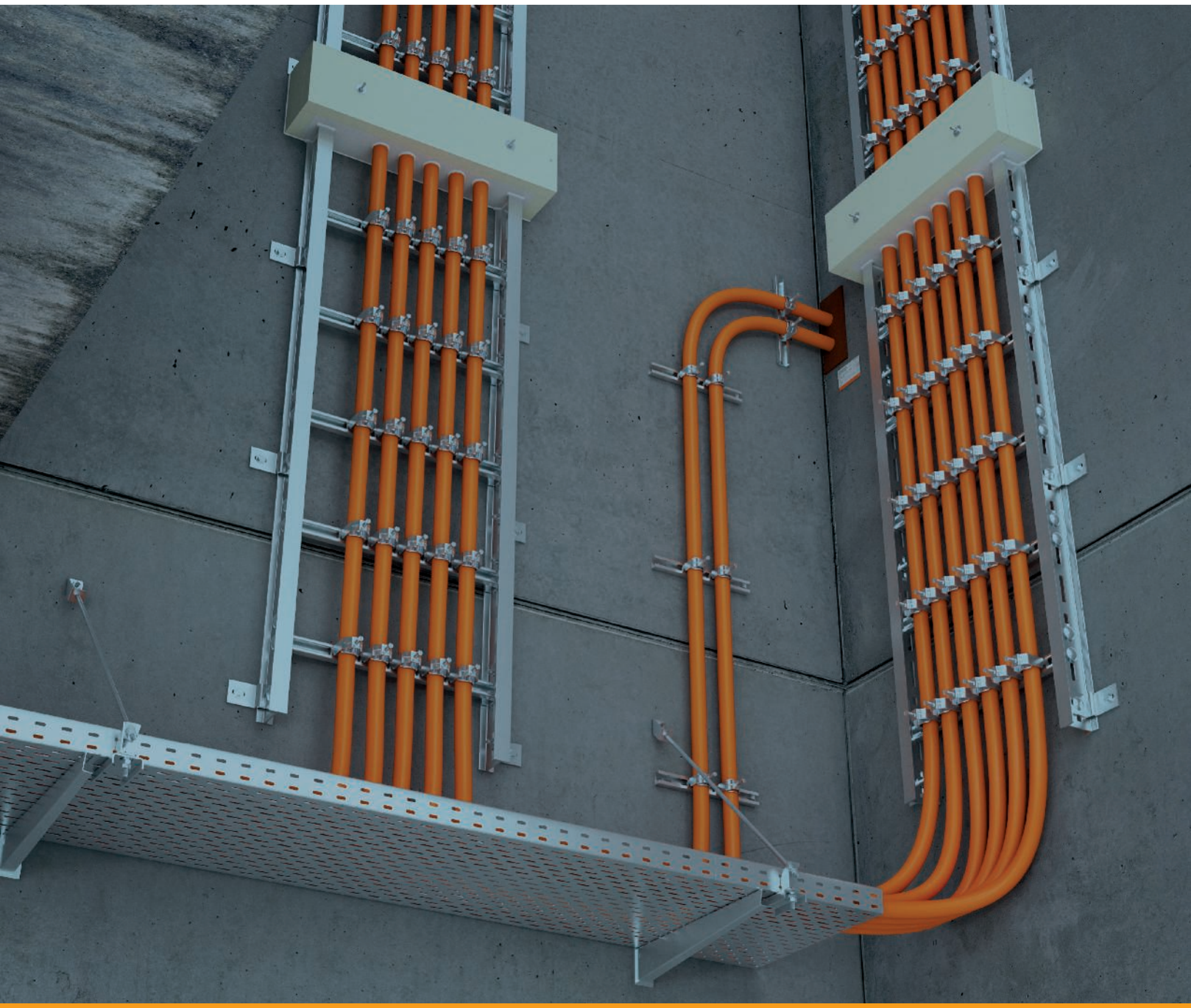
SAFETY AND PROTECTION INSTALLATIONS



Fire-tested support and routing systems

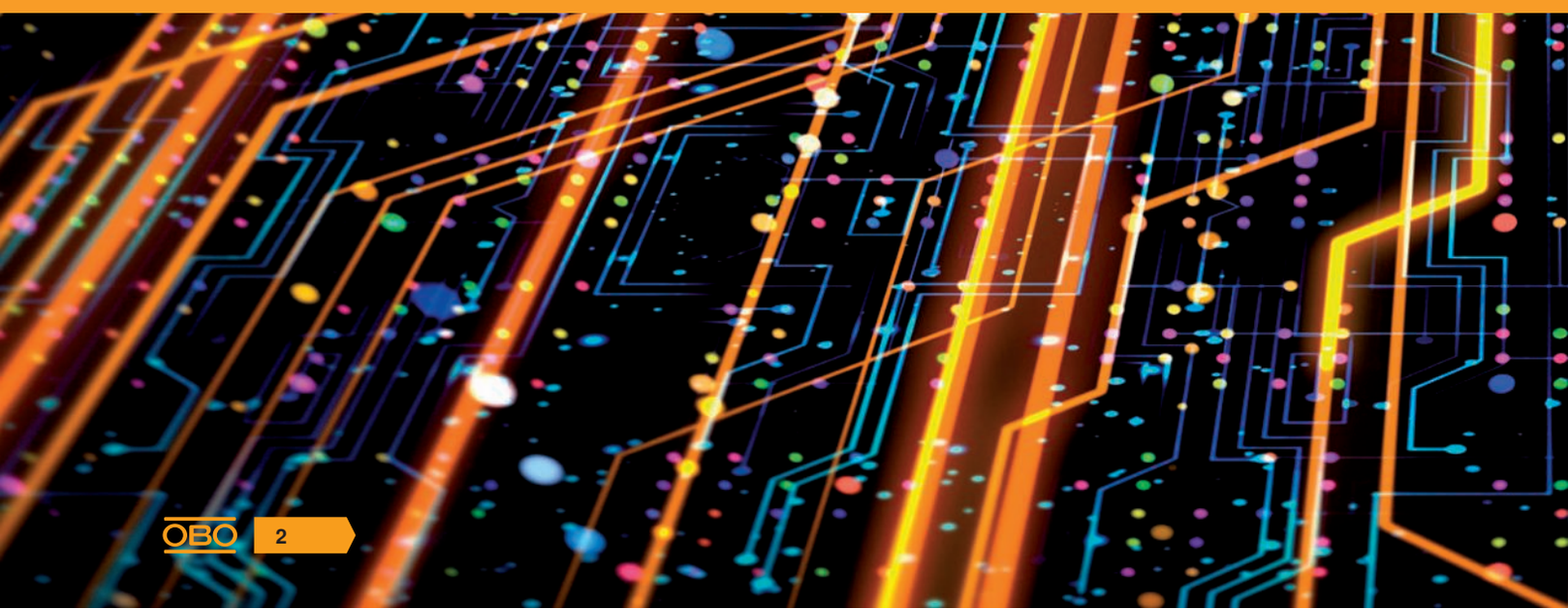
OBO BETTERMANN

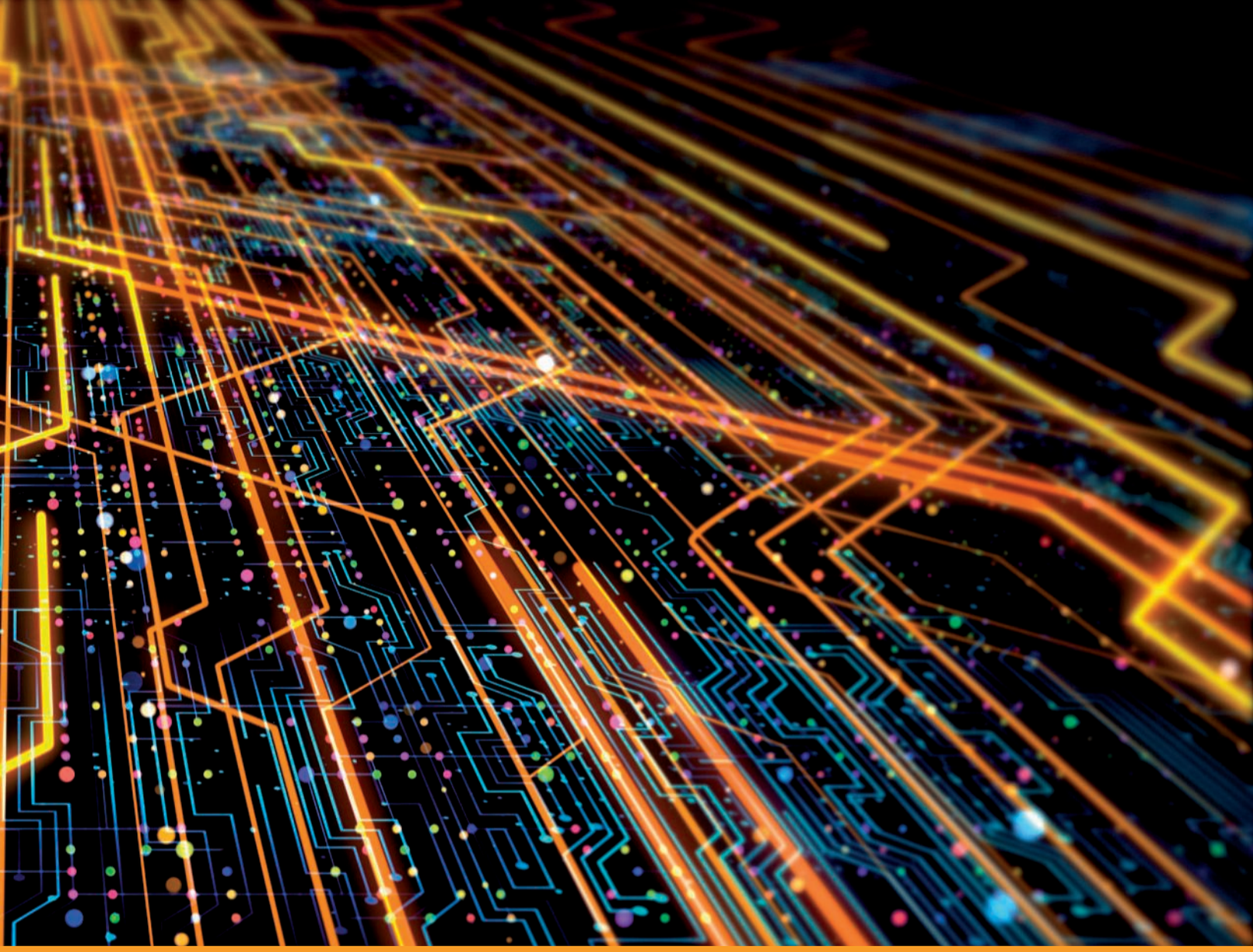


Building Connections

Digitalisation, the Energiewende (energy transition), mobility – the future is gathering speed. At OBO Bettermann, we're proud to be a driving force. And as a facilitator, we make connections. Today, we are already developing the innovative electrical infrastructure systems and solutions of tomorrow. Reliably, flexibly, sustainably.

Already today, OBO is one of the leading manufacturers of installation systems for the electrical infrastructure in buildings and plants. When it comes to the friction-free flow of power, energy and data, engineers and tradespeople worldwide rely on the comprehensive range from OBO.

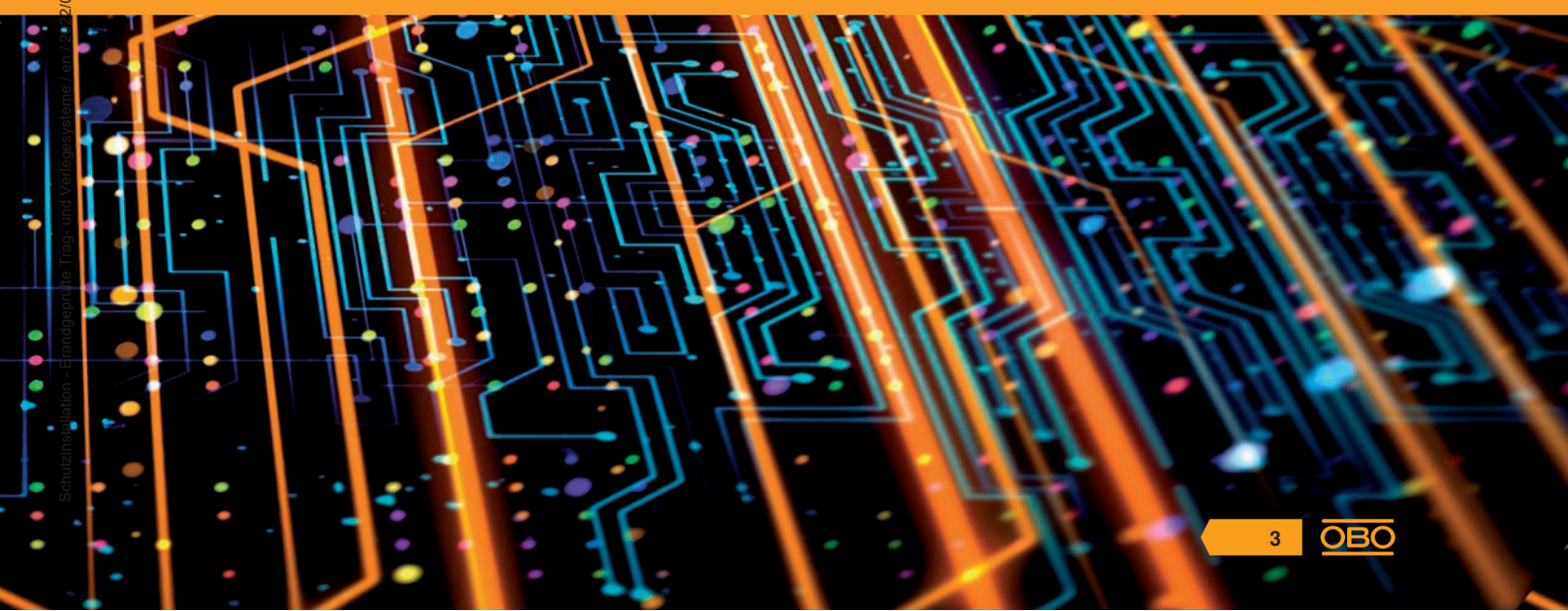




OBO applies its slogan "Building Connections" to around 30,000 high-quality branded electrical products and services, which are used in application solutions for projects in industry, business and infrastructure.

OBO operates a global network and employs more than 4,200 people in more than 60 countries. The headquarters of the family company, which was founded in 1911, is located in Menden, Germany. In addition, more than 40 subsidiaries are present in markets on all continents.

Schutzinstallation - Erdungsprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22



Improved structure, sharpened profile



Each of our products carries a benefit which only the OBO brand can offer. Products are developed, manufactured and tested with a high level of competence – from the idea through to the final check. From flawless logistics through to practical information – we can provide support at every level. We can offer additional security through certificates on the conformity of our products with the most important standards and directives. In a nutshell – OBO helps you more. In every location and in every phase of a project.

To maintain this, we continually challenge ourselves. Not as an end in itself but for the better processing of each customer's requests – fast, reliably and future-oriented. That is the reason we have not only established our three central application areas, but also reworked our catalogue structure. In this way, we can display our service offers more clearly, highlight the product benefits more effectively and illustrate the respective application areas more tangibly.

OBO Product Worlds



Industrial installations

- Cable support systems
- Connection and routing systems
- Fastening material



Building installations

- Cable routing systems
- Device installation ducts, trunking and poles
- Floor installation systems and underfloor applications
- Installation systems



Safety and protection installations

- Surge protection
- External lightning protection
- Equipotential bonding and earthing
- Insulation and cable bandages
- Fire-tested support and routing systems
- Fire protection ducts



It's your choice – from now on there's a catalogue for each OBO product category. Simply select the catalogues and order together with a collection case.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Always at your service

If you have questions about products, installation or planning – OBO staff offer exceptionally competent support at each and every phase of your project. So that you are always on the safe side.

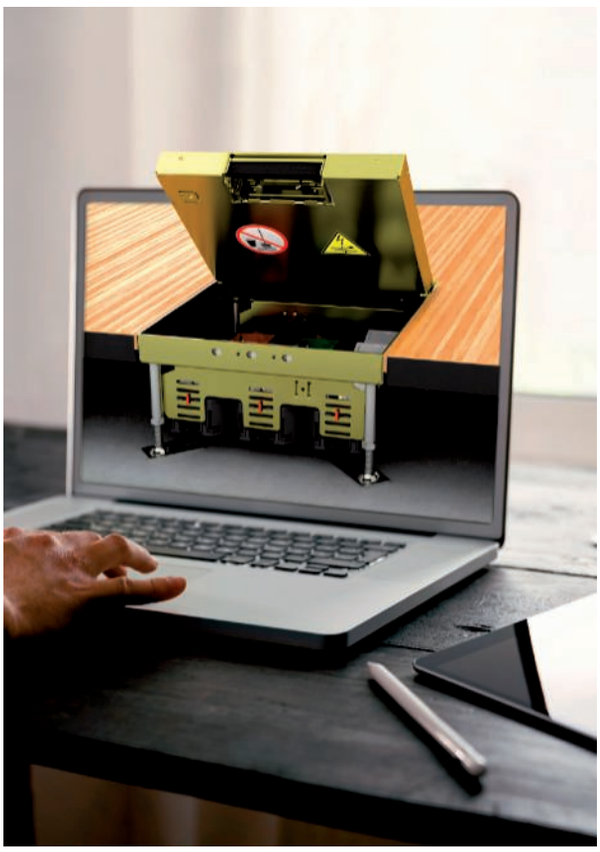
- Product and system information, digitally or printed
- Selection and planning aids on the web, as a CAD application or in printed form, as well as in the myOBO app
- 2D and 3D product data for planning
- Field service and branch offices in 60 countries
- Engineering services for major projects

Our Customer Service can be contacted on +49 23 73 89 - 17 00

Monday–Thursday	07.30 - 17.00
Friday	07.30 - 15.00

or via e-mail at export@obo.de





OBO Construct: Planning has never been so easy!

OBO Construct is a collection of planning tools that were developed especially for electrical installation engineers and planners. This platform offers support in product configuration and a selection aid for the matching systems, and automatically generates a corresponding parts list. With OBO Construct, you can therefore access and edit projects at any time and at any location – via your smartphone, tablet or desktop PC. Versions of the app are available for iOS and Android.

Laden im App Store

JETZT BEI Google Play



OBO Academy: From the basics to the concrete application

The OBO Academy has been offering an extensive further education programme for many years. This programme helps with first-hand information and expertise, giving you that essential head start in terms of in-depth knowledge. In our seminars, planner days or online seminars, we provide you with current developments, trends, norms and regulations – systematically, comprehensively and practically oriented.



Planning virtually, implementing efficiently

When planning and implementing electrical technology, BIM (building information modelling) is becoming increasingly more important. We can now offer our partners the first solution to unlock the full potential of the BIM method for practical applications - giving you more planning efficiency, transparency and cost security with complex projects. Find out about the advantages of BIM@OBO now:

- Intelligent libraries structured according to individual systems
- Available for Revit, as a plug-in and directly via the OBO website
- Simple integration via drag & drop
- Practical display of material lists for ordering directly
- Intuitive user interface



You can find further information at **obo.de/BIM**.
Welcome to the future!



Clear delivery capability

With an approximate storage area of 38,000 m² and five strategically well-located sales warehouses, we ensure that our products arrive at the right place at the right time. Our logistics specialists work hard to ensure all our partners are supplied flexibly and as quickly as possible. This you can rely on!



1 **Sales Warehouse North**
Bad Fallingbostel

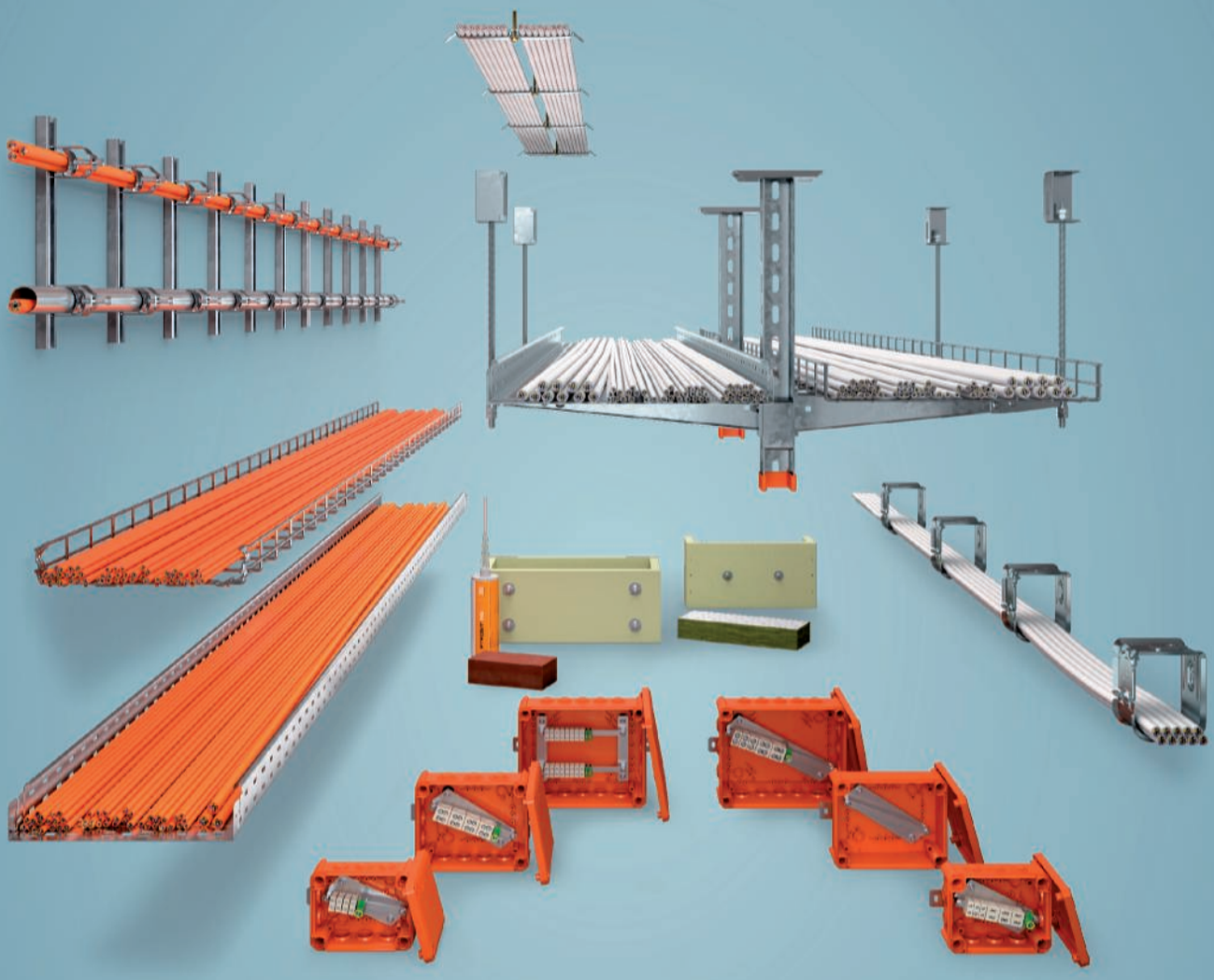
2 **Sales Warehouse West**
Iserlohn

3 **Sales Warehouse East**
Delitzsch

4 **Sales Warehouse South-West**
Groß-Rohrheim

5 **Sales Warehouse South**
Dasing

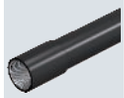
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

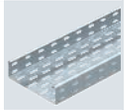


Planning aids Page 12 

Systems for the maintenance of electrical function, FireBox T series junction boxes Page 22 

Systems for the maintenance of electrical function, cable-specific routing variants Page 34 

Systems for the maintenance of electrical function, fire-tested individual routing systems Page 82 

Systems for the maintenance of electrical function, standard support structures and routing systems Page 118 

Escape route installations, false ceiling mounting Page 172 

Anchorings Page 210 

Directories Page 238 

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22



Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 02/09/22

Planning aids

First protection aim: Maintenance of the fire sections	14
Insulation systems	15
Second protection aim: Protection of escape routes	16
Escape route installations	17
Third protection aim: Function maintenance for electrical systems	18
Systems for the maintenance of electrical function	19
Technical support	20

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

First protection aim: Maintenance of the fire sections



1

Insulation systems reliably seal the ceiling and wall penetrations required for installations against fire and smoke.

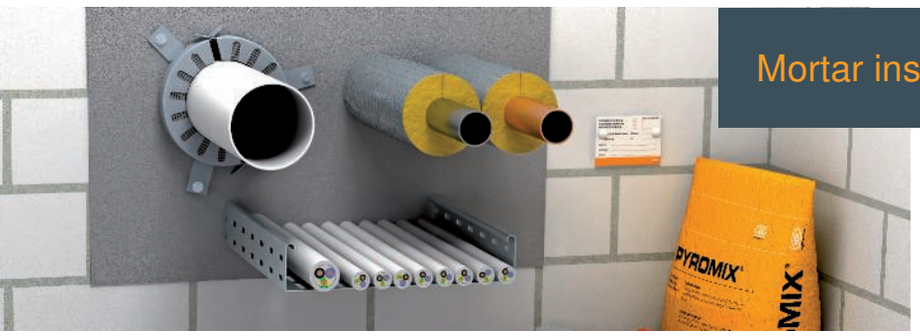
The division of buildings into fire sections protects unaffected building sections against the spread of fires for specific periods of time. Insulation maintains the fire sections, thus limiting the spread of fire and smoke. These constructive measures protect people and property, allowing fire brigades to prevent the spread of fires to other parts of the building through extinguishing measures.

Function of firewalls
Firewalls should ensure that a fire cannot pass to neighbouring buildings or building sections. This creates so-called fire sections. The construction design of these firewalls (materials, fire resistance classes, stress values) is regulated by building regulations and standards.

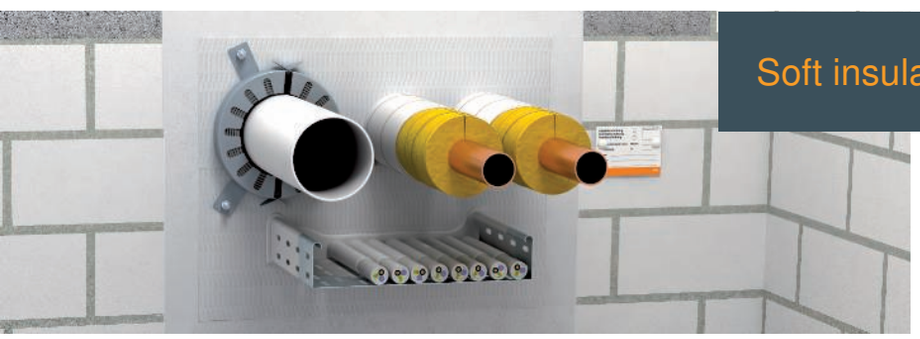
Electrical cables and pipes may only be run through walls and ceilings at the ends of rooms when there is a guarantee that they do not present an opportunity for fire and smoke to spread. Insulation systems reliably seal the ceiling and wall penetrations required for installations against fire and smoke.

Special requirements
The following requirements apply to cable penetrations with cable insulation:
- The spread of fire and smoke must be prevented
- Room closure must be guaranteed
- On the side of the insulation away from the fire, the surfaces of cables, pipes, cable support systems and the surface of the insulation may not heat up to an impermissible level

Insulation systems



Mortar insulation systems



Soft insulation systems



Foam systems



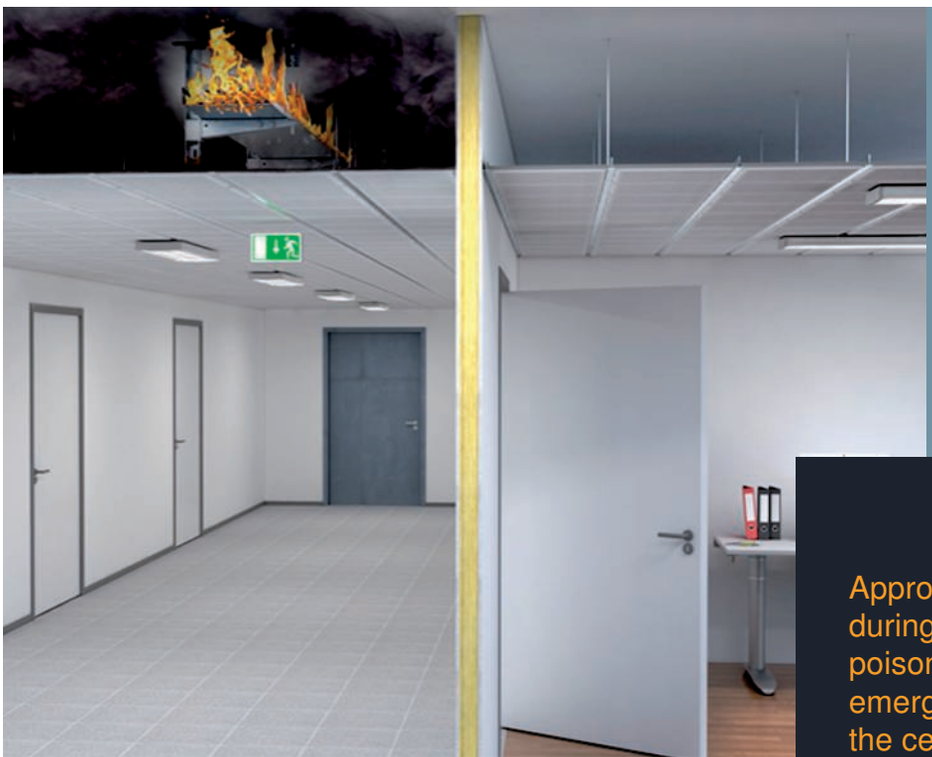
Pipe shell systems



Cable bandages

Schutzinstallation, brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Second protection aim: Protection of escape routes



2

Approximately 95% of all deaths during fires are caused by smoke poisoning! In case of fire, emergency and escape routes are the central lifeline of the building and must remain usable under all circumstances.

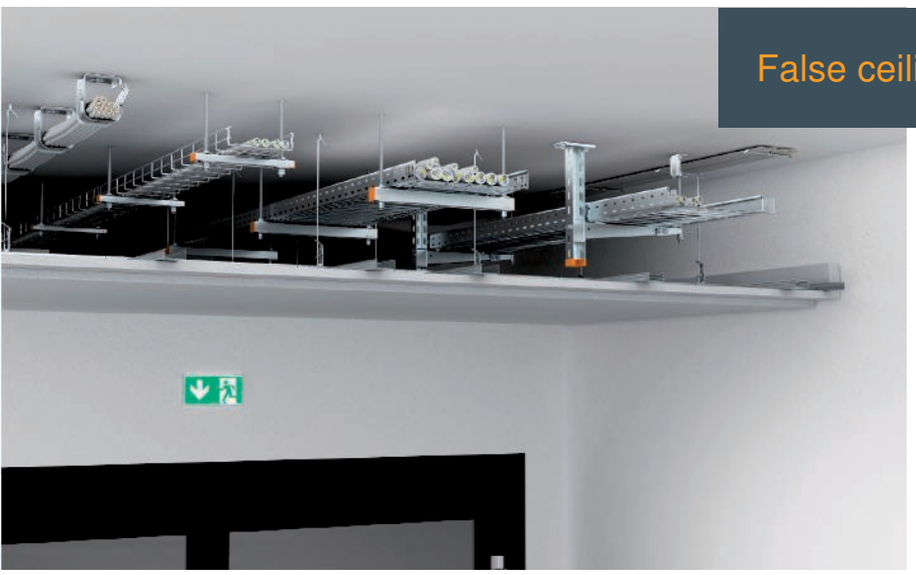
What is an emergency and escape route?
According to the construction regulations, there must be routes in buildings which not only permit access to the building in a horizontal and vertical direction in normal situations, but which also offer the option of rescue in case of fire. It is therefore obligatory to equip buildings with at least one constructive emergency and escape route. Additional emergency and escape routes may also be necessary, depending on the type of building.

These include:
- Necessary staircases (vertical access)
- Connecting rooms between the necessary stairwells and exits to the outside
- Necessary corridors (horizontal access)

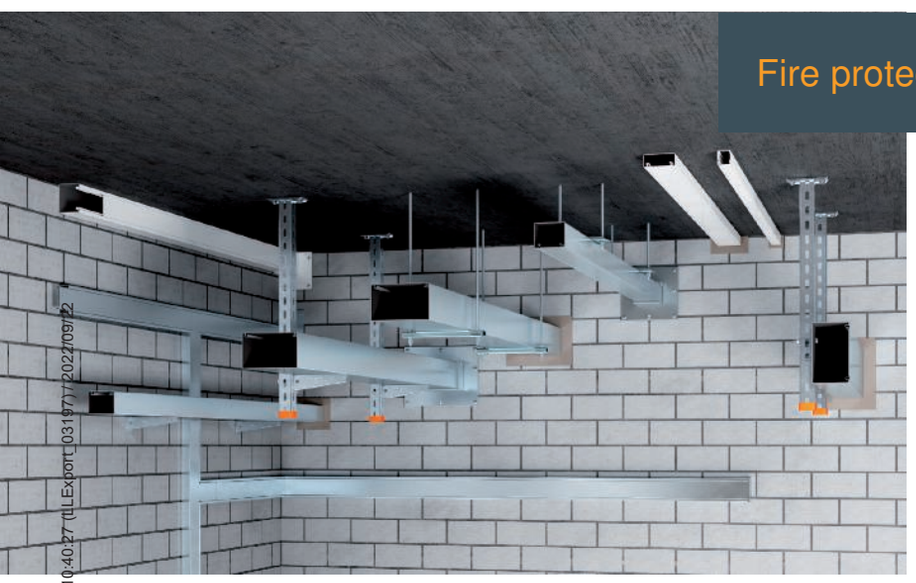
There must be a guarantee that, if there is a fire, these routes can be used to leave the building without any risk. In addition to evacuation, the emergency and escape routes also aid the local fire brigades as a point of attack.

In the area of emergency and escape routes, an installation may not pose an additional fire load. This requirement can be fulfilled using an appropriate type of installation:
- Concealed installation
- Installation in fire protection duct systems
- Installation above suspended fire protection ceilings
- Use of non-combustible materials
- Routing of cables with improved behaviour in case of fire

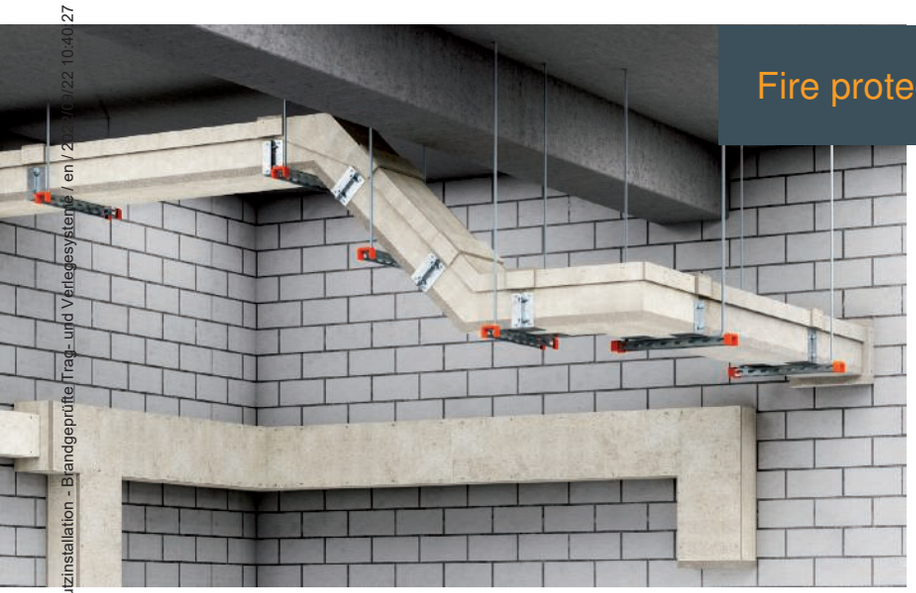
Escape route installations



False ceiling mounting



Fire protection ducts, metal



Fire protection ducts, concrete

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (TLExport_03197/2022/09/22

Third protection aim: Maintaining the functionality of electrical systems



3

E30 E90

If there is a fire, emergency and escape routes must remain usable and important technical equipment, such as emergency lighting, fire alarm systems and smoke extraction systems, continue to function. Therefore, it is essential that the power supply for these systems is specially protected. In addition, certain technical systems must support the fire brigades in fighting fires for a sufficiently long period of time.

Where is the maintenance of electrical function required?
Technical equipment that maintains electrical function is required for the following buildings and systems:
• Hospitals
• Hotels and restaurants
• Tower blocks
• Meeting points
• Commercial buildings
• Closed large garages
• Underground railway systems
• Chemicals industry
• Power stations
• Tunnels

This could be because these constructions are regularly frequented by many people, which creates an increased safety risk for gatherings of people. However, with certain systems, property and the environment must also be protected.

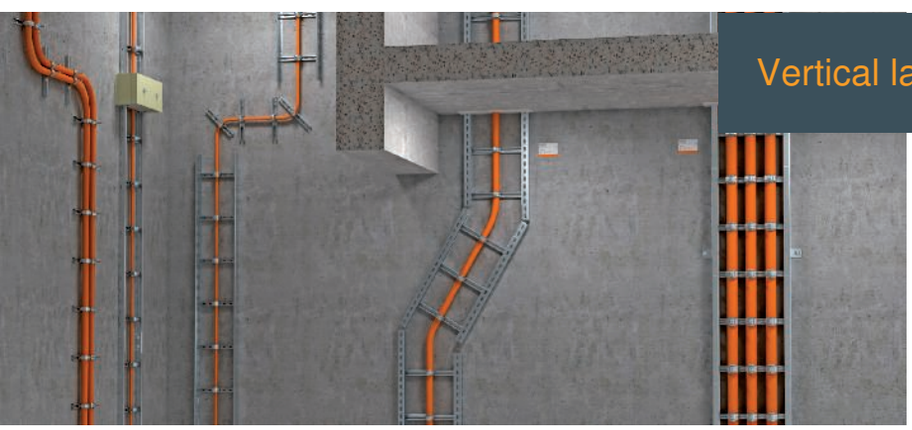
30 minutes: Maintenance of electrical function for safe evacuation and rescue
The first 30 minutes after the start of a fire play an important role. For the affected building to be cleared quickly the maintenance of electrical function must be guaranteed for the following equipment during this time:
- Safety lighting systems
- Lifts with fire control
- Fire alarm systems
- Alarm systems and systems to issue instructions
- Fire extraction systems

90 minutes: Maintenance of electrical function for effective firefighting
To support firefighting operations, it is imperative that certain technical equipment is supplied with sufficient power even up to 90 minutes after a fire breaks out in a building. This equipment includes:
- Water pressure increase systems for fire water supply
- Mechanical smoke extraction systems and smoke protection pressure systems
- Fire brigade lifts
- Bed lifts in hospitals and similar equipment

Systems that maintain the electrical function



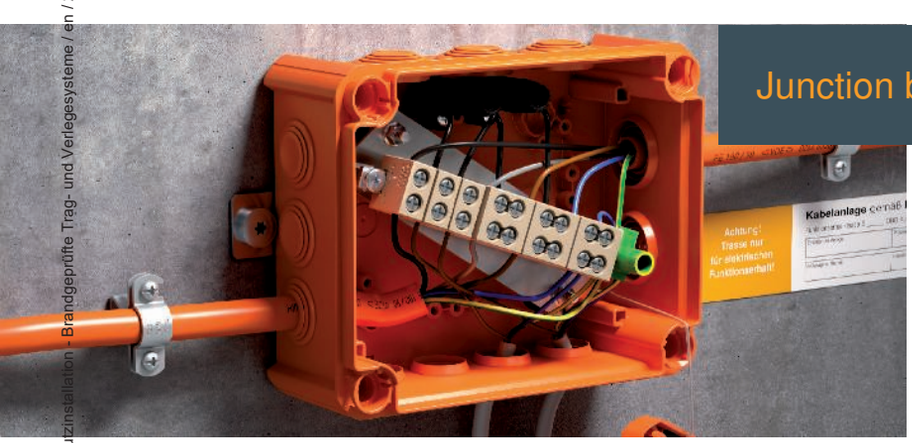
Cable trays and cable ladders



Vertical ladders



Individual routing



Junction boxes

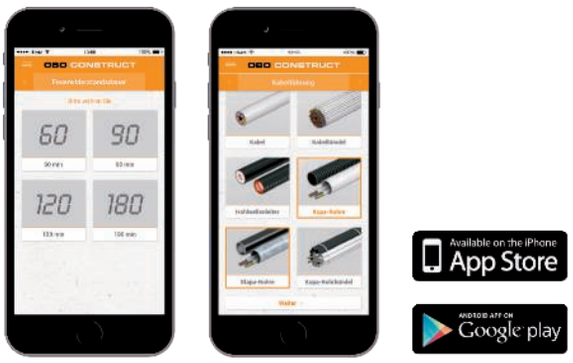
Schutzinstallation | Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LT-Export_03197) / 2022/09/22

Technical support



OBO BSS seminars: First-hand knowledge
With a comprehensive programme of training courses and seminars on the subject of fire protection systems, OBO is able to support its customers with specialist knowledge from a single source. Alongside the basic theoretical principles, the programme also deals with practical implementation in everyday applications. Special calculation and application examples round off the comprehensive programme of knowledge transfer.





The OBO construct BSS online Tool

It works on any computer with Internet access. The BSS software simplifies the planning of suitable fire protection systems. After the basic data has been entered, the user obtains an overview of the approved insulation systems, as well as of any necessary and optional system accessories. Thus, they can create, edit and export a personal shopping list in a targeted manner. All the key information on standards and approvals can be found directly with the systems.

BSS app

The OBO Construct BSS app makes finding the right product even quicker. In only a short time, the app determines the fire protection systems required for the appropriate project. It offers the full scope of the Construct BSS module, allowing simple planning and material calculations in any location. It's extremely practical, as the parts list can be sent directly by e-mail. The app is available for Android and Apple devices from Google Play Store and the iTunes App Store.



Fire protection guide for electrical installations

In the second edition of the fire protection guide, we have again compiled lots of useful information. The interconnections of fire protection between different types of technical building equipment are now explained in even more detail. Perhaps you will find some new information in this edition which can help you in the planning and implementation of fire protection systems.



Systems for the maintenance of electrical function, Firebox T series junction boxes



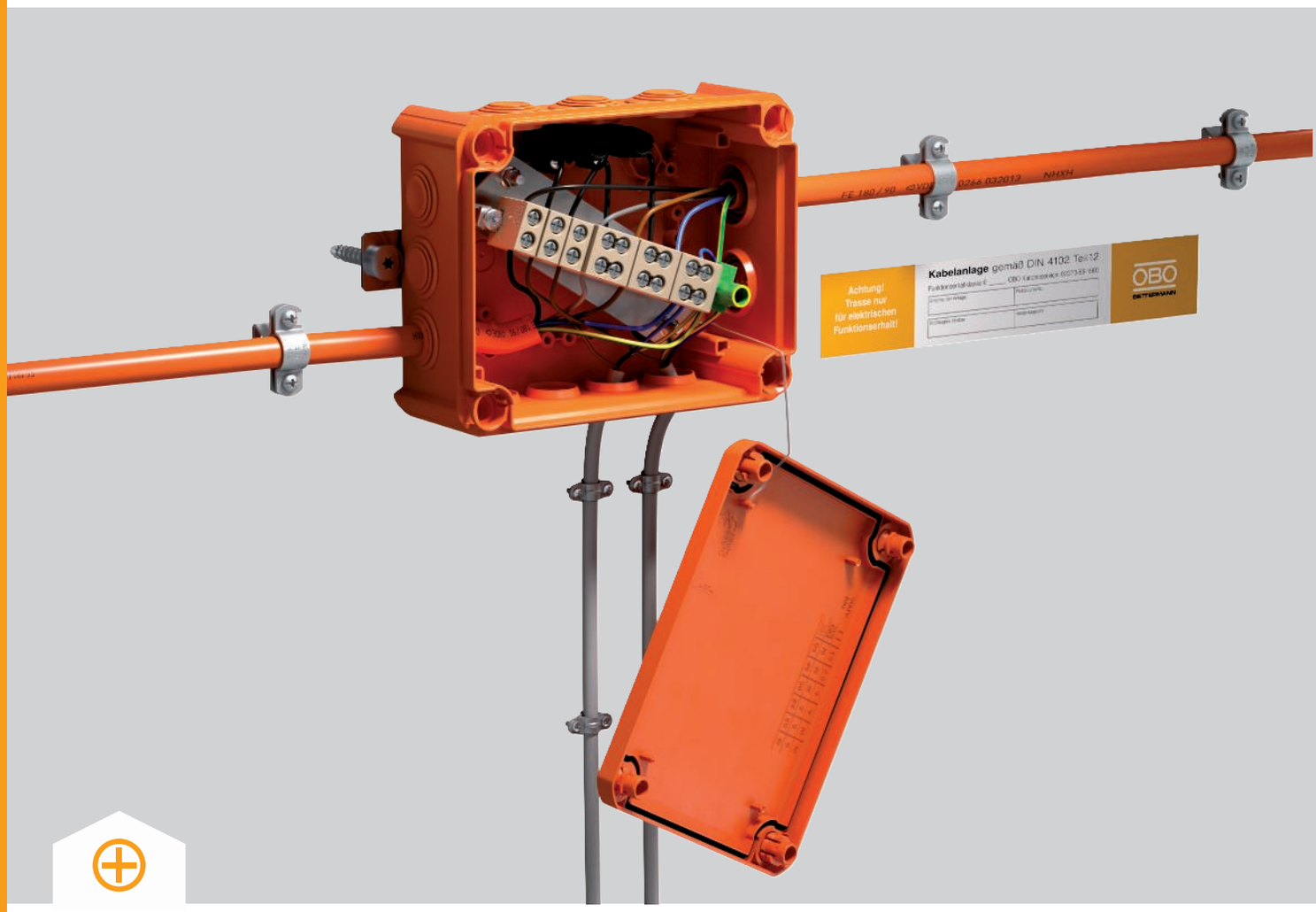
Junction boxes 24



Accessories, junction boxes 30

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Junction box, FireBox
System description



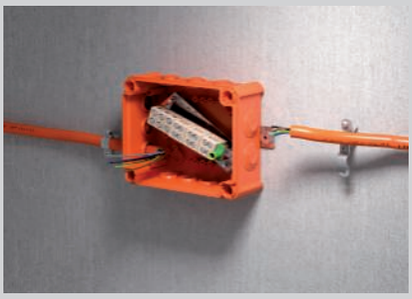
Junction boxes of the FireBox series are available for connecting and branching safety cables. These are equipped with a high-temperature-resistant connection unit with ceramic terminals and offer clamping areas of 0.5 mm² to 16 mm² of copper cross-section with single or double terminals. The T series FireBox possesses all the benefits of thermoplastic cable junction boxes, which allow the insertion of cables without tools and have a protection rating of IP66. The high-temperature-resistant terminals are pre-mounted on the connection unit. The protective conductor terminal is connected to the support clamp, meaning that covers of the metal parts are not required. The closed variants of the FireBox have support clamps and fastening elements made of stainless steel so they can also be used in aggressive environments.

In the closed sides of the boxes cable glands can be placed freely. Ceramic terminals of different nominal cross-sections can be arranged freely onto the support clamps according to electro-technical requirements. The junction boxes for data technology feature an even number of ceramic terminals. The terminals have wire protection which – with the common wire diameters of 0.5 mm² – decreases the risk of the copper being damaged. Fastening of all variants takes place on the outer straps with fire protection bolt ties. The FireBox is tested and approved as a connection socket for the maintenance of electrical function to DIN 4102 Part 12 with the classes E30, E60 and E90. A separate fuse holder allows the protection of branches.

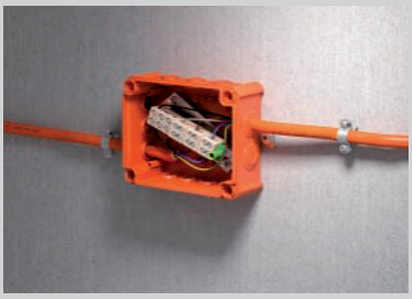
Junction box, FireBox
Installation principle



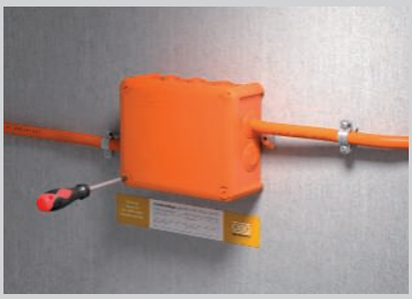
Fastening of the FireBox with a screw anchor and inserting the fuse holders.



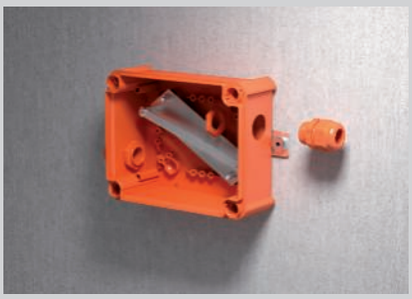
Cable insertion via plug-in seals.



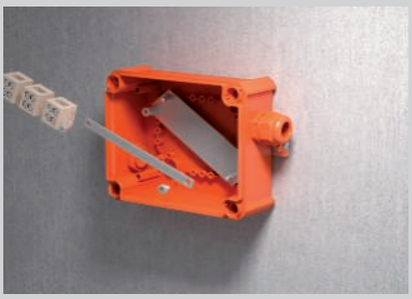
Diagonally arranged terminal strip with large wiring space.



Closing the box with the lid and attaching the identification label.



Free positioning of cable glands in the closed sides of the empty variants.



Empty variants offer the option to individually equip the box with different terminals.



FireBox with mounting plate, type F, mounted to the front of a cable tray.



FireBox with mounting plate, type B, mounted to the rear of a cable ladder.



Standard-conforming mounting of the FireBox on walls and ceiling.

Classification according to DIN 4102 Part 12

E30 **E60** **E90**

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

FireBox with plug-in seals and external fastening

FireBox with plug-in seals, single terminals

PP

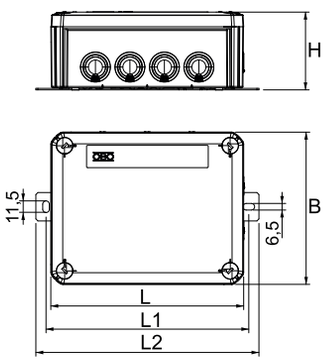


Type	Nominal cross-section mm²	Single terminals	Protective terminal	Entries	Pack Piece	Weight kg/100 pc.	Item no.
T100ED 06A	6	4	1	8x M25 2x M32	1	42.730	**7205740**
T160ED 10A	10	4	1	7x M25 5x M32	1	62.918	**7205742**
T250ED 16A	16	4	1	9x M25 7x M32	1	92.919	**7205744**

Connection box with soft plug-in seals. Sufficiently large wiring compartment through diagonally arranged connection unit with completely pre-mounted, high-temperature-resistant ceramic terminals. Green-yellow labelled protective conductor terminal. Fastening on easily accessible external flaps. Approved for cable systems that maintain the electrical function according to DIN 4102 Part 12 with the classes E30, E60 and E90. Ceramic clamps have been tested according to DIN EN 60998-2-1:2004.

Including 2 x MMSplus P 6x35 screw ties.

Dimensions



Type	Dim. L mm	Dim. L1 mm	Dim. L2 mm	Dim. B mm	Dim. H mm
T100ED 06A	150	162	182	116	67
T160ED 10A	190	200	220	150	77
T250ED 16A	240	250	270	190	95

FireBox with plug-in seals, double terminals

PP

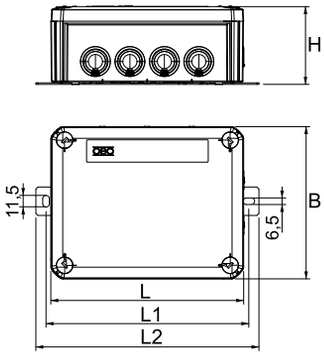


Type	Nominal cross-section mm²	Double terminals	Protective terminal	Entries	Pack Piece	Weight kg/100 pc.	Item no.
T100ED 06-2A	6	4	1	8x M25 2x M32	1	49.210	**7205746**
T160ED 10-2A	10	4	1	7x M25 5x M32	1	71.998	**7205748**
T250ED 16-2A	16	4	1	9x M25 7x M32	1	105.679	**7205750**

Junction box with ceramic double terminals and soft plug-in seals. Sufficiently large wiring compartment through diagonally arranged connection unit with completely pre-mounted, high-temperature-resistant ceramic terminals. Green-yellow labelled protective conductor terminal. Fastening on easily accessible external flaps. Approved for cable systems that maintain the electrical function according to DIN 4102 Part 12 with the classes E30, E60 and E90. Ceramic clamps have been tested according to DIN EN 60998-2-1:2004.

Including 2 x MMSplus P 6x35 screw ties.

Dimensions



Type	Dim. L mm	Dim. L1 mm	Dim. L2 mm	Dim. B mm	Dim. H mm
T100ED 06-2A	150	162	182	116	67
T160ED 10-2A	190	200	220	150	77
T250ED 16-2A	240	250	270	190	95

PP

FireBox with plug-in seals, 1 fuse holder



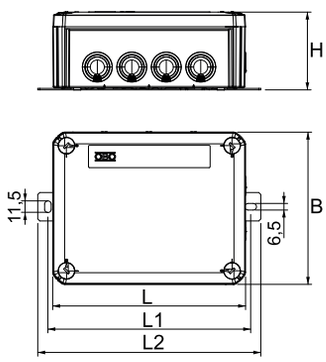
Type	Nominal cross-section mm²	Single terminals	Double terminals	Protective terminal	Entries	Pack Piece	Weight kg/100 pc.	Item no.
T100ED 06AF	6	3	2	1	8x M25 2x M32	1	48.650	**7205752**
T160ED 10AF	10	3	2	1	7x M25 5x M32	1	70.513	**7205754**
T250ED 16AF	16	3	2	1	9 x M25 7 x M32	1	104.854	**7205756**

Junction box with one fuse holder and soft plug-in seals. Sufficiently large wiring compartment through diagonally arranged connection unit with completely pre-mounted, high-temperature-resistant ceramic terminals. Green-yellow labelled protective conductor terminal. Fastening on easily accessible external flaps. Approved for cable systems that maintain the electrical function according to DIN 4102 Part 12 with the classes E30, E60 and E90. Ceramic clamps have been tested according to DIN EN 60998-2-1:2004.

Including 2 x MMSplus P 6x35 screw ties.

Type	Dim. L mm	Dim. L1 mm	Dim. L2 mm	Dim. B mm	Dim. H mm
T100ED 06AF	150	162	182	116	67
T160ED 10AF	190	200	220	150	77
T250ED 16AF	240	250	270	190	95

Dimensions



PP

FireBox with plug-in seals, 2 fuse holders



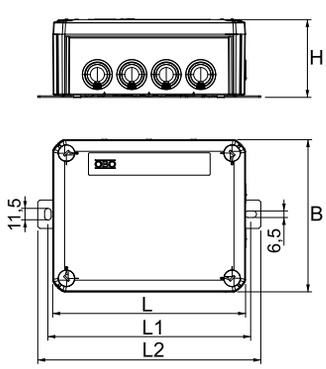
Type	Nominal cross-section mm²	Single terminals	Double terminals	Protective terminal	Entries	Pack Piece	Weight kg/100 pc.	Item no.
T100ED 06A2F	6	3	3	1	8x M25 2x M32	1	52.950	**7205758**
T160ED 10A2F	10	3	3	1	7x M25 5x M32	1	77.188	**7205760**
T250ED 16A2F	16	3	3	1	9 x M25 7 x M32	1	113.054	**7205762**

Junction box with two fuse holders and soft plug-in seals. Sufficiently large wiring compartment through diagonally arranged connection unit with completely pre-mounted, high-temperature-resistant ceramic terminals. Green-yellow labelled protective conductor terminal. Fastening on easily accessible external flaps. Approved for cable systems that maintain the electrical function according to DIN 4102 Part 12 with the classes E30, E60 and E90. Ceramic clamps have been tested according to DIN EN 60998-2-1:2004.

Including 2x MMSplus P 6x35 screw ties.

Type	Dim. L mm	Dim. L1 mm	Dim. L2 mm	Dim. B mm	Dim. H mm
T100ED 06A2F	150	162	182	116	67
T160ED 10A2F	190	200	220	150	77
T250ED 16A2F	240	250	270	190	95

Dimensions



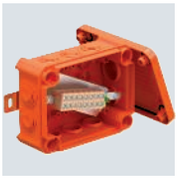
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

FireBox with plug-in seal for data technology

FireBox, with plug-in seals, for data technology

PP

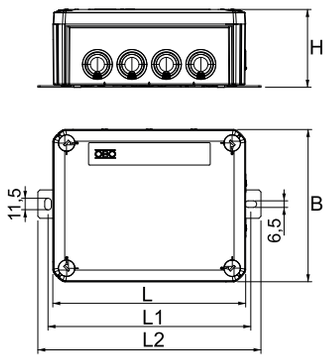


Type	Nominal cross-section mm²	Single terminals	Protective terminal	Entries		Pack Piece	Weight kg/100 pc.	Item no.
T100ED 4x4AD	0.5 - 4	4	1	8 x M25 2 x M32		1	41.690	**7205764**
T100ED 4x8AD	0.5 - 4	8	1	8 x M25 2 x M32		1	45.210	**7205766**
T250ED 4x16AD	0.5 - 4	16	4	9 x M25 7 x M32		1	91.441	**7205768**
T250ED 4x24AD	0.5 - 4	24	4	9 x M25 7 x M32		1	101.643	**7205770**
T350ED 4x32AD	0.5 - 4	32	4	16 x M32 8 x M40		1	158.251	**7205772**

Connection box for data technology with soft plug-in seals. Pairs of high-temperature-resistant ceramic terminals, suitable for data cables. Green-yellow labelled protective conductor/shield terminal. Fastening on easily accessible external flaps. Approved for cable systems that maintain the electrical function according to DIN 4102 Part 12 with the classes E30, E60 and E90. Ceramic clamps have been tested according to DIN EN 60998-2-1:2004.

Including 2x MMSplus P 6x35 screw ties.

Dimensions



Type	Dim. L mm	Dim. B mm	Dim. H mm	Dim. L1 mm	Dim. L2 mm
T100ED 4x4AD	150	116	68	162	182
T100ED 4x8AD	150	116	68	162	182
T250ED 4x16AD	240	190	95	250	270
T250ED 4x24AD	240	190	95	250	270
T350ED 4x32AD	285	201	120	205	230

PP

Closed FireBox, empty

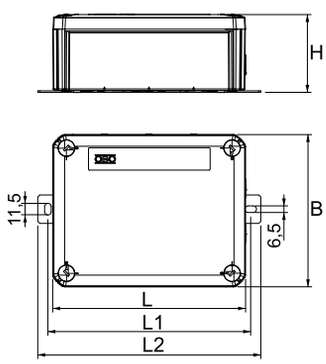
Type	Nominal cross-section mm²	Equipment	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.
T100E 0VA	0.5 - 6	Support rail	101	1	33.890	**7205780**
T160E 0VA	0.5 - 10	Support rail	130	1	49.203	**7205782**
T250E 0VA	0.5 - 16	Support rail	286	1	74.084	**7205784**
T350E 0VA	0.5 - 16	Support rail	386	1	121.611	**7205786**



Unequipped, closed connection or junction box for free termination with ceramic terminals and cable glands Dimension A states the available support rail length for the wiring terminals. Sufficiently large wiring compartment through diagonally arranged support rail. Fastening on easily accessible external flaps made of stainless steel. Approved for cable systems that maintain the electrical function according to DIN 4102 Part 12 with the classes E30, E60 and E90.

Type	Dim. L mm	Dim. B mm	Dim. H mm	Dim. L1 mm	Dim. L2 mm
T100E 0VA	150	116	67	162	182
T160E 0VA	190	150	77	200	220
T250E 0VA	240	190	95	250	270
T350E 0VA	285	201	120	205	230

Dimensions



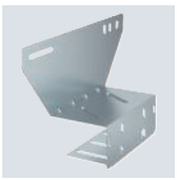
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

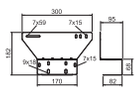
Always indicate the item number when ordering.

Ceramic terminals and accessories

Mounting plate for FireBox T series, front side

St DD



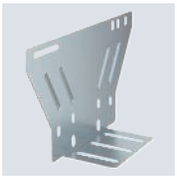


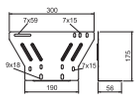
Type	Width mm	Height mm	Pack Piece	Weight kg/100 pc.	Item no.
MP-T6-F	300	182	1	46.134	**7205790**

Universal mounting plate to fasten the FireBox T series to the front side of cable trays and mesh cable trays as well as cable ladders of max. 60 mm side height. Enables the secure mounting of cables that maintain electrical functionality, without having to bend it over the side rail. Suitable for all FireBoxes.

Mounting plate for FireBox T series, rear side

St DD



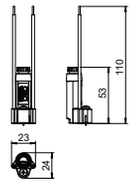


Type	Width mm	Height mm	Pack Piece	Weight kg/100 pc.	Item no.
MP-T6-B	300	175	1	36.566	**7205792**

Universal mounting plate to fasten the FireBox T series to the rear side of cable trays and mesh cable trays as well as cable ladders of max. 60 mm side height. Enables the secure mounting of cables that maintain electrical functionality, without having to bend it over the side rail. Suitable for all FireBoxes.

Fuse holder for FireBox T series



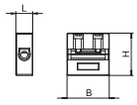


Type	Pack Piece	Weight kg/100 pc.	Item no.
TE-FH 520	1	1.800	**7205570**

Fuse holder with bayonet lock for fine-wire fuse for dimensions Ø 5 x 20 mm. Connection wires that maintain electrical functionality with nominal cross-section 2.5 mm², ready-stripped. For mounting on one of the exposed domes in the junction box of the FireBox T series using the supplied screw.

Ceramic terminal



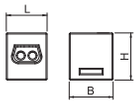


Type	Nominal cross-section mm²	Dim. L mm	Dim. B mm	Dim. H mm	Pack Piece	Weight kg/100 pc.	Item no.
TK 04	0.5 - 4	8.5	21.5	21.5	5	0.880	**7205700**
TK 06	6	8.5	21.5	21.5	5	0.880	**7205702**
TK 10	10	12.5	24	24	5	1.840	**7205704**
TK 16	16	15	28	28	5	3.160	**7205706**

High-temperature-resistant ceramic terminal for refitting of the FireBox T series. Tested according to DIN EN 60998-2-1:2004.

Ceramic terminal, double



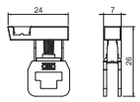


Type	Nominal cross-section mm²	Dim. L mm	Dim. B mm	Dim. H mm	Pack Piece	Weight kg/100 pc.	Item no.
TK 06-2	6	19.5	21	22.5	5	2.500	**7205703**
TK 10-2	10	24.5	26.5	26	5	4.200	**7205705**
TK 16-2	16	27	29.5	30.5	5	6.400	**7205707**

High-temperature-resistant ceramic terminal with four connection options for refitting of the FireBox T series. Tested according to DIN EN 60998-2-1:2004.

Protective conductor terminal

Type	Nominal cross-section mm²	Dim. B mm	Dim. H mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
TPE 04	4	24	26	7	5	0.540	**7205709**

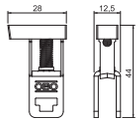




Productive conductor terminal for retro-fitting the FireBox T series with green-yellow identification.

Protective conductor terminal

Type	Nominal cross-section mm²	Dim. B mm	Dim. H mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
TPE 35	35	28	44	12.5	5	1.870	**7205714**





Protective conductor terminal for refitting of the FireBox T series with green-yellow identification.

PA

Cable gland with locknut as a set

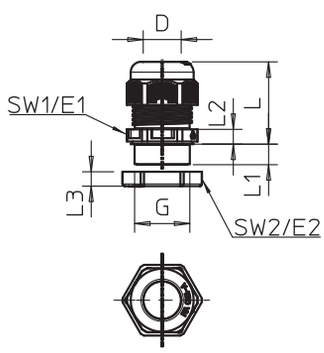
Type	Thread	Pack Piece	Weight kg/100 pc.	Item no.
V-TEC VM16+ OR	M16 x 1,5	10	0.771	**7205657**
V-TEC VM20+ OR	M20 x 1,5	10	1.106	**7205660**
V-TEC VM25+ OR	M25 x 1,5	10	1.710	**7205663**
V-TEC VM32+ OR	M32 x 1,5	10	2.840	**7205666**
V-TEC VM40+ OR	M40 x 1,5	10	5.150	**7205669**



Robust cap nut cable gland with metric connecting thread to IEC 423, including pre-mounted locknut.
For high tightness requirements. Strain relief, torsion protection and tightness over the whole clamping area. Sealing ring made of polychloroprene/acrylonitrile butadiene rubber. Moulded shaped sealing lip on intermediate support, no connection thread sealing ring required.
VDE-tested according to DIN EN 50262, protection rating IP68 at 5 bar for 1 hr.
For maintenance of electrical function according to DIN 4102 Part 12 in connection with the closed junction boxes of the FireBox T series.
Colour: Pastel orange.

Type	Dim. G mm	Sealing range D mm	Dim. L min. mm	Dim. L max. mm	Dim. L1 mm	Dim. L2 mm	Dim. L3 mm	SW 1 mm	Dim. E1 mm	SW 2 mm	Dim. E2 mm
V-TEC VM16+ OR	M16 x 1,5	4.5 - 10	21.5	23.5	8	5	5	20	22	22	25
V-TEC VM20+ OR	M20 x 1,5	6 - 13	23.5	30.5	9	5	6	24	27	24	27
V-TEC VM25+ OR	M25 x 1,5	9 - 17	26	35	10	6	6.5	29	32	32	36
V-TEC VM32+ OR	M32 x 1,5	15 - 21	29	40	11	6	7	36	41	41	46
V-TEC VM40+ OR	M40 x 1,5	16 - 28	36	46	11	7	7.5	44	50	50	56

Dimensions



Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

Ceramic terminals and accessories

Plug-in seal for FireBox T series

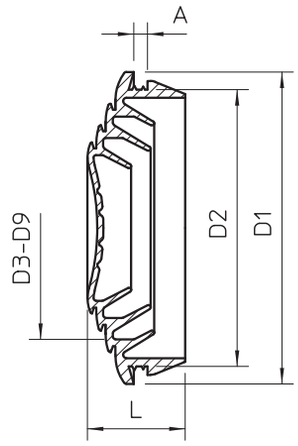
TPE



Type	Size	For Ø mm	Colour	Pack Piece	Weight kg/100 pc.	Item no.
EDK 25 OR	M25	0-22	Pastel orange	10	0.214	**7205675**
EDK 32 OR	M32	0-27	Pastel orange	10	0.328	**7205677**
EDK 40 OR	M40	0-34	Pastel orange	10	0.534	**7205679**

The soft plug-in seal can be cut back step by step to suit the relevant cable diameter.
Colour: Pastel orange.

Dimensions



Type	Dim. L mm	Dim. A mm	Dim. D1 mm	Dim. D2 mm	Sealing range D mm
EDK 25 OR	10.1	2.2	29.5	25.4	0-22
EDK 32 OR	11.4	2.2	36.4	32.3	0-27
EDK 40 OR	13.4	2.2	44.1	40.2	0-34

Identification plate for maintenance of electrical function

PVC





Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-E DE	German	10	0.600	**7205423**

Self-adhesive identification plate for approved cable system labelling for maintenance of electrical function as required by DIN 4102 Part 12.



Systems for the maintenance of electrical function, cable-specific routing variants



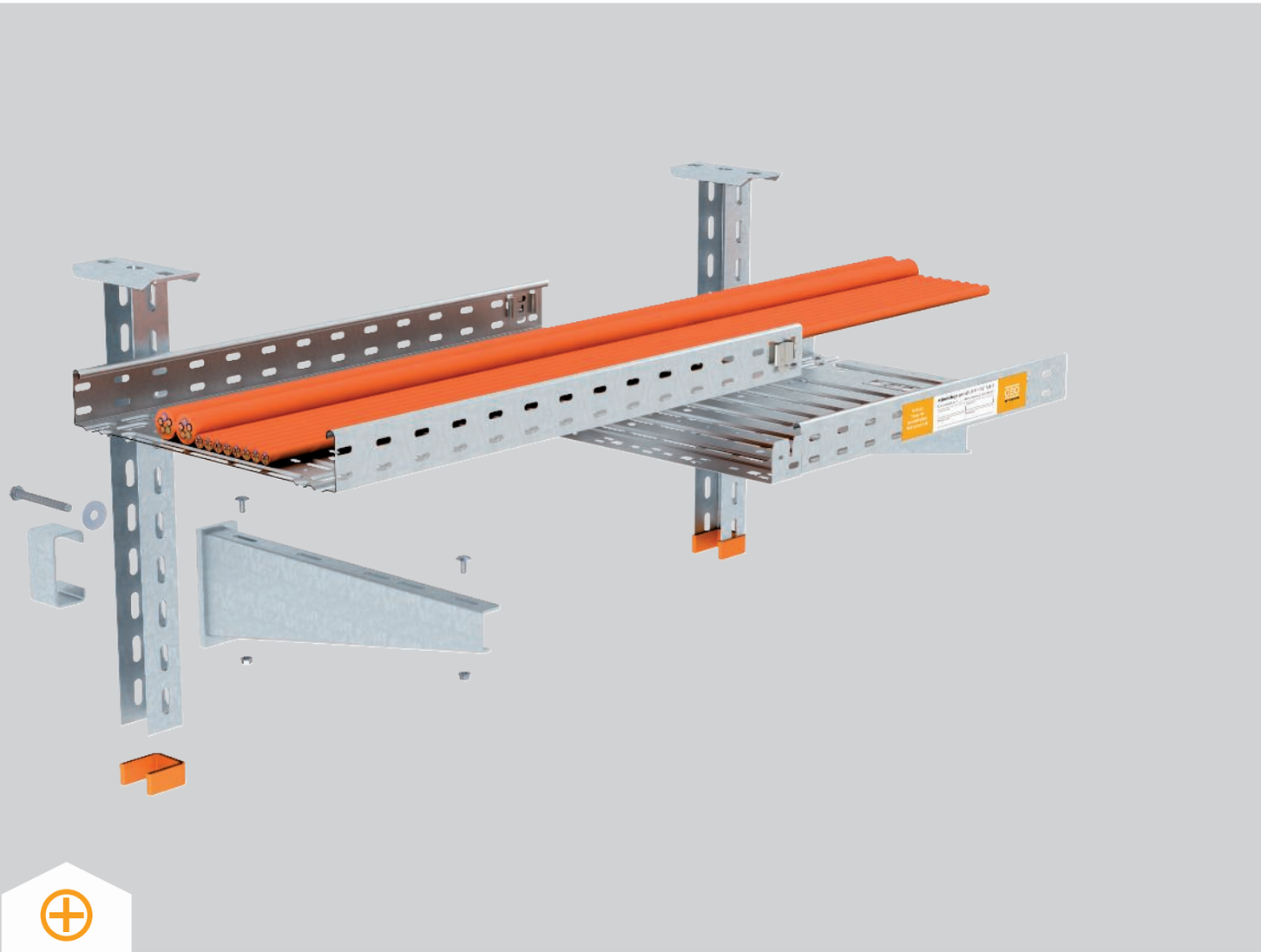
RKS-Magic® cable tray 36



RKS-Magic® cable tray, stainless steel 66

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

RKS-Magic® cable trays
System description



The RKS-Magic® cable tray has been tested as a cable-specific support construction for the maintenance of electrical function according to DIN 4102 Part 12 and approved for maintenance of electrical function classes E 30 to E 90. A threaded rod lock is not required at the tip of the bracket. This saves not just material but also considerably simplifies and speeds up the installation of cables. The screwless connection system allows interconnection of the RKS-Magic® cable trays without tools and in a particularly quick and economic manner. To ensure the maintenance of the electrical supply, only the locking lugs in the base need to be bent after the trays have been connected. The double material thickness in the joint area and the beading in the base mean that the cable tray has a very high load capacity. The installation of fittings in the section route is permitted, as is the mounting of separating retainers.

RKS-Magic® cable trays
Installation principle



Ceiling mounting on both sides with max. three layers (2+1).



One-sided arrangement with max. two layers.



Wall mounting.



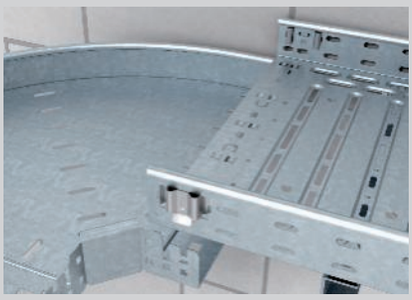
Creation of a straight connector through interconnection of the cable trays.



Bending the locking straps in the base.



Complete screwless joint connection.



Quick and simple mounting of fitting with screwless Magic connection.



Separating retainer mounting with truss-head bolts.

Classification according to DIN 4102 Part 12

E30 **E60** **E90**

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

RKS-Magic® cable trays
Proof

Maintenance of electrical functionality system according to DIN 4102 Part 12

Routing type	Cable-specific support construction
Test certificate no.	P-MPA-E-13-002
Maintenance of electrical functionality classes	E30 to E90
Testing standard	DIN 4102 Part 12
Mounting variant	Ceiling mounting with suspended support and bracket without threaded rod lock Wall mounting with bracket without threaded rod lock
Material version	Galvanised steel

Support spacing for ceiling mounting with suspended support/bracket

Cable tray width	Cable load per cable tray				
100 mm	max. 20 kg/m	max. 1.50 m	max. 1.50 m	max. 1.50 m	max. 1.50 m
200 mm	max. 20 kg/m	max. 1.50 m	max. 1.50 m	max. 1.50 m	max. 1.50 m
300 mm	max. 20 kg/m	max. 1.50 m	max. 1.50 m	max. 1.50 m	max. 1.50 m
400 mm	max. 20 kg/m	max. 1.50 m	max. 1.50 m	max. 1.50 m	max. 1.50 m

Support spacing for wall mounting with bracket

Cable tray width	Cable load per cable tray	
100 mm	max. 20 kg/m	max. 1.50 m
200 mm	max. 20 kg/m	max. 1.50 m
300 mm	max. 20 kg/m	max. 1.50 m
400 mm	max. 20 kg/m	max. 1.50 m

RKS-Magic® cable trays
Components used

Ceiling mounting with suspended support/bracket

Component	Type	Page				
Cable tray	RKSM 6... FS	52	1	2	2	3
Support	US 5 K ... FT	57	1	1	1	1
Protective cap	US 5 KS OR	58	1	1	1	1
Wall and support brackets	AW 30 11 FT, AW 55 21 FT, ... 31 FT, ... 41 FT	143	1	2	2	3
Spacer	DSK 45	60	1	2	1	2
Hex set screw	SKS 10x90 F	63	1	2	1	2
Fender washer	DIN440 11 F	63	1	2	0	1
Gutter bolt	FRSB 6x 15 F	63	2	4	4	6

Choose the fastening anchors according to the substrate

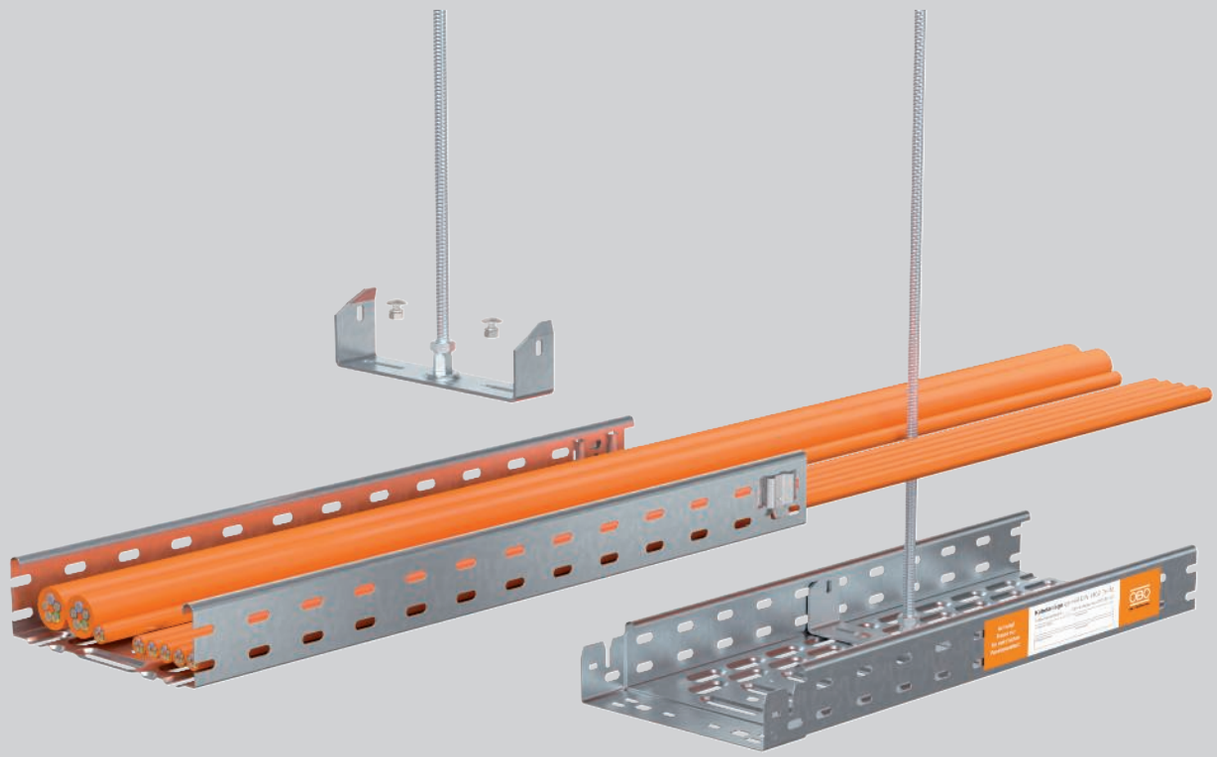
Wall mounting with bracket

Component	Type	
Cable tray	RKSM 6... FS	1
Wall and support brackets	AW 30 11 FT, AW 55 21 FT, ... 31 FT, ... 41 FT	1
Truss-head bolt	FRSB 6x 15 F	2

Choose the fastening anchors according to the substrate

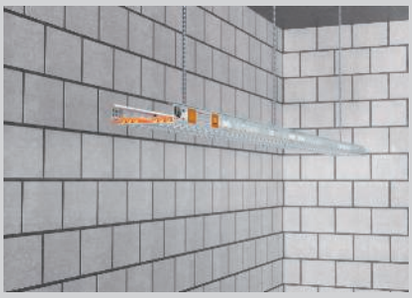
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

RKS-Magic® cable trays
System description

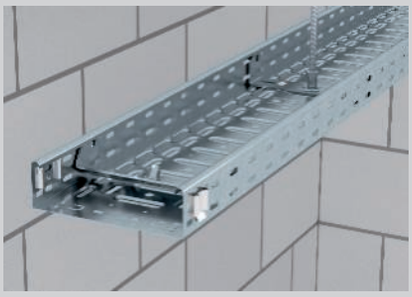


The RKS-Magic® cable tray has been tested as a cable-specific support construction for the maintenance of electrical functionality according to DIN 4102 Part 12 and approved for maintenance of electrical function classes E 30 to E 90. The support structure as a light-duty routing system consists of a centre suspension and a centrally arranged threaded rod as a suspension component and can be installed simply, quickly and with only a few components. The screwless connection system allows interconnection of the RKS-Magic® cable trays without tools and in a particularly quick and economic manner. To ensure the maintenance of the electrical supply, only the locking lugs in the base need to be bent after the trays have been connected. The double material thickness in the joint area and the beading in the base mean that the cable tray has a very high load capacity. The installation of fittings in the section is permitted.

RKS-Magic® cable trays
Installation principle



Single-layer ceiling mounting of the cable tray with a centre suspension.



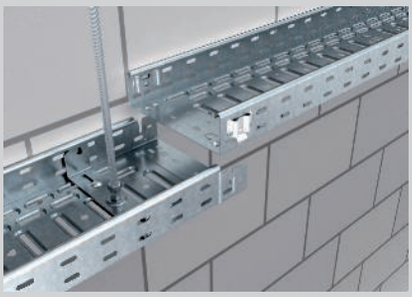
Insertion of the centre suspension in the cable tray.



Securing of the threaded rod on the centre suspension with additional hexagonal nut.



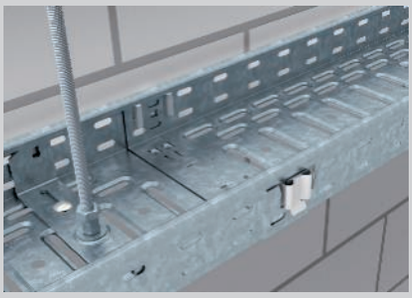
Screwing of the centre suspension in the tray base.



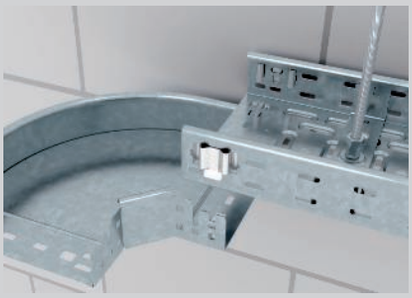
Creation of a straight connector through interconnection of the cable trays.



Bending the locking straps in the base.



Complete screwless joint connection.



Quick and simple mounting of the fittings with screwless Magic connection.

Classification according to DIN 4102 Part 12

E30 **E60** **E90**

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

RKS-Magic® cable trays
Proof

Maintenance of electrical functionality system according to DIN 4102 Part 12

Routing type	Cable-specific support construction
Test certificate no.	P-MPA-E-18-003
Maintenance of electrical functionality classes	E30 to E90
Testing standard	DIN 4102 Part 12
Mounting variant	Ceiling mounting with centre suspension
Material version	Galvanised steel

Support spacing for ceiling mounting with centre suspension

Cable tray width	Cable load per cable tray	
100 mm	max. 7.5 kg/m	max. 1.00 m
150 mm	max. 7.5 kg/m	max. 1.00 m
200 mm	max. 7.5 kg/m	max. 1.00 m

RKS-Magic® cable trays
Components used

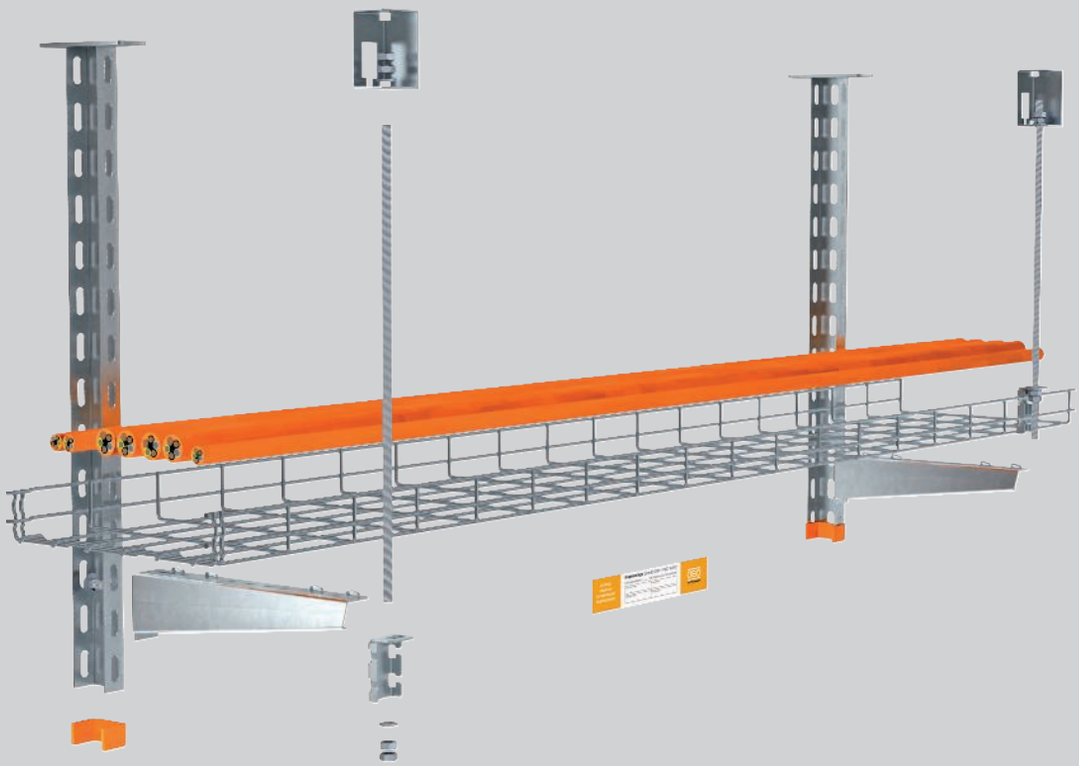
Ceiling mounting with centre suspension

Component	Type	
Cable tray	RKSM 6... FS	1
Centre suspension	MAH 60 ... FS	1
Truss-head screw	FRSB 6x16	2
Threaded rod	TR M10 G	1
Hexagonal nut	HN M10 G	1

Choose the fastening anchors according to the substrate

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

GR-Magic® mesh cable trays
System description

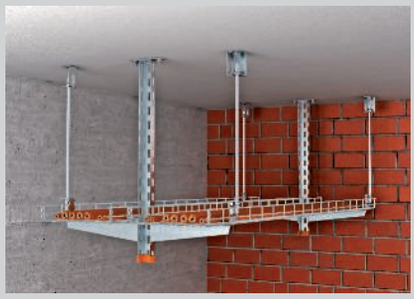


The GR-Magic® mesh cable tray has been tested as a cable-specific support construction for the maintenance of electrical function according to DIN 4102 Part 12 and approved for maintenance of electrical function classes E 30 to E 90. The threaded rod lock is mounted directly on the tray rail, using the ABG connection component. This is just attached to the side lengthwise wires of the mesh cable tray. When the threaded rod has been mounted, the component is secured against unintentional release. The screwless connection system of the GR-Magic® mesh cable trays ensures toolless, and thus particularly rapid and economic, mounting.

GR-Magic® mesh cable trays
Installation principle



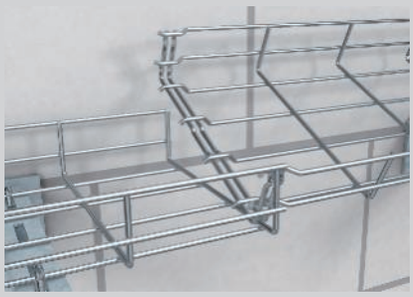
Ceiling mounting with brackets mounted on one side.



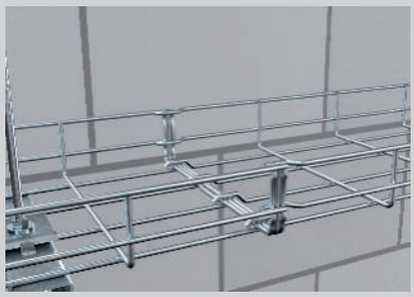
Ceiling mounting with brackets arranged on both sides.



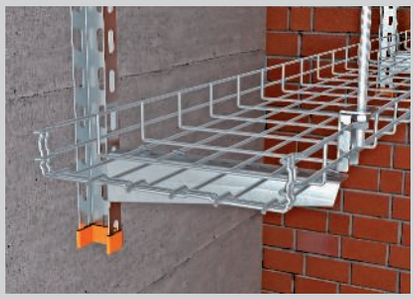
Multi-layer wall mounting.



Interconnecting of two stock lengths of the mesh cable tray.



Finished screwless joint connection.



Screwless mesh cable tray fastening on the bracket.



Screwless fastening of the connection component to the side wires.

Classification according to DIN 4102 Part 12

E30 E60 E90

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

GR-Magic® mesh cable trays
Proof

Maintenance of electrical functionality system according to DIN 4102 Part 12

Routing type	Cable-specific support construction
Test certificate no.	P-MPA-E-12-011
Maintenance of electrical functionality classes	E30 to E90
Testing standard	DIN 4102 Part 12
Mounting variant	Ceiling mounting with suspended support and bracket with threaded rod lock Wall mounting with bracket and threaded rod lock
Material version	Galvanised steel

Support spacing for ceiling mounting with suspended support/bracket

Cable tray width	Cable load per cable tray					
100 mm	max. 15 kg/m	max. 1.50 m	max. 1.50 m	max. 1.50 m	max. 1.50 m	max. 1.50 m
200 mm	max. 15 kg/m	max. 1.50 m	max. 1.50 m	max. 1.50 m	max. 1.50 m	max. 1.50 m
300 mm	max. 15 kg/m	max. 1.50 m	max. 1.50 m	max. 1.50 m	max. 1.50 m	max. 1.50 m
400 mm	max. 15 kg/m	max. 1.50 m	max. 1.50 m	max. 1.50 m	max. 1.50 m	max. 1.50 m

Support spacing for wall mounting with bracket

Cable tray width	Cable load per cable tray			
100 mm	max. 15 kg/m	max. 1.50 m	max. 1.50 m	max. 1.50 m
200 mm	max. 15 kg/m	max. 1.50 m	max. 1.50 m	max. 1.50 m
300 mm	max. 15 kg/m	max. 1.50 m	max. 1.50 m	max. 1.50 m
400 mm	max. 15 kg/m	max. 1.50 m	max. 1.50 m	max. 1.50 m

GR-Magic® mesh cable trays
Components used

Ceiling mounting with suspended support/bracket

Component	Type					
Mesh cable tray	GRM 55 ... G	1	2	3	2	3
Support	US 3 K ... FT	1	1	1	1	1
Protective cap	US 3 KS OR	1	1	1	1	1
Wall and support brackets	AWG 15 ... FT	1	2	3	2	3
Truss-head bolt	FRS 10x 25 F	1	2	3	2	3
Connection component	ABG FT	1	2	3	2	3
Threaded rod	TR M10 G	1	2	0	2	3
Threaded rod	TR M12 G	0	0	3	0	0
Hexagonal nut	HN M10 G	4	5	0	8	9
Hexagonal nut	HN M12 G	0	0	6	0	0
Washer	WS M10 D20 G	2	3	0	4	5
Washer	WS M12 D24 G	0	0	4	0	0
Connection sleeve	CSTR M10 G	0	1	0	0	1
Connection sleeve	CSTR M12 G	0	0	2	0	0
Fire protection clamp	BSB	1	1	1	2	2

Choose the fastening anchors according to the substrate

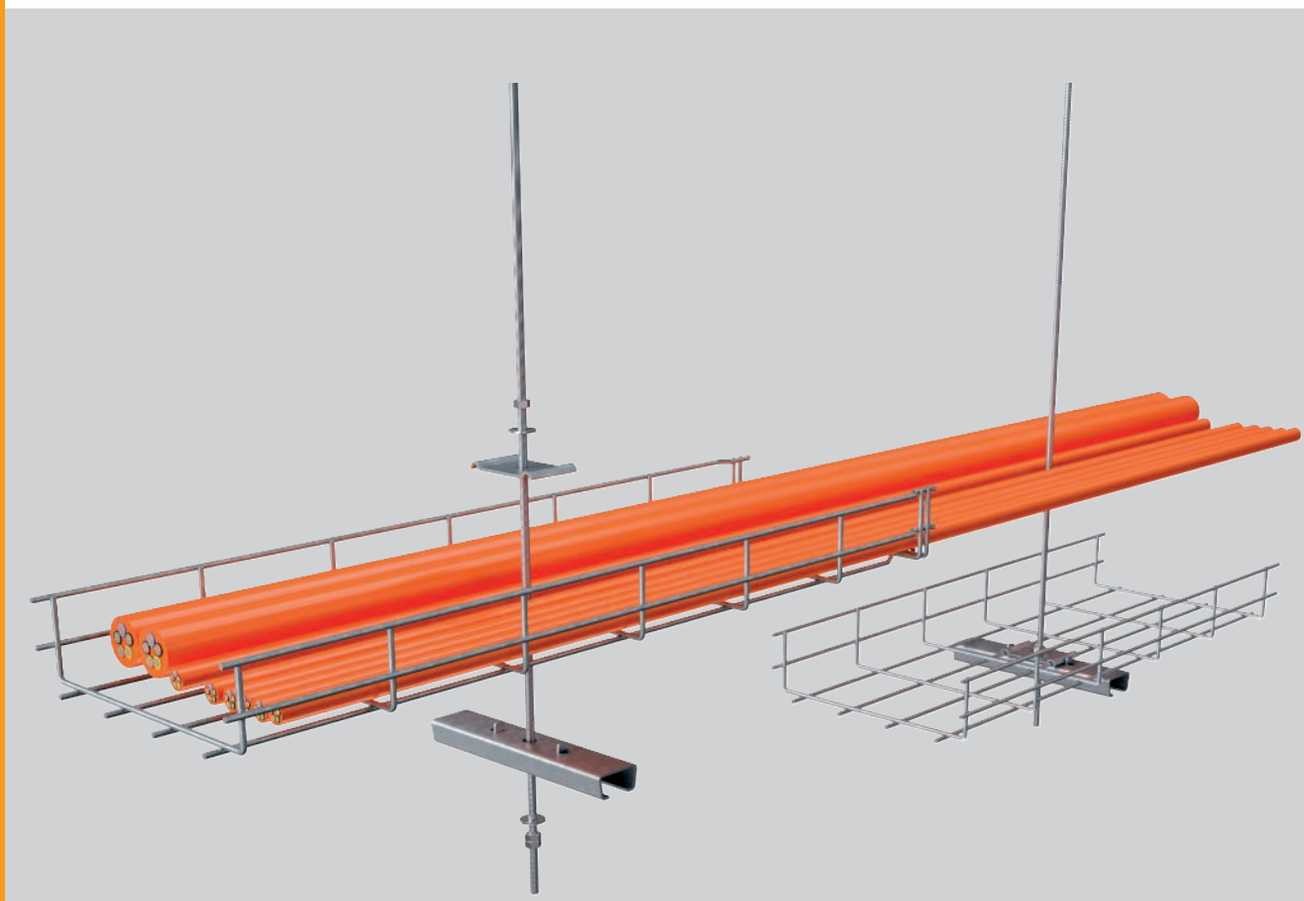
Wall mounting with bracket

Component	Type			
Mesh cable tray	GRM 55 ... G	1	2	3
Wall and support brackets	AWG 15 ... FT	1	2	3
Connection component	ABG FT	1	2	3
Threaded rod	TR M10 G	1	2	0
Threaded rod	TR M12 G	0	0	3
Hexagonal nut	HN M10 G	4	5	0
Hexagonal nut	HN M12 G	0	0	6
Washer	WS M10 D20 G	2	3	0
Washer	WS M12 D24 G	0	0	4
Connection sleeve	CSTR M10 G	0	1	0
Connection sleeve	CSTR M12 G	0	0	2
Fire protection clamp	BSB	1	1	1

Choose the fastening anchors according to the substrate

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

GR-Magic® mesh cable tray, centre suspension
System description

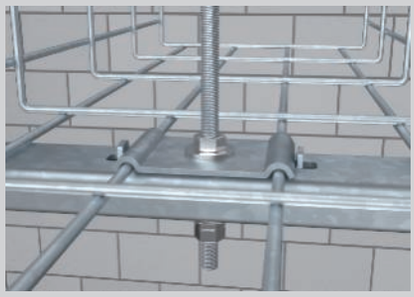


The GR-Magic® mesh cable tray has been tested as a cable-specific support construction for the maintenance of electrical functionality according to DIN 4102 Part 12 and approved for maintenance of electrical function classes E 30 to E 90. The support structure as a light-duty routing system consists of a centre suspension and a centrally arranged threaded rod as a suspension component and can be installed simply, quickly and with only a few components. The screwless connection system of the GR-Magic® mesh cable trays ensures toolless, and thus particularly rapid and economic, mounting.

GR-Magic® mesh cable trays
Installation principle



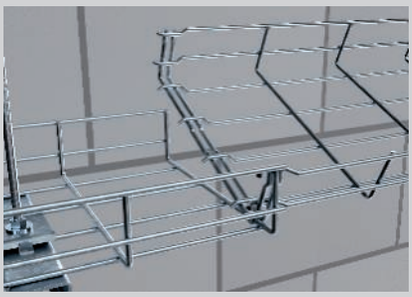
Single-layer ceiling mounting of the mesh cable tray with a centre suspension.



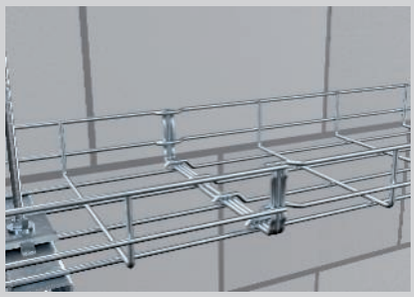
Positioning and fastening of the clamping piece with the threaded rod.



Connection of the threaded rod with the retaining rail under the mesh cable tray.



Interconnection of two stock lengths of the mesh cable tray.



Complete screwless joint connection.



Mounting of fittings with joint connector.

Classification according to DIN 4102 Part 12

E30 **E60** **E90**

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

GR-Magic® mesh cable trays
Proof

Maintenance of electrical functionality system according to DIN 4102 Part 12

Routing type	Cable-specific support construction
Test certificate no.	P-MPA-E-18-004
Maintenance of electrical functionality classes	E30 to E90
Testing standard	DIN 4102 Part 12
Mounting variant	Ceiling mounting with centre suspension
Material version	Galvanised steel

Support spacing for ceiling mounting with centre suspension

Mesh cable tray width	Cable load per mesh cable tray	
200 mm	max. 7.5 kg/m	max. 1.0 m

GR-Magic® mesh cable trays
Components used

Ceiling mounting with centre suspension

Component	Type	
Mesh cable tray	GRM 55 200 G	1
Centre suspension	GMS 170 FS	1
Threaded rod	TR M10 G	1
Hex nut	HN M10 G	3
Washer	WS 10 G	1
Fender washer	DIN440 11 F	1

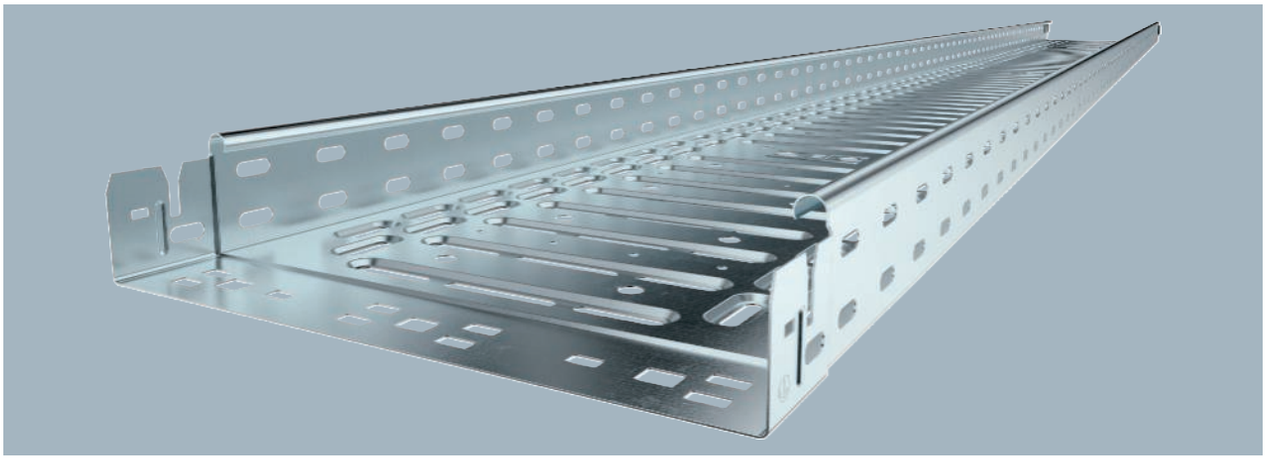
Choose the fastening anchors according to the substrate

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Cable tray RKS-Magic®

Cable tray RKS-Magic® 60

St FS FT

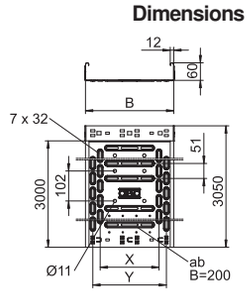


Type	Width mm	Metal thick-ness mm	BS	Pack m	Weight kg/100 m	Item no.
RKSM 610 FS	100	0.75		3	134.334	**6047611**
RKSM 615 FS	150	0.75		3	154.885	**6047630**
RKSM 620 FS	200	0.75		3	181.508	**6047638**
RKSM 630 FS	300	0.75		3	233.803	**6047654**
RKSM 640 FS	400	0.90		3	338.459	**6047689**
RKSM 610 FT	100	1.00		3	197.410	**6047612**
RKSM 615 FT	150	1.00		3	236.984	**6047631**
RKSM 620 FT	200	1.00		3	251.115	**6047639**
RKSM 630 FT	300	1.00		3	356.295	**6047655**
RKSM 640 FT	400	1.00		3	437.180	**6047690**

Cable tray with integrated quick fastening system. The usable length of the cable tray is 3,000 mm.
The cable tray has continuous side perforations of 7 x 20 mm for the installation of additional connection and mounting components.
The perforation for direct threaded rod suspension has a diameter of 11 mm.

Type	Length mm	Dim. B mm	Usable cross-section cm^2	Dim. x mm	Dim-en-sion y mm
RKSM 610 FS	3050	100	58	–	50
RKSM 615 FS	3050	150	88	50	100
RKSM 620 FS	3050	200	118	100	150
RKSM 630 FS	3050	300	178	200	250
RKSM 640 FS	3050	400	238	300	350

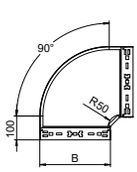
Dimensions



90° Magic bend 60

St FS FT





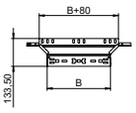
Type	Width mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
RBM 90 610 FS	100	100	1	65.700	**6041130**
RBM 90 615 FS	150	150	1	91.900	**6041132**
RBM 90 620 FS	200	200	1	121.900	**6041134**
RBM 90 630 FS	300	300	1	192.200	**6041136**
RBM 90 640 FS	400	400	1	274.700	**6041138**
RBM 90 610 FT	100	100	1	70.700	**6041150**
RBM 90 615 FT	150	150	1	99.300	**6041152**
RBM 90 620 FT	200	200	1	131.300	**6041154**
RBM 90 630 FT	300	300	1	207.500	**6041156**
RBM 90 640 FT	400	400	1	296.300	**6041158**

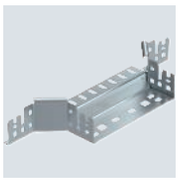
90° bend with quick connector system. For all cable tray types of 60 mm side height.

St FS FT

Add-on tee 60

Type	Width mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
RAAM 610 FS	100	100	1	37.700	**6041230**
RAAM 615 FS	150	150	1	42.046	**6041232**
RAAM 620 FS	200	200	1	50.100	**6041234**
RAAM 630 FS	300	300	1	62.900	**6041236**
RAAM 640 FS	400	400	1	75.700	**6041238**
RAAM 610 FT	100	100	1	40.800	**6041250**
RAAM 615 FT	150	150	1	47.500	**6041252**
RAAM 620 FT	200	200	1	54.200	**6041254**
RAAM 630 FT	300	300	1	68.000	**6041257**
RAAM 640 FT	400	400	1	81.800	**6041259**



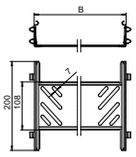


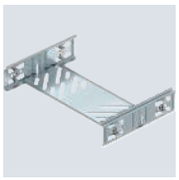
Magic add-on tee with quick connector system. For all cable tray types of 60 mm side height.

St FS DD

Magic straight connector set 60

Type	Width mm	Side height mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
KTSMV 610 FS	100	60	100	1	30.500	**6068914**
KTSMV 615 FS	150	60	150	1	34.900	**6068916**
KTSMV 620 FS	200	60	200	1	37.200	**6068918**
KTSMV 630 FS	300	60	300	1	44.000	**6068920**
KTSMV 640 FS	400	60	400	1	50.700	**6068922**
KTSMV 610 DD	100	60	100	1	30.500	**6068936**
KTSMV 615 DD	150	60	150	1	34.900	**6068938**
KTSMV 620 DD	200	60	200	1	37.200	**6068940**
KTSMV 630 DD	300	60	300	1	44.000	**6068942**
KTSMV 640 DD	400	60	400	1	50.700	**6068944**



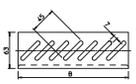


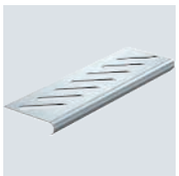
Cable tray connector with quick fastening for the screwless connection of perforated cable trays with a side height of 60 mm.

St FS DD

Bottom end plate

Type	Width mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
BEB 100 FS	100	100	1	4.599	**7083106**
BEB 150 FS	150	150	1	6.983	**7083157**
BEB 200 FS	200	200	1	9.367	**7083203**
BEB 300 FS	300	300	1	14.100	**7083300**
BEB 400 FS	400	400	1	18.900	**7083408**
BEB 100 DD	100	100	1	4.599	**7083618**
BEB 150 DD	150	150	1	6.983	**7083622**
BEB 200 DD	200	200	1	9.367	**7083626**
BEB 300 DD	300	300	1	14.100	**7083630**
BEB 400 DD	400	400	1	18.900	**7083634**





Bottom end plate for floor reinforcement at the ends of the cable tray and as cable protection.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

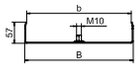
Always indicate the item number when ordering.

Cable tray RKS-Magic®

Centre suspension for cable tray, 60

St FS FT





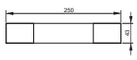
Type	for width mm	For threaded rod	Dim. B mm	Dim. b mm	F in kN kN	Pack Piece	Weight kg/100 pc.	Item no.
MAH 60 100 FS	100	M10	94	84	1.3	1	17.250	**6358705**
MAH 60 150 FS	150	M10	144	134	0.5	1	23.000	**6358709**
MAH 60 200 FS	200	M10	195	184	0.2	1	24.500	**6358713**
MAH 60 100 FT	100	M10	94	84	1.3	1	18.500	**6358752**
MAH 60 150 FT	150	M10	144	134	0.5	1	23.000	**6358756**
MAH 60 200 FT	200	M10	195	184	0.2	1	27.600	**6358760**

The centre suspension possesses a rotatable M10 threaded sleeve. When filling, ensure an even distribution of the load (avoid one-sided filling).
The widths 100, 150 and 200 mm have additional base perforations, in order to screw the centre suspensions to the tray base when used for the maintenance of electrical functionality according to DIN 4102 Part 12.
Centre suspension for cable trays with rolled side rail of side height 60 mm.

Identification plate for maintenance of electrical function

PVC





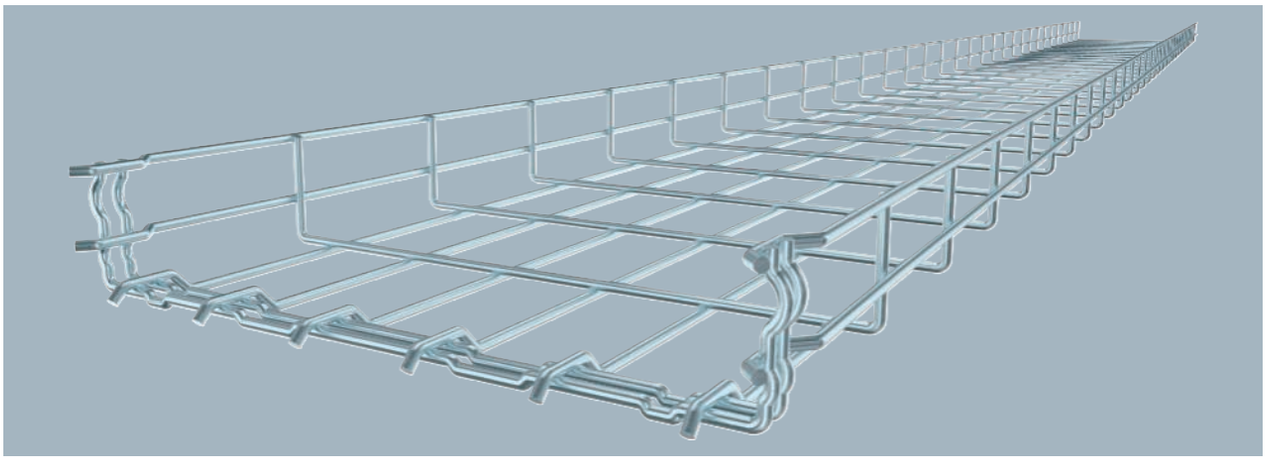
Type	Language		Pack Piece	Weight kg/100 pc.	Item no.
KS-E DE	German		10	0.600	**7205423**

Self-adhesive identification plate for approved cable system labelling for maintenance of electrical function as required by DIN 4102 Part 12.

Mesh cable tray GR-Magic®

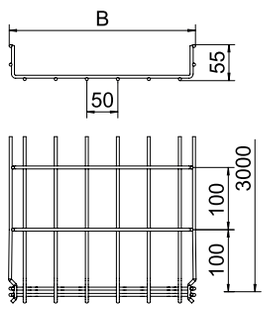
GR-Magic® 55 mesh cable tray

St G



Type	Width mm	Wire Ø mm	BS		Pack m	Weight kg/100 m	Item no.
GRM 55 50 G	50	3.9			3	67.000	**6001441**
GRM 55 100 G	100	3.9			3	72.000	**6001442**
GRM 55 150 G	150	3.9			3	85.667	**6001444**
GRM 55 200 G	200	3.9			3	100.667	**6001446**
GRM 55 200 4.8 G	200	4.8			3	150.000	**6001447**
GRM 55 300 G	300	4.8			3	192.333	**6001448**
GRM 55 400 G	400	4.8			3	234.667	**6001450**

Mesh cable tray with shaped connector of side height 55 mm.

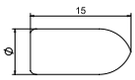


PVC

Protective caps

Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
GR KS 3.9 OR	Pure orange	500	0.045	6003750
GR KS 4.8 OR	Pure orange	500	0.030	6003754

Protective cap to cover cut wire ends of mesh cable trays.



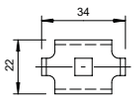


St G

GKS 34 hold-down clamp

Type	Pack Piece	Weight kg/100 pc.	Item no.
GKS 34 G	20	2.188	6016855

Clamp for fixing mesh cable trays to wall or support brackets.



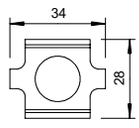


St G

Joint connector GSV 34

Type	Pack Piece	Weight kg/100 pc.	Item no.
GSV 34 G	20	3.155	6016596

Screwed version of joint connector for mesh cable trays.



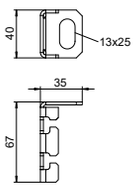


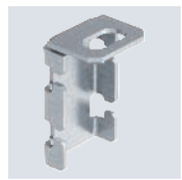
St FT

Connection component

Type	Pack Piece	Weight kg/100 pc.	Item no.
ABG FT	20	8.500	6015345

Seat for threaded rod on mesh cable tray.



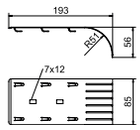


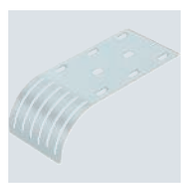
St FS

Drop-out plate

Type	Pack Piece	Weight kg/100 pc.	Item no.
KAB GR FS	10	14.100	6220139

Drop-out plate for mesh cable trays.





Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

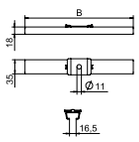
Always indicate the item number when ordering.

Mesh cable tray GR-Magic®

Centre suspension mesh cable tray

St FS



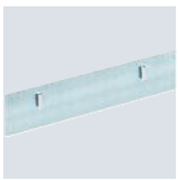


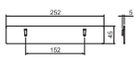
Type	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
GMS 170 FS	170	25	20.000	**6015400**

Centre suspension including hold-down clamp for mesh cable tray suspensions.

Label holder for mesh cable trays

St FS





Type	Length mm	Height mm	Pack Piece	Weight kg/100 pc.	Item no.
GR-KS FS	252	45	10	5.334	**7205400**

Label holder for fastening on mesh cable trays for approval-suitable labelling of cable systems in accordance with DIN 4102 Part 12. Fits the KS-E identification plate. With clamping lugs for toolless mounting.

Mounting systems

US 3 support

St FT



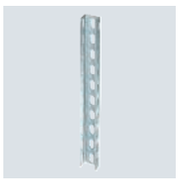


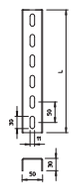
Type	Length mm	Material thickness mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
US 3 K 20 FT	200	2		1	50.500	**6342351**
US 3 K 30 FT	300	2		1	64.400	**6342353**
US 3 K 40 FT	400	2		1	78.300	**6342355**
US 3 K 50 FT	500	2		1	92.300	**6342357**
US 3 K 60 FT	600	2		1	106.200	**6342359**
US 3 K 70 FT	700	2		1	120.200	**6342362**
US 3 K 80 FT	800	2		1	134.100	**6342364**
US 3 K 90 FT	900	2		1	147.800	**6342366**
US 3 K 100 FT	1000	2		1	162.000	**6342368**
US 3 K 110 FT	1100	2		1	175.900	**6342370**
US 3 K 120 FT	1200	2		1	189.900	**6342372**

Suspended support (U profile) of dimensions 50 x 30 mm with welded head plate.

US 3 support

St FS





Type	Length mm	Material thickness mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
US 3 20 FS	200	2		1	27.000	**6342302**
US 3 30 FS	300	2		1	40.000	**6342304**
US 3 40 FS	400	2		1	53.000	**6342306**
US 3 50 FS	500	2		1	67.000	**6342308**
US 3 60 FS	600	2		1	80.000	**6342310**
US 3 70 FS	700	2		1	93.000	**6342312**
US 3 80 FS	800	2		1	107.000	**6342314**
US 3 90 FS	900	2		1	120.000	**6342316**
US 3 100 FS	1000	2		1	133.000	**6342318**

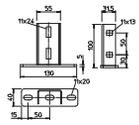
U support in fixed lengths. Dimensions 30 x 50 mm.

St FT

Head plate

Type		Pack Piece	Weight kg/100 pc.	Item no.
KU 3 FT		1	42.300	**6348874**

Head plate for mounting on US 3 supports.



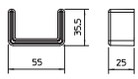


PE

Protective cap

Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
US 3 KS OR	Pastel orange	20	1.068	**6338458**

Protective cap to cover the ends of US 3 supports.



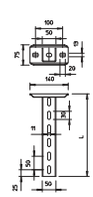


St FT

US 5 support

Type	Length mm	Material thickness mm	Dim. L mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
US 5 K 20 FT	200	2.5	200		1	85.000	**6341527**
US 5 K 30 FT	300	2.5	300		1	110.000	**6341535**
US 5 K 40 FT	400	2.5	400		1	136.000	**6341543**
US 5 K 50 FT	500	2.5	500		1	161.000	**6341551**
US 5 K 60 FT	600	2.5	600		1	185.000	**6341578**
US 5 K 70 FT	700	2.5	700		1	210.000	**6341586**
US 5 K 80 FT	800	2.5	800		1	236.000	**6341594**
US 5 K 90 FT	900	2.5	900		1	261.000	**6341608**
US 5 K 100 FT	1000	2.5	1000		1	286.000	**6341616**
US 5 K 110 FT	1100	2.5	1100		1	311.000	**6341624**
US 5 K 120 FT	1200	2.5	1200		1	337.000	**6341632**

U support of dimensions 50 x 50 mm with welded head plate.





St FT

US 5 support

Type	Length mm	Material thickness mm	Dim. L mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
US 5 20 FT	200	2.5	200		1	51.000	**6340881**
US 5 30 FT	300	2.5	300		1	79.000	**6340903**
US 5 40 FT	400	2.5	400		1	106.000	**6340911**
US 5 50 FT	500	2.5	500		1	133.000	**6340938**
US 5 60 FT	600	2.5	600		1	160.000	**6340946**
US 5 70 FT	700	2.5	700		1	175.000	**6340950**
US 5 80 FT	800	2.5	800		1	200.000	**6340954**
US 5 90 FT	900	2.5	900		1	227.000	**6340958**
US 5 100 FT	1000	2.5	1000		1	265.000	**6340962**
US 5 150 FT	1500	2.5	1500		1	395.000	**6340966**
US 5 200 FT	2000	2.5	2000		1	506.000	**6340970**

U support in fixed lengths. Dimensions 50 x 50 mm.





Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

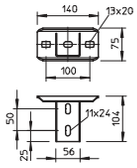
Always indicate the item number when ordering.

Mounting systems

Head plate US 5

St FT





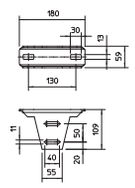
Type		Pack Piece	Weight kg/100 pc.	Item no.
KUS 5 FT		1	61.900	**6348904**

Head plate for installation in US 5 support.

KU 5 head plate, variable

St FT





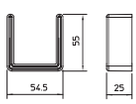
Type		Pack Piece	Weight kg/100 pc.	Item no.
KU 5 V FT		1	82.000	**6348920**

Variable head plate for installation on US 5 support.

Protective cap

PE





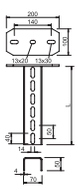
Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
US 5 KS OR	Pastel orange	20	1.300	**6338462**

Protective cap to cover the ends of US 5 supports.

US 7 support

St FT





Type	Length mm	Material thickness mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
US 7 K 20 FT	200	4	200	1	177.000	**6339018**
US 7 K 30 FT	300	4	300	1	218.000	**6339034**
US 7 K 40 FT	400	4	400	1	261.000	**6339050**
US 7 K 50 FT	500	4	500	1	302.000	**6339077**
US 7 K 60 FT	600	4	600	1	344.000	**6339093**
US 7 K 70 FT	700	4	700	1	387.000	**6339115**
US 7 K 80 FT	800	4	800	1	418.000	**6339131**
US 7 K 90 FT	900	4	900	1	470.000	**6339166**
US 7 K 100 FT	1000	4	1000	1	512.000	**6339182**
US 7 K 110 FT	1100	4	1100	1	550.000	**6339190**
US 7 K 120 FT	1200	4	1200	1	591.000	**6339204**
US 7 K 130 FT	1300	4	1300	1	636.000	**6339212**
US 7 K 140 FT	1400	4	1400	1	675.000	**6339220**
US 7 K 150 FT	1500	4	1500	1	718.000	**6339239**
US 7 K 160 FT	1600	4	1600	1	760.000	**6339247**
US 7 K 170 FT	1700	4	1700	1	802.000	**6339255**
US 7 K 180 FT	1800	4	1800	1	843.000	**6339263**
US 7 K 190 FT	1900	4	1900	1	884.000	**6339271**
US 7 K 200 FT	2000	4	2000	1	879.722	**6339298**

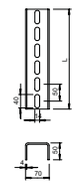
Suspended support (U profile) of dimensions 70 x 50 mm with welded head plate.

St FT

US 7 support

Type	Length mm	Material thickness mm	Dim. L mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
US 7 20 FT	200	4	200		1	81.000	**6340016**
US 7 30 FT	300	4	300		1	121.000	**6340032**
US 7 40 FT	400	4	400		1	160.700	**6340059**
US 7 50 FT	500	4	500		1	200.900	**6340075**
US 7 60 FT	600	4	600		1	241.100	**6340091**
US 7 70 FT	700	4	700		1	281.300	**6340113**
US 7 80 FT	800	4	800		1	323.000	**6340148**
US 7 90 FT	900	4	900		1	361.700	**6340164**
US 7 100 FT	1000	4	1000		1	416.000	**6340180**
US 7 110 FT	1100	4	1100		1	457.000	**6340199**
US 7 120 FT	1200	4	1200		1	484.000	**6340202**
US 7 130 FT	1300	4	1300		1	540.000	**6340210**
US 7 140 FT	1400	4	1400		1	580.000	**6340229**
US 7 150 FT	1500	4	1500		1	620.000	**6340237**
US 7 160 FT	1600	4	1600		1	660.000	**6340245**
US 7 180 FT	1800	4	1800		1	750.000	**6340261**
US 7 190 FT	1900	4	1900		1	790.000	**6340288**
US 7 200 FT	2000	4	2000		1	803.700	**6340296**

U support in fixed lengths. Dimensions 70 x 50 mm.



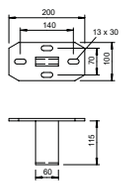


St FT

Head plate, light-duty version

Type	Pack Piece	Weight kg/100 pc.	Item no.
KU 7 FT	1	144.600	**6349102**

Light-duty head plate for mounting on US 7 support.



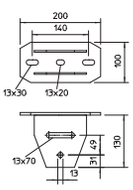


St FT

Head plate, variable

Type	Pack Piece	Weight kg/100 pc.	Item no.
KU 7 VQP FT	1	181.600	**6349153**

Variable head plate for installation on US 7 support.



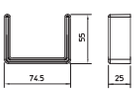


PE

End cap

Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
US 7 KS OR	Pastel orange	20	1.806	**6338497**

Protective cap to cover the ends of US 7 supports.





Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

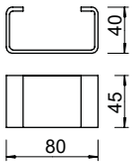
Always indicate the item number when ordering.

Mounting systems

Spacer DSK 45

St FT





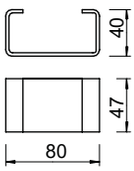
Type		Pack Piece	Weight kg/100 pc.	Item no.
DSK 45 FT		20	18.000	**6416500**

Spacer for use in US 5 support and in the head plate, type KU 7 VQP.

Spacer DSK 47

St FT





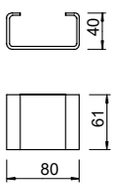
Type		Pack Piece	Weight kg/100 pc.	Item no.
DSK 47 FT		20	19.000	**6416504**

Spacer for use in head plate, type KU 5 V.

DSK 61 spacer

St FT





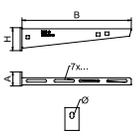
Type		Pack Piece	Weight kg/100 pc.	Item no.
DSK 61 FT		20	25.000	**6416519**

Spacer for use in US 7 supports.

Wall and support bracket AW 15

St FT





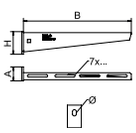
Type	Width mm	Dim. H mm	Dim. A mm	Dim. B mm	Hole Ø mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
AW 15 21 FT	210	60	40	210	11		1	24.000	**6420680**
AW 15 31 FT	310	65	40	310	11		1	38.400	**6420710**
AW 15 41 FT	410	70	40	410	11		1	54.000	**6420745**

Light-duty wall and support bracket with welded head plate.

Wall and support bracket AWG 15

St FT





Type	Width mm	Dim. H mm	Dim. A mm	Dim. B mm	Hole Ø mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
AW G 15 21 FT	210	60	40	210	11		1	26.000	**6420608**
AW G 15 31 FT	310	65	40	310	11		1	35.000	**6420610**
AW G 15 41 FT	410	70	40	410	11		1	56.000	**6420612**

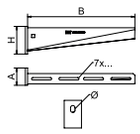
Light-duty wall and support bracket with welded head plate for screwless mesh cable tray fastening.

St FT

Wall and support bracket AW 30

Type	Width mm	Dim. H mm	Dim. A mm	Dim. B mm	Hole Ø mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
AW 30 11 FT	110	60	50	110	11		1	22.000	**6419704**

Medium-duty wall and support bracket with welded head plate.



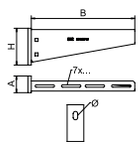


St FT

Wall and support bracket AW 55

Type	Width mm	Dim. B mm	Dim. H mm	Dim. A mm	Hole Ø mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
AW 55 21 FT	210	210	90	50	13.5		1	75.700	**6418554**
AW 55 31 FT	310	310	110	50	13.5		1	122.000	**6418570**
AW 55 41 FT	410	410	130	50	13.5		1	164.400	**6418597**

Heavy-duty wall and support bracket with welded head plate.



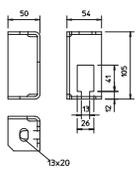


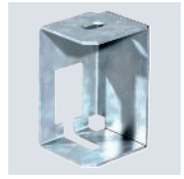
St FT

Fire protection clamp

Type	Pack Piece	Weight kg/100 pc.	Item no.
BSB FT	20	42.400	**6418198**

Fire protection clamp for ceiling fastening of the threaded rod lock for routing types with cable ladders and cable trays for the maintenance of electrical function to DIN 4102 Part 12.





St G

Threaded rod

Type	Thread	Dim. d mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
TR M10 1M G	M10	10	1000	10	49.000	**3141209**
TR M12 1M G	M12	12	1000	10	62.000	**3141306**

Threaded rod to DIN 976.



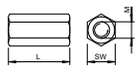


St G

Connection sleeve

Type	Thread	Dim. L mm	SW mm	Pack Piece	Weight kg/100 pc.	Item no.
CSTR M10 G	M10	30	17	50	4.150	**6410103**
CSTR M12 G	M12	40	19	25	7.000	**6410111**

Connection sleeve with continuous internal thread.





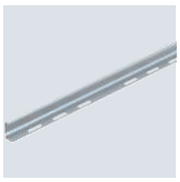
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

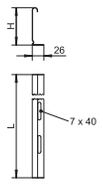
Always indicate the item number when ordering.

Mounting systems

Separating retainer 45

St FS





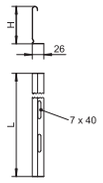
Type	Metal thickness mm	Pack m	Weight kg/100 m	Item no.
TSG 45 FS	0.75	3	46.700	**6062033**

Separating retainer for separation of cables of different voltages or functions.

Separating retainer 60

St FS



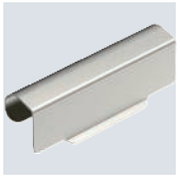


Type	Dim. H mm	Metal thickness mm	Dim. L mm	Pack m	Weight kg/100 m	Item no.
TSG 60 FS	60	0.75	3000	3	55.700	**6062068**

Separating retainer for separation of cables of different voltages or functions.

Separating retainer connector

VA 2B





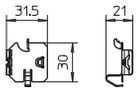
Type	Pack Piece	Weight kg/100 pc.	Item no.
TSGV A2	10	0.899	**6067970**

Separating retainer connector for screwless connection of the TSG separating retainer in all side heights.

Hold-down clamp for separating retainer fastening in RKSM

VA 2B





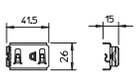
Type	Pack Piece	Weight kg/100 pc.	Item no.
KS KR A2	30	0.537	**6062280**

Hold-down clamp for screwless fastening of separating retainers in the cable tray types RKSM, MKS and SKS.

Hold-down clamp for separating retainer fastening in GRM

VA 2B





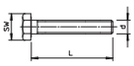
Type	Pack Piece	Weight kg/100 pc.	Item no.
KS GR A2	30	0.830	**6062282**

Hold-down clamp for fastening separating retainer in mesh cable trays.

St F

Hexagonal bolt M10

Type	Dimension mm	Dim. L mm	Dim. d mm	SW mm	Resistance grade	Pack Piece	Weight kg/100 pc.	Item no.
SKS 10x80 F	M 10 x 80	80	10	17	8.8	20	7.700	**6418250**
SKS 10x90 F	M 10 x 90	90	10	17	8.8	20	8.950	**6418252**



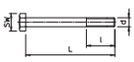


Hexagonal bolt for universal fastening of construction components. With hexagonal nut and 2 washers.

St F

Hexagonal bolt M12

Type	Dimension mm	Dim. L mm	Dim. l mm	Dim. d mm	SW mm	Resistance grade	Pack Piece	Weight kg/100 pc.	Item no.
SKS 12x80 F	M 12 x 80	80	30	12	19	8.8	20	10.000	**6418287**
SKS 12x100 F	M 12 x 100	100	30	12	19	8.8	20	10.981	**6418295**
SKS 12x110 F	M 12 x 110	110	30	12	19	8.8	20	14.500	**6418317**



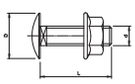


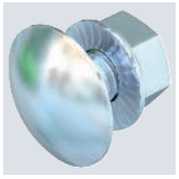
Hexagonal bolt for universal fastening of construction components. With hexagonal nut and 2 washers.

St F

Truss-head bolt with flange nut

Type	Dimension mm	Dim. L mm	Dim. d mm	Dim. D mm	Resistance grade	Pack Piece	Weight kg/100 pc.	Item no.
FRSB 6x12 F	M 6 x 12	12	6	13.5	5.6	100	0.812	**6406122**
FRSB 6x16 F	M 6 x 16	16	6	13.5	5.6	100	0.890	**6406157**
FRSB 6x20 F	M 6 x 20	20	6	13.5	5.6	100	0.965	**6406203**



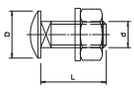


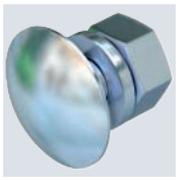
Truss-head bolt with square neck including flange nut.

St F

Truss-head bolt with nut and washer

Type	Dimension mm	Dim. L mm	Dim. d mm	Dim. D mm	Resistance grade	Pack Piece	Weight kg/100 pc.	Item no.
FRS 10x25 F	M 10 x 25	25	10	24	5.6	50	4.077	**6407528**



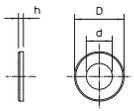


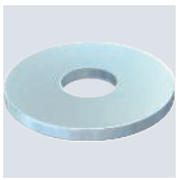
Truss-head bolt with square neck. With washer and hexagonal nut.

St F

Large washer

Type	Dim. D mm	Dim. d mm	Dim. h mm	Pack Piece	Weight kg/100 pc.	Item no.
DIN440 11 F	34	11	3	100	1.852	**6408729**
DIN440 14 F	44	13.5	4	50	4.736	**6408737**





Washer of particularly large outer diameter.

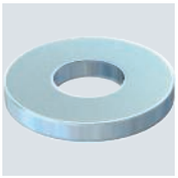
Always indicate the item number when ordering.

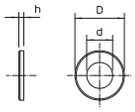
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Mounting systems

Washer

St G



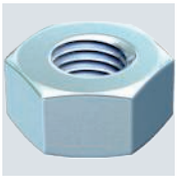


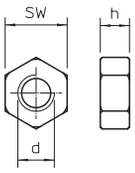
Type	Thread	Dim. d mm	Dim. D mm	Dim. h mm	Pack Piece	Weight kg/100 pc.	Item no.
WS M10 D20 G	M10	10.5	20	2	100	0.408	**3402096**
WS M12 D24 G	M12	13	24	2.5	100	0.570	**3402126**

Washer according to DIN 125, shape A, for universal use.

Hexagonal nut DIN 934

St G



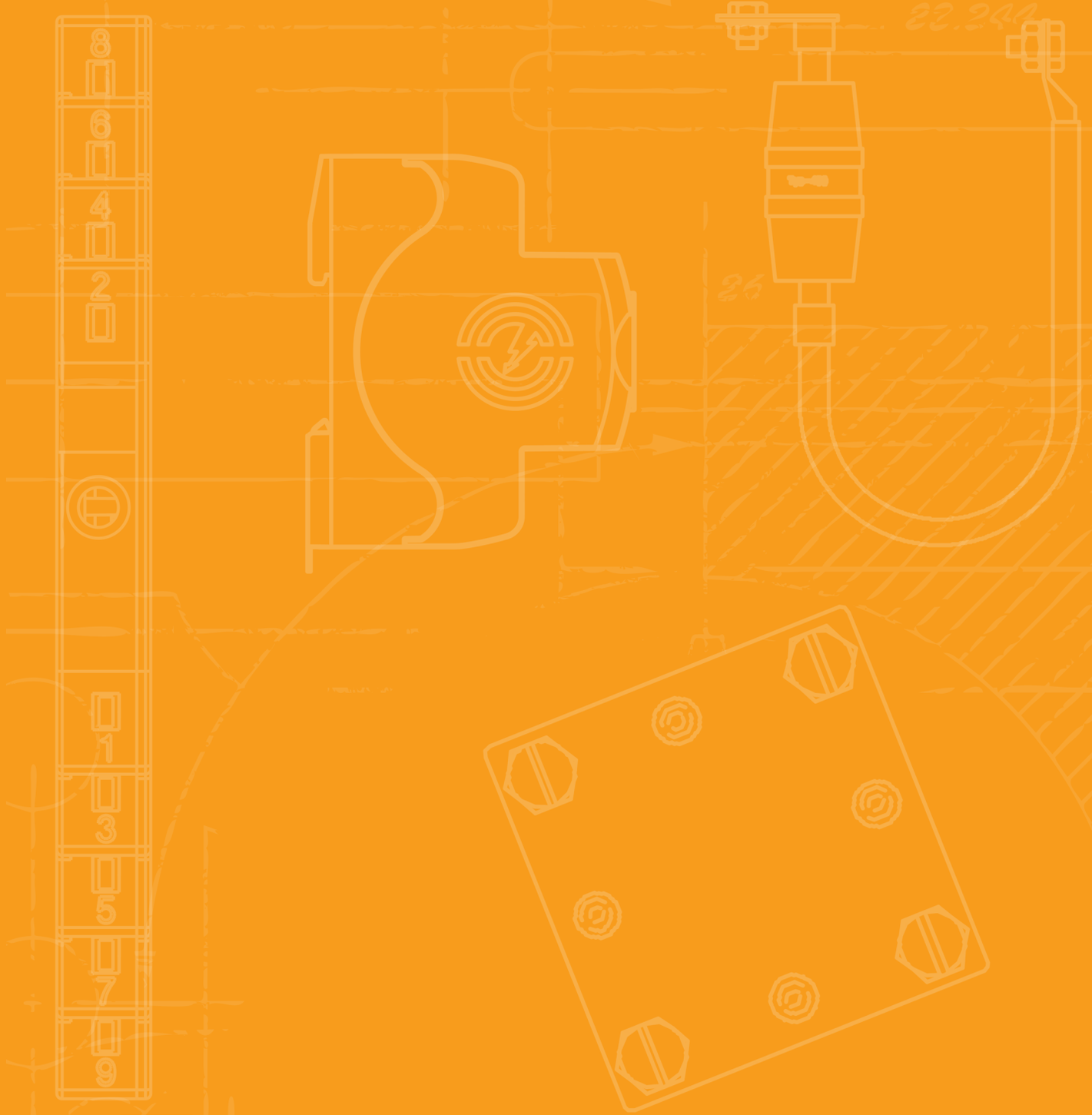


Type	Thread	SW mm	Dim. h mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
HN M10 G	M10	17	8.4	10	100	1.014	**3400107**
HN M12 G	M12	19	10.8	12	100	1.730	**3400123**

Hexagonal nut to DIN 934 with metric thread.

RKS-Magic® cable tray, stainless steel





Cable trays, RKS-Magic® VA
System description



The RKS-Magic® cable tray has been tested as a cable-specific support construction for the maintenance of electrical function according to DIN 4102 Part 12 and approved for maintenance of electrical function classes E 30 to E 90. The screwless connection system allows interconnection of the RKS-Magic® cable trays without tools and in a particularly quick and economic manner. To ensure the maintenance of the electrical supply, only the locking lugs in the base need to be bent after the trays have been connected. The double material thickness in the joint area and the beading in the base mean that the cable tray has a very high load capacity. The installation of fittings in the section route is permitted, as is the mounting of separating retainers.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

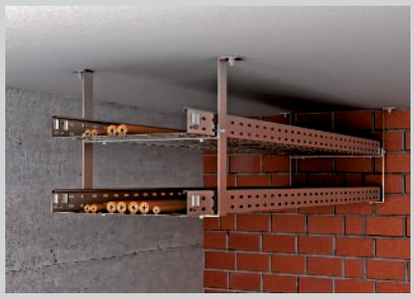
Cable trays, RKS-Magic® VA
Installation principle



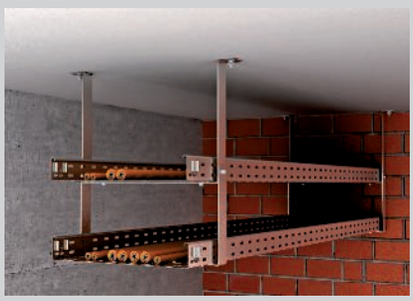
Single-layer ceiling mounting with suspension clamp.



Mounting under sloping ceiling with individually adapted suspension clamp.



Two-layer ceiling mounting with suspension clamp and intermediate clamp.



Two-layer ceiling mounting with suspension clamp and extension.



Fastening of the cable tray with truss-head bolts.



Joint connection without additional gland.

Classification according to DIN 4102 Part 12

E30 E60 E90

Cable trays, RKS-Magic® VA
Proof

Maintenance of electrical functionality system according to DIN 4102 Part 12

Routing type	Cable-specific support construction
Test certificate no.	P-MPA-E-12-003
Maintenance of electrical functionality classes	E30 to E90
Testing standard	DIN 4102 Part 12
Mounting variant	Ceiling mounting with suspension clamp
Material version	Rustproof steel

Support spacing for ceiling mounting with suspension clamp

Cable tray width	Cable load per cable tray		
100 mm	max. 30 kg/m	max. 1.50 m	max. 1.50 m
200 mm	max. 30 kg/m	max. 1.50 m	max. 1.50 m
300 mm	max. 30 kg/m	max. 1.50 m	max. 1.50 m

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

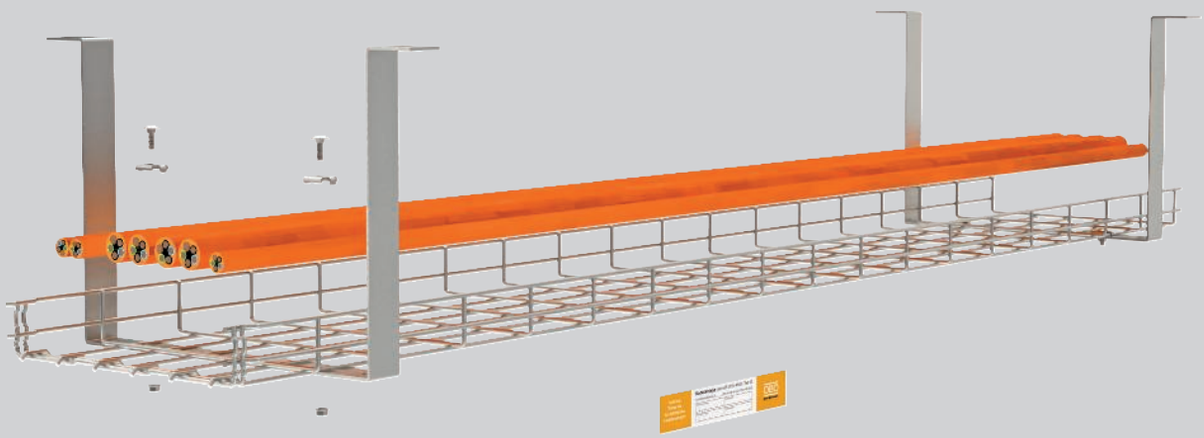
Cable trays, RKS-Magic® VA
Components used

Ceiling mounting with suspension clamp

Component	Type		
Cable tray	RKSM 6... VA4571	1	2
Suspension clamp	AHB-T	1	1
Truss-head bolt	FRSB 6x12 A4	2	4
Intermediate clamp	AHB-TZ	0	1
Truss-head bolt	FRSB 6x16 A4	0	2

Choose the fastening anchors according to the substrate
Intermediate clamp AHB-TZ on request

GR-Magic® mesh cable trays VA
System description



The GR-Magic® mesh cable tray, made from rustproof steel, has been tested as a cable-specific support structure for the maintenance of electrical function according to DIN 4102 Part 12 and approved for the maintenance of electrical function classes E 30 to E 90. The rustproof steel version permits mounting in areas with more aggressive ambient conditions. The design of the AHB-T suspension clamp means that it can be mounted on straight, slanted or curved ceilings, thus allowing simple, space-saving installation of the mesh cable tray. The benefits of the screwless connection systems of the GR-Magic® mesh cable trays also apply to this routing type. This makes mounting of mesh cable trays, for example in the installation of long sections in increased corrosion protection requirements, an economically viable routing variant. With this system, the mounting of separating retainers and lids is permitted.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

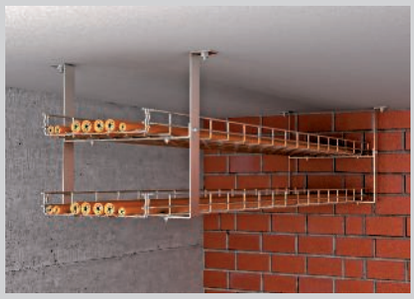
GR-Magic® mesh cable trays VA
Installation principle



Single-layer ceiling mounting with suspension clamp.



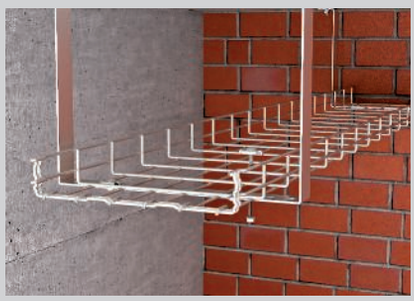
Mounting under sloping ceiling with individually adapted suspension clamp.



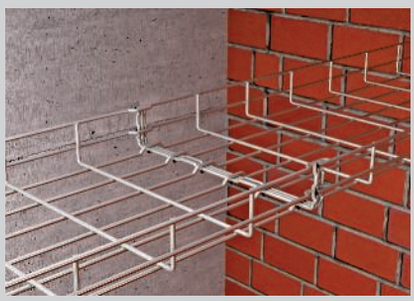
Two-layer ceiling mounting with suspension clamp and intermediate clamp.



Two-layer ceiling mounting with suspension clamp and extension.



Fastening of the mesh cable tray with clamping piece and truss-head bolts.



Joint connection without additional gland.

Classification according to DIN 4102 Part 12

E30 **E60** **E90**

GR-Magic® mesh cable trays VA
Proof

Maintenance of electrical functionality system according to DIN 4102 Part 12

Routing type	Cable-specific support construction
Test certificate no.	P-MPA-E-12-003
Maintenance of electrical functionality classes	E30 to E90
Testing standard	DIN 4102 Part 12
Mounting variant	Ceiling mounting with suspension clamp
Material version	Rustproof steel

Support spacing for ceiling mounting with suspension clamp

Cable tray width	Cable load per cable tray		
100 mm	max. 20 kg/m	max. 1.50 m	max. 1.50 m
200 mm	max. 20 kg/m	max. 1.50 m	max. 1.50 m
300 mm	max. 20 kg/m	max. 1.50 m	max. 1.50 m

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

GR-Magic® mesh cable trays VA
Components used

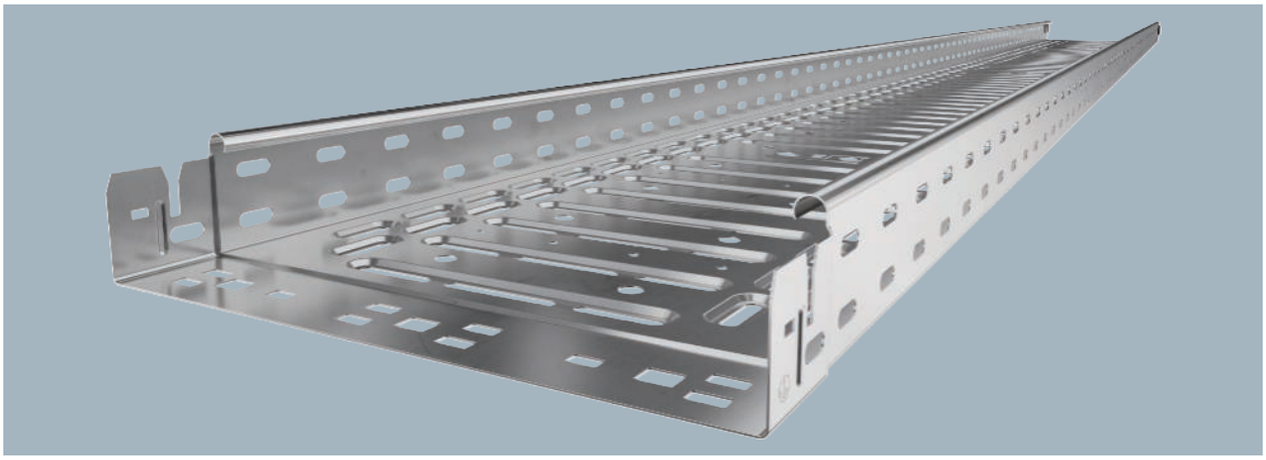
Ceiling mounting with suspension clamp

Component	Type		
Mesh cable tray	GRM 55 ... VA4401	1	2
Suspension clamp	AHB-T	1	1
Clamping piece	GKS 34 VA4401	2	4
Intermediate clamp	AHB-TZ	0	1
Truss-head bolt	FRSB 6x16 A4	0	2

Choose the fastening anchors according to the substrate
Intermediate clamp AHB-TZ on request

VA VA 2B

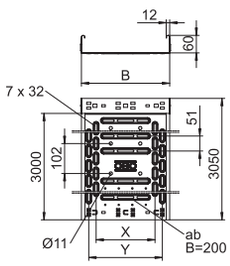
Cable tray RKS-Magic® 60



Cable tray with integrated quick fastening system. The usable length of the cable tray is 3,000 mm.
The cable tray has continuous side perforations of 7 x 20 mm for the installation of additional connection and mounting components.
The perforation for direct threaded rod suspension has a diameter of 11 mm.

Type	Width mm	Metal thickness mm	BS	Pack m	Weight kg/100 m	Item no.
RKSM 610 A2	100	0.75		3	144.590	**6047613**
RKSM 620 A2	200	0.75		3	200.984	**6047640**
RKSM 630 A2	300	0.75		3	259.344	**6047656**
RKSM 610 A4	100	0.75		3	144.590	**6047614**
RKSM 620 A4	200	0.75		3	200.984	**6047641**
RKSM 630 A4	300	0.75		3	259.344	**6047657**

Dimensions

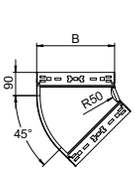


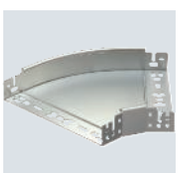
Type	Length mm	Width mm	Usable cross-section cm²	Dim. x mm	Dimension y mm
RKSM 610 A2	3050	100	58	–	50
RKSM 620 A2	3050	200	118	100	150
RKSM 630 A2	3050	300	178	200	250

VA 2B

45° Magic bend 60

Type	Width mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
RBM 45 610 A2	100	100	1	50.400	**6041080**
RBM 45 620 A2	200	200	1	85.500	**6041084**
RBM 45 630 A2	300	300	1	127.700	**6041086**



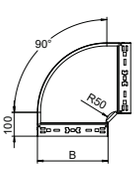


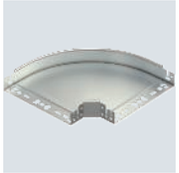
45° bend with quick connector system. For all cable tray types of 60 mm side height.

VA VA 2B

90° Magic bend 60

Type	Width mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
RBM 90 610 A2	100	100	1	65.700	**6041180**
RBM 90 620 A2	200	200	1	121.900	**6041184**
RBM 90 630 A2	300	300	1	192.200	**6041186**
RBM 90 610 A4	100	100	1	65.700	**6041200**
RBM 90 620 A4	200	200	1	121.900	**6041204**
RBM 90 630 A4	300	300	1	192.200	**6041206**





90° bend with quick connector system. For all cable tray types of 60 mm side height.

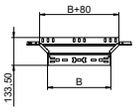
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Cable tray RKS-Magic® VA

Magic add-on tee 60

VA VA 2B



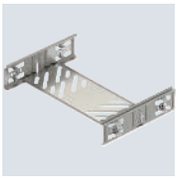


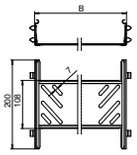
Type	Width mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
RAAM 610 A2	100	100	1	37.700	**6041270**
RAAM 620 A2	200	200	1	50.100	**6041275**
RAAM 630 A2	300	300	1	62.900	**6041277**
RAAM 610 A4	100	100	1	37.700	**6041290**
RAAM 620 A4	200	200	1	50.100	**6041294**
RAAM 630 A4	300	300	1	62.900	**6041296**

Add-on tee with quick connector system. For all cable tray types of 60 mm side height.

Magic straight connector set 60

VA VA 2B





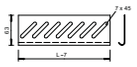
Type	Width mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
KTSMV 610 A2	100	100	1	30.500	**6068958**
KTSMV 620 A2	200	200	1	37.200	**6068962**
KTSMV 630 A2	300	300	1	44.000	**6068964**
KTSMV 610 A4	100	100	1	30.500	**6068980**
KTSMV 620 A4	200	200	1	37.200	**6068984**
KTSMV 630 A4	300	300	1	44.000	**6068986**

Cable tray connector with quick fastening for the screwless connection of perforated cable trays with a side height of 60 mm.

Bottom end plate

VA VA 2B





Type	Width mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
BEB 100 A2	100	100	1	4.599	**7084013**
BEB 200 A2	200	200	1	9.367	**7084048**
BEB 300 A2	300	300	1	14.100	**7084064**
BEB 100 A4	100	100	1	4.599	**7084141**
BEB 200 A4	200	200	1	9.367	**7084143**
BEB 300 A4	300	300	1	14.100	**7084145**

For base reinforcement at the ends of the tray and as cable protection.

Identification plate for maintenance of electrical function

PVC



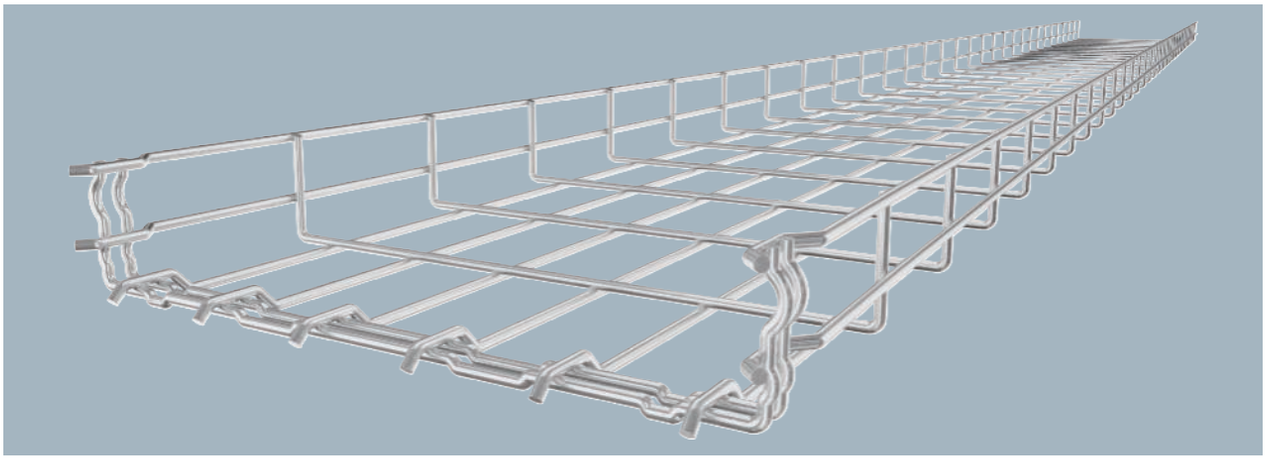


Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-E DE	German	10	0.600	**7205423**

Self-adhesive identification plate for approved cable system labelling for maintenance of electrical function as required by DIN 4102 Part 12.

VA VA 2B

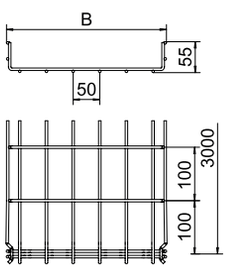
Mesh cable tray GR-Magic® 55



Mesh cable tray with shaped connector of side height 55 mm.

Type	Width mm	Wire Ø mm	Dim. B mm	BS	Pack m	Weight kg/100 m	Item no.
GRM 55 300 A2	300	4.8	300		3	192.333	**6001078**
GRM 55 300 A4	300	4.8	300		3	192.333	**6001093**

Dimensions

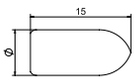


PVC

Protective caps

Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
GR KS 4.8 OR	Pure orange	500	0.030	**6003754**

Protective cap to cover cut wire ends of mesh cable trays.



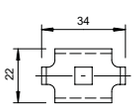


VA VA 2B

GKS 34 hold-down clamp

Type	Pack Piece	Weight kg/100 pc.	Item no.
GKS 34 A2	20	2.000	**6016839**
GKS 34 A4	10	1.976	**6016859**

Hold-down clamp for fixing mesh cable trays to wall or support brackets.





Always indicate the item number when ordering.

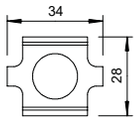
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Mesh cable tray GR-Magic® VA

Joint connector GSV 34

VA VA 2B



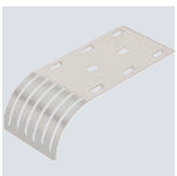


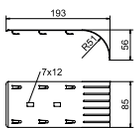
Type		Pack Piece	Weight kg/100 pc.	Item no.
GSV 34 A2		20	2.572	**6016642**
GSV 34 A4		20	3.000	**6016648**

Screwed version of joint connector for mesh cable trays.

Drop-out plate

VA 2B





Type		Pack Piece	Weight kg/100 pc.	Item no.
KAB GR A2		10	14.100	**6220145**

Drop-out plate for mesh cable trays.

Identification plate for maintenance of electrical function

PVC





Type	Language		Pack Piece	Weight kg/100 pc.	Item no.
KS-E DE	German		10	0.600	**7205423**

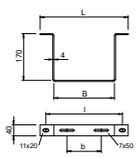
Self-adhesive identification plate for approved cable system labelling for maintenance of electrical function as required by DIN 4102 Part 12.

Mounting systems, VA

Suspension bracket for tunnels

A5 2B





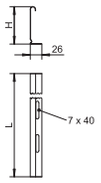
Type	Dim. B mm	Dim. L mm	Dim. b mm	Dim. l mm	Pack Piece	Weight kg/100 pc.	Item no.
AHB-T1712 VA4547	120	220	25	180	16	49.200	**6363997**
AHB-T1722 VA4547	220	320	125	280	14	57.700	**6364007**
AHB-T1732 VA4547	320	420	225	380	11	67.200	**6364017**

Special suspension bracket for cable support systems in tunnels. Additional variants, such as adapter or connection clamps, as well as various head shapes, on request.

Separating retainer 45

VA VA 2B





Type	Dim. H mm	Metal thick-ness mm	Dim. L mm	Pack m	Weight kg/100 m	Item no.
TSG 45 A2	45	0.75	3000	3	49.850	**6062025**
TSG 45 A4	45	0.75	3000	3	49.850	**6062028**

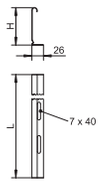
Separating retainer for separation of cables of different voltages or functions.

VA VA 2B

Separating retainer 60

Type	Dim. H mm	Metal thick-ness mm	Dim. L mm	Pack m	Weight kg/100 m	Item no.
TSG 60 A2	60	0.75	3000	3	59.265	**6062084**
TSG 60 A4	60	0.75	3000	3	59.256	**6062086**

Separating retainer for the separation of cables of different voltages or functions.





VA 2B

Separating retainer connector

Type	Pack Piece	Weight kg/100 pc.	Item no.
TSGV A2	10	0.899	**6067970**

Separating retainer connector for screwless connection of the TSG separating retainer in all side heights.



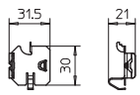


VA 2B

Hold-down clamp for separating retainer fastening in RKSM

Type	Pack Piece	Weight kg/100 pc.	Item no.
KS KR A2	30	0.537	**6062280**

Hold-down clamp for screwless fastening of separating retainers in the cable tray types RKSM, MKS and SKS.



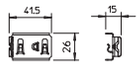


VA 2B

Hold-down clamp for separating retainer fastening in GRM

Type	Pack Piece	Weight kg/100 pc.	Item no.
KS GR A2	30	0.830	**6062282**

Hold-down clamp for fastening separating retainer in mesh cable trays.



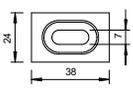


VA VA 2B

GKT 38 clamping piece

Type	Pack Piece	Weight kg/100 pc.	Item no.
GKT 38 A2	20	2.107	**6017045**
GKT 38 A4	10	2.200	**6017092**

Clamp for fastening barrier strip in mesh cable trays.



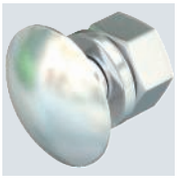


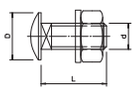
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Mounting systems, VA

Truss-head bolt with nut and washer

VA



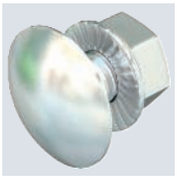


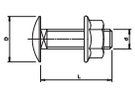
Type	Dimension mm	Dim. L mm	Dim. d mm	Dim. D mm	Resistance grade	Pack Piece	Weight kg/100 pc.	Item no.
FRS 6x12 A2	M6x12	12	6	13.5	A2-70	100	0.760	**6406521**
FRS 6x16 A2	M6x16	15	6	13.5	A2-70	100	0.869	**6406556**

Truss-head bolt with square neck including washer and hexagonal nut.

Truss-head bolt with flange nut

VA



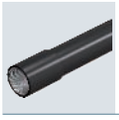


Type	Dimension mm	Dim. L mm	Dim. d mm	Dim. D mm	Resistance grade	Pack Piece	Weight kg/100 pc.	Item no.
FRSB 6x12 A4	M6x12	12	6	13.5	A4-50	100	0.796	**6406142**
FRSB 6x16 A4	M6x16	16	6	13.5	A4-50	100	0.800	**6406193**

Truss-head bolt with square neck including flange nut.



Systems for the maintenance of electrical function, fire-tested individual routing systems



Steel pipes 84



LKM cable routing ducts 90



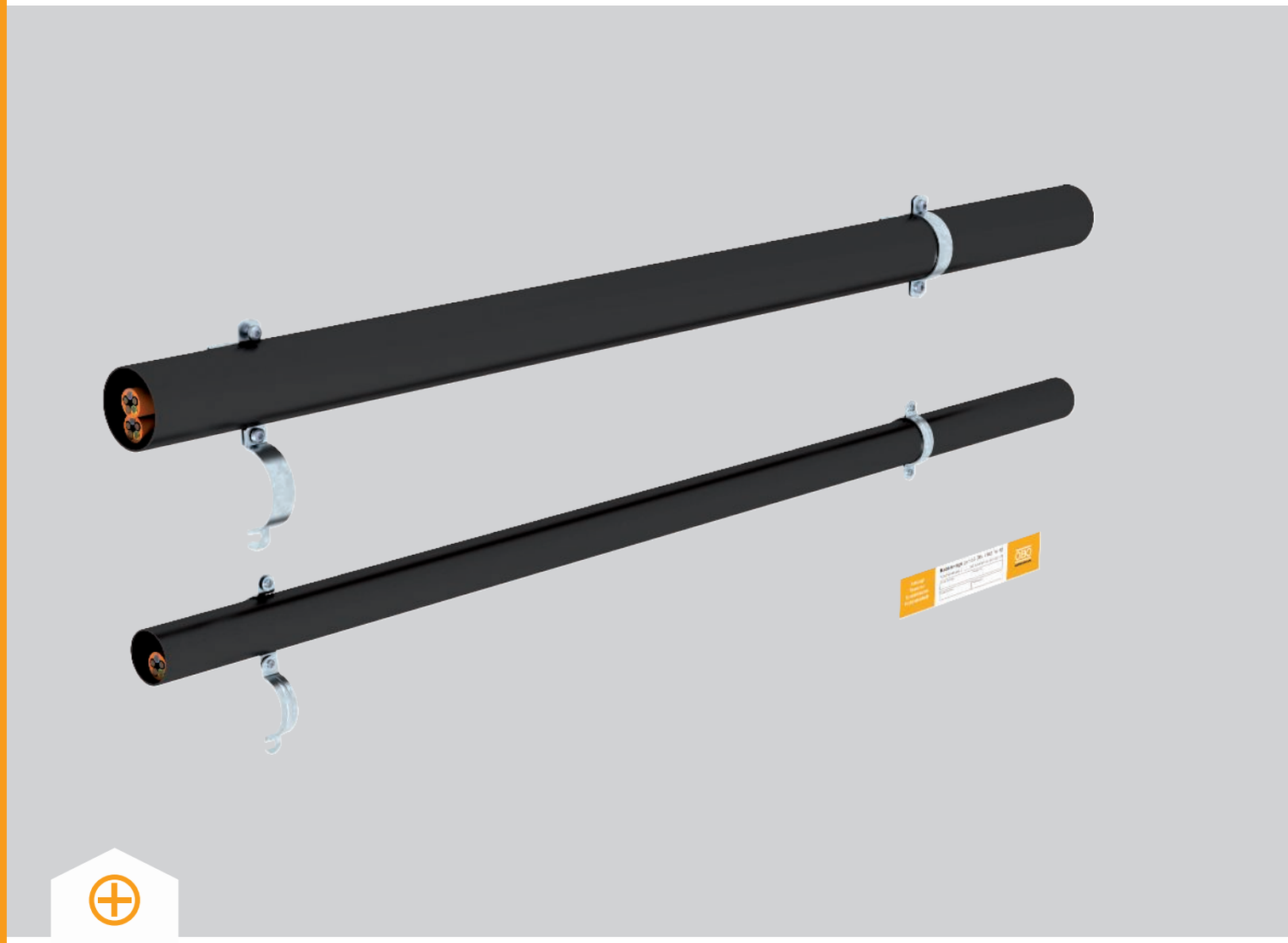
Grip M grouped support and metal pressure clips 96



Clamp clips, profile rails and screw-in spacer clips 104

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Cable routing in pipes
System description



Cable routing in the steel pipe, in combination with clamp clips or with screw-in spacer clips, fulfils the requirements of DIN 4102 Part 12 as a cable-specific routing type for the maintenance of electrical functionality classes E 30, E 60 and E 90. The steel pipes may be routed horizontally on the wall or under the ceiling and offer additional mechanical protection of the installed cables. Sheet steel clamp clips are used together with a riveted metal pressure sleeve and the appropriate profile rails, or closed screw-in spacer clips made of galvanised sheet steel. Refer to the available test certificates of the cable manufacturer for the maximum possible dimensions of the pipes, the maximum fastening spacing of the clips and the number of cables to be run in the pipe.

Cable routing in pipes
Installation principle



Ceiling mounting with screw-in spacer clip and clamp clip.



Horizontal wall mounting with screw-in spacer clip and clamp clip.



Space-saving installation of multiple pipes next to one another with clamp clips.



Insertion into the screw-in spacer clip by hooking the cover under the screw.



Multiple assignment according to the data of the test reports.

Classification according to DIN 4102 Part 12

E30 **E60** **E90**

System description

Routing type	Cable-specific support structure
Maintenance of electrical function classes	E30 to E90
Testing standard	DIN 4102 Part 12

Approved data

Cable-specific	Cable types and mounting parameters dependent on the cable manufacturer

The data in the general construction test certificates applies.

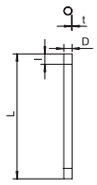
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Pipes

Armoured steel pipe with thread, black

St





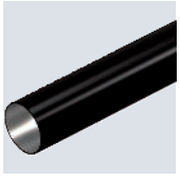
5 | 5 | 5 | 6 | 1

Type	Thread	Dim. D mm	Dim. L mm	Dim. l mm	Dim. t mm	Colour	Pack m	Weight kg/100 m	Item no.
SM16W SW	M16x1,5	16	3000	13	1.3	Jet black	30	50.000	**2046500**
SM20W SW	M20x1,5	20	3000	13	1.5	Jet black	30	73.000	**2046501**
SM25W SW	M25x1,5	25	3000	18	1.5	Jet black	30	92.000	**2046502**
SM32W SW	M32x1,5	32	3000	18	1.5	Jet black	21	120.000	**2046503**
SM40W SW	M40x1,5	40	3000	20.5	1.5	Jet black	15	152.000	**2046505**
SM50W SW	M50x1,5	50	3000	25	1.5	Jet black	15	190.700	**2046506**
SM63W SW	M63x1,5	63	3000	25	1.7	Jet black	9	287.700	**2046507**

Electrical installation pipe according to EN 61386-1 with threaded ends to EN 60423 for mechanical protection of cables.
With burr-free inner wall. One coupling is already screwed onto each pipe.

Armoured steel pipe without thread, black

St





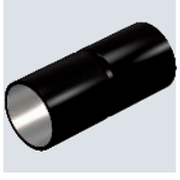
4 | 4 | 5 | 6 | 1

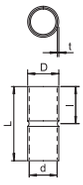
Type	Dim. D mm	Dim. L mm	Dim. t mm	Colour	Pack m	Weight kg/100 m	Item no.
S16W SW	16	3000	1	Jet black	30	37.000	**2046565**
S20W SW	20	3000	1	Jet black	30	44.700	**2046566**
S25W SW	25	3000	1.2	Jet black	30	70.400	**2046567**
S32W SW	32	3000	1.2	Jet black	21	91.200	**2046568**
S40W SW	40	3000	1.2	Jet black	15	139.700	**2046569**
S50W SW	50	3000	1.2	Jet black	15	176.000	**2046570**
S63W SW	63	3000	1.2	Jet black	9	223.000	**2046571**

Electrical installation pipe without threaded ends according to EN 61386-1 for mechanical protection of cables. With burr-free inner wall.

Armoured steel pipe connection sleeve without thread, black

St





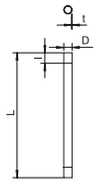
Type	Dim. D mm	Dim. d mm	Dim. L mm	Dim. l mm	Dim. t mm	Colour	Pack Piece	Weight kg/100 pc.	Item no.
SV16W SW	18.6	16.6	50	25	1	Jet black	25	2.400	**2046582**
SV20W SW	23.1	20.7	60	30	1.2	Jet black	50	3.200	**2046583**
SV25W SW	28.1	25.7	60	30	1.2	Jet black	50	5.500	**2046584**
SV32W SW	35.2	32.8	70	35	1.2	Jet black	50	7.900	**2046585**
SV40W SW	43.8	40.8	80	40	1.5	Jet black	25	13.200	**2046586**
SV50W SW	54	51	100	50	1.5	Jet black	10	20.000	**2046587**
SV63W SW	67	64	100	50	1.5	Jet black	5	28.000	**2046588**

Accessory part: plug-in sleeve for the connections between electrical installation pipes. With burr-free inner wall.

Electrogalvanised steel pipe, with thread

St G





5 | 5 | 5 | 7 | 1

Type	Thread	Dim. D mm	Dim. L mm	Dim. l mm	Dim. t mm	Pack m	Weight kg/100 m	Item no.
SM16W G	M16x1,5	16	3000	13	1.3	30	50.390	**2046861**
SM20W G	M20x1,5	20	3000	13	1.5	30	66.667	**2046862**
SM25W G	M25x1,5	25	3000	18	1.5	30	92.290	**2046863**
SM32W G	M32x1,5	32	3000	18	1.5	21	120.000	**2046864**
SM40W G	M40x1,5	40	3000	20.5	1.5	15	151.450	**2046865**
SM50W G	M50x1,5	50	3000	25	1.5	15	190.000	**2046866**
SM63W G	M63x1,5	63	3000	25	1.7	9	287.700	**2046867**

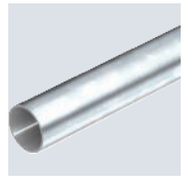
Electrical installation pipe according to EN 61386-1 with threaded ends to EN 60423 for mechanical protection of cables.
With burr-free inner wall. One coupling is already screwed onto each pipe.

St G

Armoured steel pipe without thread, electrogalvanised

Type	Dim. D mm	Dim. L mm	Dim. t mm	Pack m	Weight kg/100 m	Item no.
S16W G	16	3000	1	30	37.000	**2046840**
S20W G	20	3000	1	30	44.700	**2046841**
S25W G	25	3000	1.2	30	70.400	**2046842**
S32W G	32	3000	1.2	21	91.200	**2046843**
S40W G	40	3000	1.2	15	139.700	**2046844**
S50W G	50	3000	1.2	15	176.000	**2046845**
S63W G	63	3000	1.2	9	223.000	**2046846**





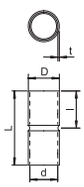
4 4 5 7 1

Electrical installation pipe without threaded ends according to EN 61386-1 for mechanical protection of cables. With burr-free inner wall.

St G

Armoured steel pipe connection sleeve without thread, electrogalvanised

Type	Dim. D mm	Dim. d mm	Dim. L mm	Dim. l mm	Dim. t mm	Pack Piece	Weight kg/100 pc.	Item no.
SV16W G	18.6	16.6	50	25	1	25	2.100	**2046854**
SV20W G	23.1	20.7	60	30	1.2	50	2.800	**2046855**
SV25W G	28.1	25.7	60	30	1.2	50	4.800	**2046856**
SV32W G	35.2	32.8	70	35	1.2	50	7.200	**2046857**
SV40W G	43.8	43.8	80	40	1.5	25	13.200	**2046858**
SV50W G	54	51	100	50	1.5	10	20.000	**2046859**
SV63W G	67	64	100	50	1.5	5	28.000	**2046860**



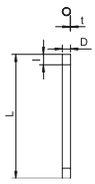


Accessory part: plug-in sleeve for the connections between electrical installation pipes. With burr-free inner wall.

St FT

Hot-dip galvanised steel pipe, with thread

Type	Thread	Dim. D mm	Dim. L mm	Dim. l mm	Dim. t mm	Pack m	Weight kg/100 m	Item no.
SM16W FT	M16x1,5	16	3000	13	1.3	30	54.000	**2046533**
SM20W FT	M20x1,5	20	3000	13	1.5	30	79.000	**2046534**
SM25W FT	M25x1,5	25	3000	18	1.5	30	99.000	**2046535**
SM32W FT	M32x1,5	32	3000	18	1.5	21	130.000	**2046536**
SM40W FT	M40x1,5	40	3000	20.5	1.5	15	164.000	**2046537**
SM50W FT	M50x1,5	50	3000	25	1.5	15	206.000	**2046538**
SM63W FT	M63x1,5	63	3000	26	1.8	9	324.700	**2046540**





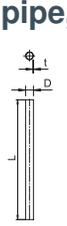
5 5 5 7 1

Electrical installation pipe according to EN 61386-1 with threaded ends to EN 60423 for mechanical protection of cables.
With burr-free inner wall. Corrosion protection class 4 (high). One coupling is already screwed onto each pipe.

St FT

Hot-dip galvanised steel pipe, without thread

Type	Dim. D mm	Dim. L mm	Dim. t mm	Pack m	Weight kg/100 m	Item no.
S16W FT	16	3000	1	30	37.000	**2046593**
S20W FT	20	3000	1	30	44.700	**2046594**
S25W FT	25	3000	1.2	30	70.400	**2046595**
S32W FT	32	3000	1.2	21	91.200	**2046596**
S40W FT	40	3000	1.2	15	139.700	**2046597**
S50W FT	50	3000	1.2	15	176.000	**2046598**
S63W FT	63	3000	1.2	9	223.000	**2046599**





4 4 5 7 1

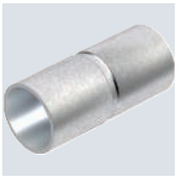
Electrical installation pipe without threaded ends according to EN 61386-1 for mechanical protection of cables. With burr-free inner wall. Corrosion protection class 4 (high).

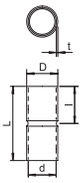
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Pipes

Hot-dip galvanised steel sleeve, without thread

St FT





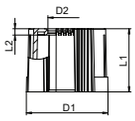
Type	Dim. D mm	Dim. d mm	Dim. L mm	Dim. l mm	Dim. t mm	Pack Piece	Weight kg/100 pc.	Item no.
SV16W FT	18.6	16.6	50	25	1	25	2.200	**2046620**
SV20W FT	23.1	20.7	60	30	1.2	50	3.200	**2046621**
SV25W FT	28.1	25.7	60	30	1.2	50	5.100	**2046622**
SV32W FT	35.2	32.8	70	35	1.2	50	7.500	**2046623**
SV40W FT	43.8	40.8	80	40	1.5	25	14.400	**2046624**
SV50W FT	54	51	100	50	1.5	10	22.000	**2046625**
SV63W FT	67	63	100	50	1.5	5	22.000	**2046626**

Accessory part: plug-in sleeve for the connections between electrical installation pipes. With burr-free inner wall.

Pipe end cap, splittable, metric, light grey

PE





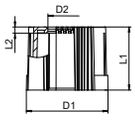
Type	Size	Dim. D1 mm	Dim. D2 mm	Dim. L1 mm	Dim. L2 mm	Colour	Pack Piece	Weight kg/100 pc.	Item no.
129 TB M16	M16	20	10	30	3	Light grey	50	0.400	**2047812**
129 TB M20	M20	24	13.4	30	3	Light grey	50	0.440	**2047831**
129 TB M25	M25	30	18.4	30	3	Light grey	50	0.500	**2047839**
129 TB M32	M32	36	25.4	30	3	Light grey	50	0.656	**2047855**
129 TB M40	M40	44	33.4	30	3	Light grey	30	0.790	**2047863**
129 TB M50	M50	53	43	30	3	Light grey	30	0.935	**2047890**
129 TB M63	M63	67	56	30	3	Light grey	20	1.140	**2047898**

Separable pipe end cap to slot onto metric electrical installation pipes.
The separable pipe end cap can be used for repairs on existing installations according to regulations. It is not necessary to disconnect the cables, allowing quick mounting.

Pipe end cap, splittable, metric, black

PE





Type	Size	Dim. D1 mm	Dim. D2 mm	Dim. L1 mm	Dim. L2 mm	Colour	Pack Piece	Weight kg/100 pc.	Item no.
129 TB M16 SW	M16	20	10	30	3	Black	50	0.400	**2047936**
129 TB M20 SW	M20	24	13.4	30	3	Black	50	0.440	**2047944**
129 TB M25 SW	M25	30	18.4	30	3	Black	50	0.500	**2047952**
129 TB M32 SW	M32	36	25.4	30	3	Black	50	0.656	**2047971**
129 TB M40 SW	M40	44	33.4	30	3	Black	30	0.790	**2047979**
129 TB M50 SW	M50	53	43	30	3	Black	30	0.935	**2047987**
129 TB M63 SW	M63	67	56	30	3	Black	20	1.140	**2047995**

Separable pipe end cap to slot onto metric electrical installation pipes.
The separable pipe end cap can be used for repairs on existing installations according to regulations. It is not necessary to disconnect the cables, allowing quick mounting.

Identification plate for maintenance of electrical function

PVC

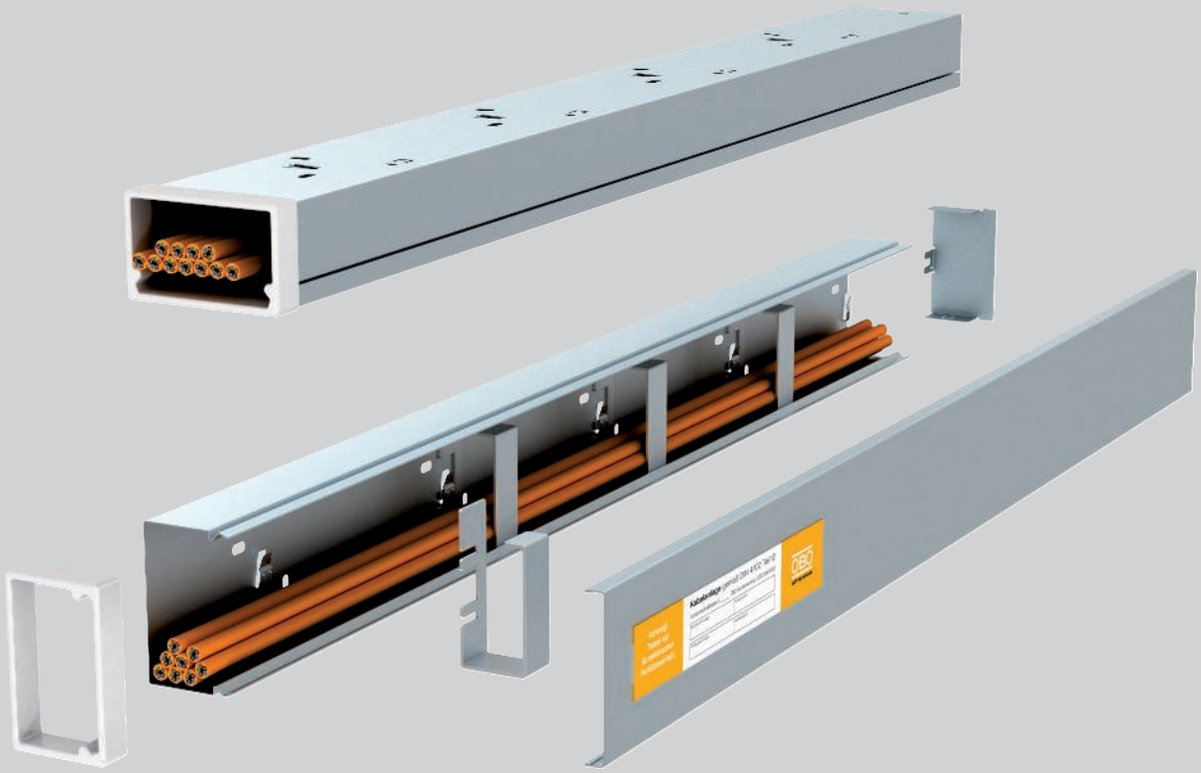




Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-E DE	German	10	0.600	**7205423**

Self-adhesive identification plate for approved cable system labelling for maintenance of electrical function as required by DIN 4102 Part 12.

LKM cable routing ducts
System description



Cable routing with metal cable ducts, type LKM, is approved as a cable-specific routing type for the maintenance of electrical function classes E 30, E 60 and E 90 according to DIN 4102 Part 12. The ducts may be routed horizontally on the wall or under the ceiling and offer additional mechanical protection of the installed cables. This installation variant is also used if, for reasons of appearance, open routing of the cables with the maintenance of electrical function is not wanted. A retaining clamp is available as an installation aid for the duct type LKM60100. This prevents cables from falling out in the case of wall and ceiling mounting. When cable installation has been completed, the duct cover is locked onto the duct base.

LKM cable routing ducts
Installation principle



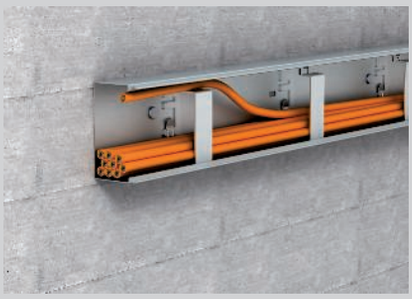
Horizontal wall and ceiling mounting.



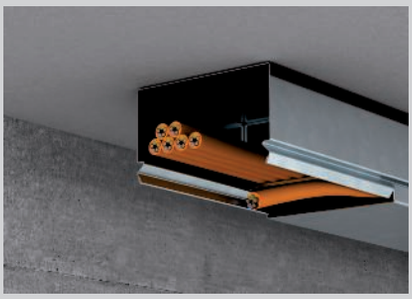
Routing of power, data or fire alarm cables in the duct, type LKM60100.



Tidy routing of data and fire alarm cables in the duct, type 20030.



Retaining clamps locked into the base as installation aid for wall mounting.



Retaining clamps as mounting aid for the insertion of cables for ceiling mounting.



Closing of the duct by simple locking of the cover onto the duct base.

Classification according to DIN 4102 Part 12

E30 E60 E90

System description

Routing type	Cable-specific support structure
Test certificate no.	P-MPA-E-11-008
Maintenance of electrical function classes	E30 and E90
Testing standard	DIN 4102 Part 12

Approved data

Type	Cable types	Fastening spacing	Cable load
LKM 20030	Data cable	max. 40 cm	max. 0.3 kg/m
LKM 60100	Power cable	max. 49 cm	max. 3.0 kg/m

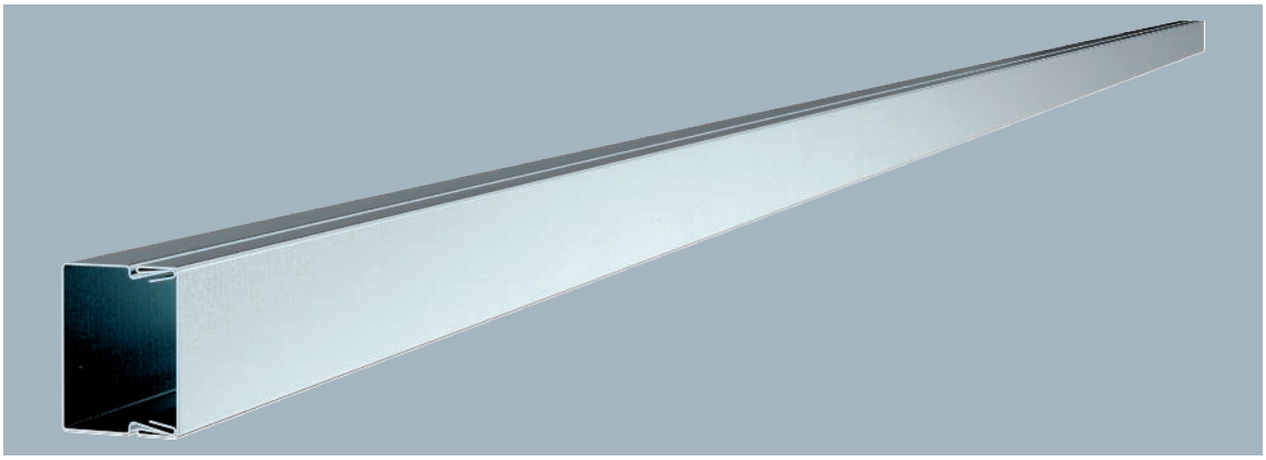
The data in the general construction test certificates for the appropriate cable type applies.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

LKM cable routing duct

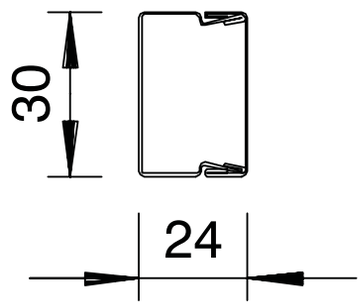
Cable duct, type LKM 20030

St FS FSK



Type	Colour	Length mm	Pack m	Weight kg/100 m	Item no.
LKM20030FS	–	2000	2	58.000	**6246974**
LKM20030RW	Pure white	2000	2	58.000	**6248470**

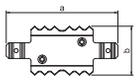
Duct cover and base with base perforation. Equipotential bonding is guaranteed between the cover and the base without any additional aids. The LKM cable duct, type LKM 20030, has been tested for the maintenance of electrical function as a routing system according to DIN 4102 Part 12. Please note the cable types tested in the BSS fire protection systems division!



Joint connector LKM SV30

VA 2B





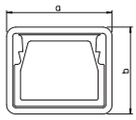
Type	Dim. a mm	Dim. b mm	Pack Piece	Weight kg/100 pc.	Item no.
LKM SV30	54	30	10	0.400	**6247434**

Joint connector to connect the bases. This creates the equipotential bonding between the duct bases.

Edge protection ring KSR 20030, for LKM cable duct type 20030

PVC



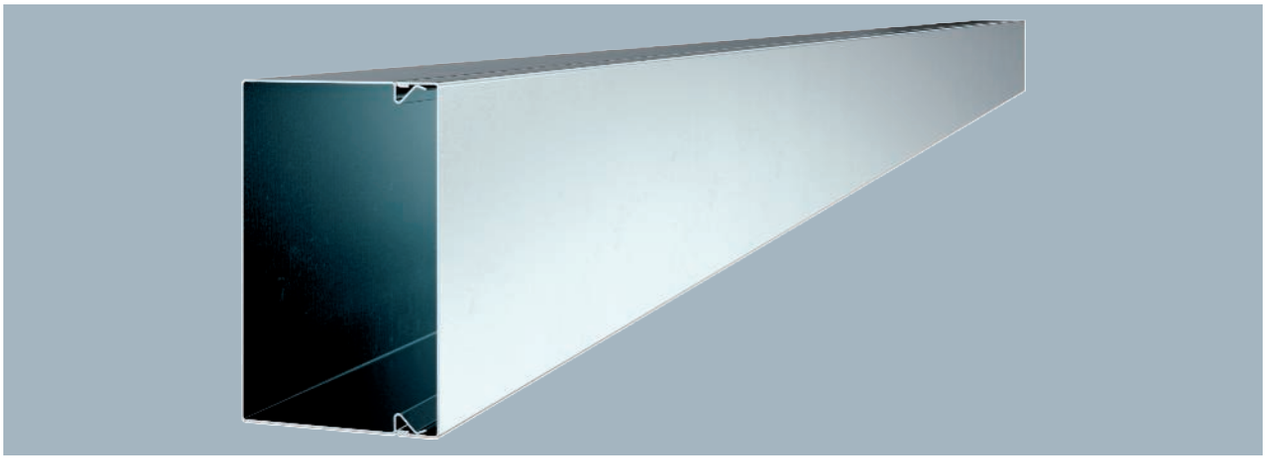


Type	Colour	Dim. a mm	Dim. b mm	Pack Piece	Weight kg/100 pc.	Item no.
KSR20030	Grey	34	28	5	1.100	**6249844**

Edge protection ring for the open ends of LKM cable trunking.

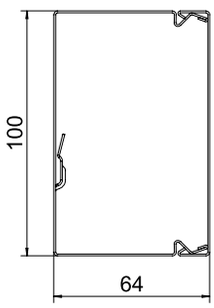
St FS FSK

Cable duct, type LKM 60100



Duct cover and base with base perforation. Equipotential bonding is guaranteed between the cover and the base without any additional aids. The LKM cable duct, type LKM 60100, has been tested for the maintenance of electrical function as a routing system according to DIN 4102 Part 12. Please note the cable types tested in the BSS fire protection systems division!

Type	Colour	Length mm	Pack m	Weight kg/100 m	Item no.
LKM60100FS	–	2000	2	221.700	**6247113**
LKM60100RW	Pure white	2000	2	221.700	**6248624**

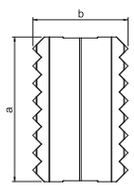


VA 2B

Joint connector LKM SV60

Type	Dim. a mm	Dim. b mm	Pack Piece	Weight kg/100 pc.	Item no.
LKM SV60	75	49	10	1.600	**6247466**

Joint connector to connect the bases. This creates the equipotential bonding between the duct bases.



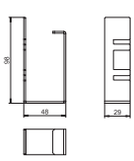


St FS

Duct clamp, LKM, for maintenance of electrical function E30 - E90

Type	Pack Piece	Weight kg/100 pc.	Item no.
LKM KF 60100	10	9.800	**6249881**

Duct clamp for the metal cable routing trunking type LKM 60100, prevents the cables falling out during installation. The duct clamp is essential if the trunking is used in cable systems with integrated maintenance of electrical function to DIN 4102, Part 12. Easy mounting through insertion into the loop perforation and interconnection in the side wall.



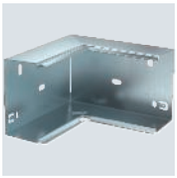


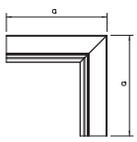
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

LKM cable routing duct

Internal corner, for cable trunking type LKM 60100

St FS FSK



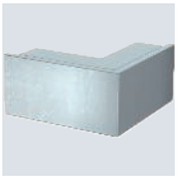


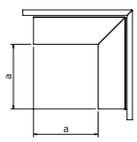
Type	Colour	Dim. a mm	Pack Piece	Weight kg/100 pc.	Item no.
LKM I60100FS	–	160	1	39.400	**6248144**
LKM I60100RW	Pure white	160	1	39.400	**6249639**

Internal corner for changing the direction of the LKM trunking.

External corner, for cable trunking type LKM 60100

St FS FSK





Type	Colour	Dim. a mm	Pack Piece	Weight kg/100 pc.	Item no.
LKM A60100FS	–	120	1	73.100	**6248063**
LKM A60100RW	Pure white	120	1	73.100	**6249574**

External corner including cover for changing the direction of the LKM ducts.

T piece for cable trunking type LKM 60100

St FS FSK





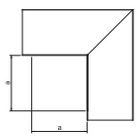
Type	Colour	Dim. a mm	Pack Piece	Weight kg/100 pc.	Item no.
LKM T60100FS	–	300	1	69.200	**6248209**
LKM T60100RW	Pure white	300	1	69.200	**6249701**

T piece including cover for changing the direction of the LKM ducts.

Flat angle, for cable trunking type LKM 60100

St FS FSK





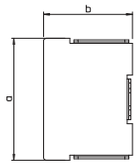
Type	Colour	Dim. a mm	Pack Piece	Weight kg/100 pc.	Item no.
LKM F60100FS	–	140	1	63.400	**6248004**
LKM F60100RW	Pure white	140	1	63.400	**6249507**

Flat angle including cover for changing the direction of the LKM ducts.

End piece, for cable trunking type LKM 60100

St FS FSK





Type	Colour	Dim. a mm	Dim. b mm	Pack Piece	Weight kg/100 pc.	Item no.
LKM E60100FS	–	100	64	10	6.200	**6248306**
LKM E60100RW	Pure white	100	64	10	6.500	**6249817**

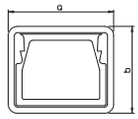
End piece for closing the LKM ducts.

PVC

Edge protection ring KSR60100, for LKM cable duct type 60100

Type	Colour	Dim. a mm	Dim. b mm	Pack Piece	Weight kg/100 pc.	Item no.
KSR60100	Grey	104	68	5	3.400	**6249852**

Edge protection ring for the open ends of LKM cable trunking.



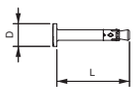


St G

Nail anchor N-K with nail head

Type	Drill hole Ø mm	Drill hole depth mm	Clamping range mm	Dim. L mm	Dim. D mm	Pack Piece	Weight kg/100 pc.	Item no.
N-K 6-5-10/44	6	40	5-10	44	13	100	1.135	**3498390**

The nail anchor N-K can be used for multiple fastenings of non-load-bearing systems and in cracked and non-cracked concrete, thereby combining the benefits of a bolt tie with even easier mounting. The nail anchor only needs to be hammered into the drill hole. When the load occurs, the nail anchor spreads itself and bolts itself in the drill hole.



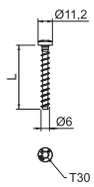


St G

MMS-plus P round head tie, with panhead

Type	Dimension mm	Dim. L mm	Drill hole Ø mm	Head Ø mm	Screw system	Pack Piece	Weight kg/100 pc.	Item no.
MMS+ P 6x50	6x50	50	5	11.2	Torx	100	1.000	**3498108**

Bolt tie for direct mounting without additional anchors in cracked and uncracked concrete and masonry. With round head for universal fastenings. Torx drive T30.
Construction product tested according to EAD and CE mark, with European Technical Assessment (ETA) and proof of suitability. Load-bearing capacities under fire loads proven up to fire resistance class R120.





PVC

Identification plate for maintenance of electrical function

Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-E DE	German	10	0.600	**7205423**

Self-adhesive identification plate for approved cable system labelling for maintenance of electrical function as required by DIN 4102 Part 12.





Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Grip M grouped support
System description



Cable routing with metal grouped supports is approved as a cable-specific routing type for the maintenance of electrical functionality classes E 30, E 60 and E 90 according to DIN 4102 Part 12. The collecting clamps used are made of sheet steel and can be opened and closed easily without the use of tools. To allow simple cable insertion, the supports can remain open during cable routing.

Grouped supports for wall and ceiling mounting are suitable. Depending on the tested cables and the grouped supports used for the tests, fastening spacings of maximum 0.8 m and a cable assignment of up to 6 kg/m are permitted. The instructions of the various cable manufacturers should be complied with.

Grip M grouped support
Installation principle



Horizontal wall and ceiling mounting.



Mounted grouped support 2031 M 15.



Easy insertion of the cables in the opened grouped support.

Classification according to DIN 4102 Part 12

E30 **E60** **E90**

System description

Routing type	Cable-specific support structure
Test certificate no. M15/M30/M70	P-MPA-E-09-007
Maintenance of electrical function classes	E30 to E90
Testing standard	DIN 4102 Part 12

Approved data

Type	Fastening spacing	Cable assignment, max.
2031 M15	0.5 m	1.1 kg/m
2031 M30	0.5 m	2.5 kg/m
2031 M70	0.6 m (0.8 m)	6.0 kg/m (3.0 kg/m)

With regard to the fastening distance and cable assignment, deviating values are possible, depending on the test certificates of the cable manufacturers.

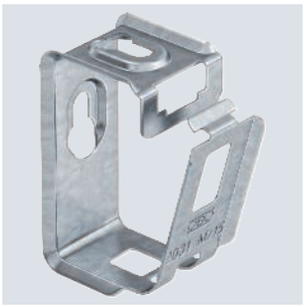
During mounting, ensure that the closure of the grouped support is located at the side.

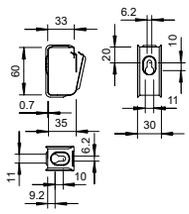
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Grouped supports

Grip collection clamp, metal 15

St FS



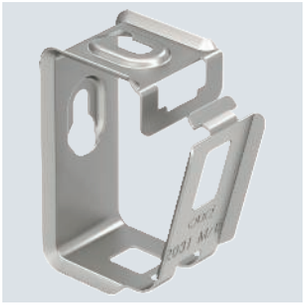


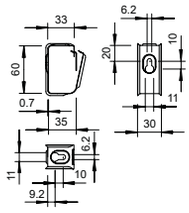
Type	No. of conductors NYM 3 x 1.5	BS	Shipping box Piece		Pack Piece	Weight kg/100 pc.	Item no.
2031 M 15 FS	15		50		50	3.700	**2207028**

Metal cable tidy for high mechanical stability, even in case of fire. Suitable for safe mounting above fire protection ceilings. Also approved as a cable-specific variant for the maintenance of electrical function to DIN 4102 part 12. For wall and ceiling mounting. Lock can be opened without tools. Detailed information on the approved routing variants can be found in the appropriate testing documentation.

Grip collection clamp, metal 15

VA 2B





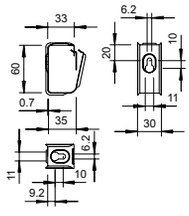
Type	No. of conductors NYM 3 x 1.5	BS	Shipping box Piece		Pack Piece	Weight kg/100 pc.	Item no.
2031 M 15 A2	15		50		50	3.000	**2207080**

Metal cable tidy for high mechanical stability, even in case of fire. Suitable for secure mounting above fire protection ceilings. Also approved as a cable-specific variant for the maintenance of electrical function to DIN 4102 part 12. For wall and ceiling mounting. Lock can be opened without tools. Detailed information on the approved routing variants can be found in the appropriate testing documentation.

Grip collection clamp, metal 15

VA 2B





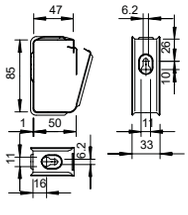
Type	No. of conductors NYM 3 x 1.5	BS	Shipping box Piece		Pack Piece	Weight kg/100 pc.	Item no.
2031 M 15 A4	15		50		50	3.000	**2207132**

Metal cable tidy for high mechanical stability, even in case of fire. Suitable for safe mounting above fire protection ceilings. Also approved as a cable-specific variant for the maintenance of electrical function to DIN 4102 part 12. For wall and ceiling mounting. Lock can be opened without tools. Detailed information on the approved routing variants can be found in the appropriate testing documentation.

Grip collection clamp, metal 30

St FS





Type	No. of conductors NYM 3 x 1.5	BS	Shipping box Piece		Pack Piece	Weight kg/100 pc.	Item no.
2031 M 30 FS	30		25		25	6.200	**2207036**

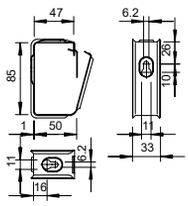
Metal grouped support for high mechanical stability, even in case of fire. Suitable for safe mounting above fire protection ceilings. Also approved as a cable-specific variant for the maintenance of electrical function to DIN 4102 part 12. For wall and ceiling mounting. Lock can be opened without tools. Detailed information on the approved routing variants can be found in the appropriate testing documentation.

VA 2B

Grip collection clamp, metal 30

Type	No. of conductors NYM 3 x 1.5	BS	Shipping box Piece		Pack Piece	Weight kg/100 pc.	Item no.
2031 M 30 A2	30		25		25	6.500	**2207088**

Metal grouped support for high mechanical stability, even in case of fire. Suitable for safe mounting above fire protection ceilings. Also approved as a cable-specific variant for the maintenance of electrical function to DIN 4102 part 12. For wall and ceiling mounting. Lock can be opened without tools. Detailed information on the approved routing variants can be found in the appropriate testing documentation.



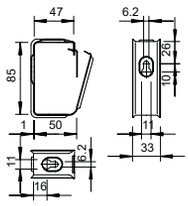


VA 2B

Grip collection clamp, metal 30

Type	No. of conductors NYM 3 x 1.5	BS	Shipping box Piece		Pack Piece	Weight kg/100 pc.	Item no.
2031 M 30 A4	30		25		25	6.500	**2207140**

Metal grouped support for high mechanical stability, even in case of fire. Suitable for safe mounting above fire protection ceilings. Also approved as a cable-specific variant for the maintenance of electrical function to DIN 4102 part 12. For wall and ceiling mounting. Lock can be opened without tools. Detailed information on the approved routing variants can be found in the appropriate testing documentation.



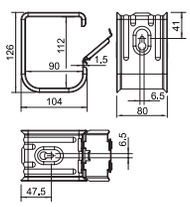


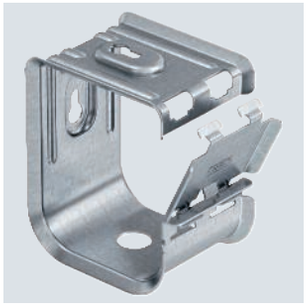
St FS

Grip collection clamp, metal 70

Type	No. of conductors NYM 3 x 1.5	BS	Shipping box Piece		Pack Piece	Weight kg/100 pc.	Item no.
2031 M 70 FS	70		10		10	34.500	**2207060**

Metal grouped support for high mechanical stability, even in case of fire. Suitable for safe mounting above fire protection ceilings. Also approved as a cable-specific variant for the maintenance of electrical function to DIN 4102 part 12. For wall and ceiling mounting. Lock can be opened without tools. Detailed information on the approved routing variants can be found in the appropriate testing documentation.



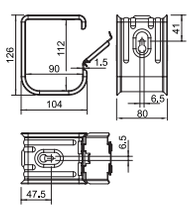


VA 2B

Grip collection clamp, metal 70

Type	No. of conductors NYM 3 x 1.5	BS	Shipping box Piece		Pack Piece	Weight kg/100 pc.	Item no.
2031 M 70 A2	70		10		10	37.000	**2207112**

Metal grouped support for high mechanical stability, even in case of fire. Suitable for safe mounting above fire protection ceilings. Also approved as a cable-specific variant for the maintenance of electrical function to DIN 4102 part 12. For wall and ceiling mounting. Lock can be opened without tools. Detailed information on the approved routing variants can be found in the appropriate testing documentation.





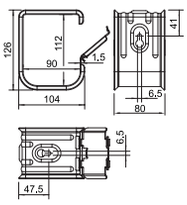
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Grouped supports

Grip collection clamp, metal 70

VA 2B





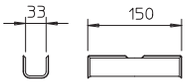
Type	No. of conductors NYM 3 x 1.5	BS	Shipping box Piece		Pack Piece	Weight kg/100 pc.	Item no.
2031 M 70 A4	70		10		10	37.000	**2207164**

Metal grouped support for high mechanical stability, even in case of fire. Suitable for safe mounting above fire protection ceilings. Also approved as a cable-specific variant for the maintenance of electrical function to DIN 4102 part 12. For wall and ceiling mounting. Lock can be opened without tools. Detailed information on the approved routing variants can be found in the appropriate testing documentation.

Long trough for Grip collection clamp metal 15

St FS

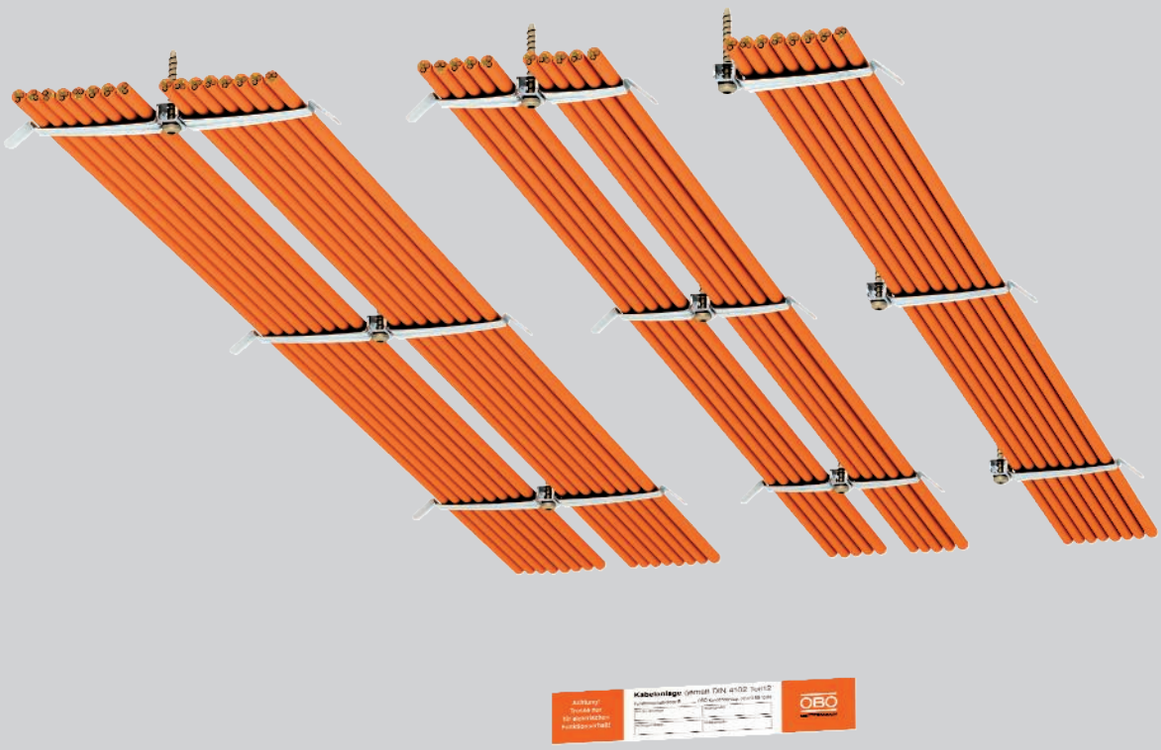




Type		Pack Piece	Weight kg/100 pc.	Item no.
2031 LW15		25	8.200	**2207184**

Long trough for grouped support type 2031/M15, for the maintenance of electrical function as cable-specific mounting variant.

Pressure clips made of metal
System description



Cable routing with rustproof steel pressure clips is approved as a cable-specific routing type for the maintenance of electrical functionality class E 30 according to DIN 4102 Part 12. This routing variant is ideal when there is only little mounting height available under the ceiling. With just small additions, fire alarm cables and also power cables for safety lighting systems can be routed in a space-saving way. For installation, the hips of the pressure clips are simply bent downwards and the cables pushed in from the side. The clamping area can be expanded with spacers.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

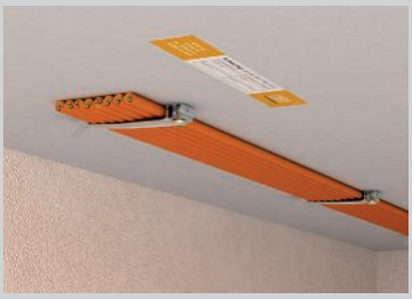
Pressure clips made of metal
Installation principle



Space-saving cable routing directly under the ceiling.



Simple cable installation through side insertion of the cables.



Single-sided version for low cable volume.

Classification according to DIN 4102 Part 12

E30

System description

Routing type	Cable-specific support structure
Test certificate no.	P-MPA-E-17-005
Maintenance of electrical function classes	E30
Testing standard	DIN 4102 Part 12

Approved data

Type	Fastening spacing	Cable assignment, max.
2033 M ...	0.5 m	2 x 9
2034 M ...	0.5 m	2 x 7
2035 M ...	0.5 m	1 x 9

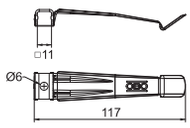
The data in the general construction test certificates of a materials testing institute for the appropriate cable type applies.

VA 2B

Pressure clip for 8 cables

Type	BS	Shipping box Piece		Pack Piece	Weight kg/100 pc.	Item no.
2035 M A2		20		20	1.030	**2204020**

The metal pressure clip is halogen and fire load-free, and maintains a good mechanical stability even in fires. The pressure clip is also approved as a cable-specific variant for the maintenance of electrical functionality to DIN 4102 Part 12. The spacer 2033 D 15 x 3 G (must be ordered separately) increases the clamping height of pressure clips from 10 to 13 mm. The pressure clips are suitable for fireproof mounting above suspended fire protection ceilings in accordance with DIN 4102.



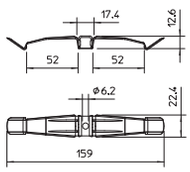


VA 2B

Pressure clip for 10 cables

Type	BS	Shipping box Piece		Pack Piece	Weight kg/100 pc.	Item no.
2034 M A2		50		50	1.860	**2204010**

The metal pressure clip is halogen and fire load-free, and maintains a good mechanical stability even in fires. The pressure clip is also approved as a cable-specific variant for the maintenance of electrical functionality to DIN 4102 Part 12. The spacer 2033 D 15 x 3 G (must be ordered separately) increases the clamping height of pressure clips from 10 to 13 mm. The pressure clips are suitable for fireproof mounting above suspended fire protection ceilings in accordance with DIN 4102.



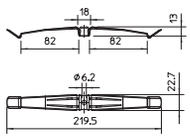


VA 2B

Pressure clip for 16 cables

Type	BS	Shipping box Piece		Pack Piece	Weight kg/100 pc.	Item no.
2033 M A2		25		25	2.310	**2204000**

The metal pressure clip is halogen and fire load-free, and maintains a good mechanical stability even in fires. The pressure clip is also approved as a cable-specific variant for the maintenance of electrical functionality to DIN 4102 Part 12. The spacer 2033 D 15 x 3 G (must be ordered separately) increases the clamping height of pressure clips from 10 to 13 mm. The pressure clips are suitable for fireproof mounting above suspended fire protection ceilings in accordance with DIN 4102.



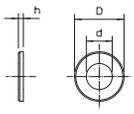


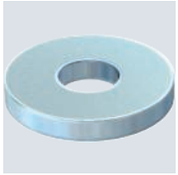
St G

Spacer

Type	Dim. D mm	Dim. d mm	Dim. h mm	Shipping box Piece		Pack Piece	Weight kg/100 pc.	Item no.
2033 D 15x3 G	15	6.4	3	3000		50	0.340	**2205097**

To increase the clamping height of pressure clips from 10 to 13 mm for large cable cross-sections.





PVC

Identification plate for maintenance of electrical function

Type	Language		Pack Piece	Weight kg/100 pc.	Item no.
KS-E DE	German		10	0.600	**7205423**

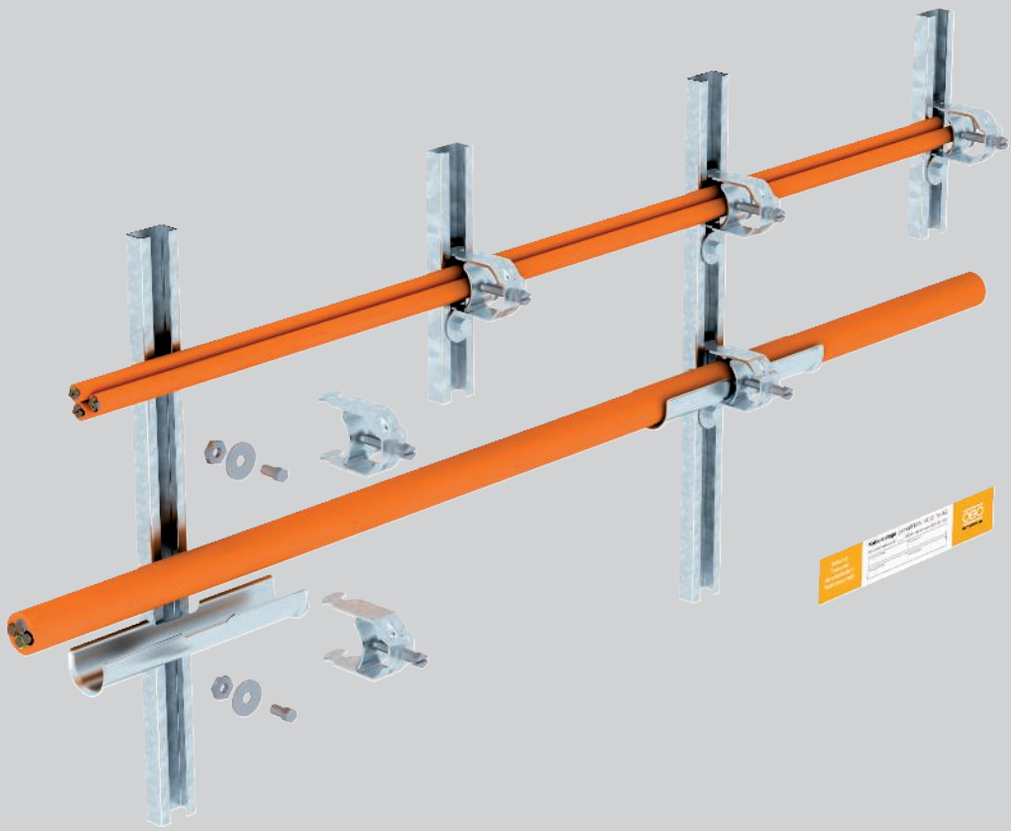
Self-adhesive identification plate for approved cable system labelling for maintenance of electrical function as required by DIN 4102 Part 12.





Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Clamp clips with profile rails
System description



The routing types with clamp clips fulfil all the requirements of DIN 4102 Part 12 as a standard support structure for the maintenance of electrical functionality classes E30 and E90. Mounting as a cable-specific routing type is possible, depending on the specifications of the cable manufacturer. The clamp clips can be used for horizontal cable routing on walls and ceilings and vertical routing on walls. The clamp clips are made of sheet steel with a riveted metal pressure trough. Long troughs made of galvanised sheet steel can be used to increase the support area for the cables. These are inserted loosely between the cables and the metal pressure troughs of the clamp clips. Bundling of up to three cables in a clamp clip is possible. The individual diameter of the bundled cables may not exceed 25 mm. If only individual cables are installed, then there is no limit to the cable diameter.

Clamp clips with profile rails
Installation principle



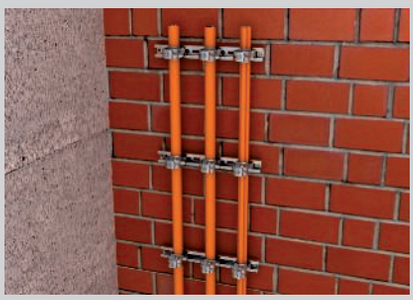
Horizontal mounting with clamp clips and long troughs on the wall and under the ceiling.



Horizontal cable mounting with clamp clips on the wall.



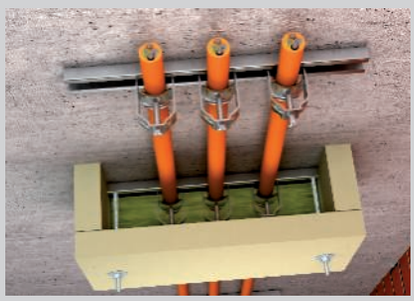
Horizontal cable mounting with clamp clips under the ceiling.



Vertical cable mounting with clamp clips on the wall.



Installation of the cables, either individually or as a bundle.



Effective support measure with ZSE90 strain relief.

Classification according to DIN 4102 Part 12

E30 **E60** **E90**

System description

Routing type	Standard support structure Cable-specific support construction
Surveyor's report no.	GS 3.2/17-436-5 (Norm)
Maintenance of electrical function classes	E30 to E90
Testing standard	DIN 4102 Part 12

Approved data

Rail fastening distance, max.	0.3 m (without long trough) as standard support structure
Rail fastening distance, max.	0.6 m (with long trough) as standard support structure
Max. anchor spacing in rail	0.25 m
Max. individual cable diameter	62 mm with long trough, 100 mm without long trough
Max. cable bundle	A standard support structure, max. 3 power cables up to ø 25 mm or a bundle of installation cables with a total weight of 3.0 kg/m
Cable-specific	Cable types and mounting parameters dependent on the cable manufacturer

Standard routing type: The data of the surveyor's report applies, together with a valid, general construction test certificate of a materials testing institute for the cable type to be used. Cable-specific routing type: A general construction test certificate of a materials testing institute for the cable type to be used is sufficient as proof.

With regard to the fastening distance and cable assignment, the details from the appropriate test certificate must be taken into account.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Profile rails and clamp clips

Anchor rail AML3518, slot width 16.5 mm, perforated

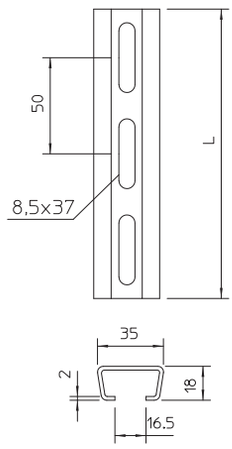
St FT



Type	Length mm	Dimension W x H mm	Material thickness mm	Dim. L mm	Pack m	Weight kg/100 m	Item no.
AML3518P2000FT	2000	35x18	1.5	2000	2	89.000	**1119656**

Central C profile rail for cable routing, in conjunction with clamp clips with a hammerhead foot. Can also be used as suspension construction for cable support systems.

Dimensions



CML3518 profile rail, slot 17 mm, perforated

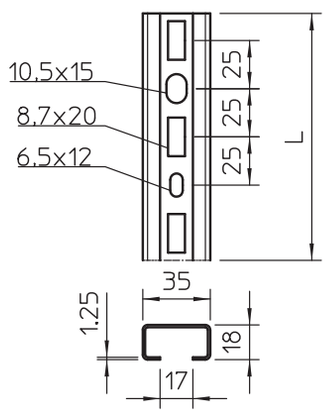
St FS



Type	Length mm	Dimension W x H mm	Material thickness mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
CML3518P0150FS	150	35x18	1.25	150	25	10.600	**1104241**
CML3518P0200FS	200	35x18	1.25	200	25	14.200	**1104268**
CML3518P0300FS	300	35x18	1.25	300	25	21.300	**1104284**
CML3518P0400FS	400	35x18	1.25	400	10	28.400	**1104292**
CML3518P0500FS	500	35x18	1.25	500	10	35.500	**1104306**
CML3518P0600FS	600	35x18	1.25	600	10	42.600	**1104310**
CML3518P0700FS	700	35x18	1.25	700	10	49.700	**1104315**
CML3518P0800FS	800	35x18	1.25	800	10	56.800	**1104320**
CML3518P0900FS	900	35x18	1.25	900	10	63.900	**1104325**
CML3518P1000FS	1000	35x18	1.25	1000	1	71.000	**1104497**
CML3518P2000FS	2000	35x18	1.25	2000	2	71.000	**1104500**

Light-duty profile rail, perforated, slot width 17 mm.

Dimensions



St FT

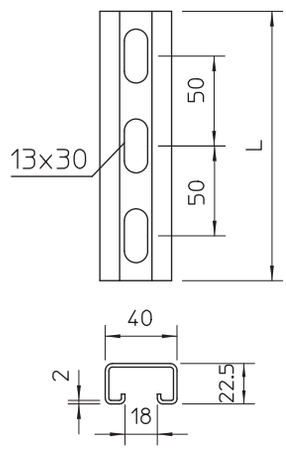
MS4022 mounting rail, heavy duty, slot 18 mm, perforated

Type	Length mm	Dimension W x H mm	Material thickness mm	Dim. L mm	Pack m	Weight kg/100 m	Item no.
MS4022P2000FT	2000	40x22,5	2	2000	2	152.500	**1121979**



Heavy-duty C profile rail for individual installation of support constructions, e.g. for cable trays or as a panel for switchgear cabinets. Can also be used for cable routing, in conjunction with clamp clips with a U foot.

Dimensions



St FT

Clamp clip, single, metal pressure trough

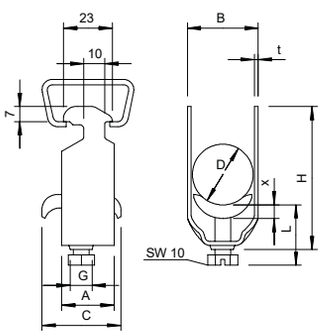
Type	Clamping range D mm	Pack Piece	Weight kg/100 pc.	Item no.
2056 M 12 FT	8-12	100	3.200	**1156004**
2056 M 16 FT	12-16	100	3.500	**1156012**
2056 M 22 FT	16-22	100	4.400	**1156020**
2056 M 28 FT	22-28	100	6.100	**1156039**
2056 M 34 FT	28-34	100	7.700	**1156047**
2056 M 40 FT	34-40	100	8.600	**1156055**
2056 M 46 FT	40-46	100	9.600	**1156063**
2056 M 52 FT	46-52	100	10.400	**1156071**
2056 M 58 FT	52-58	100	13.100	**1156098**
2056 M 64 FT	58-64	100	14.500	**1156101**
2056 M 70 FT	64-70	50	16.100	**1156128**
2056 M 76 FT	70-76	25	18.300	**1156136**
2056 M 82 FT	76-82	25	19.100	**1156144**
2056 M 90 FT	82-90	25	23.300	**1156152**
2056 M 100 FT	90-100	25	24.500	**1156160**



Suitable for all C profile rails with slot width 16–17 mm.
Clip, bolt and pressure trough made of hot-dip galvanised steel.

Type	Dim. A mm	Dim. B mm	Dim. C mm	Dim. G	Dim. t mm	Dim. x mm	Dim. H mm	Dim. L mm	Max. torque Nm
2056 M 12 FT	23	16	30	M6	1.5	3.5	40	32.5	3
2056 M 16 FT	23	20	30	M6	1.5	3.5	44	32.5	3
2056 M 22 FT	23	27	30	M6	1.5	4.5	50	46.5	3
2056 M 28 FT	23	33	30	M6	2	4.5	58	46.5	3
2056 M 34 FT	23	39	35	M8	2	5	66	44	5
2056 M 40 FT	23	45	35	M8	2	5	72	44	5
2056 M 46 FT	23	51	35	M8	2	5	79	44	5
2056 M 52 FT	23	57	35	M8	2	5	86	44	5
2056 M 58 FT	23	64	35	M8	2.5	5	93	44	5
2056 M 64 FT	23	70	35	M8	2.5	5	99	56	5
2056 M 70 FT	25	76	35	M8	2.5	5	106	56	5
2056 M 76 FT	25	82	40	M8	2.5	5	114	56	5
2056 M 82 FT	25	88	40	M8	2.5	5	121	56	5
2056 M 90 FT	25	97	40	M8	3	5	130	56	5
2056 M 100 FT	25	107	40	M8	3	5	140	56	5

Dimensions



Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Profile rails and clamp clips

Clamp clip, double, metal pressure trough

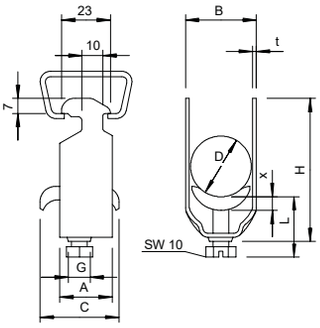
St FT



Type	Clamping range D mm	Pack Piece	Weight kg/100 pc.	Item no.
2056 M2 12 FT	8-12	50	3.980	**1156179**
2056 M2 16 FT	12-16	50	4.750	**1156187**
2056 M2 22 FT	16-22	50	6.900	**1156195**
2056 M2 28 FT	22-28	50	7.800	**1156209**

Suitable for all C profile rails with slot width 16–17 mm.
Clip, bolt and pressure trough made of hot-dip galvanised steel.

Dimensions



Type	Dim. A mm	Dim. B mm	Dim. C mm	Dim. G	Dim. t mm	Dim. x mm	Dim. H mm	Dim. L mm	Max. torque Nm
2056 M2 12 FT	23	16	34	M6	1.5	5	52	34	3
2056 M2 16 FT	23	20	34	M6	1.5	5	61	34	3
2056 M2 22 FT	23	27	34	M6	1.5	5	73	47	3
2056 M2 28 FT	23	33	34	M6	2	5	87	47	3

Clamp clip, triple, metal pressure trough

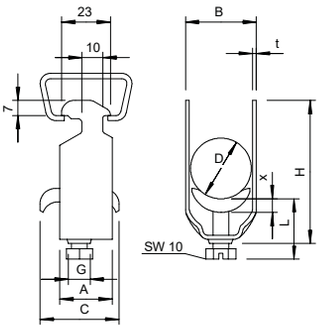
St FT



Type	Clamping range D mm	Pack Piece	Weight kg/100 pc.	Item no.
2056 M3 12 FT	8-12	50	4.050	**1156241**
2056 M3 16 FT	12-16	50	5.800	**1156268**
2056 M3 22 FT	16-22	50	6.500	**1156276**
2056 M3 28 FT	22-28	50	9.500	**1156284**

Suitable for all C profile rails with slot width 16–17 mm.
Clip, bolt and pressure trough made of hot-dip galvanised steel.

Dimensions



Type	Dim. A mm	Dim. B mm	Dim. C mm	Dim. G	Dim. t mm	Dim. x mm	Dim. H mm	Dim. L mm	Max. torque Nm
2056 M3 12 FT	23	16	34	M6	1.5	5	70	47	3
2056 M3 16 FT	23	20	34	M6	1.5	5	82	47	3
2056 M3 22 FT	23	27	34	M6	1.5	5	101	47	3
2056 M3 28 FT	23	33	34	M6	2	5	121	47	3

St FT

Clamp clip, single, metal pressure trough

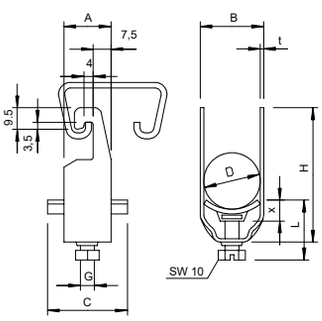
Type	Clamping range D mm	Pack Piece	Weight kg/100 pc.	Item no.
2056U M 12 FT	8-12	100	3.300	**1158007**
2056U M 16 FT	12-16	100	3.520	**1158015**
2056U M 22 FT	16-22	100	3.960	**1158023**
2056U M 28 FT	22-28	100	5.890	**1158031**
2056U M 34 FT	28-34	100	7.650	**1158058**
2056U M 40 FT	34-40	100	8.360	**1158066**
2056U M 46 FT	40-46	100	10.890	**1158074**
2056U M 52 FT	46-52	100	11.660	**1158082**
2056U M 58 FT	52-58	100	14.740	**1158090**
2056U M 64 FT	58-64	100	15.730	**1158104**
2056U M 70 FT	64-70	50	18.200	**1158112**
2056U M 76 FT	70-76	25	20.600	**1158120**



Suitable for all C profile rails with slot width 18 mm and 22 mm.

Dimensions

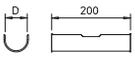
Type	Dim. A mm	Dim. B mm	Dim. C mm	Dim. G	Dim. t mm	Dim. x mm	Dim. H mm	Dim. L mm	Max. torque Nm
2056U M 12 FT	20	16	34	M6	1.5	5	42	34	3
2056U M 16 FT	20	20	34	M6	1.5	5	46	34	3
2056U M 22 FT	20	27	34	M6	1.5	5	53	34	3
2056U M 28 FT	20	33	34	M6	2	5	59	34	3
2056U M 34 FT	20	39	34	M8	2	5.5	67	37.5	5
2056U M 40 FT	20	45	34	M8	2	5.5	73	37.5	5
2056U M 46 FT	20	51	40	M8	2	5.5	79	37.5	5
2056U M 52 FT	20	57	40	M8	2	6.5	85	38.5	5
2056U M 58 FT	23	64	40	M8	2.5	6.5	91	38.5	5
2056U M 64 FT	23	70	40	M8	2.5	6.5	97	38.5	5
2056U M 70 FT	23	76	40	M8	2.5	6.5	103	38.5	5
2056U M 76 FT	25	82	40	M8	2.5	6.5	110	45.5	5



St FS

Long trough

Type	Clamping range D mm	for clip 2056/M	Pack Piece	Weight kg/100 pc.	Item no.
2058 LW 10	6-10	8-12	50	4.000	**1195794**
2058 LW 14	10-14	12-16	50	5.340	**1195808**
2058 LW 20	14-20	16-22	50	7.380	**1195816**
2058 LW 26	20-26	22-28	25	9.000	**1195824**
2058 LW 32	26-32	28-34	25	11.000	**1195832**
2058 LW 38	32-38	34-40	25	12.500	**1195840**
2058 LW 44	38-44	40-46	25	14.300	**1195859**
2058 LW 50	44-50	46-52	25	16.200	**1195867**
2058 LW 56	50-56	52-58	25	17.800	**1195875**
2058 LW 62	56-62	58-64	25	19.700	**1195883**



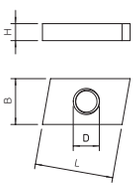


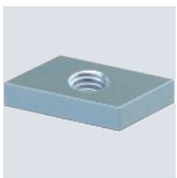
In addition to the clamp clip, to increase the support area for cables with integrated maintenance of electrical function, a long trough (L = 200 mm) is mounted.

St ZL

Slide nut

Type	Dim. L mm	Dim. B mm	Dim. H mm	Pack Piece	Weight kg/100 pc.	Item no.
ACMSN M6 ZL	26	16.5	4	100	1.212	**1147056**





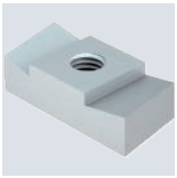
Slide nut for use with CM3015, CM3518 and AM3518 profile rails

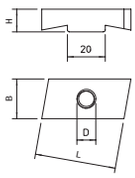
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Profile rails and clamp clips

Slide nut

St ZL



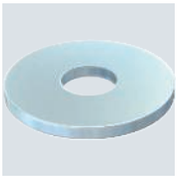


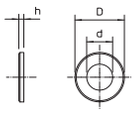
Type	Dim. L mm	Dim. B mm	Dim. H mm	Pack Piece	Weight kg/100 pc.	Item no.
MS40SN M6 ZL	35	17	10	50	3.750	**1147106**

Slide nut for use with MS4022 profile rail

Large washer

St F





Type	Dim. D mm	Dim. d mm	Dim. h mm	Pack Piece	Weight kg/100 pc.	Item no.
DIN440 7 F	22	6.6	2	100	0.535	**6408702**

Washer of particularly large outer diameter.

Identification plate for maintenance of electrical function

PVC





Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-E DE	German	10	0.600	**7205423**

Self-adhesive identification plate for approved cable system labelling for maintenance of electrical function as required by DIN 4102 Part 12.

Screw-in spacer clips
System description



The routing types with single clips fulfil all the requirements of DIN 4102 Part 12 as a standard support structure for the maintenance of electrical functionality classes E 30, E 60 and E 90. In addition, mounting of the single clips as a cable-specific routing type is possible, depending on the specifications of the cable manufacturer. The screw-in spacer clips can be used for horizontal cable routing on walls and ceilings and vertical routing on walls. The closed screw-in spacer clips are made of galvanised sheet steel. Mounting is carried out either by pushing through the slots of the clips or by screwing onto a fire protection anchor with threaded tip M6. Bundling of up to three cables together in a single clamp clip is possible for mounting as a standard support structure. The individual diameter of the bundled cables may not exceed 25 mm. There is no limit to the diameter of installed individual cables with screw-in spacer clips.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

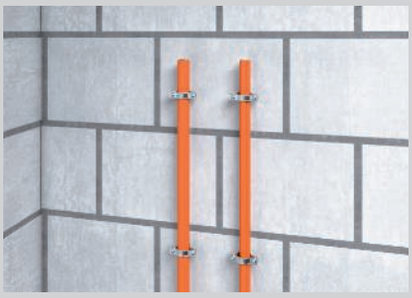
Screw-in spacer clips
Installation principle



Horizontal cable mounting on the wall.



Mounting under the ceiling.



Vertical cable installation as individual and bundle routing on the wall.



Bundled cable routing under the ceiling.

Classification according to DIN 4102 Part 12

E30 **E60** **E90**

System description

Routing type	Standard support structure Cable-specific support construction
Surveyor's report no.	GS 3.2/17-436-5 (Norm)
Maintenance of electrical function classes	E30 to E90
Testing standard	DIN 4102 Part 12

Approved data

Max. fastening spacing	0.3 m as standard support structure
Max. individual cable diameter	63 mm
Max. cable bundle	A standard support structure, max. 3 power cables up to ø 25 mm or bundle of installation cables with a total weight of 3.0 kg/m
Cable-specific	Cable types and mounting parameters dependent on the cable manufacturer

Standard routing type: The data of the surveyor's report applies, together with a valid, general construction test certificate of a materials testing institute for the cable type to be used. Cable-specific routing type: A general construction test certificate of a materials testing institute for the cable type to be used is sufficient as proof.

With regard to the fastening distance and cable assignment, the details from the appropriate test certificate must be taken into account.

St G

E30 E60 E90

Spacer clip 732

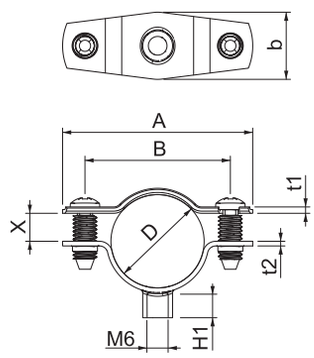
Type	Clamping range D mm	Pack Piece	Weight kg/100 pc.	Item no.
ASG 732 6 G	5-6	25	1.136	**1362404**
ASG 732 7 G	6-7	25	1.341	**1362406**
ASG 732 8 G	7-8	25	1.349	**1362408**
ASG 732 10 G	8-10	25	1.504	**1362410**
ASG 732 12 G	10-12	25	1.567	**1362412**
ASG 732 14 G	12-14	25	1.638	**1362414**
ASG 732 17 G	14-17	25	1.793	**1362417**
ASG 732 20 G	17-20	25	1.895	**1362420**
ASG 732 25 G	20-25	25	2.145	**1362424**
ASG 732 30 G	25-30	20	3.157	**1362428**
ASG 732 36 G	30-36	20	3.664	**1362432**
ASG 732 44 G	36-44	20	4.002	**1362436**
ASG 732 53 G	44-53	20	4.713	**1362440**
ASG 732 63 G	53-63	20	5.231	**1362444**



Spacer clip for the installation of pipes and cables on walls, ceilings and floors. With self-locking cover. Fastening via attachment piece with internal thread.
Approved for the maintenance of electrical function according to DIN 4102 Part 12, maintenance of electrical function classes E 30 to E 90.

Type	Clamping range D mm	Dim. A mm	Dim. B mm	Dim. x mm	Dim. b mm	Dim. t1 mm	Dim. t2 mm	Dim. H1 mm
ASG 732 6 G	5-6	35	23	1.5	18	1	1.25	6.5
ASG 732 7 G	6-7	35	23	1.5	18	1	1.25	6.5
ASG 732 8 G	7-8	35	23	1.5	18	1	1.25	6.5
ASG 732 10 G	8-10	37	25	3	18	1	1.25	6.5
ASG 732 12 G	10-12	39	27	3	18	1	1.25	6.5
ASG 732 14 G	12-14	41	29	3	18	1.25	1.25	6.5
ASG 732 17 G	14-17	44	32	4.5	18	1.25	1.25	6.5
ASG 732 20 G	17-20	47	35	4.5	18	1.25	1.25	6.5
ASG 732 25 G	20-25	51	39	7.5	18	1.25	1.25	6.5
ASG 732 30 G	25-30	59	45	7.5	18	1.5	1.5	6.5
ASG 732 36 G	30-36	65	51	9	18	1.5	1.5	6.5
ASG 732 44 G	36-44	73	59	12	18	1.5	1.5	6.5
ASG 732 53 G	44-53	84	70	13.5	18	1.5	1.5	6.5
ASG 732 63 G	53-63	94	80	15	18	1.5	1.5	6.5

Dimensions



Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Screw-in spacer clips

Spacer clip 732

VA

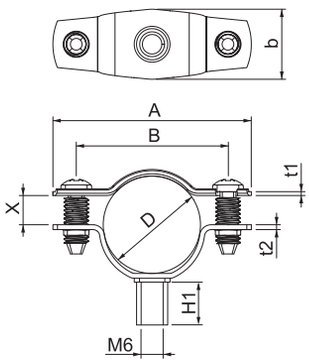
E30 E60 E90



Type	Clamping range D mm	Pack Piece	Weight kg/100 pc.	Item no.
ASG 732 6 A4	5-6	25	1.558	**1362454**
ASG 732 8 A4	7-8	25	1.582	**1362458**
ASG 732 10 A4	8-10	25	1.773	**1362460**
ASG 732 12 A4	10-12	25	1.821	**1362462**
ASG 732 14 A4	12-14	25	1.885	**1362464**
ASG 732 17 A4	14-17	25	2.035	**1362467**
ASG 732 20 A4	17-20	25	2.139	**1362469**
ASG 732 25 A4	20-25	25	2.394	**1362472**
ASG 732 30 A4	25-30	20	3.370	**1362474**
ASG 732 36 A4	30-36	20	3.782	**1362478**
ASG 732 44 A4	36-44	20	4.158	**1362482**
ASG 732 53 A4	44-53	20	4.851	**1362486**
ASG 732 63 A4	53-63	20	5.379	**1362489**

Spacer clip for the installation of pipes and cables on walls, ceilings and floors. With self-locking cover. Fastening via attachment piece with internal thread.
Approved for the maintenance of electrical function according to DIN 4102 Part 12, maintenance of electrical function classes E 30 to E 90.

Dimensions



Type	Clamping range D mm	Dim. A mm	Dim. B mm	Dim. x mm	Dim. b mm	Dim. t1 mm	Dim. t2 mm	Dim. H1 mm
ASG 732 6 A4	5-6	35	23	1.5	18	1	1.25	12
ASG 732 8 A4	7-8	35	23	1.5	18	1	1.25	12
ASG 732 10 A4	8-10	37	25	3	18	1	1.25	12
ASG 732 12 A4	10-12	39	27	3	18	1	1.25	12
ASG 732 14 A4	12-14	41	29	3	18	1.25	1.25	12
ASG 732 17 A4	14-17	44	32	4.5	18	1.25	1.25	12
ASG 732 20 A4	17-20	47	35	4.5	18	1.25	1.25	12
ASG 732 25 A4	20-25	51	39	7.5	18	1.25	1.25	12
ASG 732 30 A4	25-30	59	45	7.5	18	1.5	1.5	12
ASG 732 36 A4	30-36	65	51	9	18	1.5	1.5	12
ASG 732 44 A4	36-44	73	59	12	18	1.5	1.5	12
ASG 732 53 A4	44-53	84	70	13.5	18	1.5	1.5	12
ASG 732 63 A4	53-63	94	80	15	18	1.5	1.5	12

St G

E30 E60 E90

Spacer clip 733

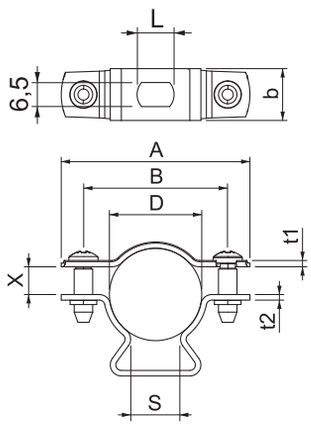
Type	Clamping range D mm	Pack Piece	Weight kg/100 pc.	Item no.
ASL 733 25 G	20-25	25	2.419	**1362768**
ASL 733 30 G	25-30	20	3.401	**1362772**
ASL 733 36 G	30-36	20	3.774	**1362776**
ASL 733 44 G	36-44	20	4.151	**1362780**
ASL 733 53 G	44-53	20	5.616	**1362784**
ASL 733 63 G	53-63	20	6.212	**1362788**



Spacer clip for the installation of pipes and cables on walls, ceilings and floors. With self-locking cover. Fastening via slot.
Approved for the maintenance of electrical function according to DIN 4102 Part 12, maintenance of electrical function classes E 30 to E 90.

Type	Dim. A mm	Dim. B mm	Dim. x mm	Dim. t1 mm	Dim. t2 mm	Dim. L mm	Dim. b mm	Dim. s mm
ASL 733 25 G	51	39	7.5	1.25	1.5	10	14	13.5
ASL 733 30 G	59	45	7.5	1.5	1.5	10	16	16.5
ASL 733 36 G	65	51	9	1.5	1.5	10	16	20
ASL 733 44 G	73	59	12	1.5	1.5	10	16	24
ASL 733 53 G	84	70	13.5	1.5	2	10	16	29.5
ASL 733 63 G	94	80	15	1.5	2	10	16	35.3

Dimensions



St FT

E30 E60 E90

Spacer clip 733

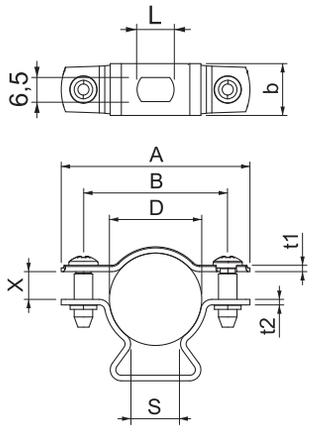
Type	Clamping range D mm	Pack Piece	Weight kg/100 pc.	Item no.
ASL 733 20 FT	17-20	25	2.000	**1362714**
ASL 733 25 FT	20-25	25	2.540	**1362718**
ASL 733 30 FT	25-30	20	3.567	**1362722**
ASL 733 36 FT	30-36	20	3.956	**1362726**
ASL 733 44 FT	36-44	20	4.356	**1362730**
ASL 733 53 FT	44-53	20	5.850	**1362734**
ASL 733 63 FT	53-63	20	6.477	**1362738**



Spacer clip for the installation of pipes and cables on walls, ceilings and floors. With self-locking cover. Fastening via slot.
Approved for the maintenance of electrical function according to DIN 4102 Part 12, maintenance of electrical function classes E 30 to E 90.

Type	Dim. A mm	Dim. B mm	Dim. x mm	Dim. t1 mm	Dim. t2 mm	Dim. L mm	Dim. b mm	Dim. s mm
ASL 733 20 FT	47	35	4.5	1.25	1.5	10	14	12
ASL 733 25 FT	51	39	7.5	1.25	1.5	10	14	13.5
ASL 733 30 FT	59	45	7.5	1.5	1.5	10	16	16.5
ASL 733 36 FT	65	51	9	1.5	1.5	10	16	20
ASL 733 44 FT	73	59	12	1.5	1.5	10	16	24
ASL 733 53 FT	84	70	13.5	1.5	2	10	16	29.5
ASL 733 63 FT	94	80	15	1.5	2	10	16	35.3

Dimensions



Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Screw-in spacer clips

Spacer clip 733

VA

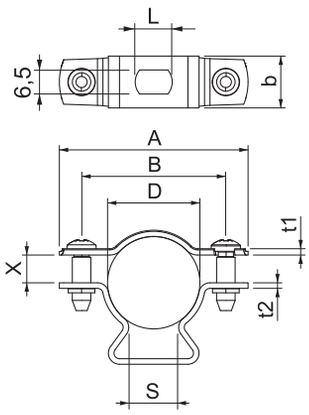
E30 E60 E90



Type	Clamping range D mm	Pack Piece	Weight kg/100 pc.	Item no.
ASL 733 20 A2	17-20	25	2.213	**1362984**
ASL 733 25 A2	20-25	25	2.432	**1362986**
ASL 733 30 A2	25-30	20	3.416	**1362988**
ASL 733 36 A2	30-36	20	3.792	**1362990**
ASL 733 44 A2	36-44	20	4.170	**1362992**
ASL 733 53 A2	44-53	20	5.643	**1362994**
ASL 733 63 A2	53-63	20	6.242	**1362996**

Spacer clip for the installation of pipes and cables on walls, ceilings and floors. With self-locking cover. Fastening via slot.
Approved for the maintenance of electrical function according to DIN 4102 Part 12, maintenance of electrical function classes E 30 to E 90.

Dimensions



Type	Dim. A mm	Dim. B mm	Dim. x mm	Dim. t1 mm	Dim. t2 mm	Dim. L mm	Dim. b mm	Dim. s mm
ASL 733 20 A2	47	35	4.5	1.25	1.5	10	14	12
ASL 733 25 A2	51	39	7.5	1.25	1.5	10	14	13.5
ASL 733 30 A2	59	45	7.5	1.5	1.5	10	16	16.5
ASL 733 36 A2	65	51	9	1.5	1.5	10	16	20
ASL 733 44 A2	73	59	12	1.5	1.5	10	16	24
ASL 733 53 A2	84	70	13.5	1.5	2	10	16	29.5
ASL 733 63 A2	94	80	15	1.5	2	10	16	35.3

Spacer clip 733

VA

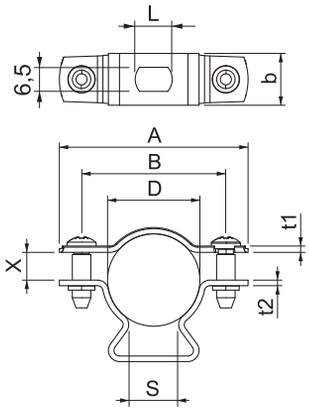
E30 E60 E90



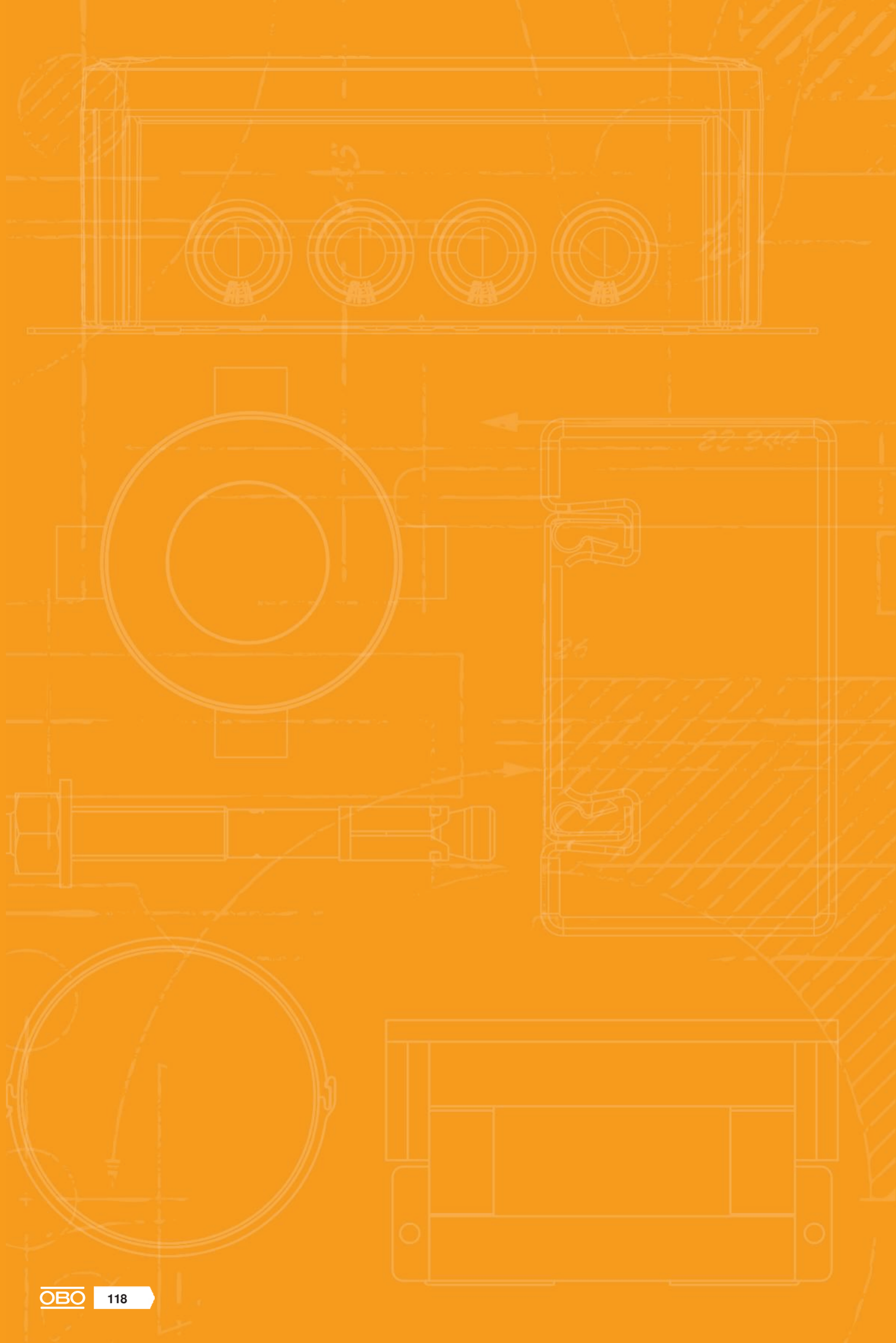
Type	Clamping range D mm	Pack Piece	Weight kg/100 pc.	Item no.
ASL 733 20 A4	17-20	25	2.243	**1362914**
ASL 733 25 A4	20-25	25	2.466	**1362918**
ASL 733 30 A4	25-30	20	3.466	**1362922**
ASL 733 36 A4	30-36	20	3.846	**1362926**
ASL 733 44 A4	36-44	20	4.230	**1362930**
ASL 733 53 A4	44-53	20	5.723	**1362934**
ASL 733 63 A4	53-63	20	6.331	**1362938**

Spacer clip for the installation of pipes and cables on walls, ceilings and floors. With self-locking cover. Fastening via slot.
Approved for the maintenance of electrical function according to DIN 4102 Part 12, maintenance of electrical function classes E 30 to E 90.

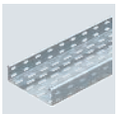
Dimensions



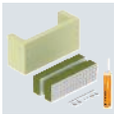
Type	Dim. A mm	Dim. B mm	Dim. x mm	Dim. t1 mm	Dim. t2 mm	Dim. L mm	Dim. b mm	Dim. s mm
ASL 733 20 A4	47	35	4.5	1.25	1.5	10	14	12
ASL 733 25 A4	51	39	7.5	1.25	1.5	10	14	13.5
ASL 733 30 A4	59	45	7.5	1.5	1.5	10	16	16.5
ASL 733 36 A4	65	51	9	1.5	1.5	10	16	20
ASL 733 44 A4	73	59	12	1.5	1.5	10	16	24
ASL 733 53 A4	84	70	13.5	1.5	2	10	16	29.5
ASL 733 63 A4	94	80	15	1.5	2	10	16	35.3



Systems for the maintenance of electrical function, standard support structures and routing systems

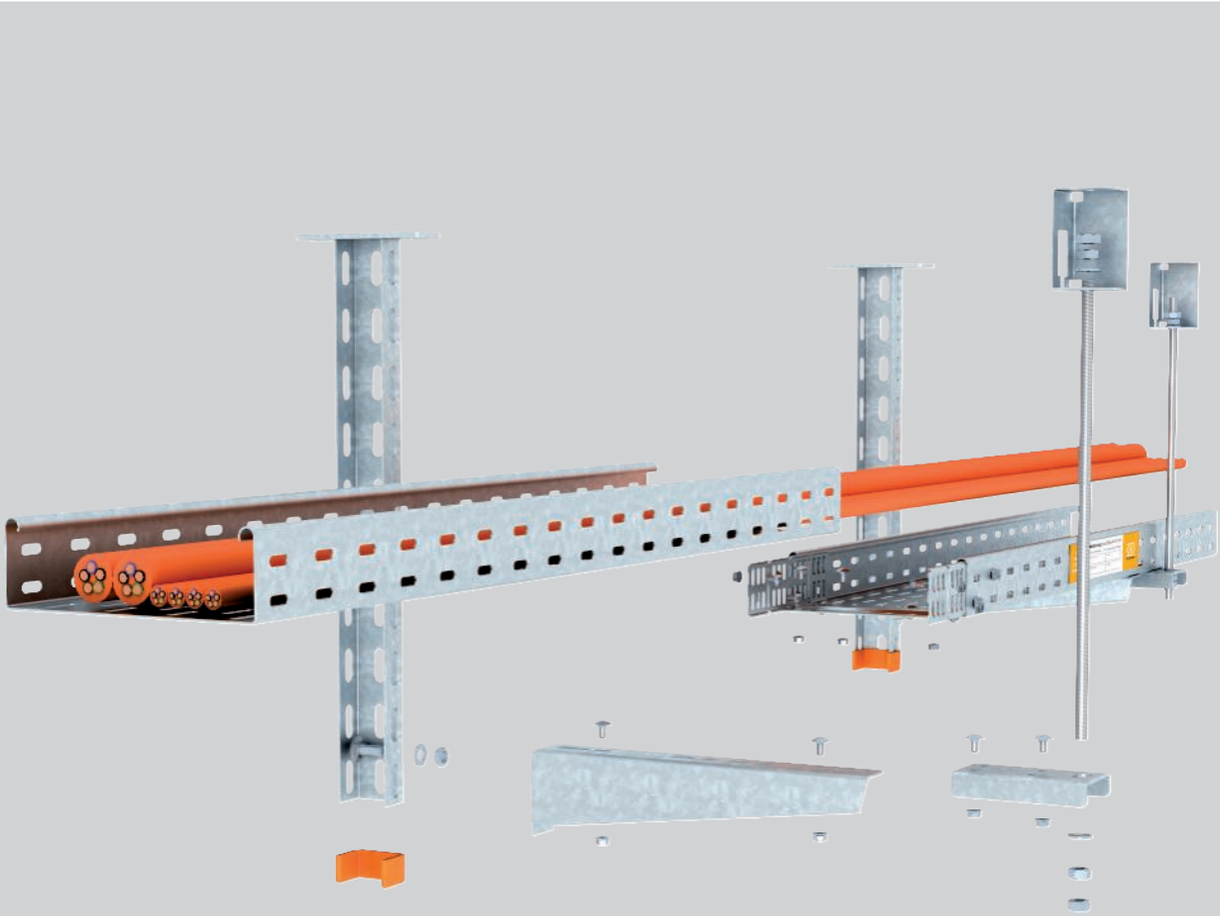

SKS cable tray, ceiling mounting 120


Vertical ladders 148


Strain relief 162

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

SKS 6... cable tray, ceiling mounting
System description



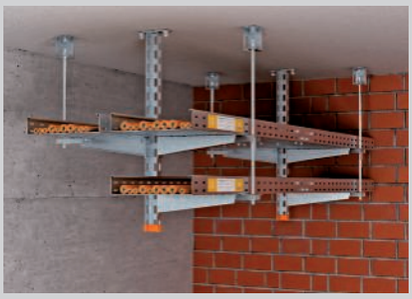
The routing type under the ceiling of cable trays of types SKS with U suspended supports and SKS on U transverse profiles fulfils all the requirements of DIN 4102 Part 12 as a standard support structure for the maintenance of electrical functionality classes E 30 to E 90.
The cable trays can be mounted on the U suspended support on one or both sides with up to six tray layers. The threaded rod lock is fastened with a maximum spacing of 100 mm beside the bracket. For this, the ABR connection component should be screwed under the tray base.

Due to the low construction height of the U transverse profiles of just 30 mm, the routing variant with U transverse profile and threaded rod suspension on both sides saves a lot of space. Versions with one or two-layer mounting variants are approved.
With both types, the position of the joints between the individual support points can be chosen freely. The cable trays are screwed on using connectors in the side rail and an additional joint plate in the base of the tray.

SKS 6... cable tray, ceiling mounting
Installation principle



Ceiling suspension with bracket arrangement on one side.



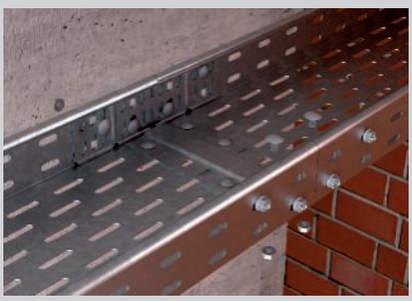
Ceiling suspension with bracket arrangement on both sides.



Mounting under sloping ceiling with variable head plate.



Bracket mounting on suspended support with truss-head bolt.



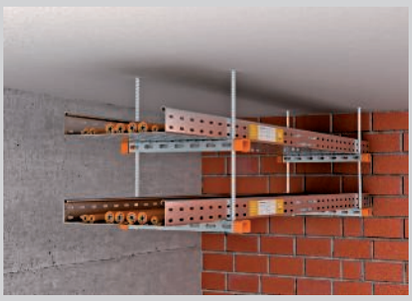
Fasten straight connectors and joint plate using truss-head bolts.



Threaded rod fastening on the tray with multi-layer arrangement.



Single-layer ceiling suspension.



Double-layer ceiling suspension.

Classification according to DIN 4102 Part 12

E30 **E60** **E90**

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

SKS 6... cable tray, ceiling mounting
Proof

Maintenance of electrical function system according to DIN 4102 Part 12

Routing type	Standard support system
Proof	Surveyor's report no. GS 3.2/17-436-2
Maintenance of electrical function classes	E30 to E90
Testing standard	DIN 4102 Part 12
Mounting variants	Ceiling mounting with suspended support, bracket and threaded rod lock Ceiling mounting with transverse profile and threaded rod lock on both sides
Material version	Galvanised steel

Note:
The surveyor's report is only valid in conjunction with valid general construction test certificates of a testing office for the appropriate installed cable type.

Support spacing for ceiling mounting with suspended support, bracket and threaded rod lock

Cable tray width	Cable load per cable tray					
100 mm	max. 10 kg/m	max. 1.20 m	max. 1.20 m	max. 1.20 m	max. 1.20 m	max. 1.20 m
200 mm	max. 10 kg/m	max. 1.20 m	max. 1.20 m	max. 1.20 m	max. 1.20 m	max. 1.20 m
300 mm	max. 10 kg/m	max. 1.20 m	max. 1.20 m	max. 1.20 m	max. 1.20 m	max. 1.20 m

Support spacing for ceiling mounting with transverse profile and threaded rod suspension on both sides

Cable tray width	Cable load per cable tray		
100 mm	max. 10 kg/m	max. 1.20 m	max. 1.20 m
200 mm	max. 10 kg/m	max. 1.20 m	max. 1.20 m
300 mm	max. 10 kg/m	max. 1.20 m	max. 1.20 m

SKS 6... cable tray, ceiling mounting
Components used

Component	Type					
Cable tray	SKS 6... FS	1	2	3	2	3
Connector	RWVL 60 FS	2	4	6	4	6
Joint plate	SSLB ... FS	1	2	3	2	3
Support	US 3 K ... FT	1	1	1	1	1
Protective cap	US 3 KS OR	1	1	1	1	1
Wall and support brackets	MWA12... FS	1	2	3	2	3
Truss-head bolt	FRSB 6x 15 F	2	4	6	4	6
Connection component	ABR FT	1	2	3	2	3
Threaded rod	TR M10 G	1	2	3	2	3
Hexagonal nut	HN M10 G	4	5	6	8	9
Washer	WS M10 D20 G	2	3	4	4	5
Connection sleeve	CSTR M10 G	0	1	2	0	1
Fire protection clamp	BSB	1	1	1	2	2

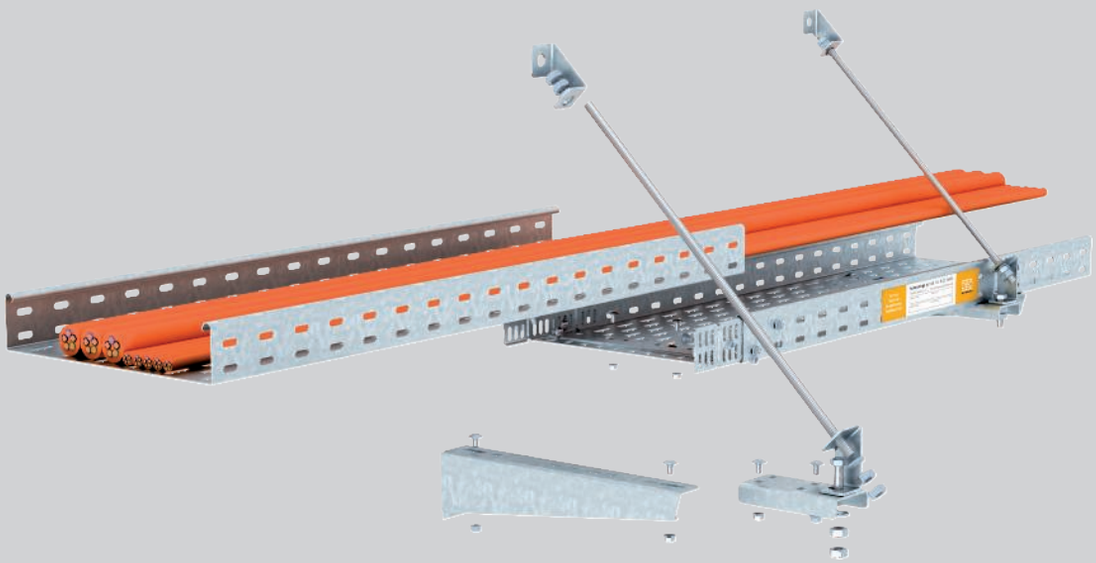
Choose the fastening anchors according to the substrate

Component	Type		
Cable tray	SKS 6... FS	1	2
Connector	RWVL 60 FS	2	4
Joint plate	SSLB ... FS	1	2
Support	US 3 ... FS	1	2
Protective cap	US 3 KS OR	2	4
Threaded rod	TR M10 G	2	4
Hexagonal nut	HN M10 G	6	10
Large washer	DIN440 11 F	4	8
Connection sleeve	CSTR M10 G	0	2
Truss-head bolt	FRSB 6x20 F	2	4
Large washer	DIN440 7 F	2	4

Choose the fastening anchors according to the substrate

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

SKS 6... cable tray, wall mounting
System description



The routing type of cable trays of type SKS with wall brackets on the wall fulfils all the requirements of DIN 4102 Part 12 as a standard support structure for the maintenance of electrical functionality classes E 30 to E 90. When the cable trays are mounted on the wall, up to three tray layers can be arranged vertically. The threaded rod lock is fastened vertically under the ceiling with a maximum spacing of 100 mm beside the bracket using an ABR connection component screwed on beneath the tray base. In the case of one-layer section mounting, the threaded rod lock can alternatively be created using sloping connection components at an angle of 45° to the wall. Joints can be positioned freely between the individual support points. Connectors are screwed into the side rails and an additional joint plate to the base, in order to connect the cable trays.

SKS 6... cable tray, wall mounting
Installation principle



Wall mounting, multi-layer, with vertical threaded rod locking.



Wall mounting with diagonal threaded rod locking.



Ceiling fastening of the threaded rods with fire protection clamps.



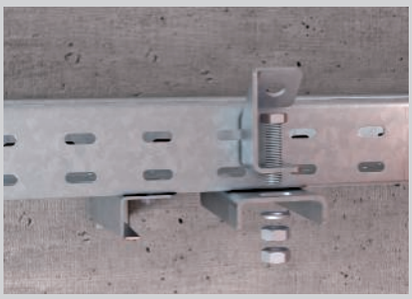
Threaded rod fastening on the cable tray with multilayer arrangement.



Fastening of the vertical threaded rod on the lowest cable tray.



Mounting of the brackets and the sloping connection components on a wall.



Fastening of the sloping connection component.

Classification according to DIN 4102 Part 12

E30 E60 E90

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

SKS 6... cable tray, wall mounting
Proof

Maintenance of electrical function system according to DIN 4102 Part 12

Routing type	Standard support system
Proof	Surveyor's report no. GS 3.2/17-436-2
Maintenance of electrical function classes	E30 to E90
Testing standard	DIN 4102 Part 12
Mounting variants	Wall mounting with bracket and vertical threaded rod lock Wall mounting with bracket and diagonal threaded rod lock
Material version	Galvanised steel

Note:
The surveyor's report is only valid in conjunction with valid general construction test certificates of a testing office for the appropriate installed cable type.

Support spacing for wall mounting with bracket and vertical threaded rod lock

Cable tray width	Cable load per cable tray			
100 mm	max. 10 kg/m	max. 1.20 m	max. 1.20 m	max. 1.20 m
200 mm	max. 10 kg/m	max. 1.20 m	max. 1.20 m	max. 1.20 m
300 mm	max. 10 kg/m	max. 1.20 m	max. 1.20 m	max. 1.20 m

Support spacing for wall mounting with bracket and diagonal threaded rod lock

Cable tray width	Cable load per cable tray	
100 mm	max. 10 kg/m	max. 1.20 m
200 mm	max. 10 kg/m	max. 1.20 m
300 mm	max. 10 kg/m	max. 1.20 m

SKS 6... cable tray, wall mounting
Components used

Component	Type		
Cable tray	SKS 6... FS	1	2
Connector	RWVL 60 FS	2	4
Joint plate	SSLB ... FS	1	2
Support	US 3 K ... FT	1	1
Protective cap	US 3 KS OR	1	1
Wall and support brackets	MWA12... FS	1	2
Truss-head bolt	FRSB 6x 15 F	2	4
Connection component	ABR FT	1	2
Threaded rod	TR M10 G	1	2
Hexagonal nut	HN M10 G	4	5
Washer	WS M10 D20 G	2	3
Connection sleeve	CSTR M10 G	0	1
Fire protection clamp	BSB	1	1

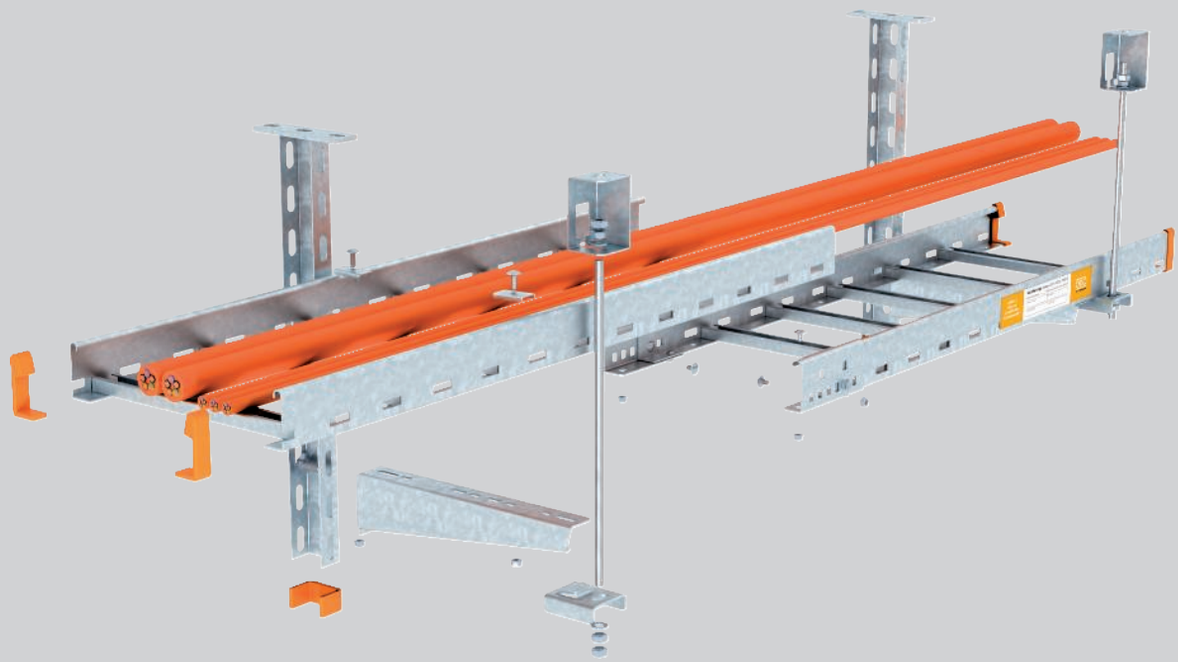
Choose the fastening anchors according to the substrate

Component	Type	
Cable tray	SKS 6... FS	1
Connector	RWVL 60 FS	2
Joint plate	SSLB ... FS	1
Wall and support brackets	MWA12... FS	1
Truss-head bolt	FRSB 6x 15 F	2
Connection component	ABR FT	1
Connection component	ABS FS	2
Hexagonal bolt	SKS M10x40 F	1
Threaded rod	TR M10 G	1
Hexagonal nut	HN M10 G	5
Washer	WS M10 D20 G	2

Choose the fastening anchors according to the substrate

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

LG6...VSF cable ladder, ceiling mounting
System description



The routing type under the ceiling of cable ladders of types LG with U suspended supports and LG with U transverse profiles fulfils all the requirements of DIN 4102 Part 12 as a standard support structure for the maintenance of electrical functionality classes E 30 to E 90.
The cable ladders can be mounted on the U suspended support on one or both sides with up to three layers. The threaded rod lock is fastened with a maximum spacing of 100 mm beside the bracket. The ABL connection component need simply be attached to the lower flange of the ladder rail. Mounting of the threaded rod secures the connection component against slipping.

Due to the low construction height of the transverse profile of just 30 mm, the routing variant with U transverse profile and threaded rod suspension on both sides saves a lot of space. Versions with one or two-layer mounting variants are approved.
With both cable ladder types, the joints of the ladder rails are connected using external connectors, which are screwed to the rails. The position of the joints between the individual support points can be chosen freely. The rung spacing for both cable ladder types is 150 mm. Therefore, no additional rung support plates are required.

LG6...VSF cable ladder, ceiling mounting
Installation principle



Ceiling suspension with bracket arrangement on one side.



Ceiling suspension with bracket arrangement on both sides.



Mounting under sloping ceiling with variable head plate.



Mounting of the straight connectors using truss-head bolts.



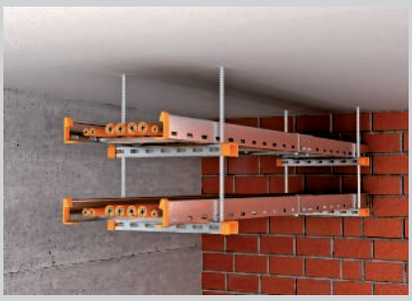
Attachment of the connection component on the lower flange of the ladder rail.



Attachment of the threaded rod in the fire protection clamp.



Single-layer ceiling mounting with U cross-section.



Two-layer ceiling mounting with U cross-section.



Mounting on transverse profile with clamping piece, truss-head bolts and large washers.

Classification according to DIN 4102 Part 12

E30 **E60** **E90**

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

LG6...VSF cable ladder, ceiling mounting
Proof

Maintenance of electrical function system according to DIN 4102 Part 12

Routing type	Standard support system
Proof	Surveyor's report no. GS 3.2/17-436-1
Maintenance of electrical function classes	E30 to E90
Testing standard	DIN 4102 Part 12
Mounting variants	Ceiling mounting with suspended support, bracket and threaded rod lock Ceiling mounting with transverse profile and threaded rod lock on both sides
Material version	Galvanised steel

Note:
The surveyor's report is only valid in conjunction with valid general construction test certificates of a testing office for the appropriate installed cable type.

Support spacing for ceiling mounting with suspended support, bracket and threaded rod lock

Cable ladder width	Cable load per cable ladder					
200 mm	max. 20 kg/m	max. 1.20 m	max. 1.20 m	max. 1.20 m	max. 1.20 m	max. 1.20 m
300 mm	max. 20 kg/m	max. 1.20 m	max. 1.20 m	max. 1.20 m	max. 1.20 m	max. 1.20 m
400 mm	max. 20 kg/m	max. 1.20 m	max. 1.20 m	max. 1.20 m	max. 1.20 m	max. 1.20 m

Support spacing for ceiling mounting with transverse profile and threaded rod suspension on both sides

Cable ladder width	Cable load per cable ladder		
200 mm	max. 20 kg/m	max. 1.20 m	max. 1.20 m
300 mm	max. 20 kg/m	max. 1.20 m	max. 1.20 m
400 mm	max. 20 kg/m	max. 1.20 m	max. 1.20 m

LG6...VSF cable ladder, ceiling mounting
Components used

Component	Type					
Cable ladder	LG 6... VSF FS	1	2	3	2	3
External connector	AVL 60 FS	2	4	6	4	6
Support	US 3 K ... FT	1	1	1	1	1
Protective cap	US 3 KS OR	1	1	1	1	1
Wall and support brackets	MWA12... FS	1	2	3	2	3
Clamping piece	LKS 40 FS	2	4	6	4	6
Connection component	ABL FT	1	2	3	2	3
Threaded rod	HN M10 D20 G	1	2	0	2	3
Threaded rod	HN M12 D24 G	0	0	3	0	0
Hexagonal nut	WS M10 G	4	5	0	8	9
Hexagonal nut	WS M12 G	0	0	6	0	0
Washer	CSTR M10 G	2	3	0	4	5
Washer	CSTR M12 G	0	0	4	0	0
Connection sleeve	BSB	0	1	0	0	1
Connection sleeve	12005 M12 G	0	0	2	0	0
Fire protection clamp	BSB	1	1	1	2	2

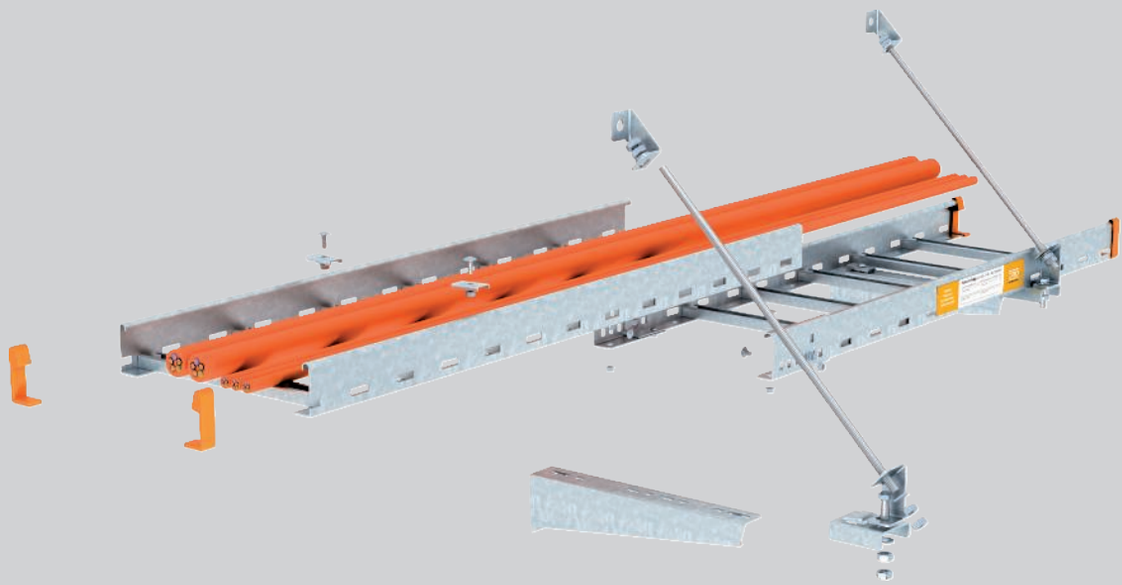
Choose the fastening anchors according to the substrate

Component	Type		
Cable ladders	LG 6... VSF FS	1	2
External connector	AVL 60 FS	2	4
Support	US 3 ... FS	1	2
Protective cap	US 3 KS OR	2	4
Threaded rod	TR M10 G	2	4
Hex nut	HN M10 G	6	10
Fender washer	DIN440 11 F	4	8
Coupling nut	CSTR M10 G	0	2
Hold-down clamp	LKS 40 FS	2	4
Fender washer	DIN440 7 F	2	4

Choose the fastening anchors according to the substrate

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

LG6...VSF cable ladder, wall mounting
System description



The routing type of cable ladders of type LG with wall brackets on the wall fulfils all the requirements of DIN 4102 Part 12 as a standard support structure. When cable ladders are mounted on the wall, up to two layers can be arranged on top of one another. The threaded rod lock to the ceiling is fastened vertically without screws using the ABL connection component attached to the lower flange of the ladder rail. The maximum distance between the connection component and the bracket may be 100 mm. When only one cable ladder is mounted on the wall, the threaded rod lock can alternatively be created using sloping connection components at an angle of 45° to the wall.

LG6...VSF cable ladder, wall mounting
Installation principle



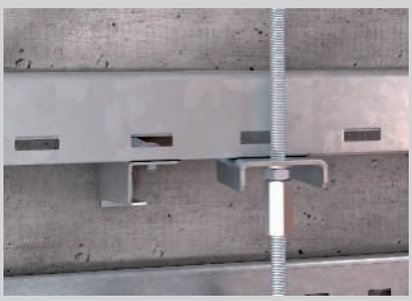
Wall mounting, multi-layer, with vertical threaded rod locking.



Wall mounting with diagonal threaded rod locking.



Ceiling fastening of the threaded rods with fire protection clamps.



Threaded rod fastening on the cable ladder with multilayer arrangement.



Fastening of the vertical threaded rod on the connection component.



Mounting of the brackets and the sloping connection components on a wall.



Diagonal mounting of the connection component using hexagonal bolt and hexagonal nuts.

Classification according to DIN 4102 Part 12

E30 **E60** **E90**

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

LG6...VSF cable ladder, wall mounting
Proof

Maintenance of electrical function system according to DIN 4102 Part 12

Routing type	Standard support system
Proof	Surveyor's report no. GS 3.2/17-436-1
Maintenance of electrical function classes	E30 to E90
Testing standard	DIN 4102 Part 12
Mounting variants	Wall mounting with bracket and vertical threaded rod lock Wall mounting with bracket and diagonal threaded rod lock
Material version	Galvanised steel

Note:
The surveyor's report is only valid in conjunction with valid general construction test certificates of a testing office for the appropriate installed cable type.

Support spacing for wall mounting with bracket and vertical threaded rod lock

Cable ladder width	Cable load per cable ladder			
200 mm	max. 20 kg/m	max. 1.20 m	max. 1.20 m	max. 1.20 m
300 mm	max. 20 kg/m	max. 1.20 m	max. 1.20 m	max. 1.20 m
400 mm	max. 20 kg/m	max. 1.20 m	max. 1.20 m	max. 1.20 m

Support spacing for wall mounting with bracket and diagonal threaded rod lock

Cable ladder width	Cable load per cable ladder	
200 mm	max. 20 kg/m	max. 1.20 m
300 mm	max. 20 kg/m	max. 1.20 m
400 mm	max. 20 kg/m	max. 1.20 m

LG6...VSF cable ladder, wall mounting
Components used

Component	Type			
Cable ladders	LG 6... VSF FS	1	2	3
External connector	AVL 60 FS	2	4	6
Wall and support bracket	MWA12... FS	1	2	3
Hold-down clamp	LKS 40 FS	2	4	6
Connection component	ABL FT	1	2	3
Threaded rod	TR M10 G	1	2	0
Threaded rod	TR M12 G	0	0	3
Hex nut	WS M10 G	4	5	0
Hex nut	WS M12 G	0	0	6
Washer	CSTR M10 G	2	3	0
Washer	CSTR M12 G	0	0	4
Coupling nut	CSTR M10 G	0	1	0
Coupling nut	12005 M12 G	0	0	2
Fire protection clamp	BSB	1	1	1

Choose the fastening anchors according to the substrate

Component	Type	
Cable ladders	LG 6...VSF FS	1
External connector	AVL 60 FS	2
Wall and support bracket	MWA12... FS	1
Hold-down clamp	LKS 40 FS	2
Connection component	ABR FT	1
Connection component	ABS FS	2
Hex set screw	SKS M10x40 F	1
Threaded rod	TR M10 G	1
Hex nut	HN M10 G	5
Washer	966 M10 G	2

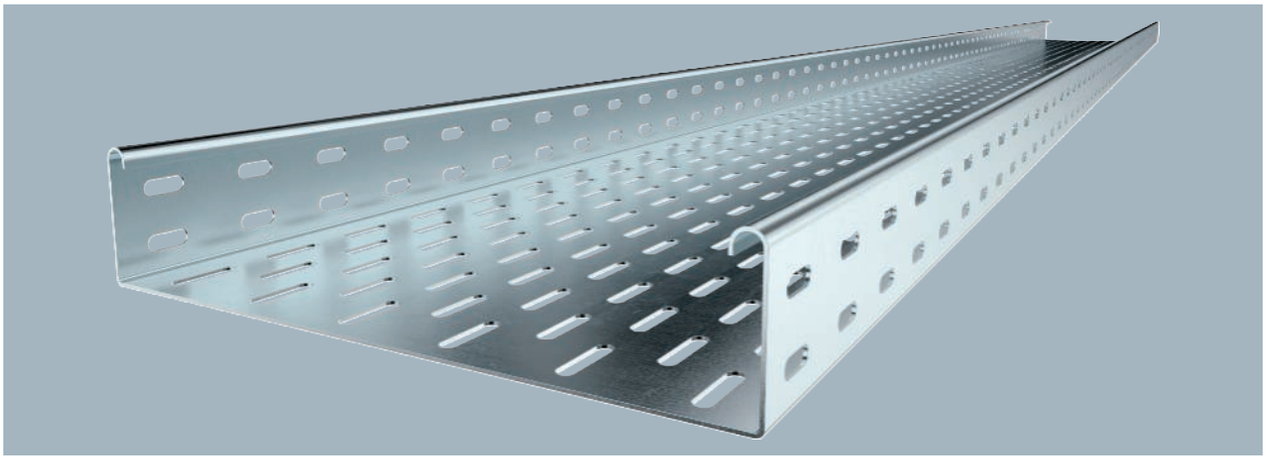
Choose the fastening anchors according to the substrate

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Cable tray

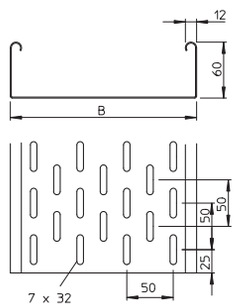
Cable tray SKS 60

St FS



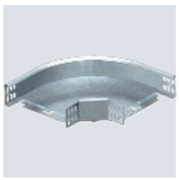
Type	Width mm	Metal thick-ness mm	Dim. B mm	BS		Pack m	Weight kg/100 m	Item no.
SKS 610 FS	100	1.50	100			3	239.400	**6056105**
SKS 620 FS	200	1.50	200			3	364.000	**6056202**
SKS 630 FS	300	1.50	300			3	463.670	**6056296**

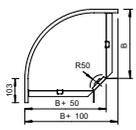
SKS 60 = heavy-duty cable tray system with 60 mm side height.



90° bend 60

St FS





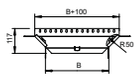
Type	Width mm	Dim. B mm		Pack Piece	Weight kg/100 pc.	Item no.
RB 90 610 FS	100	100		1	71.900	**6043216**
RB 90 620 FS	200	200		1	110.300	**6043224**
RB 90 630 FS	300	300		1	167.400	**6043232**

90° bend, horizontal, for all cable tray types of 60 mm side height.

Add-on tee 60

St FS





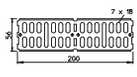
Type	Width mm	Dim. B mm		Pack Piece	Weight kg/100 pc.	Item no.
RAA 610 FS	100	100		1	44.200	**6040403**
RAA 620 FS	200	200		1	53.100	**6040438**
RAA 630 FS	300	300		1	61.900	**6040446**

Add-on tee for horizontal and vertical use. For all cable tray types of 60 mm side height.

Straight and angle connector 60

St FS





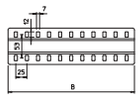
Type	Dimen-sion mm		Pack Piece	Weight kg/100 pc.	Item no.
RWVL 60 FS	200 x 56		10	16.400	**6067115**

Straight and angle connector for cable trays and fittings with a side height of 60 mm.

St FS

Joint plate

Type	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
SSLB 100 FS	100	20	7.700	**7070205**
SSLB 200 FS	200	20	18.500	**7070213**
SSLB 300 FS	300	20	29.200	**7070217**



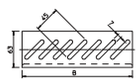


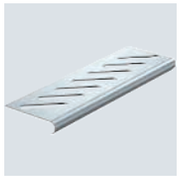
Wide joint plate for use in all cable trays and wide span cable trays.

St FS

Bottom end plate

Type	Width mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
BEB 100 FS	100	100	1	4.599	**7083106**
BEB 200 FS	200	200	1	9.367	**7083203**
BEB 300 FS	300	300	1	14.100	**7083300**



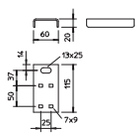


Bottom end plate for floor reinforcement at the ends of the cable tray and as cable protection.

St FT

Connection component

Type	Pack Piece	Weight kg/100 pc.	Item no.
ABR FT	20	24.648	**6364942**



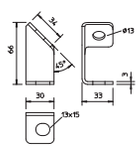


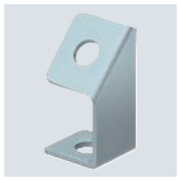
The connection component is the connection between the threaded rod lock and the suspension system for the routing types with cable trays for the maintenance of electrical function to DIN 4102 Part 12. Including bolts and nuts.

St FS FT

Connection component, sloping

Type	Pack Piece	Weight kg/100 pc.	Item no.
ABS FS	20	7.200	**6365027**
ABS FT	20	7.800	**6365035**



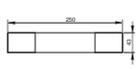


The connection component is the connecting element for the sloping arrangement of the threaded rod locking for wall mounting of the standard routing types with cable ladders and cable trays for the maintenance of electrical function to DIN 4102 Part 12.

PVC

Identification plate for maintenance of electrical function

Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-E DE	German	10	0.600	**7205423**





Self-adhesive identification plate for approved cable system labelling for maintenance of electrical function as required by DIN 4102 Part 12.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

Cable ladders

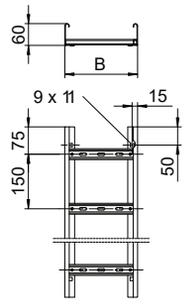
LG 60 cable ladder, 6 m VSF

St FS FT
E30 E60 E90



Type	Rail thick-ness mm	Width mm	Length mm	Rung spacing mm	Dim. B mm	BS	Pack m	Weight kg/100 m	Item no.
LG 620 VSF 6 FS	1.5	200	6000	150	200		6	311.866	**6207501**
LG 630 VSF 6 FS	1.5	300	6000	150	300		6	355.833	**6207505**
LG 640 VSF 6 FS	1.5	400	6000	150	400		6	407.166	**6207509**
LG 620 VSF 6 FT	1.5	200	6000	150	200		6	333.166	**6207523**
LG 630 VSF 6 FT	1.5	300	6000	150	300		6	379.166	**6207527**
LG 640 VSF 6 FT	1.5	400	6000	150	400		6	425.166	**6207531**

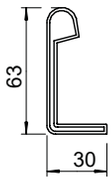
Cable ladder for the horizontal routing of cables. Can be used as a standard support structure for the maintenance of electrical functionality according to DIN 4102 Part 12. Maintenance of electrical function classes E30 to E90. With riveted C profile rung, open in an upward direction.



Protective cap 60

PE



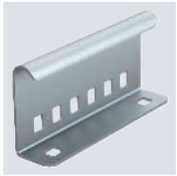


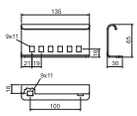
Type	Colour	Pack Pair	Weight kg/100 pairs	Item no.
SKH 60 OR	Pastel orange	40	1.072	**6222537**

Protective cap to cover cable ladder ends of side height 60 mm.

AVL 60 external connector

St FS FT





Type	Width mm	Side height mm	Pack Piece	Weight kg/100 pc.	Item no.
AVL 60 FS	30	65	10	23.200	**6208770**
AVL 60 FT	30	65	10	23.400	**6208778**

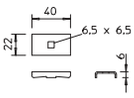
External connector for mechanical connection of cable ladder sections for routing types with cable ladders for the maintenance of electrical function to DIN 4102 Part 12. Including bolts.

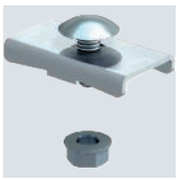
St FS

LKS 40 hold-down clamp

Type		Pack Piece	Weight kg/100 pc.	Item no.
LKS 40 FS		10	2.300	**6221076**

Hold-down clamp for fastening cable ladders.



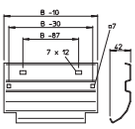


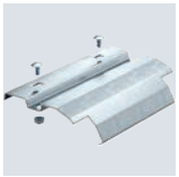
St FT

LAB exit plate

Type	Width mm	Side height mm	Dim. B mm		Pack Piece	Weight kg/100 pc.	Item no.
LAB 20 FT	200	45	200		1	37.000	**6220436**
LAB 30 FT	300	45	300		1	58.000	**6220444**
LAB 40 FT	400	45	400		1	78.000	**6220452**

Exit plate for installation on the rung for vertically exiting cables.



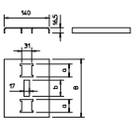


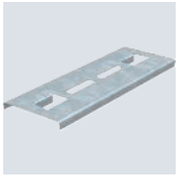
St FS FT

Rung support plate for the maintenance of electrical function

Type	Dim. B mm	Dim. a mm	Dim. b mm		Pack Piece	Weight kg/100 pc.	Item no.
SAB20 FS	180	40	50		25	31.000	**6222943**
SAB30 FS	280	60	80		25	50.000	**6222951**
SAB40 FS	380	60	75		25	65.000	**6222978**
SAB30 FT	280	60	80		25	52.000	**6223036**
SAB40 FT	380	60	75		25	71.000	**6223044**

Rung support plates to increase the support area for the cables in the fittings for routing types with cable ladders for the maintenance of electrical function to DIN 4102 Part 12. Use the support plates to ensure the largest possible support surface in the cable ladder fittings for cables that maintain electrical function in the event of fire. The rung support plates are just laid loosely on the rungs of the cable ladder fittings. The lugs pointing down prevent slippage.



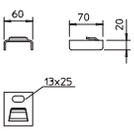


St FT

Connection component

Type		Pack Piece	Weight kg/100 pc.	Item no.
ABL FT		20	14.300	**6221467**

The connection component is the connection between the threaded rod lock and the suspension system for the routing types with cable ladders that maintain electrical function to DIN 4102 Part 12.
It is attached to the under-belt of the ladder rail at a distance of max. 100 mm from the bracket. When the threaded rod has been mounted, the connection component is secured against slipping.



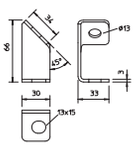


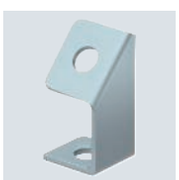
St FS

Connection component, sloping

Type		Pack Piece	Weight kg/100 pc.	Item no.
ABS FS		20	7.200	**6365027**

The connection component is the connecting element for the sloping arrangement of the threaded rod locking for wall mounting of the standard routing types with cable ladders and cable trays for the maintenance of electrical function to DIN 4102 Part 12.





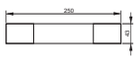
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Cable ladders

Identification plate for maintenance of electrical function

PVC





Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-E DE	German	10	0.600	**7205423**

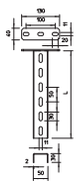
Self-adhesive identification plate for approved cable system labelling for maintenance of electrical function as required by DIN 4102 Part 12.

Mounting systems

US 3 support

St FT



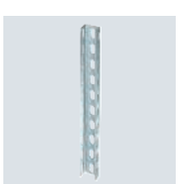


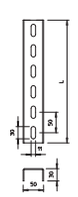
Type	Length mm	Material thickness mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
US 3 K 20 FT	200	2		1	50.500	**6342351**
US 3 K 30 FT	300	2		1	64.400	**6342353**
US 3 K 40 FT	400	2		1	78.300	**6342355**
US 3 K 50 FT	500	2		1	92.300	**6342357**
US 3 K 60 FT	600	2		1	106.200	**6342359**
US 3 K 70 FT	700	2		1	120.200	**6342362**
US 3 K 80 FT	800	2		1	134.100	**6342364**
US 3 K 90 FT	900	2		1	147.800	**6342366**
US 3 K 100 FT	1000	2		1	162.000	**6342368**
US 3 K 110 FT	1100	2		1	175.900	**6342370**
US 3 K 120 FT	1200	2		1	189.900	**6342372**

Suspended support (U profile) of dimensions 50 x 30 mm with welded head plate.

US 3 support

St FS





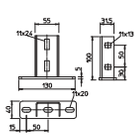
Type	Length mm	Material thickness mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
US 3 20 FS	200	2		1	27.000	**6342302**
US 3 30 FS	300	2		1	40.000	**6342304**
US 3 40 FS	400	2		1	53.000	**6342306**
US 3 50 FS	500	2		1	67.000	**6342308**
US 3 60 FS	600	2		1	80.000	**6342310**
US 3 70 FS	700	2		1	93.000	**6342312**
US 3 80 FS	800	2		1	107.000	**6342314**
US 3 90 FS	900	2		1	120.000	**6342316**
US 3 100 FS	1000	2		1	133.000	**6342318**
US 3 150 FS	1500	2		1	200.000	**6342328**
US 3 200 FS	2000	2		1	266.000	**6342338**

U support in fixed lengths. Dimensions 30 x 50 mm.

Head plate

St FT





Type	Pack Piece	Weight kg/100 pc.	Item no.
KU 3 FT	1	42.300	**6348874**

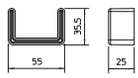
Head plate for mounting on US 3 supports.

PE

Protective cap

Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
US 3 KS OR	Pastel orange	20	1.068	**6338458**

Protective cap to cover the ends of US 3 supports.



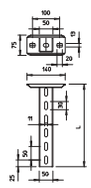


St FT

US 5 support

Type	Length mm	Material thickness mm	Dim. L mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
US 5 K 20 FT	200	2.5	200		1	85.000	**6341527**
US 5 K 30 FT	300	2.5	300		1	110.000	**6341535**
US 5 K 40 FT	400	2.5	400		1	136.000	**6341543**
US 5 K 50 FT	500	2.5	500		1	161.000	**6341551**
US 5 K 60 FT	600	2.5	600		1	185.000	**6341578**
US 5 K 70 FT	700	2.5	700		1	210.000	**6341586**
US 5 K 80 FT	800	2.5	800		1	236.000	**6341594**
US 5 K 90 FT	900	2.5	900		1	261.000	**6341608**
US 5 K 100 FT	1000	2.5	1000		1	286.000	**6341616**
US 5 K 110 FT	1100	2.5	1100		1	311.000	**6341624**
US 5 K 120 FT	1200	2.5	1200		1	337.000	**6341632**

U support of dimensions 50 x 50 mm with welded head plate.





St FT

US 5 support

Type	Length mm	Material thickness mm	Dim. L mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
US 5 30 FT	300	2.5	300		1	79.000	**6340903**
US 5 40 FT	400	2.5	400		1	106.000	**6340911**
US 5 50 FT	500	2.5	500		1	133.000	**6340938**
US 5 60 FT	600	2.5	600		1	160.000	**6340946**
US 5 70 FT	700	2.5	700		1	175.000	**6340950**
US 5 80 FT	800	2.5	800		1	200.000	**6340954**
US 5 90 FT	900	2.5	900		1	227.000	**6340958**
US 5 100 FT	1000	2.5	1000		1	265.000	**6340962**
US 5 150 FT	1500	2.5	1500		1	395.000	**6340966**
US 5 200 FT	2000	2.5	2000		1	506.000	**6340970**

U support in fixed lengths. Dimensions 50 x 50 mm.



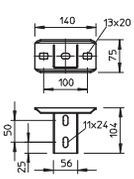


St FT

Head plate US 5

Type	Pack Piece	Weight kg/100 pc.	Item no.
KUS 5 FT	1	61.900	**6348904**

Head plate for installation in US 5 support.





Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

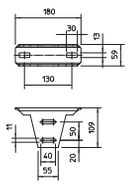
Always indicate the item number when ordering.

Mounting systems

KU 5 head plate, variable

St FT





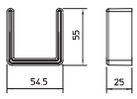
Type		Pack Piece	Weight kg/100 pc.	Item no.
KU 5 V FT		1	82.000	**6348920**

Variable head plate for installation on US 5 support.

Protective cap

PE





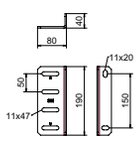
Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
US 5 KS OR	Pastel orange	20	1.300	**6338462**

Protective cap to cover the ends of US 5 supports.

Fastening bracket for US 3/US 5 support

St FT





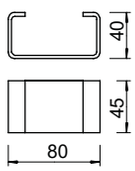
Type		Pack Piece	Weight kg/100 pc.	Item no.
BW US 3/5 FT		5	71.100	**6019534**

Suitable for U support, type US 3 and US 5.
Fastening bracket for the creation of individual support structures with U supports.

Spacer DSK 45

St FT





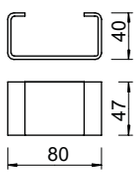
Type		Pack Piece	Weight kg/100 pc.	Item no.
DSK 45 FT		20	18.000	**6416500**

Spacer for use in US 5 support and in the head plate, type KU 7 VQP.

Spacer DSK 47

St FT





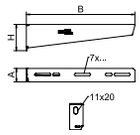
Type		Pack Piece	Weight kg/100 pc.	Item no.
DSK 47 FT		20	19.000	**6416504**

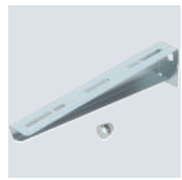
Spacer for use in head plate, type KU 5 V.

St FS

Wall and support bracket MWA 12

Type	Width mm	Dim. H mm	Dim. A mm	Dim. B mm	Hole Ø mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
MWA 12 11S FS	110	53	32.5	110	11		1	16.400	**6424716**
MWA 12 21S FS	210	65	32.5	210	11		1	26.700	**6424732**
MWA 12 31S FS	310	75	38	310	11		1	50.300	**6424740**
MWA 12 41S FS	410	83	38	410	11		1	68.000	**6424759**



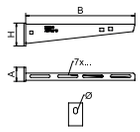


Light-duty wall and support bracket.

St FT

Wall and support bracket AW 15

Type	Width mm	Dim. H mm	Dim. A mm	Dim. B mm	Hole Ø mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
AW 15 11 FT	110	50	40	110	11		1	13.100	**6420656**
AW 15 21 FT	210	60	40	210	11		1	24.000	**6420680**
AW 15 31 FT	310	65	40	310	11		1	38.400	**6420710**
AW 15 41 FT	410	70	40	410	11		1	54.000	**6420745**



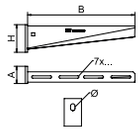


Light-duty wall and support bracket with welded head plate.

St FT

Wall and support bracket AW 30

Type	Width mm	Dim. H mm	Dim. A mm	Dim. B mm	Hole Ø mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
AW 30 21 FT	210	70	50	210	13		1	39.300	**6419720**
AW 30 31 FT	310	80	50	310	13		1	63.000	**6419747**
AW 30 41 FT	410	80	50	410	13		1	88.500	**6419763**



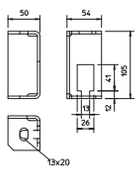


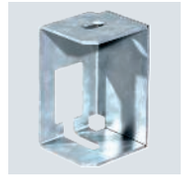
Medium-duty wall and support bracket with welded head plate.

St FT

Fire protection clamp

Type	Pack Piece	Weight kg/100 pc.	Item no.
BSB FT	20	42.400	**6418198**





Fire protection clamp for ceiling fastening of the threaded rod lock for routing types with cable ladders and cable trays for the maintenance of electrical function to DIN 4102 Part 12.

St G

Threaded rod

Type	Thread	Dim. d mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
TR M8 1M G	M8	8	1000	10	30.000	**3141128**
TR M10 1M G	M10	10	1000	10	49.000	**3141209**
TR M12 1M G	M12	12	1000	10	62.000	**3141306**





Threaded rod to DIN 976.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

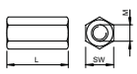
Always indicate the item number when ordering.

Mounting systems

Connection sleeve

St G





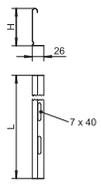
Type	Thread	Dim. L mm	SW mm	Pack Piece	Weight kg/100 pc.	Item no.
CSTR M8 G	M8	24	13	50	1.880	**6410081**
CSTR M10 G	M10	30	17	50	4.150	**6410103**
CSTR M12 G	M12	40	19	25	7.000	**6410111**

Connection sleeve with continuous internal thread.

Separating retainer 45

St FS



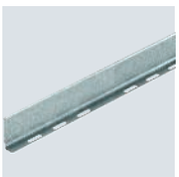


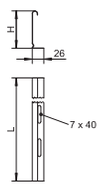
Type	Dim. H mm	Metal thick-ness mm	Dim. L mm	Pack m	Weight kg/100 m	Item no.
TSG 45 FS	45	0.75	3000	3	46.700	**6062033**

Separating retainer for separation of cables of different voltages or functions.

Separating retainer 60

St FS



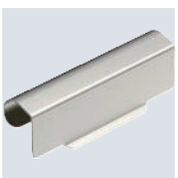


Type	Dim. H mm	Metal thick-ness mm	Dim. L mm	Pack m	Weight kg/100 m	Item no.
TSG 60 FS	60	0.75	3000	3	55.700	**6062068**

Separating retainer for separation of cables of different voltages or functions.

Separating retainer connector

VA 2B





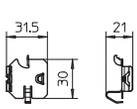
Type	Pack Piece	Weight kg/100 pc.	Item no.
TSGV A2	10	0.899	**6067970**

Separating retainer connector for screwless connection of the TSG separating retainer in all side heights.

Hold-down clamp for separating retainer fastening in RKSM

VA 2B





Type	Pack Piece	Weight kg/100 pc.	Item no.
KS KR A2	30	0.537	**6062280**

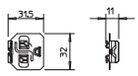
Hold-down clamp for screwless fastening of separating retainers in the cable tray types RKSM, MKS and SKS.

VA 2B

Hold-down clamp for separating retainer fastening

Type	Pack Piece	Weight kg/100 pc.	Item no.
KS KL A2	30	0.512	**6062284**

Hold-down clamp for screwless fastening of the separating retainer in cable ladders.



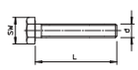


St F

Hexagonal bolt M10

Type	Dimension mm	Dim. L mm	Dim. d mm	SW mm	Resistance grade	Pack Piece	Weight kg/100 pc.	Item no.
SKS 10x40 F	M 10 x 40	40	10	17	8.8	50	4.422	**3160750**
SKS 10x60 F	M 10 x 60	60	10	17	8.8	20	6.000	**6408516**
SKS 10x80 F	M 10 x 80	80	10	17	8.8	20	7.700	**6418250**

Hexagonal bolt for universal fastening of construction components. With hexagonal nut and 2 washers.



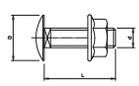


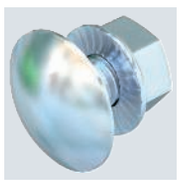
St F

Truss-head bolt with flange nut

Type	Dimension mm	Dim. L mm	Dim. d mm	Dim. D mm	Resistance grade	Pack Piece	Weight kg/100 pc.	Item no.
FRSB 6x12 F	M 6 x 12	12	6	13.5	5.6	100	0.812	**6406122**
FRSB 6x16 F	M 6 x 16	16	6	13.5	5.6	100	0.890	**6406157**
FRSB 6x20 F	M 6 x 20	20	6	13.5	5.6	100	0.965	**6406203**

Truss-head bolt with square neck including flange nut.



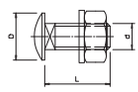


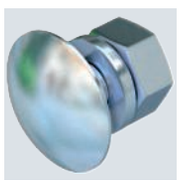
St F

Truss-head bolt with nut and washer

Type	Dimension mm	Dim. L mm	Dim. d mm	Dim. D mm	Resistance grade	Pack Piece	Weight kg/100 pc.	Item no.
FRS 10x25 F	M 10 x 25	25	10	24	5.6	50	4.077	**6407528**
FRS 10x25 TPS F	M 10 x 25	25	10	18	5.6	50	4.300	**6407536**
FRS 12x25 F	M 12 x 25	25	12	30	5.6	50	6.518	**6406254**

Truss-head bolt with square neck. With washer and hexagonal nut.



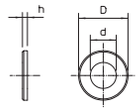


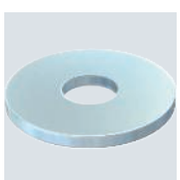
St F

Large washer

Type	Dim. D mm	Dim. d mm	Dim. h mm	Pack Piece	Weight kg/100 pc.	Item no.
DIN440 7 F	22	6.6	2	100	0.535	**6408702**
DIN440 11 F	34	11	3	100	1.852	**6408729**

Washer of particularly large outer diameter.





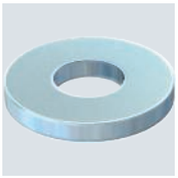
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

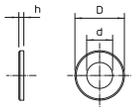
Always indicate the item number when ordering.

Mounting systems

Washer

St G



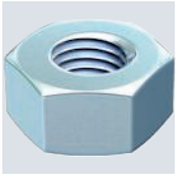


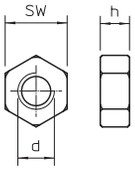
Type	Thread	Dim. d mm	Dim. D mm	Dim. h mm	Pack Piece	Weight kg/100 pc.	Item no.
WS M8 D16 G	M8	8.4	16	1.6	100	0.156	**3402088**
WS M10 D20 G	M10	10.5	20	2	100	0.408	**3402096**
WS M12 D24 G	M12	13	24	2.5	100	0.570	**3402126**

Washer according to DIN 125, shape A, for universal use.

Hexagonal nut DIN 934

St G

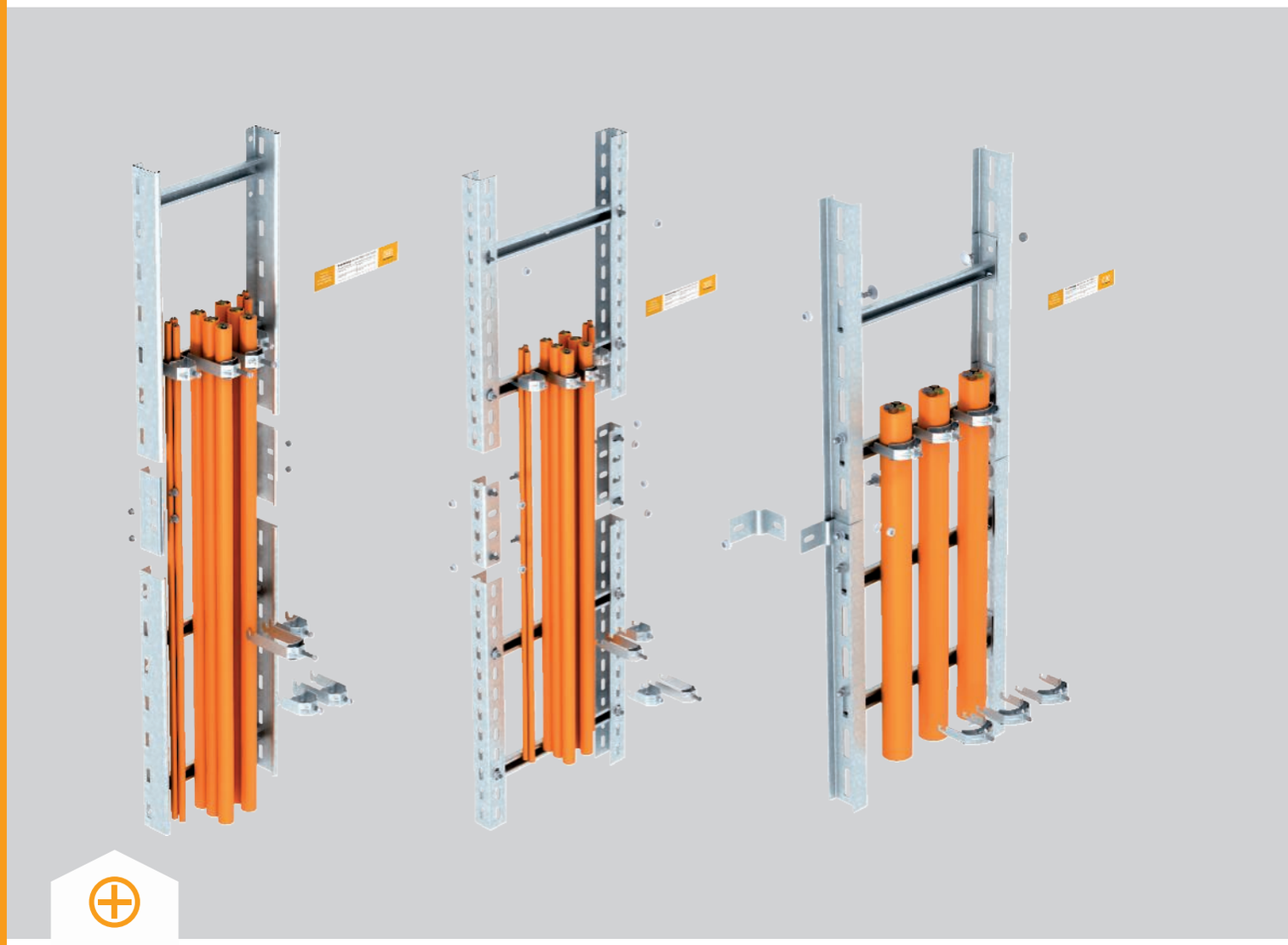




Type	Thread	SW mm	Dim. h mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
HN M8 G	M8	13	6.8	8	100	0.500	**3400085**
HN M10 G	M10	17	8.4	10	100	1.014	**3400107**
HN M12 G	M12	19	10.8	12	100	1.730	**3400123**

Hexagonal nut to DIN 934 with metric thread.

Vertical ladders
System description



Vertical ladders of type LG, type SLM and type SLS fulfil all the requirements of DIN 4102 Part 12 as a standard support structure for the maintenance of electrical functionality classes E30, E60 and E90. They are available in the widths 200 to 400 mm (type LG) and in the widths 400 to 600 mm (type SLM and type SLS). The vertical ladders are made up of straight profiles with riveted or screwed rungs. The rung spacing is 30 mm.
The vertical ladders are fastened directly to the wall through the ladder rails (type LG and type SLM) or with fastening brackets (type SLS) at a spacing of maximum 1.2 m. Mounting of screwed-on connectors is approved and they can be positioned freely.
The cables must be fastened on each rung with clamp clips with a riveted metal pressure sleeve. Mounting of the strain relief, type ZSE90..., is approved for storey heights of more than 3.5 m. The vertical ladder need not be interrupted as the strain relief is mounted via the continuous vertical ladder.

Vertical ladders
Installation principle



Direct mounting of the vertical ladder on solid walls.



Joint connection with screwed-on connector.



Fastening of the cables, either individually or as a bundle with clamp clips.



Direct mounting of the rising section on solid walls.



Joint design with screwed-on connector.



Installation of the cables with clamp clips, also possible in the case of multiple assignment.



Direct mounting of the vertical ladder on solid walls.



Mounting with screwed-on fastening brackets.



Cable installation with clamp clips on the rungs of the vertical ladder.

Classification according to DIN 4102 Part 12

E30 **E60** **E90**

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Vertical ladders
Proof

Maintenance of electrical functionality system according to DIN 4102 Part 12

Routing type	Standard support system
Proof	Surveyor's report no. GS 3.2/17-436-3
Maintenance of electrical functionality classes	E30 to E90
Testing standard	DIN 4102 Part 12
Material version	Galvanised steel

Note:
The surveyor's report is only valid in conjunction with valid general construction test certificates of a testing office for the appropriate installed cable type.

Mounting parameters, light-duty vertical ladder (type LG)

Fastening spacing	max. 1.2 m
Cable load	max. 20 kg/m
Rung distance	30 cm
Width	max. 400 mm
Suitable U clamp	Type 2056 M ...
Individual cable diameter	Unlimited
Cable bundling	A standard support structure, max. 3 power cables up to ø 25 mm or bundle of installation cables with a total weight of 3.0 kg/m

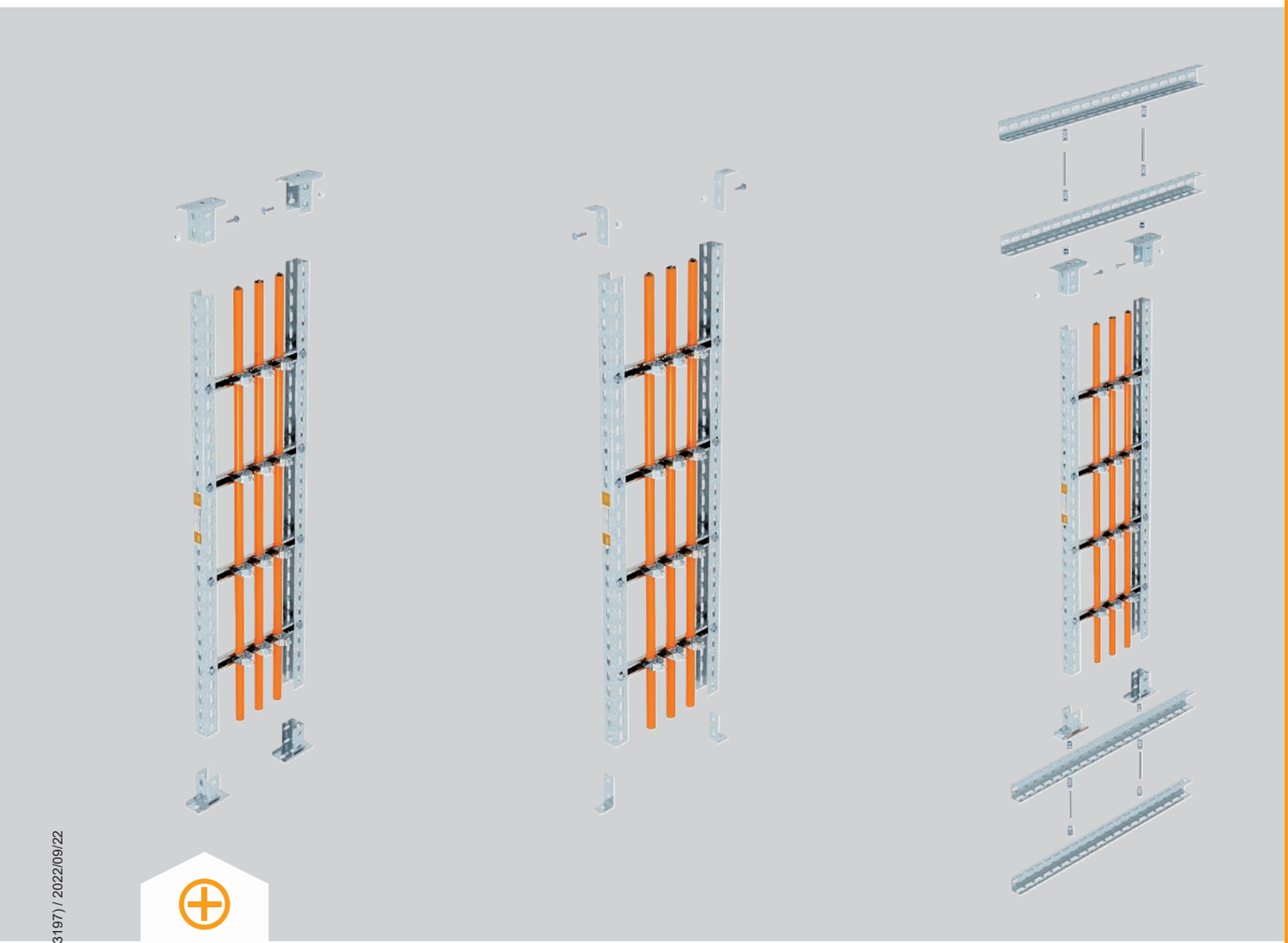
Mounting parameters, heavy-duty vertical ladder (type SLM)

Fastening spacing	max. 1.2 m
Cable load	max. 20 kg/m
Rung distance	30 cm
Width	max. 600 mm
Suitable U clamp	Type 2056 UM ...
Individual cable diameter	Unlimited
Cable bundling	A standard support structure, max. 3 power cables up to ø 25 mm or bundle of installation cables with a total weight of 3.0 kg/m

Mounting parameters, industrial vertical ladder (type SLS)

Fastening spacing	max. 1.2 m
Cable load	max. 20 kg/m
Rung distance	30 cm
Width	max. 600 mm
Suitable U clamp	Type 2056 UM ...
Individual cable diameter	Unlimited
Cable bundling	A standard support structure, max. 3 power cables up to ø 25 mm or bundle of installation cables with a total weight of 3.0 kg/m

Vertical ladders, suspended mounting
System description



Vertical ladders, type SLM, executed as suspended mounting, fulfil all the requirements of DIN 4102-12 as a standard support structure for the maintenance of electrical function classes E 30, E 60 and E 90. Mounting can be performed in widths of up to 600 mm and a storey height of up to a maximum of 7.0 m. The vertical ladders are made up of straight profiles and screwed rungs. The rung spacing is 30 cm. The suspended mounting of the vertical ladders can be done regardless of the structure or type and of the distance to the wall. The vertical ladders are fastened using head plates or mounting brackets under the ceiling. When the vertical ladders are mounted in a direct run under a ceiling opening, additional transverse profiles are required to bridge the opening. On the floor, the ladder rails are simply positioned and secured with head plates or mounting brackets, whereby the rails are not screwed to the head plates or brackets. Up to a storey height of 3.5 m, a distance of at least 40 mm is required between the end of the ladder rails and the floor and of at least 70 mm for storey heights between 3.5 m and 7.0 m as length compensation of the rails in the event of fire.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Vertical ladders, suspended mounting
Installation principle



Suspended mounting of the vertical ladder in front of a wall.



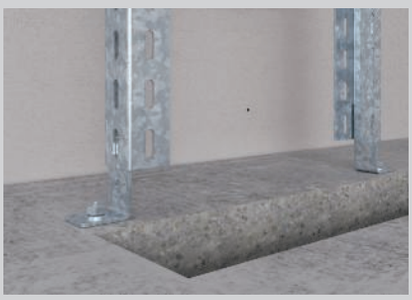
Ceiling fastening of the ladder rails with screwed-on head plates.



Ceiling fastening of the ladder rails with screwed-on mounting brackets.



Head plates mounted on the floor to secure the position of the ladder rails.



Head plates mounted on the floor to secure the position of the ladder rails.



Mounting of the vertical ladder in a direct run below a ceiling opening with cross profiles and head plates.



Mounting of the vertical ladder in a direct run on a ceiling opening with cross profiles and head plates.



Cable installation with 2056 UM clamp clips on the rungs of the vertical ladder.



Closure of the ceiling opening with an approved insulation system.

Classification according to DIN 4102 Part 12

E30 **E60** **E90**

Vertical ladders, suspended mounting
Proof

Maintenance of electrical function system according to DIN 4102 Part 12

Routing type	Standard support system
Proof	Expert opinion no. GS 3.2/17-436-4-r1 and no. GA-2020/044-Nau
Maintenance of electrical function classes	E30 to E90
Testing standard	DIN 4102 Part 12
Mounting variant	Vertical ladder as suspended mounting
Material version	Galvanised steel

Note:
The surveyor's report is only valid in conjunction with valid general construction test certificates of a testing office for the appropriate installed cable type.

Mounting parameters, heavy-duty vertical ladder (type SLM)

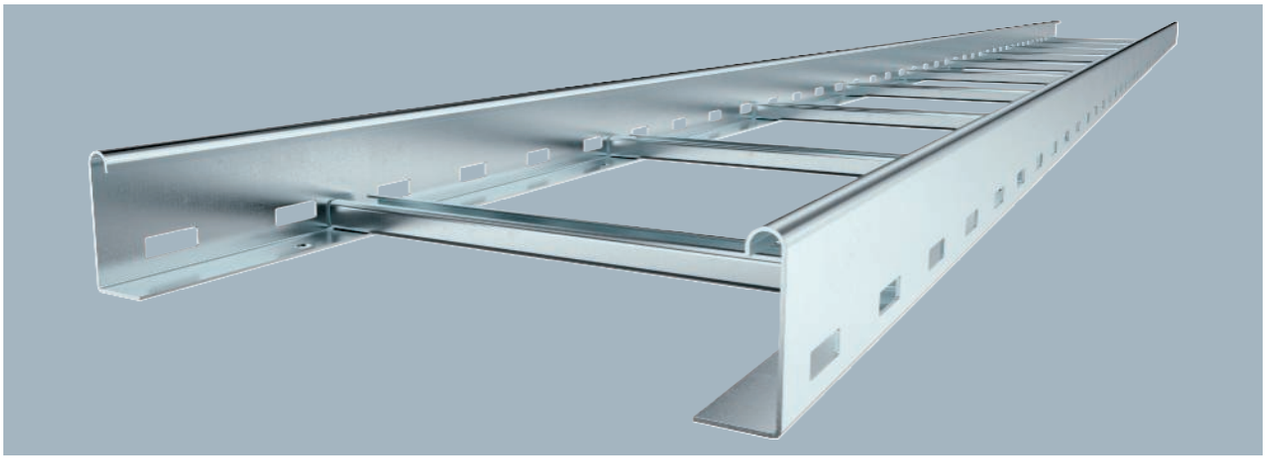
Cable load	max. 20 kg/m
Width	max. 600 mm
Rung distance	30 cm
Storey height	max. 7.0 m
Suitable U clamp	Type 2056 UM ...
Individual cable diameter	Unlimited
Quantity of cables on bundling	max. 3
Cable diameter on bundling	max. 25 mm

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Vertical ladders

Cable ladder LG 60, 3 m VS

St FS

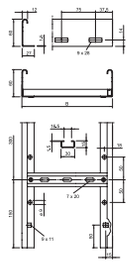


Type	Width mm	BS	Pack m	Weight kg/100 m	Item no.
LG 620 VS 3 FS	200		3	267.000	**6208538**
LG 630 VS 3 FS	300		3	288.933	**6208541**
LG 640 VS 3 FS	400		3	314.600	**6208544**
LG 620 VS 6 FS	200		6	267.066	**6208627**
LG 630 VS 6 FS	300		6	288.733	**6208630**
LG 640 VS 6 FS	400		6	314.400	**6208633**

Cable ladder with perforated side rail of side height 60 mm with riveted C profile frames, open in an upwards direction (VS version).

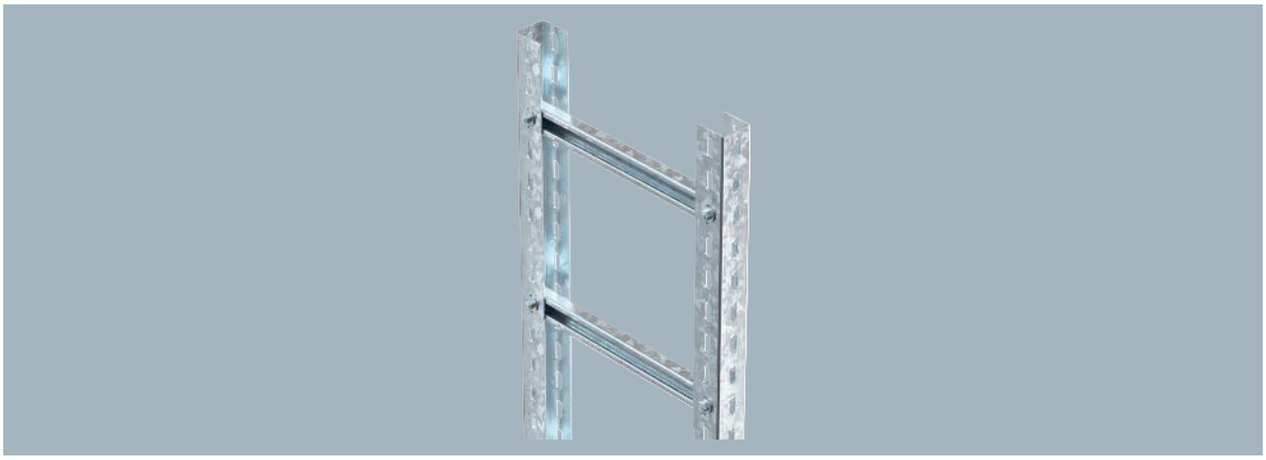
Type	Length mm	Dim. B mm	Rail thickness mm	Usable cross-section cm^2	Rung spacing mm
LG 620 VS 3 FS	3000	200	1.5	98	300
LG 630 VS 3 FS	3000	300	1.5	148	300
LG 640 VS 3 FS	3000	400	1.5	198	300

Dimensions

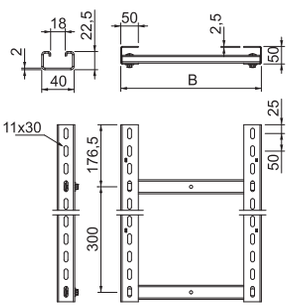


St FT

Vertical ladder, SLM50



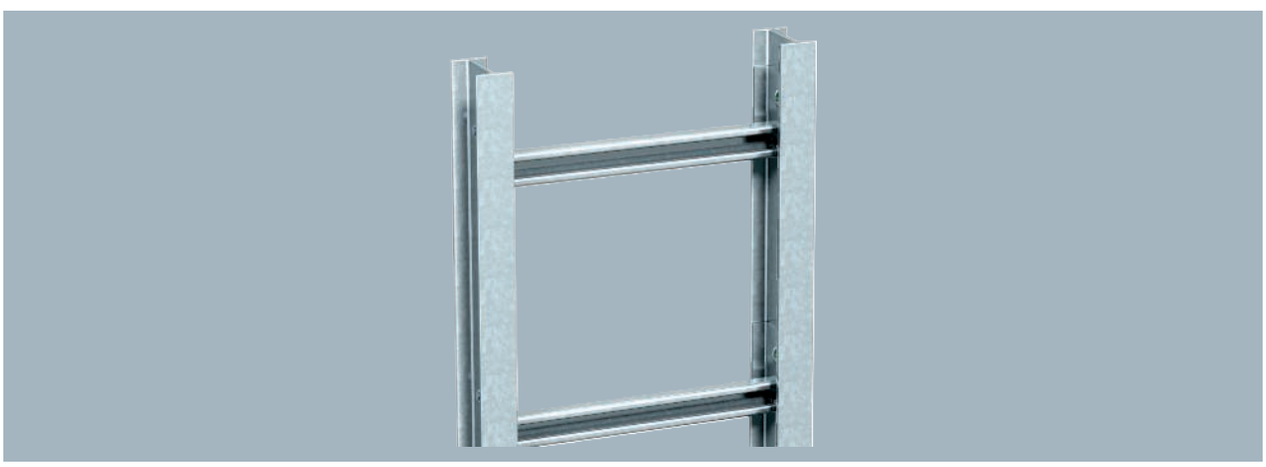
Heavyweight vertical ladder system for the maintenance of electrical function to DIN 4102 Part 12. Approved clips, type 2056 U/M. Supplied unmounted.



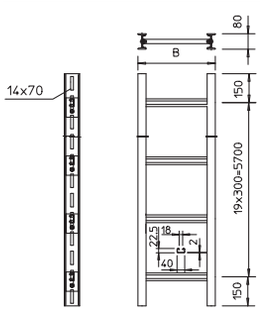
Type	Width mm	Rung spacing mm	Dim. B mm	Length mm			Weight kg/100 m	Item no.
SLM50C40F 20 FT	200	300	200	3000			628.333	**6010004**
SLM50C40F 30 FT	300	300	300	3000			681.666	**6010006**
SLM50C40F 40 FT	400	300	400	3000			740.000	**6010008**
SLM50C40F 50 FT	500	300	500	3000			793.333	**6010016**
SLM50C40F 60 FT	600	300	600	3000			846.667	**6010024**

St FT

Vertical ladder, SLS80



Industrial vertical ladder system for the maintenance of electrical function to DIN 4102 Part 12. Approved clips, type 2056 U/M. Supplied unmounted.



Type	Width mm	Rung spacing mm	Dim. B mm	Length mm	BS		Weight kg/100 m	Item no.
SLS80C40F 40 FT	400	300	400	3000			1,487.000	**6010105**
SLS80C40F 50 FT	500	300	500	3000			1,542.000	**6010113**
SLS80C40F 60 FT	600	300	600	3000			1,597.000	**6010121**

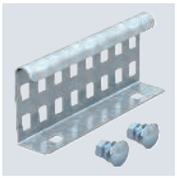
Always indicate the item number when ordering.

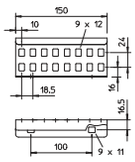
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Vertical ladders

Straight connector 60

St FS





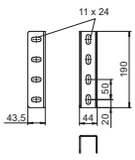
Type	Pack Piece	Weight kg/100 pc.	Item no.
LVG 60 FS	10	22.000	**6208840**

Straight connector as external connector to connect cable ladders and fittings with a side height of 60 mm and continuous rail perforation.

VUS 5 U support connector

St FT





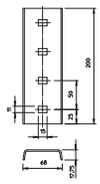
Type	Pack Piece	Weight kg/100 pc.	Item no.
VUS 5 FT	10	44.000	**6018505**

U support connector to connect US 5 supports.

VIS 8 I support connector

St FT



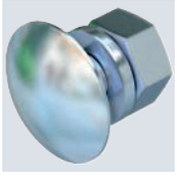


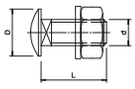
Type	Pack Piece	Weight kg/100 pc.	Item no.
VIS 8 FT	10	87.000	**6018300**

I support connector to connect IS 8 supports.
Including appropriate fastening material.

Truss-head bolt with nut and washer

St F



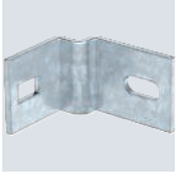


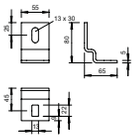
Type	Dimension mm	Dim. L mm	Dim. d mm	Dim. D mm	Resistance grade	Pack Piece	Weight kg/100 pc.	Item no.
FRS 8x16 F 8.8	M 8 x 16	16	8	20	8.8	50	1.947	**6406963**
FRS 8x25 F	M 8 x 25	25	8	20	8.8	50	2.217	**6406998**
FRS 10x25 F 8.8	M 10 x 25	25	10	24	8.8	50	4.500	**6407560**
FRS 12x25 F	M 12 x 25	25	12	30	5.6	50	6.518	**6406254**

Truss-head bolt with square neck. With washer and hexagonal nut.

Mounting angle BW 80

St FT





Type	Pack Piece	Weight kg/100 pc.	Item no.
BW 80 55 FT	10	32.900	**6019528**

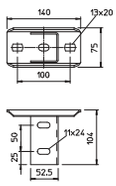
Mounting angle for mounting IS 8 supports on the wall.

St FT

Head plate US 5 NOK

Type		Pack Piece	Weight kg/100 pc.	Item no.
KUS 5 NOK FT		1	75.000	**6348939**

When installing the head plate, please use the spacer, type DSK 45.
Head plate with U support mounting rotated 90°.



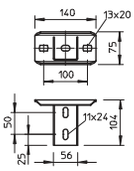


St FT

Head plate US 5

Type		Pack Piece	Weight kg/100 pc.	Item no.
KUS 5 FT		1	61.900	**6348904**

When installing the head plate, please use the spacer, type DSK 45.
Head plate for installation in US 5 support.



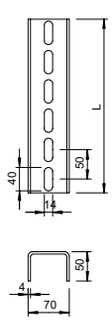


St FT

US 7 support

Type	Length mm	Material thickness mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
US 7 60 FT	600	4		1	241.100	**6340091**
US 7 70 FT	700	4		1	281.300	**6340113**
US 7 80 FT	800	4		1	323.000	**6340148**
US 7 90 FT	900	4		1	361.700	**6340164**
US 7 100 FT	1000	4		1	416.000	**6340180**
US 7 110 FT	1100	4		1	457.000	**6340199**
US 7 120 FT	1200	4		1	484.000	**6340202**
US 7 130 FT	1300	4		1	540.000	**6340210**
US 7 140 FT	1400	4		1	580.000	**6340229**
US 7 150 FT	1500	4		1	620.000	**6340237**
US 7 160 FT	1600	4		1	660.000	**6340245**
US 7 170 FT	1700	4		1	686.000	**6340253**
US 7 180 FT	1800	4		1	750.000	**6340261**
US 7 190 FT	1900	4		1	790.000	**6340288**
US 7 200 FT	2000	4		1	803.700	**6340296**

For bracket widths of 400 mm or more, or if the bracket is mounted at the end of a suspended support, we recommend the use of the spacer, type DSK 61.
U support in fixed lengths. Dimensions 70 x 50 mm.



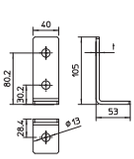


St FT

Mounting bracket, 90° with 3 holes

Type	Version	Shipping box Piece	Material thickness mm	Pack Piece	Weight kg/100 pc.	Item no.
GMS 3 VW 90 FT	90° angle	40	5	10	25.910	**1124661**

Mounting bracket with three holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 90°.



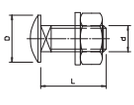


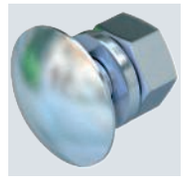
St F

Truss-head bolt with nut and washer

Type	Dimension mm	Dim. L mm	Dim. d mm	Dim. D mm	Resistance grade	Pack Piece	Weight kg/100 pc.	Item no.
FRS 10x25 F	M 10 x 25	25	10	24	5.6	50	4.077	**6407528**

Truss-head bolt with square neck. With washer and hexagonal nut.





Always indicate the item number when ordering.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Vertical ladders

Threaded rod

St G



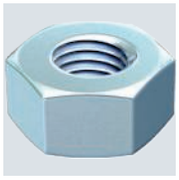


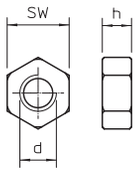
Type	Thread	Dim. d mm	Dim. L mm	Break load kN	Pack Piece	Weight kg/100 pc.	Item no.
TR M12 1M G	M12	12	1000	33.7	10	62.000	**3141306**

Threaded rod to DIN 976.

Hexagonal nut DIN 934

St G



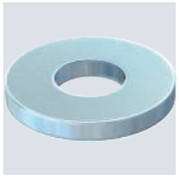


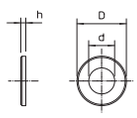
Type	Thread	SW mm	Dim. h mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
HN M12 G	M12	19	10.8	12	100	1.730	**3400123**

Hexagonal nut to DIN 934 with metric thread.

Washer

St G





Type	Thread	Dim. d mm	Dim. D mm	Dim. h mm	Pack Piece	Weight kg/100 pc.	Item no.
WS M12 D24 G	M12	13	24	2.5	100	0.570	**3402126**

Washer according to DIN 125, shape A, for universal use.

St FT

Clamp clip, single, metal pressure trough

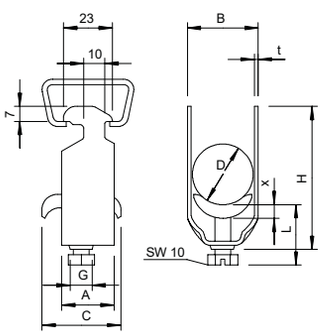
Type	Clamping range D mm	Pack Piece	Weight kg/100 pc.	Item no.
2056 M 12 FT	8-12	100	3.200	**1156004**
2056 M 16 FT	12-16	100	3.500	**1156012**
2056 M 22 FT	16-22	100	4.400	**1156020**
2056 M 28 FT	22-28	100	6.100	**1156039**
2056 M 34 FT	28-34	100	7.700	**1156047**
2056 M 40 FT	34-40	100	8.600	**1156055**
2056 M 46 FT	40-46	100	9.600	**1156063**
2056 M 52 FT	46-52	100	10.400	**1156071**
2056 M 58 FT	52-58	100	13.100	**1156098**
2056 M 64 FT	58-64	100	14.500	**1156101**
2056 M 70 FT	64-70	50	16.100	**1156128**
2056 M 76 FT	70-76	25	18.300	**1156136**
2056 M 82 FT	76-82	25	19.100	**1156144**
2056 M 90 FT	82-90	25	23.300	**1156152**
2056 M 100 FT	90-100	25	24.500	**1156160**



Suitable for all C profile rails with slot width 16–17 mm.
Clip, bolt and pressure trough made of hot-dip galvanised steel.

Dimensions

Type	Dim. A mm	Dim. B mm	Dim. C mm	Dim. G	Dim. t mm	Dim. x mm	Dim. H mm	Dim. L mm	Max. torque Nm
2056 M 12 FT	23	16	30	M6	1.5	3.5	40	32.5	3
2056 M 16 FT	23	20	30	M6	1.5	3.5	44	32.5	3
2056 M 22 FT	23	27	30	M6	1.5	4.5	50	46.5	3
2056 M 28 FT	23	33	30	M6	2	4.5	58	46.5	3
2056 M 34 FT	23	39	35	M8	2	5	66	44	5
2056 M 40 FT	23	45	35	M8	2	5	72	44	5
2056 M 46 FT	23	51	35	M8	2	5	79	44	5
2056 M 52 FT	23	57	35	M8	2	5	86	44	5
2056 M 58 FT	23	64	35	M8	2.5	5	93	44	5
2056 M 64 FT	23	70	35	M8	2.5	5	99	56	5
2056 M 70 FT	25	76	35	M8	2.5	5	106	56	5
2056 M 76 FT	25	82	40	M8	2.5	5	114	56	5
2056 M 82 FT	25	88	40	M8	2.5	5	121	56	5
2056 M 90 FT	25	97	40	M8	3	5	130	56	5
2056 M 100 FT	25	107	40	M8	3	5	140	56	5



St FT

Clamp clip, double, metal pressure trough

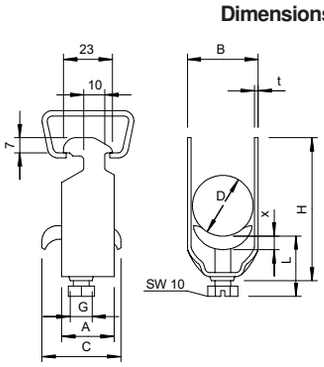
Type	Clamping range D mm	Pack Piece	Weight kg/100 pc.	Item no.
2056 M2 12 FT	8-12	50	3.980	**1156179**
2056 M2 16 FT	12-16	50	4.750	**1156187**
2056 M2 22 FT	16-22	50	6.900	**1156195**
2056 M2 28 FT	22-28	50	7.800	**1156209**



Suitable for all C profile rails with slot width 16–17 mm.
Clip, bolt and pressure trough made of hot-dip galvanised steel.

Dimensions

Type	Dim. A mm	Dim. B mm	Dim. C mm	Dim. G	Dim. t mm	Dim. x mm	Dim. H mm	Dim. L mm	Max. torque Nm
2056 M2 12 FT	23	16	34	M6	1.5	5	52	34	3
2056 M2 16 FT	23	20	34	M6	1.5	5	61	34	3
2056 M2 22 FT	23	27	34	M6	1.5	5	73	47	3
2056 M2 28 FT	23	33	34	M6	2	5	87	47	3



Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

Vertical ladders

Clamp clip, triple, metal pressure trough

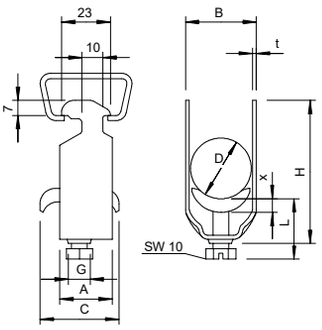
St FT



Type	Clamping range D mm	Pack Piece	Weight kg/100 pc.	Item no.
2056 M3 12 FT	8-12	50	4.050	**1156241**
2056 M3 16 FT	12-16	50	5.800	**1156268**
2056 M3 22 FT	16-22	50	6.500	**1156276**
2056 M3 28 FT	22-28	50	9.500	**1156284**

Suitable for all C profile rails with slot width 16–17 mm.
Clip, bolt and pressure trough made of hot-dip galvanised steel.

Dimensions

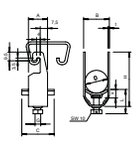


Type	Dim. A mm	Dim. B mm	Dim. C mm	Dim. G	Dim. t mm	Dim. x mm	Dim. H mm	Dim. L mm	Max. torque Nm
2056 M3 12 FT	23	16	34	M6	1.5	5	70	47	3
2056 M3 16 FT	23	20	34	M6	1.5	5	82	47	3
2056 M3 22 FT	23	27	34	M6	1.5	5	101	47	3
2056 M3 28 FT	23	33	34	M6	2	5	121	47	3

Clamp clip, single, metal pressure trough

St FT





Type	Clamping range D mm	Pack Piece	Weight kg/100 pc.	Item no.
2056U M 12 FT	8-12	100	3.300	**1158007**
2056U M 16 FT	12-16	100	3.520	**1158015**
2056U M 22 FT	16-22	100	3.960	**1158023**
2056U M 28 FT	22-28	100	5.890	**1158031**
2056U M 34 FT	28-34	100	7.650	**1158058**
2056U M 40 FT	34-40	100	8.360	**1158066**
2056U M 46 FT	40-46	100	10.890	**1158074**
2056U M 52 FT	46-52	100	11.660	**1158082**
2056U M 58 FT	52-58	100	14.740	**1158090**
2056U M 64 FT	58-64	100	15.730	**1158104**
2056U M 70 FT	64-70	50	18.200	**1158112**
2056U M 76 FT	70-76	25	20.600	**1158120**

Suitable for all C profile rails with slot width 18 mm and 22 mm.

Identification plate for maintenance of electrical function

PVC





Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-E DE	German	10	0.600	**7205423**

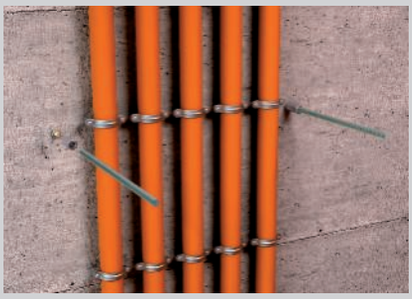
Self-adhesive identification plate for approved cable system labelling for maintenance of electrical function as required by DIN 4102 Part 12.

Strain relief ZSE90
For direct wall mounting with foam filling
System description



In the case of continuous, vertical routing of cables for the maintenance of electrical function according to DIN 4102 Part 12, the standard requires effective cable support at a maximum spacing of 3.5 m. This requirement can be fulfilled with the OBO ZSE90 strain relief. The ZSE90 is approved for all classes ensuring the maintenance of electrical functionality from E30 to E90 in combination with standard support structures. It can be used for all rising section widths and also for vertical single-clip installations. The ZSE90 strain relief covers the fastening point of the cables on profile rails, rungs or with single clips. In the event of fire, it prevents direct fire loads on the clips, meaning that they stay "relatively" cold. The weight of the cable is dissipated safely. There is no risk of the cables tearing through their intrinsic weight if there is a fire. This guarantees the maintenance of electrical function. The strain relief can be fastened using slide nuts on profile rails, on the rungs of vertical ladders or on the wall next to installed cables. With this variant of the ZSE90 strain relief for direct wall mounting, the non-combustible, 3-sided housing is filled with insulation made of foams: Areas not filled with cables are filled with PYROPLUG® Block foam blocks. All the spaces beside, between and behind the cables are closed with the PYROSIT® NG fire protection foam. Thanks to the filling tip of the PYROSIT® NG cartridge, even the smallest cavity can be reached with ease.

Strain relief ZSE90
For direct wall mounting with foam filling
Installation principle



Fastening points next to the cables directly on the wall.



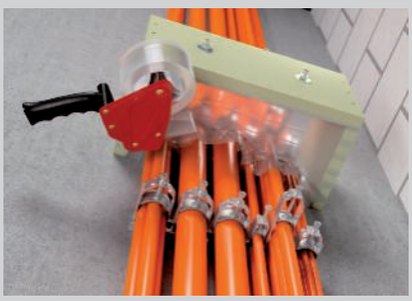
Fastening in the rungs.



Mounting using profile rails.



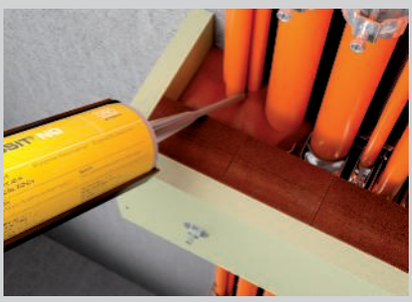
Mounting using cable ladders.



Creation of a lining for the safe filling of the housing.



Filling of the complete housing with high cable assignments with PYROSIT® NG fire protection foam.



Filling with PYROPLUG® Block foam blocks and filling of the cable spandrels with PYROSIT® NG fire protection foam.



Finished filled strain relief.

Classification according to DIN 4102 Part 12

E30 **E60** **E90**

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Strain relief ZSE90
For direct wall mounting with foam filling
Proof

Proof

Routing type	Standard support structure according to DIN 4102 Part 12 Effective support for vertical routing as a direct mounting
Proof	Expert opinion no. GA-2020/049-Nau
Maintenance of electrical function classes	E30 to E90
Testing standard	DIN 4102 Part 12

Note:
The expert opinion only applies in conjunction with the valid general construction test certificates of a testing office for the appropriate installed cable type.

Mounting parameters

Fastening spacing	max. 3.5 m
Application area	Individual clip routing Cable routing on profile rails Vertical ladders
Fastening options	With threaded rods directly on the wall With threaded rods on profile rails With threaded rods on the rungs of the vertical ladders
Housing width (interior)	250–650 mm
Housing height (interior)	115 mm / 175 mm
Individual cable diameter	Unlimited
Cable types	No restrictions

Combination options of strain relief with vertical cable installations

Strain relief Type	Cable routing with individual clips	Cable routing on profile rails	Vertical ladder Type LG	Vertical ladder Type SLM	Vertical ladder Type SLS
ZSE90-25-11 L	✓	✓	✓	✓	✗
ZSE90-35-11 L	✓	✓	✓	✓	✗
ZSE90-45-11 L	✓	✓	✓	✓	✓
ZSE90-25-17 L	✓	✓	✓	✓	✗
ZSE90-35-17 L	✓	✓	✓	✓	✗
ZSE90-45-17 L	✓	✓	✓	✓	✓
ZSE90-55-17 L	✓	✓	✗	✓	✓
ZSE90-65-17 L	✓	✓	✗	✓	✓

Strain relief ZSE90
For mounting on suspended vertical ladders
System description



In the case of continuous, vertical routing of cables for the maintenance of electrical function according to DIN 4102 Part 12, the standard requires effective cable support at a maximum spacing of 3.5 m. This requirement can be fulfilled with the OBO ZSE90 strain relief. The ZSE90 is approved for all classes ensuring the maintenance of electrical functionality from E30 to E90 in combination with standard support structures. In the four-sided variant, the ZSE90 can be used on suspended vertical ladders. The strain relief consists of a U-shaped housing, a matching lock plate made from the same non-combustible material and a mounting set for the installation on vertical ladders consisting of U profiles. Filling takes place with PYROPLUG® Block foam blocks and the PYROSIT® NG fire protection foam.
In the event of fire, it prevents direct fire loads on the clips, meaning that they stay "relatively" cold. The weight of the cable is dissipated safely. There is no risk of the cables tearing through their intrinsic weight if there is a fire. This guarantees the maintenance of electrical function.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Strain relief ZSE90
For mounting on suspended vertical ladders
Installation principle



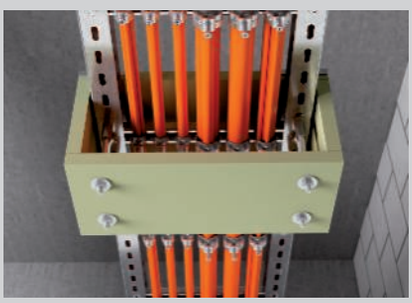
Mounting of the counter plate with hexagonal bolts on a suspended vertical ladder.



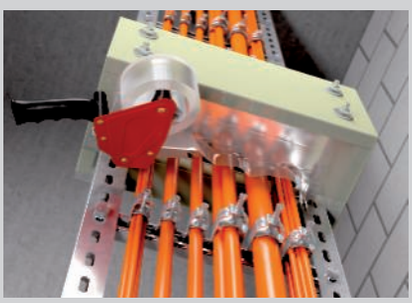
Mounting of threaded rods, lock nuts and washers to fasten the housing.



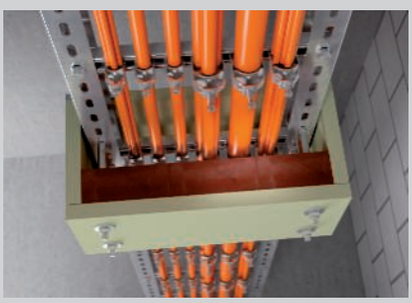
Fastening of the pre-mounted, three-sided housing on the threaded rods.



Fully mounted housing.



Creation of a lining for the safe filling of the housing.



Filling of the mounted housing with PYROPLUG® Block foam blocks.



Filling of the complete housing with high cable assignments with PYROSIT® NG fire protection foam.



Filling of the cable spandrels with PYROSIT® NG fire protection foam.



Finished filled strain relief.

Classification according to DIN 4102 Part 12

E30 **E60** **E90**

Strain relief ZSE90
For mounting on suspended vertical ladders
Proof

Proof

Routing type	Standard support structure according to DIN 4120 Part 12 Effective support for vertical routing as a suspended installation
Proof	Expert opinion no. GA-2020/049-Nau
Maintenance of electrical function classes	E30 to E90
Testing standard	DIN 4102 Part 12

Note:
The expert opinion only applies in conjunction with the valid general construction test certificates of a testing office for the appropriate installed cable type.

Mounting parameters

Fastening spacing	Max. 5.0 m
Application area	Laying cables in vertical ladders
Fastening options	With a mounting set on the vertical ladder
Housing width (interior)	210–610 mm
Housing height (interior)	175 mm
Individual cable diameter	Unlimited
Cable types	No restrictions

Combination options of strain relief with vertical cable installations

Strain relief Type	Vertical ladder Type LG	Vertical ladder Type SLM	Vertical ladder Type SLS
ZSE90-21-17 LH	✖	✓	✖
ZSE90-31-17 LH	✖	✓	✖
ZSE90-41-17 LH	✖	✓	✖
ZSE90-51-17 LH	✖	✓	✖
ZSE90-61-17 LH	✖	✓	✖

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Effective support for vertical routing

Ablation coating PYROCOAT® in a cartridge



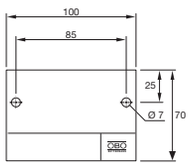
Type	Contents ml	Pack Piece	Weight kg/100 pc.	Item no.
ASX-K	310	1	50.000	**7202310**

Combined, endothermic and weatherproof coating for internal and external areas. Universal protection coating for cable and cable support structures. Use as direct filler, and as paint when stirred.
Material class DIN 4102 - B2, normally flammable.
In dry, frost-free rooms, the coating can be stored at temperatures from +5 °C to +25 °C for up to 18 months in closed, upright original containers.

Identification plate for strain relief

PVC



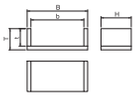


Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-ZSE DE	German	1	2.400	**7215750**

Universal identification plate to be written on with waterproof and light-resistant felt-tip pen for the ZSE90 strain relief. For approved identification, according to DIN 4102 Part 12. Including two push-fit anchors.

Strain relief on three sides, empty housing, internal height 115 mm



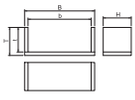


Type	Dim. b mm	Dim. t mm	Dim. H mm	Dim. B mm	Dim. T mm	Pack Piece	Weight kg/100 pc.	Item no.
ZSE90-25-11 L	250	115	200	300	140	1	320.000	**7215760**
ZSE90-35-11 L	350	115	200	400	140	1	390.000	**7215762**
ZSE90-45-11 L	450	115	200	500	140	1	410.000	**7215764**

Strain relief as an effective support measure for vertical cable routing, according to DIN 4102 Part 12. Approved for all cable types and all vertical routing systems, which are mounted directly on solid walls. Maintenance of electrical function classes E30 to E90. Empty housing for individual filling with the PYROSIT® NG fire protection foam and/or PYROPLUG® Block insulation systems, incl. mounting set and labelling panel.

Strain relief on three sides, empty housing, internal height 175 mm



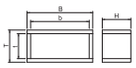


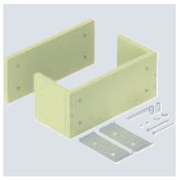
Type	Dim. b mm	Dim. t mm	Dim. H mm	Dim. B mm	Dim. T mm	Pack Piece	Weight kg/100 pc.	Item no.
ZSE90-25-17 L	250	175	200	300	200	1	380.000	**7215766**
ZSE90-35-17 L	350	175	200	400	200	1	430.000	**7215768**
ZSE90-45-17 L	450	175	200	500	200	1	475.000	**7215770**
ZSE90-55-17 L	550	175	200	600	200	1	530.000	**7215772**
ZSE90-65-17 L	650	175	200	700	200	1	575.000	**7215774**

Strain relief as an effective support measure for vertical cable routing, according to DIN 4102 Part 12. Approved for all cable types and all vertical routing systems, which are mounted directly on solid walls. Maintenance of electrical function classes E30 to E90. Empty housing for individual filling with the PYROSIT® NG fire protection foam and/or PYROPLUG® Block insulation systems, incl. mounting set and labelling panel.

Strain relief on four sides, empty housing, internal height 175 mm

Type	Dim. b mm	Dim. t mm	Dim. H mm	Dim. B mm	Dim. T mm	Pack Piece	Weight kg/100 pc.	Item no.
ZSE90-21-17 LH	210	175	200	260	225	1	595.000	**7215780**
ZSE90-31-17 LH	310	175	200	360	225	1	690.000	**7215782**
ZSE90-41-17 LH	410	175	200	460	225	1	785.000	**7215784**
ZSE90-51-17 LH	510	175	200	560	225	1	875.000	**7215786**
ZSE90-61-17 LH	610	175	200	660	225	1	975.000	**7215788**





Strain relief as an effective support measure for vertical cable routing, according to DIN 4102 Part 12. Approved for all cable types and vertical ladders, created as suspended mounting. Maintenance of electrical function classes E30 to E90. Empty housing for individual filling with the PYROSIT® NG fire protection foam and/or PYROPLUG® Block insulation systems, incl. mounting set and labelling panel.

2-component fire protection foam PYROSIT® NG

Type	Contents ml	Pack Piece	Weight kg/100 pc.	Item no.
FBS-S	380	1	64.600	**7203800**



PYROSIT® NG 2-component fire protection foam in a cartridge, including 2 mixing tubes.
To create cable and combination insulation; always process the coaxial cartridge 5:1 with FBS-PH or FBS-PA cartridge pistols.
In dry, frost-free rooms, the cartridge can be stored closed and standing upright at temperatures from +5 °C to +30 °C for up to 12 months.

Mixer pipe set

Type	Pack PU	Weight kg/100 PUs	Item no.
FBS-M	1	10.000	**7203803**



10 mixing tubes and 5 extension tubes in the set for PYROSIT® NG fire protection foam. Must be used with the 5:1 coaxial cartridge.

Professional cartridge pistol

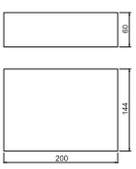
Type	Pack Piece	Weight kg/100 pc.	Item no.
FBS-PH	1	120.000	**7203806**



High-quality 2-component cartridge pistol for use with the PYROSIT® NG fire protection foam. The action of the trigger parallel to the handle ensures easy working. Suitable for 5:1 coaxial cartridges. Free the moving parts, push rods and pressure plate from any foam residues and maintain them with a re-greasing cleaning agent.

PYROPLUG® Block foam block

Type	Dimension mm	Pack Piece	Weight kg/100 pc.	Item no.
FBA-B200-14	200x144x60	4	44.800	**7202505**





Soft, permanently elastic foam block for cable and combination insulation. Vertical and transverse installation to achieve different fire resistance classes. Can be combined with the two-component fire protection foam PYROSIT® NG. Can be used in solid ceilings and walls and in light-duty partitions and is approved for many installations. CE-labelled construction product according to ETA-15/0803 for applications with fire resistance periods of up to 120 minutes.
Details on the applications can be found in the approval documents.
Protect the surface of the foam insulation against water in order to guarantee safe expansion in the event of fire.
Coating with standard silicone is approved.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

Effective support for vertical routing

PYROPLUG® screed filler



Type	Contents ml		Pack Piece	Weight kg/100 pc.	Item no.
FBA-SP	310		1	46.000	**7202322**

Fire protection filler in a cartridge.
Usable as small insulation and as joint closing compound in all insulation of the PYROPLUG® series.
In dry, frost-free rooms, the fire protection filler can be stored for up to 12 months at a temperature of +5 °C to +30 °C.



Escape route installations, false ceiling mounting



False ceiling cable trays and mesh cable trays 174



Grip M grouped support 198

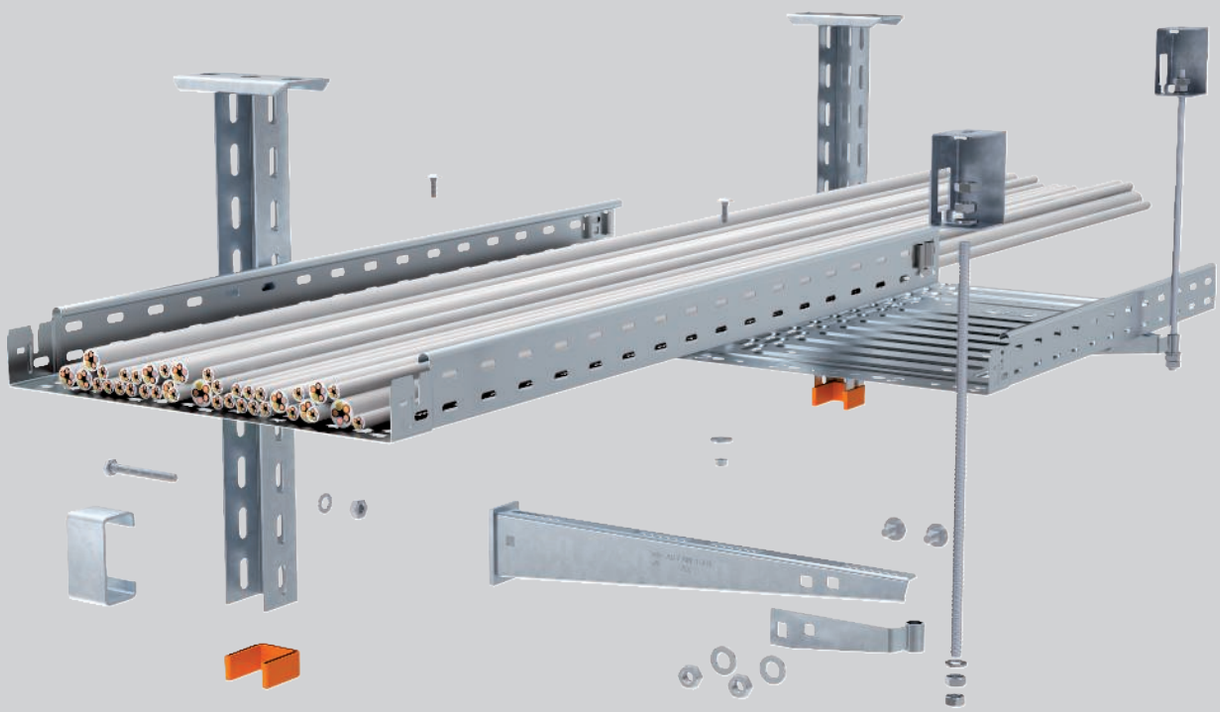


Metal pressure clip 204

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

RKS-Magic® cable tray
System description

30 60 90



The tested RKS-Magic® cable tray system is suitable for installation in the false ceiling area of escape routes. In the event of fire, the system has a proven mechanical stability of 30, 60 and 90 minutes, depending on the system components used. The RKS-Magic® cable tray can be mounted under the ceiling or on the wall with brackets. The brackets are additionally secured on the ceiling with a threaded rod to prevent them from bending in a fire. The AW15 brackets in the widths 110 to 410 mm have the required perforations at the bracket tip to fasten the matching connection components. A further option for ceiling mounting is the support of the cable tray on profile rails, each mounted under the ceiling with two threaded rods. If the cable loads and tray widths listed in the proof of testing are maintained and the minimum spacings to the false ceiling is taken into account, then multi-layer variants can also be implemented.

Fireproof fastening above fire protection ceilings

Fire load	30/60/90 minutes
Proof of testing	OBO Bettermann
Document no. - mounting with mounting rails	BS-05/190-01-01
Document no. - mounting with suspended support/bracket	BS-05/190-01-02
Testing principles	In accordance with DIN 4102

RKS-Magic® cable tray
Installation principle



Single-layer ceiling suspension.



Two-layer ceiling suspension with bracket arrangement on one side.



Two-layer ceiling suspension with bracket arrangement on both sides.



Wall mounting, one and two-layer possible.



Mounting of the threaded rod lock using a connection component at the bracket tip.



Complete screwless joint connection.



Single-layer ceiling mounting above suspended fire protection ceiling.



Two-layer ceiling mounting above suspended fire protection ceiling.



Clamp fastening for high load capacities.

Tested mounting options



CAUTION: No maintenance of electrical functionality according to DIN 4102 Part 12!

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

RKS-Magic® cable tray

Maximum support distances for wall and ceiling mounting

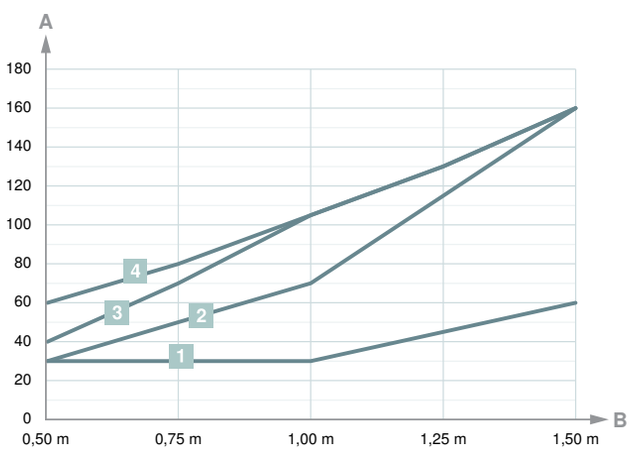
	Fire load [min] Max. cable load [kg/m]								
Cable tray width [mm]	**30**	**60/90**	**Maximum support distance** [m]						
100	15	10	1.50	1.50	1.50	1.50	1.50	1.50	1.50
200	30	20							
300	45	30							
400	60	40		1.20			1.20		1.20

Required minimum distance „a“ for the fire load at different support distances

Maximum support distance [m]	**0.50**			**0.75**			**1.00**			**1.25**			**1.50**		
Fire load [min]	**30**	**60**	**90**	**30**	**60**	**90**	**30**	**60**	**90**	**30**	**60**	**90**	**30**	**60**	**90**
Cable tray width [mm]	**Minimum distance** „a“ [mm]														
100	30	30	30	30	35	40	30	70	90	45	130	140	60	145	150
200	30	35	40	50	55	60	70	95	100	115	140	145	160	150	160
300	40	45	50	70	75	85	105	110	120	130	145	150	160	155	160
400	60	60	65	80	80	95	105	120	130	130*	155	160*	160*	160	165*

***Observe the maximum support distances according to the table: „Maximum support distances for wall and ceiling mounting“.**
The minimum distance „a“ refers to the distance from the underside of the cable tray to the upper side of the fire protection ceiling.

Deformation of the RKS-Magic® cable tray in mm
for 30-minute fire load



1	RKSM 610
2	RKSM 620
3	RKSM 630
4	RKSM 640

A = Minimum distance "a" in mm to the fire protection ceiling
B = Support distance in m



The minimum spacing "a" relates to the distance of the under side of the cable tray to the top side of the fire protection ceiling.

Component assignment

Components to be used for single and double layer mounting at the fire load of 30/60/90 minutes

Components	Suspended support type when mounting		Bracket Type	Mounting rail type				
				Maximum support distance [m]				
Cable tray width [mm]				0.50	0.75	1.00	1.25	1.50
100	US 3 K...FT	US 3 K...FT	AW 15 11 FT	MS4121P				
200			AW 15 21 FT					
300		US 5 K...FT	AW 15 31 FT	MS4121P	MSL4141P			MS4141P
400			AW 15 41 FT	MSL4141P			MS4141P*	

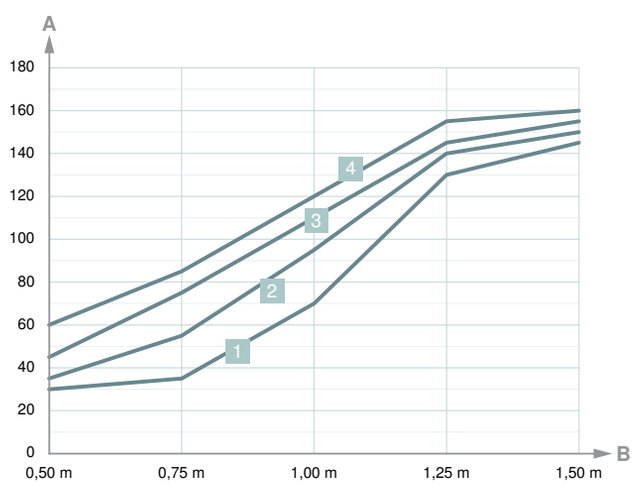
*Observe the maximum support distances according to the table: „Maximum support distances for wall and ceiling mounting“.

Assignment of threaded rods at the fire loads of 30/60/90 minutes

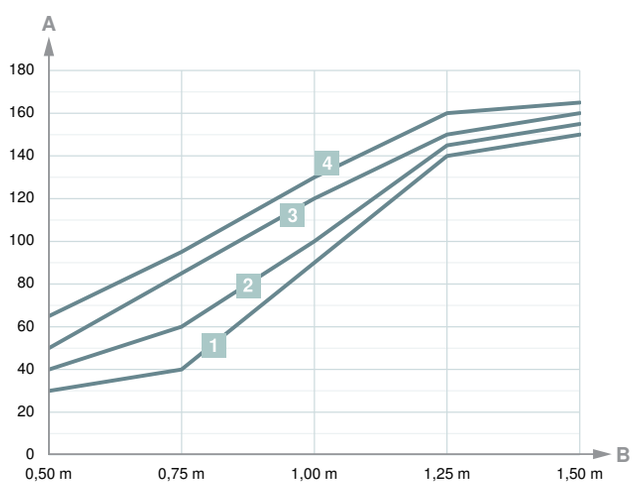
	Maximum support distance [m]					Maximum support distance [m]				
Cable tray width [mm]	0.50	0.75	1.00	1.25	1.50	0.50	0.75	1.00	1.25	1.50
100	M8					M8		M10		
200										
300	M8		M10			M10		M12		
400								M12*		–

*Observe the maximum support distances according to the table: „Maximum support distances for wall and ceiling mounting“.

Deformation of the RKS-Magic® cable tray in mm
for 60-minute fire load



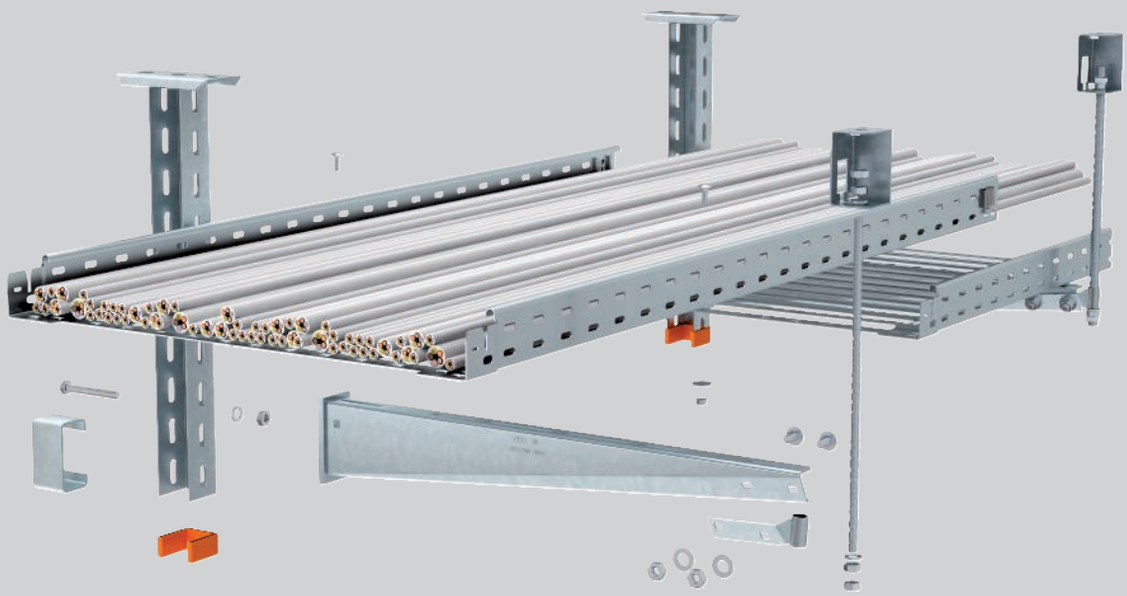
Deformation of the RKS-Magic® cable tray in mm
for 90-minute fire load



Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Cable tray SKS-Magic®
System description

30



The tested SKS-Magic® cable tray system is suitable for installation in the false ceiling area of escape and rescue routes. In the event of fire, the system has a proven mechanical stability of 30 minutes. The SKS-Magic® cable tray can be mounted under the ceiling or on the wall using brackets. The brackets are additionally secured on the ceiling with a threaded rod to prevent them from bending in a fire. The AW15 brackets in the widths 110 to 410 mm and the AW30 brackets in the widths 510 and 610 mm have the required perforations at the bracket tip to fasten the matching connection components. If the cable loads and tray widths listed in the proof of testing are maintained and the minimum spacings to the false ceiling is taken into account, then multi-layer variants can also be implemented. A further option for ceiling mounting is the support of the cable trays on profile rails, each mounted under the ceiling with two threaded rods. A two-layer arrangement of the cable trays is possible, providing that the approved tensile stress in the threaded rods is also maintained in the event of fire.

Fireproof fastening above fire protection ceilings

Fire load	30 minutes
Proof of testing	OBO Bettermann
Document no. - mounting with mounting rails	BS-05/190-02-01
Document no. - mounting with suspended support/bracket	BS-05/190-02-02
Testing principles	In accordance with DIN 4102

Proofs of testing are also available for the SKS cable trays and can be requested.

Cable tray SKS-Magic®
Installation principle



Single-layer ceiling suspension.



Two-layer ceiling suspension with bracket arrangement on one side.



Two-layer ceiling suspension with bracket arrangement on both sides.



Wall mounting, one and two-layer possible.



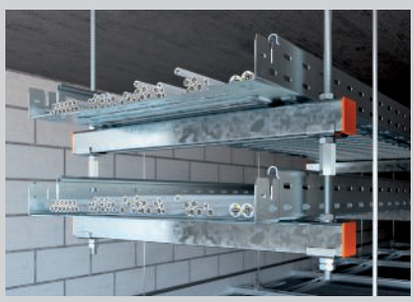
Mounting of the threaded rod lock using a connection component at the bracket tip.



Screwless joint connection, only the base lugs need to be bent.



Single-layer ceiling mounting above suspended fire protection ceiling.



Two-layer ceiling mounting above suspended fire protection ceiling.



Clamp fastening for high load capacities.

Tested mounting options



CAUTION: No maintenance of electrical functionality according to DIN 4102 Part 12!

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Cable tray SKS-Magic®

Maximum support distances for wall and ceiling mounting

	Fire load [min] Max. cable load [kg/m]							
Cable tray width [mm]	**30**	**Maximum support distance** [m]						
100	15	1.50	1.50	1.50	1.50	1.50	1.50	1.50
200	30							
300	45							
400	60		1.20			1.20		1.20
500	75		0.90			0.90		0.90
600	90		0.75			0.75		0.75

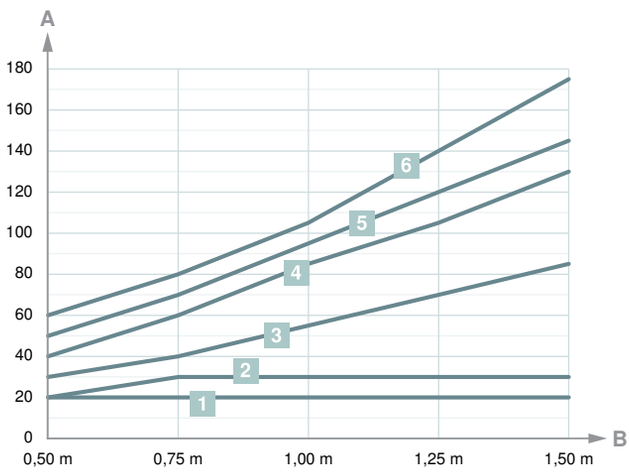
Required minimum distance „a“ for the fire load at different support distances

Maximum support distance [m]	**0.50**	**0.75**	**1.00**	**1.25**	**1.50**
Fire load [min]	**30**				
Cable tray width [mm]	**Minimum distance „a“** [mm]				
100	20	20	20	20	20
200	20	30	30	30	30
300	30	40	55	70	85
400	40	60	85	105*	130*
500	50	70	95*	120*	145*
600	60	80	105*	140*	175*

***Observe the maximum support distances according to the table: „Maximum support distances for wall and ceiling mounting“.**
The minimum distance „a“ refers to the distance from the underside of the cable tray to the upper side of the fire protection ceiling.

Deformation of the SKS-Magic® cable tray in mm for 30-minute fire load

1	SKSM 610
2	SKSM 620
3	SKSM 630
4	SKSM 640
5	SKSM 650
6	SKSM 660



A = Minimum distance "a" in mm to the fire protection ceiling
B = Support distance in m



The minimum spacing "a" relates to the distance of the under side of the cable tray to the top side of the fire protection ceiling.

Component assignment

Components to be used for single and double layer mounting at a fire load of 30 minutes

Components	Suspended support type when mounting		Bracket Type	Mounting rail type				
				Maximum support distance [m]				
Cable tray width [mm]				0.50	0.75	1.00	1.25	1.50
100	US 3 K...FT	US 3 K...FT	AW 15 11 FT	MS4121P				
200			AW 15 21 FT					
300		US 5 K...FT	AW 15 31 FT	MS4121P	MSL4141P			MS4141P
400			AW 15 41 FT	MSL4141P			MS4141P*	
500	US 5 K...FT		AW 30 51 FT	MS4141P*				
600			AW 30 61 FT					

*Observe the maximum support distances according to the table: „Maximum support distances for wall and ceiling mounting“.

Assignment of the threaded rods at the fire load of 30 minutes

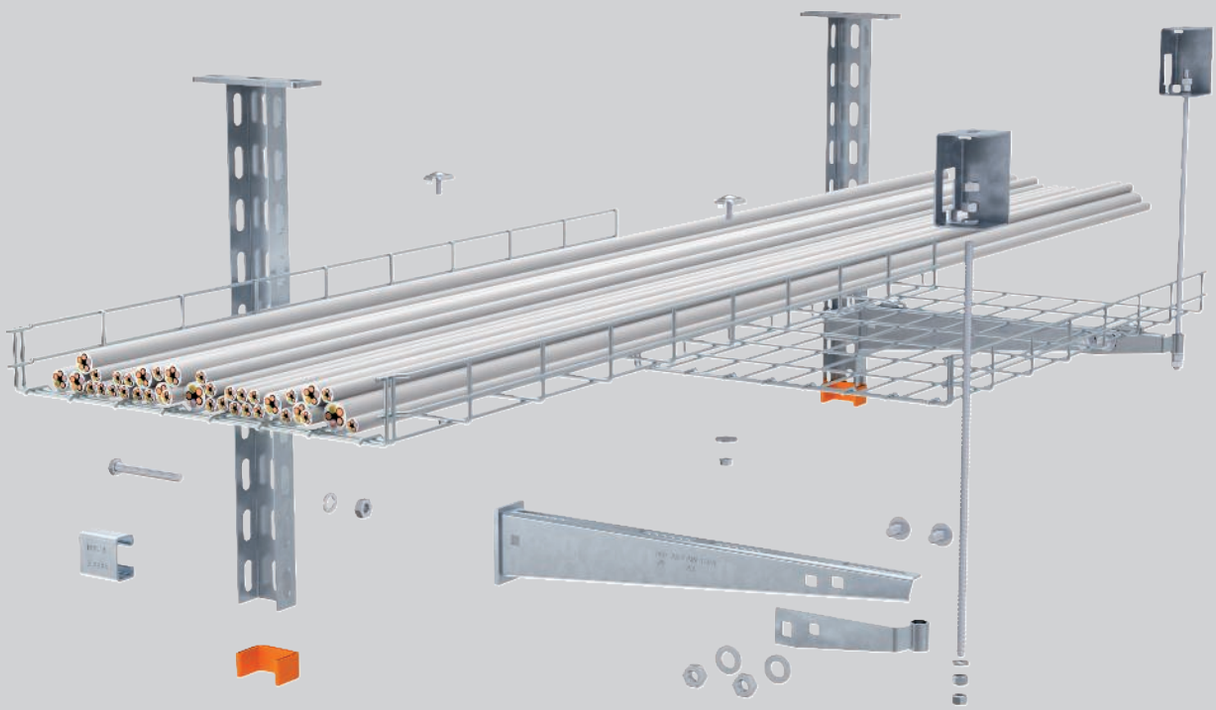
	Maximum support distance [m]					Maximum support distance [m]				
Cable tray width [mm]	0.50	0.75	1.00	1.25	1.50	0.50	0.75	1.00	1.25	1.50
100	M8					M8		M10		
200										
300	M8		M10			M10		M12		
400								M12*		–
500	M10			M12		M12		M12*	–	
600								–		

*Observe the maximum support distances according to the table: „Maximum support distances for wall and ceiling mounting“.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

GR-Magic® mesh cable tray
System description

30



The tested GR-Magic® mesh cable tray system is suitable for installation in the false ceiling area of escape and rescue routes. In the event of fire, the system has a proven mechanical stability of 30 minutes. The GR-Magic® mesh cable tray can be mounted under the ceiling or on the wall using brackets. The brackets are additionally secured on the ceiling with a threaded rod to prevent them from bending in a fire. The AW15 brackets in the widths 110 to 410 mm have the required perforations at the bracket tip to fasten the matching connection components. If the cable loads and tray widths listed in the proof of testing are maintained and the minimum spacings to the false ceiling is taken into account, then multi-layer variants can also be implemented. A further option for ceiling mounting is the support of the mesh cable tray on profile rails, each mounted under the ceiling with two threaded rods. With this mounting variant, sufficient distances to the false ceiling must be maintained. A two-layer arrangement of the mesh cable trays is possible, providing that the approved tensile stress in the threaded rods is also maintained in the event of fire.

Fireproof fastening above fire protection ceilings

Fire load	30 minutes
Proof of testing	OBO Bettermann
Document no. - mounting with mounting rails	BS-05/190-03-01
Document no. - mounting with suspended support/bracket	BS-05/190-03-02
Testing principles	In accordance with DIN 4102

GR-Magic® mesh cable tray
Installation principle



Single-layer ceiling suspension with suspended support and bracket.



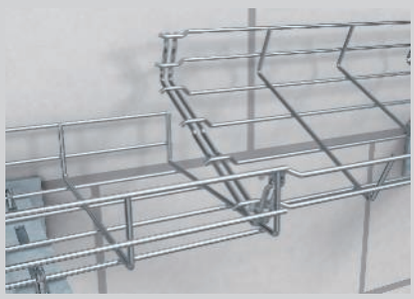
Two-layer ceiling suspension with bracket arrangement on one side.



Two-layer ceiling suspension with bracket arrangement on both sides.



Wall mounting, one and two-layer possible.



Screwless joint connection through interconnection of two delivery lengths of the mesh cable tray.



Mounting of the threaded rod lock using a connection component at the bracket tip.



Single-layer ceiling mounting above suspended fire protection ceiling.



Two-layer ceiling mounting above suspended fire protection ceiling.



Clamp fastening for high load capacities.

Tested mounting options



CAUTION: No maintenance of electrical functionality according to DIN 4102 Part 12!

GR-Magic® mesh cable tray

Maximum support distances for wall and ceiling mounting

	Fire load [min] Max. cable load [kg/m]		
Mesh cable tray width [mm]	**30**	**Maximum support distance** [m]	
100	10	1.50	
200	20		
300	30		
400	40		

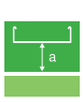
Required minimum distance „a“ for the fire load at different support distances

Maximum support distance [m]	**0.50**	**0.75**	**1.00**	**1.25**	**1.50**
Fire load [min]	**30**				
Mesh cable tray width [mm]	**Minimum distance** „a“ [mm]				
100	40	60	80	105	150
200	45	65	85	110	155
300	60	80	100	130	160
400	65	85	105	135	165

The minimum distance „a“ refers to the distance of the underside of the cable tray to the upper side of the fire protection ceiling.

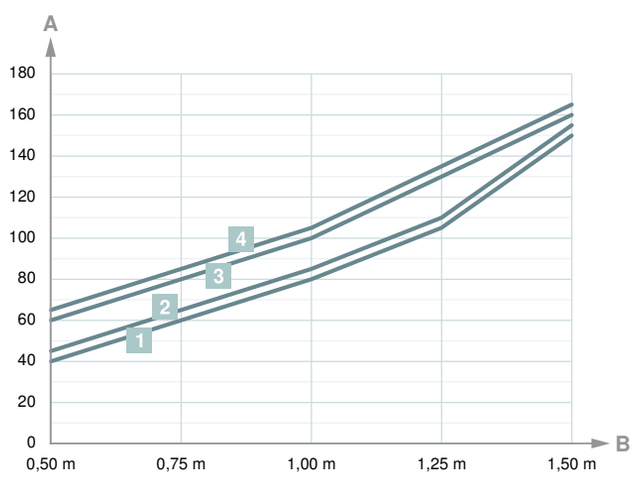
1	GRM 55 100
2	GRM 55 200
3	GRM 55 300
4	GRM 55 400

A = Minimum distance "a" in mm to the fire protection ceiling
B = Support distance in m



The minimum spacing "a" relates to the distance of the under side of the mesh cable tray to the top side of the fire protection ceiling.

Deformation of the GR-Magic® mesh cable tray in mm for 30-minute fire load



Component assignment

Components to be used for single and double layer mounting at a fire load of 30 minutes

Components	Suspended support type when mounting		Bracket Type	Mounting rail type				
				Maximum support distance [m]				
Mesh cable tray width [mm]				**0.50**	**0.75**	**1.00**	**1.25**	**1.50**
100	US 3 K...FT	US 3 K...FT	AW 15 11 FT	MS4121P				
200			AW 15 21 FT					
300		US 5 K...FT	AW 15 31 FT	MS4121P			MS4141P	
400			AW 15 41 FT	MSL4141P	MS4141P			

Assignment of the threaded rods at the fire load of 30 minutes

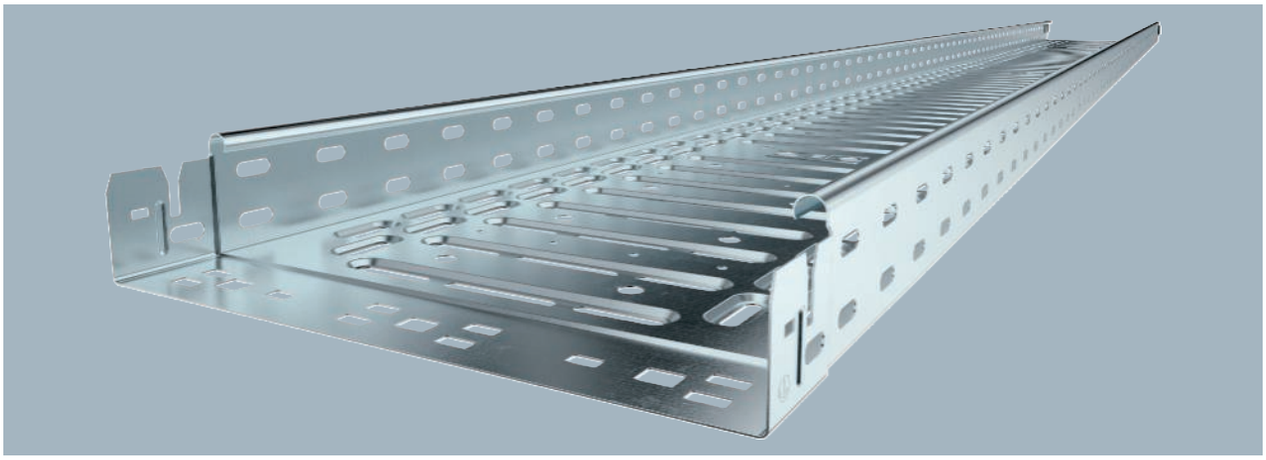
	Maximum support distance [m]					Maximum support distance [m]				
Mesh cable tray width [mm]	**0.50**	**0.75**	**1.00**	**1.25**	**1.50**	**0.50**	**0.75**	**1.00**	**1.25**	**1.50**
100	M8					M8				
200										
300						M8		M10		
400								M10	M12	

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

False ceiling, cable tray

Cable tray RKS-Magic® 60

St FS

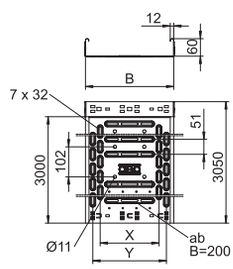


Type	Width mm	Metal thick-ness mm	BS		Pack m	Weight kg/100 m	Item no.
RKSM 610 FS	100	0.75			3	134.334	**6047611**
RKSM 620 FS	200	0.75			3	181.508	**6047638**
RKSM 630 FS	300	0.75			3	233.803	**6047654**
RKSM 640 FS	400	0.90			3	338.459	**6047689**

Cable tray with integrated quick fastening system. The usable length of the cable tray is 3,000 mm.
The cable tray has continuous side perforations of 7 x 20 mm for the installation of additional connection and mounting components.
The perforation for direct threaded rod suspension has a diameter of 11 mm.

Type	Length mm	Width mm	Usable cross-section cm^2	Dim. x mm	Dim-en-sion y mm
RKSM 610 FS	3050	100	58	–	50
RKSM 620 FS	3050	200	118	100	150
RKSM 630 FS	3050	300	178	200	250
RKSM 640 FS	3050	400	238	300	350

Dimensions



St FS

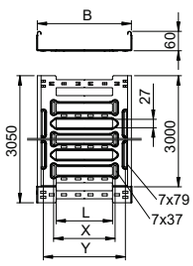
Cable tray SKS-Magic® 60



Cable tray with integrated quick fastening system. The usable length of the cable tray is 3,000 mm.
The cable tray has continuous side perforations of 7 x 20 mm for the installation of additional connection and mounting components.
From a cable tray width of 200 mm with 30% hole surface, suitable for use under sprinkler systems according to VdS guideline 2092.

Type	Width mm	Metal thickness mm	BS	Pack m	Weight kg/100 m	Item no.
SKSM 610 FS	100	1.50		3	249.573	**6059456**
SKSM 620 FS	200	1.50		3	329.180	**6059460**
SKSM 630 FS	300	1.50		3	385.245	**6059462**
SKSM 640 FS	400	1.50		3	441.311	**6059464**
SKSM 650 FS	500	1.50		3	504.852	**6059466**
SKSM 660 FS	600	1.50		3	553.442	**6059468**

Dimensions

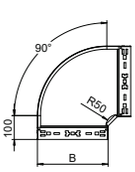


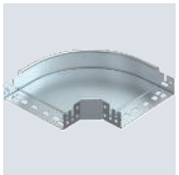
Type	Length mm	Dim. B mm	Usable cross-section cm²	Dim. L mm	Dim. x mm	Dimension y mm
SKSM 610 FS	3050	100	58	30	–	62
SKSM 620 FS	3050	200	118	80	96	162
SKSM 630 FS	3050	300	178	180	196	262
SKSM 640 FS	3050	400	238	280	296	362
SKSM 650 FS	3050	500	298	380	396	462
SKSM 660 FS	3050	600	358	480	496	562

St FS

90° Magic bend 60

Type	Width mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
RBM 90 610 FS	100	100	1	65.700	**6041130**
RBM 90 620 FS	200	200	1	121.900	**6041134**
RBM 90 630 FS	300	300	1	192.200	**6041136**
RBM 90 640 FS	400	400	1	274.700	**6041138**
RBM 90 650 FS	500	500	1	376.300	**6041140**
RBM 90 660 FS	600	600	1	487.000	**6041142**



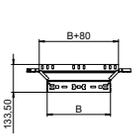


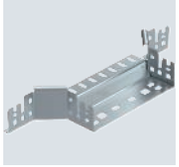
90° bend with quick connector system. For all cable tray types of 60 mm side height.

St FS

Add-on tee 60

Type	Width mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
RAAM 610 FS	100	100	1	37.700	**6041230**
RAAM 620 FS	200	200	1	50.100	**6041234**
RAAM 630 FS	300	300	1	62.900	**6041236**
RAAM 640 FS	400	400	1	75.700	**6041238**
RAAM 650 FS	500	500	1	89.300	**6041240**
RAAM 660 FS	600	600	1	102.700	**6041242**





Magic add-on tee with quick connector system. For all cable tray types of 60 mm side height.

Always indicate the item number when ordering.

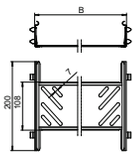
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

False ceiling, cable tray

Magic straight connector set 60

St FS



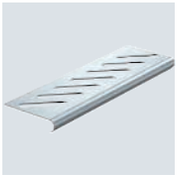


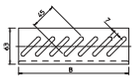
Type	Width mm	Side height mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
KTSMV 610 FS	100	60	100	1	30.500	**6068914**
KTSMV 620 FS	200	60	200	1	37.200	**6068918**
KTSMV 630 FS	300	60	300	1	44.000	**6068920**
KTSMV 640 FS	400	60	400	1	50.700	**6068922**
KTSMV 650 FS	500	60	500	1	57.400	**6068924**
KTSMV 660 FS	600	60	600	1	64.200	**6068926**

Cable tray connector with quick fastening for the screwless connection of perforated cable trays with a side height of 60 mm.

Bottom end plate

St FS





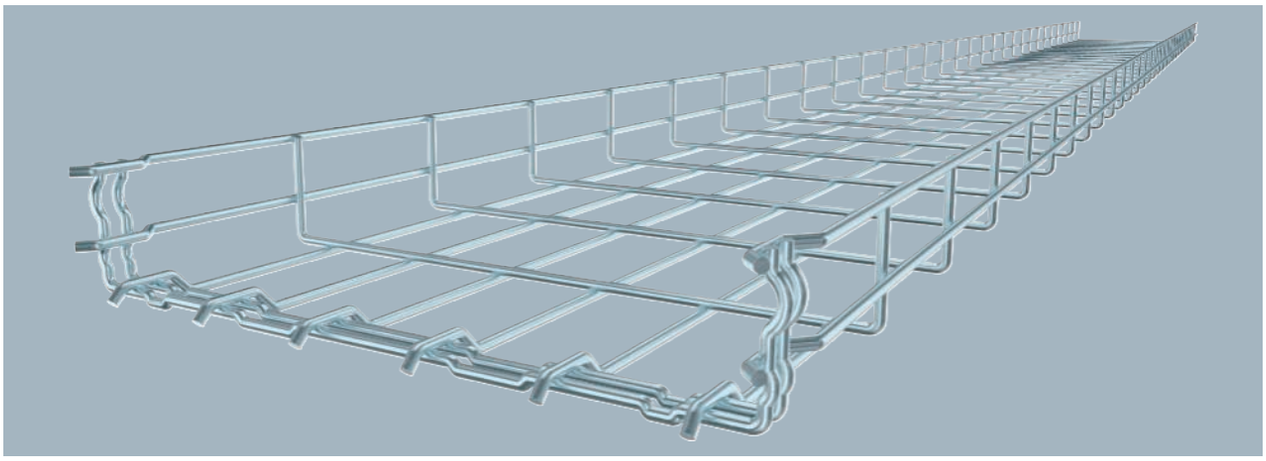
Type	Width mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
BEB 100 FS	100	100	1	4.599	**7083106**
BEB 200 FS	200	200	1	9.367	**7083203**
BEB 300 FS	300	300	1	14.100	**7083300**
BEB 400 FS	400	400	1	18.900	**7083408**
BEB 500 FS	500	500	1	23.700	**7083505**
BEB 600 FS	600	600	1	28.400	**7083602**

Bottom end plate for floor reinforcement at the ends of the cable tray and as cable protection.

False ceiling, mesh cable tray

GR-Magic® 55 mesh cable tray

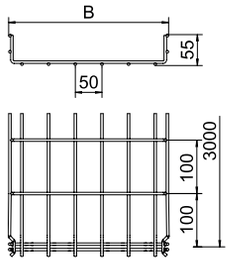
St G



Type	Width mm	Wire Ø mm	Dim. B mm	BS	Pack m	Weight kg/100 m	Item no.
GRM 55 100 G	100	3.9	100		3	72.000	**6001442**
GRM 55 200 G	200	3.9	200		3	100.667	**6001446**
GRM 55 300 G	300	4.8	300		3	192.333	**6001448**
GRM 55 400 G	400	4.8	400		3	234.667	**6001450**

Mesh cable tray with shaped connector of side height 55 mm.

Dimensions

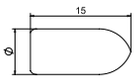


PVC

Protective caps

Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
GR KS 3.9 OR	Pure orange	500	0.045	**6003750**
GR KS 4.8 OR	Pure orange	500	0.030	**6003754**

Protective cap to cover cut wire ends of mesh cable trays.



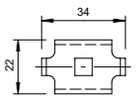


St G

GKS 34 hold-down clamp

Type	Pack Piece	Weight kg/100 pc.	Item no.
GKS 34 G	20	2.188	**6016855**

Clamp for fixing mesh cable trays to wall or support brackets.



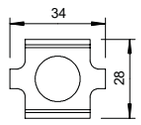


St G

Joint connector GSV 34

Type	Pack Piece	Weight kg/100 pc.	Item no.
GSV 34 G	20	3.155	**6016596**

Screwed version of joint connector for mesh cable trays.





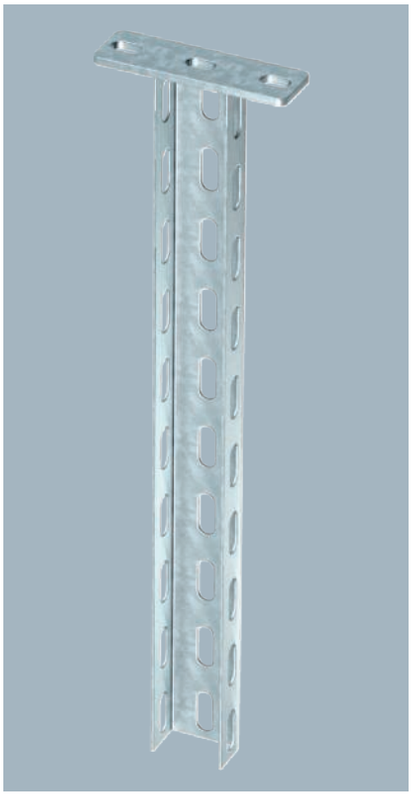
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

False ceiling, mounting systems

US 3 support

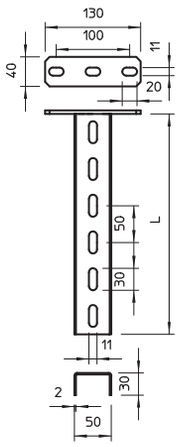
St FT



Type	Length mm	Material thickness mm	Tensile load kN	BS	Pack Piece	Weight kg/100 pc.	Item no.
US 3 K 20 FT	200	2	5		1	50.500	**6342351**
US 3 K 120 FT	1200	2	5		1	189.900	**6342372**

For fastening to horizontal concrete ceilings and steel girders. For bracket widths of 400 mm or more, or if the bracket is mounted at the end of a suspended support, we recommend the use of the spacer, type DSK 25.

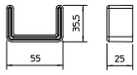
Suspended support (U profile) of dimensions 50 x 30 mm with welded head plate.



Protective cap

PE





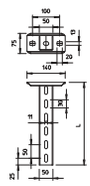
Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
US 3 KS OR	Pastel orange	20	1.068	**6338458**

Protective cap to cover the ends of US 3 supports.

St FT

US 5 support

Type	Length mm	Material thickness mm	Dim. L mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
US 5 K 20 FT	200	2.5	200		1	85.000	**6341527**
US 5 K 30 FT	300	2.5	300		1	110.000	**6341535**
US 5 K 40 FT	400	2.5	400		1	136.000	**6341543**
US 5 K 50 FT	500	2.5	500		1	161.000	**6341551**
US 5 K 60 FT	600	2.5	600		1	185.000	**6341578**
US 5 K 70 FT	700	2.5	700		1	210.000	**6341586**
US 5 K 80 FT	800	2.5	800		1	236.000	**6341594**
US 5 K 90 FT	900	2.5	900		1	261.000	**6341608**
US 5 K 100 FT	1000	2.5	1000		1	286.000	**6341616**
US 5 K 110 FT	1100	2.5	1100		1	311.000	**6341624**
US 5 K 120 FT	1200	2.5	1200		1	337.000	**6341632**



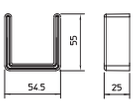


U support of dimensions 50 x 50 mm with welded head plate.

PE

Protective cap

Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
US 5 KS OR	Pastel orange	20	1.300	**6338462**

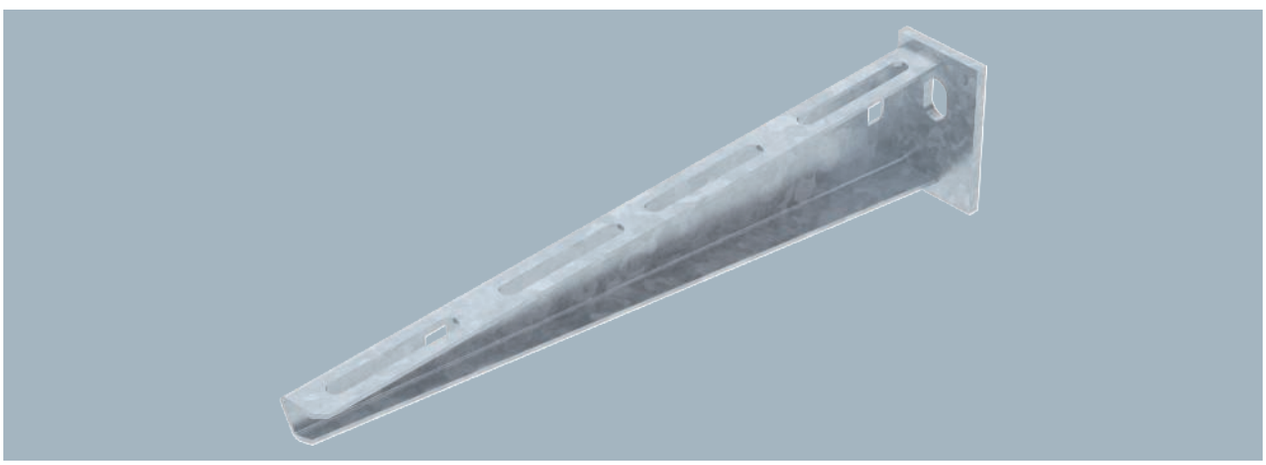




Protective cap to cover the ends of US 5 supports.

St FT

Wall and support bracket AW 15

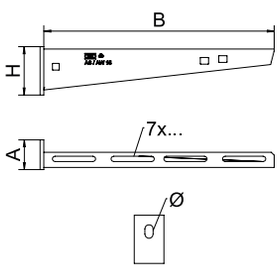


Fastening of the bracket to the U support of width 400 mm or greater using a hexagonal bolt through both sides of the support. Please insert suitable spacers.

Light-duty wall and support bracket with welded head plate.

Type	Width mm	F in kN kN	Pack Piece	Weight kg/100 pc.	Item no.
AW 15 11 FT	110	1.5	1	13.100	**6420656**
AW 15 21 FT	210	1.5	1	24.000	**6420680**
AW 15 31 FT	310	1.5	1	38.400	**6420710**
AW 15 41 FT	410	1.5	1	54.000	**6420745**

Dimensions



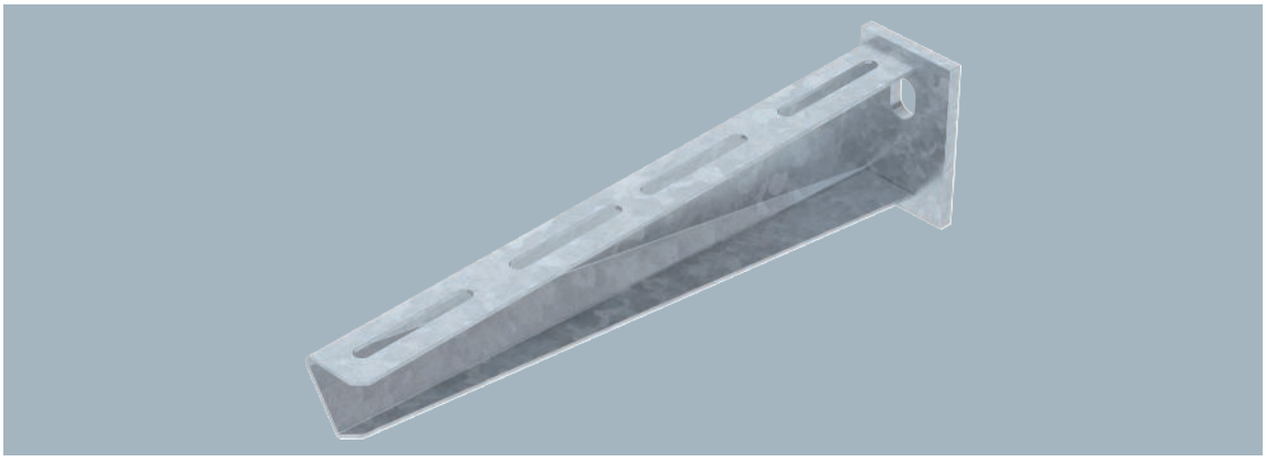
Type	Dim. B mm	Dim. A mm	Dim. H mm
AW 15 11 FT	110	40	50
AW 15 21 FT	210	40	60
AW 15 31 FT	310	40	65
AW 15 41 FT	410	40	70

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

Wall and support bracket AW 30

St FT



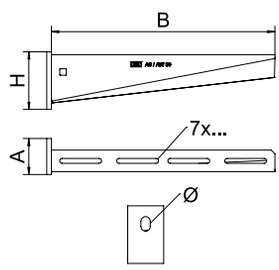
Type	Width mm	F in kN kN	Pack Piece	Weight kg/100 pc.	Item no.
AW 30 51 FT	510	3	1	129.000	**6419798**
AW 30 56 FT	560	3	1	148.800	**6419844**

Fastening of the bracket to the U support of width 400 mm or greater using a hexagonal bolt through both sides of the support. Please insert suitable spacers.

Medium-duty wall and support bracket with welded head plate.

Type	Dim. B mm	Dim. A mm	Dim. H mm	Hole Ø mm
AW 30 51 FT	510	50	90	13
AW 30 56 FT	560	50	100	13

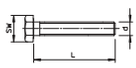
Dimensions



Hexagonal bolt M10

St F





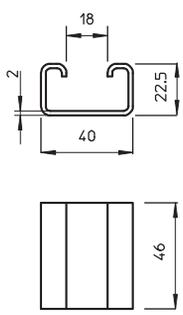
Type	Dimension mm	Dim. L mm	Dim. d mm	SW mm	Resistance grade	Pack Piece	Weight kg/100 pc.	Item no.
SKS 10x90 F	M 10 x 90	90	10	17	8.8	20	8.950	**6418252**

Hexagonal bolt for universal fastening of construction components. With hexagonal nut and 2 washers.

DSK 25 spacer

St FT





Type	Pack Piece	Weight kg/100 pc.	Item no.
DSK 25 FT	20	7.500	**6416446**

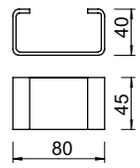
Spacer for use in US 3 supports.

St FT

Spacer DSK 45

Type	Pack Piece	Weight kg/100 pc.	Item no.
DSK 45 FT	20	18.000	**6416500**

Spacer for use in US 5 support and in the head plate, type KU 7 VQP.



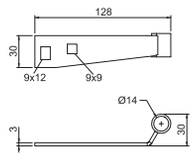


St FT

Connection component for bracket, type AW15

Type	Pack Piece	Weight kg/100 pc.	Item no.
AB AW 15 FT	1	8.500	**7207060**

Connection component to accept a threaded rod. Mounting on the tip of the bracket, type AW15. Prevents sagging of the cable support system when subjected to fire load. Including 2 M8 x 16 truss-head bolts and combination nuts.



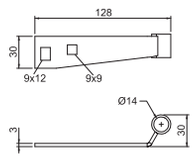


St FT

Connection component for bracket, type AW 30

Type	Pack Piece	Weight kg/100 pc.	Item no.
AB AW 30 FT	1	8.200	**7207062**

Connection component to accept a threaded rod. Mounting on the tip of the bracket, type AW15. Prevents sagging of the cable support system when subjected to fire load. Including 2 M8 x 16 truss-head bolts and combination nuts.



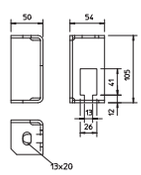


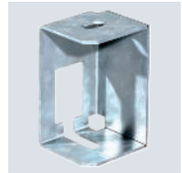
St FT

Fire protection clamp

Type	Pack Piece	Weight kg/100 pc.	Item no.
BSB FT	20	42.400	**6418198**

Fire protection clamp for ceiling fastening of the threaded rod lock for routing types with cable ladders and cable trays for the maintenance of electrical function to DIN 4102 Part 12.





Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

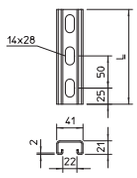
Always indicate the item number when ordering.

False ceiling, mounting systems

MS4121 mounting rail, slot 22 mm, perforated

St FS FT





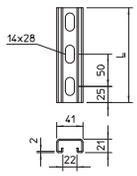
Type	Length mm	Dimension W x H mm	Material thickness mm	Dim. L mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
MS4121P0200FS	200	41x21	2	200		1	35.000	**1122950**
MS4121P0300FS	300	41x21	2	300		1	52.500	**1122951**
MS4121P0400FS	400	41x21	2	400		1	70.000	**1122953**
MS4121P0500FS	500	41x21	2	500		1	87.500	**1122955**
MS4121P0200FT	200	41x21	2	200		1	35.100	**1122933**
MS4121P0300FT	300	41x21	2	300		1	53.000	**1122934**
MS4121P0400FT	400	41x21	2	400		1	70.000	**1122935**
MS4121P0500FT	500	41x21	2	500		1	87.000	**1122936**

Heavy-duty C profile rail for individual installation of support constructions, e.g. for cable trays or as a panel for switchgear cabinets. Can also be used for cable routing, in conjunction with clamp clips with a U foot.

MS4121 mounting rail, slot 22 mm, perforated

St FS FT





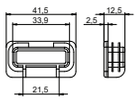
Type	Length mm	Dimension W x H mm	Material thickness mm	Dim. L mm	BS	Pack m	Weight kg/100 m	Item no.
MS4121P2000FS	2000	41x21	2	2000		2	175.000	**1122918**
MS4121P3000FS	3000	41x21	2	3000		3	141.900	**1122920**
MS4121P2000FT	2000	41x21	2	2000		2	183.000	**1122923**
MS4121P3000FT	3000	41x21	2	3000		3	151.300	**1122924**

Heavy-duty C profile rail for individual installation of support constructions, e.g. for cable trays or as a panel for switchgear cabinets. Can also be used for cable routing, in conjunction with clamp clips with a U foot.

End cap MS4121

PE





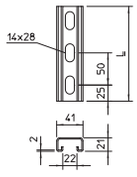
Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
MS4121 EK	Pastel orange	50	0.645	**1122904**

End cap for profile rail, type MS4121.

MSL4141 mounting rail, slot 22 mm, perforated

St FS





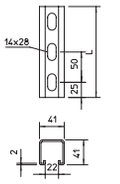
Type	Length mm	Dimension W x H mm	Material thickness mm	Dim. L mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
MSL4141P0400FS	400	41x41	2	400		1	80.800	**1123266**
MSL4141P0500FS	500	41x41	2	500		1	101.000	**1123268**

Heavy-duty C profile rail for individual installation of support constructions, e.g. for cable trays or as a panel for switchgear cabinets. Can also be used for cable routing, in conjunction with clamp clips with a U foot.

MSL4141 mounting rail, slot 22 mm, perforated

St FS FT





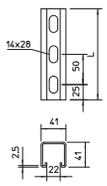
Type	Length mm	Dimension W x H mm	Material thickness mm	Dim. L mm	BS	Pack m	Weight kg/100 m	Item no.
MSL4141P1000FS	1000	41x41	2	1000		1	201.100	**1122970**
MSL4141P3000FS	3000	41x41	2	3000		3	201.100	**1122972**
MSL4141P1000FT	1000	41x41	2	1000		1	214.700	**1122962**
MSL4141P3000FT	3000	41x41	2	3000		3	214.700	**1122964**

Heavy-duty C profile rail for individual installation of support constructions, e.g. for cable trays or as a panel for switchgear cabinets. Can also be used for cable routing, in conjunction with clamp clips with a U foot.

St FT

MS4141 mounting rail, slot 22 mm, perforated

Type	Length mm	Dimension W x H mm	Material thickness mm	Dim. L mm	BS	Pack Piece	Weight kg/100 pc.	Item no.
MS4141P0400FT	400	41x41	2.5	400		1	104.700	**1122525**
MS4141P0500FT	500	41x41	2.5	500		1	130.800	**1122533**
MS4141P0600FT	600	41x41	2.5	600		1	156.900	**1122541**
MS4141P0700FT	700	41x41	2.5	700		1	183.000	**1122568**



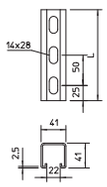


Heavy-duty C profile rail for individual installation of support constructions, e.g. for cable trays or as a panel for switchgear cabinets. Can also be used for cable routing, in conjunction with clamp clips with a U foot.

St FS FT

MS4141 mounting rail, slot 22 mm, perforated

Type	Length mm	Dimension W x H mm	Material thickness mm	Dim. L mm	BS	Pack m	Weight kg/100 m	Item no.
MS4141P1000FS	1000	41x41	2.5	1000		1	247.500	**1122908**
MS4141P3000FS	3000	41x41	2.5	3000		3	247.500	**1122910**
MS4141P1000FT	1000	41x41	2.5	1000		1	261.400	**1122606**
MS4141P3000FT	3000	41x41	2.5	3000		3	261.400	**1122622**



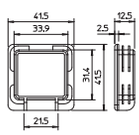


Heavy-duty C profile rail for individual installation of support constructions, e.g. for cable trays or as a panel for switchgear cabinets. Can also be used for cable routing, in conjunction with clamp clips with a U foot.

PE

End cap MS4141

Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
MS4141 EK	Pastel orange	50	0.670	**1122906**



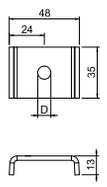


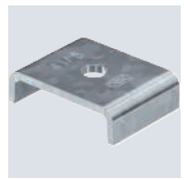
End cap for profile rail, type MS4141.

St FT

Connection component for mounting rails MS41

Type	Version	Dim. D Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
PLF 41 8 FT	M8	9	20	5.200	**7207052**
PLF 41 10 FT	M10	11	20	5.100	**7207054**
PLF 41 12 FT	M12	13	20	5.000	**7207056**



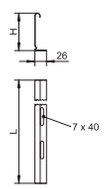


Component for mounting threaded rods on mounting rails MSL4141P, MS4141P and MS4121P. For mounting cable tray and mesh cable tray systems above suspended fire protection ceilings in escape and rescue routes. If there is a fire, this prevents bending of the mounting rails. Suitable for threaded rods M8, M10 and M12. No additional washer necessary.

St FS

Separating retainer 45

Type	Dim. H mm	Metal thickness mm	Dim. L mm	Pack m	Weight kg/100 m	Item no.
TSG 45 FS	45	0.75	3000	3	46.700	**6062033**





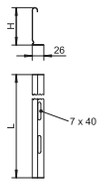
Separating retainer for separation of cables of different voltages or functions.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Separating retainer 60

St FS



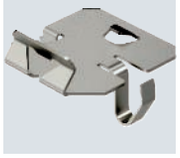


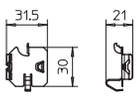
Type	Dim. H mm	Metal thick-ness mm	Dim. L mm	Pack m	Weight kg/100 m	Item no.
TSG 60 FS	60	0.75	3000	3	55.700	**6062068**

Separating retainer for separation of cables of different voltages or functions.

Hold-down clamp for separating retainer fastening in RKSM

VA 2B





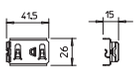
Type	Pack Piece	Weight kg/100 pc.	Item no.
KS KR A2	30	0.537	**6062280**

Hold-down clamp for screwless fastening of separating retainers in the cable tray types RKSM, MKS and SKS.

Hold-down clamp for separating retainer fastening in GRM

VA 2B



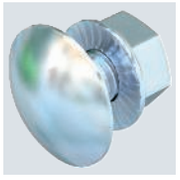


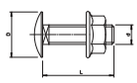
Type	Pack Piece	Weight kg/100 pc.	Item no.
KS GR A2	30	0.830	**6062282**

Hold-down clamp for fastening separating retainer in mesh cable trays.

Truss-head bolt with flange nut

St F



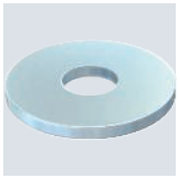


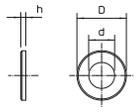
Type	Dimen-sion mm	Dim. L mm	Dim. d mm	Dim. D mm	Resist-ance grade	Pack Piece	Weight kg/100 pc.	Item no.
FRSB 6x16 F	M6x16	16	6	13.5	5.6	100	0.890	**6406157**

Truss-head bolt with square neck including flange nut.

Large washer

St F





Type	Dim. D mm	Dim. d mm	Dim. h mm	Pack Piece	Weight kg/100 pc.	Item no.
DIN440 7 F	22	6.6	2	100	0.535	**6408702**

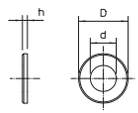
Washer of particularly large outer diameter.

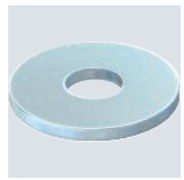
St G

Fender washer

Type	Thread	Dim. d mm	Dim. D mm	Dim. h mm	Pack Piece	Weight kg/100 pc.	Item no.
WS M8 G20 G	M8	8.4	20	1.25	100	0.227	**3403122**

Washer of particularly large outer diameter.





St G

Threaded rod

Type	Thread	Dim. d mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
TR M8 1M G	M8	8	1000	10	30.000	**3141128**
TR M10 1M G	M10	10	1000	10	49.000	**3141209**
TR M12 1M G	M12	12	1000	10	62.000	**3141306**

Threaded rod to DIN 976.



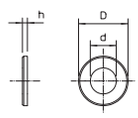


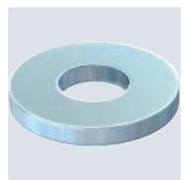
St G

Washer

Type	Thread	Dim. d mm	Dim. D mm	Dim. h mm	Pack Piece	Weight kg/100 pc.	Item no.
WS M10 D20 G	M10	10.5	20	2	100	0.408	**3402096**
WS M12 D24 G	M12	13	24	2.5	100	0.570	**3402126**

Washer according to DIN 125, shape A, for universal use.



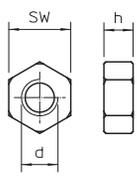


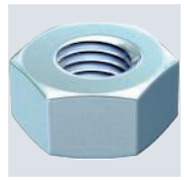
St G

Hexagonal nut DIN 934

Type	Thread	SW mm	Dim. h mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
HN M8 G	M8	13	6.8	8	100	0.500	**3400085**
HN M10 G	M10	17	8.4	10	100	1.014	**3400107**
HN M12 G	M12	19	10.8	12	100	1.730	**3400123**

Hexagonal nut to DIN 934 with metric thread.



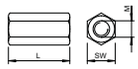


St G

Connection sleeve

Type	Thread	Dim. L mm	SW mm	Pack Piece	Weight kg/100 pc.	Item no.
CSTR M8 G	M8	24	13	50	1.880	**6410081**
CSTR M10 G	M10	30	17	50	4.150	**6410103**
CSTR M12 G	M12	40	19	25	7.000	**6410111**

Connection sleeve with continuous internal thread.

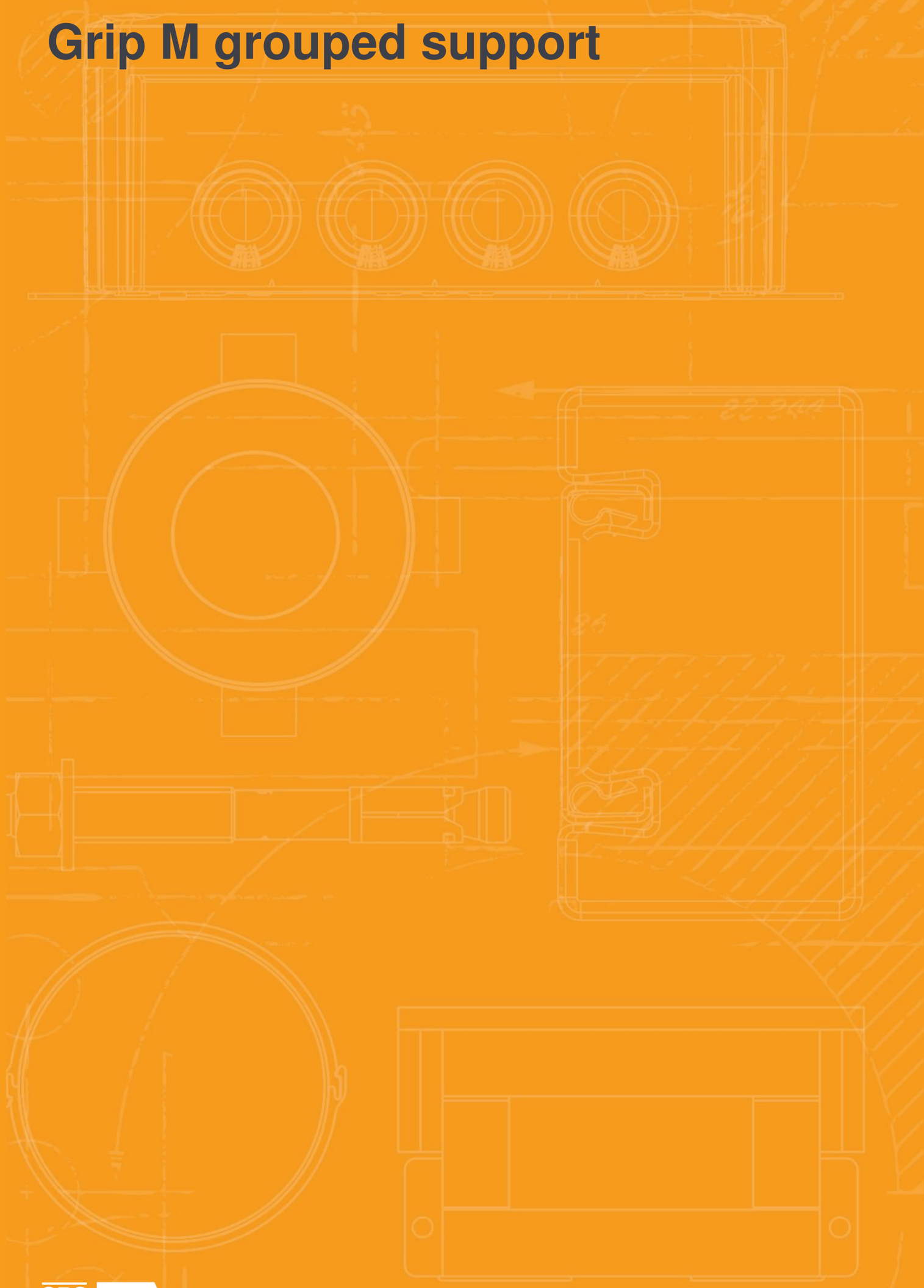




Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

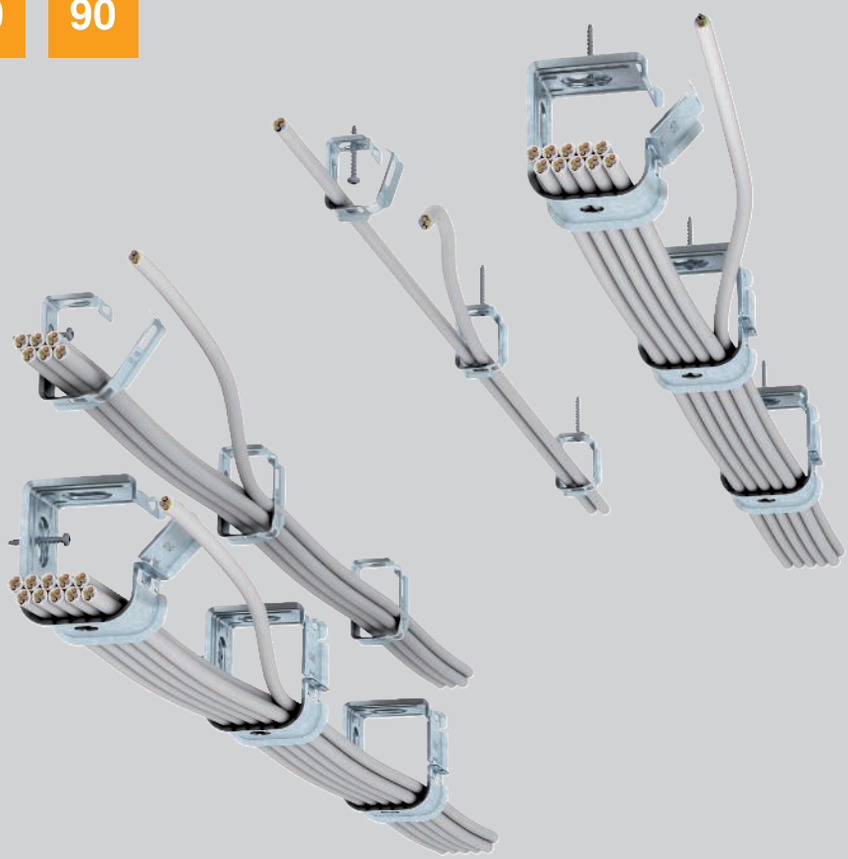
Always indicate the item number when ordering.

Grip M grouped support



Grip M grouped support
System description

30 60 90



The tested Grip M grouped supports are suitable for installation in the false ceiling area of escape and rescue routes. In the event of fire, the grouped supports have a proven mechanical stability of 30, 60 and 90 minutes. They can be mounted under the ceiling or on the wall. The grouped supports are made of sheet steel and can be opened and closed easily without the use of tools. To allow simple cable insertion, the supports remain open during cable routing. Then, the grouped supports are closed through simple locking. The construction of the grouped support and weight of the installed cables prevent the lock from opening itself unintentionally.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Grip M grouped support
Installation principle



Ceiling mounting of the grouped supports 2031 M15 and 2031 M 30.



Wall-mounted grouped supports 2031 M15 and 2031 M 30.



Grouped support 2031 M 70 as wall and ceiling mounting for large cable volume.



Opening of the grouped support and insertion of the cables.



Simple insertion the cables in the opened grouped support.

Tested mounting options



CAUTION: No maintenance of electrical functionality according to DIN 4102 Part 12!

Grip M grouped support
Proof

Fireproof fastening above fire protection ceilings

Fire load	30, 60 and 90 minutes
Proof of testing	OBO Bettermann
Document no.	BS-05/190-04-01
Testing principles	In accordance with DIN 4102

Mounting parameters and required minimum distance „a“ [mm] at the fire load of 30 minutes

Type	Fastening distance [m]	Cable assignment [kg/m]		
2031 M15	**0.6**	**3.3**	80	100
	0.8	**2.5**	100	120
2031 M30	**0.6**	**5.8**	80	110
	0.8	**4.3**	100	130
2031 M70	**0.6**	**20.0**	80	120
	0.8	**15.0**	100	140

The minimum distance „a“ refers to the distance of the under side of the grouped support to the upper side of the fire protection ceiling.

Mounting parameters and required minimum distance „a“ [mm] at the fire loads of 60/90 minutes

Type	Fastening distance [m]	Cable assignment [kg/m]		
2031 M15	**0.6**	**3.3**	100	120
	0.8	**2.5**	120	140
2031 M30	**0.6**	**5.8**	100	130
	0.8	**4.3**	120	150
2031 M70	**0.6**	**13.0**	100	140
	0.8	**10.0**	120	160

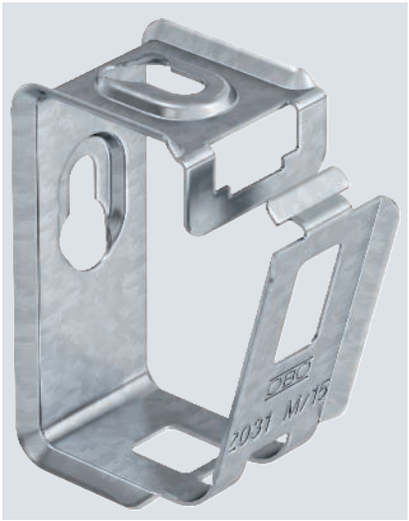
The minimum distance „a“ refers to the distance from the underside of the grouped support to the upper side of the fire protection ceiling.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

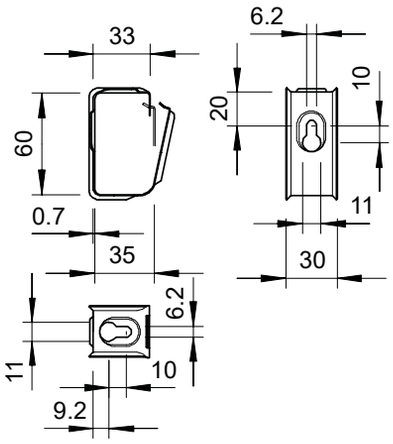
False ceiling, grouped support

Grip collection clamp, metal 15

St FS



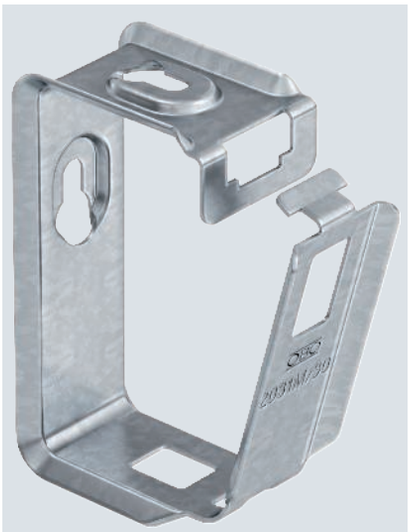
Type	No. of conductors NYM 3 x 1.5	BS	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
2031 M 15 FS	15		50	50	3.700	**2207028**



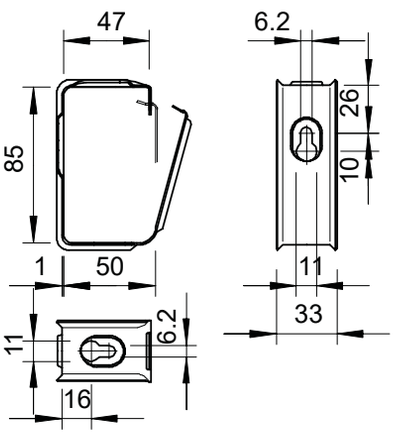
Metal cable tidy for high mechanical stability, even in case of fire. Suitable for safe mounting above fire protection ceilings. Also approved as a cable-specific variant for the maintenance of electrical function to DIN 4102 part 12. For wall and ceiling mounting. Lock can be opened without tools. Detailed information on the approved routing variants can be found in the appropriate testing documentation.

Grip collection clamp, metal 30

St FS



Type	No. of conductors NYM 3 x 1.5	BS	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
2031 M 30 FS	30		25	25	6.200	**2207036**

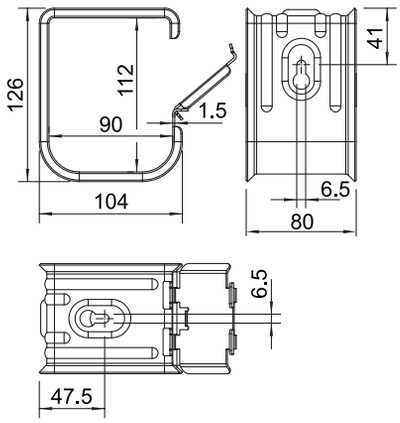


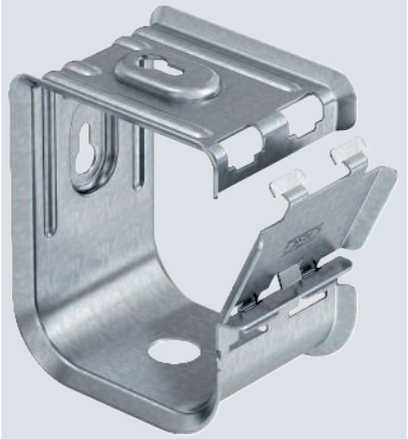
Metal grouped support for high mechanical stability, even in case of fire. Suitable for safe mounting above fire protection ceilings. Also approved as a cable-specific variant for the maintenance of electrical function to DIN 4102 part 12. For wall and ceiling mounting. Lock can be opened without tools. Detailed information on the approved routing variants can be found in the appropriate testing documentation.

St FS

Grip collection clamp, metal 70

Type	No. of conductors NYM 3 x 1.5	BS	Shipping box Piece		Pack Piece	Weight kg/100 pc.	Item no.
2031 M 70 FS	70		10		10	34.500	**2207060**





Metal grouped support for high mechanical stability, even in case of fire. Suitable for safe mounting above fire protection ceilings. Also approved as a cable-specific variant for the maintenance of electrical function to DIN 4102 part 12. For wall and ceiling mounting. Lock can be opened without tools. Detailed information on the approved routing variants can be found in the appropriate testing documentation.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

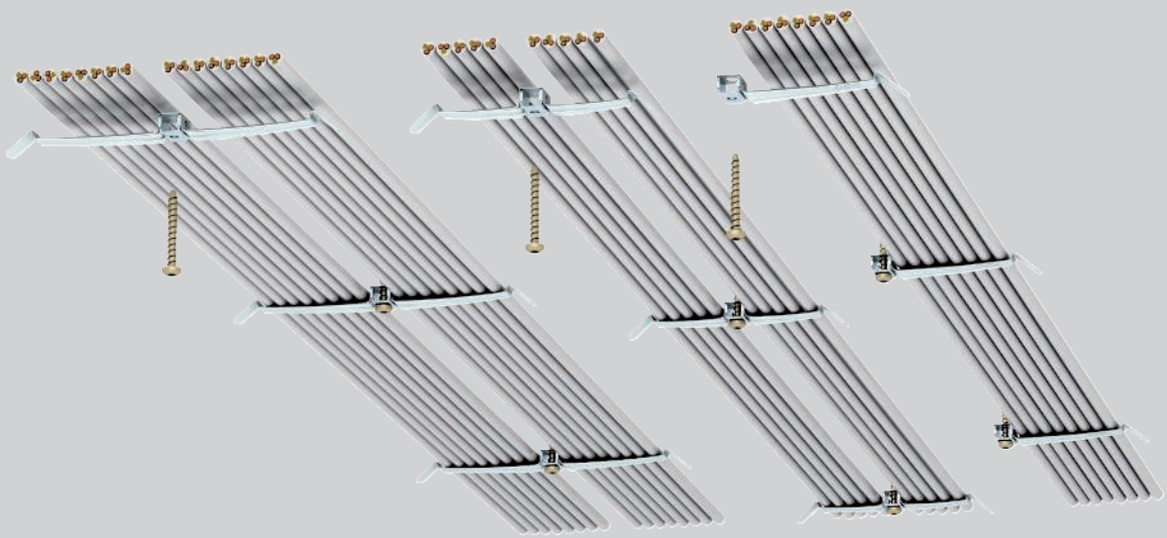
Always indicate the item number when ordering.

Metal pressure clip



Metal pressure clip
System description

30



The tested pressure clips are suitable for installation in the false ceiling area of escape and rescue routes. In the event of fire, the pressure clips have a proven mechanical stability of 30 minutes. They are mounted under the ceiling. The pressure clips are made of sprung, rustproof steel.

For installation, the hips of the pressure clips are simply bent downwards without tools and the cables pushed in from the side. The edges of the clip slope to exclude the possibility of damage to the cables.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Metal pressure clip
Installation principle



Ceiling mounting with pressure clip 2034 M.



Ceiling mounting with pressure clip 2033 M.



Ceiling mounting with pressure clip 2035 M.

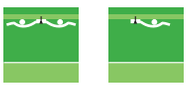


Simple cable installation through side insertion of the cables.



Space-saving and fireproof mounting of cables above a fire protection ceiling.

Tested mounting options



CAUTION: No maintenance of electrical functionality according to DIN 4102 Part 12!

Metal pressure clip
Proof

Fireproof fastening above fire protection ceilings

Fire load	30 minutes
Proof of testing	OBO Bettermann
Document no.	BS-05/190-05-01
Testing principles	In accordance with DIN 4102

Pressure clip 2033 M, mounting parameter and required minimum spacing "a"

Fire load	Fastening spacing	Cable assignment	
30 minutes	max. 0.5 m	2x max. 1.84 kg/m	70 mm

Pressure clip 2034 M, mounting parameter and required minimum spacing "a"

Fire load	Fastening spacing	Cable assignment	
30 minutes	max. 0.5 m	2x max. 1.15 kg/m	50 mm

Pressure clip 2035 M, mounting parameter and required minimum spacing "a"

Fire load	Fastening spacing	Cable assignment	
30 minutes	max. 0.5 m	1x max. 1.84 kg/m	70 mm

The minimum spacing "a" relates to the distance of the underside of the pressure clip to the top side of the fire protection ceiling.

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

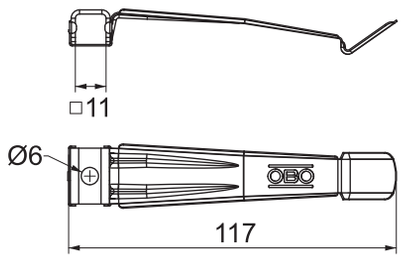
False ceiling, pressure clip

Pressure clip for 8 cables

VA 2B



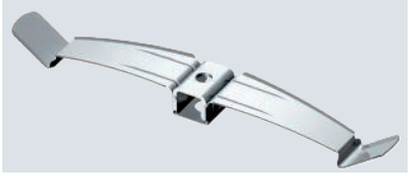
Type	BS	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
2035 M A2		20	20	1.030	2204020



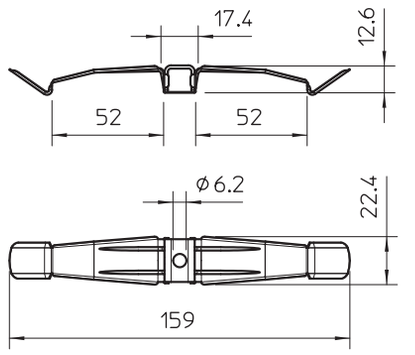
The metal pressure clip is halogen and fire load-free, and maintains a good mechanical stability even in fires. The pressure clip is also approved as a cable-specific variant for the maintenance of electrical functionality to DIN 4102 Part 12. The spacer 2033 D 15 x 3 G (must be ordered separately) increases the clamping height of pressure clips from 10 to 13 mm. The pressure clips are suitable for fireproof mounting above suspended fire protection ceilings in accordance with DIN 4102.

Pressure clip for 10 cables

VA 2B



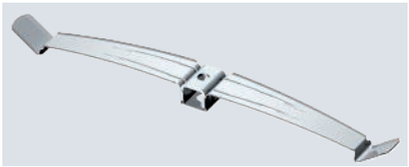
Type	BS	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
2034 M A2		50	50	1.860	2204010



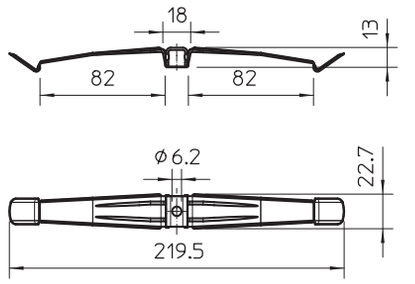
The metal pressure clip is halogen and fire load-free, and maintains a good mechanical stability even in fires. The pressure clip is also approved as a cable-specific variant for the maintenance of electrical functionality to DIN 4102 Part 12. The spacer 2033 D 15 x 3 G (must be ordered separately) increases the clamping height of pressure clips from 10 to 13 mm. The pressure clips are suitable for fireproof mounting above suspended fire protection ceilings in accordance with DIN 4102.

Pressure clip for 16 cables

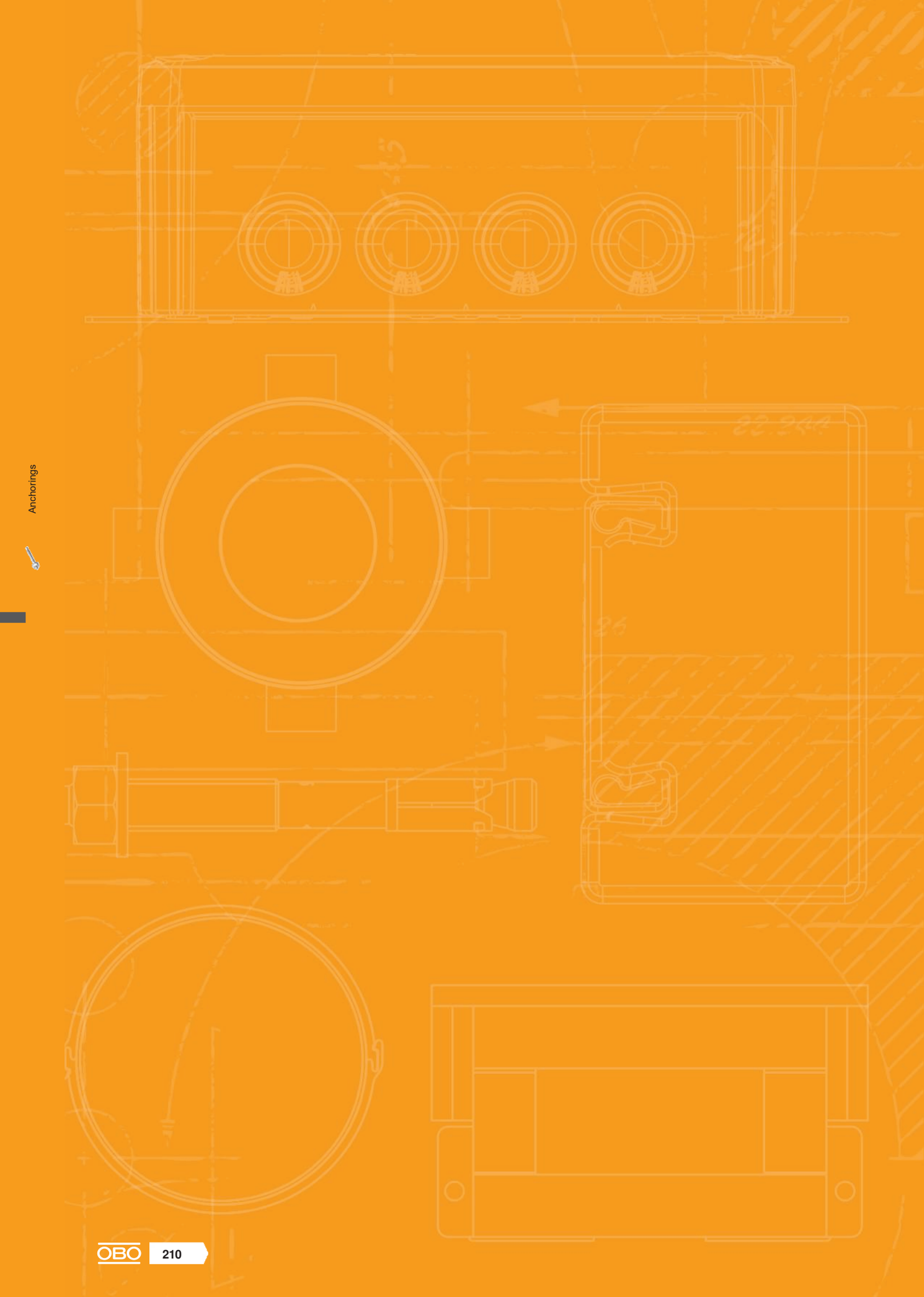
VA 2B



Type	BS	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
2033 M A2		25	25	2.310	2204000



The metal pressure clip is halogen and fire load-free, and maintains a good mechanical stability even in fires. The pressure clip is also approved as a cable-specific variant for the maintenance of electrical functionality to DIN 4102 Part 12. The spacer 2033 D 15 x 3 G (must be ordered separately) increases the clamping height of pressure clips from 10 to 13 mm. The pressure clips are suitable for fireproof mounting above suspended fire protection ceilings in accordance with DIN 4102.



Anchorings


Metal spreading anchors 212


Porous concrete anchors 218


Bolt ties 220

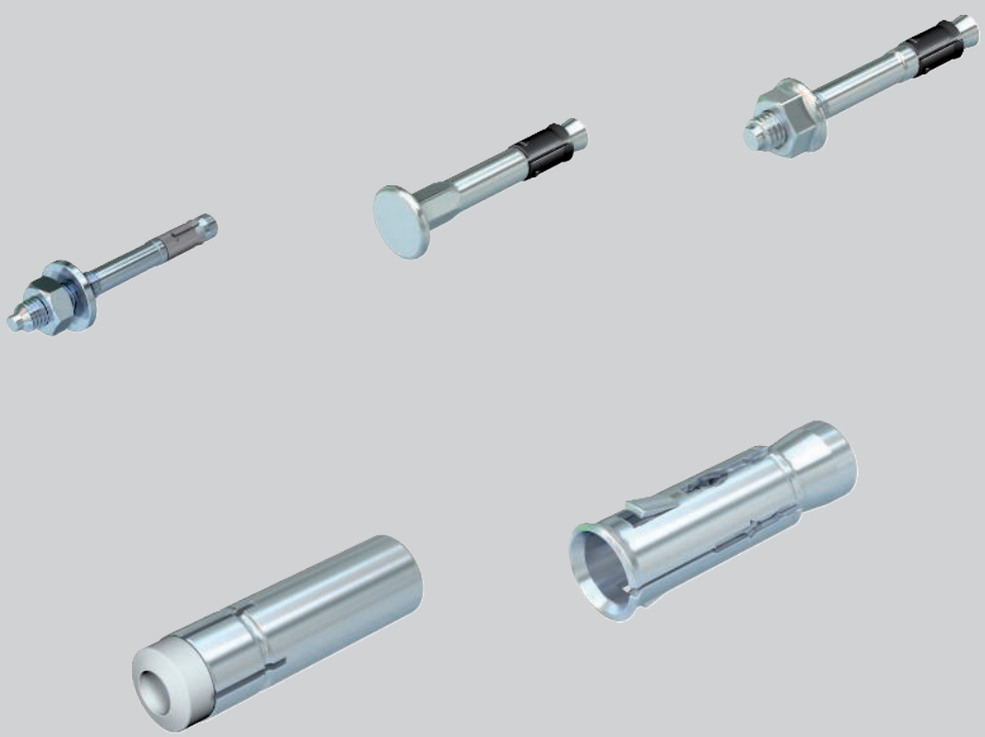

Injection ties 226


Wood screws 232


Mounting material for insulated ceilings 236

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Metal spreading anchor
System description



OBO Bettermann's metal spreading anchors for mounting in concrete components were tested for fire protection. Appropriate proofs are available for the tests carried out. Depending on the fire resistance length (up to 120 minutes), a maximum load capacity was determined when anchored in concrete. This load data is contained in the appropriate European Technical Assessments and appropriate test documentation. Although the load capacity of the anchors during a fire is below the load capacity when cold, this load capacity is completely sufficient for fireproof fastening of the different routing types. Special metal spreading anchors are offered for false ceilings.

Metal spreading anchor
Installation principle



Nail tie, type N 6, with thread end.



Nail tie, type N-K 6, with flat head.



Bolt tie, type BZ.



Bolt tie, type BZ-IG.



Hollow core anchor, Easy type.

Classification according to proof of application

R30 R60 R90 R120

System description

Anchoring type	Anchor with spreading metal cone
Fire resistance classes	To R120 according to European Technical Approval ETA and general building inspectorate approval
Substrate	Concrete

The data of the approval documents and any fire testing reports apply

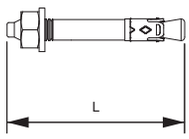
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Metal spreading anchor

Nail anchor N with thread

St G





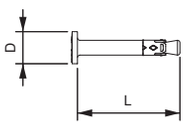
Type	Thread	Drill hole Ø mm	Drill hole depth mm	Clamping range mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
N 6-5-10/49	M6	6	40	5-10	49	100	1.160	**3498396**

The nail anchor N can be used for multiple fastenings of non-load-bearing systems and in cracked and non-cracked concrete, thereby combining the benefits of a bolt tie with even easier mounting.
The nail tie only needs to be hammered into the drill hole. It is not necessary to apply torque subsequently. When the load occurs, the nail tie spreads itself and bolts itself in the drill hole.

Nail anchor N-K with nail head

St G





Type	Drill hole Ø mm	Drill hole depth mm	Clamping range mm	Dim. L mm	Dim. D mm	Pack Piece	Weight kg/100 pc.	Item no.
N-K 6-5-10/44	6	40	5-10	44	13	100	1.135	**3498390**

The nail anchor N-K can be used for multiple fastenings of non-load-bearing systems and in cracked and non-cracked concrete, thereby combining the benefits of a bolt tie with even easier mounting. The nail anchor only needs to be hammered into the drill hole. When the load occurs, the nail anchor spreads itself and bolts itself in the drill hole.

Bolt tie BZ

St G





Type	Thread	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
BZ10-100-120/180	M10	180	25	10.320	**3498342**
BZ 12-15-35/110	M12	110	25	10.320	**3498350**

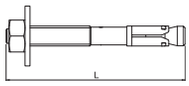
Bolt tie BZ for the anchoring of medium-duty to heavy-duty loads, both in cracked and non-cracked concrete. It combines high approved loads with small edge distances and axial spacings.

European Technical Approval ETA-99/0010, including characteristic values under fire exposure to fire resistance R 120.
Proof of suitability in the case of seismic impacts, categories C1 and C2.
Shock approval by the Federal Office for Civil Protection in Bern, Switzerland.

Bolt tie BZ-U

St G





Type	Thread	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
BZ-U 8-10-21/75	M8	75	50	3.460	**3498320**
BZ-U 8-30-41/95	M8	95	50	4.010	**3498326**
BZ-U 10-10-30/90	M10	90	50	6.720	**3498334**
BZ-U10-30-50/110	M10	110	25	7.900	**3498340**

Bolt tie BZ for the anchoring of medium-duty to heavy-duty loads, both in cracked and non-cracked concrete. It combines high approved loads with small edge distances and axial spacings.

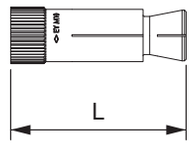
European Technical Approval ETA-99/0010, including characteristic values under fire exposure to fire resistance R 120.
Proof of suitability in the case of seismic impacts, categories C1 and C2.
Shock approval by the Federal Office for Civil Protection in Bern, Switzerland.

St G

Hollow core anchor Easy

Type	Thread	Drill hole Ø mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
Easy M8	M8	12	44	25	1.500	**3498770**
Easy M10	M10	16	53	25	3.320	**3498774**
Easy M12	M12	18	58	25	4.230	**3498776**

Hollow core anchor "Easy" for mounting in prestressed hollow concrete slabs. When the screw or the nut is tightened, the cone is released from the anchor sleeve and pulled into it. This makes the anchor expand in the hollow space, thereby creating firm lock. The hollow core anchor can also be used when the expansion area is not located in the cavity.
The fastening of the component can be done with standard screws and threaded rods.



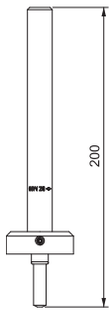


St G

BZ-IGS setting tool

Type	Thread	Pack Piece	Weight kg/100 pc.	Item no.
BZ-IGS M 6V	M6	1	39.400	**3498380**
BZ-IGS M 8V	M8	1	38.300	**3498382**
BZ-IGS M 10V	M10	1	40.600	**3498384**
BZ-IGS M 12V	M12	1	42.100	**3498386**

Setting tool BZ-IGS for push-through installation.



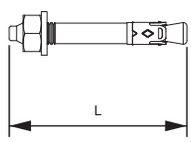


A4 2B

Nail anchor N with thread, V4A

Type	Thread	Drill hole Ø mm	Drill hole depth mm	Fixture thickness mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
N 6-5/49 A4	M6	6	40	5	49	50	1.200	**3498399**

The nail anchor N can be used for multiple fastenings of non-load-bearing systems, indoors and outdoors, in cracked and non-cracked concrete, thereby combining the benefits of a bolt tie with even easier mounting. The nail anchor only needs to be hammered into the drill hole. It is not necessary to apply torque subsequently. When the load occurs, the nail anchor spreads itself and bolts itself in the drill hole.



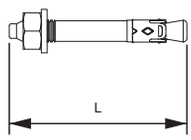


A5

Nail anchor N with thread, A5

Type	Thread	Drill hole Ø mm	Drill hole depth mm	Fixture thickness mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
N 6-5/49 HCR	M6	6	40	5	49	50	1.200	**3498398**

The nail anchor N can be used for multiple fastenings of non-load-bearing systems in areas with highly corrosive impacts in cracked and non-cracked concrete, thereby combining the benefits of a bolt tie with even easier mounting. The nail anchor only needs to be hammered into the drill hole. It is not necessary to apply torque subsequently. When the load occurs, the nail anchor spreads itself and bolts itself in the drill hole.





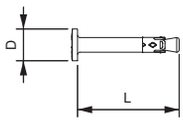
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

Nail anchor N-K with nail head, V4A

A4 2B





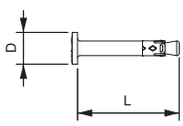
Type	Drill hole Ø mm	Drill hole depth mm	Fixture thickness mm	Dim. L mm	Dim. D mm	Pack Piece	Weight kg/100 pc.	Item no.
N-K 6-5/44 A4	6	40	5	44	13	50	1.100	**3498393**

The nail anchor N can be used for multiple fastenings of non-load-bearing systems, indoors and outdoors, in cracked and non-cracked concrete, thereby combining the benefits of a bolt tie with even easier mounting. The nail anchor only needs to be hammered into the drill hole. When the load occurs, the nail anchor spreads itself and bolts itself in the drill hole.

Nail anchor N-K with nail head, A5

A5





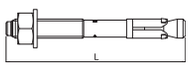
Type	Drill hole Ø mm	Drill hole depth mm	Fixture thickness mm	Dim. L mm	Dim. D mm	Pack Piece	Weight kg/100 pc.	Item no.
N-K 6-5/44 HCR	6	40	5	44	13	50	1.135	**3498392**

The nail anchor N can be used for multiple fastenings of non-load-bearing systems in areas with highly corrosive impacts in cracked and non-cracked concrete, thereby combining the benefits of a bolt tie with even easier mounting.
The nail anchor only needs to be hammered into the drill hole. When the load occurs, the nail anchor spreads itself and bolts itself in the drill hole.

Bolt tie BZ A5

A5





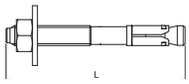
Type	Thread	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
BZ 8-10-21/75HCR	M8	75	100	3.080	**3498516**
BZ10-10-30/90HCR	M10	90	50	6.040	**3498556**

Bolt tie BZ for the anchoring of medium-duty to heavy-duty loads in areas with highly corrosive impacts, both in cracked and non-cracked concrete. It combines high approved loads with small edge distances and axial spacings.

Bolt tie BZ-U A4

A4 2B





Type	Thread	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
BZ-U8-10-21/75A4	M8	75	50	3.460	**3498322**
BZU10-10-30/90A4	M10	90	50	6.740	**3498336**

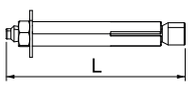
Bolt tie BZ for the anchoring of medium-duty to heavy-duty loads, indoors and outdoors, both in cracked and non-cracked concrete. It combines high approved loads with small edge distances and axial spacings.

Porous concrete anchor

Porous concrete anchor with external thread

St G





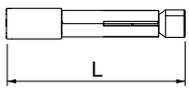
Type	Thread	Fix-ture thick-ness mm	Dim. L mm		Pack Piece	Weight kg/100 pc.	Item no.
PBD M6x10	M6	10	86		25	4.900	**3497600**
PBD M8x10	M8	10	88		25	7.600	**3497608**
PBD M10x10	M10	10	90		25	11.400	**3497616**

Steel spreading anchor tested for fire protection properties and approved for use in porous concrete.

Porous concrete anchor with internal thread

St G



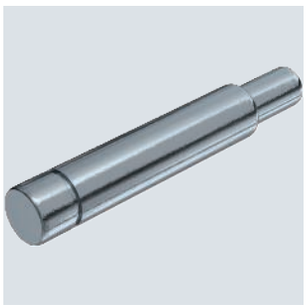


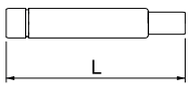
Type	Thread	Dim. L mm		Pack Piece	Weight kg/100 pc.	Item no.
PBD i M6	M6	82		25	4.500	**3497700**
PBD i M8	M8	82		25	6.200	**3497702**
PBD i M10	M10	92		25	9.300	**3497704**
PBD i M12	M12	92		25	8.900	**3497706**

Steel spreading anchor tested for fire protection properties and approved for use in porous concrete.

Setting tool for hand hammer

St G





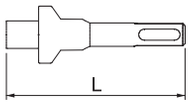
Type	Size	Dim. L mm		Pack Piece	Weight kg/100 pc.	Item no.
EWP 6x10	M6x10	170		1	32.500	**3497640**
EWP 8x10	M8x10	10		1	39.800	**3497648**
EWP 10x10	M10x10	10		1	47.600	**3497656**

Setting tool PBD porous concrete anchors – for hand hammer.

Setting tool for rotary hammer

St G





Type	Size	Dim. L mm		Pack Piece	Weight kg/100 pc.	Item no.
SDS-EWP 8x10	M8x10	10		1	26.000	**3497676**
SDS-EWP 10x10	M10x10	10		1	25.600	**3497684**

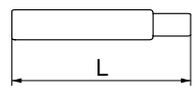
Setting tool for PBD porous concrete anchors – for rotary hammer with SDS seat.

St G

Setting tool for hand hammer

Type	Size	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
EWP 6 i	M6x10	170	1	30.000	**3497720**
EWP 8 i	M8x10	170	1	37.100	**3497722**
EWP 10 i/ 12 i	M10/M12x10	170	1	44.800	**3497724**

Setting tool for PBDi porous concrete anchors – for hand-hammer.





Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

Bolt tie
System description



OBO Bettermann's fire protection bolt ties were fire-tested according to ETAG 001 Part 3. The maximum load capacity, depending on fire resistance periods of up to 120 minutes, was determined for different types of solid masonry. These values are documented in the appropriate test certificates. Taking the occurring loads for the maintenance of electrical function application and for false ceiling mounting into account, the determined load capacities for the different masonry types are absolutely sufficient. The fire protection bolt ties are screwed directly into the drill hole. There is no need for an additional anchor. No spreading forces develop and mounting near masonry edges is not required. The bolt tie is equally suitable for cracked concrete in ceilings.

Bolt tie
Installation principle



Version with truss head and T drive.



Version with large truss head and T drive.



Version with hexagonal head.



Version as shaft tie with M6 threaded tip.



Version with countersunk cone head and T drive.



Version with M8/M10 female thread sleeve for the connection of threaded rods.

Classification according to proof of application

F30 F60 F90 F120

System description

Anchoring type	Spread-free connection with self-tapping thread
Fire resistance classes	Up to F120 according to general type approval
Substrate	Concrete Masonry: Solid calcareous limestone brick, porous calcareous limestone brick, full brick

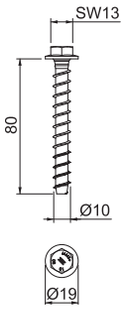
The data of the approval documents and any fire testing reports apply

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

MMS-plus SS hexagonal tie, with pressed washer

St G





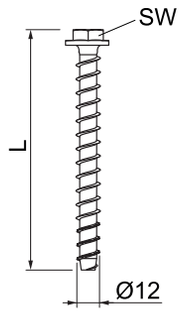
Type	Dimension mm	Dim. L mm	Drill hole Ø mm	SW mm	Pack Piece	Weight kg/100 pc.	Item no.
MMS+ SS 10x80	10x80	80	8	13	25	4.000	**3498124**
MMS+ SS 10x100	10x100	100	8	13	25	4.800	**3498159**

Bolt tie for direct mounting without additional anchors in cracked and uncracked concrete and masonry. With hex head drive and pressed washer to accept large loads. Suitable for fastening suspended loads from suspended supports and wall brackets.
Construction product tested according to EAD and CE mark, with European Technical Assessment (ETA) and proof of suitability. Load-bearing capacities under fire loads proven up to fire resistance class R120.

MMS-plus hexagonal tie, with pressed washer

St





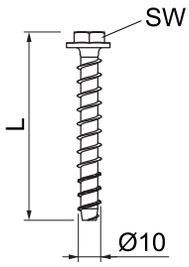
Type	Dimension mm	Dim. L mm	Drill hole Ø mm	SW mm	Pack Piece	Weight kg/100 pc.	Item no.
MMS+ SS 12x100	12x100	100	10	15	25	7.800	**3498170**
MMS+ SS 12x120	12x120	120	10	15	25	8.900	**3498172**

Stainless steel screw-in anchor for direct mounting without additional anchors in cracked and uncracked concrete and masonry. With hex head drive and pressed washer to accept large loads. Suitable for fastening suspended loads from suspended supports and wall brackets in wet rooms and in outdoor areas.
Construction product tested according to EAD and CE mark, with European Technical Assessment (ETA) and proof of suitability. Load-bearing capacities under fire loads proven up to fire resistance class R120.

MMS-plus SS hexagonal tie, with pressed washer, made of A4 stainless steel

VA





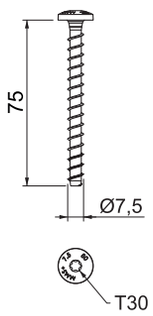
Type	Dimension mm	Dim. L mm	Drill hole Ø mm	SW mm	Pack Piece	Weight kg/100 pc.	Item no.
MMS+ SS 10x75 A4	10x75	75	8	13	25	3.700	**3498126**
MMS+ SS 10x95 A4	10x95	95	8	13	25	4.600	**3498128**
MMS+ SS12x105 A4	12x105	105	10	15	25	8.200	**3498174**
MMS+ SS12x120 A4	12x120	120	10	15	25	9.400	**3498176**

Stainless steel screw-in anchor for direct mounting without additional anchors in cracked and uncracked concrete and masonry. With hex head drive and pressed washer to accept large loads. Suitable for fastening suspended loads from suspended supports and wall brackets in wet rooms and in outdoor areas.
Construction product tested according to EAD and CE mark, with European Technical Assessment (ETA) and proof of suitability. Load-bearing capacities under fire loads proven up to fire resistance class R120.

MMS-plus P round head tie, with panhead, made of A4 stainless steel

VA





Type	Dimension mm	Drill hole Ø mm	Head Ø mm	Screw system	Pack Piece	Weight kg/100 pc.	Item no.
MMS+ P 7.5x75 A4	7,5x75	6	14.5	Torx	50	1.900	**3498274**

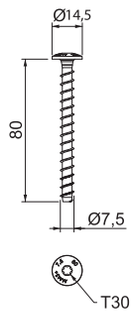
Stainless steel screw-in anchor for direct mounting without additional anchors in cracked and uncracked concrete and masonry. With round head for universal fastenings in wet rooms and outdoor areas. Torx drive T30.
Construction product tested according to EAD and CE mark, with European Technical Assessment (ETA) and proof of suitability. Load-bearing capacities under fire loads proven up to fire resistance class R120.

St G

MMS-plus P round head tie, with panhead

Type	Dimension mm	Drill hole Ø mm	Head Ø mm	Screw system	Pack Piece	Weight kg/100 pc.	Item no.
MMS+ P 7.5x80	7,5x80	6	14.5	Torx	50	1.600	**3498272**

Bolt tie for direct mounting without additional anchors in cracked and uncracked concrete and masonry. With round head for universal fastenings. Torx drive T30.
Construction product tested according to EAD and CE mark, with European Technical Assessment (ETA) and proof of suitability. Load-bearing capacities under fire loads proven up to fire resistance class R120.



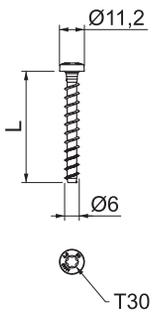


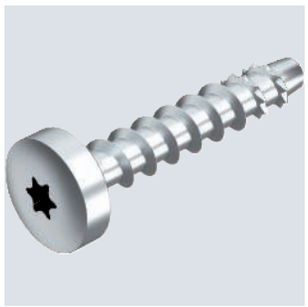
St G

MMS-plus P round head tie, with panhead

Type	Dimension mm	Dim. L mm	Drill hole Ø mm	Head Ø mm	Screw system	Pack Piece	Weight kg/100 pc.	Item no.
MMS+ P 6x40	6x40	40	5	11.2	Torx	100	1.000	**3498105**
MMS+ P 6x50	6x50	50	5	11.2	Torx	100	1.000	**3498108**

Bolt tie for direct mounting without additional anchors in cracked and uncracked concrete and masonry. With round head for universal fastenings. Torx drive T30.
Construction product tested according to EAD and CE mark, with European Technical Assessment (ETA) and proof of suitability. Load-bearing capacities under fire loads proven up to fire resistance class R120.



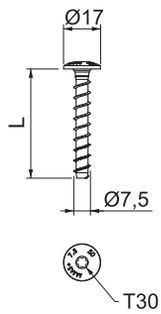


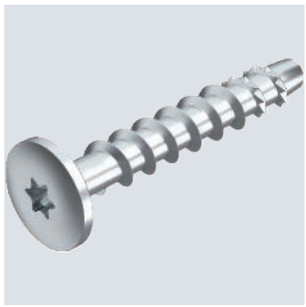
St G

MMS-plus MS mounting rail tie, with flat panhead

Type	Dimension mm	Dim. L mm	Drill hole Ø mm	Head Ø mm	Screw system	Pack Piece	Weight kg/100 pc.	Item no.
MMS+ MS 7.5x50	7,5x50	50	6	17	Torx	100	1.500	**3498261**
MMS+ MS 7.5x60	7,5x60	60	6	17	Torx	50	1.800	**3498262**

Bolt tie for direct mounting without additional anchors in cracked and uncracked concrete and masonry. With large round head to fasten mounting and profile rails. Torx drive T30.
Construction product tested according to EAD and CE mark, with European Technical Assessment (ETA) and proof of suitability. Load-bearing capacities under fire loads proven up to fire resistance class R120.



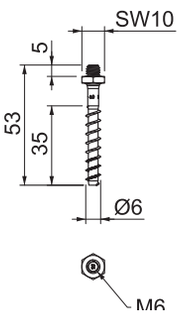


St G

MMS-plus ST push-in tie, with connection thread

Type	Dimension mm	Drill hole Ø mm	Thread	SW mm	Pack Piece	Weight kg/100 pc.	Item no.
MMS+ ST 6x55	6x55	5	M6	10	100	1.030	**3498264**

Bolt tie for direct mounting without additional anchors in cracked and uncracked concrete and masonry. M6 connection thread for fastening clips with threaded foot.
Construction product tested according to EAD and CE mark, with European Technical Assessment (ETA) and proof of suitability. Load-bearing capacities under fire loads proven up to fire resistance class R120.





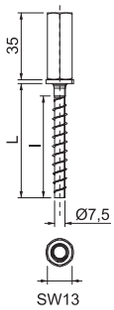
Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

MMS-plus I internal thread tie, with combination thread sleeve

St G





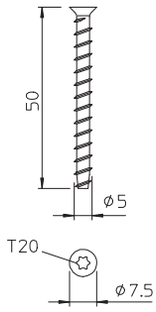
Type	Dimension mm	Dim. L mm	Drill hole Ø mm	Thread	SW mm	Pack Piece	Weight kg/100 pc.	Item no.
MMS+ I 7.5x40	7,5x40	40	6	M8/M10	13	40	3.810	**3498266**
MMS+ I 7.5x60	7,5x60	60	6	M8/M10	13	40	4.230	**3498268**

Bolt tie for direct mounting without additional anchors in cracked and uncracked concrete and masonry. With M8/M10 combination thread sleeve for fastening threaded rods. Construction product tested according to EAD and CE mark, with European Technical Assessment (ETA) and proof of suitability. Load-bearing capacities under fire loads proven up to fire resistance class R120.

MMS-plus KS countersunk head tie, for cable clip

St G





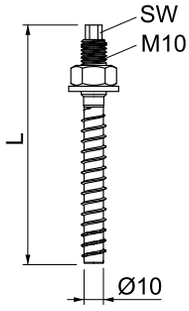
Type	Dimension mm	Drill hole Ø mm	Head Ø mm	Screw system	Pack Piece	Weight kg/100 pc.	Item no.
MMS+ KS 5x50	5x50	4	7.5	Torx	200	0.460	**3498204**

Bolt tie for direct mounting without additional anchors in concrete and masonry. With small countersunk head to fasten cable clips through the threaded foot.
Load-bearing capacities under fire loads proven up to fire resistance class R120.

MMS-plus V pre-push tie, with connection thread

St





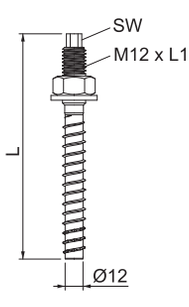
Type	Dimension mm	Dim. L mm	Drill hole Ø mm	Thread	SW mm	Pack Piece	Weight kg/100 pc.	Item no.
MMS+ V 10x90	10x90	90	8	M10x20	7	25	5.500	**3498190**
MMS+ V 10x110	10x110	110	8	M10x40	7	25	6.660	**3498192**

Bolt tie for direct mounting without additional anchors in cracked and uncracked concrete and masonry. With connection thread and washer to accept large loads. Suitable for fastening suspended loads from suspended supports and wall brackets in push-through mounting. Construction product tested according to EAD and CE mark, with European Technical Assessment (ETA) and proof of suitability. Load-bearing capacities under fire loads proven up to fire resistance class R120.

MMS-plus V pre-push tie, with connection thread

St





Type	Dimension mm	Dim. L mm	Drill hole Ø mm	Thread	SW mm	Pack Piece	Weight kg/100 pc.	Item no.
MMS+ V 12x110	12x110	110	10	M12x30	8	25	6.900	**3498196**

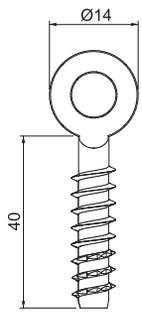
Bolt tie for direct mounting without additional anchors in cracked and uncracked concrete and masonry. With connection thread and washer to accept large loads. Suitable for fastening suspended loads from suspended supports and wall brackets in push-through mounting. Construction product tested according to EAD and CE mark, with European Technical Assessment (ETA) and proof of suitability. Load-bearing capacities under fire loads proven up to fire resistance class R120.

St

MMS-plus R ring tie, with setting tool

Type	Dimension mm	Drill hole Ø mm	Head Ø mm		Pack Piece	Weight kg/100 pc.	Item no.
MMS+ R 6x40	6x40	5	14		200	0.790	**3498180**

Bolt tie for direct mounting without additional anchors in cracked and uncracked concrete and masonry. With ring eyelet for universal fastenings. Setting tool contained in the scope of delivery.





Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

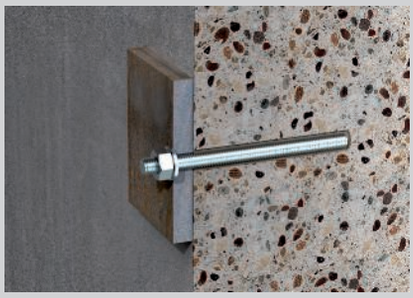
Injection tie VMU Plus
System description



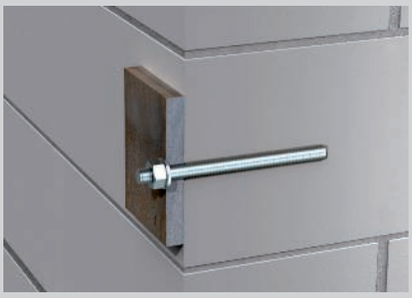
The VMU Plus injection mortar system is particularly suitable for fire protection fastening in hollow brick, concrete and porous concrete, calcareous limestone, sand-lime brick and masonry. The connection is free from spreading pressure and is created through the form fitting of the injection mortar with the substrate and an anchor rod. The components are tested and approved for a fire resistance period of 90 minutes.

The maximum load capacity depending on the fire resistance period and the fastening substrate is documented accordingly in the available fire protection certificate. Although the load capacity of the injection mortar system is below the load capacity when cold, this load capacity is completely sufficient for fireproof fastening of the different routing types.

Injection tie VMU Plus
Installation principle



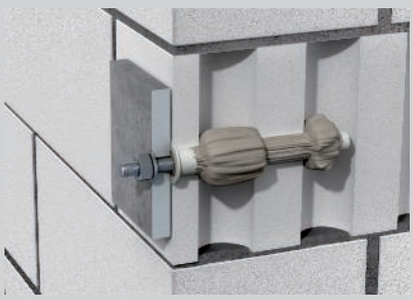
Anchor rod mounted in concrete without wire sleeve.



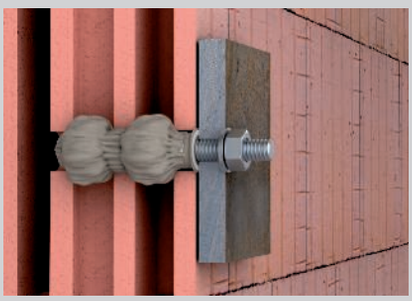
Anchor rod mounted in calcareous limestone full brick without wire sleeve.



In full brick, mount the anchor rod without a wire sleeve.



Anchor rod mounted in hollow calcareous limestone with wire sleeve.



Anchor rod mounted in hollow brick with wire sleeve.

Classification according to proof of application

R30 R60 R90

System description

Anchoring type	Spread-free connection with special mortar
Fire resistance classes	To R90 according to proof of fire protection
Substrate	Concrete, solid calcareous limestone brick, porous calcareous limestone brick, porous brick, full brick, porous concrete block
Load classes	Dependent on the resistances of the substrates, see approval

The data of the approval documents and any fire testing reports apply

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Injection mortar in cartridge, 300 ml



Type	Contents ml	Pack Piece	Weight kg/100 pc.	Item no.
VMU plus 300	300	1	56.400	**3497806**

Styrene-free, vinyl ester composite mortar for spread-free anchoring of high loads with threaded anchor rods. Coaxial cartridge, including 1 mixing tube, to be worked with the standard cartridge gun or VM-P 345 Profi.

European Technical Assessment for cracked and uncracked concrete, as well as for masonry of full and hollow brick. Earthquake-proof in concrete according to Category C1. Fire protection approval for concrete and masonry with fire resistance classes up to 120 minutes.

Substrate temperature during processing -10 °C to +40 °C (concrete), ambient temperature after complete hardening -40 °C to +120 °C (in concrete). Will keep for at least 18 months if stored in a dark, cool and dry place.

Injection mortar in cartridge, 420 ml



Type	Contents ml	Pack Piece	Weight kg/100 pc.	Item no.
VMU plus 420	420	1	83.000	**3497803**

Styrene-free, vinyl ester composite mortar for spread-free anchoring of high loads with threaded anchor rods. Coaxial cartridge, including one mixing tube, to be worked with the pressing gun, type VM-P 380 Profi.

European Technical Assessment for cracked and uncracked concrete, as well as for masonry of full and hollow brick. Earthquake-proof in concrete according to Category C1. Fire protection approval for concrete and masonry with fire resistance classes up to 120 minutes.

Substrate temperature during processing –10 °C to +40 °C (concrete), ambient temperature after complete hardening –40 °C to +120 °C (in concrete). If stored in a dark, cool and dry place, will keep for at least 18 months.

Pressing gun for standard cartridges and side-by-side cartridges



Type	Pack Piece	Weight kg/100 pc.	Item no.
VM-P 345 Profi	1	100.000	**3497906**

Side-by-side cartridge pistol for the use of standard cartridges or side-by-side cartridges. The cartridge pistol is suitable for the injection mortar VMU plus 280 and can also be used with normal 300 ml cartridges.

Pressing gun for 10:1 coaxial cartridges



Type	Pack Piece	Weight kg/100 pc.	Item no.
VM-P 380 Profi	1	110.000	**3497909**

High-quality 2-component cartridge pistol. The parallel movement of the outlet to the holding grip ensures easy working. Suitable for the injection mortar type VMU plus 420.

St G

Anchor rod

Type	Dim. L mm	Dim. d mm	Thread	SW mm	Pack Piece	Weight kg/100 pc.	Item no.
VMU-A 8-110vz	110	6.5	M8	13	10	4.350	**3497820**
VMU-A 10-130vz	130	8.2	M10	17	10	8.150	**3497822**
VMU-A 10-150vz	150	8.2	M10	17	10	9.150	**3497824**
VMU-A 12-155vz	155	9.9	M12	19	10	13.850	**3497826**

With the anchor rod and matching plastic wire sleeve, loads are fastened without spreading pressure in masonry walls using the VMS plus injection mortar. The system is also used for fastening in concrete ceilings. On concrete and full brick walls, the anchor rod is only mounted with the injection mortar VMU plus, without a wire sleeve.

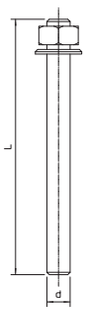




Anchor rod

Type	Dim. L mm	Dim. d mm	Thread	SW mm	Pack Piece	Weight kg/100 pc.	Item no.
VMU-A 8-110A4	110	6.5	M8	13	10	4.350	**3497830**
VMU-A 10-130A4	130	8.2	M10	17	10	8.150	**3497832**
VMU-A 12-155A4	155	9.9	M12	19	10	13.850	**3497834**

With the anchor rod and matching plastic wire sleeve, loads are fastened without spreading pressure in masonry walls using the VMS plus injection mortar. The system is also used for fastening in concrete ceilings. On concrete and full brick walls, the anchor rod is only mounted with the injection mortar VMU plus, without a wire sleeve.



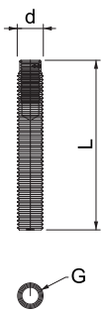


St G

Metallic internal thread sleeve

Type	Dim. L mm	Dim. d mm	Thread metric	Drill hole Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
VMU-IG M6x80vz	80	10	6	12	10	3.350	**3497840**
VMU-IG M8x80vz	80	12	8	14	10	4.650	**3497842**
VMU-IG M10x80vz	80	16	10	18	10	8.750	**3497844**
VMU-IG M6x80A4	80	10	6	12	10	3.350	**3497850**
VMU-IG M8x80A4	80	12	8	14	10	4.650	**3497852**
VMU-IG M10x80A4	80	16	10	18	10	8.750	**3497854**

With the internal thread sleeve and matching plastic wire sleeve, loads are fastened without spreading pressure in concrete and masonry walls and ceilings using the VMS plus injection mortar.



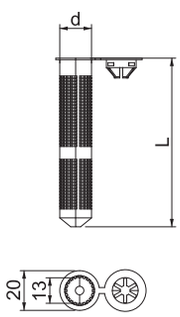


PA

Plastic wire sleeve

Type	Dim. L mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
VMU-SH 12x80	80	12	10	0.200	**3497860**
VMU-SH 16x85	85	16	10	0.300	**3497862**
VMU-SH 16x130	130	16	10	0.400	**3497864**
VMU-SH 20x85	85	20	10	0.400	**3497866**

The plastic wire sleeve is a supplement to the anchor rod or internal thread sleeve and is used to install components on masonry.





Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

Injection tie

Blow pump for drill holes



Type	Pack Piece	Weight kg/100 pc.	Item no.
VM-AP 360	1	27.000	**3497912**

Manual pump with 750 ml air volume for blowing out drill holes according to anchor approval.

Steel cleaning brush for drill holes

St G



Type	Dia-meter mm	Length mm	Thread	Pack Piece	Weight kg/100 pc.	Item no.
RB 10 M 6	10	130	M6	1	5.000	**3497870**
RB 12 M 6	12	140	M6	1	5.000	**3497872**
RB 14 M 6	14	180	M6	1	5.000	**3497874**
RB 16 M 6	16	190	M6	1	5.000	**3497875**
RB 18 M 6	18	200	M6	1	5.000	**3497876**
RB 20 M 6	20	220	M6	1	5.000	**3497878**

Using the steel wire brush, drill holes must be mechanically cleaned according to the anchor approval, in order to obtain a clean adhesion substrate for the injection mortar.

SDS adapter

St



Type	Pack Piece	Weight kg/100 pc.	Item no.
RBL M6 SDS	1	6.000	**3497915**

Adapter for accepting steel wire brushes for mechanical cleaning of drill holes according to the anchor approval. Suitable for drills with SDS seat.

SDS extension

St



Type	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
RB-L 150 M6	150	1	9.700	**3497932**

Extension with internal and external M6 thread for the connection of the SDS adapter with steel wire brush in difficult to access drill holes.

PA

Mixer pipe for mortar cartridge

Type		Pack Piece	Weight kg/100 pc.	Item no.
VM-X		12	1.000	3497981

Mixing tubes for attachment to the cartridges of the VMU plus injection mortar system.



Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

Wood screws
System description



Wood is a combustible material and, as with steel constructions, wooden components are firstly only suitable under certain conditions for the fastening of fire-tested electrical installations. Coatings and panelling are also used in the constructions, in order to achieve a fire resistance class at all. However, if there is a fire, wood has a very good property: When burning, an insulated layer is created which delays further combustion. The wooden component must be dimensioned in such a way that failure of the carrying capacity cannot occur at an early stage. The combustion rates are a standard means for calculating the required wood cross-section, depending on the desired fire resistance class. The combustion rates depend on the type of wood and the moisture content of the wood. Taking the combustion rates into account, various cable support systems for electrical safety systems with the maintenance of electrical functionality classes E30 and E60 can be fastened to wooden components. Wood screws with a suitable steel cross-section and sufficient embedment depth are used for fastening. The long screws drill deep into the cross-section of the wooden beam, ensuring a secure hold of the mounted support systems, despite burning. Various mounting variants are documented in a fire protection survey.

Wood screws
Installation principle



Bracket mounting on the side of the wooden beam with rear fire protection plate.



Suspended support mounting under the wooden beam with rear fire protection plate.



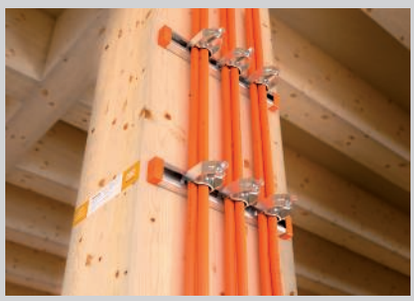
Cable routing with single clips and in the pipe, at the side on the wooden beam.



Cable routing with grouped support on the side on the wooden beam.



Mounting of the OBO FireBox on a wooden beam.



Vertical cable routing with rails and clips on a wooden beam.

Classification according to proof of application

E30 E60

System description

Anchoring type	Self-tapping wood screw
Maintenance of electrical function classes	E30 to E60
Substrate	Supporting components, that close off or do not close off rooms, (walls, ceiling or supports) made of solid wood
Proof of application	Surveyor's report of Ingenieurbüro für Brandschutz von Bauarten, IBB
Certificate number	GA-2016/034-Mey

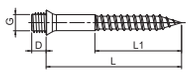
The data in the named proofs of applicability applies

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

HST M6 hanger bolt

St G





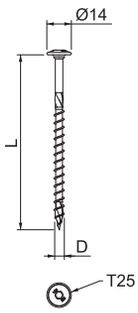
Type	Dim. L mm	Dim. L1 mm	Dim. D mm	Dim. G mm	Pack Piece	Weight kg/100 pc.	Item no.
HST 6x50 GA M6	50	32	6	M6	100	0.940	**3498150**
HST 6x80 GA M6	80	32	6	M6	100	1.590	**3498152**

Wood screw for fireproof fastening of cable systems for the maintenance of electrical function according to DIN 4102 Part 12 on supporting wooden components. The hanger bolt allows the installation of the ASG 732 clip on wooden components.

Flange head-screw HT 6

St G





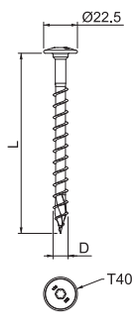
Type	Dim. D mm	Dim. L mm	Head Ø mm	Screw system	Pack Piece	Weight kg/100 pc.	Item no.
HT 6x60 TD	6	60	14	Torx	200	0.850	**3498130**
HT 6x80 TD	6	80	14	Torx	100	1.100	**3498132**
HT 6x100 TD	6	100	14	Torx	100	1.300	**3498134**
HT 6x120 TD	6	120	14	Torx	100	1.300	**3498136**

Self-tapping wood screw for fireproof fastening of cable systems for the maintenance of electrical function according to DIN 4102 Part 12 on supporting wooden structures. The flange head shape allows installation without an additional washer.

Flange head-screw HT 10

St G



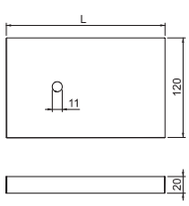


Type	Dim. D mm	Dim. L mm	Head Ø mm	Screw system	Pack Piece	Weight kg/100 pc.	Item no.
HT 10x80 TD	10	80	22.5	Torx	50	3.100	**3498140**
HT 10x100 TD	10	100	22.5	Torx	50	3.700	**3498142**
HT 10x120 TD	10	120	22.5	Torx	50	4.300	**3498144**
HT 10x140 TD	10	140	22.5	Torx	50	4.900	**3498146**

Self-tapping wood screw for fireproof fastening of cable systems for the maintenance of electrical function according to DIN 4102 Part 12 on supporting wooden structures. The flange head shape allows installation without an additional washer.

Fire protection plate, single perforated





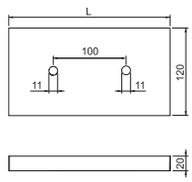
Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
GLB-PG1	150	1	25.200	**7205460**
GLB-PG2	190	1	32.000	**7205462**

Perforated fire protection plate (material class A1) as effective panelling measure for fastening on supporting wooden components for the maintenance of electrical functionality according to DIN 4102 Part 12. Made of fibre-glass light concrete which is resistant to water and frost.

Fire protection plate, double perforated

Type	Dim. L mm		Pack Piece	Weight kg/100 pc.	Item no.
GLB-PG3	220		1	37.000	**7205464**

Perforated fire protection plate (material class A1) as effective panelling measure for fastening on supporting wooden components for the maintenance of electrical functionality according to DIN 4102 Part 12. Made of fibre-glass light concrete which is resistant to water and frost.





Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

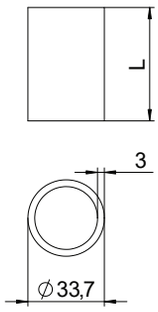
Always indicate the item number when ordering.

Mounting material for insulated ceilings

Spacer sleeve for insulated ceilings

St FT





Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
DHI 050	50	30	11.600	**7205900**
DHI 060	60	24	14.000	**7205901**
DHI 070	70	20	16.200	**7205902**
DHI 080	80	20	18.200	**7205903**
DHI 090	90	14	20.800	**7205904**
DHI 100	100	14	23.400	**7205905**
DHI 110	110	12	24.600	**7205906**
DHI 120	120	12	27.600	**7205907**
DHI 130	130	12	30.400	**7205908**
DHI 140	140	12	32.800	**7205909**
DHI 150	150	12	35.000	**7205910**

Spacer sleeve for mounting suspension components under insulated ceilings. They prevent the insulation from pushing in when the fastening screws are tightened.
Burr arm, galvanised internally and externally.

Threaded rod

St G





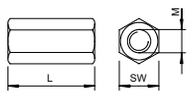
Type	Thread	Dim. d mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
TR M8 1M G	M8	8	1000	10	30.000	**3141128**
TR M10 1M G	M10	10	1000	10	49.000	**3141209**
TR M12 1M G	M12	12	1000	10	62.000	**3141306**

Threaded rod to DIN 976.

Connection sleeve

St G



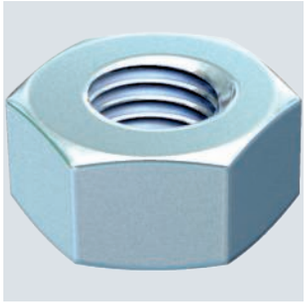


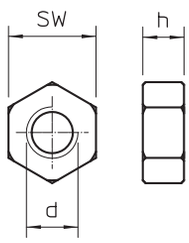
Type	Thread	Dim. L mm	SW mm	Pack Piece	Weight kg/100 pc.	Item no.
CSTR M8 G	M8	24	13	50	1.880	**6410081**
CSTR M10 G	M10	30	17	50	4.150	**6410103**
CSTR M12 G	M12	40	19	25	7.000	**6410111**

Connection sleeve with continuous internal thread.

Hexagonal nut DIN 934

St G





Type	Thread	SW mm	Dim. h mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
HN M8 G	M8	13	6.8	8	100	0.500	**3400085**
HN M10 G	M10	17	8.4	10	100	1.014	**3400107**
HN M12 G	M12	19	10.8	12	100	1.730	**3400123**

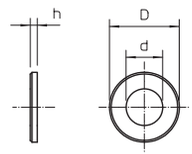
Hexagonal nut to DIN 934 with metric thread.

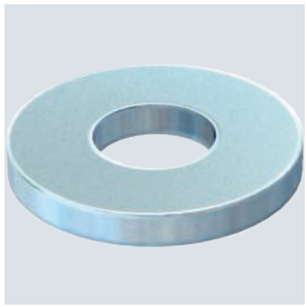
St G

Washer

Type	Thread	Dim. d mm	Dim. D mm	Dim. h mm		Pack Piece	Weight kg/100 pc.	Item no.
WS M8 D16 G	M8	8.4	16	1.6		100	0.156	**3402088**
WS M10 D20 G	M10	10.5	20	2		100	0.408	**3402096**
WS M12 D24 G	M12	13	24	2.5		100	0.570	**3402126**

Washer according to DIN 125, shape A, for universal use.





Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.



Directories

	Test marks	240
	Pictogram explanation	242
	Alphabetical table of contents	246
	Type listing	248
	Numeric directory	256
	For the latest general conditions of sale and delivery please see obo.de/vlb.	

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Test marks

	American Bureau of Shipping, USA
	AENOR, Producto Certificado, Spain
	STOWARZYSZENIE ELEKTRYKÓW POLSKICH, Poland
	Lightning current-tested
	Lightning current-tested, Class H (100 kA)
	CEBEC, Belgium
	Canadian Standards Association, Canada
	DEMKO, Danmarks Elektriske Materielkontrol, Denmark
	Deutsches Institut für Bautechnik Berlin, Germany
	Det Norske Veritas
	ENEC Austria
	ATEX certificate for explosive areas
	ELEKTROTECHNICKÝ ZKUŠEBNÌ ÚSTAV, Czech Republic
	FIMKO, Finland
	Forschungs- und Materialprüfungsanstalt, Germany
	Russia, GOST The State Committee for Standards
	Test marks for technical resources, VDE Prüf- und Zertifizierungsinstitut Offenbach, Germany
	Halogen-free; without chlorine, fluorine and bromine
	INMETRO, Brazil
	KEMA-KEUR, Netherlands
	Indication of metric products
	MAGYAR ELEKTROTECHNIKAI ELLENŐRZŐ INTÉZET Budapest, Hungary
	NEMKO, Norway
	AFNOR Quality symbol of the French standardisation institute

	Underwriters Laboratories Inc., USA + CSA, Canada
	Österreichischer Verband für Elektrotechnik, Austria
	INSTITUTO ITALIANO DEL MARCHO DI QUALITÁ, Italy
	RINA 1861, Ship Classification, Certification and Services
	Underwriters Laboratories Inc., USA
	SEMKO An Inchcape Testing Services Company, Sweden
	Eidgenössisches Starkstrominspektorat, Switzerland
	South African Bureau of Standards
	Shock-tested, Bundesamt für Zivilschutz, Germany
	Sähkötarkastuskeskus Elinspektionscentralen Electrical Inspectorate, Finland
	Underwriters Laboratories Inc., USA
	Underwriters Laboratories Inc., USA
	Verband der Elektrotechnik, Elektronik, Informationstechnik e.V., Germany
	German Association of Electricians, tested safety
	5-year warranty

Pictogram explanation

Surfaces

FS	Strip galvanised
FSK	Strip galvanised/plastic-coated
DD	Strip galvanised zinc/aluminium, double dip
BK	Bright
2B	Bright, reworked
EL	Anodised
F	Hot-dip galvanised
G	Electrogalvanised
GK	Electrogalvanised/plastic-coated
GCL	Electrogalvanised, yellow-chromatised
GGP	Electrogalvanised, yellow passivated
GTP	Electrogalvanised, transparently passivated
GR	Primed
L	Painted
SG	Welding primed
FT	Hot-dip galvanised
FT SO	Hot-dip galvanised 85 µm
Cu	Copper-plated
N	Nickel-plated
ZD	Galvanised, Deltatone 500
ZDM	Galvanised, MAGNI 565
GA	Zinc-aluminium coated, Galfan
ZL	Zinc scale

Conformity symbol

CE	Communautés Européennes, EC declaration of conformity according to EC directives
RoHS conform	RoHS-conformant

Quality marks

	Halogen-free; without chlorine, fluorine and bromine
650°	Flame resistant 650 °C
750°	Flame resistant 750 °C
960°	Flame resistant 960 °C
UV RESISTANT	UV-resistant

Specific product symbols

Ø 60	Diameter 60 mm
Ø 68	Diameter 68 mm
Type 3	Protection device to DIN EN 61643-11 or IEC 61643-11
LPZ 2→3	Transition from LPZ 2 to LPZ 3
AS	Acoustic signalling

Applications

FS	Remote signalling
AS	Acoustic signalling
ISDN	Integrated Service Digital Network, ISDN applications
DSL	Digital Subscriber Line, DSL applications
Analog TK	Analogue telecommunication
Cat 5	Category 5 TwisterPair
Cat 6_A	Channel Performance to American EIA/TIA standard
MSR	Measuring, controlling and regulating systems
TV	TV applications
SAT	SAT-TV applications
Mu	MultiBase base
	LifeControl
EX	Intrinsically safe protection device for potentially explosive areas
Class E_A	Channel Performance to ISO/IEC 11801
PoE	Power over Ethernet
230/ 400 V System	230/400 V system
IP 54	Protection rating IP 54
IP 65	Protection rating IP 65

Lightning protection classes

Type 1	Protection device to DIN EN 61643-11 or IEC 61643-11
Type 1+2	Combination protection device made of type 1 and type 2
Type 2	Protection device to DIN EN 61643-11 or IEC 61643-11

Lightning protection classes

Type 2+3	Protection device to DIN EN 61643-11 or IEC 61643-11
Type 3	Protection device to DIN EN 61643-11 or IEC 61643-11

Lightning protection zone

LPZ 0→1	Transition from LPZ 0 to LPZ 1
LPZ 0→2	Transition from LPZ 0 to LPZ 2
LPZ 0→3	Transition from LPZ 0 to LPZ 3
LPZ 1→2	Transition from LPZ 1 to LPZ 2
LPZ 1→3	Transition from LPZ 1 to LPZ 3
LPZ 2→3	Transition from LPZ 2 to LPZ 3

BSS maintenance of electrical function installation

	Fire-tested systems
	Escape route ceiling mounting with pressure clip
	OBO Grip, wall routing type
	OBO Grip, ceiling routing type
	Pressure clip for maintenance of electrical function, ceiling mounting

BSS anchor

	Fire protection anchor
	Fire protection bolt tie

BSS test marks/material class

E30	Maintenance of electrical function class E30
E90	Maintenance of electrical function class E90

Clamp clip base shapes

N	Clamp clip for C profile rail, slot width 11–12 mm
H	Clamp clip for C profile rail, slot width 16–17 mm
U	Clamp clip for C profile rail, slot width 18–22 mm

Diameter

Ø 60	Diameter 60 mm
Ø 68	Diameter 68 mm
Ø 70	Diameter 70 mm
Ø 74	Diameter 74 mm

Entries

4	4 cable entries
6	6 cable entries
7	7 cable entries
8	8 cable entries
9	9 cable entries
10	10 cable entries
12	12 cable entries
10	10 cable entries ECO
12	12 cable entries ECO
14	14 cable entries ECO
16	16 cable entries
18	18 cable entries ECO
24	24 cable entries

Gland thread

M	Thread metric
Pg	Thread Pg

Entry size

M20	M20 entry
M25	M25 entry
M32	M32 entry
M40	M40 entry

KTS side heights

	Cable tray, side height 35 mm
	Cable tray, side height 60 mm
	Cable tray, side height 85 mm
	Mesh cable tray, side height 35 mm
	Mesh cable tray, side height 55 mm

Materials

	Flat steel
	Angular steel
	U steel
	Round material

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

Pictogram explanation

Nominal cross-section

1,5 mm²	Nominal cross-section 1.5 mm²
1,5–2,5 mm²	Nominal cross-section 1.5–2.5 mm²
2,5 mm²	Nominal cross-section 2.5 mm²
2,5–4 mm²	Nominal cross-section 2.5–4 mm²
4 mm²	Nominal cross-section 4 mm²
4-6 mm²	Nominal cross-section 4–6 mm²
6 mm²	Nominal cross-section 6 mm²
10 mm²	Nominal cross-section 10 mm²
16 mm²	Nominal cross-section 16 mm²

Nominal voltage

400 V	Nominal voltage 400 V
500 V	Nominal voltage 500 V
660 V	Nominal voltage 660 V

Polarity

3	3-pole
5	5-pole
7	7-pole
8	8-pole
10	10-pole
12	12-pole

Slot widths

7,5	Slot width 7.5 mm
11	Slot width 11 mm
11-12	Slot width 11–12 mm
12	Slot width 12 mm
15	Slot width 15 mm
16	Slot width 16 mm
16,5	Slot width 16.5 mm
16-17	Slot width 16–17 mm
17	Slot width 17 mm
18	Slot width 18 mm
22	Slot width 22 mm
35	Slot width 35 mm

Screw heads

	Philips screw
	Torx screw
	Phillips screw
	Pozidriv

Firing devices

	Bolt-firing tool
	Nail device

Protection rating

IP 20	Protection rating IP 20
IP 30	Protection rating IP 30
IP 31	Protection rating IP 31
IP 44	Protection rating IP 44
IP 54	Protection rating IP 54
IP 55	Protection rating IP 55
IP 65	Protection rating IP 65
IP 66	Protection rating IP 66
IP 67	Protection rating IP 67
IP 68	Protection rating IP 68

Metals

Alu	Aluminium
Alu/St	Aluminium/steel
A2	Stainless steel, rustproof
A4	Stainless steel, rustproof
A5	Stainless steel, rustproof
Cu	Copper
CuZn 37	Brass
St	Steel
TG	Malleable iron
Zn	Die-cast zinc

Plastics

ABS/ASA	Acrylonitrile butadiene styrene
UF	Duroplast, Aminoplast, type 131.5
MF	Duroplast, melamine resin, type 150
EVA	Ethylene vinyl acetate

Plastics

FA	Fibre-proof material DIN 28091
GFK	Fibreglass-reinforced plastic
NBR SBR	Rubber mixture
NBR	Nitrile rubber
PETR	Petrolatum
PA	Polyamide
PA/ GF	Polyamide, fibreglass reinforced
PBPT	Polybutylene terephthalate
PC	Polycarbonate
PE	Polyethylene
PP	Polypropylene
PP/GF	Polypropylene, fibreglass reinforced
PS	Polystyrene
PVC	Polyvinylchloride
ZELL PE	Cellular polyethylene

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Alphabetical table of contents

2
2-component fire protection foam PYROSIT® NG; 169

4
45° Magic bend 60; 75

9
90° bend 60; 136
90° Magic bend 60; 52, 75, 187

A
Ablation coating in a cartridge; 168
Add-on tee 60; 53, 76, 136, 187
AML3518 anchor rail, slot 16.5 mm, perforated; 106
Anchor rod; 229
AVL 60 external connector; 138

B
Black powder-coated steel pipe, with thread; 86
Black powder-coated steel pipe, without thread; 86
Black powder-coated steel sleeve, without thread; 86
Blow pump for drill holes; 230
BZ-IG setting tool; 215

C
Cable exit plate; 55, 78
Cable gland with locknut as a set; 31
Cable tray SKS 60; 136
Central hanger for cable tray, side height 60; 54
Central suspension; 56
Ceramic terminal; 30
Clamp clip, double, metal pressure trough; 108, 159
Clamp clip, single, metal pressure trough; 107, 109, 159-160
Clamp clip, triple, metal pressure trough; 108, 160
Clamping piece for separating retainer fastening in RKSM; 62, 79, 144, 196
Closed FireBox T100, empty; 29
CML3518 profile rail, slot 17 mm, perforated; 106
Connection angle; 193
Connection component; 55, 137, 139, 195
Connection component for MS41 mounting rails; 195
Connection component, sloping; 137, 139
Connection sleeve; 61, 144, 197
Coupling nut; 236

D
DSK 25 spacer; 192
Duct clamp, LKM, for maintenance of electrical function; 93
E30 - E90
Duct, type LKM 20030; 92
Duct, type LKM 60100; 93

E
Edge protection ring; 92, 95
Electrogalvanised steel pipe, with thread; 86
Electrogalvanised steel pipe, without thread; 87
Electrogalvanised steel sleeve, without thread; 87
End cap; 55, 57-59, 77, 88, 141-142, 189-191, 194-195
End cap MS4121; 194
End cap MS4141; 195
End caps; 55, 77, 189
End piece, for duct type LKM 60100; 94
External corner, for duct type LKM 60100; 94

F
Fastening bracket for US 3/US 5 support; 142
Fender washer; 63, 110, 145
Fire protection bolt tie; 95, 223-224
Fire protection clamp; 61, 143, 193
Fire protection plate, double perforated; 235
Fire protection plate, single perforated; 234
FireBox T100; 26-29
FireBox T100ED external fastening with fuse holder; 27
FireBox T100ED with external fastening; 26-27
FireBox T100ED with external fastening and 2 fuse holders; 27
FireBox T100ED with external fastening, double terminals; 26
Flange head-screw HT 10; 234
Flange head-screw HT 6; 234
Flat angle, for duct type LKM 60100; 94
Floor end plate; 53, 76, 137, 188
Fuse holder for FireBox T-series; 30

G
GKS 34 hold-down clamp; 55, 77, 189
GKT 38 hold-down clamp; 79
GRIP "M" 15; 98, 100, 202
GRIP "M" 30; 98-99, 202
GRIP "M" 70; 99-100, 203
GR-Magic® 55 mesh cable tray; 54, 77, 188

H
Head plate; 57-59, 140-142, 157
Head plate US 5; 157
Head plate US 5 NOK; 157
Head plate, light-duty version; 59
Head plate, variable; 58-59, 142
Hexagonal bolt with washer, serrated lock washer and nut; 63, 145, 192
Hexagonal nut DIN 934; 64, 146, 158, 197, 236
Hold-down clamp for barrier strip fastening; 62, 79, 145, 196
Hold-down clamp for barrier strip fastening in GRM; 62, 79, 196
Hollow core anchor Easy; 215
Hot-dip galvanised steel pipe, with thread; 87
Hot-dip galvanised steel pipe, without thread; 87
Hot-dip galvanised steel sleeve, without thread; 88
HST M6 hanger bolt; 234

I
I support connector; 156
Identification plate for cable system; 32, 54, 76, 78, 88, 95, 103, 110, 137, 140, 160
Identification plate for strain relief; 168
Injection mortar in cartridge, 300 ml; 228
Injection mortar in cartridge, 420 ml; 228
Internal corner, for duct type LKM 60100; 94

J
Joint connector GSV 34; 55, 78, 189
Joint connector, for duct, type LKM 600; 93
Joint plate; 137

K
KSR edge protection ring, for duct type LKM 60100; 95
KU 5 head plate, variable; 58, 142

L
LAB drop-out plate; 139
Label holder for mesh cable trays; 56
Large washer; 196-197
Large washer, steel; 197
LG 60 cable ladder, 6 m VSF; 138

LKM SV30 joint connector; 92
LKS 40 hold-down clamp; 139
Long trough; 100, 109
Long trough for grouped support GRIP "M" 15; 100

M

Magic 60 straight connector set; 53, 76, 188
Metal pressure clip, for 10 cables; 103, 208
Metal pressure clip, for 16 cables; 208
Metallic internal thread sleeve; 229
Mixer pipe for mortar cartridge; 231
Mixer pipe set; 169
MMS hex; 222
MMS-plus P 7.5x75 round head tie, with panhead,; 222
made of A4 stainless steel
MMS-plus R ring tie, with setting tool; 225
MMS-plus SS hexagonal tie, with pressed washer,; 222
made of A4 stainless steel, size 10
MMS-plus V pre-push tie, with connection thread, size; 224
10
MMS-plus V pre-push tie, with connection thread, size; 224
12
MMS-plusl bolt tie; 224
MMS-ST with thread; 223
Mounting angle BW 80; 156
Mounting bracket, 90° with 3 holes; 157
Mounting plate for FireBox T series; 30
Mounting rail MS4022, heavy-duty, slot 18 mm,; 107
perforated
Mounting rail, MS4121, slot width 22 mm, perforated; 194
Mounting rail, MS4141, slot 22 mm, perforated; 195
Mounting rail, MSL4141, slot 22 mm, perforated; 194
MS4121 mounting rail, slot 22 mm, perforated; 194
MSL4141 mounting rail, slot 22 mm, perforated; 194

N

N nail tie with thread, A5; 215
Nail anchor N with thread; 214
Nail anchor N-K with nail head; 214, 216
Nail anchor N-K with nail head, V4A; 216
Nail tie N with thread, V4A; 215
Nail tie N-K with nail head; 95
N-K nail tie with A5 nail head; 216

P

Pipe end cap, splittable, metric, black; 88
Pipe end cap, splittable, metric, light grey; 88
Plastic wire sleeve; 229
Plug-in seal for FireBox T series; 32
Porous concrete anchor with external thread; 218
Porous concrete anchor with internal thread; 218
Pressing gun for 10:1 coaxial cartridges; 228
Pressing gun for 280 ml and side-by-side cartridges; 228
Pressure clip for 16 cables; 103
Pressure clip for 8 cables; 208
Pressure clip for 9 cables; 103
Professional cartridge pistol; 169
Protective cap 60; 138
Protective conductor terminal; 31
PYROPLUG® Block foam block; 169
PYROPLUG® Screed filler; 170

R

RKS-Magic® 60 cable tray; 52, 75, 186
Rung support plate for the maintenance of electrical; 139
function

S

SDS adapter; 230
SDS-Extension; 230
Separating retainer; 62, 78-79, 144, 195-196
Separating retainer connector; 62, 79, 144
Setting tool for hand hammer; 218-219
Setting tool for rotary hammer; 218
SKS-Magic® 60 cable tray; 187
Spacer; 60, 103, 113-116, 142, 192-193, 236
Spacer clip 732; 113-114
Spacer clip 733...; 115-116
Spacer DSK 45; 60, 142, 193
Spacer DSK 47; 60, 142
Spacer sleeve for insulated ceilings; 236
Spring nut; 109-110
Steel cleaning brush for drill holes; 230
Straight and angle connector 60; 136
Straight connector 60; 156
Strain relief on four sides, empty housing, internal; 169
height 175 mm
Strain relief on three sides, empty housing, internal; 168
height 115 mm
Strain relief on three sides, empty housing, internal; 168
height 175 mm
Suspension clamp for tunnels; 78

T

T piece, for duct type LKM 60100; 94
Threaded rod; 61, 143, 158, 197, 236
Truss-head bolt with combination nut; 63, 80, 145, 196
Truss-head bolt with nut and washer; 63, 145, 156-157

U

U support connector VUS 5; 156
US 3 support; 56, 140, 190
US 3 suspended support; 56, 140
US 5 head plate; 58, 141
US 5 support; 57, 141-142
US 5 suspended support; 57, 141, 191
US 7 support; 59, 157
US 7 suspended support; 58

V

Vertical ladder, LG 60, 3 m VS; 154
Vertical ladder, SLM50; 155
Vertical ladder, SLS80; 155

W

Wall and support bracket AW 15; 60, 143, 191
Wall and support bracket AW 30; 61, 143, 192
Wall and support bracket AW 55; 61
Wall and support bracket AWG 15; 60
Wall and support bracket MWA 12; 143
Washer ISO 7093; 64, 146, 158, 197, 237
Wedge anchor BZ; 214, 216
Wedge anchor BZ-U; 214, 216

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Type listing

Type	GTIN	Item no.	Page
		/100 pc.	
129 TB M16	6332243	2047812	88
129 TB M16 SW	6332335	2047936	88
129 TB M20	6332250	2047831	88
129 TB M20 SW	6332342	2047944	88
129 TB M25	6332267	2047839	88
129 TB M25 SW	6332373	2047952	88
129 TB M32	6332274	2047855	88
129 TB M32 SW	6332380	2047971	88
129 TB M40	6332281	2047863	88
129 TB M40 SW	6332397	2047979	88
129 TB M50	6332311	2047890	88
129 TB M50 SW	6332403	2047987	88
129 TB M63	6332328	2047898	88
129 TB M63 SW	6332434	2047995	88
2031 LW15	5864011	2207184	100
2031 M 15 A2	5809395	2207080	98
2031 M 15 A4	5809456	2207132	98
2031 M 15 FS	5863953	2207028	98
2031 M 15 FS	5863953	2207028	202
2031 M 30 A2	5809401	2207088	99
2031 M 30 A4	5809463	2207140	99
2031 M 30 FS	5798798	2207036	98
2031 M 30 FS	5798798	2207036	202
2031 M 70 A2	5809449	2207112	99
2031 M 70 A4	5809470	2207164	100
2031 M 70 FS	5022497	2207060	99
2031 M 70 FS	5022497	2207060	203
2033 D 15x3 G	5044970	2205097	103
2033 M A2	5036616	2204000	103
2033 M A2	5036616	2204000	208
2034 M A2	5210672	2204010	103
2034 M A2	5210672	2204010	208
2035 M A2	6624249	2204020	103
2035 M A2	6624249	2204020	208
2056 M 100 FT	5063551	1156160	107
2056 M 100 FT	5063551	1156160	159
2056 M 12 FT	5062714	1156004	107
2056 M 12 FT	5062714	1156004	159
2056 M 16 FT	5062776	1156012	107
2056 M 16 FT	5062776	1156012	159
2056 M 22 FT	5062837	1156020	107
2056 M 22 FT	5062837	1156020	159
2056 M 28 FT	5062899	1156039	107
2056 M 28 FT	5062899	1156039	159
2056 M 34 FT	5062950	1156047	107
2056 M 34 FT	5062950	1156047	159
2056 M 40 FT	5063018	1156055	107
2056 M 40 FT	5063018	1156055	159
2056 M 46 FT	5063070	1156063	107
2056 M 46 FT	5063070	1156063	159
2056 M 52 FT	5063131	1156071	107
2056 M 52 FT	5063131	1156071	159
2056 M 58 FT	5063193	1156098	107
2056 M 58 FT	5063193	1156098	159
2056 M 64 FT	5063254	1156101	107
2056 M 64 FT	5063254	1156101	159
2056 M 70 FT	5063315	1156128	107
2056 M 70 FT	5063315	1156128	159
2056 M 76 FT	5063377	1156136	107
2056 M 76 FT	5063377	1156136	159
2056 M 82 FT	5063438	1156144	107
2056 M 82 FT	5063438	1156144	159
2056 M 90 FT	5063490	1156152	107
2056 M 90 FT	5063490	1156152	159
2056 M2 12 FT	5494836	1156179	108
2056 M2 12 FT	5494836	1156179	159
2056 M2 16 FT	5494898	1156187	108
2056 M2 16 FT	5494898	1156187	159
2056 M2 22 FT	5494959	1156195	108
2056 M2 22 FT	5494959	1156195	159
2056 M2 28 FT	5958703	1156209	108
2056 M2 28 FT	5958703	1156209	159
2056 M3 12 FT	5958765	1156241	108
2056 M3 12 FT	5958765	1156241	160
2056 M3 16 FT	5958826	1156268	108
2056 M3 16 FT	5958826	1156268	160
2056 M3 22 FT	5958888	1156276	108
2056 M3 22 FT	5958888	1156276	160

Type	GTIN	Item no.	Page
		/100 pc.	
2056 M3 28 FT	5958949	1156284	108
2056 M3 28 FT	5958949	1156284	160
2056U M 12 FT	5498254	1158007	109
2056U M 12 FT	5498254	1158007	160
2056U M 16 FT	5498315	1158015	109
2056U M 16 FT	5498315	1158015	160
2056U M 22 FT	5498377	1158023	109
2056U M 22 FT	5498377	1158023	160
2056U M 28 FT	5498438	1158031	109
2056U M 28 FT	5498438	1158031	160
2056U M 34 FT	5498490	1158058	109
2056U M 34 FT	5498490	1158058	160
2056U M 40 FT	5498551	1158066	109
2056U M 40 FT	5498551	1158066	160
2056U M 46 FT	5498612	1158074	109
2056U M 46 FT	5498612	1158074	160
2056U M 52 FT	5498674	1158082	109
2056U M 52 FT	5498674	1158082	160
2056U M 58 FT	5498735	1158090	109
2056U M 58 FT	5498735	1158090	160
2056U M 64 FT	5498797	1158104	109
2056U M 64 FT	5498797	1158104	160
2056U M 70 FT	5498858	1158112	109
2056U M 70 FT	5498858	1158112	160
2056U M 76 FT	5498919	1158120	109
2056U M 76 FT	5498919	1158120	160
2058 LW 10	5082033	1195794	109
2058 LW 14	5082095	1195808	109
2058 LW 20	5082156	1195816	109
2058 LW 26	5082217	1195824	109
2058 LW 32	5082279	1195832	109
2058 LW 38	5082330	1195840	109
2058 LW 44	5082392	1195859	109
2058 LW 50	5082453	1195867	109
2058 LW 56	5082514	1195875	109
2058 LW 62	5237853	1195883	109
AB AW 15 FT	6846177	7207060	193
AB AW 30 FT	6846184	7207062	193
		/pc.	
ABG FT	5938682	6015345	55
ABL FT	6976881	6221467	139
ABR FT	6501731	6364942	137
ABS FS	6469819	6365027	137
ABS FS	6469819	6365027	139
ABS FT	6469635	6365035	137
		/100 pc.	
ACMSN M6 ZL	6488810	1147056	109
		/pc.	
AHB-T1712 VA4547	5924456	6363997	78
AHB-T1722 VA4547	5924463	6364007	78
AHB-T1732 VA4547	5924470	6364017	78
		price/100	
AML3518P2000FT	5047599	1119656	106
ASG 732 10 A4	6599769	1362460	114
ASG 732 10 G	6599615	1362410	113
ASG 732 12 A4	6599776	1362462	114
ASG 732 12 G	6599622	1362412	113
ASG 732 14 A4	6599783	1362464	114
ASG 732 14 G	6599639	1362414	113
ASG 732 17 A4	6599790	1362467	114
ASG 732 17 G	6599646	1362417	113
ASG 732 20 A4	6599806	1362469	114
ASG 732 20 G	6599653	1362420	113
ASG 732 25 A4	6599813	1362472	114
ASG 732 25 G	6599660	1362424	113
ASG 732 30 A4	6599820	1362474	114
ASG 732 30 G	6599677	1362428	113
ASG 732 36 A4	6599837	1362478	114
ASG 732 36 G	6599684	1362432	113
ASG 732 44 A4	6599844	1362482	114
ASG 732 44 G	6599691	1362436	113
ASG 732 53 A4	6599851	1362486	114
ASG 732 53 G	6599707	1362440	113

Type	GTIN	Item no.	Page
ASG 732 6 A4	6599738	1362454	114
ASG 732 6 G	6599585	1362404	113
ASG 732 63 A4	6599868	1362489	114
ASG 732 63 G	6599714	1362444	113
ASG 732 7 G	6599592	1362406	113
ASG 732 8 A4	6599752	1362458	114
ASG 732 8 G	6599608	1362408	113
ASL 733 20 A2	6608904	1362984	116
ASL 733 20 A4	6600298	1362914	116
ASL 733 20 FT	6599929	1362714	115
ASL 733 25 A2	6608911	1362986	116
ASL 733 25 A4	6600304	1362918	116
ASL 733 25 FT	6599936	1362718	115
ASL 733 25 G	6600076	1362768	115
ASL 733 30 A2	6608928	1362988	116
ASL 733 30 A4	6600335	1362922	116
ASL 733 30 FT	6599943	1362722	115
ASL 733 30 G	6600083	1362772	115
ASL 733 36 A2	6608935	1362990	116
ASL 733 36 A4	6600311	1362926	116
ASL 733 36 FT	6599981	1362726	115
ASL 733 36 G	6600090	1362776	115
ASL 733 44 A2	6608942	1362992	116
ASL 733 44 A4	6600328	1362930	116
ASL 733 44 FT	6599998	1362730	115
ASL 733 44 G	6600106	1362780	115
ASL 733 53 A2	6608959	1362994	116
ASL 733 53 A4	6600359	1362934	116
ASL 733 53 FT	6600007	1362734	115
ASL 733 53 G	6600113	1362784	115
ASL 733 63 A2	6608966	1362996	116
ASL 733 63 A4	6600366	1362938	116
ASL 733 63 FT	6600014	1362738	115
ASL 733 63 G	6600120	1362788	115
		/pc.	
ASX-K	5850182	7202310	168
AVL 60 FS	6960262	6208770	138
AVL 60 FT	6339914	6208778	138
AW 15 11 FT	6207077	6420656	143
AW 15 11 FT	6207077	6420656	191
AW 15 21 FT	6207190	6420680	60
AW 15 21 FT	6207190	6420680	143
AW 15 21 FT	6207190	6420680	191
AW 15 31 FT	6207251	6420710	60
AW 15 31 FT	6207251	6420710	143
AW 15 31 FT	6207251	6420710	191
AW 15 41 FT	6207312	6420745	60
AW 15 41 FT	6207312	6420745	143
AW 15 41 FT	6207312	6420745	191
AW 30 11 FT	6206599	6419704	61
AW 30 21 FT	6206711	6419720	143
AW 30 31 FT	6206773	6419747	143
AW 30 41 FT	6206834	6419763	143
AW 30 51 FT	6206896	6419798	192
AW 30 56 FT	6207015	6419844	192
AW 55 21 FT	6204731	6418554	61
AW 55 31 FT	6204793	6418570	61
AW 55 41 FT	6204854	6418597	61
AW G 15 21 FT	6662531	6420608	60
AW G 15 31 FT	6662593	6420610	60
AW G 15 41 FT	6662654	6420612	60
BEB 100 A2	6232031	7084013	76
BEB 100 A4	5866336	7084141	76
BEB 100 DD	6983728	7083618	53
BEB 100 FS	6231072	7083106	53
BEB 100 FS	6231072	7083106	137
BEB 100 FS	6231072	7083106	188
BEB 150 DD	6026883	7083622	53
BEB 150 FS	6231133	7083157	53
BEB 200 A2	6232093	7084048	76
BEB 200 A4	5866343	7084143	76
BEB 200 DD	6982943	7083626	53
BEB 200 FS	6231195	7083203	137
BEB 200 FS	6231195	7083203	188
BEB 200 FS	6231195	7083203	53
BEB 300 A2	6232154	7084064	76

Type	GTIN	Item no.	Page
		/pc.	
BEB 300 A4	5866350	7084145	76
BEB 300 DD	6982882	7083630	53
BEB 300 FS	6231256	7083300	137
BEB 300 FS	6231256	7083300	188
BEB 300 FS	6231256	7083300	53
BEB 400 DD	6024254	7083634	53
BEB 400 FS	6231317	7083408	188
BEB 400 FS	6231317	7083408	53
BEB 500 FS	6231379	7083505	188
BEB 600 FS	6231492	7083602	188
BSB FT	6204311	6418198	61
BSB FT	6204311	6418198	143
BSB FT	6204311	6418198	193
BW 80 55 FT	6014538	6019528	156
BW US 3/5 FT	6653652	6019534	142
		/100 pc.	
BZ 12-15-35/110	6411894	3498350	214
BZ 8-10-21/75HCR	5940128	3498516	216
BZ10-100-120/180	6411887	3498342	214
BZ10-10-30/90HCR	5940142	3498556	216
		/pc.	
BZ-IGS M 10V	6429554	3498384	215
BZ-IGS M 12V	6429561	3498386	215
BZ-IGS M 6V	6429530	3498380	215
BZ-IGS M 8V	6429547	3498382	215
		/100 pc.	
BZ-U 10-10-30/90	6411856	3498334	214
BZ-U 8-10-21/75	6411818	3498320	214
BZ-U 8-30-41/95	6411832	3498326	214
BZU10-10-30/90A4	6411863	3498336	216
BZ-U10-30-50/110	6411870	3498340	214
BZ-U8-10-21/75A4	6411825	3498322	216
CML3518P0150FS	5038238	1104241	106
CML3518P0200FS	5038290	1104268	106
CML3518P0300FS	5038351	1104284	106
CML3518P0400FS	5836353	1104292	106
CML3518P0500FS	5038412	1104306	106
CML3518P0600FS	5036678	1104310	106
CML3518P0700FS	5036739	1104315	106
CML3518P0800FS	5036791	1104320	106
CML3518P0900FS	5036852	1104325	106
		price/100	
CML3518P1000FS	5694458	1104497	106
CML3518P2000FS	5038771	1104500	106
		/100 pc.	
CSTR M10 G	6202270	6410103	61
CSTR M10 G	6202270	6410103	144
CSTR M10 G	6202270	6410103	236
CSTR M10 G	6202270	6410103	197
CSTR M12 G	6202331	6410111	61
CSTR M12 G	6202331	6410111	144
CSTR M12 G	6202331	6410111	236
CSTR M12 G	6202331	6410111	197
CSTR M8 G	6202218	6410081	144
CSTR M8 G	6202218	6410081	197
CSTR M8 G	6202218	6410081	236
DHI 050	6397228	7205900	236
DHI 060	6397235	7205901	236
DHI 070	6397242	7205902	236
DHI 080	6397266	7205903	236
DHI 090	6397297	7205904	236
DHI 100	6397303	7205905	236
DHI 110	6397310	7205906	236
DHI 120	6397327	7205907	236
DHI 130	6397358	7205908	236
DHI 140	6397365	7205909	236
DHI 150	6397372	7205910	236
DIN440 11 F	6480074	6408729	63
DIN440 11 F	6480074	6408729	145

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

Type listing

Type	GTIN	Item no.	Page
		/100 pc.	
DIN440 14 F	6480135	6408737	63
DIN440 7 F	6479955	6408702	110
DIN440 7 F	6479955	6408702	145
DIN440 7 F	6479955	6408702	196
		/pc.	
DSK 25 FT	6229277	6416446	192
DSK 45 FT	6202812	6416500	60
DSK 45 FT	6202812	6416500	142
DSK 45 FT	6202812	6416500	193
DSK 47 FT	6894253	6416504	60
DSK 47 FT	6894253	6416504	142
DSK 61 FT	6202874	6416519	60
		/100 pc.	
Easy M10	6412082	3498774	215
Easy M12	6466313	3498776	215
Easy M8	6412075	3498770	215
EDK 25 OR	6280551	7205675	32
EDK 32 OR	6280568	7205677	32
EDK 40 OR	6280582	7205679	32
EWP 10 i/ 12 i	6652853	3497724	219
EWP 10x10	6652563	3497656	218
EWP 6 i	6652839	3497720	219
EWP 6x10	6652488	3497640	218
EWP 8 i	6652846	3497722	219
EWP 8x10	6652532	3497648	218
		/pc.	
FBA-B200-14	6434459	7202505	169
FBA-SP	5428190	7202322	170
		price/pac	
FBS-M	5817505	7203803	169
		/pc.	
FBS-PH	5817536	7203806	169
FBS-S	5817499	7203800	169
		/100 pc.	
FRS 10x25 F	6201792	6407528	63
FRS 10x25 F	6201792	6407528	145
FRS 10x25 F	6201792	6407528	157
FRS 10x25 F 8.8	6201914	6407560	156
FRS 10x25 TPS F	6201853	6407536	145
FRS 12x25 F	6200054	6406254	145
FRS 12x25 F	6200054	6406254	156
FRS 6x12 A2	6200238	6406521	80
FRS 6x16 A2	6200290	6406556	80
FRS 8x16 F 8.8	6201259	6406963	156
FRS 8x25 F	6201372	6406998	156
FRSB 6x12 A4	6078370	6406142	80
FRSB 6x12 F	6199815	6406122	63
FRSB 6x12 F	6199815	6406122	145
FRSB 6x16 A4	6078431	6406193	80
FRSB 6x16 F	6199877	6406157	63
FRSB 6x16 F	6199877	6406157	145
FRSB 6x16 F	6199877	6406157	196
FRSB 6x20 F	6199990	6406203	63
FRSB 6x20 F	6199990	6406203	145
		/pc.	
GKS 34 A2	6013456	6016839	77
GKS 34 A4	6120437	6016859	77
GKS 34 G	7261436	6016855	55
GKS 34 G	7261436	6016855	189
GKT 38 A2	6013579	6017045	79
GKT 38 A4	6120499	6017092	79
GLB-PG1	6814176	7205460	234
GLB-PG2	6814183	7205462	234
GLB-PG3	6814190	7205464	235
		/pc.	
GMS 170 FS	6940875	6015400	56
		/100 pc.	
GMS 3 VW 90 FT	5486107	1124661	157
GR KS 3.9 OR	5872887	6003750	55
GR KS 3.9 OR	5872887	6003750	189

Type	GTIN	Item no.	Page
		/100 pc.	
GR KS 4.8 OR	5872894	6003754	77
GR KS 4.8 OR	5872894	6003754	55
GR KS 4.8 OR	5872894	6003754	189
GR-KS FS	6812639	7205400	56
		price/m	
GRM 55 100 G	6858552	6001442	188
GRM 55 100 G	6858552	6001442	54
GRM 55 150 G	6078974	6001444	54
GRM 55 200 4.8 G	5045274	6001447	54
GRM 55 200 G	6858613	6001446	188
GRM 55 200 G	6858613	6001446	54
GRM 55 300 A2	6101771	6001078	77
GRM 55 300 A4	5166078	6001093	77
GRM 55 300 G	6858675	6001448	188
GRM 55 300 G	6858675	6001448	54
GRM 55 400 G	6858736	6001450	188
GRM 55 400 G	6858736	6001450	54
GRM 55 50 G	5430957	6001441	54
		/pc.	
GSV 34 A2	6013210	6016642	78
GSV 34 A4	6120079	6016648	78
GSV 34 G	6520510	6016596	55
GSV 34 G	6520510	6016596	189
		/100 pc.	
HN M10 G	5298212	3400107	64
HN M10 G	5298212	3400107	146
HN M10 G	5298212	3400107	236
HN M10 G	5298212	3400107	197
HN M12 G	5298274	3400123	158
HN M12 G	5298274	3400123	64
HN M12 G	5298274	3400123	146
HN M12 G	5298274	3400123	236
HN M12 G	5298274	3400123	197
HN M8 G	5298151	3400085	146
HN M8 G	5298151	3400085	197
HN M8 G	5298151	3400085	236
HST 6x50 GA M6	7288044	3498150	234
HST 6x80 GA M6	7288068	3498152	234
		/100 pc.	
HT 10x100 TD	6563975	3498142	234
HT 10x120 TD	6563982	3498144	234
HT 10x140 TD	6563999	3498146	234
HT 10x80 TD	6563968	3498140	234
HT 6x100 TD	6563944	3498134	234
HT 6x120 TD	6563951	3498136	234
HT 6x60 TD	6563920	3498130	234
HT 6x80 TD	6563937	3498132	234
		/pc.	
KAB GR A2	5807155	6220145	78
KAB GR FS	5677932	6220139	55
		/100 pc.	
KS GR A2	5694625	6062282	62
KS GR A2	5694625	6062282	79
KS GR A2	5694625	6062282	196
KS KL A2	5694656	6062284	145
KS KR A2	5694618	6062280	62
KS KR A2	5694618	6062280	79
KS KR A2	5694618	6062280	144
KS KR A2	5694618	6062280	196
		/pc.	
KS-E DE	5847830	7205423	54
KS-E DE	5847830	7205423	76
KS-E DE	5847830	7205423	78
KS-E DE	5847830	7205423	88
KS-E DE	5847830	7205423	95
KS-E DE	5847830	7205423	103
KS-E DE	5847830	7205423	110
KS-E DE	5847830	7205423	137
KS-E DE	5847830	7205423	140
KS-E DE	5847830	7205423	160
KS-E DE	5847830	7205423	32

Type	GTIN	Item no.	Page
		/pc.	
KSR20030	6018710	6249844	92
KSR60100	5020325	6249852	95
KS-ZSE DE	5809654	7215750	168
KTSMV 610 A2	5889571	6068958	76
KTSMV 610 A4	5889649	6068980	76
KTSMV 610 DD	5890492	6068936	53
KTSMV 610 FS	5889502	6068914	53
KTSMV 610 FS	5889502	6068914	188
KTSMV 615 DD	5890508	6068938	53
KTSMV 615 FS	5889519	6068916	53
KTSMV 620 A2	5889595	6068962	76
KTSMV 620 A4	5889663	6068984	76
KTSMV 620 DD	5890515	6068940	53
KTSMV 620 FS	5889526	6068918	188
KTSMV 620 FS	5889526	6068918	53
KTSMV 630 A2	5889601	6068964	76
KTSMV 630 A4	5889670	6068986	76
KTSMV 630 DD	5890522	6068942	53
KTSMV 630 FS	5889533	6068920	188
KTSMV 630 FS	5889533	6068920	53
KTSMV 640 DD	5890560	6068944	53
KTSMV 640 FS	5889540	6068922	188
KTSMV 640 FS	5889540	6068922	53
KTSMV 650 FS	5889557	6068924	188
KTSMV 660 FS	5889564	6068926	188
KU 3 FT	6340217	6348874	57
KU 3 FT	6340217	6348874	140
KU 5 V FT	6901456	6348920	58
KU 5 V FT	6901456	6348920	142
KU 7 FT	6191413	6349102	59
KU 7 VQP FT	6191475	6349153	59
KUS 5 FT	6168910	6348904	58
KUS 5 FT	6168910	6348904	141
KUS 5 FT	6168910	6348904	157
KUS 5 NOK FT	6437771	6348939	157
LAB 20 FT	6163397	6220436	139
LAB 30 FT	6163458	6220444	139
LAB 40 FT	6163519	6220452	139
		price/m	
LG 620 VS 3 FS	5064022	6208538	154
LG 620 VS 6 FS	5064251	6208627	154
LG 620 VSF 6 FS	5299639	6207501	138
LG 620 VSF 6 FT	5299691	6207523	138
LG 630 VS 3 FS	5064053	6208541	154
LG 630 VS 6 FS	5064268	6208630	154
LG 630 VSF 6 FS	5299646	6207505	138
LG 630 VSF 6 FT	5299707	6207527	138
LG 640 VS 3 FS	5064060	6208544	154
LG 640 VS 6 FS	5064299	6208633	154
LG 640 VSF 6 FS	5299684	6207509	138
LG 640 VSF 6 FT	5299714	6207531	138
		/pc.	
LKM A60100FS	6312979	6248063	94
LKM A60100RW	6314898	6249574	94
LKM E60100FS	6575596	6248306	94
LKM E60100RW	6575770	6249817	94
LKM F60100FS	6312559	6248004	94
LKM F60100RW	6314713	6249507	94
LKM I60100FS	6313396	6248144	94
LKM I60100RW	6315079	6249639	94
LKM KF 60100	5685081	6249881	93
LKM SV30	6118991	6247434	92
LKM SV60	6315314	6247466	93
LKM T60100FS	6317837	6248209	94
LKM T60100RW	6318254	6249701	94
		price/m	
LKM20030FS	6118878	6246974	92
LKM20030RW	6119059	6248470	92
LKM60100FS	6312139	6247113	93
LKM60100RW	6313815	6248624	93

Type	GTIN	Item no.	Page
		/pc.	
LKS 40 FS	6164530	6221076	139
LVG 60 FS	5065555	6208840	156
MAH 60 100 FS	6939374	6358705	54
MAH 60 100 FT	6947171	6358752	54
MAH 60 150 FS	6939435	6358709	54
MAH 60 150 FT	6947232	6358756	54
MAH 60 200 FS	6939497	6358713	54
MAH 60 200 FT	6947294	6358760	54
MMS+ I 7.5x40	6710881	3498266	224
MMS+ I 7.5x60	6710911	3498268	224
		/100 pc.	
MMS+ KS 5x50	5964100	3498204	224
MMS+ MS 7.5x50	6559664	3498261	223
MMS+ MS 7.5x60	6842568	3498262	223
MMS+ P 6x40	6952175	3498105	223
		/100 pc.	
MMS+ P 6x50	6559657	3498108	95
MMS+ P 6x50	6559657	3498108	223
MMS+ P 7.5x75 A4	6952243	3498274	222
		/100 pc.	
MMS+ P 7.5x80	6559640	3498272	223
MMS+ R 6x40	6842698	3498180	225
		/100 pc.	
MMS+ SS 10x100	6559633	3498159	222
MMS+ SS 10x75 A4	6952182	3498126	222
		/100 pc.	
MMS+ SS 10x80	6559626	3498124	222
MMS+ SS 10x95 A4	6952199	3498128	222
MMS+ SS 12x100	6842575	3498170	222
MMS+ SS 12x120	6842582	3498172	222
MMS+ SS12x105 A4	6952205	3498174	222
MMS+ SS12x120 A4	6952236	3498176	222
		/100 pc.	
MMS+ ST 6x55	6559671	3498264	223
MMS+ V 10x110	6842636	3498192	224
MMS+ V 10x90	6842629	3498190	224
MMS+ V 12x110	6842643	3498196	224
MP-T6-B	6842254	7205792	30
MP-T6-F	6842223	7205790	30
		price/100	
MS4022P2000FT	5050230	1121979	107
		/100 pc.	
MS40SN M6 ZL	6489398	1147106	110
MS4121 EK	6255726	1122904	194
MS4121P0200FS	6471119	1122950	194
MS4121P0200FT	5697626	1122933	194
MS4121P0300FS	6471126	1122951	194
MS4121P0300FT	5697664	1122934	194
MS4121P0400FS	6471157	1122953	194
MS4121P0400FT	5697671	1122935	194
MS4121P0500FS	6471164	1122955	194
MS4121P0500FT	5697688	1122936	194
		price/100	
MS4121P2000FS	5686262	1122918	194
MS4121P2000FT	5697541	1122923	194
MS4121P3000FS	5686279	1122920	194
MS4121P3000FT	5686293	1122924	194
		/100 pc.	
MS4141 EK	5894117	1122906	195
MS4141P0400FT	5486251	1122525	195
MS4141P0500FT	5486794	1122533	195
MS4141P0600FT	5486916	1122541	195
MS4141P0700FT	5487036	1122568	195
		price/100	
MS4141P1000FS	5697503	1122908	195
MS4141P1000FT	5487272	1122606	195
MS4141P3000FS	5686224	1122910	195
MS4141P3000FT	5487876	1122622	195
		/100 pc.	
MSL4141P0400FS	6471270	1123266	194
MSL4141P0500FS	6471287	1123268	194
		price/100	
MSL4141P1000FS	5698142	1122970	194
MSL4141P1000FT	5698081	1122962	194
MSL4141P3000FS	5698159	1122972	194
MSL4141P3000FT	5698098	1122964	194

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

Type listing

Type	GTIN	Item no.	Page
		/pc.	
MWA 12 11S FS	6636853	6424716	143
MWA 12 21S FS	6636976	6424732	143
MWA 12 31S FS	6637034	6424740	143
MWA 12 41S FS	6637096	6424759	143
		/100 pc.	
N 6-5/49 A4	6429585	3498399	215
N 6-5/49 HCR	6411955	3498398	215
N 6-5-10/49	6411948	3498396	214
N-K 6-5/44 A4	6429578	3498393	216
N-K 6-5/44 HCR	6411931	3498392	216
N-K 6-5-10/44	6411924	3498390	95
N-K 6-5-10/44	6411924	3498390	214
PBD i M10	6652792	3497704	218
PBD i M12	6652808	3497706	218
PBD i M6	6652778	3497700	218
PBD i M8	6652785	3497702	218
PBD M10x10	6652426	3497616	218
PBD M6x10	6652297	3497600	218
PBD M8x10	6652365	3497608	218
PLF 41 10 FT	6675296	7207054	195
PLF 41 12 FT	6675302	7207056	195
PLF 41 8 FT	6675289	7207052	195
		/pc.	
RAA 610 FS	6379392	6040403	136
RAA 620 FS	6379453	6040438	136
RAA 630 FS	6379514	6040446	136
RAAM 610 A2	5878797	6041270	76
RAAM 610 A4	5878865	6041290	76
RAAM 610 FS	5878568	6041230	53
RAAM 610 FS	5878568	6041230	187
RAAM 610 FT	5878698	6041250	53
RAAM 615 FS	5878575	6041232	53
RAAM 615 FT	5878704	6041252	53
RAAM 620 A2	5878810	6041275	76
RAAM 620 A4	5878889	6041294	76
RAAM 620 FS	5878582	6041234	187
RAAM 620 FS	5878582	6041234	53
RAAM 620 FT	5878742	6041254	53
RAAM 630 A2	5878827	6041277	76
RAAM 630 A4	5878926	6041296	76
RAAM 630 FS	5878629	6041236	187
RAAM 630 FS	5878629	6041236	53
RAAM 630 FT	5878759	6041257	53
RAAM 640 FS	5878636	6041238	187
RAAM 640 FS	5878636	6041238	53
RAAM 640 FT	5878766	6041259	53
RAAM 650 FS	5878643	6041240	187
RAAM 660 FS	5878681	6041242	187
RB 10 M 6	6606948	3497870	230
RB 12 M 6	6606955	3497872	230
RB 14 M 6	6606962	3497874	230
RB 16 M 6	6615384	3497875	230
RB 18 M 6	6606993	3497876	230
RB 20 M 6	6615391	3497878	230
RB 90 610 FS	6050475	6043216	136
RB 90 620 FS	6050536	6043224	136
RB 90 630 FS	6050598	6043232	136
RB-L 150 M6	6467884	3497932	230
RBL M6 SDS	6464708	3497915	230
RBM 45 610 A2	5881674	6041080	75
RBM 45 620 A2	5881698	6041084	75
RBM 45 630 A2	5881704	6041086	75
RBM 90 610 A2	5881957	6041180	75
RBM 90 610 A4	5878407	6041200	75
RBM 90 610 FS	5881810	6041130	52
RBM 90 610 FS	5881810	6041130	187
RBM 90 610 FT	5881889	6041150	52
RBM 90 615 FS	5881827	6041132	52
RBM 90 615 FT	5881896	6041152	52
RBM 90 620 A2	5878322	6041184	75
RBM 90 620 A4	5878452	6041204	75

Type	GTIN	Item no.	Page
		/pc.	
RBM 90 620 FS	5881834	6041134	187
RBM 90 620 FS	5881834	6041134	52
RBM 90 620 FT	5881902	6041154	52
RBM 90 630 A2	5878339	6041186	75
RBM 90 630 A4	5878469	6041206	75
RBM 90 630 FS	5881841	6041136	187
RBM 90 630 FS	5881841	6041136	52
RBM 90 630 FT	5881919	6041156	52
RBM 90 640 FS	5881858	6041138	187
RBM 90 640 FS	5881858	6041138	52
RBM 90 640 FT	5881926	6041158	52
RBM 90 650 FS	5881865	6041140	187
RBM 90 660 FS	5881872	6041142	187
		price/m	
RKSM 610 A2	5706083	6047613	75
RKSM 610 A4	5706113	6047614	75
RKSM 610 FS	5390879	6047611	52
RKSM 610 FS	5390879	6047611	186
RKSM 610 FT	5903895	6047612	52
RKSM 615 FS	5391197	6047630	52
RKSM 615 FT	5903901	6047631	52
RKSM 620 A2	5706144	6047640	75
RKSM 620 A4	5706175	6047641	75
RKSM 620 FS	5391203	6047638	186
RKSM 620 FS	5391203	6047638	52
RKSM 620 FT	5903932	6047639	52
RKSM 630 A2	5706182	6047656	75
RKSM 630 A4	5706199	6047657	75
RKSM 630 FS	5391210	6047654	186
RKSM 630 FS	5391210	6047654	52
RKSM 630 FT	5903949	6047655	52
RKSM 640 FS	5391227	6047689	186
RKSM 640 FS	5391227	6047689	52
RKSM 640 FT	5903956	6047690	52
		/pc.	
RWVL 60 FS	6065530	6067115	136
		price/100	
S16W FT	5782148	2046593	87
S16W G	5924647	2046840	87
S16W SW	5782032	2046565	86
S20W FT	5782155	2046594	87
S20W G	5924654	2046841	87
S20W SW	5782049	2046566	86
S25W FT	5782162	2046595	87
S25W G	5924661	2046842	87
S25W SW	5782070	2046567	86
S32W FT	5782209	2046596	87
S32W G	5924678	2046843	87
S32W SW	5782087	2046568	86
S40W FT	5782216	2046597	87
S40W G	5924685	2046844	87
S40W SW	5782094	2046569	86
S50W FT	5782223	2046598	87
S50W G	5924692	2046845	87
S50W SW	5782100	2046570	86
S63W FT	5782261	2046599	87
S63W G	5924708	2046846	87
S63W SW	5782131	2046571	86
		/pc.	
SAB20 FS	6555857	6222943	139
SAB30 FS	6555918	6222951	139
SAB30 FT	6167470	6223036	139
SAB40 FS	6555970	6222978	139
SAB40 FT	6167531	6223044	139
SDS-EWP 10x10	6652723	3497684	218
SDS-EWP 8x10	6652662	3497676	218
		price/pair	
SKH 60 OR	5668008	6222537	138

Type	GTIN	Item no.	Page
		/100 pc.	
SKS 10x40 F	5257356	3160750	145
SKS 10x60 F	6202157	6408516	145
SKS 10x80 F	6437474	6418250	63
SKS 10x80 F	6437474	6418250	145
SKS 10x90 F	6518470	6418252	192
SKS 10x90 F	6518470	6418252	63
SKS 12x100 F	6204496	6418295	63
SKS 12x110 F	6204557	6418317	63
SKS 12x80 F	6204434	6418287	63
		price/m	
SKS 610 FS	6060191	6056105	136
SKS 620 FS	6060252	6056202	136
SKS 630 FS	6060313	6056296	136
SKSM 610 FS	5832485	6059456	187
SKSM 620 FS	5832508	6059460	187
SKSM 630 FS	5832546	6059462	187
SKSM 640 FS	5832553	6059464	187
SKSM 650 FS	5832560	6059466	187
SKSM 660 FS	5832591	6059468	187
SLM50C40F 20 FT	6814206	6010004	155
SLM50C40F 30 FT	6814213	6010006	155
		price/m	
SLM50C40F 40 FT	6959723	6010008	155
SLM50C40F 50 FT	6959785	6010016	155
SLM50C40F 60 FT	6959846	6010024	155
SLS80C40F 40 FT	6959907	6010105	155
SLS80C40F 50 FT	6959969	6010113	155
SLS80C40F 60 FT	6960026	6010121	155
		price/100	
SM16W FT	5781424	2046533	87
SM16W G	5924852	2046861	86
SM16W SW	5781028	2046500	86
SM20W FT	5781431	2046534	87
SM20W G	5924869	2046862	86
SM20W SW	5781066	2046501	86
SM25W FT	5781448	2046535	87
SM25W G	5924876	2046863	86
SM25W SW	5781073	2046502	86
SM32W FT	5781486	2046536	87
SM32W G	5924883	2046864	86
SM32W SW	5781080	2046503	86
SM40W FT	5781493	2046537	87
SM40W G	5924890	2046865	86
SM40W SW	5781127	2046505	86
SM50W FT	5781509	2046538	87
SM50W G	5924906	2046866	86
SM50W SW	5781134	2046506	86
SM63W FT	5781547	2046540	87
SM63W G	5924913	2046867	86
SM63W SW	5781141	2046507	86
		/pc.	
SSLB 100 FS	6079971	7070205	137
SSLB 200 FS	6094882	7070213	137
SSLB 300 FS	6094943	7070217	137
		/100 pc.	
SV16W FT	5782384	2046620	88
SV16W G	5924784	2046854	87
SV16W SW	5781776	2046582	86
SV20W FT	5782391	2046621	88
SV20W G	5924791	2046855	87
SV20W SW	5781783	2046583	86
SV25W FT	5782407	2046622	88
SV25W G	5924807	2046856	87
SV25W SW	5781790	2046584	86
SV32W FT	5782445	2046623	88
SV32W G	5924814	2046857	87
SV32W SW	5781806	2046585	86

Type	GTIN	Item no.	Page
		/100 pc.	
SV40W FT	5782452	2046624	88
SV40W G	5924821	2046858	87
SV40W SW	5781844	2046586	86
SV50W FT	5782469	2046625	88
SV50W G	5924838	2046859	87
SV50W SW	5781851	2046587	86
SV63W FT	5782490	2046626	88
SV63W G	5924845	2046860	87
SV63W SW	5781868	2046588	86
T100E 0VA	6820238	7205780	29
T100ED 06-2A	6812370	7205746	26
T100ED 06A	6812325	7205740	26
T100ED 06A2F	6812394	7205758	27
T100ED 06AF	6812288	7205752	27
T100ED 4x4AD	6812141	7205764	28
T100ED 4x8AD	6812158	7205766	28
T160E 0VA	6820245	7205782	29
T160ED 10-2A	6812264	7205748	26
T160ED 10A	6812332	7205742	26
T160ED 10A2F	6812400	7205760	27
T160ED 10AF	6812318	7205754	27
T250E 0VA	6820252	7205784	29
T250ED 16-2A	6812271	7205750	26
T250ED 16A	6812349	7205744	26
T250ED 16A2F	6812431	7205762	27
T250ED 16AF	6812387	7205756	27
T250ED 4x16AD	6812165	7205768	28
T250ED 4x24AD	6812196	7205770	28
T350E 0VA	6820269	7205786	29
T350ED 4x32AD	6812202	7205772	28
		/pc.	
TE-FH 520	5993162	7205570	30
		/100 pc.	
TK 04	6396016	7205700	30
TK 06	6396023	7205702	30
TK 06-2	6810222	7205703	30
		/100 pc.	
TK 10	6396030	7205704	30
TK 10-2	6810239	7205705	30
		/100 pc.	
TK 16	6396047	7205706	30
TK 16-2	6810246	7205707	30
TPE 04	7272463	7205709	31
TPE 35	7272517	7205714	31
		/100 pc.	
TR M10 1M G	5253396	3141209	61
TR M10 1M G	5253396	3141209	143
TR M10 1M G	5253396	3141209	197
TR M10 1M G	5253396	3141209	236
TR M12 1M G	5253457	3141306	158
TR M12 1M G	5253457	3141306	61
TR M12 1M G	5253457	3141306	143
TR M12 1M G	5253457	3141306	197
TR M12 1M G	5253457	3141306	236
TR M8 1M G	5253334	3141128	143
TR M8 1M G	5253334	3141128	197
TR M8 1M G	5253334	3141128	236
		price/m	
TSG 45 A2	5694441	6062025	78
TSG 45 A4	5694472	6062028	78
TSG 45 FS	5694489	6062033	62
TSG 45 FS	5694489	6062033	144
TSG 45 FS	5694489	6062033	195
TSG 60 A2	5694557	6062084	79
TSG 60 A4	5694564	6062086	79
TSG 60 FS	5694540	6062068	62
TSG 60 FS	5694540	6062068	144
TSG 60 FS	5694540	6062068	196
		/pc.	
TSGV A2	5694724	6067970	62

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

Type listing

Type	GTIN	Item no.	Page
		/pc.	
TSGV A2	5694724	6067970	79
TSGV A2	5694724	6067970	144
US 3 100 FS	6223572	6342318	56
US 3 100 FS	6223572	6342318	140
US 3 150 FS	6223633	6342328	140
US 3 20 FS	6221776	6342302	56
US 3 20 FS	6221776	6342302	140
US 3 200 FS	6224296	6342338	140
US 3 30 FS	6222018	6342304	56
US 3 30 FS	6222018	6342304	140
US 3 40 FS	6222070	6342306	56
US 3 40 FS	6222070	6342306	140
US 3 50 FS	6222315	6342308	56
US 3 50 FS	6222315	6342308	140
US 3 60 FS	6222377	6342310	56
US 3 60 FS	6222377	6342310	140
US 3 70 FS	6222438	6342312	56
US 3 70 FS	6222438	6342312	140
US 3 80 FS	6222490	6342314	56
US 3 80 FS	6222490	6342314	140
US 3 90 FS	6223510	6342316	56
US 3 90 FS	6223510	6342316	140
US 3 K 100 FT	6225132	6342368	56
US 3 K 100 FT	6225132	6342368	140
US 3 K 110 FT	6225378	6342370	56
US 3 K 110 FT	6225378	6342370	140
US 3 K 120 FT	6225439	6342372	56
US 3 K 120 FT	6225439	6342372	140
US 3 K 120 FT	6225439	6342372	190
US 3 K 20 FT	6224470	6342351	56
US 3 K 20 FT	6224470	6342351	140
US 3 K 20 FT	6224470	6342351	190
US 3 K 30 FT	6224531	6342353	56
US 3 K 30 FT	6224531	6342353	140
US 3 K 40 FT	6224593	6342355	56
US 3 K 40 FT	6224593	6342355	140
US 3 K 50 FT	6224654	6342357	56
US 3 K 50 FT	6224654	6342357	140
US 3 K 60 FT	6224715	6342359	56
US 3 K 60 FT	6224715	6342359	140
US 3 K 70 FT	6224777	6342362	56
US 3 K 70 FT	6224777	6342362	140
US 3 K 80 FT	6225019	6342364	56
US 3 K 80 FT	6225019	6342364	140
US 3 K 90 FT	6225071	6342366	56
US 3 K 90 FT	6225071	6342366	140
US 3 KS OR	5668039	6338458	57
US 3 KS OR	5668039	6338458	141
US 3 KS OR	5668039	6338458	190
US 5 100 FT	6284177	6340962	141
US 5 100 FT	6284177	6340962	57
US 5 150 FT	6437597	6340966	141
US 5 150 FT	6437597	6340966	57
US 5 20 FT	6959006	6340881	57
US 5 200 FT	6437658	6340970	141
US 5 200 FT	6437658	6340970	57
US 5 30 FT	6959068	6340903	141
US 5 30 FT	6959068	6340903	57
US 5 40 FT	6959129	6340911	141
US 5 40 FT	6959129	6340911	57
US 5 50 FT	6959181	6340938	141
US 5 50 FT	6959181	6340938	57
US 5 60 FT	6601752	6340946	141
US 5 60 FT	6601752	6340946	57
US 5 70 FT	6043927	6340950	141
US 5 70 FT	6043927	6340950	57
US 5 80 FT	6044047	6340954	141
US 5 80 FT	6044047	6340954	57
US 5 90 FT	6044160	6340958	141
US 5 90 FT	6044160	6340958	57
US 5 K 100 FT	6536290	6341616	57
US 5 K 100 FT	6536290	6341616	141
US 5 K 100 FT	6536290	6341616	191
US 5 K 110 FT	6536238	6341624	57
US 5 K 110 FT	6536238	6341624	141
US 5 K 110 FT	6536238	6341624	191
US 5 K 120 FT	6536177	6341632	57
US 5 K 120 FT	6536177	6341632	141
US 5 K 120 FT	6536177	6341632	191
US 5 K 20 FT	6536771	6341527	57
US 5 K 20 FT	6536771	6341527	141

Type	GTIN	Item no.	Page
		/pc.	
US 5 K 20 FT	6536771	6341527	191
US 5 K 30 FT	6536719	6341535	57
US 5 K 30 FT	6536719	6341535	141
US 5 K 30 FT	6536719	6341535	191
US 5 K 40 FT	6536658	6341543	57
US 5 K 40 FT	6536658	6341543	141
US 5 K 40 FT	6536658	6341543	191
US 5 K 50 FT	6536597	6341551	57
US 5 K 50 FT	6536597	6341551	141
US 5 K 50 FT	6536597	6341551	191
US 5 K 60 FT	6536535	6341578	57
US 5 K 60 FT	6536535	6341578	141
US 5 K 60 FT	6536535	6341578	191
US 5 K 70 FT	6536474	6341586	57
US 5 K 70 FT	6536474	6341586	141
US 5 K 70 FT	6536474	6341586	191
US 5 K 80 FT	6536412	6341594	57
US 5 K 80 FT	6536412	6341594	141
US 5 K 80 FT	6536412	6341594	191
US 5 K 90 FT	6536351	6341608	57
US 5 K 90 FT	6536351	6341608	141
US 5 K 90 FT	6536351	6341608	191
US 5 KS OR	5668046	6338462	58
US 5 KS OR	5668046	6338462	142
US 5 KS OR	5668046	6338462	191
US 7 100 FT	6188178	6340180	157
US 7 100 FT	6188178	6340180	59
US 7 110 FT	6188239	6340199	157
US 7 110 FT	6188239	6340199	59
US 7 120 FT	6188291	6340202	157
US 7 120 FT	6188291	6340202	59
US 7 130 FT	6188352	6340210	157
US 7 130 FT	6188352	6340210	59
US 7 140 FT	6188413	6340229	157
US 7 140 FT	6188413	6340229	59
US 7 150 FT	6188475	6340237	157
US 7 150 FT	6188475	6340237	59
US 7 160 FT	6188536	6340245	157
US 7 160 FT	6188536	6340245	59
US 7 170 FT	6188598	6340253	157
US 7 180 FT	6188659	6340261	157
US 7 180 FT	6188659	6340261	59
US 7 190 FT	6188710	6340288	157
US 7 190 FT	6188710	6340288	59
US 7 20 FT	6187690	6340016	59
US 7 200 FT	6188772	6340296	157
US 7 200 FT	6188772	6340296	59
US 7 30 FT	6187751	6340032	59
US 7 40 FT	6187812	6340059	59
US 7 50 FT	6187874	6340075	59
US 7 60 FT	6187935	6340091	157
US 7 60 FT	6187935	6340091	59
US 7 70 FT	6187997	6340113	157
US 7 70 FT	6187997	6340113	59
US 7 80 FT	6188055	6340148	157
US 7 80 FT	6188055	6340148	59
US 7 90 FT	6188116	6340164	157
US 7 90 FT	6188116	6340164	59
US 7 K 100 FT	6187034	6339182	58
US 7 K 110 FT	6187096	6339190	58
US 7 K 120 FT	6187157	6339204	58
US 7 K 130 FT	6187218	6339212	58
US 7 K 140 FT	6187270	6339220	58
US 7 K 150 FT	6187331	6339239	58
US 7 K 160 FT	6187393	6339247	58
US 7 K 170 FT	6187454	6339255	58
US 7 K 180 FT	6187515	6339263	58
US 7 K 190 FT	6187577	6339271	58
US 7 K 20 FT	6186556	6339018	58
US 7 K 200 FT	6187638	6339298	58
US 7 K 30 FT	6186617	6339034	58
US 7 K 40 FT	6186679	6339050	58
US 7 K 50 FT	6186730	6339077	58
US 7 K 60 FT	6186792	6339093	58
US 7 K 70 FT	6186853	6339115	58
US 7 K 80 FT	6186914	6339131	58
US 7 K 90 FT	6186976	6339166	58
US 7 KS OR	5668060	6338497	59
VIS 8 FT	6014231	6018300	156
VM-AP 360	6464685	3497912	230

Type	GTIN	Item no.	Page
		/pc.	
VM-P 345 Profi	6464661	3497906	228
VM-P 380 Profi	6464678	3497909	228
VMU plus 300		3497806	228
		/pc.	
VMU plus 420	6606986	3497803	228
VMU-A 10-130A4	6606825	3497832	229
VMU-A 10-130vz	6606764	3497822	229
VMU-A 10-150vz	6606771	3497824	229
VMU-A 12-155A4	6606832	3497834	229
VMU-A 12-155vz	6606788	3497826	229
VMU-A 8-110A4	6606818	3497830	229
VMU-A 8-110vz	6606757	3497820	229
VMU-IG M10x80A4	6606894	3497854	229
VMU-IG M10x80vz	6606863	3497844	229
VMU-IG M6x80A4	6606870	3497850	229
VMU-IG M6x80vz	6606849	3497840	229
VMU-IG M8x80A4	6606887	3497852	229
VMU-IG M8x80vz	6606856	3497842	229
VMU-SH 12x80	6606900	3497860	229
VMU-SH 16x130	6606924	3497864	229
VMU-SH 16x85	6606917	3497862	229
VMU-SH 20x85	6606931	3497866	229
VM-X	6464937	3497981	231
		/100 pc.	
V-TEC VM16+ OR	6632800	7205657	31
V-TEC VM20+ OR	6028238	7205660	31
V-TEC VM25+ OR	6028245	7205663	31
V-TEC VM32+ OR	6028269	7205666	31
V-TEC VM40+ OR	6028290	7205669	31
		/pc.	
VUS 5 FT	6446896	6018505	156
		/100 pc.	
WS M10 D20 G	5300137	3402096	64
WS M10 D20 G	5300137	3402096	146
WS M10 D20 G	5300137	3402096	237
WS M10 D20 G	5300137	3402096	197
WS M12 D24 G	5300199	3402126	158
WS M12 D24 G	5300199	3402126	64
WS M12 D24 G	5300199	3402126	146
WS M12 D24 G	5300199	3402126	237
WS M12 D24 G	5300199	3402126	197
WS M8 D16 G	5300076	3402088	146
WS M8 D16 G	5300076	3402088	237
WS M8 G20 G	5868217	3403122	197
ZSE90-21-17 LH	6814725	7215780	169
ZSE90-25-11 L	6814602	7215760	168
ZSE90-25-17 L	6814657	7215766	168
ZSE90-31-17 LH	6814732	7215782	169
ZSE90-35-11 L	6814619	7215762	168
ZSE90-35-17 L	6814664	7215768	168
ZSE90-41-17 LH	6814749	7215784	169
ZSE90-45-11 L	6814626	7215764	168
ZSE90-45-17 L	6814671	7215770	168
ZSE90-51-17 LH	6814770	7215786	169
ZSE90-55-17 L	6814688	7215772	168
ZSE90-61-17 LH	6814787	7215788	169
ZSE90-65-17 L	6814718	7215774	168

Always indicate the item number when ordering.

Numeric directory

GTIN	Item no.	Page
	/100 pc.	
5038238	**1104241**	106
5038290	**1104268**	106
5038351	**1104284**	106
5836353	**1104292**	106
5038412	**1104306**	106
5036678	**1104310**	106
5036739	**1104315**	106
5036791	**1104320**	106
5036852	**1104325**	106
	price/100	
5694458	**1104497**	106
5038771	**1104500**	106
5047599	**1119656**	106
5050230	**1121979**	107
	/100 pc.	
5486251	**1122525**	195
5486794	**1122533**	195
5486916	**1122541**	195
5487036	**1122568**	195
	price/100	
5487272	**1122606**	195
5487876	**1122622**	195
	/100 pc.	
6255726	**1122904**	194
5894117	**1122906**	195
	price/100	
5697503	**1122908**	195
5686224	**1122910**	195
5686262	**1122918**	194
5686279	**1122920**	194
5697541	**1122923**	194
5686293	**1122924**	194
	/100 pc.	
5697626	**1122933**	194
5697664	**1122934**	194
5697671	**1122935**	194
5697688	**1122936**	194
6471119	**1122950**	194
6471126	**1122951**	194
6471157	**1122953**	194
6471164	**1122955**	194
	price/100	
5698081	**1122962**	194
5698098	**1122964**	194
5698142	**1122970**	194
5698159	**1122972**	194
	/100 pc.	
6471270	**1123266**	194
6471287	**1123268**	194
5486107	**1124661**	157
6488810	**1147056**	109
6489398	**1147106**	110
5062714	**1156004**	107
5062776	**1156012**	107
5062837	**1156020**	107
5062899	**1156039**	107
5062950	**1156047**	107
5063018	**1156055**	107
5063070	**1156063**	107
5063131	**1156071**	107
5063193	**1156098**	107
5063254	**1156101**	107
5063315	**1156128**	107
5063377	**1156136**	107
5063438	**1156144**	107
5063490	**1156152**	107
5063551	**1156160**	107
5494836	**1156179**	108
5494898	**1156187**	108
5494959	**1156195**	108
5958703	**1156209**	108
5958765	**1156241**	108
5958826	**1156268**	108
5958888	**1156276**	108
5958949	**1156284**	108

GTIN	Item no.	Page
	/100 pc.	
5498254	**1158007**	109
5498315	**1158015**	109
5498377	**1158023**	109
5498438	**1158031**	109
5498490	**1158058**	109
5498551	**1158066**	109
5498612	**1158074**	109
5498674	**1158082**	109
5498735	**1158090**	109
5498797	**1158104**	109
5498858	**1158112**	109
5498919	**1158120**	109
5082033	**1195794**	109
5082095	**1195808**	109
5082156	**1195816**	109
5082217	**1195824**	109
5082279	**1195832**	109
5082330	**1195840**	109
5082392	**1195859**	109
5082453	**1195867**	109
5082514	**1195875**	109
5237853	**1195883**	109
6599585	**1362404**	113
6599592	**1362406**	113
6599608	**1362408**	113
6599615	**1362410**	113
6599622	**1362412**	113
6599639	**1362414**	113
6599646	**1362417**	113
6599653	**1362420**	113
6599660	**1362424**	113
6599677	**1362428**	113
6599684	**1362432**	113
6599691	**1362436**	113
6599707	**1362440**	113
6599714	**1362444**	113
6599738	**1362454**	114
6599752	**1362458**	114
6599769	**1362460**	114
6599776	**1362462**	114
6599783	**1362464**	114
6599790	**1362467**	114
6599806	**1362469**	114
6599813	**1362472**	114
6599820	**1362474**	114
6599837	**1362478**	114
6599844	**1362482**	114
6599851	**1362486**	114
6599868	**1362489**	114
6599929	**1362714**	115
6599936	**1362718**	115
6599943	**1362722**	115
6599981	**1362726**	115
6599998	**1362730**	115
6600007	**1362734**	115
6600014	**1362738**	115
6600076	**1362768**	115
6600083	**1362772**	115
6600090	**1362776**	115
6600106	**1362780**	115
6600113	**1362784**	115
6600120	**1362788**	115
6600298	**1362914**	116
6600304	**1362918**	116
6600335	**1362922**	116
6600311	**1362926**	116
6600328	**1362930**	116
6600359	**1362934**	116
6600366	**1362938**	116
6608904	**1362984**	116
6608911	**1362986**	116
6608928	**1362988**	116
6608935	**1362990**	116
6608942	**1362992**	116
6608959	**1362994**	116
6608966	**1362996**	116
	price/100	
5781028	**2046500**	86
5781066	**2046501**	86
5781073	**2046502**	86

GTIN	Item no.	Page
	price/100	
5781080	**2046503**	86
5781127	**2046505**	86
5781134	**2046506**	86
5781141	**2046507**	86
5781424	**2046533**	87
5781431	**2046534**	87
5781448	**2046535**	87
5781486	**2046536**	87
5781493	**2046537**	87
5781509	**2046538**	87
5781547	**2046540**	87
5782032	**2046565**	86
5782049	**2046566**	86
5782070	**2046567**	86
5782087	**2046568**	86
5782094	**2046569**	86
5782100	**2046570**	86
5782131	**2046571**	86
	/100 pc.	
5781776	**2046582**	86
5781783	**2046583**	86
5781790	**2046584**	86
5781806	**2046585**	86
5781844	**2046586**	86
5781851	**2046587**	86
5781868	**2046588**	86
	price/100	
5782148	**2046593**	87
5782155	**2046594**	87
5782162	**2046595**	87
5782209	**2046596**	87
5782216	**2046597**	87
5782223	**2046598**	87
5782261	**2046599**	87
	/100 pc.	
5782384	**2046620**	88
5782391	**2046621**	88
5782407	**2046622**	88
5782445	**2046623**	88
5782452	**2046624**	88
5782469	**2046625**	88
5782490	**2046626**	88
	price/100	
5924647	**2046840**	87
5924654	**2046841**	87
5924661	**2046842**	87
5924678	**2046843**	87
5924685	**2046844**	87
5924692	**2046845**	87
5924708	**2046846**	87
	/100 pc.	
5924784	**2046854**	87
5924791	**2046855**	87
5924807	**2046856**	87
5924814	**2046857**	87
5924821	**2046858**	87
5924838	**2046859**	87
5924845	**2046860**	87
	price/100	
5924852	**2046861**	86
5924869	**2046862**	86
5924876	**2046863**	86
5924883	**2046864**	86
5924890	**2046865**	86
5924906	**2046866**	86
5924913	**2046867**	86
	/100 pc.	
6332243	**2047812**	88
6332250	**2047831**	88
6332267	**2047839**	88
6332274	**2047855**	88
6332281	**2047863**	88
6332311	**2047890**	88
6332328	**2047898**	88
6332335	**2047936**	88
6332342	**2047944**	88
6332373	**2047952**	88
6332380	**2047971**	88
6332397	**2047979**	88
6332403	**2047987**	88
6332434	**2047995**	88

GTIN	Item no.	Page
	/100 pc.	
5036616	**2204000**	103
5210672	**2204010**	103
6624249	**2204020**	103
5044970	**2205097**	103
5863953	**2207028**	98
5798798	**2207036**	98
5022497	**2207060**	99
5809395	**2207080**	98
5809401	**2207088**	99
5809449	**2207112**	99
5809456	**2207132**	98
5809463	**2207140**	99
5809470	**2207164**	100
5864011	**2207184**	100
5253334	**3141128**	143
5253396	**3141209**	61
5253457	**3141306**	61
5257356	**3160750**	145
5298151	**3400085**	146
5298212	**3400107**	64
5298274	**3400123**	64
5300076	**3402088**	146
5300137	**3402096**	64
5300199	**3402126**	64
5868217	**3403122**	197
6652297	**3497600**	218
6652365	**3497608**	218
6652426	**3497616**	218
6652488	**3497640**	218
6652532	**3497648**	218
6652563	**3497656**	218
6652662	**3497676**	218
6652723	**3497684**	218
6652778	**3497700**	218
6652785	**3497702**	218
6652792	**3497704**	218
6652808	**3497706**	218
6652839	**3497720**	219
6652846	**3497722**	219
6652853	**3497724**	219
	/pc.	
6606986	**3497803**	228
	3497806	228
	/pc.	
6606757	**3497820**	229
6606764	**3497822**	229
6606771	**3497824**	229
6606788	**3497826**	229
6606818	**3497830**	229
6606825	**3497832**	229
6606832	**3497834**	229
6606849	**3497840**	229
6606856	**3497842**	229
6606863	**3497844**	229
6606870	**3497850**	229
6606887	**3497852**	229
6606894	**3497854**	229
6606900	**3497860**	229
6606917	**3497862**	229
6606924	**3497864**	229
6606931	**3497866**	229
6606948	**3497870**	230
6606955	**3497872**	230
6606962	**3497874**	230
6615384	**3497875**	230
6606993	**3497876**	230
6615391	**3497878**	230
6464661	**3497906**	228
6464678	**3497909**	228
6464685	**3497912**	230
6464708	**3497915**	230
6467884	**3497932**	230
6464937	**3497981**	231
6952175	**3498105**	223

GTIN	Item no.	Page
	/100 pc.	
6559657	**3498108**	95
6559626	**3498124**	222
6952182	**3498126**	222
6952199	**3498128**	222
	/100 pc.	
6563920	**3498130**	234
6563937	**3498132**	234
6563944	**3498134**	234
6563951	**3498136**	234
6563968	**3498140**	234
6563975	**3498142**	234
6563982	**3498144**	234
6563999	**3498146**	234
7288044	**3498150**	234
7288068	**3498152**	234
	/100 pc.	
6559633	**3498159**	222
6842575	**3498170**	222
6842582	**3498172**	222
6952205	**3498174**	222
6952236	**3498176**	222
6842698	**3498180**	225
6842629	**3498190**	224
6842636	**3498192**	224
6842643	**3498196**	224
	/100 pc.	
5964100	**3498204**	224
6559664	**3498261**	223
6842568	**3498262**	223
	/100 pc.	
6559671	**3498264**	223
6710881	**3498266**	224
6710911	**3498268**	224
	/100 pc.	
6559640	**3498272**	223
6952243	**3498274**	222
	/100 pc.	
6411818	**3498320**	214
6411825	**3498322**	216
6411832	**3498326**	214
6411856	**3498334**	214
6411863	**3498336**	216
6411870	**3498340**	214
6411887	**3498342**	214
6411894	**3498350**	214
	/pc.	
6429530	**3498380**	215
6429547	**3498382**	215
6429554	**3498384**	215
6429561	**3498386**	215
	/100 pc.	
6411924	**3498390**	95
6411931	**3498392**	216
6429578	**3498393**	216
6411948	**3498396**	214
6411955	**3498398**	215
6429585	**3498399**	215
5940128	**3498516**	216
5940142	**3498556**	216
6412075	**3498770**	215
6412082	**3498774**	215
6466313	**3498776**	215
	price/m	
6101771	**6001078**	77
5166078	**6001093**	77
5430957	**6001441**	54
6858552	**6001442**	54
6078974	**6001444**	54
6858613	**6001446**	54
5045274	**6001447**	54
6858675	**6001448**	54
6858736	**6001450**	54
	/100 pc.	
5872887	**6003750**	55
5872894	**6003754**	55
6814206	**6010004**	155
6814213	**6010006**	155
	price/m	
6959723	**6010008**	155
6959785	**6010016**	155

GTIN	Item no.	Page
	price/m	
6959846	**6010024**	155
6959907	**6010105**	155
6959969	**6010113**	155
6960026	**6010121**	155
	/pc.	
5938682	**6015345**	55
6940875	**6015400**	56
6520510	**6016596**	55
6013210	**6016642**	78
6120079	**6016648**	78
6013456	**6016839**	77
7261436	**6016855**	55
6120437	**6016859**	77
6013579	**6017045**	79
6120499	**6017092**	79
6014231	**6018300**	156
6446896	**6018505**	156
6014538	**6019528**	156
6653652	**6019534**	142
6379392	**6040403**	136
6379453	**6040438**	136
6379514	**6040446**	136
5881674	**6041080**	75
5881698	**6041084**	75
5881704	**6041086**	75
5881810	**6041130**	52
5881827	**6041132**	52
5881834	**6041134**	52
5881841	**6041136**	52
5881858	**6041138**	52
5881865	**6041140**	187
5881872	**6041142**	187
5881889	**6041150**	52
5881896	**6041152**	52
5881902	**6041154**	52
5881919	**6041156**	52
5881926	**6041158**	52
5881957	**6041180**	75
5878322	**6041184**	75
5878339	**6041186**	75
5878407	**6041200**	75
5878452	**6041204**	75
5878469	**6041206**	75
5878568	**6041230**	53
5878575	**6041232**	53
5878582	**6041234**	53
5878629	**6041236**	53
5878636	**6041238**	53
5878643	**6041240**	187
5878681	**6041242**	187
5878698	**6041250**	53
5878704	**6041252**	53
5878742	**6041254**	53
5878759	**6041257**	53
5878766	**6041259**	53
5878797	**6041270**	76
5878810	**6041275**	76
5878827	**6041277**	76
5878865	**6041290**	76
5878889	**6041294**	76
5878926	**6041296**	76
6050475	**6043216**	136
6050536	**6043224**	136
6050598	**6043232**	136
	price/m	
5390879	**6047611**	52
5903895	**6047612**	52
5706083	**6047613**	75
5706113	**6047614**	75
5391197	**6047630**	52
5903901	**6047631**	52
5391203	**6047638**	52
5903932	**6047639**	52
5706144	**6047640**	75
	price/m	
5706175	**6047641**	75
5391210	**6047654**	52
5903949	**6047655**	52
5706182	**6047656**	75
5706199	**6047657**	75
5391227	**6047689**	52
5903956	**6047690**	52
6060191	**6056105**	136
6060252	**6056202**	136
6060313	**6056296**	136
5832485	**6059456**	187
5832508	**6059460**	187
5832546	**6059462**	187
5832553	**6059464**	187
5832560	**6059466**	187
5832591	**6059468**	187
5694441	**6062025**	78
5694472	**6062028**	78
5694489	**6062033**	62
5694540	**6062068**	62
5694557	**6062084**	79
5694564	**6062086**	79
	/100 pc.	
5694618	**6062280**	62
5694625	**6062282**	62
5694656	**6062284**	145
	/pc.	
6065530	**6067115**	136
5694724	**6067970**	62
5889502	**6068914**	53
5889519	**6068916**	53
5889526	**6068918**	53
5889533	**6068920**	53
5889540	**6068922**	53
5889557	**6068924**	188
5889564	**6068926**	188
5890492	**6068936**	53
5890508	**6068938**	53
5890515	**6068940**	53
5890522	**6068942**	53
5890560	**6068944**	53
5889571	**6068958**	76
5889595	**6068962**	76
5889601	**6068964**	76
5889649	**6068980**	76
5889663	**6068984**	76
5889670	**6068986**	76
	price/m	
5299639	**6207501**	138
5299646	**6207505**	138
5299684	**6207509**	138
5299691	**6207523**	138
5299707	**6207527**	138
5299714	**6207531**	138
5064022	**6208538**	154
5064053	**6208541**	154
5064060	**6208544**	154
5064251	**6208627**	154
5064268	**6208630**	154
5064299	**6208633**	154
	/pc.	
6960262	**6208770**	138
6339914	**6208778**	138
5065555	**6208840**	156
5677932	**6220139**	55
5807155	**6220145**	78
6163397	**6220436**	139
6163458	**6220444**	139
6163519	**6220452**	139
6164530	**6221076**	139
6976881	**6221467**	139
	price/pair	
5668008	**6222537**	138
	/pc.	
6555857	**6222943**	139
6555918	**6222951**	139
6555970	**6222978**	139
6167470	**6223036**	139
6167531	**6223044**	139
	price/m	
6118878	**6246974**	92
6312139	**6247113**	93
	/pc.	
6118991	**6247434**	92
6315314	**6247466**	93
6312559	**6248004**	94
6312979	**6248063**	94
6313396	**6248144**	94
6317837	**6248209**	94
6575596	**6248306**	94
	price/m	
6119059	**6248470**	92
6313815	**6248624**	93
	/pc.	
6314713	**6249507**	94
6314898	**6249574**	94
6315079	**6249639**	94
6318254	**6249701**	94
6575770	**6249817**	94
6018710	**6249844**	92
5020325	**6249852**	95
5685081	**6249881**	93
5668039	**6338458**	57
5668046	**6338462**	58
5668060	**6338497**	59
6186556	**6339018**	58
6186617	**6339034**	58
6186679	**6339050**	58
6186730	**6339077**	58
6186792	**6339093**	58
6186853	**6339115**	58
6186914	**6339131**	58
6186976	**6339166**	58
6187034	**6339182**	58
6187096	**6339190**	58
6187157	**6339204**	58
6187218	**6339212**	58
6187270	**6339220**	58
6187331	**6339239**	58
6187393	**6339247**	58
6187454	**6339255**	58
6187515	**6339263**	58
6187577	**6339271**	58
6187638	**6339298**	58
6187690	**6340016**	59
6187751	**6340032**	59
6187812	**6340059**	59
6187874	**6340075**	59
6187935	**6340091**	59
6187997	**6340113**	59
6188055	**6340148**	59
6188116	**6340164**	59
6188178	**6340180**	59
6188239	**6340199**	59
6188291	**6340202**	59
6188352	**6340210**	59
6188413	**6340229**	59
6188475	**6340237**	59
6188536	**6340245**	59
6188598	**6340253**	157
6188659	**6340261**	59
6188710	**6340288**	59
6188772	**6340296**	59
6959006	**6340881**	57
6959068	**6340903**	57
6959129	**6340911**	57
6959181	**6340938**	57
6601752	**6340946**	57
6043927	**6340950**	57
	/pc.	
6044047	**6340954**	57
6044160	**6340958**	57
6284177	**6340962**	57
6437597	**6340966**	57
6437658	**6340970**	57
6536771	**6341527**	57
6536719	**6341535**	57
6536658	**6341543**	57
6536597	**6341551**	57
6536535	**6341578**	57
6536474	**6341586**	57
6536412	**6341594**	57
6536351	**6341608**	57
6536290	**6341616**	57
6536238	**6341624**	57
6536177	**6341632**	57
6222315	**6342308**	56
6222377	**6342310**	56
6222438	**6342312**	56
6222490	**6342314**	56
6223510	**6342316**	56
6223572	**6342318**	56
6223633	**6342328**	140
6224296	**6342338**	140
6224470	**6342351**	56
6224531	**6342353**	56
6224593	**6342355**	56
6224654	**6342357**	56
6224715	**6342359**	56
6224777	**6342362**	56
6225019	**6342364**	56
6225071	**6342366**	56
6225132	**6342368**	56
6225378	**6342370**	56
6225439	**6342372**	56
6340217	**6348874**	57
6168910	**6348904**	58
6901456	**6348920**	58
6437771	**6348939**	157
6191413	**6349102**	59
6191475	**6349153**	59
6939374	**6358705**	54
6939435	**6358709**	54
6939497	**6358713**	54
6947171	**6358752**	54
6947232	**6358756**	54
6947294	**6358760**	54
5924456	**6363997**	78
5924463	**6364007**	78
5924470	**6364017**	78
6501731	**6364942**	137
6469819	**6365027**	137
6469635	**6365035**	137
	/100 pc.	
6199815	**6406122**	63
6078370	**6406142**	80
6199877	**6406157**	63
6078431	**6406193**	80
6199990	**6406203**	63
6200054	**6406254**	145
6200238	**6406521**	80
6200290	**6406556**	80
6201259	**6406963**	156
6201372	**6406998**	156
6201792	**6407528**	63
6201853	**6407536**	145
6201914	**6407560**	156
6202157	**6408516**	145
6479955	**6408702**	110
	/100 pc.	
6480074	**6408729**	63
6480135	**6408737**	63
6202218	**6410081**	144
6202270	**6410103**	61
6202331	**6410111**	61
	/pc.	
6229277	**6416446**	192
6202812	**6416500**	60
6894253	**6416504**	60
6202874	**6416519**	60
6204311	**6418198**	61
	/100 pc.	
6437474	**6418250**	63
6518470	**6418252**	63
6204434	**6418287**	63
6204496	**6418295**	63
6204557	**6418317**	63
	/pc.	
6204731	**6418554**	61
6204793	**6418570**	61
6204854	**6418597**	61
6206599	**6419704**	61
6206711	**6419720**	143
6206773	**6419747**	143
6206834	**6419763**	143
6206896	**6419798**	192
6207015	**6419844**	192
6662531	**6420608**	60
6662593	**6420610**	60
6662654	**6420612**	60
6207077	**6420656**	143
6207190	**6420680**	60
6207251	**6420710**	60
6207312	**6420745**	60
6636853	**6424716**	143
6636976	**6424732**	143
6637034	**6424740**	143
6637096	**6424759**	143
6079971	**7070205**	137
6094882	**7070213**	137
6094943	**7070217**	137
6231072	**7083106**	53
6231133	**7083157**	53
6231195	**7083203**	53
6231256	**7083300**	53
6231317	**7083408**	53
6231379	**7083505**	188
6231492	**7083602**	188
6983728	**7083618**	53
6026883	**7083622**	53
6982943	**7083626**	53
6982882	**7083630**	53
6024254	**7083634**	53
6232031	**7084013**	76
6232093	**7084048**	76
6232154	**7084064**	76
5866336	**7084141**	76
5866343	**7084143**	76
5866350	**7084145**	76
5850182	**7202310**	168
5428190	**7202322**	170
6434459	**7202505**	169
5817499	**7203800**	169
	price/pac	
5817505	**7203803**	169
	/pc.	
5817536	**7203806**	169
6812639	**7205400**	56
	/pc.	
5847830	**7205423**	32
6814176	**7205460**	234

Schutzinstallation - Brandgeprüfte Trag- und Verlegesysteme / en / 2022/09/22 10:40:27 10:40:27 (LLExport_03197) / 2022/09/22

Always indicate the item number when ordering.

Numeric directory

GTIN	Item no.	Page
6814183	**7205462**	234
6814190	**7205464**	235
	/pc.	
5993162	**7205570**	30
	/100 pc.	
6632800	**7205657**	31
6028238	**7205660**	31
6028245	**7205663**	31
6028269	**7205666**	31
6028290	**7205669**	31
6280551	**7205675**	32
6280568	**7205677**	32
6280582	**7205679**	32
6396016	**7205700**	30
6396023	**7205702**	30
6810222	**7205703**	30
	/100 pc.	
6396030	**7205704**	30
6810239	**7205705**	30
	/100 pc.	
6396047	**7205706**	30
6810246	**7205707**	30
7272463	**7205709**	31
7272517	**7205714**	31
6812325	**7205740**	26
6812332	**7205742**	26
6812349	**7205744**	26
6812370	**7205746**	26
6812264	**7205748**	26
6812271	**7205750**	26
6812288	**7205752**	27
6812318	**7205754**	27
6812387	**7205756**	27
6812394	**7205758**	27
6812400	**7205760**	27
6812431	**7205762**	27
6812141	**7205764**	28
6812158	**7205766**	28
6812165	**7205768**	28
6812196	**7205770**	28
6812202	**7205772**	28
6820238	**7205780**	29
6820245	**7205782**	29
6820252	**7205784**	29
6820269	**7205786**	29
6842223	**7205790**	30
6842254	**7205792**	30
	/100 pc.	
6397228	**7205900**	236
6397235	**7205901**	236
6397242	**7205902**	236
6397266	**7205903**	236
6397297	**7205904**	236
6397303	**7205905**	236
6397310	**7205906**	236
6397327	**7205907**	236
6397358	**7205908**	236
6397365	**7205909**	236
6397372	**7205910**	236
6675289	**7207052**	195
6675296	**7207054**	195
6675302	**7207056**	195
6846177	**7207060**	193
6846184	**7207062**	193
	/pc.	
5809654	**7215750**	168
6814602	**7215760**	168
6814619	**7215762**	168
6814626	**7215764**	168
6814657	**7215766**	168
6814664	**7215768**	168
6814671	**7215770**	168
6814688	**7215772**	168
6814718	**7215774**	168
6814725	**7215780**	169
6814732	**7215782**	169
6814749	**7215784**	169
6814770	**7215786**	169
6814787	**7215788**	169



© OBO Bettermann 10/2022 EN

OBO Bettermann
Holding GmbH & Co. KG
P.O. Box 1120
58694 Menden
GERMANY

www.obo-bettermann.com

Customer Service
Tel.:+49 23 73 89 - 17 00
Fax: +49 23 73 89 - 12 38
export@obo.de

Building Connections

OBO BETTERMANN