



FIRE RESISTANT SYSTEMS



SYSTEMS WITH MAINTAINED FUNCTIONALITY IN FIRE

You stand for our success

New technologies guarantee the improvement and innovation of our products.
For you.

KOPOS KOLÍN a.s. is a leading manufacturer of wiring material with over 90 years of tradition. We currently produce over 5 000 products. The plastic category includes wiring boxes, trunkings, parapet trunkings, pipes, double wall protector conduits it is registered bussiness mark KOPOFLEX® and KOPODUR® system, divided cable duct KOPOHALF®. We also include cable management systems such as cable trays, MARS cable trays, JUPITER®, wire trays or a stainless steel program. With the increasing demands on object safety, we have expanded and introduced systems to maintain functionality in the fire. Choose from a variety of carefully tested systems. The company considers it natural to produce products from halogen-free materials. By replacing lead in plastic mixtures and other environmental activities, we don't want to stand out in the environmental protection.

The products comply with the requirements of the European standards and are tested in the electrotechnical institutes. The company also owns the production technology used for the production of NEUTROSTOP shieldings. Their use is especially important where it is necessary to protect the environment from neutron radiation. We sell our products around the world through 10 daughter company. KOPOS KOLÍN a.s. is a holder of certificates according to ISO 9001 and ISO 14001, Czech Quality and Safety Certificate.





STANDARDIZED SUPPORTING CONSTRUCTION



NON-STANDARDIZED SUPPORTING CONSTRUCTION

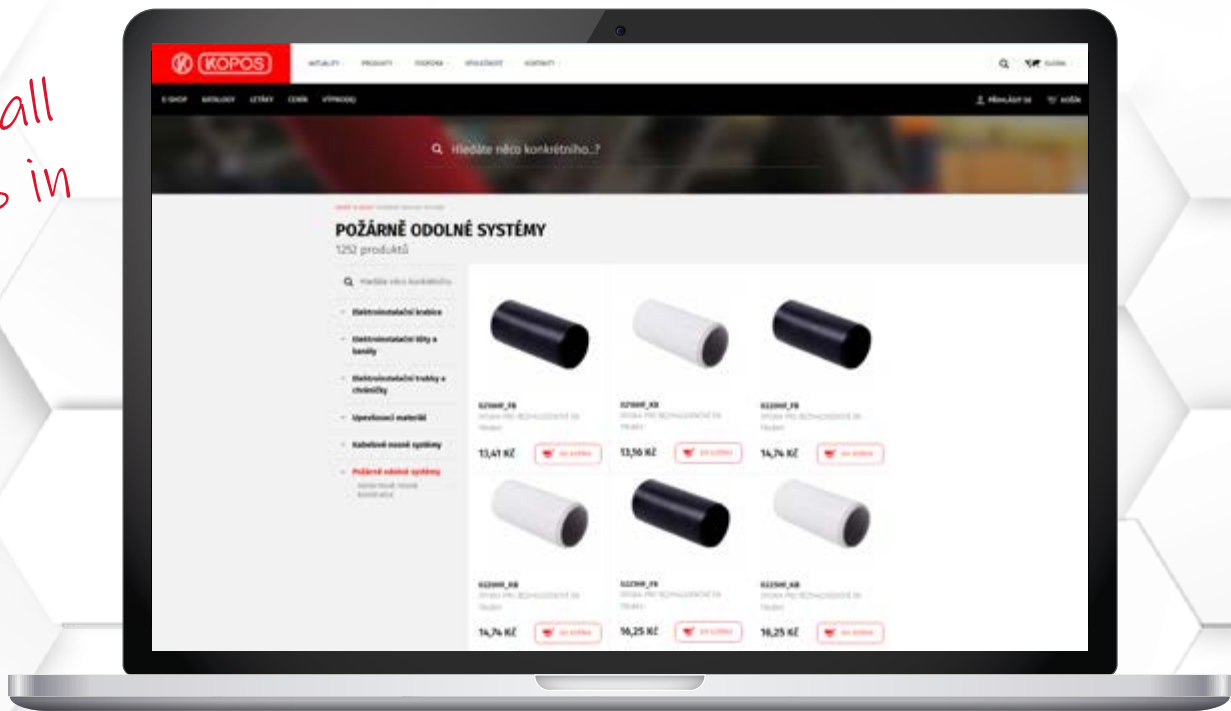


FIRE BOXES



PRODUCTS

You can find all our products in the e-shop



Basic terms and definitions

Requirements for building structures

Cable support systems must be installed on building structures whose fire resistance is at least equal to the fire resistance of the cable support system itself and whose design is adapted to the installation of cable support routes.

The manufacturer accepts no liability if the cable support system is installed on a building structure that does not meet the requirements for fire resistance.

Cable route

In the sense of ČSN 73 0895 cable routes are: cables and conductors for emergency circuits, high-current cables, insulated power conductors, lines for communication and communication equipment including busbars, terminal blocks, couplings, dividers, junction and installation boxes, supporting devices, holders, cable gratings, clamps, hangers, brackets, hinges, cable ladders, hooks, etc.

Cable support system

General name for supporting constructions used to store all equipment, including cables, which are related to the purpose or operation of cable routes in buildings, cable ducts, premises, shafts and bridges; the equipment material of cable ducts, shaft spaces and bridges must be made of products of reaction to fire class A1, A2 or B.

Installation cable duct

Cable duct exposed to fire from two to four sides with a defined time of fire resistance and maintaining the functionality of the cable route.

Cable route functionality

For metallic cables, it is met if no short circuit or interruption of the electric current flow occurs in the cable route during the test according to this standard. For data and optical cables, the transmission parameters must not deteriorate below the specified limit in addition.

Functional class Px-R or PHx-R

Time in minutes for which the cable route or switchboard retains its functionality in the event of a fire. The functionality class is called Px-R or PHx-R, where „x“ represents the operating time in minutes. It is proved by a test according to e.g. ČSN 73 0895, STN 92 0205, DIN 4102-12.

Standardized supporting construction

Cable support and fastening construction described as standardized in individual standards.

Non-standardized supporting construction

Cable support and fastening construction, which differs in one or more parameters from the standardized construction, eg:

- the type of material; or
- geometric dimensions (thickness of material, width of supporting construction, side height of the cable route, cross-section of supporting elements, the distance of attachment to the building structure, etc.) or
- the permissible mechanical load; or
- other parameters

Accredited fire laboratory

Testing laboratory accredited for the type of fire tests that are the subject of this standard.

Temperature scenarios

The test results obtained when testing cable routes at a higher temperature also apply to cable routes stressed by a lower temperature (e.g. if a cable route is included in functionality class P, the classification also applies to functionality class PH). So you can use our manufactured systems for resistance PH 120, PH 90, PH 60 and PH 30 while maintaining other conditions.

Surface finish

The systems can be supplied in various surface treatments (painting, hot-dip galvanizing), while this surface treatment does not affect the specified time of maintaining functionality in case of fire.

Protected escape route

Permanently free communication space leading to the exit to the open space, protected against the effects of fire.

Fire safety equipment and measures

Technical and organizational measures to reduce the theoretical intensity of a possible fire and to reduce the economic risk in the assessed building or its part (eg fire alarms, automatic stable fire extinguishing equipment, fire ventilation, constant supervision of fire protection units).

Fire safety of buildings

The ability of buildings to prevent the loss of life, health and property in the event of a fire: its layout, construction and material solutions, fire safety equipment and measures.

The fire risk of a building or its part is determined by the nature of the building, its functions, technical and technological equipment, construction, layout or urban design, fire safety measures, etc. and is expressed by the calculated fire load.

Maintaining the functional resistance of electrical cable systems in fire conditions:

in the event of a fire, the thermal effect of the fire will not cause a short circuit or an open circuit in the cable system for a predetermined period of time.

Laws, decrees, standards

The requirements for the properties of cable support systems with integrated preservation of functionality in the event of fire result from the laws, decrees and standards. The issue of building safety in connection to the threat to persons in the event of a fire in our country is addressed by the General Building Act together with the Fire Protection Act. Government decrees and regulations then specify and generally regulate the technical requirements for construction, fire protection and prevention. Technical standards in relation to the fire safety of persons specify the general technical implementation procedures for guaranteed fire safety and durability. In addition to the technical design of buildings, they also deal with fire safety equipment and electricity supply.

Test of functional resistance of the system in the event of a fire

Test of the support system together with the installed cables.

This catalog would like to describe in detail the assembly of individual routes, the use of accessories, assembly elements, the application of power, data and optical fire-resistant cables.





Basic terms and definitions

Criterion Px-R, PHx-R

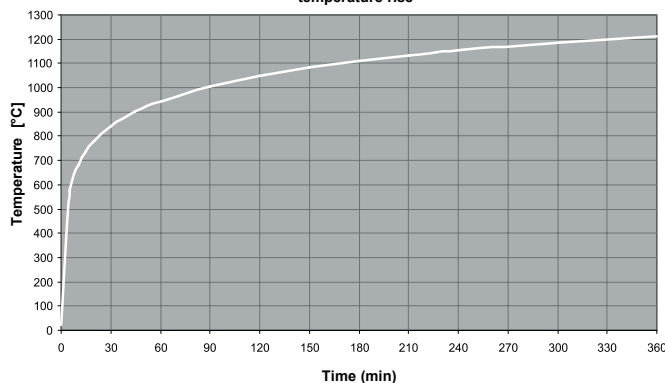
The maintenance of functional resistance is based on meeting the criterion of functional resistance.

Functional resistance classes

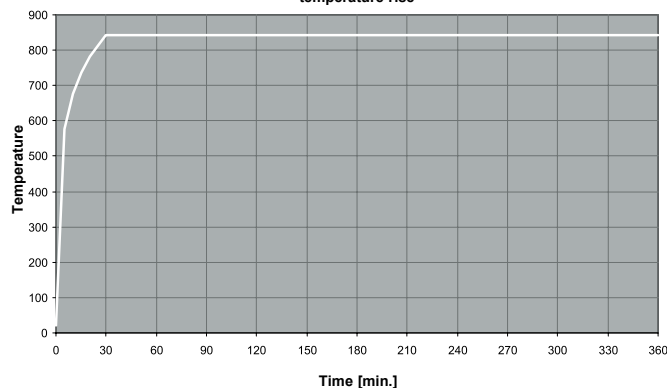
Cable routes and switchboards are classified into the functional resistance class listed in Table 1 according to the shortest time for which the Px-R functional resistance criterion is met using the temperature standard curve (temperature-time) according to ČSN EN 1363-1. It is also possible to use the criterion with the symbol PHx-R for the constant temperature of 842 °C. In this case, the temperature rises from the start of the test to 842 °C according to the standard temperature curve (temperature-time) and then remains the same, while the time counts from the start of the test.

Class	Class	Functional resistance in minutes
P15-R	PH15-R	≥ 15
P30-R	PH30-R	≥ 30
P45-R	PH45-R	≥ 45
P60-R	PH60-R	≥ 60
P90-R	PH90-R	≥ 90
P120-R	PH120-R	≥ 120

Standard temperature-time curve according to ČSN EN 1363 and according to DIN 4102 art. 12 temperature rise



Constant temperature curve with rise according to ČSN 730895. temperature rise



Classification classes of individual standards

Temperature course of the test	ČSN 730895		DIN 4102-12	STN 920205
	Standard temperature-time curve [°C]	Constant temperature [°C]	Standard temperature-time curve [°C]	
Designation of fire functionality classes	P15-R	PH15-R	-	PS15
	P30-R	PH30-R	E30	PS30
	P45-R	PH45-R	-	PS45
	P60-R	PH60-R	E60	PS60
	P90-R	PH90-R	E90	PS90
	P120-R	PH120-R	E90	PS120

time [min]	0	5	10	15	20	30	45	60	90	120	150	180	210	240	300	360
ČSN EN 1363*	20	576	678	738	781	842	902	945	1006	1049	1082	1110	1133	1153	1186	1214
DIN 4102-12**	0	556	658	718	761	822	892	925	986	1029	1062	1090	1113	1133	1166	1194

* total temperature T in °C including ambient temperature +20 °C

** temperature rise v - vo in °C

Standard temperature-time curve:

temperatures as a function of time must be observed throughout the test according to the so-called „standard time curve“. It is an internationally used temperature profile according to ČSN EN 1363 / formula $T = 345 \log(8t + 1) + 20$, where T = average furnace temperature in °C and t = time in minutes / also according to DIN 4102-2 / formula $v - v_0 = 345 \log(8t + 1)$, where v = fire temperature in °C, v₀ = temperature of the test sample at the beginning of the test in °C, t = time in minutes. The temperature curve is based on the overall course of fire temperatures. Start of fire = phase of fire formation. In a very short time, the fire will fully develop = flash-over. The moment of flash-over and the fully developed fire is shown by the standard temperature-time curve.

Constant temperature action: The constant temperature action follows the stress according to the standard temperature/time curve when the temperature reaches 842 °C.

Maintaining functional resistance

The risk of fire can never be ruled out even with the help of various regulations and measures. Electrical wiring is exposed to heavy loads in the event of a fire. Especially in gathering areas, the supply of electricity for selected electrical equipment in protected escape and emergency routes must be maintained as long as possible. By means of cable support systems functioning in the event of fire, the supply of electricity is maintained for a specified period of time. The fire-resistant cable support system, manufactured by KOPOS KOLÍN a.s., meets the requirements of the relevant standards and regulations.

Before designing cable support systems (up to 1 kV) with functional fire resistance following is required on the basis of the fire report:

- know the level of fire safety of the fire section, which is determined on the basis of the calculation of fire risk, the construction system of the building and the height of the building or floor
- characterize the fire resistance of support constructions within the fire section, which do not ensure the stability of the building and which do not support or form fire dividing structures
- know the type of protected escape route
- design and secure methods of electricity supply from two independent sources used for fire protection of buildings (e.g. fire elevator, evacuation elevator, fire water booster pump, emergency lighting) so that in case of interruption of supply from one source, supplies are fully secured for the expected time of operation of the device from the second source
- eliminate the effects of surrounding installations on the cable support system
- v select a suitable construction of the support system according to the level of required fire resistance
- select wires and cables ensuring the function and control of the equipment used for fire protection of buildings and determine their management or storage; electrical equipment that does not serve the fire safety of the building shall be fire-assessed if:
 - a) the wires and cables are routed freely without additional protection
 - b) the insulation weight of wires and cables or flammable parts of electrical wiring exceeds 0.2 kg per m³
- develop a „Protocol on the determination of external influences“ according to ČSN 33 2000-1 ed. 2 „Low-voltage electrical installations - Part 1: Basic aspects, determination of basic characteristics, definitions“, also with it's „Opr.1“ and change „Z1“. The members of the commission are electrical designer, fire technician, safety technician and investor. Furthermore, depending on the focus of the building, there are technologist and specialists with demands on electricity, such as air conditioning, heating, etc. Members of the commission must also be specialists in the field for which the building is being built.

Fire resistance testing of cable support system constructions for integrated maintenance of functionality

The fire resistance test is intended to check the operation of the cable support system in case of fire and to prove that vital functions in the building (fire lift, evacuation lift, fire water booster pump, emergency lighting,

fire alarms, emergency exits) are maintained for a specified time.

A uniform European standard for fire resistance and its testing does not yet exist. The German DIN 4102-12: „Preservation of the functionality of cable support systems“ is considered to be the reference standard.

In the Czech Republic, fire resistance testing of cable support system constructions is specified by the harmonized standard ČSN EN 1363. The new standard ČSN 73 0895 sets out the methods and conditions for testing the resistance of cable routes in fire conditions.

Certified constructions identical in design to the parameters of the standard are called „standardized“.

KOPOS KOLÍN a. s. manufactures fire-resistant systems according to the above-mentioned standards. These are JUPITER KZ cable trays with a sheet thickness of 1.5 mm, cable ladders with ladder cross-pieces at a distance of 150 mm and separate cable clamps.

Certified constructions different in design or dimensions from the above standard are referred to as „non-standardized“.

KOPOS KOLÍN a.s. strives to meet customers in terms of price and therefore offers fire-resistant systems at more affordable price. The cost of acquiring a fire-resistant route can be reduced by using sheet metal of a thinner thickness than specified in the standard, with a lower number of supports, etc. The standard allows testing of these routes, which are then referred to as „non-standardized“.

Non-standardized routes include routes formed by cable trays MARS and JUPITER with an integrated coupling and with a sheet thickness of 0.7; 0.75; 0.8; 1.0; 1.25 mm, cable ladder routes with a distance of cross-pieces of 300 mm, further metal support rails, systems with cable clamps, routes formed by steel pipes and other routes that differ in their parameters from standardized routes..

Cables for systems with maintained functionality in fire

Power and data safety cables with functional fire resistance must also pass fire resistance tests in accordance with valid regulations.

Fire resistance according to ČSN EN 1363-1: 2013

According to this standard, we have tested the KPZ-1_PO fire protection box in a non-supporting aerated concrete and plasterboard wall. The test results with a rigid standard support structure can also be applied to concrete or masonry dividers with a thickness and bulk density equal to or greater than the rigid standard support structure used in the test (mineral wool 100 kg/m³, YTONG block - bulk density 650 kg/m³).

KOPOS KOLÍN a.s. as a manufacturer recommends to follow the installation instructions in this catalog during the installation. In case of non-compliance, the manufacturer does not accept liability for any damage in case of fire.

Sample of completed marking of fire routes

Fire resistant system

KOPOS KOLÍN a.s.

Installation performed:	COMPANY	Classification class:	P 90-R
Cable trays system:	KZI 60X100X0.75_S	Number of classification report:	PK9-03-17-913-C-4
		Year of installation:	2024

The OPT marking is used for routes that maintain functionality in the event of a fire (cable trays, cable ladders, boxes, etc.), always every 50 m at least.



Certification



KOPOS KOLÍN a.s. Havlíčkova 432 CZ - 280 02 Kolín

PROHLÁŠENÍ O SHODĚ

ve smyslu § 10 a § 13, odst. 2 zákona č. 201/97 Sb., o technických požadavcích na výrobky a o změně a doplnění některých zákonů, v platném znění a §13 nařízení vlády č. 163/2002 Sb., kterým se stanoví technické požadavky na stavební výrobky, v platném znění.

Mý: KOPOS KOLÍN a.s. Havlíčkova 432 280 02 Kolín Česká republika IČ: 61872971 DIČ: CZ61872971

Výrobek:
Kabelové trasy se zachováním funkčnosti v podmínkách požáru
Kabelové žláby, drátěné žláby, kabelové žláby, drátěné žláby, elektroinstalační krabice, příchytky, elektroinstalační trubky, bezhologenní parapetní kanály a lišty, nosné profily a lišty a univerzální příslušenství

Výrobce: KOPOS KOLÍN a.s. Havlíčkova 432, Kolín IV, 280 02 Kolín, Česká republika

Popis a určení výrobku – účel použití ve stavbě:
Kabelové žláby Mars a Jupiter, drátěné žláby, kabelové žláby, trubky a kanály, příchytky, elektroinstalační krabice, nosné lišty a profily, univerzální příslušenství a ostatní výrobky KOPOS – kabelové trasy se zachováním funkčnosti v podmínkách požáru slouží k bezpečnému uložení kabelů v stavbách s požadovaným zážehním dodatek elektrické energie

Způsob posouzení shody:
Výrobek spadá do přílohy č. 2 k nařízení vlády č. 163/2002 Sb. v platném znění, skupina výrobků 10, pořadové číslo 17, kde je určen postup posouzení shody podle §5a – certifikace výrobku
Certifikaci výrobku prováděla Autorizovaná osoba č. 216 – PAVUS, a.s., Prosecká 412/74, 190 00 Praha 9, IČ: 60193174.

Doklady z procesu posouzení shody:

- a. Certifikát č. 216/C5a/2021/0086 ze dne 06.08.2021, vydal PAVUS, a.s., Praha, AO 216
- b. Protokol o certifikaci č. P-216/C5a/2021/0086 ze dne 06.08.2021, vydal PAVUS, a.s., Praha, AO 216
- c. Stavební technické osvědčení č. S-216/C5a/2021/0086 ze dne 02.08.2021, platnost osvědčení do 31.08.2024, vydal PAVUS, a.s., Praha, AO 216
- d. Protokol o rozšíření aplikací zachování funkčnosti kabelových tras v podmínkách požáru č. PRA9-03-17-962-C-0 ze dne 5.2.2018 platnost protokolu do 05.02.2023, vydal PAVUS, a.s., Praha, AO 216
- e. Protokol o klasifikaci zachování funkčnosti kabelových tras v podmínkách požáru č. PK9-03-17-913-C-0 ze dne 04.08.2021 platnost protokolu do 04.08.2026, vydal PAVUS, a.s., Praha, AO 216
- f. Stanovisko k použití vik na kabelových trasách s funkčností při požáru dle ČSN 73 8895:2016 ze dne 3.10.2019, vydal PAVUS, a.s.
- g. Klasifikace reakce na oheň v souladu s ČSN EN 13501-1+A1:2018 – Elektroinstalační krabice z materiálu MGS9, MGS4 a MGS19, protokol č. PK-17-144, vypracoval ČSBI, Praha dne 7.12.2017
- h. Klasifikace reakce na oheň v souladu s ČSN EN 13501-1+A1:2018 – Elektroinstalační trubky, kanály a lišty z materiálu PCABS, protokol č. PK-17-145, vypracoval ČSBI, Praha dne 7.12.2017



PAVUS, a.s. Autorizovaná osoba 216 Prosecká 412/74, 190 00 Praha 9 - Prosek Rozhodnutí o autorizaci č. 3/2018 ze dne 24. června 2018

CERTIFIKÁT VÝROBKU

č. 216/C5a/2021/0086
vydány pro výrobce KOPOS KOLÍN a.s., Havlíčkova 432, 280 02 Kolín, IČO 61872971
místo výroby: KOPOS KOLÍN a.s., Havlíčkova 432, 280 02 Kolín
s účinností od vydání: Česká republika

Výrobek s certifikací č. 216/C5a/2021/0086 je v souladu s požadavky na výrobky uvedené v příloze č. 2 k nařízení vlády č. 163/2002 Sb., v platném znění, skupina výrobků 10, pořadové číslo 17, kde je určen postup posouzení shody podle §5a – certifikace výrobku

Kabelové trasy se zachováním funkčnosti při požáru
Kabelové žláby, kabelové žláby, drátěné žláby, elektroinstalační krabice, příchytky, elektroinstalační trubky, bezhologenní parapetní kanály a lišty, nosné profily a lišty, univerzální příslušenství

prohlášením shody výrobce s normou provedl posouzení a ověřil pouze výrobky uvedené v uvedeném prohlášení o shodě, s výjimkou výrobků uvedených v příloze č. 2 k nařízení vlády č. 163/2002 Sb., v platném znění, skupina výrobků 10, pořadové číslo 17, kde je určen postup posouzení shody podle §5a – certifikace výrobku

Tento certifikát vydává Autorizovaná osoba č. 216 – PAVUS, a.s., Prosecká 412/74, 190 00 Praha 9, IČ: 60193174, v souladu s požadavky na výrobky uvedené v příloze č. 2 k nařízení vlády č. 163/2002 Sb., v platném znění, skupina výrobků 10, pořadové číslo 17, kde je určen postup posouzení shody podle §5a – certifikace výrobku



Ing. Jan Trnava
číslo ověřovacího listu 10

Tento certifikát platí pouze v případě, pokud výrobce dodá výrobky v souladu s uvedenými podmínkami



PAVUS, a.s. Autorizovaná osoba 216 Prosecká 412/74, 190 00 Praha 9 - Prosek Rozhodnutí o autorizaci č. 3/2018 ze dne 24. června 2018

Základní číslo: 2021/0086 Platnost od: 06.08.2021

PROTOKOL O CERTIFIKACI č. P-216/C5a/2021/0086

Vydala Autorizovaná osoba 216 – PAVUS, a.s., Prosecká 412/74, 190 00 Praha 9, IČ: 60193174, v souladu s požadavky na výrobky uvedené v příloze č. 2 k nařízení vlády č. 163/2002 Sb., v platném znění, skupina výrobků 10, pořadové číslo 17, kde je určen postup posouzení shody podle §5a – certifikace výrobku

1. NÁZEV CERTIFIKOVANÉHO VÝROBKU

Kabelové trasy se zachováním funkčnosti při požáru
Kabelové žláby, kabelové žláby, drátěné žláby, elektroinstalační krabice, příchytky, elektroinstalační trubky, bezhologenní parapetní kanály a lišty, nosné profily a lišty, univerzální příslušenství

Výrobek spadá do přílohy č. 2 k nařízení vlády č. 163/2002 Sb. v platném znění, skupina výrobků 10, pořadové číslo 17

Výrobce: KOPOS KOLÍN a.s., Havlíčkova 432, 280 02 Kolín, IČO 61872971
Místo výroby: KOPOS KOLÍN a.s., Havlíčkova 432, 280 02 Kolín



číslo ověřovacího listu 10



PAVUS, a.s. Autorizovaná osoba 216 Prosecká 412/74, 190 00 Praha 9 - Prosek Rozhodnutí o autorizaci č. 3/2018 ze dne 24. června 2018

Základní číslo: 2021/0086 Platnost od: 06.08.2021

Autorizovaná osoba 216 vydává

certifikát č. 216/C5a/2021/0086 ve smyslu § 10 a § 13, odst. 2 zákona č. 201/97 Sb., o technických požadavcích na výrobky a o změně a doplnění některých zákonů, v platném znění a §13 nařízení vlády č. 163/2002 Sb., kterým se stanoví technické požadavky na stavební výrobky, v platném znění, skupina výrobků 10, pořadové číslo 17, kde je určen postup posouzení shody podle §5a – certifikace výrobku

STAVEBNÍ TECHNICKÉ OSVĚDČENÍ č. S-216/C5a/2021/0086

na stavební výrobek

Kabelové trasy se zachováním funkčnosti při požáru
Kabelové žláby, kabelové žláby, drátěné žláby, elektroinstalační krabice, příchytky, elektroinstalační trubky, bezhologenní parapetní kanály a lišty, nosné profily a lišty, univerzální příslušenství

Výrobce: KOPOS KOLÍN a.s., Havlíčkova 432, 280 02 Kolín, IČO 61872971
Místo výroby: KOPOS KOLÍN a.s., Havlíčkova 432, 280 02 Kolín

Technické údaje a podmínky pro užívání výrobku v souladu s požadavky na výrobky uvedené v příloze č. 2 k nařízení vlády č. 163/2002 Sb., v platném znění, skupina výrobků 10, pořadové číslo 17, kde je určen postup posouzení shody podle §5a – certifikace výrobku

Tento osvědčení vydává Autorizovaná osoba 216 – PAVUS, a.s., Prosecká 412/74, 190 00 Praha 9, IČ: 60193174, v souladu s požadavky na výrobky uvedené v příloze č. 2 k nařízení vlády č. 163/2002 Sb., v platném znění, skupina výrobků 10, pořadové číslo 17, kde je určen postup posouzení shody podle §5a – certifikace výrobku

Platnost osvědčení do 31. srpna 2024

číslo ověřovacího listu 10



Ing. Jan Trnava
číslo ověřovacího listu 10

číslo ověřovacího listu 10

* the protocols are illustrative only

STANDARDIZED SUPPORTING CONSTRUCTIONS

ASSEMBLIES





Standardized supporting constructions

STANDARDIZED CONSTRUCTIONS

KOPOS KOLÍN a.s. manufactures fire-resistant systems in accordance with relevant standards and regulations. These are JUPITER KZ cable trays with a sheet thickness of 1.5 mm and KL cable ladders with cross-pieces at a distance of 150 mm. Furthermore, separate cable clamps and clamps of the PKC1 type.

standardized routes:

- cable trays
- cable ladders
- separate cable clamps

cable trays:

- maximum permissible width 300 mm (percentage of perforations 15 +/- 5%)
- side height 60 mm
- sheet thickness 1.5 mm
- cable weight max. 10 kg/m
- distance of supports max. 1 200 mm

cable ladders:

- maximum permissible width 400 mm
- side height 60 mm
- sheet thickness 1.5 mm
- cable weight max. 20 kg/m
- distance of cross-piece 150 mm
- distance of supports max. 1 200 mm

separate cable clamps

- width of separate cable clamp 15 +/- 5 mm
- distance of individual clamps max. 300 mm

cable clamps (PKC1) for profile rail

- fastening of the profile rail by max. 250 mm
- distance between profile rails max. 300 mm

Advantages of standardized supporting systems

It is possible to use cables with proven functionality in the event of a fire from any manufacturer.

- this feature is advantage in the implementation of the system and also in the expansion during operation. It does not restrict investors and implementation companies by taking cables from a specific manufacturer.

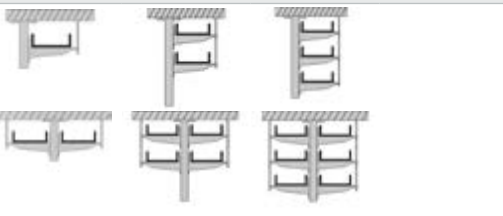
- more robust system and thus more secure results in proving the functionality of the cable route


Disadvantages

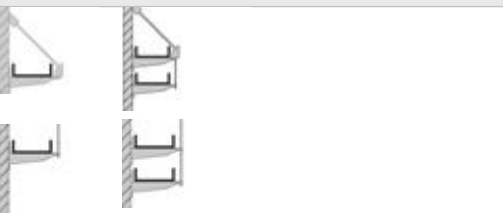
- higher purchase price
- higher installation time
- impossibility to use systems with a side height of 50 and 100 mm
- lower load of cable tray or ladder (max. 10 kg/m or 20kg/m)

Standardized supporting constructions

STANDARDIZED SUPPORTING CONSTRUCTIONS - CABLE TRAY

ceiling assembly using ceiling profiles and threaded rods	page
	10

ceiling assembly using threaded rods	page
	11


assembly on the wall	page
	12

STANDARDIZED SUPPORTING CONSTRUCTIONS - CABLE CLAMP

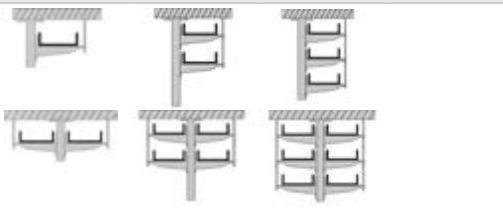
separated cable clamps	page
	19

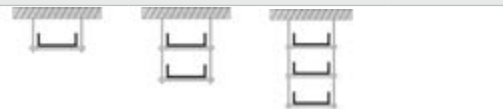
cable clamps OMEGA, cable clamps DOBRMAN	page
	20, 21

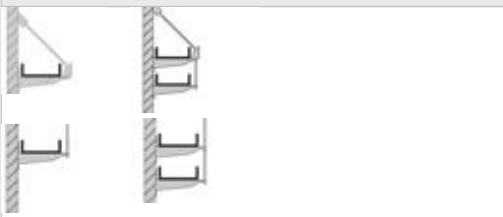
STANDARDIZED SUPPORTING CONSTRUCTIONS - WIRING FIRE BOXES

wiring boxes KSK	page
	94 - 98

STANDARDIZED SUPPORTING CONSTRUCTIONS - CABLE LADDER

ceiling assembly using ceiling profiles and threaded rods	page
	13

ceiling assembly using threaded rods	page
	14

assembly on the wall	page
	15

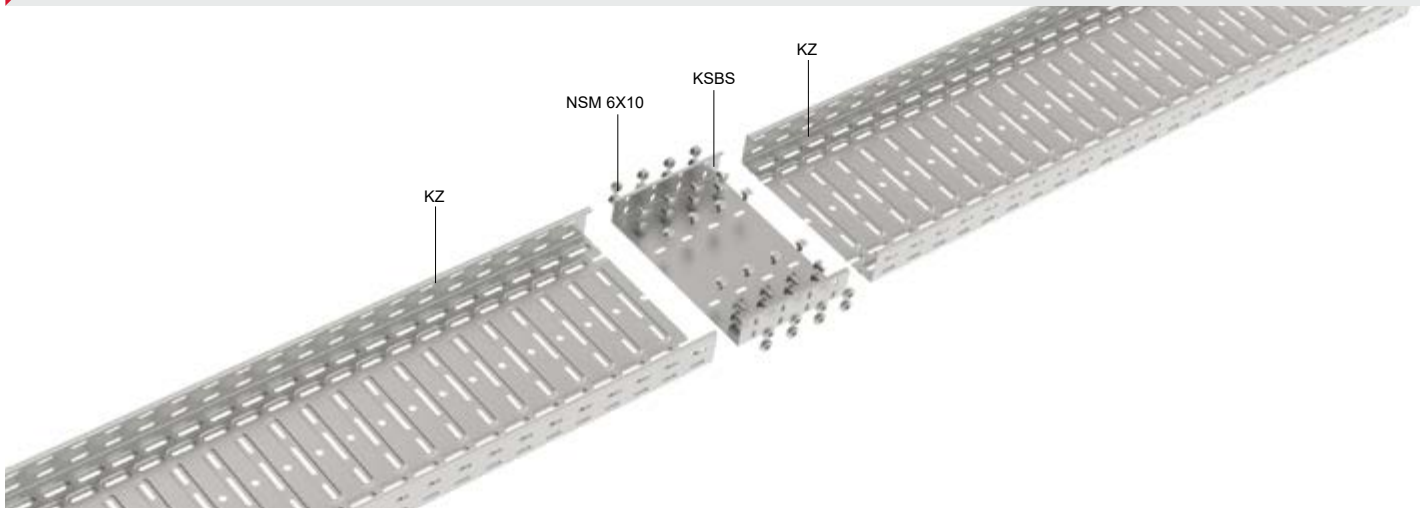
vertical installation	page
	16, 17

support profiles with PKC1 clamps	page
	18

fire resistant instrument boxes	page
	92, 93



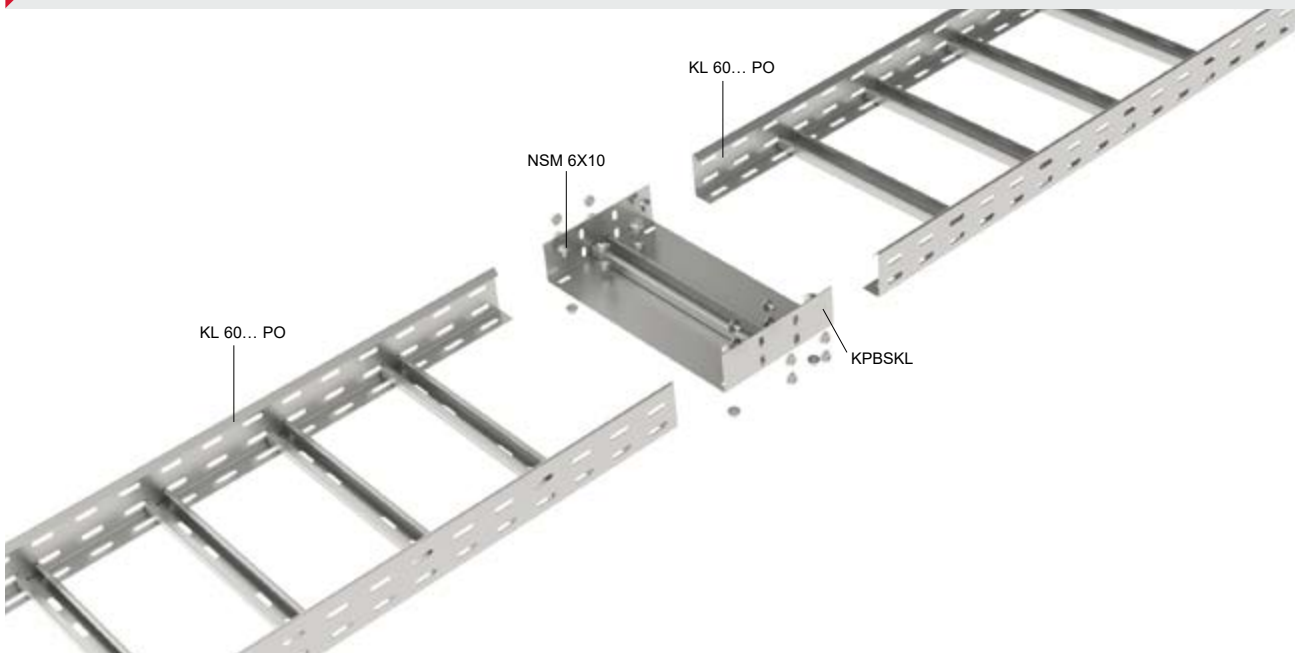
Connection of standardized fire-resistant tray KZ – JUPITER



The KZ cable tray is connected using a KSBS coupling and NSM 6X10 bolts (pg. 148).
The number of bolts depends on the type of KSBS coupling (see pg. 105).

coupling type	cable tray width	number of bolts per coupling
KSBS	50 - 150 mm	16 pcs NSM 6X10
KSBS	200 - 300 mm	24 pcs NSM 6X10

Connection of standardized fire-resistant ladder KL



The cable ladder is connected using a KPBSKL coupling (pg. 126) and 12 pcs of NSM 6X10 bolts (pg. 148).

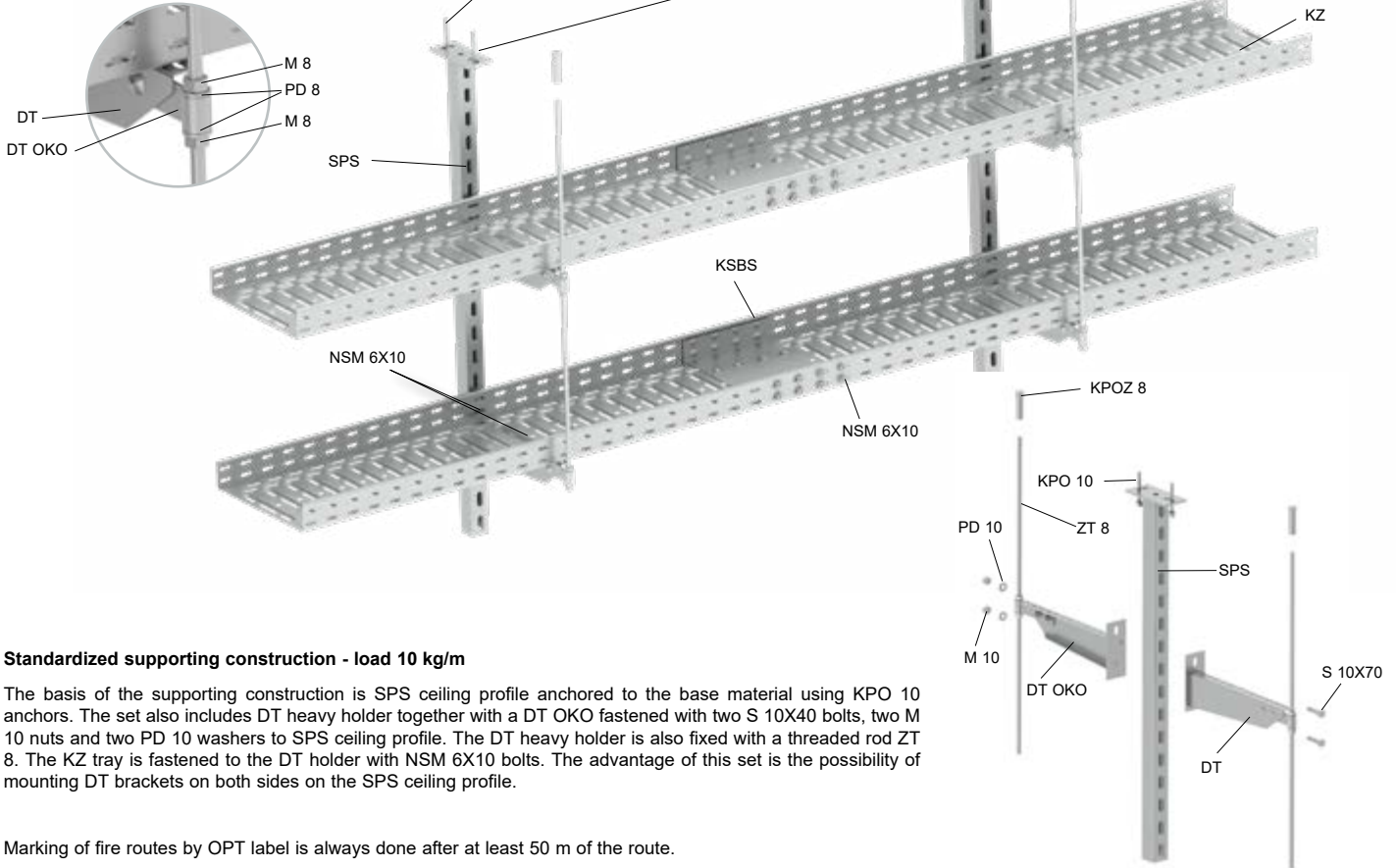
coupling type	cable ladder width	number of bolts per coupling
KPBSKL	150 - 400 mm	12 pcs NSM 6X10

Cable trays JUPITER - KZ ceiling assembly using a ceiling profile SPS



10


load for anchoring		
concrete	KBS 6X35	60 kg/pcs
	KPO 10	236 kg/pcs
	KPOZ 8	100 kg/pcs



Standardized supporting construction - load 10 kg/m

The basis of the supporting construction is SPS ceiling profile anchored to the base material using KPO 10 anchors. The set also includes DT heavy holder together with a DT OKO fastened with two S 10X40 bolts, two M 10 nuts and two PD 10 washers to SPS ceiling profile. The DT heavy holder is also fixed with a threaded rod ZT 8. The KZ tray is fastened to the DT holder with NSM 6X10 bolts. The advantage of this set is the possibility of mounting DT brackets on both sides on the SPS ceiling profile.





Marking of fire routes by OPT label is always done after at least 50 m of the route.

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m
cable tray side height	60 mm
cable tray width	50 - 300 mm
cable tray sheet thickness	1,5 mm

Cable manufacturer approved:

It is possible to use cables of any manufacturer with proven functionality in the event of a fire with the standardized supporting cable constructions.

List of products for one mounting point

					page
ZT 8	1	1	2	2	143
KPO 10	2	2	2	2	145
KPOZ 8	1	1	2	2	145
SPS	1	1	1	1	135
DT	1	2	2	4	135
DT OKO	1	2	2	4	135
S 10X40	2	4	-	-	144
S 10X70	-	-	2	4	144
M 8	2	4	4	8	144
M 10	2	4	2	4	144
PD 8	2	4	4	8	144
PD 10	2	4	2	4	144
NSM 6X10	2	4	4	8	148

classification protocol number	classification [min] - power cables	classification [min] - data cables
PK9-03-17-913-C-4	E90, P90-R, PS90	E90, P90-R, PS90

Certification according to: ČSN 73 0895, DIN 4102-12, STN 92 0205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

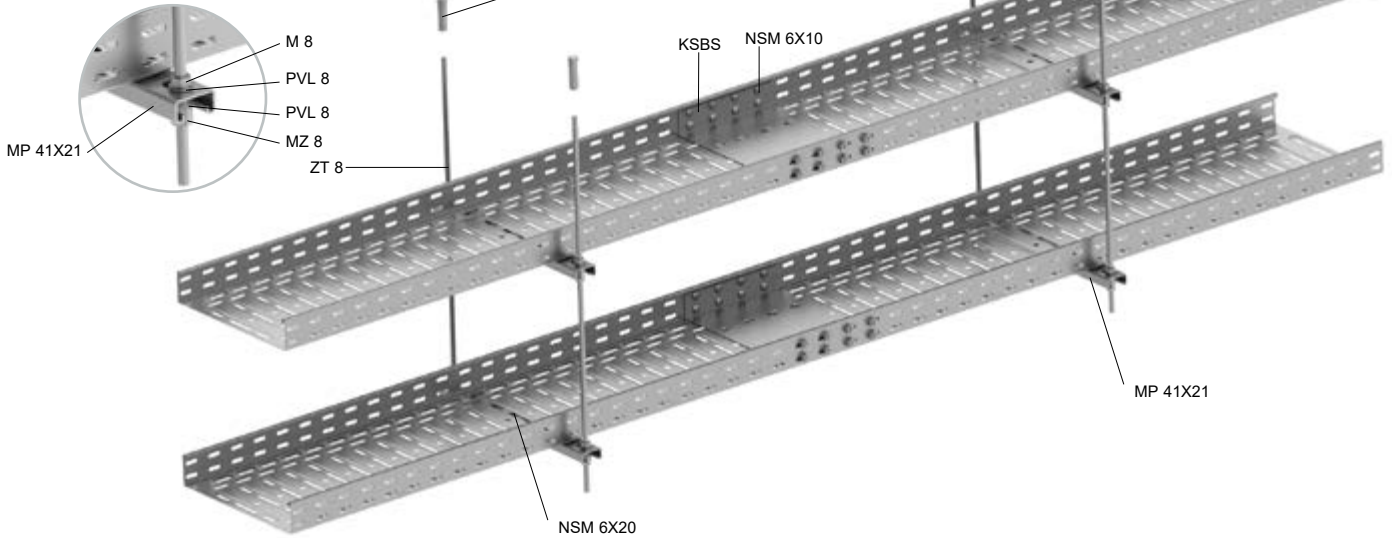


Cable trays JUPITER - KZ
ceiling assembly using threaded rods and mounting profiles MP 41X21

10 kg



load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs



Standardized supporting construction - load 10 kg/m

The basis of the supporting construction is the mounting profile MP 41X21 mounted on threaded rods ZT 8. The threaded rods are attached to the base material using KPOZ anchors. The mounting profile is anchored on the threaded rods at the top by M8 nuts and PVL 8 washers, and at the bottom by the MZ 8 nut and PVL 8 washers. The tray is fastened to the mounting profile using NSM 6X20 bolts and PVL 6 washer.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m
cable tray side height	60 mm
cable tray width	50 - 300 mm
cable tray sheet thickness	1,5 mm

Cable manufacturer approved:

It is possible to use cables of any manufacturer with proven functionality in the event of a fire with the standardized supporting cable constructions.

	List of products for one mounting point			page
ZT 8	2	2	2	143
KPOZ 8	2	2	2	145
MP 41X21	1	2	3	138
M 8	2	4	6	144
MZ 8	2	4	6	144
PVL 8	4	8	12	144
NSM 6X20	2	4	6	148
PVL 6	2	4	6	144

classification protocol number	classification [min] - power cables	classification [min] - data cables
PK9-03-17-913-C-4	E90, P90-R, PS90	E90, P90-R, PS90

Certification according to: ČSN 730895, DIN 4102-12, STN 920205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

STANDARD

NO-STANDARD

FIRE BOXES

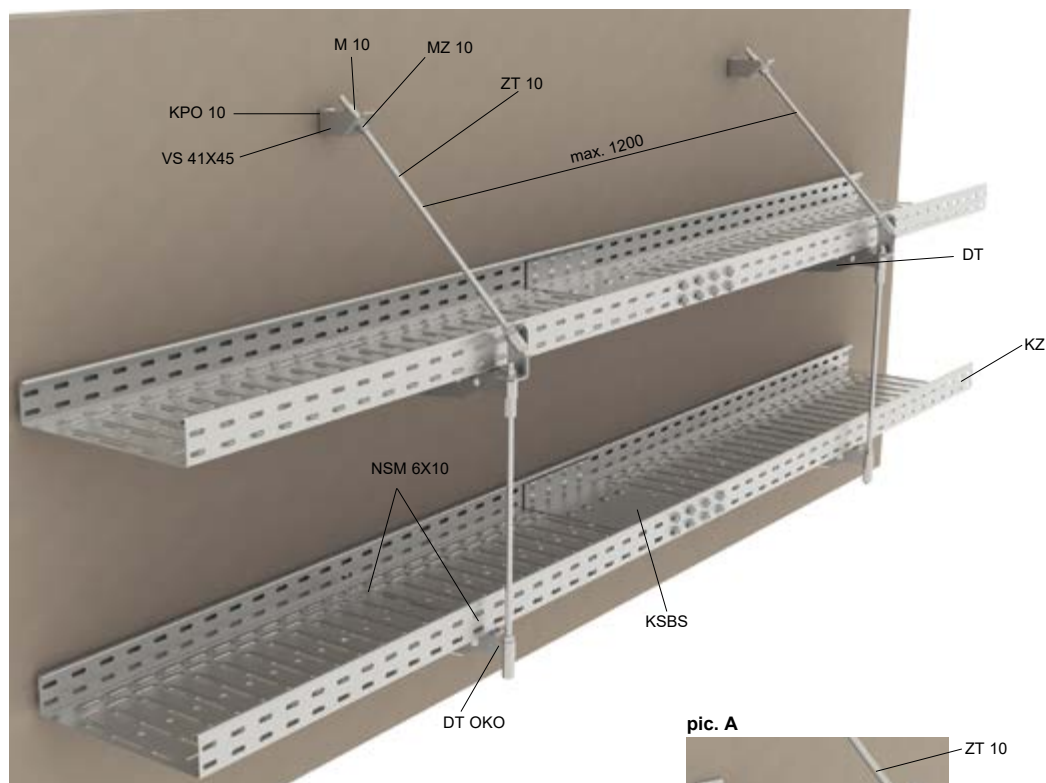
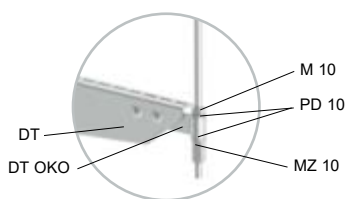
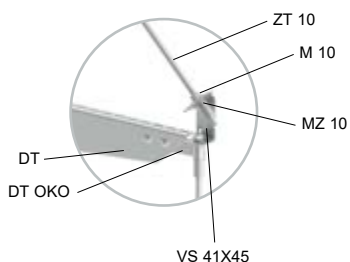
PRODUCTS

INDEX

Cable trays JUPITER - KZ assembly on the wall




load for anchoring		
concrete	KPO 10	236 kg/pcs



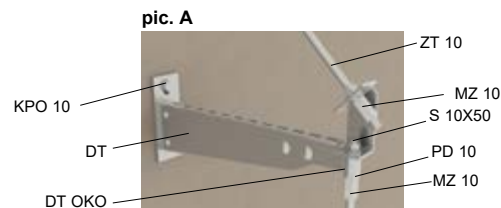
Standardized supporting construction - load 10 kg/m

The basis of the supporting construction is the DT holder with the DT OKO safety eye. The DT holder is anchored to the base material using KPO 10 anchors. The threaded rod ZT 10, which is secured at the top by a nut M 10 and at the bottom by a nut MZ 10 and washers PD 10, goes through DT OKO. The upper tray must be fixed to the wall by threaded rod and two pieces of VS 41X45 at an angle of 45°. The KZ tray is fastened to the DT holder using NSM 6X10 bolts.

In the case of one story route, the mounting part VS 41X45 is fastened to the bracket at the end of the holder DT + DT OKO by bolts S 10X50, nut MZ 10 and washers PD 10 (see pic. A).

The ends of the securing threaded rods can be anchored to the ceiling instead of the wall. When anchoring ZT to the ceiling, it is possible to use DT and secure the free ends with ZT 10 and ZVB 1.5 parts mounted at a maximum distance of 100 mm from the free end of DT (see pic. B).

Marking of fire routes by OPT label is always done after at least 50 m of the route.







Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m
cable tray side height	60 mm
cable tray width	50 - 300 mm
cable tray sheet thickness	1,5 mm

Cable manufacturer approved:

It is possible to use cables of any manufacturer with proven functionality in the event of a fire with the standardized supporting cable constructions.

List of products for one mounting point

					page
ZT 10	1	2	1	2	143
KPO 10	3	5	2	4	145
KPOZ 10	-	-	1	1	145
DT	1	2	1	2	135
DT OKO	1	2	1 (pic. A)	2	135
VS 41X45	2	2	-	-	139
ZVB 1.5	-	-	1 (pic. B)	2	139
S 10X50	1	-	-	-	144
M 10	3	4	1	2	144
PD 10	2	4	2	4	144
MZ 10	3	4	-	-	144
NSM 6X10	2	4	2	4	148

classification protocol number	classification [min] - power cables	classification [min] - data cables
PK9-03-17-913-C-4	E90, P90-R, PS90	E90, P90-R, PS90

Certification according to: ČSN 730895, DIN 4102-12, STN 920205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R



**Cable ladders - KL 60... PO
ceiling assembly using a ceiling profile SPS**



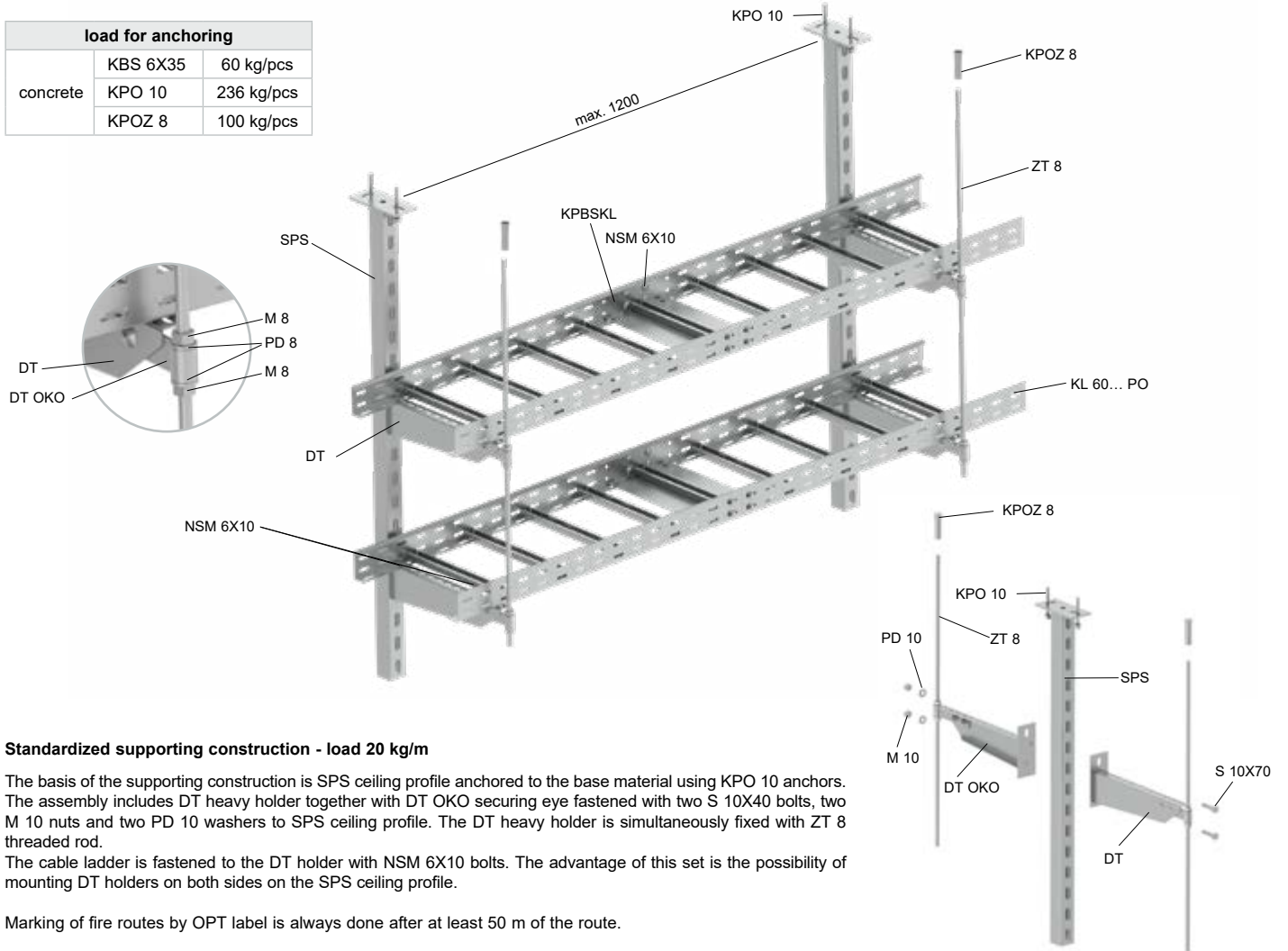
STANDARD

NO-STANDARD

FIRE
BOXES

PRODUCTS

load for anchoring		
concrete	KBS 6X35	60 kg/pcs
	KPO 10	236 kg/pcs
	KPOZ 8	100 kg/pcs



Standardized supporting construction - load 20 kg/m

The basis of the supporting construction is SPS ceiling profile anchored to the base material using KPO 10 anchors. The assembly includes DT heavy holder together with DT OKO securing eye fastened with two S 10X40 bolts, two M 10 nuts and two PD 10 washers to SPS ceiling profile. The DT heavy holder is simultaneously fixed with ZT 8 threaded rod.

The cable ladder is fastened to the DT holder with NSM 6X10 bolts. The advantage of this set is the possibility of mounting DT holders on both sides on the SPS ceiling profile.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	20 kg/m
cable ladder side height	60 mm
cable ladder width	150 - 400 mm
cable ladder sheet thickness	1,5 mm

List of products for one mounting point					
					page
ZT 8	1	1	2	2	143
KPO 10	2	2	2	2	145
KPOZ 8	1	1	2	2	145
SPS	1	1	1	1	135
DT	1	2	2	4	135
DT OKO	1	2	2	4	135
S 10X40	2	4	-	-	144
S 10X70	-	-	2	4	144
M 8	2	4	4	8	144
M 10	2	4	2	4	144
PD 8	2	4	4	8	144
PD 10	2	4	2	4	144
NSM 6X10	2	4	4	8	148

Cable manufacturer approved:

It is possible to use cables of any manufacturer with proven functionality in the event of a fire with the standardized supporting cable constructions.

classification protocol number	classification [min] - power cables	classification [min] - data cables
PK9-03-17-913-C-4	E90, P90-R, PS90	E90, P90-R, PS90

Certification according to: ČSN 73 0895, DIN 4102-12, STN 92 0205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

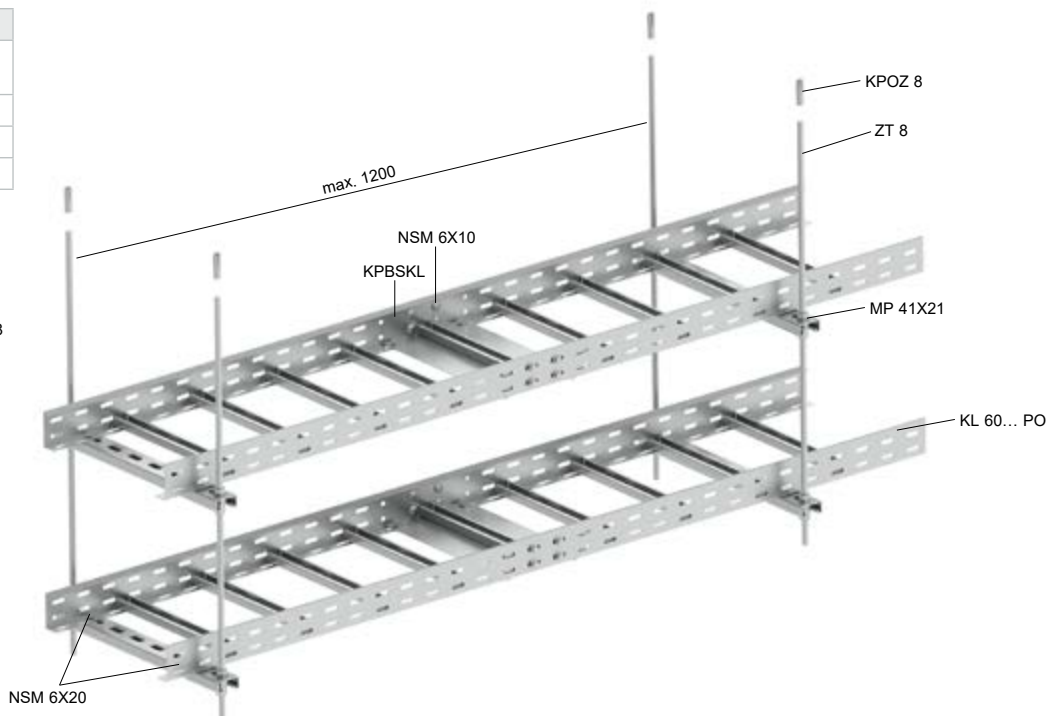
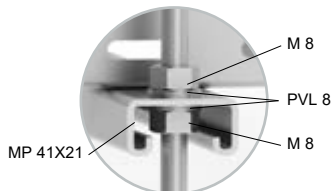
INDEX



Cable ladders - KL 60... PO ceiling assembly using threaded rods and mounting profiles MP 41X21



load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs



Standardized supporting construction - load 20 kg/m

The basis of the supporting construction is the MP 41X21 mounting profile mounted on ZT 8 threaded rods. The threaded rods are attached to the base material using KPOZ 8 anchors. The mounting profile is anchored on the threaded rods by M 8 nuts and PVL 8 washers. The cable ladder is fastened to the mounting profile using NSM 6X20 bolts and PVL 6 washer.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	20 kg/m
cable ladder side height	60 mm
cable ladder width	150 - 400 mm
cable ladder sheet thickness	1,5 mm

	List of products for one mounting point			page
ZT 8	2	2	2	143
KPOZ 8	2	2	2	145
MP 41X21	1	2	3	138
M 8	4	8	12	144
PVL 8	4	8	12	144
NSM 6X20	2	4	6	148
PVL 6	2	4	6	144

Cable manufacturer approved:

It is possible to use cables of any manufacturer with proven functionality in the event of a fire with the standardized supporting cable constructions.

classification protocol number	classification [min] - power cables	classification [min] - data cables
PK9-03-17-913-C-4	E90, P90-R, PS90	E90, P90-R, PS90

Certification according to: ČSN 730895, DIN 4102-12, STN 920205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R



**Cable ladders - KL 60... PO
assembly on the wall**



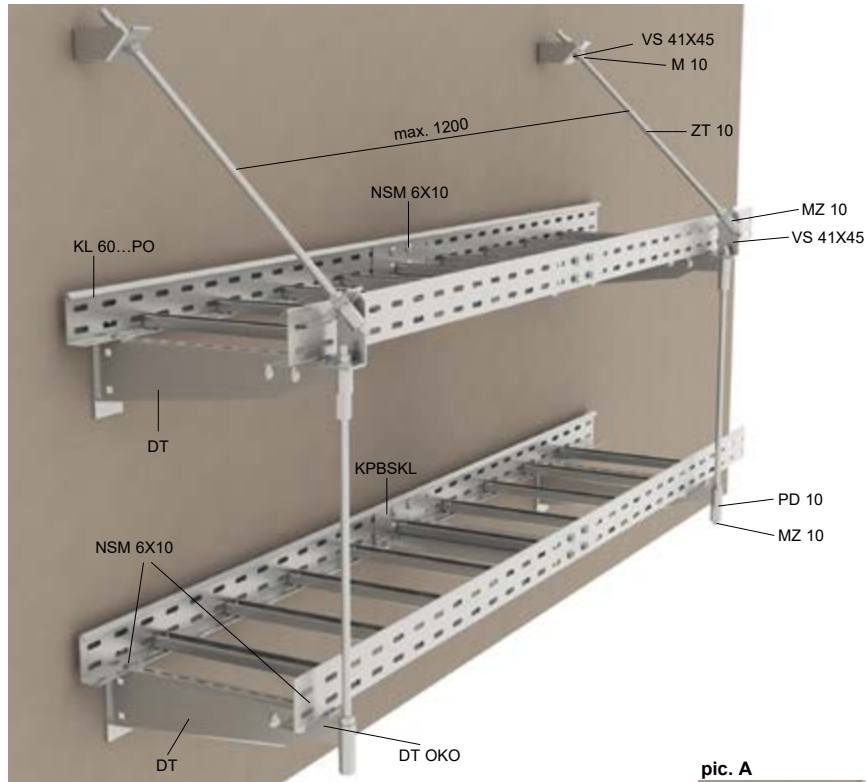
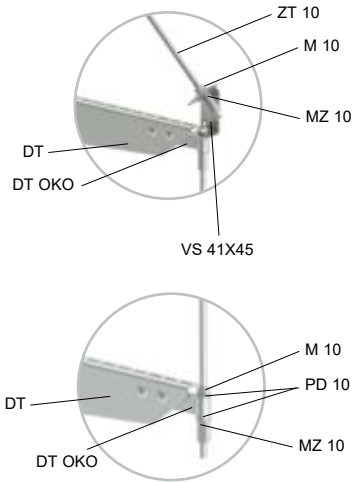
STANDARD

NO-STANDARD

FIRE
BOXES

PRODUCTS

load for anchoring		
concrete	KPO 10	236 kg/pcs



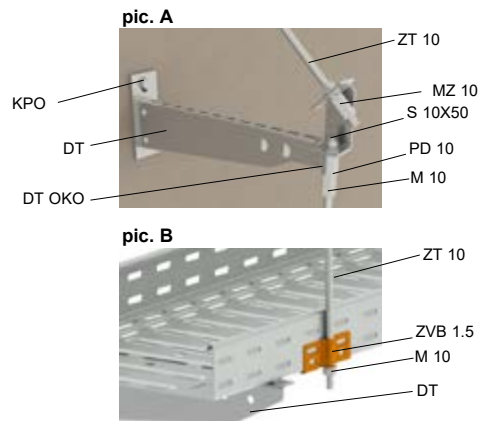
Standardized supporting construction - load 20 kg/m

The basis of the supporting construction is the DT holder with the DT OKO safety eye. The DT holder is anchored to the base material using KPO 10 anchors. The threaded rod ZT 10, which is secured at the top by a nut M 10 and at the bottom by a nut MZ 10 and washers PD 10, goes through DT OKO. The upper tray must be fixed to the wall by threaded rod and two pieces of VS 41X45 at an angle of 45°. The cable ladder is fastened to the DT holder using NSM 6X10 bolts.

In the case of one story route, the mounting part VS 41X45 is fastened to the bracket at the end of the holder DT + DT OKO by bolts S 10X50, nut MZ 10 and washers PD 10 (see pic. A).

The ends of the securing threaded rods can be anchored to the ceiling instead of the wall. When anchoring ZT to the ceiling, it is possible to use DT and secure the free ends with ZT 10 and ZVB 1.5 parts mounted at a maximum distance of 100 mm from the free end of DT (see pic. B).

Marking of fire routes by OPT label is always done after at least 50 m of the route.



Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	20 kg/m
cable ladder side height	60 mm
cable ladder width	150 - 400 mm
cable ladder sheet thickness	1,5 mm

	List of products for one mounting point				page
ZT 10	1	2	1	2	143
KPO 10	3	5	2	4	145
KPOZ 10	-	-	1	1	145
DT	1	2	1	2	135
DT OKO	1	2	1 (pic. A)	2	135
VS 41X45	2	2	-	-	139
ZVB 1.5	-	-	1 (pic. B)	2	139
S 10X50	1	-	-	-	144
M 10	3	4	1	2	144
PD 10	2	4	2	4	144
MZ 10	3	4	-	-	144
NSM 6X10	2	4	2	4	148

Cable manufacturer approved:

It is possible to use cables of any manufacturer with proven functionality in the event of a fire with the standardized supporting cable constructions.

classification protocol number	classification [min] - power cables	classification [min] - data cables
PK9-03-17-913-C-4	E90, P90-R, PS90	E90, P90-R, PS90

Certification according to: ČSN 73 0895, DIN 4102-12, STN 92 0205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

INDEX

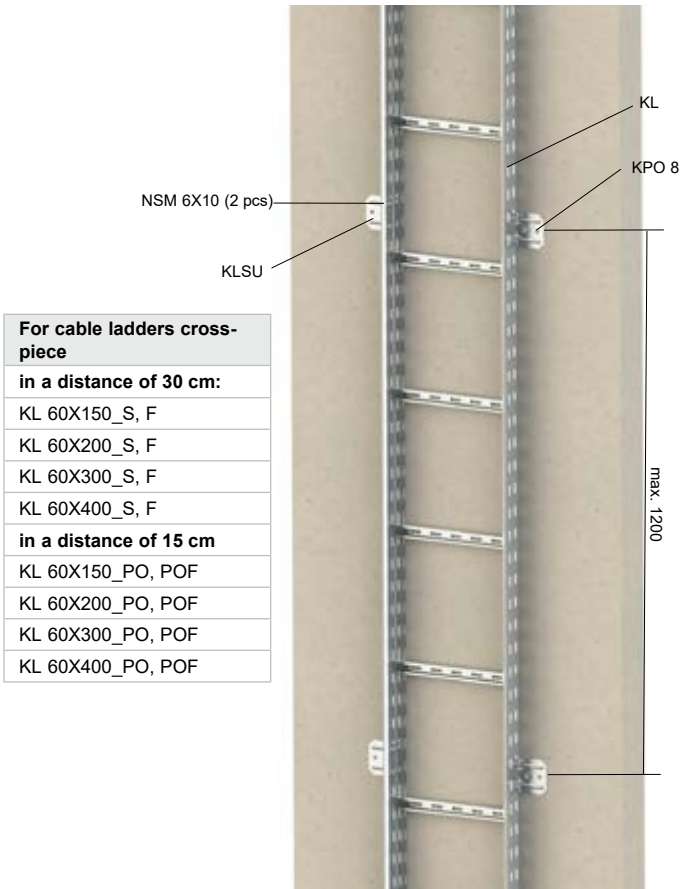


STANDARD
NO-STANDARD
FIRE BOXES
PRODUCTS
INDEX

Cable ladders - KL 60...
cable ladder assembly - vertical installation



load for anchoring		
concrete	KPO 8	187 kg/pcs



For cable ladders cross-piece
in a distance of 30 cm:
KL 60X150_S, F
KL 60X200_S, F
KL 60X300_S, F
KL 60X400_S, F
in a distance of 15 cm
KL 60X150_PO, POF
KL 60X200_PO, POF
KL 60X300_PO, POF
KL 60X400_PO, POF

Standardized supporting construction - load 20 kg/m

The cable ladder is attached to the base material using KLSU clamps attached to the side of the ladder in a maximum span of 1200 mm using NSM 6X10 bolts. The installation on the base material is done by using KPO 8 anchors. The cable located in the cable ladder must be mechanically fixed with PKC1 clamps every 300 mm at least. If the length of the vertical cable route is greater than 3500 mm, it is necessary to create a relieving elbow or use the KPS cable clamps cover (pg. 17 and 63).

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	20 kg/m
distance between individual routes	100 mm (the minimum distance for placing KPS cover)
cable ladder side height	60 mm
cable ladder width	150 - 400 mm

List of products for one mounting point		
		page
KLSU	2	139
KPO 8	2	145
NSM 6X10	4	148
PKC1	according to the cables amount	142

Cable manufacturer approved:

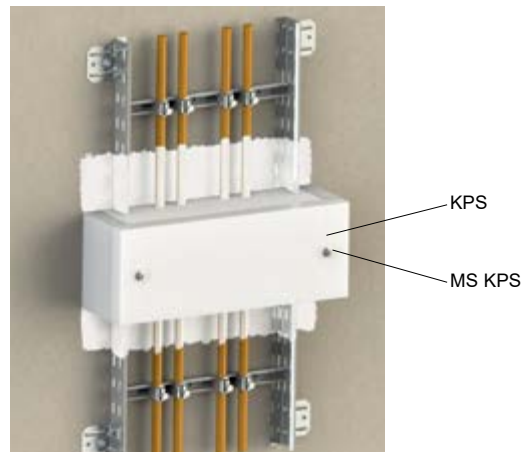
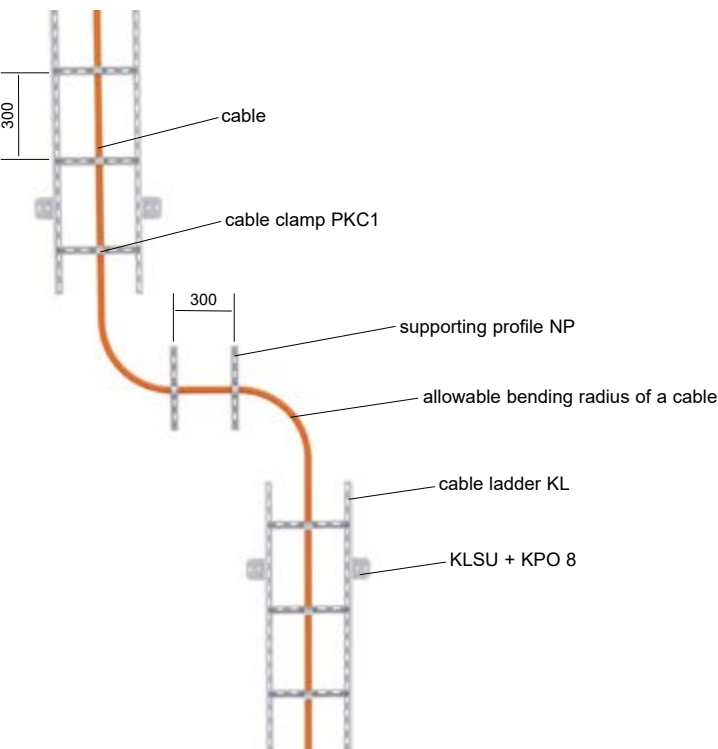
It is possible to use cables of any manufacturer with proven functionality in the event of a fire with the standardized supporting cable constructions.

According to the standards, the vertical route created by the cable ladders KL 60X... S (F) is understood as a clamp for individual cables. The cable ladders are connected using S 60X200 coupling. Fixing of the cables with individual clamps in span of 300 mm is understood as a standardized supporting construction. Because the vertical route may be part of a non-standardized supporting construction, it is always necessary to use cables from manufacturers who have been certified for installation on the non-standardized part of the cable route. The route must be anchored before going to the vertical part.

KPS - replacement for relieving elbow

Instead of the relieving elbow, it is possible to use the KPS cable clamps cover (pg. 17 and 63).

Relieving elbow



Certification according to: ČSN 730895, DIN 4102-12, STN 920205

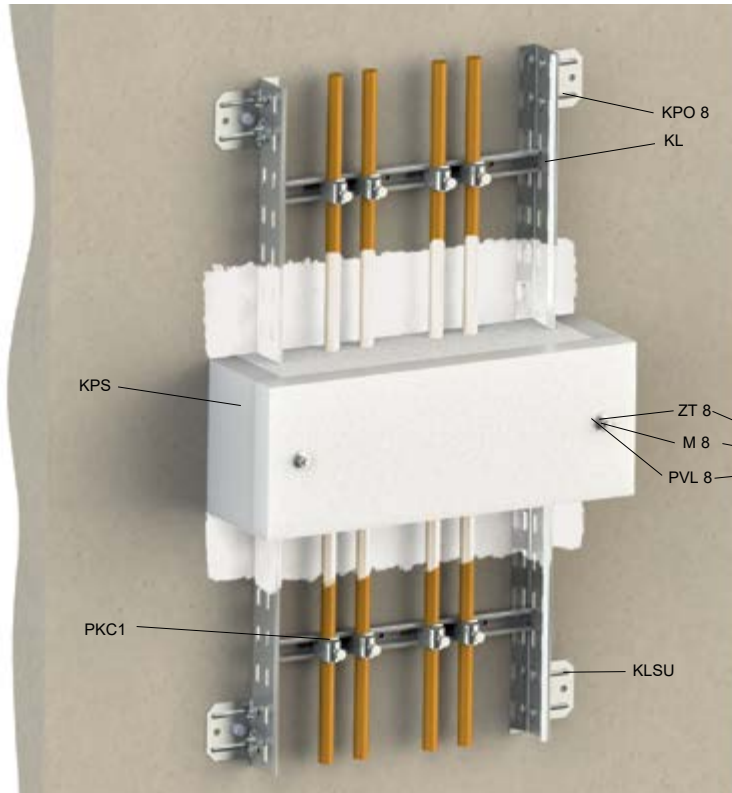
the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R



KPS cable clamps cover
up to a cable ladder width of up to 400 mm - tension relief after every 3,5 m



Type of KPS
KPS 160X150
KPS 160X200
KPS 160X300
KPS 160X400
KPS 200X150
KPS 200X200
KPS 200X300
KPS 200X400



STANDARD
NO-STANDARD
FIRE BOXES
PRODUCTS

Standardized supporting construction

The KPS cable clamps cover is attached to the base material using ZT 8 threaded rods, PVL 8 washers, M8 nuts and KPOZ 8 anchors (MS KPS assembly set). KPS is thermal protection for the clamps (PKC1, OMEGA, DOBRMAN, 67xx_PO), in which the cable is fixed and thus clamps maintains its mechanical function even in fire conditions. In order for the cover to function safely, it must be installed on vertical routes consisting of cable ladders, OMEGA, DOBRMAN or 67xx_PO clamps every max. of 3,5 m. The cover is placed symmetrically with the axis of the cable route cross-piece. The cover does not function as a fire seal. Marking of fire routes by OPT label is always done after at least 50 m of the route.

The KPS cover can be used as a replacement for the relieving elbow.

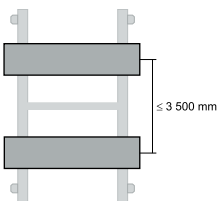
For **KPS 200X...** it is necessary to order the fire protection putty KPS-STOP_PO (2 kg pack).
KPS-STOP_PO - 2 kg pack is sufficient to coat approx. 4 pieces of KPS 200X... in a thickness of 1 mm in dry condition.
For **KPS 160X...** the putty is included in the package.

Assembly description

Secure the cables to each cross-piece with clamps. Drill the holes in the wall according to the spacing of the holes in the KPS clamps cover and insert the anchors into them. Mount threaded rods to the anchors. Attach the clamps cover and lightly tighten over the washers. Insert one layer of insulating cotton wool after another. Always carefully seal the area around the cables with pieces of cotton wool. Now tighten the nuts fixing the cover firmly and carefully coat the area around the cables and the edges of the insulation wool with the supplied cement.

List of products for one mounting point

		page
KPS	1	131
MS KPS	1	131
PKC1	according to the cables amount	142



classification protocol number	classification [min] - power cables	classification [min] - data cables	type of KPS
PK9-03-17-913-C-4	E60, P60-R, PS60	E60, P60-R, PS60	KPS 160X150 - KPS 160X400
	E90, P90-R, PS90	E90, P90-R, PS90	KPS 200X150 - KPS 200X400



Certification according to: ČSN 730895, DIN 4102-12, STN 920205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R



INDEX

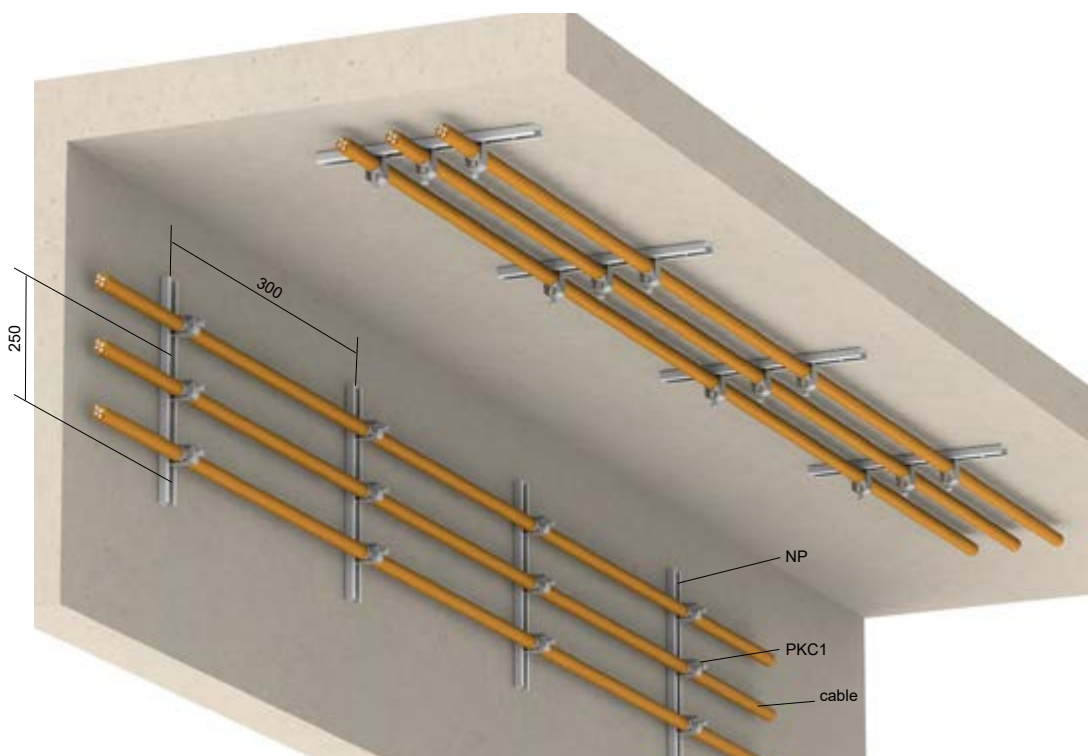


Cable clamps (PKC1) with profile rail placement on the ceiling and wall

kg
by inserted
cables



load for anchoring		
concrete	KPO 6	100 kg/pcs
concrete	SB 6.3X35	362 kg/pcs
aerated concrete	KHP + SB 6.3X45	4 kg/pcs



Standardized supporting construction

The basis of the supporting construction are NP mounting profiles. The anchoring spacing of the profiles is max. of 250 mm. Anchoring is done using KPO 6 anchors or concrete screws SB 6.3X35. The cables are fixed to the individual profiles using PKC1 clamps. A maximum of 3 cables with proven functionality in the event of a fire can be placed in a single PKC1 clamp.

Due to the test performed on the horizontal installation, it is possible in compliance with ČSN 73 0895 to use this route for vertical (ascending) routes. When using a vertical route longer than 3500 mm, it is necessary to create a relieving elbow or use the KPS cable clamps cover. For more extensive installation, you can use the NP 30X15X1.20 profile while maintaining all the conditions above. NP 30X15X1.20 can be cut to any length.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Permissible technical parameters of the route	
spacing of mounting points	max. 250 mm
maximum load	load of inserted cables (max. 3 cables in a single clamp)

List of products for one mounting point		
		page
NP (NP 30X15X1.20)	1	138
KPO 6	2	145
PKC1	according to the cables amount	142

Cable manufacturer approved:

It is possible to use cables of any manufacturer with proven functionality in the event of a fire with the standardized supporting cable constructions.

classification protocol number	classification [min] - power cables	classification [min] - data cables
PK9-03-17-913-C-4	E90, P90-R, PS90	E90, P90-R, PS90

Certification according to: ČSN 73 0895, DIN 4102-12, STN 92 0205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

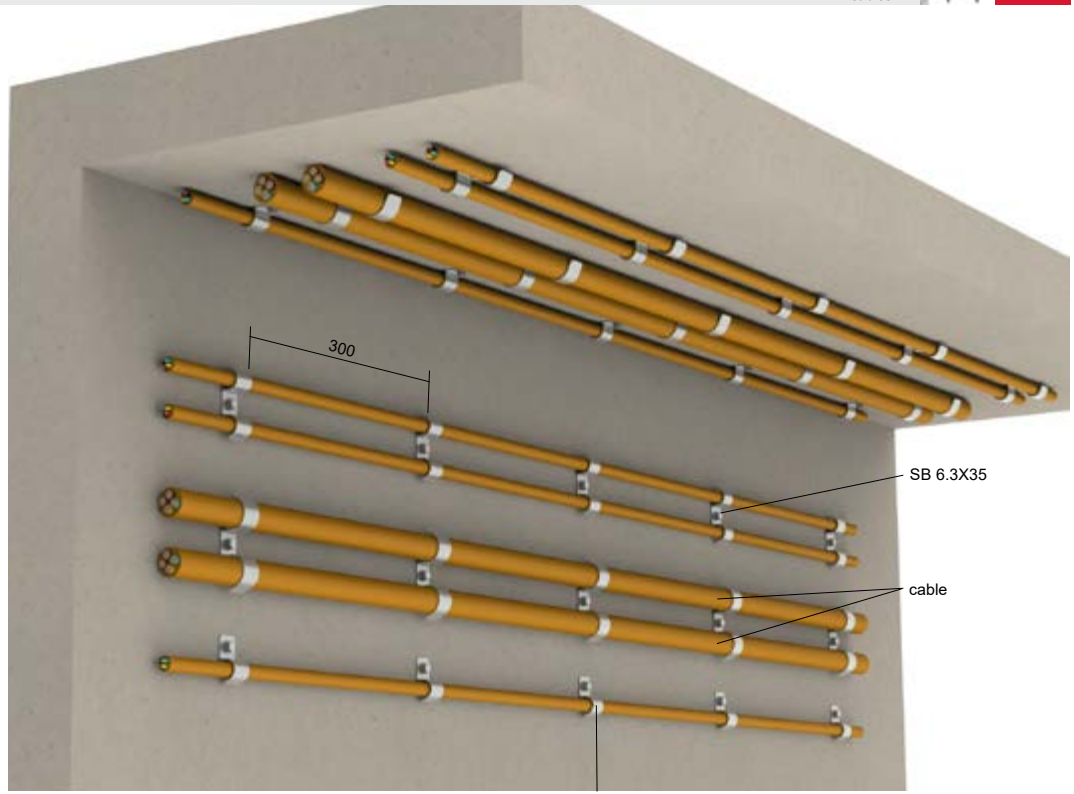
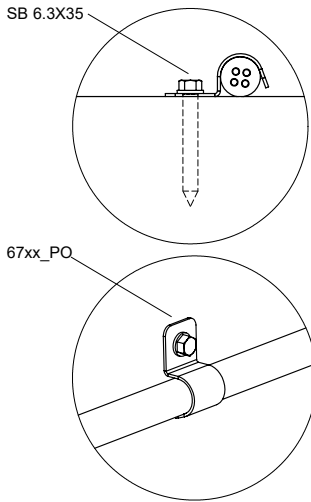
vertical route



67xx_PO Separate cable clamps
assembly of cable clamps - placement on the ceiling and wall



load for anchoring		
concrete	SB 6.3X35	362 kg/pcs
	KPO 6	100 kg/pcs
aerated concrete	KHP + SB 6.3X45	4 kg/pcs
metal sheet	STP 4.2X13	2 kg/pcs
nailing	KHB, KHO	by inserted cable



clamp 67xx_PO (or double clamp 67xxD_PO)

Standardized supporting construction

The basis of supporting construction are clamps of the 6706–6725 series fastened to the base material using fire-resistant concrete screws SB 6.3X35 or SB 6.3X45. The screws are screwed into pre-drilled holes in concrete or solid masonry with a diameter of 5 mm. The size of the clamps must be chosen with regard to the diameter of the installed cable. Only one cable of the corresponding diameter can be installed in one single clamp, two cables of the corresponding diameter in a double clamp. Two 6706-6725 clamps can be installed under one screw to create a route for two cables of different diameters. The clamps can also be used for vertical routes. When using an vertical route longer than 3500 mm, it is necessary to create a relieving elbow or use a KPS cable clamps cover.

We also now supply double clamps 6708D_PO, 6710D_PO and 6716D_PO which also meet the maintenance in fire for 90 minutes. The STP 4.2X13 screw is used for anchoring to the trapezoidal metal sheet. A KHP dowel with the SB 6.3X45 concrete screw or a KVP screw is used for anchoring in aerated concrete. Holeless clamps (POBD) can be nailed with suitable nails. Marking of fire routes by OPT label is always done after at least 50 m of the route.

Explanation of configurations

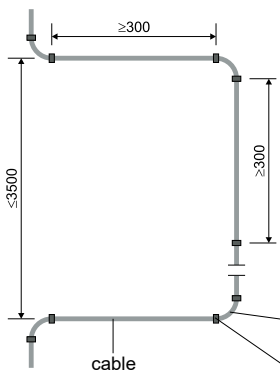
- 67xxPO, POGMT - one-sided clamps with a hole of Ø 6 mm
- 67xxPOBD - one-sided clamps without hole (for nailing)
- 67xxD - double clamps with a hole of Ø6 mm

Permissible technical parameters of the route	
spacing of mounting points	max. 300 mm
maximum load	only one cable in a single clamp

Cable manufacturer approved:

It is possible to use cables of any manufacturer with proven functionality in the event of a fire with the standardized supporting cable constructions.

List of products for one mounting point			
			page
67xx_PO, POGMT, POBD	1	-	140
67xxD_PO, POGMT	-	1	140
SB 6.3X35 (concrete, full masonry)	1	1	147
STP 4.2X13 (metal sheet)	1	1	148
KHP 8X38 + SB 6.3X45 (aerated concrete)	1	1	146 + 147



classification protocol number	classification [min] - power cables	classification [min] - data cables
PK9-03-17-913-C-4	E90, P90-R, PS90	E90, P90-R, PS90



Certification according to: ČSN 73 0895, DIN 4102-12, STN 92 0205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

vertical route

STANDARD

NO-STANDARD

FIRE BOXES

PRODUCTS

INDEX

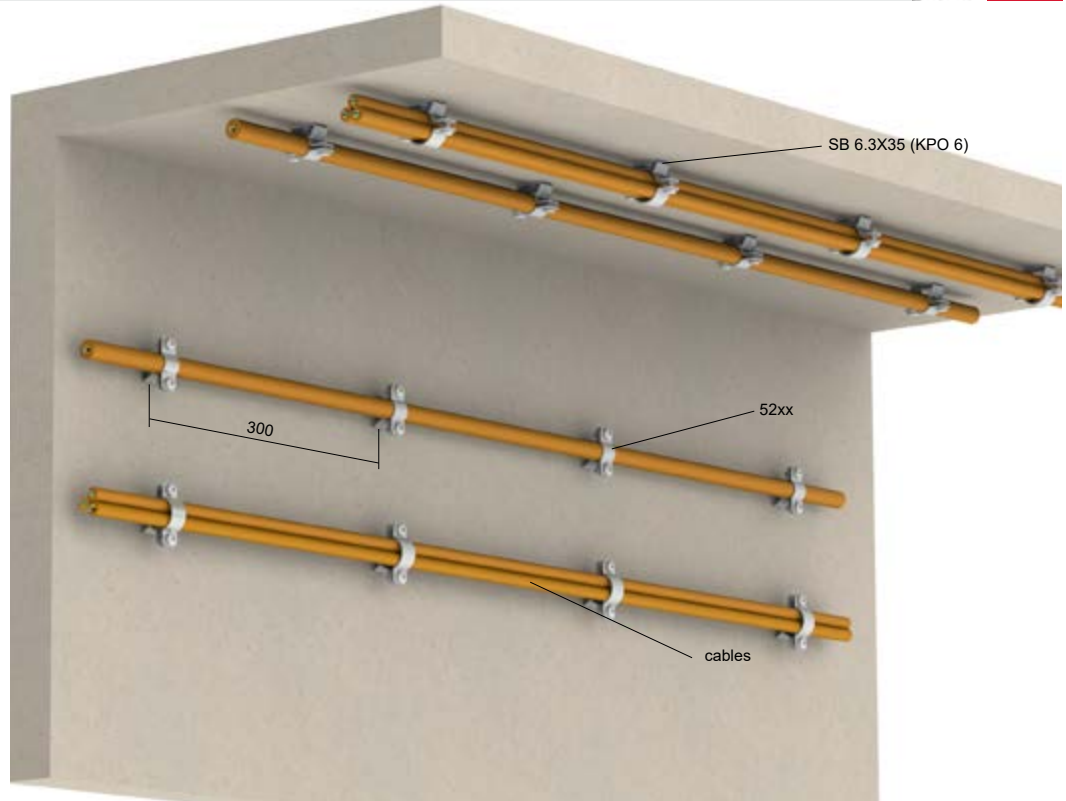
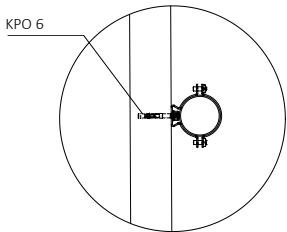
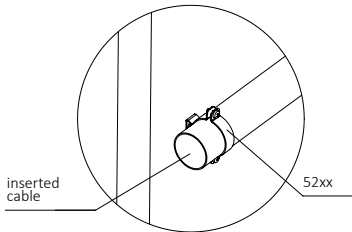


OMEGA 52xx cable clamps

OMEGA clamps assembly - placement on the ceiling and wall


 by inserted cables


load for anchoring		
concrete	SB 6.3X35	362 kg/pcs
	KPO 6	100 kg/pcs
aerated concrete	KHP + SB 6.3X45	4 kg/pcs




Standardized supporting construction

The basis of the supporting construction are OMEGA 52xx clamps, which are anchored at a distance of 300 mm between each other in the base material using SB 6.3X35 screws. Concrete screws are screwed into pre-drilled holes in concrete or solid masonry. It is also possible to use the KPO 6 anchor for fixing the clamps. OMEGA clamps can also be anchored on threaded rods. This placement is an advantage in the case of insulating the supporting walls with thermal insulation. Anchoring of threaded rods is performed through thermal insulation directly on the building structure with proven functionality in the event of a fire. Due to the test performed on the horizontal installation, it is possible in compliance with ČSN 73 0895 to use this route for vertical (ascending) routes. When using a vertical route longer than 3500 mm, it is necessary to create a relieving elbow or use the KPS cable clamps cover.

A KHP dowel with the SB 6.3X45 concrete screw is used for anchoring in aerated concrete.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Permissible technical parameters of the route	
spacing of mounting points	max. 300 mm
maximum load	load of inserted cables (max. 3 cables in a single clamp)

List of products for one mounting point		
		page
52xx	1	141
SB 6.3X35 (KPO 6)	1	147

Cable manufacturer approved:

It is possible to use cables of any manufacturer with proven functionality in the event of a fire with the standardized supporting cable constructions.

classification protocol number	classification [min] - power cables	classification [min] - data cables
PK9-03-17-913-C-4	E90, P90-R, PS90	E90, P90-R, PS90

Certification according to: ČSN 73 0895, DIN 4102-12, STN 92 0205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

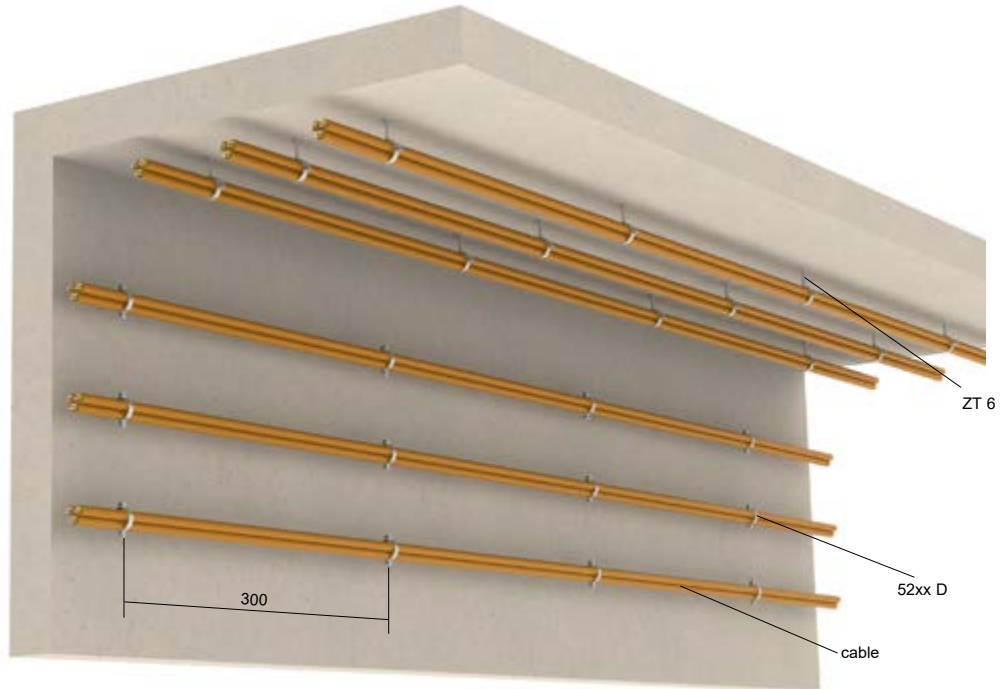
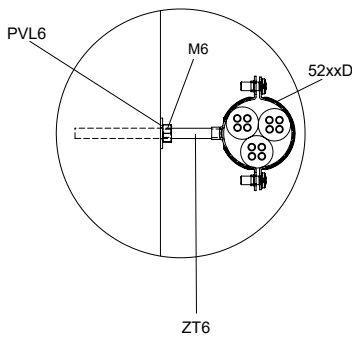

 vertical route



DOBRMAN 52xx D cable clamps
DOBRMAN clamps assembly - placement on the ceiling and wall



load for anchoring		
concrete	KPO 6	100 kg/pcs
	KPOZ 6 + ZT 6	80 kg/pcs
aerated concrete	KHP + SVD	5 kg/pcs



Standardized supporting construction


The basis of the supporting construction are clamps of the DOBRMAN 52xx D type, which are fixed onto the ZT 6 threaded rod or KPO 6 anchors at a distance of max. 300 mm between each other. KPO 6 is hammered into pre-drilled holes in concrete or solid masonry. The cable is then inserted into the installed clamps. Due to the test performed on the horizontal installation, it is possible in compliance with ČSN 73 0895 to use this route for vertical (ascending) routes. DOBRMAN clamps can also be fixed to threaded rods. This placement is an advantage in the case of insulating the supporting walls with thermal insulation. Anchoring of threaded rods is performed through thermal insulation directly on building structures with proven functionality in the event of a fire. When using a vertical route longer than 3500 mm, it is necessary to create a relieving elbow or use a KPS cable clamps cover. A KHP dowel with a SVD screw is used for anchoring in aerated concrete.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Permissible technical parameters of the route	
spacing of mounting points	max. 300 mm
maximum load	load of inserted cables (max. 3 cables in a single clamp)

Cable manufacturer approved:

It is possible to use cables of any manufacturer with proven functionality in the event of a fire with the standardized supporting cable constructions.

List of products for one mounting point		
		page
52xx D	1	141
KPO 6	1	145
KPOZ 6 + ZT 6	1	145 + 143
PVL 6	1	144
SVD 30 (SVD 40)	1	147
M 6	1	144

classification protocol number	classification [min] - power cables	classification [min] - data cables
PK9-03-17-913-C-4	E90, P90-R, PS90	E90, P90-R, PS90

Certification according to: ČSN 73 0895, DIN 4102-12, STN 92 0205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R



STANDARD

NO-STANDARD

FIRE BOXES

PRODUCTS

INDEX

**NON-STANDARDIZED
SUPPORTING CONSTRUCTIONS
ASSEMBLIES**





NON-STANDARDIZED SUPPORTING CONSTRUCTIONS - CABLE TRAY, LADDER, WIRE TRAY, ETC.

ceiling or roof construction assembly using ceiling profiles	page	assembly on wall, ceiling and floor	page
	33 , 35 , 36 , 46 , 49 , 54 , 61		27 - 29 , 34 , 39 , 40 , 48 , 50 , 55 , 58 , 59 , 68 , 69 , 73
ceiling assembly using threaded rods	page		
	30 - 32 , 41 - 45 , 47 , 51 - 53 , 60 , 65 , 70 , 71 , 75 , 76		
vertical cable ladder, wire tray	page		
	62 - 64 , 72		

NON-STANDARDIZED SUPPORTING CONSTRUCTIONS

	page		page
steel pipes, halogen-free rigid pipes	82 - 84	OMEGA and DOBRMAN cable clamps	79 , 80
trunkings, parapet channels	87 , 88	SD 2 grouped cable holder	81
separate cable clamps	78	supporting profiles, supporting rails	85 , 86
		threaded rods	89

NON-STANDARDIZED SUPPORTING CONSTRUCTIONS - WIRING FIRE BOXES AND FIRE-RESISTANT BOXES

wiring boxes KSK	page	fire resistant boxes	page
	94 - 98		92 , 93

STANDARD

NO-STANDARD

JUPITER

MARS

LADDERS

WIRE TRAYS

STAINLESS

OTHER

FIRE BOXES

PRODUCTS

INDEX

NON-STANDARDIZED SUPPORTING CONSTRUCTIONS

NON-STANDARDIZED CONSTRUCTIONS

KOPOS KOLÍN a.s. offers more cost-effective fire-resistant systems in an effort to meet customers in terms of price. The cost of a fire-resistant route can be reduced by using a sheet thinner than the standardized and by a more sophisticated cable tray shape solution and anchoring system. The standard allows testing of these routes, which are then referred to as non-standardized.

Non-standardized routes include, for example, routes formed by cable trays MARS and JUPITER with an integrated coupling and with a sheet thickness of 0.7; 1.0; 1.25 mm, cable ladder routes with a distance of 300 mm between cross-pieces, greater distance of supporting metal rails, routes formed by steel and plastic pipes, clamps, parapet channels, etc.

non-standardized routes:

- trays with integrated coupling and with a sheet thickness of 0.7; 0.75; 0.8; 1.0 and 1.25 mm
- cable trays with a side height of 50, 60 and 100 mm
- cable ladders with a side height of 60 and 110 mm
- cable ladders with cross-pieces span of 300 mm
- wire trays
- support rails
- steel and plastic pipes
- halogen-free rigid pipes
- OMEGA and DOBRMAN cable clamps
- SD 2 grouped cable holder
- separate cable clamps
- wiring box KSK
- parapet channels and trunkings

The system includes those systems that have been tested as a whole.

In the systems it is necessary to use only cables with proven functionality in the event of a fire from the manufacturer with whom the specific route was tested, e.g. PRAKAB PRAŽSKÁ KABELOVNA s.r.o., NKT s.r.o., Kablo Vrchlabí s.r.o. apod.

Advantages:

- lower price
- time saving during assembly
- greater possibilities in mounting systems
- possibility of higher load
- greater distances between supports

Disadvantages:

- the necessity to use only those types of cables with which the assembly has been tested

Sample of completed marking of fire routes

Fire resistant system		KOPOS KOLÍN a.s.	
Installation performed:	COMPANY	Classification class:	P 90-R
Cable trays system:	KZI 60X100X0.75_S	Number of classification report:	PK9-03-17-913-C-4
		Year of installation:	2024

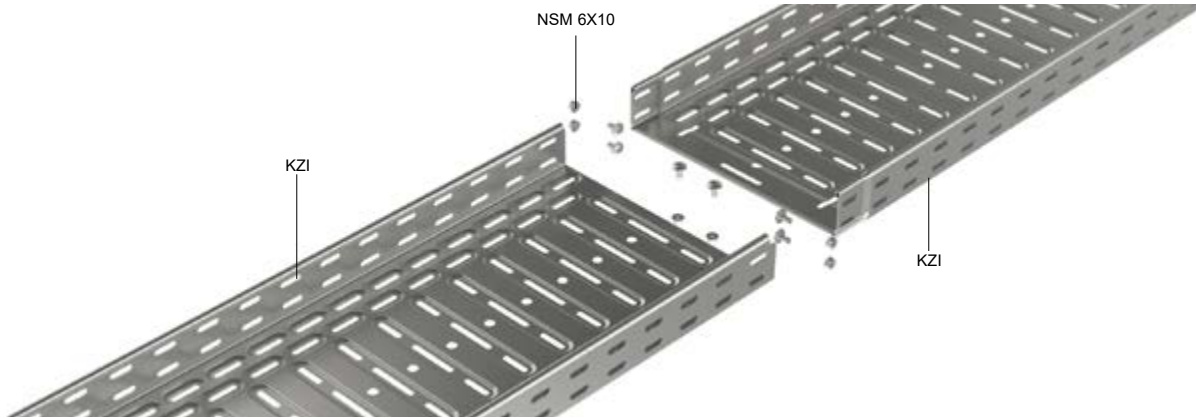
Marking of fire routes by OPT label is always done after at least 50 m of the route.

**NON-STANDARDIZED
SUPPORTING CONSTRUCTIONS**

JUPITER ASSEMBLIES



Connection of fire-resistant tray KZI - JUPITER



The KZI cable tray with the maintaining functionality in the event of a fire is made of metal sheet with a thickness of 0.7; 1.0 or 1.25 mm. The connection of the KZI cable tray is made by an integrated coupling, which is a part of the tray, and by NSM 6X10 bolts.

KZI tray width	NSM 6X10 number of bolts	number of screws in the bottom of the tray for connection to the support
50	4	1
75		
100		
150		
200	6	2
300		
400		
500		
600		

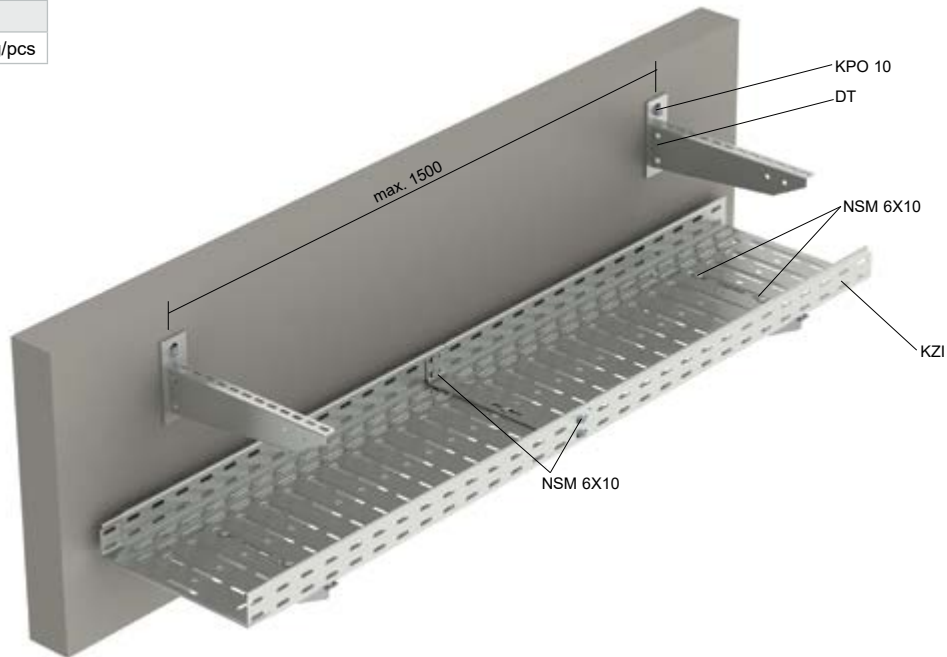


**Cable trays JUPITER - KZI - sheet thickness 1,25 mm
assembly of cable trays on the wall with holders DT**

10 kg



load for anchoring		
concrete	KPO 10	236 kg/pcs



Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting construction are DT holders attached to the base material using KPO 10 anchors. The cable trays are equipped with an integrated coupling and, when inserted into each other, they are connected by the NSM 6X10 bolts. The tray must be also attached to the DT holder using NSM 6X10 bolts.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 1500 mm
maximum load	10 kg/m
cable tray side height	60 mm
cable tray width	50 - 300 mm
cable tray sheet thickness	1,25 mm

List of products for one mounting point				
				page
DT	1	2	3	135
KPO 10	2	4	6	145
NSM 6X10	2	4	6	148

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur	E90, P90-R, PS90	PRAFlaGuard F	E90, P90-R, PS90
	2	PRAFlaDur 90	E60, P60-R, PS60		
Kabex, a.s.	-	CPDex 1-CHKE-V	E90, P90-R, PS90	JCXFE-V	E30, P30-R, PS30

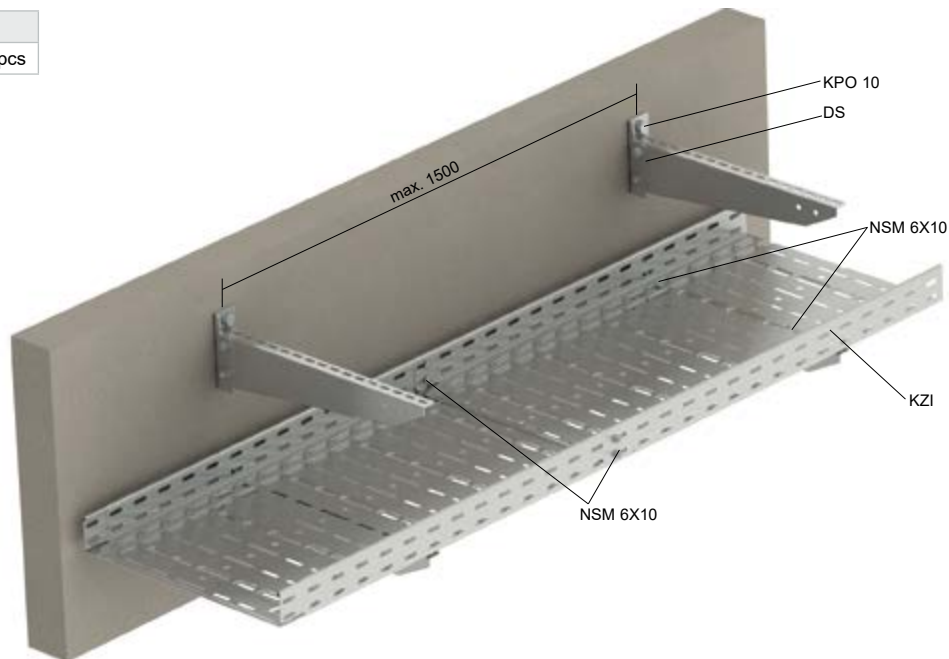
cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-172-10-AUNS	PK9-03-17-913-C-4
	2	FR-220-11-AUNS	JR-024-22-NURS
Kabex, a.s.	-	FR-139-09-AUNS	PK9-03-17-913-C-4

**Cable trays JUPITER - KZI - sheet thickness 1,0 mm
assembly of cable trays on the wall with holders DS**


kg
10

load for anchoring

concrete	KPO 10	236 kg/pcs
----------	--------	------------


Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting construction are DS holders attached to the base material using KPO 10 anchors. The cable trays are equipped with an integrated coupling and, when inserted into each other, connected by the NSM 6X10 bolts. The tray must be also attached to the DS holder using the NSM 6X10 bolts.

Marking of fire routes by OPT label is always done after at least 50 m of the route.




Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 920205

Permissible technical parameters of the route

spacing of mounting points	max. 1500 mm
maximum load	10 kg/m
cable tray side height	60 mm
cable tray width	50 - 400 mm
cable tray sheet thickness	1,0 mm

List of products for one mounting point

				page
DS	1	2	3	136
KPO 10	2	4	6	145
NSM 6X10	2	4	6	148

cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur 90	E90, P90-R, PS90	PRAFlaGuard F	E30, P30-R, PS30
Kablo Vrchlábí s.r.o.	1-CXKH-V	E90, P90-R, PS90	JXFE-V	E90, P90-R, PS90

cable manufacturer	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	FR-228-15-AUNS	PK9-03-17-913-C-4
Kablo Vrchlábí s.r.o.	PR-18-2.005	PK9-03-17-913-C-4

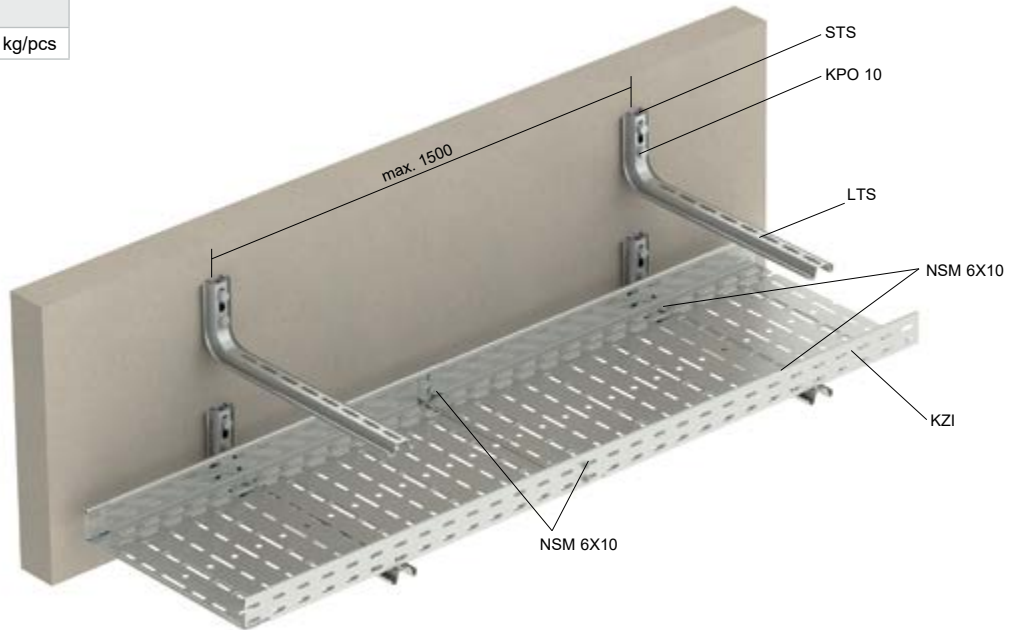


**Cable trays JUPITER - KZI - sheet thickness 1,0 mm
assembly of cable trays on the wall with holders LTS**

10 kg



load for anchoring		
concrete	KPO 10	236 kg/pcs



Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting construction are LTS holders with STS reinforcement attached to the base material using KPO 10 anchors. The cable trays are equipped with an integrated coupling and, when inserted into each other, connected by the NSM 6X10 bolts. The tray must be also attached to the DT holder using the NSM 6X10 bolts.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 92.0205

Permissible technical parameters of the route	
spacing of mounting points	max. 1500 mm
maximum load	10 kg/m
cable tray side height	60 mm
cable tray width	50 - 400 mm
cable tray sheet thickness	1,0 mm

	List of products for one mounting point			page
LTS	1	2	3	136
STS	1	2	3	136
KPO 10	2	4	6	145
NSM 6X10	2	4	6	148

cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur 90	E60, P60-R, PS60	PRAFlaGuard F	E90, P90-R, PS90

cable manufacturer	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	FR 228-15-AUNS	PK9-03-17-913-C-4

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

STANDARD

NO-STANDARD

JUPITER

MARS

LADDERS

WIRE TRAYS

STAINLESS

OTHER

FIRE BOXES

PRODUCTS

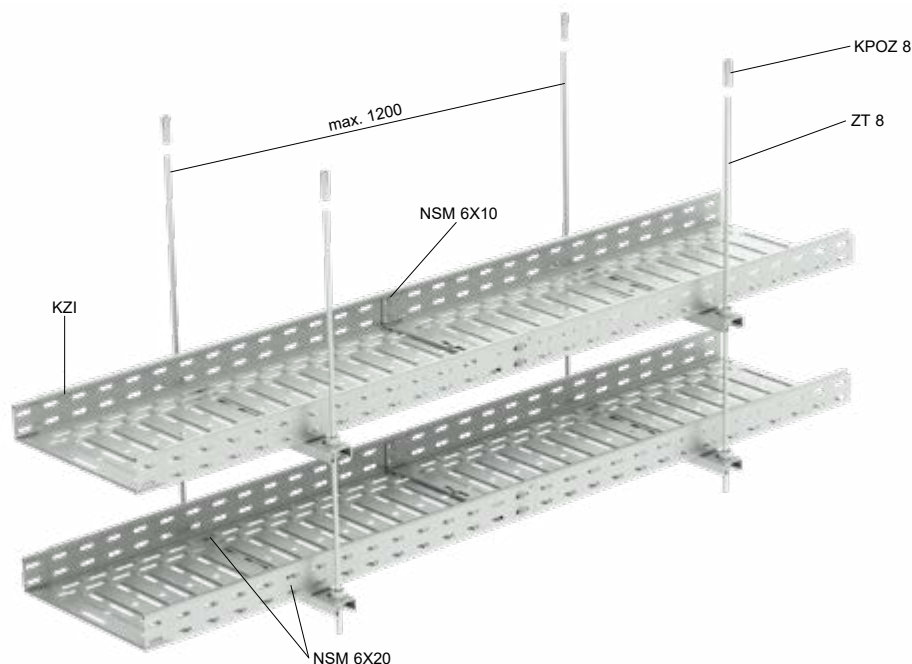
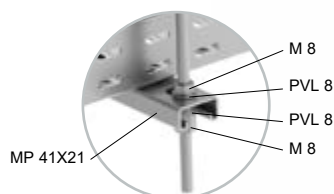
INDEX

Cable trays JUPITER - KZI - sheet thickness 1,25 mm ceiling assembly using threaded rods and mounting profiles MP 41X21



10; 20


load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs



Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m or 20 kg/m
cable tray side height	60 mm
cable tray width	50 - 600 mm
cable tray sheet thickness	1,25 mm


Non-standardized supporting constructions - load 10 kg/m or 20 kg/m

The basis of the supporting construction is the KZI cable tray, which is suspended from the ceiling by means of MP 41X21 profiles, ZT 8 threaded rods and KPOZ 8 anchors. The mounting profile is fastened to the threaded rods using M 8 nuts and PVL 8 washers. KZI cable trays are attached to the mounting profiles using NSM 6X20 bolts and PVL 6 washers. It is possible to place two cable trays next to each other up to a total width of 600 mm. KSK boxes with fire resistance can be installed on KZI cable trays using the MDS mounting plate.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 92 0205

List of products for one mounting point				
				page
ZT 8	2	2	2	143
KPOZ 8	2	2	2	145
MP 41X21	1	2	3	138
M 8	4	8	12	144
PVL 8	4	8	12	144
NSM 6X20	2	4	6	148
PVL 6	2	4	6	144

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-270-16-AUNS	JR-014-22-NURS
	2	FR 104-14-AUNS	PK9-03-17-913-C-4
Kablo Vrchlábí s.r.o.	-	FR-088-12-AUNS	JR-027-22-NURS
Kabex, a.s.	-	FR-270-16-AUNS	JR-014-22-NURS
Klaus Faber AG	-	PRA9-03-17-902-C-1	
NKT s.r.o.	-	FR-238-14-AUNS	
CICM s.r.o.	-	FR-238-14-AUNS	JR-062-21-NURS

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]	note	load
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	2	PRAFlaDur 90	E90, P90-R, PS90	PRAFlaGuard F	E60, P60-R, PS60	width of the trays up to 300 mm	20 kg/m
	1	PRAFlaDur				-	20 kg/m
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E60, P60-R, PS60	JXFE-V	E60, P60-R, PS60	width of the trays up to 500 mm	20 kg/m
KABELWERK EUPEN AG	-	NHXX	E90, P90-R, PS90	JE-H(St)H	E90, P90-R, PS90	width of the trays up to 300 mm	10 kg/m
Kabex, a.s.	-	1-CSKE-V	E30, P30-R, PS30	-	-	width of the trays up to 300 mm	10 kg/m
Klaus Faber AG	-	(N)HXX-J	E60, P60-R, PS60	JE-H(St)H	E60, P60-R, PS60	-	20 kg/m
NKT s.r.o.	-	NOPOVIC 90	E90, P90-R, PS90	-	-	-	20 kg/m
CICM s.r.o.	-	1-CXKE-V	E90, P90-R, PS90	JXFE-V	E60, P60-R, PS60	width of the trays up to 500 mm	20 kg/m

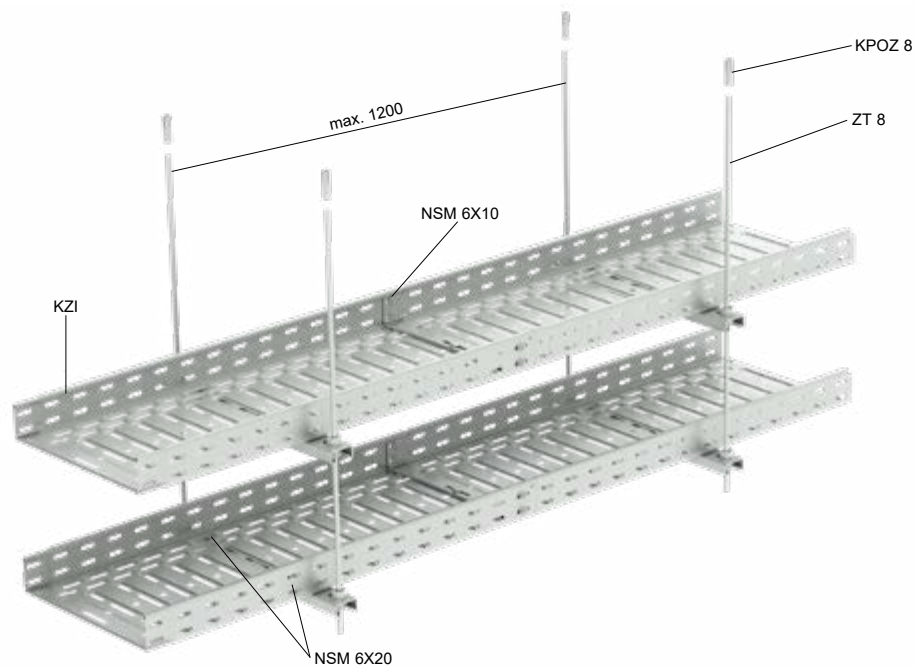
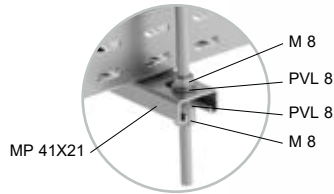


**Cable trays JUPITER - KZI - sheet thickness 1,0 mm
ceiling assembly using threaded rods and mounting profiles MP 41X21**

10; 20



load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs



Non-standardized supporting constructions - load 10 kg/m or 20 kg/m

The basis of the supporting construction is the KZI cable tray, which is suspended from the ceiling using MP 41X21 profiles, ZT 8 threaded rods and KPOZ 8 anchors. The mounting profile is fastened to the threaded rods using M 8 nuts and PVL 8 washers. KZI cable trays are attached to the mounting profiles using NSM 6X20 bolts and PVL 6 washers. It is possible to place two cable trays next to each other up to a total width of 600 mm. KSK boxes with fire resistance can be installed on KZI cable trays using the MDS mounting plate.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

ČSN 73 0895
STN 92 0205
DIN 4102-12

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m or 20 kg/m
cable tray side height	60 mm
cable tray width	50 - 600 mm
cable tray sheet thickness	1,0 mm

	List of products for one mounting point			page
ZT 8	2	2	2	143
KPOZ 8	2	2	2	145
MP 41X21	1	2	3	138
M 8	4	8	12	144
PVL 8	4	8	12	144
NSM 6X20	2	4	6	148
PVL 6	2	4	6	144

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]	note	load
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur 90	E60, P60-R, PS60	PRAFlaGuard F	E90, P90-R, PS90	-	10 kg/m
	2	PRAFlaDur	E90, P90-R, PS90			-	20 kg/m
	3	PRAFlaDur+T	E90, P90-R, PS90			-	20 kg/m
Klaus Faber AG	-	(N)HXH-J	E60, P60-R, PS60	JE-H(St)H	E90, P90-R, PS90	-	20 kg/m
ELKOND HHK, a.s.	-	1-CXKH-V	E90, P90-R, PS90	SHXKFH-V	E90, P90-R, PS90	width of the trays up to 300 mm PRA9-03-17-902-C-1	10 kg/m
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E60, P60-R, PS60	JXFE-V	E90, P90-R, PS90	width of the trays up to 300 mm PRA9-03-17-902-C-1	10 kg/m
Zakłady Kablowe BITNER Sp. z o.o.	-	Bitflame 1000	E90, P90-R, PS90	HTKSH	E30, P30-R, PS30	-	20 kg/m
Kabex, a.s.	-	CPDex 1-CHKE-V	E90, P90-R, PS90	CPDex JCXFE-V	E60, P60-R, PS60	-	20 kg/m
NKT s.r.o.	-	NOPOVIC 90	E90, P90-R, PS90	-	-	-	20 kg/m
Technokabel S.A.	-	NHXH-J	E30, P45-R, PS45	HTKSH	E90, P90-R, PS90	-	20 kg/m

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-228-15-AUNS	PK9-03-17-913-C-4
	2	FR-270-16-AUNS	JR-014-22-NURS
	3	FR-327-22-AUNS	JR-167-22-NURS
Klaus Faber AG	-	FR-270-16-AUNS	JR-014-22-NURS
NKT s.r.o.	-	FR-166-17-AUNS	JR-030-22-NURS
Zakłady Kablowe BITNER Sp. z o.o.	-	FR-205-19-AUNS	JR-185-19-NURS
Kabex, a.s.	-		

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

STANDARD

NO-STANDARD

JUPITER

MARS

LADDERS

WIRE TRAYS

STAINLESS

OTHER

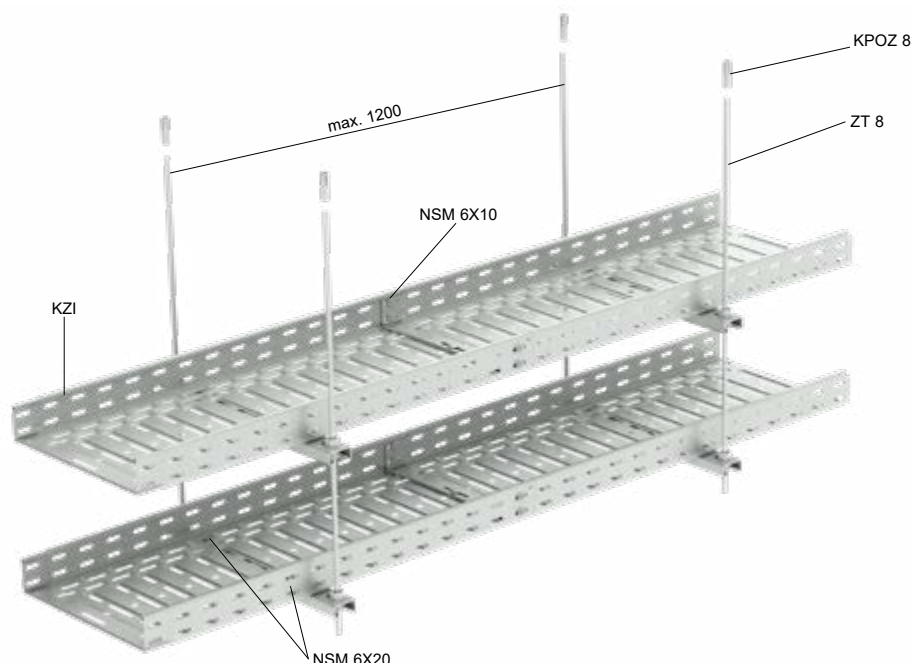
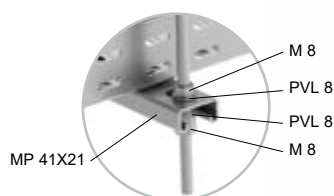
FIRE BOXES

PRODUCTS

INDEX

Cable trays JUPITER - KZI - sheet thickness 0,75 mm ceiling assembly using threaded rods and mounting profiles MP 41X21

load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs



Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting construction is the KZI cable tray, which is suspended from the ceiling using MP 41X21 profiles, ZT 8 threaded rods and KPOZ 8 anchors. The mounting profile is fastened to the threaded rods using M 8 nuts and PVL 8 washers. KZI cable trays are attached to the mounting profiles using NSM 6X20 bolts and PVL 6 washers. It is possible to place two cable trays next to each other up to a total width of 600 mm. KSK boxes with fire resistance can be installed on KZI cable trays using the MDS mounting plate.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m
cable tray side height	60 mm
cable tray width	50 - 300 mm
cable tray sheet thickness	0,75 mm

	List of products for one mounting point			page
ZT 8	2	2	2	143
KPOZ 8	2	2	2	145
MP 41X21	1	2	3	138
M 8	4	8	12	144
PVL 8	4	8	12	144
NSM 6X20	2	4	6	148
PVL 6	2	4	6	144

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur	E60, P60-R, PS60	PRAFlaGuard F	E90, P90-R, PS90
	2	PRAFlaDur+T	E90, P90-R, PS90		
ELKOND HHK, a.s.	1	1-CXKH-V	E90, P90-R, PS90	SHXKFH-V	E90, P90-R, PS90
	2			SSKFH-V180	E30, P30-R, PS30
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E60, P60-R, PS60	JXFE-V	E90, P90-R, PS90
NKT s.r.o.	-	NOPOVIC 90	E30, P45-R, PS45	-	-
Kabex, a.s.	-	CPDex 1-CHKE-V	E90, P90-R, PS90	CPDex JCXFE-V	E30, P45-R, PS45
Technokabel S.A.	-	NHXH-J	E30, P45-R, PS45	HTKSH	E30, P30-R, PS30

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-270-16-AUNS	JR-014-22-NURS
	2	FR-327-22-AUNS	JR-167-22-NURS
ELKOND HHK, a.s.	1	FR-270-16-AUNS	JR-014-22-NURS
	2	FR-041-23-AUNS	JR-073-23-NURS
Kablo Vrchlábí s.r.o.	-	PR-18-2.005	PK9-03-17-913-C-4
NKT s.r.o.	-	FR-166-17-AUNS	JR-030-22-NURS
Kabex, a.s.	-	FR-205-19-AUNS	JR-185-19-NURS
Kabex, a.s.*	-	FR-153-20-AUNS	JR-150-20-NURS

Optical cables:

cable manufacturer	type cable	classification [min]	note
Kabex, a.s.	*CPDeX® Optex® J/A-WQ(ZN)HH 12E9/125-V /h/P90-R/	P30-R	width of the trays up to 100 mm

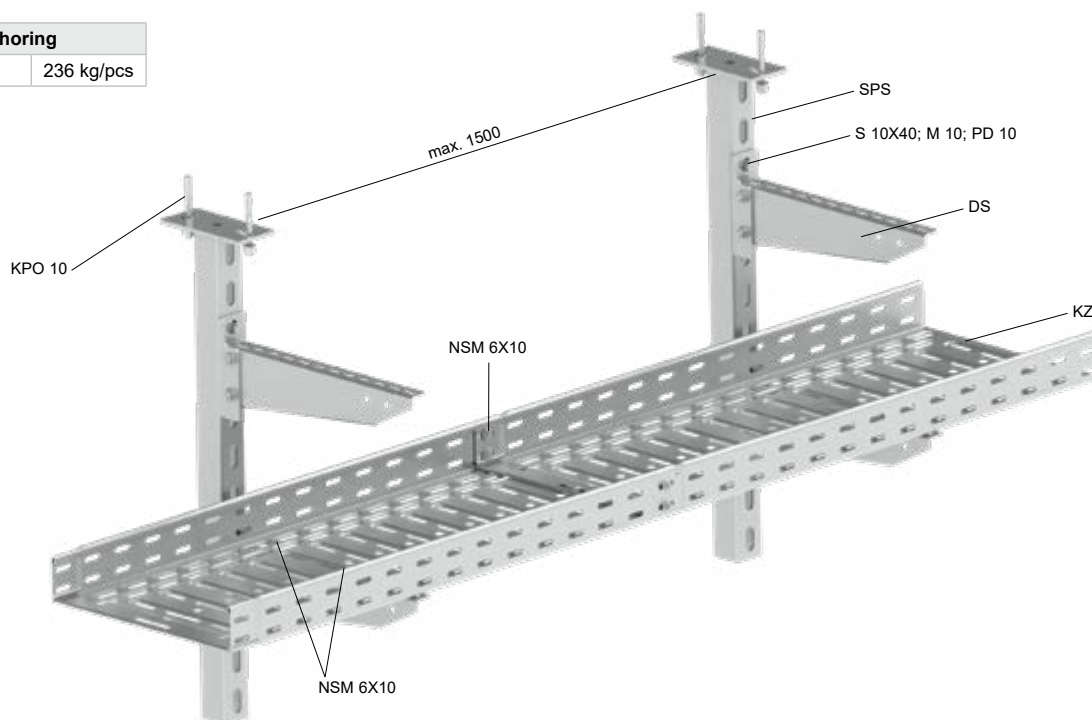
the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R



**Cable trays JUPITER - KZI - sheet thickness 0,75 mm
assembly of cable trays - assembly for the ceiling using SPS**



load for anchoring		
concrete	KPO 10	236 kg/pcs



Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting construction is the SPS ceiling profile anchored to the base material using two KPO 10 anchors. The DS holder is fixed to the ceiling profile on one side with S 10X40 bolt, M 10 nut and PD 10 washer. The KZI cable trays are attached to the DS holders with NSM 6X10 bolts.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 1500 mm
maximum load	10 kg/m
cable tray side height	60 mm
cable tray width	50 - 300 mm
cable tray sheet thickness	0,75 mm

	List of products for one mounting point					page
KPO 10	2	2	2	2	2	145
SPS	1	1	1	1	1	135
DS	1	2	2	4	6	138
S 10X40	2	4	-	-	-	144
S 10X70	-	-	2	4	6	144
M 10	2	4	2	4	6	144
PD 10	2	4	2	4	6	144
NSM 6X10	2	4	4	8	12	148

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur 90	E90, P90-R, PS90	PRAFlaGuard F	E60, P60-R, PS60
	2	PRAFlaDur	E60, P60-R, PS60		
	3	PRAFlaDur+T			
NKT s.r.o.	-	NOPOVIC 90	E90, P90-R, PS90	-	-
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E30, P30-R, PS30	JXFE-V	E90, P90-R, PS90
Kabex, a.s.	-	CPDex 1-CHKE-V	E90, P90-R, PS90	CPDex JCXFE	E60, P60-R, PS60
Technokabel S.A.	1	NHXH-J	E60, P60-R, PS60	HTKSH	E30, P45-R, PS45
	2	-	-	HDGS	E90, P90-R, PS90
ELKOND HHK, a.s	-	1-CXKH-V	E60, P60-R, PS60	SSKFH-V180	E30, P45-R, PS45

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-228-15-AUNS	PK9-03-17-913-C-4
	2	FR-217-18-AUNS	JR-104-23-NURS
	3	FR-041-23-AUNS	JR-073-23-NURS
NKT s.r.o.	-	FR-217-18-AUNS	JR-104-23-NURS
Kablo Vrchlábí s.r.o.	-		
Technokabel S.A.	-	FR-202-22-AUNS	JR-112-22-NURS
Kabex, a.s.	-		
ELKOND HHK, a.s	-		

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

- STANDARD
- NO-STANDARD
- JUPITER
- MARS
- LADDERS
- WIRE TRAYS
- STAINLESS
- OTHER

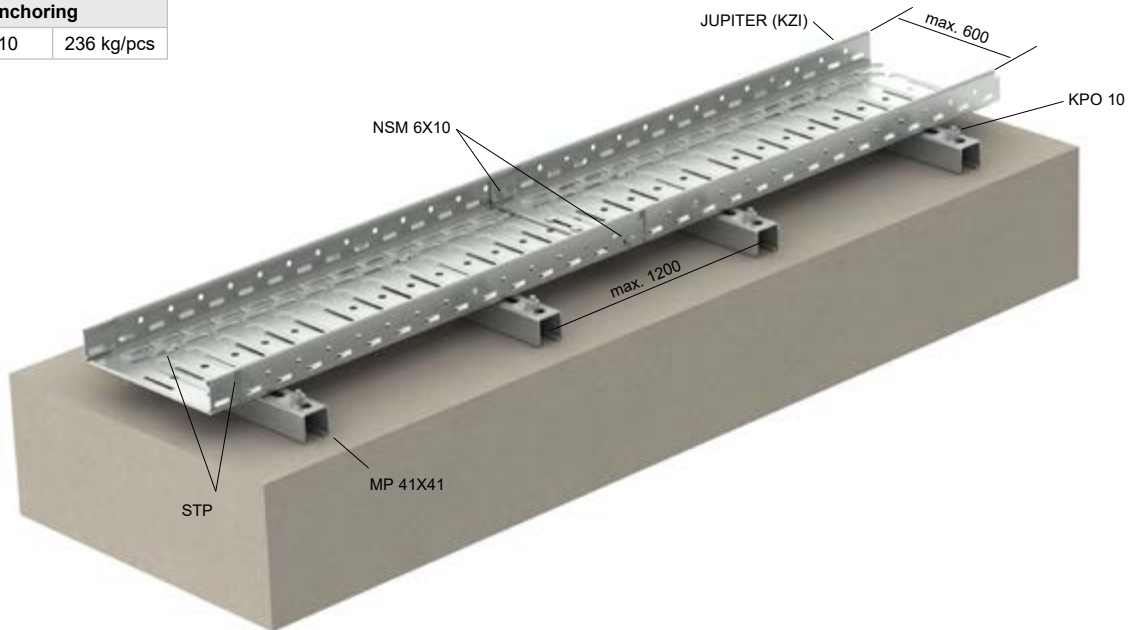
- FIRE BOXES
- PRODUCTS
- INDEX

Cable routes - floor installation, installation in raised floors, roof installation assembly of JUPITER cable trays



10; 20


load for anchoring		
concrete	KPO 10	236 kg/pcs



Non-standardized supporting constructions - load 10 kg/m or 20 kg/m


The mounting points are formed by MP 41X41 support profiles. The JUPITER cable tray is attached to these profiles using STP screws. The mounting profile is anchored to the base material with KPO 10 anchors. The individual trays are connected by an integrated coupling and NSM 6X10 bolts.

For roof mounting, the routes are anchored to bases with reaction to fire class A1/A2. It must never be anchored directly to the roof sheathing.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:
ČSN 730895

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m or 20 kg/m
cable tray side height	60 mm
cable tray width	50 - 600 mm

List of products for one mounting point		
		page
KPO 10	2	145
MP 41X41	1	138
STP	2	148

Due to the fact that it is possible to place JUPITER cable trays on this route, the classification of the route depends on the specific type of cable tray tested with the ceiling profiles. The classification can be found in the specification of a specific route.

expert assessment PAVUS, a. s.	513166/Z220130412
	PRA9-03-17-902-C-1
	Methodical instruction no. 02/2020

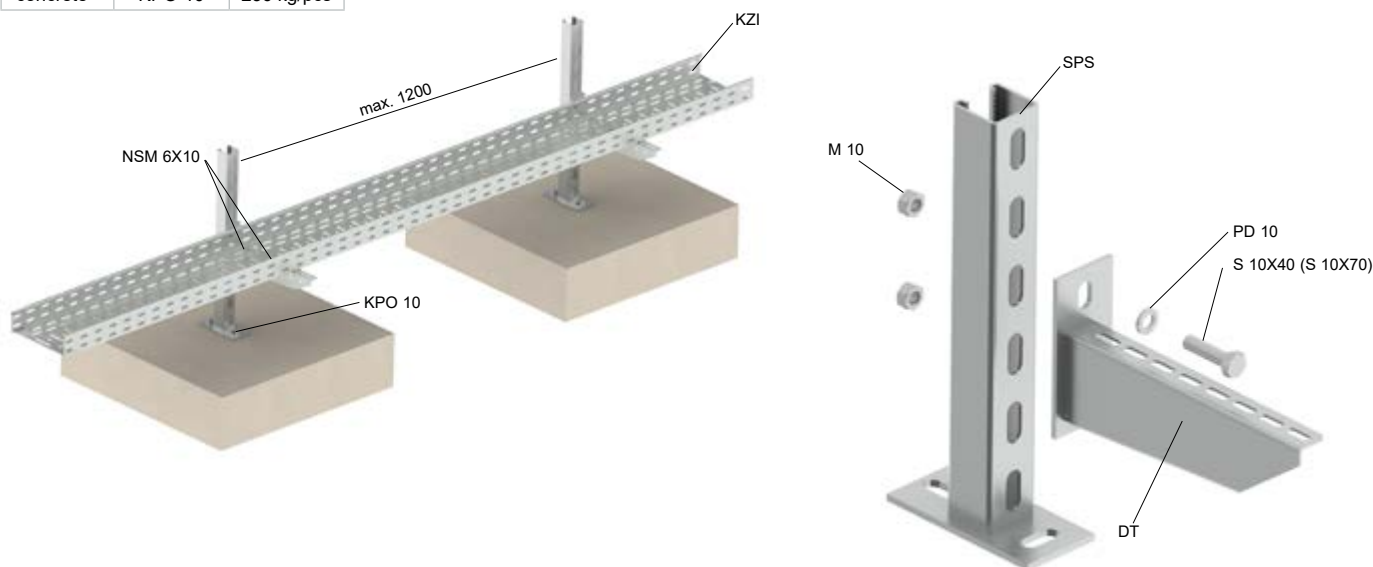


**Cable routes on the roofs of buildings
assembly of JUPITER cable trays**

10; 20



load for anchoring		
concrete	KPO 10	236 kg/pcs



Non-standardized supporting constructions - load 10 kg/m or 20 kg/m

The mounting points are formed by SPS ceiling profile anchored with KPO 10 anchors. DT or DS holders are installed on the ceiling profiles. The individual trays are connected with NSM 6X10 bolts. JUPITER trays are anchored to the support with NSM 6X10 bolts. Anchoring is done in bases with reaction to fire class A1/A2. It must never be anchored directly to the roof sheathing. Such assembly can only be formed by perforated trays to ensure the outflow of trapped water.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:
ČSN 73 0895

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m or 20 kg/m
cable tray side height	60 mm
cable tray width	50 - 600 mm

List of products for one mounting point			
			page
KPO 10	2	2	145
SPS	1	1	135
DT (DS)	1	2	135
S 10X40	2	-	144
S 10X70	-	2	144
PD 10	2	2	144
M 10	2	2	144
NSM 6X10	2	4	148

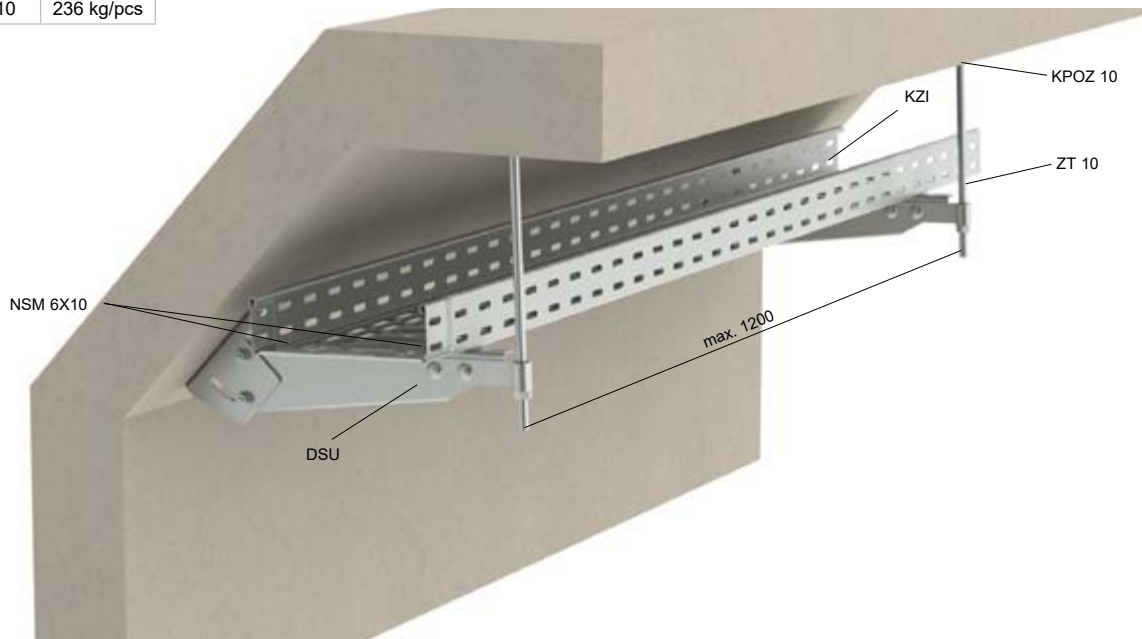
Due to the fact that it is possible to place JUPITER cable trays on this route, the classification of the route depends on the specific type of cable tray tested with the ceiling profiles. The classification can be found in the specification of a specific route.

expert assessment PAVUS, a. s.	513166/Z220130412
	PRA9-03-17-902-C-1
	Methodical instruction no. 02/2020

**JUPITER KZI cable trays - sheet thickness 1.25 mm
assembly of cable trays on tilting brackets DSU**
10
kg

load for anchoring

concrete	KPO 10	236 kg/pcs
----------	--------	------------


Non-standardized supporting constructions - load 10 kg/m

The set is used to place routes formed by cable trays on sloping walls. The assembly is performed using DSU brackets, the angle of which can be set in the range of 0-45°. The free end of the profile is secured to the ceiling or wall with ZT 10 threaded rod. The route consists of JUPITER cable trays with a maximum width of 300 mm. Anchoring of threaded rods to the ceiling is performed using KPOZ 10 anchors. KZI cable trays are attached to DSU holders using NSM 6X10 bolts.

Marking of fire routes by OPT label is always done after at least 50 m of the route.


Classification of fire resistance according to:

DIN 4102-12
ČSN 730895
STN 920205

Permissible technical parameters of the route

spacing of mounting points	max. 1200 mm
maximum load	10 kg/m
cable tray side height	60 mm
cable tray width	50 - 300 mm
cable tray sheet thickness	1,25 mm

List of products for one mounting point

		page
ZT 10	1	143
KPOZ 10	1	145
KPO 10	2	145
DSU	1	137
M 10	1	144
NSM 6X10	2	148

cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur	E30, P30-R, PS30	PRAFlaGuard F	E30, P30-R, PS30

cable manufacturer	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	FR-104-14-AUNS	PK9-03-17-913-C-4

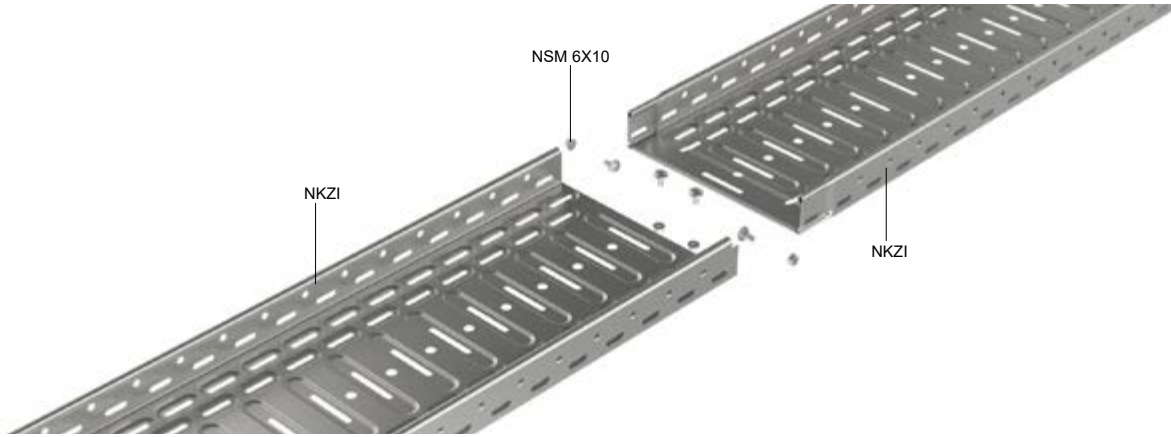


**NON-STANDARDIZED
SUPPORTING CONSTRUCTIONS**

MARS ASSEMBLIES



Connection of fire resistant trays NKZI, NKZIN - MARS



NKZI cable trays with maintaining functionality in the event of a fire are made of metal sheet with a thickness of 0.7 to 1.25 mm. The NKZI cable tray is connected using an integrated coupling, which is part of the tray, and using NSM 6X10 bolts. For non-perforated trays, it is necessary to drill holes for NSM 6X10 bolts in the bottom of the tray.

NKZI, NKZIN 50 tray width	NSM 6X10 number of bolts for connection tray	NKZI, NKZIN 100 tray width	NSM 6X10 number of bolts for connection tray
62	2	125	4
125	2, 4*	250	6
250	2	500	

The number of bolts applies only to the NKZI 50X125 cable tray suspended from the ceiling using the ZVNI inner hanger, for this type of suspension it is necessary to reinforce the connection of the trays at the bottom using two NSM 6X10 bolts.

NKZI, NKZIN 50 tray width	NSM 6X10 number of bolts in the bottom of the tray for connection to the support	NKZI, NKZIN 100 tray width	NSM 6X10 number of bolts in the bottom of the tray for connection to the support
62	1	125	1
125		250	
250		500	2



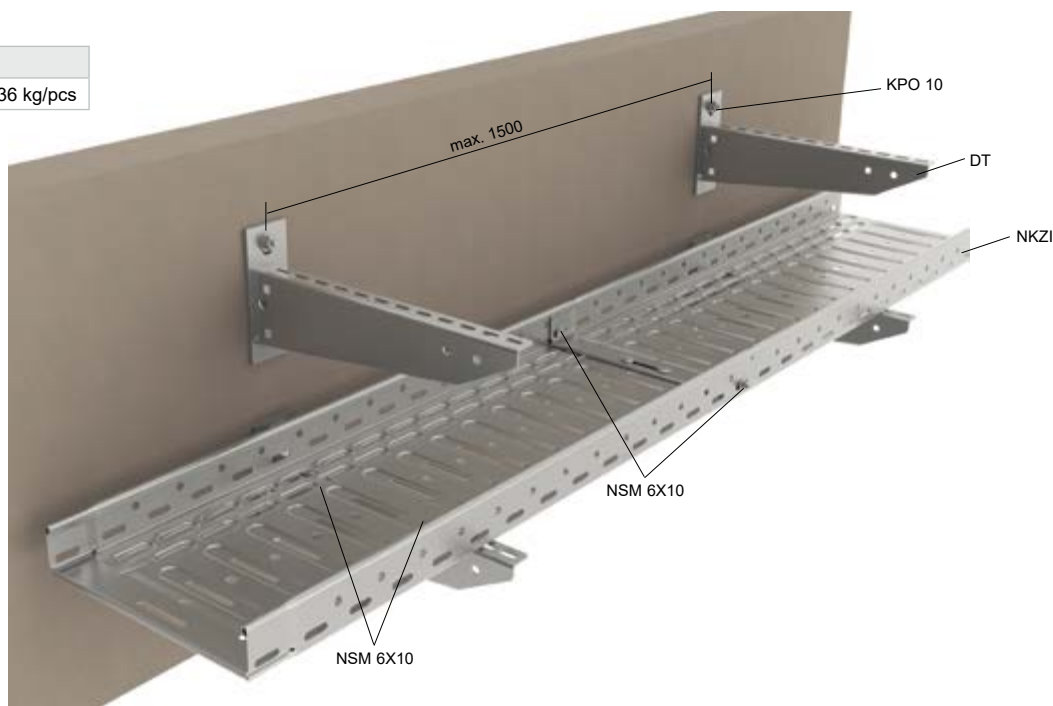


**MARS - NKZI cable trays - side height 50 and 100
assembly of cable trays on the wall with holders DT**

kg
10



load for anchoring		
concrete	KPO 10	236 kg/pcs



Permissible technical parameters of the route	
spacing of mounting points	max. 1500 mm
maximum load	10 kg/m
cable tray side height	50 and 100 mm
cable tray width	62 - 250 mm
cable tray sheet thickness	1,25 mm

Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting construction are DT holders attached to the base material using KPO 10 anchors. The cable trays are equipped with an integrated coupling and, when inserted into each other, they are connected using NSM 6X10 bolts. The tray must be attached to the DT holder using NSM 6X10 bolts.

Marking of fire routes is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 920205

List of products for one mounting point				
				page
DT	1	2	3	135
KPO 10	2	4	6	145
NSM 6X10	2	4	6	148

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1,3	FR-172-10-AUNS	PK9-03-17-913-C-4
	2,4	FR-220-11-AUNS	JR-024-22-NURS
Kabex, a.s.	-	FR-139-09-AUNS	PK9-03-17-913-C-4

side height 50 mm

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur	E60, P60-R, PS60	PRAFlaGuard F	E90, P90-R, PS90
	2	PRAFlaDur 90	E90, P90-R, PS90		

side height 100 mm

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	3	PRAFlaDur	E90, P90-R, PS90	PRAFlaGuard F	E90, P90-R, PS90
	4	PRAFlaDur 90	E60, P60-R, PS60		
Kabex, a.s.	-	CPDex 1-CHKE-V	E90, P90-R, PS90	JCXFE-V	E60, P60-R, PS60

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

STANDARD

NO-STANDARD

JUPITER

MARS

LADDERS

WIRE TRAYS

STAINLESS

OTHER

FIRE
BOXES

PRODUCTS

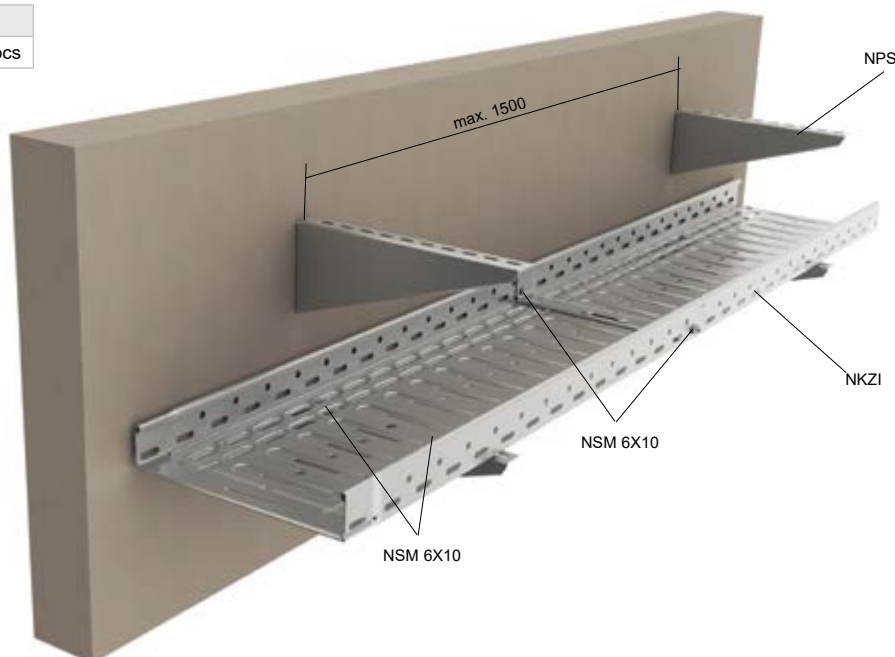
INDEX

MARS - NKZI cable trays - side height 50; 100 assembly of cable trays on the wall



load for anchoring

concrete	KPO 10	236 kg/pcs
----------	--------	------------



Permissible technical parameters of the route

spacing of mounting points	max. 1500 mm
maximum load	10 kg/m
cable tray side height	50 and 100 mm
cable tray width	62 - 250 mm
cable tray sheet thickness	1,25 mm

Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting construction are NPS holders attached to the base material using KPO 8 anchors. The cable trays are equipped with an integrated connector and, when inserted into each other, they are connected using NSM 6X10 bolts. The tray must be attached to the NPS holders using NSM 6X10 bolts.

Marking of fire routes is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 92 0205

List of products for one mounting point

				page
for NPS 62				
NPS	1	2	3	137
KPO 8	1	2	3	145
NSM 6X10	1	2	3	148
for NPS 125, NPS 250				
NPS	1	2	3	137
KPO 8	2	4	6	145
NSM 6X10	2	4	6	148

cable manufacturer	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	FR-220-11-AUNS	JR-024-22-NURS
Kablo Vrchlábí s.r.o.	FR-104-18-AUNS	JR-101-23-NURS
Kabex, a.s.	FR-088-12-AUNS	JR-027-22-NURS

side height 50 mm

cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur 90	E30, P30-R, PS30	PRAFlaGuard F	E60, P60-R, PS60
Kablo Vrchlábí s.r.o.	1-CXKH-V	E30, P30-R, PS30	JXFE-V	E90, P90-R, PS90
Kabex, a.s.	1-CSKE-V	E60, P60-R, PS60	JCSFE-V	E30, P30-R, PS30

side height 100 mm

cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur 90	E30, P30-R, PS30	PRAFlaGuard F	E90, P90-R, PS90
Kabex, a.s.	1-CSKE-V	E60, P60-R, PS60	-	-

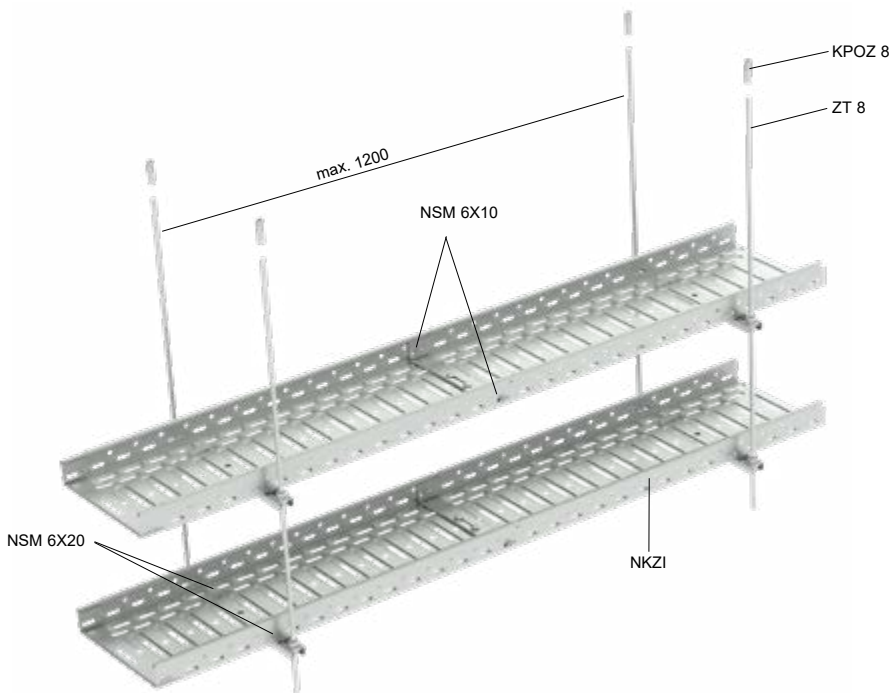
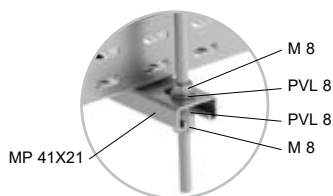


MARS - NKZI cable trays - side height 50; 100 - sheet thickness 1,25 mm ceiling assembly using threaded rods and mounting profiles MP 41X21

10; 20



load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs



Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m or 20 kg/m
cable tray side height	50 and 100 mm
cable tray width	62 - 250 mm
cable tray sheet thickness	1,25 mm

Non-standardized supporting constructions - load 10 kg/m or 20 kg/m

The basis of the supporting construction is the NKZI cable tray, which is suspended from the ceiling using MP 41X21 profiles, ZT 8 threaded rods and KPOZ 8 anchors. The mounting profile is fastened to the threaded rods using M 8 nuts and PVL 8 washers. NKZI cable trays are attached to the mounting profiles using NSM 6X20 bolts and PVL 6 washers. It is possible to place two cable trays next to each other up to a total width of 500 mm.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

List of products for one mounting point				
				page
ZT 8	2	2	2	143
KPOZ 8	2	2	2	145
MP 41X21	1	2	3	138
M 8	4	8	12	144
PVL 8	4	8	12	144
NSM 6X20	2	4	6	148
PVL 6	2	4	6	144

Classification of fire resistance according to:

DIN 4102-12
 ČSN 73 0895
 STN 92 0205

In the case of using cables from NKT, s. r. o., it is possible to use tray with sheet thickness of 1.0 mm.

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1,3	FR-220-11-AUNS	JR-024-22-NURS
	2,4	FR-104-14-AUNS	PK9-03-17-913-C-4
	5	FR-223-23-AUNS	JR-132-23-NURS
Kablo Vrchlábí s.r.o.	-	FR-104-14-AUNS	PK9-03-17-913-C-4
Prysmian Group	-	FR-156-12-AUNS	JR-027-22-NURS
NKT s.r.o.	1,2	FR-217-18-AUNS	JR-104-23-NURS
	3	PRA9-03-17-902-C-1	
CICM s.r.o.	-	FR-238-14-AUNS	JR-062-21-NURS

side height 50 mm

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]	load
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur 90	E30, P30-R, PS30	PRAFlaGuard F	E90, P90-R, PS90	20 kg/m
	2	PRAFlaDur	E90, P90-R, PS90			10 kg/m
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E90, P90-R, PS90	JXFE-V	E90, P90-R, PS90	10 kg/m
NKT s.r.o.	3	NOPOVIC 90	E60, P60-R, PS60	-	-	10 kg/m
Prysmian Group	-	(N) HXHX*	E60, P60-R, PS60	JE- H(St)H	E90, P90-R, PS90	10 kg/m
CICM s.r.o.	-	1-CXKE-V	E60, P60-R, PS60	JXFE-V	E60, P60-R, PS60	10 kg/m

side height 100 mm

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]	load	
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	3	PRAFlaDur 90*	E30, P30-R, PS30	PRAFlaGuard F*	E30, P30-R, PS30	20 kg/m	
	4	PRAFlaDur 90*	E90, P90-R, PS90			PRAFlaGuard F*	10 kg/m
	5	PRAFlaDur+T				PRAFlaGuard F	20 kg/m
Prysmian Group**	-	(N) HXHX*	E90, P90-R, PS90	JE- H(St)H	E90, P90-R, PS90	10 kg/m	
NKT s.r.o. *	1	NOPOVIC 60	E60, P60-R, PS60	-	-	-	
	2	NOPOVIC 90	E90, P90-R, PS90	-	-	-	

* for PRAFlaDur 90 and PRAFlaGuard F cables tested according to ČSN 73 0895 for 120 minutes (P120-R) with a load of 10 kg/m and a side height of 100 mm.
 ** for Prysmian Group cables tested according to ČSN 73 0895 for 120 minutes (P120-R) with a load of 10 kg/m and a side height of 50 and 100 mm.

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

STANDARD
 NO-STANDARD
 JUPITER
 MARS
 LADDERS
 WIRE TRAYS
 STAINLESS
 OTHER

FIRE BOXES

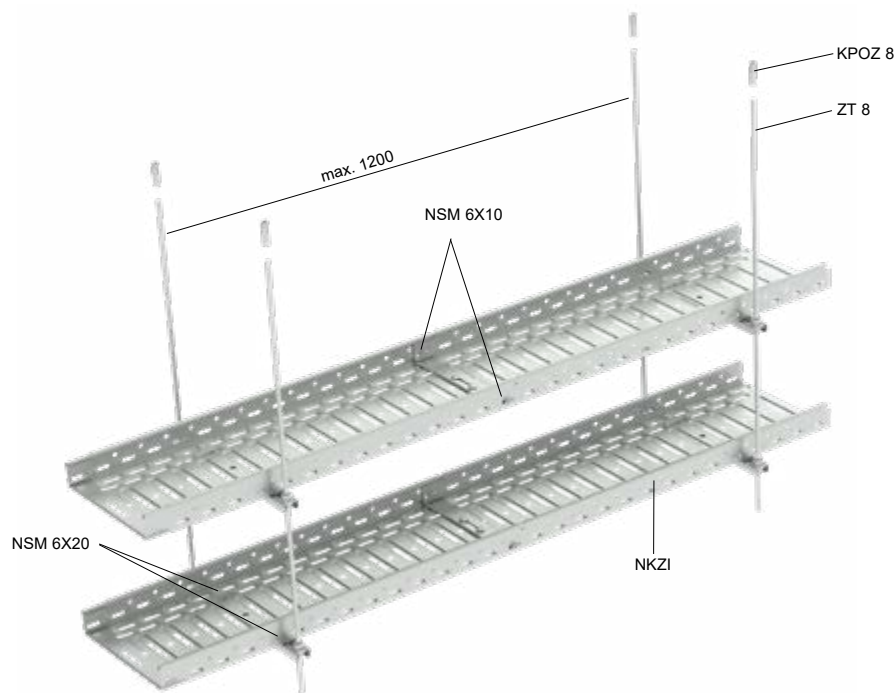
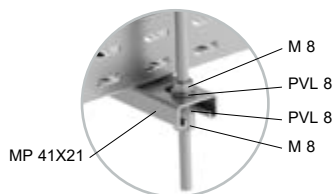
PRODUCTS

INDEX

**MARS - NKZI cable trays - side height 50 - sheet thickness 0,7 mm
ceiling assembly using threaded rods and mounting profiles MP 41X21**


10


load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs


Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting construction is the NKZI cable tray, which is suspended from the ceiling using MP 41X21 profiles, ZT 8 threaded rods and KPOZ 8 anchors. The mounting profile is fastened to the threaded rods using M 8 nuts and PVL 8 washers. NKZI cable trays are attached to the mounting profiles using NSM 6X20 bolts and PVL 6 washers.

It is possible to place two cable trays next to each other up to a total width of 500 mm.




Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

ČSN 730895, DIN 4102-12, STN 920205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m
cable tray side height	50 mm
cable tray width	62 - 250 mm
cable tray sheet thickness	0,7 mm

List of products for one mounting point

				page
ZT 8	2	2	2	143
KPOZ 8	2	2	2	145
MP 41X21 (MP 41X41)	1	2	3	138
M 8	4	8	12	144
PVL 8	4	8	12	144
NSM 6X20	2	4	6	148
PVL 6	2	4	6	144

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]	load
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur 90	E30, P45-R, PS45	PRAFlaGuard F	E90, P90-R, PS90	-
	2	PRAFlaDur	E90, P90-R, PS90			PRAFlaGuard F
	3	PRAFlaDur+T		E90, P90-R, PS90	JXFE-V	
	4		-			-
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E90, P90-R, PS90	JXFE-V	E90, P90-R, PS90	-
NKT s.r.o.	-	NOPOVIC 90	E60, P60-R, PS60	-	-	-
BITNER Sp.z o.o.**	-	(N)HXH-V	E30, P30-R, PS30	-	-	-
Kabex, a.s.	-	CPDex 1-CHKE-V	E90, P90-R, PS90	CPDex JXFE-V	E30, P30-R, PS30	-
CICM s.r.o.	-	1-CXKE-V	E90, P90-R, PS90	JXFE-V	E90, P90-R, PS90	-
ELKOND HHK, a.s.	-	1-CXKH-V	E60, P60-R, PS60	SSKFH-V180	E30, P30-R, PS30	-

** up to a cable cross section of 16 mm²

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-228-15-AUNS	PK9-03-17-913-C-4
	2	PR-18-2.005	
	3	FR-327-22-AUNS	JR-167-22-NURS
	4	FR-041-23-AUNS	JR-073-23-NURS
Kablo Vrchlábí s.r.o.	-	FR 104-14-AUNS	PK9-03-17-913-C-4
NKT s.r.o.	-	FR-166-17-AUNS	JR-030-22-NURS
BITNER Sp.z o.o	-	PR-18-2.005	PK9-03-17-913-C-4
Kabex, a.s.	-	FR-205-19-AUNS	JR-185-19-NURS
	-	FR-153-20-AUNS	JR-150-20-NURS
CICM s.r.o.	-	FR-238-14-AUNS	JR-062-21-NURS
ELKOND HHK, a.s.	-	FR-041-23-AUNS	JR-073-23-NURS

Optical cables:

cable manufacturer	type cable	classification [min]	note
Kabex, a.s.	*CPDeX® Optex® J/A-WQ(ZN)HH 12E9/125-V /h/P90-R/	P30-R	width of the trays up to 62 mm

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

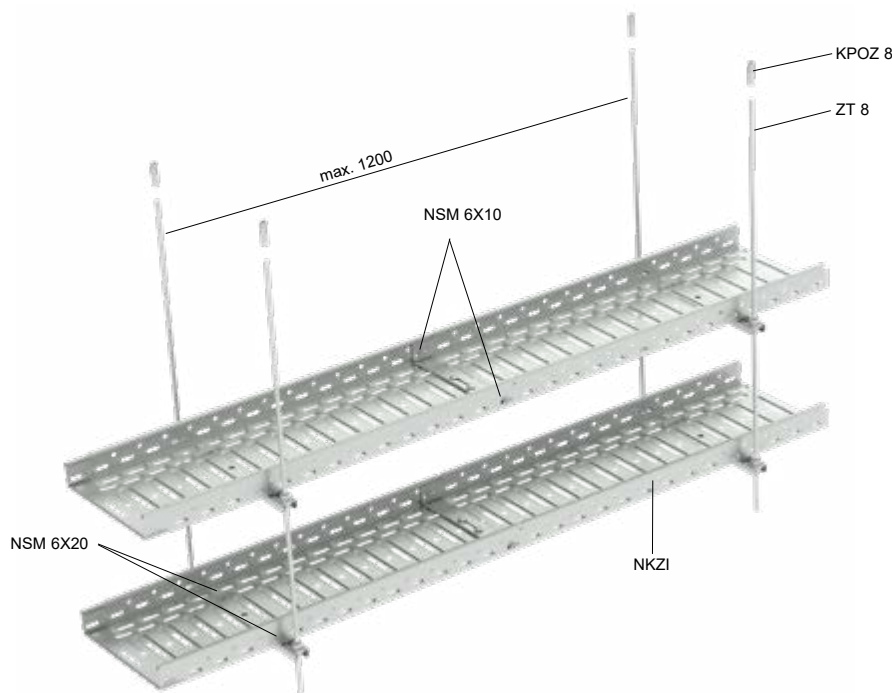
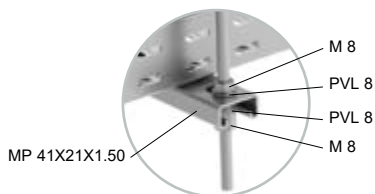


MARS - NKZI cable trays - side height 50; 100 - sheet thickness 1,25 mm ceiling assembly using threaded rods and mounting profiles MP 41X21X1.50

kg
10



load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs



Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m
cable tray side height	50 and 100 mm
cable tray width	62 - 250 mm
cable tray sheet thickness	1,25 mm

Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting construction is the NKZI cable tray, which is suspended from the ceiling using MP 41X21X1.50 profiles, ZT 8 threaded rods and KPOZ 8 anchors. The mounting profile is fastened to the threaded rods using M 8 nuts and PVL 8 washers. NKZI cable trays are attached to the mounting profiles using NSM 6X20 bolts and PVL 6 washers. It is possible to place two cable trays next to each other up to a total width of 500 mm.

Marking of fire routes is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 92 0205

List of products for one mounting point				
				page
ZT 8	2	2	2	143
KPOZ 8	2	2	2	145
MP 41X21X1.50	1	2	3	138
M 8	4	8	12	144
PVL 8	4	8	12	144
NSM 6X20	2	4	6	148
PVL 6	2	4	6	144

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	-	FR-228-15-AUNS	JR-167-22-NURS
Kabex, a.s.	-	FR-088-12-AUNS	JR-027-22-NURS
NKT s.r.o.	1	FR-217-18-AUNS	JR-104-23-NURS
	2		

side height 50 mm

cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur 90	E60, P60-R, PS60	PRAFlaGuard F	E30, P30-R, PS30
Kabex, a.s.	1-CSKE-V	E60, P60-R, PS60	-	-

side height 100 mm

cable manufacturer	No.	power cables	classification [min]
Kabex, a.s.	-	1-CSKE-V	E30, P30-R, PS30
NKT s.r.o. *	1	NOPOVIC 60	E60, P60-R, PS60
	2	NOPOVIC 90	E90, P90-R, PS90

*In the case of using cables from NKT, s. r. o., it is possible to use tray with sheet thickness of 1.0 mm.

STANDARD

NO-STANDARD

JUPITER

MARS

LADDERS

WIRE TRAYS

STAINLESS

OTHER

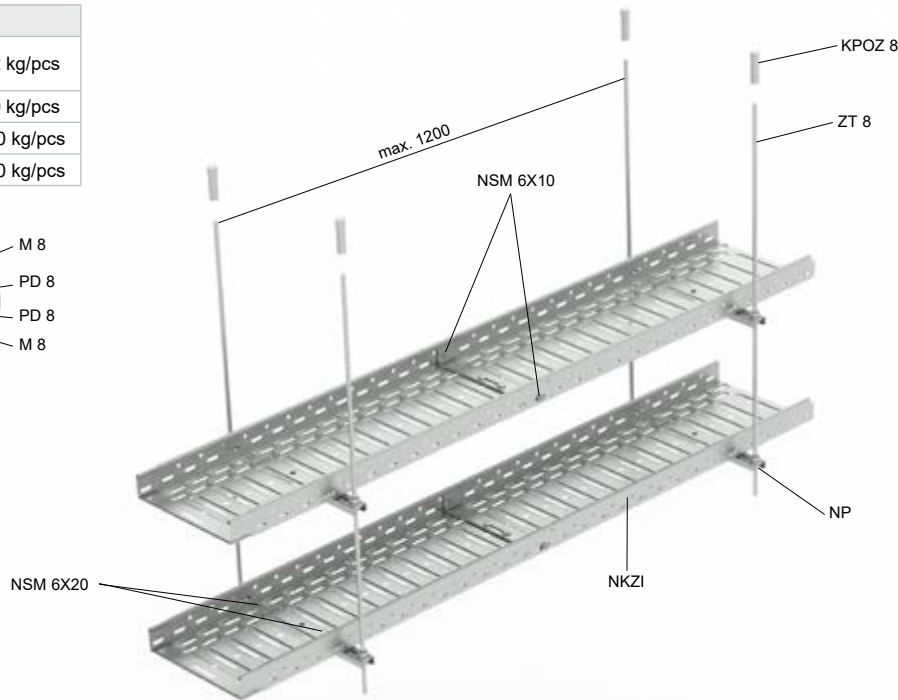
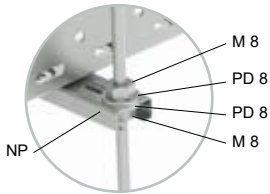
FIRE BOXES

PRODUCTS

INDEX


**MARS - NKZI cable trays - side height 50 - sheet thickness 0,7 mm
ceiling assembly using threaded rods and supporting profiles NP**

load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs


Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting construction is the NKZI cable tray, which is suspended from the ceiling by means of NP profiles, ZT 8 threaded rods and KPOZ 8 anchors. The mounting profile is fastened to the threaded rods by M 8 nuts and PD 8 washers. NKZI cable trays are attached to the mounting profiles using NSM 6X20 bolts. It is possible to place two cable trays next to each other up to a total width of 500 mm on the profiles.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 920205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m
cable tray side height	50 mm
cable tray width	62 - 250 mm
cable tray sheet thickness	0,7 mm

	List of products for one mounting point			page
ZT 8	2	2	2	143
KPOZ 8	2	2	2	145
NP	1	2	3	138
M 8	4	8	12	144
PD 8	4	8	12	144
NSM 6X20	2	4	6	148

cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur 90	E30, P30-R, PS30	PRAFlaGuard F	E90, P90-R, PS90
Kablo Vrchlábí s.r.o.	1-CXKH-V	E90, P90-R, PS90	JXFE-V	E90, P90-R, PS90
NKT s.r.o.	NOPOVIC 90	E90, P90-R, PS90	-	-
CICM s.r.o.	1-CXKE-V	E90, P90-R, PS90	JXFE-V	E60, P60-R, PS60

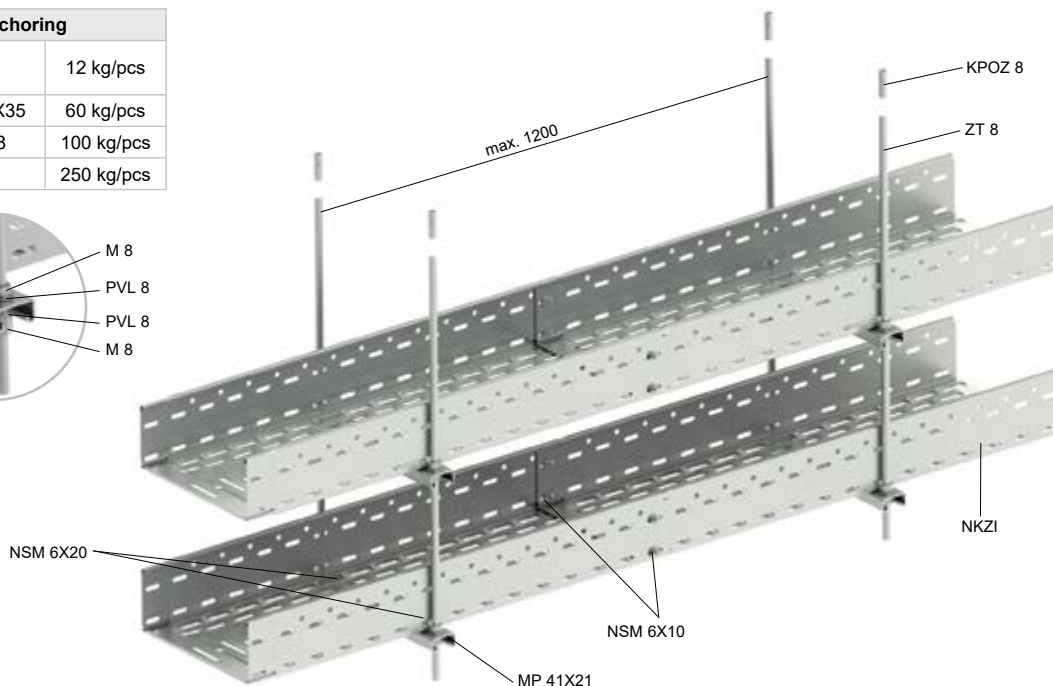
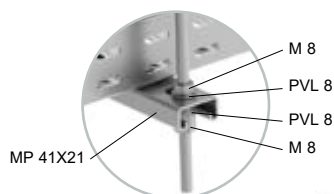
cable manufacturer	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	FR-220-11-AUNS	JR-024-22-NURS
NKT s.r.o.	FR-217-18-AUNS	JR-104-23-NURS
Kablo Vrchlábí s.r.o.	FR-104-14-AUNS	PK9-03-17-913-C-4
CICM s.r.o.	FR-238-14-AUNS	JR-062-21-NURS



MARS - NKZI cable trays - side height 100 - sheet thickness 1,0 - 1,25 mm ceiling assembly using threaded rods and mounting profiles MP 41X21



load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs



Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting construction is the NKZI cable tray, which is suspended from the ceiling by means of MP 41X21 profiles, ZT 8 threaded rods and KPOZ 8 anchors. The mounting profile is fastened to the threaded rods by M 8 nuts and PD 8 washers. NKZI cable trays are attached to the mounting profiles using NSM 6X20 bolts. It is possible to place two cable trays next to each other up to a total width of 500 mm on the profiles.

Marking of fire routes is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
 ČSN 73 0895
 STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m
cable tray side height	100 mm
cable tray width	125 - 500 mm
cable tray sheet thickness	1,00; 1,25 mm

List of products for one mounting point				
				page
ZT 8	2	2	2	143
KPOZ 8	2	2	2	145
MP 41X21	1	2	3	138
M 8	4	8	12	144
PVL 8	4	8	12	144
NSM 6X20	2	4	6	148
PVL 6	2	4	6	144

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]	note
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur 90	E30, P30-R, PS30	PRAFlaGuard F	E90, P90-R, PS90	sheet thickness 1,25 mm
	2	PRAFlaDur	E30, P30-R, PS30			sheet thickness 1,0 mm
	3	PRAFlaDur+T	E90, P90-R, PS90			sheet thickness 1,0 mm
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E30, P30-R, PS30	JXFE-V	E90, P90-R, PS90	sheet thickness 1,0 mm
Kabex, a.s.	-	CPDex 1-CHKE-V	E90, P90-R, PS90	CPDex JCXFE-V	P15-R, PS15	sheet thickness 1,25 mm
NKT s.r.o.	-	NOPOVIC 60	E90, P90-R, PS90	—	—	sheet thickness 1,0 mm

cable manufacturer	No.	protocol number	standpoint number
NKT s.r.o.	-	FR-246-21-AUNS	JR-104-21-NURS
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-228-15-AUNS	PK9-03-17-913-C-4
	2	FR-246-21-AUNS	JR-104-21-NURS
	3	FR-041-23-AUNS	JR-073-23-NURS
Kablo Vrchlábí s.r.o.	-	FR-104-18-AUNS	JR-101-23-NURS
Kabex, a.s.	-	FR-205-19-AUNS	JR-185-19-NURS

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

- STANDARD
- NO-STANDARD
- JUPITER
- MARS
- LADDERS
- WIRE TRAYS
- STAINLESS
- OTHER

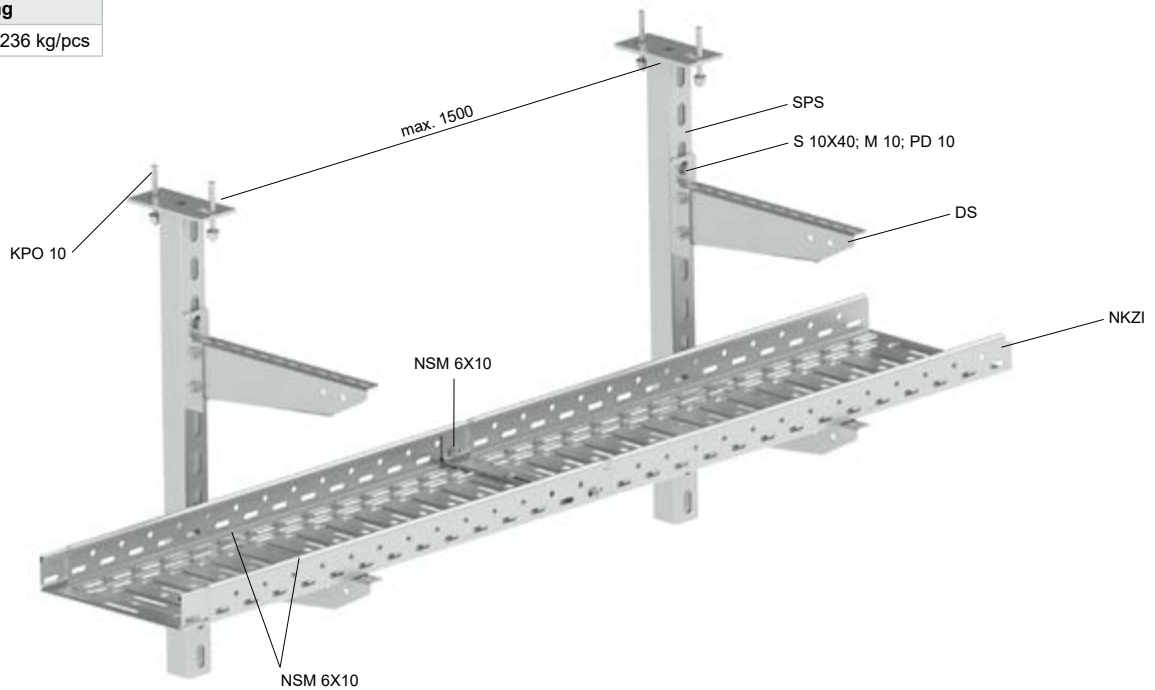
- FIRE BOXES
- PRODUCTS
- INDEX

MARS - NKZI cable trays - side height 50
assembly of cable trays - assembly for the ceiling using SPS


10

load for anchoring

concrete	KPO 10	236 kg/pcs
----------	--------	------------


Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting construction is the SPS ceiling profile anchored to the base material using two KPO 10 anchors. The DS holder is fastened to the ceiling profile on one side using bolt S 10X40, nut M 10 and washer PD 10. The NKZI cable trays are attached to the DS holders using NSM 6X10 bolts.

Marking of fire routes is always done after at least 50 m of the route.







Classification of fire resistance according to:

DIN 4102-12
 ČSN 73 0895
 STN 920205

Permissible technical parameters of the route

spacing of mounting points	max. 1500 mm
maximum load	10 kg
distance between individual routes	200 mm
cable tray side height	50 mm
cable tray width	62 - 250 mm
cable tray sheet thickness	0,7 mm

List of products for one mounting point

							page
KPO 10	2	2	2	2	2	2	145
SPS	1	1	1	1	1	1	135
DS	1	2	2	4	6	6	136
S 10X40	2	4	-	-	-	-	144
S 10X70	-	-	2	4	6	6	144
M 10	2	4	2	4	6	6	144
PD 10	2	4	2	4	6	6	144
NSM 6X10	2	4	4	8	12	12	148

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur 90	E60, P60-R, PS60	PRAFlaGuard F	E90, P90-R, PS90
	2	PRAFlaDur	E30, P30-R, PS30		
	3	PRAFlaDur+T	E60, P60-R, PS60		
NKT s.r.o.	-	NOPOVIC 90	E90, P90-R, PS90	-	-
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E30, P30-R, PS30	JXFE-V	E30, P45-R, PS45
Kabex, a.s.	-	CPDex 1-CHKE-V	E90, P90-R, PS90	CPDex 1CXFE-V	E30, P45-R, PS45
ELKOND HHK, a.s.	-	1-CXKH-V	E60, P60-R, PS60	SSKFH-V180	E60, P60-R, PS60

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-228-15-AUNS	PK9-03-17-913-C-4
	2	FR-217-18-AUNS	JR-104-23-NURS
	3	FR-041-23-AUNS	JR-073-23-NURS
NKT s.r.o.	-	FR-217-18-AUNS	JR-104-23-NURS
Kablo Vrchlábí s.r.o.	-	FR-217-18-AUNS	JR-104-23-NURS
Kabex, a.s.	-	FR-202-22-AUNS	JR-112-22-NURS
ELKOND HHK, a.s.	-	FR-041-23-AUNS	JR-073-23-NURS

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

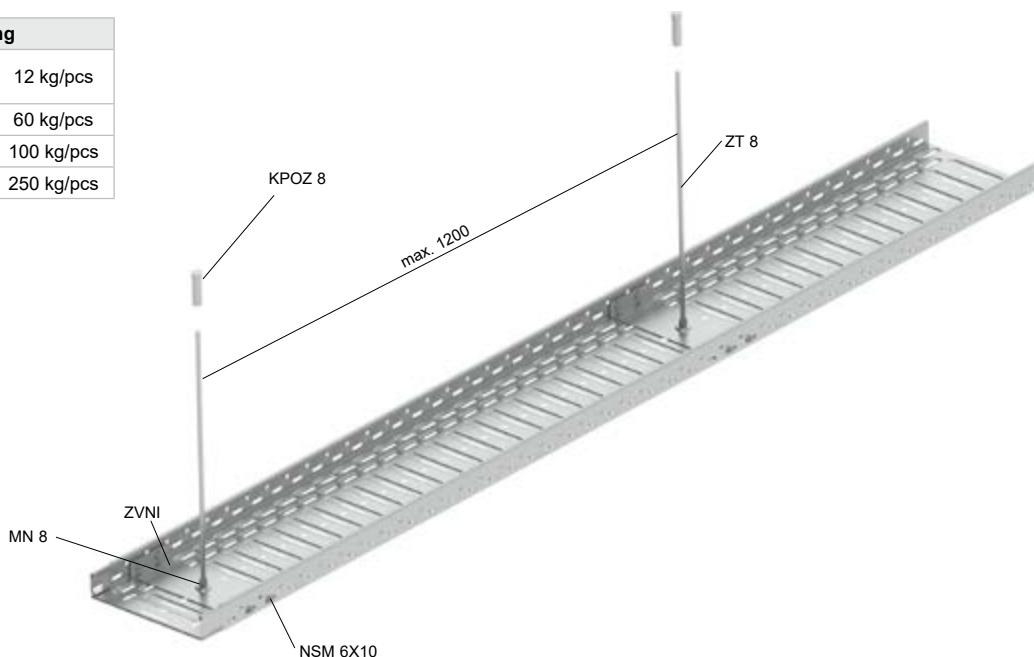
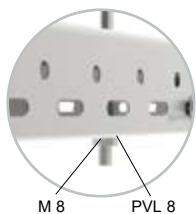


MARS - NKZI cable trays - side height 50
ceiling assembly using the ZVNI inner hanger - one threaded rod

kg
10



load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs



Non-standardized supporting constructions - load 10 kg/m


The basis of the supporting construction is the NKZI cable tray, which is suspended from the ceiling by means of the ZVNI inner hanger, MN 8 nuts, ZT 8 threaded rods and KPOZ 8 anchors. In the lower part, the connection is secured with PVL 8 washer and M 8 nut. The assembly allows the installation of only one story of the cable tray.

Marking of fire routes is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m
maximum no. storeis	1
cable tray side height	50 mm
cable tray width	62 - 250 mm
cable tray sheet thickness	1,25 mm

List of products for one mounting point		
		page
ZT 8	1	143
KPOZ 8	1	145
ZVNI	1	137
MN 8	1	137
M 8	1	144
PVL 8	1	144
NSM 6X10	4	148

cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur 90	E60, P60-R, PS60	PRAFlaGuard F	E60, P60-R, PS60

cable manufacturer	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	FR-228-15-AUNS	PK9-03-17-913-C-4

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

STANDARD
NO-STANDARD
JUPITER
MARS
LADDERS
WIRE TRAYS
STAINLESS
OTHER

FIRE BOXES

PRODUCTS

INDEX

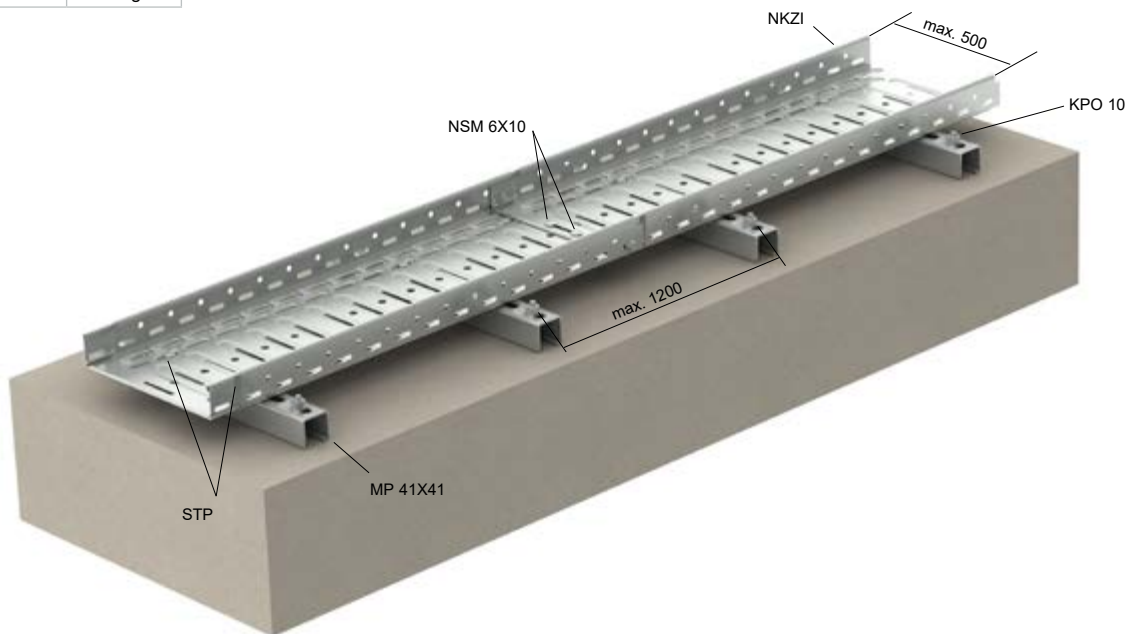
Cable routes - floor installation, installation in raised floors, roof installation assembly of MARS cable trays



10


load for anchoring

concrete	KPO 10	236 kg/m
----------	--------	----------



Non-standardized supporting constructions - load 10 kg/m or 20 kg/m

The mounting points are formed by MP 41X41 support profiles. The MARS cable tray is attached to these profiles using STP screws. The mounting profile is anchored to the base material with KPO 10 anchors. The individual trays are connected by an integrated coupling and NSM 6X10 bolts.

For roof mounting, the routes are anchored to bases with reaction to fire class A1/A2. It must never be anchored directly to the roof sheathing. Assembly can only be formed by perforated trays to ensure the outflow of trapped water.


Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to: ČSN 73 0895

Permissible technical parameters of the route

spacing of mounting points	max. 1200 mm
maximum load	10 kg/m or 20 kg/m
cable tray side height	50 mm, 100 mm
cable tray width	62 - 500 mm

List of products for one mounting point

		page
KPO 10	2	145
MP 41X41	1	138
STP	2	148

Due to the fact that it is possible to place MARS type cable trays on this route, the classification of the route depends on the specific type of cable tray tested on ceiling profiles. The classification can be found in the specification of a specific route.

expert assessment
PAVUS, a. s.

513166/Z220130412
PRA9-03-17-902-C-1
Methodical instruction no. 02/2020

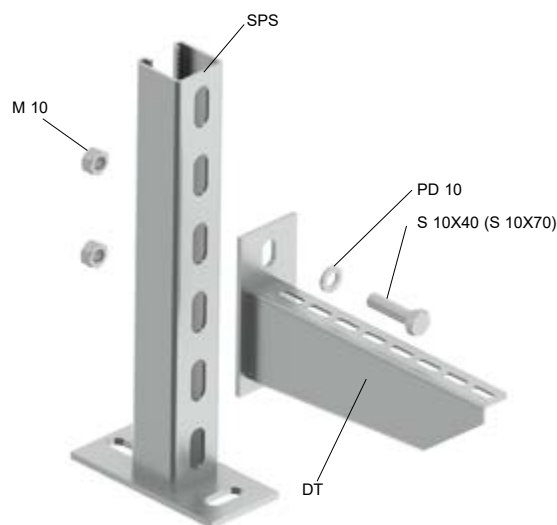
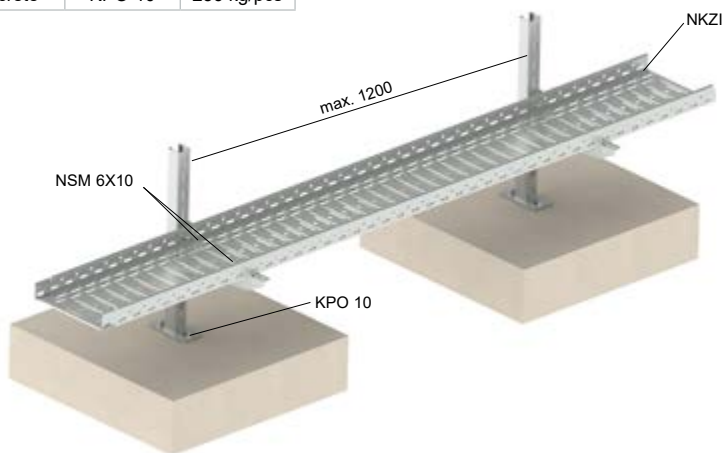


**Cable routes on the roofs of buildings
assembly of MARS cable trays**

10; 20



load for anchoring		
concrete	KPO 10	236 kg/pcs



Non-standardized supporting constructions - load 10 kg/m or 20 kg/m

The mounting points are formed by SPS ceiling profiles anchored with KPO 10 anchors. DT or DS holders are installed on the ceiling profiles. The individual trays are connected with NSM 6X10 bolts. MARS trays are anchored to the support with NSM 6X10 bolts. Anchoring is done in bases with reaction to fire class A1 / A2. It must never be anchored directly to the roof sheathing. Assembly can only be formed by perforated trays to ensure the outflow of trapped water.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:
ČSN 73 0895

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m or 20 kg/m
cable tray side height	50 mm, 100 mm
cable tray width	62 - 500 mm

List of products for one mounting point			
			page
KPO 10	2	2	145
SPS	1	1	135
DT (DS)	1	2	135 (136)
S 10X40	2	-	144
S 10X70	-	2	144
PD 10	2	2	144
M 10	2	2	144
NSM 6X10	2	4	148

Due to the fact that it is possible to place MARS type cable trays on this route, the classification of the route depends on the specific type of cable tray tested on ceiling profiles. The classification can be found in the specification of a specific route.

expert assessment PAVUS, a. s.	513166/Z220130412
	PRA9-03-17-902-C-1
	Methodical instruction no. 02/2020

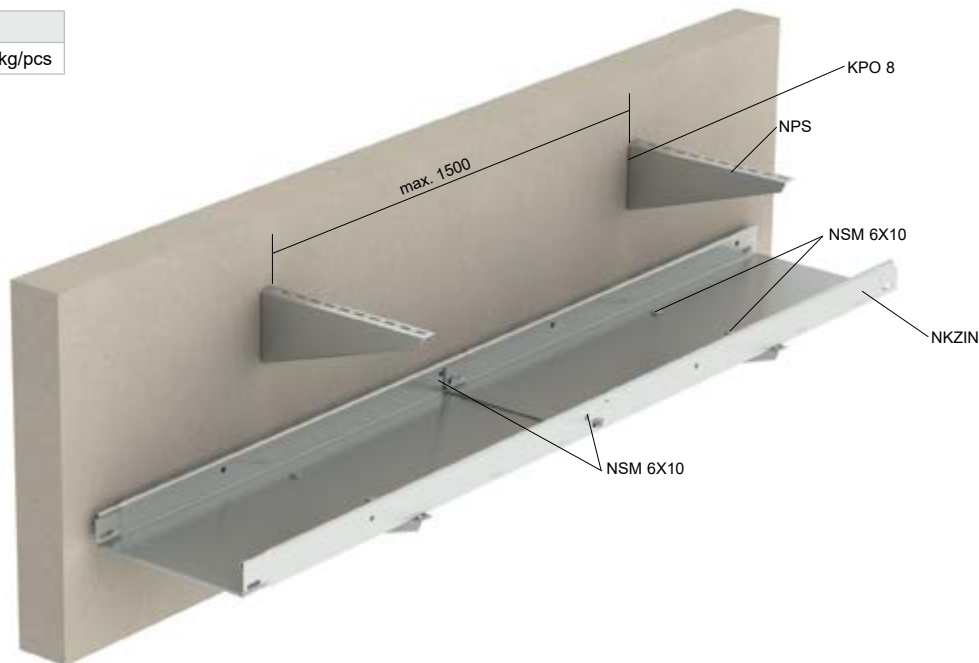
MARS - NKZIN cable trays - side height 50 assembly of cable trays on the wall



10


load for anchoring

concrete	KPO 8	187 kg/pcs
----------	-------	------------



Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting construction are NPS brackets attached to the base material using KPO 8 anchors. The cable trays are equipped with an integrated connector and, when inserted into each other, they are connected by the NSM 6X10 bolts. The trays must be attached to the NPS holder using NSM 6X10 bolts.

Marking of fire routes by OPT label is always done after at least 50 m of the route.




Classification of fire resistance according to:

DIN 4102-12
ČSN 730895
STN 920205

Permissible technical parameters of the route

spacing of mounting points	max. 1500 mm
maximum load	10 kg/m
cable tray side height	50 mm
cable tray width	62 - 250 mm
cable tray sheet thickness	1,25 mm

List of products for one mounting point

				page
for NPS 62				
NPS	1	2	3	137
KPO 8	1	2	3	145
NSM 6X10	1	2	3	148
for NPS 125, NPS 250				
NPS	1	2	3	137
KPO 8	2	4	6	145
NSM 6X10	2	4	6	148

cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur 90	E90, P90-R, PS90	PRAFlaGuard F	E60, P60-R, PS60
Kabex, a.s.	1-CSKE-V	E30, P30-R, PS30	JSCFE-V	P15-R, PS15

cable manufacturer	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	FR-228-15-AUNS	PK9-03-17-913-C-4
Kabex, a.s.	FR-088-12-AUNS	JR-027-22-NURS

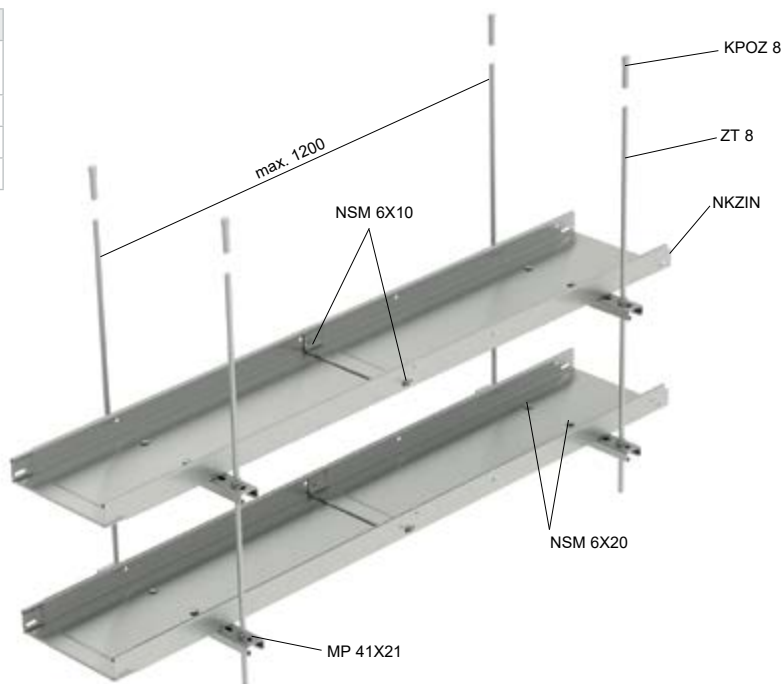
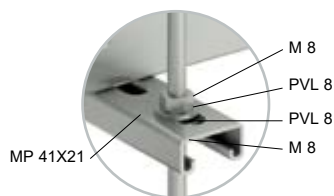


MARS - NKZIN cable trays - side height 50 - sheet thickness 1,25 mm ceiling assembly using threaded rods and mounting profiles MP 41X21

10; 20



load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs



Non-standardized supporting constructions - load 10 kg/m or 20 kg/m

The basis of the supporting construction is the NKZIN cable tray, which is suspended from the ceiling using MP 41X21 profiles, ZT 8 threaded rods and KPOZ 8 anchors. The mounting profile is fastened to the threaded rods using M 8 nuts and PD 8 washers. NKZIN cable trays are attached to the mounting profiles using NSM 6X20 bolts. It is possible to place two cable trays next to each other up to a total width of 500 mm on the profiles.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
 ČSN 73 0895
 STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m or 20 kg/m
cable tray side height	50 mm
cable tray width	62 - 250 mm
cable tray sheet thickness	1,25 mm

List of products for one mounting point				
				page
ZT 8	2	2	2	143
KPOZ 8	2	2	2	145
MP 41X21	1	2	3	138
M 8	4	8	12	144
PVL 8	4	8	12	144
NSM 6X20	2	4	6	148
PVL 6	2	4	6	144

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]	load
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur 90	E60, P60-R, PS60	PRAFlaGuard F	E90, P90-R, PS90	10 kg/m
	2	PRAFlaDur	E90, P90-R, PS90			
	3	PRAFlaDur 90	E60, P60-R, PS60			
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E60, P60-R, PS60	JXFE-V	E90, P90-R, PS90	10 kg/m
Prysmian Group	-	(N) HXHX	E90, P90-R, PS90	JE- H(St)H	E90, P90-R, PS90	10 kg/m
Kabex, a.s.	-	1-CSKE-V	E30, P30-R, PS30	-	-	10 kg/m

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-228-15-AUNS	PK9-03-17-913-C-4
	2	PK9-03-17-913-C-4	
Kablo Vrchlábí s.r.o.	-	FR-104-14-AUNS	JR-027-22-NURS
Prysmian Group	-	FR-156-12-AUNS	
Kabex, a.s.	-	FR-088-12-AUNS	

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

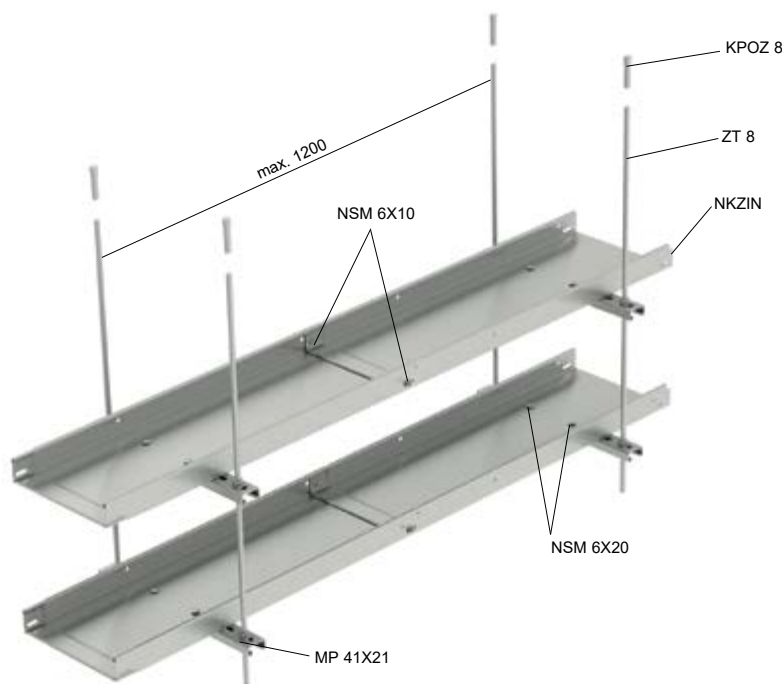
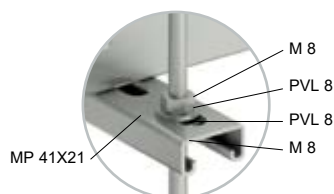
STANDARD
 NO-STANDARD
 JUPITER
 MARS
 LADDERS
 WIRE TRAYS
 STAINLESS
 OTHER

FIRE BOXES
 PRODUCTS
 INDEX


**MARS - NKZIN cable trays - side height 50 - sheet thickness 0,7 mm
ceiling assembly using threaded rods and mounting profiles MP 41X21**

kg
10


load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs


Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting construction is the NKZIN cable tray, which is suspended from the ceiling using MP 41X21 profiles, ZT 8 threaded rods and KPOZ 8 anchors. The mounting profile is fastened to the threaded rods using M 8 nuts and PD 8 washers. NKZIN cable trays are attached to the mounting profiles using NSM 6X20 bolts. It is possible to place two cable trays next to each other up to a total width of 500 mm on the profiles.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m
cable tray side height	50 mm
cable tray width	62 - 250 mm
cable tray sheet thickness	0,7 mm

List of products for one mounting point

				page
ZT 8	2	2	2	143
KPOZ 8	2	2	2	145
MP 41X21	1	2	3	138
M 8	4	8	12	144
PVL 8	4	8	12	144
NSM 6X20	2	4	6	148
PVL 6	2	4	6	144

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur 90	E60, P60-R, PS60	PRAFlaGuard F	E90, P90-R, PS90
	2	PRAFlaDur	E90, P90-R, PS90		
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E60, P60-R, PS60	JXFE-V	E60, P60-R, PS60
NKT s.r.o.	-	NOPOVIC 90	E90, P90-R, PS90	-	-
Kabex, a.s.	-	CPDeX 1-CHKE-V	E90, P90-R, PS90	CPDeX JCXFE-V	E30, P30-R, PS30
Tele-Fonika Kable S.A.	-	Flame-X 950 (N)HXH	E60, P60-R, PS60	HTKSH	E90, P90-R, PS90
CICM s.r.o.	-	1-CXKE-V	E90, P90-R, PS90	JXFE-V	E30, P45-R, PS45
ELKOND HHK, a.s.	-	1-CXKH-V	E30, P45-R, PS45	SSKFH-V180	E30, P30-R, PS30

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-228-15-AUNS	PK9-03-17-913-C-4
	2	PK9-03-17-913-C-4	
NKT s.r.o.	-	FR-217-18-AUNS	JR-104-23-NURS
Kablo Vrchlábí s.r.o.	-	FR-104-14-AUNS	PK9-03-17-913-C-4
Kabex, a.s.	-	FR-153-20-AUNS	JR-149-20-NURS
Tele-Fonika Kable S.A.	-		
CICM s.r.o.	-	FR-238-14-AUNS	JR-062-21-NURS
ELKOND HHK, a.s.	-	FR-041-23-AUNS	JR-073-23-NURS

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

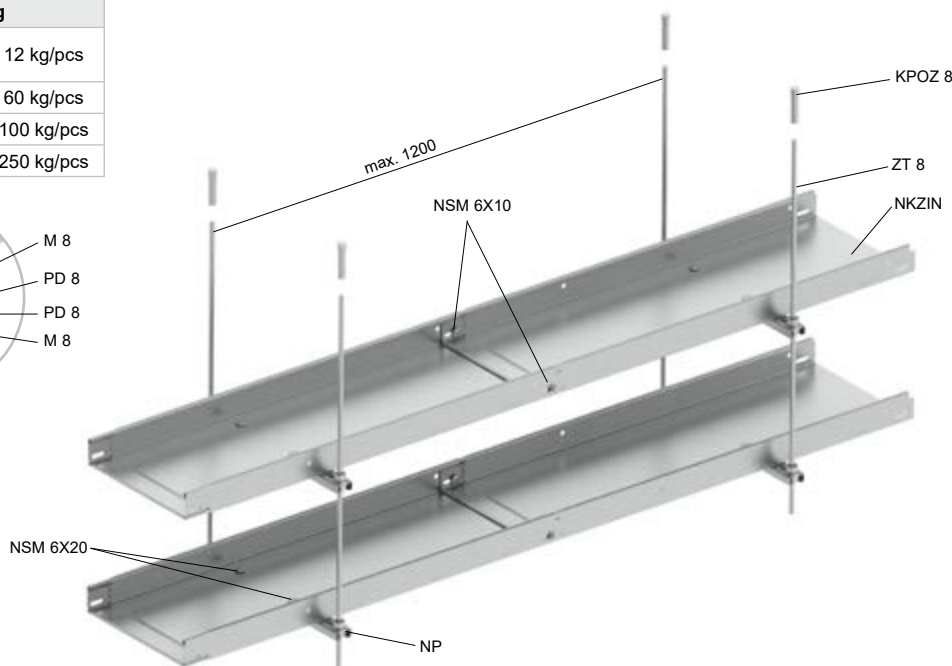
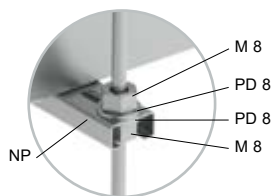


MARS - NKZIN cable trays - side height 50 - sheet thickness 0,7 mm ceiling assembly using threaded rods and supporting profiles NP

kg
10



load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs



Non-standardized supporting constructions - load 10 kg/m

The threaded rods ZT 8 are suspended from the ceiling by means of KPOZ 8 anchors. The NP support profiles are anchored on rods using M 8 nuts and PD 8 washers. The maximum mounting points spacing is 1200 mm. NKZIN cable trays are attached to the supporting profiles using NSM 6X20 bolts and PVL 6 washers. It is possible to place two cable trays next to each other up to a total width of 500 mm.

Marking of fire routes is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 730895
STN 920205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m
cable tray side height	50 mm
cable tray width	62 - 250 mm
cable tray sheet thickness	0,7 mm

	List of products for one mounting point			page
ZT 8	2	2	2	143
KPOZ 8	2	2	2	145
NP	1	2	3	138
M 8	4	8	12	144
PD 8	4	8	12	144
NSM 6X20	2	4	6	148

cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur 90	E60, P60-R, PS60	PRAFlaGuard F	E60, P60-R, PS60

cable manufacturer	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	FR-220-11-AUNS	JR-024-22-NURS

STANDARD

NO-STANDARD

JUPITER

MARS

LADDERS

WIRE TRAYS

STAINLESS

OTHER

FIRE BOXES

PRODUCTS

INDEX

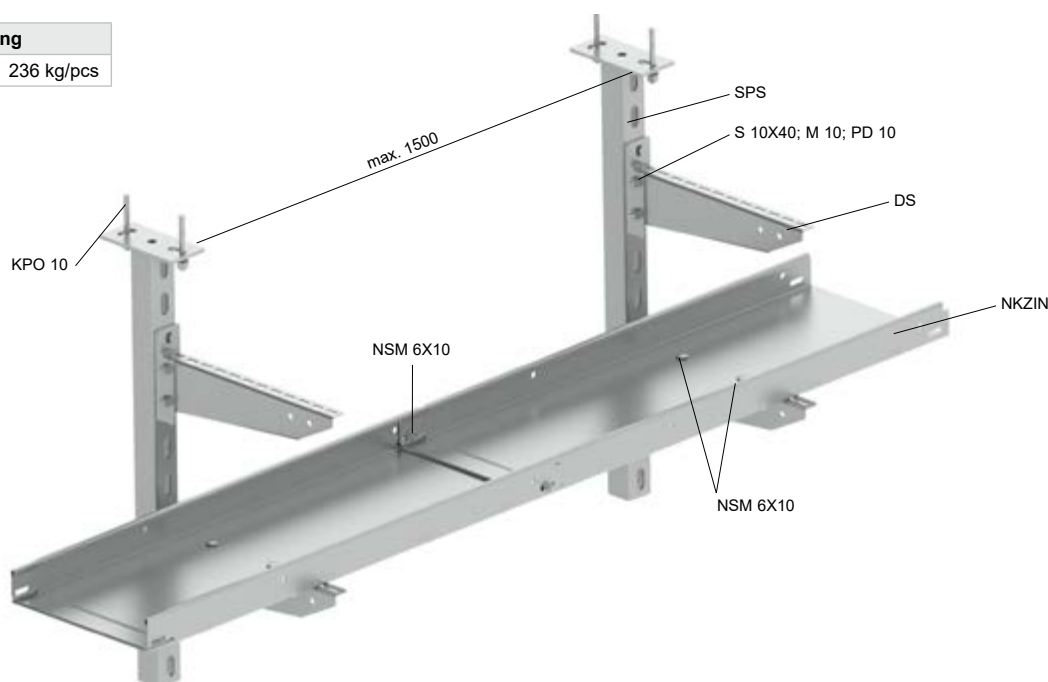


MARS - NKZIN cable trays - side height 50 assembly of cable trays - assembly for the ceiling using SPS

kg
10


load for anchoring

concrete	KPO 10	236 kg/pcs
----------	--------	------------



Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting construction is the SPS ceiling profile anchored to the base material using two KPO 10 anchors. The DS holder is fastened to the ceiling profile on one side using S 10X40 bolt, M 10 nut and PD 10 washer. The NKZIN cable trays are attached to the DS holders using NSM 6X10 bolts.

Marking of fire routes is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 730895
STN 920205

Permissible technical parameters of the route

spacing of mounting points	max. 1500 mm
maximum load	10 kg
distance between individual routes	200 mm
cable tray side height	50 mm
cable tray width	62 - 250 mm
cable tray sheet thickness	0,7 mm

List of products for one mounting point

							page
KPO 10	2	2	2	2	2	145	
SPS	1	1	1	1	1	135	
DS	1	2	2	4	6	136	
S 10X40	2	4	-	-	-	144	
S 10X70	-	-	2	4	6	144	
M 10	2	4	2	4	6	144	
PD 10	2	4	2	4	6	144	
NSM 6X10	2	4	4	8	12	148	

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur 90	E60, P60-R, PS60	PRAFlaGuard F	E60, P60-R, PS60
	2	PRAFlaDur	E30, P30-R, PS30		
	3	PRAFlaDur+T	E60, P60-R, PS60		
NKT s.r.o.	-	NOPOVIC 90	E90, P90-R, PS90	-	-
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E30, P30-R, PS30	JXFE-V	E60, P60-R, PS60
ELKOND HHK, a.s.	-	1-CXKH-V	E30, P45-R, PS45	SSKFH-V180	E30, P45-R, PS45

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-228-15-AUNS	PK9-03-17-913-C-4
	2	FR-217-18-AUNS	JR-104-23-NURS
	3	FR-041-23-AUNS	JR-073-23-NURS
NKT s.r.o.	-	FR-217-18-AUNS	JR-104-23-NURS
Kablo Vrchlábí s.r.o.	-	FR-217-18-AUNS	JR-104-23-NURS
ELKOND HHK, a.s.	-	FR-041-23-AUNS	JR-073-23-NURS

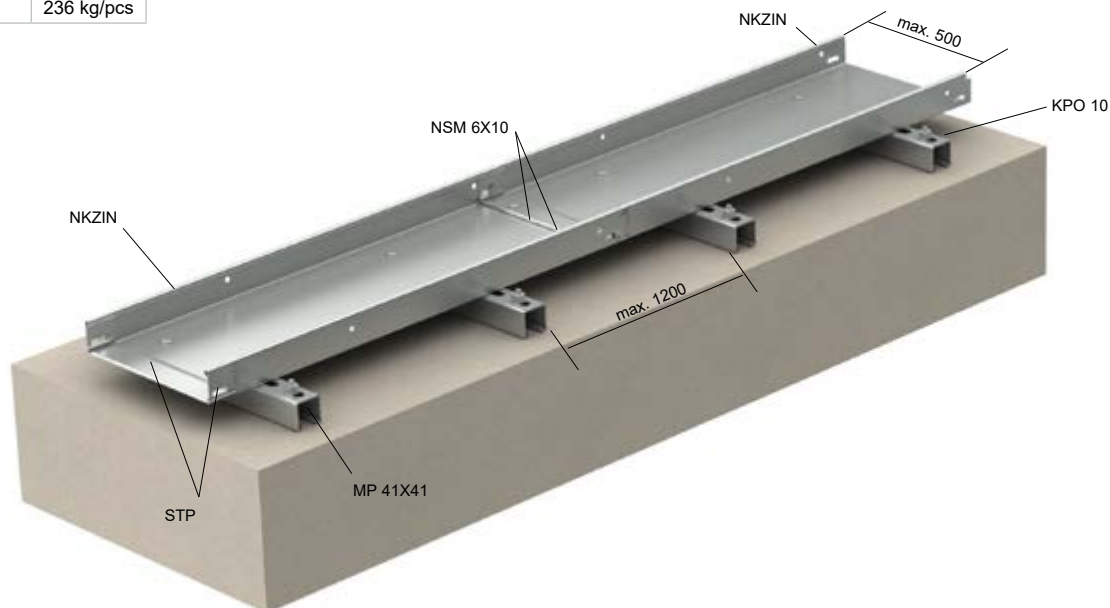
the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R



Cable routes - floor mounting, installation in raised floors
assembly of MARS cable trays



load for anchoring		
concrete	KPO 10	236 kg/pcs



Non-standardized supporting constructions - load 10 kg/m or 20 kg/m


The mounting points are formed by MP 41X41 support profiles. The NKZIN cable tray is attached to these profiles using STP screws. The mounting profile is anchored to the base material with KPO 10 anchors. The individual trays have an integrated coupling and are connected with NSM 6X10 bolts.

The non-perforated tray must not be used for roof assembly.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:
ČSN 730895

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m or 20 kg/m
cable tray side height	50 mm, 100 mm
cable tray width	62 - 500 mm

List of products for one mounting point		
		page
KPO 10	2	145
MP 41X41	1	138
STP	2	148

Due to the fact that it is possible to place MARS type cable trays on this route, the classification of the route depends on the specific type of cable tray tested on ceiling profiles. The classification can be found in the specification of a specific route.

expert assessment PAVUS, a. s.	513166/Z220130412
	PRA9-03-17-902-C-1
	Methodical instruction no. 02/2020

- STANDARD
- NO-STANDARD
- JUPITER
- MARS
- LADDERS
- WIRE TRAYS
- STAINLESS
- OTHER

- FIRE BOXES
- PRODUCTS
- INDEX



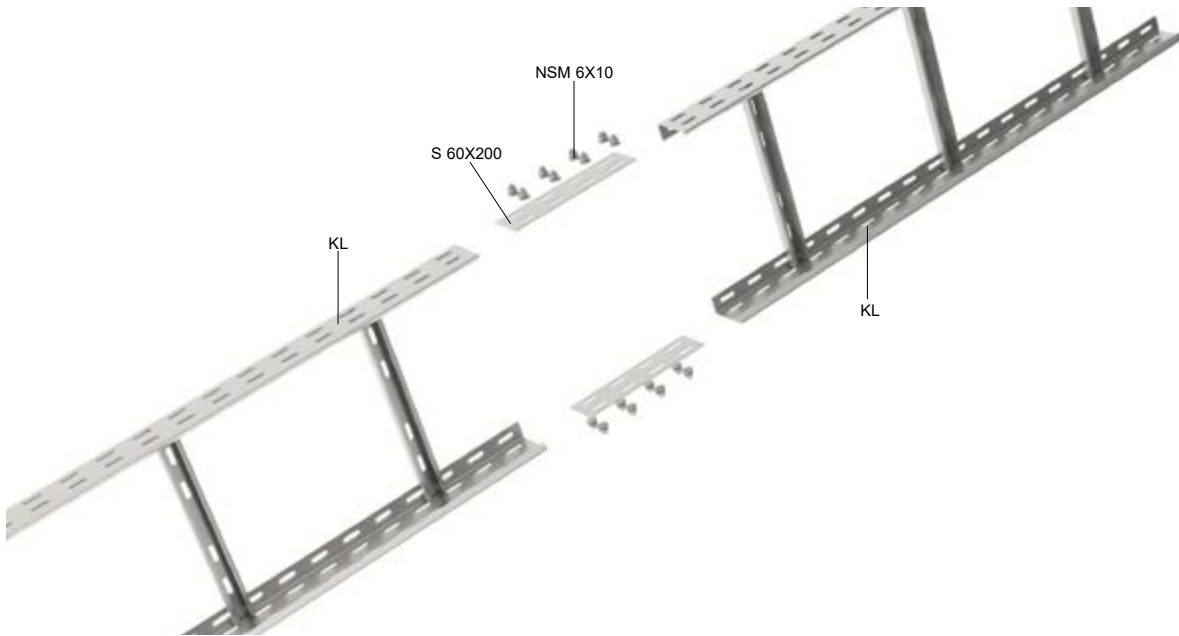
NON-STANDARDIZED SUPPORTING CONSTRUCTIONS

CABLE LADDER





Connection of fire-resistant ladder KL



The connection of the KL cable ladder is made using the S 60X200 coupling and the NSM 6X10 bolts.

Coupling type	number of bolts per 2 pcs of couplings
S 60X200	8 - 16 pcs NSM 6X10
S 110X200	

STANDARD

NO-STANDARD

JUPITER

MARS

LADDERS

WIRE TRAYS

STAINLESS

OTHER

FIRE BOXES

PRODUCTS

INDEX

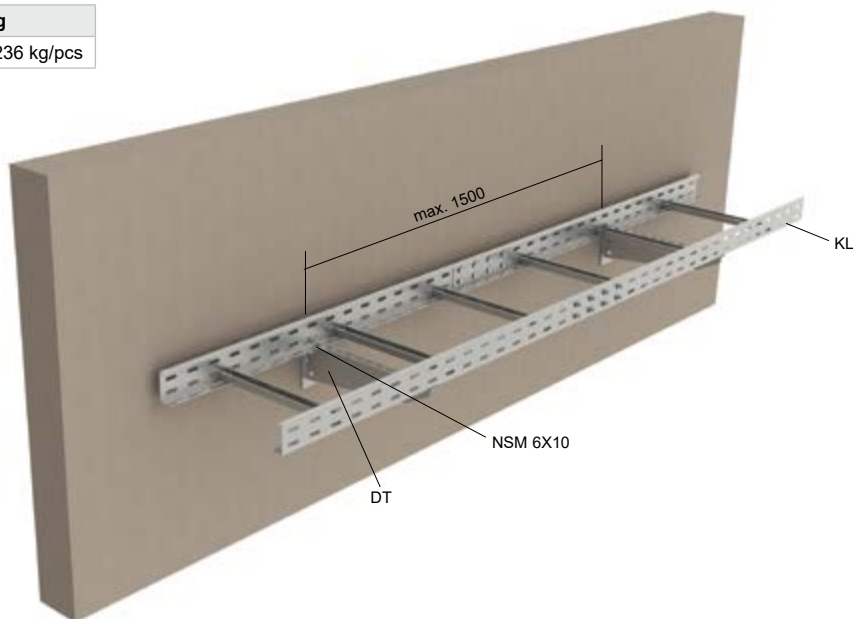


Cable ladders KL assembly of cable ladders on the wall



load for anchoring

concrete	KPO 10	236 kg/pcs
----------	--------	------------



Non-standardized supporting constructions - load 20 kg/m

The basis of the supporting construction are DT holders attached to the base material using two KPO 10 anchors. The cable tray is connected to each other using two S 60X200 couplings and NSM 6X10 bolts. The ladder is attached to the DT holders using NSM 6X10 bolts.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 730895
STN 920205

Permissible technical parameters of the route

spacing of mounting points	max. 1500 mm
maximum load	20 kg/m
cable ladder side height	60 mm
cable ladder width	150 - 400 mm

List of products for one mounting point

				page
DT	1	2	3	135
KPO 10	2	4	6	145
NSM 6X10	2	4	6	148

cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur 90	E90, P90-R, PS90	PRAFlaGuard F	E30, P30-R, PS30
	PRAFlaDur	E30, P45-R, PS45		
Kabex, a.s.	1-CSKE-V	E60, P60-R, PS60	JCSFE-V	P15-R, PS15
Kablo Vrchlábí s.r.o.	1-CXKH-V	E30, P30-R, PS30	JXFE-V	E60, P60-R, PS60

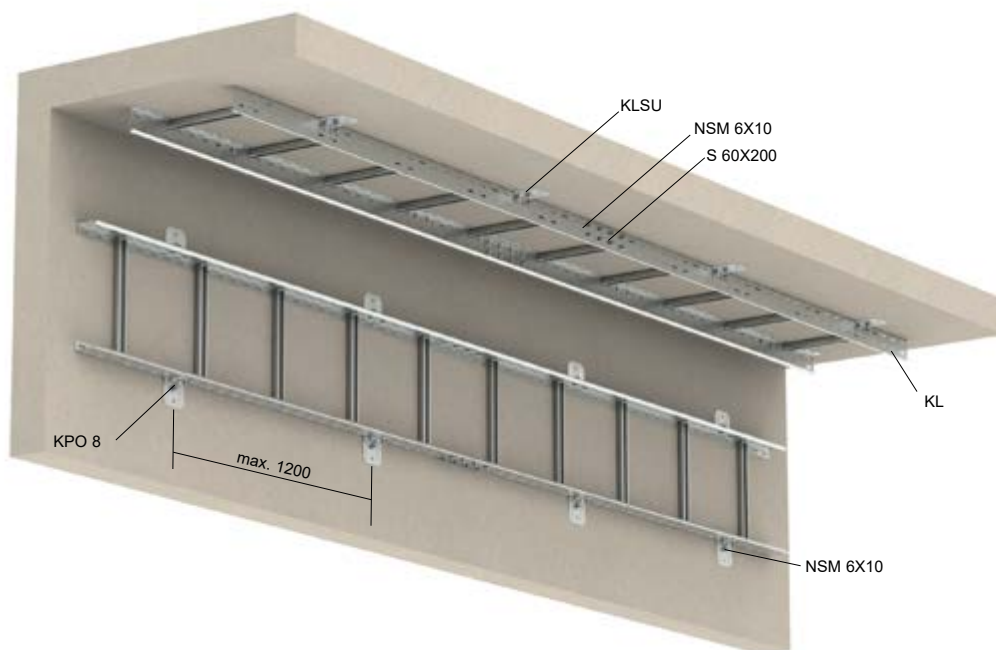
cable manufacturer	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	FR-220-11-AUNS	JR-024-22-NURS
Kabex, a.s.	FR-088-12-AUNS	JR-027-22-NURS
Kablo Vrchlábí s.r.o.	FR-104-18-AUNS	JR-101-23-NURS



Cable ladders KL
set of cable ladders for wall and ceiling



load for anchoring		
concrete	KPO 8	187 kg/pcs



Non-standardized supporting constructions - load 20 kg/m

The cable ladder is attached to the base material using KLSU clamps located to the side of the bridge using NSM 6X10 bolts. The installation on the base material is done using KPO 8 anchors. With this method of anchoring, the cable ladder can also be installed on the ceiling. We attach the cable with a PKC1 clamp to each cross-piece of the cable ladder (max. 3 pieces of cable in 1 clamp). The cable ladder can be anchored over the cross-piece with suitable anchors, e.g. KPO 8. The route can also be used as vertical.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	20 kg/m
cable ladder side height	60 mm
cable ladder width	150 - 600 mm

List of products for one mounting point			
			page
KLSU	2	2	139
KPO 8	2	2	145
NSM 6X10	4	4	148
PKC1	according to the cables amount	according to the cables amount	142

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]	note
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur	E60, P60-R, PS60	PRAFlaGuard F	E90, P90-R, PS90	-
	2	PRAFlaDur 90	E90, P90-R, PS90			width of the ladders up to 400 mm
	3	PRAFlaDur+T	E90, P90-R, PS90			-
NKT s.r.o.	-	NOPOVIC	E90, P90-R, PS90	-	-	-
Kabex, a.s.	-	1-CSKE-V	E60, P60-R, PS60	-	-	-
	-	CPDex 1-CHKE-V	E90, P90-R, PS90	CPDex JCXFE-V	E30, P45-R, PS45	-
CICM s.r.o.	-	1-CXKE-V	E60, P60-R, PS60	J-XFE-V	E30, P45-R, PS45	width of the ladders up to 400 mm
Technokabel S.A.	-	NHXH	E60, P60-R, PS60	HTKSH	E60, P60-R, PS60	-
	-	-	-	HDGS	E30, P45-R, PS45	-
ELKOND HHK, a.s.	-	1-CXKH-V	E90, P90-R, PS90	SSKFH-V180	E30, P45-R, PS45	-

cable manufacturer	No.	protocol number	standpoint number
NKT s.r.o.	-	FR-246-21-AUNS	JR-104-21-NURS
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-220-11-AUNS	JR-024-22-NURS
	2	FR-041-23-AUNS	JR-073-23-NURS
	3	FR-041-23-AUNS	JR-073-23-NURS
Kabex, a.s.	1	FR-88-12-AUNS	JR-027-22-NURS
	2	-	PK9-03-17-913-C-4
CICM s.r.o.	-	FR-238-14-AUNS	JR-062-21-NURS
Technokabel S.A.	-	-	PK9-03-17-913-C-4
ELKOND HHK, a.s.	-	FR-041-23-AUNS	JR-073-23-NURS

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

vertical route

- STANDARD
- NO-STANDARD
- JUPITER
- MARS
- LADDERS
- WIRE TRAYS
- STAINLESS
- OTHER

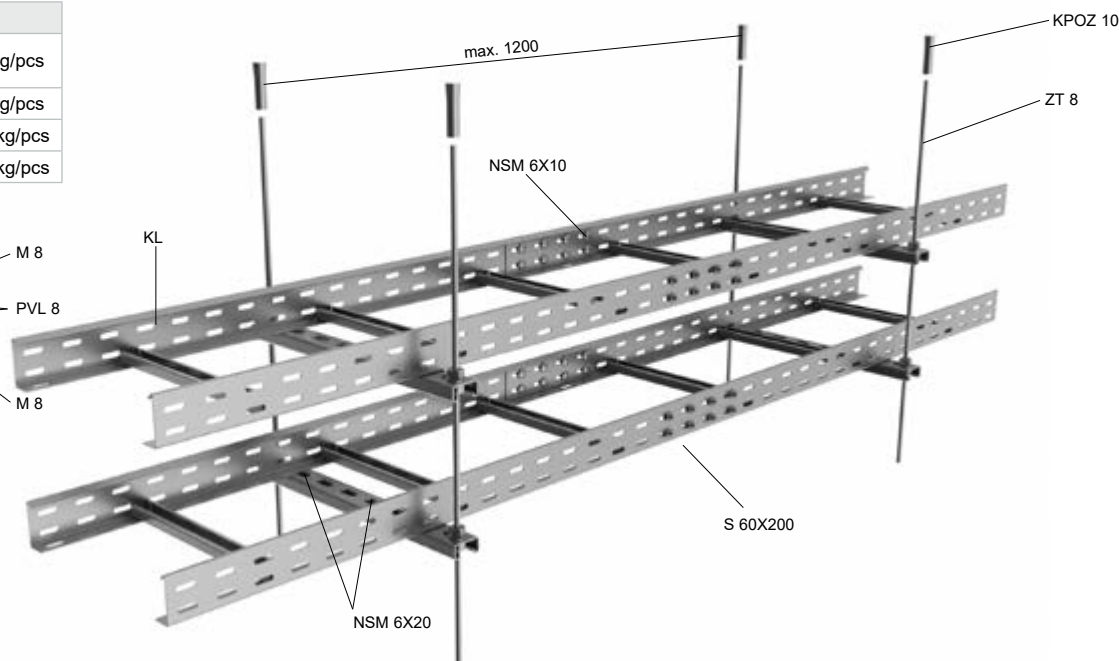
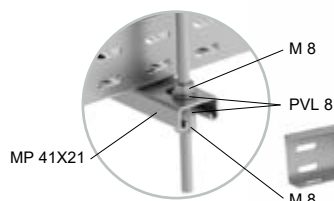
FIRE BOXES

PRODUCTS

INDEX

Cable ladders KL with a side height of 60 mm ceiling assembly using threaded rods and mounting profiles MP 41X21

load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs



Non-standardized supporting constructions - load 20 kg/m

The basis of the supporting construction is the KL cable ladder, which is suspended from the ceiling using MP 41X21 profiles, ZT 8 threaded rods and KPOZ 8 anchors. The mounting profile is fastened to threaded rods using M 8 nuts and PVL 8 washers. KL cable ladders are attached to the mounting profiles using NSM 6X20 bolts and PVL 6 washers. It is possible to place two cable ladder side by side up to a total width of 600 mm on the profiles.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to: DIN 4102-12, ČSN 73 0895, STN 920205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	20 kg/m
cable ladder side height	60 mm
cable ladder width	150 - 600 mm

	List of products for one mounting point			page
ZT 8	2	2	2	143
KPOZ 8	2	2	2	145
MP 41X21	1	2	3	138
M 8	4	8	12	144
PVL 8	4	8	12	144
NSM 6X20	2	4	6	148
PVL 6	2	4	6	144

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]	note
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur 90	E90, P90-R, PS90	PRAFlaGuard F	E90, P90-R, PS90	width of the ladders up to 400 mm
	2	PRAFlaDur	E60, P60-R, PS60			-
	3	PRAFlaDur+T				
Prysmian group	-	(N) HXHX-J	E30, P30-R, PS30	JE-H(St)H	E90, P90-R, PS90	width of the ladders up to 500 mm
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E60, P60-R, PS60	JXFE-V	E90, P90-R, PS90	
NKT s.r.o.	-	NOPOVIC 1-CXKH	E60, P60-R, PS60	-	-	-
Zakłady Kablowe BITNER Sp. z o.o.	-	Bitflame 1000	E90, P90-R, PS90	HTKSH	E90, P90-R, PS90	-
Kabex, a.s.	-	CPDex 1-CHKE-V	E90, P90-R, PS90	CPDex JCXFE-V	P15-R, PS15	-
CICM s.r.o.	-	1-CXKE-V	E90, P90-R, PS90	J-XFE-V	E60, P60-R, PS60	width of the ladders up to 500 mm
ELKOND HHK, a.s.	-	1-CXKH-V	E60, P60-R, PS60	SSKFH-V180	E30, P30-R, PS30	-

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-220-11-AUNS	JR-052-17-AUPS
	2	FR-327-22-AUNS	JR-167-22-NURS
Prysmian group	-	FR-166-17-AUNS	JR-030-22-NURS
Kablo Vrchlábí s.r.o.	-	FR-104-14-AUNS	PK9-03-17-913-C-4
NKT s.r.o.	-	FR-166-17-AUNS	JR-030-22-NURS
Kabex, a.s.	-	JR-184-19-NURS	JR-185-19-NURS
BITNER Sp.z o.o	-		
CICM s.r.o.	-	FR-238-14-AUNS	JR-062-21-NURS
ELKOND HHK, a.s.	-	FR-041-23-AUNS	JR-073-23-NURS

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

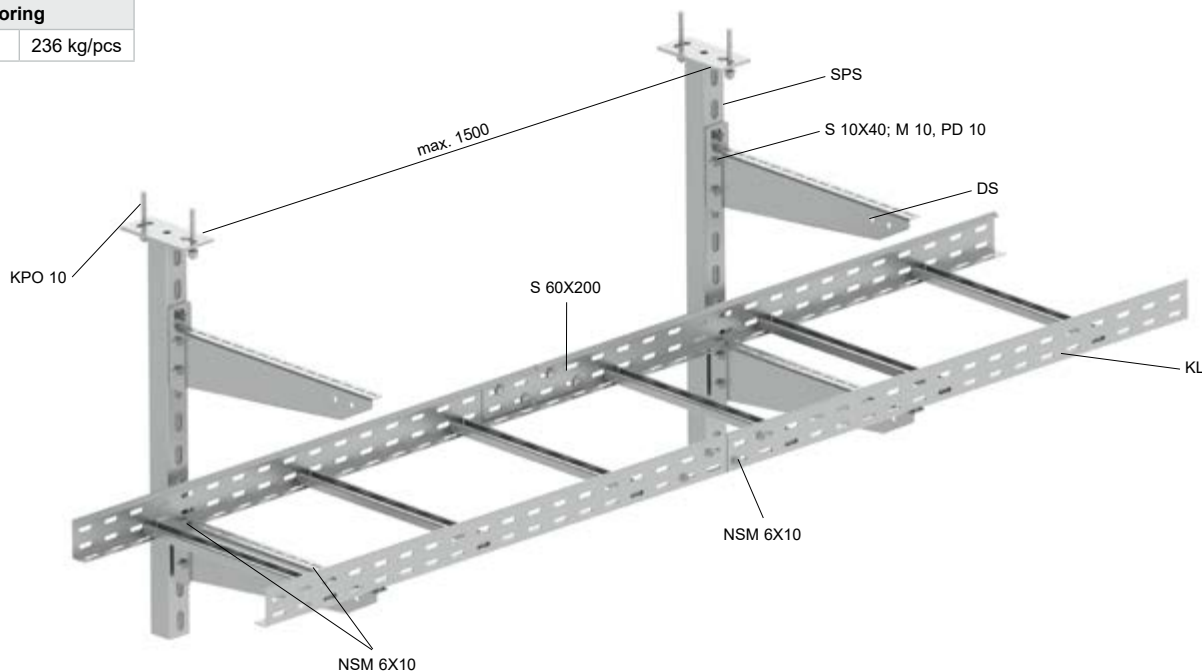


Cable ladders KL
assembly of cable ladders - assembly for the ceiling using SPS

kg
10



load for anchoring		
concrete	KPO 10	236 kg/pcs



Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting structure is the SPS ceiling profile anchored to the base material using two KPO 10 anchors. The DS holder is fastened to the ceiling profile on one side with S 10X40 bolt, M 10 nut and PD 10 washer. The KL cable ladders are attached to the DS holders with NSM 6X10 bolts.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 1500 mm
maximum load	10 kg
distance between individual routes	200 mm
cable ladder side height	60 mm
cable ladder width	150 - 400 mm

	List of products for one mounting point					page
KPO 10	2	2	2	2	2	145
SPS	1	1	1	1	1	135
DS	1	2	2	4	6	136
S 10X40	2	4	-	-	-	144
S 10X70	-	-	2	4	6	144
M 10	2	4	2	4	6	144
PD 10	2	4	2	4	6	144
NSM 6X10	2	4	4	8	12	148

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur 90	E30, P30-R, PS30	PRAFlaGuard F	E30, P45-R, PS45
	2	PRAFlaDur			
	3	PRAFlaDur+T			
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E60, P60-R, PS60	JXFE-V	E90, P90-R, PS90
NKT s.r.o.	1	NOPOVIC 60	E60, P60-R, PS60	-	-
	2	NOPOVIC 90	E90, P90-R, PS90	-	-
Kabex, a.s.	-	CPDex 1-CHKE-V	E30, P30-R, PS30	CPDex JXFE-V	P15-R, PS15
Technokabel S.A.	-	NHXH	E90, P90-R, PS90	HTKSH	E30, P30-R, PS30
	-	-	-	HDGS	E30, P30-R, PS30
ELKOND HHK, a.s.	-	1-CXKH-V	E30, P45-R, PS45	SSKFH-V180	E30, P30-R, PS30

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-228-15-AUNS	PK9-03-17-913-C-4
	2	FR-217-18-AUNS	JR-104-23-NURS
	3	FR-041-23-AUNS	JR-073-23-NURS
NKT s.r.o.	1	FR-217-18-AUNS	JR-104-23-NURS
	2		
Kablo Vrchlábí s.r.o.	-	PR-18-2.005	PK9-03-17-913-C-4
Technokabel S.A.	-	FR-202-22-AUNS	JR-112-22-NURS
ELKOND HHK, a.s.	-	FR-041-23-AUNS	JR-073-23-NURS

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

STANDARD

NO-STANDARD

JUPITER

MARS

LADDERS

WIRE TRAYS

STAINLESS

OTHER

FIRE BOXES

PRODUCTS

INDEX

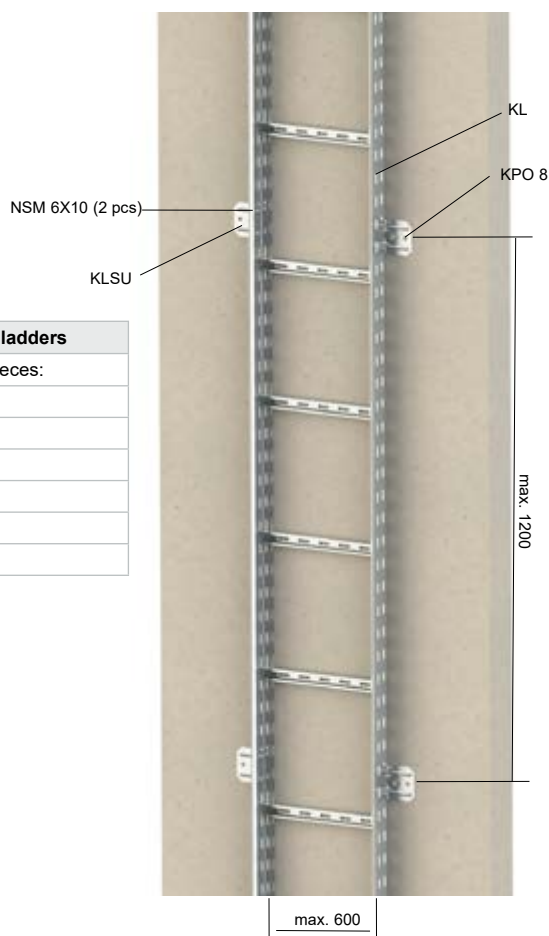
Cable ladders - KL 60... assembly of cable ladders - vertical route



kg
20

load for anchoring

concrete	KPO 8	187 kg/pcs
----------	-------	------------



Use for cable ladders

30 cm cross-pieces:

KL 60X150
KL 60X200
KL 60X300
KL 60X400
KL 60X500
KL 60X600

Non-standardized supporting constructions - load 20 kg/m

The cable ladder is attached to the base material using KLSU brackets attached to the side of the ladder in a maximum span of 1200 mm using NSM 6X10 bolts. The installation on the base material is performed using KPO 8 anchors.

The cable placed in the cable ladder must be mechanically fastened with PKC1 clamps at least every 300 mm.


If the length of the vertical cable route is longer than 3500 mm, it is necessary to create a relieving elbow or use a KPS cable clamps cover (pg. 17 and 63).

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Permissible technical parameters of the route

spacing of mounting points	max. 1200 mm
maximum load	20 kg/m
distance between individual routes	100 mm (minimum distance for KPS cover placement)
cable ladder side height	60 mm
cable ladder width	150 - 600 mm

List of products for one mounting point

		page
KLSU	2	139
KPO 8	2	145
NSM 6X10	4	148
PKC1	according to the cables amount	142

Cable manufacturer approved:

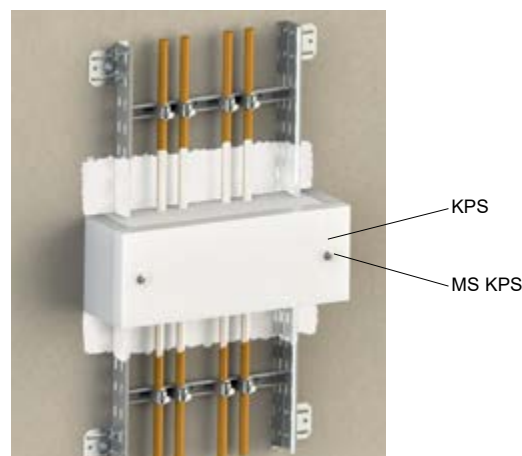
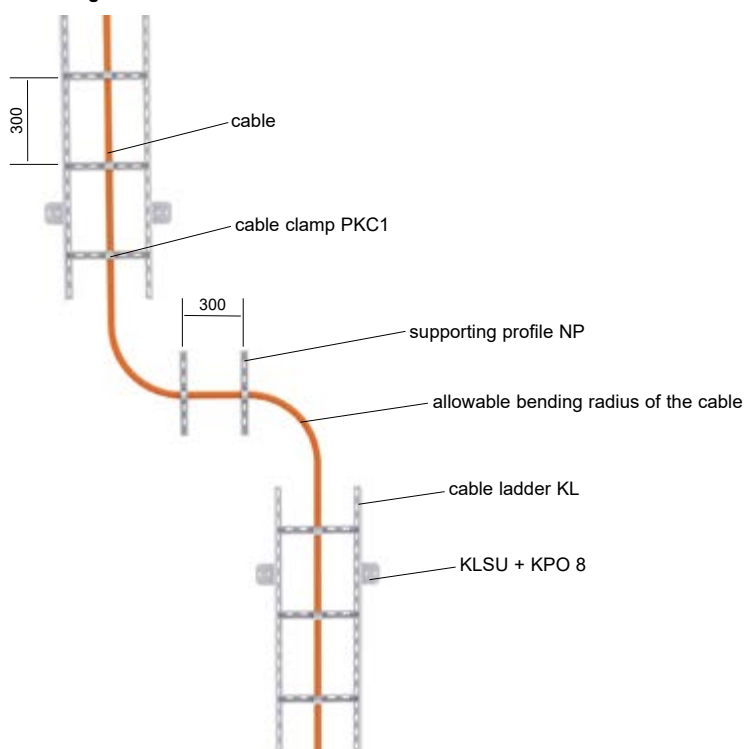
Due to the fact that KL cable ladders can be placed on this route, the classification of the route depends on the specific type of cable ladder tested on the ceiling. The classification can be found in the specification of a specific route.

Because the vertical route may be part of a non-standardized supporting construction, it is always necessary to use cables from manufacturers who have been certified for installation with the non-standardized part of the cable route. The route must be anchored before going to the vertical part.

KPS - replacement for relieving elbow

Instead of the relieving elbow, it is possible to use the KPS cable clamps cover (pg. 17 and 63).

Relieving elbow



Certification according to: ČSN 73 0895

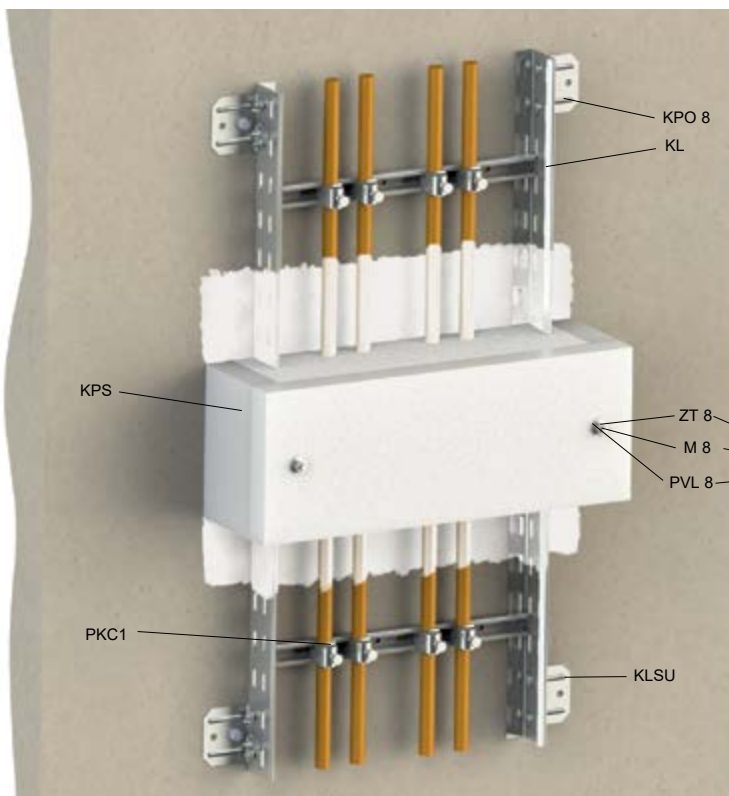
the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R


vertical route



KPS cable clamps cover
up to a cable ladder width of up to 600 mm - tension relief after every 3,5 m

Type of KPS
KPS 200X150_PO
KPS 200X200_PO
KPS 200X300_PO
KPS 200X400_PO
KPS 200X500_PO
KPS 200X600_PO



Standardized and non-standardized supporting constructions

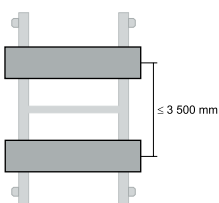
The KPS cable clamps cover is attached to the base material using ZT 8 threaded rods, PVL 8 washers, M8 nuts and KPOZ 8 anchors (MS KPS assembly set). The KPS provides thermal protection for the PKC1 clamps in the cable tray or NP profile, as well as for the OMEGA, DOBRMAN and 67xx_PO clamps in which the cable is fixed and thus fulfils its mechanical function in case of fire. In order for the cover to function safely, it must be installed on vertical routes consisting of cable ladders, OMEGA, DOBRMAN or 67xx_PO clamps every max. of 3,5 m. The cover is placed symmetrically with the axis of the cable route cross-piece. The cover does not function as a fire seal. The insulating putty is no longer included. The putty must be ordered separately. This is the KPS-STOP_PO putty knife, which is supplied in 2 kg buckets (the package is sufficient to coat approx. 4 pieces of KPS with 1 mm thickness in dry condition). Marking of fire routes by OPT label is always done after at least 50 m of the route. For a standard load-bearing structure, the width of KPS is 200X... max. 400 mm.

The KPS cover can be used as a replacement for the relieving elbow.

Assembly description

Fasten the cables to each partition with clamps every 30 cm. Drill the holes in the wall according to the spacing of the holes in the KPS clamps cover and insert the anchors into them. Mount threaded rods to the anchors. Attach the clamps cover and lightly tighten over the washers. Insert one layer of insulating cotton wool after another. Always carefully seal the area around the cables with pieces of cotton wool. Now tighten the nuts fixing the cover firmly and carefully coat the area around the cables and the edges of the insulation wool with the supplied cement (min. 1 mm thickness in dry condition).

List of products for one mounting point		
		page
KPS	1	131
MS KPS	1	131
PKC1	according to the cables amount	142
KPS-STOP_PO	1 (2 kg)	131



classification protocol number	classification [min] - power cables	classification [min] - data cables
PK9-03-17-913-C-4	E90, P90-R, PS90	E90, P90-R, PS90



Certification according to: ČSN 730895, DIN 4102-12, STN 920205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R



- STANDARD
- NO-STANDARD
- JUPITER
- MARS
- LADDERS
- WIRE TRAYS
- STAINLESS
- OTHER

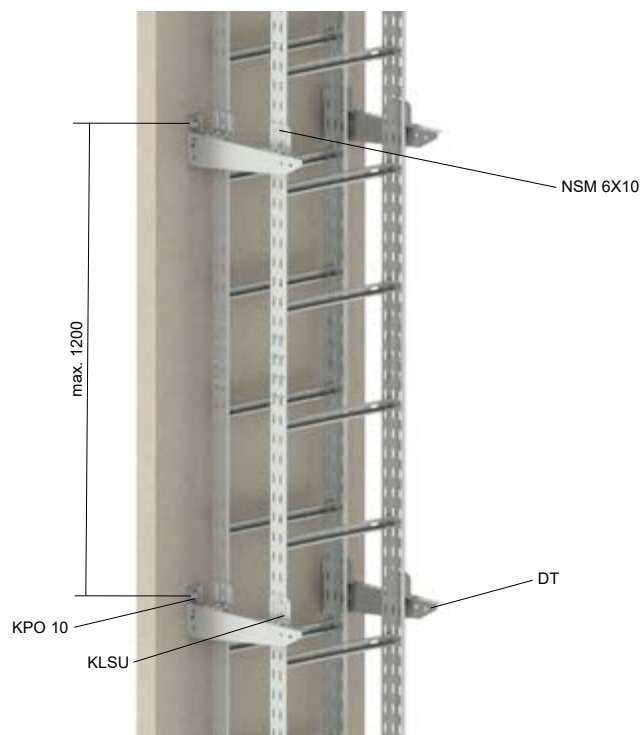
- FIRE BOXES
- PRODUCTS
- INDEX

Cable ladders KL

assembly of cable ladders - vertical route of two cable ladders KL

kg
20

load for anchoring		
concrete	KPO 10	236 kg/pcs



Non-standardized supporting constructions - load 20 kg/m

Cable ladders are attached by KLSU bracket to DT holders placed on the wall using KPO 10 anchors. The maximum mounting point spacing is 1200 mm. The mutual distance of cable trays placed on DT holders is 200 mm. It is advantageous to use the assembly where it is necessary to install a large number of cables.

According to the standards, the vertical route created by the cable ladders KL 60X... S (F) is understood as a clamp for individual cables. The cable trays are connected using S 60X200 coupling. Fixing cables with individual clamps with spacing of 300 mm is understood as a standardized supporting construction. Because the vertical route may be part of a non-standardized supporting construction, it is always necessary to use cables from manufacturers who have been certified for installation with the non-standardized part of the cable route.

The route must be anchored before going to the vertical part.


For the vertical route, a relieving elbow or tensile relief using KPS (pg. 63) must be created every 3500 mm. In the case of the assembly of two cable trays, two KPS can be used on top of each other or against each other.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

ČSN 73 0895

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	20 kg (for each cable ladder)
distance between individual routes	200 mm
cable ladder side height	60 mm
cable ladder width	150 - 600 mm

List of products for one mounting point		
		page
DT	2	135
KLSU	4	139
KPO 10	4	145
NSM 6X10	8	148

cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur 90	P90-R	PRAFlaGuard F	P90-R
Prysmian group	(N) HXHX	P90-R	JE- H(St)H	P90-R
Kabex, a.s.	CPDex 1-CHKE-V	P90-R	-	-

expert assessment PAVUS, a. s.	513166/Z220130412
-----------------------------------	-------------------

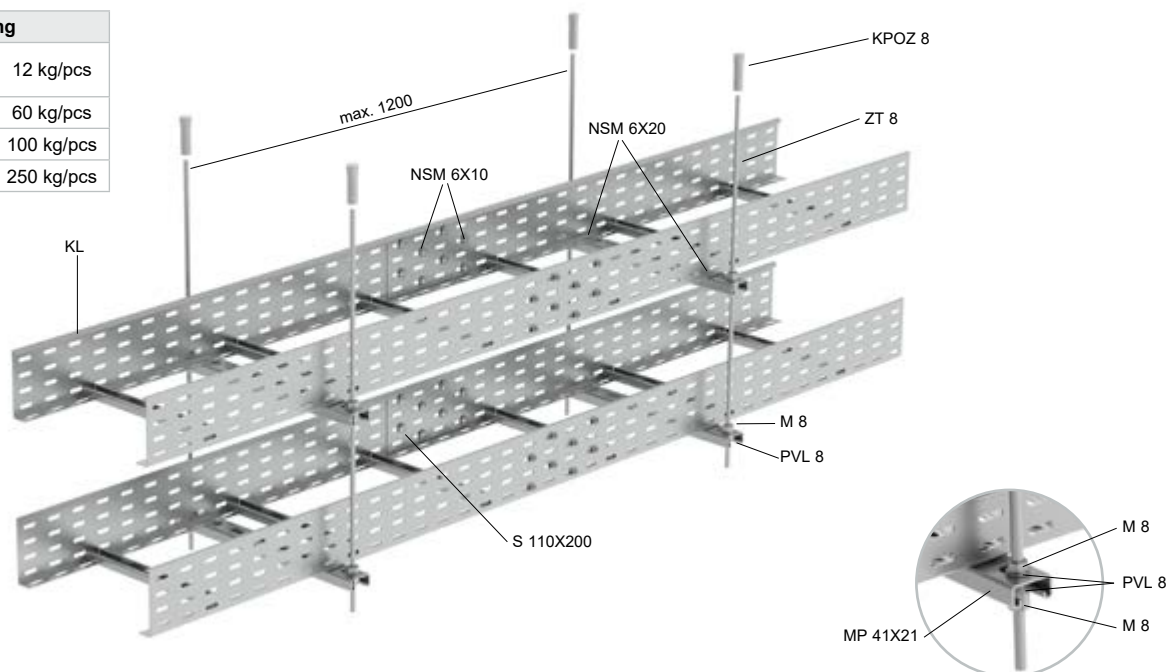


Cable ladders KL with a side height of 110 mm ceiling assembly using threaded rods and mounting profiles MP 41X21

kg
30



load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs



Non-standardized supporting constructions - load 30 kg/m

The basis of the supporting construction is the KL cable ladders, which is suspended from the ceiling by means of MP 41X21 profiles, ZT 8 threaded rods and KPOZ 8 anchors. The mounting profile is fastened to the threaded rods by means of M 8 nuts and PVL 8 washers. KL cable ladders are attached to the mounting profiles using NSM 6X20 bolts and PVL 6 washers. It is possible to place two cable ladders side by side up to a total width of 600 mm on the profiles.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	30 kg/m
cable ladder side height	110 mm
cable ladder width	150 - 600 mm

	List of products for one mounting point			page
ZT 8	2	2	2	143
KPOZ 8	2	2	2	145
MP 41X21	1	2	3	138
M 8	4	8	12	144
PVL 8	4	8	12	144
NSM 6X20	2	4	6	148
PVL 6	2	4	6	144

cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur	E60, P60-R, PS60	PRAFlaGuard F	E30, P30-R, PS30
Kabex, a.s.	CPDex 1-CHKE-V	E90, P90-R, PS90	CPDex JCXFE-V	E90, P90-R, PS90
ELKOND HHK, a.s.	1-CXKH-V	E60, P60-R, PS60	SSKFH-V180	E30, P30-R, PS30

cable manufacturer	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	FR-153-20-AUNS	JR-149-20-NURS
Kabex, a.s.		
ELKOND HHK, a.s.	FR-041-23-AUNS	JR-073-23-NURS



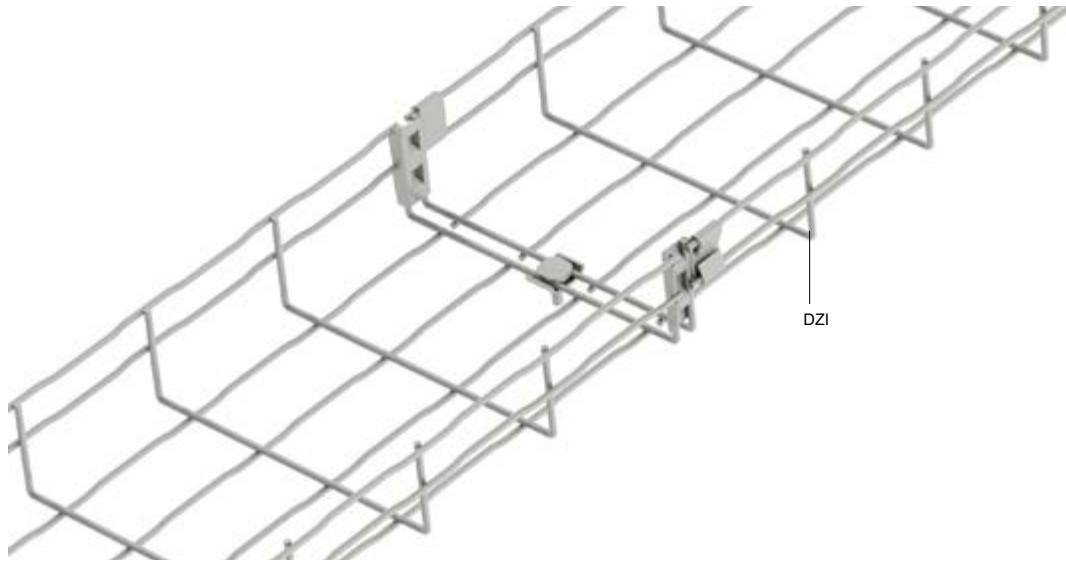
NON-STANDARDIZED SUPPORTING CONSTRUCTIONS

WIRE TRAY





Connection of fire-resistant wire tray with integrated coupling



The DZI wire tray connection is made using the integrated coupling and the DZS/B bolts.

tray width	DZS/B
60	1
100	
150	
200	2
300	
400	
500	3
600	

STANDARD

NO-STANDARD

JUPITER

MARS

LADDERS

WIRE TRAYS

STAINLESS

OTHER

FIRE BOXES

PRODUCTS

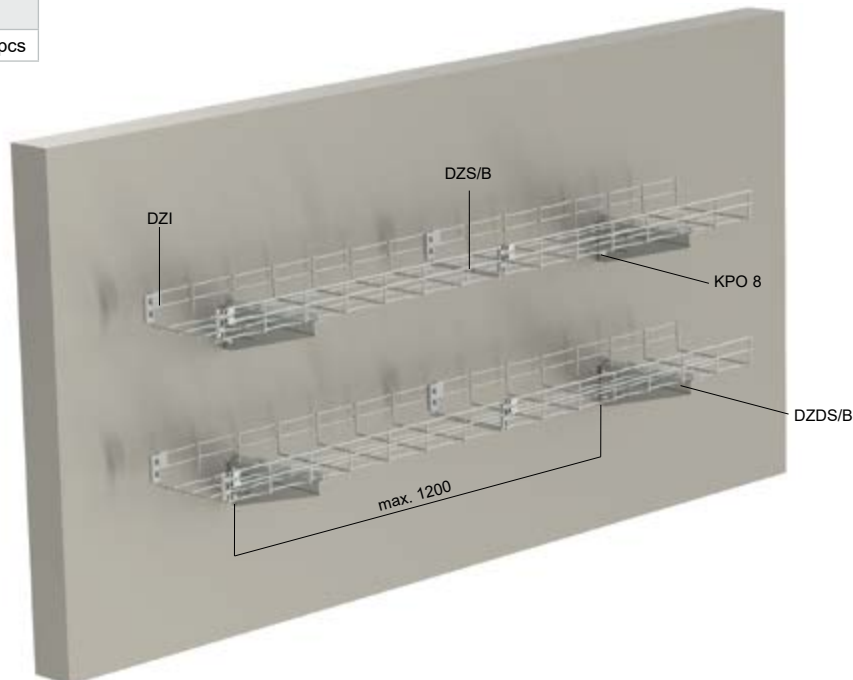
INDEX

Wire trays with integrated DZI coupling - side height 60 assembly of wire trays on the wall



load for anchoring

concrete	KPO 8	100 kg/pcs
----------	-------	------------



Non-standardized supporting constructions - load 10 kg/m

The basis of the supporting structure is a DZDS/B holder fixed to the wall by means of two KPO 8 anchors. The ends of the protrusions must be bent down towards the holders after installation of the tray. For fire resistance, the connection by integrated couplings is fastened with DZS/B bolts (according to the width of the tray).

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 920205

Permissible technical parameters of the route

spacing of mounting points	max. 1200 mm
maximum load	10 kg/m
cable tray side height	60 mm
cable tray width	100 - 300 mm

List of products for one mounting point

				page
DZDS.../B	1	2	3	134
KPO 8	1	2	3	145

cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s. r. o.	PRAFlaDur	E30, P30-R, PS 30	PRAFlaGuard F	E90, P90-R, PS90
NKT, s. r. o.	NOPOVIC 90	E90, P90-R, PS90	-	-

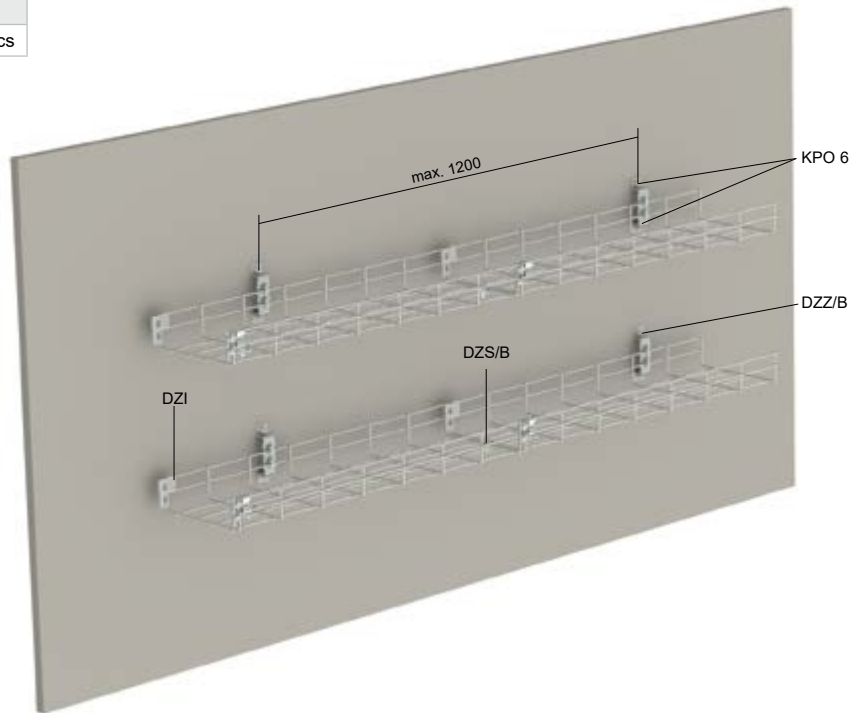
cable manufacturer	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s. r. o.	FR-166-17-AUNS	JR-030-22-NURS
NKT, s. r. o.	FR-166-17-AUNS	JR-030-22-NURS



Wire trays with integrated DZI coupling - side height 60 assembly on the wall using DZZ/B



load for anchoring		
concrete	KPO 6	100 kg/pcs



Non-standardized supporting constructions - load 6 kg/m

The basis of the supporting structure is the DZZ/B hanger attached to the wall using a KPO 6 anchor. For fire resistance, the connection by integrated couplings is fastened with DZS/B bolts (according to the width of the tray).

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
 ČSN 73 0895
 STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	6 kg/m
cable tray side height	60 mm
cable tray width	60 - 200 mm

List of products for one mounting point				
				page
DZZ/B	1	2	3	133
KPO 6	2	4	6	145

cable manufacturer	power cables	classification [min]	data cables	classification [min]	note
PRAKAB PRAŽSKÁ KABELOVNA, s. r. o.	PRAFlaDur 90	E90, P90-R, PS90	PRAFlaGuard F	E30, P30-R, PS30	cable cross section up to 16 mm ²
	PRAFlaDur	P15-R, PS15	-	-	cable cross section up to 16 mm ²
Kablo Vrchlábí s.r.o.	1-CXKH-V	E60, P60-R, PS60	JXFE-V	E90, P90-R, PS90	cable cross section up to 16 mm ²
NKT, s. r. o.	NOPOVIC 90	E90, P90-R, PS90	-	-	cable cross section up to 10 mm ²

cable manufacturer	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s. r. o.	FR-166-17-AUNS	JR-030-22-NURS
Kablo Vrchlábí s.r.o.	PR-18-2.005	PK9-03-17-913-C-4
NKT, s. r. o.	FR-166-17-AUNS	JR-030-22-NURS

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

STANDARD

NO-STANDARD

JUPITER

MARS

LADDERS

WIRE TRAYS

STAINLESS

OTHER

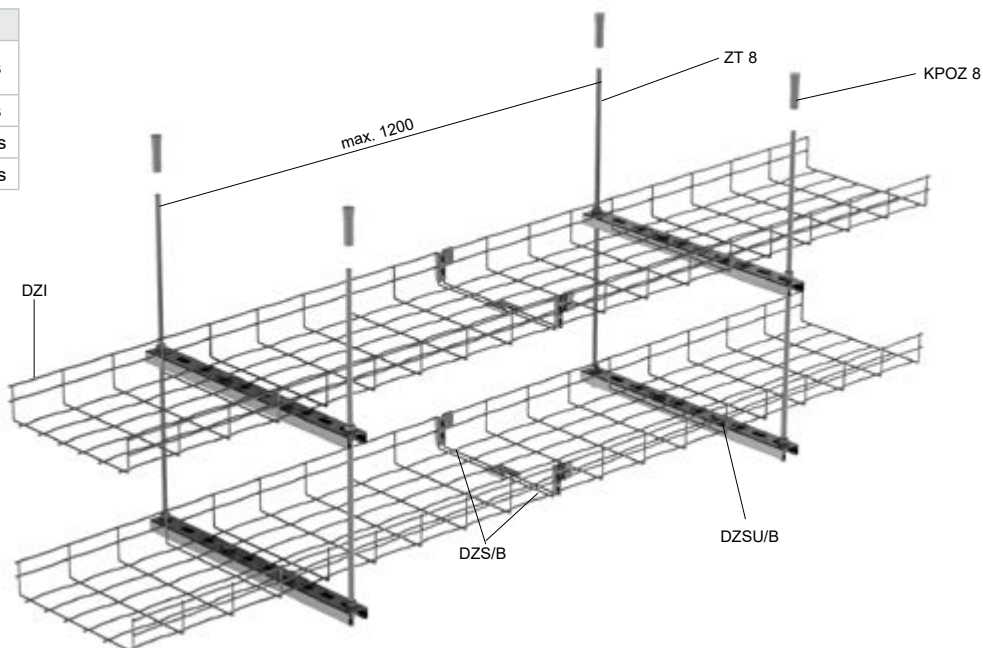
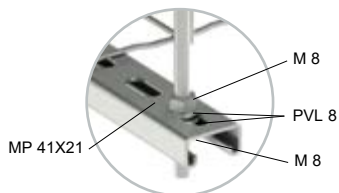
FIRE BOXES

PRODUCTS

INDEX

Wire trays with integrated DZI coupling - side height 60 ceiling assembly using threaded rods and mounting profiles MP 41X21

load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs



Non-standardized supporting constructions - load 10 kg/m

The base of the supporting structure is the DZI wire cable tray, which is fixed to the ceiling using MP 41X21 profiles, ZT 8 threaded rods and KPOZ 8 anchors. The mounting profile is fixed to the threaded rods using M 8 nuts and PVL 8 washers. For fire resistance, the connection by integrated couplings is fastened with DZS/B bolts (according to the width of the tray).

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to: DIN 4102-12, ČSN 730895, STN 920205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m
cable tray side height	60 mm
cable tray width	60 - 400 mm (600 mm)

List of products for one mounting point				
				page
ZT 8	2	2	2	143
KPOZ 8	2	2	2	145
MP 41X21	1	2	3	138
M 8	4	8	12	144
PVL 8	4	8	12	144
DZSU/B	2	4	6	133
PVL 6	2	4	6	144

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]	note
PRAKAB PRAŽSKÁ KABELOVNA, s. r. o.	1	PRAFlaDur 90	E60, P60-R, PS60	PRAFlaGuard F	E30, P30-R, PS30	-
	2	PRAFlaDur	E90, P90-R, PS90		E90, P90-R, PS90	width of the trays up to 600 mm
	3	PRAFlaDur+T	E90, P90-R, PS90		E90, P90-R, PS90	-
Klaus Faber AG	-	-	-	JE-H(St)H	E90, P90-R, PS90	-
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E60, P60-R, PS60	JXFE-V	E90, P90-R, PS90	-
NKT, s. r. o.	-	NOPOVIC 90	E90, P90-R, PS90	-	-	-
ELKOND HHK, a. s.	-	1-CXKH-V	E90, P90-R, PS90	SHXKFH	E60, P60-R, PS60	cable cross section up to 10 mm ²
	-	NHXH-J	E30, P30-R, PS30	JE-H(St)H	E60, P60-R, PS60	
Zaklady Kablove BITNER Sp. z o.o.	-	Bitflame 1000	E90, P90-R, PS90	HTKSH	E90, P90-R, PS90	width of the trays up to 600 mm
Kabex, a.s.	-	CPDex 1-CHKE-V	E90, P90-R, PS90	CPDex JCXFE-V	E30, P30-R, PS30	
Technokabel S.A.	-	NHXH-J	E90, P90-R, PS90	HTKSH	E60, P60-R, PS60	-

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s. r. o.	1	FR-270-16-AUNS	JR-014-22-NURS
	2	FR-205-19-AUNS	JR-185-19-NURS
Klaus Faber AG	-	FR-270-16-AUNS	JR-014-22-NURS
Kablo Vrchlábí s.r.o.	-	PR-18-2.005	PK9-03-17-913-C-4
NKT, s. r. o.	-	FR-166-17-AUNS	JR-030-22-NURS
ELKOND HHK, a. s.	-	FR-270-16-AUNS	JR-014-22-NURS
Zaklady Kablove BITNER Sp. z o.o.	-	FR-205-19-AUNS	JR-185-19-NURS
Kabex, a.s.	-		

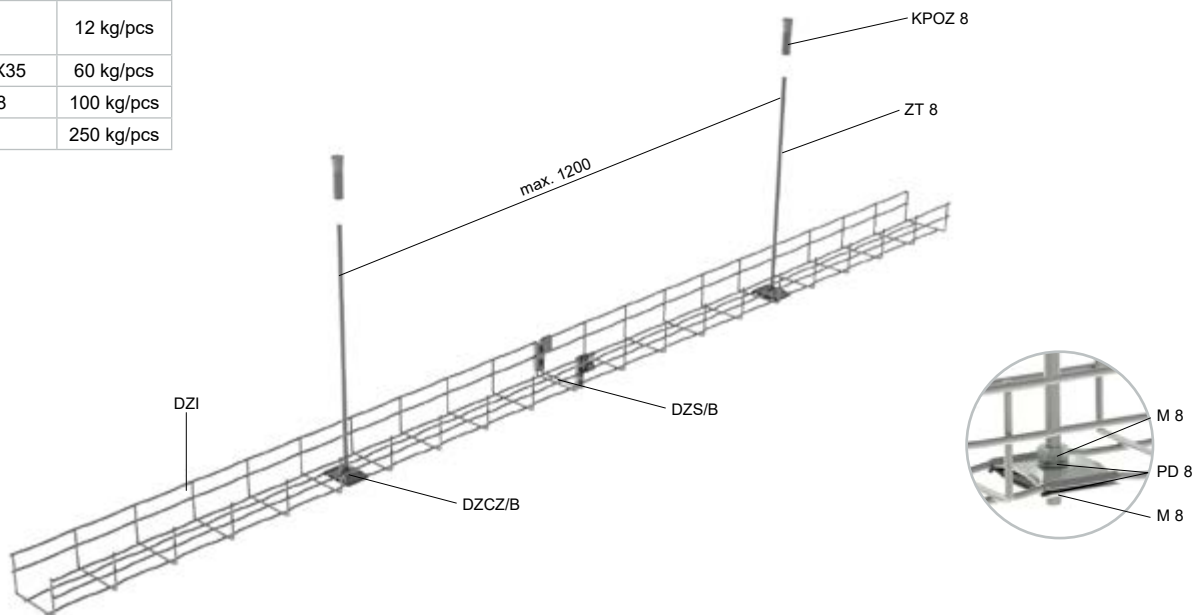
the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R



Wire trays with integrated DZI coupling - side height 60 ceiling assembly using the central hanger DZCZ/B



load for anchoring		
trapezoidal ceiling	DSOS	12 kg/pcs
concrete	KBS 6X35	60 kg/pcs
	KPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs



Non-standardized supporting constructions - load 6 kg/m

The ZT 8 threaded rod is suspended from the ceiling using KPOZ 8 fire-resistant anchors. The supporting element of this assembly is a pair of DZCZ/B central hinges, which are fixed to the threaded rods by two M 8 nuts and PD 8 washers. The hangers must always be placed in the middle of the wire trays in the longitudinal axis. For fire resistance, the connection by integrated couplings is fastened with DZS/B bolts (according to the width of the tray).

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
 ČSN 73 0895
 STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	6 kg/m
cable tray side height	60 mm
cable tray width	100 - 200 mm

	List of products for one mounting point		page
ZT 8	1	1	143
KPOZ 8	1	1	145
DZCZ/B	2	4	134
PD 8	2	4	144
M 8	2	4	144

cable manufacturer	power cables	classification [min]	data cables	classification [min]	note
PRAKAB PRAŽSKÁ KABELOVNA, s. r. o.	-	-	PRAFlaGuard F	E90, P90-R, PS90	cable cross section up to 16 mm ²
Kablo Vrchlábí s.r.o.	1-CXKH-V	E90, P90-R, PS90	JXFE-V	E90, P90-R, PS90	cable cross section up to 16 mm ²
NKT, s. r. o.	NOPOVIC 90	E90, P90-R, PS90	-	-	cable cross section up to 10 mm ²
ELKOND HHK, a. s.	1-CXKH-V	E30, P30-R, PS30	SHXKFH	E60, P60-R, PS60	cable cross section up to 10 mm ²

cable manufacturer	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s. r. o.	FR-166-17-AUNS	JR-030-22-NURS
Kablo Vrchlábí s.r.o.	PR-18-2.005	PK9-03-17-913-C-4
NKT, s. r. o.	FR-166-17-AUNS	JR-030-22-NURS
ELKOND HHK, a. s.	FR-270-16-AUNS	JR-014-22-NURS

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

STANDARD

NO-STANDARD

JUPITER

MARS

LADDERS

WIRE TRAYS

STAINLESS

OTHER

FIRE BOXES

PRODUCTS

INDEX

Wire trays - DZI 60 assembly of wire trays - vertical route

20



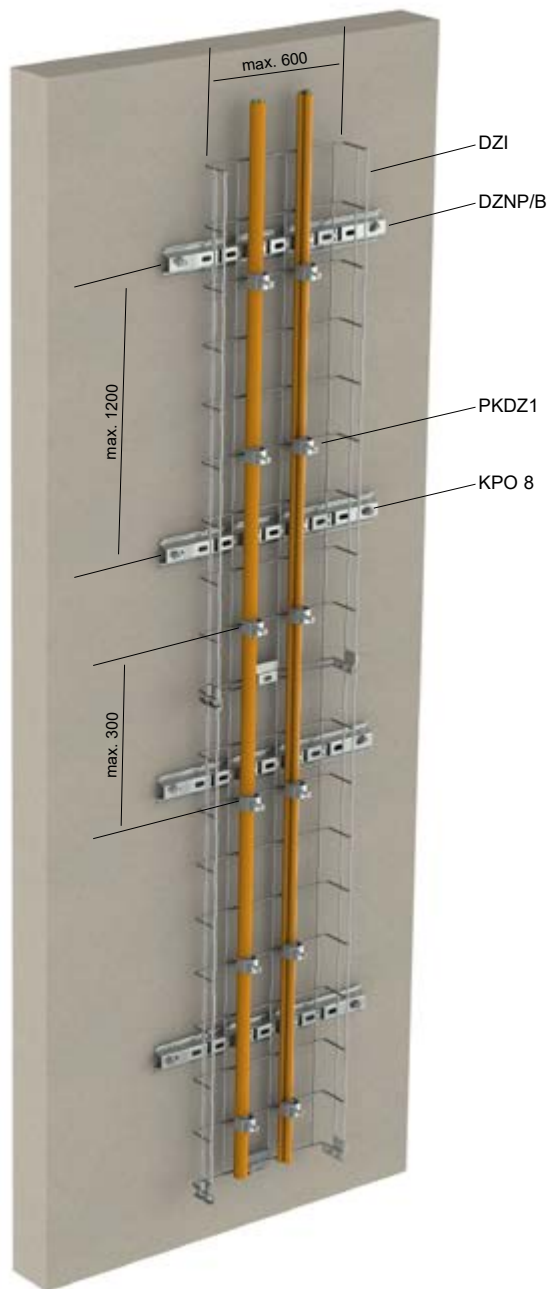
load for anchoring

concrete	KPO 8	100 kg/pcs
----------	-------	------------

Non-standardized supporting constructions - load 20 kg/m

The wire tray is anchored to the base material using the DZNP/B profile in the maximum span of 1200 mm. DZNP/B is anchored using KPO 8 anchors.

The cable placed in the wire tray must be mechanically fixed with PKDZ1 clamps at least every 300 mm. If the length of the vertical cable route is longer than 3500 mm, it is necessary to create a relieving elbow or use a KPS cable clamps cover.



Permissible technical parameters of the route

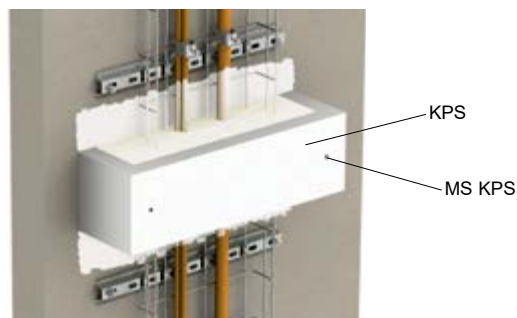
spacing of mounting points	max. 1200 mm
maximum load	20 kg/m
distance between individual routes	100 mm (minimum distance for KPS cover placement)
cable tray side height	60 mm
cable tray width	50 - 600 mm

List of products for one mounting point

		page
DZNP/B	1	133
KPO 8	2	145
PKDZ1	according to the cables amount	142

KPS - replacement for relieving elbow

The KPS cable clamps cover (pg. 17 and 63) can be used instead of the relieving elbow.



cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s. r. o.	Prafladur	E30, P45-R, PS 45	PRAFlaGuard F	E30, P30-R, PS30
NKT s.r.o	NOPOVIC	E90, P90-R, PS90	—	—
ELKOND HHK, a.s.	1-CXKH-V	E90, P90-R, PS90	SSKFH-V180	E30, P30-R, PS30
Technokabel S.A.	NHXH-J	E90, P90-R, PS90	HTKSH	E90, P90-R, PS90

cable manufacturer	protocol number	standpoint number
NKT s.r.o	FR-246-21-AUNS	JR-104-21-NURS
PRAKAB PRAŽSKÁ KABELOVNA, s. r. o.		

Certification according to: ČSN 730895, STN 920205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

vertical route

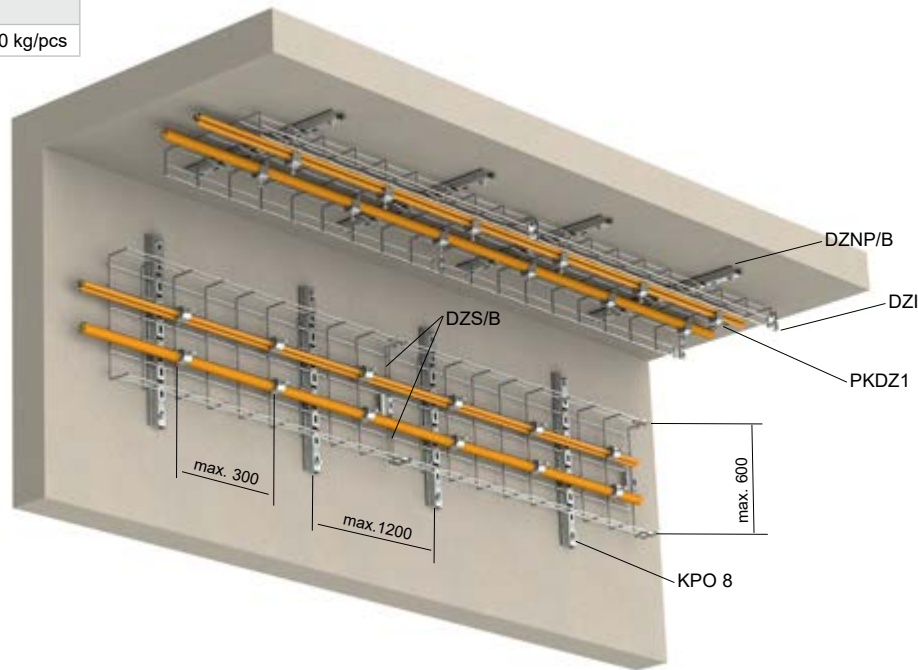


Wire trays with integrated DZI coupling - side height 60 ceiling and wall assembly using DZNP/B supporting profile

kg
20



load for anchoring		
concrete	KPO 8	100 kg/pcs



Non-standardized supporting constructions - load 20 kg/m

The DZNP/B supporting profile is anchored to the wall or ceiling using KPO 8 anchors. The DZI wire tray is attached to the profile. The cables in the tray are fixed with PKDZ1 clamps, max. 300 mm apart. The maximum distance of DZNP/B anchor points is 1200 mm. For fire resistance, the connection by integrated couplings is fastened with DZS/B bolts (according to the width of the tray).

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 920205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	20 kg/m
cable tray side height	60 mm
cable tray width	50 - 600 mm

List of products for one mounting point			
			page
DZNP	1	1	133
KPO 8	2	2	145
PKDZ1	according to the amount of the cables		142

cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s. r. o.	Prafladur	E30, P45-R, PS 45	PRAFlaGuard F	E30, P30-R, PS30
NKT s.r.o	NOPOVIC 60	E90, P90-R, PS90	—	—
ELKOND HHK, a.s.	1-CXKH-V	E90, P90-R, PS90	SSKFH-V180	E30, P30-R, PS30
Technokabel S.A.	NHXH-J	E90, P90-R, PS90	HTKSH	E90, P90-R, PS90

cable manufacturer	protocol number	standpoint number
NKT s.r.o	FR-246-21-AUNS	JR-104-21-NURS
PRAKAB PRAŽSKÁ KABELOVNA, s. r. o.		

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

STANDARD

NO-STANDARD

JUPITER

MARS

LADDERS

WIRE TRAYS

STAINLESS

OTHER

FIRE BOXES

PRODUCTS

INDEX



STAINLESS STEEL
ASSEMBLIES

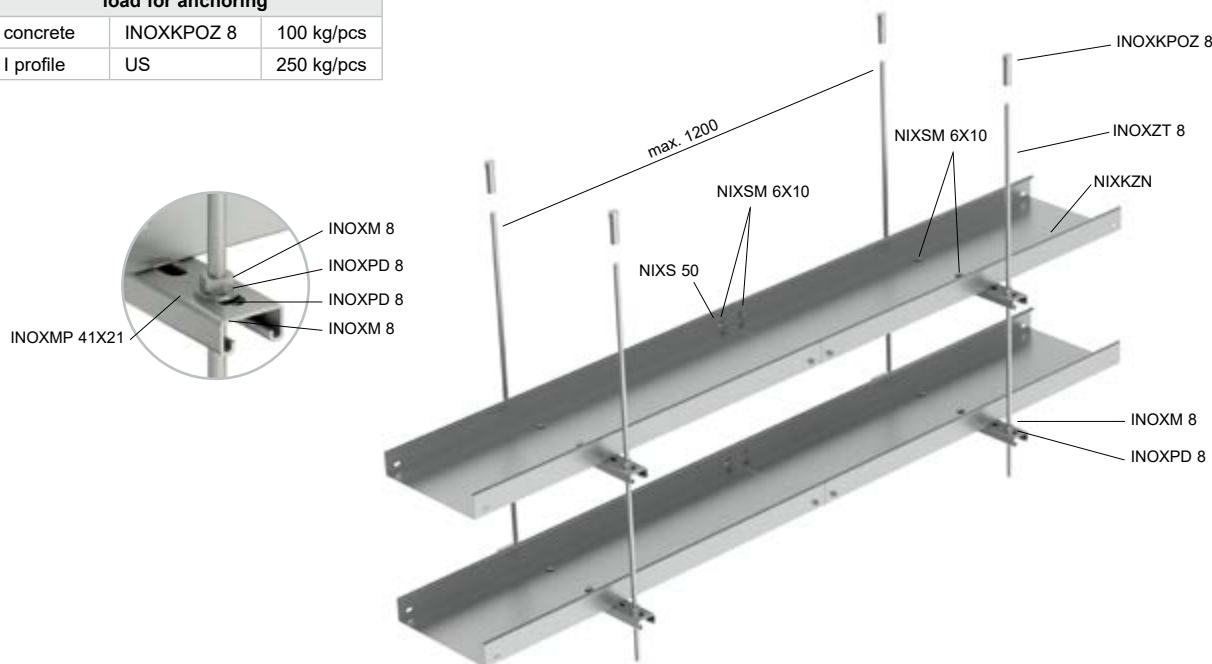


Cable trays MARS - NIXKZN - side height 50 - sheet thickness 0,8 mm ceiling assembly using threaded rods and mounting profiles INOXMP 41X21

kg
10



load for anchoring		
concrete	INOXKPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs



Non-standardized supporting constructions - load 10 kg/m

The INOXZT 8 threaded rod is suspended from the ceiling using INOXKPOZ 8 fire-resistant anchors. The INOXMP 41X21 mounting profiles are attached to the threaded rods using INOXPD 8 washers and INOXM 8 nuts. The maximum mounting point spacing is 1200 mm. NIXKZN cable trays are firmly attached to the INOXMP 41X21 mounting profiles using NIXSM 6X10 bolts and INOXPVL 6 washers. It is possible to place two cable trays next to each other up to a total width of 500 mm.

Marking of fire routes is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	10 kg/m
cable tray side height	50 mm
cable tray width	62 - 250 mm
cable tray sheet thickness	0,8 mm

	List of products for one mounting point			page
INOXZT 8	2	2	2	164
INOXKPOZ 8	2	2	2	163
INOXMP 41X21	1	2	3	162
INOXM 8	4	8	12	163
INOXPD 8	4	8	12	163
NIXSM 6X10	2	4	6	164
INOXPVL 6	2	4	6	163

cable manufacturer	power cables	classification [min]	data cables	classification [min]
Kabex, a.s.	CPDeX 1-CHKE-V	E90, P90-R, PS90	CPDeX JCXFE-V	E90, P90-R, PS90
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur	E90, P90-R, PS90	Praflaguard	E90, P90-R, PS90
NKT s.r.o.	NOPOVIC 60	E60, P60-R, PS60	-	-

cable manufacturer	protocol number	standpoint number
Kabex, a.s.	FR-153-20-AUNS	JR-149-20-NURS
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.		
NKT s.r.o.	FR-246-21-AUNS	JR-104-21-NURS

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

STANDARD

NO-STANDARD

JUPITER

MARS

LADDERS

WIRE TRAYS

STAINLESS

OTHER

FIRE BOXES

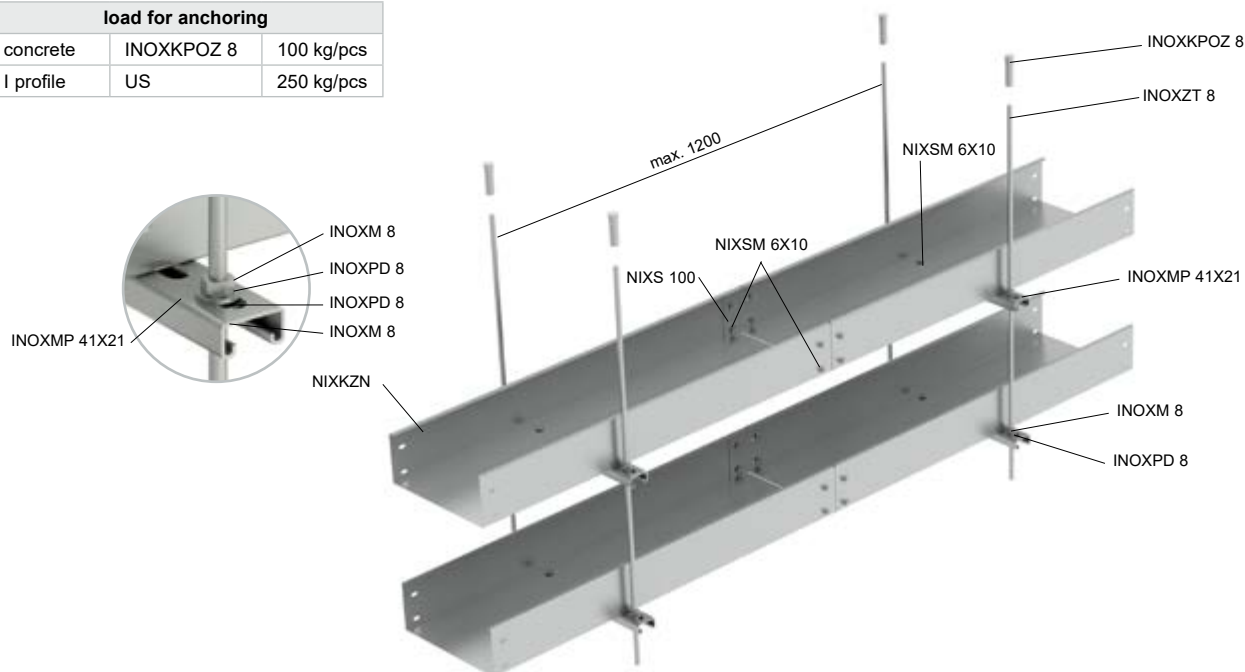
PRODUCTS

INDEX

**Cable trays MARS - NIXKZN - side height 100 - sheet thickness 1,0 mm
ceiling assembly using threaded rods and mounting profiles INOXMP 41X21**


20


load for anchoring		
concrete	INOXKPOZ 8	100 kg/pcs
I profile	US	250 kg/pcs


Non-standardized supporting constructions - load 20 kg/m

The INOXZT 8 threaded rod is suspended from the ceiling using INOXKPOZ 8 fire-resistant anchors. The INOXMP 41X21 mounting profiles are attached to the threaded rods using INOXPD 8 washers and INOXM 8 nuts. The maximum mounting point spacing is 1200 mm. NIXKZN cable trays are firmly attached to the INOXMP 41X21 mounting profiles using NIXSM 6X10 bolts and INOXPVL 6 washers. It is possible to place two cable trays next to each other up to a total width of 500 mm.




Marking of fire routes is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 1200 mm
maximum load	20 kg/m
cable tray side height	100 mm
cable tray width	125 - 500 mm
cable tray sheet thickness	1,0 mm

List of products for one mounting point

				page
INOXZT 8	2	2	2	164
INOXKPOZ 8	2	2	2	163
INOXMP 41X21	1	2	3	162
INOXM 8	4	8	12	163
INOXPD 8	4	8	12	163
INOXSM 6X10	2	4	6	164
INOXPVL 6	2	4	6	163

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur	E60, P60-R, PS60	PRAFlaGuard F	E60, P60-R, PS60
	2	PRAFlaDur+T	E60, P60-R, PS60		
Kabex, a.s.	-	CPDeX 1-CHKE-V	E30, P30-R, PS30	CPDeX JCXFE-V	E30, P30-R, PS30
Tele-Fonika Kable S.A.	-	Flame-X 950 (N)HXH	E60, P60-R, PS60	HTKSH	E90, P90-R, PS90
NKT s.r.o.	-	NOPOVIC 60	E90, P90-R, PS90	-	-

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-246-21-AUNS	JR-104-21-NURS
	2	FR-041-23-AUNS	JR-073-23-NURS
NKT s.r.o.	-	FR-246-21-AUNS	JR-104-21-NURS
Kabex, a.s.	-	FR-153-20-AUNS	JR-150-20-NURS
Tele-Fonika Kable S.A.	-		

**NON-STANDARDIZED
SUPPORTING CONSTRUCTIONS**

CABLE CLAMP



METAL PIPE

PLASTIC PIPE

SUPPORT RAIL

PARAPET CHANNEL

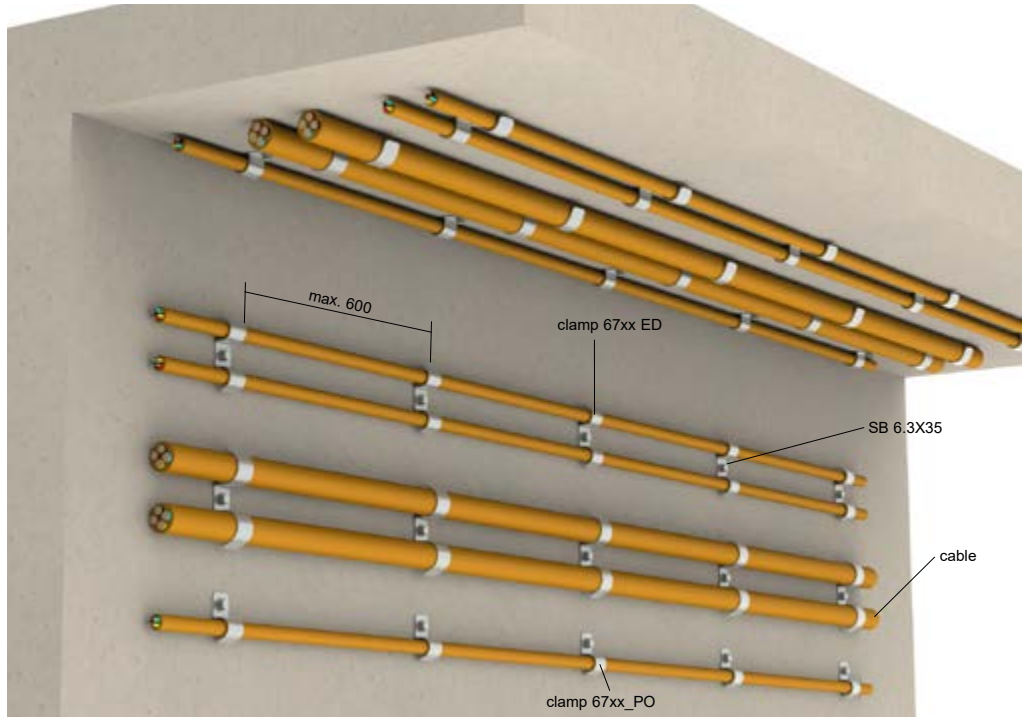
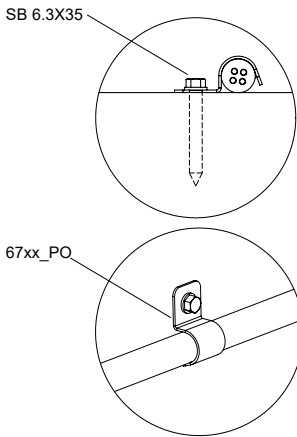
AND OTHERS

Separate cable clamps 67xx_PO placement on the ceiling and wall

kg
by inserted cables



load for anchoring		
concrete	SB 6.3X35	362 kg/pcs
	KPO 6	100 kg/pcs
aerated concrete	KHP + SB 6.3X45	4 kg/pcs
	KHP + KVP	
metal sheet	STP 4.2X13	2 kg/pcs
nailing	KHB, KHO	by inserted cable



Non-standardized supporting construction

The basis of the supporting construction are clamps of the 6706 - 6725 series fastened to the base material using fire-resistant concrete screws SB 6.3X35 or SB 6.3X45. The screws are screwed into pre-drilled holes with a diameter of 5 mm in concrete or solid masonry. The size of the clamps must be chosen with regard to the diameter of the installed cable. Only one cable of the corresponding diameter can be installed in one single clamp, and two cables of the corresponding diameter in a double clamp. Two 6706 - 6725 clamps can be installed under one screw, creating a route for two cables of different diameters. The clamps can also be used for vertical routes. When using a vertical route longer than 3500 mm, it is necessary to create a relieving elbow or use a KPS cable clamps cover.

We also now supply double clamps 6708D_PO, 6710D_PO and 6716D_PO which also meet the maintenance in fire for 90 minutes.

Clamps without holes can be shot using a suitable nailgun.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to: DIN 4102-12, ČSN 73 0895, STN 920205

Permissible technical parameters of the route	
spacing of mounting points	max. 600 mm
maximum load	load of inserted cables

List of products for one mounting point				
				page
67xx_PO, POGMT, POBDD	1	1	-	140
67xxD_PO, POGMT	-	-	1	140
SB 6.3X35	1	-	1	147
STP 4.2X13 (metal sheet)	1	-	1	147
KHP 8X38 + SB 6.3X45 (aerated concrete)	1	-	1	146 + 147
KHP + KVP (aerated concrete)	1	-	1	146 + 147
KHB (concrete nailing)	-	1	-	156
KHO (steel nailing)	-	1	-	156

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur 90	E90, P90-R, PS90	PRAFlaGuard F	E90, P90-R, PS90
	2	PRAFlaDur	E90, P90-R, PS90		
	3	PRAFlaDur+T	E90, P90-R, PS90		
Kablo Vrčlabí s.r.o.	-	1-CXKH-V	E90, P90-R, PS90	JXFE-V	E90, P90-R, PS90
Klaus Faber AG	-	(N)HXH	E60, P60-R, PS60	JE-H(St)H	E90, P90-R, PS90
ELKOND HHK, a.s.	-	1-CXKH-V	E90, P90-R, PS90	SHXKFH-V	E90, P90-R, PS90
Zaklady Kablove BITNER Sp. z o.o.	-	Bitflame 1000	E90, P90-R, PS90	HTKSH	E60, P60-R, PS60
Kabex, a.s.	-	CPDex 1-CHKE-V	E90, P90-R, PS90	CPDex JCXFE-V	E30, P30-R, PS30
NKT s.r.o	-	NOPOVIC 60	E60, P60-R, PS60	-	-



double clamp 67xxD

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-228-15-AUNS	PK9-03-17-913-C-4
	2	FR-217-18-AUNS	JR-104-23-NURS
	3	FR-327-22-AUNS	JR-167-22-NURS
Kablo Vrčlabí s.r.o.	-	FR-104-18-AUNS	JR-101-23-NURS
Klaus Faber AG	-	FR-270-16-AUNS	JR-014-22-NURS
ELKOND HHK, a.s.	-	FR-205-19-AUNS	JR-185-19-NURS
Zaklady Kablove BITNER Sp. z o.o.	-	FR-205-19-AUNS	JR-185-19-NURS
Kabex, a.s.	-	FR-205-19-AUNS	JR-185-19-NURS
NKT s.r.o	-	FR-246-21-AUNS	JR-104-21-NURS



installation of two clamps under one screw



possibility of nailing (pg. 155)

STANDARD
NO-STANDARD
JUPITER
MARS
LADDERS
WIRE TRAYS
STAINLESS
OTHER

FIRE BOXES
PRODUCTS
INDEX

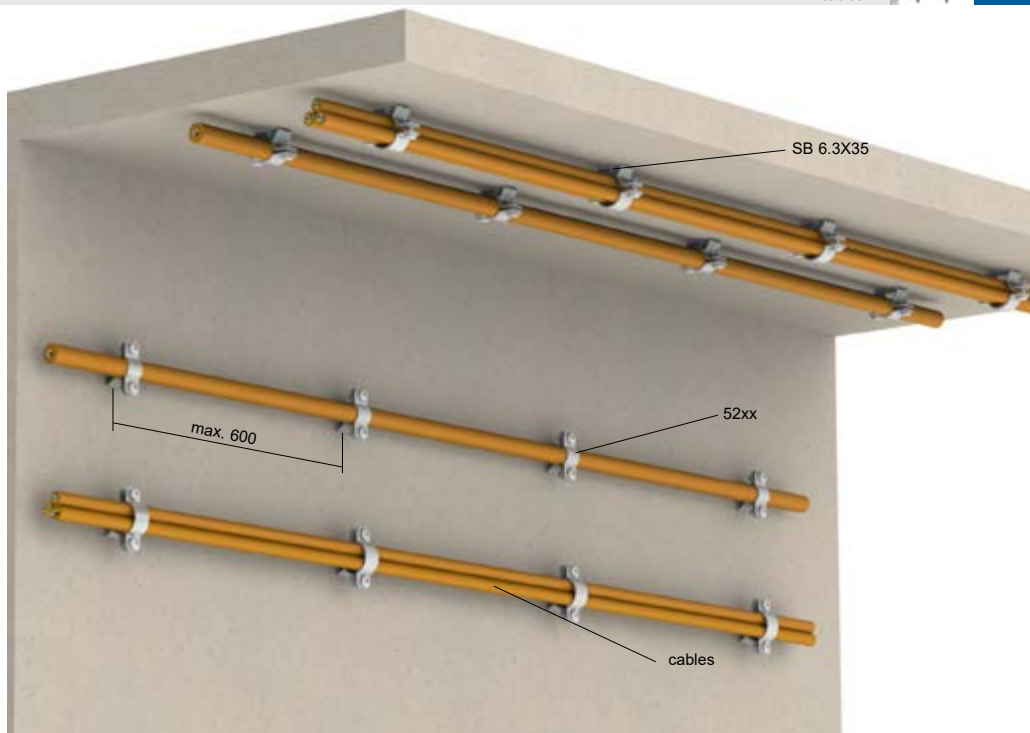
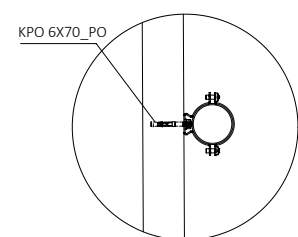
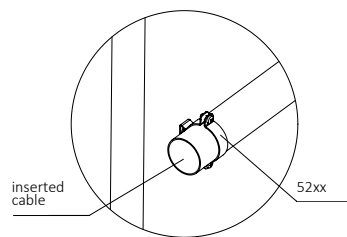


OMEGA 52xx cable clamps
assembly of OMEGA clamps - placement on the ceiling and wall

kg
by inserted cables



load for anchoring		
concrete	SB 6.3X35	362 kg/pcs
	KPO 6	100 kg/pcs
aerated concrete	KHP + SB 6.3X45	4 kg/pcs



Non-standardized supporting construction

The basis of the construction are OMEGA 52xx series clamps, which are placed at a span of 600 mm using SB 6.3X35 screws. These screws are screwed into pre-drilled holes with a diameter of 5 mm in concrete or solid masonry. It is also possible to use the KPO 6 anchor to fix the clamps. The cable is then inserted into the installed clamps.

The base material must meet the conditions for maintaining the functionality of the structure in the event of a fire. OMEGA clamps can also be attached to threaded rods. This placement is an advantage in the case of insulating the supporting walls with thermal insulation. Anchoring of threaded rods is performed through thermal insulation directly to the building structure with proven functionality in the event of a fire. The route can also be used as vertical. A KHP dowel with SB 6.3X45 concrete screw is used for anchoring in aerated concrete.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to: DIN 4102-12, ČSN 73 0895, STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 600 mm
maximum load	load of inserted cables (max. 3 cables in a single clamp)

List of products for one mounting point		
		page
52xx	1	141
SB 6.3X35 (KPO 6)	1	147
KHP + SB 6.3X45	1	146 + 147

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur 90	E90, P90-R, PS90	PRAFlaGuard F	E90, P90-R, PS90
	2	PRAFlaDur	E90, P90-R, PS90		
	3	PRAFlaDur+T	E90, P90-R, PS90		
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E90, P90-R, PS90	JXFE-V	E90, P90-R, PS90
Klaus Faber AG	-	(N)HXH	E30, P30-R, PS30	JE-H(St)H	E90, P90-R, PS90
Kabex, a.s.	-	CPDex 1-CHKE-V	E90, P90-R, PS90	CPDex JCXFE-V	E60, P60-R, PS60
ELKOND HHK, a.s.	-	1-CXKH-V	E90, P90-R, PS90	SSKFH-V180	E90, P90-R, PS90

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-228-15-AUNS	PK9-03-17-913-C-4
	2	FR-217-18-AUNS	JR-104-23-NURS
	3	FR-327-22-AUNS	JR-167-22-NURS
Kablo Vrchlábí s.r.o.	-	FR-104-18-AUNS	JR-101-23-NURS
Klaus Faber AG	-	FR-270-16-AUNS	JR-014-22-NURS
Kabex, a.s.	-	FR-205-19-AUNS	JR-185-19-NURS
ELKOND HHK, a.s.	-	FR-041-23-AUNS	JR-073-23-NURS

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

vertical route

- STANDARD
- NO-STANDARD
- JUPITER
- MARS
- LADDERS
- WIRE TRAYS
- STAINLESS
- OTHER

FIRE BOXES

PRODUCTS

INDEX



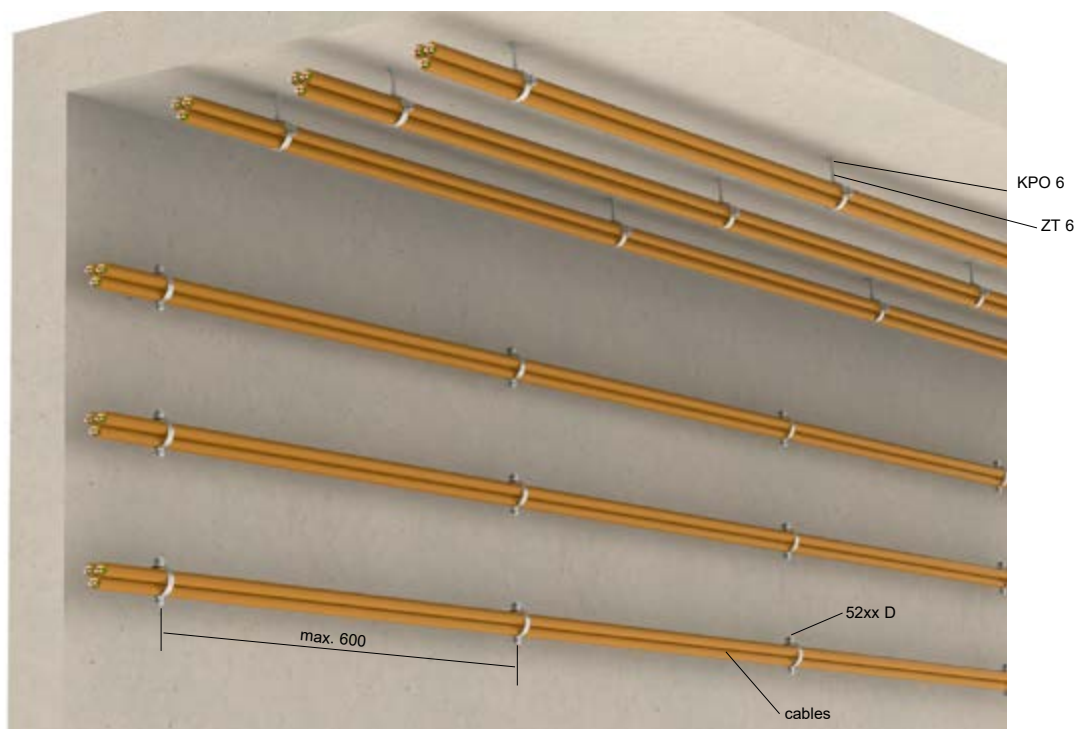
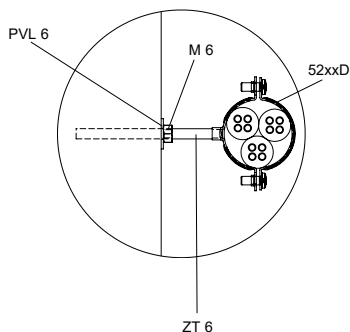
DOBRMAN 52xx D cable clamps

assembly of DOBRMAN clamps - placement on the ceiling and wall



load for anchoring

concrete	KPO 6	100 kg/pcs
	KPOZ 6 + ZT 6	80 kg/pcs
aerated concrete	KHP + SVD	5 kg/pcs



Non-standardized supporting construction

The basis of the construction are DOBRMAN type clamps series 52xx D, which are screwed to ZT 6 or KPO 6 at a distance of max. 600 mm. KPO 6 anchors are hammered into pre-drilled holes with a diameter of 5 mm in concrete or solid masonry. The cable is then inserted into the installed clamps. The base material must meet the conditions for maintaining the functionality of the structure in the event of a fire. DOBRMAN clamps can also be attached to threaded rods. This placement is an advantage in the case of insulating the supporting walls with thermal insulation. Anchoring of threaded rods is performed through thermal insulation directly to the building structure with proven functionality in the event of a fire. The route can also be used as vertical.

A KHP dowel with a SVD screw is used for anchoring in aerated concrete.

Marking of fire routes by OPT label is always done after at least 50 m of the route.


Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 92 0205

Permissible technical parameters of the route

spacing of mounting points	max. 600 mm
maximum load	load of inserted cables (max. 3 cables in a single clamp)

List of products for one mounting point

		page
52xx D	1	141
KPO 6	1	145
KPOZ 6 + ZT 6	1	145 + 143

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur 90	E90, P90-R, PS90	PRAFlaGuard F	E90, P90-R, PS90
	2	PRAFlaDur	E90, P90-R, PS90		
	3	PRAFlaDur+T	E90, P90-R, PS90		
Klaus Faber AG	-	NH(X)H-J	E90, P90-R, PS90	JE-H(St)H	E90, P90-R, PS90
ELKOND HHK, a.s.	-	1-CXKH-V	E90, P90-R, PS90	SHXKFH-V	E90, P90-R, PS90

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-228-15-AUNS	PK9-03-17-913-C-4
	2	FR-217-18-AUNS	JR-104-23-NURS
	3	FR-327-22-AUNS	JR-167-22-NURS
Klaus Faber AG	-	FR-270-16-AUNS	JR-014-22-NURS
ELKOND HHK, a.s.	-		

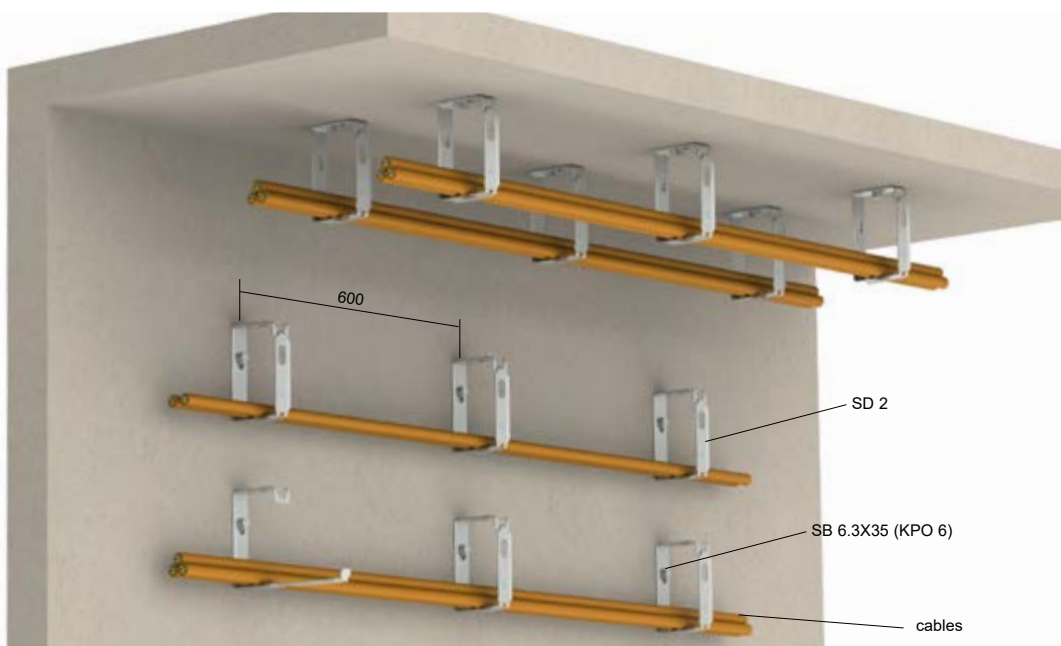


**SD 2 grouped cable holder
assembly of grouped holder on wall or ceiling**

kg
3 - 6



load for anchoring		
concrete	SB 6.3X35	362 kg/pcs
	KPO 6	100 kg/pcs
aerated concrete	KHP + SB 6.3X45	4 kg/pcs



Non-standardized supporting constructions - load 6 kg/m

The construction is based on SD 2 grouped holders anchored to the base material using SB 6.3X35 concrete screws or KPO 6 anchors. The minimum distance between the individual grouped holders is 300 mm, max. 600 mm. Cables can be installed in the clamps up to the maximum permitted load.

The route formed by the SD 2 holders cannot be used as vertical.

A KHP dowel with SB 6.3X45 concrete screw is used for anchoring in aerated concrete.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 730895
STN 920205

List of products for one mounting point		
		page
SD 2	1	141
SB 6.3X35	1	147

Permissible technical parameters of the route	
spacing of mounting points	300 mm or max. 600 mm
maximum load	3 - 6 kg/m

Spacing of 30 cm:

cable manufacturer	power cables	classification [min]	data cables	classification [min]	load
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur 90	E90, P90-R, PS90	PRAFlaGuard F	E90, P90-R, PS90	5 kg/m
Kabex, a.s.	1-CSKE-V	P15-R	JCSFE-V	P15-R	
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o. **	PRAFlaDur	E30, P30-R, PS30	-	-	6 kg/m
Klaus Faber AG	(N)HXH-J	P15-R	-	-	6 kg/m

Spacing of 60 cm:

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]	load
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	-	PRAFlaDur	E30, P30-R, PS30	PRAFlaGuard F	E60, P60-R, PS60	6 kg/m
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E30, P30-R, PS30	JXFE-V	E60, P60-R, PS60	6 kg/m
NKT s.r.o.	-	NOPOVIC 90	E30, P45-R, PS30	-	-	5 kg/m
Zakłady Kablowe BITNER Sp. z o.o.	-	Bitflame 1000	E30, P30-R, PS30	-	-	4,5 kg/m
Kabex, a.s.	-	CPDex 1-CHKE-V	E90, P90-R, PS90	-	-	4,5 kg/m**
Technokabel S.A. **	1	NHXH-J	E30, P30-R, PS30	-	-	5 kg/m
	2	NHXH	E90, P90-R, PS90	-	-	3 kg/m
Tele-Fonika Kable S.A.	-	Flame-X 950 (N)HXH	E30, P30-R, PS30	HTKSH	E30, P45-R, PS45	5 kg/m
NKT s.r.o.	-	NOPOVIC 60	E60, P60-R, PS60	-	-	5 kg/m
ELKOND HHK, a.s.	-	1-CXKH-V	E90, P90-R, PS90	SSKFH-V180	E60, P60-R, PS60	3 kg/m

**cable cross section up to 16 mm²

cable manufacturer	No.	protocol number	standpoint number
Kablo Vrchlábí s.r.o.	-	FR-104-18-AUNS	JR-101-23-NURS
NKT s.r.o.	-	FR-217-18-AUNS	JR-104-23-NURS
	-	FR-246-21-AUNS	JR-104-21-NURS
Zakłady Kablowe BITNER Sp. z o.o.	-	FR-205-19-AUNS	JR-185-19-NURS
Technokabel S.A.	1	FR-153-20-AUNS	JR-149-20-NURS
	2	FR-202-22-AUNS	JR-112-22-NURS
Tele-Fonika Kable S.A.	-	FR-153-20-AUNS	JR-149-20-NURS
Kabex, a.s.	-	PK9-03-17-913-C-4	
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	-		
Klaus Faber AG	-		
ELKOND HHK, a.s.	-	FR-041-23-AUNS	JR-073-23-NURS

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

STANDARD
NO-STANDARD
JUPITER
MARS
LADDERS
WIRE TRAYS
STAINLESS
OTHER

FIRE BOXES

PRODUCTS

INDEX

Steel pipes 60xx

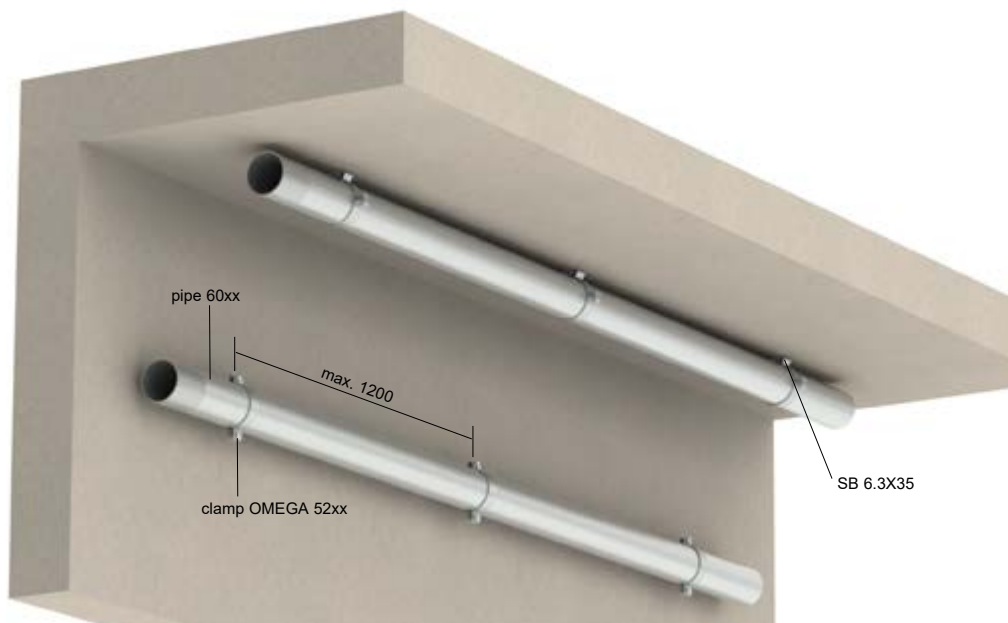
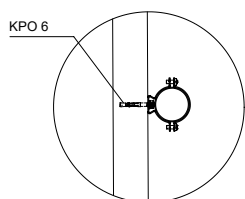
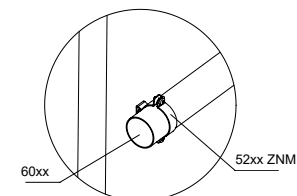
assembly of steel pipes - horizontal placement on the ceiling and wall



by inserted cables


load for anchoring

concrete	SB 6.3X35	362 kg/pcs
	KPO 6	100 kg/pcs
aerated concrete	KHP + SB 6.3X35	4 kg/pcs
	KHP + KVP	4 kg/pcs



Non-standardized supporting construction

The basis of the supporting construction are steel pipes of the 60xx series fixed to the base material using OMEGA type clamps. OMEGA 52xx clamps must be fastened using the SB 6.3X35 concrete screws. These screws are screwed into pre-drilled holes with a diameter of 5 mm in concrete or solid masonry. It is also possible to use the KPO 6 anchor to fasten the clamps. A fire-resistant steel pipe is then attached to the installed clamps, into which a cable of the corresponding diameter can be inserted. The maximum spacing of the installed clamps is 1200 mm. A maximum of 1 cable can be inserted into the pipe.

To connect ČSN pipes, it is necessary to order couplings that will replace the aluminum couplings supplied with the pipes. Couplings must also be replaced within pipe accessories (e.g. elbows, etc.)

Pipe assemblies cannot be used to create vertical routes.

Marking of fire routes by OPT label is always done after at least 50 m of the route.


Classification of fire resistance according to:

DIN 4102-12
ČSN 730895
STN 920205

Permissible technical parameters of the route

spacing of mounting points	max. 1200 mm
maximum load	only one cable

List of products for one mounting point

		page
52xx	1	141
SB 6.3X35 (KPO 6)	1	147
KHP + SB 6.3X45	1	146 + 147
KHP + KVP	1	146 + 147

cable manufacturer	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur	E60, P60-R, PS60	PRAFlaGuard F	E60, P60-R, PS60
Kabex, a.s.	CPDex 1-CHKE-V	E60, P60-R, PS60	JCXFE-V	E60, P60-R, PS60
	NHXH-J	E60, P60-R, PS60	HTKSH	E30, P45-R, PS45
Technokabel S.A.	-	-	HDGS	E30, P45-R, PS45

cable manufacturer	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	FR-172-10-AUNS	PK9-03-17-913-C-4
Kabex, a.s.	FR-139-09-AUNS	PK9-03-17-913-C-4
	FR-153-20-AUNS	JR-149-20-NURS
Technokabel S.A.	FR-202-22-AUNS	JR-112-22-NURS

Optical cables:

cable manufacturer	type cable	classification [min]	note
Kabex, a.s.	CPDeX® Optex® J/A-WQ(ZN)HH 12E9/125-V /h/P90-R/	P30-R	pro trubku 6040

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

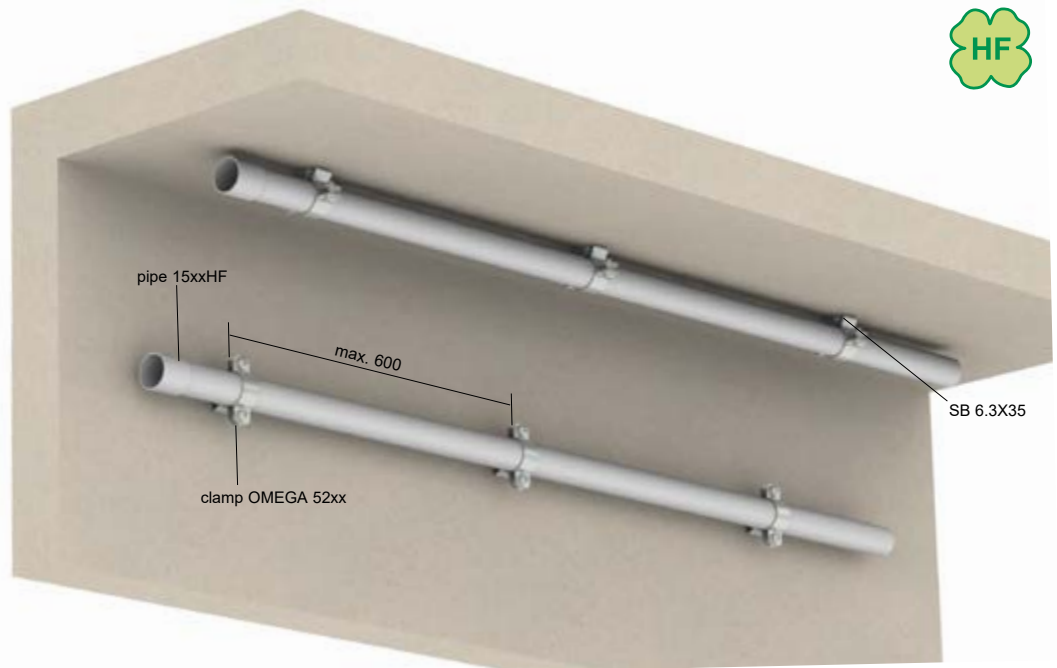
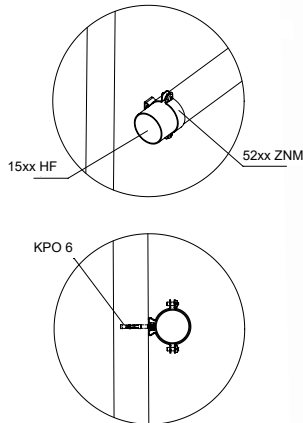


Halogen-free rigid pipes 15xx HF
assembly of pipes and OMEGA clamps - horizontal placement on the ceiling and wall

by inserted cables



load for anchoring		
concrete	SB 6.3X35	362 kg/pcs
	KPO 6	100 kg/pcs
aerated concrete	KHP + SB 6.3X35	4 kg/pcs
	KHP + KVP	4 kg/pcs



Non-standardized supporting construction

The basis of the supporting construction are halogen-free rigid pipes of the 15xxHF series (40xxHF, 80xxHF) fixed to the base material using OMEGA type clamps. OMEGA 52xx clamps must be fastened using the SB 6.3X35 concrete screws. These screws are screwed into pre-drilled holes with a diameter of 5 mm in concrete or solid masonry. It is also possible to use the KPO 6 anchor to fix the clamps. A halogen-free rigid pipe is then attached to the installed clamps, into which a cable of the corresponding diameter can be inserted. The maximum spacing of the installed clamps is 600 mm.

Pipes assemblies cannot be used to create vertical routes.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
 ČSN 73 0895
 STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 600 mm
maximum load	only one cable

List of products for one mounting point		
		page
52xx	1	141
SB 6.3X35 (KPO 6)	1	147
KHP + SB 6.3X45	1	146 + 147
KHP + KVP	1	146 + 147

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]	note
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur	E90, P90-R, PS90	PRAFlaGuard F	E90, P90-R, PS90	max. 3 pcs of cable in pipe with cable cross section up to 16 mm ²
	2	PRAFlaDur+T	E90, P90-R, PS90		E90, P90-R, PS90	max. 1 pc of cable in pipe
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E60, P60-R, PS60	JXFE-V	E90, P90-R, PS90	max. 1 pc of cable in pipe
Kabex, a.s.	-	CPDex 1-CHKE-V	E90, P90-R, PS90	CPDex JCXFE-V	E30, P45-R, PS45	max. 1 pc of cable in pipe
NKT s.r.o.	-	NOPOVIC 60	E90, P90-R, PS90	-	-	max. 1 pc of cable in pipe
Technokabel S.A.	-	NHXX	E90, P90-R, PS90	HTKSH	E90, P90-R, PS90	max. 1 pc of cable in pipe
		-	-	HDGS	E90, P90-R, PS90	max. 1 pc of cable in pipe

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-104-14-AUNS	PK9-03-17-913-C-4
		FR-205-19-AUNS	JR-185-19-NURS
	2	FR-041-23-AUNS	JR-073-23-NURS
Kablo Vrchlábí s.r.o.	-	FR-104-18-AUNS	JR-101-23-NURS
Kabex, a.s.	-	FR-205-19-AUNS	JR-185-19-NURS
NKT s.r.o.	-	FR-246-21-AUNS	JR-104-21-NURS
Technokabel S.A.	-	FR-202-22-AUNS	JR-112-22-NURS

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

STANDARD
 NO-STANDARD
 JUPITER
 MARS
 LADDERS
 WIRE TRAYS
 STAINLESS
 OTHER

FIRE BOXES

PRODUCTS

INDEX



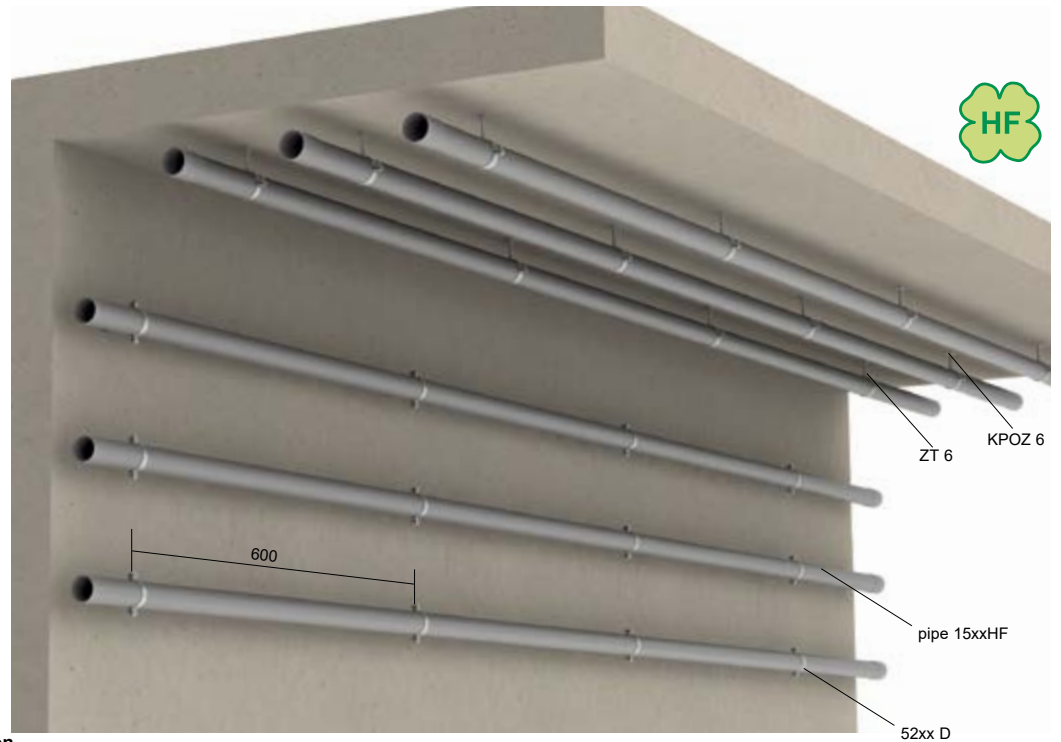
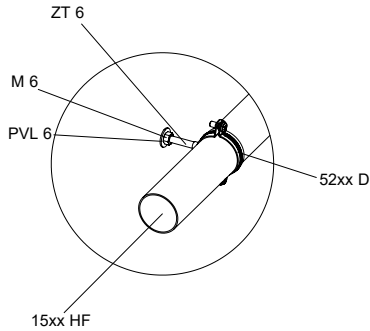
Halogen-free rigid pipes 15xx HF

assembly of pipes and DOBRMAN clamps - horizontal placement on the ceiling and wall



load for anchoring

concrete	KPO 6	100 kg/pcs
	KPOZ 6 + ZT 6	80 kg/pcs
aerated concrete	KHP + SVD	5 kg/pcs



Non-standardized supporting construction

The basis of the supporting construction are halogen-free rigid pipes 15xxHF (40xxHF, 80xxHF) and DOBRMAN 52xx D clamps. DOBRMAN clamps are screwed onto ZT6 or KPO 6 at a distance of max. 600 mm from each other.

KPO 6 is hammered into pre-drilled holes with a diameter of 5 mm in concrete or solid masonry. The cable is then inserted into the installed pipes. The base material must meet the conditions for maintaining the functionality of the structure in the event of a fire.

DOBRMAN clamps can also be attached to threaded rods. This placement is an advantage in the case of insulating the supporting walls with thermal insulation. Anchoring of threaded rods is performed through thermal insulation directly to the building structure with proven functionality in the event of a fire. A KHP dowel with SVD screw is used for anchoring in aerated concrete. The tubes are available in both black and grey colour.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Pipes assemblies cannot be used to create vertical routes.

Classification of fire resistance according to:

DIN 4102-12
ČSN 730895
STN 920205

Permissible technical parameters of the route

spacing of mounting points	max. 600 mm
maximum load	load of inserted cables (max. 3 cable in one clamp)

List of products for one mounting point

		page
52xx D	1	141
KPOZ 6 + ZT 6	1	145 + 143

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur	E60, P60-R, PS60	PRAFlaGuard F	E90, P90-R, PS90
	2	PRAFlaDur+T	E60, P60-R, PS60		
Kabex, a.s.	-	CPDex 1-CHKE-V	E90, P90-R, PS90	CPDex JCXFE-V	E30, P45-R, PS45

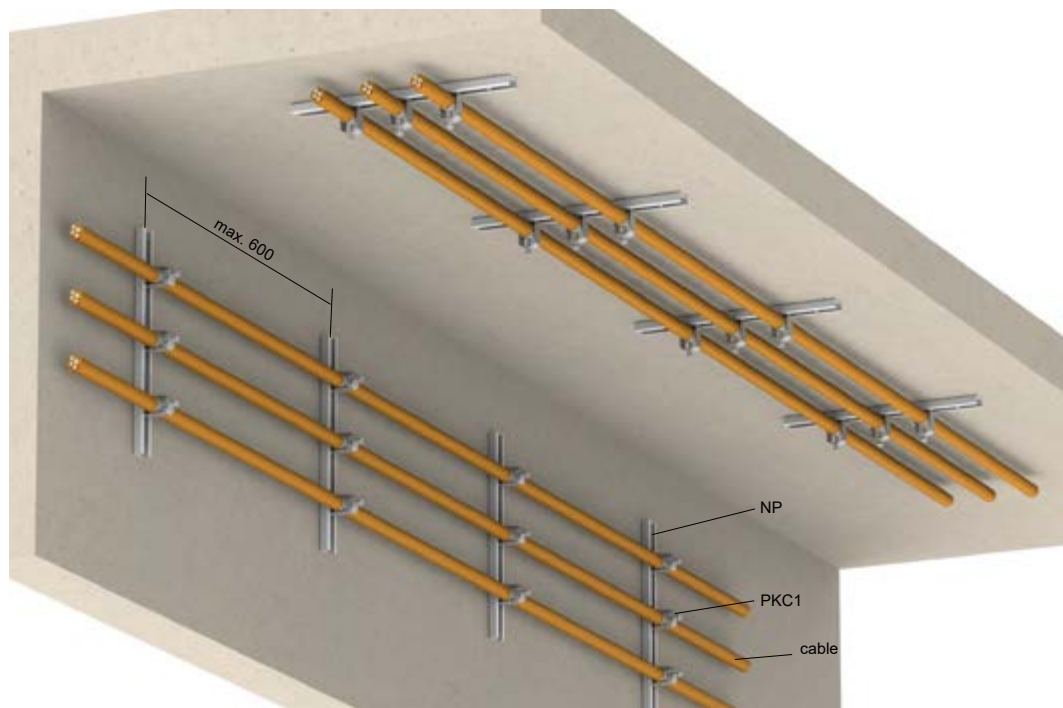
cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-205-19-AUNS	JR-185-19-NURS
	2	FR-041-23-AUNS	JR-073-23-NURS
Kabex, a.s.	-	FR-205-19-AUNS	JR-185-19-NURS



Cable clamps (PKC1) on profile rail placement on the ceiling and wall



load for anchoring		
concrete	KPO 6	100 kg/pcs
aerated concrete	KHP + SB 6.3X45	4 kg/pcs



Non-standardized supporting construction


The basis of the construction are supporting profiles of the NP type, anchored to the wall or ceiling with a maximum maximum spacing of 600 mm. The anchoring spacing of the profiles is max. 250 mm using KPO 6 anchors. The cables are attached using PKC1 type clamps to the individual profiles. A maximum of 3 cables with proven functionality in the event of a fire can be placed in the PKC1 clamps. The route can also be used vertical. A KHP dowel with a SB 6.3X45 concrete screw is used for anchoring in aerated concrete.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

- DIN 4102-12
- ČSN 73 0895
- STN 92 0205

Permissible technical parameters of the route	
spacing of mounting points	max. 600 mm
maximum load	load of inserted cables

List of products for one mounting point		
		page
NP	1	138
PKC1	according to the cables amount	142
KPO 6	2	145

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur 90	E90, P90-R, PS90	PRAFlaGuard F	E30, P30-R, PS30
	2	PRAFlaDur	E90, P90-R, PS90		
Kablo Vrchlábí s.r.o.	-	1-CXKH-V	E90, P90-R, PS90	JXFE-V	E90, P90-R, PS90

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-228-15-AUNS	PK9-03-17-913-C-4
	2	FR-104-18-AUNS	JR-101-23-NURS
Kablo Vrchlábí s.r.o.	-		

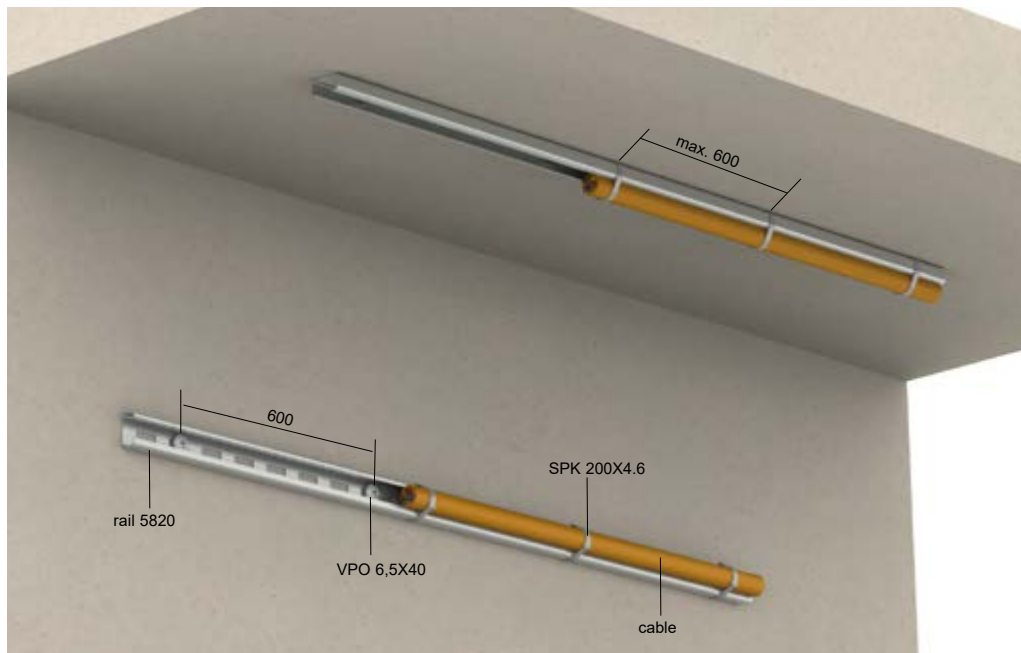


Metal support rail wall and ceiling assembly with support rail



load for anchoring

concrete	VPO 6.5X40	60 kg/ pcs
----------	------------	---------------



Non-standardized supporting construction

The basis of the supporting construction are type 5820 support rails attached to the base material using VPO 6.5X40 fire-resistant screws. The cable is attached to the rail using metal tightening belts SPK 200X4.6 at a maximum spacing of 600 mm.

The tightening belt is attached under the rail and pulled to close to the cable. The excess end of the tightening belt must be removed.

The route can be used on the wall, ceiling and also as a vertical route, the maximum length of the vertical route is 3500 mm. When using a longer route, it is necessary to create a relieving elbow. Only one cable can be used for installation on one fire-resistant support rail.

The maximum spacing of the anchors is 600 mm.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 920205

List of products for one mounting point

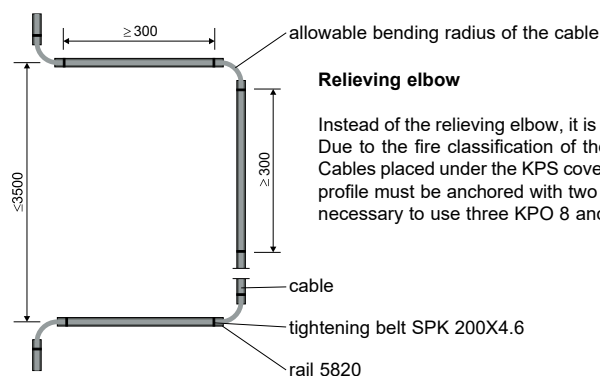
		page
SPK 200X4.6	1	164
VPO 6.5X40	1	148

Permissible technical parameters of the route

spacing of mounting points	max. 600 mm
maximum load	only one cable per rail
maximum cable cross section	16 mm ²

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]	note
PRAKAB PRAŽSKÁ KABELOVNÁ, s.r.o.	1	PRAFlaDur	E90, P90-R, PS90	PRAFlaGuard F	E60, P60-R, PS60	-
	2	PRAFlaDur 90	E90, P90-R, PS90		E60, P60-R, PS60	cable cross section up to 1.5 mm ²

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNÁ, s.r.o.	1	FR-172-10-AUNS	PK9-03-17-913-C-4
	2	FR-220-11-AUNS	JR-024-22-NURS



Relieving elbow

Instead of the relieving elbow, it is possible to use the KPS cable clamps cover (pg. 17), this solution is equivalent in terms of standard. Due to the fire classification of the KPS cover, the classification of the route formed by the cable clamps is reduced to 60 minutes. Cables placed under the KPS cover must be firmly fixed using PKC1 clamps (pg. 142) anchored on NP profiles (pg. 138). The supporting profile must be anchored with two KPO 8 anchors (pg. 145) at its edges. The maximum distance of the anchors must be 250 mm. It is necessary to use three KPO 8 anchors to fasten the NP 350 profile.

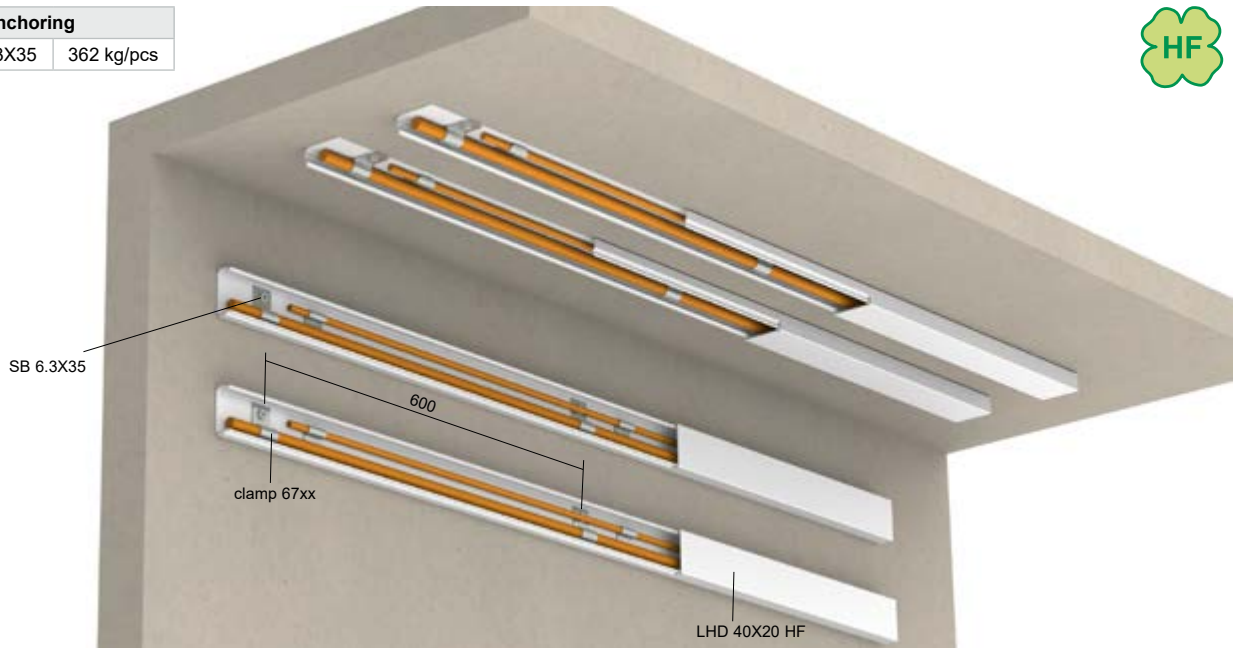


**Halogen-free trunkings LHD 40X20HF
assembly of trunkings - placement on the wall and ceiling**

by inserted cables



load for anchoring		
concrete	SB 6.3X35	362 kg/pcs



Non-standardized supporting construction


The basis of the supporting construction is a halogen-free LHD 40X20 HF trunking together with 67xx_PO clamps (max. Clamp size - 6710_PO). The trunking is attached to the wall or ceiling through 67xx_PO clamps using the SB 6.3X35 screw. The trunking can be used to create a route with requirements for maintaining functionality in the event of a fire in areas where are higher aesthetic requirements.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 920205

Permissible technical parameters of the route	
spacing of mounting points	max. 600 mm
maximum load	max. 2 cables in one rail max. cable cross section 6 mm ²

List of products for one mounting point		
		page
67xx_PO, POGMT	1	140
SB 6.3X35	1	147

cable manufacturer	power cables	classification [min]	data cables	classification [min]	note
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur	E60, P60-R, PS60	PRAFlaGuard F	E60, P60-R, PS60	cable cross section up to 6 mm ² for power cable 4x1.5
Kablo Vrchlábí s.r.o.	1-CXKH-V	E30, P30-R, PS30	JXFE-V	E90, P90-R, PS90	

cable manufacturer	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	FR-104-18-AUNS	JR-101-23-NURS
Kablo Vrchlábí s.r.o.	FR-104-18-AUNS	JR-101-23-NURS

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

STANDARD
NO-STANDARD
JUPITER
MARS
LADDERS
WIRE TRAYS
STAINLESS
OTHER

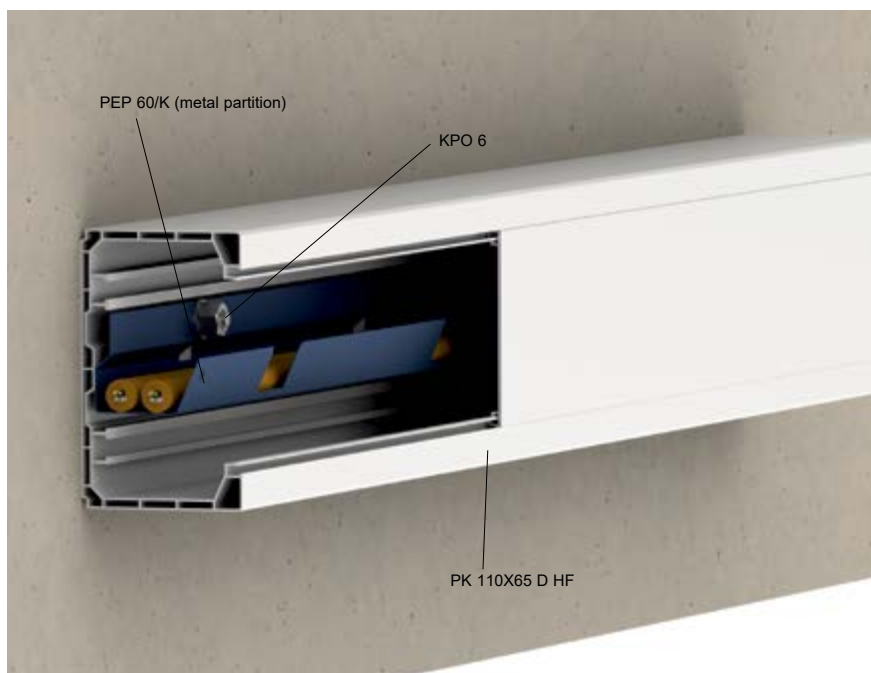
FIRE BOXES
PRODUCTS
INDEX

Halogen-free parapet channels PK 110X65 D HF assembly of parapet channels - placement on the wall




load for anchoring

concrete	KPO 6	100 kg/pcs
----------	-------	------------



Non-standardized supporting construction

The basis of the supporting construction are halogen-free parapet channels PK 110X65 D HF equipped with a metal partition PEP 60/K. The partition is attached to the wall through the parapet channel using KPO 6 anchors with a spacing of 400 mm (every other marked hole in the metal partition is used). The parapet channel can be used to create a route with requirements for maintaining functionality in the event of a fire in areas where emphasis is placed on higher aesthetic requirements. The condition for maintaining the functionality of the route is placing the corresponding cables in the metal partition, not elsewhere in the trunking area. It is possible to place cables in the lower part of the trunking without maintaining functionality in the event of a fire.

The route cannot be used as vertical.

Marking of fire routes by OPT label is always done after at least 50 m of the route.


Classification of fire resistance according to:

DIN 4102-12
ČSN 730895
STN 920205

Permissible technical parameters of the route

spacing of mounting points	max. 400 mm
maximum load	max. 2 cable cross section 10 mm ²

List of products for one mounting point

		page
PEP 60/K	1	149
KPO 6	1	145

cable manufacturer	power cables	classification [min]	data cables	classification [min]	note
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	PRAFlaDur	E30, P30-R, PS30	PRAFlaGuard F	E30, P30-R, PS30	-
Kablo Vrchlábí s.r.o.	1-CXKH-V	E30, P30-R, PS30	-	-	cable cross section up to 10 mm ²
NKT s.r.o.	NOPOVIC 60	E90, P90-R, PS90	-	-	-

cable manufacturer	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	FR-104-14-AUNS	PK9-03-17-913-C-4
Kablo Vrchlábí s.r.o.	FR-104-18-AUNS	JR-101-23-NURS
NKT s.r.o.	FR-246-21-AUNS	JR-104-21-NURS

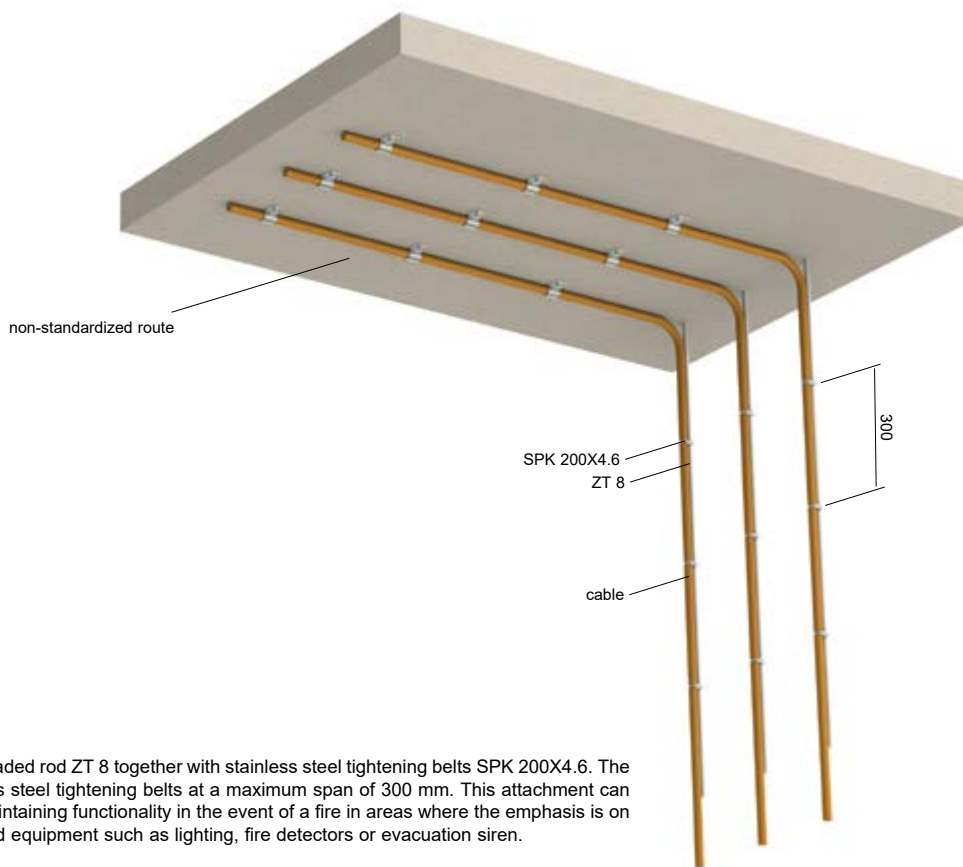
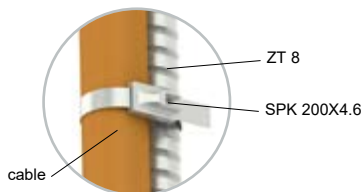


**Cable fastening using threaded rods in the room (e.g. to lighting)
assembly of fire clamps series 67xx_PO - placement from the ceiling**

by inserted cables



load for anchoring		
concrete	KPO 8	100 kg/pcs



Non-standardized supporting construction

The basis of the supporting construction is the threaded rod ZT 8 together with stainless steel tightening belts SPK 200X4.6. The cable is attached to the threaded rod with stainless steel tightening belts at a maximum span of 300 mm. This attachment can be used to create a route with requirements for maintaining functionality in the event of a fire in areas where the emphasis is on installation in the room, or on the installation of end equipment such as lighting, fire detectors or evacuation siren.

Marking of fire routes by OPT label is always done after at least 50 m of the route.

Classification of fire resistance according to:

DIN 4102-12
ČSN 73 0895
STN 920205

Permissible technical parameters of the route	
spacing of mounting points	max. 300 mm
max. length of threaded rod	max. 2000 mm
maximum load	2 pieces of cable per single threaded rod

List of products for one mounting point		
		page
ZT 8	1	143
SPK 200X4.6	1	164
KPOZ 8	1	145

cable manufacturer	No.	power cables	classification [min]	data cables	classification [min]
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	PRAFlaDur	E60, P60-R, PS60	PRAFlaGuard F	E30, P30-R, PS30
	2	PRAFlaDur+T	E60, P60-R, PS60		E90, P90-R, PS90
NKT s.r.o.	-	NOPOVIC 60	E90, P90-R, PS90	-	-

cable manufacturer	No.	protocol number	standpoint number
PRAKAB PRAŽSKÁ KABELOVNA, s.r.o.	1	FR-246-21-AUNS	JR-104-21-NURS
	2	FR-223-23-AUNS	JR-132-23-NURS
NKT s.r.o.	-	FR-246-21-AUNS	JR-104-21-NURS



FIRE BOXES



KPZ

FIRE RESISTANT INSTRUMENT BOX

HALOGEN FREE MATERIAL

SOUND-PROOF BOX BODY

MOUNTING AND DEVICE SCREWS INCLUDED IN THE BOX

SUITABLE FOR SOUNDPROOF WALLS WITH ATTENUATION UP TO 69 dB

DRILL DIAMETER FOR INSTALLATION 73 MM

FOAMING MATERIAL TO ENSURE INTEGRITY AND EI 90 INSULATION IN CASE OF FIRE

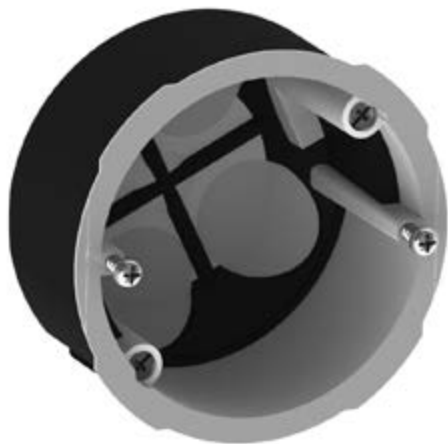
MULTIPLE VARIANTS





Fire resistant wiring instrument box

EI 120



KPZ-1_PO



Demonstration of the behavior of fire instrument box

**Fire resistant instrument box in a non-support wall**

The KPZ-1_PO fire resistant box is intended for fire dividers formed by fireproof plasterboard or for aerated concrete structures. The box is designed for electrical distribution with a voltage up to 400 V. Its advantage is that the inlet openings are made of softened material, which ensures airtight passage between the box and the cable or pipe installed in it. Foaming material is applied to the outer and inner side of the box, which, in the event of a fire, closes the mounting hole - thus ensuring the integrity and insulation of the fire dividers even at the location of the devices. Its use prevents the spread of fire between individual fire sections in the event of a fire. The box can be used in non-load-bearing fire walls made of 2x12.5 mm SDK with or without mineral wool, or in aerated concrete structures.

The diameter of the drill for installation is 73 mm. The mounting screws are equipped with a three-way thread and metal flap for quick installation. The use of this box is mainly in buildings with an increased need for protection of people and property in the event of a fire.

Permissible technical parameters of the route

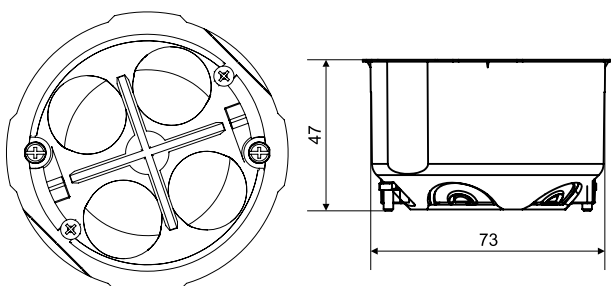
max. number of assembled boxes	horizontally - max. of 3 pcs of boxes next to each other, vertically - max. of 2 pcs below each other
max. protection	IP 30

Fire resistance classification:

protocol number	classification [min]
PKO-19-031	EI 15 - EI 120

*E - Integrity**I - Insulation***Classification of fire resistance according to:**

ČSN EN 1363-1
 ČSN EN 1364-1
 ČSN EN 1366-3
 ČSN 73 0810

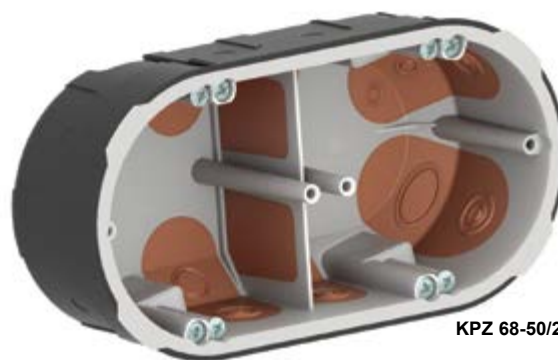




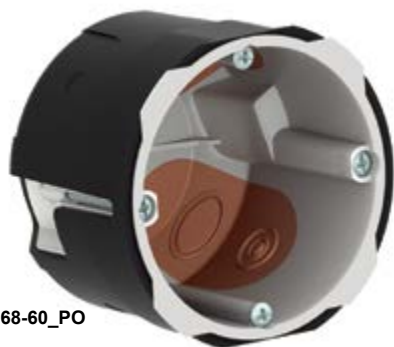
Fire resistant wiring instrument boxes



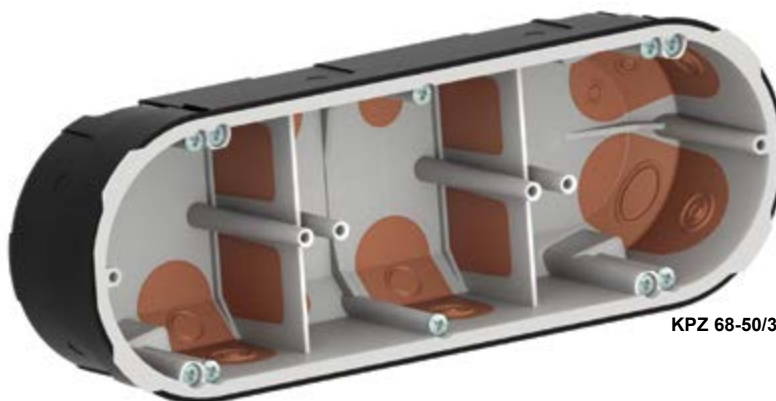
KPZ 68-45_PO



KPZ 68-50/2_PO



KPZ 68-60_PO



KPZ 68-50/3_PO

Fire resistant instrument boxes in a non-support wall

Fire-resistant boxes are designed for fire partition walls made of fire-resistant plasterboard. The boxes are designed for electrical installations with a voltage of up to 400 V. They have the advantage that the inlets are made of a softened material which ensures airtightness between the box and the cable or pipe installed in it. A foaming material is on the outside of the boxes, which in the event of a fire will seal the mounting hole - this ensures the integrity and insulation of the fire partitions and the location of the devices. Their use therefore prevents the spread of fire and smoke in the event of a fire. The boxes can be used both in fire-resistant partitions with or without mineral wool. With wool the boxes provide integrity and insulation for up to 90 minutes, i.e. EI 90, without wool up to EI 60. The drill diameter for the installation of single boxes is 73 mm.

The mounting screws are equipped with a three-way thread and metal flap for quick installation. The box can be used in non-load-bearing fire walls made of 2x12.5 mm SDK with or without mineral wool, or in aerated concrete structures.

The use of this box is mainly in buildings with an increased need for protection of people and property in the event of a fire.



Permissible technical parameters of the route			
box type	max. number of side by side position	max. number above each other position	opposing each other
KPZ 68-45_PO	3	3	YES
KPZ 68-50/2_PO	1	1	NO
KPZ 68_50/3_PO	1	1	
KPZ 68-60_PO	3	3	

Fire resistance classification:

protocol number	classification [min]
PKO-23-094	EI 15 - EI 90

E - Integrity
I - Insulation

Classification of fire resistance according to:

- ČSN EN 1363-1
- ČSN EN 1364-1
- ČSN EN 1366-3
- ČSN 73 0810





Wiring fire boxes for power cables



KSK 100_PO, KSK 125_PO10, KSK 175_PO16

Standardized and non-standardized supporting constructions

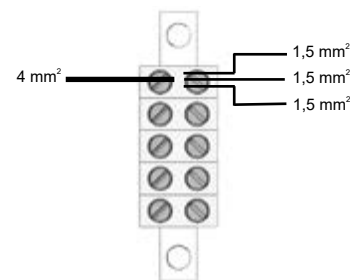
The wiring box is attached to the base material using fire-resistant anchors or concrete screws, which are part of the package. Spacers supported by washers are screwed onto the installed anchors. A support rail with ceramic terminals is then mounted on the posts. The support rail is fastened to the support posts using nuts. The wiring box can be attached to the JUPITER cable tray using the MDS mounting plate (pg. 113). For easy routing of cables, the box is equipped with softened inputs providing IP 66 protection. The entire box is made of halogen-free material.

The boxes can be part of both standardized and non-standardized routes. Information on the types of cables that can be used (or without restrictions) can be found in the individual system assemblies that remain functional in the event of a fire.

Separate ceramic terminals serve only as a spare part for KSK boxes with functionality in the event of a fire. Single and double terminals can be interchanged, provided that the other parameters of the KSK boxes do not change. **Separate ceramic terminals do not form a fire resistant route.**

Marking of fire routes by OPT label is always done after at least 50 m of the route.

box type	conductor core cross section	placement of wires into the terminal from one side					
		1,5 mm ²	2,5 mm ²	4 mm ²	6 mm ²	10 mm ²	16 mm ²
KSK 100_PO	1,5 - 6 mm ²	3	1-2*	1	1	-	-
KSK 125_PO10	1,5 - 10 mm ²	4	3	1-2*	1	1	-
KSK 175_PO16	1,5 - 16 mm ²	7	4	3	1-2*	1	1



*the number of wires may vary depending on the cable manufacturer

Fire resistance classification

item number	classification protocol number	classification [min] - power cables
KSK 100_PO	PK9-03-17-913-C-4	P90-R, E90, PS90
KSK 125_PO10		
KSK 175_PO16		

expert assessment PAVUS, a. s.	Addition No. 1 220170064
extended application	PRA9-03-17-902-C-1
certification for the German market	P-1041 DMT DO

Certification according to: ČSN 730895, DIN 4102-12, STN 920205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

STANDARD
NO-STANDARD
FIRE BOXES
PRODUCTS

INDEX



Wiring fire boxes for single-phase purposes



KSK 100_PO4J, KSK 100_PO6J, KSK 100_PO10J

Standardized and non-standardized supporting constructions

The wiring box is attached to the base material using fire-resistant anchors or concrete screws, which are part of the package. Spacers supported by washers are screwed onto the installed anchors. A support rail with ceramic terminals is then mounted on the posts. The support rail is fastened to the support posts using nuts. Finally, the clamps are attached to the support rail with the inserted screws. The wiring box can be attached to the JUPITER cable tray using the MDS mounting plate (pg. 113). For easy routing of cables, the box is equipped with softened inputs providing IP 66 protection. The entire box is made of halogen-free material.

The boxes can be part of both standardized and non-standardized routes. Information on the types of cables that can be used (or without restrictions) can be found in the individual system assemblies that remain functional in the event of a fire.

Separate ceramic terminals serve only as a spare part for KSK boxes with functionality in the event of a fire. Single and double terminals can be interchanged, provided that the other parameters of the KSK boxes do not change. **Separate ceramic terminals do not form a fire resistant route.**

Marking of fire routes by OPT label is always done after at least 50 m of the route.

box type	conductor core cross section	placement of wires into the terminal from one side				
		1,5 mm ²	2,5 mm ²	4 mm ²	6 mm ²	10 mm ²
KSK 100_PO4J	1,5 - 4 mm ²	2	1	1	-	-
KSK 100_PO6J	1,5 - 6 mm ²	3	2	1	1	-
KSK 100_PO10J	1,5 - 10 mm ²	4	3	1-2*	1	1

*the number of wires may vary depending on the cable manufacturer

Fire resistance classification

item number	classification protocol number	classification [min] - power cables
KSK 100_PO4J	PK9-03-17-913-C-4	P90-R, E90, PS90
KSK 100_PO6J		
KSK 100_PO10J		

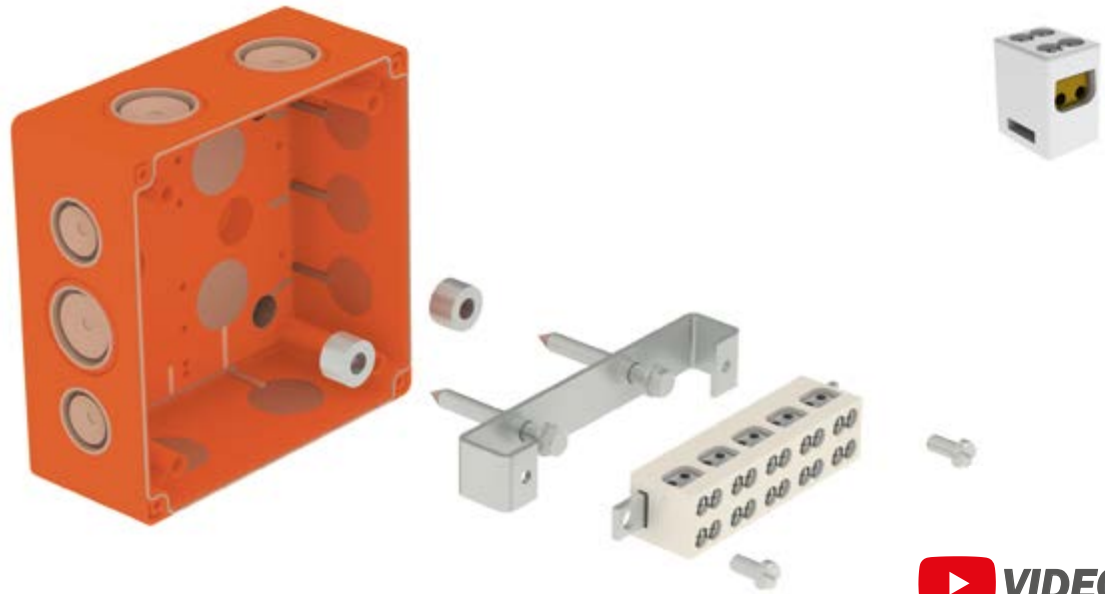
expert assessment PAVUS, a. s.	Addition No. 1 220170064
extended application	PRA9-03-17-902-C-1

Certification according to: ČSN 73 0895, DIN 4102-12, STN 92 0205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R



Wiring fire box with double terminal



KSK 125_2PO6, KSK 175_2PO10

Standardized and non-standardized supporting constructions

The wiring box is attached to the base material using the concrete screws that are included in the package. Depending on the type of cable, the corresponding inlets are created in the box and the cables are connected. The last step of the assembly is the installation of the cover lid, which is fixed with 4 screws in the corners. The wiring box can be attached to the JUPITER cable tray using the MDS mounting plate (pg. 113).

The advantage of the terminal, which is an integral part of the box, is the fact that it is possible to use 4 wires fastened with screws to connect the wires to one potential. For easy routing of cables, the box is equipped with softened inputs providing IP 66 protection. The entire box is made of halogen-free material.

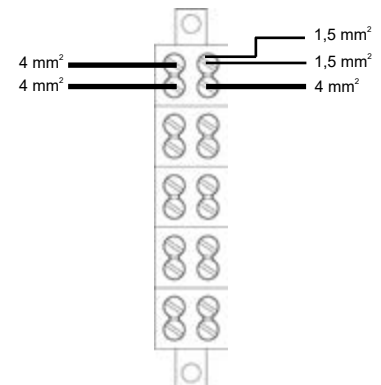
The boxes can be part of both standardized and non-standardized routes. Information on the types of cables that can be used (or without restrictions) can be found in the individual system assemblies that remain functional in the event of a fire.

Separate ceramic terminals serve only as a spare part for KSK boxes with functionality in the event of a fire. Single and double terminals can be interchanged, provided that the other parameters of the KSK boxes do not change. **Separate ceramic terminals do not form a fire resistant route.**

Marking of fire routes by OPT label is always done after at least 50 m of the route.

box type	conductor core cross section	placement of wires into the terminal from one side				
		1,5 mm ²	2,5 mm ²	4 mm ²	6 mm ²	10 mm ²
KSK 125_2PO6	1,5 - 6 mm ²	3+3	2+2*	2	2	-
KSK 175_2PO10	1,5 - 10 mm ²	4+4	3+3*	2+2	2	2

*the number of wires may vary depending on the cable manufacturer



Fire resistance classification

item number	classification protocol number	classification [min] - power cables
KSK 125_2PO6	PK9-03-17-913-C-4	P90-R, E90, PS90
KSK 175_2PO10		

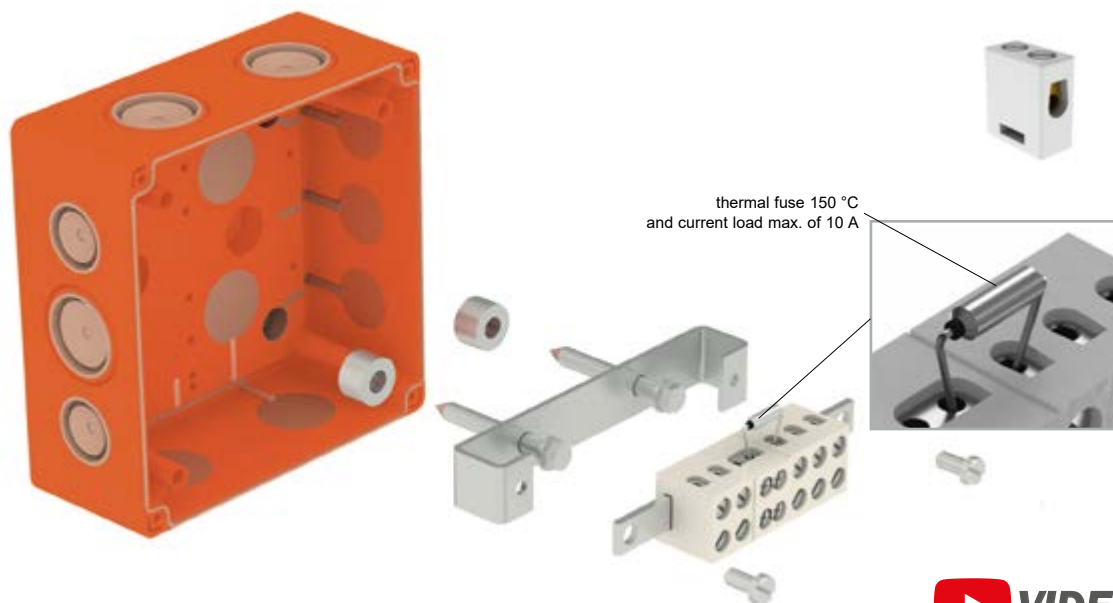
expert assessment PAVUS, a. s.	Addition No. 1 Z220170064
extended application	PRA9-03-17-902-C-1

Certification according to: ČSN 730895, DIN 4102-12, STN 920205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R



Wiring fire box with thermal fuse



thermal fuse 150 °C and current load max. of 10 A



KSK 125_PO6P, KSK 175_PO10P

Standardized and non-standardized supporting constructions

The wiring box is attached to the base material using the concrete screws that are included in the package. Depending on the type of cable, the corresponding inlets are created in the box and the cables are connected. The last step of the assembly is the installation of the cover lid, which is fixed with 4 screws in the corners. The wiring box can be attached to the JUPITER cable tray using the MDS mounting plate (pg. 113).

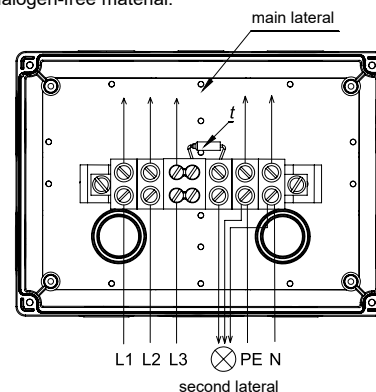
According to the diagram, a thermal fuse is inserted in the ending line of the circuit. In the event of a fire, where there is a risk of a short circuit from the terminal equipment, which does not have the ability to maintain functionality in the event of a fire, the thermal fuse disconnects this ending secondary line from the mains, thus ensuring its functionality. The thermal value of the non-reversible fuse is 150 °C, the maximum current load is 10 A. The fuse supplied by KOPOS KOLIN a.s. can be used in all boxes with functional integrity while maintaining all other parameters (components).

For easy routing of cables, the box is equipped with softened inputs providing IP 66 protection. The entire box is made of halogen-free material.

The boxes can be part of both standardized and non-standardized routes. Information on the types of cables that can be used (or without restrictions) can be found in the individual system assemblies that remain functional in the event of a fire.

Separate ceramic terminals serve only as a spare part for KSK boxes with functionality in the event of a fire. Single and double terminals can be interchanged, provided that the other parameters of the KSK boxes do not change. **Separate ceramic terminals do not form a fire resistant route.**

Marking of fire routes by OPT label is always done after at least 50 m of the route.



box type	conductor core cross section	placement of wires into the terminal from one side				
		1,5 mm ²	2,5 mm ²	4 mm ²	6 mm ²	10 mm ²
KSK 125_PO6P	1,5 - 6 mm ²	3	1-2*	1	1	-
KSK 175_PO10P	1,5 - 10 mm ²	4	3	1-2*	1	1

*the number of wires may vary depending on the cable manufacturer

Fire resistance classification

item number	classification protocol number	classification [min] - power cables
KSK 125_PO6P	PK9-03-17-913-C-4	P90-R, E90, PS90
KSK 175_PO10P		

Certification according to: ČSN 730895, DIN 4102-12, STN 920205

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R

STANDARD

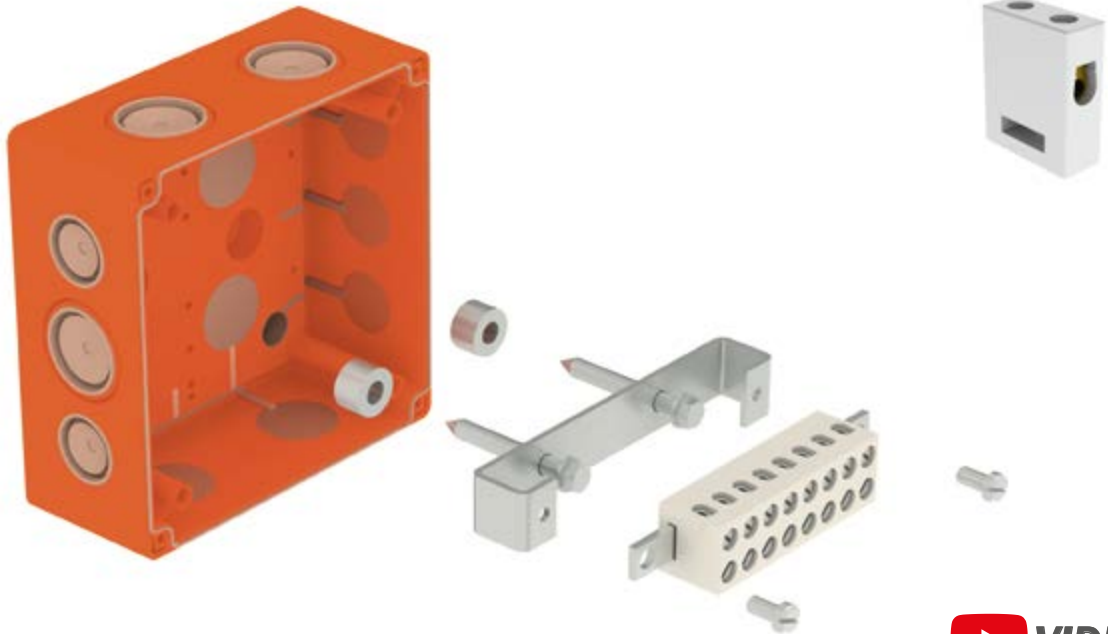
NO-STANDARD

FIRE BOXES

PRODUCTS

INDEX

Wiring fire boxes for communication purposes



KSK 125_DPO, KSK 175_DPO

Standardized and non-standardized supporting constructions

The wiring box is attached to the base material using the concrete screws that are included in the package. The KSK 125_DPO box includes 8 terminals, the KSK 175_DPO box has 14 terminals. For easy routing of cables, the box is equipped with softened inputs providing IP 66 protection. The entire box is made of halogen-free material. The last step of the assembly is the installation of the cover lid, which is fixed with screws. The wiring box can be attached to the JUPITER cable tray using the MDS mounting plate (pg. 113).

The boxes can be part of both standardized and non-standardized routes. Information on the types of cables that can be used (or without restrictions) can be found in the individual system assemblies that remain functional in the event of a fire.

Separate ceramic terminals serve only as a spare part for KSK boxes with functionality in the event of a fire. Single and double terminals can be interchanged, provided that the other parameters of the KSK boxes do not change. **Separate ceramic terminals do not form a fire resistant route.**

Marking of fire routes by OPT label is always done after at least 50 m of the route.

box type	conductor core cross section
KSK 125_DPO	0,5 - 4 mm ²
KSK 175_DPO	0,5 - 4 mm ²

Fire resistance classification:

item number	classification protocol number	classification [min] - power cables
KSK 125_DPO	PK9-03-17-913-C-4	P90-R, E90, PS90
KSK 175_DPO		

expert assessment PAVUS, a. s.	Addition No. 1 Z220170064
extended application	PRA9-03-17-902-C-1
certification for the German market	P-1041 DMT DO

the above values of fire resistance also apply to the corresponding classifications PH90-R, PH60-R, PH45-R, PH30-R and PH15-R



PRODUCTS

PRODUCTS

fire boxes

KSK fire-resistant wiring box for power cables (5 terminals)



halogen-free



-25 - +60 °C



A1 - F



30 sec.



Pb Free



IP66

	item number	dimension	⚙	‡	EAN
●	KSK 100_PO	101 x 101 x 63,5	orange RAL 2004	0,2	8595568919144
●	KSK 125_PO10	126 x 126 x 76	orange RAL 2004	0,3	8595568922069
●	KSK 175_PO16	176 x 126 x 90	orange RAL 2004	0,4	8595568924339

- ▶ The box is equipped with 5 ceramic terminals to maintain functionality in the event of a fire. The boxes are attached to the concrete using the enclosed anchors (included in the package).
- ▶ The boxes are intended for use only with power cables with proven functionality in the event of a fire
- ▶ Fire-resistant boxes are made of halogen-free material and are equipped with inlets made of softened material, which allows easy insertion of cables into the box.

KSK 100_PO: the lid is secured with the enclosed stainless steel screws
the terminals are designed for 5 conductors with a cable cross-section of 1.5 - 6 mm²
fire resistance classification: P90-R ČSN 73 0895
E 90 DIN 4102-12
PS 90 STN 92 0205

KSK 125_PO10: the lid is secured with the enclosed stainless steel screws
the terminals are designed for 5 conductors with a cable cross-section of 1.5 - 10 mm²
fire resistance classification: P90-R ČSN 73 0895
E 90 DIN 4102-12
PS 90 STN 92 0205

KSK 175_PO16: the lid is secured with the enclosed stainless steel screws
the terminals are designed for 5 conductors with a cable cross-section of 1.5 - 16 mm²
fire resistance classification: P90-R ČSN 73 0895
E 90 DIN 4102-12
PS 90 STN 92 0205

KSK fire-resistant wiring box for power cables (3 terminals)



halogen-free



-25 - +60 °C



A1 - F



30 sec.



Pb Free



IP66

	item number	dimension	⚙	‡	EAN
●	KSK 100_PO4J	101 x 101 x 63,5	orange RAL 2004	0,2	8595568934673
●	KSK 100_PO6J	101 x 101 x 63,5	orange RAL 2004	0,2	8595568934680
●	KSK 100_PO10J	101 x 101 x 63,5	orange RAL 2004	0,2	8595568927620

- ▶ The box is equipped with a ceramic terminal - 3 poles, while maintaining functionality in the event of a fire. The boxes are attached to the concrete using the enclosed anchors (included in the package).
- ▶ The boxes are intended for use only with power cables with proven functionality in the event of a fire.
- ▶ Fire-resistant boxes are made of halogen-free material and are equipped with inlets made of softened material, which allows easy insertion of cables into the box.

KSK 100_PO4J: the lid is secured with the enclosed stainless steel screws
the terminals are designed for 3 conductors with a cable cross-section of 1.5 - 4 mm²
fire resistance classification: P90-R ČSN 73 0895
E 90 DIN 4102-12
PS 90 STN 92 0205

KSK 100_PO6J: the lid is secured with the enclosed stainless steel screws
the terminals are designed for 3 conductors with a cable cross-section of 1.5 - 6 mm²
fire resistance classification: P90-R ČSN 73 0895
E 90 DIN 4102-12
PS 90 STN 92 0205

KSK 100_PO10J: the lid is secured with the enclosed stainless steel screws
the terminals are designed for 3 conductors with a cable cross-section of 1.5 - 10 mm²
fire resistance classification: P90-R ČSN 73 0895
E 90 DIN 4102-12
PS 90 STN 92 0205



fire-resistant wiring box KSK with thermal fuse for power cables



halogen-free
 -25 - +60 °C
 A1 - F
 30 sec.
 Pb Free
 IP66



	item number	dimension	⚙	‡	EAN
●	KSK 125_PO6P	126 x 126 x 76	orange RAL 2004	0,3	8595568924322
●	KSK 175_PO10P	176 x 126 x 90	orange RAL 2004	0,4	8595568924360

- ▶ The boxes are equipped with terminals for easy connection of appliances on the secondary route. These appliances do not provide functionality in fire conditions and it is necessary to disconnect them at a time when their degradation could cause failure and thus shut down the entire main route. A thermal fuse is connected in the box to ensure that the secondary route is disconnected.
- ▶ The boxes are intended for use only with power cables with proven functionality in the event of a fire.
- ▶ Fire-resistant boxes are made of halogen-free material and are equipped with inlets made of softened material, which allows easy insertion of cables into the box.

KSK 125_PO6P: the lid is secured with the enclosed stainless steel screws
 the terminals are designed for 5 conductors with a cable cross-section of 1.5 - 6 mm²
 fire resistance classification: P90-R ČSN 73 0895
 E 90 DIN 4102-12
 PS 90 STN 92 0205

KSK 175_PO10P: the lid is secured with the enclosed stainless steel screws
 the terminals are designed for 5 conductors with a cable cross-section of 1.5 - 10 mm²
 fire resistance classification: P90-R ČSN 73 0895
 E 90 DIN 4102-12
 PS 90 STN 92 0205

fire-resistant KSK wiring box with double terminals for power cables



halogen-free
 -25 - +60 °C
 A1 - F
 30 sec.
 Pb Free
 IP66



	item number	dimension	⚙	‡	EAN
●	KSK 125_2PO6	126 x 126 x 76	orange RAL 2004	0,2	8595568924315
●	KSK 175_2PO10	176 x 126 x 90	orange RAL 2004	0,5	8595568924353

- ▶ The boxes are equipped with 5 pieces of ceramic terminals. The terminals allow the installation of multiple wires at a single potential.
- ▶ The boxes are attached to the concrete using the enclosed anchors (included in the package).
- ▶ The boxes are intended for use only with power cables with proven functionality in the event of a fire.
- ▶ Fire-resistant boxes are made of halogen-free material and are equipped with inlets made of softened material, which allows easy insertion of cables into the box.

KSK 125_2PO6: the lid is secured with the enclosed stainless steel screws
 the terminals are designed for 5 conductors with a cable cross-section of 1.5 - 6 mm²
 fire resistance classification: P90-R ČSN 73 0895
 E 90 DIN 4102-12
 PS 90 STN 92 0205

KSK 175_2PO10: the lid is secured with the enclosed stainless steel screws
 the terminals are designed for 5 conductors with a cable cross-section of 1.5 - 10 mm²
 fire resistance classification: P90-R ČSN 73 0895
 E 90 DIN 4102-12
 PS 90 STN 92 0205



fire-resistant KSK wiring box for data (communication) cables



	item number	dimension	☼	‡	EAN
●	KSK 125_DPO	126 x 126 x 76	orange RAL 2004	0,3	8595568924308
●	KSK 175_DPO	176 x 126 x 90	orange RAL 2004	0,4	8595568924360

- ▶ The boxes are equipped with ceramic terminals while maintaining functionality in the event of a fire. The boxes are fixed to the concrete with the enclosed screws (included in the package).
- ▶ The boxes are intended for use only with data cables with proven functionality in the event of a fire.
- ▶ Fire-resistant boxes are made of halogen-free material and are equipped with inlets made of softened material, which allows easy insertion of cables into the box.

KSK 125_DPO: the lid is secured with the enclosed stainless steel screws
 the terminals are designed for 8 conductors with a cable cross-section of 0.5 - 4 mm²
 fire resistance classification: P90-R ČSN 73 0895
 E 90 DIN 4102-12
 PS 90 STN 92 0205

KSK 175_DPO: the lid is secured with the enclosed stainless steel screws
 the terminals are designed for 14 conductors with a cable cross-section of 0.5 - 4 mm²
 fire resistance classification: P90-R ČSN 73 0895
 E 90 DIN 4102-12
 PS 90 STN 92 0205

ceramic terminal - spare part



	item number	height (mm)	width (mm)	length (mm)	for cable cross section	EAN
●	KS_PO	25	8,5	20	up to 6 mm ²	8595568932112
●	KS_PO10	24	12,6	24	up to 10 mm ²	8595568932518
●	KS_PO16	27,5	15	27,5	up to 16 mm ²	8595568932525
●	KS_PO4J	16	18	33	up to 4 mm ²	8595568934697
●	KS_PO6J	18	19	36	up to 6 mm ²	8595568934703
●	KS_PO10J	20	21	36	up to 10 mm ²	8595568932532
●	KS_2PO6	25	16	20	2 cables up to 6 mm ²	8595568932129
●	KS_2PO10	25	24	20	2 cables up to 10 mm ²	8595568932136
●	KS_2PO16	33	28	33	2 cables up to 16 mm ²	8595568938787

- ▶ Separate ceramic terminals serve only as a spare part for KSK boxes with functionality in the event of a fire. Single and double terminals can be interchanged, provided that the other parameters of the KSK boxes do not change.
- ▶ **Separate ceramic terminals do not form a fire resistant route.**

thermal fuse



	item number	‡	∩	load		EAN
				thermal	current	
●	TP_PO	0,01	10	150 °C	10 A	8595568932105

- ▶ KSK boxes can be fitted with several fuses, provided that the other parameters of the tested boxes do not change, both for standardized supporting constructions and for non-standardized supporting constructions.
- ▶ For non-standardized supporting constructions, it depends on the functional cables used and the classification of the originally tested routes.



fireproof instrument box for hollow walls and aerated concrete



halogen-free -5 +60 °C 850 °C A1 - F 30 sec. IP30

item number	⚙️	classification	EAN
● KPZ-1_PO	black+grey	EI 120	8595568932358

- ▶ Provides integrity and insulation for up to 120 minutes in the event of a fire (EI 15 - EI 120).
- ▶ Inlets made of flexible material.
- ▶ Fire-resistant material is placed outside and inside the box.
- ▶ The diameter of the drill for installation is 73 mm.
- ▶ The box is soundproof (sound insulation up to 69 dB).
- ▶ Mounting screws are equipped with a three-way thread and metal feet for quick installation.
- ▶ The box is intended primarily for buildings with an increased need for protection of people and property.
- ▶ This box is not intended for the German market.

fireproof instrument box for hollow walls and aerated concrete



halogen-free -5 +60 °C 850 °C A1 - F 30 sec. IP30

item number	⚙️	classification	EAN
● KPZ 68-45_PO	black+grey+orange	EI 90	8595568937605

- ▶ Provides integrity and insulation for up to 90 minutes in the event of a fire (EI 15 - EI 90).
- ▶ Inlets made of flexible material.
- ▶ Fire-resistant material is placed outside the box.
- ▶ The diameter of the drill for installation is 73 mm.
- ▶ The box is soundproof (sound insulation up to 69 dB).
- ▶ Mounting screws are equipped with a three-way thread and metal feet for quick installation.
- ▶ The box is intended primarily for buildings with an increased need for protection of people and property.

fireproof instrument box for hollow walls and aerated concrete



halogen-free -5 +60 °C 850 °C A1 - F 30 sec. IP30

item number	⚙️	classification	EAN
● KPZ 68-50/2_PO	black+grey+orange	EI 90	8595568937629

- ▶ Provides integrity and insulation for up to 90 minutes in the event of a fire (EI 15 - EI 90).
- ▶ Inlets made of flexible material.
- ▶ Fire-resistant material is placed outside the box.
- ▶ The diameter of the drill for installation is 73 mm.
- ▶ The box is soundproof (sound insulation up to 69 dB).
- ▶ Mounting screws are equipped with a three-way thread and metal feet for quick installation.
- ▶ The box is intended primarily for buildings with an increased need for protection of people and property.



fireproof instrument box for hollow walls and aerated concrete

EI 90

MAT



halogen-free

-5 +60 °C



850 °C



A1 - F



30 sec.



Pb Free



IP30



item number	⚙	classification	EAN
● KPZ 68-50/3_PO	black+grey+orange	EI 90	8595568937636

- ▶ Provides integrity and insulation for up to 90 minutes in the event of a fire (EI 15 - EI 90).
- ▶ Inlets made of flexible material.
- ▶ Fire-resistant material is placed outside the box.
- ▶ The diameter of the drill for installation is 73 mm.
- ▶ The box is soundproof (sound insulation up to 69 dB).
- ▶ Mounting screws are equipped with a three-way thread and metal feet for quick installation.
- ▶ The box is intended primarily for buildings with an increased need for protection of people and property.

fireproof instrument box for hollow walls and aerated concrete

EI 90

MAT



halogen-free

-5 +60 °C



850 °C



A1 - F



30 sec.



Pb Free



IP30



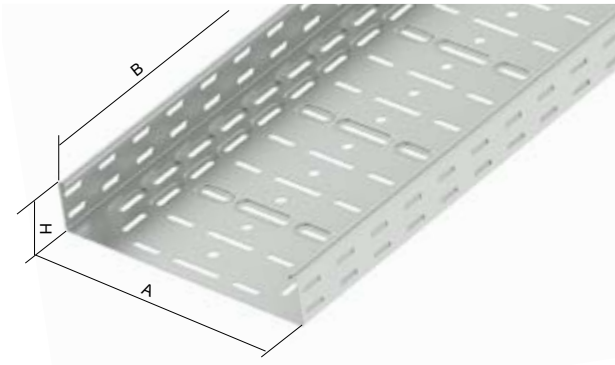
item number	⚙	classification	EAN
● KPZ 68-60_PO	black+grey+orange	EI 90	8595568937612

- ▶ Provides integrity and insulation for up to 90 minutes in the event of a fire (EI 15 - EI 90).
- ▶ Inlets made of flexible material.
- ▶ Fire-resistant material is placed outside the box.
- ▶ The diameter of the drill for installation is 73 mm.
- ▶ The box is soundproof (sound insulation up to 69 dB).
- ▶ Mounting screws are equipped with a three-way thread and metal feet for quick installation.
- ▶ The box is intended primarily for buildings with an increased need for protection of people and property.



PRODUCTS cable trays JUPITER

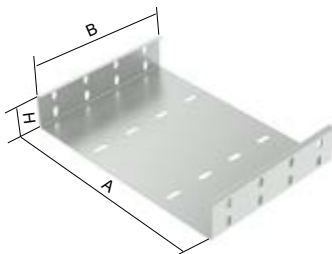
cable tray



► KSBS couplings and NSM 6X10 bolts are intended for connecting trays.

	item number	A	H	B	‡	‡	EAN
●	KZ 60X50X1.50_PO	50	60	3000	1,5	1,93	8595057692046
●	KZ 60X75X1.50_PO	75	60	3000	1,5	2,17	8595057635838
●	KZ 60X100X1.50_PO	100	60	3000	1,5	2,77	8595057635852
●	KZ 60X150X1.50_PO	150	60	3000	1,5	3,20	8595057635883
●	KZ 60X200X1.50_PO	200	60	3000	1,5	3,70	8595057635913
●	KZ 60X300X1.50_PO	300	60	3000	1,5	4,55	8595057635951
⊕	KZ 60X50X1.50_POF	50	60	3000	1,5	1,93	8595057697751
⊕	KZ 60X75X1.50_POF	75	60	3000	1,5	2,17	8595057660694
⊕	KZ 60X100X1.50_POF	100	60	3000	1,5	2,77	8595057650794
⊕	KZ 60X150X1.50_POF	150	60	3000	1,5	3,20	8595057657960
⊕	KZ 60X200X1.50_POF	200	60	3000	1,5	3,70	8595057650800
⊕	KZ 60X300X1.50_POF	300	60	3000	1,5	4,55	8595057657953

coupling for cable trays

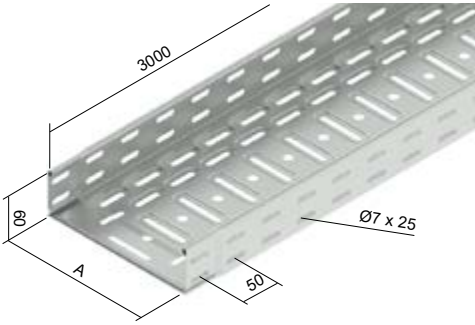


► The coupling is designed for connecting KZ cable trays without an integrated coupling using NSM 6X10 bolts.

	item number	A	H	B	‡	‡	‡	EAN
●	KSBS 50_PO	50	60	200	16	1,5	0,33	8595057692022
●	KSBS 75_PO	75	60	200	16	1,5	0,40	8595057649804
●	KSBS 100_PO	100	60	200	16	1,5	0,45	8595057649811
●	KSBS 150_PO	150	60	200	16	1,5	0,56	8595057649828
●	KSBS 200_PO	200	60	200	24	1,5	0,69	8595057649835
●	KSBS 300_PO	300	60	200	24	1,5	0,92	8595057649842
⊕	KSBS 50_POF	50	60	200	16	1,5	0,33	8595057697768
⊕	KSBS 75_POF	75	60	200	16	1,5	0,40	8595057665750
⊕	KSBS 100_POF	100	60	200	16	1,5	0,45	8595057665767
⊕	KSBS 150_POF	150	60	200	16	1,5	0,56	8595057665774
⊕	KSBS 200_POF	200	60	200	24	1,5	0,69	8595057665781
⊕	KSBS 300_POF	300	60	200	24	1,5	0,92	8595057665774



cable tray with integrated coupling

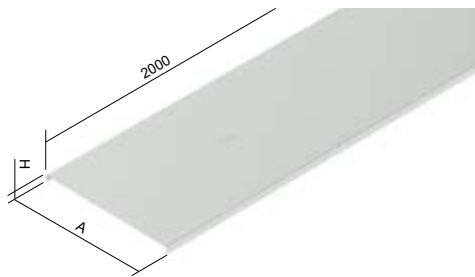


- ▶ NSM 6X10 bolts are used to secure the connection of the trays with the integrated coupling.
- ▶ The MDS mounting plate is used to mount the KSK boxes on the KZI cable tray.
- ▶ Various cable tray designs are available on request - contact sales representatives for more information. These items can also be ordered in a painted version..

item number	A	↑	‡	‡	‡	EAN
● KZI 60X50X0.75_S	50	0,75	0,99	4		8595057692312
● KZI 60X75X0.75_S	75	0,75	1,18	4		8595057627550
● KZI 60X100X0.75_S	100	0,75	1,37	4		8595057627567
● KZI 60X150X0.75_S	150	0,75	1,70	4		8595057627574
● KZI 60X200X0.75_S	200	0,75	1,86	6		8595057627581
● KZI 60X300X0.75_S	300	0,75	2,47	6		8595057630857
● KZI 60X50X1.00_S	50	1,0	1,24	4		8595057692916
● KZI 60X75X1.00_S	75	1,0	1,27	4		8595057629585
● KZI 60X100X1.00_S	100	1,0	1,70	4		8595057636118
● KZI 60X150X1.00_S	150	1,0	2,07	4		8595057635678
● KZI 60X200X1.00_S	200	1,0	2,27	6		8595057627598
● KZI 60X300X1.00_S	300	1,0	3,07	6		8595057627604
● KZI 60X400X1.00_S	400	1,0	3,75	6		8595057627611
● KZI 60X500X1.00_S	500	1,0	4,54	6		8595057644021
● KZI 60X600X1.00_S	600	1,0	5,40	6		8595057635722
● KZI 60X50X1.25_PO	50	1,25	1,62	4		8595057696082
● KZI 60X75X1.25_PO	75	1,25	1,80	4		8595057635661
● KZI 60X100X1.25_PO	100	1,25	2,10	4		8595057633551
● KZI 60X150X1.25_PO	150	1,25	2,49	4		8595057633568
● KZI 60X200X1.25_PO	200	1,25	2,84	6		8595057635685
● KZI 60X300X1.25_PO	300	1,25	3,96	6		8595057634930
● KZI 60X400X1.25_PO	400	1,25	4,60	6		8595057635715
● KZI 60X500X1.25_PO	500	1,25	5,52	6		8595057627628
● KZI 60X600X1.25_PO	600	1,25	6,50	6		8595057627635

item number	A	↑	‡	‡	EAN
● KZI 60X50X0.75_F	50	0,75	1,23	4	8595057696709
⊕ KZI 60X75X0.75_F	75	0,75	1,44	4	8595057696747
● KZI 60X100X0.75_F	100	0,75	1,55	4	8595057696556
● KZI 60X150X0.75_F	150	0,75	2,02	4	8595057696570
● KZI 60X200X0.75_F	200	0,75	2,28	6	8595057696600
● KZI 60X300X0.75_F	300	0,75	3,02	6	8595057696631
⊕ KZI 60X50X1.00_F	50	1,0	1,44	4	8595057696716
⊕ KZI 60X75X1.00_F	75	1,0	1,48	4	8595057696754
⊕ KZI 60X100X1.00_F	100	1,0	1,98	4	8595057696327
⊕ KZI 60X150X1.00_F	150	1,0	2,41	4	8595057696587
⊕ KZI 60X200X1.00_F	200	1,0	2,64	6	8595057696617
⊕ KZI 60X300X1.00_F	300	1,0	3,57	6	8595057696648
● KZI 60X400X1.00_F	400	1,0	4,37	6	8595057696662
⊕ KZI 60X500X1.00_F	500	1,0	5,30	6	8595057696686
⊕ KZI 60X600X1.00_F	600	1,0	6,30	6	8595057696723
⊕ KZI 60X50X1.25_POF	50	1,25	1,85	4	8595057696099
⊕ KZI 60X75X1.25_POF	75	1,25	1,80	4	8595057696761
⊕ KZI 60X100X1.25_POF	100	1,25	2,30	4	8595057696563
⊕ KZI 60X150X1.25_POF	150	1,25	2,80	4	8595057696594
⊕ KZI 60X200X1.25_POF	200	1,25	3,22	6	8595057696624
⊕ KZI 60X300X1.25_POF	300	1,25	4,39	6	8595057696655
⊕ KZI 60X400X1.25_POF	400	1,25	5,20	6	8595057696679
⊕ KZI 60X500X1.25_POF	500	1,25	6,29	6	8595057696693
⊕ KZI 60X600X1.25_POF	600	1,25	7,37	6	8595057696730
● KZI 60X50X0.75_ZM	50	0,75	0,99	4	8595568937711
● KZI 60X100X0.75_ZM	100	0,75	1,37	4	8595568937735
● KZI 60X200X0.75_ZM	200	0,75	1,87	5	8595568937759
● KZI 60X300X0.75_ZM	300	0,75	2,42	5	8595568937773
● KZI 60X400X1.00_ZM	400	1,0	3,89	6	8595568937797
● KZI 60X500X1.00_ZM	500	1,0	4,54	6	8595568937810

cable tray cover



- ▶ The standard length of the cable tray cover is 2 m.
- ▶ The specified sheet thickness is supplied as standard. Without notice from the manufacturer, it is possible to deliver the cover from a thicker plate.
- ▶ The cover is attached to the tray using the VU cover fixture (2 pieces per meter).
- ▶ These items can also be ordered in a painted version.

item number	A	H	↑	‡	EAN
● V 50_S	50	11	0,55	0,31	8595057629776
● V 75_S	75	11	0,55	0,43	8595057629578
● V 100_S	100	11	0,55	0,53	8595057629783
● V 150_S	150	11	0,55	0,75	8595057629790
● V 200_S	200	11	0,55	0,98	8595057629424
● V 300_S	300	11	0,8	2,07	8595057629516
● V 400_S	400	14	1,0	3,43	8595057629394
● V 500_S	500	14	1,0	4,22	8595057633162
● V 600_S	600	14	1,2	6,27	8595057636576

item number	A	H	↑	‡	EAN
● V 50_F	50	11	0,8	0,54	8595057656109
⊕ V 75_F	75	11	0,8	0,72	8595057658141
● V 100_F	100	11	0,8	0,91	8595057656215
● V 150_F	150	11	0,8	1,30	8595057657991
● V 200_F	200	11	0,8	1,68	8595057656222
● V 300_F	300	11	1,0	2,73	8595057656239
● V 400_F	400	14	1,0	3,63	8595057656246
● V 500_F	500	14	1,0	4,80	8595057657977
⊕ V 600_F	600	14	1,2	6,70	8595057659278
● V 50_ZM	50	11	0,75	0,42	8595568937834
● V 100_ZM	100	11	0,75	0,71	8595568937841
● V 200_ZM	200	11	0,75	1,31	8595568937858
● V 300_ZM	300	11	0,75	1,90	8595568937865
● V 400_ZM	400	14	1,0	3,36	8595568937872
● V 500_ZM	500	14	1,0	4,14	8595568937889

↑ sheet thickness (mm) ‡ weight kg/m
‡ number of bolts for connection

● standard
⊕ to order

▲ standardized
▲ non-standardized

ZM Zn+Mg+Al galvanizing

S; PO pre-galvanized
F; POF hot-dip galvanized

- STANDARD
- NO-STANDARD
- FIRE BOXES
- PRODUCTS
- BOXES
- JUPITER
- MARS
- LADDERS
- WIRE TRAYS
- SUPPORT SYSTEMS
- CLAMPS
- CONNECT & ANCH. MAT.
- OTHER
- NAILING
- STAINLESS
- INDEX



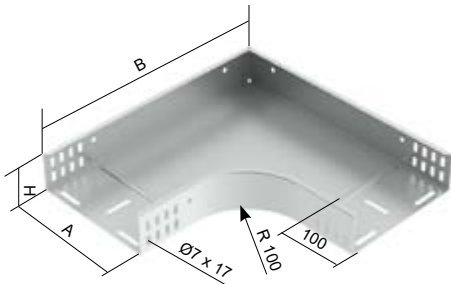
cover fixture



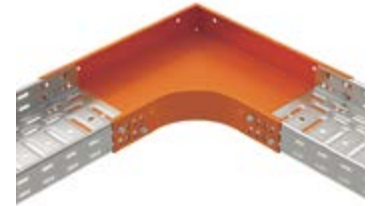
- ▶ It is used for screwless attachment of the cover to the tray and accessories..
- ▶ The cover fixture is attached to the cover and the side of a tray at the location of the hole and is lightly pressed against it so that the fixture lock fits into the hole.
- ▶ Use for perforated and non-perforated trays, holes are created in non-perforated trays especially for fixtures.
- ▶ Can also be used for MARS cable trays.

	item number	‡	EAN
●	VU_GMT	0,01	8595057629448

bend 90°



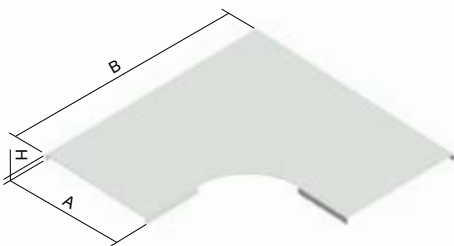
- ▶ The connection is fastened with NSM 6X10 bolt.
- ▶ From a width of 400 mm, the outer right angle of the side is replaced by a bevel.
- ▶ These items can also be ordered in a lacquered version.
- ▶ Accessories can also be used for cable trays.
- ▶ The following applies to accessories for standardized supporting constructions:
 - side height 60 mm
 - max. width at the cable tray is 300 mm
 - max. cable tray width is 400 mm



	item number	A	H	B	‡	‡	‡f	EAN
●	O 90X60X50_S	50	60	253	0,8	0,60	8	8595057627864
●	O 90X60X75_S	75	60	278	0,8	0,71	8	8595057627871
●	O 90X60X100_S	100	60	303	0,8	0,82	8	8595057627888
●	O 90X60X150_S	150	60	353	0,8	1,07	8	8595057627895
●	O 90X60X200_S	200	60	403	1,0	1,64	10	8595057627918
●	O 90X60X300_S	300	60	503	1,0	2,48	10	8595057627925
●	O 90X60X400_S	400	60	603	1,0	3,03	12	8595057627932
●	O 90X60X500_S	500	60	703	1,0	4,01	12	8595057627949
●	O 90X60X600_S	600	60	803	1,2	6,14	12	8595057627956
⊕	O 90X110X150_S	150	110	353	0,8	1,40	16	8595057633667
●	O 90X110X200_S	200	110	403	1,0	2,06	18	8595057633705
●	O 90X110X300_S	300	110	503	1,0	2,98	18	8595057633186
●	O 90X110X400_S	400	110	603	1,0	3,55	20	8595057636729
●	O 90X110X500_S	500	110	703	1,0	4,59	20	8595057633179
⊕	O 90X110X600_S	600	110	803	1,2	6,86	20	8595057636736

	item number	A	H	B	‡	‡	‡f	EAN
⊕	O 90X60X50_F	50	60	253	0,8	0,70	8	8595057658806
⊕	O 90X60X75_F	75	60	278	0,8	0,82	8	8595057658813
⊕	O 90X60X100_F	100	60	303	0,8	0,95	8	8595057658831
⊕	O 90X60X150_F	150	60	353	0,8	1,24	8	8595057658820
⊕	O 90X60X200_F	200	60	403	1,0	1,90	10	8595057658848
⊕	O 90X60X300_F	300	60	503	1,0	2,87	10	8595057658844
⊕	O 90X60X400_F	400	60	603	1,0	3,52	12	8595057658851
⊕	O 90X60X500_F	500	60	703	1,0	4,65	12	8595057658868
⊕	O 90X60X600_F	600	60	803	1,2	7,09	12	8595057658875
⊕	O 90X110X150_F	150	110	353	0,8	1,64	16	8595057658822
⊕	O 90X110X200_F	200	110	403	1,0	2,41	18	8595057658839
⊕	O 90X110X300_F	300	110	503	1,0	3,48	18	8595057658853
⊕	O 90X110X400_F	400	110	603	1,0	4,13	20	8595057658860
⊕	O 90X110X500_F	500	110	703	1,0	5,34	20	8595057658877
⊕	O 90X110X600_F	600	110	803	1,2	7,98	20	8595057658884
●	O 90X60X50_ZM	50	60	253	0,75	0,58	8	8595568938107
●	O 90X60X100_ZM	100	60	303	0,75	0,82	8	8595568938114
●	O 90X60X200_ZM	200	60	403	1,0	1,41	10	8595568938121
●	O 90X60X300_ZM	300	60	503	1,0	2,25	10	8595568938138
●	O 90X60X400_ZM	400	60	603	1,0	2,80	12	8595568938145

90° bend cover



- ▶ Six VU cover fixtures are used to fasten the cover.
- ▶ These items can also be ordered in a painted version.
- ▶ Accessories can also be used for cable ladders.
- ▶ The following applies to accessories for standardized supporting constructions:
 - side height 60 mm
 - max. cable tray width is 300 mm
 - max. cable ladder width is 400 mm



	item number	A	H	B	‡	‡	EAN
●	VO 90X50_S	50	12	254	0,6	0,15	8595057630277
●	VO 90X75_S	75	12	279	0,6	0,21	8595057629622
●	VO 90X100_S	100	12	304	0,6	0,28	8595057629813
●	VO 90X150_S	150	12	354	0,6	0,43	8595057630246
●	VO 90X200_S	200	12	404	0,8	0,87	8595057629820
●	VO 90X300_S	300	12	504	1,0	1,83	8595057629561
●	VO 90X400_S	400	15	604	1,0	2,40	8595057630260
●	VO 90X500_S	500	15	704	1,0	3,32	8595057633193
●	VO 90X600_S	600	15	804	1,0	4,36	8595057637009

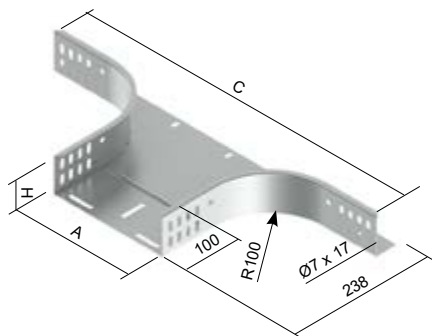
	item number	A	H	B	‡	‡	EAN
⊕	VO 90X50_F	50	12	254	0,8	0,26	8595057659384
⊕	VO 90X75_F	75	12	279	0,8	0,36	8595057659391
⊕	VO 90X100_F	100	12	304	0,8	0,47	8595057658855
⊕	VO 90X150_F	150	12	354	0,8	0,72	8595057659407
⊕	VO 90X200_F	200	12	404	0,8	1,01	8595057658862
⊕	VO 90X300_F	300	12	504	1,0	2,12	8595057659421
⊕	VO 90X400_F	400	15	604	1,0	2,79	8595057659438
⊕	VO 90X500_F	500	15	704	1,0	3,85	8595057659445
⊕	VO 90X600_F	600	15	804	1,0	5,06	8595057659452
●	VO 90X50_ZM	50	12	254	0,75	0,22	8595568938152
●	VO 90X100_ZM	100	12	304	0,75	0,41	8595568938169
●	VO 90X200_ZM	200	12	404	0,75	0,80	8595568938176
●	VO 90X300_ZM	300	12	504	1,00	1,80	8595568938183
●	VO 90X400_ZM	400	12	604	1,00	2,35	8595568938190



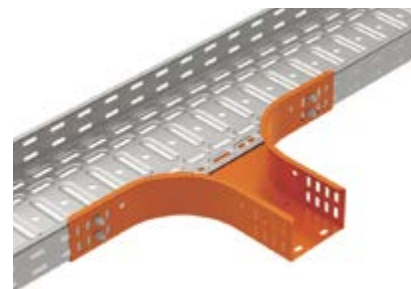
- STANDARD
- NO-STANDARD
- FIRE BOXES
- PRODUCTS
- BOXES
- JUPITER
- MATS
- LADDERS
- WIRE TRAYS
- SUPPORT SYSTEMS
- CLAMPS
- CONNECT & ANCH. MNT.
- OTHER
- NAILING
- STAINLESS
- INDEX



horizontal branch



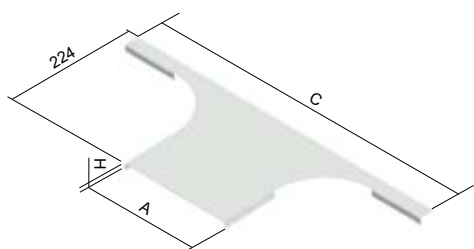
- ▶ The connection is fastened with the NSM 6X10 bolts.
- ▶ The branch is intended for an additional turn from the route.
- ▶ These items can also be ordered in a painted version.
- ▶ Accessories can also be used for cable ladders.
- ▶ The following applies to accessories for standardized supporting constructions:
 - side height 60 mm
 - max. cable tray width is 300 mm
 - max. cable ladder width is 400 mm



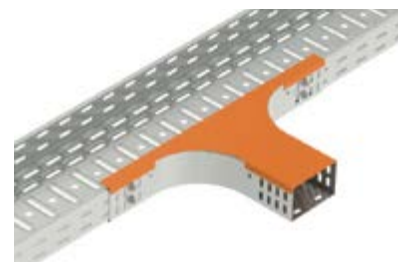
	item number	A	H	C	t	#	lf	EAN
●	OH 60X50_S	50	60	453	0,8	0,71	8	8595057628298
●	OH 60X75_S	75	60	478	0,8	0,74	8	8595057628304
●	OH 60X100_S	100	60	503	0,8	0,78	8	8595057628311
●	OH 60X150_S	150	60	553	0,8	0,86	8	8595057628328
●	OH 60X200_S	200	60	603	1,0	1,04	9	8595057628335
●	OH 60X300_S	300	60	703	1,0	1,23	9	8595057628342
●	OH 60X400_S	400	60	803	1,0	1,42	10	8595057628359
●	OH 60X500_S	500	60	903	1,0	1,60	10	8595057628366
●	OH 60X600_S	600	60	1003	1,2	2,05	10	8595057628373
☺	OH 110X150_S	150	110	553	0,8	1,16	16	8595057633698
●	OH 110X200_S	200	110	603	1,0	1,34	17	8595057637306
●	OH 110X300_S	300	110	703	1,0	1,53	17	8595057633292
●	OH 110X400_S	400	110	803	1,0	1,72	18	8595057637320
●	OH 110X500_S	500	110	903	1,0	1,90	18	8595057633285
☺	OH 110X600_S	600	110	1003	1,2	2,35	18	8595057637337

	item number	A	H	C	t	#	lf	EAN
☺	OH 60X50_F	50	60	453	0,8	0,74	8	8595057658400
☺	OH 60X75_F	75	60	478	0,8	0,79	8	8595057658417
☺	OH 60X100_F	100	60	503	0,8	0,83	8	8595057658424
☺	OH 60X150_F	150	60	553	0,8	0,92	8	8595057658431
☺	OH 60X200_F	200	60	603	1,0	1,13	9	8595057658448
☺	OH 60X300_F	300	60	703	1,0	1,35	9	8595057658462
☺	OH 60X400_F	400	60	803	1,0	1,57	10	8595057658479
☺	OH 60X500_F	500	60	903	1,0	1,78	10	8595057658486
☺	OH 60X600_F	600	60	1003	1,2	2,37	10	8595057658493
☺	OH 110X150_F	150	110	553	0,8	1,22	16	8595057658233
☺	OH 110X200_F	200	110	603	1,0	1,43	17	8595057658240
☺	OH 110X300_F	300	110	703	1,0	1,65	17	8595057658257
☺	OH 110X400_F	400	110	803	1,0	1,87	18	8595057658271
☺	OH 110X500_F	500	110	903	1,0	2,08	18	8595057658288
☺	OH 110X600_F	600	110	1003	1,2	2,60	18	8595057658295

horizontal branch cover



- ▶ Four VU cover fixtures are used to fasten the cover.
- ▶ These items can also be ordered in a painted version.
- ▶ Accessories can also be used for cable ladders.
- ▶ The following applies to accessories for standardized supporting constructions:
 - side height 60 mm
 - max. cable tray width is 300 mm
 - max. cable ladder width is 400 mm



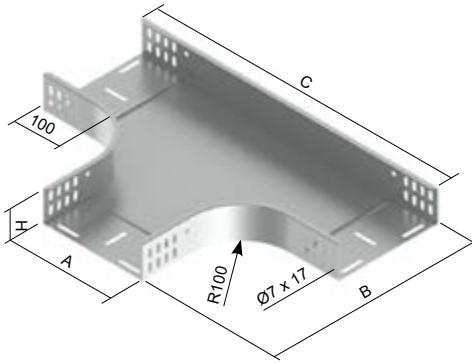
	item number	A	H	C	t	#	EAN
●	VOH 50_S	50	12	453	0,6	0,13	8595057637948
●	VOH 75_S	75	12	478	0,6	0,16	8595057632813
●	VOH 100_S	100	12	503	0,6	0,18	8595057629875
●	VOH 150_S	150	12	553	0,6	0,23	8595057629882
●	VOH 200_S	200	12	603	0,8	0,41	8595057629899
●	VOH 300_S	300	12	703	1,0	0,69	8595057629905
●	VOH 400_S	400	15	803	1,0	0,88	8595057629509
●	VOH 500_S	500	15	903	1,0	1,06	8595057633308
●	VOH 600_S	600	15	1003	1,0	1,23	8595057637955

	item number	A	H	C	t	#	EAN
☺	VOH 50_F	50	12	453	0,8	0,22	8595057659285
☺	VOH 75_F	75	12	478	0,8	0,27	8595057659292
☺	VOH 100_F	100	12	503	0,8	0,31	8595057659308
☺	VOH 150_F	150	12	553	0,8	0,35	8595057659315
☺	VOH 200_F	200	12	603	0,8	0,47	8595057659322
☺	VOH 300_F	300	12	703	1,0	0,80	8595057659346
☺	VOH 400_F	400	15	803	1,0	1,01	8595057659353
☺	VOH 500_F	500	15	903	1,0	1,23	8595057659360
☺	VOH 600_F	600	15	1003	1,0	1,44	8595057659377

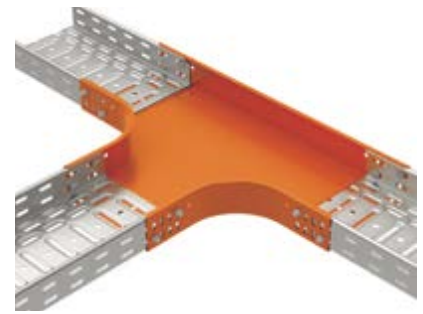
●	VOH 50_ZM	50	12	453	0,75	0,19	8595568938367
●	VOH 100_ZM	100	12	503	0,75	0,26	8595568938374
●	VOH 200_ZM	200	12	603	0,75	0,38	8595568938381
●	VOH 300_ZM	300	12	703	1,0	0,67	8595568938398



T-piece



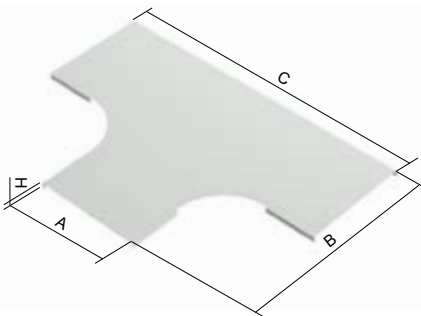
- ▶ The connection is fastened with the NSM 6X10 bolt.
- ▶ Use a horizontal branch or reduction piece SU to create an unequal T-piece.
- ▶ These items can also be ordered in a painted version.
- ▶ Accessories can also be used for cable ladders.
- ▶ The following applies to accessories for standardized supporting constructions:
 - side height 60 mm
 - max. cable tray width is 300 mm
 - max. cable ladder width is 400 mm



	item number	A	H	B	C	t	‡	‡f	EAN
●	T 60X50_S	50	60	253	453	0,8	0,88	12	8595057637443
●	T 60X75_S	75	60	278	478	0,8	1,07	12	8595057633339
●	T 60X100_S	100	60	303	503	0,8	1,14	12	8595057630338
●	T 60X150_S	150	60	353	553	0,8	1,43	12	8595057633575
●	T 60X200_S	200	60	403	603	1,0	2,08	15	8595057631717
●	T 60X300_S	300	60	503	703	1,0	3,02	15	8595057637467
●	T 60X400_S	400	60	603	803	1,0	4,13	18	8595057631700
●	T 60X500_S	500	60	703	903	1,0	5,34	18	8595057637474
●	T 60X600_S	600	60	803	1003	1,2	8,07	18	8595057637481
⊕	T 110X150_S	150	110	353	553	0,8	1,86	24	8595057635289
●	T 110X200_S	200	110	403	603	1,0	2,57	27	8595057637535
●	T 110X300_S	300	110	503	703	1,0	3,55	27	8595057637559
●	T 110X400_S	400	110	603	803	1,0	4,60	30	8595057637566
●	T 110X500_S	500	110	703	903	1,0	5,98	30	8595057633704
⊕	T 110X600_S	600	110	803	1003	1,2	8,71	30	8595057637573

	item number	A	H	B	C	t	‡	‡f	EAN
⊕	T 60X50_F	50	60	253	453	0,8	1,02	12	8595057663602
⊕	T 60X75_F	75	60	278	478	0,8	1,17	12	8595057663619
●	T 60X100_F	100	60	303	503	0,8	1,33	12	8595057650879
⊕	T 60X150_F	150	60	353	553	0,8	1,66	12	8595057663626
●	T 60X200_F	200	60	403	603	1,0	2,42	15	8595057650909
●	T 60X300_F	300	60	503	703	1,0	3,51	15	8595057663640
⊕	T 60X400_F	400	60	603	803	1,0	4,79	18	8595057663657
⊕	T 60X500_F	500	60	703	903	1,0	6,24	18	8595057663664
⊕	T 60X600_F	600	60	803	1003	1,2	9,36	18	8595057663671
⊕	T 110X150_F	150	110	353	553	0,8	2,15	24	8595057663459
⊕	T 110X200_F	200	110	403	603	1,0	2,98	27	8595057663466
⊕	T 110X300_F	300	110	503	703	1,0	4,12	27	8595057663473
⊕	T 110X400_F	400	110	603	803	1,0	5,34	30	8595057663480
⊕	T 110X500_F	500	110	703	903	1,0	6,94	30	8595057663497
⊕	T 110X600_F	600	110	803	1003	1,2	10,11	30	8595057663503

T-piece cover



- ▶ Six VU cover fixtures are used to fasten the cover.
- ▶ These items can also be ordered in a painted version.
- ▶ Accessories can also be used for cable ladders.
- ▶ The following applies to accessories for standardized supporting constructions:
 - side height 60 mm
 - max. cable tray width is 300 mm
 - max. cable ladder width is 400 mm



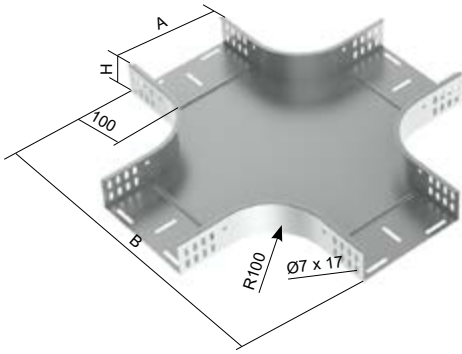
	item number	A	H	B	C	t	‡	EAN
●	VT 50_S	50	12	254	453	0,6	0,22	8595057637962
●	VT 75_S	75	12	279	478	0,6	0,30	8595057633353
●	VT 100_S	100	12	304	503	0,6	0,39	8595057630345
●	VT 150_S	150	12	354	553	0,6	0,57	8595057635326
●	VT 200_S	200	12	404	603	0,8	1,14	8595057633346
●	VT 300_S	300	12	504	703	1,0	2,32	8595057630369
●	VT 400_S	400	15	604	803	1,0	3,40	8595057636620
●	VT 500_S	500	15	704	903	1,0	4,62	8595057633711
●	VT 600_S	600	15	804	1003	1,0	6,00	8595057637986

	item number	A	H	B	C	t	‡	EAN
⊕	VT 50_F	50	12	254	453	0,8	0,36	8595057659742
⊕	VT 75_F	75	12	279	478	0,8	0,50	8595057659759
⊕	VT 100_F	100	12	304	503	0,8	0,65	8595057650886
⊕	VT 150_F	150	12	354	553	0,8	0,97	8595057659766
⊕	VT 200_F	200	12	404	603	0,8	1,33	8595057650893
⊕	VT 300_F	300	12	504	703	1,0	2,69	8595057659780
⊕	VT 400_F	400	15	604	803	1,0	3,95	8595057659797
⊕	VT 500_F	500	15	704	903	1,0	5,36	8595057659803
⊕	VT 600_F	600	15	804	1003	1,0	6,96	8595057659810

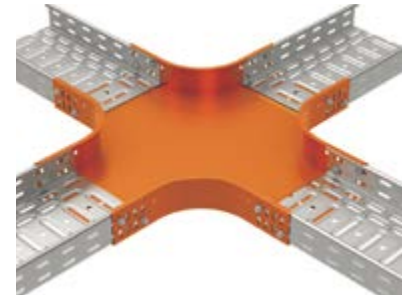


- STANDARD
- NO-STANDARD
- FIRE BOXES
- PRODUCTS
- BOXES
- JUPITER
- MARS
- LADDERS
- WIRE TRAYS
- SUPPORT SYSTEMS
- CLAMPS
- CONNECT & ANCH. MAT.
- OTHER
- NAILING
- STAINLESS
- INDEX

CROSS



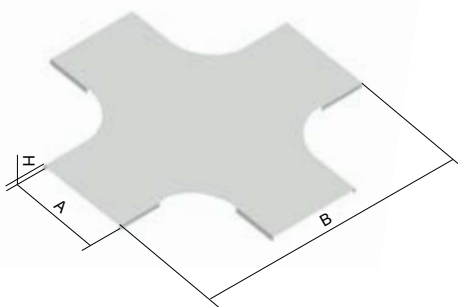
- ▶ The connection is fastened with the NSM 6X10 bolt.
- ▶ Six VU cover fixtures are used to fasten the cover.
- ▶ These items can also be ordered in a painted version.
- ▶ Accessories can also be used for cable ladders.
- ▶ The following applies to accessories for standardized supporting constructions:
 - side height 60 mm
 - max. cable tray width is 300 mm
 - max. cable ladder width is 400 mm



	item number	A	H	B	t	‡	⌘	EAN
⊕	KR 60X50_S	50	60	453	0,8	1,22	16	8595057637696
⊕	KR 60X75_S	75	60	478	0,8	1,37	16	8595057637702
●	KR 60X100_S	100	60	503	0,8	1,53	16	8595057637719
●	KR 60X150_S	150	60	553	0,8	1,85	16	8595057637726
●	KR 60X200_S	200	60	603	1,0	2,55	20	8595057637733
●	KR 60X300_S	300	60	703	1,0	3,59	20	8595057637757
⊕	KR 60X400_S	400	60	803	1,0	4,80	24	8595057637764
⊕	KR 60X500_S	500	60	903	1,0	6,14	24	8595057637771
⊕	KR 60X600_S	600	60	1003	1,2	9,02	24	8595057637788
⊕	KR 110X150_S	150	110	553	0,8	2,37	32	8595057637870
⊕	KR 110X200_S	200	110	603	1,0	3,06	36	8595057637887
⊕	KR 110X300_S	300	110	703	1,0	4,12	36	8595057637900
⊕	KR 110X400_S	400	110	803	1,0	5,31	40	8595057637917
⊕	KR 110X500_S	500	110	903	1,0	6,66	40	8595057637924
⊕	KR 110X600_S	600	110	1003	1,2	9,54	40	8595057637931

	item number	A	H	B	t	‡	⌘	EAN
⊕	KR 60X50_F	50	60	453	0,8	1,41	16	8595057661943
⊕	KR 60X75_F	75	60	478	0,8	1,59	16	8595057661950
⊕	KR 60X100_F	100	60	503	0,8	1,77	16	8595057650916
⊕	KR 60X150_F	150	60	553	0,8	2,15	16	8595057661967
⊕	KR 60X200_F	200	60	603	1,0	2,95	20	8595057650923
⊕	KR 60X300_F	300	60	703	1,0	4,17	20	8595057661981
⊕	KR 60X400_F	400	60	803	1,0	5,57	24	8595057661998
⊕	KR 60X500_F	500	60	903	1,0	7,13	24	8595057662001
⊕	KR 60X600_F	600	60	1003	1,2	10,47	24	8595057662018
⊕	KR 110X150_F	150	110	553	0,8	2,75	32	8595057662643
⊕	KR 110X200_F	200	110	603	1,0	3,55	36	8595057662650
⊕	KR 110X300_F	300	110	703	1,0	4,77	36	8595057662667
⊕	KR 110X400_F	400	110	803	1,0	6,61	40	8595057662674
⊕	KR 110X500_F	500	110	903	1,0	7,72	40	8595057662681
⊕	KR 110X600_F	600	110	1003	1,2	11,06	40	8595057662698

CROSS COVER



- ▶ Eight VU cover fixtures are used to fasten the cover.
- ▶ These items can also be ordered in a painted version.
- ▶ Accessories can also be used for cable ladders.
- ▶ The following applies to accessories for standardized supporting constructions:
 - side height 60 mm
 - max. cable tray width is 300 mm
 - max. cable ladder width is 400 mm

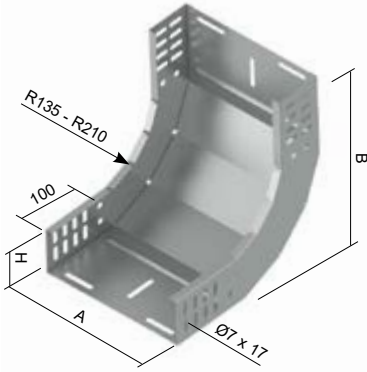


	item number	A	H	B	t	‡	EAN
⊕	VKR 50_S	50	12	453	0,6	0,28	8595057637993
⊕	VKR 75_S	75	12	478	0,6	0,38	8595057638006
⊕	VKR 100_S	100	12	503	0,6	0,49	8595057638013
⊕	VKR 150_S	150	12	553	0,6	0,72	8595057638020
⊕	VKR 200_S	200	12	603	0,8	1,41	8595057638037
⊕	VKR 300_S	300	12	703	1,0	2,81	8595057638051
⊕	VKR 400_S	400	15	803	1,0	4,04	8595057638068
⊕	VKR 500_S	500	15	903	1,0	5,40	8595057638075
⊕	VKR 600_S	600	15	1003	1,0	6,30	8595057638082

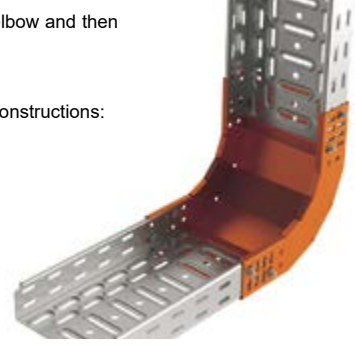
	item number	A	H	B	t	‡	EAN
⊕	VKR 50_F	50	12	453	0,8	0,47	8595057659469
⊕	VKR 75_F	75	12	478	0,8	0,64	8595057659476
⊕	VKR 100_F	100	12	503	0,8	0,82	8595057650930
⊕	VKR 150_F	150	12	553	0,8	1,21	8595057659483
⊕	VKR 200_F	200	12	603	0,8	1,64	8595057650947
⊕	VKR 300_F	300	12	703	1,0	3,27	8595057659506
⊕	VKR 400_F	400	15	803	1,0	4,68	8595057659513
⊕	VKR 500_F	500	15	903	1,0	6,27	8595057659520
⊕	VKR 600_F	600	15	1003	1,0	7,30	8595057659537



90° rising elbow



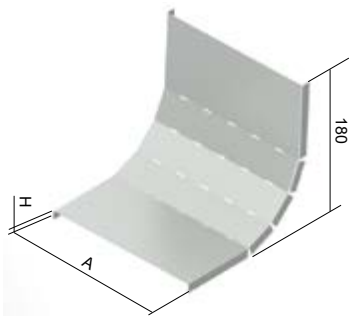
- ▶ The connection is made by sliding the cable tray directly into the elbow and then securing it with NSM 6X10 bolts.
- ▶ These items can also be ordered in a painted version.
- ▶ Accessories can also be used for cable ladders.
- ▶ The following applies to accessories for standardized supporting constructions:
 - side height 60 mm
 - max. cable tray width is 300 mm
 - max. cable ladder width is 400 mm



	item number	A	H	B	‡	‡	‡	EAN
●	SO 90X60X50_S	50	60	245	0,8	0,50	8	8595057628151
●	SO 90X60X75_S	75	60	245	0,8	0,57	8	8595057628168
●	SO 90X60X100_S	100	60	245	0,8	0,64	8	8595057628175
●	SO 90X60X150_S	150	60	245	0,8	0,77	8	8595057628182
●	SO 90X60X200_S	200	60	245	1,0	1,03	10	8595057628199
●	SO 90X60X300_S	300	60	245	1,0	1,37	10	8595057628205
●	SO 90X60X400_S	400	60	245	1,0	1,70	12	8595057628212
●	SO 90X60X500_S	500	60	245	1,0	2,03	12	8595057628229
●	SO 90X60X600_S	600	60	245	1,2	2,65	12	8595057628236
⊕	SO 90X110X150_S	150	110	295	0,8	1,13	16	8595057633827
●	SO 90X110X200_S	200	110	295	1,0	1,41	18	8595057636835
●	SO 90X110X300_S	300	110	295	1,0	1,84	18	8595057633216
●	SO 90X110X400_S	400	110	295	1,0	2,18	20	8595057636859
●	SO 90X110X500_S	500	110	295	1,0	2,63	20	8595057633209
⊕	SO 90X110X600_S	600	110	295	1,2	3,39	20	8595057636866

	item number	A	H	B	‡	‡	‡	EAN
⊖	SO 90X60X50_F	50	60	245	0,8	0,58	8	8595057662827
⊖	SO 90X60X75_F	75	60	245	0,8	0,66	8	8595057662834
⊖	SO 90X60X100_F	100	60	245	0,8	0,74	8	8595057650671
⊖	SO 90X60X150_F	150	60	245	0,8	0,98	8	8595057662841
⊖	SO 90X60X200_F	200	60	245	1,0	1,19	10	8595057650695
⊖	SO 90X60X300_F	300	60	245	1,0	1,58	10	8595057662865
⊖	SO 90X60X400_F	400	60	245	1,0	1,97	12	8595057662872
⊖	SO 90X60X500_F	500	60	245	1,0	2,35	12	8595057662889
⊖	SO 90X60X600_F	600	60	245	1,2	3,07	12	8595057662896
⊖	SO 90X110X150_F	150	110	295	0,8	1,31	16	8595057662568
⊖	SO 90X110X200_F	200	110	295	1,0	1,63	18	8595057662575
⊖	SO 90X110X300_F	300	110	295	1,0	2,13	18	8595057662582
⊖	SO 90X110X400_F	400	110	295	1,0	2,52	20	8595057662599
⊖	SO 90X110X500_F	500	110	295	1,0	3,01	20	8595057662605
⊖	SO 90X110X600_F	600	110	295	1,2	3,93	20	8595057662612
●	SO 90X60X50_ZM	50	60	245	0,75	0,50	8	8595568938282
●	SO 90X60X100_ZM	100	60	245	0,75	0,64	8	8595568938299
●	SO 90X60X200_ZM	200	60	245	1,00	1,03	10	8595568938305
●	SO 90X60X300_ZM	300	60	245	1,00	1,37	10	8595568938312

90° rising elbow cover



- ▶ Four VU cover fixtures are used to fasten the cover.
- ▶ All covers with surface finish S and covers with a width of 50 - 200 mm and surface finish F are delivered straight. They are constructed from a single piece of sheet metal with cut sides for shaping during assembly.
- ▶ Covers with surface finish F and width of 300 - 600 mm are delivered already bent in the shape of the rising elbow.
- ▶ These items can also be ordered in a painted version.
- ▶ Accessories can also be used for cable ladders.
- ▶ The following applies to accessories for standardized supporting constructions:
 - side height 60 mm
 - max. cable tray width is 300 mm
 - max. cable ladder width is 400 mm

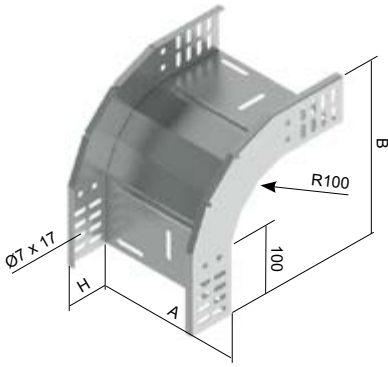


	item number	A	H	‡	‡	EAN
●	VSO 90X50_S	50	12	0,6	0,13	8595057637016
●	VSO 90X75_S	75	12	0,6	0,14	8595057629615
●	VSO 90X100_S	100	12	0,6	0,17	8595057629851
●	VSO 90X150_S	150	12	0,6	0,24	8595057630048
●	VSO 90X200_S	200	12	0,8	0,45	8595057629868
●	VSO 90X300_S	300	12	1,0	0,82	8595057629554
●	VSO 90X400_S	400	15	1,0	1,09	8595057629462
●	VSO 90X500_S	500	15	1,0	1,34	8595057633230
●	VSO 90X600_S	600	15	1,0	1,59	8595057637023

	item number	A	H	‡	‡	EAN
⊖	VSO 90X50_F	50	12	0,8	0,22	8595057659667
⊖	VSO 90X75_F	75	12	0,8	0,24	8595057659674
⊖	VSO 90X100_F	100	12	0,8	0,29	8595057650688
⊖	VSO 90X150_F	150	12	0,8	0,41	8595057659681
⊖	VSO 90X200_F	200	12	0,8	0,53	8595057650701
⊖	VSO 90X300_F	300	12	1,0	0,95	8595057659704
⊖	VSO 90X400_F	400	15	1,0	1,26	8595057659711
⊖	VSO 90X500_F	500	15	1,0	1,55	8595057659728
⊖	VSO 90X600_F	600	15	1,0	1,85	8595057659735
●	VSO 90X50_ZM	50	12	0,75	0,14	8595568938329
●	VSO 90X100_ZM	100	12	0,75	0,23	8595568938336
●	VSO 90X200_ZM	200	12	0,75	0,42	8595568938343
●	VSO 90X300_ZM	300	12	1,00	0,81	8595568938350



90° low elbow



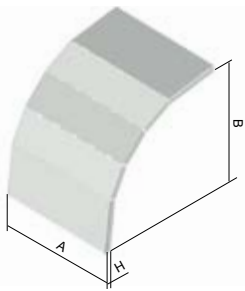
- ▶ The connection is made by sliding the cable tray directly into the elbow and then securing it with NSM 6X10 bolts.
- ▶ These items can also be ordered in a painted version.
- ▶ Accessories can also be used for cable ladders.
- ▶ The following applies to accessories for standardized supporting constructions:
 - side height 60 mm
 - max. cable tray width is 300 mm
 - max. cable ladder width is 400 mm



item number	A	H	B	t	‡	Łf	EAN
● KO 90X60X50_S	50	60	245	0,8	0,47	8	8595057628014
● KO 90X60X75_S	75	60	245	0,8	0,52	8	8595057628021
● KO 90X60X100_S	100	60	245	0,8	0,57	8	8595057628038
● KO 90X60X150_S	150	60	245	0,8	0,67	8	8595057628045
● KO 90X60X200_S	200	60	245	1,0	0,87	10	8595057628052
● KO 90X60X300_S	300	60	245	1,0	1,13	10	8595057628069
● KO 90X60X400_S	400	60	245	1,0	1,38	12	8595057628076
● KO 90X60X500_S	500	60	245	1,0	1,63	12	8595057628083
● KO 90X60X600_S	600	60	245	1,2	2,19	12	8595057628090
⊕ KO 90X110X150_S	150	110	295	0,8	0,95	16	8595057633674
● KO 90X110X200_S	200	110	295	1,0	1,15	18	8595057633658
● KO 90X110X300_S	300	110	295	1,0	1,28	18	8595057633254
● KO 90X110X400_S	400	110	295	1,0	1,41	20	8595057636972
● KO 90X110X500_S	500	110	295	1,0	1,67	20	8595057633247
⊕ KO 90X110X600_S	600	110	295	1,2	1,91	20	8595057636989

item number	A	H	B	t	‡	Łf	EAN
⊕ KO 90X60X50_F	50	60	245	0,8	0,55	8	8595057663947
⊕ KO 90X60X75_F	75	60	245	0,8	0,61	8	8595057663954
⊕ KO 90X60X100_F	100	60	245	0,8	0,66	8	8595057650718
⊕ KO 90X60X150_F	150	60	245	0,8	0,78	8	8595057663961
⊕ KO 90X60X200_F	200	60	245	1,0	1,01	10	8595057650725
⊕ KO 90X60X300_F	300	60	245	1,0	1,31	10	8595057663985
⊕ KO 90X60X400_F	400	60	245	1,0	1,61	12	8595057663992
⊕ KO 90X60X500_F	500	60	245	1,0	1,89	12	8595057664005
⊕ KO 90X60X600_F	600	60	245	1,2	2,55	12	8595057664012
⊕ KO 90X110X150_F	150	110	295	0,8	1,01	16	8595057663794
⊕ KO 90X110X200_F	200	110	295	1,0	1,34	18	8595057663800
⊕ KO 90X110X300_F	300	110	295	1,0	1,49	18	8595057663817
⊕ KO 90X110X400_F	400	110	295	1,0	1,63	20	8595057663824
⊕ KO 90X110X500_F	500	110	295	1,0	1,93	20	8595057663831
⊕ KO 90X110X600_F	600	110	295	1,2	2,22	20	8595057663848
● KO 90X60X50_ZM	50	60	245	0,75	0,42	8	8595568938206
● KO 90X60X100_ZM	100	60	245	0,75	0,52	8	8595568938213
● KO 90X60X200_ZM	200	60	245	1,0	0,82	10	8595568938220
● KO 90X60X300_ZM	300	60	245	1,0	1,07	10	8595568938237

90° low elbow cover



- ▶ Four VU cover fixtures are used to fasten the lid.
- ▶ All covers with surface finish S and covers with a width of 50 - 200 mm with surface finish F are delivered straight. They are constructed from a single piece of sheet metal with cut sides for shaping during assembly.
- ▶ Covers with a surface finish F of a width of 300 - 600 mm are delivered already bent in the shape of a rising elbow.
- ▶ These items can also be ordered in a painted version.
- ▶ The following applies to accessories for standardized supporting constructions:
 - side height 60 mm
 - max. cable tray width is 300 mm
 - max. cable ladder width is 400 mm

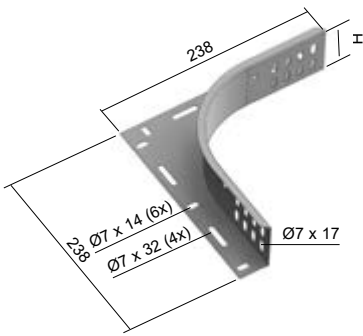


item number	A	H	B	t	‡	EAN
● VKO 90X60X50_S	50	12	245	0,6	0,14	8595057637221
● VKO 90X60X75_S	75	12	245	0,6	0,18	8595057629608
● VKO 90X60X100_S	100	12	245	0,6	0,23	8595057629837
● VKO 90X60X150_S	150	12	245	0,6	0,32	8595057630888
● VKO 90X60X200_S	200	12	245	0,8	0,60	8595057629844
● VKO 90X60X300_S	300	12	245	1,0	0,87	8595057629547
● VKO 90X60X400_S	400	15	245	1,0	1,45	8595057636613
● VKO 90X60X500_S	500	15	245	1,0	1,78	8595057637047
● VKO 90X60X600_S	600	15	245	1,0	2,17	8595057637054
⊕ VKO 90X110X150_S	150	12	295	0,6	0,38	8595057633681
● VKO 90X110X200_S	200	12	295	0,8	0,72	8595057637085
● VKO 90X110X300_S	300	12	295	1,0	1,30	8595057633278
● VKO 90X110X400_S	400	15	295	1,0	1,72	8595057637108
● VKO 90X110X500_S	500	15	295	1,0	2,12	8595057633261
⊕ VKO 90X110X600_S	600	15	295	1,0	2,52	8595057637115

item number	A	H	B	t	‡	EAN
⊕ VKO 90X60X50_F	50	12	245	0,8	0,23	8595057659971
⊕ VKO 90X60X75_F	75	12	245	0,8	0,31	8595057659988
⊕ VKO 90X60X100_F	100	12	245	0,8	0,39	8595057650732
⊕ VKO 90X60X150_F	150	12	245	0,8	0,54	8595057659995
⊕ VKO 90X60X200_F	200	12	245	0,8	0,70	8595057650749
⊕ VKO 90X60X300_F	300	12	245	1,0	1,01	8595057660014
⊕ VKO 90X60X400_F	400	15	245	1,0	1,68	8595057660021
⊕ VKO 90X60X500_F	500	15	245	1,0	2,07	8595057660038
⊕ VKO 90X60X600_F	600	15	245	1,0	2,52	8595057660045
⊕ VKO 90X110X150_F	150	12	295	0,8	0,05	8595057659827
⊕ VKO 90X110X200_F	200	12	295	0,8	0,83	8595057659834
⊕ VKO 90X110X300_F	300	12	295	1,0	1,51	8595057659841
⊕ VKO 90X110X400_F	400	15	295	1,0	1,99	8595057659858
⊕ VKO 90X110X500_F	500	15	295	1,0	2,46	8595057659865
⊕ VKO 90X110X600_F	600	15	295	1,0	2,92	8595057659872
● VKO 90X60X50_ZM	50	12	245	0,75	0,20	8595568938244
● VKO 90X60X100_ZM	100	12	245	0,75	0,31	8595568938251
● VKO 90X60X200_ZM	200	12	245	0,75	0,55	8595568938268
● VKO 90X60X300_ZM	300	12	245	1,0	1,07	8595568938275



reduction piece



- ▶ The connection is made using NSM 6X10 bolts.
- ▶ Used to create an additional branch of an unequal T-piece or cross.
- ▶ The reducing part is delivered in 1 piece, but it is always used in pairs
- ▶ It is possible to use VOH horizontal branch cover to cover the route with the reduction piece.
- ▶ Accessories can also be used for cable ladders.
- ▶ The following applies to accessories for standardized supporting constructions:
- side height 60 mm

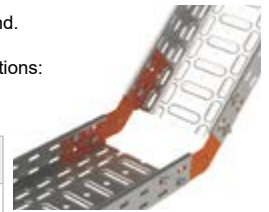
turning onto the canal:	tray side trimming length D
KZI...X50	250
KZI...X100	300
KZI...X150	350
KZI...X200	400
KZI...X300	500
KZI...X400	600
KZI...X500	700
KZI...X600	800

item number	H	t	‡	∫	EAN
● SU 60_S	60	1,0	0,30	8	8595057628380
● SU 110_S	110	1,0	0,44	8	8595057633391
● SU 60_F	60	1,0	0,34	8	8595057658592
⊕ SU 110_F	110	1,0	0,51	8	8595057658615
● SU 60_ZM	60	1,0	0,30	4	8595568938091

hinged joint

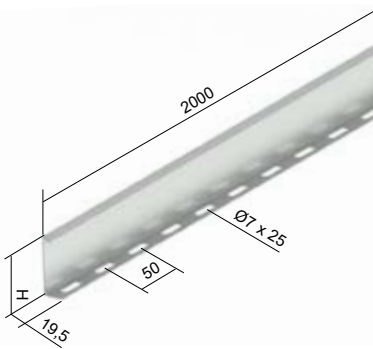


- ▶ NSM 6X10 bolts are used to connect the hinged joint to the tray.
- ▶ The joint is supplied in 1 piece, 2 pieces are needed to create a route bend.
- ▶ These items can also be ordered in a painted version.
- ▶ The following applies to accessories for standardized supporting constructions:
- side height 60 mm



item number	H	t	‡	∫	EAN
● SK 60_S	53	0,8	0,10	4	8595057627772
● SK 110_S	103	1,2	0,35	8	8595057633384
● SK 60_GMT	53	1,0	0,13	4	8595568926029
● SK 110_GMT	103	1,2	0,35	8	8595568926050
● SK 60_ZM	53	0,8	0,10	4	8595568938060

partition

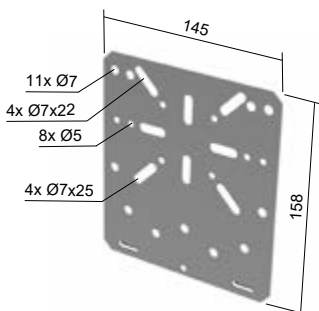


- ▶ The partition is fastened with NSM 6X10 bolts, 2 bolts per 1 meter.



item number	H	t	‡	EAN
● P 60_S	54	0,8	0,50	8595057627734
● P 60_F	54	1,0	0,72	8595057663435

mounting plate



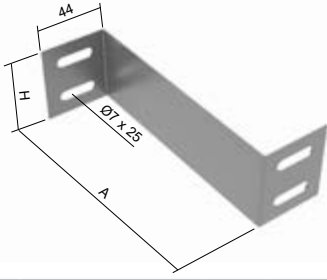
- ▶ For fixing junction boxes to JUPITER trays with a side height of 60 mm.
- ▶ It slides on the side of the cable tray and is fixed with NSM 6X10 bolts.
- ▶ Recommended for KSK 100, KSK 125 and KSK 175 boxes.
- ▶ The listed items can also be ordered in a painted version..



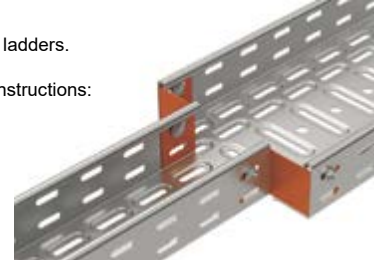
item number	t	‡	EAN
● MDS_S	1,0	0,165	8595057631762
⊕ MDS_GMT	1,0	0,170	8595568927422



reduction



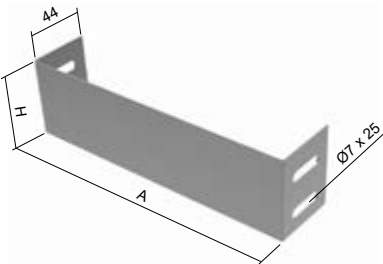
- ▶ The connection is fastened with NSM 6X10 bolts.
- ▶ The reduction is intended to change the width of the cable trays or ladders.
- ▶ These items can also be ordered in a painted version.
- ▶ The following applies to accessories for standardized supporting constructions:
- side height 60 mm



	item number	H	A	t	‡	↳	EAN
●	SR 60X25_S	50	25	1,0	0,038	4	8595057638426
●	SR 60X50_S	50	50	1,0	0,048	4	8595057633582
●	SR 60X75_S	50	75	1,0	0,058	4	8595057638433
●	SR 60X100_S	50	100	1,0	0,068	4	8595057631755
●	SR 60X125_S	50	125	1,0	0,078	4	8595057638440
●	SR 60X150_S	50	150	1,0	0,088	4	8595057638457
●	SR 60X200_S	50	200	1,0	0,108	4	8595057638464
●	SR 60X250_S	50	250	1,0	0,128	4	8595057638471
●	SR 60X300_S	50	300	1,0	0,148	4	8595057638488
●	SR 60X350_S	50	350	1,0	0,168	4	8595057638495
●	SR 60X400_S	50	400	1,0	0,188	4	8595057638501
●	SR 110X25_S	100	25	1,0	0,077	4	8595057638600
●	SR 110X50_S	100	50	1,0	0,097	4	8595057632820
●	SR 110X75_S	100	75	1,0	0,117	4	8595057638617
●	SR 110X100_S	100	100	1,0	0,137	4	8595057633360
●	SR 110X125_S	100	125	1,0	0,157	4	8595057638624
●	SR 110X150_S	100	150	1,0	0,177	4	8595057633766
●	SR 110X200_S	100	200	1,0	0,217	4	8595057633759
●	SR 110X250_S	100	250	1,0	0,257	4	8595057638631
●	SR 110X300_S	100	300	1,0	0,297	4	8595057638648
●	SR 110X350_S	100	350	1,0	0,337	4	8595057638655
●	SR 110X400_S	100	400	1,0	0,377	4	8595057638662

	item number	H	A	t	‡	↳	EAN
⊕	SR 60X25_F	50	25	1,0	0,044	4	8595057665071
⊕	SR 60X50_F	50	50	1,0	0,056	4	8595057665088
⊕	SR 60X75_F	50	75	1,0	0,067	4	8595057665095
⊕	SR 60X100_F	50	100	1,0	0,079	4	8595057650664
⊕	SR 60X125_F	50	125	1,0	0,091	4	8595057665101
⊕	SR 60X150_F	50	150	1,0	0,102	4	8595057665118
⊕	SR 60X200_F	50	200	1,0	0,125	4	8595057665125
⊕	SR 60X250_F	50	250	1,0	0,149	4	8595057665132
⊕	SR 60X300_F	50	300	1,0	0,172	4	8595057665149
⊕	SR 60X350_F	50	350	1,0	0,195	4	8595057665156
⊕	SR 60X400_F	50	400	1,0	0,218	4	8595057665163
⊕	SR 110X25_F	100	25	1,0	0,089	4	8595057664869
⊕	SR 110X50_F	100	50	1,0	0,113	4	8595057664876
⊕	SR 110X75_F	100	75	1,0	0,138	4	8595057664883
⊕	SR 110X100_F	100	100	1,0	0,159	4	8595057664890
⊕	SR 110X125_S	100	125	1,0	0,182	4	8595057664906
⊕	SR 110X150_F	100	150	1,0	0,205	4	8595057664913
⊕	SR 110X200_F	100	200	1,0	0,252	4	8595057664920
⊕	SR 110X250_F	100	250	1,0	0,298	4	8595057664937
⊕	SR 110X300_F	100	300	1,0	0,345	4	8595057664944
⊕	SR 110X350_F	100	350	1,0	0,391	4	8595057664951
⊕	SR 110X400_F	100	400	1,0	0,440	4	8595057664968

end-piece



- ▶ Fastening with NSM 6X10 bolts.
- ▶ The end piece is used to close the open end of the route.
- ▶ These items can also be ordered in a painted version.
- ▶ The following applies to accessories for standardized supporting constructions:
- side height 60 mm



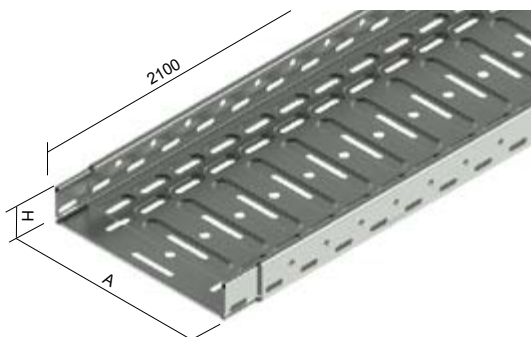
	item number	H	A	t	‡	↳	EAN
●	K 60X50_S	55	50	1,0	0,052	4	8595057638235
●	K 60X75_S	55	75	1,0	0,063	4	8595057635470
●	K 60X100_S	55	100	1,0	0,074	4	8595057629974
●	K 60X150_S	55	150	1,0	0,096	4	8595057629981
●	K 60X200_S	55	200	1,0	0,118	4	8595057629998
●	K 60X300_S	55	300	1,0	0,162	4	8595057629639
●	K 60X400_S	55	400	1,0	0,206	4	8595057630017
●	K 60X500_S	55	500	1,0	0,250	4	8595057636453
●	K 60X600_S	55	600	1,0	0,294	4	8595057638242
⊕	K 110X150_S	105	150	1,0	0,183	4	8595057633742
●	K 110X200_S	105	200	1,0	0,225	4	8595057638273
●	K 110X300_S	105	300	1,0	0,309	4	8595057633735
●	K 110X400_S	105	400	1,0	0,393	4	8595057638297
●	K 110X500_S	105	500	1,0	0,477	4	8595057633728
⊕	K 110X600_S	105	600	1,0	0,560	4	8595057638303

	item number	H	A	t	‡	↳	EAN
⊕	K 60X50_F	55	50	1,0	0,060	4	8595057660250
⊕	K 60X75_F	55	75	1,0	0,076	4	8595057660267
⊕	K 60X100_F	55	100	1,0	0,086	4	8595057660274
⊕	K 60X150_F	55	150	1,0	0,110	4	8595057660281
⊕	K 60X200_F	55	200	1,0	0,137	4	8595057660298
⊕	K 60X300_F	55	300	1,0	0,188	4	8595057660311
⊕	K 60X400_F	55	400	1,0	0,239	4	8595057660328
⊕	K 60X500_F	55	500	1,0	0,250	4	8595057660335
⊕	K 60X600_F	55	600	1,0	0,341	4	8595057660342
⊕	K 110X150_F	105	150	1,0	0,212	4	8595057660434
⊕	K 110X200_F	105	200	1,0	0,261	4	8595057660441
⊕	K 110X300_F	105	300	1,0	0,358	4	8595057660465
⊕	K 110X400_F	105	400	1,0	0,456	4	8595057660472
⊕	K 110X500_F	105	500	1,0	0,550	4	8595057660489
⊕	K 110X600_F	105	600	1,0	0,651	4	8595057660496



PRODUCTS cable trays MARS

cable tray with integrated coupling



- ▶ NSM 6X10 or NSM 6X10 GMT bolts are used to fix the connection of the trays with the integrated coupling.
- ▶ The standard length of the trays is 2.1 m.
- ▶ The listed items can also be ordered in a painted version.

item number	A	H	t	lf	‡	EAN
● NKZI 50X62X0.70_S	62	50	0,7	2	0,89	8595057691902
● NKZI 50X62X1.25_S	62	50	1,25	2	1,66	8595057697447
● NKZI 50X125X0.70_S	125	50	0,7	2	1,30	8595057691919
● NKZI 50X125X1.25_S	125	50	1,25	2	2,31	8595057697454
● NKZI 50X250X0.70_S	250	50	0,7	3	1,86	8595568903396
● NKZI 50X250X1.00_S	250	50	1,00	3	2,75	8595057692008
● NKZI 50X250X1.25_S	250	50	1,25	4	3,31	8595057694538
● NKZI 100X125X0.70_S	125	100	0,7	4	1,80	8595568924414
● NKZI 100X125X1.25_S	125	100	1,25	4	3,25	8595057697515
● NKZI 100X250X0.70_S	250	100	0,7	5	2,49	8595568924476
● NKZI 100X250X1.25_S	250	100	1,25	6	4,24	8595057694552
● NKZI 100X500X1.00_S	500	100	1,0	6	5,43	8595568924537
● NKZI 100X500X1.25_S	500	100	1,25	6	6,34	8595057691940

item number	A	H	t	lf	‡	EAN
● NKZI 50X62X0.70_F	62	50	0,8	2	1,10	8595057695764
⊕ NKZI 50X62X1.25_F	62	50	1,25	2	1,88	8595568903273
● NKZI 50X125X0.70_F	125	50	0,8	2	1,60	8595057695740
⊕ NKZI 50X125X1.25_F	125	50	1,25	2	2,49	8595568903280
● NKZI 50X250X1.00_F	250	50	1,00	3	2,92	8595057695757
⊕ NKZI 50X250X1.25_F	250	50	1,25	4	3,75	8595057695856
● NKZI 100X125X0.80_F	125	100	0,8	4	2,30	8595057695719
⊕ NKZI 100X125X1.25_F	125	100	1,25	4	3,60	8595568918741
● NKZI 100X250X0.80_F	250	100	0,8	5	3,44	8595057695726
⊕ NKZI 100X250X1.25_F	250	100	1,25	6	4,80	8595057695849
⊕ NKZI 100X500X1.25_F	500	100	1,25	6	7,18	8595057695733

cable tray with integrated coupling - non-perforated



- ▶ NSM 6X10 or NSM 6X10 GMT bolts are used to fix the connection of the trays with the integrated coupling.
- ▶ The standard length of the trays is 2.1 m.
- ▶ The listed items can also be ordered in a painted version..

item number	A	H	t	lf	‡	EAN
● NKZIN 50X62X0.70_S	62	50	0,7	2	0,98	8595057691957
● NKZIN 50X62X1.25_S	62	50	1,25	2	1,82	8595057698789
● NKZIN 50X125X0.70_S	125	50	0,7	2	1,48	8595057691964
● NKZIN 50X125X1.25_S	125	50	1,25	2	2,45	8595057698796
● NKZIN 50X250X0.70_S	250	50	0,7	2	2,28	8595568903402
● NKZIN 50X250X1.00_S	250	50	1,0	3	3,00	8595057692015
● NKZIN 50X250X1.25_S	250	50	1,25	4	3,65	8595057694545
● NKZIN 100X125X0.70_S	125	100	0,7	4	1,98	8595568924445
● NKZIN 100X125X1.25_S	125	100	1,25	4	3,46	8595057698802
● NKZIN 100X250X0.70_S	250	100	0,7	5	2,70	8595568924506
● NKZIN 100X250X1.25_S	250	100	1,25	6	4,62	8595057694569
● NKZIN 100X500X1.00_S	500	100	1,0	6	5,89	8595568924568

item number	A	H	t	lf	‡	EAN
● NKZIN 50X62X0.70_F	62	50	0,8	2	1,36	8595057695825
⊕ NKZIN 50X62X1.25_F	62	50	1,25	2	2,06	8595568914156
● NKZIN 50X125X0.70_F	125	50	0,8	2	1,84	8595057693685
⊕ NKZIN 50X250X1.00_F	250	50	1,0	3	3,50	8595057695801
⊕ NKZIN 50X250X1.25_F	250	50	1,25	4	4,13	8595057695818
● NKZIN 100X125X0.80_F	125	100	0,8	4	2,49	8595057695771
● NKZIN 100X250X0.80_F	250	100	0,8	5	3,44	8595057693678
⊕ NKZIN 100X250X1.25_F	250	100	1,25	6	5,23	8595057695788
● NKZIN 100X500X1.25_F	500	100	1,25	6	8,04	8595057695795

t sheet thickness (mm)
lf number of bolts for connection

‡ weight kg/m

● standard
⊕ to order

non-standardized

pre-galvanized

hot-dip galvanized

STANDARD

NO-STANDARD

FIRE BOXES

PRODUCTS

BOXES

JUPITER

MARS

LADDERS

WIRE TRAYS

SUPPORT SYSTEMS

CLAMPS

CONNECT & ANCH. MAT.

OTHER

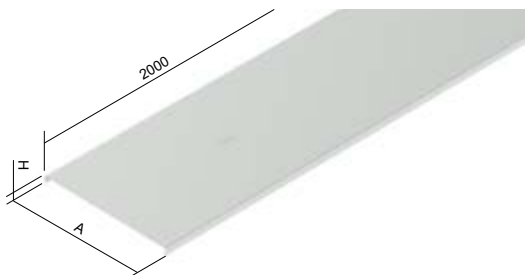
NAILING

STAINLESS

INDEX



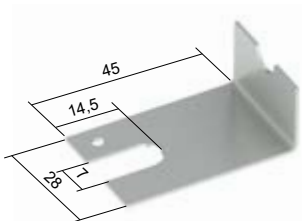
cable tray cover



- ▶ The standard length of the cable tray cover is 2 m.
- ▶ The specified sheet thickness is supplied as standard. It is possible to deliver the cover from a thicker plate without notice from the manufacturer.
- ▶ The cover is attached to the tray using the VU or NUV cover fixtures.
- ▶ The listed items can also be ordered in a painted version..

item number	A	H	‡	‡	EAN
● V 62_S	62	11	0,55	0,36	8595057654778
● V 125_S	125	11	0,55	0,64	8595057654730
● V 250_S	250	11	0,55	1,20	8595057636569
● V 500_S	500	14	1,00	4,22	8595057633162
⊕ V 62_F	62	11	0,8	0,62	8595057669741
⊕ V 125_F	125	11	0,8	1,10	8595057669727
⊕ V 250_F	250	11	0,8	2,05	8595057659261
⊕ V 500_F	500	14	1,00	4,80	8595057657977

cover fixture



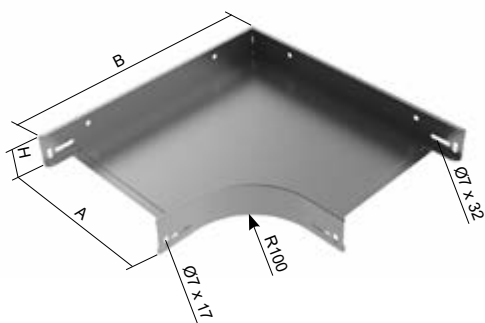
- ▶ For non-perforated NKZIN trays, it is only necessary to fix the cover at the connection point between the tray and the accessories.
- ▶ For perforated trays, it is possible to use bolts to fasten the fixtures along the cable tray.
- ▶ NSM 6X10 bolts must be ordered separately for this mounting method.
- ▶ The listed items can also be ordered in a painted version.
- ▶ Can also be used for JUPITER cable trays.



item number	‡	EAN
● NUV_S	0,01	8595057654464
⊕ NUV_GMT	0,01	8595057693531



bend 90°



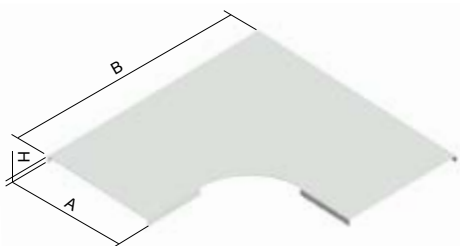
- ▶ The connection is made by sliding the cable tray directly into the elbow and then fixing it with NSM 6X10 bolts.
- ▶ For the NO 90X100X500 elbow, the outer right angle of the sides is replaced by a chamfer.
- ▶ The listed items can also be ordered in a painted version.



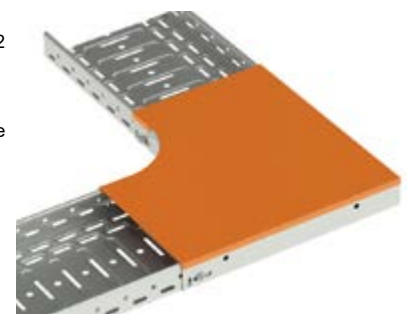
	item number	A	H	B	t	l _f	‡	EAN
●	NO 90X50X62_S	62	50	222	0,7	4	0,40	8595057653900
●	NO 90X50X125_S	125	50	285	0,7	4	0,60	8595057653870
●	NO 90X50X250_S	250	50	410	0,7	4	1,10	8595057653894
●	NO 90X100X125_S	125	100	285	0,7	8	0,80	8595057619012
●	NO 90X100X250_S	250	100	410	0,7	8	1,40	8595057653887
●	NO 90X100X500_S	500	100	660	0,7	8	2,60	8595057678057

	item number	A	H	B	t	l _f	‡	EAN
⊕	NO 90X50X62_F	62	50	222	0,7	4	0,45	8595057669550
⊕	NO 90X50X125_F	125	50	285	0,7	4	0,67	8595057669536
⊕	NO 90X50X250_F	250	50	410	0,7	4	1,44	8595057669543
⊕	NO 90X100X125_F	125	100	285	0,7	8	0,94	8595057669512
⊕	NO 90X100X250_F	250	100	410	0,7	8	1,84	8595057669529
⊕	NO 90X100X500_F	500	100	660	0,7	8	3,47	8595057678064

90° bend cover



- ▶ Three VU cover fixtures are used to fix the NVO 90X62 and NVO 90X125 covers,
- ▶ Five VU cover fixtures are used to fix the NVO 90X250 and NVO 90X500 covers.
- ▶ For the NVO 90X500 elbow cover, the outer right angle is replaced by a chamfer.
- ▶ The listed items can also be ordered in a painted version.

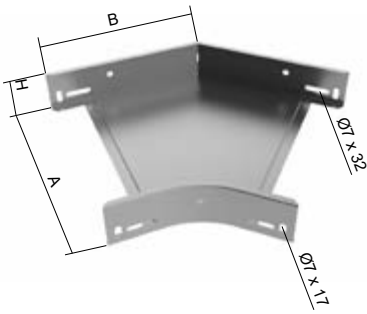


	item number	A	H	B	t	‡	EAN
●	NVO 90X62_S	62	12	222	0,55	0,10	8595057654556
●	NVO 90X125_S	125	12	285	0,55	0,30	8595057654570
●	NVO 90X250_S	250	12	410	0,55	0,70	8595057654594
●	NVO 90X500_S	500	15	660	0,7	2,00	8595057682504

	item number	A	H	B	t	‡	EAN
⊕	NVO 90X62_F	62	12	222	0,6	0,18	8595057669864
⊕	NVO 90X125_F	125	12	285	0,8	0,49	8595057669840
⊕	NVO 90X250_F	250	12	410	0,8	1,15	8595057669857
⊕	NVO 90X500_F	500	15	660	0,8	2,18	8595057682511



bend 45°



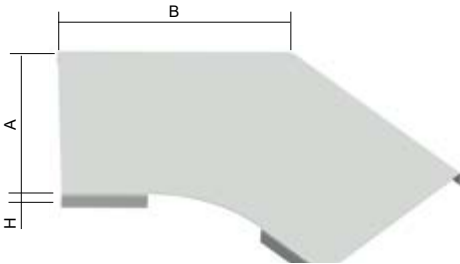
- ▶ The connection is made by sliding the cable tray directly into the elbow and then fixing it with NSM 6X10 bolts.
- ▶ The listed items can also be ordered in a painted version.



	item number	A	H	B	t	l _f	‡	EAN
●	NO 45X50X62_S	62	50	125	0,7	4	0,20	8595057678019
●	NO 45X50X125_S	125	50	151	0,7	4	0,30	8595057677951
●	NO 45X50X250_S	250	50	203	0,7	4	0,50	8595057677975
●	NO 45X100X125_S	125	100	151	0,7	8	0,40	8595057677890
●	NO 45X100X250_S	250	100	203	0,7	8	0,70	8595057653818
●	NO 45X100X500_S	500	100	307	0,7	8	1,40	8595057677913

	item number	A	H	B	t	l _f	‡	EAN
⊕	NO 45X50X62_F	62	50	125	0,7	4	0,23	8595057678026
⊕	NO 45X50X125_F	125	50	151	0,7	4	0,33	8595057677968
⊕	NO 45X50X250_F	250	50	203	0,7	4	0,69	8595057677982
⊕	NO 45X100X125_F	125	100	151	0,7	8	0,48	8595057677906
⊕	NO 45X100X250_F	250	100	203	0,7	8	0,89	8595057669499
⊕	NO 45X100X500_F	500	100	307	0,7	8	1,88	8595057677920

45° elbow cover



- ▶ Three pieces of VU cover fixtures are used to fix the cover.
- ▶ The listed items can also be ordered in a painted version.

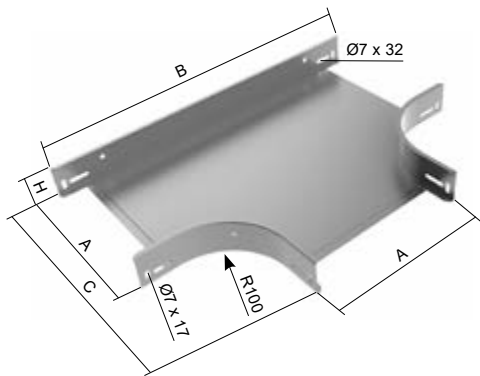


	item number	A	H	B	t	‡	EAN
●	NVO 45X62_S	62	12	125	0,55	0,10	8595057682429
●	NVO 45X125_S	125	12	151	0,55	0,20	8595057654501
●	NVO 45X250_S	250	12	203	0,55	0,40	8595057654518
●	NVO 45X500_S	500	15	307	0,7	1,20	8595057682405

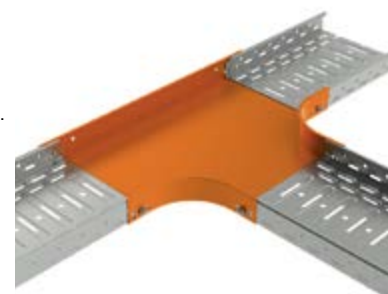
	item number	A	H	B	t	‡	EAN
⊕	NVO 45X62_F	62	12	125	0,6	0,11	8595057682436
⊕	NVO 45X125_F	125	12	151	0,8	0,27	8595057669819
⊕	NVO 45X250_F	250	12	203	0,8	0,62	8595057669826
⊕	NVO 45X500_F	500	15	307	0,8	1,62	8595057682412



T-piece



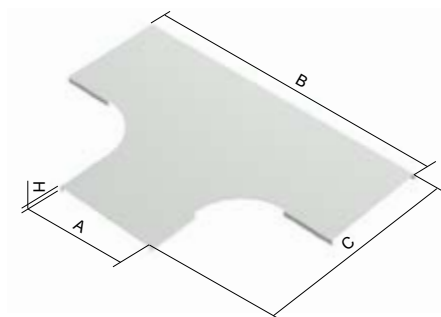
- ▶ The connection is made by sliding the cable tray directly into the T-piece and then fixing it with NSM 6X10 bolts.
- ▶ It is possible to use NRD reduction piece to create branches of different widths
- ▶ The listed items can also be ordered in a painted version.



item number	A	H	B	C	t	‡	⌘	EAN
● NT 50X62_S	62	50	379	222	0,7	0,50	6	8595057654457
● NT 50X125_S	125	50	442	285	0,7	0,70	6	8595057654396
● NT 50X250_S	250	50	567	410	0,7	1,20	6	8595057654419
● NT 100X125_S	125	100	442	285	0,7	1,00	12	8595057654389
● NT 100X250_S	250	100	567	410	0,7	1,50	12	8595057654402
● NT 100X500_S	500	100	817	660	0,7	3,20	12	8595057680128

item number	A	H	B	C	t	‡	⌘	EAN
● NT 50X62_F	62	50	379	222	0,7	0,59	6	8595057669710
● NT 50X125_F	125	50	442	285	0,7	0,84	6	8595057669673
● NT 50X250_F	250	50	567	410	0,7	1,69	6	8595057669697
● NT 100X125_F	125	100	442	285	0,7	1,10	12	8595057669642
● NT 100X250_F	250	100	567	410	0,7	2,10	12	8595057669659
⌚ NT 100X500_F	500	100	817	660	0,7	4,26	12	8595057680135

T-piece cover



- ▶ Four VU cover fixtures are used to fix the cover.
- ▶ These items can also be ordered in a painted version.



item number	A	H	B	C	t	‡	EAN
● NVT 62_S	62	12	379	222	0,55	0,20	8595057654846
● NVT 125_S	125	12	442	285	0,55	0,40	8595057654808
● NVT 250_S	250	12	567	410	0,55	0,80	8595057654822
● NVT 500_S	500	15	817	660	0,7	2,80	8595057683181

item number	A	H	B	C	t	‡	EAN
⌚ NVT 62_F	62	12	379	222	0,6	0,26	8595057669925
⌚ NVT 125_F	125	12	442	285	0,8	0,65	8595057669895
⌚ NVT 250_F	250	12	567	410	0,8	1,45	8595057669918
⌚ NVT 500_F	500	15	817	660	0,8	3,84	8595057683198

t sheet thickness (mm)
‡ weight kg/pcs

⌘ number of bolts for connection

● standard
⌚ to order

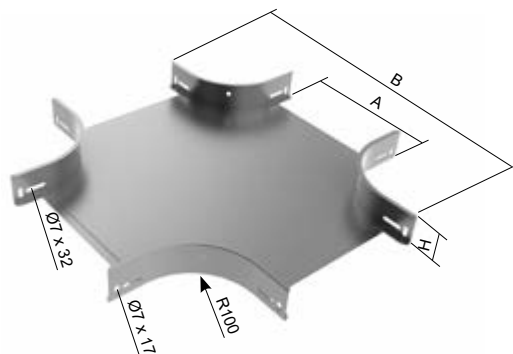
▲ non-standardized

S pre-galvanized
F hot-dip galvanized

- STANDARD
- NO-STANDARD
- FIRE BOXES
- PRODUCTS
- BOXES
- JUPITER
- MARS
- LADDERS
- WIRE TRAYS
- SUPPORT SYSTEMS
- CLAMPS
- CONNECT & ANCH. MAT.
- OTHER
- NAILING
- STAINLESS
- INDEX



cross



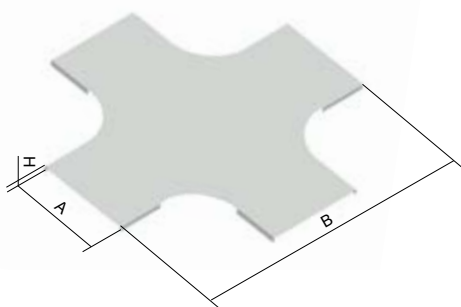
- ▶ The connection is made by sliding the cable tray directly into the cross-piece and then fixing it with NSM 6X10 bolts.
- ▶ It is possible to use NRD reduction piece to create branches of different widths.
- ▶ These items can also be ordered in a painted version.



item number	A	H	B	t	‡	‡̄	EAN
● NKR 50X62_S	62	50	379	0,7	0,60	8	8595057676411
● NKR 50X125_S	125	50	442	0,7	0,80	8	8595057676312
● NKR 50X250_S	250	50	567	0,7	1,40	8	8595057676350
● NKR 100X125_S	125	100	442	0,7	1,10	16	8595057676213
● NKR 100X250_S	250	100	567	0,7	1,70	16	8595057653849
● NKR 100X500_S	500	100	817	0,7	3,40	16	8595057676251

item number	A	H	B	t	‡	‡̄	EAN
⊕ NKR 50X62_F	62	50	379	0,7	0,73	8	8595057676428
⊕ NKR 50X125_F	125	50	442	0,7	1,00	8	8595057676329
⊕ NKR 50X250_F	250	50	567	0,7	1,86	8	8595057676367
⊕ NKR 100X125_F	125	100	442	0,7	1,35	16	8595057676220
⊕ NKR 100X250_F	250	100	567	0,7	2,21	16	8595057669437
⊕ NKR 100X500_F	500	100	817	0,7	4,48	16	8595057676268

cross cover



- ▶ Four VU cover fixtures are used to fix the cover.
- ▶ These items can also be ordered in a painted version.

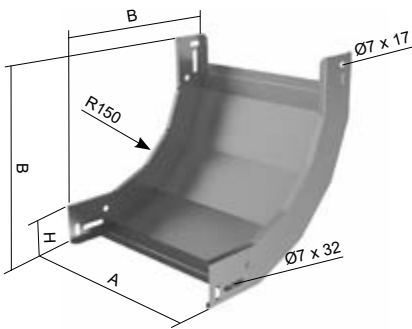


item number	A	H	B	t	‡	EAN
● NVKR 62_S	62	12	379	0,55	0,20	8595057681606
● NVKR 125_S	125	12	442	0,55	0,50	8595057655652
● NVKR 250_S	250	12	567	0,55	1,00	8595057681507
● NVKR 500_S	500	15	817	0,7	3,20	8595057681569

item number	A	H	B	t	‡	EAN
⊕ NVKR 62_F	62	12	379	0,6	0,33	8595057681613
⊕ NVKR 125_F	125	12	442	0,8	0,61	8595057669802
⊕ NVKR 250_F	250	12	567	0,8	1,75	8595057681514
⊕ NVKR 500_F	500	15	817	0,8	4,40	8595057681576



90° rising elbow



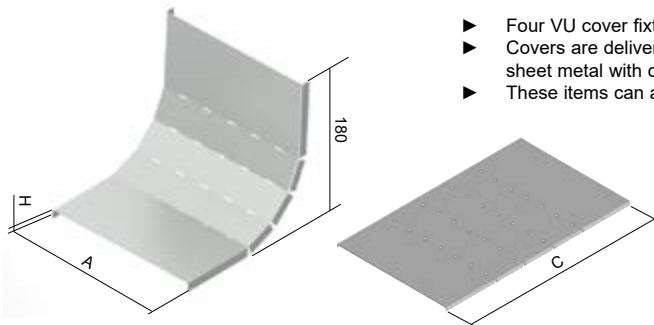
- ▶ The connection is made by sliding the cable tray directly into the rising elbow and then fastening it with NSM 6X10 bolts.
- ▶ These items can also be ordered in a painted version.



	item number	A	H	B	†	‡	£f	EAN
●	NSO 90X50X62_S	62	50	241	0,7	0,40	4	8595057679160
●	NSO 90X50X125_S	125	50	241	0,7	0,50	4	8595057654037
●	NSO 90X50X250_S	250	50	241	0,7	0,70	4	8595057654013
●	NSO 90X100X125_S	125	100	291	0,7	0,80	8	8595057653993
●	NSO 90X100X250_S	250	100	291	0,7	1,00	8	8595057654006
●	NSO 90X100X500_S	500	100	291	0,7	1,60	8	8595057679108

	item number	A	H	B	†	‡	£f	EAN
⊕	NSO 90X50X62_F	62	50	241	0,7	0,44	4	8595057679177
⊕	NSO 90X50X125_F	125	50	241	0,7	0,57	4	8595057669628
⊕	NSO 90X50X250_F	250	50	241	0,7	0,91	4	8595057669635
⊕	NSO 90X100X125_F	125	100	291	0,7	0,93	8	8595057669604
⊕	NSO 90X100X250_F	250	100	291	0,7	1,35	8	8595057669611
⊕	NSO 90X100X500_F	500	100	291	0,7	2,10	8	8595057679115

90° rising elbow cover



- ▶ Four VU cover fixtures are used to fix the cover.
- ▶ Covers are delivered straight. They are constructed of one piece of sheet metal with cut sides for bending during assembly.
- ▶ These items can also be ordered in a painted version.

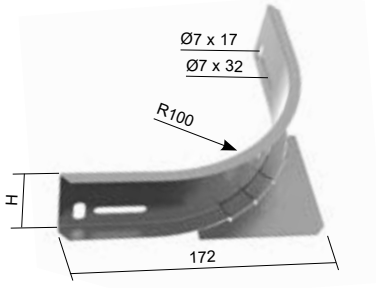


	item number	A	H	B	C	†	‡	EAN
●	NVSO 90X62_S	62	12	203	316	0,55	0,10	8595057692602
●	NVSO 90X125_S	125	12	203	316	0,55	0,20	8595057692619
●	NVSO 90X250_S	250	12	203	316	0,55	0,40	8595057692626
●	NVSO 90X500_S	500	15	203	316	0,7	0,90	8595057692633

	item number	A	H	B	C	†	‡	EAN
⊕	NVSO 90X62_F	62	12	203	316	0,6	0,15	8595057695962
⊕	NVSO 90X125_F	125	12	203	316	0,8	0,35	8595057695979
⊕	NVSO 90X250_F	250	12	203	316	0,8	0,51	8595057695986
⊕	NVSO 90X500_F	500	15	203	316	0,8	1,26	8595057695993



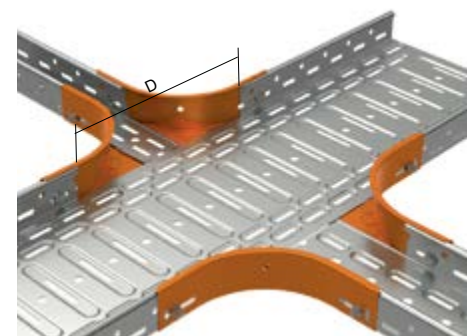
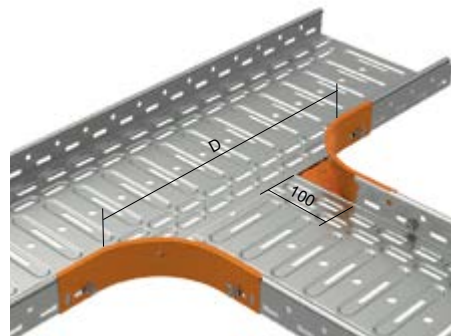
reduction piece



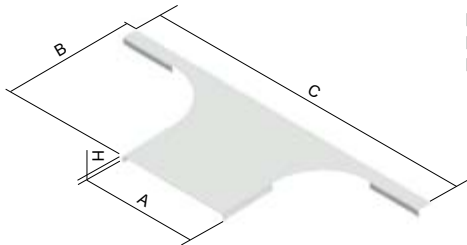
- ▶ The connection is made using NSM 6X10 bolts.
- ▶ Used to additionally create a branch in instead of T-piece or cross. Always use in pairs.
- ▶ These items can also be ordered in a painted version.

trough side trimming length	
turning onto the canal	D
NKZI 50X62	262
NKZI 50X125	325
NKZI 100X125	325
NKZI 50X250	450
NKZI 100X250	450
NKZI 100X500	700

	item number	H	†	‡	£	EAN
●	NRD 50_S	50	0,7	0,12	2	8595057667037
●	NRD 100_S	100	0,7	0,47	4	8595057667044
⊕	NRD 50_F	50	0,7	0,16	2	8595057678897
⊕	NRD 100_F	100	0,7	0,55	4	8595057678873



branch cover



- ▶ Two VU cover fixtures are used to fix the cover.
- ▶ Used to cover the route created by the reducing pieces.
- ▶ These items can also be ordered in a painted version.



	item number	A	H	B	C	†	‡	EAN
●	VOH 62_S	62	12	182	379	0,55	0,11	8595568905253
●	VOH 125_S	125	12	182	442	0,55	0,17	8595568905277
●	VOH 250_S	250	12	182	567	0,7	0,34	8595057630215
●	VOH 500_S	500	15	224	903	1,0	1,05	8595057633308

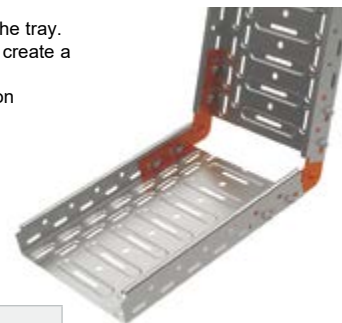
	item number	A	H	B	C	†	‡	EAN
⊕	VOH 62_F	62	12	182	379	0,8	0,25	8595568905260
⊕	VOH 125_F	125	12	182	442	0,8	0,35	8595568905284
⊕	VOH 250_F	250	12	182	567	0,8	0,56	8595057659339
⊕	VOH 500_F	500	15	224	903	1,0	1,23	8595057659360



hinged joint

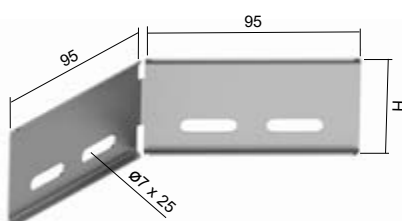


- ▶ NSM 6X10 bolts are used to fasten the hinged joint to the tray.
- ▶ The joint is supplied in 1 piece, 2 pieces are needed to create a route bend.
- ▶ The listed items can also be ordered in a painted version



	item number	H	†	‡	£f	EAN
●	SK 50_S	43	0,8	0,09	4	8595057698611
●	SK 100_S	93	1,2	0,32	8	8595057698635
⊕	SK 50_GMT	43	0,8	0,20	4	8595568926012
⊕	SK 100_GMT	93	1,2	0,33	8	8595568926043

angle coupling

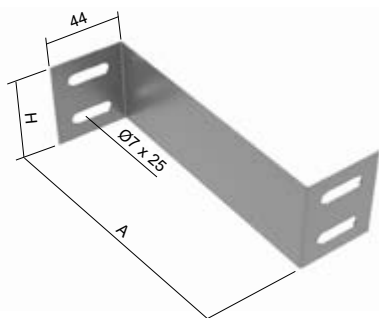


- ▶ The connection is made using NSM 6X10 bolts.
- ▶ Angle couplings are mainly used for connecting at slightly bent routes, creating large radius curves or bypassing columns and pillars.
- ▶ These items can also be ordered in a painted version.



	item number	H	†	‡	EAN
●	NSUK 50_S	47	1,0	0,07	8595057666948
●	NSUK 100_S	97	1,0	0,14	8595057666962
⊕	NSUK 50_GMT	47	1,0	0,08	8595568925978
⊕	NSUK 100_GMT	97	1,0	0,16	8595568925985

reduction



- ▶ The connection is made using NSM 6X10 bolts.
- ▶ The reduction is used to switch between different trays widths with the same side height.
- ▶ These items can also be ordered in a painted version.

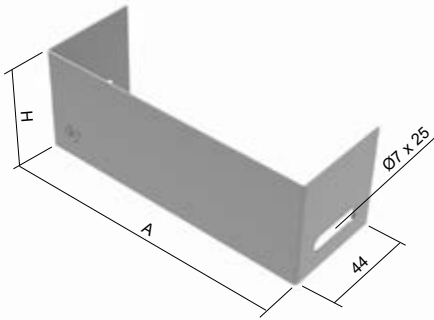


	item number	A	H	†	‡	£f	EAN
●	NR 50X62_S	63	40	0,8	0,03	2	8595057678842
●	NR 50X125_S	126	40	0,8	0,05	2	8595057678804
●	NR 100X125_S	126	90	0,8	0,11	4	8595057678767
●	NR 100X250_S	251	90	0,8	0,19	4	8595057678781

	item number	A	H	†	‡	£f	EAN
⊕	NR 50X62_F	63	40	0,8	0,04	2	8595057678859
⊕	NR 50X125_F	126	40	0,8	0,05	2	8595057678811
⊕	NR 100X125_F	126	90	0,8	0,14	4	8595057678774
⊕	NR 100X250_F	251	90	0,8	0,23	4	8595057678798



end-piece



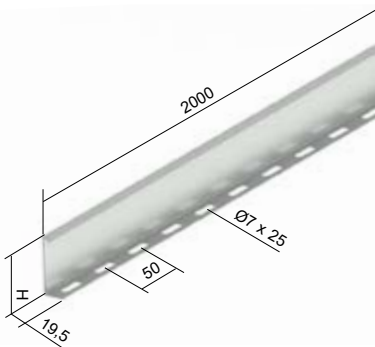
- ▶ The connection is made using NSM 6X10 bolts.
- ▶ The end piece is used to close the open end of the route.
- ▶ These items can also be ordered in a painted version.



item number	A	H	t	ϕ	ƒ	EAN
● NK 50X62_S	62	45	0,8	0,04	2	8595057675537
● NK 50X125_S	125	45	0,8	0,06	2	8595057675476
● NK 50X250_S	250	45	0,8	0,09	2	8595057675490
● NK 100X125_S	125	95	0,8	0,12	4	8595057675391
● NK 100X250_S	250	95	0,8	0,20	4	8595057675414
● NK 100X500_S	500	95	0,8	0,44	4	8595057675438

item number	A	H	t	ϕ	ƒ	EAN
⊕ NK 50X62_F	62	45	1,0	0,05	2	8595057675544
⊕ NK 50X125_F	125	45	0,8	0,07	2	8595057675483
⊕ NK 50X250_F	250	45	0,8	0,11	2	8595057675506
⊕ NK 100X125_F	125	95	1,0	0,18	4	8595057675407
⊕ NK 100X250_F	250	95	1,0	0,29	4	8595057675421
⊕ NK 100X500_F	500	95	1,0	0,51	4	8595057675445

partition



- ▶ The partition is fastened with NSM 6X10 bolts
- ▶ The partition is used for spatial separation of cables and routing of various networks and functions. At the same time, it serves to separate individual types of lines in terms of electrical compatibility. For this purpose, it is recommended to use a cover and thus create an enclosed shielded space.
- ▶ The items can also be ordered in a painted version.

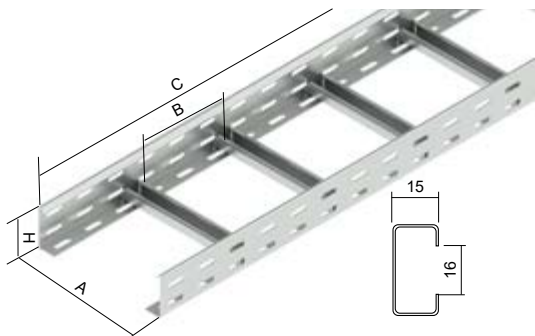


item number	H	t	ϕ	EAN
● NPZ 50_S	44	0,8	0,47	8595057654198
● NPZ 100_S	94	0,8	0,75	8595057654181
⊕ NPZ 50_F	44	1,0	0,64	8595057669574
⊕ NPZ 100_F	94	1,0	1,10	8595057669567



PRODUCTS cable ladders

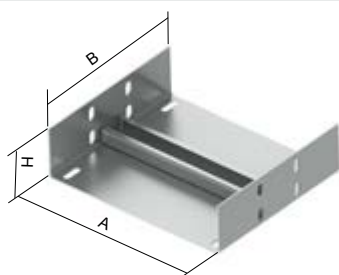
cable ladder 60



- ▶ The distance between the cable ladders cross-pieces for standardized constructions is 150 mm.
- ▶ KPBSKL couplings and NSM 6X10 bolts are intended for connection.
- ▶ JUPITER cable tray accessories can be used for ladders.
- ▶ We are able to provide fiber cement boards on request.

item number	A	H	B	C	t	‡	EAN
● KL 60X150_PO	150	60	150	3000	1,5	2,21	8595057691414
● KL 60X200_PO	200	60	150	3000	1,5	2,30	8595057691421
● KL 60X300_PO	300	60	150	3000	1,5	2,47	8595057691438
● KL 60X400_PO	400	60	150	3000	1,5	2,64	8595057691445
⊕ KL 60X150_POF	150	60	150	3000	1,5	2,21	8595568921833
⊕ KL 60X200_POF	200	60	150	3000	1,5	2,30	8595568921840
⊕ KL 60X300_POF	300	60	150	3000	1,5	2,47	8595568921857
⊕ KL 60X400_POF	400	60	150	3000	1,5	2,64	8595568921864

coupling for cable ladders

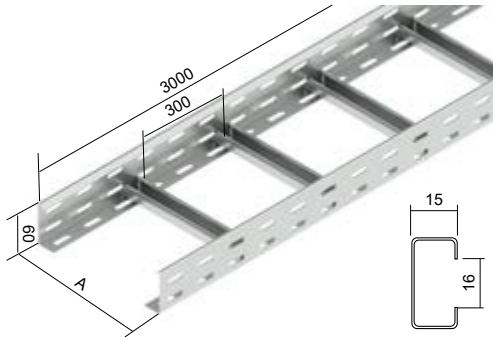


- ▶ The coupling is intended for connecting KL standardized constructions using NSM 6X10 bolts.

item number	A	H	B	‡	t	‡	EAN
● KPBSKL 150_PO	150	60	160	12	1,5	0,54	8595057692688
● KPBSKL 200_PO	200	60	160	12	1,5	0,68	8595057650091
● KPBSKL 300_PO	300	60	160	12	1,5	0,94	8595057650107
● KPBSKL 400_PO	400	60	160	12	1,5	1,19	8595057650114
⊕ KPBSKL 150_POF	150	60	160	12	1,5	0,54	8595568919496
⊕ KPBSKL 200_POF	200	60	160	12	1,5	0,68	8595057665811
⊕ KPBSKL 300_POF	300	60	160	12	1,5	0,94	8595057665828
⊕ KPBSKL 400_POF	400	60	160	12	1,5	1,19	8595057665835



cable ladder 60

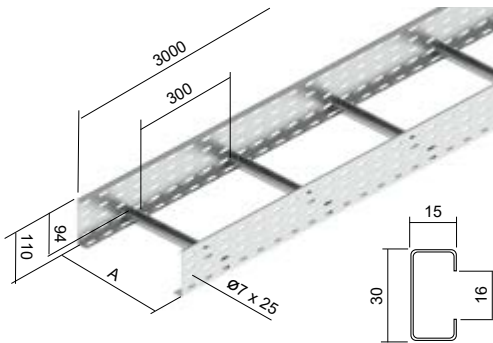


- ▶ The ladders are connected using S 60X200 couplings and 8 to 16 pieces of NSM 6X10 bolts.
- ▶ Perforated sides form L-profile with a bent edge. The C profile perforated cross-pieces are attached to the sides by extrusion with a spacing of 300 mm, with open side of the profile facing up
- ▶ The NPZ 50 partition can be used for the spatial separation of cables. The partition is fastened every 600 mm with NSM 6X20 bolts.
- ▶ Cable ladders accessories can be replaced by JUPITER cable trays accessories.
- ▶ We are able to provide fiber cement boards on request.
- ▶ The following applies to accessories for standardized constructions:
 - side height 60 mm
 - max. cable ladder width is 400 mm

item number	A	t	‡	EAN
● KL 60X150_S	150	1,5 / 1,2	2,21	8595057691681
● KL 60X200_S	200	1,5 / 1,2	2,30	8595057635487
● KL 60X300_S	300	1,5 / 1,2	2,47	8595057634947
● KL 60X400_S	400	1,5 / 1,2	2,64	8595057635494
● KL 60X500_S	500	1,5 / 1,2	3,20	8595057644359
● KL 60X600_S	600	1,5 / 1,2	3,24	8595057644366

item number	A	t	‡	EAN
⊖ KL 60X150_F	150	1,5 / 1,2	2,50	8595057691698
⊖ KL 60X200_F	200	1,5 / 1,2	2,65	8595057658073
⊖ KL 60X300_F	300	1,5 / 1,2	2,90	8595057656345
⊖ KL 60X400_F	400	1,5 / 1,2	3,14	8595057658066
⊖ KL 60X500_F	500	1,5 / 1,2	3,38	8595057658042
⊖ KL 60X600_F	600	1,5 / 1,2	3,63	8595057661219
● KL 60X200_ZM	200	1,5 / 1,2	2,37	8595568937940
● KL 60X300_ZM	300	1,5 / 1,2	2,60	8595568937957
● KL 60X400_ZM	400	1,5 / 1,2	2,90	8595568937964
● KL 60X500_ZM	500	1,5 / 1,2	3,10	8595568937971
● KL 60X600_ZM	600	1,5 / 1,2	3,24	8595568937988

cable ladder 110

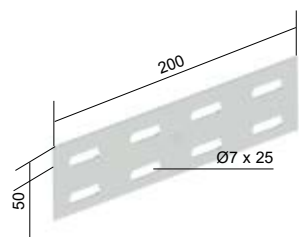


- ▶ The length of the cable ladder is 3 m.
- ▶ The ladders are connected using S 110X200 couplings and 8 pieces of NSM 6X10 bolts.
- ▶ Perforated sides form L-profile with a bent edge. The C profile perforated cross-pieces are attached to the sides by extrusion with a spacing of 300 mm, with open side of the profile facing up.
- ▶ Cable ladders accessories can be replaced by JUPITER cable trays accessories.
- ▶ The NPZ 100 partition can be used for spatial separation of cables. The partition is fastened every 600 mm with NSM 6X20 bolts.

item number	A	t	‡	EAN
● KL 110X150_S	150	1,5 / 1,2	4,07	8595057692664
● KL 110X200_S	200	1,5 / 1,2	4,17	8595057644373
● KL 110X300_S	300	1,5 / 1,2	4,37	8595057644380
● KL 110X400_S	400	1,5 / 1,2	4,57	8595057644397
● KL 110X500_S	500	1,5 / 1,2	4,77	8595057644403
● KL 110X600_S	600	1,5 / 1,2	5,00	8595057644410

item number	A	t	‡	EAN
⊖ KL 110X150_F	150	1,5 / 1,2	4,07	8595568902368
⊖ KL 110X200_F	200	1,5 / 1,2	4,17	8595057661028
⊖ KL 110X300_F	300	1,5 / 1,2	4,37	8595057661172
⊖ KL 110X400_F	400	1,5 / 1,2	4,57	8595057661189
⊖ KL 110X500_F	500	1,5 / 1,2	4,77	8595057661196
⊖ KL 110X600_F	600	1,5 / 1,2	5,00	8595057661202
● KL 110X200_ZM	200	1,5 / 1,2	3,31	8595568937896
● KL 110X300_ZM	300	1,5 / 1,2	3,53	8595568937902
● KL 110X400_ZM	400	1,5 / 1,2	3,75	8595568937919
● KL 110X500_ZM	500	1,5 / 1,2	4,00	8595568937926
● KL 110X600_ZM	600	1,5 / 1,2	4,20	8595568937933

coupling



- ▶ Used to connect cable ladders or cable trays without an integrated coupling.
- ▶ Fastening is done with NSM 6X10 bolts, which meet the requirement for conductive connection.
- ▶ These items can also be ordered in a painted version.
- ▶ The following applies to accessories for standardized constructions:
 - side height 60 mm
 - max. cable ladder width is 400 mm

item number	H	t	‡f	EAN
● S 60X200_S	50	1,5	4 - 8	8595057627796
● S 110X200_S	100	1,5	4 - 8	8595057629752
● S 60X200_GMT	50	1,5	4 - 8	8595568926081
● S 110X200_GMT	100	1,5	4 - 8	8595568926104
● S 60X200_ZM	50	1,5	4	8595568938046
● S 110X200_ZM	100	1,5	8	8595568938039

t sheet thickness (mm)
‡f number of bolts for connection

‡ weight kg/m, weight kg/pcs

● standard
⊖ to order

▲ standardized
▲ non-standardized

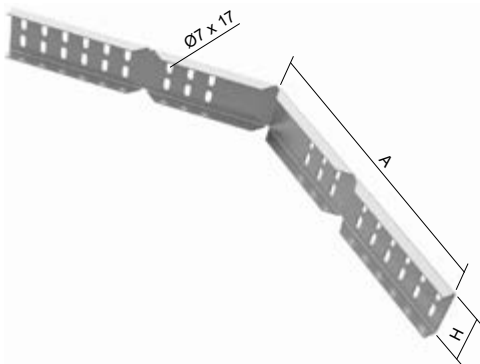
GMT electroless plating
ZM Zn+Mg+Al galvanizing

S pre-galvanized
F hot-dip galvanized

STANDARD
NO-STANDARD
FIRE BOXES
PRODUCTS
BOXES
JUPITER
MARS
LADDERS
WIRE TRAYS
SUPPORT SYSTEMS
CLAMPS
CONNECT & ANCH. MAT.
OTHER
NAILING
STAINLESS
INDEX



horizontal side coupling



- ▶ It is used to create a branch of a cable ladder route or as a replacement for cable ladder fittings or to create route at different angles and different bending radius. Couplings are a more cost-effective and versatile way to create a horizontal bend.
- ▶ When bending the route, the side of the cable ladder is cut off approx. 15 mm above the bottom - in the axis of the lower row of perforations.
- ▶ The edge must be equipped with NCH edge protector.
- ▶ The connection is fixed with NSM 6X10 bolts.

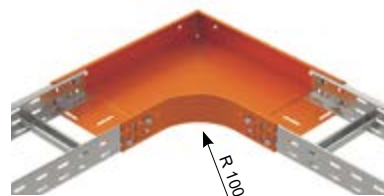
	item number	H	A	‡	‡	EAN
●	BSKH 60 K_S	64	140	2	0,36	8595568904133
●	BSKH 110 K_S	114	140	2	0,55	8595568904171
●	BSKH 60 D_S	64	315	2	0,83	8595568904195
●	BSKH 110 D_S	114	315	2	1,28	8595568904232
⊕	BSKH 60 K_F	64	140	2	0,41	8595568904140
⊕	BSKH 110 K_F	114	140	2	0,64	8595568904188
⊕	BSKH 60 D_F	64	315	2	0,96	8595568904201
⊕	BSKH 110 D_F	114	315	2	1,48	8595568904249



horizontal bend



- ▶ The connection of the bend to the ladder is made using S 60X200 or S 110X200 couplings and NSM 6X10 bolts.
- ▶ The bend can be replaced by a bend of the JUPITER cable tray system.
- ▶ The following applies to accessories for standardized constructions:
 - side height 60 mm
 - max. cable ladder width is 400 mm

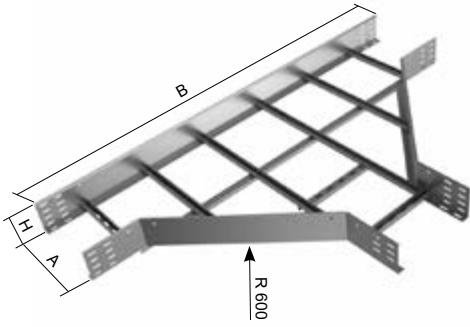


	item number	A	H	‡	‡f	EAN
⊕	KLOBH 60X150_S	150	60	1,5	16	8595568910011
⊕	KLOBH 60X200_S	200	60	1,5	16	8595057644489
⊕	KLOBH 60X300_S	300	60	1,5	16	8595057644496
⊕	KLOBH 60X400_S	400	60	1,5	16	8595057644502
⊕	KLOBH 60X500_S	500	60	1,5	16	8595057644519
⊕	KLOBH 60X600_S	600	60	1,5	16	8595057644526
⊕	KLOBH 110X200_S	200	110	1,5	32	8595057644434
⊕	KLOBH 110X300_S	300	110	1,5	32	8595057644441
⊕	KLOBH 110X400_S	400	110	1,5	32	8595057644458
⊕	KLOBH 110X500_S	500	110	1,5	32	8595057644465
⊕	KLOBH 110X600_S	600	110	1,5	32	8595057644472

	item number	A	H	‡	‡f	EAN
⊕	KLOBH 60X200_F	150	60	1,5	16	8595568910028
⊕	KLOBH 60X200_F	200	60	1,5	16	8595057661271
⊕	KLOBH 60X300_F	300	60	1,5	16	8595057661288
⊕	KLOBH 60X400_F	400	60	1,5	16	8595057661295
⊕	KLOBH 60X500_F	500	60	1,5	16	8595057661301
⊕	KLOBH 60X600_F	600	60	1,5	16	8595057661318
⊕	KLOBH 110X200_F	200	110	1,5	32	8595057661370
⊕	KLOBH 110X300_F	300	110	1,5	32	8595057661387
⊕	KLOBH 110X400_F	400	110	1,5	32	8595057661394
⊕	KLOBH 110X500_F	500	110	1,5	32	8595057661400
⊕	KLOBH 110X600_F	600	110	1,5	32	8595057661417



T-piece

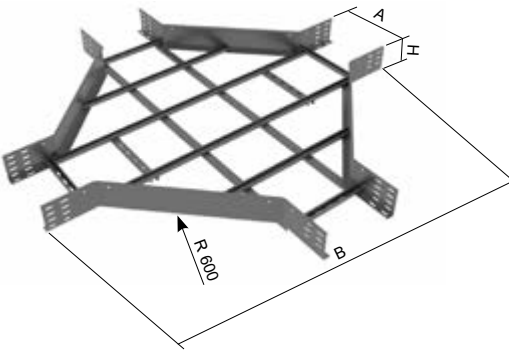


- ▶ The T-piece is connected to the ladder using S 60X200 or S 110X200 couplings and NSM 6X10 bolts.
- ▶ The T-piece can be replaced by a T-piece of the JUPITER cable tray system.
- ▶ The following applies to accessories for standardized constructions:
 - side height 60 mm
 - max. cable ladder width is 400 mm

	item number	A	H	B	t	l _f	EAN
⊕	KLT 60X200_S	200	60	1400	1,5	24	8595057644632
⊕	KLT 60X300_S	300	60	1500	1,5	24	8595057642256
⊕	KLT 60X400_S	400	60	1600	1,5	24	8595057644649
⊕	KLT 60X500_S	500	60	1700	1,5	24	8595057644656
⊕	KLT 60X600_S	600	60	1700	1,5	24	8595057644663
⊕	KLT 110X200_S	200	110	1400	1,5	48	8595057644588
⊕	KLT 110X300_S	300	110	1500	1,5	48	8595057644595
⊕	KLT 110X400_S	400	110	1600	1,5	48	8595057644601
⊕	KLT 110X500_S	500	110	1700	1,5	48	8595057644618
⊕	KLT 110X600_S	600	110	1800	1,5	48	8595057644625

	item number	A	H	B	t	l _f	EAN
⊕	KLT 60X200_F	200	60	1400	1,5	24	8595057661424
⊕	KLT 60X300_F	300	60	1500	1,5	24	8595057661431
⊕	KLT 60X400_F	400	60	1600	1,5	24	8595057661448
⊕	KLT 60X500_F	500	60	1700	1,5	24	8595057661455
⊕	KLT 60X600_F	500	60	1700	1,5	24	8595057661462
⊕	KLT 110X200_F	200	110	1400	1,5	48	8595057661523
⊕	KLT 110X300_F	300	110	1500	1,5	48	8595057661530
⊕	KLT 110X400_F	400	110	1600	1,5	48	8595057661547
⊕	KLT 110X500_F	500	110	1700	1,5	48	8595057661554
⊕	KLT 110X600_F	600	110	1800	1,5	48	8595057661561

CROSS



- ▶ The cross is connected to the ladder using S 60X200 or S 110X200 couplings and NSM 6X10 bolts.
- ▶ The cross can be replaced by a cross of the JUPITER cable tray system.
- ▶ The following applies to accessories for standardized constructions:
 - side height 60 mm
 - max. cable ladder width is 400 mm

	item number	A	H	B	t	l _f	EAN
⊕	KLKR 60X200_S	200	60	1400	1,5	32	8595057644779
⊕	KLKR 60X300_S	300	60	1500	1,5	32	8595057644786
⊕	KLKR 60X400_S	400	60	1600	1,5	32	8595057644793
⊕	KLKR 60X500_S	500	60	1700	1,5	32	8595057644809
⊕	KLKR 60X600_S	600	60	1700	1,5	32	8595057644816
⊕	KLKR 110X200_S	200	110	1400	1,5	64	8595057644724
⊕	KLKR 110X300_S	300	110	1500	1,5	64	8595057644731
⊕	KLKR 110X400_S	400	110	1600	1,5	64	8595057644748
⊕	KLKR 110X500_S	500	110	1700	1,5	64	8595057644755
⊕	KLKR 110X600_S	600	110	1800	1,5	64	8595057644762

	item number	A	H	B	t	l _f	EAN
⊕	KLKR 60X200_F	200	60	1400	1,5	32	8595057661578
⊕	KLKR 60X300_F	300	60	1500	1,5	32	8595057661585
⊕	KLKR 60X400_F	400	60	1600	1,5	32	8595057661592
⊕	KLKR 60X500_F	500	60	1700	1,5	32	8595057661608
⊕	KLKR 60X600_F	600	60	1800	1,5	32	8595057661615
⊕	KLKR 110X200_F	200	110	1400	1,5	64	8595057661677
⊕	KLKR 110X300_F	300	110	1500	1,5	64	8595057661684
⊕	KLKR 110X400_F	400	110	1600	1,5	64	8595057661691
⊕	KLKR 110X500_F	500	110	1700	1,5	64	8595057661707
⊕	KLKR 110X600_F	600	110	1800	1,5	64	8595057661714

t sheet thickness (mm)
l_f number of bolts for connection

● standard
⊕ to order

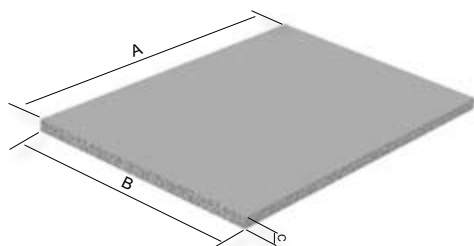
▲ standardized
▲ non-standardized

S pre-galvanized
F hot-dip galvanized

STANDARD
NO-STANDARD
FIRE BOXES
PRODUCTS
BOXES
JUPITER
MARS
LADDERS
WIRE TRAYS
SUPPORT SYSTEMS
CLAMPS
CONNECT & ANCH. MAT.
OTHER
NAILING
STAINLESS
INDEX




cement fiber board

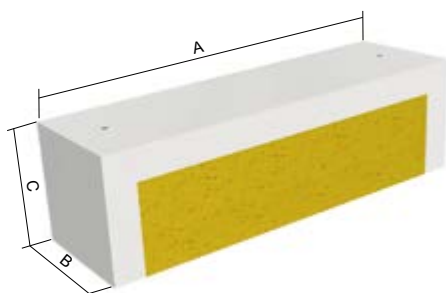


- ▶ Board for filling cable ladders. Permanent protection of electrical installations.
- ▶ Resistance to electric arc according to ČSN 332000-5-52 ed.2.
- ▶ Fire resistance - reaction to fire class A1.
- ▶ Frost resistance.
- ▶ Weather resistance.
- ▶ High strength.
- ▶ Hygienic safety.
- ▶ Items to order.

	item number	A	B	C	EAN
⊕	DCEV 6X200_PO	1000 - 1250	150 - 600	6	8595568932624
⊕	DCEV 6X300_PO	1000 - 1250	150 - 600	6	8595568932631
⊕	DCEV 6X400_PO	1000 - 1250	150 - 600	6	8595568932648
⊕	DCEV 8X200_PO	1000 - 1250	150 - 600	8	8595568932655
⊕	DCEV 8X300_PO	1000 - 1250	150 - 600	8	8595568932662
⊕	DCEV 8X400_PO	1000 - 1250	150 - 600	8	8595568932679
⊕	DCEV 10X200_PO	1000 - 1250	150 - 600	10	8595568932686
⊕	DCEV 10X300_PO	1000 - 1250	150 - 600	10	8595568932693
⊕	DCEV 10X400_PO	1000 - 1250	150 - 600	10	8595568932709




cable clamps cover 



- ▶ The KPS 160X... enclosure includes insulating wool and a bucket with insulating putty.
- ▶ For the KPS 200X... it is necessary to order the KPS-STOP_PO insulating putty in a 2 kg bucket.
- ▶ Anchoring to the base material using the MS KPS mounting kit.
- ▶ One mounting kit must be ordered to install the cover.


item number	A	B	C	‡	EAN
● KPS 160X150_PO	280	160	160	1,3	8595568934536
● KPS 160X200_PO	330	160	160	2,0	8595568926982
● KPS 160X300_PO	430	160	160	2,6	8595568934543
● KPS 160X400_PO	530	160	160	3,1	8595568912497
● KPS 200X150_PO	280	200	160	3,05	8595568936059
● KPS 200X200_PO	330	200	160	3,45	8595568936066
● KPS 200X300_PO	430	200	160	4,25	8595568936073
● KPS 200X400_PO	530	200	160	5,05	8595568936080
● KPS 200X500_PO	630	200	160	5,85	8595568936097
● KPS 200X600_PO	730	200	160	6,65	8595568936103

cable clamps cover mounting kit 



- ▶ It is always necessary to order the kit for the KPS clamps cover - 1 piece of kit for one piece of cover.
- ▶ The set contains fire-resistant anchors, threaded rods, washers, nuts and a knife for cutting thermal insulation wool.

item number	‡	EAN
● MS KPS_PO	1,0	8595568912527

fireproofing putty 



- ▶ Designed for the KPS 200X...
- ▶ The fire-resistant putty provides up to 90 minutes fire-resistance in combination with the KPS 200X... cover.
- ▶ The minimum thickness of the applied putty in dry condition must be at least 1 mm.

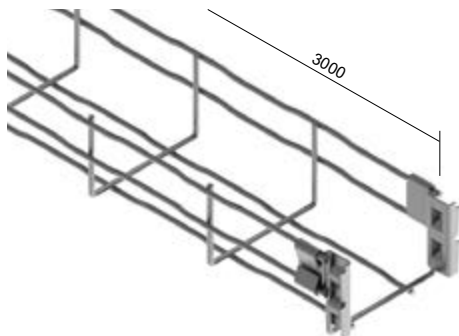
item number	‡	EAN
● KPS-STOP_PO	2	8595568937391

STANDARD
NO-STANDARD
FIRE BOXES
PRODUCTS
BOXES
JUPITER
MARS
LADDERS
WIRE TRAYS
SUPPORT SYSTEMS
CLAMPS
CONNECT & ANCH. MAT.
OTHER
NAILING
STAINLESS
INDEX

PRODUCTS

wire cable trays

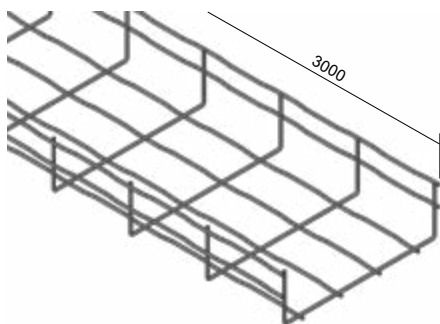
wire tray with integrated coupling



- ▶ Each wire tray is equipped with coupling at one end - up to a width of 200 mm there are connectors on the sides, from a width of 300 mm there are connectors on the sides and in the bottom of the tray.
- ▶ This connection meets the conductive connection. The DZI wire tray with fire resistance is secured with a DZS/B bolt.
- ▶ Due to cable ventilation, it is recommended to install trays at a distance of 250 mm from each other and 20 mm from the wall.

item number	Ø	☒	‡	EAN
● DZI 60X60_BZNCR	3,9	21	0,75	8595568927859
● DZI 60X100_BZNCR	3,9	43	0,79	8595568927866
● DZI 60X150_BZNCR	3,9	72	0,84	8595568927873
● DZI 60X200_BZNCR	3,9	100	1,09	8595568927880
● DZI 60X300_BZNCR	4,3	156	1,60	8595568927897
● DZI 60X400_BZNCR	4,3	212	2,01	8595568927903
● DZI 60X500_BZNCR	4,6	268	2,72	8595568927910
● DZI 60X600_BZNCR	4,6	324	3,13	8595568927927

wire tray



- ▶ The standard length of the wire tray is 3 m.
- ▶ Wire trays without integrated coupling are connected using a DZS/B coupling.

item number	Ø	☒	‡	EAN
● DZ 60X60_BF	3,9	23	0,55	8595568903167
● DZ 60X100_BF	3,9	47	0,77	8595568903174
● DZ 60X150_BF	3,9	75	0,82	8595568903181
● DZ 60X200_BF	3,9	102	1,06	8595568903198
● DZ 60X300_BF	4,3	157	1,57	8595568903204
● DZ 60X400_BF	4,3	212	1,90	8595568903211
● DZ 60X500_BF	4,6	267	2,46	8595568903228
⊕ DZ 60X600_BF	4,6	322	2,83	8595568903235

coupling



- ▶ The special design of the bolt head enables fast and reliable connection of the trays.

item number	‡	EAN
● DZS/B_ZNCR	0,03	8595057689831
⊕ DZS/B_F	0,03	8595568902597





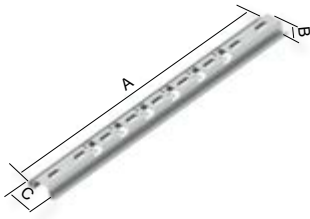
fastening bolt



- ▶ The special design of the bolt head enables fast and reliable attachment of the wire trays to a support.

	item number	‡	EAN
●	DZSU/B_ZNCR	0,02	8595057689855

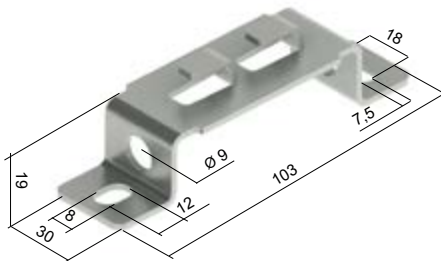
supporting profile



- ▶ The supporting profile is used to build a vertical route using wire trays.
- ▶ The profile can be placed on the wall, ceiling or used as a support installed on threaded rods.

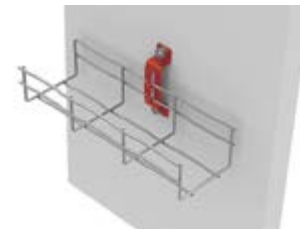
	item number	A	B	C	‡	⊥	EAN
●	DZNP 100/B_S	250	20	52	0,24	1,5	8595568935748
●	DZNP 150/B_S	300	20	52	0,31	1,5	8595568935755
●	DZNP 200/B_S	350	20	52	0,37	2,0	8595568935762
●	DZNP 300/B_S	450	20	52	0,43	2,0	8595568935779
●	DZNP 400/B_S	550	20	52	0,55	2,0	8595568935786
●	DZNP 500/B_S	650	20	52	0,67	2,0	8595568935793
●	DZNP 600/B_S	750	20	52	0,79	2,0	8595568935809
⊕	DZNP 100/B_F	250	20	52	0,25	1,5	8595568935816
⊕	DZNP 150/B_F	300	20	52	0,32	1,5	8595568935823
⊕	DZNP 200/B_F	350	20	52	0,39	2,0	8595568935830
⊕	DZNP 300/B_F	450	20	52	0,45	2,0	8595568935847
⊕	DZNP 400/B_F	550	20	52	0,57	2,0	8595568935854
⊕	DZNP 500/B_F	650	20	52	0,69	2,0	8595568935861
⊕	DZNP 600/B_F	750	20	52	0,81	2,0	8595568935878

hanger



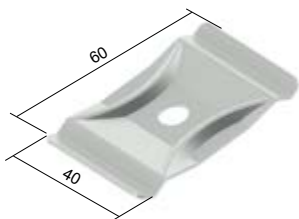
- ▶ The hanger can be used to attach the wire tray to the wall.
- ▶ Wall mounting is only possible for trays size from 60X60 up to 60X200.
- ▶ The hanger is fixed using KPO 6 anchors (2 pcs.).

	item number	‡	EAN
●	DZZ/B_ZNCR	0,05	8595057689800
⊕	DZZ/B_F	0,05	8595568902627





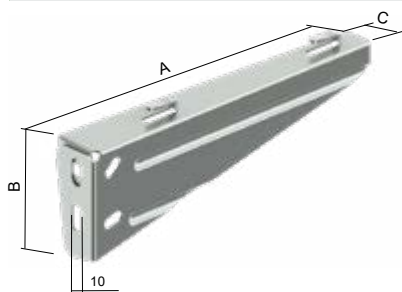
central hanger



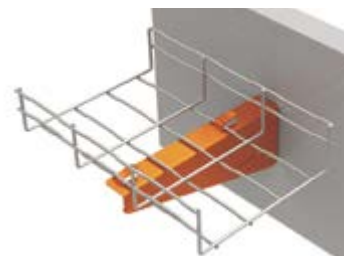
- ▶ The central hanger is intended for hanging the wire tray from the ceiling. It is necessary to use two pieces of central hanger, two M 8 nuts and a threaded rod of \varnothing 8 mm.
- ▶ The hanger is not intended for hanging DZI 60X60 trays.
- ▶ To create one mounting point using the central hinge, two central hinges must be ordered.

	item number	‡	EAN
●	DZCZ/B_ZNCR	0,03	8595057689794
⊕	DZCZ/B_F	0,03	8595568902634

wall support



- ▶ By bending the protrusions, we ensure fast and reliable fixation of the wire tray to the support.
- ▶ The DZZ/B hanger must be used to attach the DZI 60X60 tray to the wall.



	item number	A	B	C	‡	EAN
●	DZDS 100/B_S	150	85	36	0,25	8595057689909
●	DZDS 150/B_S	200	85	36	0,26	8595057690233
●	DZDS 200/B_S	250	85	36	0,38	8595057689916
●	DZDS 300/B_S	350	85	36	0,66	8595057690240
●	DZDS 400/B_S	450	85	36	0,80	8595057690257
⊕	DZDS 500/B_S	550	122	36	1,01	8595057690264
⊕	DZDS 600/B_S	650	122	36	1,11	8595057690271
⊕	DZDS 100/B_F	150	85	36	0,25	8595568902658
⊕	DZDS 150/B_F	200	85	36	0,26	8595568902665
⊕	DZDS 200/B_F	250	85	36	0,38	8595568902672
⊕	DZDS 300/B_F	350	85	36	0,66	8595568902689
⊕	DZDS 400/B_F	450	85	36	0,80	8595568902696
⊕	DZDS 500/B_F	550	122	36	1,01	8595568902702
⊕	DZDS 600/B_F	650	122	36	1,11	8595568902719

bolt cutter



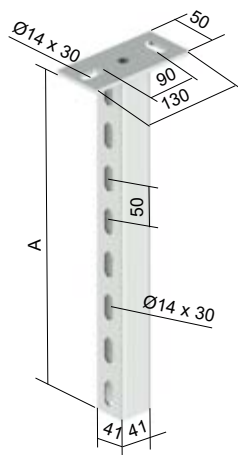
- ▶ The cutters have bevelled edges.
- ▶ It is advisable to cut the wires on the tray as close to their crossing as possible.

	item number	‡	EAN
●	DZDN_XX	0,75	8595057668591



PRODUCTS support systems

ceiling profile - medium

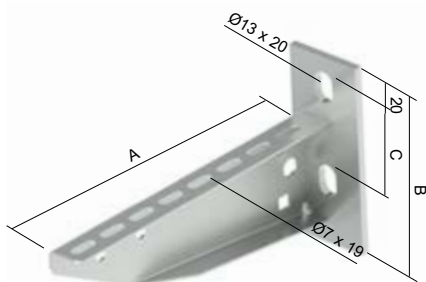


- ▶ Designed for fastening DS and DT brackets using S 10X40 hexagon head bolts, M 10 nuts and PD 10 washers
- ▶ For double-sided mounting, the brackets are fastened with S 10X70 bolts, M 10 nuts and PD 10 washers.
- ▶ Smooth and shiny appearance - special surface finish with higher corrosion resistance than hot dip galvanizing.
- ▶ OKSPS - end cap made of PE.

	item number	A	‡	EAN
●	SPS 200_F	207	1,03	8595057640139
●	SPS 300_F	307	1,33	8595057633452
●	SPS 400_F	407	1,60	8595057628618
●	SPS 500_F	507	1,90	8595057640146
●	SPS 600_F	607	2,15	8595057628625
●	SPS 800_F	757	2,70	8595057628632
●	SPS 1000_F	1007	3,25	8595057628649
⌚	SPS 1200_F	1207	3,80	8595057640153
●	OKSPS_DB	-	0,01	8595057633841



bracket - heavy

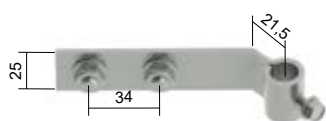


- ▶ The bracket is designed for mounting on a wall or ceiling profiles SPL or SPS.
- ▶ NSM 6X10 bolts are used to fasten the cable tray or cable ladder to the bracket.
- ▶ S 10X40 bolts together with M 10 nuts and PD 10 washers are used for mounting on SPL and SPS ceiling profiles. S 10X70 bolts are intended for double-sided mounting on SPS ceiling profiles.

	item number	A	B	C	‡	⊥	EAN
●	DT 100_F	120	120	60	190	0,30	8595057631786
●	DT 150_F	170	120	60	230	0,36	8595057632592
●	DT 200_F	220	120	60	300	0,43	8595057631779
●	DT 250_F	270	120	60	300	0,53	8595057636996
●	DT 300_F	320	135	60	350	0,73	8595057628519
●	DT 400_F	420	135	60	350	0,88	8595057628526
●	DT 500_F	520	155	90	350	1,30	8595057628533
●	DT 600_F	620	155	90	350	1,60	8595057628540
⌚	DT 800_F	820	155	90	280	1,90	8595057639904
⌚	DT 1000_F	1020	155	90	200	2,40	8595057639911



safety holder

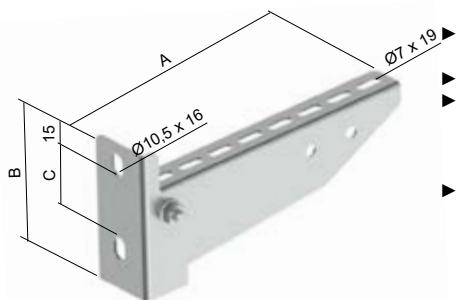


- ▶ DT OKO is used together with the DT bracket.
- ▶ Used to create standardized cable routes from cable trays or ladders.
- ▶ The DT bracket together with the DT OKO must be fastened to the wall or ceiling with ZT threaded rod.

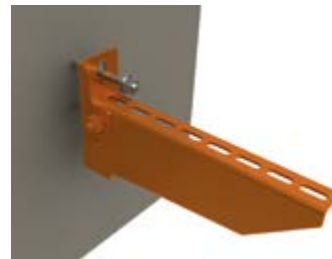
	item number	‡	EAN
●	DT OKO_POF	0,12	8595568930774



bracket - medium

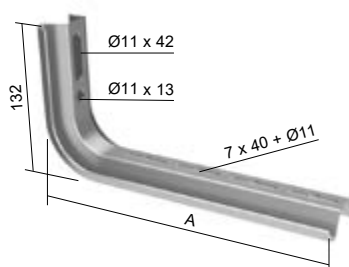


- ▶ The bracket is designed for mounting to the wall or to the ceiling profile SPL or SPS.
- ▶ Fastening to the wall is done with two anchors with \varnothing 8 mm.
- ▶ S 10X40 bolts together with M 10 nuts and PD 10 washers are used for mounting on SPL and SPS ceiling profiles. S 10X70 bolts are intended for double-sided mounting on SPS ceiling profiles.
- ▶ NSM 6X10 bolts are used to fix the cable tray to the DS bracket.



	item number	A	B	C	⊥	‡	EAN
●	DS 100_S	118	94	60	180	0,24	8595057632080
●	DS 150_S	168	94	60	160	0,33	8595057633834
●	DS 200_S	218	104	60	150	0,38	8595057632585
●	DS 300_S	318	120	60	160	0,63	8595057628434
●	DS 400_S	418	120	60	160	0,76	8595057628441
●	DS 500_S	518	140	90	160	1,00	8595057628458
●	DS 600_S	618	140	90	150	1,23	8595057636439

bracket

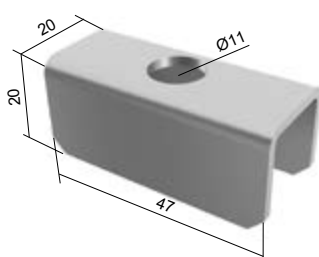


- ▶ The cable tray is fastened with NSM 6X10 bolts.
- ▶ Wall mounting bracket.
- ▶ The STS reinforcement is designed to prevent deformation during assembly.

	item number	A	⊥	‡	EAN
●	LTS 100_S	163	150	0,34	8595057639690
●	LTS 150_S	213	120	0,40	8595057639706
●	LTS 200_S	263	110	0,46	8595057639713
●	LTS 300_S	363	75	0,59	8595057630840
●	LTS 400_S	463	50	0,75	8595057634091



reinforcement piece for LTS profile



- ▶ Reinforcement for wall mounting when using the LTS bracket.

	item number	‡	EAN
●	STS_S	0,04	8595057639751



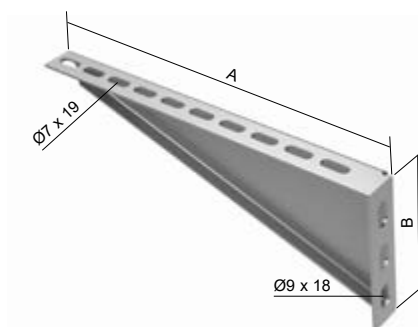
▶ bracket for sloping structures



- ▶ The bracket allows cable trays to be mounted on sloping structures up to an angle of 45°.
- ▶ NSM 6X10 bolts are used to fasten the cable tray.
- ▶ The products are delivered exclusively to order.

item number	for cable trays	EAN
⊕ DSU 100_PO	KZI 60X50X..., KZI 60X75X..., KZI 60X100X...	8595568925749
⊕ DSU 200_PO	KZI 60X150X..., KZI 60X200X...	8595568925756
⊕ DSU 300_PO	KZI 60X300X...	8595568925763
⊕ DSU 100_POF	KZI 60X50X..., KZI 60X75X..., KZI 60X100X...	8595568925770
⊕ DSU 200_POF	KZI 60X150X..., KZI 60X200X...	8595568925787
⊕ DSU 300_POF	KZI 60X300X...	8595568925794

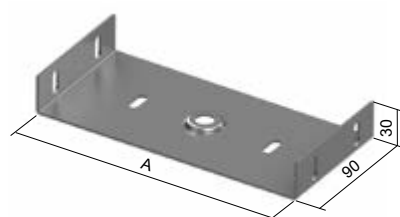
▶ wall bracket



- ▶ The tray is attached to the support using 2 NSM 6X10 bolts (NPS 62 only 1 pc.).
- ▶ The supports are attached to the wall using two anchors of Ø 8 mm (NPS 62 only 1 anchor).
- ▶ The listed items can also be ordered in a painted version.

item number	A	B	↑	↓	‡	EAN
● NPS 62_ZNCR	82	42	1,5	120	0,06	8595057654136
● NPS 125_ZNCR	145	70	2,0	180	0,17	8595057654112
● NPS 250_ZNCR	270	100	2,0	200	0,38	8595057678712
● NPS 62_F	82	42	1,5	120	0,07	8595057696266
● NPS 125_F	145	70	2,0	180	0,17	8595057696273
● NPS 250_F	270	100	2,0	200	0,44	8595057696280

▶ inner hanger



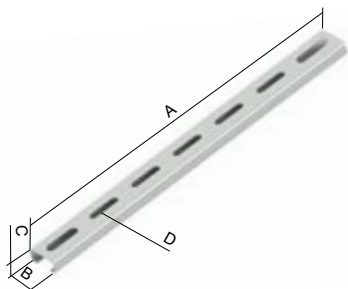
- ▶ The hanger is mounted using ZT threaded rod and MN nut.
- ▶ The MN nut is not part of the hanger.
- ▶ The inner hanger is installed into the tray before the tray is connected to another tray.

item number	A	‡	↑	EAN
● ZVNI 62_S	58	0,14	4	8595568927439
● ZVNI 125_S	121	0,20	4	8595568927453
● ZVNI 250_S	246	0,41	4 (6)	8595568927477
⊕ ZVNI 62_F	58	0,16	4	8595568927446
⊕ ZVNI 125_F	121	0,27	4	8595568927460
⊕ ZVNI 250_F	246	0,47	4 (6)	8595568927484
● MN 8_ZNCR	-	0,01	-	8595568903594





supporting profile



- ▶ The supporting profile is intended for creating a cable tray support structure on threaded rods or for creating a route together with PKC1 clamps.

With PKC1 clamps:

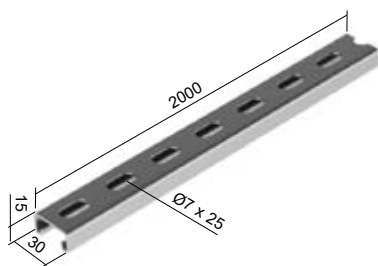
- ▶ The supporting profile is anchored to the wall with a maximum spacing of 600 mm using KPO 6 anchors or SB 6.3X35 concrete screws. The spacing of the anchoring elements is max. 250 mm. The cables are attached to the support profile using PKC1 clamps (max. 3 cables in one clamp). The route can also be used as vertical.

With cable tray:

- ▶ The supporting profile is fixed with two ZT 8 threaded rods + M 8 nuts + PD 8 washers. The cable tray is fastened to the support profile with NSM 6X10 bolts.

	item number	A	B	C	D (inner)	D (outer)	↑	↓	‡	EAN
●	NP 100_S	100	30	15	-	Ø9 x 35	1,2	100	0,06	8595057639768
●	NP 150_S	150	30	15	Ø7 x 32	Ø9 x 35	1,2	100	0,08	8595057639775
●	NP 200_S	200	30	15	Ø7 x 32	Ø9 x 35	1,2	100	0,11	8595057639782
●	NP 250_S	250	30	15	Ø7 x 32	Ø9 x 35	1,2	100	0,14	8595057639799
●	NP 350_S	350	30	15	Ø7 x 32	Ø9 x 35	1,2	100	0,20	8595057630864
⊕	NP 100_F	100	30	15	-	Ø9 x 35	1,2	100	0,07	8595057659544
⊕	NP 150_F	150	30	15	Ø7 x 32	Ø9 x 35	1,2	100	0,10	8595057659551
⊕	NP 200_F	200	30	15	Ø7 x 32	Ø9 x 35	1,2	100	0,13	8595057659568
⊕	NP 250_F	250	30	15	Ø7 x 32	Ø9 x 35	1,2	100	0,17	8595057659575
⊕	NP 350_F	350	30	15	Ø7 x 32	Ø9 x 35	1,2	100	0,23	8595057659599

supporting profile

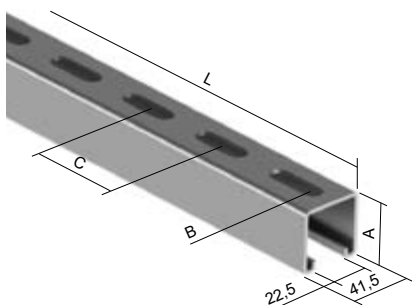


- ▶ It is intended for mounting PKC cable clamps and thus for anchoring cables to the wall or ceiling.
- ▶ Anchoring is performed every 250 mm.

	item number	↑	‡	EAN
●	NP 30X15X1.20_S	1,2	1,50	8595568930316



mounting profile




- ▶ The standard length of the mounting profile is 3 m.
- ▶ Suitable for creating a beam for cable routes carried on threaded rods.
- ▶ The mounting profile MP 41X21_S and MP 41X21_F can be terminated with an OKSPL end cap.
- ▶ The mounting profile MP 41X21_S and MP 41X21_F can be terminated with an OKSPS end cap.

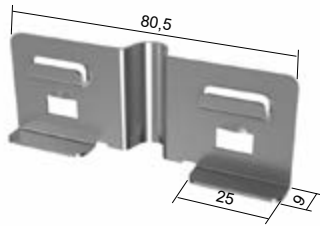
* dimensions are for information only, subject to change

	item number	A	B*	C*	L	↑	EAN
●	MP 41X21_S	21	13 x 30	50	3000	2,5	8595057699557
●	MP 41X41_S	41	13 x 30	50	3000	2,5	8595057699564
●	MP 41X21X1.50_S	21	13 x 30	50	3000	1,5	8595057628939
●	MP 41X21X1.50X2000_S	21	14 x 30	50	2000	1,5	8595568919571
●	MP 41X21_F	21	13 x 30	50	3000	2,5	8595057633469
●	MP 41X41_F	41	13 x 30	50	3000	2,5	8595057632103






outer side hanger 

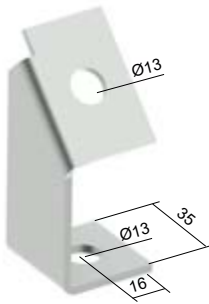


- ▶ Hanger assembly is very easy and is done without a tool by simply clicking it into the side of the cable route.
- ▶ Fixation is performed using ZT 8 threaded rod, PD 8 washer and M 8 nut.
- ▶ To create one mounting point, two pieces of ZVB 1.5 must be ordered.




item number	↓	‡	EAN
● ZVB 1.5_S	60	0,02	8595568915085

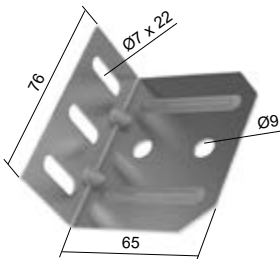
supporting part between anchor and threaded rod - 45° 



- ▶ For fixing the threaded rod to the wall at angle of 45°.

item number	↓	‡	EAN
● VS 41X45_F	5	0,10	8595057667570

cable ladder wall bracket 



- ▶ Mounting to the ladder is done using NSM 6X10 bolts.
- ▶ Wall mounting with single KPO 8 anchor.

item number	↓	‡	EAN
● KLSU_S	1,5	0,07	8595568908681
● KLSU_F	1,5	0,09	8595568908698

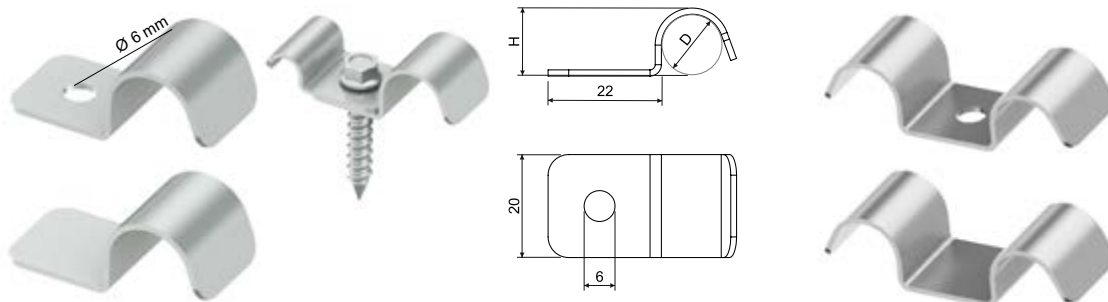


- STANDARD
- NO-STANDARD
- FIRE BOXES
- PRODUCTS
- BOXES
- JUPITER
- MARS
- LADDERS
- WIRE TRAYS
- SUPPORT SYSTEMS
- CLAMPS
- CONNECT & ANCH. MAT.
- OTHER
- NAILING
- STAINLESS
- INDEX

PRODUCTS

clamps

cable clamps



possibility of shooting
(pg. 155)

- ▶ The clamps are fastened to the concrete with SB 6.3X35 concrete screws. For aerated concrete with KHP + SB 6.3X45 dowels, for sheet metal with STP 4.2X13 screw.
- ▶ Clamps 6706 - 6725 can be placed two under one screw to create route for two cables.
- ▶ Clamps 67... _POBD can be shot using gas nail guns with a magnetic attachment.

item number	D	H (mm)	Ø cable	‡	EAN
one-sided clamps with hole					
● 6706_PO	6	7,2	4	0,01	8595568927804
● 6708_PO	8	9,2	6	0,01	8595568909930
● 6710_PO	10	11,2	8	0,01	8595568909947
● 6712_PO	12	13,2	10	0,01	8595568909954
● 6714_PO	14	15,2	12	0,01	8595568935052
● 6716E_PO	16	17,2	14	0,01	8595057698031
● 6718_PO	18	19,5	16	0,01	8595568935083
● 6720_PO	20	21,5	18	0,016	8595568932464
● 6722_PO	22	23,5	20	0,018	8595568935113
● 6725_PO	25	26,5	23	0,02	8595568935144
one-sided clamps without hole					
● 6706_POBD	6	7,2	4	0,01	8595568934987
● 6708_POBD	8	9,2	6	0,01	8595568934994
● 6710_POBD	10	11,2	8	0,01	8595568935007
● 6712_POBD	12	13,2	10	0,01	8595568935014
● 6714_POBD	14	15,2	12	0,01	8595568935076
● 6716E_POBD	16	17,2	14	0,01	8595568935021
● 6718_POBD	18	19,5	16	0,01	8595568935106
● 6720_POBD	20	21,5	18	0,016	8595568935038
● 6722_POBD	22	23,5	20	0,018	8595568935137
● 6725_POBD	25	26,5	23	0,02	8595568935168

item number	D	H (mm)	Ø cable	‡	EAN
two-sided clamps with hole					
● 6708D_PO	8	9	6	0,01	8595568936820
● 6710D_PO	10	11	8	0,01	8595568936837
● 6712D_PO	12	13,2	10	0,01	8595568936844
● 6716ED_PO	16	17,2	14	0,02	8595057698079
● 6716ED_POGMT	16	17,2	14	0,02	8595568912510
two-sided clamps without hole					
● 6708D_POBD	8	9	6	0,01	8595568936851
● 6710D_POBD	10	11	8	0,01	8595568936868
● 6712D_POBD	12	13,2	10	0,01	8595568936875



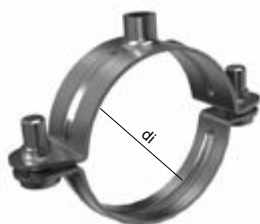
clamp OMEGA



- ▶ For easy installation, the clamp is provided with groove for insertion; during installation, it is not necessary to completely separate the upper part of the clamp.
- ▶ The recommended cable diameters correspond to the free placement of the cable in the clamp.
- ▶ KPO 6 anchors or SB 6.3X35 concrete screw are suitable for fastening to the base material.
- ▶ A KHP dowel with a SB 6.3X45 concrete screw is used for anchoring in aerated concrete.

item number	Ø cable min. - max. (mm)	di	‡	EAN
● 5216E ZNM_S	14 - 17	15 - 18	0,012	8595057692084
● 5220 ZNM_S	18 - 21	19 - 23	0,015	8595057692091
● 5225 ZNM_S	22 - 25	24 - 28	0,018	8595057692107
● 5232 ZNM_S	25 - 39	30 - 40	0,022	8595057692114
● 5250 ZNM_S	38 - 50	39 - 52	0,028	8595057692138
● 5263 ZNM_S	51 - 60	53 - 63	0,032	8595057692145
● 5216E ZN_F	12 -14	15 - 19	0,014	8595568915269
● 5220 ZN_F	14 - 18	19 - 24	0,015	8595568915276
● 5225 ZN_F	18 - 22	24 - 29	0,018	8595568915283
● 5232 ZN_F	22 - 30	29 - 38	0,022	8595568915290
● 5240 ZN_F	30 - 38	38 - 47	0,025	8595568915306
● 5250 ZN_F	38 - 50	47 - 55	0,028	8595568915313
● 5263 ZN_F	51 - 60	55 - 63	0,032	8595568915320

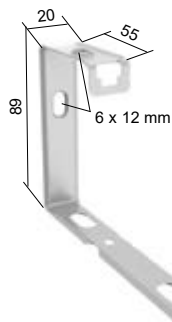
clamp DOBRMAN



- ▶ KPO 6 anchors or KPOZ 6 anchor in combination with ZT 6 threaded rod are suitable for fastening to the base material.
- ▶ The recommended cable diameters correspond to the free placement of the cable in the clamp.
- ▶ The clamp is equipped with a groove for insertion, it is not necessary to completely separate the upper part of the clamp during installation.
- ▶ A KHP dowel with SVD screw is used for anchoring in aerated concrete.

item number	Ø cable min. - max. (mm)	di	thread	‡	EAN
● 5208 D_ZNCR	8 - 12	8	M6	0,01	8595568927491
● 5210 D_ZNCR	10 - 14	10	M6	0,10	8595568927507
● 5212 D_ZNCR	12 - 16	12	M6	0,14	8595568927514
● 5216 D_ZNCR	16 - 20	16	M6	0,26	8595568927521
● 5220 D_ZNCR	20 - 25	20	M6	0,40	8595568927538
● 5225 D_ZNCR	25 - 32	25	M6	0,63	8595568927545
● 5232 D_ZNCR	32 - 40	32	M6	1,02	8595568927552
● 5240 D_ZNCR	40 - 48	40	M6	1,60	8595568927569
● 5250 D_ZNCR	50 - 57	50	M6	2,50	8595568927576
● 5263 D_ZNCR	63 - 70	63	M6	3,96	8595568927583

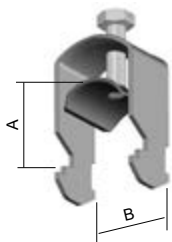
grouped cable holder



- ▶ Fastening is done with SB 6.3X35 screws or KPO 6 anchors.
- ▶ The holder is delivered in the open position, which simplifies the installation of cables. Once inserted, the holder is simply closed, completing the route installation.
- ▶ The design of the holders allows easy addition of more cables to the route up to the maximum permitted load.
- ▶ A KHP dowel with a SB 6.3X35 concrete screw is used for anchoring in aerated concrete.

item number	‡	EAN
● SD 2_S	0,03	8595568912435

cable clamp for cable ladders



- ▶ The clamps are intended for fixing the cable to the cable ladders cross-pieces or NP supporting profiles.
- ▶ Data A min. + B indicates the minimum and maximum diameter of the cable to be fastened.
- ▶ The dimensions are used for basic orientation when choosing a cable clamp.
- ▶ The size of the clamp must be selected according to the cable cross section. Each cable differs depending on the production technology of each cable company.

	item number	A min	B	‡	EAN
●	PKC1 1198_F	6	12	0,03	8595057644878
●	PKC1 1199_F	7	16	0,03	8595057644885
●	PKC1 1200_F	10	19	0,04	8595057642232
●	PKC1 1201_F	14	23	0,04	8595057642249
●	PKC1 1202_F	20	26	0,04	8595057635586
●	PKC1 1203_F	24	30	0,06	8595057635517
●	PKC1 1204_F	25	34	0,07	8595057635401
●	PKC1 1205_F	29	38	0,08	8595057635524
●	PKC1 1206_F	32	43	0,09	8595057644892
●	PKC1 1207_F	42	46	0,10	8595057644908
●	PKC1 1208_F	44	50	0,10	8595057635531
●	PKC1 1209_F	50	54	0,11	8595057635593
●	PKC1 1210_F	51	58	0,14	8595057644915
●	PKC1 1211_F	55	63	0,16	8595057644922
●	PKC1 1212_F	59	69	0,16	8595057635609

cable clamp for wire trays



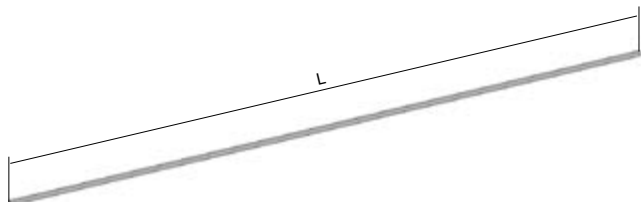
- ▶ PKDZ1 is used to attach cables to the wire tray in vertical route each 300 mm.

	item number	A	B	‡	EAN
⊕	PKDZ1 12_F	6	12	0,03	8595568935885
⊕	PKDZ1 14_F	10	14	0,03	8595568935892
⊕	PKDZ1 16_F	12	16	0,03	8595568935908
⊕	PKDZ1 18_F	14	18	0,04	8595568935915
⊕	PKDZ1 22_F	16	22	0,04	8595568935922
⊕	PKDZ1 26_F	22	26	0,04	8595568935939
⊕	PKDZ1 30_F	22	30	0,05	8595568935946
⊕	PKDZ1 34_F	28	34	0,06	8595568935953
⊕	PKDZ1 38_F	34	38	0,08	8595568935960
⊕	PKDZ1 42_F	34	42	0,09	8595568935977
⊕	PKDZ1 46_F	40	46	0,1	8595568935984
⊕	PKDZ1 50_F	46	50	0,11	8595568935991
⊕	PKDZ1 54_F	46	54	0,11	8595568936011
⊕	PKDZ1 58_F	52	58	0,12	8595568936004



PRODUCTS connecting and anchoring material

threaded rod



- It is used to hang the cable route under the ceiling. For standardized supporting constructions to secure the ends of the brackets to the wall or ceiling. The specification is listed for each cable route assembly.

	item number	L	Ø	‡	EAN
●	ZT 6_ZNCR	2000	M 6	0,17	8595057633490
●	ZT 8_ZNCR	2000	M 8	0,31	8595057631793
●	ZT 10_ZNCR	2000	M 10	0,46	8595057628922
●	ZT 12_ZNCR	2000	M 12	0,70	8595057639591
⊕	ZT 10_GMT	1000	M 10	0,46	8595568928016

trapezoidal ceiling bracket



- The DSOS bracket is intended for mounting a threaded rod and fixing it to trapezoidal sheets.
- The DSOS includes M8 or M10 control nut.
- DSOS 8 or DSOS 10 must be selected depending on the threaded rods ZT 8 or ZT 10 used.
- For fastening to the trapezoidal ceiling, the bracket is equipped with transverse pin M8 x 120 mm. The pin is equipped with washer and nut on both sides.



item number	‡	⊥	EAN
● DSOS 8_ZNCR	0,17	1,3	8595568923783
● DSOS 10_ZNCR	0,17	1,3	8595568923790

trapezoidal ceiling sheet thickness (mm)	load (N)
0,63-0,70	630
0,70-0,80	740
0,80-1,00	850
1,00-1,20	1050
1,20-1,50	1250
>1,50	1550

The stated values only for applications with static loads.

fixation clamp



- The fixation clamp is used to fix the threaded rod to the I-profile, it is supplied with fastening bolt and locking nut.
- Load of single US is max. 250 kg.
- The maintaining function time corresponds with the specific cable route, including the ceiling structure.



item number	‡	use with	A	EAN
● US 1_ZNCR	0,14	ZT 8	0 - 20	8595057632691
● US 2_ZNCR	0,15	ZT 10	0 - 20	8595057629912
⊕ US 3_ZNCR	0,21	ZT 12	0 - 26	8595057639577



hexagon head bolt



	item number	‡	EAN
●	S 6X20_ZNCR	0,006	8595057630451
⊕	S 6X30_ZNCR	0,008	8595057640733
●	S 8X20_ZNCR	0,012	8595057638822
●	S 8X25_ZNCR	0,014	8595568934017
●	S 8X30_ZNCR	0,016	8595057640740
●	S 8X40_ZNCR	0,019	8595057640757
●	S 8X50_ZNCR	0,022	8595057640764
⊕	S 8X70_ZNCR	0,028	8595057640771
●	S 10X20_ZNCR	0,021	8595057628724
●	S 10X25_ZNCR	0,024	8595568934031
●	S 10X30_ZNCR	0,026	8595057628731
●	S 10X40_ZNCR	0,031	8595057640788
●	S 10X50_ZNCR	0,036	8595057698123
●	S 10X70_ZNCR	0,046	8595057698130

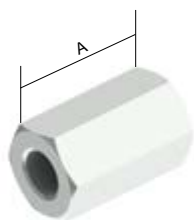
	item number	‡	EAN
⊕	S 12X20_ZNCR	0,031	8595057633124
⊕	S 12X25_ZNCR	0,034	8595568934055
⊕	S 12X30_ZNCR	0,038	8595057633131
⊕	S 12X40_ZNCR	0,045	8595057640795
⊕	S 12X50_ZNCR	0,052	8595057640801
⊕	S 8X20_GMT	0,012	8595568928696
⊕	S 8X30_GMT	0,020	8595568924024
⊕	S 10X20_GMT	0,021	8595568928702
⊕	S 10X30_GMT	0,026	8595568934048
⊕	S 10X40_GMT	0,031	8595568928719

hexagon nut



	item number	EAN
●	M 6_ZNCR	8595057633636
●	M 8_ZNCR	8595057633643
●	M 10_ZNCR	8595057630406
●	M 12_ZNCR	8595057640818
⊕	M 8_GMT	8595568928528
⊕	M 10_GMT	8595568928511
⊕	M 12_GMT	8595568928535

connecting nut



► Used to connect two threaded rods or as a nut in some standard support systems.

	item number	Ø	A	‡	EAN
●	MZ 6_ZNCR	M6	10	0,01	8595057633506
●	MZ 8_ZNCR	M8	18	0,02	8595057633513
●	MZ 10_ZNCR	M10	24	0,04	8595057629929
●	MZ 12_ZNCR	M12	36	0,06	8595057639584

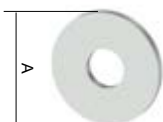
washer



	item number	A	EAN
●	PD 6_ZNCR	12	8595057640832
●	PD 8_ZNCR	16	8595057633438
●	PD 10_ZNCR	20	8595057633445
●	PD 12_ZNCR	24	8595057640849

	item number	A	EAN
⊕	PD 8_GMT	16	8595568927996
⊕	PD 10_GMT	20	8595568928542
⊕	PD 12_GMT	24	8595568928009

large washer



	item number	A	EAN
●	PVL 6_ZNCR	18	8595057629523
●	PVL 8_ZNCR	24	8595057633421
●	PVL 10_ZNCR	30	8595057633797
⊕	PVL 12_ZNCR	38	8595057640856

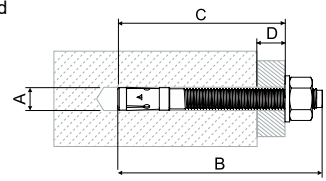
	item number	A	EAN
⊕	PVL 8_GMT	24	8595568928726
⊕	PVL 10_GMT	30	8595568928733



anchor



► The anchor is suitable for suspended, through and distance mounting. Approved for concrete C20/25 - C50/60 with drawn and pressed zone. Also suitable for natural stone with a solid structure, concrete C12/15 and C80/95.



	item number	approved class of seismicity	hole diameter A (mm)	anchors length B (mm)	min. hole depth for through mounting C (mm)	maximal useful length D (mm)	thread	wrench size	EAN
●	KPO 6X50_PO	-	6	65	60	10	M6x25	10	8595057691162
●	KPO 6X70_PO	-	6	65	60	10	M6x25	10	8595057691179
●	KPO 8X77_PO	C1	8	75	65	10	M8x38	13	8595057691100
●	KPO 8X97_PO	C1	8	95	85	30	M8x58	13	8595057691117
●	KPO 8X110_PO	C1/C2	8	115	105	50	M8x8	13	8595568931139
●	KPO 10X95_PO	C1/C2	10	95	85	10	M10x53	17	8595057691124
●	KPO 10X115_PO	C1/C2	10	115	105	30	M10x73	17	8595057691131
●	KPO 10X175_PO	C1/C2	10	185	175	100	M10x143	17	8595568931153
●	KPO 12X120_PO	C1/C2	12	110	100	10	M12x61	19	8595057691148
⊕	KPO 8X77_POGMT	-	8	80	65	10	M8	13	8595568927965
⊕	KPO 8X97_POGMT	-	8	100	90	35	M8	13	8595568929631
⊕	KPO 10X95_POGMT	-	10	95	84	15	M10	17	8595568927972
⊕	KPO 10X115_POGMT	-	10	115	104	35	M10	17	8595568929648
⊕	KPO 12X120_POGMT	-	12	120	105	25	M12	19	8595568929655

hammer anchor



- The hammer anchors are used to fasten the threaded rods directly.
- The load-bearing capacity of the anchors depends on the quality of the base material (concrete, solid masonry).
- A - drill diameter
- B - total anchor length
- C - anchorage depth
- D - maximum thickness of the fastened material

	item number	A	B	C	D	thread	‡	EAN
●	KPOZ 6_PO	8	30	13	30	M6	0,01	8595568929938
●	KPOZ 8_PO	10	30	13	30	M8	0,02	8595568919304
●	KPOZ 10_PO	12	40	15	40	M10	0,03	8595057692855

‡ weight kg/pcs

● standard
⊕ to order

🔥 standardized
🔥 non-standardized

PO bichromatic galvanized
GMT electroless plating

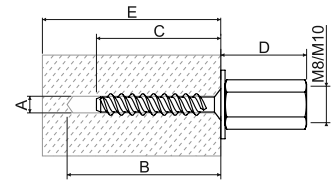
STANDARD
NO-STANDARD
FIRE BOXES
PRODUCTS
BOXES
JUPITER
MARS
LADDERS
WIRE TRAYS
SUPPORT SYSTEMS
CLAMPS
CONNECT & ANCH. MAT.
OTHER
NAILING
STAINLESS
INDEX



concrete screw with internal thread



- ▶ Screw with combined internal thread M8 / M10 for quick and easy installation of bolts or threaded rods.
- ▶ Designed for installation in cracked concrete C20 / 25 up to C50 / 60 - drawn zone of concrete, prestressed hollow core slabs C30 / 37 up to C50 / 60, in natural stone with a solid structure.
- ▶ A - hole diameter
- ▶ B - minimum hole depth
- ▶ C - screw-in depth
- ▶ D - height of the fastening nut
- ▶ E - minimum thickness of the anchor base

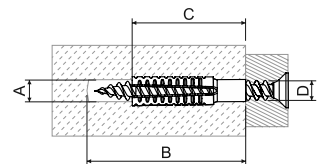


item number	A	B	C	D	E	wrench size	tightening torque	‡	EAN	concrete C20/25 up to C50/60		prestressed hollow core panels			
										guaranteed load		min. axial distance, from the edge	thickness of concrete under the cavity	maximum load (kN)	min. axial distance from the edge
										tensile kN	shearing kN				
● KBS 6X35 M8/M10_PO	6	45	35	26,5	80	13	≤10	0,03	8595568931122	0,6	2,4	35	≥25 ≥30 ≥35	0,4 0,8 1,2	100

metal dowel




- ▶ For suspended installation in concrete, aerated concrete, vertically perforated bricks, natural stone with a solid structure, solid blocks of aerated concrete, sand-lime bricks.
- ▶ The external tothing spreads into the building material when the screw is screwed in, thus ensuring high load capacity. The screw must be screwed in to the full length of the dowel. The length of the screw is calculated: the length of the dowel + the diameter of the screw + the thickness of the anchoring part + the thickness of the plaster or insulation.
- ▶ The ribbed internal shape of the dowel is suitable for KVP screws. When used in fire-resistant systems, the SB 6.3X35 screw is used together with the KHP 8X38 dowel or KVP screws.
- ▶ A - hole diameter
- ▶ B - minimum hole depth
- ▶ C - dowel length
- ▶ D - screw diameter



item number	A	B	C	D	‡	EAN	recommended hole diameter for listed material			guaranteed load - tensile, shear, angled tensile applies to the specified screw diameter and material		
							concrete C20/25	aerated concrete PB4	vertically perforated bricks HLZ12	screw diameter	aerated concrete ≥PB2, PP2 (G2)	aerated concrete ≥PB4, PP4 (G4)
							mm	mm	mm			
● KHP 6X32_PO	7-9	38	32	5-6	0,01	8595568931009	7	6	7	-	-	-
● KHP 8X38_PO	10-12	46	38	6-8	0,01	8595568931016	10	10	10	8	0,2	0,3
● KHP 8X60_PO	10-12	68	60	6-8	0,03	8595568931023	12	10	10	8	0,3	0,4
● KHP 10X60_PO	12-14	68	60	8-10	0,03	8595568931030	14	12	12	10	0,4	0,6




KHP dowel screw 



- ▶ The screw is suitable for combination with a KHP dowel - they meet the fire resistance for up to 90 minutes. This combination is ideal for anchoring 67XX_PO clamps in aerated concrete.
- ▶ As standard, the screw is designed for use in chipboard and other wood materials.
- ▶ The screw has a countersunk head and a cross groove PZ.


	item number	screw diameter (mm)	screw length (mm)	⊜	EAN
●	KVP 5X35_PO	5	35	500	8595568934550
●	KVP 5X40_PO	5	40	500	8595568934567
●	KVP 5X45_PO	5	45	500	8595568934574
●	KVP 5X50_PO	5	50	200	8595568934581
●	KVP 6X40_PO	6	40	200	8595568934598
●	KVP 6X50_PO	6	50	200	8595568934611

concrete screw 



- ▶ Used to attach individual cable clamps, OMEGA type clamps and SD 2 grouped holder to the base material.
- ▶ The screw can be installed in concrete, natural stone and solid masonry.
- ▶ A hole of Ø 5 mm must be drilled to install the screw.
- ▶ The supplied surface finish can be used for the installation of clamps with PO and POGMT surface finish (type 6706-6720) and both types of surface finish of OMEGA clamps.


	item number	‡	EAN
●	SB 6.3X35_POGMT	0,006	8595057697904
●	SB 6.3X45_POGMT	0,007	8595568932402

threaded screw 



- ▶ The screw with M6 external thread together with Doberman clamps forms a fire-resistant route.
- ▶ Designed for anchoring in concrete.
- ▶ Anchoring in aerated concrete is possible when used with the KHP dowel

	item number	‡	EAN
●	SVD 30_PO	0,005	8595568931207
●	SVD 40_PO	0,005	8595568931214

sheet metal screw 





- ▶ Screw designed for connecting two metal parts up to a sheet thickness of 2.0 mm.
- ▶ By connecting the 67xx_PO clamps and the sheet metal using the mentioned screw, a fire-resistant connection is created (mounting on a trapezoidal ceiling).

	item number	‡	EAN
●	STP 4.2X13_PO	0,002	8595568931191

‡ weight kg/pcs
⊜ package (pcs)

● standard

 standardized
 non-standardized

PO bichromatic galvanized
POGMT electroless plating

STANDARD
NO-STANDARD
FIRE BOXES
PRODUCTS
BOXES
JUPITER
MARS
LADDERS
WIRE TRAYS
SUPPORT SYSTEMS
CLAMPS
CONNECT & ANCH. MAT.
OTHER
NAILING
STAINLESS
INDEX



self-drilling screw



- ▶ A bolt designed for joining two metal parts from 1,5 to 5,0 mm plate thickness.
- ▶ The connection of the 67XX_PO clamps and the metal sheet with the mentioned screw creates a fire-resistant connection (fixing to the trapezoidal ceiling).
- ▶ For steel load-bearing structures of greater strength up to S450DG.

	item number	‡	EAN
●	KSP 5.5X19_PO	0,01	8595568936882

self-drilling screw with sealing pad



- ▶ A bolt designed for joining two metal parts from 1,5 to 5,0 mm plate thickness.
- ▶ The connection of the 67XX_PO clamps and the metal sheet with the mentioned screw creates a fire-resistant connection (fixing to the trapezoidal ceiling).
- ▶ For steel load-bearing structures of greater strength up to S450DG.

	item number	‡	EAN
●	KSP-V16 5.5X19_PO	0,01	8595568936899

fire resistant screw



- ▶ Designed to attach the supporting rail to the base material. To mount the screw, it is necessary to drill a hole of Ø 6 mm with a depth of 65 mm.

	item number	‡	EAN
●	VPO 6.5X40_ZNCR	0,015	8595568926951

carriage bolt and lock nut



- ▶ Used to fasten the connection of cable trays and accessories or to attach them to a support.
- ▶ A solid connection ensures a conductive connection of the cable trays and accessories.

	item number	EAN
●	NSM 6X10_ZNCR	8595057667129
●	NSM 6X20_ZNCR	8595568934062
●	NSM 6X10_GMT	8595057692947
●	NSM 6X20_GMT	8595568934079



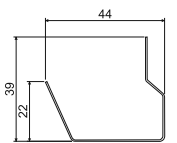
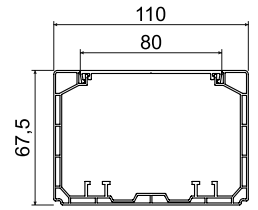
PRODUCTS

pipes, trunkings, parapet channels and others

parapet channel PK 110X65 D HF, accessories



- ▶ Designed for installation of power and communication circuits, security lines and other distributions.
- ▶ The individual lines can be electromagnetically shielded by inserting a shielding channel, which is fastened to the parapet channel using PSK 1 clamps.
- ▶ For classic devices that are installed in a closed instrument box KP 80 PK HF snapped into the body of the channel, or in an open instrument box KP PK HF installed in the bottom of the channel.
- ▶ It is not necessary to use instrument washers for the final installation of the device. The lid is cut to the required length and attached to the instrument.
- ▶ For the installation of devices with very rounded corners, KOPOS recommends using the KP PK HF instrument box and drilling a hole in the lid using VPT 64 drill.
- ▶ Quick installation of the lid is done by pushing on its center.
- ▶ The basis of the supporting construction is a halogen-free parapet channel PK 110X65 D HF equipped with a metal partition wall PEP 60/K. The partition is attached to the wall through the parapet channel using KPO 6 anchors. The parapet channel can be used to create route with requirements for maintaining functionality in the event of a fire in areas where are higher aesthetic requirements.

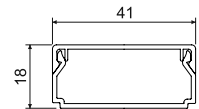


	item number	L (m)	⊂	description	EAN
●	PK 110X65 D HF_HD	2	6	parapet channel	8595568924636
●	8211HF_HB	-	10	end cover	8595568924643
●	8212HF_HB	-	10	connection cover	8595568924650
●	8213HF_HB	-	10	bending cover	8595568924667
●	8214HF_HB	-	10	branch cover	8595568924674
●	8215HF_HB	-	10	inner corner	8595568924681
●	8216HF_HB	-	10	outer corner	8595568924698
●	8217HF_HB	-	10	grommet	8595568927132
●	PEP 60/K_S	2	24	partition	8595057668775

wiring trunking LHD 40X20 HF



- ▶ The basis of the supporting construction is halogen-free LHD 40X20 trunking together with 67xx clamps (max. clamp size - 6710_PO).
- ▶ The trunking is attached to the wall or ceiling through 67xx clamps using the SB 6.3X35 screw.
- ▶ The trunking can be used to create a route with requirements for maintaining functionality in the event of a fire in areas where are higher aesthetic requirements.

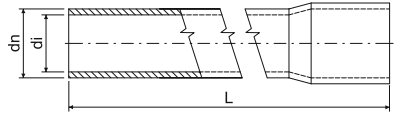


	item number	L (m)	⊂	description	EAN
●	LHD 40X20HF_HD	2	24	trunking	8595057656437
●	8631HF_HB	-	10	end cover	8595057655744
●	8632HF_HB	-	10	connection cover	8595057655805
●	8633HF_HB	-	10	bending cover	8595057655614
●	8634HF_HB	-	10	branch cover	8595057655768
●	8635HF_HB	-	10	inner corner	8595057655775
●	8636HF_HB	-	10	outer corner	8595057655782

halogen-free rigid pipes



- ▶ Halogen-free rigid pipe suitable for residential and industrial distribution.
- ▶ From a fire point of view, halogen-free pipes are used in areas with an emphasis on the safety of people and property, eg: public buildings, hospitals, schools, theaters, airport halls, shopping centers, etc.
- ▶ Tubes with diameters of 50 and 63 mm are supplied with no socket at one end.
- ▶ **Black pipes are UV stable.**
- ▶ Can be installed in areas with a risk of explosion of flammable gases and vapors in zone 2 and in areas with a risk of explosion of flammable dusts in zone 22.



* min. sales quantity - 300 m

MAT -45 - +90°C A1 - F 30 sec. 320 N/5 cm

22521 IK06

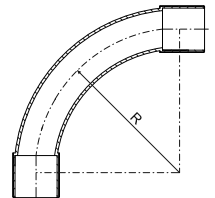
item number	dn (mm)	di (mm)	L (m)	EAN
● 1516EHF_FA	16	13,1	3	8595057626423
● 1520HF_FA	20	17,1	3	8595057626430
● 1525HF_FA	25	21,6	3	8595057626966
● 1532HF_FA	32	28,4	3	8595057626973
● 1540HF_FA	40	36,0	3	8595057626447
● 1550HF_FA	50	45,6	3	8595057626454
● 1563HF_FA*	63	58,4	3	8595057631489
● 4016EHF_FA	16	12,7	3	8595057688254
● 4020HF_FA	20	16,7	3	8595057688261
● 4025HF_FA	25	21,0	3	8595057688278
● 4032HF_FA	32	28,0	3	8595057688285
● 4040HF_FA	40	35,4	3	8595057688292
● 8016EHF_FA	16	11,7	3	8595057688322
● 8020HF_FA	20	15,7	3	8595057688339
● 8025HF_FA	25	20,2	3	8595057688346
● 8032HF_FA	32	27,0	3	8595057688353
● 8040HF_FA	40	34,8	3	8595057688360
● 8050HF_FA	50	44,2	3	8595057688377
● 8063HF_FA	63	56,8	3	8595057688384

item number	dn (mm)	di (mm)	L (m)	EAN
● 1516EHF_KA	16	13,1	3	8595057631854
● 1520HF_KA	20	17,1	3	8595057631861
● 1525HF_KA	25	21,6	3	8595057631878
● 1532HF_KA	32	28,4	3	8595057631885
● 1540HF_KA	40	36,0	3	8595057631892
● 1550HF_KA	50	45,6	3	8595057631908
● 1563HF_KA*	63	58,4	3	8595057631915
● 4016EHF_KA	16	12,7	3	8595057690868
● 4020HF_KA	20	16,7	3	8595057690875
● 4025HF_KA	25	21,0	3	8595057690882
● 4032HF_KA	32	28,0	3	8595057690899
● 4040HF_KA	40	35,4	3	8595057690905

elbows for halogen-free rigid pipes



- ▶ Injection-molded elbows, with double-sided necks, designed for 90° bending.
- ▶ Bending radius ensures a smooth transition and allows easy pulling of wires and cables.
- ▶ Can be installed in areas with a risk of explosion of flammable gases and vapors in zone 2 and in areas with a risk of explosion of flammable dusts in zone 22.
- ▶ **Black elbows are UV stable.**



MAT -45 - +90°C A1 - F 30 sec.

IK06

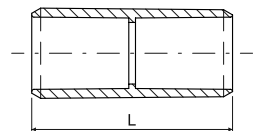
item number	dn pipe (mm)	R (mm)	EAN
● 4116HF_FB	16	55	8595057626461
● 4120HF_FB	20	70	8595057626478
● 4125HF_FB	25	85	8595057626256
● 4132HF_FB	32	110	8595057626263
● 4140HF_FB	40	135	8595057626485
● 4150HF_FB	50	170	8595057626492

item number	dn pipe (mm)	R (mm)	EAN
● 4116HF_KB	16	55	8595057629288
● 4120HF_KB	20	70	8595057629295
● 4125HF_KB	25	85	8595057629301
● 4132HF_KB	32	110	8595057629318
● 4140HF_KB	40	135	8595057651166
● 4150HF_KB	50	170	8595057699281

couplings for halogen-free rigid pipes



- ▶ The couplings are intended for connecting pipes.
- ▶ Can be installed in areas with a risk of explosion of flammable gases and vapors in zone 2 and in areas with a risk of explosion of flammable dusts in zone 22.
- ▶ **Black couplings are UV stable.**



MAT -45 - +90°C A1 - F 30 sec.

IK06

item number	dn pipe (mm)	L (mm)	EAN
● 0216HF_FB	16	45	8595057626508
● 0220HF_FB	20	50	8595057626515
● 0225HF_FB	25	60	8595057626270
● 0232HF_FB	32	70	8595057626287
● 0240HF_FB	40	80	8595057626522
● 0250HF_FB	50	88	8595057626539
● 0263HF_FB	63	105	8595057629356

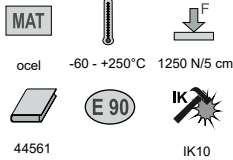
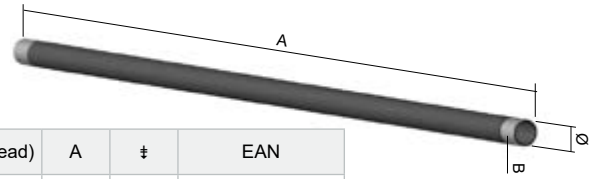
item number	dn pipe (mm)	L (mm)	EAN
● 0216HF_KB	16	45	8595057631922
● 0220HF_KB	20	50	8595057631939
● 0225HF_KB	25	60	8595057631946
● 0232HF_KB	32	70	8595057631953
● 0240HF_KB	40	80	8595057631960
● 0250HF_KB	50	88	8595057631977
● 0263HF_KB	63	105	8595057631984



wiring pipes ČSN



▶ Aluminum couplings, which are part of the delivery of pipes according to ČSN, must be replaced by couplings of the series 313/3 - 342/3, according to the respective pipe diameter.

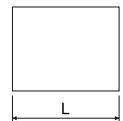


item number	Ø external	Ø internal	B (thread)	A	‡	EAN
● 6013_ZNM_S	20,4	18,2	P13,5	3000	1,7	8595057627208
● 6016_ZNM_S	22,5	20,3	P16	3000	1,8	8595057626157
● 6021_ZNM_S	28,3	25,7	P21	3000	2,7	8595057626164
● 6029_ZNM_S	37	34,4	P29	3000	3,6	8595057626171
● 6036_ZNM_S	47	44	P36	3000	5,3	8595057626188
● 6042_ZNM_S	54	51	P42	3000	6,1	8595057626195
● 6013_ZN_F	20,4	18,2	P13,5	3000	1,7	8595057618718
● 6016_ZN_F	22,5	20,3	P16	3000	1,8	8595057618725
● 6021_ZN_F	28,3	25,7	P21	3000	2,7	8595057618732
● 6029_ZN_F	37	34,4	P29	3000	3,6	8595057618749
● 6036_ZN_F	47	44	P36	3000	5,3	8595057618756
● 6042_ZN_F	54	51	P42	3000	6,1	8595057618763
● 6013_EOZ	20,4	18,2	P13,5	3000	1,7	8595057618657
● 6016_EOZ	22,5	20,3	P16	3000	1,8	8595057618664
● 6021_EOZ	28,3	25,7	P21	3000	2,7	8595057618671
● 6029_EOZ	37	34,4	P29	3000	3,6	8595057618688
● 6036_EOZ	47	44	P36	3000	5,3	8595057618695
● 6042_EOZ	54	51	P42	3000	6,1	8595057618701

couplings for wiring pipes ČSN



▶ Steel couplings are used to connect pipes supplied in dimensions according to ČSN.

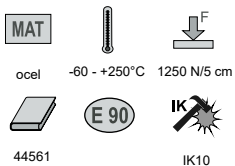
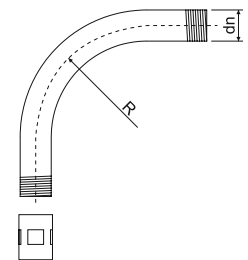


item number	thread	‡	EAN
● 313/3_PO	P13,5	0,04	8595057692695
● 316/3_PO	P16	0,05	8595057692701
● 321/3_PO	P21	0,06	8595057692718
● 329/3_PO	P29	0,07	8595057692725
● 336/3_PO	P36	0,08	8595057692732
● 342/3_PO	P42	0,09	8595057692749

wiring elbows ČSN



▶ To connect the elbows and pipes to each other, it is necessary to order steel couplings, which will replace the aluminum couplings supplied with the elbows and pipes.

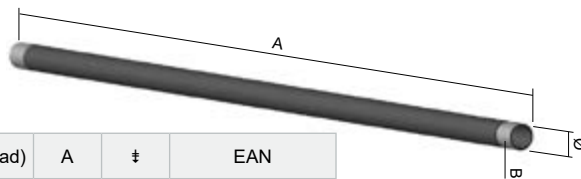


item number	Ø trubky	thread	R	‡	EAN
● 6113_ZNM_S	20,4	P13,5	80	0,17	8595057627277
● 6116_ZNM_S	22,5	P16	100	0,22	8595057627284
● 6121_ZNM_S	28,3	P21	120	0,37	8595057627291
● 6129_ZNM_S	37	P29	155	0,55	8595057627307
● 6136_ZNM_S	47	P36	185	1,00	8595057627314
● 6142_ZNM_S	54	P42	200	1,38	8595057627321
● 6113_ZN_F	20,4	P13,5	80	0,17	8595057618954
● 6116_ZN_F	22,5	P16	100	0,22	8595057618961
● 6121_ZN_F	28,3	P21	120	0,37	8595057618978
● 6129_ZN_F	37	P29	155	0,55	8595057618985
● 6136_ZN_F	47	P36	185	1,00	8595057618992
● 6142_ZN_F	54	P42	200	1,38	8595057619005
● 6113_EOZ	20,4	P13,5	80	0,17	8595057618893
● 6116_EOZ	22,5	P16	100	0,22	8595057618909
● 6121_EOZ	28,3	P21	120	0,37	8595057618916
● 6129_EOZ	37	P29	155	0,55	8595057618923
● 6136_EOZ	47	P36	185	1,00	8595057618930
● 6142_EOZ	54	P42	200	1,38	8595057618947

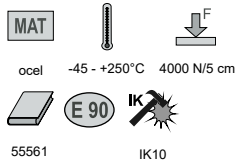
wiring pipes EN



► EN pipes are fitted with steel coupling on one side.



item number	Ø external	Ø internal	B (thread)	A	‡	EAN
● 6020 ZNM_S	20	15,8	M20x1,5	3000	1,5	8595568919601
● 6025 ZNM_S	25	20,6	M25x1,5	3000	2,3	8595568920393
● 6032 ZNM_S	32	26,6	M32x1,5	3000	3,0	8595568922342
● 6040 ZNM_S	40	34,4	M40x1,5	3000	3,8	8595568923752
● 6016E ZN_F	16	12,2	M16x1,5	3000	1,5	8595057631304
● 6020 ZN_F	20	15,8	M20x1,5	3000	2,3	8595057631311
● 6025 ZN_F	25	20,6	M25x1,5	3000	3,0	8595057631328
● 6032 ZN_F	32	26,6	M32x1,5	3000	3,8	8595057631335
● 6040 ZN_F	40	34,4	M40x1,5	3000	5,0	8595057631342
● 6050 ZN_F	50	43,8	M50x1,5	3000	6,0	8595057631359
● 6063 ZN_F	63	58,8	M63x1,5	3000	8,5	8595057631595
● 6016E_ECZ	16	12,2	M16x1,5	3000	1,5	8595057634152
● 6050_ECZ	50	43,8	M50x1,5	3000	6,0	8595057634206
● 6063_ECZ	63	58,8	M63x1,5	3000	8,5	8595057634213
● 6020_EOZ	20	15,8	M20x1,5	3000	2,3	8595568919595
● 6025_EOZ	25	20,6	M25x1,5	3000	3,0	8595568920379
● 6032_EOZ	32	26,6	M32x1,5	3000	3,8	8595568922366
● 6040_EOZ	40	34,4	M40x1,5	3000	5,0	8595568923769

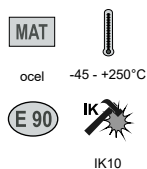


couplings for wiring pipes EN

► Couplings are designed for connecting steel pipes and elbows, for mechanical protection of wires or cables.



item number	Ø pipe	thread	L	‡	EAN
● 316E/1 ZN_F	16	M16x1,5	30	0,04	8595057634572
● 320/1 ZN_F	20	M20x1,5	30	0,05	8595057634589
● 325/1 ZN_F	25	M25x1,5	36	0,06	8595057634596
● 332/1 ZN_F	32	M32x1,5	45	0,07	8595057634602
● 340/1 ZN_F	40	M40x1,5	48	0,08	8595057634619
● 350/1 ZN_F	50	M50x1,5	70	0,10	8595057634626
● 363/1 ZN_F	63	M63x1,5	105	0,12	8595057634633
● 316E/1_ECZ	16	M16x1,5	30	0,04	8595057634640
● 320/1_ECZ	20	M20x1,5	30	0,05	8595057634657
● 325/1_ECZ	25	M25x1,5	36	0,06	8595057634664
● 332/1_ECZ	32	M32x1,5	45	0,07	8595057634671
● 340/1_ECZ	40	M40x1,5	48	0,08	8595057634688
● 350/1_ECZ	50	M50x1,5	70	0,10	8595057634695
● 363/1_ECZ	63	M63x1,5	105	0,12	8595057634701

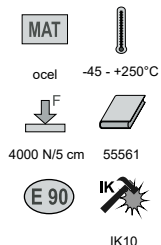
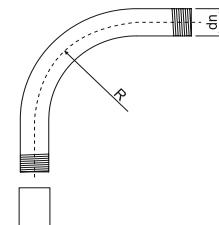


wiring elbows EN

► The EN elbows are fitted with a steel coupling on one side.

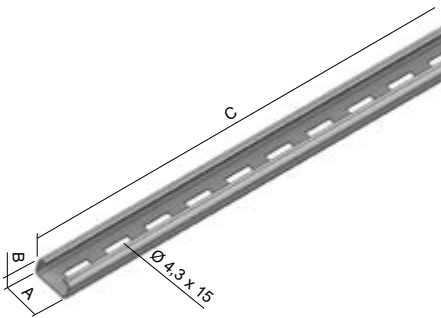


item number	Ø pipe	thread	R	‡	EAN
● 6116E ZN_F	16	M16x1,5	55	0,21	8595057631366
● 6120 ZN_F	20	M20x1,5	70	0,27	8595057631373
● 6125 ZN_F	25	M25x1,5	115	0,35	8595057631380
● 6132 ZN_F	32	M32x1,5	125	0,49	8595057631397
● 6140 ZN_F	40	M40x1,5	140	0,55	8595057631403
● 6150 ZN_F	50	M50x1,5	170	0,69	8595057631410
● 6163 ZN_F	63	M63x1,5	210	0,78	8595057631670
● 6116E_ECZ	16	M16x1,5	55	0,21	8595057634367
● 6120_ECZ	20	M20x1,5	70	0,27	8595057634374
● 6125_ECZ	25	M25x1,5	115	0,35	8595057634381
● 6132_ECZ	32	M32x1,5	125	0,49	8595057634398
● 6140_ECZ	40	M40x1,5	140	0,55	8595057634404
● 6150_ECZ	50	M50x1,5	170	0,69	8595057634411
● 6163_ECZ	63	M63x1,5	210	0,78	8595057634428





supporting rail



- ▶ The rails are designed for routing cables fixed with SPK 200X4.6 stainless steel tightening belt.
- ▶ The rail is anchored to the base material using VPO 6.5X40 screws.

item number	A	B	C	‡	note	EAN
● 5820/20_S	20	10	3000	0,23	galvanized steel Sendzimir, without holes	8595057605657
● 5820/21_S	20	10	3000	0,22	galvanized steel Sendzimir, with holes 4.3x15	8595057605664
● 5820/30_XX	20	10	3000	0,23	without surface finish, without holes	8595057605671
● 5820/31_XX	20	10	3000	0,22	without surface finish, with holes 4.3x15	8595057605688

edge protector



- ▶ The plastic edge protector with steel inside part is used to protect the edges of cable ladders.
- ▶ Packaging = 10 m, sold in whole packages.
- ▶ The protector can be installed on sheets with a thickness of max. 2 mm.

item number	‡	EAN
● NCH_XX	0,06	8595057669932

marking of fire resistant routes



- ▶ Marking of fire-resistant routes is always done every at least 50 m of fire-resistant routes (standardized and non-standardized).
- ▶ CZ - Czech language, EN - English language, DE - German language

item number	‡	EAN
● OPT_CZ	0,001	8595568927811
● OPT_EN	0,001	8595568932044
● OPT_DE	0,001	8595568932396

zinc paint / spray

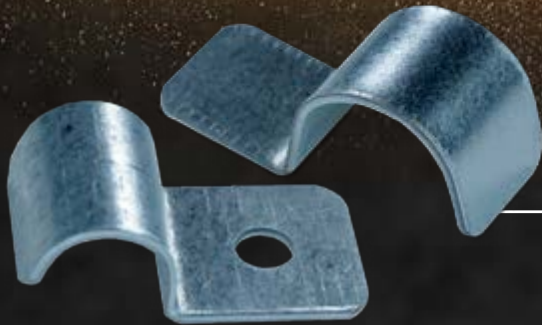


- ▶ Corrosion protection designed to repair defective and damaged areas on the galvanized surface.
- ▶ The paint is applied with a brush using the blunt technique.
- ▶ The safety data sheet is available on the e-shop.

item number	‡	EAN
● WEICON 375_XX (color)	0,50	8595057621183
● WEICON 750_XX (color)	1,10	8595057693609
● GZS_XX (sprej)	0,45	8595057633148



FIRE RESISTANT CABLE CLAMPS



ONE-SIDED

DOUBLE-SIDED





PRODUCTS nailing



gas nailgun



- ▶ for firing 67xx_POBD series clamps
- ▶ battery capacity max. 3000 shots
- ▶ charging time - 90 minutes (quick charge function 25 min. = 500 shots)
- ▶ weight 3.8 Kg
- ▶ adjustable power up to 82J
- ▶ magazine for 20 nails
- ▶ a safety device against accidental firing is a matter of course
- ▶ dimensions: 385x114x309 mm
- ▶ gas firing (up to 750 shots per cartridge)
- ▶ operating temperature range -15 °C to 49 °C
- ▶ the service of the nailgun is provided by an external company (Recimagroup)

certification according to standards:
EN 12549, EN 792-13 + A1 :2008E

accessories according to:
2006/42/EC
2011/65/UE
1999/5/EC
CEM 2004/108/EC

certification according to:
battery: 2006/66/EC
charger:
2006/95/EC
CEM 2004/108/EC

	item number	EAN
●	K-PULSA_PO	8595568936936

magnetic attachment



- ▶ designed for firing the 67xx_POBD series clamps
- ▶ for K-Pulsa 40E_PO nailgun
- ▶ strong magnet for fastening clamps without holes

	item number	EAN
●	MVH P800_PO	8595568935588

gas cartridge



- ▶ capacity up to 750 shots
- ▶ for K-Pulsa 40E_PO series nailguns
- ▶ certification according to: 75/324 / EC
- ▶ the safety data sheet is available on the e-shop
- ▶ package contains 2 pieces of gas sealed in foil

	item number	EAN
●	PLYN_PO	8595568935595



strip of nails - for concrete C20/25 to C30/37, solid masonry and plaster



- ▶ suitable for firing the 67xx_POBD series clamps
- ▶ use for standard concrete, solid masonry and plaster
- ▶ galvanized surface finish
- ▶ the PLYN_PO gas cartridge is included in the package of 500 nails

	item number	nail length (mm)	‡	⊖	EAN
●	KHB C6-20_PO	20	0,71	500	8595568935601
●	KHB C6-25_PO	25	0,78	500	8595568935618
●	KHB C6-30_PO	30	0,88	500	8595568935625
●	KHB C6-35_PO	35	1,30	500	8595568935632
●	KHB C6-40_PO	40	1,16	500	8595568935649

strip of nails - for concrete C20/25 to C60/70, prestressed concrete and steel



- ▶ suitable for firing the 67xx_POBD series clamps
- ▶ use for high-strength concrete, prestressed concrete, steel
- ▶ galvanized surface finish
- ▶ the PLYN_PO gas cartridge is included in the package of 500 nails

	item number	nail length (mm)	‡	⊖	EAN
●	KHO HC6-15_PO	15	0,66	500	8595568935656
●	KHO HC6-17_PO	17	0,71	500	8595568935663
●	KHO HC6-22_PO	22	0,84	500	8595568935670
●	KHO HC6-27_PO	27	1,00	500	8595568935687
●	KHO HC6-32_PO	32	1,15	500	8595568935694

strip of nails - no residue



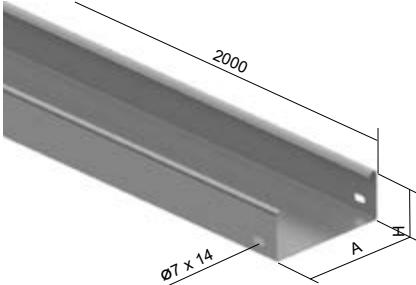
- ▶ suitable for firing the 67xx_POBD series clamps
- ▶ residual plastic does not remain under the head of the nails, when fired in steel and concrete
- ▶ galvanized surface finish
- ▶ the PLYN_PO gas cartridge is included in the package of 500 nails

	item number	nail length (mm)	‡	⊖	EAN
⊕	KHO HC6-15FH_PO	15	0,65	500	8595568935700
⊕	KHO HC6-17FH_PO	17	0,71	500	8595568935717
⊕	KHO HC6-22FH_PO	22	0,84	500	8595568935724
⊕	KHO HC6-27FH_PO	27	0,99	500	8595568935731



PRODUCTS stainless

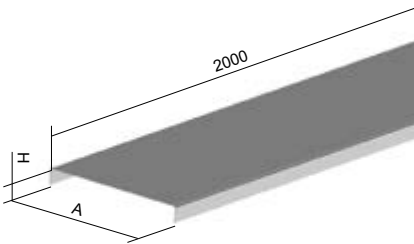
non-perforated cable tray



- ▶ The standard length of the cable tray is 2 m.
- ▶ The trays are connected using NIXS 50 / NIXS 100 couplings and NIXSM 6X10 bolts.
- ▶ The connection of the tray with the accessories is direct (without the use of couplings - the tray slides into the accessories), fastening is done with NIXSM 6X10 bolts.

	item number	A	H	‡	‡	∑f	EAN
●	NIXKZN 50X62_IX	62	50	0,8	1,13	4	8595057669451
●	NIXKZN 50X125_IX	125	50	0,8	1,53	4	8595057669468
●	NIXKZN 50X250_IX	250	50	0,8	2,33	4	8595057669482
●	NIXKZN 100X125_IX	125	100	0,8	2,17	8	8595057669475
●	NIXKZN 100X250_IX	250	100	0,8	2,97	8	8595057677463
⊕	NIXKZN 100X500_IX	500	100	1,0	5,72	8	8595057677487

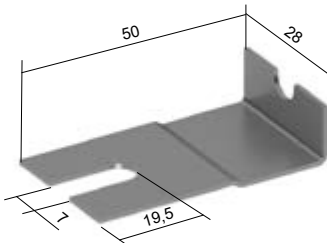
cable tray cover



- ▶ The standard length of the cable tray cover is 2 m.
- ▶ The cover is attached to the tray using the NIXUV cover fixture.

	item number	A	H	‡	‡	EAN
●	NIXV 62_IX	62	14	0,6	0,43	8595057673755
●	NIXV 125_IX	125	14	0,6	0,73	8595057673694
●	NIXV 250_IX	250	14	0,6	1,33	8595057673717
⊕	NIXV 500_IX	500	14	0,8	3,37	8595057673748

cover fixture



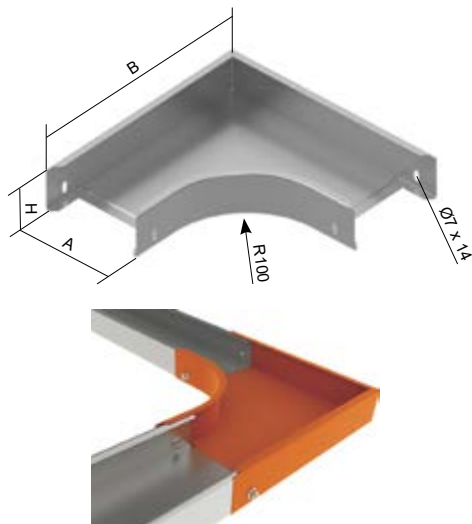
- ▶ Used to attach the covers to trays or accessories using NIXSM 6X10 bolts.
- ▶ The covers are fixed at each tray connection and each tray connection with accessories. Two fixtures are used for each connection - one on each side.

	item number	‡	EAN
●	NIXUV_IX	0,01	8595057673663





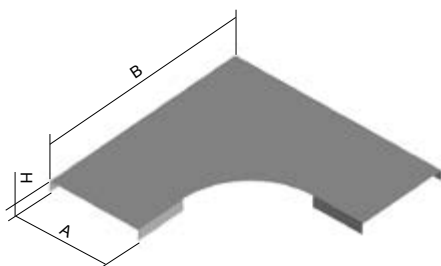
bend 90°



- ▶ The elbow is used to create a 90° turn in the horizontal direction.
- ▶ The connection is made by sliding the cable tray directly into the accessories and then fixing it with NIXSM 6X10 bolts.
- ▶ For the NIXO 90X100X500 elbow, the outer right angle of the sides is replaced by a chamfer.

item number	A	H	B	↑	‡	⌘	EAN
● NIXO 90X50X62_IX	62	50	225	0,8	0,45	4	8595057671546
● NIXO 90X50X125_IX	125	50	288	0,8	0,68	4	8595057671515
● NIXO 90X50X250_IX	250	50	413	0,8	1,30	4	8595057671522
● NIXO 90X100X125_IX	125	100	288	0,8	0,10	8	8595057671478
● NIXO 90X100X250_IX	250	100	413	0,8	1,63	8	8595057671485
⊕ NIXO 90X100X500_IX	500	100	663	0,8	3,07	8	8595057671492

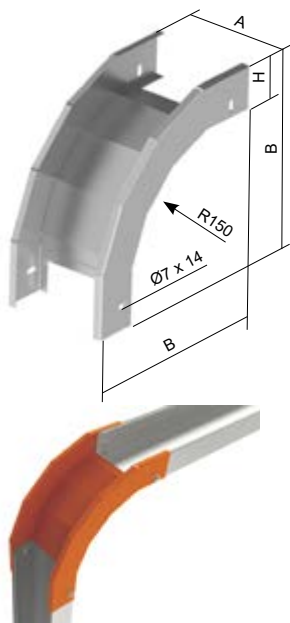
90° bend cover



- ▶ The cover is fastened using the NIXUV cover fixtures.

item number	A	H	B	↑	‡	EAN
● NIXVO 90X62_IX	62	15	238	0,6	0,18	8595057674608
● NIXVO 90X125_IX	125	15	301	0,6	0,35	8595057674554
● NIXVO 90X250_IX	250	15	426	0,6	0,80	8595057674578
⊕ NIXVO 90X500_IX	500	15	676	0,6	2,16	8595057674592

90° low elbow

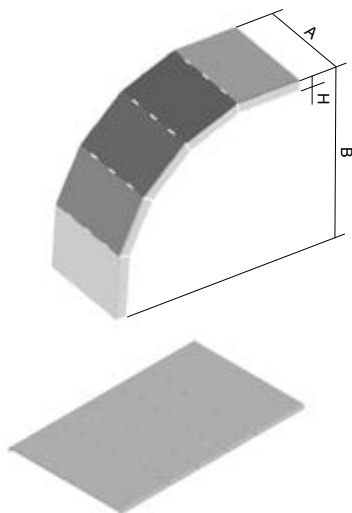


- ▶ The connection is made by sliding the cable tray directly into the accessories and then fixing it with NIXSM 6X10 bolts.

item number	A	H	B	↑	‡	⌘	EAN
● NIXKO 90X50X62_IX	62	50	240	0,8	0,40	4	8595057670266
● NIXKO 90X50X125_IX	125	50	240	0,8	0,50	4	8595057670235
● NIXKO 90X50X250_IX	250	50	240	0,8	0,70	4	8595057670242
● NIXKO 90X100X125_IX	125	100	290	0,8	0,78	8	8595057670198
● NIXKO 90X100X250_IX	250	100	290	0,8	0,98	8	8595057670204
⊕ NIXKO 90X100X500_IX	500	100	290	0,8	1,37	8	8595057670211



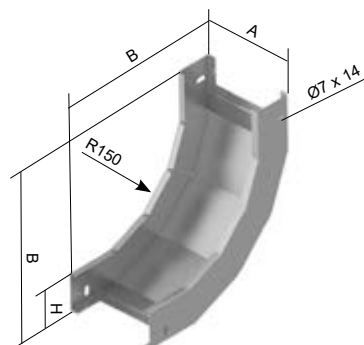
90° low elbow cover



- ▶ The cover is fastened using the NIXUV cover fixture.
- ▶ Covers are delivered straight. They are constructed of one piece of sheet metal with cut sides for bending during assembly.

	item number	A	H	B	†	‡	EAN
●	NIXVKO 90X50X62_IX	62	15	276	0,6	0,19	8595057673854
●	NIXVKO 90X50X125_IX	125	15	276	0,6	0,31	8595057673823
●	NIXVKO 90X50X250_IX	250	15	276	0,6	0,56	8595057673830
●	NIXVKO 90X100X125_IX	125	15	326	0,6	0,37	8595057673786
●	NIXVKO 90X100X250_IX	250	15	326	0,6	0,67	8595057673793
⊕	NIXVKO 90X100X500_IX	500	15	326	0,6	1,27	8595057673809

90° rising elbow

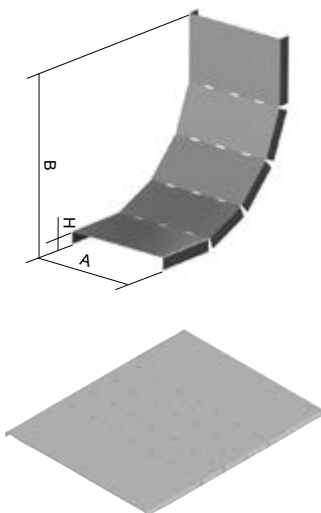


- ▶ The connection is made by sliding the cable tray directly into the accessories and then fixing it with NIXSM 6X10 bolts.

	item number	A	H	B	†	‡	‡f	EAN
●	NIXSO 90X50X62_IX	62	50	240	0,8	0,44	4	8595057672284
●	NIXSO 90X50X125_IX	125	50	240	0,8	0,57	4	8595057672253
●	NIXSO 90X50X250_IX	250	50	240	0,8	0,82	4	8595057672260
●	NIXSO 90X100X125_IX	125	100	290	0,8	0,92	8	8595057672215
●	NIXSO 90X100X250_IX	250	100	290	0,8	1,24	8	8595057672222
⊕	NIXSO 90X100X500_IX	500	100	290	0,8	1,88	8	8595057672239



90° rising elbow cover

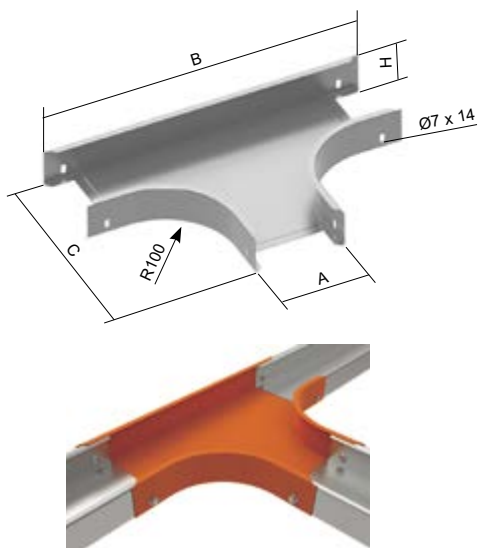


- ▶ The cover is fastened using the NIXUV cover fixture
- ▶ Covers are delivered straight. They are constructed of one piece of sheet metal with cut sides for bending during assembly.

	item number	A	H	B	†	‡	EAN
●	NIXVSO 90X62_IX	62	15	221	0,6	0,15	8595568904713
●	NIXVSO 90X125_IX	125	15	221	0,6	0,25	8595568904720
●	NIXVSO 90X250_IX	250	15	221	0,6	0,45	8595568904737
⊕	NIXVSO 90X500_IX	500	15	221	0,6	0,86	8595568904744



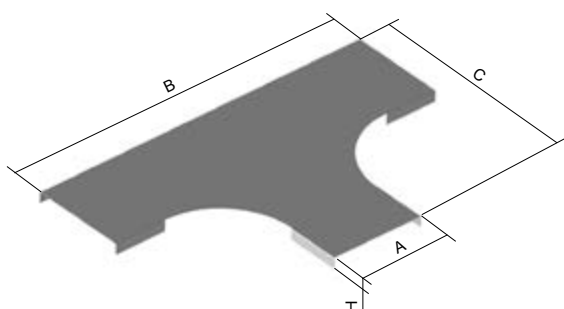
T-piece



- The connection is made by sliding the cable tray directly into the accessories and then fixing it with NIXSM 6X10 bolts.

	item number	A	H	B	C	†	‡	⌘	EAN
●	NIXT 50X62_IX	62	50	385	225	0,8	0,61	6	8595057672888
●	NIXT 50X125_IX	125	50	448	288	0,8	0,87	6	8595057672826
●	NIXT 50X250_IX	250	50	573	413	0,8	1,52	6	8595057672857
●	NIXT 100X125_IX	125	100	448	288	0,8	1,19	12	8595057672765
●	NIXT 100X250_IX	250	100	573	413	0,8	1,88	12	8595057672772
⌚	NIXT 100X500_IX	500	100	823	663	0,8	3,87	12	8595057672796

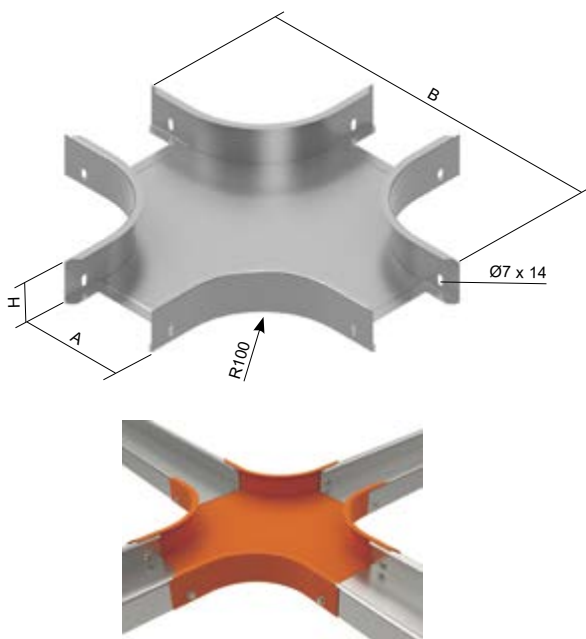
T-piece cover



- The cover is fastened using the NIXUV cover fixture.

	item number	A	H	B	C	†	‡	EAN
●	NIXVT 62_IX	62	15	409	238	0,6	0,25	8595057675018
●	NIXVT 125_IX	125	15	472	300	0,6	0,47	8595057674936
●	NIXVT 250_IX	250	15	597	426	0,6	1,01	8595057674967
⌚	NIXVT 500_IX	500	15	848	676	0,6	2,56	8595057674998

cross

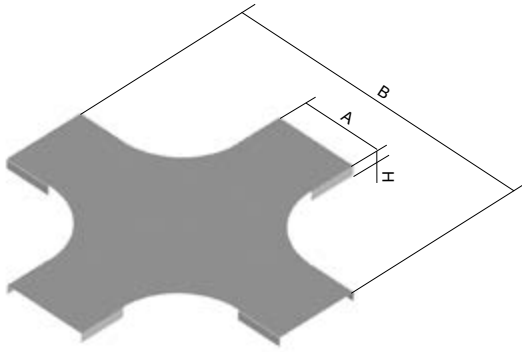


- The connection is made by sliding the cable tray directly into the accessories and then fixing it with NIXSM 6X10 bolts.

	item number	A	H	B	†	‡	⌘	EAN
⌚	NIXKR 50X62_IX	62	50	385	0,8	0,77	8	8595057670532
⌚	NIXKR 50X125_IX	125	50	448	0,8	1,04	8	8595057670488
⌚	NIXKR 50X250_IX	250	50	573	0,8	1,74	8	8595057670501
⌚	NIXKR 100X125_IX	125	100	448	0,8	1,39	16	8595057670426
⌚	NIXKR 100X250_IX	250	100	573	0,8	2,10	16	8595057670433
⌚	NIXKR 100X500_IX	500	100	823	0,8	4,09	16	8595057670457



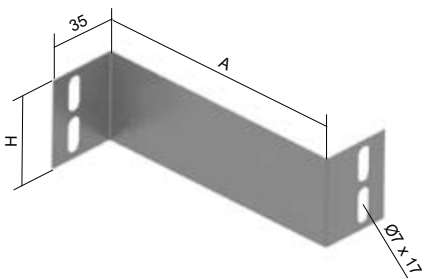
cross cover



► The cover is fastened using the NIXUV cover fixtures.

	item number	A	H	B	‡	‡	EAN
⊕	NIXVKR 62_IX	62	15	409	0,6	0,31	8595057674097
⊕	NIXVKR 125_IX	125	15	472	0,6	0,58	8595057674011
⊕	NIXVKR 250_IX	250	15	597	0,6	1,22	8595057674042
⊕	NIXVKR 500_IX	500	15	848	0,6	2,95	8595057674073

reduction

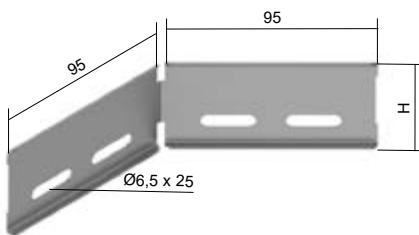


- The connection is made using NIXSM 6X10 bolts.
- The reduction is used to switch between different tray widths with the same side height.



	item number	A	H	‡	‡	‡f	EAN
●	NIXR 50X62_IX	65	43	0,6	0,02	2	8595057672031
●	NIXR 50X125_IX	127	43	0,6	0,04	2	8595057672017
●	NIXR 100X125_IX	127	93	0,6	0,08	4	8595057671997
⊕	NIXR 100X250_IX	250	93	0,6	0,18	4	8595057672000

angle coupling



- The connection is made using NIXSM 6X10 bolts.
- Angle couplings are mainly used for connecting slightly bent routes or for creating large radius curves or bypassing columns and pillars.
- The advantage of the angle coupling is the ability to easily create a curved route at virtually any angle.



	item number	H	‡	‡	EAN
●	NIXSUK 50_IX	46	0,8	0,05	8595057672666
●	NIXSUK 100_IX	96	0,8	0,12	8595057672642

hinged joint



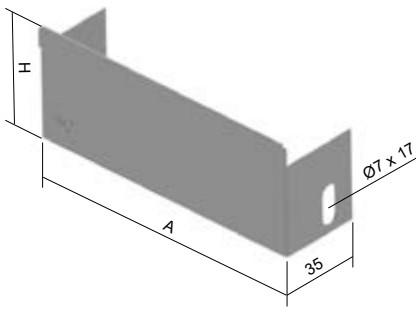
- NIXSM 6X10 bolts are used to connect the hinged joint to the tray.
- The joint is supplied in 1 piece, 2 pieces are needed to create a route bend.



	item number	H	‡	‡	‡f	EAN
●	INOXSK 50_IX	43	1,0	0,09	2	8595568930552
●	INOXSK 100_IX	93	1,0	0,21	4	8595568930569



end-piece

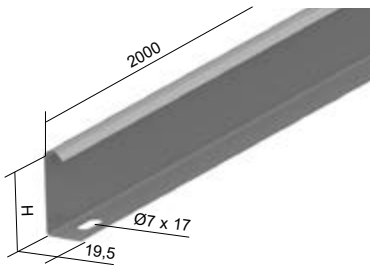


- ▶ The connection is made using NIXSM 6X10 bolts.
- ▶ The end piece is used to close the open end of the route.



	item number	A	H	↑	‡	‡f	EAN
●	NIXK 50X62_IX	60	50	0,6	0,03	2	8595057670020
●	NIXK 50X125_IX	123	50	0,6	0,04	2	8595057669994
●	NIXK 50X250_IX	248	50	0,6	0,07	4	8595057670006
●	NIXK 100X125_IX	125	100	0,6	0,08	2	8595057669956
●	NIXK 100X250_IX	250	100	0,6	0,14	4	8595057669963
⊕	NIXK 100X500_IX	500	100	0,6	0,34	4	8595057669970

partition

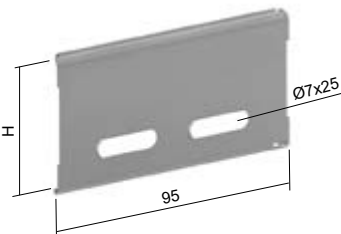


- ▶ The standard length of the partition is 2 m.
- ▶ The partition is fastened with NIXSM 6X10 bolts



	item number	H	↑	‡	EAN
●	NIXPZ 50_IX	44	0,6	0,35	8595057671973
●	NIXPZ 100_IX	94	0,6	0,60	8595057671959

coupling

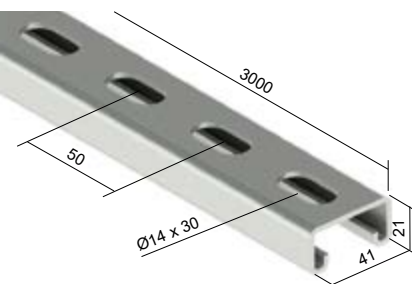


- ▶ The connection is made using NIXSM 6X10 bolts.

	item number	H	↑	‡	‡f	EAN
●	NIXS 50_IX	47	0,8	0,03	2	8595057672109
●	NIXS 100_IX	97	0,8	0,06	4	8595057672062



mounting profile



- ▶ Suitable for creating a support for cable routes carried on threaded rods.
- ▶ The mounting profile can be closed with the OKSPL end cap.

	item number	↑	EAN
⊕	INOXMP 41X21_IX	2,5	8595057630598



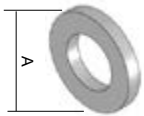


hexagon nut



	item number	EAN
●	INOXM 8_IX	8595057630635
⊕	INOXM 10_IX	8595057642706

washer



	item number	A	EAN
●	INOXPD 8_IX	16	8595057630710
⊕	INOXPD 10_IX	20	8595057642720

large washer

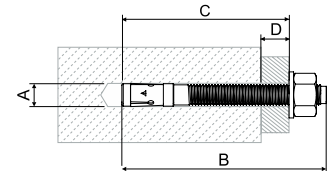


	item number	A	EAN
●	INOXPVL 6_IX	18	8595057642737
●	INOXPVL 8_IX	24	8595057642744
⊕	INOXPVL 10_IX	30	8595057642751
⊕	INOXPVL 12_IX	38	8595568930118

anchor



- ▶ Anchors are suitable for suspended, through and distance mounting.
- ▶ Types of base material: cracked concrete, non-cracked concrete, natural stone with a solid structure.



	item number	approved class of seismicity	hole diameter A [mm]	anchors length B [mm]	min. hole depth for through mounting C [mm]	maximal useful length D [mm]	thread	wrench size	EAN
●	INOXKPO 8X75_IX	C1	8	75	65	10	M8x38	13	8595568921987
●	INOXKPO 10X95_IX	C1/C2	10	105	95	20	M10x63	17	8595568905888

hammer anchor

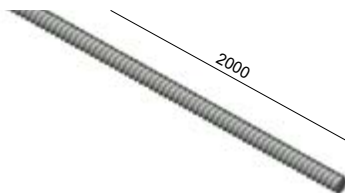


- ▶ Hammer anchors are used to directly fasten threaded rods to the base material (concrete, brick).
- ▶ A - drill diameter
- ▶ B - total anchor length
- ▶ C - minimum depth of the drilled hole

	item number	A	B	C	thread	‡	EAN
●	INOXKPOZ 8_IX	10	30	33	M8x14	0,01	8595568905895
●	INOXKPOZ 10_IX	12	40	43	M10x17	0,01	8595568905901



threaded rod



- ▶ DIN 976.

	item number	Ø	EAN
●	INOXZT 8_IX	M8	8595057630604

bolt with round head and lock nut



- ▶ Used to fasten the connection of cable trays and accessories or to attach them to a support.
- ▶ A solid connection ensures a conductive connection of the cable trays and accessories.

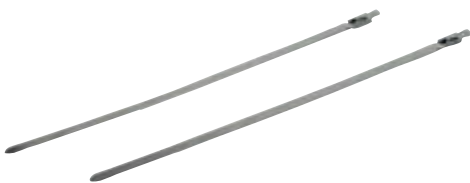


	item number	EAN
●	NIXSM 6X10_IX	8595057672185

tightening belt



- ▶ The belt is used to fasten the cable to the support rail.
- ▶ The connection is not detachable.



	item number	‡	EAN
●	SPK 200X4.6_IX	0,002	8595057698116



standards and regulations

The entire system of cable trays, cable ladders and accessories is tested in EZÚ (Electrotechnical Testing Institute) and meets the requirements of the standard ČSN EN 61537:02 – Cable management – cable ladder systems and cable grid systems. All products comply with EU requirements. In terms of fire resistance, cable trays, ladders and others are tested according to ČSN 73 0895, DIN 4102-12 and STN 9202-14.

surface treatments and protection against corrosion

One of the important criteria in the selection of cable bearing systems is the choice of the correct surface treatment of the products and thus the prevention of corrosion. A common method of protecting steel against corrosion is to create protective coatings that provide a barrier between the steel and the corrosive environment. The most frequently used metal, which is able to ensure the long-term life of a steel part in protection against atmospheric corrosion, is zinc. Depending on the environment in which the system will be used, it is necessary to choose the correct method of applying the zinc protective layer. If anti-corrosion surface treatments are not sufficient for the requirements, stainless steel products are available. The requirements for surface treatment are not always only protective, for aesthetic or distinguishing reasons, it is possible to paint the products.

S PO	<p>Continuous galvanizing by the Sendzimir method – ČSN EN 10346, ČSN EN 10143</p> <p>A method of galvanizing, where a cold-rolled steel strip passes through a zinc bath after degreasing, pickling and annealing. The zinc layer is leveled and smoothed with scraper knives and the sheet is wound into coils.</p> <p>The products are therefore made from coils or sheets already protected with a layer of zinc. Factory cuts are protected by cathodic protection. This means that the zinc ions will move to the damaged part of the steel sheet.</p> <p>The sheet metal used for KOPOS products has a coating designation of Z275, which corresponds to a zinc layer of 13-27 µm. The surface treatment is used on cable trays, cable ladders, fittings and accessories for cable routes. Suitable for indoor environments.</p>
---------	--

ZNCR BZNCR	<p>Electrolytic (galvanic) galvanizing - ČSN EN ISO 2081, ČSN EN 12329, DIN 50961</p> <p>Galvanic galvanizing is an electrolytic process in which a zinc coating is precipitated on the finished steel product in an electrolytic bath. The zinc coating layer is 8-12 µm thick. To increase corrosion resistance, the zinc layer is passivated with chrome as standard. The resulting surface is smooth and shiny.</p> <p>The surface treatment is used on wire cable trays and fixing and connecting material. Suitable for indoor environments.</p>
---------------	---

ZM	<p>Continuous galvanizing with addition of magnesium and aluminium - EN 10346, EN 10143</p> <p>The material is produced on a conventional hot-dip galvanizing line, the molten bath has a unique chemical composition with the addition of magnesium and aluminium.</p> <p>The products are manufactured from coils or sheets of sheet metal that has already been coated. The coating has a self-repairing capability that will provide progressive protection to the cuts in the material. In the first phase, visible signs of corrosion are possible at the cutting points, which, over time, due to the chemical composition, are covered by the protective layer.</p> <p>The sheet metal used for KOPOS products has a coating designation of ZM310, which corresponds to 18-31 µm. The coating is used on cable trays, cable ladders, fittings and cable route accessories. Suitable for indoor and outdoor environments. The surface treatment is suitable to replace hot-dip galvanized products.</p>
----	---

F POF BF	<p>Hot dip galvanizing – ČSN EN ISO 1461</p> <p>Finished steel products are chemically prepared to a metallic clean surface through several processes and then immersed in a bath of molten zinc. In the bath, a metallurgical reaction will occur between zinc and iron, during which several protective layers of iron and zinc alloys are formed on the surface of the product.</p> <p>The thickness of the protective coating depends on the chemical composition of the steel and the thickness of the material.</p>
----------------	--

thickness of the material – t (mm)	average coating thickness (µm)	minimum thickness from a single measurement (µm)
t < 1,5	45	35
1,5 ≤ t ≤ 3	55	45
3 < t ≤ 6	70	55
t > 6	85	70

Directly after the hot-dip galvanizing process, the appearance of the product is glossy with a typical zinc bloom. Due to air humidity and the passage of time, an oxidized layer begins to form on the surface, thanks to which the appearance gets a dull and darker color. It is a natural stabilization process of surface treatment.

Hot-dip galvanized products may have various indentations or imperfections after being removed from the zinc bath. Most of these „defects“ are only aesthetic and conform to the norm. In order to preserve the functionality of the products, some imperfections are adjusted, for example by sanding, or some places are coated with zinc paint. Everything is in accordance with the standard and with regard to the functionality and corrosion resistance of the product.

Due to hanging, non-perforated or inappropriately perforated parts are supplemented with a technological hole. The surface treatment is used on cable trays, cable ladders, wire cable trays and accessories for cable routes. Suitable for external environments, or for internal environments with higher humidity.

STANDARD

NO-STANDARD

FIRE BOXES

PRODUCTS

INDEX

surface treatments and protection against corrosion

GMT	<p>GEOMET</p> <p>The surface treatment was developed for the automotive industry, but thanks to its thin, yet very protective layer, it is mainly used for connecting material and smaller components.</p> <p>Steel products chemically freed of impurities are immersed in a bath with zinc-aluminum microlamellas, after removing excess material, the surface is hardened in an oven. The protective layer is 5-15 µm thin and has a matte gray surface.</p> <p>Salt fog test results show better resistance than hot-dip galvanized products, therefore this surface treatment is suitable as an alternative and supplement for hot-dip galvanized products.</p> <p>Surface treatment is used on connecting material and smaller accessories.</p> <p>Suitable for external environments, or for internal environments with higher humidity.</p>
IX	<p>Stainless steel – A2, AISI 304, DIN 1.4301, ČSN 17 240</p> <p>Chromium-nickel austenitic steel (food grade steel) is ideal for use in the chemical or food industry. Steel is resistant to water, water vapor, air humidity, edible acids and weak organic and inorganic acids. It resists weather effects except of coastal areas or environments where there is a higher concentration of aggressive chemicals.</p> <p>Most parts are outside covered with a protective film.</p> <p>It is also possible production from AISI 316 steel on request too.</p>
EO	<p>Powder varnish</p> <p>Epoxy-polyester powder paint is applied in an electrostatic field to the galvanized product and then the paint is harden in an oven. In this way, a smooth uniform surface with high corrosion resistance is created.</p> <p>The main reason for painting products is aesthetic requirements or the possibility of color differentiation of routes. Painting has also very good resistance to corrosion, during tests in salt fog it showed better resistance than hot-dip galvanizing.</p> <p>Considering the price, most parts will be painted only from the visible side (EO) - cable trays, fittings. Supporting products and products that cannot be painted only from visible side are painted all over the entire surface (EC). Threaded products cannot be painted.</p> <p>To determine the price, it is necessary to state the desired color according to the RAL sample. The colors are divided into several price groups and the price is determined directly for the given order. If the RAL color is not specified, the price is calculated for the basic white color RAL 9010 in a matte finish.</p> <p>Painted products are not in stock as standard, the painting process is made on request.</p> <p>The surface treatment can be used for most continuously or electrolytically galvanized products from the system. Hot-dip galvanized products can only be painted only under specific conditions.</p>
EC	

Areas of cable trays, accessories or support systems that have been damaged by cutting, drilling or otherwise should be treated with zinc spray or zinc paint.

corrosive aggressiveness of the environment

The protective coating of the material decreases over time and its rate of decreasing depends on the corrosive aggressiveness of the environment. The corrosion rate of zinc depending on the environment is given in the table according to ČSN EN ISO 9223.

level of corrosion aggressiveness		description of the environment	average corrosion depletion of the zinc thickness (µm / year)	recommended surface finish
C1	very low	Interior: dry, ventilated, air-conditioned spaces - offices, residential spaces, shops, schools, hotels	<0,1	S, PO, ZNCR, BZNCR EO, EC
C2	low	Interior: ventilated spaces with unstable temperature and possible occasional humidity - sports, production and storage halls, garages Exterior: dry, unpolluted places with very moderate occasional humidity - free landscape	0,1 - 0,7	S, PO, ZNCR, BZNCR - limited ZM, F, POF, GMT IX, EO, EC
C3	medium	Interior: production areas with higher humidity and medium pollution - food areas, dairies, breweries, laundries Exterior: urban and industrial areas with low to medium air pollution, coastal areas with low salinity	0,7 - 2,1	ZM, F, POF, BF, GMT IX, EO, EC
C4	high	Interior: areas with higher condensation and heavy pollution - swimming pools, chemical areas Exterior: industrial areas, coastal areas with medium salinity	2,1 - 4,2	ZM, F, POF, BF, GMT IX, EO, EC
C5	very high	Interior: areas with very high condensation or heavy pollution from production processes and mines Exterior: industrial areas with high pollution and humidity, seaside areas with high salinity	4,2 - 8,4	ZM, F, POF, BF GMT - limited IX, EO, EC



mechanical resistance

Cable trays are designed, constructed and type tested according to ČSN EN 61537 so they provide, where it is required, a reliable mechanical protection for insulated wires, cables, cords and possibly other electrical devices contained in them. Furthermore, these trays will withstand the stresses which will probably occur during the classified minimal temperature for storage, transport, installation and application. The screwed connections and other mechanical connections will withstand the mechanical stressing during installation and normal use.

Load carrying capacity - loading of the tray

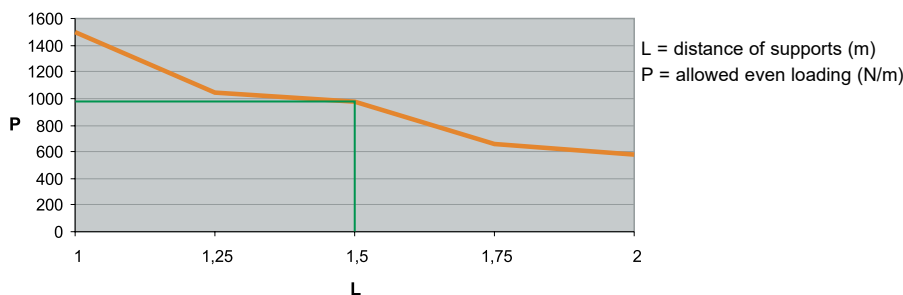
The loading of cable trays must be adequate with regards to the expected weight of the cables.

The trays are not designed to be walked on. The loading of the trays is effected by the distance of the load bearing supports and also the width of the supports for the wall and the length of the hanger.

- the loading decreases with the increased span of the supports
- the shorter the wall support the lesser the tray bend

Example of a display of a loading graph (NKZI 50X125)

With the placing of the supports at a distance of 1.5 m the maximum possible loading of the tray NKZI 50X125 is 1000 N/m.



electrical conductivity and grounding

The system of cable trays and ladders is designed in such a way that a high-quality connection is ensured when the individual parts are connected. This is achieved by a solid connection using special NSM 6X10 screws. The claim is based on the test report concerning cable routes and cable ladders classed under the ČSN EN 61357 standard pursuant to Article 6.3.2 as cable routes with the characteristics of electrical continuity to ensure protective bonding and ground connection. Under Article 11.1.2 25A + - 1A alternating current at a frequency of 50 Hz to 60 Hz is fed along the length of the test samples. The test performed under this article was compliant. Impedance on the circuit board is less than 50 mΩ. The cable trays and cable ladders were also found to be compliant during this test. When using the KSV clamp it is necessary to connect individual parts (trays, accessories) by an additional protective wire with the corresponding cross section. Wire cable trays connected by integrated coupling or firmly connected by the DZS/B connection set or possibly DZSP/B connection reinforcement also meet the above requirements.

electrical conductivity and grounding

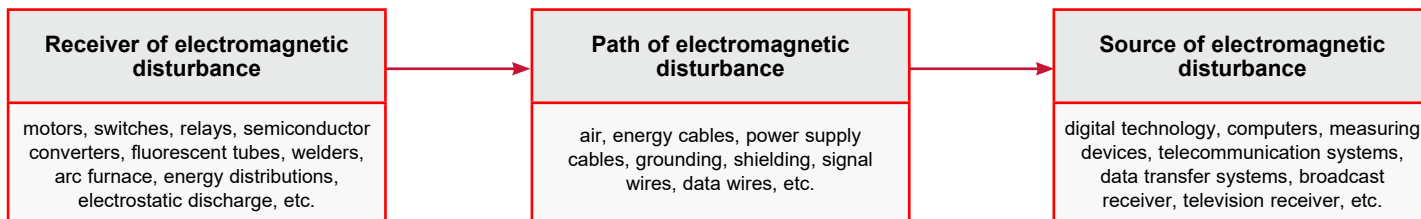
For safety reasons, the system of trays bonded in this way shall be on both ends connected to a ground clamp. This connection must meet the requirements of the standard ČSN 33 2000-4-54 ed.3 art.543.1. (The minimum cross-section of the protective conductor must either be calculated in accordance with Article 543.1.2 or must be selected according to Table 54.2).

electromagnetic compatibility

The cable tray systems are frequently operated in an industrial environment which exhibits a high level of external electromagnetic effects. Due to this reason it is necessary to maintain certain rules which will secure a perfect function of the system.

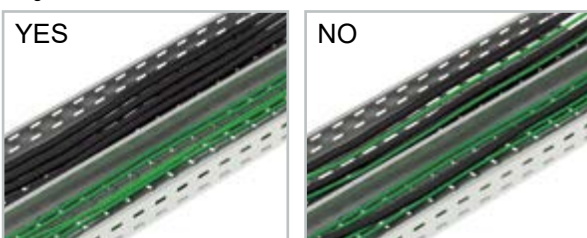
Electromagnetic compatibility (from the English Electromagnetic Compatibility, abbreviation EMC) is the capability for a device or system to exhibit the proper function also in an environment where sources of electromagnetic signals or acting. At the same time this device or system should not be the source of non-permissible electromagnetic disturbance.

Relation between the source of the disturbance and the disturbed equipment.



In order to reach a good level of electromagnetic compatibility it is necessary to remove or to lessen as much as possible one of these elements.

A properly connected and grounded system of cable trays "MARS" is properly secured against external electromagnetic discharge. The trays which are closed with a cover then act as shielding channels. It is necessary to only maintain certain rules inside the tray, where individual cables can act as a source and others as receivers of electromagnetic disturbance.



For the limiting or complete removal of the effect of electromagnetic compatibility the basic condition is the separation of the power and data cables in the scope of a single tray. This can be achieved by several ways:

1. Separate individual lines using a metal partition NPZ 50 or NPZ 100
2. Do not place the data and power distributions together in one tray
3. If within the scope of a single sheet metal tray there occurs the placing of various types of lines, which could mutually effect each other, then it is necessary to maintain between them a minimum space of 20 cm.

cited and related laws, decrees, standards as amended

Act 283/2021 Coll., On Spatial Planning and Building Regulations (Building Act), as amended

Act No. 133/1985 Coll., On fire protection, as amended

Act No. 22/1997 Coll., On technical requirements for products, as amended

Act 90/2016 Coll., On conformity assessment of specified products when they are placed on the market, as amended

Decree No. 268/2009 Coll., On technical requirements for constructions, as amended

Decree No. 246/2001 Coll., On determining the conditions of fire safety and the performance of state fire supervision (Decree on fire prevention), as amended

Decree No. 23/2008 Coll., On technical conditions for fire protection of buildings, as amended

Government Decree No. 118/2016 Coll., On conformity assessment of electrical equipment intended for use within certain voltage limits when supplying them to the market, as amended

Government Regulation No. 163/2002 Coll., Laying down technical requirements for selected construction products, as amended

EU Regulation No. 305/2011 laying down harmonized conditions for the marketing of construction products, as amended

ČSN 73 0802 ed. 2 - Fire safety of buildings – Non-production facilities, effective from 1. 10. 2023

ČSN 73 0804 ed. 2 - Fire safety of buildings – Production facilities, effective from 1. 10. 2023

ČSN 73 0831 ed. 2 - Fire safety of buildings – Assembly areas, effective from 1. 11. 2020

ČSN 73 0810 Fire safety of buildings – Common provisions, opr. 1

ČSN 73 0833 Fire safety of buildings – Buildings for housing and accommodation, modification Z1, Z2 and Z3

ČSN 73 0835 ed. 2 - Fire safety of buildings – Buildings of medical facilities, effective from 1. 10. 2020

ČSN 73 0848 Fire safety of buildings – Electrical equipment, electrical installations and wiring, effective from 1. 10. 2023

DIN 4102-12 Behavior of building materials and components in case of fire - Part 12: Maintenance of electrical cable systems

ČSN EN 1363-1 Fire resistance tests - Part 1: General requirements

ČSN EN 60332-1-1 Tests on electric and optical fiber cables under fire conditions - Part 1-1: Vertical flame spread test for single insulated conductors or cables - Test equipment, change A1

ČSN EN IEC 60332-3-10 ed. 2 Tests on electric and optical fiber cables under fire conditions - Part 3-10: Test for vertical flame spread on vertically mounted wiring harnesses or cables - Equipment and is amended by A11

ČSN EN 60754-1 Test of gases formed during combustion of materials from cables - Part 1: Determination of hydrogen halide content, change A1

ČSN EN 60754-2 Test of gases formed during combustion of materials from cables - Part 2: Determination of acidity (pH measurement) and conductivity, change A1

ČSN EN 61034-1 Measurement of smoke density during burning of cables under defined conditions - Part 1: Test equipment, modification A1 and A2

ČSN IEC 60331-11 Tests on electric cables under fire conditions - Circuit integrity - Part 11: Equipment - Separate combustion at flame temperature of at least 750 °C

ČSN EN 50200 ed. 3 Fire resistance test method for unprotected small diameter cables intended for use in emergency circuits

ČSN 73 0895 Fire safety of buildings - Preservation of functionality of cable routes in fire conditions - Requirements, tests, classification Px-R, PHx-R and application of results tests



cables - recommendation for their installation



The metal cable trays are a universal carrier for all types of cables, from high-current to low-current.

- **for high-current cables** it is necessary to pay attention to the resistance of the cable and the subsequent development of heat, for these cables a wider tray with a lower sidewall is more suitable.
- **for data cables** it is necessary to prevent the effect of electromagnetic waves by shielding. For these cables the narrower trays with a higher sidewall are suitable. The design of certain types of data cables secures by itself a partial resistance against electromagnetic disturbance (for example the shielded double line STP, coaxial cables etc)
- **for optic cables**, which by their principle are resistant to electromagnetic disturbance, it is necessary to maintain the minimum bending ratio in order to maintain their correct function.

When laying cables into cable supporting trays "MARS" it is necessary to consider the method of placing and to consider the requirements of the standards ČSN 33 2000-4-43, ČSN 33 2000-4-473 during the installation. According to these standards, permanent wire and cable current-carrying capacity can be determined with respect to their installation, mutual position and the ambient temperature.

In order to prevent the mutual interference of the installed cables, it is recommended to observe the principles described in the chapter Electromagnetic Compatibility (separate data and power lines etc.). It is also recommendable to band individual cables or cable bundles and to attach them to the cable tray proper. In particular, cables are attached inside the cable tray if the system of cable trays is not only horizontal but the route also rises or descends. Furthermore, the power cables for which high current loading and current surges are expected shall also be fixed.



packaging and storage

The straight parts are firmly fixed on the pallets with elastic polypropylene tape, the other material is stored in boxes.

Scope of validity:

These conditions apply to the storage of metal products manufactured by KOPOS KOLÍN a.s. and comply with the standard ČSN EN IEC 60721-3-1 ed. 2 Classification of environmental conditions - Part 3-1: Classification of groups of environmental parameters and their levels of severity - Storage

In general

1. Products must be protected against harmful influences, such as mechanical damage, weather or chemical influences.
2. The longest-stored products (FIFO system) must be removed from storage.
3. Products stored must be properly and visibly marked in the store to prevent confusion.

Storage requirements

The products must be stored in a dry, dust-free environment to prevent damage.

Warehouse specifications:

- A place completely protected from the weather, ie in a closed place where the direct effects of the weather are completely excluded.
- The presence of water from sources other than rain must be completely ruled out: dripping water, gushing water, condensate.
- Complete elimination of chemical influences caused by salt aerosols.

alphabetical list of products

item number	pg.	item number	pg.	item number	pg.	item number	pg.	item number	pg.	item number	pg.
6013	151	336/3	151	6029 ZNM	151	BSKH 60 K	128	DZNP 150/B	133	KHP 8X60	146
6016	151	340/1	152	6032 ZN	152	DCEV 10X200	130	DZNP 200/B	133	KL 110X150	127
6020	152	340/1 ZN	152	6032 ZNM	152	DCEV 10X300	130	DZNP 300/B	133	KL 110X200	127
6021	151	342/3	151	6036 ZN	151	DCEV 10X400	130	DZNP 400/B	133	KL 110X300	127
6025	152	350/1	152	6036 ZNM	151	DCEV 6X200	130	DZNP 500/B	133	KL 110X400	127
6029	151	350/1 ZN	152	6040 ZN	152	DCEV 6X300	130	DZNP 600/B	133	KL 110X500	127
6032	152	363/1	152	6040 ZNM	152	DCEV 6X400	130	DZS/B	132	KL 110X600	127
6036	151	363/1 ZN	152	6042 ZN	151	DCEV 8X200	130	DZSU/B	133	KL 60X150	126
6040	152	4016EHF	150	6042 ZNM	151	DCEV 8X300	130	DZZ/B	133	KL 60X150	127
6042	151	4020HF	150	6050 ZN	152	DCEV 8X400	130	GZS	153	KL 60X200	126
6050	152	4025HF	150	6063 ZN	152	DS 100	136	INOXKPO 10X95	163	KL 60X200	127
6063	152	4032HF	150	6113 ZN	151	DS 150	136	INOXKPO 8X75	163	KL 60X300	126
6113	151	4040HF	150	6113 ZNM	151	DS 200	136	INOXKPOZ 10	163	KL 60X300	127
6116	151	4116HF	150	6116 ZN	151	DS 300	136	INOXKPOZ 8	163	KL 60X400	126
6120	152	4120HF	150	6116 ZNM	151	DS 400	136	INOXM 10	163	KL 60X400	127
6121	151	4125HF	150	6116E	152	DS 500	136	INOXM 8	163	KL 60X500	127
6125	152	4132HF	150	6116E ZN	152	DS 600	136	INOXMP 41X21	162	KL 60X600	127
6129	151	4140HF	150	6120 ZN	152	DSOS 10	143	INOXPD 10	163	KLKR 110X200	129
6132	152	4150HF	150	6121 ZN	151	DSOS 8	143	INOXPD 8	163	KLKR 110X300	129
6136	151	5208 D	141	6121 ZNM	151	DSU 100	137	INOXPVL 10	163	KLKR 110X400	129
6140	152	5210 D	141	6125 ZN	152	DSU 200	137	INOXPVL 12	163	KLKR 110X500	129
6142	151	5212 D	141	6129 ZN	151	DSU 300	137	INOXPVL 6	163	KLKR 110X600	129
6150	152	5216 D	141	6129 ZNM	151	DT 100	135	INOXPVL 8	163	KLKR 60X200	129
6163	152	5216E ZN	141	6132 ZN	152	DT 1000	135	INOXSK 100	161	KLKR 60X300	129
6706	140	5216E ZNM	141	6136 ZN	151	DT 150	135	INOXSK 50	161	KLKR 60X400	129
6708	140	5220 D	141	6136 ZNM	151	DT 200	135	INOXZT 8	164	KLKR 60X500	129
6710	140	5220 ZN	141	6140 ZN	152	DT 250	135	K 110X150	114	KLKR 60X600	129
6712	140	5220 ZNM	141	6142 ZN	151	DT 300	135	K 110X200	114	KLOBH 110X200	128
6714	140	5225 D	141	6142 ZNM	151	DT 400	135	K 110X300	114	KLOBH 110X300	128
6718	140	5225 ZN	141	6150 ZN	152	DT 500	135	K 110X400	114	KLOBH 110X400	128
6720	140	5225 ZNM	141	6163 ZN	152	DT 600	135	K 110X500	114	KLOBH 110X500	128
6722	140	5232 D	141	6708D	140	DT 800	135	K 110X600	114	KLOBH 110X600	128
6725	140	5232 ZN	141	6710D	140	DT OKO	135	K 60X100	114	KLOBH 60X150	128
0216HF	150	5232 ZNM	141	6712D	140	DZ 60X100	132	K 60X150	114	KLOBH 60X200	128
0220HF	150	5240 D	141	6716E	140	DZ 60X150	132	K 60X200	114	KLOBH 60X300	128
0225HF	150	5240 ZN	141	6716ED	140	DZ 60X200	132	K 60X300	114	KLOBH 60X400	128
0232HF	150	5250 D	141	8016EHF	150	DZ 60X300	132	K 60X400	114	KLOBH 60X500	128
0240HF	150	5250 ZN	141	8020HF	150	DZ 60X400	132	K 60X50	114	KLOBH 60X600	128
0250HF	150	5250 ZNM	141	8025HF	150	DZ 60X500	132	K 60X500	114	KLSU	139
0263HF	150	5263 D	141	8032HF	150	DZ 60X60	132	K 60X600	114	KLT 110X200	129
1516EHF	150	5263 ZN	141	8040HF	150	DZ 60X600	132	K 60X75	114	KLT 110X300	129
1520HF	150	5263 ZNM	141	8050HF	150	DZCZ/B	134	KBS 6X35 M8/M10	146	KLT 110X400	129
1525HF	150	5820/20	153	8063HF	150	DZDN	134	KHB C6-20	156	KLT 110X500	129
1532HF	150	5820/21	153	8211HF	149	DZDS 100/B	134	KHB C6-25	156	KLT 110X600	129
1540HF	150	5820/30	153	8212HF	149	DZDS 150/B	134	KHB C6-30	156	KLT 60X200	129
1550HF	150	5820/31	153	8213HF	149	DZDS 200/B	134	KHB C6-35	156	KLT 60X300	129
1563HF	150	6013 ZN	151	8214HF	149	DZDS 300/B	134	KHB C6-40	156	KLT 60X400	129
313/3	151	6013 ZNM	151	8215HF	149	DZDS 400/B	134	KHO HC6-15	156	KLT 60X500	129
316/3	151	6016 ZN	151	8216HF	149	DZDS 500/B	134	KHO HC6-15FH	156	KLT 60X500	129
316E/1	152	6016 ZNM	151	8217HF	149	DZDS 600/B	134	KHO HC6-17	156	KO 90X110X150	112
316E/1 ZN	152	6016E	152	8631HF	149	DZI 60X100	132	KHO HC6-17FH	156	KO 90X110X200	112
320/1	152	6016E ZN	152	8632HF	149	DZI 60X150	132	KHO HC6-22	156	KO 90X110X300	112
320/1 ZN	152	6020 ZN	152	8633HF	149	DZI 60X200	132	KHO HC6-22FH	156	KO 90X110X400	112
321/3	151	6020 ZNM	152	8634HF	149	DZI 60X300	132	KHO HC6-27	156	KO 90X110X500	112
325/1	152	6021 ZN	151	8635HF	149	DZI 60X400	132	KHO HC6-27FH	156	KO 90X110X600	112
325/1 ZN	152	6021 ZNM	151	8636HF	149	DZI 60X500	132	KHO HC6-32	156	KO 90X60X100	112
329/3	151	6025 ZN	152	BSKH 110 D	128	DZI 60X60	132	KHP 10X60	146	KO 90X60X150	112
332/1	152	6025 ZNM	152	BSKH 110 K	128	DZI 60X600	132	KHP 6X32	146	KO 90X60X200	112
332/1 ZN	152	6029 ZN	151	BSKH 60 D	128	DZNP 100/B	133	KHP 8X38	146	KO 90X60X300	112



alphabetical list of products

item number	pg.	item number	pg.	item number	pg.	item number	pg.	item number	pg.	item number	pg.
KO 90X60X400	112	KSBS 75	105	LTS 150	136	NIXS 100	162	NKO 90X50X250	121	NP 250	138
KO 90X60X50	112	KSK 100 PO	100	LTS 200	136	NIXS 50	162	NKO 90X50X62	121	NP 30X15X1.20	138
KO 90X60X500	112	KSK 100 PO10J	100	LTS 300	136	NIXSM 6X10	164	NKR 100X125	120	NP 350	138
KO 90X60X600	112	KSK 100 PO4J	100	LTS 400	136	NIXSO	159	NKR 100X250	120	NPS 125	137
KO 90X60X75	112	KSK 100 PO6J	100	M 10	144	90X100X125	159	NKR 100X500	120	NPS 250	137
KPBSKL 150	126	KSK 125 2PO6	101	M 12	144	NIXSO	159	NKR 50X125	120	NPS 62	137
KPBSKL 200	126	KSK 125 DPO	102	M 6	144	90X100X250	159	NKR 50X250	120	NPZ 100	125
KPBSKL 300	126	KSK 125 PO10	100	M 8	144	NIXSO	159	NKR 50X62	120	NPZ 50	125
KPBSKL 400	126	KSK 125 PO6P	101	MDS	113	90X50X125	159	NKZI	115	NR 100X125	124
KPO 10X115	145	KSK 175 2PO10	101	MN 8	137	NIXSO 90X50X250	159	100X125X0.70	115	NR 100X250	124
KPO 10X175	145	KSK 175 DPO	102	MP 41X21	138	NIXSO 90X50X62	159	NKZI	115	NR 50X125	124
KPO 10X95	145	KSK 175 PO10P	101	MP 41X21X1.50	138	NIXSUK 100	161	NKZI	115	NR 50X62	124
KPO 12X120	145	KSK 175 PO16	100	MP	138	NIXSUK 50	161	100X250X0.70	115	NRD 100	123
KPO 6X50	145	KSP 5.5X19	148	41X21X1.50X2000	138	NIXT 100X125	160	NKZI	115	NRD 50	123
KPO 6X70	145	KSP-V16 5.5X19	148	MP 41X41	138	NIXT 100X250	160	100X250X1.25	115	NSM 6X10	148
KPO 8X110	145	KVP 5X35	147	MS KPS	131	NIXT 100X500	160	NKZI	115	NSM 6X20	148
KPO 8X77	145	KVP 5X40	147	MVH P800	155	NIXT 50X125	160	100X500X1.00	115	NSO 90X100X125	122
KPO 8X97	145	KVP 5X45	147	MZ 10	144	NIXT 50X250	160	NKZI	115	NSO 90X100X250	122
KPOZ 10	145	KVP 5X50	147	MZ 12	144	NIXT 50X62	160	NKZI 50X125X0.70	115	NSO 90X100X500	122
KPOZ 6	145	KVP 6X40	147	MZ 6	144	NIXUV	157	NKZI 50X125X1.25	115	NSO 90X50X125	122
KPOZ 8	145	KVP 6X50	147	MZ 8	144	NIXUV	157	NKZI 50X250X0.70	115	NSO 90X50X250	122
KPS 160X150	131	KZ 60X100X1.50	105	NCH	153	NIXV 125	157	NKZI 50X250X1.00	115	NSO 90X50X62	122
KPS 160X200	131	KZ 60X100X1.50	105	NIXK 100X125	162	NIXV 250	157	NKZI 50X250X1.25	115	NSUK 100	124
KPS 160X300	131	KZ 60X150X1.50	105	NIXK 100X250	162	NIXV 500	157	NKZI 50X62X0.70	115	NSUK 50	124
KPS 160X400	131	KZ 60X150X1.50	105	NIXK 100X500	162	NIXV 62	157	NKZI 50X62X1.25	115	NT 100X125	119
KPS 200X150	131	KZ 60X200X1.50	105	NIXK 50X125	162	NIXVKO	159	NKZIN	115	NT 100X250	119
KPS 200X200	131	KZ 60X200X1.50	105	NIXK 50X250	162	90X100X125	159	100X125X0.70	115	NT 100X500	119
KPS 200X300	131	KZ 60X300X1.50	105	NIXK 50X62	162	NIXVKO	159	NKZIN	115	NT 50X125	119
KPS 200X400	131	KZ 60X300X1.50	105	NIXKO	158	90X100X500	159	100X125X1.25	115	NT 50X250	119
KPS 200X500	131	KZ 60X50X1.50	105	NIXKO	158	90X50X125	159	100X250X0.70	115	NT 50X62	119
KPS 200X600	131	KZ 60X50X1.50	105	NIXKO	158	90X100X250	159	NKZIN	115	NUV	116
KPS-STOP	131	KZ 60X75X1.50	105	NIXKO	158	NIXVKO	159	100X250X1.25	115	NVCO	121
K-PULSA	155	KZ 60X75X1.50	105	NIXKO	158	90X50X250	159	NKZIN	115	90X100X125	121
KPZ 68-45	103	KZI 60X100X0.75	106	NIXKO 90X50X125	158	90X50X62	159	100X500X1.00	115	NVCO	121
KPZ 68-50/2	103	KZI 60X100X1.00	106	NIXKO 90X50X250	158	NIXVKR 125	161	NKZIN	115	90X100X250	121
KPZ 68-50/3	104	KZI 60X100X1.25	106	NIXKO 90X50X62	158	NIXVKR 250	161	50X125X0.70	115	NVCO	121
KPZ 68-60	104	KZI 60X150X0.75	106	NIXKR 100X125	160	NIXVKR 500	161	NKZIN	115	90X100X500	121
KPZ-1	103	KZI 60X150X1.00	106	NIXKR 100X250	160	NIXVKR 62	161	50X250X0.70	115	NVCO 90X50X125	121
KR 110X150	110	KZI 60X150X1.25	106	NIXKR 100X500	160	NIXVO 90X125	158	NKZIN	115	NVCO 90X50X250	121
KR 110X200	110	KZI 60X200X0.75	106	NIXKR 50X125	160	NIXVO 90X250	158	50X250X1.00	115	NVCO 90X50X62	121
KR 110X300	110	KZI 60X200X1.00	106	NIXKR 50X250	160	NIXVO 90X500	158	NKZIN	115	NVCR 125	120
KR 110X400	110	KZI 60X200X1.25	106	NIXKR 50X62	160	NIXVO 90X62	158	50X250X1.25	115	NVCR 250	120
KR 110X500	110	KZI 60X300X0.75	106	NIXKZN 100X125	157	NIXVO 90X62	158	NKZIN	115	NVCR 500	120
KR 110X600	110	KZI 60X300X1.00	106	NIXKZN 100X250	157	NIXVSO 90X125	159	50X62X0.70	115	NVCR 62	120
KR 60X100	110	KZI 60X300X1.25	106	NIXKZN 100X500	157	NIXVSO 90X250	159	NKZIN	115	NVCO 45X125	118
KR 60X150	110	KZI 60X400X1.00	106	NIXKZN 50X125	157	NIXVSO 90X500	159	50X62X1.25	115	NVCO 45X250	118
KR 60X200	110	KZI 60X400X1.25	106	NIXKZN 50X250	157	NIXVSO 90X62	159	NO 45X100X125	118	NVCO 45X500	118
KR 60X300	110	KZI 60X500X1.00	106	NIXKZN 50X62	157	NIXVT 125	160	NO 45X100X250	118	NVCO 45X62	118
KR 60X400	110	KZI 60X500X1.25	106	NIXO 90X100X125	158	NIXVT 250	160	NO 45X50X125	118	NVCO 90X125	117
KR 60X50	110	KZI 60X50X0.75	106	NIXO 90X100X250	158	NIXVT 500	160	NO 45X50X250	118	NVCO 90X250	117
KR 60X500	110	KZI 60X50X1.00	106	NIXO 90X100X500	158	NIXVT 62	160	NO 45X50X62	118	NVCO 90X500	117
KR 60X600	110	KZI 60X50X1.25	106	NIXO 90X50X125	158	NK 100X125	125	NO 90X100X125	117	NVCO 90X62	117
KR 60X75	110	KZI 60X600X1.00	106	NIXO 90X50X250	158	NK 100X250	125	NO 90X100X250	117	NVSO 90X125	122
KS	102	KZI 60X600X1.25	106	NIXO 90X50X62	158	NK 50X125	125	NO 90X100X500	117	NVSO 90X250	122
KSBS 100	105	KZI 60X75X0.75	106	NIXPZ 100	162	NK 50X250	125	NO 90X50X125	117	NVSO 90X500	122
KSBS 150	105	KZI 60X75X1.00	106	NIXPZ 50	162	NK 50X62	125	NO 90X50X250	117	NVSO 90X62	122
KSBS 200	105	KZI 60X75X1.25	106	NIXR 100X125	161	NKO 90X100X125	121	NO 90X50X62	117	NVT 125	119
KSBS 300	105	LHD 40X20HF	149	NIXR 100X250	161	NKO 90X100X250	121	NP 100	138	NVT 250	119
KSBS 50	105	LTS 100	136	NIXR 50X125	161	NKO 90X100X500	121	NP 150	138	NVT 500	119
				NIXR 50X62	161	NKO 90X50X125	121	NP 200	138	NVT 62	119

alphabetical list of products

item number	pg.	item number	pg.	item number	pg.	item number	pg.	item number	pg.
O 90X110X150	107	PKDZ1 26	142	SPS 1200	135	V 300	106	VSO 90X300	111
O 90X110X200	107	PKDZ1 30	142	SPS 200	135	V 400	106	VSO 90X400	111
O 90X110X300	107	PKDZ1 34	142	SPS 300	135	V 50	106	VSO 90X50	111
O 90X110X400	107	PKDZ1 38	142	SPS 400	135	V 500	106 , 116	VSO 90X500	111
O 90X110X500	107	PKDZ1 42	142	SPS 500	135	V 600	106	VSO 90X600	111
O 90X110X600	107	PKDZ1 46	142	SPS 600	135	V 62	116	VSO 90X75	111
O 90X60X100	107	PKDZ1 50	142	SPS 800	135	V 75	106	VT 100	109
O 90X60X150	107	PKDZ1 54	142	SR 110X100	114	VKO 90X110X150	112	VT 150	109
O 90X60X200	107	PKDZ1 58	142	SR 110X125	114	VKO 90X110X200	112	VT 200	109
O 90X60X300	107	PLYN	155	SR 110X150	114	VKO 90X110X300	112	VT 300	109
O 90X60X400	107	PVL 10	144	SR 110X200	114	VKO 90X110X400	112	VT 400	109
O 90X60X50	107	PVL 12	144	SR 110X25	114	VKO 90X110X500	112	VT 50	109
O 90X60X500	107	PVL 6	144	SR 110X250	114	VKO 90X110X600	112	VT 500	109
O 90X60X600	107	PVL 8	144	SR 110X300	114	VKO 90X60X100	112	VT 600	109
O 90X60X75	107	S 10X20	144	SR 110X350	114	VKO 90X60X150	112	VT 75	109
OH 110X150	108	S 10X25	144	SR 110X400	114	VKO 90X60X200	112	VU	107
OH 110X200	108	S 10X30	144	SR 110X50	114	VKO 90X60X300	112	WEICON 375	153
OH 110X300	108	S 10X40	144	SR 110X75	114	VKO 90X60X400	112	WEICON 750	153
OH 110X400	108	S 10X50	144	SR 60X100	114	VKO 90X60X50	112	ZT 10	143
OH 110X500	108	S 10X70	144	SR 60X125	114	VKO 90X60X500	112	ZT 12	143
OH 110X600	108	S 110X200	127	SR 60X150	114	VKO 90X60X600	112	ZT 6	143
OH 60X100	108	S 12X20	144	SR 60X200	114	VKO 90X60X75	112	ZT 8	143
OH 60X150	108	S 12X25	144	SR 60X25	114	VKR 100	110	ZVB 1.5	139
OH 60X200	108	S 12X30	144	SR 60X250	114	VKR 150	110	ZVNI 125	137
OH 60X300	108	S 12X40	144	SR 60X300	114	VKR 200	110	ZVNI 250	137
OH 60X400	108	S 12X50	144	SR 60X350	114	VKR 300	110	ZVNI 62	137
OH 60X50	108	S 60X200	127	SR 60X400	114	VKR 400	110		
OH 60X500	108	S 6X20	144	SR 60X50	114	VKR 50	110		
OH 60X600	108	S 6X30	144	SR 60X75	114	VKR 500	110		
OH 60X75	108	S 8X20	144	STP 4.2X13	147	VKR 600	110		
OKSPS	135	S 8X25	144	STS	136	VKR 75	110		
OPT	153	S 8X30	144	SU 110	113	VO 90X100	107		
P 60	113	S 8X40	144	SU 60	113	VO 90X150	107		
PD 10	144	S 8X50	144	SVD 30	147	VO 90X200	107		
PD 12	144	S 8X70	144	SVD 40	147	VO 90X300	107		
PD 6	144	SB 6.3X35	147	T 110X150	109	VO 90X400	107		
PD 8	144	SB 6.3X45	147	T 110X200	109	VO 90X50	107		
PEP 60/K	149	SD 2	141	T 110X300	109	VO 90X500	107		
PK 110X65 D HF	149	SK 100	124	T 110X400	109	VO 90X600	107		
PKC1 1198	142	SK 110	113	T 110X500	109	VO 90X75	107		
PKC1 1199	142	SK 50	124	T 110X600	109	VOH 100	108		
PKC1 1200	142	SK 60	113	T 60X100	109	VOH 125	123		
PKC1 1201	142	SO 90X110X150	111	T 60X150	109	VOH 150	108		
PKC1 1202	142	SO 90X110X200	111	T 60X200	109	VOH 200	108		
PKC1 1203	142	SO 90X110X300	111	T 60X300	109	VOH 250	123		
PKC1 1204	142	SO 90X110X400	111	T 60X400	109	VOH 300	108		
PKC1 1205	142	SO 90X110X500	111	T 60X50	109	VOH 400	108		
PKC1 1206	142	SO 90X110X600	111	T 60X500	109	VOH 50	108		
PKC1 1207	142	SO 90X60X100	111	T 60X600	109	VOH 500	108		
PKC1 1208	142	SO 90X60X150	111	T 60X75	109	VOH 500	123		
PKC1 1209	142	SO 90X60X200	111	TP	102	VOH 600	108		
PKC1 1210	142	SO 90X60X300	111	US 1	143	VOH 62	123		
PKC1 1211	142	SO 90X60X400	111	US 2	143	VOH 75	108		
PKC1 1212	142	SO 90X60X50	111	US 3	143	VPO 6.5X40	148		
PKDZ1 12	142	SO 90X60X500	111	V 100	106	VS 41X45	139		
PKDZ1 14	142	SO 90X60X600	111	V 125	116	VSO 90X100	111		
PKDZ1 16	142	SO 90X60X75	111	V 150	106	VSO 90X150	111		
PKDZ1 18	142	SPK 200X4.6	164	V 200	106	VSO 90X200	111		
PKDZ1 22	142	SPS 1000	135	V 250	116				

www.kopos.com



KOPOS KOLÍN a.s.
ABOUT US



KOPOS KOLÍN a.s.
Havlíčková 432
280 02 Kolín IV
Česká republika

tel.: +420 321 730 111
e-mail: kopos@kopos.cz
www.kopos.com



www.kopos.com

PO-EN-03/24-0.0
Change reserved.

The photos to be mentioned in the catalogue are just illustrative.