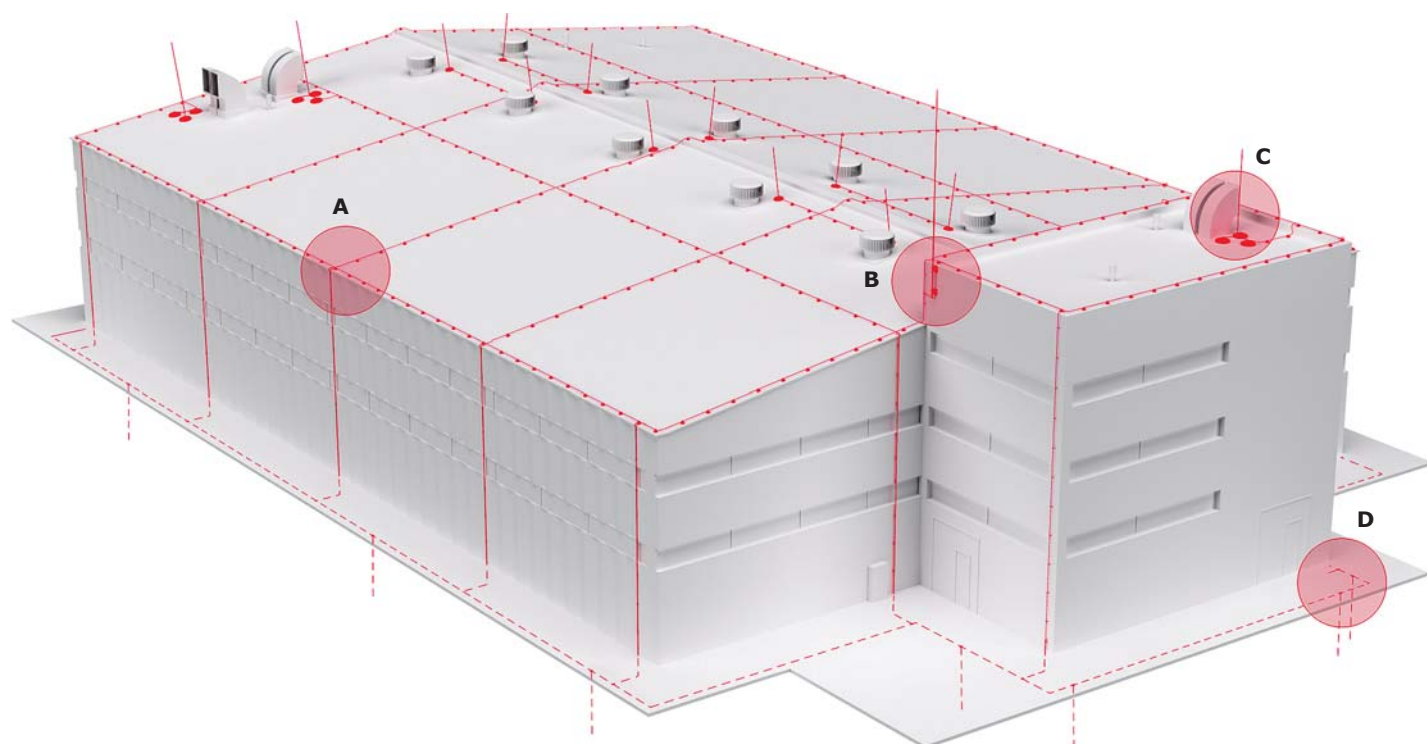


Distinctive features



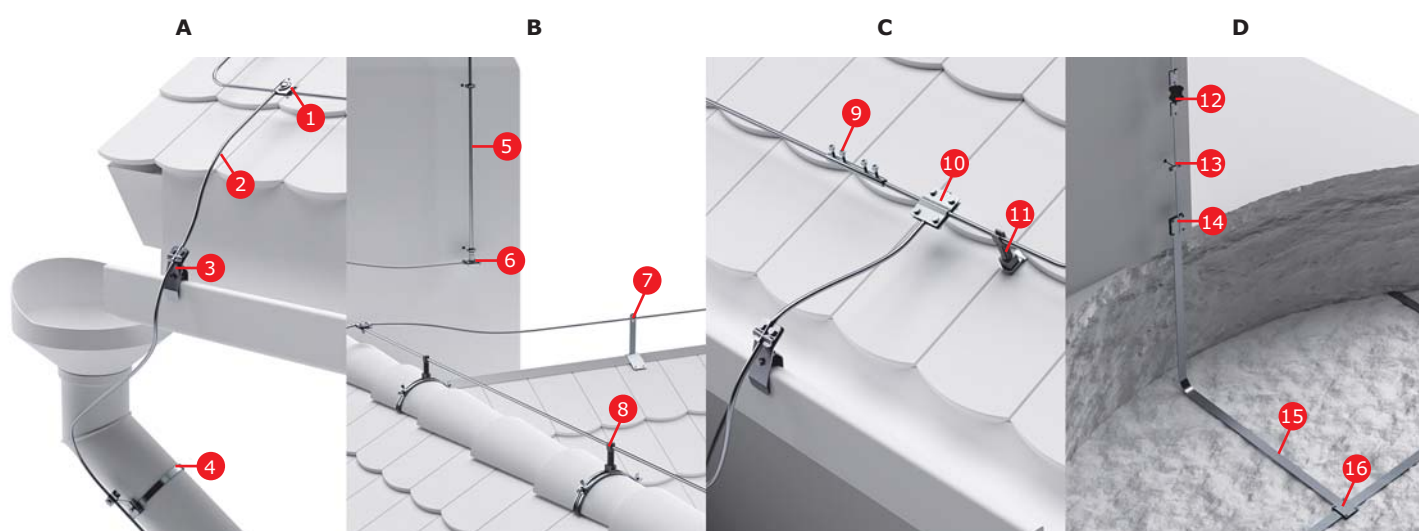
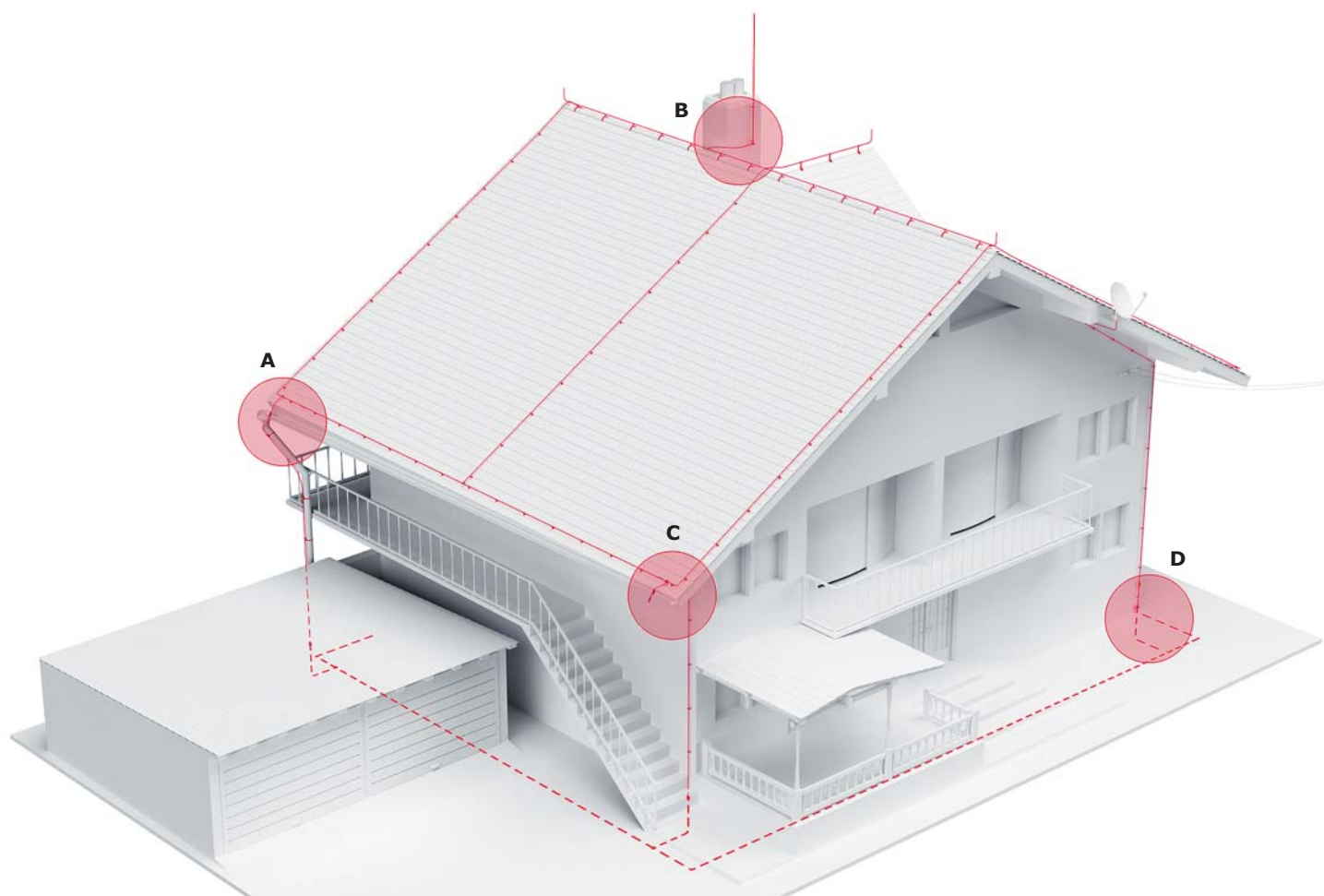
- conductors are coated with zinc layer preventing corrosion;
- bolted connectors provide reliable electric contact and make it possible to avoid welding;
- special holders help to mount conductors quickly and conveniently on various surfaces;
- accessories range helps to easily perform mounting of the system;
- copper and copper-plated conductors and mounting elements for copper roofs and better conductivity.

Organization of system for structures with flat roof



- | | |
|---|--|
| 1 Universal holder with concrete ND1000 | 10 Air termination rod NL7000 |
| 2 Hot dip galvanized wire Ø8 NC1008 | 11 Wire-wire connector Ø8 NG3104 |
| 3 Universal connector NG3103 | 12 Air termination rod NL7000 |
| 4 Control connector NG3203 | 13 40 kg Concrete base NL0500 |
| 5 Strip cramp holder ND2311 | 14 Conductor connector for air termination rod NG6606 |
| 6 Hot dip galvanized strip 25x4 NC2254 | 15 Strip-strip connector with separating plate NG3106 |
| 7 Connecting sleeve NG3202 | 16 Earth rod kit NE1104 |
| 8 Facade holder ND2307 | 17 Hot dip galvanized strip 40x4 NC2444 |
| 9 Wall mounting support for 5-7 m rods NL0100 | 18 Vertical profile grounding electrode 50x50x5 NE5503 |

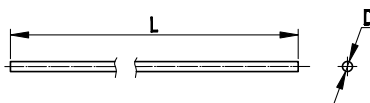
Organization of system for structures with pitched roof



- | | |
|--|---|
| 1 Universal connector NG3103 | 9 Connecting sleeve NG3202 |
| 2 Hot dip galvanized wire Ø8 NC1008 | 10 Wire-wire connector Ø8 NG3104 |
| 3 Gutter wire clamp with bolt ND2308 | 11 Plastic tile holder ND2214 |
| 4 Pipe clamp of 80–160 mm NG3001 | 12 Spark discharger of class I NX0001 |
| 5 Air termination rod with holder of 3 m NL7300 | 13 Facade holder ND2307 |
| 6 Conductor connector for air termination rod NG6606 | 14 Wire-strip connector with separating plate NG3101 |
| 7 Angled ridge clamp ND2202 | 15 Hot dip galvanized strip 40x4 NC2444 |
| 8 Adjustable ridge clamp with plastic holder ND2204 | 16 Strip-strip connector with separating plate NG3106 |

Conductors

Wire

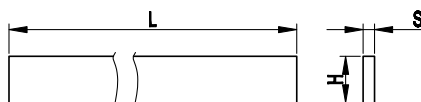


Purpose:

- construction of lightning protection grid and down conductor system.

D, mm	Section, mm ²	Material	Weight 1 m, kg	L, m	Code
8	50	hot dip galvanized steel	0.43	110	NC1008
8	50	copper	0.44	112	NC1008CU
8	50	copper clad steel	0.39	120	NC1008CC
10	78	copper	0.7	71	NC1010CU
10	78	hot dip galvanized steel	0.65	80	NC1010

Strip

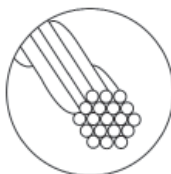


Purpose:

- building of horizontal grounding, systems of protective grounding and equipotential bonding.

H, mm	S, mm	Section, mm ²	Material	Weight 1 m, kg	L, m	Code
25	4	100	hot dip galvanized steel	0.81	62	NC2254
20	4	80	copper	0.71	70	NC2204CU
25	4	100	copper	0.89	56	NC2254CU
25	4	100	copper clad steel	0.82	61	NC2254CC
40	4	160	copper	1.45	35	NC2444CU
40	4	160	copper clad steel	1.28	39	NC2444CC
40	4	160	hot dip galvanized steel	1.32	38	NC2444
50	5	250	hot dip galvanized steel	2	25	NC2505

Aluminum rope



Purpose:

- mounting of wire rope lightning conductors and for temperature-related length compensation of longer conductor.

Characteristics:

- consists of 19 braided wires;
- total section is 50 mm².

Diameter, mm	Section	Material	Weight 1 m, kg	Q-ty in a coil, m	Code
9	19 x Ø1.8	aluminium	0.14	10	NC3050

Air-termination rods

Air rods with holders with holders


Purpose:

- installation on the vertical surfaces (wall, vent-pipe).

Characteristics:

- kit includes two holders with dowels and installation connector for connection of wire;
- distance between rod and bearing surface is 75 mm;
- possibility of Ø8–10 wire or 25x4 mm strip connection

Length, mm	Diameter, mm	Material	Weight, kg	Code
1000	16	aluminium	1.08	NL7100
1500			1.50	NL7150
2000			1.62	NL7200
3000			2.40	NL7300
1000		copper	1.5	NL7100CU
1500			1.8	NL7150CU
2000			2	NL7200CU
3000			2.75	NL7300CU

Air rods with double clamp for round ridge


Purpose:

- installation on round roof ridge.

Characteristics:

- adjustable clamp range;
- kit includes installation connector for connection of wire.

Length, mm	Diameter, mm	Clamp range, mm	Material	Weight, kg	Code
1000	12	125–205	fastener: galvanized steel; rod: aluminium	1.02	NL5100
1500		125–205		1.20	NL5150
2000		125–205		1.37	NL5200

Air rods with angle clamp for sharp ridge



Purpose:

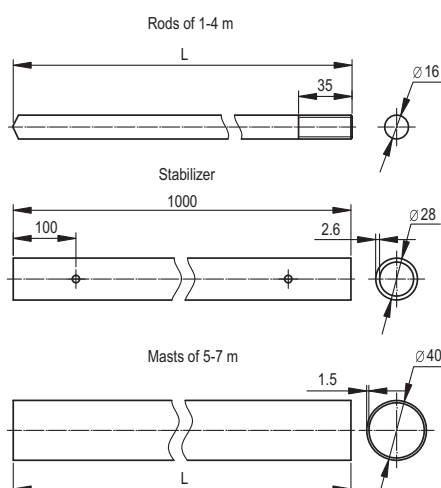
- installation on sharp roof ridge.

Characteristics:

- base with holes for attachment of holder using self-tapping screws;
- kit includes installation connector for connection of wire.

Length, mm	Diameter, mm	Material	Steel thickness, mm	Weight, kg	Code
1000	12	fastener: galvanized steel; rod: aluminium	2	1.02	NL6100
1500			2	1.20	NL6150
2000			2	1.37	NL6200

Air rods and masts



Purpose:

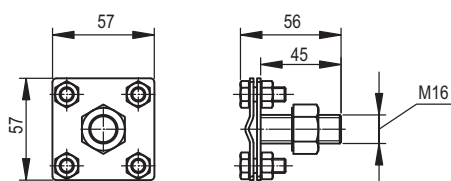
- installation of self-supporting lightning rods.

Characteristics:

- rods with length of 3 and 4 meters are additionally completed with stabilizer made of stainless steel;
- rods have M16 thread for threading into concrete bases;
- masts of 5, 6, and 7 meters are assembled; transport length is 3 meters maximum; installed in special tripod stand, completed with connectors to conductor wire;
- connection of conductor wires to air-termination rods is performed by means of special NG6606 connector.

Name	Length, mm	Material	Diameter, mm	Weight, kg	Code
Rods	1000	aluminium	16	0.52	NL1000
	2000		16	1.04	NL2000
	3000		16	3.74	NL3000
	4000		16	4.16	NL4000
Masts	5000	stainless steel	40	7.8	NL5000
	6000		40	9.4	NL6000
	7000		40	11	NL7000
	5000	copper	40	7.6	NL5000CU
	6000		40	10	NL6000CU

Conductor connector for air termination rod



Purpose:

- connection of lightning protection grid or conductor wires to lightning rods.

Characteristics:

- threaded into connection point of concrete base.

Thread, mm	Material	Code
16	hot dip galvanized steel	NG6606
16	copper clad steel	NG6606CC

Concrete base



Purpose:

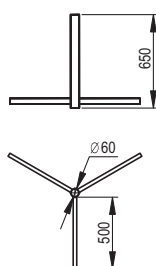
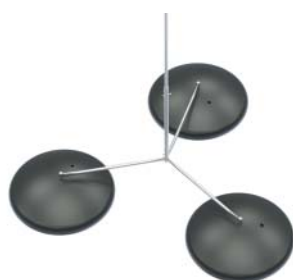
- installation of air-termination rods on flat horizontal surfaces.

Characteristics:

- has two connection points with M16 thread for threading-in of lightning rod and special connector;
- connection points are connected with metal plate inside the base.

Diameter, mm	Weight, kg	Material	Code
345	20	concrete	NL0345
500	40	concrete	NL0500

Tripod for Air termination rods



Purpose:

- installation of interception rods with 5–7 meters length

Characteristics:

- installed on three NL0500 concrete bases; fixture is included into the kit.

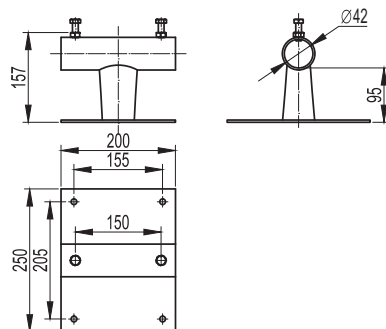
Material	Weight, kg	Code
Hot dip galvanized steel	9.0	NL0700

Kits of air termination rods with concrete bases



Kits	Components	Q-ty, pcs	Code
Air termination system kit 1	air termination rod, 1 m	1	NL1000
	concrete base, 20 kg	1	NL0345
	conductor connector for air termination rod	1	NG6606
Air termination system kit 2	air termination rod, 2 m	1	NL2000
	concrete base, 20 kg	1	NL0345
	conductor connector for air termination rod	1	NG6606
Air termination system kit 3	air termination rod, 3 m	1	NL3000
	concrete base, 40 kg	1	NL0500
	conductor connector for air termination rod	1	NG6606
Air termination system kit 4	air termination rod, 4 m	1	NL4000
	concrete base, 40 kg	1	NL0500
	conductor connector for air termination rod	1	NG6606
Air termination rod kit 5	air termination rod, 5 m	1	NL5000
	tripod for air termination rods	1	NL0700
	concrete base, 40 kg	3	NL0500
Air termination rod kit 6	air termination rod, 6 m	1	NL6000
	tripod for air termination rods	1	NL0700
	concrete base, 40 kg	3	NL0500
Air termination rod kit 7	air termination rod, 7 m	1	NL7000
	tripod for air termination rods	1	NL0700
	concrete base, 40 kg	3	NL0500
	conductor connector for air termination rod	1	NG6606

Wall mounting support for 5–7 m rods



Purpose:

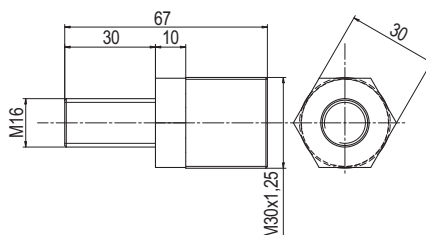
- fastening of 5–7 meters rods on vertical surface.

Note:

- two holders per each rod are required for reliable fastening.

Mast diameter, mm	Material	Weight, kg	Code
≤50	hot dip galvanized steel	3.15	NL0100
≤50	lacquered steel	3.15	NL0100CC

ESE-interception rod connector



Purpose:

- connection of ESE to 5–7 meters rods.

Characteristics:

- threaded into base of ESE lightning rod and attached to masts.

Thread, mm	Material	Code
16	aluminium	NG6607

Kit of air termination rod with concrete bases



Purpose:

- protection of equipment above the roof level.

Note:

- min 4 meters diameter area is required for installation.

Total height	Mast diameter, mm	Base arm length, mm	Components	Q-ty, pcs	Code
Lightning mast, 8 m	40/25/16	1650	Base for lightning masts, 8–10 m	1	NL0900
			Extenders for base	1	NL0910
			Concrete base, 40 kg	5	NL0500
			Additional components for mast of 8 m	1	NG6008
			Lightning mast, 8 m	1	NL8000
Lightning mast, 9 m	40/25/16	1650	Base for lightning masts, 8–10 m	1	NL0900
			Extenders for base	1	NL0910
			Concrete base, 40 kg	5	NL0500
			Additional components for mast of 9 m	1	NG6009
			Lightning mast, 9 m	1	NL9000
Lightning mast, 10 m	40/25/16	1650	Base for lightning masts, 8–10 m	1	NL0900
			Extenders for base	1	NL0910
			Concrete base, 40 kg	5	NL0500
			Additional components for mast of 10 m	1	NG6010
			Lightning mast, 10 m	1	NL1100

ESE lightning rods



Purpose:

- additional protection against direct lightning strikes.

Characteristics:

- information is given according to NFC 17-102:2011, IEC 62305-2 standards.

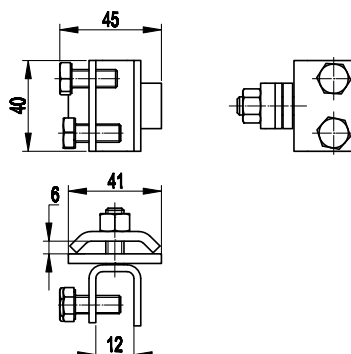
Item	Rate time, ms	Length, cm	Weight, kg
NI0015	15	37.85	2.87
NI0030	30	42.85	2.99
NI0045	45	47.85	3.11
NI0060	60	52.85	3.23

Protection level (according to IEC 62305-2)	Level 1				Level 2				Level 3				Level 4			
h (m)*	ESE 15 μs	ESE 30 μs	ESE 45 μs	ESE 60 μs	ESE 15 μs	ESE 30 μs	ESE 45 μs	ESE 60 μs	ESE 15 μs	ESE 30 μs	ESE 45 μs	ESE 60 μs	ESE 15 μs	ESE 30 μs	ESE 45 μs	ESE 60 μs
	Protection radius, m															
2	13	19	25	31	15	22	28	35	18	25	32	39	20	28	36	43
5	32	48	63	79	37	55	71	86	45	63	81	97	51	71	89	107
10	34	49	64	79	40	57	72	88	49	66	83	99	56	75	92	109
20	35	50	65	80	44	59	74	89	55	71	86	102	63	81	97	113
30	34	49	64	79	45	60	75	90	58	73	89	104	69	85	101	116
40	29	46	62	77	44	59	74	89	60	75	90	105	72	88	103	118
50	18	40	58	74	40	57	72	88	60	75	90	105	74	89	105	120
60	–	30	51	69	34	52	69	85	85	73	89	104	75	90	105	120

* Height above the protected structure

Holders

Folding clamp



Purpose:

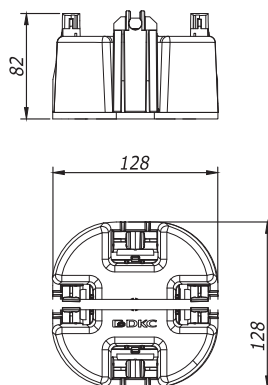
- connection of wire with metal structures or seams.

Characteristics:

- reliable bolted attachment to metal structures;
- rotating plates make it possible to fix wire at a random angle.

Clamp range, mm	Conductor type	Material	Steel thickness, mm	Code
12	wire rod, 8 mm	hot dip galvanized steel	3	ND2001
12	wire rod, 8 mm	copper	3	ND2001CU

Universal holder with concrete



Purpose:

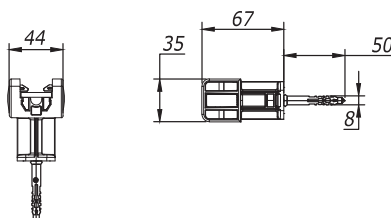
- fastening of lightning protection grid on flat roof.

Characteristics:

- demountable structure;
- use of ND2301 facade holder for attachment of 40x4 strip;
- possibility of attachment with glue or self-tapping screws.

Conductor type	Weight, kg	Material	Code
Wire, 8–10 mm	1.1	polypropylene with concrete	ND1000

Universal holder



Purpose:

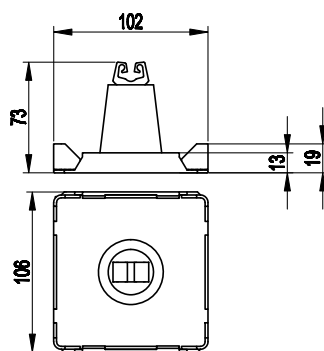
- fastening of lightning protection grid and strip on facades and roof.

Characteristics:

- demountable structure;
- possibility of threaded attachment;
- possibility of attachment with one screw.

Conductor type	Weight, kg	Material	Code
Wire, 8 mm/strip 25 mm	0.18	PBT plastic	ND2000

Roof plastic holder


Purpose:

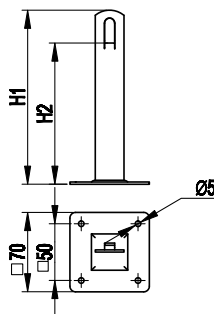
- fastening of lightning protection grid on a roof using glue or bitumen bands.

Characteristics:

- unlatching base for gluing;
- rotary lock makes it possible to perform laying of wire at a random angle.

Conductor type	Material	Code
Wire rod, 8 mm	polyethylene	ND2104

Metal holder


Purpose:

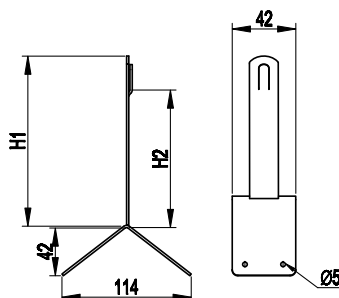
- fastening of lightning protection grid on roof with self-tapping screws.

Characteristics:

- base with holes for holder attachment with self-tapping screws;
- conductors are fixed with a screwless clamp using pliers.

Conductor type	H1, mm	H2, mm	Material	Steel thickness, mm	Code
Wire rod, 8 mm	100	75	hot dip galvanized steel	2	ND2106
Wire rod, 8 mm	150	125	hot dip galvanized steel	2	ND2105
Wire rod, 8 mm	100	75	copper	2	ND2106CU
Wire rod, 8 mm	150	125	copper	2	ND2105CU

Angled ridge clamp


Purpose:

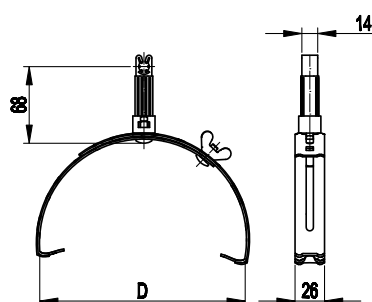
- fastening of lightning protection grid on roof ridge with self-tapping screws.

Characteristics:

- base with holes for holder attachment with self-tapping screws;
- conductors are fixed with a screwless clamp using pliers.

Conductor type	H1, mm	H2, mm	Material	Steel thickness, mm	Code
Wire rod, 8 mm	100	70	hot dip galvanized steel	2	ND2202
Wire rod, 8 mm	150	120	hot dip galvanized steel	2	ND2201
Wire rod, 8 mm	100	70	copper	2	ND2202CU
Wire rod, 8 mm	150	120	copper	2	ND2201CU

Adjustable ridge clamp with plastic holder



Purpose:

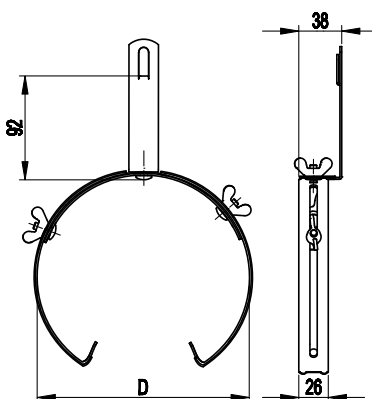
- fastening of lightning protection grid on roof ridge.

Characteristics:

- adjustable clamp range;
- conductor is snap-fastened.

Conductor type	Clamp range, mm	Material	Code
Wire rod, 8 mm	125–205	hot dip galvanized steel	ND2204
Wire rod, 8 mm	125–205	copper	ND2204CU

Adjustable oversized ridge clamp



Purpose:

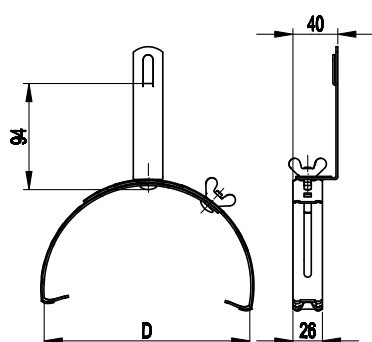
- attachment of lightning protection grid on roof ridge.

Characteristics:

- adjustable clamp range;
- conductors are fixed with a screwless clamp using pliers.

Conductor type	Clamp range, mm	Material	Code
Wire rod, 8 mm	240–300	hot dip galvanized steel	ND2203
Wire rod, 8 mm	240–300	copper	ND2203CU

Adjustable ridge clamp



Purpose:

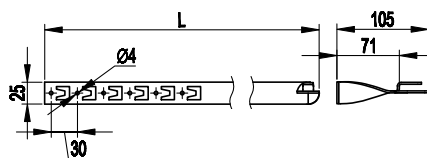
- fastening of lightning protection grid on roof ridge.

Characteristics:

- adjustable clamp range;
- conductors are fixed with a screwless clamp using pliers.

Conductor type	Clamp range, mm	Material	Code
Wire rod, 8 mm	125–205	hot dip galvanized steel	ND2205
Wire rod, 8 mm	125–205	copper	ND2205CU

Twisted tile holder


Purpose:

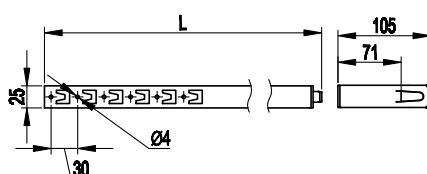
- fastening of lightning protection grid on tile and slate roof.

Characteristics:

- different length of base;
- conductors are fixed with a screwless clamp using pliers.

Conductor type	L, mm	Material	Code
Wire rod, 8 mm	330	hot dip galvanized steel	ND2206
	415		ND2207
	450		ND2208
Wire rod, 8 mm	330	copper	ND2206CU
	415		ND2207CU
	450		ND2208CU

Straight tile holder


Purpose:

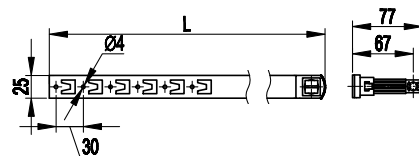
- fastening of lightning protection grid on tile and slate roof.

Characteristics:

- different length of base;
- conductors are fixed with a screwless clamp using pliers.

Conductor type	L, mm	Material	Code
Wire rod, 8 mm	330	hot dip galvanized steel	ND2209
	415		ND2210
	450		ND2211
Wire rod, 8 mm	415	copper	ND2210CU
	450		ND2211CU

Plastic tile holder


Purpose:

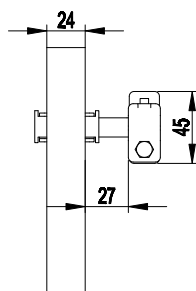
- fastening of lightning protection grid on tile and slate roof.

Characteristics:

- different length of base;
- conductor is snap-fastened.

Conductor type	L, mm	Material	Code
Wire rod, 8 mm	330	hot dip galvanized steel	ND2214
	415		ND2213
	450		ND2212
Wire rod, 8 mm	330	copper	ND2214CU
	425		ND2213CU
	450		ND2212CU

Pipe clamp



Purpose:

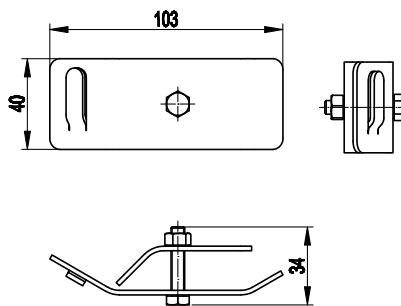
- fastening of conductor to gutter.

Characteristics:

- adjustable range for pipes of different diameter;
- bolted fastening of conductor.

Conductor type	Material	Tube diameter, mm	Code
Wire, 8–10 mm/strip 25 mm	stainless steel	20–80	NG3002
	stainless steel	80–160	NG3001
Wire, 8–10 mm/strip 25 mm	copper	20–80	NG3002CU
	copper	80–160	NG3001CU

Gutter wire clamp



Purpose:

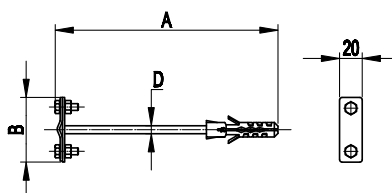
- fastening of conductor to rain water gutters.

Characteristics:

- conductors are fixed with a screwless clamp using pliers.

Conductor type	Material	Code
Wire rod, 8 mm	hot dip galvanized steel	ND2309
Wire rod, 8 mm	copper	ND2309CU

Facade holder



Purpose:

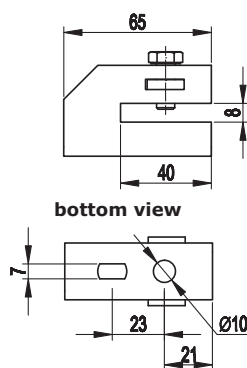
- fastening of conductor (downdrops) along the building's facade.

Characteristics:

- attachment of round and flat conductor;
- conductor bolted mounting;
- 40x4 strip fixing to ND2301 holder is possible.

Conductor type	A, mm	B, mm	D, mm	Material	Code
Wire rod, 8–10 mm/strip 25 mm	100	57	6	hot dip galvanized steel	ND2307
	125	57	8		ND2306
	160	57	8		ND2305
	160	80	8		ND2301
	250	57	8		ND2304
	400	57	8		ND2302
Wire rod, 8–10 mm/strip 25 mm	100	57	6	copper clad steel	ND2307CC
	125	57	8		ND2306CC
	260	57	8		ND2305CC
	160	80	8		ND2301CC

Strip holder with tightening screw


Purpose:

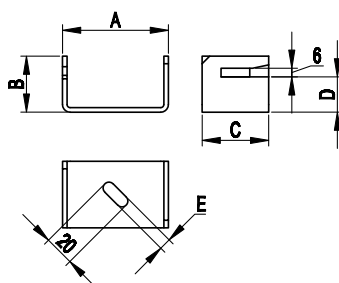
- fastening of strip-conductor to facade and internal walls.

Characteristics:

- perforated holes in base for attachment to surfaces;
- conductor is additionally fixed with a tightening screw.

Conductor type	Steel thickness, mm	Bolt	Material	Code
Strip, 40x4 mm, strip, 50x5 mm	2	M8x20	hot dip galvanized steel	ND2312
Strip, 40x4 mm, strip, 50x5 mm	2	M8x20	copper	ND2312CU

Strip holder


Purpose:

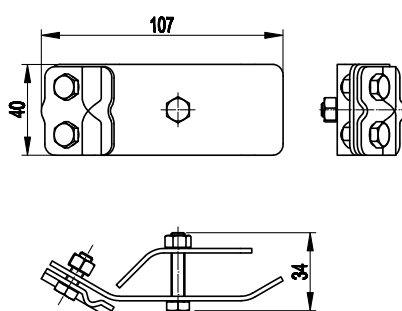
- fastening of strip-conductor to facade and internal walls.

Characteristics:

- perforated holes in base for attachment to surfaces;
- thickness of fixed strip is up to 6 mm.

Conductor type	Material	A, mm	B, mm	C, mm	D, mm	E, mm	Code
Strip, 25x4 mm	hot dip galvanized steel	45	32	25	20	7	ND2311
Strip, 40x4 mm	hot dip galvanized steel	70	35	45	19	8	ND2310
Strip, 25x4 mm	copper	45	32	25	20	7	ND2311CU

Gutter wire clamp with bolt


Purpose:

- fastening of conductor (downdrops) to gutters.

Characteristics:

- bolted fastening;
- makes it possible to lay conductor both across or along the gutter.

Conductor type	Material	Code
Wire rod, 8 mm	hot dip galvanized steel	ND2308
Wire rod, 8 mm	copper	ND2308CU

Grounding

Earth rod kit



Purpose:

- vertical grounding electrode.

Scope of supply (earth rod with inserted connection):

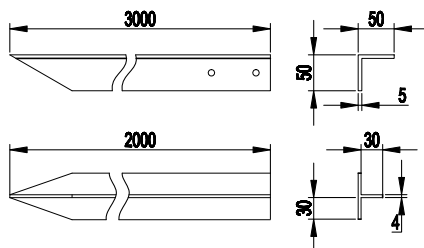
- vertical grounding electrode, 1500 mm, up-per section – 1 pc;
- vertical grounding electrode, 1500 mm, lower section – 1 pc;
- conductor connector – 1 pc;
- driving spike – 1 pc.

Scope of supply (earth rod with coupling connection):

- vertical grounding electrode, 1500 mm – 2 pcs;
- impact tip – 1 pc;
- connecting coupling – 2 pcs.;
- conductor connector – 1 pc;
- driving spike – 1 pc.

Connection type	Section length, mm	Total length, mm	Rod diameter, mm	Material	Weight, kg	Code
Inserted	1500	3000	16	hot dip galvanized steel	5.07	NE1103
Coupling	1500	3000	16	hot dip galvanized steel	5.64	NE1104
	1500	3000	16	copper clad steel	5	NE1104CC

Profile earth rod



Purpose:

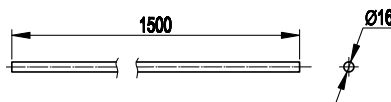
- vertical grounding electrode.

Characteristics:

- set includes fixture for bolted connection to horizontal ground loop.

Length, mm	Section shape	Section	Material	Weight, kg	Code
3000	angle	50x50x5	hot dip galvanized steel	10.48	NE5503
2000	T-type	30x30x30x4	hot dip galvanized steel	4.2	NE1105

Earth rod

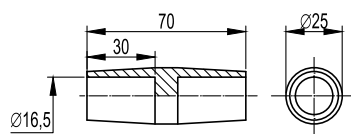


Purpose:

- component for assembly of vertical grounding electrode with a random length.

Connection type	Section length, mm	Rod diameter, mm	Material	Weight, kg	Code
Inserted	1500 (upper section)	16	hot dip galvanized steel	2.40	NE1211
	1500 (upper section)	16	hot dip galvanized steel	2.35	NE1212
Coupling	1500	16	hot dip galvanized steel	2.43	NE1202
Coupling	1500	16	copper clad steel	2.40	NE1202CC

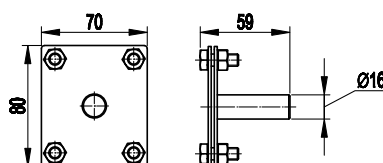
Connecting coupling


Purpose:

- interconnection of NE1202 earth rods, connection of NE1302 connector.

Used grounding electrode	Diameter, mm	Material	Weight, kg	Code
Coupling	16	brass	0.15	NE1304

Earth rod connector (with coupling connection)


Purpose:

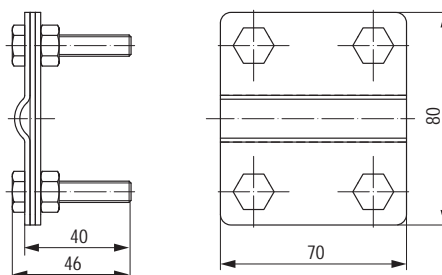
- bolted connection of earth rod to 40x4 or 25x4 mm strip.

Characteristics:

- suitable for NE1202 earth rod with coupling connection
- connection to NE1202 earth rod using NE1304 coupling.

Used grounding electrode	Diameter, mm	Material	Weight, kg	Code
Coupling	16	hot dip galvanized steel	0.33	NE1302
	16	brass	0.33	NE1302CUZN

Earth rod connector (with coupling/inserted connection)


Purpose:

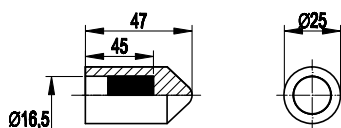
- connection of earth rod to 40x4 or 25x4 mm strip.

Characteristics:

- suitable both for earth rod with coupling connection and earth rod with inserted connection.

Used grounding electrode	Diameter, mm	Material	Weight, kg	Code
Coupling/inserted	16	hot dip galvanized steel	0.35	NG3116

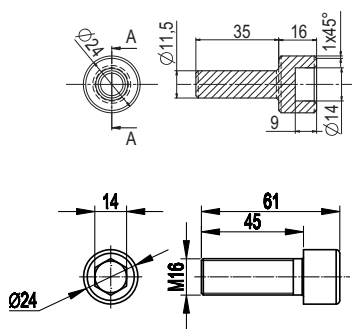
Earth rod impact tip (with coupling connection)


Purpose:

- for driving NE1202 earth rod.

Used grounding electrode	Diameter, mm	Material	Weight, kg	Code
Coupling	16	brass	0.15	NE1402

Driving spike



Purpose:

- used for driving in the first earth rod.

Characteristics:

- makes it possible to drive earth rod in the ground with vibrohammer (perforator) using standard tool;
- NE1403 is inserted into the upper section of NE1211 inserted earth rod;
- NE1404 is inserted into the NE1304 coupling.

Used grounding electrode	Diameter, mm	Material	Weight, kg	Code
Inserted	16	steel	0.05	NE1403
Coupling	16	steel	0.08	NE1404

Strip holder for ground loop

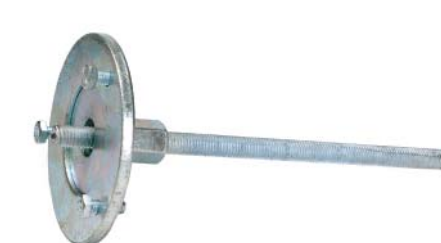


Purpose:

- fastening of 25x4 and 40x4 strip in the ground while mounting of horizontal ground loop.

Steel thickness, mm	Material	Weight, kg	Code
2	hot dip galvanized steel	0.134	NE1002

Fixed earthing terminal



Purpose:

- connection to earthing systems, conductors and reinforcement.

Thread	Material	Weight, kg	Length, mm	Code
M10	hot dip galvanized steel	0.45	200	NE1003
M12	hot dip galvanized steel	0.52	200	NE1004

Equipotential busbar



Purpose:

- equipotential bonding.

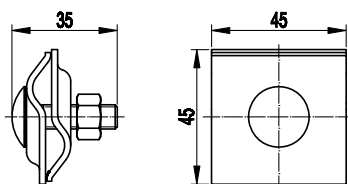
Characteristics:

- flat conductor with section of up to 30x4 mm – 1 connection;
- round conductor with diameter of up to 8 mm – 1 connection;
- round conductor with section of 4–25 mm² – up to 10 connections.

Length, mm	Width, mm	Height, mm	Code
175	50	45	NE1001

Connector

Universal connector

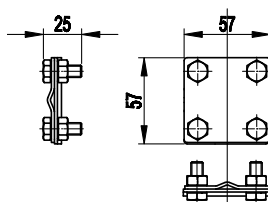


Purpose:

- parallel, cross and T-type connection of 8 mm wire while mounting lightning protection grid and down conductor system.

Conductor type	Material	Code
Wire rod, 8 mm	hot dip galvanized steel	NG3103
Wire rod, 8 mm	copper	NG3103CU

Wire -wire connector

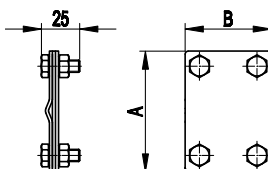


Purpose:

- cross connection of wire with wire.

Conductor type	Material	Code
Wire rod, 8 mm	hot dip galvanized steel	NG3104
Wire rod, 10 mm	hot dip galvanized steel	NG3109
Wire rod, 8 mm	copper	NG3104CU
Wire rod, 10 mm	copper	NG3109CU

Wire-strip connector with separating plate

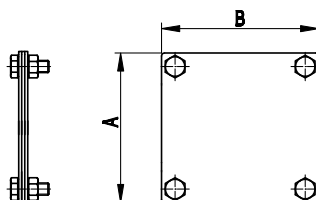


Purpose:

- parallel and cross connection of wire with strip.

Conductor type	Material	A, mm	B, mm	Code
Wire, 8-10 mm/strip 25 mm	hot dip galvanized steel	57	57	NG3102
Wire, 8-10 mm/strip 25-40 mm	hot dip galvanized steel	80	57	NG3101
Wire, 8-10 mm/strip 25 mm	copper	57	57	NG3102CU
Wire, 8-10 mm/strip 25-40 mm	copper	80	57	NG3101CU

Strip-strip connector with separating plate

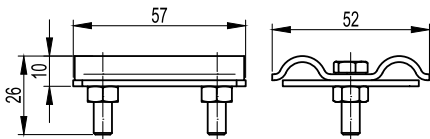


Purpose:

- parallel and cross connection of strip with other strip.

Conductor type	Material	A, mm	B, mm	Code
Strip, 25-40 mm	hot dip galvanized steel	80	70	NG3105
Strip, 25-40 mm	hot dip galvanized steel	100	100	NG3106
Strip, 25-40 mm	copper	80	70	NG3105CU
Strip, 25-40 mm	copper	100	100	NG3106CU

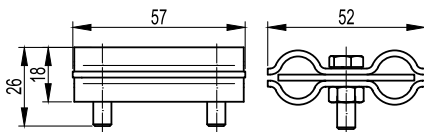
Parallel connector



Purpose:
• for connecting two wires in parallel arrangement.

Conductor type	Material	Code
Wire, 8–10 mm	hot dip galvanized steel	NG3108
Wire, 8–10 mm	copper clad steel	NG3108CC

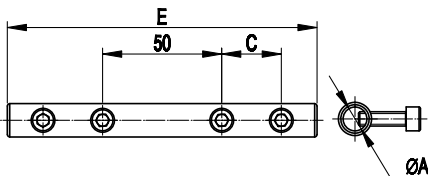
Parallel connector with separating plate



Purpose:
• for connecting wires in parallel arrangement.

Conductor type	Material	Code
Wire rod, 8 mm	hot dip galvanized steel	NG3107
Wire rod, 8 mm	copper	NG3107CU

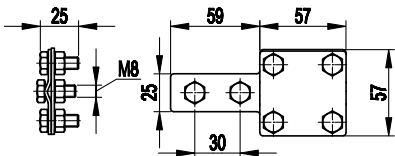
Connecting sleeve



Purpose:
• reinforced connection of round conductors.
Used during mounting of temperature-related length compensation.

Conductor type	Material	A, mm	C, mm	E, mm	Code
Wire, 8-10 mm	hot dip galvanized steel	10	25	130	NG3202
Wire, 8-10 mm	copper clad steel	10	25	130	NG3202CC
Rod, 16 mm	hot dip galvanized steel	16	30	150	NG3201

Control connector



Purpose:
• ground loop resistance measuring.

Conductor type	Material	Code
Wire, 8 mm/strip 25 mm	hot dip galvanized steel	NG3203
Wire, 8 mm/strip 25 mm	copper	NG3203CU

Accessories

Conductor straightening machine



Purpose:

- used for straightening of conductors during uncoiling.

Conductor type	Weight, kg	Length, mm	Width, mm	Height, mm	Code
Wire rod, 8 mm	14	430	40/95	180	NA1003
Wire rod 8/10, 40x4, 25x4 strip	21	400	180	60	NA1004

Straightening tool

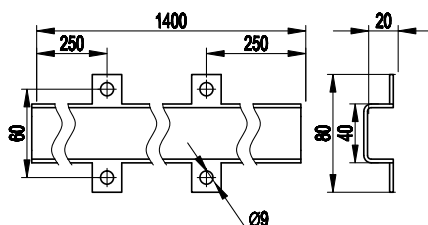


Purpose:

- enables to bend wire at required angle while mounting of lightning protection grid and down conductors.

Length, mm	Material	Quantity in a package, pcs	Code
400	hot dip galvanized steel	2	NA1102

Conductor protective cover



Purpose:

- mechanical protection of strip.

Length, mm	Material	Weight, kg	Code
1400	hot dip galvanized steel	1.75	NA1100

Anti-corrosion tape

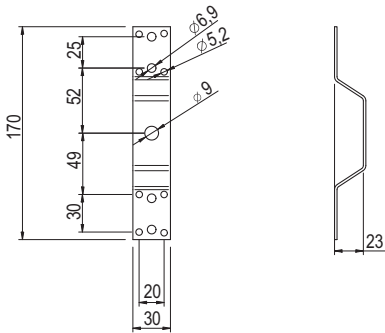


Purpose:

- additional corrosion protection in points of welding and down conductor's entry into the ground.

Width, mm	Length, m	Code
100	10	NA1001

Bridging Bracket

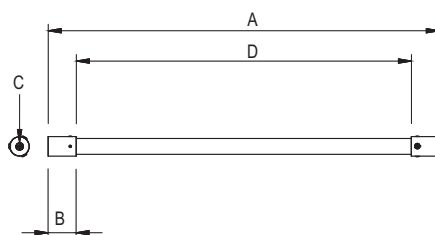


- Purpose:**
- Connection of metal elements.
- Characteristics:**
- 1 mounting hole $\varnothing 9$ mm;
 - 8 mounting holes $\varnothing 5.2$ mm;
 - 4 mounting holes $\varnothing 6.9$ mm.

Length, mm	Width, mm	Thickness, mm	Material	Code
170	30	2	aluminium	NA1201

Dielectric bars insulated lightning protection system

Insulating bar



Purpose:

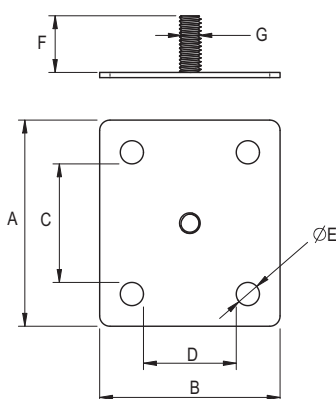
- mounting of lightning rods and conductors keeping the separation distance (according to IEC 62305-3).

Characteristics:

- fastening to vertical surface using NF0002 mounting plate;
- fastening of wire using NF0001 threaded holder;
- fastening of NL7100-NL7300 rods using NG6608 adapter.

A, mm	B, mm	C, mm	D, mm	Diameter, mm	Material	Code
500	51	M8	398	32	fibre-glass-reinforced plastic	NF0500
750	51	M8	638	32	fibre-glass-reinforced plastic	NF0750
1000	51	M8	888	32	fibre-glass-reinforced plastic	NF1000
1500	51	M8	1388	32	fibre-glass-reinforced plastic	NF1500
2000	51	M8	1888	32	fibre-glass-reinforced plastic	NF2000
3000	51	M8	2888	32	fibre-glass-reinforced plastic	NF3000

Wall mounting holder for insulating bar



Purpose:

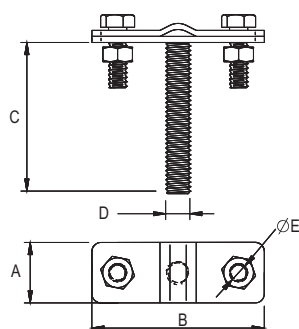
- fastening of insulating bars on vertical surface.

Characteristics:

- bar is fixed to holder by simple threading-in.

A, mm	B, mm	C, mm	Material	Code
80	57	8	galvanized steel	NF0002

Wire holder for insulating bar



Purpose:

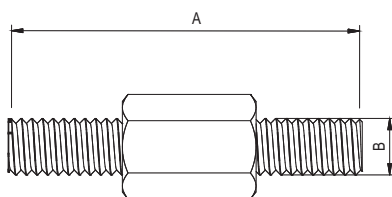
- fastening of wire to insulating bar.

Characteristics:

- holder is attached to insulating bar by simple threading-in;
- conductor bolted attachment.

Conductor type	A, mm	B, mm	C, mm	D, mm	Material	Code
Wire, 8-10 mm	20	57	M8×45	8	galvanized steel	NF0001

Insulating bar – air-termination rod connector



Purpose:

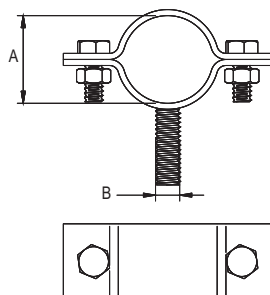
- fastening of lightning rod to insulating bar.

Characteristics:

- adapter is threaded into the bar with one side and into the hole for holders of NL7100-NL7300 rods with the other side;
- it is recommended to use 2 rods, 2 mounting plates and 2 connectors for one lightning rod.

A, mm	B, mm	Material	Code
25	8	galvanized steel	NG6608

Pipe clamp for insulating bar



Purpose:

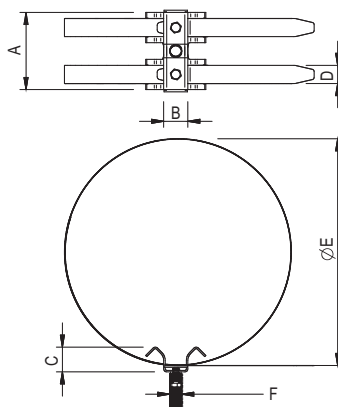
- fastening of insulating bar to a small diameter pipe.

Characteristics:

- interconnection of bars using NK3001 clamp;
- fastening of bar to insulated air-termination rod mast using NK3002 clamp.

A, mm	B, mm	Material	Code
32	8	galvanized steel	NK3001
40	8	galvanized steel	NK3002

Twisted pipe clamp for insulation bar



Purpose:

- fastening of insulating bar to a large diameter bar by using tightening strap.

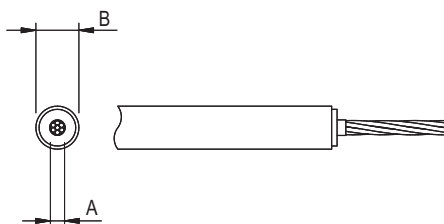
Characteristics:

- adjustable range for pipes.

Clamp range, mm	A, mm	B, mm	C, mm	D, mm	F, mm	Material	Code
0-150	120	30	30	24×0.4	M8×25	stainless steel	NK3101
0-500	120	30	30	24×0.4	M8×25	stainless steel	NK3102

High voltage conductor insulated lightning protection system

Insulated high-voltage conductor



Purpose:

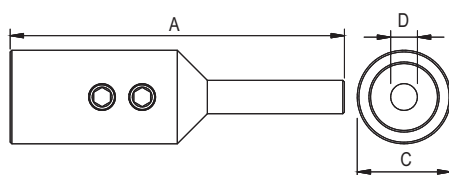
- For maintenance of the separation distance between protected conducting elements (according to IEC 62305-3).

Characteristics:

- maximum separation distance: 75 cm in the air;
- suitable both for external (roof, facade) and internal mounting (concrete);
- does not spread fire according to IEC 60332-1-3-2011.

A	B	Color	Multiple order quantity	Code
35 mm ²	23.4 mm	black	1 m	NC9035

Installation kit for connection of high-voltage conductor



Purpose:

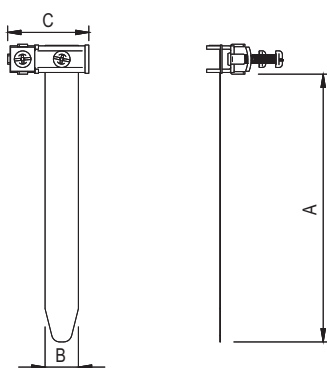
- installation and connection of insulated conductor to wire.

Characteristics:

- completed with heat-shrink tubing and fixture.

A	C	D	bolt	Material	Code
100	28	10	2×M8	brass	NK0001

Equipotential bonding clamp



Purpose:

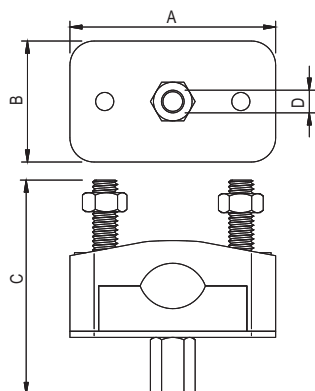
- connection of insulated conductor/metal pipes to equipotential bonding system.

Characteristics:

- adjustable range for pipes of different diameter.

Clamp range, mm	A, mm	B, mm	C, mm	Material	Code
0-36	125	14	32	stainless steel	NE1101
0-54	190	20	48	stainless steel	NE1102
0-124	410	20	48	stainless steel	NE1103

Universal holder of insulated conductor



Purpose:

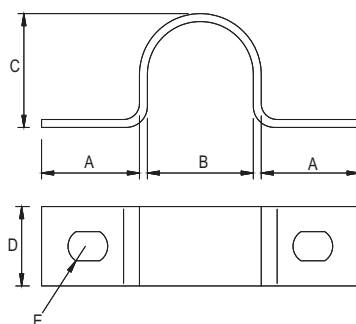
- fastening of insulated conductor on roof or facade.

Characteristics:

- mounting in ND1000 universal holder with concrete using M8×60 stud-screw nail;
- fastening to facade using M8 stud-screw nail.

A	B	C	D	Material	Code
70	40	70	M8	polypropylene	NK2201

Clamp holder of insulated conductor



Purpose:

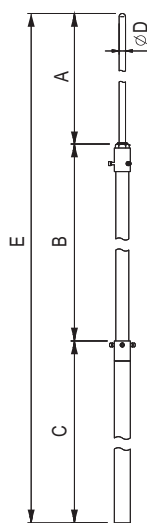
- fastening of insulated conductor on roof or facade.

Characteristics:

- base with holes for fastening using self-tapping screws.

A, mm	B, mm	C, mm	D, mm	E, mm	Material	Code
15	22.5	20	16	5.5×8	galvanized steel	NK2202

Insulated interception rod



Purpose:

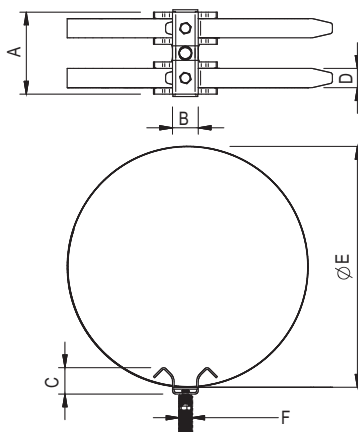
- laying of insulated conductor inside the rod;
- laying of additional insulated conductor outside the rod.

Characteristics:

- with insertions of fibre-glass-reinforced plastic;
- fastening on roof using NL0700 tripod and NL0500 concrete bases;
- fastening on vertical surface using NL0100 support;
- fastening on rectangular profiles or pipes using NK3103/NK3104 clamps and NK3105 holders.

Length, mm	Diameter, mm	A, mm	B, mm	C, mm	Material	Code
3000	40/16	500	1500	1000	stainless steel	NL3000HV
4000	40/16	1000	1500	1500	stainless steel	NL4000HV
5000	40/16	1000	1500	2500	stainless steel	NL5000HV
6000	40/16	1000	1500	3500	stainless steel	NL6000HV
7000	40/16	1000	1500	4500	stainless steel	NL7000HV

Twisted pipe clamp for insulated interception rod



Purpose:

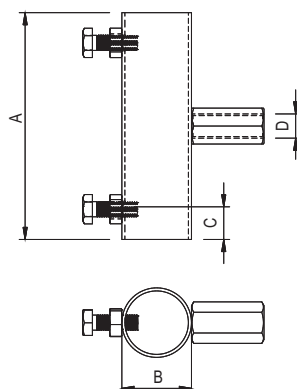
- fastening of insulated interception rod to large diameter pipes.

Characteristics:

- M16 thread for connection of NK3105 holder.

Clamp range, mm	A, mm	B, mm	C, mm	D, mm	F, mm	Material	Code
0-150	120	30	30	24×0.4	M16×50	stainless steel	NK3103
0-500	120	30	30	24×0.4	M16×50	stainless steel	NK3104

Surface-mounted holder for 3-7 meters insulated interception rods



Purpose:

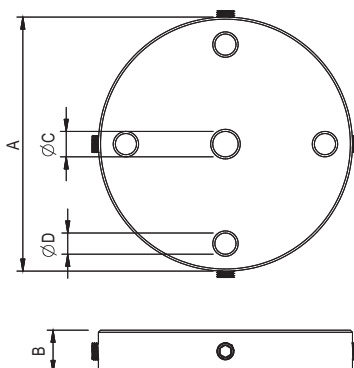
- fastening of insulated rods to different structures.

Characteristics:

- fastening to different structures using NK3103/NK3104 clamps;
- fastening on vertical surface using threaded rod is possible;
- fastening of standard 5–7 m air-termination rods is possible;
- minimum 2 holders should be used for insulated rod mounting.

Mast diameter, mm	A, mm	C, mm	D, mm	Material	Code
≤50	150	22	M16	galvanized steel	NK3105

Connecting ring for external mounting of insulated conductor



Purpose:

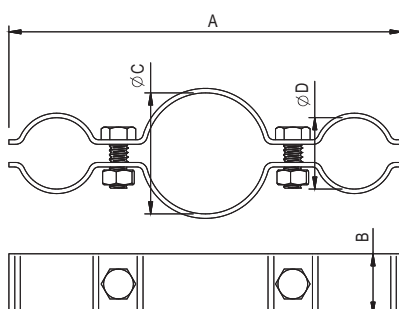
- Fastening of external insulated conductor to the interception rod.

Characteristics:

- attached to insulated rod tip and tightened using M10x35 hex head bolt;
- makes it possible to perform simultaneous connection of up to 4 insulated conductors;
- connection of insulated conductor using NK0001 connector.

A, mm	B, mm	C, mm	D, mm	Material	Code
120	20	12	10	aluminium	NK3201

External insulated conductor holder for insulated interception rod



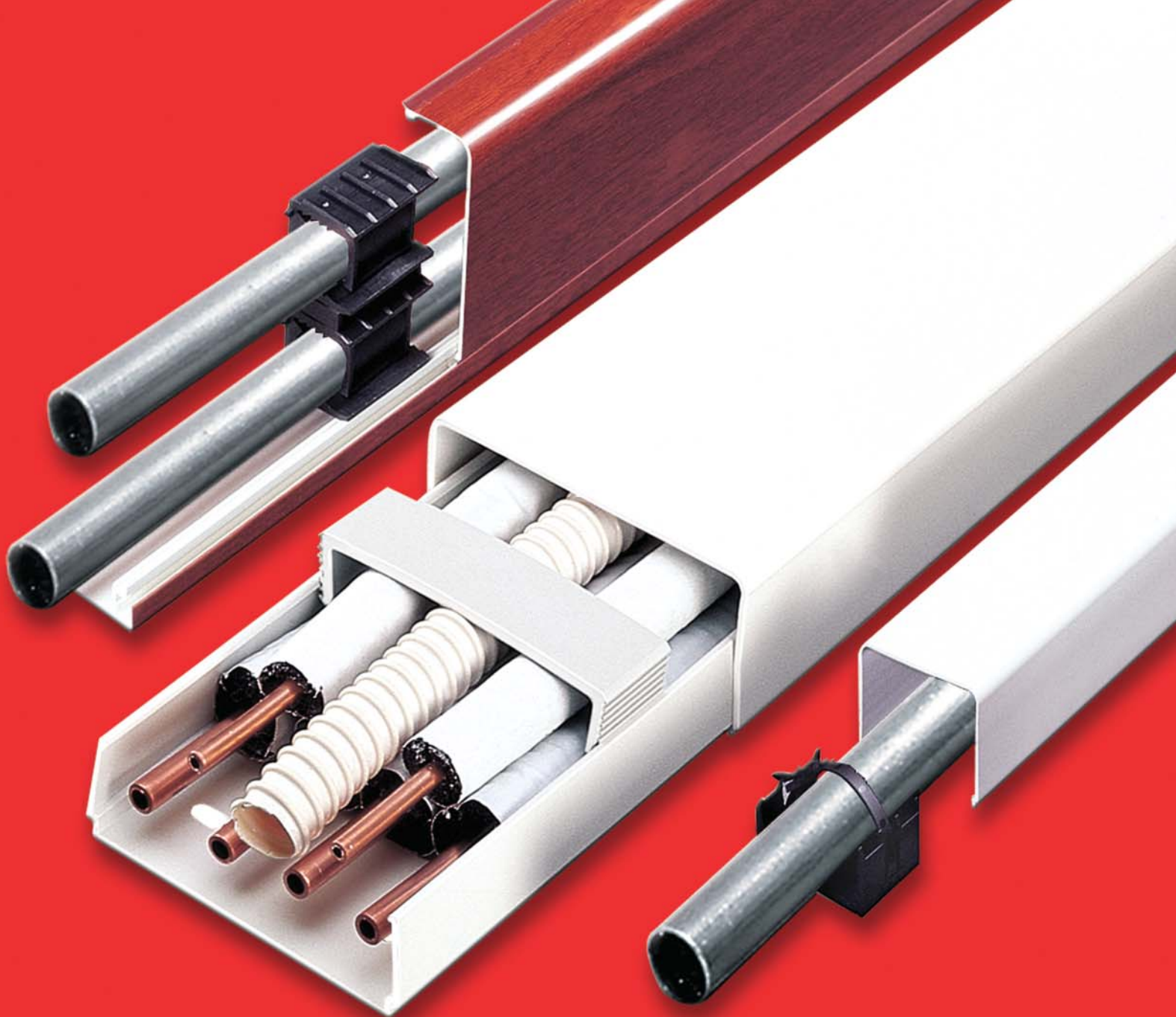
Purpose:

- fastening of additional insulated conductor to the interception rod.

Characteristics:

- fixed on rod with 1 meter maximum step.

A, mm	B, mm	C, mm	D, mm	Material	Code
130	20	40	23.6	stainless steel	NK3202



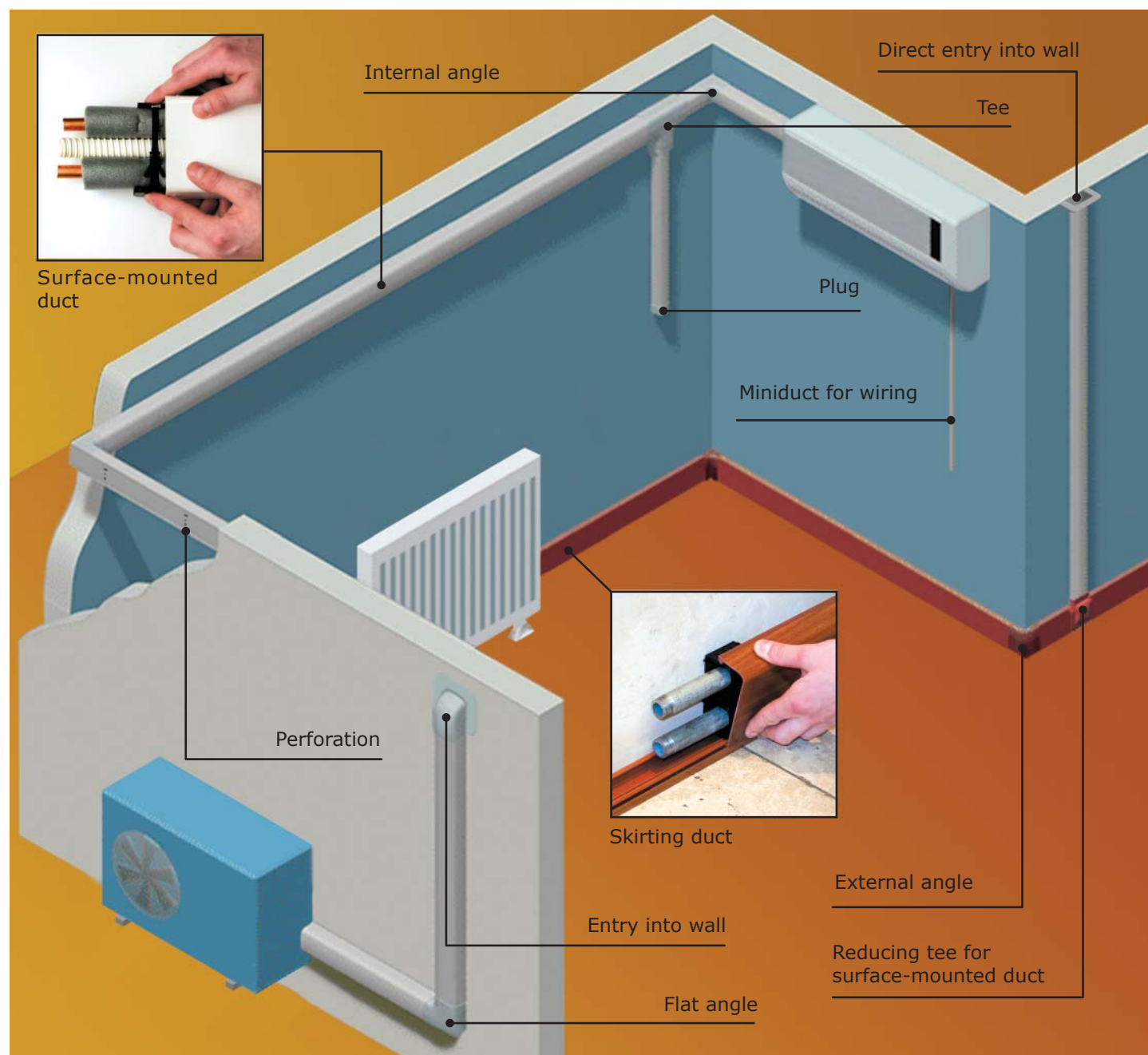
System for laying of air-conditioning, heat and water supply routes "Angara"

Conventional installation system	756
Reduced-weight installation system	757
Manual	763
Standard solutions	764
Skirting installation system	767
Miniducts for wiring	770
Drainage hoses	771

Professional ducts system "Angara"

It is designed for laying of air-conditioning, heat and water supply routes. Ducts are installed both in residential, office and production premises as well as on building facades. Laying of lines is performed both on walls – in the surface-mounted ducts and on a floor – in the skirting ducts. Ducts fit well into premise interiors, they are designed for long-term operation.

One of differences of professional ducts from standard electrotechnical ducts is a special structure with rounded cover comprising the duct on 3 sides. Such structure facilitates system installation and allows for fitting well into any interiors owing to complete absence of slits on the duct external surface. The assortment also includes set of special accessories which ensure both convenient system installation and convenience of further operation.



Plastic miniducts for wiring

The assortment includes both standard miniducts and self-adhesive miniducts as well as miniducts with partition wall. Availability of all the necessary decorative accessories improves system appearance while quality material of miniducts, secure lock and thick wall make system reliable and durable.

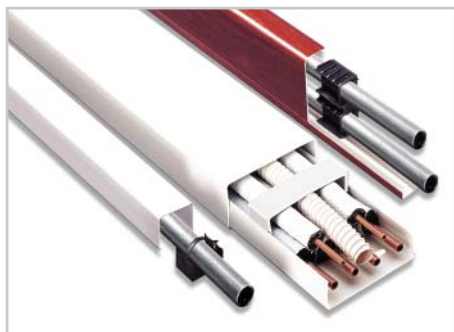
Drainage hoses

Wide range of reinforced flexible hoses is designed for discharge of condensate from coolers. Hoses consist of strong spiral-shaped frame embedded into non-rigid PVC, hose profile "deflation" is prevented under 180° bend owing to this fact. Hoses have improved flexibility and smooth inner surface.

Brackets for attachment of external cooler unit

They are used for installation of external unit of split-system. The distinctive feature of brackets is a structure without welds. Brackets are made of galvanized steel that allows for significant increase of corrosion resistance and service life of bracket.

Assortment



Surface-mounted and skirting ducts for cooler lines

- 5 surface-mounted ducts;
- 1 skirting white duct; or laminated woodgrain duct
- wide range of accessories



Miniducts for wiring

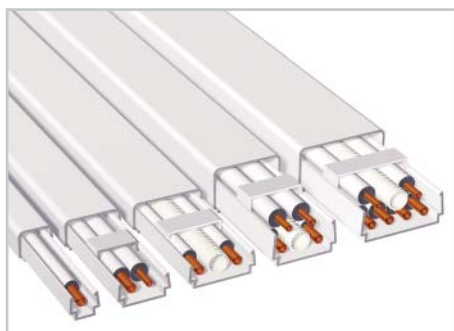
- 8 miniducts with accessories;
- 2 miniducts on adhesive base without accessories



Drainage hoses

- 12 standard sizes of reinforced hoses with smooth inner surface

Distinctive features of ducts for cooler lines



Wide and well-considered range of ducts makes it possible to select optimal duct standard size for each specific route



Rounded cover comprises the duct on 3 sides. There are no slits on the duct surface. Dirt and dust do not accumulate on the duct owing to absence of slits



Wide range of connecting, branching and other accessories makes system flexible, facilitates installation and improves system appearance



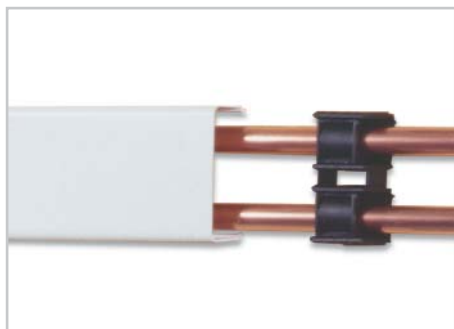
Perforation on the duct base facilitates attachment to a wall



Attachment clamp facilitates line installation in the duct as well as increases its total stiffness and excludes pressure of lines on the cover



Special accessory "entry into wall at angle of 90°" significantly facilitates installation in case of side passage through the wall and makes the system finished



Possibility of installation of lines without use of duct base (using universal holders) makes it possible to facilitate installation and reduce system cost

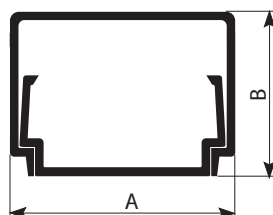


Universal holder with a latch is used with tubes of different diameter (12-28 mm) and substitutes duct base and attachment clamp at the same time



Universal expandable holder with tie is used with tubes of different diameter (15-55 mm) and substitutes duct base and attachment clamp at the same time

Duct with base and cover



Purpose:

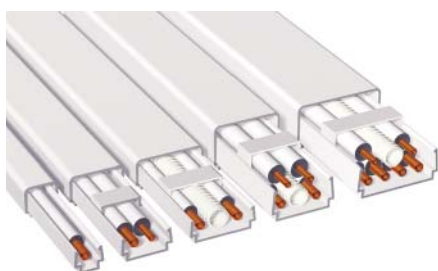
- laying of cooler lines, freon and drainage tubes.

Characteristics:

- complete set is duct base assembly with cover;
- color is white RAL 9016;
- material is PVC;
- mounting and operating temperature ranges from -25 to +70 °C.

Width A, mm	Height B, mm	Length, m	Code
42	40	2	AIR42400
70	40	2	AIR70400
90	40	2	AIR90400
90	60	2	AIR90600
120	60	2	AIR12060

Mounting features



Duct with base and cover is installed with conventional method: base is attached to a wall, later cover is latched on the base.

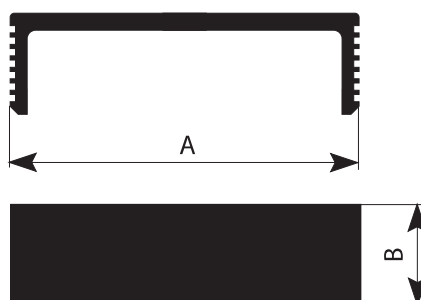
The main distinctive feature of ducts for cooler lines is a well-considered freon and drainage tube fastening system. During the installation tubes laid in the duct are forced against its base with special attachment clamps which significantly facilitate system installation, exclude pressure of tubes on the duct cover and increase total duct stiffness.

Installation procedure:

1. duct base is attached to a wall through the available perforation;
2. freon and drainage tubes are laid and, if necessary, cable is also laid;
3. tubes are attached in the duct base using attachment clamps;
4. duct cover is installed by latching on base.

Accessories for installation and attachment

Attachment clamps



Purpose:

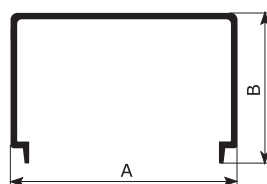
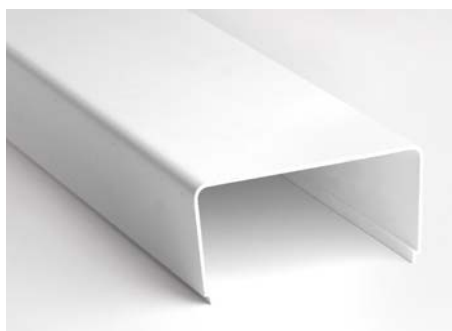
- attachment of lines in the duct base.

Description:

- attachment clamp is latched in the duct at the required depth forcing lines against the duct rear wall;
- installation is facilitated;
- total duct stiffness is increased;
- pressure of lines on the duct cover is excluded.

Duct size (WxH), mm	Length A, mm	Width B, mm	Code
42x40	-	-	-
70x40	61.5	30	AIR70401
90x40	79.5	30	AIR90401
90x60	79.5	30	AIR90601
120x60	109.5	30	AIR12061

Duct without base (cover)



Purpose:

- laying of cooler tubes (freon and drainage), heat and water supply routes.

Characteristics:

- complete set is duct cover without base;
- color is white RAL 9016;
- material is PVC;
- mounting and operating temperature ranges from -25 to +70 °C.

Width A, mm	Height B, mm	Length, m	Code
42	40	2	AIR00042
70	40	2	AIR00070
90	40	2	AIR00090
90	60	2	AIR000906
120	60	2	AIR00120

Mounting features



Only duct cover is used for installation of lines and duct base is not used. Universal holders are used instead of duct base.

Installation procedure

1. Universal holders (with a latch or with tie) are attached to a wall with a certain pitch (at least three holders on two-meter cover segment).
2. Tubes are laid on a wall and fixed with holders.
3. Duct cover is installed by latching on retainers.

Accessories for installation and attachment

Universal expandable holder with tie



Description:

- holder has 3 positions and can be used with duct covers 70x40, 90x40, 90x60 and 120x60 mm;
- holder tie has a coverage diameter from 15 up to 55 mm;
- holder is used instead of duct base and makes it possible to latch duct cover directly on it.

Universal holder with a latch



Description:

- holder consists of two interconnected sections with latches;
- holder can be used with duct covers 42x40, 90x40 and 90x60 mm;
- tubes with diameter from 12 to 28 mm can be attached using a holder;
- holder is used instead of duct base and makes it possible to latch duct cover directly on it.

Cover size (WxH), mm	Universal expandable holder with tie	Universal holder with a latch
42x40	–	AIR00002
70x40	AIR00001	–
90x40	AIR00001	AIR00002
90x60	AIR00001	AIR00002
120x60	AIR00001	–

90° internal angle



Purpose:

- decoration of points of mating of ducts for cooler lines.

Characteristics:

- material is ABS plastic;
- color is white RAL 9016;
- mounting and operating temperature ranges from -25 to +70 °C.

Duct standard size, mm	Dimensions, mm			Package, pcs	Code
	height	length	width		
42x40	42.6	90	90	18	AIR42402
70x40	70.6	90	90	12	AIR70402
90x40	90.6	90	90	12	AIR90402
90x60	90.6	115	115	8	AIR90602
120x60	120.6	115	115	4	AIR12062

90° external angle



Purpose:

- decoration of points of mating of ducts for cooler lines.

Characteristics:

- material is ABS plastic;
- color is white RAL 9016;
- mounting and operating temperature ranges from -25 to +70 °C.

Duct standard size, mm	Dimensions, mm			Package, pcs	Code
	height	length	width		
42x40	42.6	68	68	12	AIR42403
70x40	70.6	68	68	12	AIR70403
90x40	90.6	68	68	12	AIR90403
90x60	90.6	92.5	92.5	16	AIR90603
120x60	124.6	92.5	92.5	8	AIR12063

90° flat angle



Purpose:

- decoration of points of mating of ducts for cooler lines.

Characteristics:

- material is ABS plastic;
- color is white RAL 9016;
- mounting and operating temperature ranges from -25 to +70 °C.

Duct standard size, mm	Dimensions, mm			Package, pcs	Code
	height	length	width		
42x40	40.5	90	90	12	AIR42404
70x40	40.5	120	120	16	AIR70404
90x40	40.5	140	140	12	AIR90404
90x60	62	145	145	10	AIR90604
120x60	62	170	170	8	AIR12064

Plug



Purpose:

- decoration of edges of ducts for cooler lines.

Characteristics:

- material is ABS plastic;
- color is white RAL 9016;
- mounting and operating temperature ranges from -25 to +70 °C.

Duct standard size, mm	Dimensions, mm			Package, pcs	Code
	height	length	width		
42x40	40.65	42.6	15	12	AIR42405
70x40	40.65	70.6	15	12	AIR70405
90x40	40.65	90.6	15	12	AIR90405
90x60	62	90.6	15	26	AIR90605
120x60	62	120.6	15	22	AIR12065

Tee



Purpose:

- decoration of points of T-connection of ducts for cooler lines.

Characteristics:

- material is ABS plastic;
- color is white RAL 9016;
- mounting and operating temperature ranges from -25 to +70 °C.

Duct standard size, mm	Dimensions, mm			Package, pcs	Code
	height	length	width		
42x40	40.65	90	90	12	AIR42406
70x40	40.65	120	120	16	AIR70406
90x40	40.65	140	140	12	AIR90406
90x60	62	145	145	8	AIR90606
120x60	62	190	190	8	AIR12066

Left-side and right-side adapters



Purpose:

- transfer from one standard size of duct for cooler lines to another one together with accessories: tee, internal angle, external angle, flat angle.

Characteristics:

- material is ABS plastic;
- color is white RAL 9016;
- mounting and operating temperature ranges from -25 to +70 °C;
- adapter is inserted into the accessory with wide side; inserted with narrow side in the smaller duct.

Duct standard size, mm	Dimensions, mm			Package, pcs	Code
	height	length	width		
70x40-42x40	40.5	74.5	32	10	AIR70410
90x40-70x40	40.5	94.5	32	10	AIR90410
90x60-70x40	62	94.5	32	10	AIR90610
120x60-90x60	62	120.6	32	10	AIR12010

Direct entry into wall



Purpose:

- decoration of duct entry points into a wall.

Characteristics:

- material is ABS plastic;
- color is white RAL 9016;
- mounting and operating temperature ranges from -25 to +70 °C;
- there is external extension on 3 sides.

Duct standard size, mm	Dimensions, mm			Package, pcs	Code
	height	length	width		
70x40	25	110	60	12	AIR70407
90x40	30	144	67	12	AIR90407
90x60	30	144	87	8	AIR90607
120x60	30	174	87	6	AIR12067

Entry into wall at angle of 90°



Purpose:

- decoration of duct entry points into a wall at angle of 90°.

Characteristics:

- material is ABS plastic;
- color is white RAL 9016;
- mounting and operating temperature ranges from -25 to +70 °C.

Duct standard size, mm	Dimensions, mm			Package, pcs	Code
	height	length	width		
42x40	40.65	112	133	12	AIR42408
70x40	40.65	155	133	12	AIR70408
90x40	40.65	174	152	10	AIR90408
90x60	62	174	152	4	AIR90608
120x60	62	205	155	6	AIR12068

Faceplate on joint



Purpose:

- decoration of points of mating between two ducts.

Characteristics:

- material is ABS plastic;
- color is white RAL 9016;
- mounting and operating temperature ranges from -25 to +70 °C.

Duct standard size, mm	Dimensions, mm			Package, pcs	Code
	height	length	width		
42x40	40.65	42.6	20	20	AIR42409
70x40	40.65	70.6	20	20	AIR70409
90x40	40.65	90.6	20	20	AIR90409
90x60	62	90.6	20	20	AIR90609
120x60	62	120.6	20	20	AIR12069

Entry into internal cooler unit for duct 70x40



Purpose:

- decoration of points of mating between duct and cooler unit.

Characteristics:

- material is ABS plastic;
- color is white RAL 9016;
- mounting and operating temperature ranges from -25 to +70 °C.

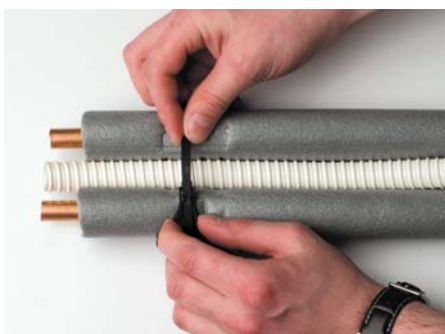


Duct standard size, mm	Dimensions, mm			Package, pcs	Code	
	height	length	width		right-side	left-side
70x40	40.65	70.6	30	10	AIR70412	AIR70411

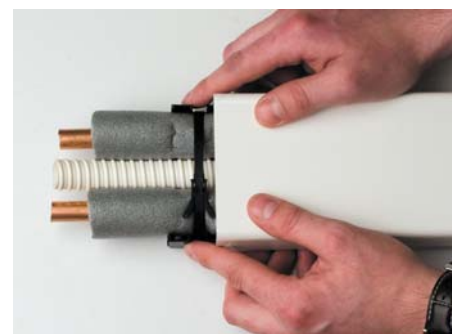
System installation using expandable holder with tie



The holder consists of 2 parts. Holder parts are interconnected and attached according to 1st, 2nd or 3rd position (depending on the duct cover width)

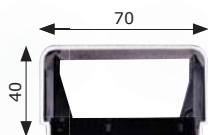


The holder is attached to a wall through 2 mounting holes. The lines are attached in the holder with a tie. The holder tie is reusable

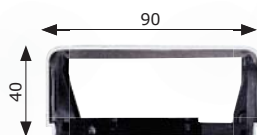


Duct cover is installed by latching on holders

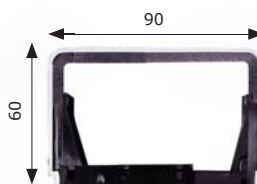
Cover installation options



Position 1 (width is 70 mm)



Position 2 (width is 90 mm)



Position 3 (width is 120 mm)

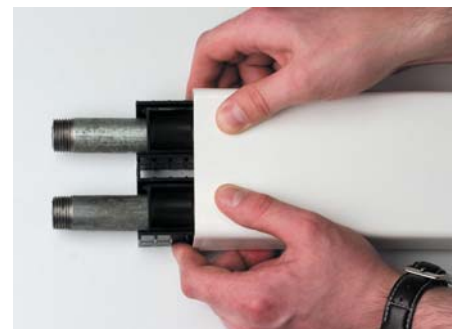
System installation using holder with a latch



The holder consists of 2 sections with latches and it is used with covers 90x40 and 90x60 mm.
To use holder with cover 42x40 mm it is necessary to divide sections using utility tool (knife or nippers)

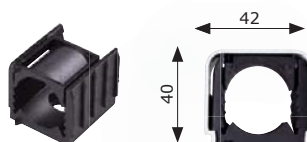


The holder is attached to a wall through mounting holes. The lines are attached with a latch

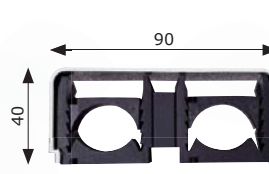


Duct cover is installed by latching on holders

Cover installation options
























1 holder section (width is 42 mm)



2 holder sections (width is 90 mm)



Decorative accessories

Picture	Accessories	Ducts with base and cover				
		 42x40 mm code AIR42400	 70x40 mm code AIR70400	 90x40 mm code AIR90400	 90x60 mm code AIR90600	 120x60 mm code AIR12060
		Covers without base				
		 42x40 mm code AIR00042	 70x40 mm code AIR00070	 90x40 mm code AIR00090	 90x60 mm code AIR00096	 120x60 mm code AIR00120
	90° internal angle	AIR42402	AIR70402	AIR90402	AIR90602	AIR12062
	90° external angle	AIR42403	AIR70403	AIR90403	AIR90603	AIR12063
	90° flat angle	AIR42404	AIR70404	AIR90404	AIR90604	AIR12064
	Plug	AIR42405	AIR70405	AIR90405	AIR90605	AIR12065
	Tee	AIR42406	AIR70406	AIR90406	AIR90606	AIR12066
	Left-side and right-side adapters		AIR70410*	AIR90410**	AIR90610***	AIR12010****
	Direct entry into wall		AIR70407	AIR90407	AIR90607	AIR12067
	Entry into wall at angle of 90°	AIR42408	AIR70408	AIR90408	AIR90608	AIR12068
	Faceplate on joint	AIR42409	AIR70409	AIR90409	AIR90609	AIR12069
	Entry into internal cooler unit for duct 70x40, left-side	-	AIR70411	-	-	-
	Entry into internal cooler unit for duct 70x40, right-side	-	AIR70412	-	-	-

* Transfer from duct 70x40 mm to 2 ducts 42x40 mm (or branching of one duct 42x40 mm). They are used together with AIR70406 tee

** Transfer from duct 90x40 mm to 2 ducts 70x40 mm (or branching of one duct 70x40 mm). They are used together with AIR90406 tee

*** Transfer from duct 90x60 mm to 2 ducts 70x40 mm (or branching of one duct 70x40 mm). They are used together with AIR90606 tee

**** Transfer from duct 120x60 mm to 2 ducts 90x60 mm (or branching of one duct 90x60 mm). They are used together with AIR12066 tee

Installation option No. 1

Route installation using ducts with base



Secure the duct base on a wall



Lay the route in the duct base



Secure the route in the duct base using attachment clamps



Close installed route with cover



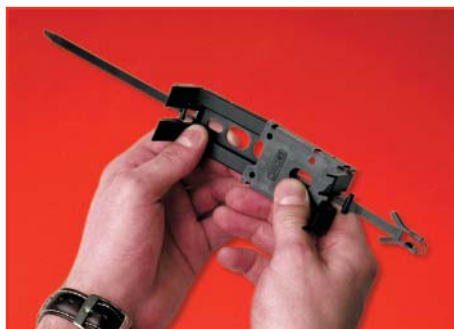
Remove protective film from the cover



Install decorative accessories

Installation option No. 2

Route installation using duct cover and universal holders with tie



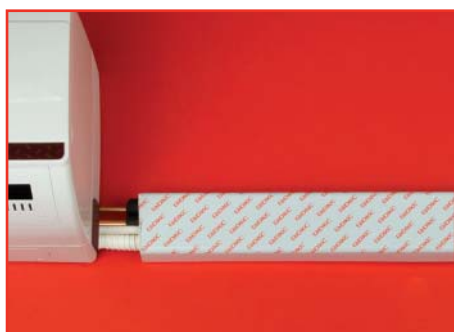
Latch the holder in the necessary position (depending on the size of used cover)



Secure universal holders along one line (duct cover may be used for line marking)



Lay the route and secure it using holders with tie



Close installed route with cover



Remove protective film from the cover

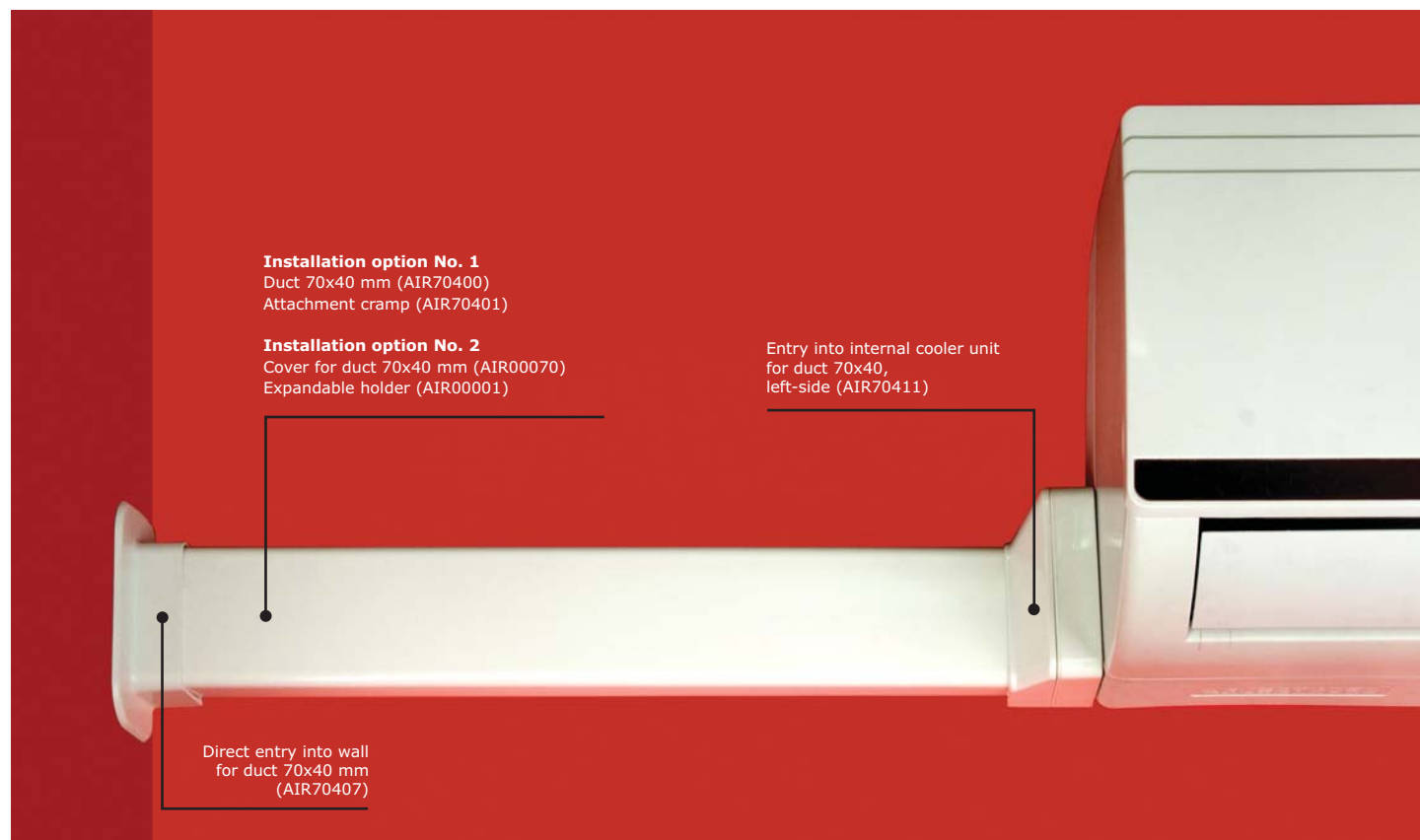


Install decorative accessories

Standard solutions for cooler installation using ducts "Angara"

Standard solutions consider installation of the most widespread surface-mounted split-systems. The following items were used for installation: annealed copper tubes with diameter of 1/4 and 3/8", heat insulation made of foam rubber with thickness of 6 mm, drainage hose with diameter of 16 mm, flexible PVA wire 5x1.5 mm.

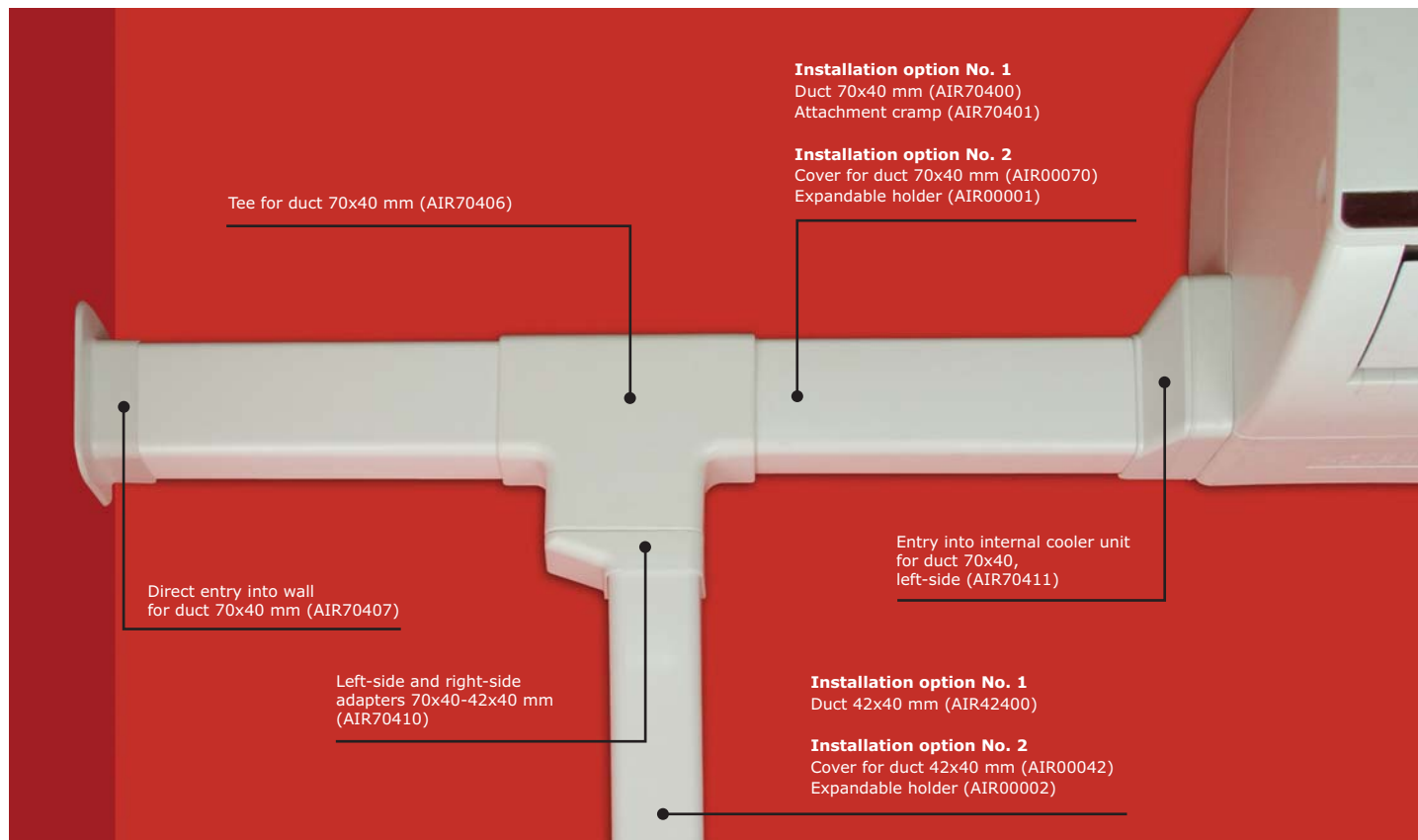
Route installation in the duct 70x40



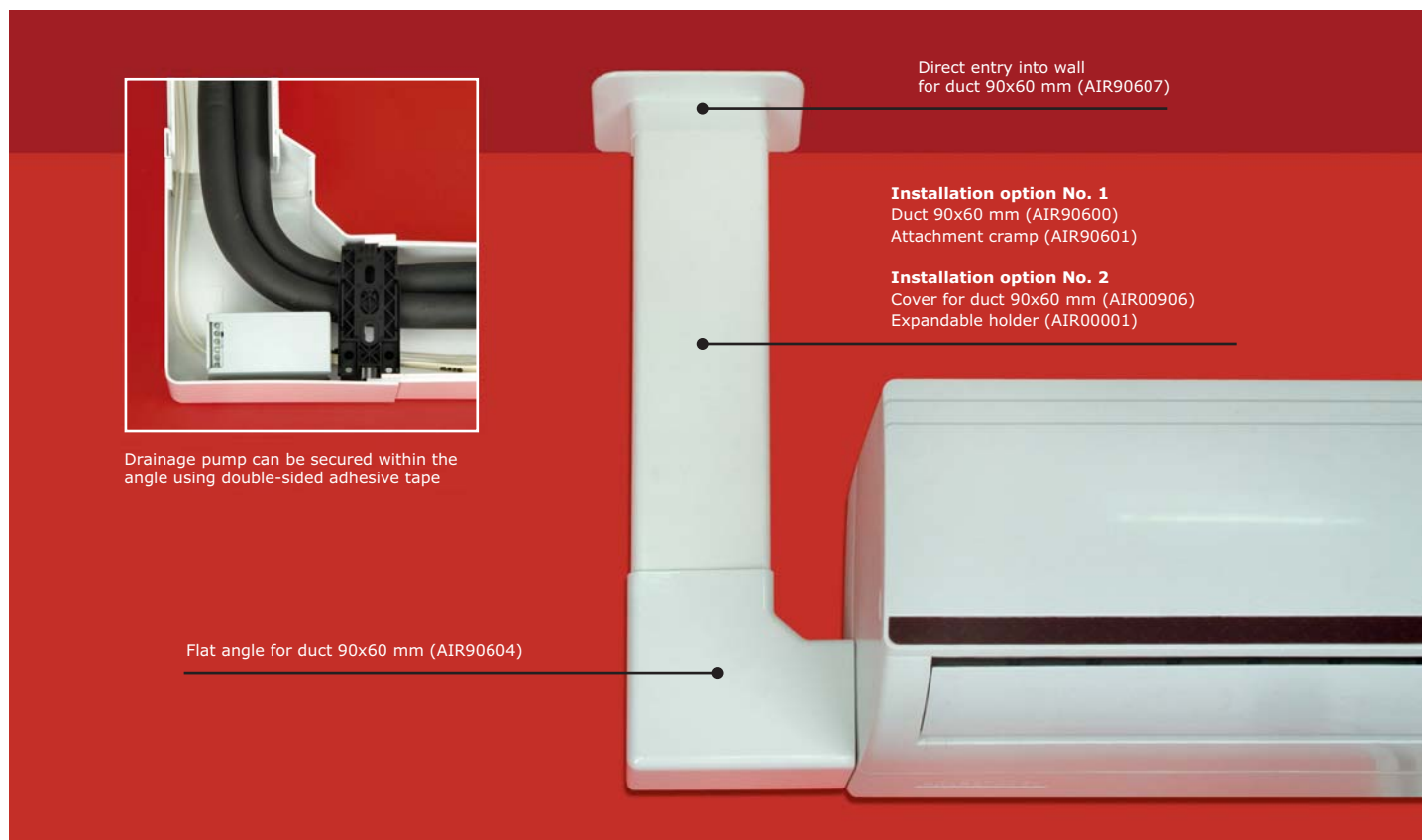
Route installation in the duct 90x60



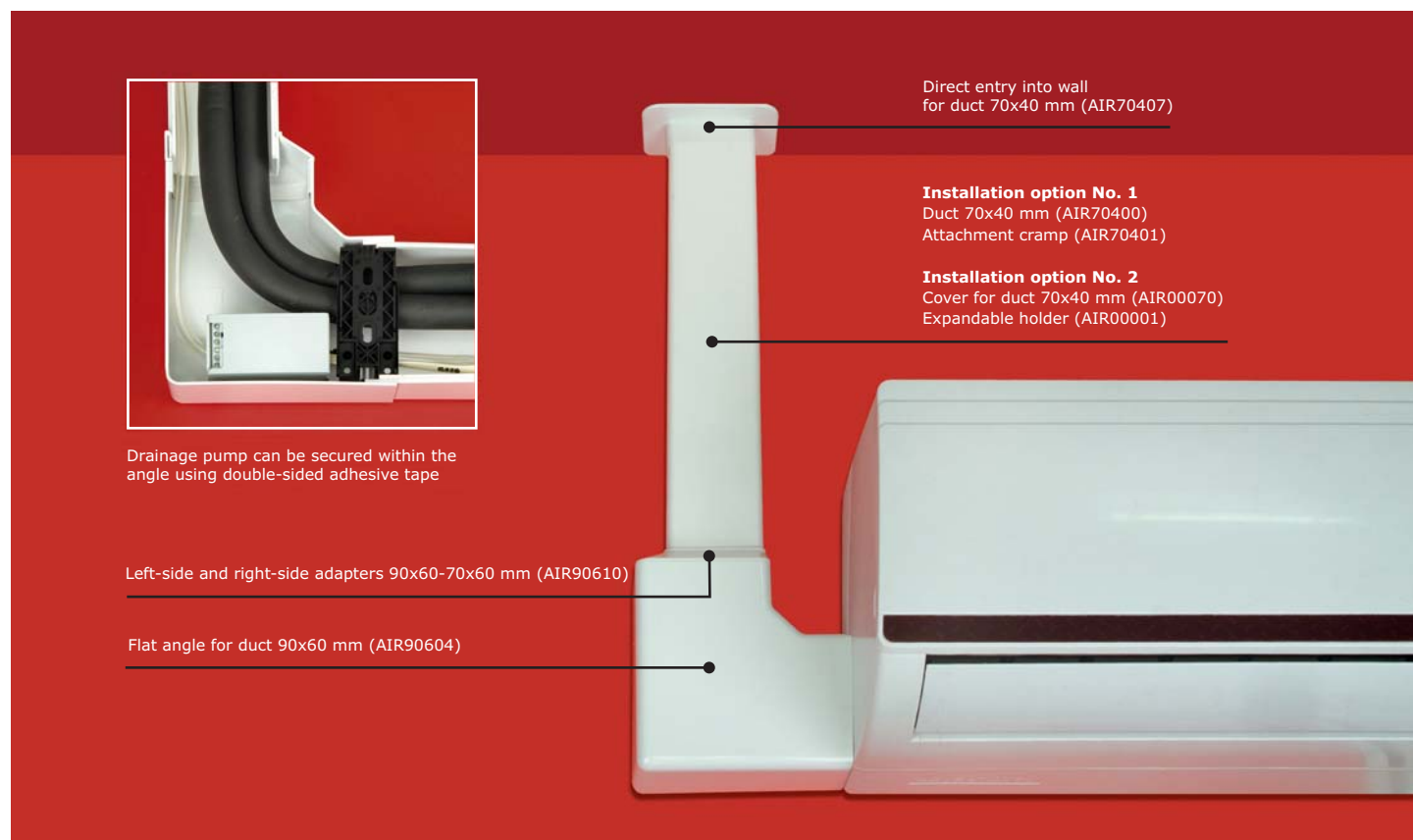
Route installation in the duct 70x40, with drainage in the tank



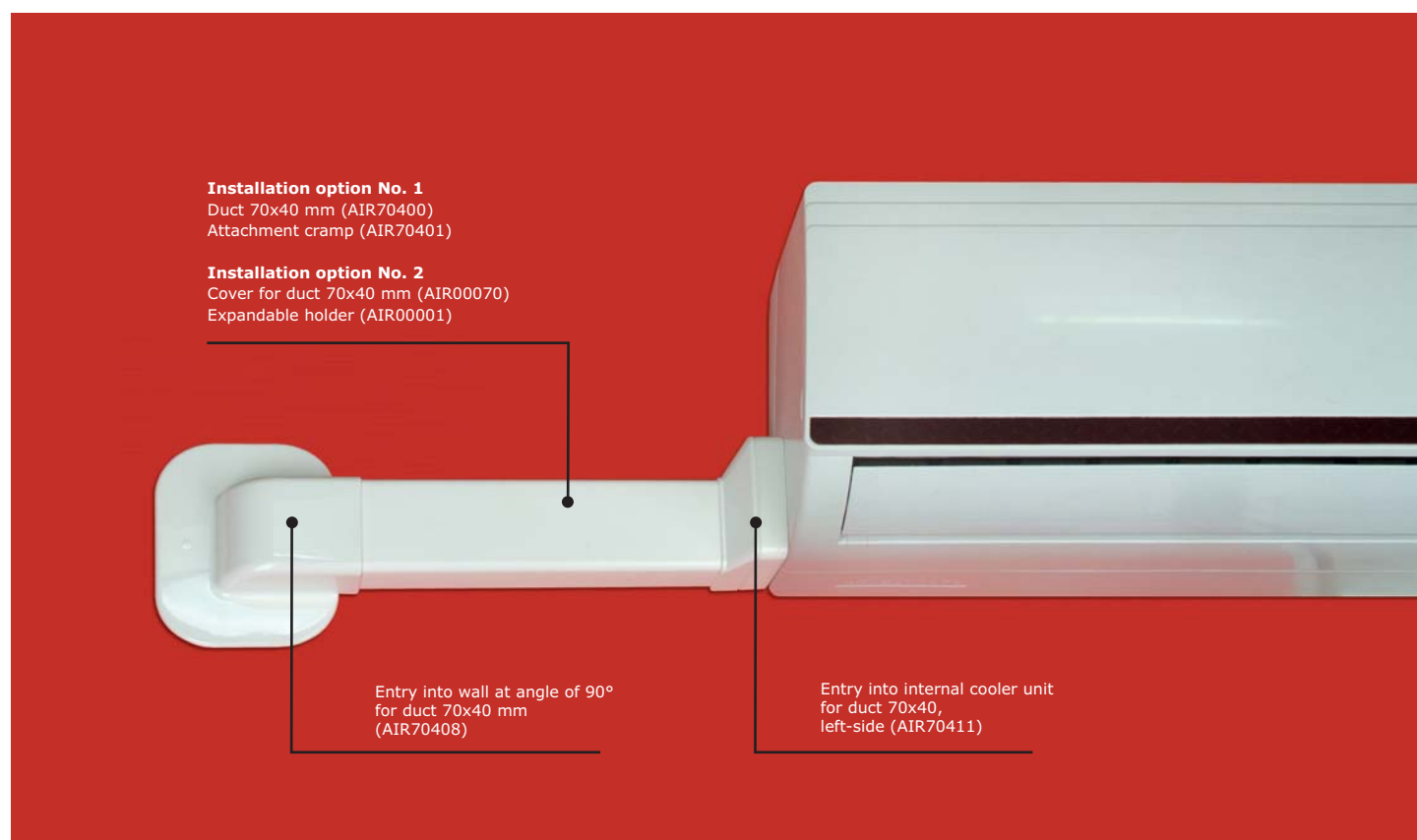
Route installation in the duct 90x60, with discharge using flow-type drainage pump



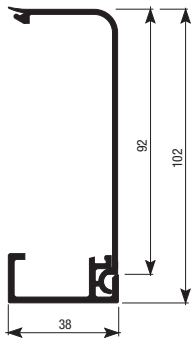
Route installation in the duct 70x40, with discharge using flow-type drainage pump



Route installation in the duct 70x40, with wall passage at angle of 90°



Skirting ducts



Purpose:

- laying of cooler tubes (freon and drainage), heat and water supply routes on the floor level.

Characteristics:

- complete set is base with decorative cover;
- material is PVC;
- mounting and operating temperature ranges from -25 to +70 °C.

Color	Rated dimension, mm	Overall height, mm	Overall depth, mm	Length, m	Code
White RAL 9016	100x40	102	38	2	AIR10040
Laminated woodgrain	100x40	102	38	2	AIR10040B

Mounting features



Skirting ducts are installed using universal holders. It is possible to use both holders with a latch and expandable holders with tie. The lower edge of duct cover is attached in the duct base, then it is latched with the upper part on holders.

Holder type	Code
Universal expandable holder with tie	AIR00001
Universal holder with a latch	AIR00002

Installation procedure



The duct base is attached to a floor, closely to a wall with lock outwards



Universal holders are attached to a wall, closely to a duct base. The lines are attached in the holders



The system is closed with decorative cover

Accessories

90° internal angle



Purpose:

- decoration of points of mating of skirting ducts.

Characteristics:

- material is ABS plastic;
- mounting and operating temperature ranges from -25 to +70 °C.

Duct standard size, mm	Dimensions, mm			Package, pcs	Code	
	height	length	width		white	laminated woodgrain
100x40	90	105.6	90	20	AIR10042	AIR10042B

90° external angle



Purpose:

- decoration of points of mating of skirting ducts.

Characteristics:

- material is ABS plastic;
- mounting and operating temperature ranges from -25 to +70 °C.

Duct standard size, mm	Dimensions, mm			Package, pcs	Code	
	height	length	width		white	laminated woodgrain
100x40	80	105.6	80	12	AIR10043	AIR10043B

Plug



Purpose:

- decoration of skirting duct edges.

Characteristics:

- material is ABS plastic;
- mounting and operating temperature ranges from -25 to +70 °C.

Duct standard size, mm	Dimensions, mm			Package, pcs	Code	
	height	length	width		white	laminated woodgrain
100x40	40.3	105.6	40.3	20	AIR10045	AIR10045B

Faceplate on joint



Purpose:

- decoration of points of mating of skirting ducts.

Characteristics:

- material is ABS plastic;
- mounting and operating temperature ranges from -25 to +70 °C.

Duct standard size, mm	Dimensions, mm			Package, pcs	Code	
	Side	Length	Width		white	laminated woodgrain
100x40	40.3	105.6	25	20	AIR10049	AIR10049B

Bulkhead tee for duct 90x40 mm



Purpose:

- decoration of points of T-connection of skirting ducts with branching for duct for cooler lines 90x40.

Characteristics:

- material is ABS plastic;
- mounting and operating temperature ranges from -25 to +70 °C.

Duct standard size, mm	Dimensions, mm			Package, pcs	Code	
	height	length	width		white	laminated woodgrain
100x40	67	155	120	20	AIR10047	AIR10047B

Decorative accessories



Picture	Name	Skirting duct 100x40 mm, white code AIR10040	Skirting duct 100x40 mm, laminated woodgrain code AIR10040B
	90° internal angle	AIR10042	AIR10042B
	90° external angle	AIR10043	AIR10043B
	plug	AIR10045	AIR10045B
	faceplate on joint	AIR10049	AIR10049B
	bulkhead tee for duct 90x40 mm	AIR10047*	AIR10047B*

* For transfer on surface-mounted duct 70x40 mm it is necessary to use AIR90410 adapter

Miniducts for wiring

TMC series with standard cover


Purpose:

- laying of electric cables.

Characteristics:

- complete set is miniduct base assembly with cover;
- color is white RAL 9016;
- material is flame-retardant PVC;
- availability of all the necessary accessories.


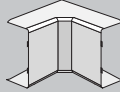

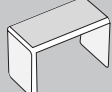
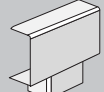








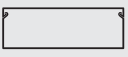
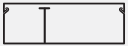


TMR series with a folding cover


Purpose:

- laying of electric cables.

Characteristics:

- complete set is miniduct base with a folding cover;
- color is white RAL 9016;
- material is flame-retardant PVC;
- self-adhesive base;
- supplied without additional accessories.

Section of a duct	Series, dimensions, mm	Code of miniduct	External angle AEM	Internal angle AIM	Flat angle APM	Joint connection GM	Tee IM	Plug LM	Junction box SDMN
									
	TMC 22x10	00317	00396	00386	00407	00594	00525	00580	00677
	TMC 30x10	00311	00397	00387	00408	00595	00527	00581	00677
	TMC 15x17	00303	00403	00390	00414	00590	00535	00577	00677
	TMC 25x17	00304	00404	00391	00415	00591	00536	00578	00677
	TMC 40x17	00351	00406	00395	00425	00597	00541	00579	00677
	TMC 40/2x17	00305	00406	00395	00425	00597	00541	00579	00677
	TMC 50x20	00313	00656	00655	00654	00653	00652	00651	00677
	TMC 50/2x20	00314	00656	00655	00654	00653	00652	00651	00677
	TMR 10x10	00301	-	-	-	-	-	-	-
	TMR 15x12	00302	-	-	-	-	-	-	-

Drainage system



Description

It is designed for branching outside the premise formed during the air cooling of water condensate fitted with air conditioning system. This system is formed with complex of drainage tubes hermetically connected to head unit of distributed air conditioning system. In the premise drainage tubes are generally laid together with other line systems of cooler in the single unit (duct). The duct is laid along the premise walls and brought outside the building through a hole in the main wall. After installation of drainage tubes, wiring and air line, hole in the wall shall be filled with heat-insulating material. Humidity within the premise being cooled or heated depends on sealing of drainage tubes. High humidity can lead to intensive operation of air conditioning system that results in increase of forming condensate quantity and power demand of air conditioning system. Discharge hole of drainage hose can be brought outside the building – on external wall or connected to disposal system. Key aspect is a correct location of drainage tube which shall have a slope of at least 5-10 mm for 1 m of flow. It allows for condensate flow with ease when exposed to gravity force. In some cases it is necessary to use special drainage pumps forming artificial movement of water condensate in the air conditioning system.

When connecting drainage system to disposal one it is necessary to solve a task related to significant length of drain line. It is possible to conceal utility appearance of drainage system using special decorative skirting ducts. Skirting duct for drainage tubes can be selected with account for stylistic requirements to the premise interior. It allows for perfect fitting of air conditioning system into the furnishing in the room.

To arrange drainage complex of pipelines it is necessary to use only specifically designed drainage hoses with reinforcement.

Drainage hoses



Purpose:

- discharge of condensate from coolers and split-systems.

Structural properties:

- consists of strong spiral-shaped PVC-frame embedded into non-rigid PVC.

Distinctive features:

- white color;
- improved flexibility;
- smooth inner surface;
- resistance to dynamic and vibration effects;
- age resistance;
- humidity resistance;
- mounting and operating temperature is from -5 to +60 °C;
- operating temperature (within the preserved system) is from -25 to +60 °C.

Inside diameter, mm	Outside diameter, mm	Code	Coil, m
10	14.0	AIR10	30
12	16.2	AIR12	
14	18.2	AIR14	
16	20.0	AIR16	
20	24.2	AIR20	
22	24.6	AIR22	
25	30.6	AIR25	
28	33.2	AIR28	
32	37.5	AIR32	
35	41.0	AIR35	
40	46.6	AIR40	
50	56.0	AIR50	





Flexible corrugated tubes for drainage "Octopus"

Drainage systems	774
Drainage pipes	776
Rainwater disposal	777
Accessories	779
Instructions	782
Installation examples	783

Drainage systems

From the ancient times drainage systems protect building foundations and surrounding territory against underflooding with ground, melt and flood waters.

Two types of drainage systems are distinguished:

- the open one (represents a network of drainage and collecting channels);
- the closed one (is the system of interrelated drains (drainage pipes) laid into ground at certain depth).

Drainage pipe is the main element for organization of closed drainage systems. Abundance of water goes to a drainage pipe through small holes (perforation) in its walls.

Ceramic or asbestos-cement pipes used to be applied for arrangement of closed drainage systems in the past. Before laying, notches would be made or holes would be drilled in them. Such pipes had significant disadvantages both during installation and operation.

At the present, plastic drainage pipes gain increasing popularity.

Application

Drainage pipes, SN8 class

Drainage systems in areas with high static and dynamic loads (highways and railways, aerodromes, and industrial facilities); protection of buildings and structures against underflooding with ground waters (drainage of foundations, basements, etc.).

Drainage pipes, SN6 class

Protection of buildings and structures against underflooding with ground waters (drainage of foundations, basements, semibasements, etc.); organization of drainage systems at professional sports grounds (football and golf field, etc.); melioration of fields, tillable lands, gardens and allotment gardens.



Distinctive features

Drainage systems have the following distinctive features:

- material is "polyethylene", chemically resistant to the aggressive media;
- construction includes single and dual wall pipes (the outer layer is corrugated, and the inner one is smooth);
- smooth inner surface made of LDPE has water repellent properties (flow capacity rises significantly, and deposition of slurry, sand, and lime reduces);
- wide range of operating temperatures: from -40 to +90 °C;
- supplied in coils ensuring easiness of transportation and installation;
- light weight ensures easiness of transportation and installation;
- two stiffness classes (ring stiffness): SN8, SN6.

Drainage pipes, SN8 class:

- improved pipe strength (they are resistant to maximum loads);
- laying depth is up to 6 meters.

Drainage pipes, SN6 class:

- high pipe strength (resistant to external loads);
- laying depth is up to 4 meters.

Advantages

Reliability:

- service life is more than 50 years;
- high stability when laid in moving soils;
- chemical resistance of the pipes to aggressive media.

Ease of installation:

- wide range of accessories;
- use of special installation equipment is not required;
- flexibility and elasticity even under low temperatures;
- quick installation (the length of a coil is 35 to 50 m).

Safety and environmental friendliness:

- no toxic substances are emitted to the environment;
- no harmful impact on human organism.

System composition

Two types of corrugated drainage pipes in the system with accessories are as follows:

- flexible corrugated drainage pipes without geotextile;
- flexible corrugated drainage pipes with geotextile;



Pipe without geotextile

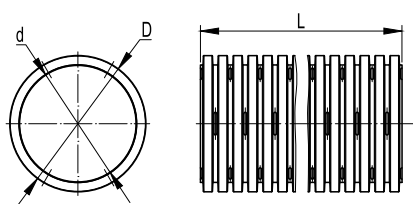


Pipe with geotextile

Characteristics

Material	HDPE (high-density polyethylene) LDPE (low-density polyethylene)
Technical specifications	TS 2248-016-47022248-2006
Perforation	360°
Geotextile	TYPAR, SF-27
Operating temperature	from -40 to +90 °C
Color	green, black (code with letter "A")
Minimum bend radius	8 diameters

Drainage pipes



Purpose:

- drainage systems at areas with high static and dynamic loads;
- protection of buildings and structures against underflooding with ground waters;
- melioration of agricultural lands.

Distinctive features:

- 2 classes of pipe stiffness;
- certificate of conformity is available.

Scope of supply:

- each coil is complete with one connecting coupling.

Nomenclature

Pipe stiffness class	Outside diameter D, mm	Inside diameter d, mm	Packing standards					Pallet loading standards, rm**			Code (without geotextile)	Code (with geotextile)
			q-ty in a coil L, m	coil outside diameter, m	coil height, m	weight of coil, kg	number of coils on a pallet, pcs	82 m ³ eighteen-wheeler	67 m ³ 40" container	33 m ³ 20" container		
SN8	90	77	50	1.14	0.50	20.00	4	4400	2000	800	140990-8K*	141990A-8K*
	110	94	50	1.18	0.75	30.00	3	3300	1500	600	140911-8K	141911A-8K
	125	107	40	1.20	0.70	28.00	3	2640	1200	480	140912-8K*	141912A-8K*
	160	137	50	1.70	0.70	52.50	3	1200	1050	450	140916-8K	141916A-8K
SN6	90	77	50	1.14	0.50	20.00	4	4400	2000	800	140990*	141990A*
	110	94	50	1.18	0.75	30.00	3	3300	1500	600	140911	141911A
	125	107	40	1.20	0.70	28.00	3	2640	1200	480	140912*	141912A*
	160	137	50	1.70	0.70	52.50	3	1200	1050	450	140916	141916A
	200	172	35	1.80	0.70	65.00	3	735	630	315	140920	141920A

* Customized. Minimum order volume is 3000 m

** Loading of pallets + scattering are not standard, and this requires additional coordination

The following is permitted in case a volume order exceeds 3000 meters:

- packing of pipes into coils of greater capacity;
- manufacturing of pipes with walls of required color.

A batch of DKC flexible drainage pipes is provided with a quality certificate on customer's request.

Note

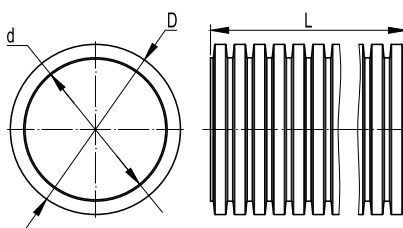
Pallets with a ready pipe are packed into a UV ray protective film.

Storage precautions

Basic storage of tubes: Sheds and premises where temperature and air humidity fluctuations do not differ from fluctuations in the open air significantly (for example, tents, metal storage structures without heat insulation, etc.), located in any macroclimatic areas, in an atmosphere of any type (5 OZh 4 according to GOST 15150).

Short-term storage of tubes: open sites in macroclimatic areas with moderate and cold climate in an atmosphere of any type (8 OZh 3 according to GOST 15150).

Rainwater disposal



Purpose:

- disposal of melt and rainwater from foundations of buildings, underground structures, road surfaces and grass plantings.

Distinctive features:

- the external wall is corrugated, and the inner one is smooth;
- high ring stiffness;
- without perforation;
- laying depth is up to 4 meters;

Scope of supply:

- each coil is complete with one connecting coupling.

Characteristics

Material	HDPE (high-density polyethylene) LDPE (low-density polyethylene)
Technical specifications	TS 2248-015-47022248-2006
Temperature of transported liquid	up to +60 °C
Mounting temperature	from -25 to +90 °C
Operating temperature	from -55 to +90 °C
Minimum bend radius	8 diameters
Color	external wall is red, black (letter code is "A") internal wall is yellow

Nomenclature

Outside diameter D, mm	Inside diameter d, mm	Ring stiffness*, kPa	Packing standards					Pallet loading standards, rm**			Code
			q-ty in a coil L, m	coil outside diameter, m	coil height, m	coil weight, kg	number of coils on a pallet, pcs	82 m ³ eighteen-wheeler	67 m ³ 40" container	33 m ³ 20" container	
90	77	8	50	1.14	0.50	20.00	4	4400	2000	800	121990
110	94	8	50	1.18	0.75	30.00	3	3300	1500	600	121911
125	107	8	40	1.20	0.70	28.00	3	2640	1200	480	121912
160	137	6	50	1.70	0.70	52.50	3	1200	1050	450	121916
200	172	6	35	1.80	0.70	65.00	3	735	630	315	121920

* According to ISO 9969:1994

** Loading of pallets + scattering are not standard, and this requires additional coordination

The following is permitted in case a volume order exceeds 3000 meters:

- packing of pipes into coils of greater capacity;
- manufacturing of pipes with walls of a necessary color;
- manufacturing of pipes with changed ring stiffness index.

A batch of DKC flexible dual corrugated pipes is provided with a quality certificate customer's request.

Note

Pallets with a ready pipe are packed into a UV ray protective film.

Storage precautions

Basic storage of pipes: Sheds and premises where temperature and air humidity fluctuations do not differ from fluctuations in the open air significantly (for example, tents, metal storage structures without heat insulation, etc.), located in any macroclimatic areas, in an atmosphere of any type (5 OZh 4 according to GOST 15150).

Short-term storage of pipes: open sites in macroclimatic areas with moderate and cold climate in an atmosphere of any type (8 OZh 3 according to GOST 15150).

Perforation characteristic of DKC drainage pipes

Outside diameter (mm)	Drainage hole surface area, mm ²	Number of holes per 1 rm, pcs	Drainage hole surface area per 1 rm, mm ²
90	29.14	300	8742
110	29.14	258	7518
125	29.14	237	6906
160	29.14	342	9966
200	29.14	256	7460

Typar SF-27 geotextile characteristic



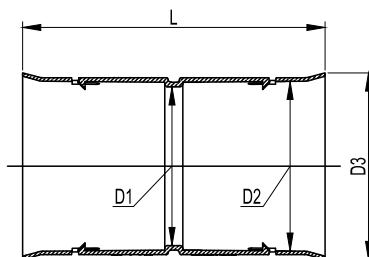
Properties	Standard	Unit	Value
Density	EN 965	g/m ²	90
Thickness at 2 kN/m ²	EN 964-1	mm	0.38
Rupture strength	EN ISO 10319	kN/m	5.1
Ultimate elongation	EN ISO 10319	%	45
Strength at 5% elongation	EN ISPO 10319	kN/m	2.9
Flow velocity at height of water column of 10 cm	BS 6909-6	l/m2,2, sec	165
Water perviousness at 20 kN/m ²	DIN 60500-4	10 ⁻⁴ m/sec	3.6

Polyethylene chemical resistance

Chemical resistance	Chemical substance or product (concentration)
Resistant to	adipinic acid (saturated solution), nitric acid (50-98%), ammonia (10% water solution), ammonia (100% dry gas), ammonium carbonate (50%), ammonium sulfate (50%), ammonium sulfate (saturated solution), ammonium sulfide (saturated solution), ammonium phosphate (water solution), ammonium chloride (saturated solution, water solution), acetone (100%), barium salts (water solution), gasoline (80-20%), benzoic acid (saturated solution), hydrobromic acid (10%), butane (100% gas), butadiene (100% gas), vinyl acetate (100%), tartaric acid (10%), viscose-spinning solution, sea water, hydrogen (100%), compressed air with oil content (100%), glycolic acid (100%), glycerine (100%), glucose (water solution), diglycollamic acid (saturated solution), dimethylamine (19%), dioxan (19%), potassium dichromate (40%), tannic acid (10%), gelatine (water solution), isopropylalcohol (100%), iodine (6.5%), aluminum potassium sulfate (50% water solution), potassium bichromate (saturated solution, water solution), potassium iodide (saturated solution), potassium carbonate (saturated solution, water solution), potassium nitrate (50% water solution), potassium perchlorate (saturated solution, water solution), potassium persulfate (water solution), potassium sulfate (water solution), potassium cyanide (saturated solution), potassium hypochlorite (saturated solution, water solution), silicic acid (water solution), hydrofluosilicic acid (32%), citric acid (saturated solution), magnesium salts (water solution), maleic acid (saturated solution), lactic acid (10-90% water solution), sea water (saturated solution), urea (30% water solution), formic acid (50% water solution), soap (up to 10%), arsenic acid (up to 10%), propane (industrial gas), sulfuric acid (40-90%), sulfur dioxide (100%), ammonocarbonous acid (commercial solution), hydrochloric acid (over 30%), antimonous chloride (90% water solution), trichloroethylene (100%), acetic acid (25%), acetic acid (60%), phosphoric acid (30% water solution), oxalic acid (100%), ethyleneglycol (commercial solution), ethylenediamine (commercial solution), ethyl alcohol (96%), diethyl ether (100%)
Restrictedly resistant to	ammonium nitrate (water solution, saturated solution), acetaldehyde (100% commercial solution), butyl acetate (100%), hexane (100% commercial solution), decaline (100% commercial solution), dibutylphthalate (saturated solution), dimethylformamide (saturated solution), diethyl alcohol (saturated solution), dimethylformamide (19%), potassium permanganate (saturated solution, water solution), camphor (water solution), oxygen (water solution), oils and fats (saturated solution), menthol (saturated solution), methane (commercial solution), oleic acid (100%), picronic acid, hydrogen sulphide (100% gas), carbon bisulphide (100%), carbon tetrachloride (100%), acetic oxide (100%), phenol (90%), hydrofluoric acid (40%), hexahydrophenol (100%), ethyl acetate (100%)
Non-resistant to	aniline (100%), bromine (100% water solution), dichloroethane (100%), isopropyl ether (100%), fuel oil (water solution), ozone (100%), sulfuric acid (96%), toluene (100%), chlorine (water solution), chlorine (100% gas), chloroform (commercial solution), chlorosulphonic acid (100%), chromic acid (1-50%), chlorazotic acid

Accessories

Connecting coupling


Purpose:

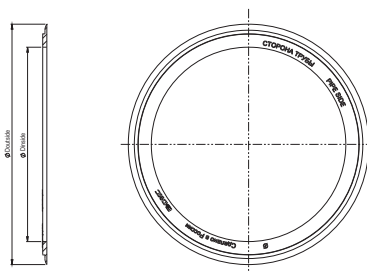
- mechanical nondetachable connection of flexible, rigid, and drainage corrugated dual wall pipes of the same diameter.

Characteristics:

- material is polyethylene;
- operating temperature is from -40 to +90 °C;
- protection degree is IP40 without seals, and IP55 with an O-ring;
- mechanical locks, which improve reliability of connection.

Diameter, mm	Physical dimensions, mm				Weight, g	Package, pcs	Code
	Ø D1	Ø D2	Ø D3	L			
90	86	92	102	148	68	6	015090
110	105	111	123	200	164	8	015110
125	120	126	135	200	175	6	015125
160	154	164	172	200	274	6	015160
200	188	202	214	242	405	2	015200

O-ring


Purpose:

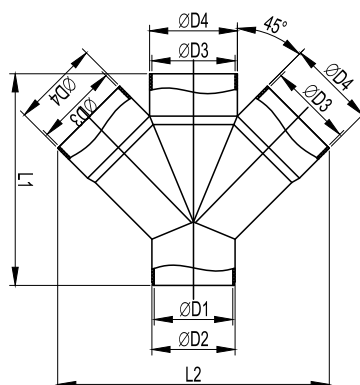
- sealing of connection points of flexible, rigid, corrugated drainage dual wall pipes with connecting couplings, plugs, couplers, and adapters.

Characteristics:

- material is rubber;
- operating temperature is from -25 to +90 °C;
- protection degree is IP55 with accessories.

Diameter, mm	Physical dimensions, mm			Weight, g	Package, pcs	Code
	Ø Dinside	Ø Doutside	A			
50	39.00	49.50	2.00	1.9	50	016050
63	50.00	62.50	2.00	2.1	50	016063
75	60.40	74.60	2.00	5.0	50	016075
90	70.00	93.00	2.50	7.0	50	016090
110	87.00	110.70	4.20	13.0	50	016110
125	100.00	128.70	3.00	18.0	50	016125
140	117.00	144.00	4.00	19.0	50	016140
160	131.00	164.50	4.00	29.0	50	016160
200	166.00	204.50	5.00	59.0	50	016200

Connection for four dual wall pipes, 45°


Purpose:

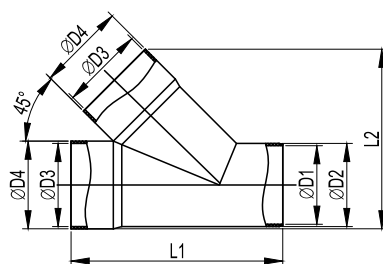
- connection of four flexible, rigid, corrugated dual wall drainage pipes of the same diameter and branching at angle of 45°.

Characteristics:

- material is polypropylene;
- operating temperature is from -40 to +90 °C;
- protection degree is IP40 without seals, and IP55 with an O-ring.

Diameter, mm	Physical dimensions, mm						Weight, g	Package, pcs	Code
	Ø D1	Ø D2	Ø D3	Ø D4	L1	L2			
110	103	110	111	118	283	355	745	1	021110
125	116	125	126	131	332	378	956	1	021125
160	155	160	162	168	395	480	1580	1	021160
200	193	200	202	209	568	671	3100	1	021200

Tee 45°


Purpose:

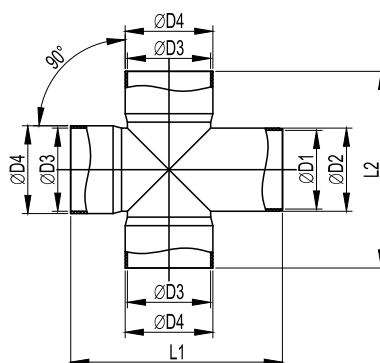
- connection of flexible, rigid, corrugated dual wall drainage pipes of the same diameter and branching at angle of 45°.

Characteristics:

- material is polypropylene;
- operating temperature is from -40 to +90 °C;
- protection degree is IP40 without seals, and IP55 with an O-ring.

Diameter, mm	Physical dimensions, mm						Weight, g	Package, pcs	Code
	Ø D1	Ø D2	Ø D3	Ø D4	L1	L2			
90	84	90	93	102	255	136	245	1	019090
110	103	109	111	115	270	150	517	1	019110
125	118	125	126	131	325	176	787	1	019125
160	153	159	161	168	396	220	1230	1	019160
200	189	200	201	210	480	275	2150	1	019200

Cross connection, 90°


Purpose:

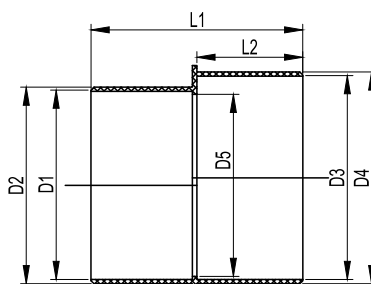
- connection of four flexible, rigid, corrugated dual wall drainage pipes of the same diameter and branching at angle of 90°.

Characteristics:

- material is polypropylene;
- operating temperature is from -40 to +90 °C;
- protection degree is IP40 without seals, and IP55 with an O-ring.

Diameter, mm	Physical dimensions, mm						Weight, g	Package, pcs	Code
	Ø D1	Ø D2	Ø D3	Ø D4	L1	L2			
90	86	90	91	96	232	258	363	1	022090
110	104	110	111	118	242	258	530	1	022110
125	118	125	126	132	274	280	685	1	022125
160	155	160	161	167	338	348	1050	1	022160
200	193	200	201	209	406	414	1850	1	022200

Adapter


Purpose:

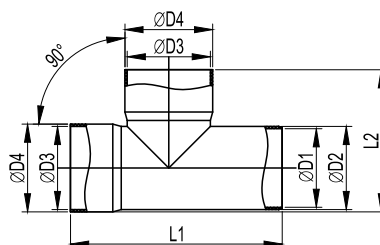
- connection of flexible, rigid, corrugated dual wall drainage pipes of different diameters with provision of gradual transfer.

Characteristics:

- material is polypropylene;
- operating temperature is from -40 to +90 °C;
- protection degree is IP40 without seals, and IP55 with an O-ring.

Diameter, mm	Physical dimensions, mm							Weight, g	Package, pcs	Code
	Ø D1	Ø D2	Ø D3	Ø D4	Ø D5	L1	L2			
90-110	92	104	104	110	88	109	70	105	1	024110
110-125	111	116	117	125	102	130	68	252	1	024125
160-200	161	167	190	198	149	240	140	782	1	024200

Tee 90°


Purpose:

- connection of flexible, rigid, corrugated dual wall drainage pipes of the same diameter and branching at angle of 90°.

Characteristics:

- material is polypropylene;
- operating temperature is from -40 to +90 °C;
- protection degree is IP40 without seals, and IP55 with an O-ring.

Diameter, mm	Physical dimensions, mm						Weight, g	Package, pcs	Code
	Ø D1	Ø D2	Ø D3	Ø D4	L1	L2			
90	91	95	91	95	242	180	375	1	020090
110	103	110	111	117	248	180	450	1	020110
125	118	125	126	130	255	194	490	1	020125
160	153	160	161	168	353	265	1007	1	020160
200	189	197	201	208	405	325	1805	1	020200

Instructions

Recommendations on design and installation

Prior to arrangement of a drainage system, exploration of the site shall be performed, and data on soil permeability, ground water capillary head, and data on ground seasonal frost depth shall be obtained.

To ensure efficient operation of a drainage system, the following shall be thoroughly selected:

- pipe diameter;
- type of pipes (with geotextile, without geotextile);
- pipe laying depth;
- pipe inclination angle.

Selection of the inside diameter of drainage pipes depends on drainage area. The bigger the inside diameter of a drainage pipe, the higher its flow capacity is.

It is recommended to use drainage pipes with geotextile in sandy and mixed grounds (sandy loams). Geotextile protects drainage pipes from silting and ingress of sand, thus significantly prolonging the service life of the entire drainage system. Also, usage of drainage pipes with geotextile allows to reduce the number of filtering cushioning layers and, in some cases, to fully omit them (for example, when laying drainage pipes in coarse and medium-grained sandy grounds).

Laying depth of drainage pipes in general depends on the level of ground waters and ground frost depth, so that flowing water does not freeze in the pipes.

In agricultural lands drainage, the depth of pipe laying depends on the kind of plants being grown, the ground type and peculiarities of terrain. Average drainage depth is: 0.7–0.9 m for meadows and grasslands; 0.8–1.1 m for tillages, vegetable and fruit plantations, bushes, treeplanting areas; 1.1–1.5 m for gardens.

Maximum allowable depth of pipe laying is limited by the ground dewatering extent, since in case there is no regular watering plants get a significant part of nutrients from ground waters.

In the event damage of drainage pipes by heavyweight machinery during soil cultivation or harvesting is possible the recommended laying depth shall be at least 0.7 m, and usage of drainage pipes with ring stiffness of SN6 and higher is preferable. If complex agricultural melioration works are planned (for example, plowing with deepening) the drainage depth shall be respectively increased so that it exceeds the depth of the planned works by 0.3–0.4 m.

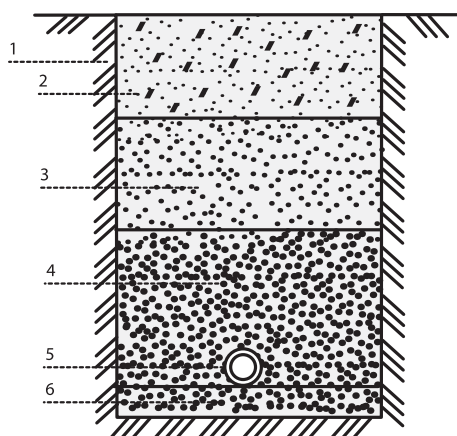
In case of drainage at utility facilities, the laying depth of drainage pipes depends on the ground water level drop in relation to the level of underground portions of structures.

It is assumed that the ground water level shall be under the level of underground structures at depth of: 0.3–1.0 m in sandy grounds; 0.6–6.0 m in sandy loam and loamy ground.

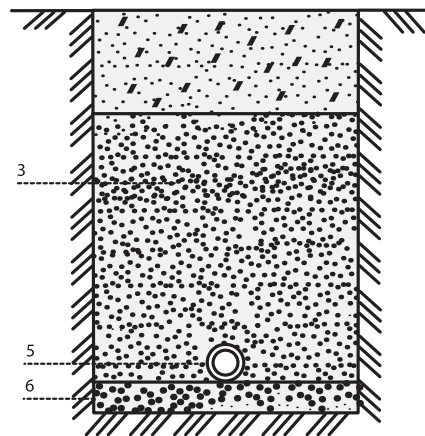
When draining a road surface, the recommended level of water drop is 1.2–1.5 meters under the edge of a road.

The recommended angle of inclination of drainage pipes is 3 mm/m for loamy and sandy loam grounds and 5 mm/m for sandy grounds. The maximum inclination angle shall be determined based on maximum allowable water flow velocity in drainage pipes: up to 1.0 m/sec.

Schematic diagrams of drainage pipe laying



Drainage pipe without geotextile

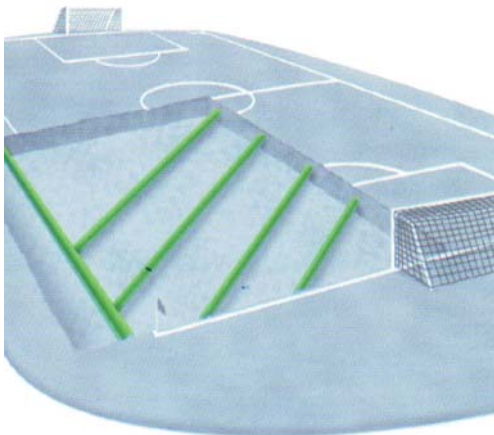
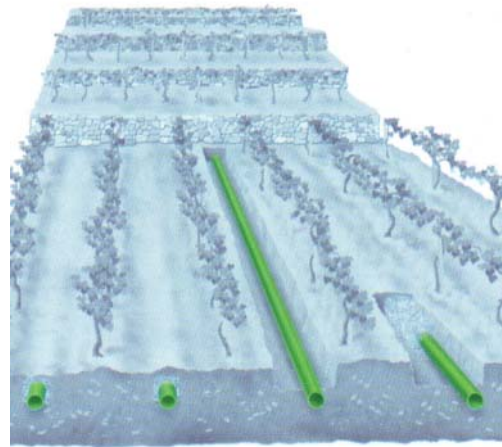
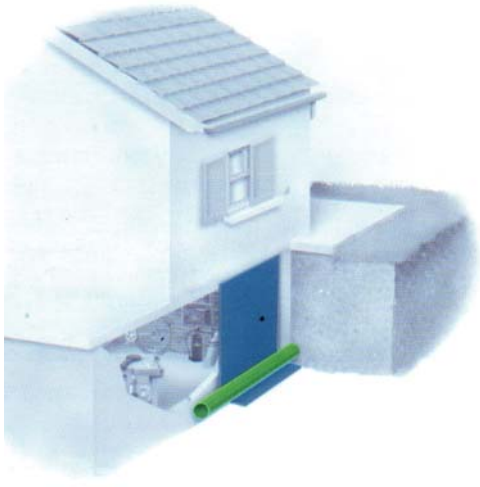


Drainage pipe with geotextile

1 – trench contour, 2 – local ground, 3 – backfilling of trench with inequigranular sand, 4 – cushioning with stone chippings, 5 – drainage pipe, 6 – substrate of stone chippings

Installation examples

Arrangement of drainage systems



Code	Page	Code	Page	Code	Page	Code	Page
00301	249	00525RB	252	01006A	291	01713	263
00301B	249	00527	252	01006G	327	01714	263
00302	249	00535	252	01007	295	01715	263
00303	250	00535R	252	01007A	295	01716	263
00303R	250	00536	252	01007G	327	01717	263
00304	250	00536B	252	01008	291	01718	263
00304B	250	00536R	252	01008G	327	01719	263
00304R	250	00536RB	252	01009	292	01720	263
00304RB	250	00541	252	01009A	292	01721	262
00305	250	00541B	252	01009G	328	01722	262
00305R	250	00541R	252	01010	291	01723	262
00308	249	00541RB	252	01010G	327	01724	262
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00313	250	00565	267	01033	308	01727	262
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00317B	250	00578	253	01051	290	01730	262
00317R	250	00578B	253	01051A	290	01731	262
00317RB	250	00578R	253	01051G	326	01732	262
00323	260	00578RB	253	01052	290	01733	262
00323A	260	00579	253	01052A	290	01734	262
00324	260	00579B	253	01052G	326	01735	262
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00351B	250	00579RB	253	01331	308	01737	261
00351R	250	00580	253	01332	308	01738	261
00351RB	250	00580B	253	01333	308	01739	261
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00386	251	00580RB	253	01343	309	01741	261
00386B	251	00581	253	01344	309	01742	261
00386R	251	00590	253	01400	289	01743	261
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00391	251	00595	253	01405G	328	01748	261
00391B	251	00597	253	01406	291	01749	261
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00395	251	00652	252	01407G	327	01752	261
00395B	251	00653	253	01408	291	01753	264
00395R	251	00654	252	01408G	327	01754	264
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00396RB	251	00823	265	01415	261	01759	264
00397	251	00833	265	01451	290	01760	264
00403	251	00843	265	01451G	326	01761	264
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00525R	252	01006	291	017125	102	01808	263

Code list

Code	Page	Code	Page	Code	Page	Code	Page
01809	263	025903	104	09582	335	11940	74
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01813	263	05912	309	09584	335	121911	98, 777
01822	262	05913	309	09591	336	121911100	98
01823	262	05914	309	09591BR	338	121912	98, 777
01824	262	05915	309	09591R	337	121914	98
01825	262	05916	309	09592	336	121916	98, 777
01828	262	05917	310	09592BR	338	121920	98, 777
01829	262	05918	310	09592R	337	121950	98
01869	266	05919	310	09593	336	121963	98
01870	266	07200	287	09593BR	338	121963100	98
01870G	329	07203	290	09593R	337	121975	98
01881	295	07204	292	09594	336	121990	98, 777
01882	295	07205	292	09599	325	140911	776
01883	295	07206	291	10001	258	140911-8K	776
01883G	329	07211	293	10001B	258	140912	776
019063	105	07225	294	10002	258	140912-8K	776
019075	105	07251	290	10002B	258	140916	776
019090	105, 780	07252	290	10013	255	140916-8K	776
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019200	105, 780	07713	269	10053	267	141911A-8K	776
020063	105	07713R	269	10063	267	141912A	776
020075	105	07714	269	10073	267	141912A-8K	776
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022200	106, 781	09211	293	10516	74	160916-6K	100
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023075	103	09226	294	10525+	74	160916-8K57	100
02308	268	09227	294	10532	74	160916A-6K	100
02309	268	09231	294	10532+	74	160916A-6K57	100
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023110	103	09252	290	10550	74	160916A-8K57	100
023125	103	09500	288	10643	267	160920-6K	100
023140	103	09501	288	10653	267	160920-6K57	100
023160	103	09503	290	10656	257	160920-8K	100
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02416	261	09505	292	10916	74	160920A-8K57	100
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025003	107	09507G	327	10950	74	19521	339
025050	104	09509	292	11199	325	19522	339
025063	104	09509G	328	11499	325	19523	339
025111	103	09510	289	11516	74	19524	339
025112	103	09511	295	11520	74	19531	338
025113	104	09514	261	11525	74	19532	338
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025122	103	09551G	326	11532	74	19534	338
025123	104	09552	290	11532+	74	19551	337
025142	103	09552G	326	11540	74	19552	337
025161	103	09571	335	11550	74	19553	337
025162	103	09572	335	11870	310	19554	337
025163	104	09573	335	11916	74	19599	325
025201	103	09574	335	11920	74	30013	476
025901	103	09578R	336	11925	74	30013HDZL	476
025902	103	09581	335	11932	74	30013INOX	476

Code	Page	Code	Page	Code	Page	Code	Page
30014	476	30582INOX	480	3502312	438	35055	433
30014HDZL	476	30583	480	3502312HDZ	438	35055HDZ	433
30014INOX	476	30583HDZL	480	3502312ZL	438	35055INOX	433
30015	476	30583INOX	480	3502315	438	35055ZL	433
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30190INOX	478	30587P	480	3502410HDZ	438	35057ZL	433
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30194	479	30591P	480	3502412HDZ	438	3506110INOX	439
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30194INOX	479	30593P	480	3502415	438	3506112	439
30195	479	30594P	480	3502415HDZ	438	3506112HDZ	439
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30266INOX	479	35015ZL	432	3502612	438	35062INOX	433
30267	479	35016	432	3502612HDZ	438	35062ZL	433
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30267INOX	479	35016INOX	432	3502615	438	3506310	439
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30268HDZL	479	35017	432	3502615ZL	438	3506310INOX	439
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30269	479	35017INOX	432	35026INOX	432	3506312	439
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30270HDZL	479	3502010HDZ	438	3502712HDZ	438	3506315HDZ	439
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30569	480	3502010ZL	438	3502715	438	35063HDZ	433
30569HDZL	480	3502012	438	3502715HDZ	438	35063INOX	433
30569INOX	480	3502012HDZ	438	3502715ZL	438	35063ZL	433
30570	480	3502012ZL	438	35027HDZ	432	35064	433
30570HDZL	480	3502015	438	35027INOX	432	3506410	439
30570INOX	480	3502015HDZ	438	35027ZL	432	3506410HDZ	439
30571	480	3502015ZL	438	35028	432	3506410INOX	439
30571HDZL	480	35020HDZ	432	3502812	438	3506410ZL	439
30571INOX	480	35020INOX	432	3502812HDZ	438	3506412	439
30572P	480	35020ZL	432	3502812ZL	438	3506412HDZ	439
30573P	480	35022	432	35028HDZ	432	3506412ZL	439
30574	480	3502210	438	35028INOX	432	3506415	439
30574HDZL	480	3502210HDZ	438	35028ZL	432	3506415HDZ	439
30574INOX	480	3502210INOX	438	35051	433	3506415ZL	439
30575P	480	3502210ZL	438	35051HDZ	433	35064HDZ	433
30577	480	3502212	438	35051INOX	433	35064INOX	433
30577HDZL	480	3502212HDZ	438	35051ZL	433	35064ZL	433
30577INOX	480	3502212ZL	438	35052	433	35065	433
30578	480	3502215	438	35052HDZ	433	3506510	439
30578HDZL	480	3502215HDZ	438	35052INOX	433	3506510HDZ	439
30578INOX	480	3502215ZL	438	35052ZL	433	3506510INOX	439
30580	480	35022HDZ	432	35053	433	3506510ZL	439
30580HDZL	480	35022INOX	432	35053HDZ	433	3506512	439
30580INOX	480	35022ZL	432	35053INOX	433	3506512HDZ	439
30581	480	35023	432	35053ZL	433	3506512ZL	439
30581HDZL	480	3502310	438	35054	433	3506515	439
30581INOX	480	3502310HDZ	438	35054HDZ	433	3506515HDZ	439
30582	480	3502310INOX	438	35054INOX	433	3506515ZL	439
30582HDZL	480	3502310ZL	438	35054ZL	433	35065HDZ	433

Code list

Code	Page	Code	Page	Code	Page	Code	Page
35065INOX	433	3510415HDZ	440	35256ZL	429	3526512ZL	435
35065ZL	433	3510415ZL	440	35257	429	3526515	435
35066	433	35104HDZ	434	35257HDZ	429	3526515HDZ	435
3506612	439	35104INOX	434	35257INOX	429	3526515ZL	435
3506612HDZ	439	35104ZL	434	35257ZL	429	35265600	450
3506612ZL	439	35105	434	35260	429	35265600HDZ	450
3506615	439	3510512	440	3526010	435	35265600INOX	450
3506615HDZ	439	3510512HDZ	440	3526010HDZ	435	35265600ZL	450
3506615ZL	439	3510512ZL	440	3526010INOX	435	35265HDZ	429
35066HDZ	433	3510515	440	3526010ZL	435	35265INOX	429
35066INOX	433	3510515HDZ	440	3526012	435	35265ZL	429
35066ZL	433	3510515ZL	440	3526012HDZ	435	35266	429
35067	433	35105HDZ	434	3526012ZL	435	3526610	435
3506712	439	35105INOX	434	3526015	435	3526610HDZ	435
3506712HDZ	439	35105ZL	434	3526015HDZ	435	3526610INOX	435
3506712ZL	439	35106	434	3526015ZL	435	3526610ZL	435
3506715	439	3510612	440	35260HDZ	429	3526612	435
3506715HDZ	439	3510612HDZ	440	35260INOX	429	3526612HDZ	435
3506715ZL	439	3510612ZL	440	35260ZL	429	3526612ZL	435
35067HDZ	433	3510615	440	35262	429	3526615	435
35067INOX	433	3510615HDZ	440	3526210	435	3526615HDZ	435
35067ZL	433	3510615ZL	440	3526210HDZ	435	3526615ZL	435
35068	433	35106HDZ	434	3526210INOX	435	35266600	450
3506812	439	35106INOX	434	3526210ZL	435	35266600HDZ	450
3506812HDZ	439	35106ZL	434	3526212	435	35266600INOX	450
3506812ZL	439	35107	434	3526212HDZ	435	35266600ZL	450
35068HDZ	433	3510712	440	3526212ZL	435	35266HDZ	429
35068INOX	433	3510712HDZ	440	3526215	435	35266INOX	429
35068ZL	433	3510712ZL	440	3526215HDZ	435	35266ZL	429
35101	434	35107HDZ	434	3526215ZL	435	35267	429
3510110	440	35107INOX	434	35262600	450	3526710	435
3510110HDZ	440	35107ZL	434	35262600HDZ	450	3526710HDZ	435
3510110INOX	440	35111	434	35262600INOX	450	3526710INOX	435
3510110ZL	440	35111HDZ	434	35262600ZL	450	3526710ZL	435
3510112	440	35111INOX	434	35262HDZ	429	3526712	435
3510112HDZ	440	35111ZL	434	35262INOX	429	3526712HDZ	435
3510112ZL	440	35112	434	35262ZL	429	3526712ZL	435
3510115	440	35112HDZ	434	35263	429	3526715	435
3510115HDZ	440	35112INOX	434	3526310	435	3526715HDZ	435
3510115ZL	440	35112ZL	434	3526310HDZ	435	3526715ZL	435
35101HDZ	434	35113	434	3526310INOX	435	35267600	450
35101INOX	434	35113HDZ	434	3526310ZL	435	35267600HDZ	450
35101ZL	434	35113INOX	434	3526312	435	35267600INOX	450
35102	434	35113ZL	434	3526312HDZ	435	35267600ZL	450
3510210	440	35114	434	3526312ZL	435	35267HDZ	429
3510210HDZ	440	35114HDZ	434	3526315	435	35267INOX	429
3510210INOX	440	35114INOX	434	3526315HDZ	435	35267ZL	429
3510210ZL	440	35114ZL	434	3526315ZL	435	35268	429
3510212	440	35115	434	35263600	450	3526810	435
3510212HDZ	440	35115HDZ	434	35263600HDZ	450	3526810HDZ	435
3510212ZL	440	35115INOX	434	35263600INOX	450	3526810INOX	435
3510215	440	35115ZL	434	35263600ZL	450	3526810ZL	435
3510215HDZ	440	35116	434	35263HDZ	429	3526812	435
3510215ZL	440	35116HDZ	434	35263INOX	429	3526812HDZ	435
35102HDZ	434	35116INOX	434	35263ZL	429	3526812ZL	435
35102INOX	434	35116ZL	434	35264	429	35268HDZ	429
35102ZL	434	3524712ZL	437	3526410	435	35268INOX	429
35103	434	35250	429	3526410HDZ	435	35268ZL	429
3510310	440	35250HDZ	429	3526410INOX	435	35301	430
3510310HDZ	440	35250INOX	429	3526410ZL	435	3530110	436
3510310INOX	440	35250ZL	429	3526412	435	3530110HDZ	436
3510310ZL	440	35252	429	3526412HDZ	435	3530110INOX	436
3510312	440	35252HDZ	429	3526412ZL	435	3530110ZL	436
3510312HDZ	440	35252INOX	429	3526415	435	3530112	436
3510312ZL	440	35252ZL	429	3526415HDZ	435	3530112HDZ	436
3510315	440	35253	429	3526415ZL	435	3530112ZL	436
3510315HDZ	440	35253HDZ	429	35264600	450	3530115	436
3510315ZL	440	35253INOX	429	35264600HDZ	450	3530115HDZ	436
35103HDZ	434	35253ZL	429	35264600INOX	450	3530115ZL	436
35103INOX	434	35254	429	35264600ZL	450	35301600	450
35103ZL	434	35254HDZ	429	35264HDZ	429	35301600HDZ	450
35104	434	35254INOX	429	35264INOX	429	35301600INOX	450
3510410	440	35254ZL	429	35264ZL	429	35301600ZL	450
3510410HDZ	440	35255	429	35265	429	35301HDZ	430
3510410INOX	440	35255HDZ	429	3526510	435	35301INOX	430
3510410ZL	440	35255INOX	429	3526510HDZ	435	35301ZL	430
3510412	440	35255ZL	429	3526510INOX	435	35302	430
3510412HDZ	440	35256	429	3526510ZL	435	3530210	436
3510412ZL	440	35256HDZ	429	3526512	435	3530210HDZ	436
3510415	440	35256INOX	429	3526512HDZ	435	3530210INOX	436

Code	Page	Code	Page	Code	Page	Code	Page
3530210ZL	436	35306600HDZ	450	35335HDZ	431	3534510	437
3530212	436	35306600INOX	450	35335INOX	431	3534510HDZ	437
3530212HDZ	436	35306600ZL	450	35335ZL	431	3534510INOX	437
3530212ZL	436	35306HDZ	430	35336	431	3534510ZL	437
3530215	436	35306INOX	430	35336HDZ	431	3534512	437
3530215HDZ	436	35306ZL	430	35336INOX	431	3534512HDZ	437
3530215ZL	436	35307	430	35336ZL	431	3534512ZL	437
35302600	450	3530710	436	35341	431	3534515	437
35302600HDZ	450	3530710HDZ	436	3534110	437	3534515HDZ	437
35302600INOX	450	3530710INOX	436	3534110HDZ	437	3534515ZL	437
35302600ZL	450	3530710ZL	436	3534110INOX	437	35345600	450
35302HDZ	430	3530712	436	3534110ZL	437	35345600HDZ	450
35302INOX	430	3530712HDZ	436	3534112	437	35345600INOX	450
35302ZL	430	3530712ZL	436	3534112HDZ	437	35345600ZL	450
35303	430	3530715	436	3534112ZL	437	35345HDZ	431
3530310	436	3530715HDZ	436	3534115	437	35345INOX	431
3530310HDZ	436	3530715ZL	436	3534115HDZ	437	35345ZL	431
3530310INOX	436	35307600	450	3534115ZL	437	35346	431
3530310ZL	436	35307600HDZ	450	35341600	450	3534610	437
3530312	436	35307600INOX	450	35341600HDZ	450	3534610HDZ	437
3530312HDZ	436	35307600ZL	450	35341600INOX	450	3534610INOX	437
3530312ZL	436	35307HDZ	430	35341600ZL	450	3534610ZL	437
3530315	436	35307INOX	430	35341HDZ	431	3534612	437
3530315HDZ	436	35307ZL	430	35341INOX	431	3534612HDZ	437
3530315ZL	436	35308	430	35341ZL	431	3534612ZL	437
35303600	450	3530810	436	35342	431	3534615	437
35303600HDZ	450	3530810HDZ	436	3534210	437	3534615HDZ	437
35303600INOX	450	3530810INOX	436	3534210HDZ	437	3534615ZL	437
35303600ZL	450	3530810ZL	436	3534210INOX	437	35346600	450
35303HDZ	430	3530812	436	3534210ZL	437	35346600HDZ	450
35303INOX	430	3530812HDZ	436	3534212	437	35346600INOX	450
35303ZL	430	3530812ZL	436	3534212HDZ	437	35346600ZL	450
35304	430	35308HDZ	430	3534212ZL	437	35346HDZ	431
3530410	436	35308INOX	430	3534215	437	35346INOX	431
3530410HDZ	436	35308ZL	430	3534215HDZ	437	35346ZL	431
3530410INOX	436	35311	430	3534215ZL	437	35347	431
3530410ZL	436	35311HDZ	430	35342600	450	3534710	437
3530412	436	35311INOX	430	35342600HDZ	450	3534710HDZ	437
3530412HDZ	436	35311ZL	430	35342600INOX	450	3534710INOX	437
3530412ZL	436	35312	430	35342600ZL	450	3534710ZL	437
3530415	436	35312HDZ	430	35342HDZ	431	3534712	437
3530415HDZ	436	35312INOX	430	35342INOX	431	3534712HDZ	437
3530415ZL	436	35312ZL	430	35342ZL	431	35347HDZ	431
35304600	450	35313	430	35343	431	35347INOX	431
35304600HDZ	450	35313HDZ	430	3534310	437	35347ZL	431
35304600INOX	450	35313INOX	430	3534310HDZ	437	35510	441
35304600ZL	450	35313ZL	430	3534310INOX	437	35510HDZ	441
35304HDZ	430	35314	430	3534310ZL	437	35510INOX	441
35304INOX	430	35314HDZ	430	3534312	437	35510ZL	441
35304ZL	430	35314INOX	430	3534312HDZ	437	35511	441
35305	430	35314ZL	430	3534312ZL	437	35511HDZ	441
3530510	436	35315	430	3534315	437	35511INOX	441
3530510HDZ	436	35315HDZ	430	3534315HDZ	437	35511ZL	441
3530510INOX	436	35315INOX	430	3534315ZL	437	35512	441
3530510ZL	436	35315ZL	430	35343600	450	35512HDZ	441
3530512	436	35316	430	35343600HDZ	450	35512INOX	441
3530512HDZ	436	35316HDZ	430	35343600INOX	450	35512ZL	441
3530512ZL	436	35316INOX	430	35343600ZL	450	35513	441
3530515	436	35316ZL	430	35343HDZ	431	35513HDZ	441
3530515HDZ	436	35317	430	35343INOX	431	35513INOX	441
3530515ZL	436	35317HDZ	430	35343ZL	431	35513ZL	441
35305600	450	35317INOX	430	35344	431	35514	441
35305600HDZ	450	35317ZL	430	3534410	437	35514HDZ	441
35305600INOX	450	35331	431	3534410HDZ	437	35514INOX	441
35305600ZL	450	35331HDZ	431	3534410INOX	437	35514ZL	441
35305HDZ	430	35331INOX	431	3534410ZL	437	35515	441
35305INOX	430	35331ZL	431	3534412	437	35515HDZ	441
35305ZL	430	35332	431	3534412HDZ	437	35515INOX	441
35306	430	35332HDZ	431	3534412ZL	437	35515ZL	441
3530610	436	35332INOX	431	3534415	437	35516	441
3530610HDZ	436	35332ZL	431	3534415HDZ	437	35516HDZ	441
3530610INOX	436	35333	431	3534415ZL	437	35516INOX	441
3530610ZL	436	35333HDZ	431	35344600	450	35516ZL	441
3530612	436	35333INOX	431	35344600HDZ	450	35517	441
3530612HDZ	436	35333ZL	431	35344600INOX	450	35517HDZ	441
3530612ZL	436	35334	431	35344600ZL	450	35517INOX	441
3530615	436	35334HDZ	431	35344HDZ	431	35517ZL	441
3530615HDZ	436	35334INOX	431	35344INOX	431	35520	441
3530615ZL	436	35334ZL	431	35344ZL	431	3552010	441
35306600	450	35335	431	35345	431	3552010HDZ	441

Code list

Code	Page	Code	Page	Code	Page	Code	Page
3552010INOX	441	35525ZL	441	36010INOX	451	36043	443
3552010ZL	441	35526	441	36011	451	36043HDZ	443
3552012	441	3552610	441	36011 HDZL	451	36043INOX	443
3552012HDZ	441	3552610HDZ	441	36011INOX	451	36043ZL	443
3552012ZL	441	3552610INOX	441	36012	451	36044	443
3552015	441	3552610ZL	441	36012 HDZL	451	36044HDZ	443
3552015HDZ	441	3552612	441	36012INOX	451	36044INOX	443
3552015ZL	441	3552612HDZ	441	36013	451	36044ZL	443
35520HDZ	441	3552612ZL	441	36013 HDZL	451	36045	443
35520INOX	441	3552615	441	36013INOX	451	36045HDZ	443
35520ZL	441	3552615HDZ	441	36014	451	36045INOX	443
35521	441	3552615ZL	441	36014 HDZL	451	36045ZL	443
3552110	441	35526HDZ	441	36014INOX	451	36046	443
3552110HDZ	441	35526INOX	441	36015	451	36046HDZ	443
3552110INOX	441	35526ZL	441	36015 HDZL	451	36046INOX	443
3552110ZL	441	35527	441	36015INOX	451	36046ZL	443
3552112	441	3552710	441	36016	451	36047	443
3552112HDZ	441	3552710HDZ	441	36016 HDZL	451	36047HDZ	443
3552112ZL	441	3552710INOX	441	36016INOX	451	36047INOX	443
3552115	441	3552710ZL	441	36017	451	36047ZL	443
3552115HDZ	441	3552712	441	36017 HDZL	451	360505	451
3552115ZL	441	3552712HDZ	441	36017INOX	451	360505 HDZL	451
35521HDZ	441	3552712ZL	441	36018	451	360505INOX	451
35521INOX	441	3552715	441	36018 HDZL	451	360508	451
35521ZL	441	3552715HDZ	441	36018INOX	451	360508 HDZL	451
35522	441	3552715ZL	441	36019	451	360508INOX	451
3552210	441	35527HDZ	441	36019 HDZL	451	360510	451
3552210HDZ	441	35527INOX	441	36019INOX	451	360510 HDZL	451
3552210INOX	441	35527ZL	441	36020	451	360510INOX	451
3552210ZL	441	35528	441	36020 HDZL	451	36060	444
3552212	441	3552810	441	36020INOX	451	360605	451
3552212HDZ	441	3552810HDZ	441	36021	443	360605 HDZL	451
3552212ZL	441	3552810INOX	441	36021HDZ	443	360605INOX	451
3552215	441	3552810ZL	441	36021INOX	443	360608	451
3552215HDZ	441	3552812	441	36021ZL	443	360608 HDZL	451
3552215ZL	441	3552812HDZ	441	36022	443	360608INOX	451
35522HDZ	441	3552812ZL	441	36022HDZ	443	36060HDZ	444
35522INOX	441	35528HDZ	441	36022INOX	443	36060INOX	444
35522ZL	441	35528INOX	441	36022ZL	443	36060ZL	444
35523	441	35528ZL	441	36023	443	360610	451
3552310	441	36000	443	36023HDZ	443	360610 HDZL	451
3552310HDZ	441	36000HDZ	443	36023INOX	443	360610INOX	451
3552310INOX	441	36000INOX	443	36023ZL	443	36062	444
3552310ZL	441	36000ZL	443	36024	443	36062HDZ	444
3552312	441	36001	443	36024HDZ	443	36062INOX	444
3552312HDZ	441	36001HDZ	443	36024INOX	443	36062ZL	444
3552312ZL	441	36001INOX	443	36024ZL	443	36063	444
3552315	441	36001ZL	443	36025	443	36063HDZ	444
3552315HDZ	441	36002	443	36025HDZ	443	36063INOX	444
3552315ZL	441	36002HDZ	443	36025INOX	443	36063ZL	444
35523HDZ	441	36002INOX	443	36025ZL	443	36064	444
35523INOX	441	36002ZL	443	36026	443	36064HDZ	444
35523ZL	441	36003	443	36026HDZ	443	36064INOX	444
35524	441	36003HDZ	443	36026INOX	443	36064ZL	444
3552410	441	36003INOX	443	36026ZL	443	36065	444
3552410HDZ	441	36003ZL	443	36027	443	36065HDZ	444
3552410INOX	441	36004	443	36027HDZ	443	36065INOX	444
3552410ZL	441	36004HDZ	443	36027INOX	443	36065ZL	444
3552412	441	36004INOX	443	36027ZL	443	36066	444
3552412HDZ	441	36004ZL	443	36028	443	36066HDZ	444
3552412ZL	441	36005	443	36028HDZ	443	36066INOX	444
3552415	441	36005HDZ	443	36028INOX	443	36066ZL	444
3552415HDZ	441	36005INOX	443	36028ZL	443	36067	444
3552415ZL	441	36005ZL	443	360405	451	36067HDZ	444
35524HDZ	441	36006	443	360405 HDZL	451	36067INOX	444
35524INOX	441	36006HDZ	443	360405INOX	451	36067ZL	444
35524ZL	441	36006INOX	443	360408	451	36068	444
35525	441	36006ZL	443	360408 HDZL	451	36068HDZ	444
3552510	441	36007	443	360408INOX	451	36068INOX	444
3552510HDZ	441	36007HDZ	443	36041	443	36068ZL	444
3552510INOX	441	36007INOX	443	360410	451	36081	444
3552510ZL	441	36007ZL	443	360410 HDZL	451	36081HDZ	444
3552512	441	36008	451	360410INOX	451	36081INOX	444
3552512HDZ	441	36008HDZL	451	36041HDZ	443	36081ZL	444
3552512ZL	441	36008INOX	451	36041INOX	443	36082	444
3552515	441	36009	451	36041ZL	443	36082HDZ	444
3552515HDZ	441	36009 HDZL	451	36042	443	36082INOX	444
3552515ZL	441	36009INOX	451	36042HDZ	443	36082ZL	444
35525HDZ	441	36010	451	36042INOX	443	36083	444
35525INOX	441	36010 HDZL	451	36042ZL	443	36083HDZ	444

Code	Page	Code	Page	Code	Page	Code	Page
36083INOX	444	36128INOX	457	36185INOX	459	36235INOX	458
36083ZL	444	36128ZL	457	36185ZL	459	36235ZL	458
36084	444	36141	457	36186	459	36236	458
36084HDZ	444	36141HDZ	457	36186HDZ	459	36236HDZ	458
36084INOX	444	36141INOX	457	36186INOX	459	36236INOX	458
36084ZL	444	36141ZL	457	36186ZL	459	36236ZL	458
36085	444	36142	457	36187	459	36237	458
36085HDZ	444	36142HDZ	457	36187HDZ	459	36237HDZ	458
36085INOX	444	36142INOX	457	36187INOX	459	36237INOX	458
36085ZL	444	36142ZL	457	36187ZL	459	36237ZL	458
36086	444	36143	457	36188	459	36238	458
36086HDZ	444	36143HDZ	457	36188HDZ	459	36238HDZ	458
36086INOX	444	36143INOX	457	36188INOX	459	36238INOX	458
36086ZL	444	36143ZL	457	36188ZL	459	36238ZL	458
36087	444	36144	457	36201	459	36239	458
36087HDZ	444	36144HDZ	457	36201HDZ	459	36239HDZ	458
36087INOX	444	36144INOX	457	36201INOX	459	36239INOX	458
36087ZL	444	36144ZL	457	36201ZL	459	36239ZL	458
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36101	444	36146	457	36203	459	36241	458
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36102HDZ	444	36147HDZ	457	36204HDZ	459	36249HDZ	458
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36104HDZ	444	36161HDZ	457	36206HDZ	459	36251HDZ	458
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36107HDZ	444	36164HDZ	457	36221HDZ	459	36254HDZ	458
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36107ZL	444	36164ZL	457	36221ZL	459	36254ZL	458
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36120HDZ	457	36165HDZ	457	36222HDZ	459	36255HDZ	458
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36122HDZ	457	36166HDZ	457	36223HDZ	459	36256HDZ	458
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36122ZL	457	36166ZL	457	36223ZL	459	36256ZL	458
36123	457	36167	457	36224	459	36263	458
36123HDZ	457	36167HDZ	457	36224HDZ	459	36263HDZ	458
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36126HDZ	457	36183HDZ	459	36227HDZ	459	36266HDZ	458
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36126ZL	457	36183ZL	459	36227ZL	459	36266ZL	458
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36128HDZ	457	36185HDZ	459	36235HDZ	458	36268HDZ	458

Code list

Code	Page	Code	Page	Code	Page	Code	Page
36268INOX	458	36312ZL	467	36339HDZ	471	36366	469
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36269INOX	458	36314	467	36340ZL	471	36367HDZ	469
36269ZL	458	36314HDZ	467	36341	471	36367ZL	469
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36281ZL	467	36315HDZ	467	36342	471	36368ZL	469
36282	467	36315ZL	467	36342HDZ	471	36369	469
36282HDZ	467	36316	467	36342ZL	471	36369HDZ	469
36282ZL	467	36316HDZ	467	36343	471	36369ZL	469
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36284HDZ	467	36318	467	36344ZL	471	36371HDZ	469
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36312HDZ	467	36339	471	36365ZL	469	36415HDZ	471

Code	Page	Code	Page	Code	Page	Code	Page
36415ZL	471	36510INOX	475	36555	478	36668	445
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36422HDZ	467	36524	469	36558INOX	478	36682ZL	445
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36510	475	36554HDZL	478	36667INOX	445	36724INOX	446
36510HDZ	475	36554INOX	478	36667ZL	445	36724ZL	446

Code list

Code	Page	Code	Page	Code	Page	Code	Page
36725	446	36782	447	36826	447	36883	448
36725HDZ	446	36782HDZ	447	36826HDZ	447	36883HDZ	448
36725INOX	446	36782INOX	447	36826INOX	447	36883INOX	448
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Code	Page	Code	Page	Code	Page	Code	Page
37016	453	37045HDZ	455	37102	460	37128	454
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37016INOX	453	37045ZL	455	37102INOX	460	37128INOX	454
37016ZL	453	37046	455	37102ZL	460	37128ZL	454
37017	453	37046HDZ	455	37103	460	37142	455
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37017ZL	453	37047	455	37103ZL	460	37142ZL	455
37018	453	37047HDZ	455	37104	460	37143	455
37018HDZ	453	37047INOX	455	37104HDZ	460	37143HDZ	455
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37021	454	37048	455	37104ZL	460	37143ZL	455
37021HDZ	454	37048HDZ	455	37105	460	37144	455
37021INOX	454	37048INOX	455	37105HDZ	460	37144HDZ	455
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37022	454	37061	456	37105ZL	460	37144ZL	455
37022HDZ	454	37061HDZ	456	37106	460	37145	455
37022INOX	454	37061INOX	456	37106HDZ	460	37145HDZ	455
37022ZL	454	37061ZL	456	37106INOX	460	37145INOX	455
37023	454	37062	456	37106ZL	460	37145ZL	455
37023HDZ	454	37062HDZ	456	37107	460	37146	455
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37023ZL	454	37062ZL	456	37107INOX	460	37146INOX	455
37024	454	37063	456	37107ZL	460	37146ZL	455
37024HDZ	454	37063HDZ	456	37108	460	37147	455
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37025	454	37064	456	37108ZL	460	37147ZL	455
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37026	454	37065	456	37112ZL	460	37148ZL	455
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37027	454	37066	456	37113ZL	460	37161ZL	461
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37027ZL	454	37066ZL	456	37114INOX	460	37162INOX	461
37028	454	37067	456	37114ZL	460	37162ZL	461
37028HDZ	454	37067HDZ	456	37115	460	37163	461
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37039013	482	37068HDZ	456	37116	460	37164	461
37039015	482	37068INOX	456	37116HDZ	460	37164HDZ	461
3703911	482	37068ZL	456	37116INOX	460	37164INOX	461
3703912	482	37072	456	37116ZL	460	37164ZL	461
3703913	482	37072HDZ	456	37117	460	37165	461
3703914	482	37072INOX	456	37117HDZ	460	37165HDZ	461
3703915	482	37072ZL	456	37117INOX	460	37165INOX	461
3703916	482	37073	456	37117ZL	460	37165ZL	461
3703917	482	37073HDZ	456	37118	460	37166	461
3703918	482	37073INOX	456	37118HDZ	460	37166HDZ	461
3703919	482	37073ZL	456	37118INOX	460	37166INOX	461
3703920	482	37074	456	37118ZL	460	37166ZL	461
3703921	482	37074HDZ	456	37122	454	37167	461
3703922	482	37074INOX	456	37122HDZ	454	37167HDZ	461
3703923	482	37074ZL	456	37122INOX	454	37167INOX	461
3703924	482	37075	456	37122ZL	454	37167ZL	461
3703937	482	37075HDZ	456	37123	454	37168	461
37039HDZ	474	37075INOX	456	37123HDZ	454	37168HDZ	461
37040	482	37075ZL	456	37123INOX	454	37168INOX	461
37041	455	37076	456	37123ZL	454	37168ZL	461
37041HDZ	455	37076HDZ	456	37124	454	37172	461
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37042ZL	455	37077ZL	456	37125INOX	454	37173INOX	461
37043	455	37078	456	37125ZL	454	37173ZL	461
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37043INOX	455	37078INOX	456	37126HDZ	454	37174HDZ	461
37043ZL	455	37078ZL	456	37126INOX	454	37174INOX	461
37044	455	37099	482	37126ZL	454	37174ZL	461
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37044ZL	455	37101INOX	460	37127INOX	454	37175INOX	461
37045	455	37101ZL	460	37127ZL	454	37175ZL	461

Code list

Code	Page	Code	Page	Code	Page	Code	Page
37176	461	37234	465	37269HDZL	479	37354INOX	477
37176HDZ	461	37234HDZ	465	37269INOX	479	37355	477
37176INOX	461	37234INOX	465	37270	479	37355HDZL	477
37176ZL	461	37234ZL	465	37270HDZL	479	37355INOX	477
37177	461	37235	465	37270INOX	479	37356	477
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37177INOX	461	37235INOX	465	37301HDZL	475	37356INOX	477
37177ZL	461	37235ZL	465	37301INOX	475	37357	477
37178	461	37238	465	37303	475	37357HDZL	477
37178HDZ	461	37238HDZ	465	37303HDZL	475	37357INOX	477
37178INOX	461	37238INOX	465	37303INOX	475	37358	477
37178ZL	461	37238ZL	465	37305	475	37358HDZL	477
37201	466	37240	479	37305HDZL	475	37358INOX	477
37201HDZ	466	37240HDZL	479	37305INOX	475	37370	449
37201INOX	466	37240INOX	479	37332	465	37370HDZ	449
37201ZL	466	37242	466	37332HDZ	465	37370INOX	449
37202	466	37242HDZ	466	37332INOX	465	37370ZL	449
37202HDZ	466	37242INOX	466	37332ZL	465	37371	449
37202INOX	466	37242ZL	466	37333	465	37371HDZ	449
37202ZL	466	37243	466	37333HDZ	465	37371INOX	449
37203	466	37243HDZ	466	37333INOX	465	37371ZL	449
37203HDZ	466	37243INOX	466	37333ZL	465	37372	449
37203INOX	466	37243ZL	466	37334	465	37372HDZ	449
37203ZL	466	37244	466	37334HDZ	465	37372INOX	449
37204	466	37244HDZ	466	37334INOX	465	37372ZL	449
37204HDZ	466	37244INOX	466	37334ZL	465	37373	449
37204INOX	466	37244ZL	466	37335	465	37373HDZ	449
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37205	466	37245HDZ	466	37335INOX	465	37373ZL	449
37205HDZ	466	37245INOX	466	37335ZL	465	37374	449
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37205ZL	466	37252	466	37336HDZ	465	37374INOX	449
37206	466	37252HDZ	466	37336INOX	465	37374ZL	449
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37206INOX	466	37252ZL	466	37337	465	37375HDZ	449
37206ZL	466	37253	466	37337HDZ	465	37375INOX	449
37207	466	37253HDZ	466	37337INOX	465	37375ZL	449
37207HDZ	466	37253INOX	466	37337ZL	465	37376	449
37207INOX	466	37253ZL	466	37338	465	37376HDZ	449
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37223	465	37256HDZ	466	37343INOX	466	37378ZL	464
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37224ZL	465	37261	479	37345HDZ	466	37380INOX	464
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37225HDZ	465	37261INOX	479	37345ZL	466	37381	464
37225INOX	465	37262	479	37346	466	37381HDZ	464
37225ZL	465	37262HDZL	479	37346HDZ	466	37381INOX	464
37226	465	37262INOX	479	37346INOX	466	37381ZL	464
37226HDZ	465	37263	479	37346ZL	466	37382	464
37226INOX	465	37263HDZL	479	37347	466	37382HDZ	464
37226ZL	465	37263INOX	479	37347HDZ	466	37382INOX	464
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37227ZL	465	37265	479	37350HDZL	477	37383INOX	464
37228	465	37265HDZL	479	37350INOX	477	37383ZL	464
37228HDZ	465	37265INOX	479	37351	477	37384	464
37228INOX	465	37266	479	37351HDZL	477	37384HDZ	464
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37232	465	37266INOX	479	37352	477	37384ZL	464
37232HDZ	465	37267	479	37352HDZL	477	37390	476
37232INOX	465	37267HDZL	479	37352INOX	477	37390HDZL	476
37232ZL	465	37267INOX	479	37353	477	37390INOX	476
37233	465	37268	479	37353HDZL	477	37391	476
37233HDZ	465	37268HDZL	479	37353INOX	477	37391HDZL	476
37233INOX	465	37268INOX	479	37354	477	37391INOX	476
37233ZL	465	37269	479	37354HDZL	477	37392	476

Code	Page	Code	Page	Code	Page	Code	Page
37392HDZL	476	37503ZL	453	37562INOX	477	37595INOX	456
37392INOX	476	37504	453	37563	477	37595ZL	456
37393	476	37504HDZ	453	37563HDZL	477	37596	456
37393HDZL	476	37504INOX	453	37563INOX	477	37596HDZ	456
37393INOX	476	37504ZL	453	37564	477	37596INOX	456
37394	476	37505	453	37564HDZL	477	37596ZL	456
37394HDZL	476	37505HDZ	453	37564INOX	477	37597	456
37394INOX	476	37505INOX	453	37565	477	37597HDZ	456
37395	476	37505ZL	453	37565HDZL	477	37597INOX	456
37395HDZL	476	37506	453	37565INOX	477	37597ZL	456
37395INOX	476	37506HDZ	453	37572	449	37598	456
37396	476	37506INOX	453	37572HDZ	449	37598HDZ	456
37396HDZL	476	37506ZL	453	37572INOX	449	37598INOX	456
37396INOX	476	37507	453	37572ZL	449	37598ZL	456
37397	476	37507HDZ	453	37573	449	37601	462
37397HDZL	476	37507INOX	453	37573HDZ	449	37601HDZ	462
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37398HDZL	476	37508HDZ	453	37574	449	37602	462
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37431	477	37513INOX	460	37575HDZ	449	37603HDZ	462
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37431INOX	477	37514	460	37575ZL	449	37603ZL	462
37432	477	37514HDZ	460	37576	449	37604	462
37432HDZL	477	37514INOX	460	37576HDZ	449	37604HDZ	462
37432INOX	477	37514ZL	460	37576INOX	449	37604INOX	462
37433	477	37515	460	37576ZL	449	37604ZL	462
37433HDZL	477	37515HDZ	460	37577	449	37605	462
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37434	477	37515ZL	460	37577INOX	449	37605INOX	462
37434HDZL	477	37516	460	37577ZL	449	37605ZL	462
37434INOX	477	37516HDZ	460	37578	449	37606	462
37435	477	37516INOX	460	37578HDZ	449	37606HDZ	462
37435HDZL	477	37516ZL	460	37578INOX	449	37606INOX	462
37435INOX	477	37517	460	37578ZL	449	37606ZL	462
37436	477	37517HDZ	460	37582	461	37607	462
37436HDZL	477	37517INOX	460	37582HDZ	461	37607HDZ	462
37436INOX	477	37517ZL	460	37582INOX	461	37607INOX	462
37437	477	37518	460	37582ZL	461	37607ZL	462
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37472HDZ	449	37519	460	37583ZL	461	37610ZL	462
37472INOX	449	37519HDZ	460	37584	461	37611	462
37472ZL	449	37519INOX	460	37584HDZ	461	37611HDZ	462
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37473HDZ	449	37532	465	37584ZL	461	37611ZL	462
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37476INOX	449	37536HDZ	465	37588	461	37616	462
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37477	449	37536ZL	465	37588INOX	461	37616INOX	462
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37477INOX	449	37537HDZ	465	37592	456	37617	462
37477ZL	449	37537INOX	465	37592HDZ	456	37617HDZ	462
37478	449	37537ZL	465	37592INOX	456	37617INOX	462
37478HDZ	449	37539	465	37592ZL	456	37617ZL	462
37478INOX	449	37539HDZ	465	37593	456	37618	462
37478ZL	449	37539INOX	465	37593HDZ	456	37618HDZ	462
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37502INOX	453	37561	477	37594HDZ	456	37620HDZ	463
37502ZL	453	37561HDZL	477	37594INOX	456	37620INOX	463
37503	453	37561INOX	477	37594ZL	456	37620ZL	463
37503HDZ	453	37562	477	37595	456	37621	463
37503INOX	453	37562HDZL	477	37595HDZ	456	37621HDZ	463

Code list

Code	Page	Code	Page	Code	Page	Code	Page
37621INOX	463	37657INOX	454	38013INOX	452	38046HDZ	457
37621ZL	463	37657ZL	454	38014	452	38046INOX	457
37622	463	37661	455	38014HDZL	452	38046ZL	457
37622HDZ	463	37661HDZ	455	38014INOX	452	38047	457
37622INOX	463	37661INOX	455	38015	452	38047HDZ	457
37622ZL	463	37661ZL	455	38015HDZL	452	38047INOX	457
37623	463	37662	455	38015INOX	452	38047ZL	457
37623HDZ	463	37662HDZ	455	38016	452	38048	457
37623INOX	463	37662INOX	455	38016HDZL	452	38048HDZ	457
37623ZL	463	37662ZL	455	38016INOX	452	38048INOX	457
37624	463	37663	455	38020	444	38048ZL	457
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37624INOX	463	37663INOX	455	38020INOX	444	38060HDZ	459
37624ZL	463	37663ZL	455	38020ZL	444	38060INOX	459
37625	463	37664	455	38021	444	38060ZL	459
37625HDZ	463	37664HDZ	455	38021HDZ	444	38061	459
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37626ZL	463	37665ZL	455	38022ZL	444	38062INOX	459
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37627HDZ	463	37666HDZ	455	38023HDZ	444	38063	459
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37627ZL	463	37666ZL	455	38023ZL	444	38063INOX	459
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37628HDZ	463	37667HDZ	455	38024HDZ	444	38064	459
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37628ZL	463	37667ZL	455	38024ZL	444	38064INOX	459
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37629INOX	463	38000INOX	443	38025INOX	444	38065HDZ	459
37629ZL	463	38000ZL	443	38025ZL	444	38065INOX	459
37632	463	38001	443	38026	444	38065ZL	459
37632HDZ	463	38001HDZ	443	38026HDZ	444	38066	459
37632INOX	463	38001INOX	443	38026INOX	444	38066HDZ	459
37632ZL	463	38001ZL	443	38026ZL	444	38066INOX	459
37633	463	38002	443	38027	444	38066ZL	459
37633HDZ	463	38002HDZ	443	38027HDZ	444	38067	459
37633INOX	463	38002INOX	443	38027INOX	444	38067HDZ	459
37633ZL	463	38002ZL	443	38027ZL	444	38067INOX	459
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37638HDZ	463	38003HDZ	443	38028HDZ	444	38068	459
37638INOX	463	38003INOX	443	38028INOX	444	38068HDZ	459
37638ZL	463	38003ZL	443	38028ZL	444	38068INOX	459
37639	463	38004	443	38032	470	38068ZL	459
37639HDZ	463	38004HDZ	443	38032HDZ	470	38072	470
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37639ZL	463	38004ZL	443	38033	470	38072ZL	470
37640	463	38005	443	38033HDZ	470	38073	470
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37651ZL	454	38006ZL	443	38040INOX	457	38079HDZ	468
37652	454	38007	443	38040ZL	457	38079ZL	468
37652HDZ	454	38007HDZ	443	38041	457	38081	468
37652INOX	454	38007INOX	443	38041HDZ	457	38081HDZ	468
37652ZL	454	38007ZL	443	38041INOX	457	38081ZL	468
37653	454	38008	443	38041ZL	457	38082	468
37653HDZ	454	38008HDZ	443	38042	457	38082HDZ	468
37653INOX	454	38008INOX	443	38042HDZ	457	38082ZL	468
37653ZL	454	38008ZL	443	38042INOX	457	38083	468
37654	454	38009	452	38042ZL	457	38083HDZ	468
37654HDZ	454	38009HDZL	452	38043	457	38083ZL	468
37654INOX	454	38009INOX	452	38043HDZ	457	38084	468
37654ZL	454	38010	452	38043INOX	457	38084HDZ	468
37655	454	38010HDZL	452	38043ZL	457	38084ZL	468
37655HDZ	454	38010INOX	452	38044	457	38085	468
37655INOX	454	38011	452	38044HDZ	457	38085HDZ	468
37655ZL	454	38011HDZL	452	38044INOX	457	38085ZL	468
37656	454	38011INOX	452	38044ZL	457	38086	468
37656HDZ	454	38012	452	38045	457	38086HDZ	468
37656INOX	454	38012HDZL	452	38045HDZ	457	38086ZL	468
37656ZL	454	38012INOX	452	38045INOX	457	38087	468
37657	454	38013	452	38045ZL	457	38087HDZ	468
37657HDZ	454	38013HDZL	452	38046	457	38087ZL	468

Code	Page	Code	Page	Code	Page	Code	Page
38088	468	38166ZL	470	38223HDZ	446	38265HDZ	448
38088HDZ	468	38167	470	38223INOX	446	38265INOX	448
38088ZL	468	38167HDZ	470	38223ZL	446	38265ZL	448
38089	468	38167ZL	470	38224	446	38266	448
38089HDZ	468	38168	470	38224HDZ	446	38266HDZ	448
38089ZL	468	38168HDZ	470	38224INOX	446	38266INOX	448
38090	468	38168ZL	470	38224ZL	446	38266ZL	448
38090HDZ	468	38169	470	38225	446	38267	448
38090ZL	468	38169HDZ	470	38225HDZ	446	38267HDZ	448
38091	468	38169ZL	470	38225INOX	446	38267INOX	448
38091HDZ	468	38170	470	38225ZL	446	38267ZL	448
38091ZL	468	38170HDZ	470	38226	446	38268	448
38092	468	38170ZL	470	38226HDZ	446	38268HDZ	448
38092HDZ	468	38171	470	38226INOX	446	38268INOX	448
38092ZL	468	38171HDZ	470	38226ZL	446	38268ZL	448
38093	468	38171ZL	470	38227	446	38281	449
38093HDZ	468	38172	470	38227HDZ	446	38281HDZ	449
38093ZL	468	38172HDZ	470	38227INOX	446	38281INOX	449
38120	470	38172ZL	470	38227ZL	446	38281ZL	449
38120HDZ	470	38173	470	38228	446	38282	453
38120ZL	470	38173HDZ	470	38228HDZ	446	38282HDZ	453
38121	470	38173ZL	470	38228INOX	446	38282INOX	453
38121HDZ	470	38191	468	38228ZL	446	38282ZL	453
38121ZL	470	38191HDZ	468	38240	447	38283	453
38122	470	38191ZL	468	38240HDZ	447	38283HDZ	453
38122HDZ	470	38192	468	38240INOX	447	38283INOX	453
38122ZL	470	38192HDZ	468	38240ZL	447	38283ZL	453
38123	470	38192ZL	468	38241	447	38284	453
38123HDZ	470	38193	468	38241HDZ	447	38284HDZ	453
38123ZL	470	38193HDZ	468	38241INOX	447	38284INOX	453
38124	470	38193ZL	468	38241ZL	447	38284ZL	453
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38124ZL	470	38200HDZ	445	38242HDZ	447	38285HDZ	453
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38125HDZ	470	38200ZL	445	38242ZL	447	38285ZL	453
38125ZL	470	38201	445	38243	447	38286	453
38126	470	38201HDZ	445	38243HDZ	447	38286HDZ	453
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38127	470	38202	445	38244	447	38287	453
38127HDZ	470	38202HDZ	445	38244HDZ	447	38287HDZ	453
38127ZL	470	38202INOX	445	38244INOX	447	38287INOX	453
38128	470	38202ZL	445	38244ZL	447	38287ZL	453
38128HDZ	470	38203	445	38245	447	38288	453
38128ZL	470	38203HDZ	445	38245HDZ	447	38288HDZ	453
38129	470	38203INOX	445	38245INOX	447	38288INOX	453
38129HDZ	470	38203ZL	445	38245ZL	447	38288ZL	453
38129ZL	470	38204	445	38246	447	38301	460
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38131	470	38205	445	38247	447	38302	460
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38132HDZ	470	38206	445	38248	447	38303	460
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38133	470	38206INOX	445	38248INOX	447	38303INOX	460
38133HDZ	470	38206ZL	445	38248ZL	447	38303ZL	460
38133ZL	470	38207	445	38260	448	38304	460
38160	470	38207HDZ	445	38260HDZ	448	38304HDZ	460
38160HDZ	470	38207INOX	445	38260INOX	448	38304INOX	460
38160ZL	470	38207ZL	445	38260ZL	448	38304ZL	460
38161	470	38208	445	38261	448	38305	460
38161HDZ	470	38208HDZ	445	38261HDZ	448	38305HDZ	460
38161ZL	470	38208INOX	445	38261INOX	448	38305INOX	460
38162	470	38208ZL	445	38261ZL	448	38305ZL	460
38162HDZ	470	38220	446	38262	448	38306	460
38162ZL	470	38220HDZ	446	38262HDZ	448	38306HDZ	460
38163	470	38220INOX	446	38262INOX	448	38306INOX	460
38163HDZ	470	38220ZL	446	38262ZL	448	38306ZL	460
38163ZL	470	38221	446	38263	448	38307	460
38164	470	38221HDZ	446	38263HDZ	448	38307HDZ	460
38164HDZ	470	38221INOX	446	38263INOX	448	38307INOX	460
38164ZL	470	38221ZL	446	38263ZL	448	38307ZL	460
38165	470	38222	446	38264	448	38308	468
38165HDZ	470	38222HDZ	446	38264HDZ	448	38308HDZ	468
38165ZL	470	38222INOX	446	38264INOX	448	38308ZL	468
38166	470	38222ZL	446	38264ZL	448	38309	460
38166HDZ	470	38223	446	38265	448	38309HDZ	460

Code list

Code	Page	Code	Page	Code	Page	Code	Page
38309INOX	460	38363INOX	458	38397INOX	462	43118	147
38309ZL	460	38363ZL	458	38397ZL	462	43218	147
38310	470	38364	458	38398	462	45003	147
38310HDZ	470	38364HDZ	458	38398HDZ	462	45005	146
38310ZL	470	38364INOX	458	38398INOX	462	45006	148
38313	470	38364ZL	458	38398ZL	462	45007	148
38313HDZ	470	38365	458	38400	463	45008	148
38313ZL	470	38365HDZ	458	38400HDZ	463	45009	148
38315	470	38365INOX	458	38400INOX	463	45011	146
38315HDZ	470	38365ZL	458	38400ZL	463	45012	146
38315ZL	470	38366	458	38401	463	45013	147
38316	470	38366HDZ	458	38401HDZ	463	45015	146
38316HDZ	470	38366INOX	458	38401INOX	463	45016	149
38316ZL	470	38366ZL	458	38401ZL	463	45017	147
38322	461	38367	458	38402	463	45018	147
38322HDZ	461	38367HDZ	458	38402HDZ	463	45021	146
38322INOX	461	38367INOX	458	38402INOX	463	45022	146
38322ZL	461	38367ZL	458	38402ZL	463	45023	147
38323	461	38368	458	38403	463	45025	146
38323HDZ	461	38368HDZ	458	38403HDZ	463	45031	146
38323INOX	461	38368INOX	458	38403INOX	463	45037	148
38323ZL	461	38368ZL	458	38403ZL	463	45038	148
38324	461	38369	458	38404	463	45047	148
38324HDZ	461	38369HDZ	458	38404HDZ	463	45048	148
38324INOX	461	38369INOX	458	38404INOX	463	45057	148
38324ZL	461	38369ZL	458	38404ZL	463	45058	148
38325	461	38381	462	38405	463	45068	148
38325HDZ	461	38381HDZ	462	38405HDZ	463	45078	148
38325INOX	461	38381INOX	462	38405INOX	463	45107	148
38325ZL	461	38381ZL	462	38405ZL	463	45116	149
38326	461	38382	462	38407	463	45117	147
38326HDZ	461	38382HDZ	462	38407HDZ	463	45118	147
38326INOX	461	38382INOX	462	38407INOX	463	45127	149
38326ZL	461	38382ZL	462	38407ZL	463	45137	148
38327	461	38383	462	38408	463	45138	148
38327HDZ	461	38383HDZ	462	38408HDZ	463	45147	148
38327INOX	461	38383INOX	462	38408INOX	463	45148	148
38327ZL	461	38383ZL	462	38408ZL	463	45157	148
38328	461	38384	462	38412	463	45158	148
38328HDZ	461	38384HDZ	462	38412HDZ	463	45168	148
38328INOX	461	38384INOX	462	38412INOX	463	45178	148
38328ZL	461	38384ZL	462	38412ZL	463	45203	147
38341	449	38385	462	38413	463	45205	146
38341HDZ	449	38385HDZ	462	38413HDZ	463	45207	148
38341INOX	449	38385INOX	462	38413INOX	463	45216	149
38341ZL	449	38385ZL	462	38413ZL	463	45217	147
38342	449	38386	462	38414	463	45218	147
38342HDZ	449	38386HDZ	462	38414HDZ	463	45227	149
38342INOX	449	38386INOX	462	38414INOX	463	45237	148
38342ZL	449	38386ZL	462	38414ZL	463	45238	148
38343	449	38387	462	38500INOX	478	45247	148
38343HDZ	449	38387HDZ	462	38500ZL	478	45248	148
38343INOX	449	38387INOX	462	39000	472	45257	148
38343ZL	449	38387ZL	462	39000INOX	472	45258	148
38344	449	38390	462	39000ZL	472	45268	148
38344HDZ	449	38390HDZ	462	39001	472	45278	148
38344INOX	449	38390INOX	462	39001INOX	472	50016	121
38344ZL	449	38390ZL	462	39001ZL	472	50016R	121
38345	449	38391	462	39002	472	50020	121
38345HDZ	449	38391HDZ	462	39002INOX	472	50020R	121
38345INOX	449	38391INOX	462	39002ZL	472	50025	121
38345ZL	449	38391ZL	462	39003	472	50025R	121
38346	449	38392	462	39003INOX	472	50032	121
38346HDZ	449	38392HDZ	462	39003ZL	472	50032R	121
38346INOX	449	38392INOX	462	39004	473	50040	121
38346ZL	449	38392ZL	462	39004INOX	473	50050	121
38347	449	38394	462	39004ZL	473	50116	122
38347HDZ	449	38394HDZ	462	39005	473	50116R	122
38347INOX	449	38394INOX	462	39005INOX	473	5011F	353
38347ZL	449	38394ZL	462	39005ZL	473	50120	122
38361	458	38395	462	39006	473	50120R	122
38361HDZ	458	38395HDZ	462	39006INOX	473	50125	122
38361INOX	458	38395INOX	462	39006ZL	472	50125R	122
38361ZL	458	38395ZL	462	41018	147	50132	122
38362	458	38396	462	41118	147	50132R	122
38362HDZ	458	38396HDZ	462	41218	147	50140	122
38362INOX	458	38396INOX	462	42018	147	50150	122
38362ZL	458	38396ZL	462	42118	147	5015F	353
38363	458	38397	462	42218	147	50216	122
38363HDZ	458	38397HDZ	462	43018	147	50216R	122

Code	Page	Code	Page	Code	Page	Code	Page
50220	122	51320	115	54010	129	57025	114
50220R	122	51320R	115	54020	130	57028	114
50225	122	51325	115	54030	130	57032	114
50225R	122	51325R	115	54040	131	57035	114
50232	122	51332	115	54100	129	57040	114
50232R	122	51332R	115	54110	129	57050	114
50240	122	51400	117	54120	130	57116	123
50250	122	51500	117	54130	130	57120	123
50316	123	51600	117	54140	131	57125	123
50320	123	51700	117	54200	129	57132	123
50325	123	51800	117	54201	129	57140	123
50332	123	51900	117	54202	129	57150	123
50340	123	52000	117	54210	129	58006	118
50350	123	52100	117	54220	130	58008	118
50416	120	52300	117	54230	130	58010	118
50416R	120	52400	117	54240	131	58012	35
50420	120	52500	124	54300	129	58012	118
50420R	120	52500R	124	54310	129	58014	35
50425	120	52600	124	54320	130	58014	118
50425R	120	52600R	124	54330	130	58016	35
50432	120	52700	124	54340	131	58016	118
50432R	120	52700R	124	54400	129	58020	35
50440	120	52800	124	54410	129	58020	118
50450	120	52800R	124	54420	130	58026	35
50516	120	52900	124	54430	130	58026	118
50516R	120	52900R	124	54440	131	58032	35
50520	120	53000	124	54520	125	58032	118
50520R	120	53000R	124	54525	125	58038	35
50525	120	53100	124	54532	125	58038	118
50525R	120	53200	124	54540	125	58048	35
50532	120	53300	124	54640	126	58048	118
50532R	120	53338	119	54655	126	59055	79
50616	120	53339	119	54740	126	59055	83
50616R	120	53339R	119	54755	126	59065	79
50620	120	53340	34, 119	54840	353	59065	83
50620R	120	53341	34, 119	54916	121	59075	79
50625	120	53341R	34, 119	54916R	121	59075	83
50625R	120	53342	34, 119	54920	121	59095	79
50632	120	53342R	34, 119	54920R	121	59095	83
50632R	120	53343	34, 119	54925	121	59101	88
507F	353	53343R	34, 119	54925R	121	59102	88
50816	75	53344	34, 119	54932	121	59103	88
50820	75	53344R	34, 119	54932R	121	59105	79
50825	75	53346	34, 119	54940	121	59105	83
50832	75	53346R	34, 119	54950	121	59115	79
50840	75	53347	34, 119	54963	121	59115	83
50850	75	53348	34, 119	55110	124	59135	79
50916	75	53352	119	55112	124	59135	83
50920	75	53352R	119	55114	124	59135	83
50925	75	53353	34, 119	55116	124	59145	79
50932	75	53354	34, 119	55120	124	59145	83
50940	75	53354R	34, 119	55122	124	59145	83
50950	75	53355	34, 119	55125	124	59155	79
51016	115	53355R	34, 119	55128	124	59155	83
51016M	116	53356	34, 119	55132	124	59155	83
51016R	115	53356R	34, 119	55135	124	59301	149
51020	115	53357	34, 119	55140	124	59320	88
51020M	116	53357R	34, 119	55150	124	59330	88
51020R	115	53359	34, 119	55216	122	59340	88
51025	115	53359R	34, 119	55220	122	59361	75
51025R	115	53360	34, 119	55225	122	59362	75
51032	115	53361	34, 119	55232	122	59363	75
51032R	115	53362	34, 119	55240	122	59364	75
51040	115	53400	124	55250	122	59365	75
51050	115	53500	132	55316	125	59366	75
51116	115	53500R	132	55320	125	59367	75
51116R	115	53600	132	55325	125	59368	75
51120	115	53600R	132	55332	125	59369	75
51120R	115	53700	132	55340	125	59380	77
51125	115	53700R	132	55350	125	59381	77
51125R	115	53800	129	56916	123	59381B	78
51132	115	53800R	129	56920	123	59382	77
51132R	115	53810	129	56925	123	59386	80
51200	116	53810R	129	56932	123	59387	80
51220	116	53900	129	57010	114	59388	78
51232	116	53900R	129	57012	114	59389	79
51250	116	53910	129	57014	114	59390	79
51263	116	53910R	129	57016	114	59391	78
51316	115	53920	130	57020	114	59391U	77
51316R	115	54000	129	57022	114	59392U	76

Code list

Code	Page	Code	Page	Code	Page	Code	Page
59393U	76	6013-25XX	32	6016-5032	39	6051-16A	38
59405	87	6013-32L	32	6016-5040	39	6051-20	38
59410	87	6013-32X	32	6016-5063	39	6051-25	38
59415	87	6013-32XX	32	6016-6340	39	6051-32A	38
59420	87	6013-40	32	6016-6350	39	6051-40	38
59425	87	6013-40X	32	6019-0120	40	6051-50	38
59430	87	6013-40XX	32	6019-0125	40	6051-63	38
59450	88	6013-50	32	6019-0132	40	6052-16A	37
59460	88	6013-50X	32	6019-0250	40	6052-20	37
59509	89	6013-50XX	32	6019-0263	40	6052-25	37
59512	89	6013-63	32	6019-11240	40	6052-32A	37
59516	118	6014-1016	23	6019-11432	40	6052-40	37
59519	89	6014-1016G	23	6019-1216	40	6052-50	37
59520	118	6014-1216G	23	6019-21263	40	6060-1522	42
59522	89	6014-1616	23	6019-3420	40	6060-1925	42
59525	118	6014-16A	23	6028-20G	42	6060-2532	42
59601	125	6014-2020	23	6028-25G	42	6060-3238	42
59602	125	6014-20A	23	6028-32G	42	6060-4050	42
59603	125	6014-20G	23	6028-40G	42	6060-5060	42
59606	132	6014-2527	23	6028-50G	42	6060-6472	42
59607	132	6014-25A	23	6028-63G	42	6070- 40	48
59608	132	6014-25G	23	6030-16A	45	6070-10	18
59609	132	6014-2732G	23	6030-20	45	6070-10N	18
59660	88	6014-32A	23	6030-25	45	6070-12	18
59680	88	6014-4035	23	6030-32A	45	6070-12N	18
59701	89	6014-4035G	23	6030-40	45	6070-16	18
59703	89	6014-40A	23	6030-50	45	6070-16N	18
59715	89	6014-5040	23	6040-001	36	6070-22	18
59720	89	6014-5040G	23	6040-001X	36	6070-22N	18
59730	89	6014-50A	23	6040-002	36	6070-32	18
59740	89	6014-6350	23	6040-003	36	6070-32N	18
59750	89	6014-6350G	23	6040-004	36	6070-38	18
59765	89	6014P10M120509	25	6040-012	36	6070-38N	18
59780	89	6014P10M160509	25	6040-012X	36	6070-40	18
59795	89	6014P10M200812	25	6040-034	36	6070-40N	18
59910	88	6014P12M120509	25	6040-034X	36	6070-50	18
59980	88	6014P12M160509	25	6040-038	36	6070-50N	18
6003-16A	38	6014P12M200812	25	6040-112	36	6071-010	17
6003-20	38	6014P16M120509	25	6040-112X	36	6071-010N	17
6003-25	38	6014P16M160509	25	6040-114	36	6071-012	17
6003-32A	38	6014P16M200812	25	6040-114X	36	6071-012N	17
6003-40	38	6014P16M251116	25	6040-16	36	6071-015	17
6003-50	38	6014P22M200812	25	6040-212	36	6071-015N	17
6003-63	38	6014P22M201116	25	6040-22	36	6071-020	17
6006-16A	41	6014P22M251116	25	6040-25	36	6071-020N	17
6006-16XX	41	6014P22M321521	25	6040-32	36	6071-027	17
6006-20	41	6014P32M201116	25	6040-38	36	6071-027N	17
6006-20XX	41	6014P32M251116	25	6040-50	36	6071-035	17
6006-25	41	6014P32M251521	25	6040-60	36	6071-035N	17
6006-25XX	41	6014P32M321521	25	6040-P01	35	6071-040	17
6006-32A	41	6014P32M402027	25	6040-P02	35	6071-040N	17
6006-32XX	41	6014P38M321521	25	6040-P03	35	6071-050	17
6006-40	41	6014P38M402027	25	6040-P04	35	6071-050N	17
6006-40XX	41	6014P40M402027	25	6040-P112	35	6071T-010	19
6006-50	41	6015-10A	24	6040-P114	35	6071T-012	19
6006-50XX	41	6015-12A	24	6040-P12	35	6071T-016	19
6006-63	41	6015-16A	24	6040-P212	35	6071T-022	19
6006E-12	41	6015-20	24	6040-P34	35	6071T-032	19
6006EMC-12A	41	6015-2020	24	6042-16	37	6071T-038	19
6006EMC-16A	41	6015-25	24	6042-20	37	6071T-040	19
6006EMC-20	41	6015-2527	24	6042-25	37	6071T-050	19
6006EMC-25	41	6015-3235	24	6042-32	37	607E010	20
6006EMC-32A	41	6015-32A	24	6042-40	37	607E012	20
6006EMC-40	41	6015-40	24	6042-50	37	607E016	20
6006EMC-50	41	6015-4035	24	6042-63	37	607E022	20
6006EMC-63	41	6015-50	24	6044-A16	33	607E032	20
6008-16L3	28	6015-5040	24	6044-A20	33	607E038	20
6008-20L3	28	6015-6350	24	6044-A25	33	607E040	20
6008-25L3	28	6016-1620	39	6044-A32	33	607E050	20
6008-32L3	28	6016-2016	39	6044-A40	33	607ETX010	21
6008-40L3	28	6016-2025	39	6044-A50	33	607ETX012	21
6008-50L3	28	6016-2520	39	6044-XA20	33	607ETX016	21
6008-63L3	28	6016-2532	39	6044-XA25	33	607ETX022	21
6013-16L	32	6016-3220	39	6044-XA32	33	607ETX032	21
6013-16X	32	6016-3225	39	6050-16A	38	607ETX038	21
6013-20L	32	6016-3240	39	6050-20	38	607ETX040	21
6013-20X	32	6016-4020	39	6050-25	38	607ETX050	21
6013-20XX	32	6016-4025	39	6050-32A	38	6097L16B	32
6013-25L	32	6016-4032	39	6050-40	38	6097L20B	32
6013-25X	32	6016-4050	39	6050-50	38	6097L25B	32

Code	Page	Code	Page	Code	Page	Code	Page
6097L32B	32	62532	112	653026	47	750120	169
6097L40B	32	62540	112	653026H	47	75012S	157
6097L50B	32	62550	112	65303	44	75012SL	157
6097L63B	32	62563	112	65304	44	75012W	169
6110-16N	29	62916	112	65305	44	750130	169
6110-16XX	29	62916R	112	65306	44	75013W	169
6110-20N	29	62920	112	667M3539	16	750140	169
6110-20XX	29	62920R	112	667M4044	16	75014W	169
6110-25N	29	62925	112	667M5054	16	750150	169
6110-25XX	29	62925R	112	667R1013	16	75015W	169
6110-32N	29	62932	112	667R1215	16	75020SL	169
6110-32XX	29	62932R	112	667R1518	16	75020W	169
6110-40	29	62940	112	667R2024	16	75021S	159
6110-40XX	29	62950	112	667R2630	16	75021SL	160
6110-50	29	62963	112	66BTP10	27	75021W	170
6110-50XX	29	6330-16A	45	66BTP12	27	75022S	159
6110-63N	29	6330-20	45	66BTP16	27	75022SL	160
6111-16XX	29	6330-25	45	66BTP22	27	75023SL	169
6111-20XX	29	6330-32A	45	66BTP32	27	75023W	171
6111-25XX	29	6330-40	45	66BTP38	27	75024SL	170
6111-32XX	29	6330-50	45	66BTP40	27	75031S	158
6111-40XX	29	63516	112	66BTP50	27	75032S	158
6111-50XX	29	63516UF	113	6700-16L4	28	75100S	164
6111-A16N	29	63520	112	6700-20L4	28	75102S	165
6111-A20N	29	63520UF	113	6700-25L4	28	75120S	163
6111-A25N	29	63525	112	6700-32L4	28	75121S	163
6111-A32N	29	63525UF	113	6700-40L4	28	75121SL	158
6111-A40	29	63532	112	6700-50L4	28	75122S	163
6111-A50	29	63532UF	113	6700A-16L3	28	75122SL	158
6111-A63N	29	63540	112	6700A-20L3	28	75131S	158
6111P16M120509	31	63540UF	113	6700A-25L3	28	75132S	158
6111P16M160509	31	63550	112	6700A-32L3	28	75200S	164
6111P16M200812	31	63550UF	113	6700A-40L3	28	75201S	159
6111P20M160812	31	63563	112	6700A-50L3	28	75202S	165
6111P20M200812	31	63563UF	113	70516	73	75300S	164
6111P20M251116	31	63768	35, 118	70520	73	75302S	165
6111P25M201116	31	63916	112	70525	73	75450S	165
6111P25M251116	31	63916R	112	70532	73	75451S	165
6111P25M321521	31	63916UF	113	70540	73	75452S	166
6111P32M251521	31	63920	112	70550	73	75453S	166
6111P32M321521	31	63920R	112	70716	73	75457S	164
6111P32M402027	31	63920UF	113	70720	73	75458S	164
6111P40M322027	31	63925	112	70725	73	75459S	166
6111P40M402027	31	63925R	112	70732	73	75482S	162
6112-16XX	30	63925UF	113	70740	73	75483S	162
6112-20XX	30	63932	112	70750	73	75491S	162
6112-25XX	30	63932R	112	70916	73	75581MS	161
6112-32XX	30	63932UF	113	70920	73	75581S	161
6112-40XX	30	63940	112	70925	73	75607S	167
6112-50XX	30	63940UF	113	70932	73	75608S	167
6112-A16	30	63950	112	70940	73	75609S	167
6112-A20	30	63950UF	113	70950	73	75612S	167
6112-A25	30	63963	112	71516	73	75613S	167
6112-A32	30	63963UF	113	71520	73	75614S	167
6112-A32N	49	6430-16A	46	71525	73	75616S	168
6112-A40	30	6430-20	46	71532	73	75642S	165
6112-A50	30	6430-25	46	71540	73	75643S	166
6112-A63N	30	6430-32A	46	71550	73	75644S	163
6117-10N	30	6430-40	46	71716	73	75646S	164
6117-12N	30	6430-50	46	71720	73	75647S	164
6117-16N	30	65300	44	71725	73	75648S	164
6117-2020	30	65301	44	71732	73	75653S	166
6117-20N	30	653011	46	71740	73	75654S	164
6117-2527	30	653012	46	71750	73	75655S	165
6117-25N	30	653013	46	71916	73	75656S	166
6117-3235	30	653014	46	71920	73	75668S	164
6117-32N	30	653015	46	71925	73	75669S	165
6117-40	30	653016	46	71932	73	75678S	164
6117-4035	30	65302	44	71940	73	75679S	165
6117-50	30	653020	47	71950	73	75721S	161
6117-5040	30	653021	47	75001S	156	75761S	159
6117-63N	30	653021H	47	75001SL	157	75851S	160
6117XX20N	30	653022	47	75002S	156	75861S	160
6117XX25N	30	653022H	47	75002SL	157	75932S	160
6117XX32N	30	653023	47	750100	169	76001B	156
6117XX4035	30	653023H	47	75010W	169	76001BL	157
6117XX5040	30	653024	47	750110	170	76002B	156
62516	112	653024H	47	75011S	157	76002BL	157
62520	112	653025	47	75011SL	157	76011B	157
62525	112	653025H	47	75011W	170	76011BL	157

Code list

Code	Page	Code	Page	Code	Page	Code	Page
76012B	157	7S91650	93	85624	349	91525+	72
76012BL	157	7S920100	93	85636	349	91532	72
76021B	159	7V71625	93	85654	349	91532+	72
76021BL	160	7V71650	93	85672	349	91540	72
76022B	159	7V91625	93	85708	348	91550	72
76022BL	160	7V91650	93	85712	348	91916	72
76031B	158	80816	71	85718	348	9191625	72
76032B	158	80820	71	85724	349	9191650	72
76100B	164	80825	71	85736	349	91920	72
76102B	165	80832	71	85908	348	9192025	72
76120B	163	80840	71	85912	348	9192050	72
76121B	163	80850	71	85918	348	91925	72
76121BL	158	81504	350	85924	349	9192525	72
76122B	163	81508	350	85936	349	91932	72
76122BL	158	81512	350	87078	353	91940	72
76131B	158	81518	350	87108	354	9194050	72
76132B	158	81524	351	87112	354	91950	72
76200B	164	81536	351	87118	354	9195030	72
76201B	159	81554	351	87160	352	9L916100	92
76202B	165	81572	351	87163	352	9L91625	92
76300B	164	81708	350	87164	354	9L91650	92
76302B	165	81712	350	87165	352	9P91625	92
76450B	165	81718	350	87166	353	9P91650	92
76451B	165	81724	351	87167	353	9S91625	92
76452B	166	81736	351	87169	353	9S91650	92
76453B	166	81816	71	87170	353	9S920100	92
76457B	164	81820	71	87172	352	9V91625	92
76458B	164	81825	71	87173	352	9V91650	92
76459B	166	81832	71	87177	352	AIR00001	757
76482B	162	81840	71	87179	352	AIR00002	757
76482R	162	81850	71	87180	352	AIR00042	757
76483B	162	81908	350	87184	352	AIR00070	757
76491B	162	81912	350	87185	352	AIR00090	757
76581B	161	81918	350	87186	352	AIR00120	757
76581MB	161	81924	351	87187	354	AIR00906	757
76607B	167	81936	351	87188	354	AIR10	771
76608B	167	82002	345	87189	354	AIR10040	767
76609B	167	82004	345	87197	352	AIR10040B	767
76612B	167	82006	345	87208	354	AIR10042	768
76613B	167	82008	345	87212	354	AIR10042B	768
76614B	167	82508	350	87218	354	AIR10043	768
76615B	167	82512	350	87308	354	AIR10043B	768
76616B	168	82524	351	87312	354	AIR10045	768
76617B	167	83604	346	87318	354	AIR10045B	768
76618B	168	83608	346	87408	354	AIR10047	768
76642B	165	83612	346	87412	354	AIR10047B	768
76643B	166	83618	346	87418	354	AIR10049	768
76644B	163	83624	347	87508	354	AIR10049B	768
76645B	163	83636	347	87512	354	AIR12	771
76646B	164	83654	347	87518	354	AIR12010	759
76647B	164	83708	346	88012	317	AIR12060	756
76648B	164	83712	346	88203	318	AIR12061	756
76653B	166	83718	346	88212	319	AIR12062	758
76654B	164	83724	347	88234	318	AIR12063	758
76655B	165	83736	347	88235	319	AIR12064	758
76656B	166	83908	346	88236	319	AIR12065	759
76666B	165	83912	346	90516	72	AIR12066	759
76668B	164	83918	346	90520	72	AIR12067	759
76669B	165	83924	347	90525	72	AIR12068	760
76678B	164	83936	347	90525+	72	AIR12069	760
76679B	165	84608	343	90532	72	AIR14	771
76721B	161	84612	343	90532+	72	AIR16	771
76761B	159	84618	344	90540	72	AIR20	771
76851B	160	84624	344	90550	72	AIR22	771
76861B	160	84636	344	90916	72	AIR25	771
76932B	160	84654	344	9091625	72	AIR28	771
7L716100	93	84708	343	9091650	72	AIR32	771
7L71625	93	84712	343	90920	72	AIR35	771
7L71650	93	84718	344	9092025	72	AIR40	771
7L916100	93	84724	344	9092050	72	AIR42400	756
7L91625	93	84736	344	90925	72	AIR42402	758
7L91650	93	84908	343	9092525	72	AIR42403	758
7P71625	93	84912	343	90932	72	AIR42404	758
7P71650	93	84918	344	90940	72	AIR42405	759
7P91625	93	84924	344	9094050	72	AIR42406	759
7P91650	93	84936	344	90950	72	AIR42408	760
7S71625	93	85604	348	9095030	72	AIR42409	760
7S71650	93	85608	348	91516	72	AIR50	771
7S720100	93	85612	348	91520	72	AIR70400	756
7S91625	93	85618	348	91525	72	AIR70401	756

Code	Page	Code	Page	Code	Page	Code	Page
AIR70402	758	BBC3010	653	BBF6030HDZ	662	BBL5020ZL	654
AIR70403	758	BBC3010HDZ	653	BBF6040HDZ	662	BBL5030	654
AIR70404	758	BBC3010INOX	653	BBF6050HDZ	662	BBL5030HDZ	654
AIR70405	759	BBC3010ZL	653	BBF6060HDZ	662	BBL5030INOX	654
AIR70406	759	BBC3015	653	BBH6020	657	BBL5030ZL	654
AIR70407	759	BBC3015HDZ	653	BBH6020HDZ	657	BBL5540	654
AIR70408	760	BBC3015INOX	653	BBH6020INOX	657	BBL5540HDZ	654
AIR70409	760	BBC3015ZL	653	BBH6020ZL	657	BBL5540INOX	654
AIR70410	759	BBC3020	653	BBH6030	657	BBL5540ZL	654
AIR70411	760	BBC3020HDZ	653	BBH6030HDZ	657	BBL5550	654
AIR70412	760	BBC3020INOX	653	BBH6030INOX	657	BBL5550HDZ	654
AIR90400	756	BBC3020ZL	653	BBH6030ZL	657	BBL5550INOX	654
AIR90401	756	BBC3030	653	BBH6040	657	BBL5550ZL	654
AIR90402	758	BBC3030HDZ	653	BBH6040HDZ	657	BBL5560	654
AIR90403	758	BBC3030INOX	653	BBH6040INOX	657	BBL5560HDZ	654
AIR90404	758	BBC3030ZL	653	BBH6040ZL	657	BBL5560INOX	654
AIR90405	759	BBC3040	653	BBH6050	657	BBL5560ZL	654
AIR90406	759	BBC3040HDZ	653	BBH6050HDZ	657	BBM5010	655
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AIR90409	760	BBD2120	656	BBH6060	657	BBM5010ZL	655
AIR90410	759	BBD2120HDZ	656	BBH6060HDZ	657	BBM5015	655
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AIR90606	759	BBD2140	656	BBH7030	657	BBM5020ZL	655
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AIR90610	759	BBD2150	656	BBH7040	657	BBM5030ZL	655
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BBA1005ZL	652	BBD2160	656	BBH7050	657	BBM5040ZL	655
BBA1010	652	BBD2160HDZ	656	BBH7050HDZ	657	BBM5050	655
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BBA1010ZL	652	BBD4100HDZ	660	BBH7060	657	BBM5050ZL	655
BBA1015	652	BBD4120HDZ	656	BBH7060HDZ	657	BBM5060	655
BBA1015HDZ	652	BBD4130HDZ	656	BBH7060INOX	657	BBM5060HDZ	655
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BBA1015ZL	652	BBD4150HDZ	656	BBH7520HDZ	657	BBM5060ZL	655
BBA2020	652	BBD4160HDZ	656	BBH7530HDZ	657	BBP2120	655
BBA2020HDZ	652	BBD4170HDZ	660	BBH7540HDZ	657	BBP2120HDZ	655
BBA2020ZL	652	BBD4180HDZ	660	BBH7550HDZ	657	BBP2120INOX	655
BBA2030	652	BBD4190HDZ	660	BBH7560HDZ	657	BBP2120ZL	655
BBA2030HDZ	652	BBF5001HDZ	661	BBH8000HDZ	660	BBP2130	655
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BBA3020HDZ	653	BBF5040INOX	661	BBL5010	654	BBP4130	656
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BBA3040	653	BBF5060HDZ	661	BBL5015ZL	654	BBP4140ZL	656
BBA3040HDZ	653	BBF5060INOX	661	BBL5020	654	BBP4150	656
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BBA3040ZL	653	BBF6020HDZ	662	BBL5020INOX	654	BBP4150INOX	656

Code list

Code	Page	Code	Page	Code	Page	Code	Page
BBP4150ZL	656	BHT3140	679	BMT1015ZL	673	BPF2912INOX	636
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Code	Page	Code	Page	Code	Page	Code	Page
BPL2907ZL	634	BPM2104HDZ	638	BPM2910INOX	635	BPM5003HDZ	644
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BPM2103HDZ	638	BPM2908INOX	635	BPM4130ZL	640	BSD4104INOX	665
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BPM2104	638	BPM2910HDZ	635	BPM4160ZL	640	BSD4105HDZ	665

Code list

Code	Page	Code	Page	Code	Page	Code	Page
BSD4105INOX	665	BSP2115	663	CM06520	697	CM111600	687
BSD4105ZL	665	BSP2115HDZ	663	CM06521	697	CM120400	690
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BSD9230HDZ	666	BSW2901	672	CM081090	684	CM131200INOX316L	690
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BSP2112INOX	663	CM050620INOX	620	CM111200INOX	687	CM201002	686
BSP2112ZL	663	CM060614	620	CM111200INOX316L	687	CM201002INOX	686

Code	Page	Code	Page	Code	Page	Code	Page
CM201002INOX316L	686	CM275019	685	CM500414	694	CM618322	705
CM201002ZL	686	CM275025	685	CM510310	694	CM618330	705
CM201004	686	CM275032	685	CM510312	694	CM618335	705
CM201006	686	CM275041	685	CM510414	694	CM619005	702
CM201008	686	CM275051	685	CM520310	694	CM619007	702
CM201010	686	CM275076	685	CM520414	694	CM620105	703
CM201201	686	CM300600	698	CM530310	695	CM620107	703
CM201201INOX	686	CM300800	698	CM530414	695	CM620605	703
CM201201INOX316L	686	CM300800HDZ	698	CM540616	695	CM620607	703
CM201201ZL	686	CM301000	698	CM550616	695	CM620805	703
CM201202	686	CM301001	699	CM560420	696	CM620807	703
CM201202INOX	686	CM301200	698	CM560432	696	CM621003	699
CM201202INOX316L	686	CM310800	701	CM560438	696	CM621004	699
CM201202ZL	686	CM311000	701	CM560445	696	CM621005	699
CM201208	686	CM330800	701	CM560459	696	CM621006	699
CM201210	686	CM331000	701	CM560552	696	CM622002	700
CM201601	685	CM340800	688	CM560565	696	CM622003	700
CM210625	688	CM341000	688	CM560652	696	CM622004	700
CM210625INOX	688	CM341200	688	CM560665	696	CM622005	700
CM210825	688	CM350001	621	CM570830	696	CM622006	700
CM210825INOX	688	CM350003	622	CM610010	698	CM623002	700
CM211030	688	CM350840	688	CM610020	698	CM623003	700
CM211030INOX	688	CM350860	688	CM610030	698	CM623004	700
CM211240	688	CM351040	688	CM610040	698	CM623005	700
CM211240INOX	688	CM351060	688	CM610050	698	CM623006	700
CM220600	690	CM400625	691	CM610061	700	CM624003	699
CM220600HDZ	690	CM400830	691	CM610062	700	CM624005	699
CM220600INOX	690	CM400830HDZ	691	CM610063	698	CM624006	699
CM220600INOX316L	690	CM401040	691	CM610064	700	CM625502	701
CM220800	690	CM401040HDZ	691	CM610065	700	CM625503	701
CM220800INOX	690	CM401250	691	CM611003	701	CM625504	701
CM220800INOX316L	690	CM401665	691	CM611008	701	CM625505	701
CM221000	690	CM410416	691	CM611014	701	CM625506	701
CM221000INOX	690	CM410421	691	CM611020	701	CMT00001	705
CM221000INOX316L	690	CM410625	691	CM612006	702	CMT00002	705
CM221200	690	CM410831	691	CM612007	702	CRB1000HDZ	369, 371, 373
CM221200HDZ	690	CM411034	691	CM613004	702	CRB2000HDZ	373
CM221200INOX	690	CM411241	691	CM613010	702	CRR1000HDZ	371, 373, 375, 377
CM221200INOX316L	690	CM411443	691	CM613015	702	CRR2000HDZ	371, 373, 375, 377
CM230600	688	CM411645	691	CM613020	702	CRS3000HDZ	369, 371, 373, 375, 377
CM230800	688	CM420645	691	CM614104	703	DB1801	717
CM240400	689	CM420850	691	CM614110	703	DB1802	717
CM240500	689	CM421060	691	CM614115	703	DB1803	717
CM240600	689	CM421274	691	CM614120	703	DB1804	717
CM240600HDZ	689	CM430645	692	CM614604	703	DB1805	717
CM240800	689	CM430850	692	CM614610	703	DD0510	722
CM240800HDZ	689	CM431060	692	CM614615	703	DD0810	722
CM241000	689	CM431274	692	CM614620	703	DD1010	722
CM241000HDZ	689	CM440645	692	CM614804	703	DD2010	722
CM241200	689	CM440850	692	CM614810	703	DD3010	722
CM241200HDZ	689	CM441060	692	CM614815	703	DD4010	722
CM241400	689	CM441274	692	CM614820	703	DD5010	722
CM241600	689	CM450645	692	CM616004	704	DD6010	722
CM250600	687	CM450850	692	CM616010	704	DF1201	720
CM250800	687	CM451065	692	CM616015	704	DG0625	723
CM251000	687	CM451275	692	CM616020	704	DG1213	723
CM251200	687	CM460645	693	CM617109	704	DG3030	723
CM260806	687	CM460850	693	CM617111	704	DIS1103100	176
CM260808	687	CM461065	693	CM617114	704	DIS1103160	177
CM260810	687	CM461275	693	CM617118	704	DIS1302063	176
CM260812	687	CM470645	693	CM617124	704	DIS1302063N	176
CM260815	687	CM470850	693	CM617130	704	DIS1302083	176
CM261008	687	CM471065	693	CM617409	704	DIS1302083N	176
CM261010	687	CM471275	693	CM617411	704	DIS13083	176
CM261012	687	CM480645	693	CM617414	704	DIS13083N	176
CM261015	687	CM480655	693	CM617418	704	DIS137101	179
CM273100	685	CM480850	693	CM617424	704	DIS137102	179
CM273130	685	CM480853	693	CM617430	704	DIS137121	179
CM273150	685	CM480865	693	CM617709	704	DIS137122	179
CM273180	685	CM481001	693	CM617711	704	DIS137131	180
CM274013	685	CM481011	693	CM617714	704	DIS137141	180
CM274016	685	CM481060	693	CM617718	704	DIS137151	207
CM274019	685	CM481075	693	CM617724	704	DIS137201	181
CM274025	685	CM481201	693	CM617730	704	DIS137202	181
CM274032	685	CM481275	693	CM618122	705	DIS1373012	182
CM274041	685	CM481612	693	CM618130	705		
CM274051	685	CM490635	696	CM618135	705		
CM274076	685	CM490665	696	CM618222	705		
CM275013	685	CM500310	694	CM618230	705		
CM275016	685	CM500312	694	CM618235	705		

Code list

Code	Page	Code	Page	Code	Page	Code	Page
DIS1373022	182	DIS2471696	194	DIS4183267	192	DIS5671687R	201
DIS1373212	182	DIS2471697	194	DIS4221663	191	DIS5671687RM	202
DIS1373222	182	DIS2473293	194	DIS4221666	191	DIS5673283	201
DIS1373312P	182	DIS2473296	194	DIS4221667	191	DIS5673283R	201
DIS1374407	178	DIS2473297	194	DIS4223263	191	DIS5673283RM	202
DIS137448150	182	DIS2481693	193	DIS4223266	191	DIS5673286	201
DIS1375012	182	DIS2481696	193	DIS4223267	191	DIS5673286R	201
DIS1375022	182	DIS2481697	193	DIS4271663	193	DIS5673286RM	202
DIS1375212	182	DIS2483293	193	DIS4271666	193	DIS5673287	201
DIS1375222	182	DIS2483296	193	DIS4271667	193	DIS5673287R	201
DIS1375312P	182	DIS2483297	193	DIS4273263	193	DIS5673287RM	202
DIS1376407	178	DIS3131643	190	DIS4273266	193	DIS5681683	202
DIS137648150	182	DIS3131643P	190	DIS4273267	193	DIS5681683RMW	203
DIS2131633	189	DIS3131646	190	DIS5001683	198	DIS5681683RW	203
DIS2131633P	189	DIS3131646P	190	DIS5001686	198	DIS5681686	202
DIS2131636	189	DIS3131647	190	DIS5001687	198	DIS5681686RMW	203
DIS2131636P	189	DIS3131647P	190	DIS5003283	198	DIS5681686RW	203
DIS2131637	189	DIS3133243	190	DIS5003286	198	DIS5681687	202
DIS2131637P	189	DIS3133243F	190	DIS5003287	198	DIS5681687RMW	203
DIS2133233	189	DIS3133246	190	DIS50312583	200	DIS5681687RW	203
DIS2133233F	189	DIS3133246F	190	DIS50312583M	204	DIS5683283	202
DIS2133236	189	DIS3133247	190	DIS50312583RM	204	DIS5683283RMW	203
DIS2133236F	189	DIS3133247F	190	DIS50312586	200	DIS5683283RW	203
DIS2133237	189	DIS31812543	191	DIS50312586M	204	DIS5683286	202
DIS2133237F	189	DIS31812546	191	DIS50312586RM	204	DIS5683286RMW	203
DIS21812533	189	DIS31812547	191	DIS50312587	200	DIS5683286RW	203
DIS21812536	189	DIS3181643	191	DIS50312587M	204	DIS5683287	202
DIS21812537	189	DIS3181643P	191	DIS50312587RM	204	DIS5683287RMW	203
DIS2181633	189	DIS3181646	191	DIS5051683	198	DIS5683287RW	203
DIS2181633P	189	DIS3181646P	191	DIS5051686	198	DIS5686383	202
DIS2181636	189	DIS3181647	191	DIS5051687	198	DIS5686383RMW	203
DIS2181636P	189	DIS3181647P	191	DIS5053283	198	DIS5686383RW	203
DIS2181637	189	DIS3183243	191	DIS5053286	198	DIS5686386	202
DIS2181637P	189	DIS3183243F	191	DIS5053287	198	DIS5686386RMW	203
DIS2183233	189	DIS3183246	191	DIS5131653	195	DIS5686386RW	203
DIS2183233F	189	DIS3183246F	191	DIS5131653TF	195	DIS5686387	202
DIS2183236	189	DIS3183247	191	DIS5131656	195	DIS5686387RMW	203
DIS2183236F	189	DIS3183247F	191	DIS5131656TF	195	DIS5686387RW	203
DIS2183237	189	DIS3186343	191	DIS5131657	195	DIS5700016	178
DIS2183237F	189	DIS3186346	191	DIS5131657TF	195	DIS5700032	206
DIS2186333	189	DIS3186347	191	DIS5133253	195	DIS5700116	178
DIS2186336	189	DIS4001683	197	DIS5133253TF	195	DIS5700132	206
DIS2186337	189	DIS4001686	197	DIS5133256	195	DIS5702061	177
DIS2211633	190	DIS4001687	197	DIS5133256TF	195	DIS5704061	177
DIS2211636	190	DIS4003283	197	DIS5133257	195	DIS5706407	178
DIS2211637	190	DIS4003286	197	DIS5133257TF	195	DIS57090163	208
DIS2213233	190	DIS4003287	197	DIS51512553	196	DIS57090164	208
DIS2213236	190	DIS4051683	197	DIS51512556	196	DIS57090165	208
DIS2213237	190	DIS4051686	197	DIS51512557	196	DIS57090324	208
DIS2261633	190	DIS4051687	197	DIS5156353	196	DIS57090325	208
DIS2261636	190	DIS4053283	197	DIS5156356	196	DIS5709063	208
DIS2261637	190	DIS4053286	197	DIS5156357	196	DIS5709125	208
DIS2263233	190	DIS4053287	197	DIS5181653T	196	DIS5720200	180
DIS2263236	190	DIS4056383	197	DIS5181656T	196	DIS5720205	180
DIS2263237	190	DIS4056386	197	DIS5181657T	196	DIS5720220	181
DIS2421693	194	DIS4056387	197	DIS5183253T	196	DIS5720311	228
DIS2421696	194	DIS4093407	179	DIS5183256T	196	DIS5720313	228
DIS2421697	194	DIS4131663	192	DIS5183257T	196	DIS572M0310	179
DIS2423293	194	DIS4131663F	192	DIS5601683	199	DIS610379	205
DIS2423296	194	DIS4131666	192	DIS5601686	199	DIS610381	205
DIS2423297	194	DIS4131666F	192	DIS5601687	199	DIS6323500	228
DIS2431693	193	DIS4131667	192	DIS5603283	199	DIS6323501	229
DIS2431696	193	DIS4131667F	192	DIS5603286	199	DIS6540020	216
DIS2431697	193	DIS4133263	192	DIS5603287	199	DIS6540024	225
DIS2433293	193	DIS4133263F	192	DIS5611683	199	DIS6540030	216
DIS2433296	193	DIS4133266	192	DIS5611686	199	DIS6540032	225
DIS2433297	193	DIS4133266F	192	DIS5611687	199	DIS6540038	217
DIS245M12593	195	DIS4133267	192	DIS5613283	199	DIS6540040	217
DIS245M12596	195	DIS4133267F	192	DIS5613286	199	DIS6540051	226
DIS245M12597	195	DIS41512563	192	DIS5613287	199	DIS6540060	216
DIS245M6393	195	DIS41512566	192	DIS5616383	200	DIS6540070NS	216
DIS245M6396	195	DIS41512567	192	DIS5616386	200	DIS6540072	225
DIS245M6398	195	DIS4156363	192	DIS5616387	200	DIS6540072NS	225
DIS24612593	194	DIS4156366	192	DIS5671683	201	DIS6540100	217
DIS24612596	194	DIS4156367	192	DIS5671683R	201	DIS6540101	217
DIS24612597	194	DIS4181663	192	DIS5671683RM	202	DIS6540108	207
DIS2466393	194	DIS4181666	192	DIS5671686	201	DIS6540120	207
DIS2466396	194	DIS4181667	192	DIS5671686R	201	DIS6540125	181
DIS2466398	194	DIS4183263	192	DIS5671686RM	202	DIS6540126	207
DIS2471693	194	DIS4183266	192	DIS5671687	201	DIS6540181-04Y	229

Code	Page	Code	Page	Code	Page	Code	Page
DIS6540210	218	FBA3020	614	FC34102	613	FC8015INOX	610
DIS6540220	218	FBA3030	614	FC34102INOX	613	FC8020	610
DIS6540360	219	FBA3040	614	FC34103	613	FC8020HDZ	610
DIS6540362	219	FBC3010	614	FC34103INOX	613	FC8020INOX	610
DIS6540362C	219	FBC3020	614	FC34104	613	FC8030	610
DIS6540363	219	FBC3030	614	FC34104INOX	613	FC8030HDZ	610
DIS6540364	219	FBC3040	614	FC34105	613	FC8030INOX	610
DIS6540364C	219	FC1010	611	FC34106	613	FC8040	610
DIS6540610	209	FC1010HDZ	611	FC34107	613	FC8040HDZ	610
DIS6540650	209	FC1010INOX	611	FC34108	613	FC8040INOX	610
DIS6540651	209	FC1015	611	FC34179	613	FC8050	610
DIS6540653	209	FC1015HDZ	611	FC34180	613	FC8050HDZ	610
DIS6540654	209	FC1015INOX	611	FC34182	613	FC8050INOX	610
DIS6540700	218	FC1020	611	FC34183	613	FC8060	610
DIS6540710	218	FC1020HDZ	611	FC34184	613	FC8060HDZ	610
DIS65532090	225	FC1020INOX	611	FC34185	613	FC8060INOX	610
DIS65546090	225	FC1030	611	FC34186	613	FPL2101	614
DIS6560024	224	FC1030HDZ	611	FC34247	617	FPL2102	614
DIS6560026	224	FC1030INOX	611	FC34247INOX	617	FPL2103	614
DIS6560120	226	FC1040	611	FC37004	612	FPL2104	614
DIS6560220	226	FC1040HDZ	611	FC37005	612	FPL2105	614
DIS6560221	226	FC1040INOX	611	FC37006	612	FPL2106	614
DIS6560222	227	FC1050	611	FC37008	619	FPL2107	614
DIS6570035	224	FC1050HDZ	611	FC37009	618	FPL2108	614
DIS6570036	224	FC1050INOX	611	FC37010	618	FPL2110	614
DIS6570038	224	FC1060	611	FC37015	618	FPL2112	614
DIS6570121	226	FC1060HDZ	611	FC37020	618	FPL2118	614
DIS6580050	224	FC1060INOX	611	FC37030	618	FPL2120	614
DIS661002	210	FC11010	616	FC37040	622	FPL2130	614
DIS661003	210	FC11015	616	FC37045	618	FSB10404	133
DIS661004	210	FC11020	616	FC37230	619	FSB10506	133
DIS6721100	214	FC11030	616	FC37302	615	FSB10510	133
DIS6721101	214	FC11040	616	FC37303	615	FSB10604	133
DIS6721200	215	FC11050	616	FC37304	618	FSB11404	133
DIS6721300	214	FC11060	616	FC37304INOX	618	FSB11506	133
DIS6721301	214	FC15005	616	FC37305	616	FSB11510	133
DIS6722300	213	FC15010	616	FC37305INOX	616	FSB11604	133
DIS6723300	213	FC15015	616	FC37306	615	FSB20516	133
DIS6724216	215	FC15020	616	FC37307	618	FSB21516	133
DIS6724316	213	FC15030	616	FC37307INOX	618	FSB30404	133
DIS6725416	215	FC15040	616	FC37310	617	FSB30506	133
DIS6725522	215	FC15050	616	FC37310INOX	617	FSB30510	133
DIS6725616	213	FC15060	616	FC37311	615	FSB30516	133
DIS6725822	213	FC18008	616	FC37311INOX	615	FSB30604	133
DIS6741000	218	FC18010	616	FC37312	617	FSB31404	133
DIS6741001	218	FC18015	616	FC37313	617	FSB31506	133
DIS6741100	218	FC18020	616	FC37314	617	FSB31510	133
DIS6741101	218	FC18030	616	FC37315	617	FSB31516	133
DIS6741200	218	FC18040	616	FC5005	609	FSB31604	133
DIS6741300	218	FC18050	616	FC5005HDZ	609	FSK20410	133
DIS6741301	218	FC18060	616	FC5005INOX	609	FSK21410	133
DISB038BU	177	FC3005	608	FC5010	609	FSK30410	133
DN1201	720	FC3005HDZ	608	FC5010HDZ	609	FSK30610	133
DN1202	720	FC3005INOX	608	FC5010INOX	609	FSK31410	133
DP1201	718	FC3010	608	FC5015	609	FSK31610	133
DS1201	721	FC3010HDZ	608	FC5015HDZ	609	FSK40610	133
DS1202	721	FC3010INOX	608	FC5015INOX	609	FSK41610	133
DT1201	719	FC3015	608	FC5020	609	GBD04150	422
E0001B	331	FC3015HDZ	608	FC5020HDZ	609	GBD04160	422
E0001BC	331	FC3015INOX	608	FC5020INOX	609	GBD04170	422
E0001C	331	FC3020	608	FC5030	609	GBD04175	422
F0000A	296	FC3020HDZ	608	FC5030HDZ	609	GBH04100	423
F0000AB	296	FC3020INOX	608	FC5030INOX	609	GBH04120	423
F0000L	296	FC3030	608	FC5040	609	GBH04130	423
F0000M	296	FC3030HDZ	608	FC5040HDZ	609	GBH04140	423
F0000MB	296	FC3030INOX	608	FC5040INOX	609	GBH04150	423
F00011	297	FC3040	608	FC5050	609	GBH04160	423
F00011B	297	FC3040HDZ	608	FC5050HDZ	609	GBH04170	423
F00011G	330	FC3040INOX	608	FC5050INOX	609	GBH04175	423
F00013	297	FC3050	608	FC5060	609	GBH04180	423
F00013B	297	FC3050HDZ	608	FC5060HDZ	609	GBH04190	423
F00013G	330	FC3050INOX	608	FC5060INOX	609	GBM04105	422
F00015	297	FC3060	608	FC8008	610	GBM04110	422
F00015B	297	FC3060HDZ	608	FC8008HDZ	610	GBM04115	422
F00015G	330	FC3060INOX	608	FC8008INOX	610	GBM04120	422
F0003A	296	FC33833	613	FC8010	610	GBM04130	422
F0003AB	296	FC33834	613	FC8010HDZ	610	GBP04105	422
F1000A	296	FC33835	613	FC8010INOX	610	GBP04110	422
F1003A	296	FC34101	613	FC8015	610	GBP04115	422
FBA3010	614	FC34101INOX	613	FC8015HDZ	610	GBP04120	422

Code list

Code	Page	Code	Page	Code	Page	Code	Page
GBP04130	422	GCU40850	393	GKR02015	400	GLC16040	416
GBP04140	422	GCU40860	393	GKR03020	400	GLC16050	416
GBP04150	422	GCU90505	392	GKR04030	400	GLC17550	416
GBP04160	422	GCU90510	392	GKR05040	400	GLC17560	416
GCD40505	395	GCU90515	392	GKR06050	400	GLC19060	416
GCD40510	395	GCU90520	392	GKS30005	389	GLC19075	416
GCD40515	395	GCU90530	392	GKS30010	389	GLD40015	412
GCD40520	395	GCU90540	392	GKS30015	389	GLD40020	412
GCD40530	395	GCU90810	392	GKS30020	389	GLD40030	412
GCD40540	395	GCU90815	392	GKS30030	389	GLD40040	412
GCD40810	395	GCU90820	392	GKS30040	389	GLD40050	412
GCD40815	395	GCU90830	392	GKS30050	389	GLD40060	412
GCD40820	395	GCU90840	392	GKS30060	389	GLD40075	412
GCD40830	395	GCU90850	392	GKS30075	405	GLD40090	412
GCD40840	395	GCU90860	392	GKS30090	405	GLD41015	412
GCD40850	395	GCX90505	397	GKT90005	396	GLD41020	412
GCD40860	395	GCX90510	397	GKT90010	396	GLD41030	412
GCD90505	394	GCX90515	397	GKT90015	396	GLD41040	412
GCD90510	394	GCX90520	397	GKT90020	396	GLD41050	412
GCD90515	394	GCX90530	397	GKT90030	396	GLD41060	412
GCD90520	394	GCX90540	397	GKT90040	396	GLD41075	412
GCD90530	394	GCX90810	397	GKT90050	396	GLD41090	412
GCD90540	394	GCX90815	397	GKT90060	396	GLD41515	412
GCD90810	394	GCX90820	397	GKU40005	393	GLD41520	412
GCD90815	394	GCX90830	397	GKU40010	393	GLD41530	412
GCD90820	394	GCX90840	397	GKU40015	393	GLD41540	412
GCD90830	394	GCX90850	397	GKU40020	393	GLD41550	412
GCD90840	394	GCX90860	397	GKU40030	393	GLD41560	412
GCD90850	394	GEP30005	401	GKU40040	393	GLD41575	412
GCD90860	394	GEP30008	401	GKU40050	393	GLD41590	412
GCG40505	391	GEP30010	420	GKU40060	393	GLD90015	410
GCG40510	391	GEP30015	420	GKU90005	392	GLD90020	410
GCG40515	391	GKC01005	398	GKU90010	392	GLD90030	410
GCG40520	391	GKC01510	398	GKU90015	392	GLD90040	410
GCG40530	391	GKC02015	398	GKU90020	392	GLD90050	410
GCG40540	391	GKC03020	398	GKU90030	392	GLD90060	410
GCG40810	391	GKC04030	398	GKU90040	392	GLD90075	410
GCG40815	391	GKC05040	398	GKU90050	392	GLD90090	410
GCG40820	391	GKC06050	398	GKU90060	392	GLD91015	410
GCG40830	391	GKD40005	395	GKX90005	397	GLD91020	410
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GCG90510	390	GKD40040	395	GKX90040	397	GLD91075	410
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GCG90530	390	GKD90005	394	GLC02015	417	GLD91520	410
GCG90540	390	GKD90010	394	GLC03015	417	GLD91530	410
GCG90810	390	GKD90015	394	GLC03020	417	GLD91540	410
GCG90815	390	GKD90020	394	GLC04015	417	GLD91550	410
GCG90820	390	GKD90030	394	GLC04030	417	GLD91560	410
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GCG90860	390	GKG40005	391	GLC06050	417	GLG41020	407
GCT90505	396	GKG40010	391	GLC07550	417	GLG41030	407
GCT90510	396	GKG40015	391	GLC07560	417	GLG41040	407
GCT90515	396	GKG40020	391	GLC09060	417	GLG41050	407
GCT90520	396	GKG40030	391	GLC09075	417	GLG41060	407
GCT90530	396	GKG40040	391	GLC12015	416	GLG41075	407
GCT90540	396	GKG40050	391	GLC13015	416	GLG41090	407
GCT90810	396	GKG40060	391	GLC13020	416	GLG41515	407
GCT90815	396	GKG90005	390	GLC14015	416	GLG41520	407
GCT90820	396	GKG90010	390	GLC14030	416	GLG41530	407
GCT90830	396	GKG90015	390	GLC15030	416	GLG41540	407
GCT90840	396	GKG90020	390	GLC15040	416	GLG41550	407
GCT90850	396	GKG90030	390	GLC15215	416	GLG41560	407
GCT90860	396	GKG90040	390	GLC15315	416	GLG41575	407
GCU40505	393	GKG90050	390	GLC15320	416	GLG41590	407
GCU40510	393	GKG90060	390	GLC15415	416	GLG91015	406
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GCU40530	393	GKL02015	399	GLC15540	416	GLG91040	406
GCU40540	393	GKL03020	399	GLC15640	416	GLG91050	406
GCU40810	393	GKL04030	399	GLC15650	416	GLG91060	406
GCU40815	393	GKL05040	399	GLC15750	416	GLG91075	406
GCU40820	393	GKL06050	399	GLC15760	416	GLG91090	406
GCU40830	393	GKR01005	400	GLC15960	416	GLG91515	406
GCU40840	393	GKR01510	400	GLC15975	416	GLG91520	406

Code	Page	Code	Page	Code	Page	Code	Page
GLG91530	406	GLR03015	419	GLU41530	413	GPS30540	385
GLG91540	406	GLR03020	419	GLU41540	413	GPS30810	386
GLG91550	406	GLR04015	419	GLU41550	413	GPS30815	386
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GLK40015	407	GLR06040	419	GLU90015	411	GPS30850	386
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GLK40075	407	GLR12015	418	GLU90075	411	GRC51005	398
GLK40090	407	GLR13015	418	GLU90090	411	GRC51510	398
GLK90015	406	GLR13020	418	GLU91015	411	GRC52015	398
GLK90020	406	GLR14015	418	GLU91020	411	GRC53020	398
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GLK90040	406	GLR15030	418	GLU91040	411	GRC81510	398
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GLK90075	406	GLR15315	418	GLU91075	411	GRC84030	398
GLK90090	406	GLR15320	418	GLU91090	411	GRC85040	398
GLL02015	415	GLR15415	418	GLU91515	411	GRC86050	398
GLL03015	415	GLR15430	418	GLU91520	411	GRL51005	399
GLL03020	415	GLR15530	418	GLU91530	411	GRL51510	399
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GLL05040	415	GLR15750	418	GLU91575	411	GRL81510	399
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GLL07550	415	GLR15975	418	GLX90020	409	GRL84030	399
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GLL13020	414	GLR19075	418	GLX90090	409	GRR53020	400
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GLL15650	414	GLT91050	408	GLX91550	409	GTC00540	402
GLL15750	414	GLT91060	408	GLX91560	409	GTC00810	402
GLL15760	414	GLT91075	408	GLX91575	409	GTC00815	402
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GLL17550	414	GLT91540	408	GNS30520	387	GTC00860	402
GLL17560	414	GLT91550	408	GNS30530	387	LA1020	524
GLL19060	414	GLT91560	408	GNS30540	387	LA1020HDZ	524
GLL19075	414	GLT91575	408	GNS30810	388	LA1020ZL	524
GLL31015	403	GLT91590	408	GNS30815	388	LA1030	524
GLL31020	403	GLU40015	413	GNS30820	388	LA1030HDZ	524
GLL31030	403	GLU40020	413	GNS30830	388	LA1030ZL	524
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GLL31530	404	GLU41020	413	GPH00500	402	LA1060HDZ	524
GLL31540	404	GLU41030	413	GPH00800	402	LA1060ZL	524
GLL31550	404	GLU41040	413	GPH01000	421	LA5020	522
GLL31560	404	GLU41050	413	GPH01500	421	LA5020HDZ	522
GLL31575	404	GLU41060	413	GPS30505	385	LA5020ZL	522
GLL31590	404	GLU41075	413	GPS30510	385	LA5030	522
GLP10000	420	GLU41090	413	GPS30515	385	LA5030HDZ	522
GLP15000	420	GLU41515	413	GPS30520	385	LA5040	522
GLR02015	419	GLU41520	413	GPS30530	385	LA5040HDZ	522

Code list

Code	Page	Code	Page	Code	Page	Code	Page
LA5050	522	LC0563HDZ	532	LC1630HDZ	534	LC8630HDZ	534
LA5050HDZ	522	LC0563INOX	532	LC1630INOX	534	LC8630INOX	534
LA5060	522	LC0563ZL	532	LC1630ZL	534	LC8630ZL	534
LA5060HDZ	522	LC0564	532	LC1640	534	LC8640	534
LA8020	523	LC0564HDZ	532	LC1640HDZ	534	LC8640HDZ	534
LA8020HDZ	523	LC0564INOX	532	LC1640INOX	534	LC8640INOX	534
LA8020ZL	523	LC0564ZL	532	LC1640ZL	534	LC8640ZL	534
LA8030	523	LC0565	532	LC1650	534	LC8650	534
LA8030HDZ	523	LC0565HDZ	532	LC1650HDZ	534	LC8650HDZ	534
LA8040	523	LC0565INOX	532	LC1650INOX	534	LC8650INOX	534
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LA8050	523	LC0566	532	LC1660	534	LC8660	534
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LA8060HDZ	523	LC0566ZL	532	LC1660ZL	534	LC8660ZL	534
LC0132	531	LC0832	531	LC5320	533	LE1002	537
LC0132HDZ	531	LC0832HDZ	531	LC5320HDZ	533	LE1002HDZ	537
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LC0134INOX	531	LC0834INOX	531	LC5340INOX	533	LE1004INOX	537
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LC0135	531	LC0835	531	LC5350	533	LE1005	537
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LC0135INOX	531	LC0835INOX	531	LC5350INOX	533	LE1005INOX	537
LC0135ZL	531	LC0835ZL	531	LC5350ZL	533	LE1005ZL	537
LC0136	531	LC0836	531	LC5360	533	LE1006	537
LC0136HDZ	531	LC0836HDZ	531	LC5360HDZ	533	LE1006HDZ	537
LC0136INOX	531	LC0836INOX	531	LC5360INOX	533	LE1006INOX	537
LC0136ZL	531	LC0836ZL	531	LC5360ZL	533	LE1006ZL	537
LC0162	532	LC0862	532	LC5620	534	LE5002	537
LC0162HDZ	532	LC0862HDZ	532	LC5620HDZ	534	LE5002HDZ	537
LC0162INOX	532	LC0862INOX	532	LC5620INOX	534	LE5002INOX	537
LC0162ZL	532	LC0862ZL	532	LC5620ZL	534	LE5002ZL	537
LC0163	532	LC0863	532	LC5630	534	LE5003	537
LC0163HDZ	532	LC0863HDZ	532	LC5630HDZ	534	LE5003HDZ	537
LC0163INOX	532	LC0863INOX	532	LC5630INOX	534	LE5003INOX	537
LC0163ZL	532	LC0863ZL	532	LC5630ZL	534	LE5003ZL	537
LC0164	532	LC0864	532	LC5640	534	LE5004	537
LC0164HDZ	532	LC0864HDZ	532	LC5640HDZ	534	LE5004HDZ	537
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LC0165INOX	532	LC0865INOX	532	LC5650INOX	534	LE5005INOX	537
LC0165ZL	532	LC0865ZL	532	LC5650ZL	534	LE5005ZL	537
LC0166	532	LC0866	532	LC5660	534	LE5006	537
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LC0166ZL	532	LC0866ZL	532	LC5660ZL	534	LE5006ZL	537
LC0532	531	LC1320	533	LC8320	533	LE8002	537
LC0532HDZ	531	LC1320HDZ	533	LC8320HDZ	533	LE8002HDZ	537
LC0532INOX	531	LC1320INOX	533	LC8320INOX	533	LE8002INOX	537
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LC0533	531	LC1330	533	LC8330	533	LE8003	537
LC0533HDZ	531	LC1330HDZ	533	LC8330HDZ	533	LE8003HDZ	537
LC0533INOX	531	LC1330INOX	533	LC8330INOX	533	LE8003INOX	537
LC0533ZL	531	LC1330ZL	533	LC8330ZL	533	LE8003ZL	537
LC0534	531	LC1340	533	LC8340	533	LE8004	537
LC0534HDZ	531	LC1340HDZ	533	LC8340HDZ	533	LE8004HDZ	537
LC0534INOX	531	LC1340INOX	533	LC8340INOX	533	LE8004INOX	537
LC0534ZL	531	LC1340ZL	533	LC8340ZL	533	LE8004ZL	537
LC0535	531	LC1350	533	LC8350	533	LE8005	537
LC0535HDZ	531	LC1350HDZ	533	LC8350HDZ	533	LE8005HDZ	537
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LC0535ZL	531	LC1350ZL	533	LC8350ZL	533	LE8005ZL	537
LC0536	531	LC1360	533	LC8360	533	LE8006	537
LC0536HDZ	531	LC1360HDZ	533	LC8360HDZ	533	LE8006HDZ	537
LC0536INOX	531	LC1360INOX	533	LC8360INOX	533	LE8006INOX	537
LC0536ZL	531	LC1360ZL	533	LC8360ZL	533	LE8006ZL	537
LC0562	532	LC1620	534	LC8620	534	LG1000	525
LC0562HDZ	532	LC1620HDZ	534	LC8620HDZ	534	LG1000HDZL	525
LC0562INOX	532	LC1620INOX	534	LC8620INOX	534	LG1000INOX	525
LC0562ZL	532	LC1620ZL	534	LC8620ZL	534	LG1200	526
LC0563	532	LC1630	534	LC8630	534	LG1200HDZL	526

Code	Page	Code	Page	Code	Page	Code	Page
LG5000	525	LK0203	535	LL1020	524	LP1000INOX	528
LG5000HDZL	525	LK0203HDZ	535	LL1020HDZ	524	LP3000	527
LG5000INOX	525	LK0203INOX	535	LL1020INOX	524	LP3000HDZL	527
LG5200	526	LK0203ZL	535	LL1020ZL	524	LP3000INOX	527
LG5200HDZL	526	LK0230	531	LL1030	524	LP4000	527
LG8000	525	LK0230HDZ	531	LL1030HDZ	524	LP4000HDZL	527
LG8000HDZL	525	LK0230INOX	531	LL1030INOX	524	LP4000INOX	527
LG8000INOX	525	LK0230ZL	531	LL1030ZL	524	LP5000	528
LG8200	526	LK0260	532	LL1040	524	LP5000HDZL	528
LG8200HDZL	526	LK0260HDZ	532	LL1040HDZ	524	LP5000INOX	528
LI5020	522	LK0260INOX	532	LL1040INOX	524	LR1100	474
LI5020HDZ	522	LK0260ZL	532	LL1040ZL	524	LR1100HDZL	474
LI5020ZL	522	LK0303	535	LL1050	524	LR1100INOX	474
LI5030	522	LK0303HDZ	535	LL1050HDZ	524	LR1200	474
LI5030HDZ	522	LK0303INOX	535	LL1050INOX	524	LR1200HDZL	474
LI5030ZL	522	LK0303ZL	535	LL1050ZL	524	LR1200INOX	474
LI5040	522	LK0330	531	LL1060	524	LR1300	474
LI5040HDZ	522	LK0330HDZ	531	LL1060HDZ	524	LR1300HDZL	474
LI5040ZL	522	LK0330INOX	531	LL1060INOX	524	LR1300INOX	474
LI5050	522	LK0330ZL	531	LL1060ZL	524	LR1400	474
LI5050HDZ	522	LK0360	532	LL5020	522	LR1400HDZL	474
LI5050ZL	522	LK0360HDZ	532	LL5020HDZ	522	LR1400INOX	474
LI5060	522	LK0360INOX	532	LL5020INOX	522	LR5100	474
LI5060HDZ	522	LK0360ZL	532	LL5020ZL	522	LR5100HDZL	474
LI5060ZL	522	LK0403	535	LL5030	522	LR5100INOX	474
LI8020	523	LK0403HDZ	535	LL5030HDZ	522	LR5200	474
LI8020HDZ	523	LK0403INOX	535	LL5030INOX	522	LR5200HDZL	474
LI8020ZL	523	LK0403ZL	535	LL5030ZL	522	LR5200INOX	474
LI8030	523	LK0430	531	LL5040	522	LR5300	474
LI8030HDZ	523	LK0430HDZ	531	LL5040HDZ	522	LR5300HDZL	474
LI8030ZL	523	LK0430INOX	531	LL5040INOX	522	LR5300INOX	474
LI8040	523	LK0430ZL	531	LL5040ZL	522	LR5400	474
LI8040HDZ	523	LK0460	532	LL5050	522	LR5400HDZL	474
LI8040ZL	523	LK0460HDZ	532	LL5050HDZ	522	LR5400INOX	474
LI8050	523	LK0460INOX	532	LL5050INOX	522	LR8100	474
LI8050HDZ	523	LK0460ZL	532	LL5050ZL	522	LR8100HDZL	474
LI8050ZL	523	LK0503	535	LL5060	522	LR8100INOX	474
LI8060	523	LK0503HDZ	535	LL5060HDZ	522	LR8200	474
LI8060HDZ	523	LK0503INOX	535	LL5060INOX	522	LR8200HDZL	474
LI8060ZL	523	LK0503ZL	535	LL5060ZL	522	LR8200INOX	474
LK0023	533	LK0530	531	LL8020	523	LR8300	474
LK0023HDZ	533	LK0530HDZ	531	LL8020HDZ	523	LR8300HDZL	474
LK0023INOX	533	LK0530INOX	531	LL8020INOX	523	LR8300INOX	474
LK0023ZL	533	LK0530ZL	531	LL8020ZL	523	LR8400	474
LK0026	534	LK0560	532	LL8030	523	LR8400HDZL	474
LK0026HDZ	534	LK0560HDZ	532	LL8030HDZ	523	LR8400INOX	474
LK0026INOX	534	LK0560INOX	532	LL8030INOX	523	LS1000	530
LK0026ZL	534	LK0560ZL	532	LL8030ZL	523	LS5000	530
LK0033	533	LK0603	535	LL8040	523	LS8000	530
LK0033HDZ	533	LK0603HDZ	535	LL8040HDZ	523	LT1302	535
LK0033INOX	533	LK0603INOX	535	LL8040INOX	523	LT1302HDZ	535
LK0033ZL	533	LK0603ZL	535	LL8040ZL	523	LT1302INOX	535
LK0036	534	LK0630	531	LL8050	523	LT1302ZL	535
LK0036HDZ	534	LK0630HDZ	531	LL8050HDZ	523	LT1303	535
LK0036INOX	534	LK0630INOX	531	LL8050INOX	523	LT1303HDZ	535
LK0036ZL	534	LK0630ZL	531	LL8050ZL	523	LT1303INOX	535
LK0043	533	LK0660	532	LL8060	523	LT1303ZL	535
LK0043HDZ	533	LK0660HDZ	532	LL8060HDZ	523	LT1304	535
LK0043INOX	533	LK0660INOX	532	LL8060INOX	523	LT1304HDZ	535
LK0043ZL	533	LK0660ZL	532	LL8060ZL	523	LT1304INOX	535
LK0046	534	LK2003	536	LP0050	526	LT1304ZL	535
LK0046HDZ	534	LK2003HDZ	536	LP0050HDZL	526	LT1305	535
LK0046INOX	534	LK2003INOX	536	LP0050INOX	526	LT1305HDZ	535
LK0046ZL	534	LK2003ZL	536	LP0051	527	LT1305INOX	535
LK0053	533	LK3003	536	LP0051HDZL	527	LT1305ZL	535
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LK0066ZL	534	LK6003ZL	536	LP1000HDZL	528	LT5304INOX	535

Code list

Code	Page	Code	Page	Code	Page	Code	Page
LT5304ZL	535	LX8304ZL	536	ND2310	740	NK3103	751
LT5305	535	LX8305	536	ND2311	740	NK3104	751
LT5305HDZ	535	LX8305HDZ	536	ND2311CU	740	NK3105	752
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LT5306	535	LX8306	536	NE1001	743	NL0100	733
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LT8304ZL	535	NC2204CU	729	NE1302CUZN	742	NL5000CU	731
LT8305	535	NC2254	729	NE1304	742	NL5000HV	751
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LX5302	536	ND2206	738	NG3106CU	744	PA601721F0	59
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LX8302	536	ND2304	739	NI0015	734	PA614855F0	59
LX8302HDZ	536	ND2305	739	NI0030	734	PA614855F2	58
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LX8303HDZ	536	ND2307	739	NK2201	750	PACL29M32N	61
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LX8304INOX	536	ND2309CU	739	NK3102	749	PACM12M16N	60

Code	Page	Code	Page	Code	Page	Code	Page
PACM12M20N	60	PAS12N	64	T16117-16N	26	UKD602ZL	579
PACM17M20N	60	PAS17N	64	T16117-2020	26	UKD603	579
PACM17M25N	60	PAS23N	64	T16117-25N	26	UKD603HDZ	579
PACM23M25N	60	PAS29N	64	T16117-3235	26	UKD603ZL	579
PACM23M32N	60	PAS36N	64	T16117-32N	26	UKD604	579
PACM29M32N	60	PAS48N	64	T16117-40	26	UKD604HDZ	579
PACM29M40N	60	PASW07N	64	T16117-4035	26	UKD604ZL	579
PACM36M40N	60	PASW10N	64	T16117-50	26	UKD605	579
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PACM48M63N	60	PASW23N	64	UDM302HDZ	583	UKD606	579
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PACN12M16N	60	PASW36N	64	UDM303HDZ	583	UKD606ZL	579
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PACN48M50N	60	PAT29N	63	UDM306HDZ	583	UKD608ZL	579
PADM16	65	PAT36N	63	UDM307	583	UKD609	579
PADM20	65	PAY171212N	63	UDM307HDZ	583	UKD609HDZ	579
PADM25	65	PAY231717N	63	UDM308	583	UKD609ZL	579
PADM32	65	PAY292323N	63	UDM308HDZ	583	UKF300	578
PADM40	65	PAY362929N	63	UDM309	583	UKF300HDZ	578
PADM50	65	PAY483636N	63	UDM309HDZ	583	UKF300ZL	578
PADM63	65	R5A50	133	UGB100	585	UKF302	578
PAGM12N	64	S66V10	27	UGB100HDZL	585	UKF302HDZ	578
PAGM16N	64	S66V12	27	UGB200	585	UKF302ZL	578
PAGM20N	64	S66V16	27	UGB200HDZL	585	UKF303	578
PAGM25N	64	S66V22	27	UGB400HDZ	585	UKF303HDZ	578
PAGM32N	64	S66V32	27	UGB500HDZL	584	UKF303ZL	578
PAGM40N	64	S66V38	27	UGH200	586	UKF304	578
PAGM50N	64	S66V40	27	UGH200HDZL	586	UKF304HDZ	578
PAGM63N	64	S66V50	27	UGH410	581	UKF304ZL	578
PAL12M16N	62	SKH500HDZL	479	UGH410HDZL	581	UKF305	578
PAL17M20N	62	SKS332HDZ	442	UGH420	581	UKF305HDZ	578
PAL23M25N	62	SKS332ZL	442	UGH420HDZL	581	UKF305ZL	578
PAL29M32N	62	SKS333HDZ	442	UGH450	581	UKF306	578
PAL36M40N	62	SKS333ZL	442	UGH450HDZL	581	UKF306HDZ	578
PAL48M50N	62	SKS334HDZ	442	UGH480	581	UKF306ZL	578
PAM07M12N	61	SKS334ZL	442	UGH480HDZL	581	UKF307	578
PAM10M16N	61	SKS335HDZ	442	UHH010	581	UKF307HDZ	578
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PAM17M20N	61	SKS336ZL	442	UHH020HDZL	581	UKF308HDZ	578
PAM17M25N	61	T06014-1016	26	UHH050	581	UKF308ZL	578
PAM23M25N	61	T06014-16A	26	UHH050HDZL	581	UKF309	578
PAM23M32N	61	T06014-2020	26	UHH080	581	UKF309HDZ	578
PAM29M32N	66	T06014-20A	26	UHH080HDZL	581	UKF309ZL	578
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PAM36M50N	61	T06014-4035	26	UKC602	579	UKH400HDZL	586
PAM48M50N	61	T06014-40A	26	UKC602HDZ	579	UKH500HDZL	584
PAM48M63N	61	T06014-5040	26	UKC602ZL	579	UKH600	586
PAN10M16N	62	T06014-50A	26	UKC603	579	UKH600HDZL	586
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PAN29M32N	62	T06117-2020	26	UKC604ZL	579	UKS302HDZ	578
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PAPM12	65	T06117-32N	26	UKC605ZL	579	UKS303HDZ	578
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PAPM32	65	T06117-5040	26	UKC607	579	UKS304ZL	578
PAPM40	65	T16014-1016	26	UKC607HDZ	579	UKS305	578
PAPM50	65	T16014-16A	26	UKC607ZL	579	UKS305HDZ	578
PAPM63	65	T16014-2020	26	UKC608	579	UKS305ZL	578
PAR07	65	T16014-20A	26	UKC608HDZ	579	UKS306	578
PAR10	65	T16014-25A	26	UKC608ZL	579	UKS306HDZ	578
PAR12	65	T16014-32A	26	UKC609	579	UKS306ZL	578
PAR17	65	T16014-4035	26	UKC609HDZ	579	UKS307	578
PAR23	65	T16014-40A	26	UKC609ZL	579	UKS307HDZ	578
PAR29	65	T16014-5040	26	UKD600	579	UKS307ZL	578
PAR36	65	T16014-50A	26	UKD600HDZ	579	UKS308	578
PAR48	65	T16014-6350	26	UKD600ZL	579	UKS308HDZ	578
PAS07N	64	T16117-10N	26	UKD602	579	UKS308ZL	578
PAS10N	64	T16117-12N	26	UKD602HDZ	579	UKS309	578

Code list

Code	Page	Code	Page	Code	Page	Code	Page
UKS309HDZ	578	UKX609HDZ	580	ULC658ZL	560	ULD628HDZ	561
UKS309ZL	578	UKX609ZL	580	ULC659	560	ULD628ZL	561
UKS310	578	UKZ200	583	ULC659HDZ	560	ULD629	561
UKS312	578	ULC610	560	ULC659ZL	560	ULD629HDZ	561
UKS313	578	ULC610HDZ	560	ULC680	560	ULD629ZL	561
UKS314	578	ULC610ZL	560	ULC680HDZ	560	ULD650	561
UKS315	578	ULC612	560	ULC680ZL	560	ULD650HDZ	561
UKS316	578	ULC612HDZ	560	ULC682	560	ULD650ZL	561
UKS317	578	ULC612ZL	560	ULC682HDZ	560	ULD652	561
UKS318	578	ULC613	560	ULC682ZL	560	ULD652HDZ	561
UKS319	578	ULC613HDZ	560	ULC683	560	ULD652ZL	561
UKS320HDZ	580	ULC613ZL	560	ULC683HDZ	560	ULD653	561
UKS320ZL	580	ULC614	560	ULC683ZL	560	ULD653HDZ	561
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UKS325HDZ	580	ULC616HDZ	560	ULC686	560	ULD655ZL	561
UKS325ZL	580	ULC616ZL	560	ULC686HDZ	560	ULD656	561
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UKS326ZL	580	ULC617HDZ	560	ULC687	560	ULD656ZL	561
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UKS329HDZ	580	ULC619	560	ULC688ZL	560	ULD658HDZ	561
UKS329ZL	580	ULC619HDZ	560	ULC689	560	ULD658ZL	561
UKT600HDZ	580	ULC619ZL	560	ULC689HDZ	560	ULD659	561
UKT600ZL	580	ULC620	560	ULC689ZL	560	ULD659HDZ	561
UKT602	580	ULC620HDZ	560	ULD610	561	ULD659ZL	561
UKT602HDZ	580	ULC620ZL	560	ULD610HDZ	561	ULD680	561
UKT602ZL	580	ULC622	560	ULD610ZL	561	ULD680HDZ	561
UKT603	580	ULC622HDZ	560	ULD612	561	ULD680ZL	561
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UKT607HDZ	580	ULC626ZL	560	ULD616HDZ	561	ULD686	561
UKT607ZL	580	ULC627	560	ULD616ZL	561	ULD686HDZ	561
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UKT608ZL	580	ULC628	560	ULD617ZL	561	ULD687HDZ	561
UKT609	580	ULC628HDZ	560	ULD618	561	ULD687ZL	561
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UKX600HDZ	580	ULC629ZL	560	ULD619HDZ	561	ULD689	561
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UKX602HDZ	580	ULC650ZL	560	ULD620HDZ	561	ULF010	564
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UKX603	580	ULC652HDZ	560	ULD622	561	ULF010ZL	564
UKX603HDZ	580	ULC652ZL	560	ULD622HDZ	561	ULF012	564
UKX603ZL	580	ULC653	560	ULD622ZL	561	ULF012HDZ	564
UKX604	580	ULC653HDZ	560	ULD623	561	ULF012ZL	564
UKX604HDZ	580	ULC653ZL	560	ULD623HDZ	561	ULF013	564
UKX604ZL	580	ULC654	560	ULD623ZL	561	ULF013HDZ	564
UKX605	580	ULC654HDZ	560	ULD624	561	ULF013ZL	564
UKX605HDZ	580	ULC654ZL	560	ULD624HDZ	561	ULF014	564
UKX605ZL	580	ULC655	560	ULD624ZL	561	ULF014HDZ	564
UKX606	580	ULC655HDZ	560	ULD625	561	ULF014ZL	564
UKX606HDZ	580	ULC655ZL	560	ULD625HDZ	561	ULF015	564
UKX606ZL	580	ULC656	560	ULD625ZL	561	ULF015HDZ	564
UKX607	580	ULC656HDZ	560	ULD626	561	ULF015ZL	564
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UKX607ZL	580	ULC657	560	ULD626ZL	561	ULF016HDZ	564
UKX608	580	ULC657HDZ	560	ULD627	561	ULF016ZL	564
UKX608HDZ	580	ULC657ZL	560	ULD627HDZ	561	ULF017	564
UKX608ZL	580	ULC658	560	ULD627ZL	561	ULF017HDZ	564
UKX609	580	ULC658HDZ	560	ULD628	561	ULF017ZL	564

Code	Page	Code	Page	Code	Page	Code	Page
ULF018	564	ULF087ZL	564	ULH357ZL	558	ULH627HDZ	559
ULF018HDZ	564	ULF088	564	ULH358	558	ULH627ZL	559
ULF018ZL	564	ULF088HDZ	564	ULH358HDZ	558	ULH628	559
ULF019	564	ULF088ZL	564	ULH358ZL	558	ULH628HDZ	559
ULF019HDZ	564	ULF089	564	ULH359	558	ULH628ZL	559
ULF019ZL	564	ULF089HDZ	564	ULH359HDZ	558	ULH629	559
ULF020	564	ULH310	557	ULH359ZL	558	ULH629HDZ	559
ULF020HDZ	564	ULH310HDZ	557	ULH380	556	ULH629ZL	559
ULF020ZL	564	ULH310ZL	557	ULH380HDZ	556	ULH650	558
ULF022	564	ULH312	557	ULH380ZL	556	ULH650HDZ	558
ULF022HDZ	564	ULH312HDZ	557	ULH382	556	ULH650ZL	558
ULF022ZL	564	ULH312ZL	557	ULH382HDZ	556	ULH652	558
ULF023	564	ULH313	557	ULH382ZL	556	ULH652HDZ	558
ULF023HDZ	564	ULH313HDZ	557	ULH383	556	ULH652ZL	558
ULF023ZL	564	ULH313ZL	557	ULH383HDZ	556	ULH653	558
ULF024	564	ULH314	557	ULH383ZL	556	ULH653HDZ	558
ULF024HDZ	564	ULH314HDZ	557	ULH384	556	ULH653ZL	558
ULF024ZL	564	ULH314ZL	557	ULH384HDZ	556	ULH654	558
ULF025	564	ULH315	557	ULH384ZL	556	ULH654HDZ	558
ULF025HDZ	564	ULH315HDZ	557	ULH385	556	ULH654ZL	558
ULF025ZL	564	ULH315ZL	557	ULH385HDZ	556	ULH655	558
ULF026	564	ULH316	557	ULH385ZL	556	ULH655HDZ	558
ULF026HDZ	564	ULH316HDZ	557	ULH386	556	ULH655ZL	558
ULF026ZL	564	ULH316ZL	557	ULH386HDZ	556	ULH656	558
ULF027	564	ULH317	557	ULH386ZL	556	ULH656HDZ	558
ULF027HDZ	564	ULH317HDZ	557	ULH387	556	ULH656ZL	558
ULF027ZL	564	ULH317ZL	557	ULH387HDZ	556	ULH657	558
ULF028	564	ULH318	557	ULH387ZL	556	ULH657HDZ	558
ULF028HDZ	564	ULH318HDZ	557	ULH388	556	ULH657ZL	558
ULF028ZL	564	ULH318ZL	557	ULH388HDZ	556	ULH658	558
ULF029	564	ULH319	557	ULH388ZL	556	ULH658HDZ	558
ULF029HDZ	564	ULH319HDZ	557	ULH389	556	ULH658ZL	558
ULF029ZL	564	ULH319ZL	557	ULH389HDZ	556	ULH659	558
ULF050	564	ULH320	559	ULH389ZL	556	ULH659HDZ	558
ULF050HDZ	564	ULH320HDZ	559	ULH610	557	ULH659ZL	558
ULF050ZL	564	ULH320ZL	559	ULH610HDZ	557	ULH680	556
ULF052	564	ULH322	559	ULH610ZL	557	ULH680HDZ	556
ULF052HDZ	564	ULH322HDZ	559	ULH612	557	ULH680ZL	556
ULF052ZL	564	ULH322ZL	559	ULH612HDZ	557	ULH682	556
ULF053	564	ULH323	559	ULH612ZL	557	ULH682HDZ	556
ULF053HDZ	564	ULH323HDZ	559	ULH613	557	ULH682ZL	556
ULF053ZL	564	ULH323ZL	559	ULH613HDZ	557	ULH683	556
ULF054	564	ULH324	559	ULH613ZL	557	ULH683HDZ	556
ULF054HDZ	564	ULH324HDZ	559	ULH614	557	ULH683ZL	556
ULF054ZL	564	ULH324ZL	559	ULH614HDZ	557	ULH684	556
ULF055	564	ULH325	559	ULH614ZL	557	ULH684HDZ	556
ULF055HDZ	564	ULH325HDZ	559	ULH615	557	ULH684ZL	556
ULF055ZL	564	ULH325ZL	559	ULH615HDZ	557	ULH685	556
ULF056	564	ULH326	559	ULH615ZL	557	ULH685HDZ	556
ULF056HDZ	564	ULH326HDZ	559	ULH616	557	ULH685ZL	556
ULF056ZL	564	ULH326ZL	559	ULH616HDZ	557	ULH686	556
ULF057	564	ULH327	559	ULH616ZL	557	ULH686HDZ	556
ULF057HDZ	564	ULH327HDZ	559	ULH617	557	ULH686ZL	556
ULF057ZL	564	ULH327ZL	559	ULH617HDZ	557	ULH687	556
ULF058	564	ULH328	559	ULH617ZL	557	ULH687HDZ	556
ULF058HDZ	564	ULH328HDZ	559	ULH618	557	ULH687ZL	556
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ULF059HDZ	564	ULH329HDZ	559	ULH619	557	ULH688ZL	556
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ULF080HDZ	564	ULH350HDZ	558	ULH620	559	ULH689ZL	556
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ULF083	564	ULH353	558	ULH622ZL	559	ULM312HDZ	557
ULF083HDZ	564	ULH353HDZ	558	ULH623	559	ULM312ZL	557
ULF083ZL	564	ULH353ZL	558	ULH623HDZ	559	ULM313	557
ULF084	564	ULH354	558	ULH623ZL	559	ULM313HDZ	557
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ULF084ZL	564	ULH354ZL	558	ULH624HDZ	559	ULM314	557
ULF085	564	ULH355	558	ULH624ZL	559	ULM314HDZ	557
ULF085HDZ	564	ULH355HDZ	558	ULH625	559	ULM314ZL	557
ULF085ZL	564	ULH355ZL	558	ULH625HDZ	559	ULM315	557
ULF086	564	ULH356	558	ULH625ZL	559	ULM315HDZ	557
ULF086HDZ	564	ULH356HDZ	558	ULH626	559	ULM315ZL	557
ULF086ZL	564	ULH356ZL	558	ULH626HDZ	559	ULM316	557
ULF087	564	ULH357	558	ULH626ZL	559	ULM316HDZ	557
ULF087HDZ	564	ULH357HDZ	558	ULH627	559	ULM316ZL	557

Code list

Code	Page	Code	Page	Code	Page	Code	Page
ULM317	557	ULM386ZL	556	ULM656HDZ	558	ULT626	562
ULM317HDZ	557	ULM387	556	ULM656ZL	558	ULT626HDZ	562
ULM317ZL	557	ULM387HDZ	556	ULM657	558	ULT626ZL	562
ULM318	557	ULM387ZL	556	ULM657HDZ	558	ULT627	562
ULM318HDZ	557	ULM388	556	ULM657ZL	558	ULT627HDZ	562
ULM318ZL	557	ULM388HDZ	556	ULM658	558	ULT627ZL	562
ULM319	557	ULM388ZL	556	ULM658HDZ	558	ULT628	562
ULM319HDZ	557	ULM389	556	ULM658ZL	558	ULT628HDZ	562
ULM319ZL	557	ULM389HDZ	556	ULM659	558	ULT628ZL	562
ULM320	559	ULM389ZL	556	ULM659HDZ	558	ULT629	562
ULM320HDZ	559	ULM610	557	ULM659ZL	558	ULT629HDZ	562
ULM320ZL	559	ULM610HDZ	557	ULM680	556	ULT629ZL	562
ULM322	559	ULM610ZL	557	ULM680HDZ	556	ULT650	562
ULM322HDZ	559	ULM612	557	ULM680ZL	556	ULT650HDZ	562
ULM322ZL	559	ULM612HDZ	557	ULM682	556	ULT650ZL	562
ULM323	559	ULM612ZL	557	ULM682HDZ	556	ULT652	562
ULM323HDZ	559	ULM613	557	ULM682ZL	556	ULT652HDZ	562
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ULM325HDZ	559	ULM615	557	ULM684ZL	556	ULT654HDZ	562
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ULM326	559	ULM615ZL	557	ULM685HDZ	556	ULT655	562
ULM326HDZ	559	ULM616	557	ULM685ZL	556	ULT655HDZ	562
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ULM327	559	ULM616ZL	557	ULM686HDZ	556	ULT656	562
ULM327HDZ	559	ULM617	557	ULM686ZL	556	ULT656HDZ	562
ULM327ZL	559	ULM617HDZ	557	ULM687	556	ULT656ZL	562
ULM328	559	ULM617ZL	557	ULM687HDZ	556	ULT657	562
ULM328HDZ	559	ULM618	557	ULM687ZL	556	ULT657HDZ	562
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ULM329	559	ULM618ZL	557	ULM688HDZ	556	ULT658	562
ULM329HDZ	559	ULM619	557	ULM688ZL	556	ULT658HDZ	562
ULM329ZL	559	ULM619HDZ	557	ULM689	556	ULT658ZL	562
ULM350	558	ULM619ZL	557	ULM689HDZ	556	ULT659	562
ULM350HDZ	558	ULM620	559	ULM689ZL	556	ULT659HDZ	562
ULM350ZL	558	ULM620HDZ	559	ULT610	562	ULT659ZL	562
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ULM352HDZ	558	ULM622	559	ULT610ZL	562	ULT680HDZ	562
ULM352ZL	558	ULM622HDZ	559	ULT612	562	ULT680ZL	562
ULM353	558	ULM622ZL	559	ULT612HDZ	562	ULT682	562
ULM353HDZ	558	ULM623	559	ULT612ZL	562	ULT682HDZ	562
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ULM357HDZ	558	ULM627	559	ULT616ZL	562	ULT686HDZ	562
ULM357ZL	558	ULM627HDZ	559	ULT617	562	ULT686ZL	562
ULM358	558	ULM627ZL	559	ULT617HDZ	562	ULT687	562
ULM358HDZ	558	ULM628	559	ULT617ZL	562	ULT687HDZ	562
ULM358ZL	558	ULM628HDZ	559	ULT618	562	ULT687ZL	562
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ULM359HDZ	558	ULM629	559	ULT618ZL	562	ULT688HDZ	562
ULM359ZL	558	ULM629HDZ	559	ULT619	562	ULT688ZL	562
ULM380	556	ULM629ZL	559	ULT619HDZ	562	ULT689	562
ULM380HDZ	556	ULM650	558	ULT619ZL	562	ULT689HDZ	562
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ULM382	556	ULM650ZL	558	ULT620HDZ	562	ULX610	563
ULM382HDZ	556	ULM652	558	ULT620ZL	562	ULX610HDZ	563
ULM382ZL	556	ULM652HDZ	558	ULT622	562	ULX610ZL	563
ULM383	556	ULM652ZL	558	ULT622HDZ	562	ULX612	563
ULM383HDZ	556	ULM653	558	ULT622ZL	562	ULX612HDZ	563
ULM383ZL	556	ULM653HDZ	558	ULT623	562	ULX612ZL	563
ULM384	556	ULM653ZL	558	ULT623HDZ	562	ULX613	563
ULM384HDZ	556	ULM654	558	ULT623ZL	562	ULX613HDZ	563
ULM384ZL	556	ULM654HDZ	558	ULT624	562	ULX613ZL	563
ULM385	556	ULM654ZL	558	ULT624HDZ	562	ULX614	563
ULM385HDZ	556	ULM655	558	ULT624ZL	562	ULX614HDZ	563
ULM385ZL	556	ULM655HDZ	558	ULT625	562	ULX614ZL	563
ULM386	556	ULM655ZL	558	ULT625HDZ	562	ULX615	563
ULM386HDZ	556	ULM656	558	ULT625ZL	562	ULX615HDZ	563

Code	Page	Code	Page	Code	Page	Code	Page
ULX615ZL	563	ULX685HDZ	563	UNH355HDZ	571	UNH625	572
ULX616	563	ULX685ZL	563	UNH355ZL	571	UNH625HDZ	572
ULX616HDZ	563	ULX686	563	UNH356	571	UNH625ZL	572
ULX616ZL	563	ULX686HDZ	563	UNH356HDZ	571	UNH626	572
ULX617	563	ULX686ZL	563	UNH356ZL	571	UNH626HDZ	572
ULX617HDZ	563	ULX687	563	UNH357	571	UNH626ZL	572
ULX617ZL	563	ULX687HDZ	563	UNH357HDZ	571	UNH627	572
ULX618	563	ULX687ZL	563	UNH357ZL	571	UNH627HDZ	572
ULX618HDZ	563	ULX688	563	UNH358	571	UNH627ZL	572
ULX618ZL	563	ULX688HDZ	563	UNH358HDZ	571	UNH628	572
ULX619	563	ULX688ZL	563	UNH358ZL	571	UNH628HDZ	572
ULX619HDZ	563	ULX689	563	UNH359	571	UNH628ZL	572
ULX619ZL	563	ULX689HDZ	563	UNH359HDZ	571	UNH629	572
ULX620	563	UNH310	570	UNH359ZL	571	UNH629HDZ	572
ULX620HDZ	563	UNH310HDZ	570	UNH380	569	UNH629ZL	572
ULX620ZL	563	UNH310ZL	570	UNH380HDZ	569	UNH650	571
ULX622	563	UNH312	570	UNH380ZL	569	UNH650HDZ	571
ULX622HDZ	563	UNH312HDZ	570	UNH382	569	UNH650ZL	571
ULX622ZL	563	UNH312ZL	570	UNH382HDZ	569	UNH652	571
ULX623	563	UNH313	570	UNH382ZL	569	UNH652HDZ	571
ULX623HDZ	563	UNH313HDZ	570	UNH383	569	UNH652ZL	571
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ULX624	563	UNH314	570	UNH383ZL	569	UNH653HDZ	571
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ULX624ZL	563	UNH314ZL	570	UNH384HDZ	569	UNH654	571
ULX625	563	UNH315	570	UNH384ZL	569	UNH654HDZ	571
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ULX625ZL	563	UNH315ZL	570	UNH385HDZ	569	UNH655	571
ULX626	563	UNH316	570	UNH385ZL	569	UNH655HDZ	571
ULX626HDZ	563	UNH316HDZ	570	UNH386	569	UNH655ZL	571
ULX626ZL	563	UNH316ZL	570	UNH386HDZ	569	UNH656	571
ULX627	563	UNH317	570	UNH386ZL	569	UNH656HDZ	571
ULX627HDZ	563	UNH317HDZ	570	UNH387	569	UNH656ZL	571
ULX627ZL	563	UNH317ZL	570	UNH387HDZ	569	UNH657	571
ULX628	563	UNH318	570	UNH387ZL	569	UNH657HDZ	571
ULX628HDZ	563	UNH318HDZ	570	UNH388	569	UNH657ZL	571
ULX628ZL	563	UNH318ZL	570	UNH388HDZ	569	UNH658	571
ULX629	563	UNH319	570	UNH388ZL	569	UNH658HDZ	571
ULX629HDZ	563	UNH319HDZ	570	UNH389	569	UNH658ZL	571
ULX629ZL	563	UNH319ZL	570	UNH389HDZ	569	UNH659	571
ULX650	563	UNH320	572	UNH389ZL	569	UNH659HDZ	571
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ULX652	563	UNH322	572	UNH610ZL	570	UNH680HDZ	569
ULX652HDZ	563	UNH322HDZ	572	UNH612	570	UNH680ZL	569
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ULX653ZL	563	UNH323ZL	572	UNH613HDZ	570	UNH683	569
ULX654	563	UNH324	572	UNH613ZL	570	UNH683HDZ	569
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ULX654ZL	563	UNH324ZL	572	UNH614HDZ	570	UNH684	569
ULX655	563	UNH325	572	UNH614ZL	570	UNH684HDZ	569
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ULX655ZL	563	UNH325ZL	572	UNH615HDZ	570	UNH685	569
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ULX657	563	UNH327	572	UNH616ZL	570	UNH686HDZ	569
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ULX657ZL	563	UNH327ZL	572	UNH617HDZ	570	UNH687	569
ULX658	563	UNH328	572	UNH617ZL	570	UNH687HDZ	569
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ULX659	563	UNH329	572	UNH618ZL	570	UNH688HDZ	569
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ULX659ZL	563	UNH329ZL	572	UNH619HDZ	570	UNH689	569
ULX680	563	UNH350	571	UNH619ZL	570	UNH689HDZ	569
ULX680HDZ	563	UNH350HDZ	571	UNH620	572	UNH689ZL	569
ULX680ZL	563	UNH350ZL	571	UNH620HDZ	572	UNM310	570
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ULX682HDZ	563	UNH352HDZ	571	UNH622	572	UNM310ZL	570
ULX682ZL	563	UNH352ZL	571	UNH622HDZ	572	UNM312	570
ULX683	563	UNH353	571	UNH622ZL	572	UNM312HDZ	570
ULX683HDZ	563	UNH353HDZ	571	UNH623	572	UNM312ZL	570
ULX683ZL	563	UNH353ZL	571	UNH623HDZ	572	UNM313	570
ULX684	563	UNH354	571	UNH623ZL	572	UNM313HDZ	570
ULX684HDZ	563	UNH354HDZ	571	UNH624	572	UNM313ZL	570
ULX684ZL	563	UNH354ZL	571	UNH624HDZ	572	UNM314	570
ULX685	563	UNH355	571	UNH624ZL	572	UNM314HDZ	570

Code list

Code	Page	Code	Page	Code	Page	Code	Page
UNM314ZL	570	UNM384HDZ	569	UNM654	571	URH023HDZL	582
UNM315	570	UNM384ZL	569	UNM654HDZ	571	URH024	582
UNM315HDZ	570	UNM385	569	UNM654ZL	571	URH024HDZL	582
UNM315ZL	570	UNM385HDZ	569	UNM655	571	URH025	582
UNM316	570	UNM385ZL	569	UNM655HDZ	571	URH025HDZL	582
UNM316HDZ	570	UNM386	569	UNM655ZL	571	URH026	582
UNM316ZL	570	UNM386HDZ	569	UNM656	571	URH026HDZL	582
UNM317	570	UNM386ZL	569	UNM656HDZ	571	URH027	582
UNM317HDZ	570	UNM387	569	UNM656ZL	571	URH027HDZL	582
UNM317ZL	570	UNM387HDZ	569	UNM657	571	URH028	582
UNM318	570	UNM387ZL	569	UNM657HDZ	571	URH028HDZL	582
UNM318HDZ	570	UNM388	569	UNM657ZL	571	URH029	582
UNM318ZL	570	UNM388HDZ	569	UNM658	571	URH029HDZL	582
UNM319	570	UNM388ZL	569	UNM658HDZ	571	URH050	582
UNM319HDZ	570	UNM389	569	UNM658ZL	571	URH050HDZL	582
UNM319ZL	570	UNM389HDZ	569	UNM659	571	URH051	582
UNM320	572	UNM389ZL	569	UNM659HDZ	571	URH051HDZL	582
UNM320HDZ	572	UNM610	570	UNM659ZL	571	URH052	582
UNM320ZL	572	UNM610HDZ	570	UNM680	569	URH052HDZL	582
UNM322	572	UNM610ZL	570	UNM680HDZ	569	URH053	582
UNM322HDZ	572	UNM612	570	UNM680ZL	569	URH053HDZL	582
UNM322ZL	572	UNM612HDZ	570	UNM682	569	URH054	582
UNM323	572	UNM612ZL	570	UNM682HDZ	569	URH054HDZL	582
UNM323HDZ	572	UNM613	570	UNM682ZL	569	URH055	582
UNM323ZL	572	UNM613HDZ	570	UNM683	569	URH055HDZL	582
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UNM383HDZ	569	UNM653	571	URH022	582	USC619	573
UNM383ZL	569	UNM653HDZ	571	URH022HDZL	582	USC619HDZ	573
UNM384	569	UNM653ZL	571	URH023	582	USC619ZL	573

Code	Page	Code	Page	Code	Page	Code	Page
USC620	573	USD689ZL	573	USD659HDZ	574	USF029	577
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USC682	573	USD650ZL	574	USF020HDZ	577	USH310HDZ	566
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USC689	573	USD658ZL	574	USF028HDZ	577	USH318HDZ	566
USC689HDZ	573	USD659	574	USF028ZL	577	USH318ZL	566

Code list

Code	Page	Code	Page	Code	Page	Code	Page
USH319	566	USH388ZL	565	USH658HDZ	567	USM328	568
USH319HDZ	566	USH389	565	USH658ZL	567	USM328HDZ	568
USH319ZL	566	USH389HDZ	565	USH659	567	USM328ZL	568
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USH352HDZ	567	USH622	568	USM310ZL	566	USM380HDZ	565
USH352ZL	567	USH622HDZ	568	USM312	566	USM380ZL	565
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USH353HDZ	567	USH623	568	USM312ZL	566	USM382HDZ	565
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USH384ZL	565	USH654HDZ	567	USM324	568	USM613ZL	566
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USH385HDZ	565	USH655	567	USM324ZL	568	USM614HDZ	566
USH385ZL	565	USH655HDZ	567	USM325	568	USM614ZL	566
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USH387HDZ	565	USH657	567	USM326ZL	568	USM616HDZ	566
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USH388HDZ	565	USH658	567	USM327ZL	568	USM617HDZ	566

Code	Page	Code	Page	Code	Page	Code	Page
USM617ZL	566	USM687HDZ	565	UST657	575	USX626ZL	576
USM618	566	USM687ZL	565	UST657HDZ	575	USX627	576
USM618HDZ	566	USM688	565	UST657ZL	575	USX627HDZ	576
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USM657HDZ	567	UST627	575	USX616ZL	576	USX686HDZ	576
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USM658	567	UST627ZL	575	USX617HDZ	576	USX687	576
USM658HDZ	567	UST628	575	USX617ZL	576	USX687HDZ	576
USM658ZL	567	UST628HDZ	575	USX618	576	USX687ZL	576
USM659	567	UST628ZL	575	USX618HDZ	576	USX688	576
USM659HDZ	567	UST629	575	USX618ZL	576	USX688HDZ	576
USM659ZL	567	UST629HDZ	575	USX619	576	USX688ZL	576
USM680	565	UST629ZL	575	USX619HDZ	576	USX689	576
USM680HDZ	565	UST650	575	USX619ZL	576	USX689HDZ	576
USM680ZL	565	UST650HDZ	575	USX620	576	UVC300HDZ	564
USM682	565	UST650ZL	575	USX620HDZ	576	UVC302HDZ	564
USM682HDZ	565	UST652	575	USX620ZL	576	UVC303HDZ	564
USM682ZL	565	UST652HDZ	575	USX622	576	UVC304HDZ	564
USM683	565	UST652ZL	575	USX622HDZ	576	UVC305HDZ	564
USM683HDZ	565	UST653	575	USX622ZL	576	UVC306HDZ	564
USM683ZL	565	UST653HDZ	575	USX623	576	UVC307HDZ	564
USM684	565	UST653ZL	575	USX623HDZ	576	UVC308HDZ	564
USM684HDZ	565	UST654	575	USX623ZL	576	UVC309HDZ	564
USM684ZL	565	UST654HDZ	575	USX624	576	UVH010	581
USM685	565	UST654ZL	575	USX624HDZ	576	UVH010HDZL	581
USM685HDZ	565	UST655	575	USX624ZL	576	UVH020	581
USM685ZL	565	UST655HDZ	575	USX625	576	UVH020HDZL	581
USM686	565	UST655ZL	575	USX625HDZ	576	UVH050	581
USM686HDZ	565	UST656	575	USX625ZL	576	UVH050HDZL	581
USM686ZL	565	UST656HDZ	575	USX626	576	UVH080	581
USM687	565	UST656ZL	575	USX626HDZ	576	UVH080HDZL	581



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