



# Insulation & cable bandages



# 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.





# 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

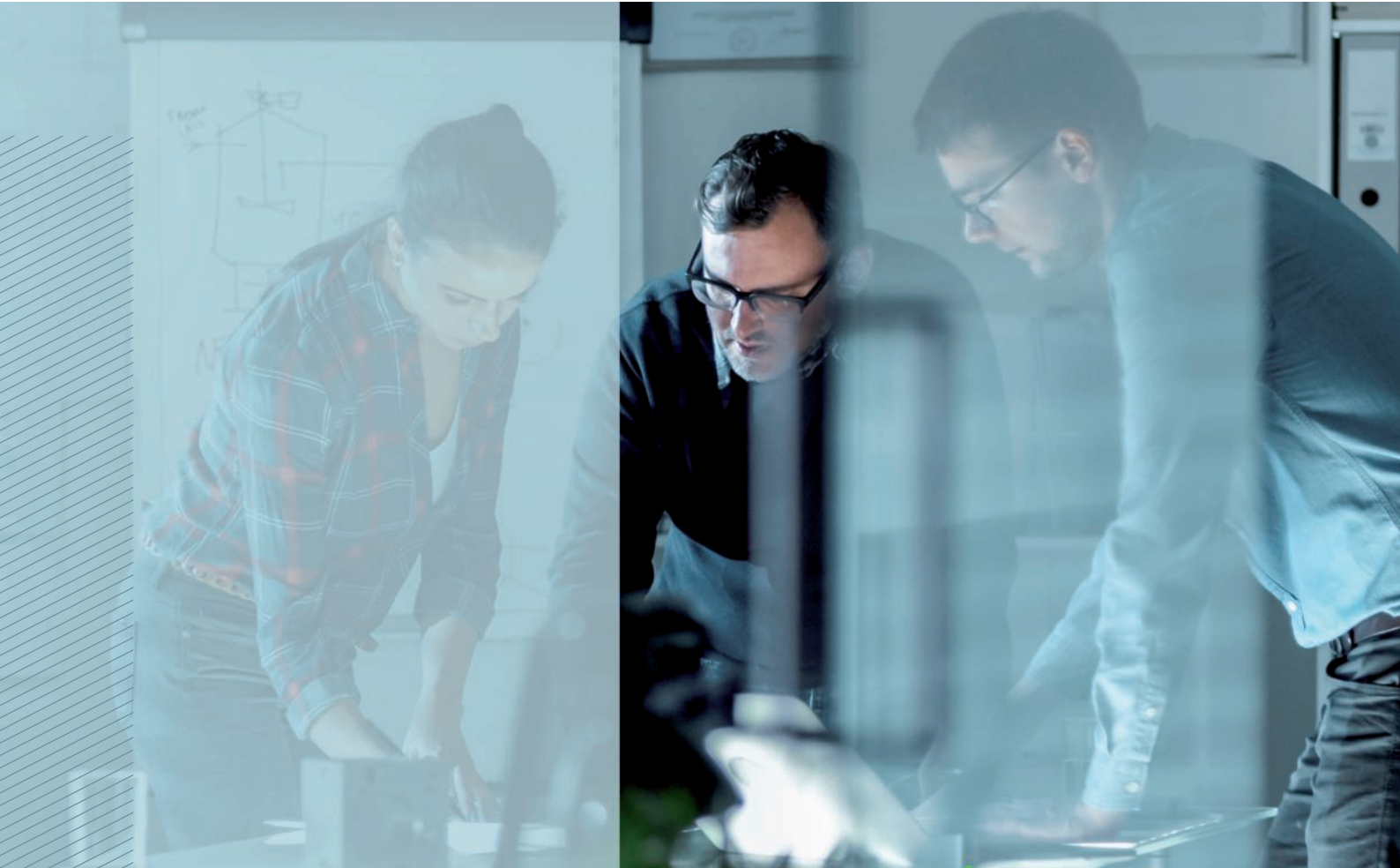
- Surge protection
- External lightning protection
- Equipotential bonding and earthing
- Insulation and cable bandages
- Fire-tested support and routing systems
- Fire protection ducts



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.



# OBO Support & *contact*



***You have a  
problem?  
We have the  
solution!***

OBO Bettermann is more than the sum of its products. In any situation, we are the reliable partner right by your side. You have a problem? We have the solution!

It doesn't matter in which area of industry our support is needed – from industrial and plant engineering to private, public and administrative buildings, as well as in the areas of mobility and renewable energies – we have everything that you need.

OBO can not only provide the entire electro-technical infrastructure with the best possible products. We can also support you with sound expert knowledge and more than 100 years of experience, right from the planning phase through to the realisation of your projects. OBO – solutions you can rely on.



## Customer Service

Tel.: +49 23 73 89 - 17 00

Monday–Thursday  
07.30–17.00

Friday  
07.30–15.00

[export@obo.de](mailto:export@obo.de)

### What is OBO Support?

Every OBO product carries a plus inside it, which only a branded product can offer. It is developed, manufactured and tested with a high level of competence, from the idea right through to the final check. In addition, our specialists are available for consultation and can offer you assistance and training courses for products at any time.

Together with you, we plan your project and help you choose the right products, and are also available to you at any time should you need us. From flawless logistics through to practical information – we can provide support at every level. We can offer security through certificates on the conformity of our products with the most important standards and directives.

We are as flexible as you are – because we know how practical people work and what is important to them. Each step is a plus – that is the OBO Support concept.



Service



Training



Handling



Certification

#### Service – OBO can help

Everywhere and in every project phase:

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

#### Training courses from OBO

- Seminars and workshops
- Local consultation and training courses
- Planner days

#### Handling – OBO delivers reliably

With optimised delivery processes:

- Reliable logistics
- Practical transport systems and packaging
- Loading gear handling and disposal concepts

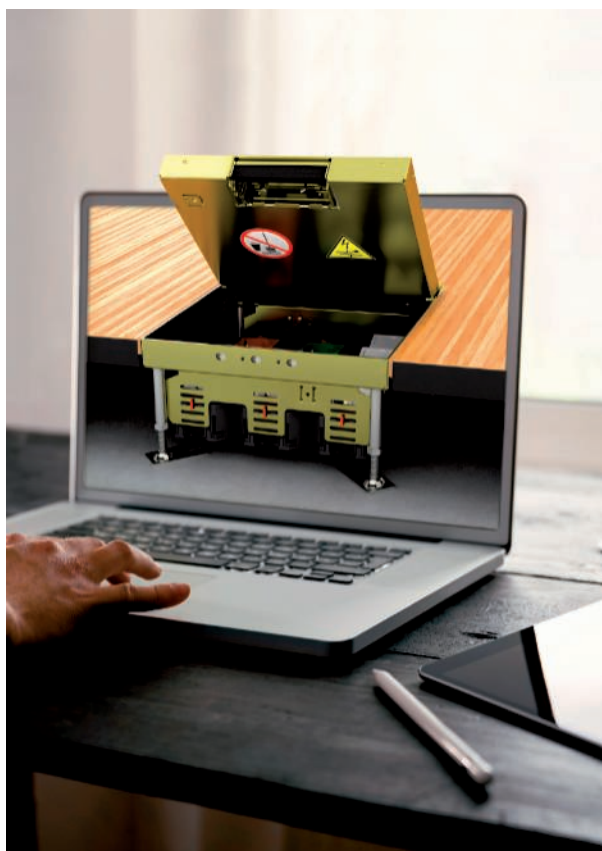
#### Certification and guarantee

OBO offers safety. Our products fulfil the most important country-specific regulations:

- Conformity (e.g. IEC, VDE, CE, KEMA, KEUR, UL)
- Certification (e.g. DIN EN, DGNB)
- 5-year guarantee for surge protection products
- Guarantee management



# Always at your service



## **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.



## **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.





## Clear delivery capability

With an approximate storage area of 38,000 m<sup>2</sup> 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 Fallingbostal
- 2** Sales Warehouse West  
Iserlohn
- 3** Sales Warehouse East  
Delitzsch
- 4** Sales Warehouse South-West  
Groß-Rohrheim
- 5** Sales Warehouse South  
Dasing







**Planning aids**

Page 12



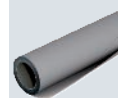
**Insulation, maintenance of the fire sections**

Page 22



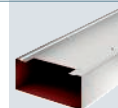
**Cable bandages, prevention of the spread of fire**

Page 120



**Fire protection duct for roof structures, to prevent the spread of fire**

Page 130



**Directories**

Page 136







Schutzinsallatoren - Abschottungen und Kabelbandagen - Verhinderung der Brandweiterleitung / en / 2023/03/22 10:50:51 / 0.51-19

# Planning aids

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





# First protection aim: Maintenance of the fire sections



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.

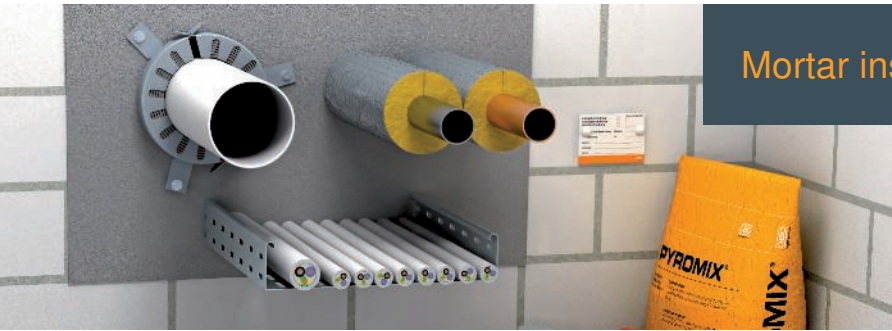
Electrical cables and pipes may only be run through walls and ceilings at the ends of rooms when there is a guarantee that they do not present an opportunity for fire and smoke to spread. Insulation systems reliably seal the ceiling and wall penetrations required for installations against fire and smoke.

## Special requirements

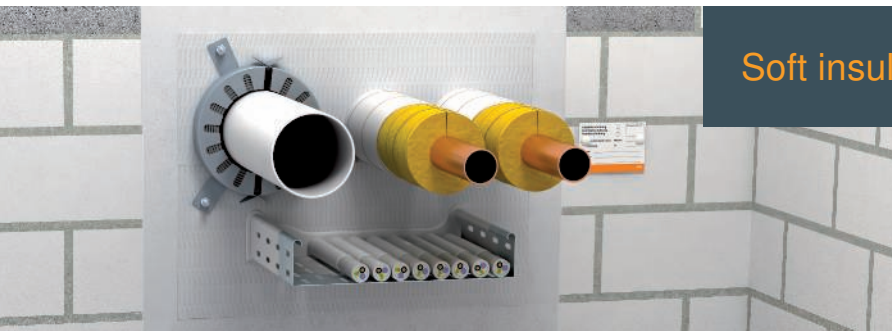
The following requirements apply to cable penetrations with cable insulation:

- 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

Schutzinstalle... - Abschottungen und Kabelbandagen - Verhinderung der Brandweiterleitung / en / 2023/03/22 10:50:19 10:50:19



# 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:

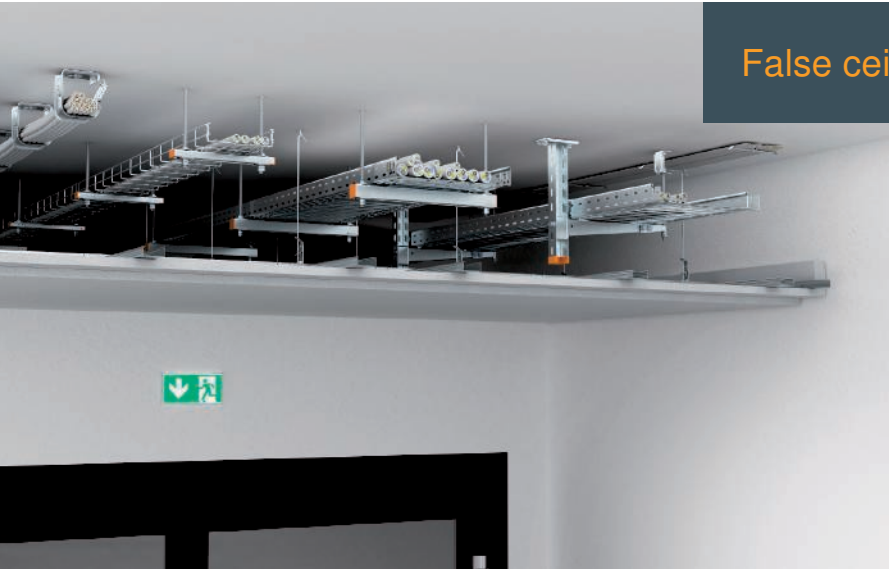
- Necessary staircases (vertical access)
- Connecting rooms between the necessary stairwells and exits to the outside
- Necessary corridors (horizontal access)

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.

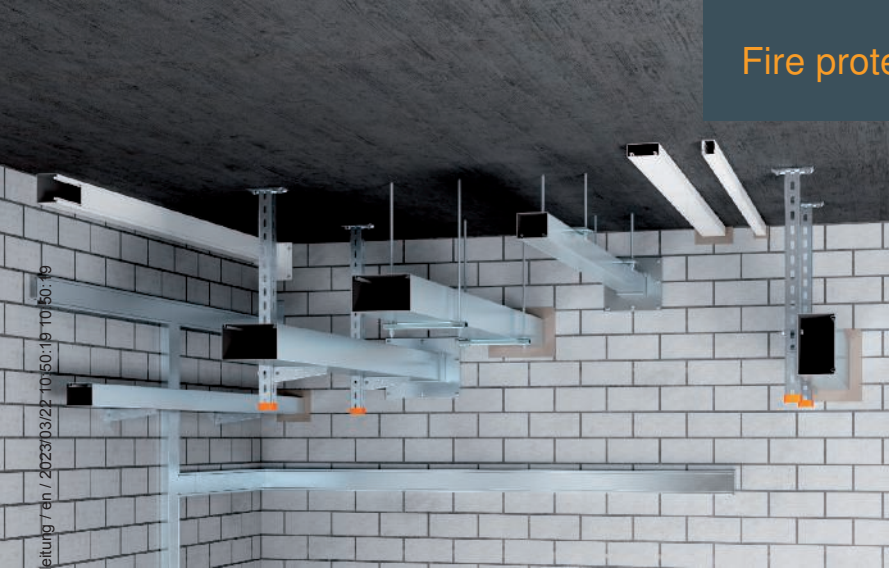
In the area of emergency and escape routes, an installation may not pose an additional fire load. This requirement can be fulfilled using an appropriate type of installation:

- 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

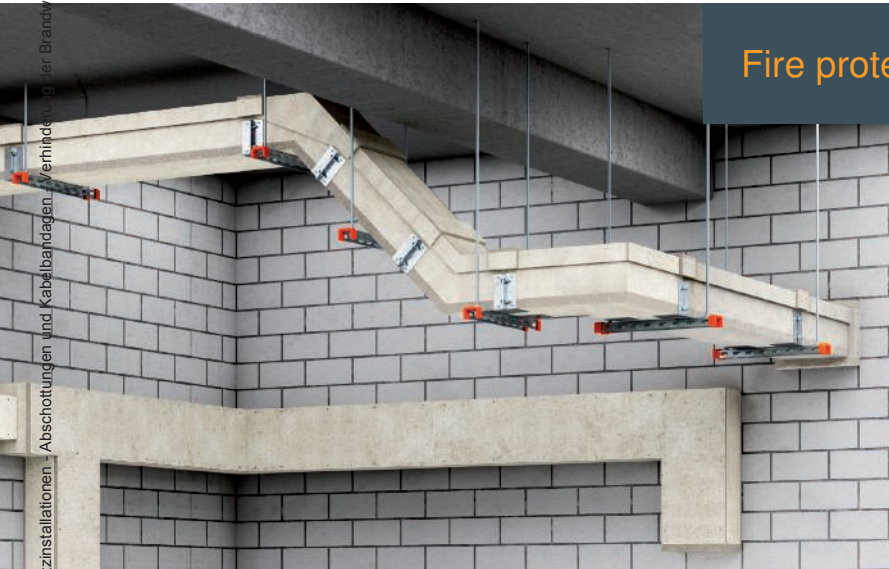
# Escape route installations



False ceiling mounting



Fire protection ducts, metal



Fire protection ducts, concrete

Schutzinstallationen, Abschottungen und Kabelbahndägen, Verbindungen, der Brandweiterleitung / 2023/03/22 10:50:19 TO:50:19

# 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



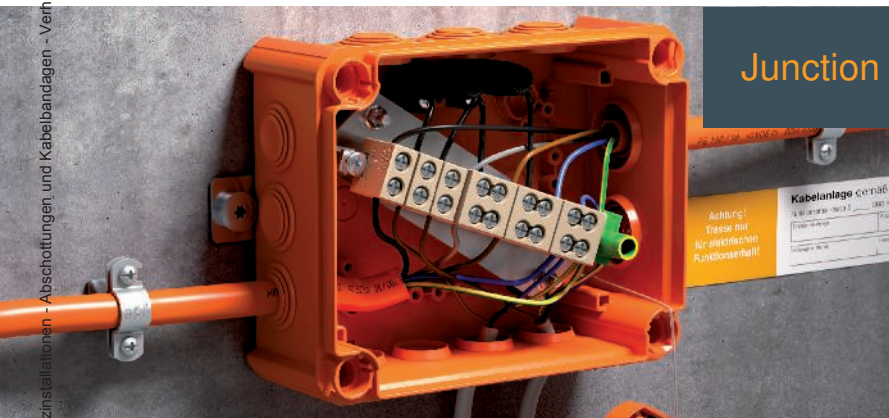
Cable trays and cable ladders



Vertical ladders



Individual routing



Junction boxes

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# 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.



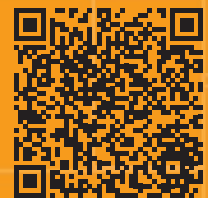
### Fire protection guide for electrical installations

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.


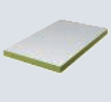


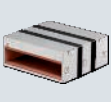










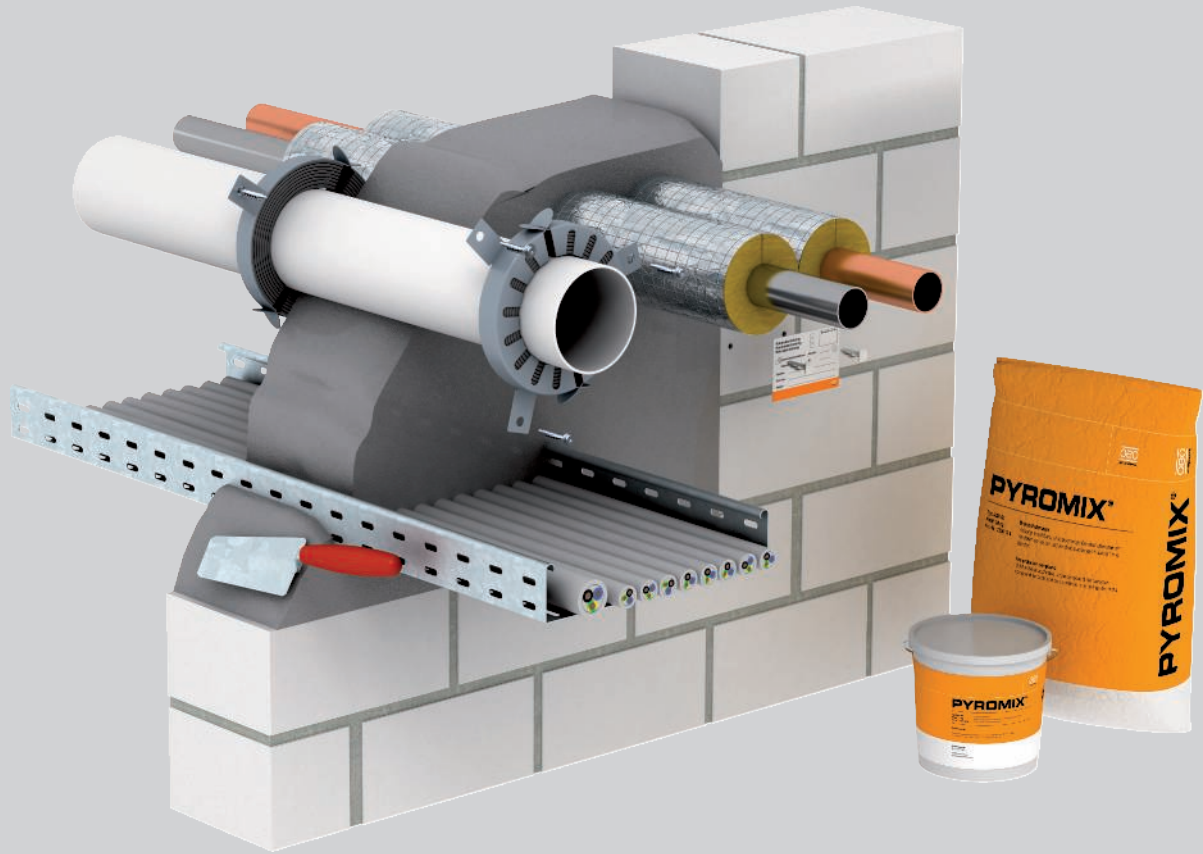
Would you like an overview  
of all certificates?  
Simply scan the QR code.



# Insulation, maintenance of the fire sections

	PYROMIX® mortar insulation	24
	PYROPLATE® Fibre soft insulation	32
	PYROBAG® fire protection cushion insulation	40
	PYROSIT® NG fire protection foam	46
	Fire protection box PYROPLUG® MagicBox	54
	PYROPLUG® foam series	64
	PYROCOMB® pipe sleeve	88
	PYROCOMB® Intube pipe shell	96
	PYROMIX® Screed small insulation	104
	Conlit bandage for cable bundles	110
	Single cable lock according to MLAR	116

## PYROMIX® mortar insulation System description



The PYROMIX® system from OBO is used to create cable and combination insulation made of a mineral fibre-free special mortar. Depending on the amount of water added, the finished compound can be applied to openings by hand, with pumps or with presses. The high level of substrate

adhesion makes lining unnecessary for small insulation areas. The porous consistency of the mortar means that reinstallation is easy. If there is a fire, the fire protection mortar reliably prevents the spread of fire and smoke.



# PYROMIX® mortar insulation

## Installation principle



Stir the mortar with water until the desired consistency is reached.



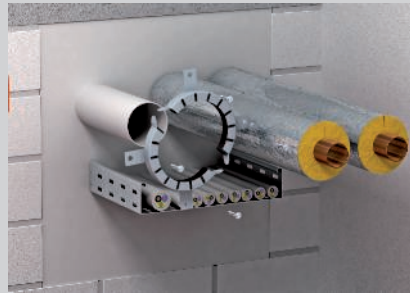
Apply mortar to the opening, use lining as necessary.



Use approved section insulation for metal pipes.



Section insulation should also be applied to steel electrical installation pipes.



Mount pipe sleeves for combustible pipes on both sides of the wall.



Apply labelling to combination insulation for various structures.

Classification to DIN

S30

S60

S90

Classification to EN

EI15

EI30

EI45

EI60

EI90

EI120



Erectors of combination insulation systems have to be trained.

# PYROMIX® mortar insulation

## Registration data

### Combination insulation in walls / ceilings


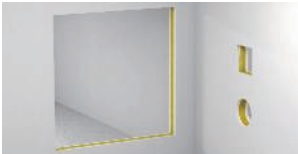




Fire resistance class	Fire-resistant (90 minutes)
European Technical Assessment	ETA-17/0472
General type approval	Z-19.53-2599
Test standard	DIN EN 1366-3
Classification standard	DIN EN 13501-2
Declaration of performance	05-DOP-001

**Note:**

For the legally compliant documentation, the European Technical Assessment (ETA), the general design approval (aBG) and the declaration of performance (DoP) are needed. The labelling of the insulation system and the submittal of the declaration of conformity statement are mandatory after the installation. All certificates and a sample of the declaration of conformity statement that can be edited are available from the download area at [www.obo.de](http://www.obo.de).

## Areas of installation

### Insulation systems in walls/ceilings

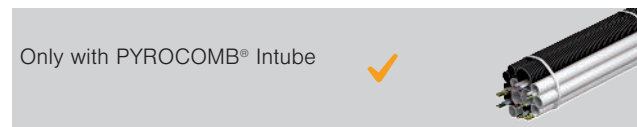
Component		Rigid walls	Flexible walls	Rigid floors
				
Min. component strength		10 cm (S30/S60/S90)	-	15 cm (S30 / S60 / S90)
Min. insulation thickness		15 cm (S30 / S60 / S90)	-	15 cm (S30 / S60 / S90)
Opening size		↔ ≤ 100 cm ↕ ≤ 200 cm	-	↔ ≤ 100 cm ↕ Unlimited
		↔ ≤ 200 cm ↕ ≤ 100 cm	-	

# PYROMIX® mortar insulation Installations

## Cable



## Pipe bundle of electrical installation pipes



## Cable bundle



## Electrical installation pipe made of steel



## Individual lines for control purposes



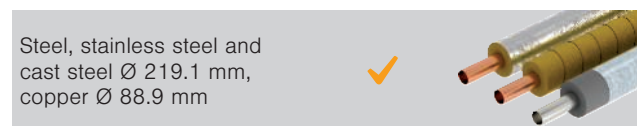
## Cable support systems



## Electrical installation pipe made of plastic, rigid



## Metal pipes with path insulation



## Electrical installation pipe made of plastic, flexible

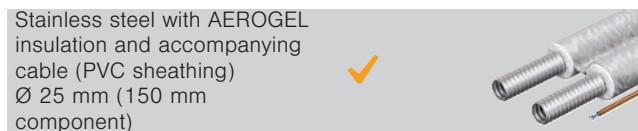


## Plastic pipes



## Special installations

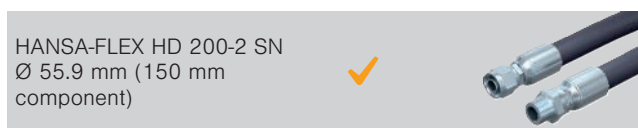
### Double solar pipes



### Hollow shaft conductor



### Hydraulic hoses



Details on the version can be found in the proof of suitability or mounting instructions.  
All the stated dimensions are maximum values.



**PYROMIX® dry mortar in paper sack**



Type	Contents		Pack Piece	Weight kg/100 pc.	Item no.
	kg				
MSX-S1	20		1	2,000.000	7206104

Mortar to create cable and combination insulation in solid walls and ceilings. Suitable for pumping, pressing and for manual installation. Adding approx. 6 litres of water to 20 kg of dry mortar produces about 20 litres of workable compound. For interior application. In dry, frost-free rooms, the dry mortar can be stored for at least 12 months in closed original containers.

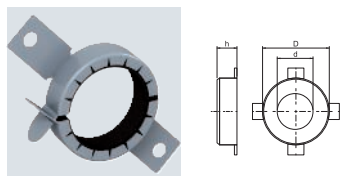
**PYROMIX® dry mortar in bucket**



Type	Contents		Pack Piece	Weight kg/100 pc.	Item no.
	kg				
MSX-E1	10		1	1,000.000	7206058

Mortar to create cable and combination insulation in solid walls and ceilings. Suitable for pumping, pressing and for manual installation. Adding approx. 3 litres of water to 10 kg of dry mortar produces about 10 litres of workable compound. For interior application. In dry, frost-free rooms, the dry mortar can be stored for at least 12 months in closed original containers.

**Pipe sleeve with 2 fastening straps**

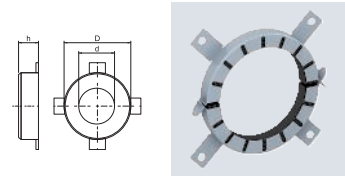


Type	Pipe Ø	Dim. h	Dim. D	Dim. d	Pack Piece	Weight kg/100 pc.	Item no.
	mm	mm	mm	mm			
TCX-032	32-34	26	50	36	1	6.500	7202200
TCX-040	40-42	26	58	44	1	7.000	7202201
TCX-050	50-52	26	68	54	1	8.000	7202203

Pipe sleeve for combustible pipes. If there is a fire, fire protection inserts inside the sheet steel housing expand, exerting a very great pressure onto the burning thermoplastic pipes. For interior application. Fastening with anchors or M6 threaded rods.

### Pipe sleeve with 4 fastening straps

Type	Pipe Ø mm	Dim. h mm	Dim. D mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
TCX-063	63-65	26	94	67	1	15.500	7202204
TCX-075	75-77	26	106	79	1	19.000	7202205
TCX-090	90-92	26.6	132	94	1	37.000	7202206
TCX-110	110-112	26.6	155	114	1	46.000	7202207
TCX-125	125-127	40	172	129	1	70.000	7202208

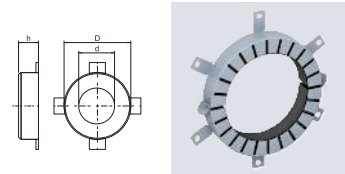


Pipe sleeve for combustible pipes.

If there is a fire, fire protection inserts inside the sheet steel housing expand, exerting a very great pressure onto the burning thermoplastic pipes. For interior application. Fastening with anchors of M6 threaded rods up to size 75 mm, then M8.

### Pipe sleeve with 6 fastening straps

Type	Pipe Ø mm	Dim. h mm	Dim. D mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
TCX-140	140-142	40	200	144	1	106.000	7202209
TCX-160	160-162	40	220	164	1	107.000	7202210



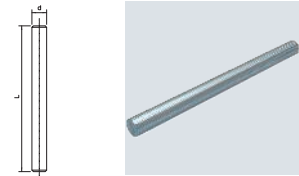
Pipe sleeve for combustible pipes.

If there is a fire, fire protection inserts inside the sheet steel housing expand, exerting a very great pressure onto the burning thermoplastic pipes. For interior application. Fastening with anchors or M8 threaded rods.

St G

### Threaded rod

Type	Thread	Dim. d mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
TR M6 1M G	M6	6	1000	10	18.300	3141047
TR M8 1M G	M8	8	1000	10	30.000	3141128

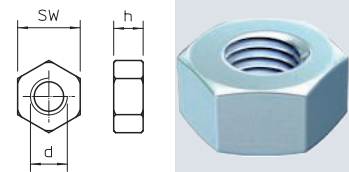


Threaded rod to DIN 976.

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 M6 G	M6	10	5.2	6	100	0.221	3400069
HN M8 G	M8	13	6.8	8	100	0.500	3400085

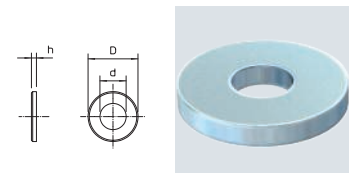


Hexagonal nut to DIN 934 with metric thread.

St G

### Washer ISO 7093

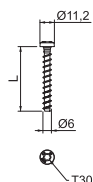
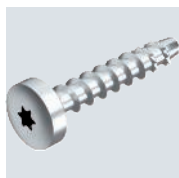
Type	Thread	Dim. d mm	Dim. D mm	Dim. h mm	Pack Piece	Weight kg/100 pc.	Item no.
WS M6 D28 G	M6	6.5	28	2.5	100	1.104	3402207
WS M8 D28 G	M8	8.5	28	2.5	100	1.100	3402215



Washer of large outer diameter for universal use.

### MMS-plus P round head tie, with panhead

St G

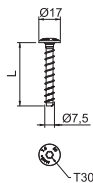


Type	Dimension mm	Dim. L mm	Dim. hole Ø mm	Head Ø mm	Screw system	Pack Piece	Weight kg/100 pc.	Item no.
MMS+ P 6x35	6x35	35	5	11.2	Torx	100	0.710	3498103
MMS+ P 6x40	6x40	40	5	11.2	Torx	100	1.000	3498105
MMS+ P 6x50	6x50	50	5	11.2	Torx	100	1.000	3498108

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.

### MMS-plus MS mounting rail tie, with flat panhead

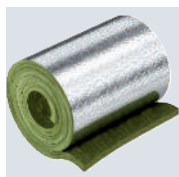
St G



Type	Dimension mm	Dim. L mm	Dim. 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.

### Section insulation for metal pipes



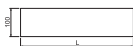
Type	Length mm	Width mm	Thickness mm	Pack Piece	Weight kg/100 pc.	Item no.
MIW-MA	6100	500	30	2	1,010.000	7202308

Mineral wool mats with aluminium lamination for section insulation on copper and steel pipes. Fastening with winding wire, securing of joints with aluminium adhesive tape.

Applicable in the systems:  
PYROMIX® mortar insulation  
PYROSIT® NG fire insulation foam  
PYROPLATE® Fibre soft insulation  
PYROPLUG® Block blocks

Material class EN 13501 - A1 non-combustible; melting point ≥ 1,000 °C

### Aluminium adhesive tape for path insulation

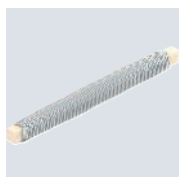


Type	Length m	Width mm	Pack Piece	Weight kg/100 pc.	Item no.
MIW-AT	100	100	1	136.900	7202305

Aluminium adhesive tape for applying the aluminium-laminated section insulation. The aluminium adhesive tape is self-adhesive and not classified as combustible according to DIN 4102-1.

### Winding wire for path insulation

St



Type	Length m	Pack Piece	Weight kg/100 pc.	Item no.
MIW-TD	50	1	10.000	7202309

The steel wire is used to fix the section insulation. It is non-combustible and guarantees optimum retention of the section insulation on non-combustible pipes and cables.

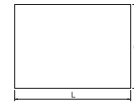


## Bandage for insulation

Type	Length m	Width mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>FSB-WB 1.5</b>	10	125	1	220.000	<b>7203163</b>

Coated fire protection coil with material that foams up in the event of fire for wrapping installations in the PYROMIX® mortar insulation and PYROPLATE® Fibre plate insulation. The carrier mesh has an insulation former on one side. The nominal thickness is 1.5 mm.

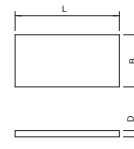
The coil can be used as an addition, according to the appropriate proof of suitability.



## Calcium silicate plate

Type	Dim. L mm	Dim. B mm	Dim. D mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>KSI-P1</b>	500	150	20	1	42.000	<b>7202283</b>
<b>KSI-P2</b>	500	250	30	1	111.000	<b>7202904</b>
<b>KSI-P3</b>	1000	250	30	1	222.000	<b>7202912</b>

Calcium silicate plate, as support plate, for the construction of frames in the penetration and to double thin wall thicknesses.  
Materials class EN 13501 - A1 non-combustible.

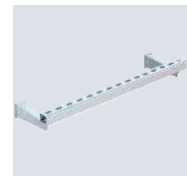
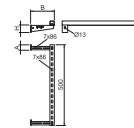


St

## Support construction for insulations, with bracket

Type	Dim. H mm	Dim. B mm	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>SKA 05 VZ</b>	70	217	50	1	190.740	<b>7202436</b>

Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the bracket on the wall, support of the installation using mounting rail.  
The maximum distance of the mounting rail to the wall of 200 mm fulfils the requirements of most insulation systems.

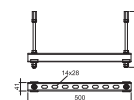


St

## Support construction for insulations, with pendulum suspension

Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>SKP 05 VZ</b>	1000	1	235.240	<b>7202446</b>

Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the pendulum with threaded rods under the ceiling. A maximum of two layers can be mounted with connection sleeves from two sets. The support constructions must be arranged on both sides of the wall at the prescribed distance to the insulation system.

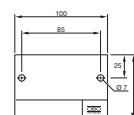


PS

## Identification plate

Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
<b>KS-S DE</b>	German	1	2.400	<b>7205425</b>
<b>KS-S SE</b>	Swedish	1	2.400	<b>7205426</b>
<b>KS-S ES</b>	Spanish	1	2.400	<b>7205427</b>
<b>KS-S IT</b>	Italian	1	2.400	<b>7205428</b>
<b>KS-S FR</b>	French	1	2.400	<b>7205430</b>
<b>KS-S NL</b>	Dutch	1	2.400	<b>7205431</b>
<b>KS-S HR</b>	Croatian	1	2.400	<b>7205438</b>
<b>KS-S EN</b>	English	1	2.400	<b>7205429</b>

Identification plate to be written on with waterproof and light-resistant felt-tip pen for fire-safe cable glands, including 2 push-fit anchors.





# Soft insulation, PYROPLATE® Fibre

## Installation principle



The installation is possible in light-duty partition walls or in solid walls.



Moisten the component layer and apply the coating to the cut edges for adhesion.



The plates can be inserted carefully with a hammer and board.



Use approved section insulation for metal pipes.



Apply the final coating to the surface and the installations.



Fix pipe sleeves for combustible pipes with threaded rods on both sides.



Combination insulation for various structures with labelling.



Secure soft insulation in ceilings against footfall.

Classification to DIN

S30

S60

S90

Classification to EN

EI15

EI30

EI45

EI60

EI90

EI120

EI180

EI240



Erectors of combination insulation systems have to be trained.



# Soft insulation, PYROPLATE® Fibre

## Registration data

### Combination insulation in walls / ceilings







Fire resistance class	Fire-resistant (90 minutes)
European Technical Assessment	ETA-17/0364 (PYROCOAT® ASX)
General type approval	Z-19.53-2611
Test standard	DIN EN 1366-3
Classification standard	DIN EN 13501-2
Declaration of performance	05-DOP-002

**Note:**

For the legally compliant documentation, the European Technical Assessment (ETA), the general design approval (aBG) and the declaration of performance (DoP) are needed. The labelling of the insulation system and the submittal of the declaration of conformity statement are mandatory after the installation. All certificates and a sample of the declaration of conformity statement that can be edited are available from the download area at [www.obo.de](http://www.obo.de).

## Areas of installation

### Insulation systems in walls/ceilings


Component		Rigid walls	Flexible walls	Rigid floors
				
Min. component strength		10 cm (S30/S60/S90)	10 cm (S30/S60/S90)	15 cm (S30 / S60 / S90)
Min. insulation thickness		10 cm (S30 / S60 / S90)	10 cm (S30 / S60 / S90)	10 cm (S30 / S60 / S90)
Opening size		↔ ≤ 120 cm, ↕ ≤ 200 cm	↔ ≤ 120 cm, ↕ ≤ 200 cm	↔ ≤ 125 cm, ↕ unlimited
		↔ ≤ 200 cm, ↕ ≤ 120 cm	↔ ≤ 200 cm, ↕ ≤ 120 cm	

# Soft insulation, PYROPLATE® Fibre Installations

## Cable

All Ø ✓ 

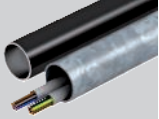
## Pipe bundle of electrical installation pipes

Only with PYROCOMB® Intube ✓ 

## Cable bundle

Ø 100 mm, cable Ø 21 mm ✓ 

## Electrical installation pipe made of steel

Two steel and copper pipes Ø 6-15 mm with insulation ✓ 

## Individual lines for control purposes

Ø 15 mm ✓ 

## Cable support systems

Profiles made of steel, aluminium or plastic ✓ 

## Electrical installation pipe made of plastic, rigid

✗ 

## Metal pipes with path insulation

Steel, stainless steel and cast steel Ø 219.1 mm, copper Ø 88.9 mm ✓ 

## Electrical installation pipe made of plastic, flexible

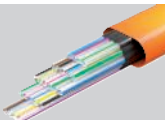
Ø 32 mm, cable Ø 21 mm ✓ 

## Plastic pipes

Ø 160 mm ✓ 

# Special installations

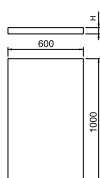
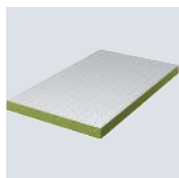
## Speed pipe

24 pipes Ø 7 mm x 1.5 mm, 7 pipes Ø 12 mm x 2.0 mm, Ø 50 mm in total ✓ 



Details on the version can be found in the proof of suitability or mounting instructions. All the stated dimensions are maximum values.

### Mineral fibre plate, pre-coated



Type	Length mm	Width mm	Height mm	Pack Piece	Weight kg/100 pc.	Item no.
PSX-P	1000	600	50	1	625.000	7202295

Mineral fibre plate, pre-coated with the PYROCOAT® ASX ablation coating, as the basis for the PYROPLATE® Fibre soft insulation system. 50 mm plate for insulation according to German approval, 60 mm plate for insulation according to European approval. For interior application.

### 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.

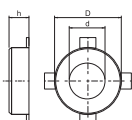
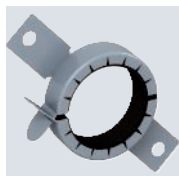
### Ablation coating PYROCOAT® in a bucket



Type	Contents kg	Pack Piece	Weight kg/100 pc.	Item no.
ASX-E	5	1	500.000	7202312

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. Sufficient for an area of 4 m².  
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.

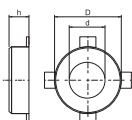
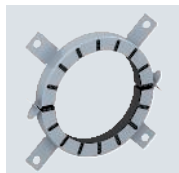
### Pipe sleeve with 2 fastening straps



Type	Pipe Ø mm	Dim. h mm	Dim. D mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
TCX-032	32-34	26	50	36	1	6.500	7202200
TCX-040	40-42	26	58	44	1	7.000	7202201
TCX-050	50-52	26	68	54	1	8.000	7202203

Pipe sleeve for combustible pipes.  
If there is a fire, fire protection inserts inside the sheet steel housing expand, exerting a very great pressure onto the burning thermoplastic pipes. For interior application. Fastening with anchors or M6 threaded rods.

### Pipe sleeve with 4 fastening straps



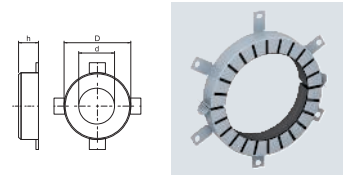
Type	Pipe Ø mm	Dim. h mm	Dim. D mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
TCX-063	63-65	26	94	67	1	15.500	7202204
TCX-075	75-77	26	106	79	1	19.000	7202205
TCX-090	90-92	26.6	132	94	1	37.000	7202206
TCX-110	110-112	26.6	155	114	1	46.000	7202207
TCX-125	125-127	40	172	129	1	70.000	7202208

Pipe sleeve for combustible pipes.  
If there is a fire, fire protection inserts inside the sheet steel housing expand, exerting a very great pressure onto the burning thermoplastic pipes. For interior application. Fastening with anchors of M6 threaded rods up to size 75 mm, then M8.



## Pipe sleeve with 6 fastening straps

Type	Pipe	Dim.	Dim.	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
	Ø mm	h mm	D mm	d mm			
<b>TCX-140</b>	140-142	40	200	144	1	106.000	<b>7202209</b>
<b>TCX-160</b>	160-162	40	220	164	1	107.000	<b>7202210</b>



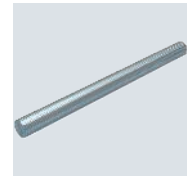
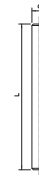
Pipe sleeve for combustible pipes.

If there is a fire, fire protection inserts inside the sheet steel housing expand, exerting a very great pressure onto the burning thermoplastic pipes. For interior application. Fastening with anchors or M8 threaded rods.

St G

## Threaded rod

Type	Thread	Dim.	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
		d mm	L mm			
<b>TR M6 1M G</b>	M6	6	1000	10	18.300	<b>3141047</b>
<b>TR M8 1M G</b>	M8	8	1000	10	30.000	<b>3141128</b>

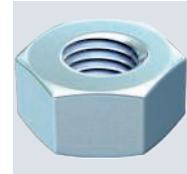
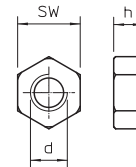


Threaded rod to DIN 976.

St G

## Hexagonal nut DIN 934

Type	Thread	SW	Dim.	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
		mm	h mm	d mm			
<b>HN M6 G</b>	M6	10	5.2	6	100	0.221	<b>3400069</b>
<b>HN M8 G</b>	M8	13	6.8	8	100	0.500	<b>3400085</b>

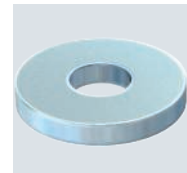
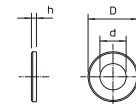


Hexagonal nut to DIN 934 with metric thread.

St G

## Washer ISO 7093

Type	Thread	Dim.	Dim.	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
		d mm	D mm	h mm			
<b>WS M6 D28 G</b>	M6	6.5	28	2.5	100	1.104	<b>3402207</b>
<b>WS M8 D28 G</b>	M8	8.5	28	2.5	100	1.100	<b>3402215</b>



Washer of large outer diameter for universal use.

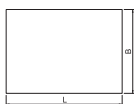
## Bandage for insulation

Type	Length	Width	Pack Piece	Weight kg/100 pc.	Item no.
	m	mm			
<b>FSB-WB 1.5</b>	10	125	1	220.000	<b>7203163</b>

Fire protection coil, coated on one side with material that foams up in the event of fire, for wrapping installations in the PYROMIX® mortar insulation and PYROPLATE® Fibre plate insulation. The carrier mesh has an insulation former on one side. The nominal thickness is 1.5 mm.



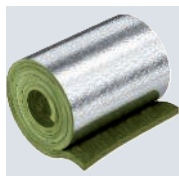
### Bandage for insulation



Type	Length m	Width mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>FSB-WB BS</b>	10	100	1	195.000	<b>7203165</b>

Fire protection coil, coated on both sides with material that foams up in case of fire for wrapping installations in the PYROMIX® mortar insulation and PYROPLATE® Fibre plate insulation. The carrier mesh has an insulation former on both sides. The nominal thickness is 1.5 mm.

### Section insulation for metal pipes



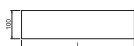
Type	Length mm	Width mm	Thickness mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>MIW-MA</b>	6100	500	30	2	1,010.000	<b>7202308</b>

Mineral wool mats with aluminium lamination for section insulation on copper and steel pipes. Fastening with winding wire, securing of joints with aluminium adhesive tape.

Applicable in the systems:  
 PYROMIX® mortar insulation  
 PYROSIT® NG fire insulation foam  
 PYROPLATE® Fibre soft insulation  
 PYROPLUG® Block blocks

Material class EN 13501 - A1 non-combustible; melting point ≥ 1,000 °C

### Aluminium adhesive tape for path insulation

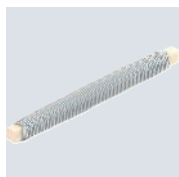


Type	Length m	Width mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>MIW-AT</b>	100	100	1	136.900	<b>7202305</b>

Aluminium adhesive tape for applying the aluminium-laminated section insulation. The aluminium adhesive tape is self-adhesive and not classified as combustible according to DIN 4102-1.

### Winding wire for path insulation

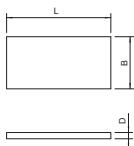
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Type	Length m	Pack Piece	Weight kg/100 pc.	Item no.
<b>MIW-TD</b>	50	1	10.000	<b>7202309</b>

The steel wire is used to fix the section insulation. It is non-combustible and guarantees optimum retention of the section insulation on non-combustible pipes and cables.

### Calcium silicate plate



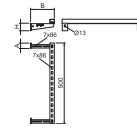
Type	Dim. L mm	Dim. B mm	Dim. D mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>KSI-P1</b>	500	150	20	1	42.000	<b>7202283</b>
<b>KSI-P2</b>	500	250	30	1	111.000	<b>7202904</b>
<b>KSI-P3</b>	1000	250	30	1	222.000	<b>7202912</b>

Calcium silicate plate, as support plate, for the construction of frames in the penetration and to double thin wall thicknesses.  
 Materials class EN 13501 - A1 non-combustible.

St

### Support construction for insulations, with bracket

Type	Dim.	Dim.	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
	H mm	B mm	A mm			
<b>SKA 05 VZ</b>	70	217	50	1	190.740	<b>7202436</b>

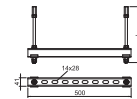


Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the bracket on the wall, support of the installation using mounting rail. The maximum distance of the mounting rail to the wall of 200 mm fulfils the requirements of most insulation systems.

St

### Support construction for insulations, with pendulum suspension

Type	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
	L mm			
<b>SKP 05 VZ</b>	1000	1	235.240	<b>7202446</b>

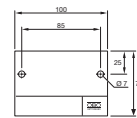


Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the pendulum with threaded rods under the ceiling. A maximum of two layers can be mounted with connection sleeves from two sets. The support constructions must be arranged on both sides of the wall at the prescribed distance to the insulation system.

PS

### Identification plate

Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
<b>KS-S DE</b>	German	1	2.400	<b>7205425</b>
<b>KS-S SE</b>	Swedish	1	2.400	<b>7205426</b>
<b>KS-S ES</b>	Spanish	1	2.400	<b>7205427</b>
<b>KS-S FR</b>	French	1	2.400	<b>7205430</b>
<b>KS-S NL</b>	Dutch	1	2.400	<b>7205431</b>
<b>KS-S HR</b>	Croatian	1	2.400	<b>7205438</b>
<b>KS-S IT</b>	Italian	1	2.400	<b>7205428</b>
<b>KS-S EN</b>	English	1	2.400	<b>7205429</b>

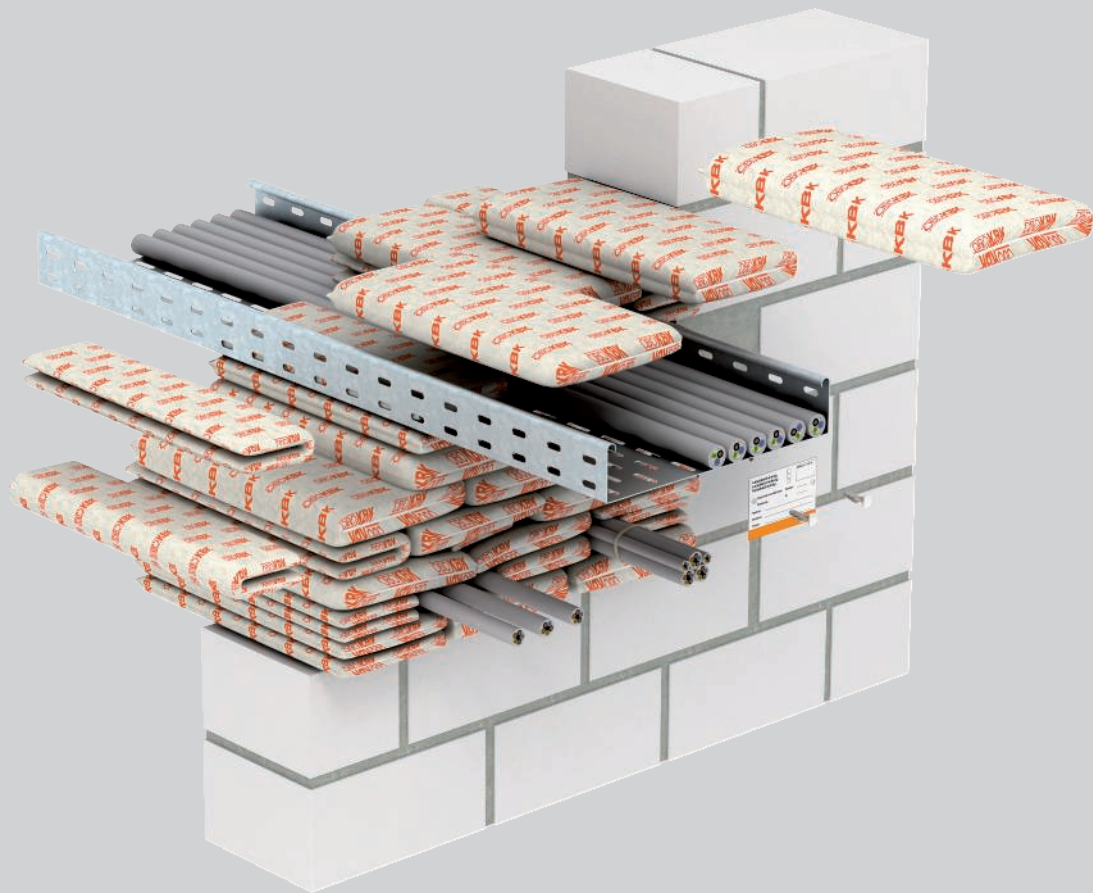


Identification plate to be written on with waterproof and light-resistant felt-tip pen for fire-safe cable glands, including 2 push-fit anchors.



## PYROBAG® fire protection cushion insulation

### System description



The PYROBAG® system from OBO is used to create cable insulation from fire protection cushions. The fire protection cushions, which can be shaped in any way, are stacked simply and quickly on top of each other, allowing absolutely tidy and dust-free mounting. The cushions can be used for permanent or temporary insulation in walls and ceilings, e.g. during renovations. The fire protection cushions are an ideal solution for

frequent re installations. Additional cables can be installed quickly, neatly and economically at a later date because the cushions can be used several times over. The cushions consist of a close-knit, dense and mechanically solid glass fabric with a special filling. The shell and the filling are free of mineral fibres and are also weatherproof and waterproof. Neither painting nor the use of filler are required.

# PYROBAG® fire protection cushion insulation

## Installation principle



Closing of the opening with cushions – without filler or coating.



Panels as mounting aid for the last cushion layer.



Lock against falling out during ceiling mounting.



Lock against slippage above the floor.



Cushions arranged in the duct.



Retaining profile to prevent slippage in vertical arrangements.



Discreet attachment of the identification plate.

Classification to DIN



Erectors of combination insulation systems have to be trained.

# PYROBAG® fire protection cushion insulation

## Registration data

### Insulation in walls/ceilings


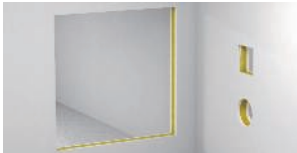




Fire resistance class	Fire-resistant (90 minutes)
European Technical Assessment	ETA-18/1069
General type approval	Z-19.53-2570
Test standard	DIN EN 1366-3
Classification standard	DIN EN 13501-2
Declaration of performance	05-DOP-013

#### Note:


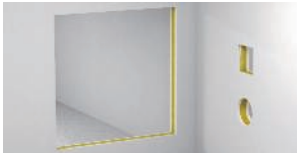

For the legally compliant documentation, the European Technical Assessment (ETA), the general design approval (aBG) and the declaration of performance (DoP) are needed. The labelling of the insulation system and the submittal of the declaration of conformity statement are mandatory after the installation. All certificates and a sample of the declaration of conformity statement that can be edited are available from the download area at [www.obo.de](http://www.obo.de).

## Areas of installation

### Insulation systems in walls/ceilings

Component		Rigid walls	Flexible walls	Rigid floors
				
Min. component strength		10 cm (S30/S60/S90)	10 cm (S30/S60/S90)	15 cm (S30 / S60 / S90)
Min. insulation thickness		35 cm (S30 / S60 / S90)	35 cm (S30 / S60 / S90)	35 cm (S30 / S60 / S90)
Opening size		↔ ≤ 100 cm, ↕ ≤ 150 cm	↔ ≤ 100 cm, ↕ ≤ 100 cm	↔ ≤ 60 cm, ↕ unlimited

### Insulation in cable ducts

Component		Rigid walls	Flexible walls	Rigid floors
				
Min. insulation thickness		10 cm (S30 / S60 / S90)	10 cm (S30 / S60 / S90)	15 cm (S30 / S60 / S90)
Duct size		35 cm (S30 / S60 / S90)	35 cm (S30 / S60 / S90)	35 cm (S30 / S60 / S90)
Plastic ducts		21 cm x 10 cm	21 cm x 10 cm	21 cm x 10 cm
Metal ducts		21 cm x 8 cm	21 cm x 8 cm	21 cm x 8 cm

# PYROBAG® fire protection cushion insulation

## Installations

### Cable



### Pipe bundle of electrical installation pipes



### Cable bundle



### Electrical installation pipe made of steel



### Individual lines for control purposes



### Cable support systems



### Electrical installation pipe made of plastic, rigid



### Metal pipes with path insulation



### Electrical installation pipe made of plastic, flexible

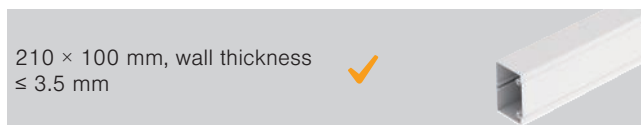


### Plastic pipes

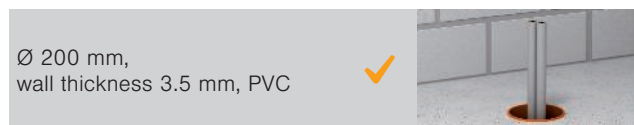


## Special installations

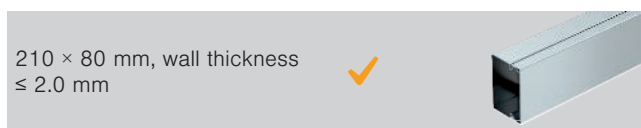
### Plastic ducts



### Insulation in the lining pipe



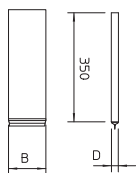
### Metal ducts



Details on the version can be found in the proof of suitability or mounting instructions. All the stated dimensions are maximum values.



**PYROBAG® fire protection cushion**

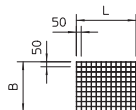
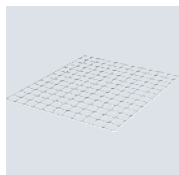


Type	Dim.	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
	B mm	D mm			
KBK-1	120	10	5	18.000	7202709
KBK-2	170	23	5	33.000	7202725
KBK-3	170	40	5	63.000	7202741

Cable fire protection cushions made of dense, closely knit and mechanically solid glass mesh with a special filling. Free from mineral fibres, weatherproof and water-resistant. For interior application. Can be stored for an unlimited period of time in dry, frost-free rooms.

**Steel wire grid**

St FT

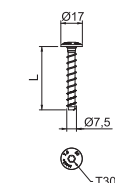


Type	Dim.	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
	L mm	B mm			
SDG-1	600	500	1	135.000	7202963
SDG-2	1000	600	1	270.000	7202971

Steel wire grid as support and protection grid, wire diameter 4 mm.

**MMS-plus MS mounting rail tie, with flat panhead**

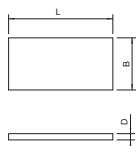
St G



Type	Dimen- sion mm	Dim. L mm	Dim. hole Ø mm	Head Ø mm	Screw system	Pack Piece	Weight kg/100 pc.	Item no.
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.

**Calcium silicate plate**

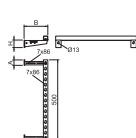
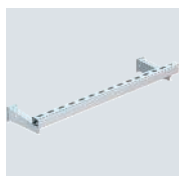


Type	Dim.	Dim.	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
	L mm	B mm	D mm			
KSI-P1	500	150	20	1	42.000	7202283
KSI-P2	500	250	30	1	111.000	7202904
KSI-P3	1000	250	30	1	222.000	7202912

Calcium silicate plate, as support plate, for the construction of frames in the penetration and to double thin wall thicknesses. Materials class EN 13501 - A1 non-combustible.

**Support construction for insulations, with bracket**

St



Type	Dim.	Dim.	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
	H mm	B mm	A mm			
SKA 05 VZ	70	217	50	1	190.740	7202436

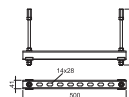
Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the bracket on the wall, support of the installation using mounting rail. The maximum distance of the mounting rail to the wall of 200 mm fulfils the requirements of most insulation systems.

St

## Support construction for insulations, with pendulum suspension

Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
SKP 05 VZ	1000	1	235.240	7202446

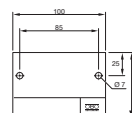
Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the pendulum with threaded rods under the ceiling. A maximum of two layers can be mounted with connection sleeves from two sets. The support constructions must be arranged on both sides of the wall at the prescribed distance to the insulation system.



PS

## Identification plate

Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-S DE	German	1	2.400	7205425
KS-S SE	Swedish	1	2.400	7205426
KS-S ES	Spanish	1	2.400	7205427
KS-S FR	French	1	2.400	7205430
KS-S NL	Dutch	1	2.400	7205431
KS-S HR	Croatian	1	2.400	7205438
KS-S IT	Italian	1	2.400	7205428
KS-S EN	English	1	2.400	7205429



Identification plate to be written on with waterproof and light-resistant felt-tip pen for fire-safe cable glands, including 2 push-fit anchors.

## PYROSIT® NG fire protection foam System description



The PYROSIT® NG fire protection foam system from OBO is used to create cable and combination insulation made of fire protection foam. The special recipe of the 2-component foam allows simple, "pinpointed" processing. The good substrate adhesion prevents the foam from running out of the opening. Work can easily be interrupted to carry out checks. The system can be installed without dust and fibres. Surface coating is not necessary.

According to the construction approval, in addition to the cables, pipes made of steel, copper or various plastics may also be run through the same insulation. The PYROSIT® NG insulation is suitable as combination insulation for different units. Due to the soft consistency, the insulation made of PYROSIT® NG can be reassigned simply. The insulation system can be combined with the PYROPLUG® Block foam block.

# PYROSIT® NG fire protection foam

## Installation principle



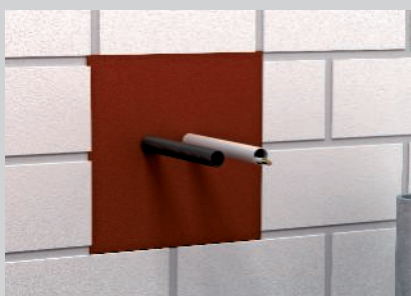
Clean the layer and attach the lining aids, e.g. adhesive tape.



Apply the foam from the rear to the front, and remove residues as necessary.



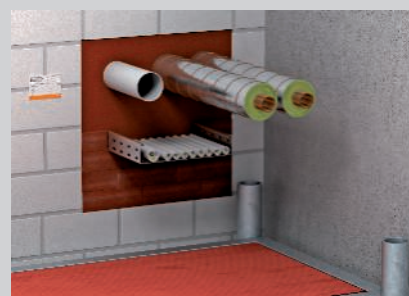
Use approved section insulation for metal pipes.



Electrical installation pipes up to M40, filled with cables or empty.



Combustible pipes up to  $\varnothing$  50 mm can be run through without additional measures.



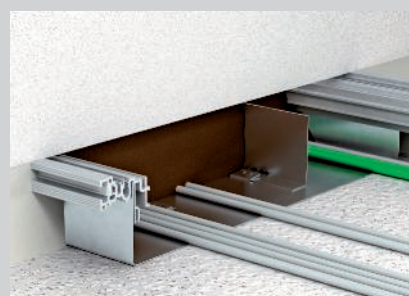
Combination insulation for various structures with labelling.



Application of the fire protection foam directly under the wall.



Labeled underfloor insulation with reserve empty pipe.



Empty pipes with tension wires can be foamed in for assignment at a later date.

Classification to EN

EI15

EI30

EI45

EI60

EI90

EI120



Erectors of combination insulation systems have to be trained.



# PYROSIT® NG fire protection foam

## Registration data

### Combination insulation in walls/ceilings

Fire resistance class	Fire-resistant (90 minutes)
European Technical Assessment	ETA-11/0527
General type approval	Z-19.53-2338
Test standard	DIN EN 1366-3
Classification standard	DIN EN 13501-2
Declaration of performance	05-DOP-003

### Insulation in underfloor ducts

Fire resistance class	fire resistant (90 minutes)
Screed-flush ducts	Manufacturer declaration 2020/05-100/304
Screed-covered ducts	Manufacturer declaration 2020/05-100/305

### Additive proofs (acc. to ETA)

Heat permeation	see section 3.5 from ETA-11/0527
Air permeation/pressure resistance	see section 3.2 from ETA-11/0527
Air noise insulation	see section 3.4 from ETA-11/0527

## Areas of installation

### Insulation systems in walls/ceilings

Component		Rigid walls	Flexible walls	Rigid floors
Min. component strength		10 cm (EI30 / EI60 / EI90 / EI120)	10 cm (EI30 / EI60 / EI90 / EI120)	15 cm (EI30 / EI60 / EI90 / EI120)
Min. insulation thickness		14.4 cm (IET90 / IET150) 20 cm (IET 90 / IET 150)	14.4 cm (IET90 / IET150) 20 cm (IET 90 / IET 150)	14.4 cm (IET90 / IET150) 20 cm (IET 90 / IET 150)
Opening size for 14.4 cm insulation thickness		↔ ≤ 45 cm ⇕ ≤ 50 cm	↔ ≤ 45 cm ⇕ ≤ 50 cm	↔ ≤ 45 cm ⇕ ≤ 45 cm
Opening size for 20 cm insulation thickness		↔ ≤ 45 cm ⇕ ≤ 50 cm	↔ ≤ 45 cm ⇕ ≤ 50 cm	↔ ≤ 45 cm ⇕ ≤ 45 cm

### Insulation in underfloor ducts

Underfloor system	Screed-covered	Screed-flush (open)
Min. insulation thickness	2 x 20 cm (S30/S60/S90)	20 cm (S30/S60/S90)
Duct size	↔ ≤ 35 cm ⇕ ≤ 5 cm	↔ ≤ 60 cm ⇕ ≤ 16 cm
Min. screed thickness	3.5 cm	-
Underfloor socket distance	Unlimited	-

# PYROSIT® NG fire protection foam Installations

## Cable



## Pipe bundle of electrical installation pipes



## Cable bundle



## Electrical installation pipe made of steel



## Individual lines for control purposes



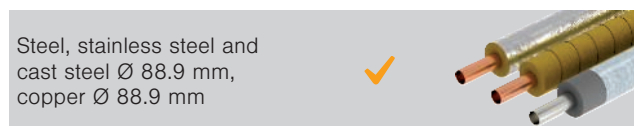
## Cable support systems



## Electrical installation pipe made of plastic, rigid



## Metal pipes with path insulation



## Electrical installation pipe made of plastic, flexible



## Plastic pipes



## Special installations

### Cables



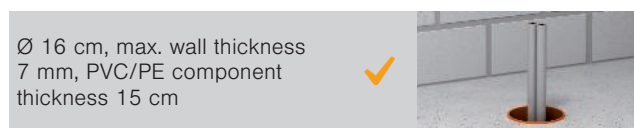
### Open underfloor ducts




### Screed-covered underfloor ducts



### Insulation in the lining pipe



 Details on the version can be found in the proof of suitability or mounting instructions. All the stated dimensions are maximum values.

## 2-component fire protection foam PYROSIT® NG



Type	Contents	Pack	Weight	Item no.
	ml	Piece	kg/100 pc.	
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 in interior areas; 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	PU	Pack	Weight	Item no.
		Piece	kg/100 PUs	
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.

## PYROSIT® NG Starter Set



Type	Piece	Pack	Weight	Item no.
		Piece	kg/100 pc.	
FBS-ST		1	188.700	7203805

The PYROSIT® NG Starter Set contains all the required products to create foam insulations. The complete set consists of a PYROSIT® NG cartridge, two mixing tubes and a cartridge pistol. Suitable for 5:1 coaxial cartridges. For interior application.

Free the moving parts, push rods and pressure plate from any foam residues and maintain them with a regreasing cleaning agent.

## Professional cartridge pistol



Type	Piece	Pack	Weight	Item no.
		Piece	kg/100 pc.	
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.

## Battery-operated cartridge pistol



Type	Piece	Pack	Weight	Item no.
		Piece	kg/100 pc.	
FBS-PA2		1	560.000	7203813

High-quality, motor-operated 2-component cartridge pistol for use with the PYROSIT® NG fire protection foam. 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.

The hard-shell case contains a FBS-PA pistol, a charging device and a rechargeable battery.

## Battery

Type	Capacity		Pack Piece	Weight kg/100 pc.	Item no.
	Ah	Nom. V			
<b>EA 3-14</b>	3	14.4	1	56.000	<b>7203816</b>

Battery for motor-operated cartridge pistol FBS-PA2.



Insulation, maintenance of the fire sec-  
tions

## Fire protection case

Type	Pack Piece	Weight kg/100 pc.	Item no.

The PYROSIT® NG fire protection case contains all the required products to create foam insulations. The complete set contains 3 foam cartridges, 1 professional cartridge pistol, 6 mixing and 5 extension pipes. For interior application.



## Tempering box

Type	Pack Piece	Weight kg/100 pc.	Item no.

The correct temperature is essential for cartridges when pressing out. To achieve this, a tempering box is recommended. Temperature control is possible at up to  $\pm 30$  °C above/below the ambient temperature. An integrated voltage monitor prevents the car battery from discharging. With digital temperature display and connection for 230 Volts AC and 12 Volts DC.  
Capacity: 12 cartridges of PYROSIT® NG



## PYROPLUG® Block foam block

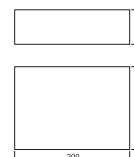
Type	Dimension mm	Pack Piece	Weight kg/100 pc.	Item no.

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. For interior application. 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.



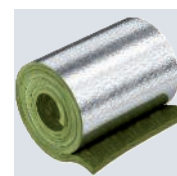
## Section insulation for metal pipes

Type	Length mm	Width mm	Thickness mm	Pack Piece	Weight kg/100 pc.	Item no.

Mineral wool mats with aluminium lamination for section insulation on copper and steel pipes. Fastening with winding wire, securing of joints with aluminium adhesive tape.

Applicable in the systems:  
 PYROMIX® mortar insulation  
 PYROSIT® NG fire insulation foam  
 PYROPLATE® Fibre soft insulation  
 PYROPLUG® Block blocks

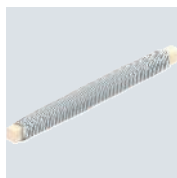
Material class EN 13501 - A1 non-combustible; melting point  $\geq 1,000$  °C





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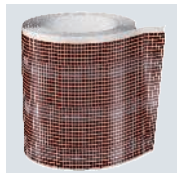
### Winding wire for path insulation



Type	Length m	Pack Piece	Weight kg/100 pc.	Item no.
MIW-TD	50	1	10.000	7202309

The steel wire is used to fix the section insulation. It is non-combustible and guarantees optimum retention of the section insulation on non-combustible pipes and cables.

### Cable coil



Type	Length m	Width mm	Pack Piece	Weight kg/100 pc.	Item no.
FBA-WI	5	150	1	384.000	7202510

Self-adhesive, intumescent cable protector, 5 mm thick, for use with large cable diameters and penetrated cable support systems, applicable in PYROPLUG® systems and PYROSIT® NG. For interior application.

### Adhesive tape

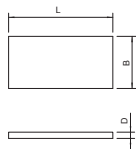
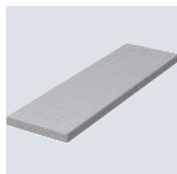
PE



Type	Length m	Width mm	Pack Piece	Weight kg/100 pc.	Item no.
SHT	25	50	5	12.000	7202521

Fibre-reinforced, transparent adhesive tape as lining aid for applications with PYROSIT® NG fire protection foam and for universal fix. One roll contains 25 m².

### Calcium silicate plate

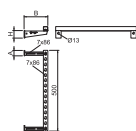


Type	Dim. L mm	Dim. B mm	Dim. D mm	Pack Piece	Weight kg/100 pc.	Item no.
KSI-P1	500	150	20	1	42.000	7202283
KSI-P2	500	250	30	1	111.000	7202904
KSI-P3	1000	250	30	1	222.000	7202912

Calcium silicate plate, as support plate, for the construction of frames in the penetration and to double thin wall thicknesses.  
Materials class EN 13501 - A1 non-combustible.

### Support construction for insulations, with bracket

St



Type	Dim. H mm	Dim. B mm	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.
SKA 05 VZ	70	217	50	1	190.740	7202436

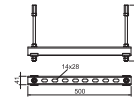
Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the bracket on the wall, support of the installation using mounting rail.  
The maximum distance of the mounting rail to the wall of 200 mm fulfils the requirements of most insulation systems.

St

## Support construction for insulations, with pendulum suspension

Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
SKP 05 VZ	1000	1	235.240	7202446

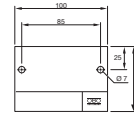
Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the pendulum with threaded rods under the ceiling. A maximum of two layers can be mounted with connection sleeves from two sets. The support constructions must be arranged on both sides of the wall at the prescribed distance to the insulation system.



PS

## Identification plate

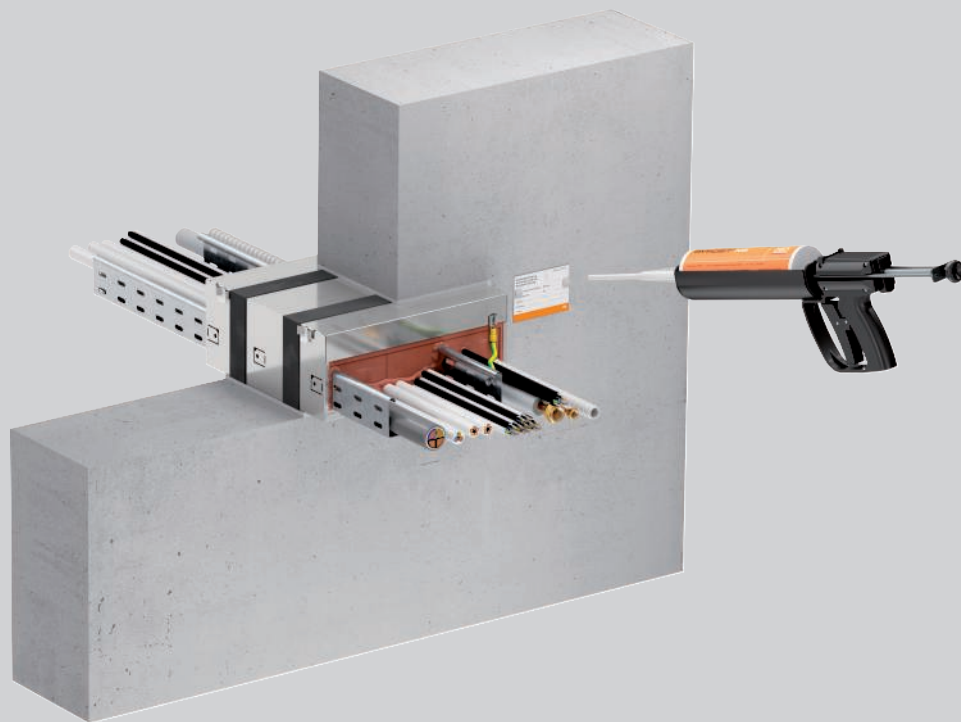
Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-S DE	German	1	2.400	7205425
KS-S SE	Swedish	1	2.400	7205426
KS-S ES	Spanish	1	2.400	7205427
KS-S FR	French	1	2.400	7205430
KS-S NL	Dutch	1	2.400	7205431
KS-S HR	Croatian	1	2.400	7205438
KS-S IT	Italian	1	2.400	7205428
KS-S EN	English	1	2.400	7205429



Identification plate to be written on with waterproof and light-resistant felt-tip pen for fire-safe cable glands, including 2 push-fit anchors.

## PYROPLUG® MagicBox 4-sided variant

### System description



The OBO fire protection box PYROPLUG® MagicBox in the 4-sided variant consists of a two-part stainless steel housing with intumescent fire protection inlays. It can be used as an insulation system in walls and ceilings. Its releasable Magic connection means it's very quick to mount. Simply click the halves of the housing together, insert them in the component opening and mortar them in. Side straps secure the correct position of the PYROPLUG. MagicBox, allowing safe mortaring. The interior of the MagicBoxes can be fully assigned with installations. In addition, they are particularly suited to the creation of cable support systems with widths of up to 600 mm. Residual openings can be closed with the PYROSIT®NG fire protection foam which means that also seals with

difficult geometries can be filled in easily. Inlay blocks of forgiving foam can be used for larger cavities or for use as reserve insulation. The graphite strips contained in the scope of delivery are attached to the MagicBox at the width of the component. If there is a fire, these foam up, reliably closing the resulting gap around the MagicBox. The perfectly matched portfolio of different heights and widths can cover any application and also offers fire protection boxes with a particularly large interior. They can be arranged in groups with two boxes on top of each other or two boxes next to each other. The PYROPLUG® MagicBox is a construction product with CE labelling and has the fire resistance class EI90 (fire-resistant).

# PYROPLUG® MagicBox 4-sided variant

## Installation principle



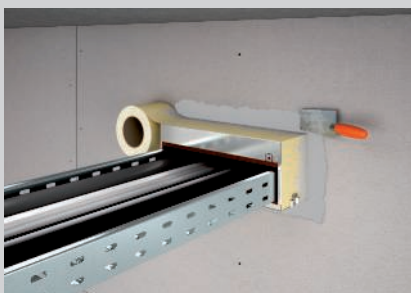
Clicking the box together



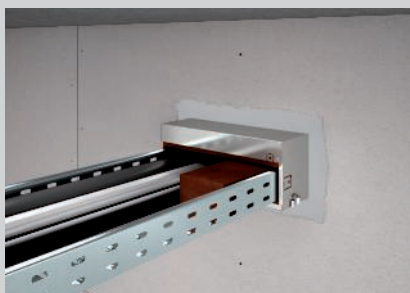
Measuring the wall thickness and attaching graphite strips at the appropriate distance



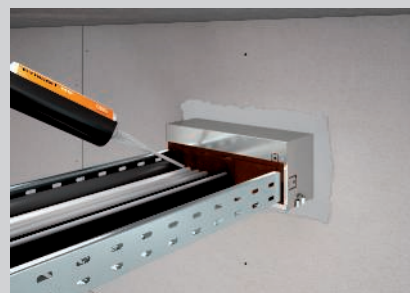
Inserting the box into the wall opening



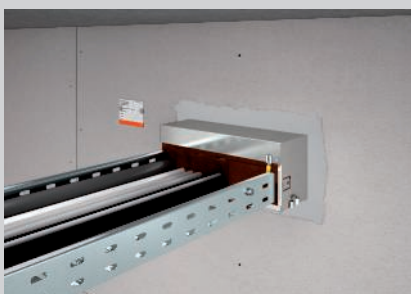
Masking and tidy mortaring in of the box



Inserting cut-to-size inlay block into the larger empty spaces



Closing the gaps completely with PYROSIT® NG fire protection foam



Attaching the equipotential bonding and the identification plate



Creation of groups with two boxes above each other or two boxes next to each other possible



Variant as ceiling insulation, fastening using fold-out lugs

Classification to EN

**E190** **E120**



Erectors of combination insulation systems have to be trained.



## PYROPLUG® MagicBox 3-sided variant

### System description



In the 3-sided variant, the PYROPLUG® MagicBox consists of a single-part stainless steel housing with intumescent fire protection inlays. This variant can be used as an insulation system in walls, on raw floors, beneath system floors and as insulation for rising sections in ceilings. The stainless steel housing offers very quick mounting. Simply insert in the component opening and mortar in. Side straps secure the correct position of the PYROPLUG® MagicBox, allowing safe mortaring. The interior of the MagicBoxes can be fully assigned with installations. In addition, they are particularly suited to the creation of cable support systems with widths of up to 600 mm. Residual openings can be closed with the PYROSIT®NG fire protection foam which means that also seals with difficult

geometries can be filled in easily. Inlay blocks of forgiving foam can be used for larger cavities or for use as reserve insulation. The graphite strips contained in the scope of delivery are attached to the MagicBox at the width of the component. If there is a fire, these foam up, reliably closing the resulting gap around the MagicBox. The perfectly matched portfolio of different heights and widths can cover any application and also offers fire protection boxes with a particularly large interior. They can be arranged in groups with two boxes on top of each other or two boxes next to each other. The PYROPLUG® MagicBox is a construction product with CE labelling and has the fire resistance class EI90 (fire-resistant).

# PYROPLUG® MagicBox 3-sided variant

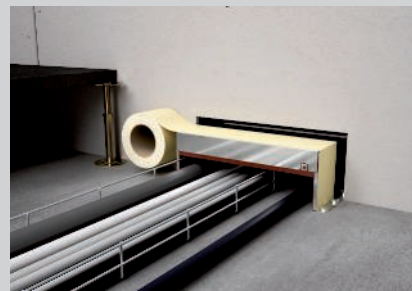
## Installation principle



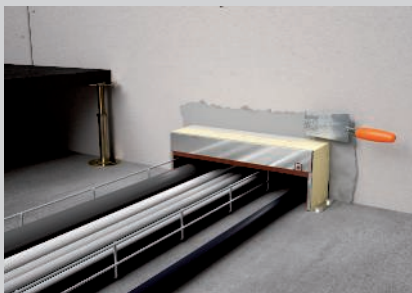
Measuring the wall thickness and attaching graphite strips at the appropriate distance



Inserting the box into the wall opening and fastening to the floor



Masking of the box



Tidy mortaring in of the box



Inserting cut-to-size inlay block into the larger empty spaces



Closing the gaps completely with PYROSIT® NG fire protection foam



Attaching the equipotential bonding and the identification plate



Creation of group with two boxes next to each other possible



Variant as ceiling insulation via rising sections

Classification to EN

**E190** **E120**



Erectors of combination insulation systems have to be trained.

# PYROPLUG® MagicBox

## Registration data

### Insulation systems in walls/ceilings

Fire resistance class	Fire-resistant (90 minutes)
European Technical Assessment	ETA-22/0175
General type approval	Z-19.53-26
Test standard	DIN EN 1366-3
Classification standard	DIN EN 13501-2
Declaration of performance	05-DOP-14

**Note:**

For the legally compliant documentation, the European Technical Assessment (ETA), the general design approval (aBG) and the declaration of performance (DoP) are needed. The labelling of the insulation system and the submittal of the declaration of conformity statement are mandatory after the installation. All certificates and a sample of the declaration of conformity statement that can be edited are available from the download area at [www.obo.de](http://www.obo.de).

### Areas of installation

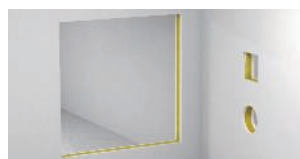
#### Insulation systems in walls/ceilings



**Component**

Rigid walls

Flexible walls

Rigid floors



Min. component strength 	$\geq 100$ mm	$\geq 100$ mm	$\geq 150$ mm
Insulation thickness* 	300 mm	300 mm	300 mm

\* According to box length

# PYROPLUG® MagicBox Installations

## Cable



## Pipe bundle of electrical installation pipes



## Cable bundle



## Electrical installation pipe made of steel



## Electrical installation pipe made of plastic, rigid

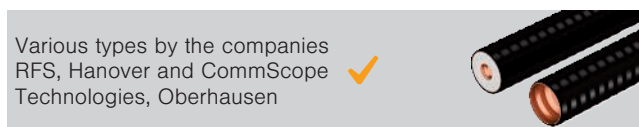


## Cable support systems

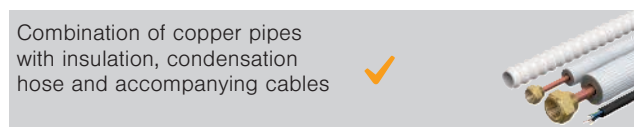


## Special installations

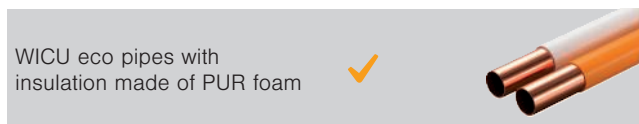
### Hollow shaft conductor



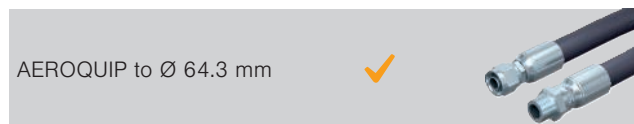
### Climate splitting lines



### Copper pipes Polyurethane



### Hydraulic hoses



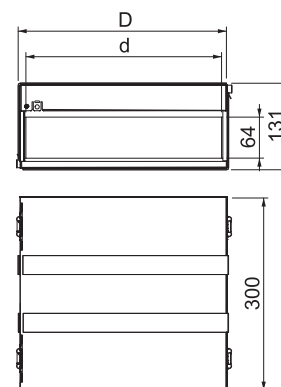
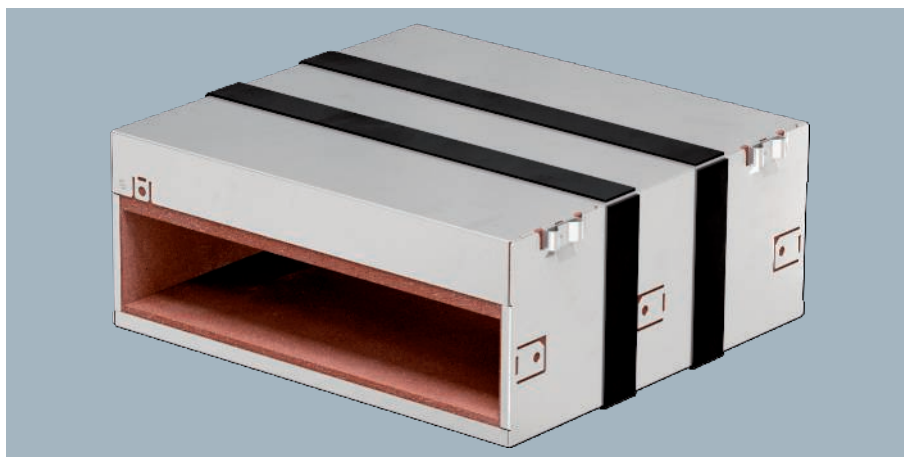
Details on the version can be found in the proof of suitability or mounting instructions.  
All the stated dimensions are maximum values.



# PYROPLUG® MagicBox, interior height 60 mm

## PYROPLUG® MagicBox, four-sided, interior height 60 mm

VA 2B

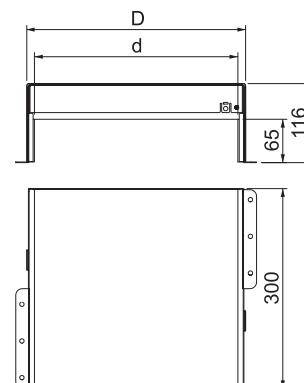
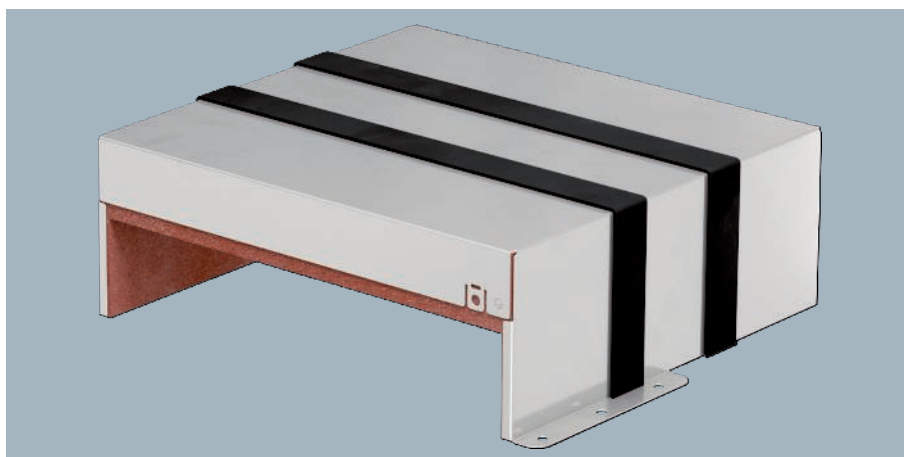


Type	Length mm	Dim.		Pack Piece	Weight kg/100 pc.	Item no.
		D mm	d mm			
PMB 610-4 A2	300	123	105	1	219.200	7204000
PMB 620-4 A2	300	223	205	1	331.500	7204004
PMB 630-4 A2	300	323	305	1	432.800	7204008
PMB 640-4 A2	300	423	405	1	563.100	7204012
PMB 650-4 A2	300	523	505	1	677.400	7204016
PMB 660-4 A2	300	623	605	1	768.600	7204020

Fire protection box as an insulation system, made of two-part stainless steel housing with intumescent fire protection inlays. Can be used in walls and ceilings. Quick mounting through the releasable Magic connection. Interior can be fully assigned with installations. For interior application. Closure of the residual openings with PYROSIT® NG fire protection foam, particularly simple for difficult geometries. CE-labelled construction product with general type approval. Fire resistance class EI90 (fire-resistant). Including graphite strip.

## PYROPLUG® MagicBox, three-sided, interior height 60 mm

VA 2B

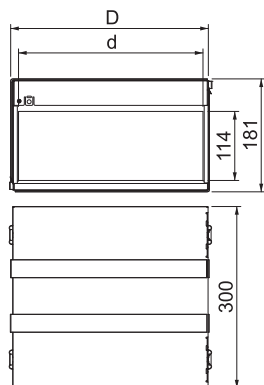


Type	Length mm	Dim.		Pack Piece	Weight kg/100 pc.	Item no.
		D mm	d mm			
PMB 610-3 A2	300	123	105	1	158.000	7204030
PMB 620-3 A2	300	223	205	1	233.400	7204034
PMB 630-3 A2	300	323	305	1	309.800	7204038
PMB 640-3 A2	300	423	405	1	383.100	7204042
PMB 650-3 A2	300	523	505	1	459.700	7204046
PMB 660-3 A2	300	623	605	1	536.700	7204050

Fire protection box as insulation system, made of single-part stainless steel housing with intumescent fire protection inlays. Can be used in walls, on raw floors, beneath system floors and as insulation of rising sections in ceilings. Interior can be fully assigned with installations. For interior application. Closure of the residual openings with PYROSIT® NG fire protection foam, particularly simple for difficult geometries. CE-labelled construction product with general type approval. Fire resistance class EI90 (fire-resistant). Including graphite strip.

VA 2B

**PYROPLUG® MagicBox, four-sided, interior height 110 mm**

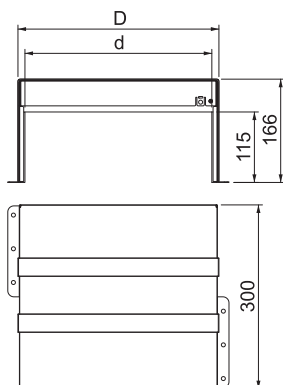


Fire protection box as an insulation system, made of two-part stainless steel housing with intumescent fire protection inlays. Can be used in walls and ceilings. Quick mounting through the releasable Magic connection. Interior can be fully assigned with installations. For interior application. Closure of the residual openings with PYROSIT® NG fire protection foam, particularly simple for difficult geometries. CE-labelled construction product with general type approval. Fire resistance class EI90 (fire-resistant). Including graphite strip.

Type	Length mm	Dim.		Pack Piece	Weight kg/100 pc.	Item no.
		D mm	d mm			
<b>PMB 110-4 A2</b>	300	123	105	1	281.900	<b>7204120</b>
<b>PMB 120-4 A2</b>	300	223	205	1	394.200	<b>7204124</b>
<b>PMB 130-4 A2</b>	300	323	305	1	495.400	<b>7204128</b>
<b>PMB 140-4 A2</b>	300	423	405	1	625.700	<b>7204132</b>
<b>PMB 150-4 A2</b>	300	523	505	1	740.000	<b>7204136</b>
<b>PMB 160-4 A2</b>	300	623	605	1	831.300	<b>7204140</b>

VA 2B

**PYROPLUG® MagicBox, three-sided, interior height 110 mm**



Fire protection box as insulation system, made of single-part stainless steel housing with intumescent fire protection inlays. Can be used in walls, on raw floors, beneath system floors and as insulation of rising sections in ceilings. Interior can be fully assigned with installations. For interior application. Closure of the residual openings with PYROSIT® NG fire protection foam, particularly simple for difficult geometries. CE-labelled construction product with general type approval. Fire resistance class EI90 (fire-resistant). Including graphite strip.

Type	Length mm	Dim.		Pack Piece	Weight kg/100 pc.	Item no.
		D mm	d mm			
<b>PMB 110-3 A2</b>	300	123	105	1	220.700	<b>7204150</b>
<b>PMB 120-3 A2</b>	300	223	205	1	296.000	<b>7204154</b>
<b>PMB 130-3 A2</b>	300	323	305	1	372.500	<b>7204158</b>
<b>PMB 140-3 A2</b>	300	423	405	1	445.700	<b>7204162</b>
<b>PMB 150-3 A2</b>	300	523	505	1	522.300	<b>7204166</b>
<b>PMB 160-3 A2</b>	300	623	605	1	599.400	<b>7204170</b>

## 2-component fire protection foam PYROSIT® NG



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

PYROSIT® NG 2-component fire protection foam in a cartridge, including 2 mixing tubes. To create cable and combination insulation in interior areas; 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.

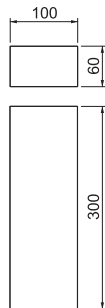
## Intumescent insulating strip



Type	Length	Width	Height	Pack	Weight	Item no.
	mm	mm	mm	Piece	kg/100 pc.	
<b>PMB-GS</b>	1000	30	2	1	8.200	<b>7204180</b>

Graphite strip as reserve for the PYROPLUG® MagicBox. Foams up to close the gap that forms around the MagicBox in the event of fire.

## Inlay block for PYROPLUG® MagicBox

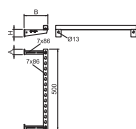
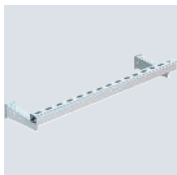


Type	Length	Width	Height	Pack	Weight	Item no.
	mm	mm	mm	Piece	kg/100 pc.	
<b>PMB-SI 4</b>	300	100	60	4	53.500	<b>7204184</b>
<b>PMB-SI 8</b>	300	100	60	8	53.500	<b>7204188</b>

Inlay block to fill unassigned areas in the MagicBoxes, also for complete filling of the MagicBoxes when used as reserve insulation. Joint closure with PYROSIT® NG fire protection foam.

## Support construction for insulations, with bracket

St



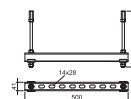
Type	Dim. H	Dim. B	Dim. A	Pack	Weight	Item no.
	mm	mm	mm	Piece	kg/100 pc.	
<b>SKA 05 VZ</b>	70	217	50	1	190.740	<b>7202436</b>

Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the bracket on the wall, support of the installation using mounting rail. The maximum distance of the mounting rail to the wall of 200 mm fulfils the requirements of most insulation systems.

St

## Support construction for insulations, with pendulum suspension

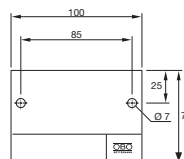
Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
SKP 05 VZ	1000	1	235.240	7202446



Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the pendulum with threaded rods under the ceiling. A maximum of two layers can be mounted with connection sleeves from two sets. The support constructions must be arranged on both sides of the wall at the prescribed distance to the insulation system.

PS

Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-S DE	German	1	2.400	7205425
KS-S SE	Swedish	1	2.400	7205426
KS-S ES	Spanish	1	2.400	7205427
KS-S IT	Italian	1	2.400	7205428
KS-S EN	English	1	2.400	7205429
KS-S FR	French	1	2.400	7205430
KS-S NL	Dutch	1	2.400	7205431
KS-S HR	Croatian	1	2.400	7205438



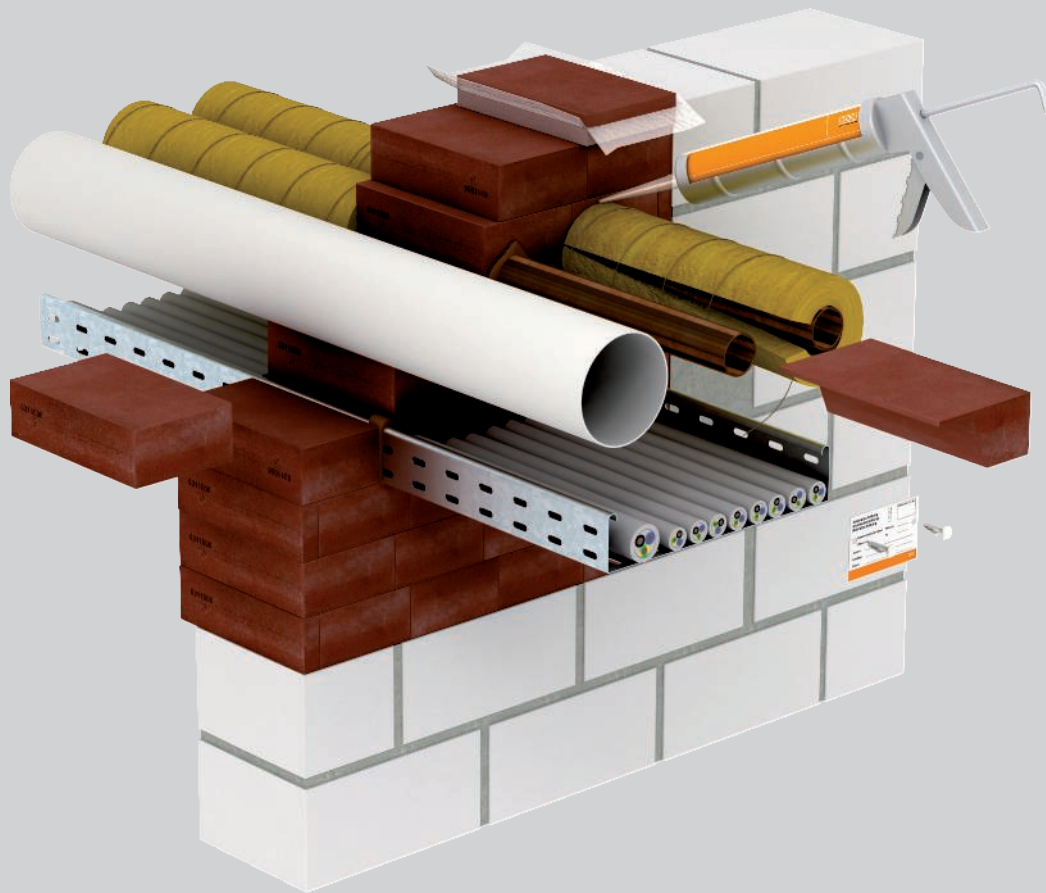
## Identification plate



Identification plate to be written on with waterproof and light-resistant felt-tip pen for fire-safe cable glands, including 2 push-fit anchors.



## PYROPLUG® Block System description



The OBO PYROPLUG® Block combination insulation is created from foam blocks, which, if there is a fire, expand without any noticeable pressure creation. In so doing, they form an insulating carbon foam. This reliably prevents the penetration of fire and smoke through the cable insulation. Combustible pipes can be run in this

insulation without an additional sleeve. Copper and steel pipes can be insulated either with or without section insulation. All the PYROPLUG® Block insulation is completely dust and fibre-free. This also applies to any installations at a later date. This is an aspect which is particularly important for installation in IT and laboratory rooms.

# PYROPLUG® Block

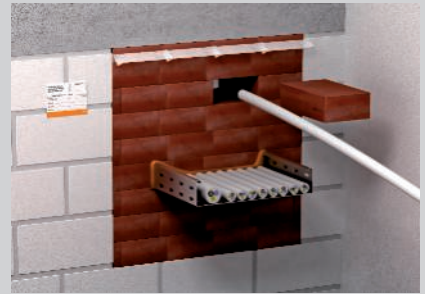
## Installation principle



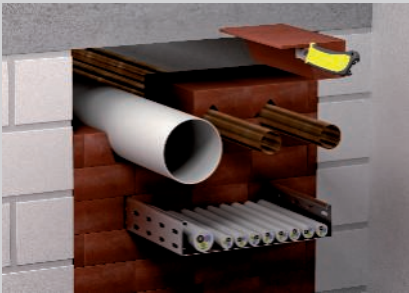
Mounting of the cut blocks.



Vacuum blocks for simple residual gap closing.



Simple reinstallation through removal of individual blocks.



Running of combustible pipes without additional measures.



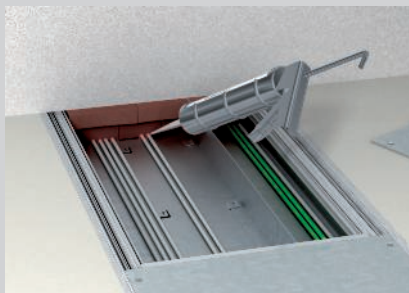
Run-through, non-combustible pipes with section insulation.



Tight-fitting installation of the blocks in the ceiling penetration.



Cut thin strips for the duct compartments.



Close the joints and spandrels between the installed cables and the blocks with a layer of the FBA-SP fire protection compound of at least 2 cm deep.



Close the residual joints between cables and blocks with the FBA-SP filler.

Classification to DIN

S30

S60

S90

Classification to EN

EI15

EI30

EI45

EI60

EI90

EI120



Erectors of combination insulation systems have to be trained.

# PYROPLUG® Block

## Registration data

### Combination insulation in wall / ceiling

Fire resistance class	fire resistant (90 minutes)
European Technical Assessment	ETA-15/0803
General type approval	Z-19.53-2391
Test standard	DIN EN 1366-3
Classification standard	DIN EN 13501-2
Declaration of performance	05-DOP-004

### Insulation in underfloor ducts


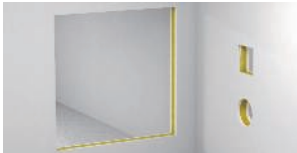




Fire resistance class	fire resistant (90 minutes)
Screed-flush ducts	Manufacturer declaration 2020/05-100/302
Screed-covered ducts	Manufacturer declaration 2020/05-100/303

### Additive proofs (acc. to ETA)



Heat permeation	see section 3.5 from ETA-15/0803
Air permeation/pressure resistance	see section 3.2 from ETA-15/0803
Air noise insulation	see section 3.4 from ETA-15/0803

## Areas of installation

### Insulation systems in walls/ceilings

Component		Rigid walls	Flexible walls	Rigid floors
				
Min. component strength		10 cm (S30/S60/S90)	10 cm (S30/S60/S90)	15 cm (S30 / S60 / S90)
Min. insulation thickness		20 cm (S30/S60/S90)	20 cm (S30/S60/S90)	20 cm (S30/S60/S90)
Opening size		$\leftrightarrow \leq 100 \text{ cm}$ $\updownarrow \leq 100 \text{ cm}$	$\leftrightarrow \leq 84 \text{ cm}$ $\updownarrow \leq 57 \text{ cm}$ $\leftrightarrow \leq 57 \text{ cm}$ $\updownarrow \leq 84 \text{ cm}$	$\leftrightarrow \leq 70 \text{ cm}$ $\updownarrow \text{ unlimited}$

### Underfloor system

	Screed-covered	Screed-flush (open)
		
Min. insulation thickness	2 x 20 cm (S30/S60/S90)	20 cm (S30/S60/S90)
Duct size	$\leftrightarrow \leq 35 \text{ cm}$ $\updownarrow \leq 5 \text{ cm}$	$\leftrightarrow \leq 60 \text{ cm}$ $\updownarrow \leq 16 \text{ cm}$
Min. screed thickness	3.5 cm	-
Underfloor socket distance	Unlimited	-

# PYROPLUG® Block Installations

## Cable



## Pipe bundle of electrical installation pipes



## Cable bundle



## Electrical installation pipe made of steel



## Individual lines for control purposes



## Cable support systems



## Electrical installation pipe made of plastic, rigid



## Metal pipes with path insulation



## Electrical installation pipe made of plastic, flexible



## Plastic pipes



## Special installations

### Screed-covered underfloor ducts



### Hydraulic hoses



### Open underfloor ducts

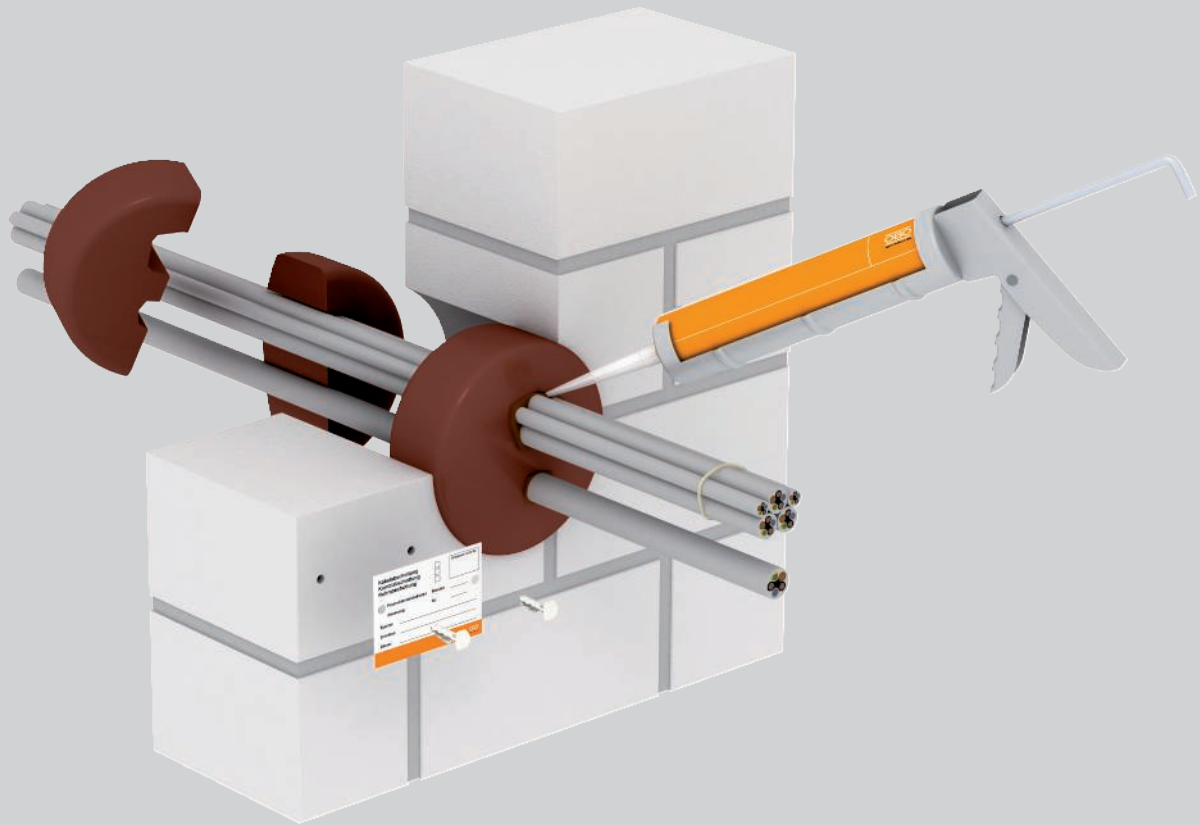


Details on the version can be found in the proof of suitability or mounting instructions. All the stated dimensions are maximum values.



## PYROPLUG® Peg foam series

### System description



The PYROPLUG® Peg system from OBO is used to create cable insulation with fire protection foam plugs. The foam plugs are ideal for closing core drill holes in solid walls and concrete ceilings. The foam plugs are made of permanently elastic, closed-pore foam, which expands in the event of fire without any significant pressure build-up, thus creating an insulating plastic foam. This reliably

prevents the penetration of fire and smoke through the cable insulation. The PYROPLUG® Peg insulation system can be used without difficulty in areas of data processing and in laboratories, as mounting is completely clean and is free of dust and fibres. This also applies to any necessary cable installations at a later date. Special tools are not required for processing, a knife is sufficient.

# PYROPLUG® Peg foam series

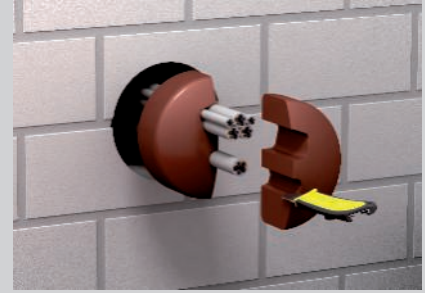
## Installation principle



Ideal for core drill holes of 55 mm to 240 mm.



Cutting of the plugs for cable assignment on the edge of the core hole.



Push cut plugs into the core hole.



Due to the elastically material a quick mounting is possible.



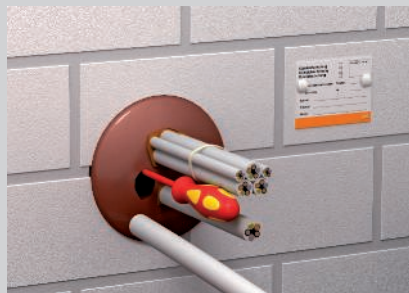
Cutting and mounting of the plugs in ceilings.



Residual joints are closed off with the filler FBA-SP.



Small distance to next core drill hole possible.



With retroinstallations, carefully cut or drill the plugs.

Classification to DIN

S30

S60

S90

Classification to EN

EI15

EI30

EI45

EI60

EI90

EI120



Erectors of combination insulation systems have to be trained.

# PYROPLUG® Peg foam series

## Registration data

### Insulation in wall / ceiling

Fire resistance class	fire resistant (90 minutes)
European Technical Assessment	ETA-15/0701
General type approval	Z-19.53-2474
Test standard	DIN EN 1366-3
Classification standard	DIN EN 13501-2
Declaration of performance	05-DOP-005

### Additive proofs (acc. to ETA)

Heat permeation	see section 3.5 from ETA-15/0701
Air permeation/pressure resistance	see section 3.2 from ETA-15/0701
Air noise insulation	see section 3.4 from ETA-15/0701

#### Note:

For the legally compliant documentation, the European Technical Assessment (ETA), the general design approval (aBG) and the declaration of performance (DoP) are needed. The labelling of the insulation system and the submittal of the declaration of conformity statement are mandatory after the installation. All certificates and a sample of the declaration of conformity statement that can be edited are available from the download area at [www.obo.de](http://www.obo.de).

## Areas of installation

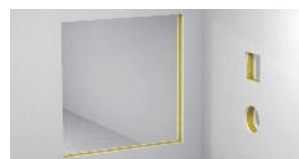
### Insulation systems in walls/ceilings

#### Component F30

##### Rigid walls



##### Flexible walls



##### Rigid floors



Min. component strength



5 cm  
(S30 / S60 / S90)

7.5 cm  
(S30 / S60 / S90)

15 cm  
(S30 / S60 / S90)

Min. insulation thickness



12 cm  
(S30 / S60 / S90)

12 cm  
(S30 / S60 / S90)

12 cm  
(S30 / S60 / S90)

Opening size



Ø 55 mm, Ø 68 mm,  
Ø 97 mm, Ø 112 mm,  
Ø 124 mm, Ø 155 mm,  
Ø 190 mm, Ø 240 mm

Ø 55 mm, Ø 68 mm,  
Ø 97 mm, Ø 112 mm,  
Ø 124 mm, Ø 155 mm,  
Ø 190 mm, Ø 240 mm

Ø 55 mm, Ø 68 mm,  
Ø 97 mm, Ø 112 mm,  
Ø 124 mm, Ø 155 mm,  
Ø 190 mm, Ø 240 mm

#### Component F90

##### Rigid walls



##### Flexible walls



##### Rigid floors



Min. component strength



10 cm  
(S30 / S60 / S90)

10 cm  
(S30 / S60 / S90)

15 cm  
(S30 / S60 / S90)

Min. insulation thickness



15 cm  
(S30 / S60 / S90)

15 cm  
(S30 / S60 / S90)

15 cm  
(S30 / S60 / S90)

Opening size



Ø 55 mm, Ø 68 mm,  
Ø 97 mm, Ø 112 mm,  
Ø 124 mm, Ø 155 mm,  
Ø 190 mm, Ø 240 mm

Ø 55 mm, Ø 68 mm,  
Ø 97 mm, Ø 112 mm,  
Ø 124 mm, Ø 155 mm,  
Ø 190 mm, Ø 240 mm

Ø 55 mm, Ø 68 mm,  
Ø 97 mm, Ø 112 mm,  
Ø 124 mm, Ø 155 mm,  
Ø 190 mm, Ø 240 mm

# PYROPLUG® Peg foam series Installations

## Cable



## Pipe bundle of electrical installation pipes



## Cable bundle



## Electrical installation pipe made of steel



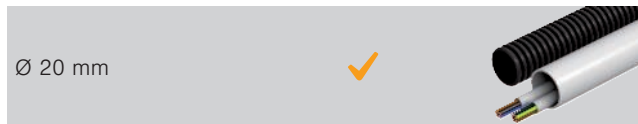
## Individual lines for control purposes



## Cable support systems



## Electrical installation pipe made of plastic, rigid



## Metal pipes with path insulation




## Electrical installation pipe made of plastic, flexible



## Plastic pipes



 Details on the version can be found in the proof of suitability or mounting instructions.  
All the stated dimensions are maximum values.



## PYROPLUG® Box box insulation System description



The PYROPLUG® Box system from OBO is used to create cable insulation with boxes made of foam. The system is particularly suitable for simple mounting of cable insulation in light-duty partitions. No layering is required. Installation in solid walls and solid ceilings is also possible and approved. The insulation system consists of a two-part frame and two matching internal pieces. The permanently

elastic, closed-pore foam material expands in the event of fire without any significant pressure build-up, thus creating an insulating plastic foam. This reliably prevents the penetration of fire and smoke through the cable insulation. The usable area of the boxes corresponds to the maximum approval cable assignment area of 60%. It is thus impossible to over assign it with cables.

# PYROPLUG® Box box insulation

## Installation principle



Insertion of the split frame in light-duty partitions, without additional layering.



Mounting of the frame with previously installed cables.



Exact cutting of the internal pieces and then insertion in the frame.



Closing joint component on full assignment with FBA-SP filler.



Grouped arrangement of the boxes.

Classification to DIN

S30

S60

S90



Erectors of combination insulation systems have to be trained.

# PYROPLUG® Box box insulation

## Registration data


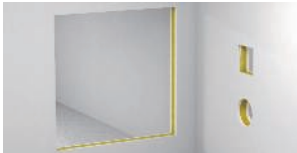




### Insulation in wall/ceiling

Fire resistance class	S30, S60, S90
Proof of application	General construction approval of DIBt, Berlin
Approval number	Z-19. 15-1557
Testing standard	DIN 4102 Part 9


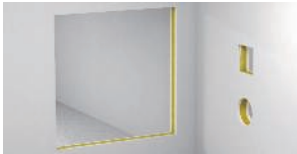




## Areas of installation

### Insulation systems in walls/ceilings

#### Component F30

	Rigid walls	Flexible walls	Rigid floors
			
Min. component strength 	5 cm (S30 / S60 / S90)	7.5 cm (S30 / S60 / S90)	15 cm (S30 / S60 / S90)
Min. insulation thickness 	20 cm (S30 / S60 / S90)	20 cm (S30 / S60 / S90)	20 cm (S30 / S60 / S90)
Opening size 	$\leftrightarrow \leq 50 \text{ cm}$ $\updownarrow \leq 50 \text{ cm}$	$\leftrightarrow \leq 50 \text{ cm}$ $\updownarrow \leq 50 \text{ cm}$	$\leftrightarrow \leq 50 \text{ cm}$ $\updownarrow \leq 50 \text{ cm}$

#### Component F90

	Rigid walls	Flexible walls	Rigid floors
			
Min. component strength 	10 cm (S30 / S60 / S90)	10 cm (S30 / S60 / S90)	15 cm (S30 / S60 / S90)
Min. insulation thickness 	20 cm (S30 / S60 / S90)	20 cm (S30 / S60 / S90)	20 cm (S30 / S60 / S90)
Opening size 	$\leftrightarrow \leq 50 \text{ cm}$ $\updownarrow \leq 50 \text{ cm}$	$\leftrightarrow \leq 50 \text{ cm}$ $\updownarrow \leq 50 \text{ cm}$	$\leftrightarrow \leq 50 \text{ cm}$ $\updownarrow \leq 50 \text{ cm}$

# PYROPLUG® Box box insulation Installations

## Cable



## Pipe bundle of electrical installation pipes



## Cable bundle



## Electrical installation pipe made of steel



## Individual lines for control purposes



## Cable support systems



## Electrical installation pipe made of plastic, rigid



## Metal pipes with path insulation




## Electrical installation pipe made of plastic, flexible



## Plastic pipes

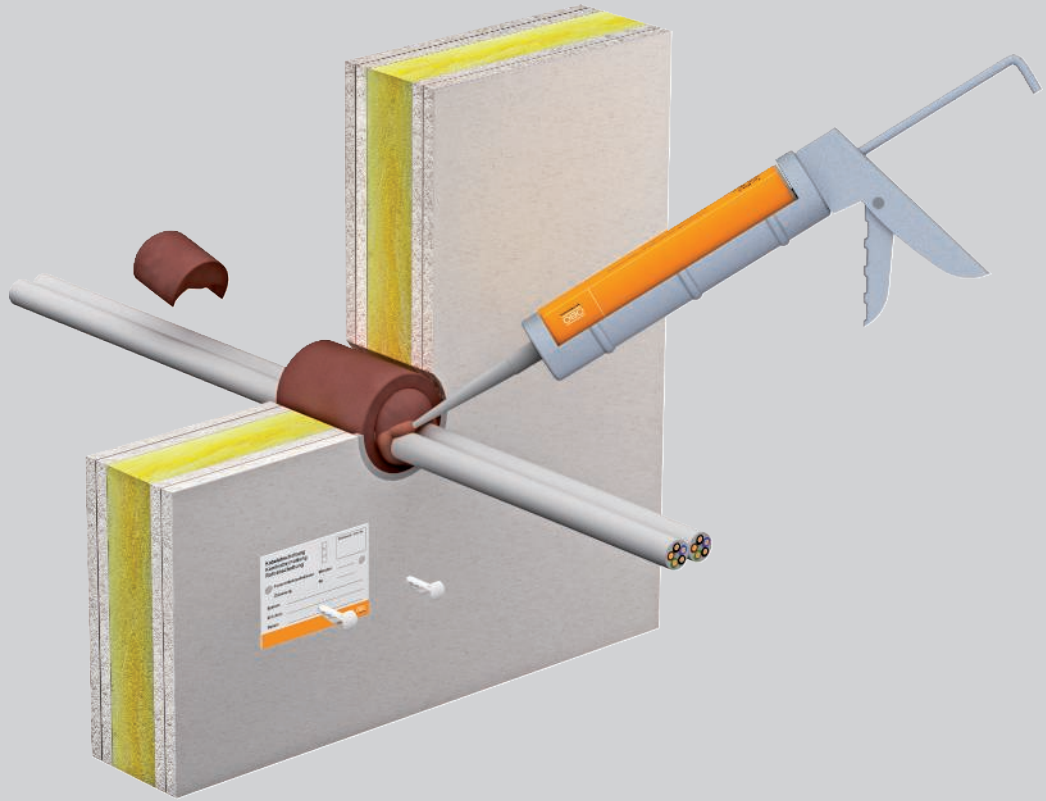


 Details on the version can be found in the proof of suitability or mounting instructions. All the stated dimensions are maximum values.



## PYROPLUG® Shell pipe shells

### System description



The OBO PYROPLUG® Shell system is specially designed for cable insulation in box drill holes in light-duty partitions. The insulation system consists of a pipe shell and two matching plugs. The material is made of permanently elastic, closed-pore foam, which expands in the event of fire without any significant pressure build-up, thus

creating an insulating plastic foam. This reliably prevents the penetration of fire and smoke through the cable insulation. The ratio of the external diameter to the internal diameter of the pipe shell ensures that over assignment with cables is not possible, even at full assignment.

# PYROPLUG® Shell pipe shells

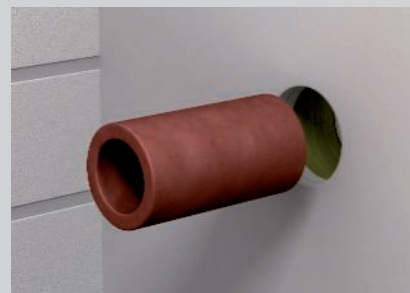
## Installation principle



Drilling of a hole with a drill crown.



Grouped arrangement of the drill holes.



Insertion of the pipe shell in the light-duty partition.



For previously installed cables, cutting of the pipe shell.



Cutting and insertion of the plugs in the pipe shell.



Full assignment of the pipe shell.

Classification to DIN

S30

S60

S90



Erectors of combination insulation systems have to be trained.

# PYROPLUG® Shell pipe shells

## Registration data

### Insulation in wall / ceiling

Fire resistance class	S30, S60, S90
Proof of application	General construction approval of DIBt, Berlin
Approval number	Z-19. 15-1559
Testing standard	DIN 4102 Part 9

## Areas of installation

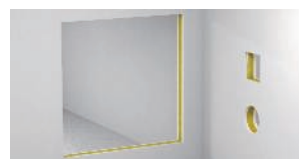
### Insulation systems in walls/ceilings

#### Component F30

##### Rigid walls






##### Flexible walls



##### Rigid floors



Min. component strength		5 cm (S30 / S60 / S90)	7.5 cm (S30 / S60 / S90)	15 cm (S30 / S60 / S90)
Min. insulation thickness		10 cm (S30 / S60 / S90)	10 cm (S30 / S60 / S90)	10 cm (S30 / S60 / S90)
Opening size		≤ Ø 10 cm	≤ Ø 10 cm	≤ Ø 10 cm

#### Component F90

##### Rigid walls






##### Flexible walls



##### Rigid floors



Min. component strength		10 cm (S30 / S60 / S90)	10 cm (S30 / S60 / S90)	15 cm (S30 / S60 / S90)
Min. insulation thickness		10 cm (S30 / S60 / S90)	10 cm (S30 / S60 / S90)	10 cm (S30 / S60 / S90)
Opening size		≤ Ø 10 cm	≤ Ø 10 cm	≤ Ø 10 cm

# PYROPLUG® Shell pipe shells Installations

## Cable



## Pipe bundle of electrical installation pipes



## Cable bundle



## Electrical installation pipe made of steel



## Individual lines for control purposes



## Cable support systems



## Electrical installation pipe made of plastic, rigid



## Metal pipes with path insulation




## Electrical installation pipe made of plastic, flexible



## Plastic pipes

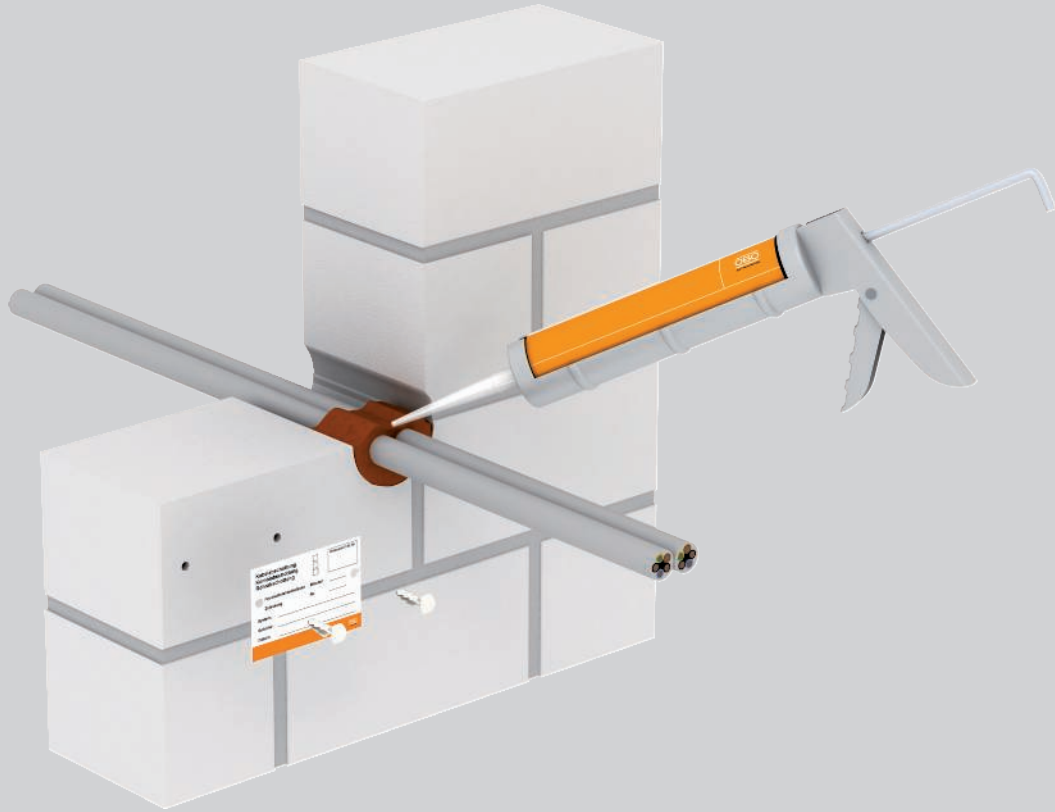


 Details on the version can be found in the proof of suitability or mounting instructions. All the stated dimensions are maximum values.



## PYROPLUG® Mini filler

### System description



The OBO PYROPLUG® Mini system is ideal for small, round cable insulations up to a diameter of 8 cm. It only consists of the one-component filler PYROPLUG® Screed. In light-duty partitions, the

empty mini pipe shell of the PYROPLUG® Shell system is used as layering. The interior of these pipe shells may be completely assigned. Only the residual joints must be filled with the filler.



# PYROPLUG® Mini filler

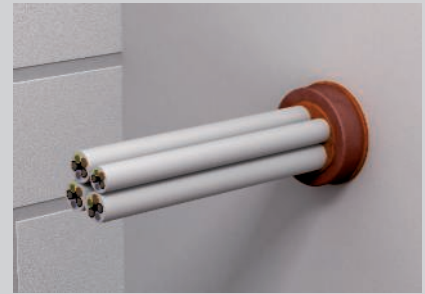
## Installation principle



Closing of the opening with the filler FBA-SP.



In light-duty partitions, use of the mini pipe shell FBA-DR.



Complete assignment of the mini pipe shell.

Classification to DIN

S30

S60

S90



Erectors of combination insulation systems have to be trained.

# PYROPLUG® Mini filler

## Registration data

### Insulation in wall/ceiling

Fire resistance class	S30, S60, S90
Proof of application	General construction approval of DIBt, Berlin
Approval number	Z-19. 15-1851
Testing standard	DIN 4102 Part 9

## Areas of installation

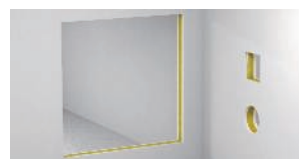
### Insulation systems in walls/ceilings

#### Component F90

#### Rigid walls



#### Flexible walls



#### Rigid floors



Min. component strength



10 cm  
(S30 / S60 / S90)

10 cm  
(S30 / S60 / S90)

15 cm  
(S30 / S60 / S90)

Min. insulation thickness



10 cm  
(S30 / S60 / S90)

10 cm  
(S30 / S60 / S90)

15 cm  
(S30 / S60 / S90)

Opening size



≤ Ø 8 cm

≤ Ø 8 cm

≤ Ø 8 cm

# PYROPLUG® Mini filler

## Installations

### Cable



### Pipe bundle of electrical installation pipes



### Cable bundle



### Electrical installation pipe made of steel



### Individual lines for control purposes



### Cable support systems



### Electrical installation pipe made of plastic, rigid



### Metal pipes with path insulation



### Electrical installation pipe made of plastic, flexible

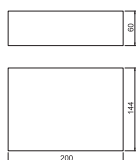


### Plastic pipes



Details on the version can be found in the proof of suitability or mounting instructions. All the stated dimensions are maximum values.

**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. For interior application. 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.

**PYROPLUG® Block vacuum block**



Type	Dimension mm	Pack Piece	Weight kg/100 pc.	Item no.
FBA-BV200-14	200x144x25	1	40.000	7202515

Vacuum-packed version of the FBA-B200-14 foam block for the simple closure of the residual gap in the PYROPLUG® Block combination insulation. After mounting has been completed, the film is cut and the block expands to its original size again. The film can remain in the insulation. For interior application.

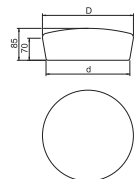
**2-component fire protection foam PYROSIT® NG**



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 in interior areas; 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.

**PYROPLUG® Peg plugs**



Type	For opening Ø mm	Dim. D mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
FBA-SN65	55-65	75	65	4	8.200	7202553
FBA-SN78	68-78	87	78	4	12.600	7202557
FBA-SN107	97-107	117	107	4	21.600	7202561
FBA-SN122	112-122	132	122	4	28.600	7202565
FBA-SN134	124-134	144	134	4	32.900	7202569
FBA-SN165	155-165	175	165	1	49.700	7202573
FBA-SN200	190-200	210	200	1	74.400	7202577
FBA-SN250	240-250	260	250	1	101.400	7202581

Plug for cable insulation. Protect the FBA plugs against water in order to guarantee safe foaming in case of fire.

**PYROPLUG® screed filler**



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

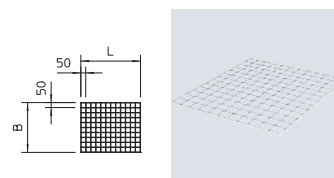
Fire protection filler in a cartridge. Usable as small insulation and as joint closing compound in all insulation of the PYROPLUG® series. For interior application. In dry, frost-free rooms, the fire protection filler can be stored for up to 12 months at a temperature of +5 °C to +30 °C.



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### Steel wire grid

Type	Dim. Dim.		Pack Piece	Weight kg/100 pc.	Item no.
	L mm	B mm			
SDG-1	600	500	1	135.000	7202963
SDG-2	1000	600	1	270.000	7202971

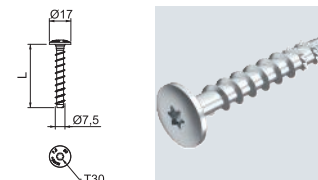


Steel wire grid as support and protection grid, wire diameter 4 mm.

St G

### MMS-plus MS mounting rail tie, with flat panhead

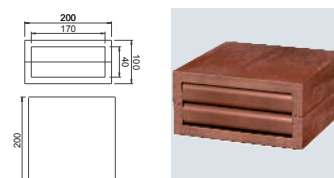
Type	Dimension mm	Dim. L mm	Drill hole		Screw system	Pack Piece	Weight kg/100 pc.	Item no.
			Ø mm	Head Ø mm				
MMS+ MS 7.5x50	7,5x50	50	6	17	Torx	100	1.500	3498261
MMS+ MS 7.5x60	7,5x60	60	6	17	Torx	50	1.800	3498262



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.

### PYROPLUG® Box box insulation

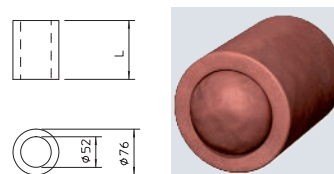
Type	Dimension mm	Pack Piece	Weight kg/100 pc.	Item no.
FBA-F	200x200x100	1	122.000	7202660



Box for cable insulation. Consisting of a two-part, hard frame and two soft internal pieces. Protect the frame and internal pieces against water in order to guarantee safe foaming in case of fire. For interior application.

### PYROPLUG® Shell drill crown insulation

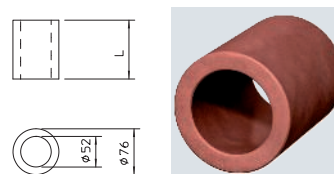
Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
FBA-D100	100	1	15.500	7202624
FBA-D150	150	1	19.200	7202628



Pipe shell for cable insulation. Consisting of a one-part, hard pipe sleeve and two soft plugs of 50 mm diameter. Protect the pipe sleeves and plugs against water in order to guarantee safe foaming in case of fire. For interior application.

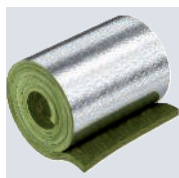
### Empty mini pipe shell

Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
FBA-DR100	100	1	6.500	7202613
FBA-DR150	150	1	10.200	7202617



Empty pipe sleeve for use in FBA-SP small insulation in lightweight partitions. For interior application. Protect the pipe sleeves against water in order to guarantee safe foaming in case of fire.

### Section insulation for metal pipes



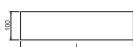
Type	Length	Width	Thickness	Pack Piece	Weight kg/100 pc.	Item no.
	mm	mm	mm			
MIW-MA	6100	500	30	2	1,010.000	7202308

Mineral wool mats with aluminium lamination for section insulation on copper and steel pipes. Fastening with winding wire, securing of joints with aluminium adhesive tape.

Applicable in the systems:  
 PYROMIX® mortar insulation  
 PYROSIT® NG fire insulation foam  
 PYROPLATE® Fibre soft insulation  
 PYROPLUG® Block blocks

Material class EN 13501 - A1 non-combustible; melting point ≥ 1,000 °C

### Aluminium adhesive tape for path insulation

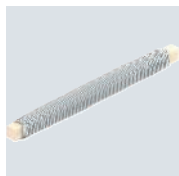


Type	Length	Width	Pack Piece	Weight kg/100 pc.	Item no.
	m	mm			
MIW-AT	100	100	1	136.900	7202305

Aluminium adhesive tape for applying the aluminium-laminated section insulation. The aluminium adhesive tape is self-adhesive and not classified as combustible according to DIN 4102-1.

### Winding wire for path insulation

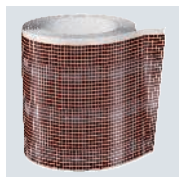
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Type	Length	Pack Piece	Weight kg/100 pc.	Item no.
	m			
MIW-TD	50	1	10.000	7202309

The steel wire is used to fix the section insulation. It is non-combustible and guarantees optimum retention of the section insulation on non-combustible pipes and cables.

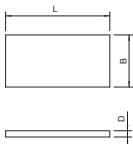
### Cable coil



Type	Length	Width	Pack Piece	Weight kg/100 pc.	Item no.
	m	mm			
FBA-WI	5	150	1	384.000	7202510

Self-adhesive, intumescent cable protector, 5 mm thick, for use with large cable diameters and penetrated cable support systems, applicable in PYROPLUG® systems and PYROSIT® NG. For interior application.

### Calcium silicate plate



Type	Dim. L	Dim. B	Dim. D	Pack Piece	Weight kg/100 pc.	Item no.
	mm	mm	mm			
KSI-P1	500	150	20	1	42.000	7202283
KSI-P2	500	250	30	1	111.000	7202904
KSI-P3	1000	250	30	1	222.000	7202912

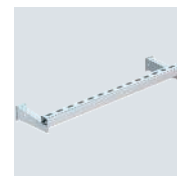
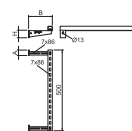
Calcium silicate plate, as support plate, for the construction of frames in the penetration and to double thin wall thicknesses.

Materials class EN 13501 - A1 non-combustible.

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### Support construction for insulations, with bracket

Type	Dim.	Dim.	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
	H mm	B mm	A mm			
SKA 05 VZ	70	217	50	1	190.740	7202436

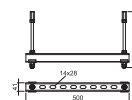


Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the bracket on the wall, support of the installation using mounting rail. The maximum distance of the mounting rail to the wall of 200 mm fulfils the requirements of most insulation systems.

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### Support construction for insulations, with pendulum suspension

Type	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
	L mm			
SKP 05 VZ	1000	1	235.240	7202446

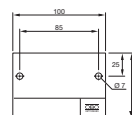


Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the pendulum with threaded rods under the ceiling. A maximum of two layers can be mounted with connection sleeves from two sets. The support constructions must be arranged on both sides of the wall at the prescribed distance to the insulation system.

PS

### Identification plate

Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-S DE	German	1	2.400	7205425
KS-S SE	Swedish	1	2.400	7205426
KS-S ES	Spanish	1	2.400	7205427
KS-S FR	French	1	2.400	7205430
KS-S NL	Dutch	1	2.400	7205431
KS-S HR	Croatian	1	2.400	7205438
KS-S IT	Italian	1	2.400	7205428
KS-S EN	English	1	2.400	7205429



Identification plate to be written on with waterproof and light-resistant felt-tip pen for fire-safe cable glands, including 2 push-fit anchors.

## PYROCOMB® Tubes pipe sleeve System description



The PYROCOMB® Tubes system is used to create cable insulation with pipe sleeves. The system comprises multiple sizes of the pipe sleeve, type TCX. This allows simple insulation of bundles of plastic electrical installation pipes, rigid or flexible, up to a size of M63. It is irrelevant whether the

pipes are filled with cables or are empty. In the event of fire, the fire protection material inserted within the seal foams up after a few minutes under high pressure, closing the softened bundles at a high pressure. This safely prevents the spread of fire and smoke, should a fire occur.

# PYROCOMB® Tubes pipe sleeve

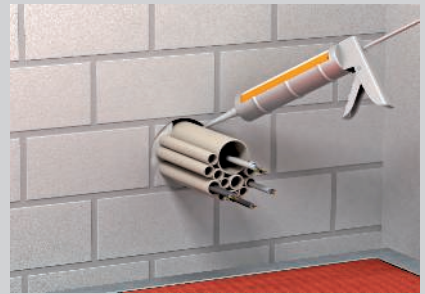
## Installation principle



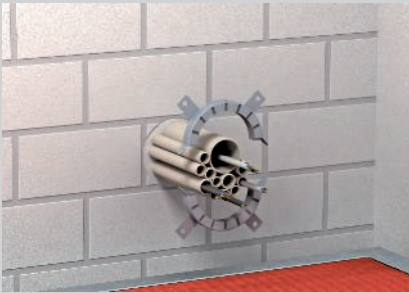
Two-sided arrangement of the pipe sleeves for wall mounting.



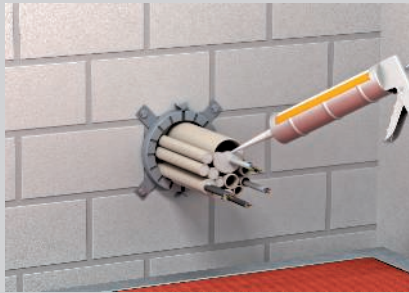
Mounting on the underside of the ceiling with metal anchors.



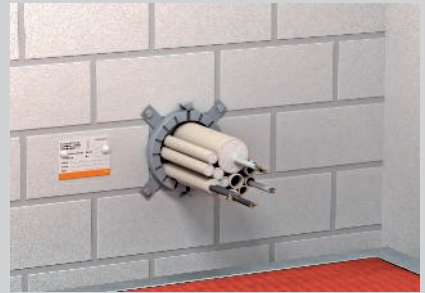
Closing of the ring gap with the insulation layer creator DSX.



Combination of the sleeve halves and fastening on the wall.



Closing of the pipe ends with the insulation layer creator DSX.



Labelled insulation of installation pipe bundles.

Classification to DIN

S30

S60

S90

Classification to EN

EI15

EI30

EI45

EI60

EI90

EI120



Erectors of combination insulation systems have to be trained.



# PYROCOMB® Tubes pipe sleeve

## Registration data

### Combination insulation in walls and ceilings


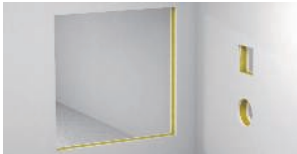




<b>Fire resistance class</b>	EI 15, EI 30, EI 45, EI 60, EI 90, EI 120
<b>Proof of application</b>	General construction approval of OIB, Vienna
<b>Approval number</b>	ETA-12/0207
<b>Testing standard</b>	EN 1366-3

**Note:**

For the legally compliant documentation, the European Technical Assessment (ETA), the general design approval (aBG) and the declaration of performance (DoP) are needed. The labelling of the insulation system and the submittal of the declaration of conformity statement are mandatory after the installation. All certificates and a sample of the declaration of conformity statement that can be edited are available from the download area at [www.obo.de](http://www.obo.de).

## Areas of installation

### Insulation systems in walls/ceilings

Component		Rigid walls	Flexible walls	Rigid floors
				
Min. component strength		10 cm (EI 30 / EI 60 / EI 90 / EI 120)	10 cm (EI 30 / EI 60 / EI 90 / EI 120)	15 cm (EI 30 / EI 60 / EI 90 / EI 120)
Min. insulation thickness		10 cm (EI 60 / EI 90 / EI 120)	10 cm (EI 60 / EI 90 / EI 120)	15 cm (EI 60 / EI 90 / EI 120)
Opening size		Ø 32 mm, Ø 40 mm, Ø 50 mm, Ø 63 mm, Ø 75 mm, Ø 90 mm, Ø 110 mm, Ø 125 mm	Ø 32 mm, Ø 40 mm, Ø 50 mm, Ø 63 mm, Ø 75 mm, Ø 90 mm, Ø 110 mm, Ø 125 mm	Ø 32 mm, Ø 40 mm, Ø 50 mm, Ø 63 mm, Ø 75 mm, Ø 90 mm, Ø 110 mm, Ø 125 mm

# PYROCOMB® Tubes pipe sleeve Installations

**Cable**



**Pipe bundle of electrical installation pipes**



**Cable bundle**



**Electrical installation pipe made of steel**



**Individual lines for control purposes**



**Cable support systems**



**Electrical installation pipe made of plastic, rigid**



**Metal pipes with path insulation**



**Electrical installation pipe made of plastic, flexible**

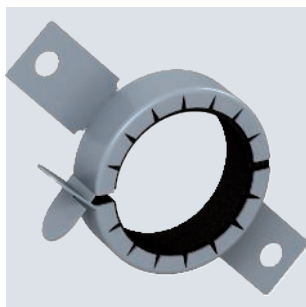


**Plastic pipes**



Details on the version can be found in the proof of suitability or mounting instructions. All the stated dimensions are maximum values.

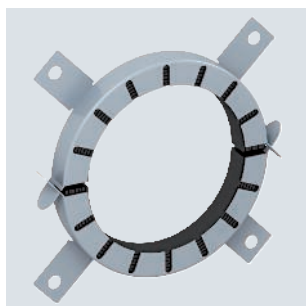
Pipe sleeve with 2 fastening straps



Type	Pipe Ø mm	Dim. h mm	Dim. D mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
TCX-032	32-34	26	50	36	1	6.500	7202200
TCX-040	40-42	26	58	44	1	7.000	7202201
TCX-050	50-52	26	68	54	1	8.000	7202203

Pipe sleeve for combustible pipes.  
If there is a fire, fire protection inserts inside the sheet steel housing expand, exerting a very great pressure onto the burning thermoplastic pipes. For interior application. Fastening with anchors or M6 threaded rods.

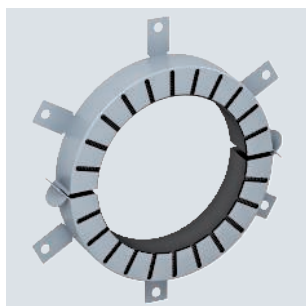
Pipe sleeve with 4 fastening straps



Type	Pipe Ø mm	Dim. h mm	Dim. D mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
TCX-063	63-65	26	94	67	1	15.500	7202204
TCX-075	75-77	26	106	79	1	19.000	7202205
TCX-090	90-92	26.6	132	94	1	37.000	7202206
TCX-110	110-112	26.6	155	114	1	46.000	7202207
TCX-125	125-127	40	172	129	1	70.000	7202208

Pipe sleeve for combustible pipes.  
If there is a fire, fire protection inserts inside the sheet steel housing expand, exerting a very great pressure onto the burning thermoplastic pipes. For interior application. Fastening with anchors of M6 threaded rods up to size 75 mm, then M8.

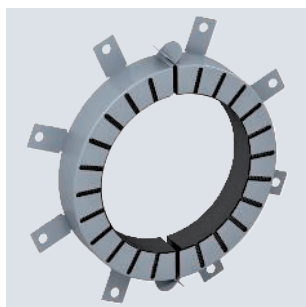
Pipe sleeve with 6 fastening straps



Type	Pipe Ø mm	Dim. h mm	Dim. D mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
TCX-140	140-142	40	200	144	1	106.000	7202209
TCX-160	160-162	40	220	164	1	107.000	7202210

Pipe sleeve for combustible pipes.  
If there is a fire, fire protection inserts inside the sheet steel housing expand, exerting a very great pressure onto the burning thermoplastic pipes. For interior application. Fastening with anchors or M8 threaded rods.

Pipe sleeve with 8 fastening straps



Type	Pipe Ø mm	Dim. h mm	Dim. D mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
TCX-180	180-182	40	264	184	1	175.000	7202212
TCX-200	200-202	40	284	204	1	242.000	7202214

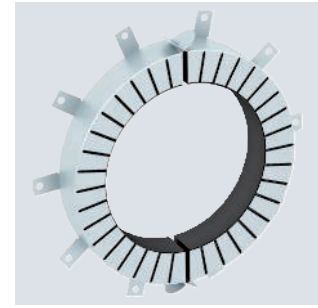
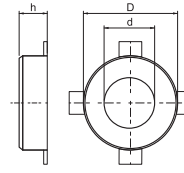
Pipe sleeve for combustible pipes.  
If there is a fire, fire protection inserts inside the sheet steel housing expand, exerting a very great pressure onto the burning thermoplastic pipes. For interior application. Fastening with anchors or M8 threaded rods.

FS

Pipe sleeve with 10 fastening straps

Type	Pipe Ø mm	Dim. h mm	Dim. D mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
TCX-225	225-227	51.5	328	239	1	306.000	7202213
TCX-250	250-252	51.5	353	264	1	346.000	7202215

Pipe sleeve for combustible pipes.  
If there is a fire, fire protection inserts inside the sheet steel housing expand, exerting a very great pressure onto the burning thermoplastic pipes. For interior application. Fastening with anchors or M8 threaded rods.

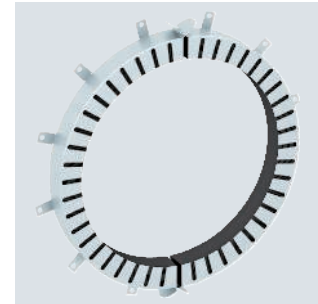
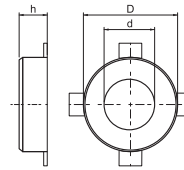


FS

Pipe sleeve with 12 fastening straps

Type	Pipe Ø mm	Dim. h mm	Dim. D mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
TCX-280	280-282	51.5	378	289	1	398.000	7202216
TCX-300	300-302	51.5	403	314	1	405.000	7202217
TCX-315	315-317	51.5	417	328	1	425.000	7202218
TCX-355	355-357	51.5	459	370	1	460.000	7202219
TCX-400	400-402	51.5	504	415	1	520.000	7202220

Pipe sleeve for combustible pipes.  
If there is a fire, fire protection inserts inside the sheet steel housing expand, exerting a very great pressure onto the burning thermoplastic pipes. For interior application. Fastening with anchors or M8 threaded rods.

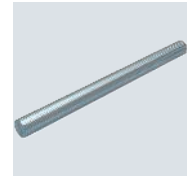
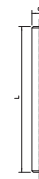


St G

Threaded rod

Type	Thread	Dim. d mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
TR M6 1M G	M6	6	1000	10	18.300	3141047
TR M8 1M G	M8	8	1000	10	30.000	3141128

Threaded rod to DIN 976.

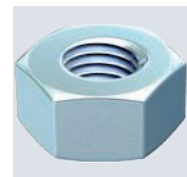
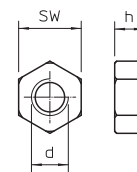


St G

Hexagonal nut DIN 934

Type	Thread	Dim. SW mm	Dim. h mm	Dim. d mm	Pack Piece	Weight kg/100 pc.	Item no.
HN M6 G	M6	10	5.2	6	100	0.221	3400069
HN M8 G	M8	13	6.8	8	100	0.500	3400085

Hexagonal nut to DIN 934 with metric thread.

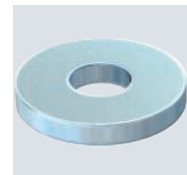
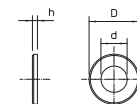


St G

Washer ISO 7093

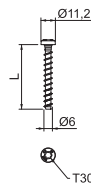
Type	Thread	Dim. d mm	Dim. D mm	Dim. h mm	Pack Piece	Weight kg/100 pc.	Item no.
WS M6 D28 G	M6	6.5	28	2.5	100	1.104	3402207
WS M8 D28 G	M8	8.5	28	2.5	100	1.100	3402215

Washer of large outer diameter for universal use.



### MMS-plus P round head tie, with panhead

St G

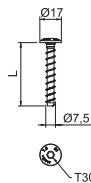


Type	Dimension mm	Dim. L mm	Drill hole			Screw system	Pack Piece	Weight kg/100 pc.	Item no.
			Dim. Ø mm	Head Ø mm	mm				
MMS+ P 6x35	6x35	35	5	11.2		Torx	100	0.710	3498103
MMS+ P 6x40	6x40	40	5	11.2		Torx	100	1.000	3498105
MMS+ P 6x50	6x50	50	5	11.2		Torx	100	1.000	3498108

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.

### MMS-plus MS mounting rail tie, with flat panhead

St G

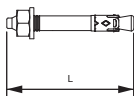


Type	Dimension mm	Dim. L mm	Drill hole			Screw system	Pack Piece	Weight kg/100 pc.	Item no.
			Dim. Ø mm	Head Ø mm	mm				
MMS+ MS 7.5x50	7,5x50	50	6	17		Torx	100	1.500	3498261
MMS+ MS 7.5x60	7,5x60	60	6	17		Torx	50	1.800	3498262

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.

### 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.

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.

### Bolt tie BZ-U

St G

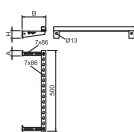
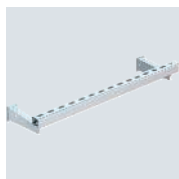


Type	Thread	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.

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.

### Support construction for insulations, with bracket

St



Type	Dim. H mm	Dim. B mm	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.

Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the bracket on the wall, support of the installation using mounting rail. The maximum distance of the mounting rail to the wall of 200 mm fulfils the requirements of most insulation systems.

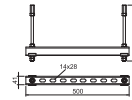


St

## Support construction for insulations, with pendulum suspension

Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
SKP 05 VZ	1000	1	235.240	7202446

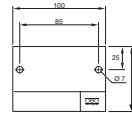
Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the pendulum with threaded rods under the ceiling. A maximum of two layers can be mounted with connection sleeves from two sets. The support constructions must be arranged on both sides of the wall at the prescribed distance to the insulation system.



PS

## Identification plate

Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-S DE	German	1	2.400	7205425
KS-S SE	Swedish	1	2.400	7205426
KS-S ES	Spanish	1	2.400	7205427
KS-S FR	French	1	2.400	7205430
KS-S NL	Dutch	1	2.400	7205431
KS-S HR	Croatian	1	2.400	7205438
KS-S IT	Italian	1	2.400	7205428
KS-S EN	English	1	2.400	7205429



Identification plate to be written on with waterproof and light-resistant felt-tip pen for fire-safe cable glands, including 2 push-fit anchors.

## PYROCOMB® Intube pipe shell System description



The PYROCOMB® Intube system is used to create cable insulation with pipe shells or half shells. The pipe shell is particularly suitable for core drill holes and can very easily be installed in solid ceilings or walls and also light-duty partitions. For this, two half pipe sleeves are clicked together and bedded in mortar in the core hole. Then the pipe sleeves are closed with seals and the surface is sealed with ASX ablation coating. The cables don't require any coating. The half shell can be used particularly well

in the underfloor area. It is sealed on one side with fire protection plugs and sealed with ASX ablation coating. In case of a fire, the inner coating of the pipe shell or the half shell expands and, in so doing, closes the opening cross-section completely. The transfer of fire and smoke is thus safely prevented. With the PYROCOMB® Intube system, 100% assignment of the interior is possible.

# PYROCOMB® Intube pipe shell

## Installation principle



Mounting of the pipe shell by clicking the half shells together around the existing installation.



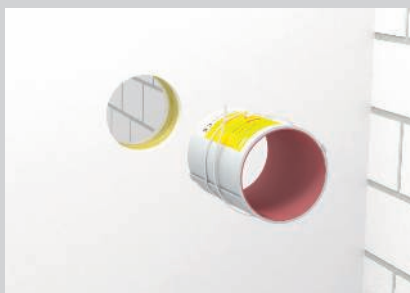
Closing of the opening with PYROMIX® mortar.



Adjust the foam plugs to installations using a knife and create smoke gas-tight sealing of the sealings using the ASX coating compound.



With ceiling mounting, use a lined body to prevent the pipe shell from falling out.



In certain applications, securing with metal tensioning straps in light-duty partitions is necessary.



Pipe shells with full assignment with cable bundles and electrical installation pipes.



Mounting of the half shell.



Adjusting the foam plug to the cables.



Fully installed half shell in PYROPLATE® Fibre soft insulation.

Classification to DIN

EI15

EI30

EI45

EI60

EI90



Erectors of combination insulation systems have to be trained.

# PYROCOMB® Intube pipe shell

## Registration data

### Insulation in wall/ceiling








<b>Fire resistance class</b>	EI 60, EI 90, EI 120
<b>Proof of application</b>	General construction approval of OIB, Vienna
<b>Approval number</b>	ETA - 13/0904
<b>Testing standard</b>	EN 1366-3

#### Note:

For the legally compliant documentation, the European Technical Assessment (ETA), the general design approval (aBG) and the declaration of performance (DoP) are needed. The labelling of the insulation system and the submittal of the declaration of conformity statement are mandatory after the installation. All certificates and a sample of the declaration of conformity statement that can be edited are available from the download area at [www.obo.de](http://www.obo.de).

## Areas of installation

### Insulation systems in walls/ceilings

Component		Rigid walls	Flexible walls	Rigid floors
				
Min. component strength		10 cm - 15 cm (EI 30 / EI 60 / EI 90) CTS-150	10 cm - 15 cm (EI 30 / EI 60 / EI 90) CTS-150	12.5 cm (EI 30 / EI 45 / EI 60) CTS-150
		15 cm - 30 cm (EI 30 / EI 60 / EI 90 / EI 120) CTS-300	10 cm - 15 cm (EI 30 / EI 60 / EI 90 / EI 120) CTS-300	15 cm (EI 30 / EI 60 / EI 90 / EI 120) CTS-300
Min. insulation thickness		10 cm - 15 cm (EI 30 / EI 60 / EI 90) CTS-150	10 cm - 15 cm (EI 30 / EI 60 / EI 90) CTS-150	12.5 cm (EI 30 / EI 45 / EI 60) CTS-150
		15 cm - 30 cm (EI 30 / EI 60 / EI 90 / EI 120) CTS-300	10 cm - 15 cm (EI 30 / EI 60 / EI 90 / EI 120) CTS-300	15 cm (EI 30 / EI 60 / EI 90 / EI 120) CTS-300
Opening size		Ø 125 mm	Ø 125 mm	Ø 125 mm
		55 mm x 116 mm	55 mm x 116 mm	55 mm x 116 mm

# PYROCOMB® Intube pipe shell Installations

## Cable



## Pipe bundle of electrical installation pipes



## Cable bundle



## Electrical installation pipe made of steel



## Individual lines for control purposes



## Cable support systems



## Electrical installation pipe made of plastic, rigid



## Metal pipes with path insulation



## Electrical installation pipe made of plastic, flexible



## Plastic pipes

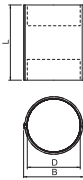


Details on the version can be found in the proof of suitability or mounting instructions. All the stated dimensions are maximum values.



**PYROCOMB® Intube pipe shell, Ø 60 mm**

PVC

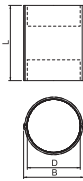


Type	Dim. L mm	Dim. B mm	Dim. D mm	For opening Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>CTS 06150</b>	150	60	50.6	65	1	17.500	<b>7204290</b>

Internally coated pipe shells with click lock. The inner space can be fitted with cables and electrical installation pipes completely. For interior application. CE-labelled, European approved construction product according to ETA-13/0904 and German general type approval. Fire resistance up to 120 minutes. Closing with 2 foam plugs included in the delivery. The surface seal is created with PYROCOAT® ASX coating. In some applications, the use of metallic tightening straps is prescribed to secure the pipe shells in light-duty partitions. Details can be found in the mounting instructions/approval.

**PYROCOMB® Intube pipe shell, Ø 90 mm**

PVC

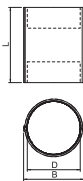
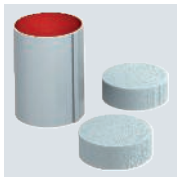


Type	Dim. L mm	Dim. B mm	Dim. D mm	For opening Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>CTS 09150</b>	150	90	80.6	100	1	27.500	<b>7204292</b>
<b>CTS 09300</b>	300	90	80.6	100	1	54.000	<b>7204296</b>

Internally coated pipe shells with click lock. The inner space can be fitted with cables and electrical installation pipes completely. For interior application. CE-labelled, European approved construction product according to ETA-13/0904 and German general type approval. Fire resistance up to 120 minutes. Closing with 2 foam plugs included in the delivery. The surface seal is created with PYROCOAT® ASX coating. In some applications, the use of metallic tightening straps is prescribed to secure the pipe shells in light-duty partitions. Details can be found in the mounting instructions/approval.

**PYROCOMB® Intube pipe shell, Ø 120 mm**

PVC

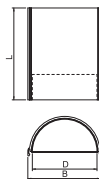


Type	Dim. L mm	Dim. B mm	Dim. D mm	For opening Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>CTS 12150</b>	150	116.4	107	125-165	1	35.200	<b>7204300</b>
<b>CTS 12300</b>	300	116.4	107	125-165	1	70.000	<b>7204304</b>

Internally coated pipe shells with click lock. The inner space can be fitted with cables and electrical installation pipes completely. For interior application. CE-labelled, European approved construction product according to ETA-13/0904 and German general type approval. Fire resistance up to 120 minutes. Closing with 2 foam plugs included in the delivery. The surface seal is created with PYROCOAT® ASX coating. In some applications, the use of metallic tightening straps is prescribed to secure the pipe shells in light-duty partitions. Details can be found in the mounting instructions/approval.

**PYROCOMB® Intube half shell**

PVC



Type	Dim. D mm	Dim. L mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>CTS-HP200</b>	106	200	118	1	20.000	<b>7204306</b>

Internally coated half shell, the inner space of which can be fully assigned with cables and electrical installation pipes. For interior application. CE-labelled, European approved construction product according to ETA-13/0904 and German general type approval. Fire resistance up to 120 minutes. Closing with foam plug included in the delivery. The surface seal is created with PYROCOAT® ASX coating. The system is particularly suitable for underfloor areas. Details can be found in the mounting instructions/approval.

### 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.

### Ablation coating PYROCOAT® in a bucket

Type	Contents kg	Pack Piece	Weight kg/100 pc.	Item no.
ASX-E	5	1	500.000	7202312



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. Sufficient for an area of 4 m². 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.

### PYROMIX® dry mortar in bucket

Type	Contents kg	Pack Piece	Weight kg/100 pc.	Item no.
MSX-E1	10	1	1,000.000	7206058



Mortar to create cable and combination insulation in solid walls and ceilings. Suitable for pumping, pressing and for manual installation. Adding approx. 3 litres of water to 10 kg of dry mortar produces about 10 litres of workable compound. For interior application. In dry, frost-free rooms, the dry mortar can be stored for at least 12 months in closed original containers.

### PYROMIX® dry mortar in paper sack

Type	Contents kg	Pack Piece	Weight kg/100 pc.	Item no.
MSX-S1	20	1	2,000.000	7206104



Mortar to create cable and combination insulation in solid walls and ceilings. Suitable for pumping, pressing and for manual installation. Adding approx. 6 litres of water to 20 kg of dry mortar produces about 20 litres of workable compound. For interior application. In dry, frost-free rooms, the dry mortar can be stored for at least 12 months in closed original containers.

VA 2B

### Metal strip clips, narrow

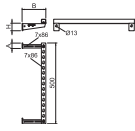
Type	Length mm	Width mm	Pack Piece	Weight kg/100 pc.	Item no.
MBS 045	450	7	50	0.602	7203104



Metal strip clip in ladder form with single lock. For high-temperature and weatherproof fixing. Use MBS-Z pliers to tighten.

Support construction for insulations, with bracket

St

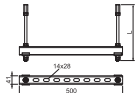


Type	Dim.	Dim.	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
	H	B	A			
SKA 05 VZ	70	217	50	1	190.740	7202436

Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the bracket on the wall, support of the installation using mounting rail. The maximum distance of the mounting rail to the wall of 200 mm fulfils the requirements of most insulation systems.

Support construction for insulations, with pendulum suspension

St

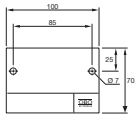


Type	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
	L			
SKP 05 VZ	1000	1	235.240	7202446

Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the pendulum with threaded rods under the ceiling. A maximum of two layers can be mounted with connection sleeves from two sets. The support constructions must be arranged on both sides of the wall at the prescribed distance to the insulation system.

Identification plate

PS



Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-S SE	Swedish	1	2.400	7205426
KS-S ES	Spanish	1	2.400	7205427
KS-S FR	French	1	2.400	7205430
KS-S NL	Dutch	1	2.400	7205431
KS-S HR	Croatian	1	2.400	7205438
KS-S IT	Italian	1	2.400	7205428
KS-S EN	English	1	2.400	7205429

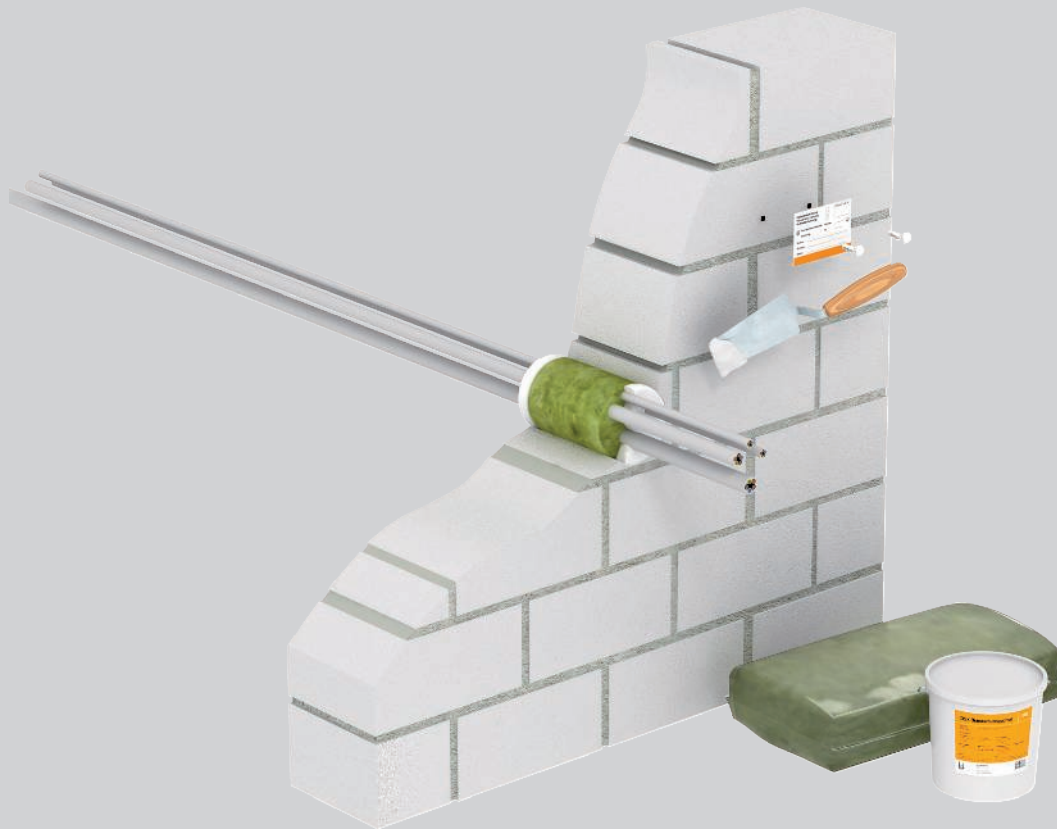
Identification plate to be written on with waterproof and light-resistant felt-tip pen for fire-safe cable glands, including 2 push-fit anchors.





## PYROMIX Screed® small insulation

### System description



Small insulation for cables is created using the PYROMIX® Screed system. It consists of OBO's insulation forming material, type DSX, and the MIW mineral wool. As the insulation basis, the opening is first filled using the non-combustible mineral wool (melting point  $\geq 1,000$  °C). Then, both sides

of the opening are sealed with the DSX insulation creator. If there is a fire, the filler foams up, preventing penetration by fire and smoke. When the material foams up, heat is also drawn from the cables, thus considerably reducing the transfer of heat via the copper cores.



# PYROMIX Screed® small insulation

## Installation principle



Mineral wool with melting point  $\geq 1,000\text{ }^{\circ}\text{C}$  to plug the opening.



Closure of the surfaces on both sides with the DSX insulation layer creator. (Minimum thickness 1 cm on each side.)



Labelling of the small insulation.

Classification to DIN



Erectors of combination insulation systems have to be trained.

# PYROMIX Screed® small insulation







## Registration data

### Insulation in walls/ceilings

Fire resistance class	S30, S60, S90
Proof of application	General type approval of the DIBt, Berlin
Approval number	Z-19.53-2314
Testing standard	DIN 4102 Part 9

## Areas of installation

### Insulation systems in walls/ceilings

Component		Rigid walls	Flexible walls	Rigid floors
				
Min. component strength		10 cm (S30/S60/S90)	10 cm (S30/S60/S90)	15 cm (S30 / S60 / S90)
Min. insulation thickness		10/15 cm (S30/S60/S90)	10/15 cm (S30/S60/S90)	15 cm (S30 / S60 / S90)
Opening size		$\leftrightarrow \leq 35 \text{ cm}$ $\updownarrow \leq 15 \text{ cm}$ $\circ \leq \varnothing 15 \text{ cm}$	$\circ \leq 35 \text{ cm}$ $\leq 15 \text{ cm}$ $\leq \varnothing 15 \text{ cm}$	$\leftrightarrow \leq 15 \text{ cm}$ $\updownarrow \leq 15 \text{ cm}$ $\circ \leq \varnothing 15 \text{ cm}$

# PYROMIX Screed® small insulation Installations

## Cable



## Pipe bundle of electrical installation pipes



## Cable bundle



## Electrical installation pipe made of steel



## Individual lines for control purposes



## Cable support systems



## Electrical installation pipe made of plastic, rigid



## Metal pipes with path insulation



## Electrical installation pipe made of plastic, flexible



## Plastic pipes



Details on the version can be found in the proof of suitability or mounting instructions. All the stated dimensions are maximum values.

## Insulation layer creator in a cartridge



Type	Contents		Pack	Weight	Item no.
	ml		Piece	kg/100 pc.	
<b>DSX-K</b>	300		1	50.000	<b>7202300</b>

Dispersion-based fire protection compound for interior areas, to fill residual joints and close openings. Approved material for the closing of core drill holes when feeding through single cables and for closing the annular gap when exiting cables from the PYROLINE® Con PLC fire protection duct. Material class DIN 4102 - B2, normally flammable. In dry, frost-free rooms, the compound can be stored at temperatures from +5 °C to +25 °C for up to 18 months in closed, upright original containers.

## Insulation layer creator in a bucket



Type	Contents		Pack	Weight	Item no.
	kg		Piece	kg/100 pc.	
<b>DSX-E</b>	5		1	500.000	<b>7202302</b>

Dispersion-based fire protection compound for interior areas, to fill residual joints and close openings. Approved material for closing core drill holes for individual cable glands. Material class DIN 4102 - B2, normally flammable. In dry, frost-free rooms, the compound can be stored at temperatures from +5 °C to +25 °C for up to 18 months in closed, upright original containers.

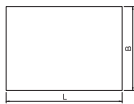
## Mineral wool



Type	Dimension		Pack	Weight	Item no.
	25 Liter		Piece	kg/100 pc.	
<b>MW-S</b>	25 Liter		1	250.000	<b>7202306</b>

Universal filling wool for various fire protection applications, packed in compressed form. Material class EN 13 501 - A1, non-combustible; melting point ≥ 1,000 °C.

## Bandage for insulation

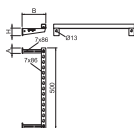
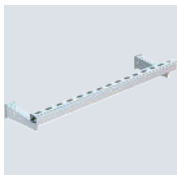


Type	Length	Width	Pack	Weight	Item no.
	m	mm	Piece	kg/100 pc.	
<b>FSB-WB 1.5</b>	10	125	1	220.000	<b>7203163</b>

Fire protection coil, coated on one side with material that foams up in the event of fire, for wrapping installations in the PYROMIX® mortar insulation and PYROPLATE® Fibre plate insulation. The carrier mesh has an insulation former on one side. The nominal thickness is 1.5 mm.

## Support construction for insulations, with bracket

St



Type	Dim.	Dim.	Dim.	Pack	Weight	Item no.
	H	B	A	Piece	kg/100 pc.	
<b>SKA 05 VZ</b>	70	217	50	1	190.740	<b>7202436</b>

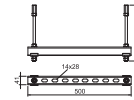
Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the bracket on the wall, support of the installation using mounting rail. The maximum distance of the mounting rail to the wall of 200 mm fulfils the requirements of most insulation systems.

St

## Support construction for insulations, with pendulum suspension

Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
SKP 05 VZ	1000	1	235.240	7202446

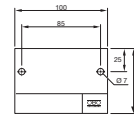
Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the pendulum with threaded rods under the ceiling. A maximum of two layers can be mounted with connection sleeves from two sets. The support constructions must be arranged on both sides of the wall at the prescribed distance to the insulation system.



PS

## Identification plate

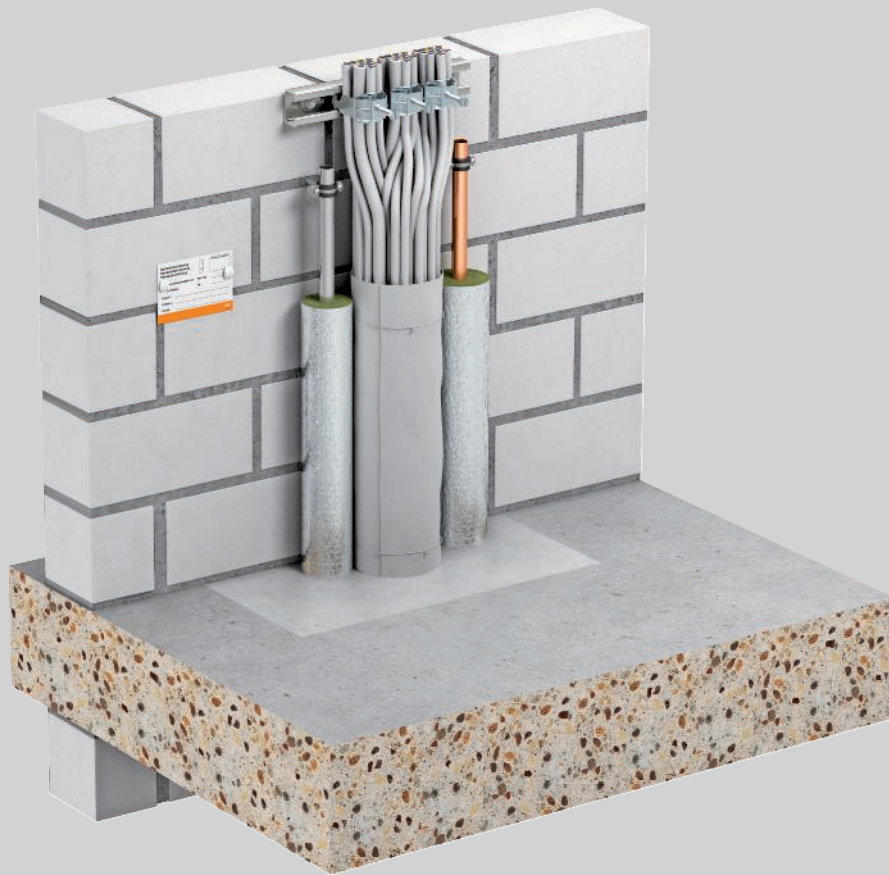
Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-S DE	German	1	2.400	7205425
KS-S SE	Swedish	1	2.400	7205426
KS-S ES	Spanish	1	2.400	7205427
KS-S FR	French	1	2.400	7205430
KS-S NL	Dutch	1	2.400	7205431
KS-S HR	Croatian	1	2.400	7205438
KS-S IT	Italian	1	2.400	7205428
KS-S EN	English	1	2.400	7205429



Identification plate to be written on with waterproof and light-resistant felt-tip pen for fire-safe cable glands, including 2 push-fit anchors.



## Cable insulation Conlit® Bandage System description



The Conlit® system, consisting of the fire protection bandage, type CL-KS, is used within buildings as cable insulation for individual cables, cable and electrical installation pipe bundles (EIP). The flexible bandage is simply laid around the installations and fixed with a wire. Cable bundles and rigid EIPs must be wound with at least two layers of the bandage and flexible EIPs with at

least three layers. In case of a fire, the material foams up and closes the opening cross-section. The fire protection bandage is suitable for cable and electrical installation pipe bundles up to 100 mm diameter. No spacing is required to many insulated pipes. The system insulates fire sections for a period of max. 90 minutes.

# Cable insulation Conlit® Bandage

## Installation principle



Preparation of the cable insulation.



Installation of the fire protection bandage.



Fixing of the bandage using winding wire.



Using mortar, close off the residual insulation opening and mount the identification plate.



Using mortar, close off the residual insulation opening and mount the identification plate.



Installation of the fire protection bandage with no distance to the Rockwool Conlit pipe insulation.

Classification to DIN

**S30**

**S60**

**S90**



Erectors of combination insulation systems have to be trained.

# Cable insulation Conlit® Bandage

## Registration data


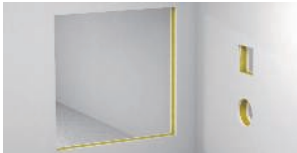




### Insulation in walls/ceilings

Fire resistance class	S30, S60, S90
Proof of application	General construction approval of DIBt, Berlin
Approval number	Z-19.15-1877
Testing standard	DIN 4102 Part 9


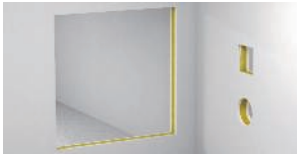




## Areas of installation

### Insulation systems in walls/ceilings

#### Component F30

		Rigid walls	Flexible walls	Rigid floors
				
Min. component strength		5 cm (S30 / S60 / S90)	7.5 cm (S30 / S60 / S90)	15 cm (S30 / S60 / S90)
Min. insulation thickness		10 cm (S30 / S60 / S90)	10 cm (S30 / S60 / S90)	10 cm (S30 / S60 / S90)
Opening size		≤ Ø 10 cm	≤ Ø 10 cm	≤ Ø 10 cm

#### Component F90

		Rigid walls	Flexible walls	Rigid floors
				
Min. component strength		10 cm (S30 / S60 / S90)	10 cm (S30 / S60 / S90)	15 cm (S30 / S60 / S90)
Min. insulation thickness		10 cm (S30 / S60 / S90)	10 cm (S30 / S60 / S90)	10 cm (S30 / S60 / S90)
Opening size		≤ Ø 10 cm	≤ Ø 10 cm	≤ Ø 10 cm

# Cable insulation Conlit® Bandage Installations

## Cable



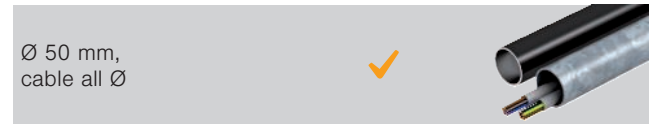
## Pipe bundle of electrical installation pipes



## Cable bundle



## Electrical installation pipe made of steel



## Individual lines for control purposes



## Cable support systems



## Electrical installation pipe made of plastic, rigid



## Metal pipes with path insulation




## Electrical installation pipe made of plastic, flexible



## Plastic pipes



 Details on the version can be found in the proof of suitability or mounting instructions. All the stated dimensions are maximum values.

## Fire protection bandage

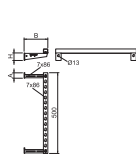


Type	Length	Width	Pack Piece	Weight kg/100 pc.	Item no.
	m	mm			
CL-KS	1	380	1	50.000	7202316

The fire protection bandage is used as cable insulation for individual cables, cable- and electrical installation pipe bundles (EIR). The insulation consists of a flexible bandage, fixed using wire. When surrounding the cables, take account of how often the appropriate medium must be surrounded. Refer to the approval for details. The bandage can be used directly next to Rockwool pipe insulation. Winding wire is included.

## Support construction for insulations, with bracket

St

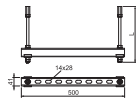


Type	Dim. H	Dim. B	Dim. A	Pack Piece	Weight kg/100 pc.	Item no.
	mm	mm	mm			
SKA 05 VZ	70	217	50	1	190.740	7202436

Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the bracket on the wall, support of the installation using mounting rail. The maximum distance of the mounting rail to the wall of 200 mm fulfils the requirements of most insulation systems.

## Support construction for insulations, with pendulum suspension

St

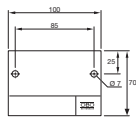


Type	Dim. L	Pack Piece	Weight kg/100 pc.	Item no.
	mm			
SKP 05 VZ	1000	1	235.240	7202446

Suspension and fastening material, made of steel, to create the first support of pass-through installations in fire insulation. Mounting of the pendulum with threaded rods under the ceiling. A maximum of two layers can be mounted with connection sleeves from two sets. The support constructions must be arranged on both sides of the wall at the prescribed distance to the insulation system.

## Identification plate

PS



Type	Language		Pack Piece	Weight kg/100 pc.	Item no.
	German	Swedish			
KS-S DE	German		1	2.400	7205425
KS-S SE	Swedish		1	2.400	7205426
KS-S ES	Spanish		1	2.400	7205427
KS-S FR	French		1	2.400	7205430
KS-S NL	Dutch		1	2.400	7205431
KS-S HR	Croatian		1	2.400	7205438
KS-S IT	Italian		1	2.400	7205428
KS-S EN	English		1	2.400	7205429

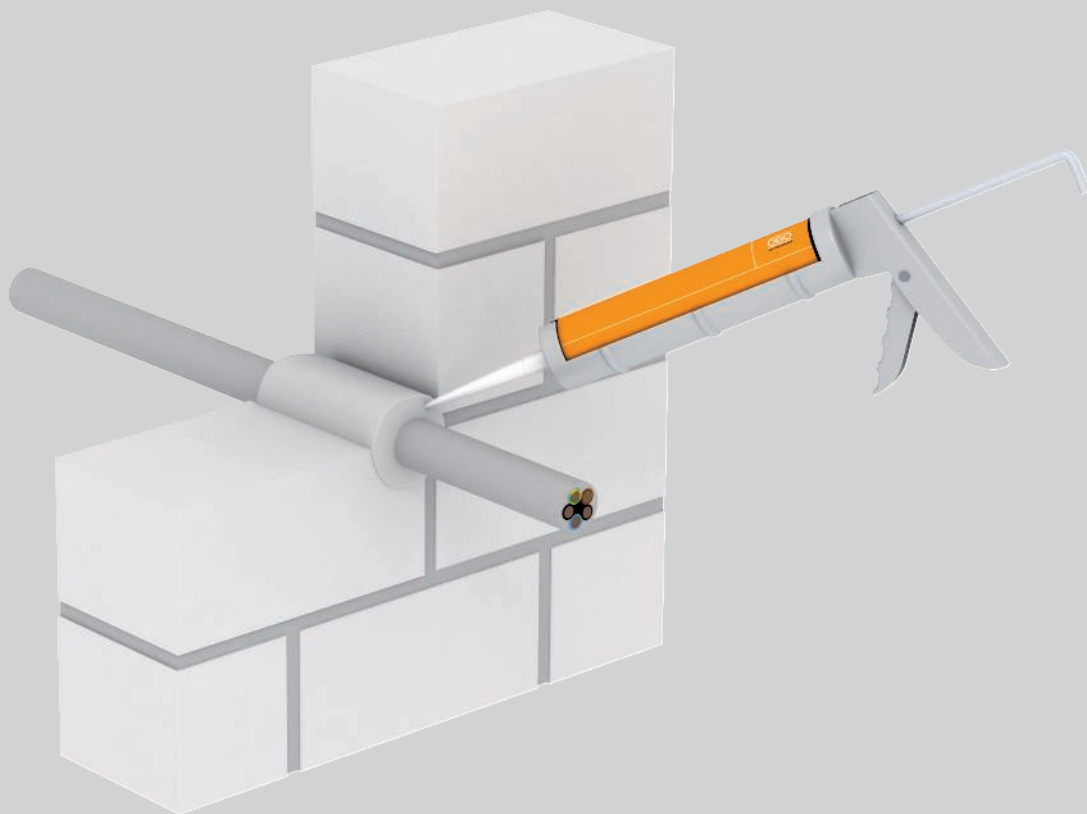
Identification plate to be written on with waterproof and light-resistant felt-tip pen for fire-safe cable glands, including 2 push-fit anchors.





## Individual cables according to MLAR with insulating layer forming agent

### System description



The type DSX insulation forming material from OBO can be used to fill ring gaps around individual cables or multiple cables of a small cross-section routed alongside one another. The ring gap around the cable must be filled with fire protection filler

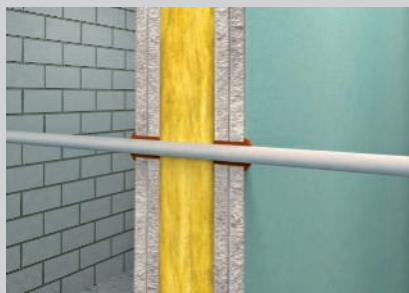
along the entire wall thickness. If there is a fire, the filler foams up, preventing penetration by fire and smoke. When the material foams up, heat is also drawn from the cables, thus considerably reducing the transfer of heat via the copper cores.

# Individual cables according to MLAR with insulating layer forming agent

## Installation principle



DSX insulation layer creator, suitable for full-wall ring gap closure in solid walls and ceilings.



With light-duty partitions, filling the double plates to both sides is sufficient.

Classification to DIN 4102

F30

F60

F90

### Insulation layer creator on dispersion basis

Material class	B2 – normally flammable
Proof of application	General construction approval of DIBt, Berlin
Approval number	Z-19.11-1991
Testing standard	DIN 4102

### Minimum dimensions of components and their fire resistance period

Min. solid component strength	40	70	80
Fire resistance class	F30	F60	F90
Ring gap max.	15	15	15

All data in mm. The data in the named proofs of applicability applies.



Erectors of combination insulation systems have to be trained.

### Insulation layer creator in a cartridge



Type	Contents ml	Pack Piece	Weight kg/100 pc.	Item no.
DSX-K	300	1	50.000	7202300

Dispersion-based fire protection compound for interior areas, to fill residual joints and close openings. Approved material for the closing of core drill holes when feeding through single cables and for closing the annular gap when exiting cables from the PYROLINE® Con PLC fire protection duct. Material class DIN 4102 - B2, normally flammable. In dry, frost-free rooms, the compound can be stored at temperatures from +5 °C to +25 °C for up to 18 months in closed, upright original containers.

### Insulation layer creator in a bucket



Type	Contents kg	Pack Piece	Weight kg/100 pc.	Item no.
DSX-E	5	1	500.000	7202302

Dispersion-based fire protection compound for interior areas, to fill residual joints and close openings. Approved material for closing core drill holes for individual cable glands. Material class DIN 4102 - B2, normally flammable. In dry, frost-free rooms, the compound can be stored at temperatures from +5 °C to +25 °C for up to 18 months in closed, upright original containers.

### Mineral wool

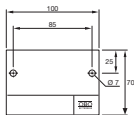


Type	Dimension	Pack Piece	Weight kg/100 pc.	Item no.
MIW-S	25 Liter	1	250.000	7202306

Universal filling wool for various fire protection applications, packed in compressed form. Material class EN 13 501 - A1, non-combustible; melting point ≥ 1,000 °C.

### Identification plate for single cable

PVC

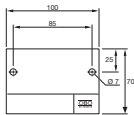


Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-LAR DE	German	1	2.400	7205420

Identification plate to be written on with waterproof and light-resistant felt-tip pen for fire-safe cable glands according to the cable systems directive MLAR, including 2 push-fit anchors.

### Identification plate for single cable

PVC

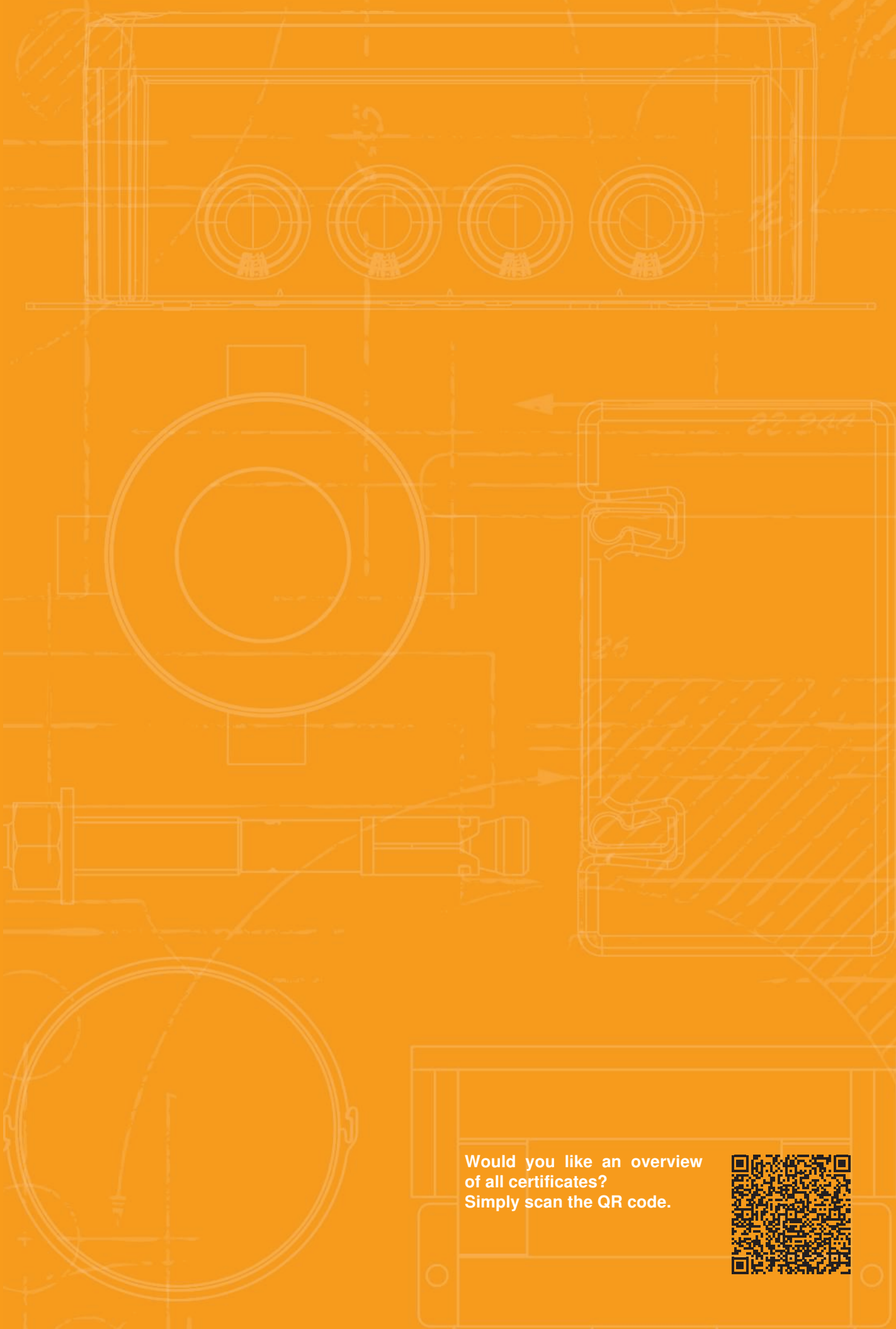


Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-LAR IT	Italian	1	2.400	7205421

Identification plate to be written on with waterproof and light-resistant felt-tip pen for fire-safe cable glands according to the cable systems directive MLAR, including 2 push-fit anchors.







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# Cable bandages, prevention of the spread of fire



PYROWRAP® Wet FSB-WLS wet rooms/interior areas

120



## PYROWRAP® Wet FSB-WLS

### Application in interior areas and wet rooms

#### System description



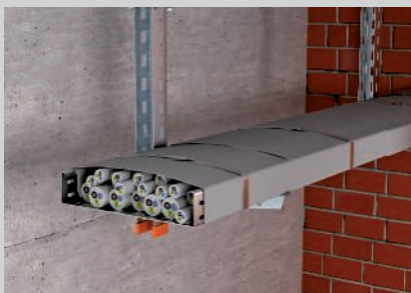
The PYROWRAP® Wet FSB-WLS system can be used to wrap large cable bundles or cable support systems within the fire sections, in order to prevent the spread of a fire. The mesh possesses a fire protection coating, which stops a fire in its tracks at an early stage, e.g. in the case of a short circuit. If there is fire coming in from the outside, the material is not involved in the course of the fire, effectively preventing the spread of the fire, both in vertical and horizontal directions.

In the escape and rescue routes of small buildings, the mounting of a cable bandage is permitted, as only low smoke development is to be expected and only a small number of people must be evacuated. In larger buildings, the residual risk of smoke development is accepted, even if considerably more people must be evacuated. Here, the fire protection bandage frequently presents the only economic solution compared to fire protection ceilings or panelling with plate materials.

# PYROWRAP® Wet FSB-WLS

## Application in interior areas and wet rooms

### Installation principle



Complete encasement of the suspended cable run.



Complete encasement of the cables in a cable run as wall mounting.



Bandage fastening with metallic rails in a single-clip installation.



Bandage fastening with metallic tightening straps in a rail installation.



Cable exit with bandaging.



Bandaging of the cable bundles on support systems.

#### Cable jacketing to prevent fire spread

<b>Proof of application</b>	Application approval of DIBt Berlin Material approval of DIBt Berlin
<b>Documents</b>	Z-56.217-3600 Z-19.11-2183
<b>Prevention of fire spread</b>	Min. 90 minutes
<b>Material properties</b>	Exterior grey glass fibre mesh, interior light grey materials class C-s2, d0 according to EN 13501-1 – hardly flammable
<b>Max. fastening spacing</b>	0.5 m
<b>Cable types and cross-sections</b>	No restriction

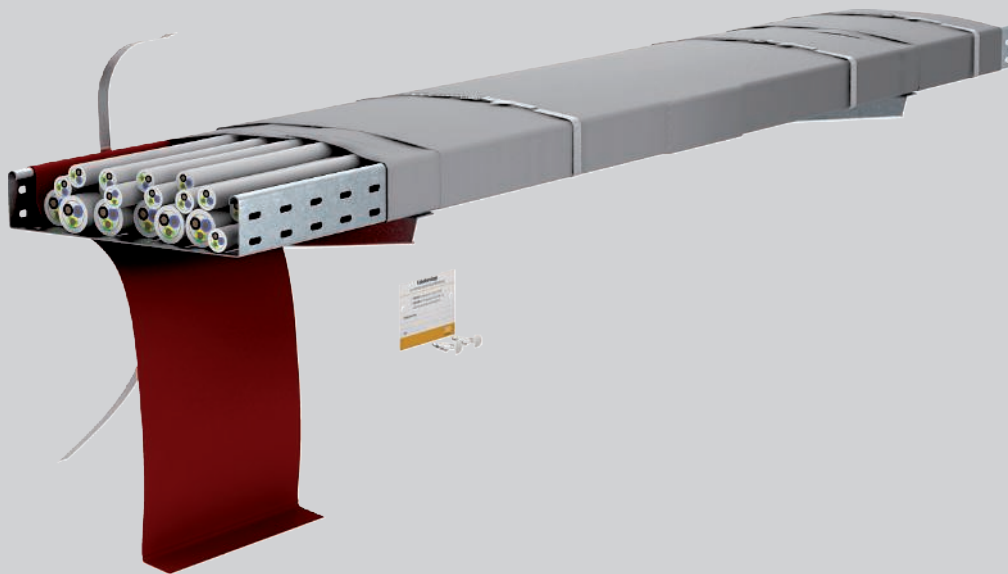
#### Caution!

Use in emergency and escape routes of building classes 4 and 5 may require the approval of the construction supervision, e.g. through a fire protection concept.

## PYROWRAP® Wet FSB-WB

### Application in industrial areas/outdoors

### System description



The PYROWRAP® Wet FSB-WB system comprises a fire protection bandage, which is used in areas with special environmental conditions. The fire protection bandage can be used to wrap large cable bundles or cable support systems, in order to prevent the spread of fire. The bandage is made of a weatherproof material, which is insensitive to

various chemicals and oils. It has construction approval from the DIBt as a highly flame-resistant material according to DIN EN 13501-1. When the fire protection coating foams up in the event of fire, this safely prevents the spread of fire via the cables.



# PYROWRAP® Wet FSB-WB

## Application in industrial areas/outdoors

### Installation principle



Use of the bandage in aggressive environments, e.g. offshore.



Bandaged rising section in the tower of a wind power plant.



Use on support systems in supply rooms or production halls.



Cable tunnel with bandages in power stations.



Bandaged cable support systems in areas with many combustible materials.



Use for photovoltaic cables run over a fire wall.

#### Cable jacketing to prevent fire spread

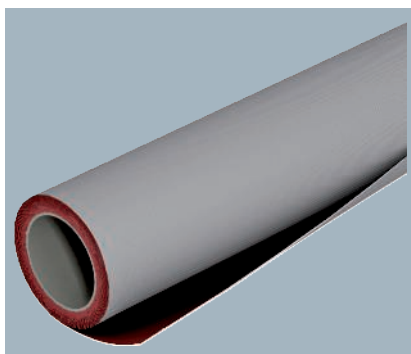
<b>Proof of application</b>	IEC test report of the iBMB MPA materials testing institute, Braunschweig National and European material approval of DIBt Berlin
<b>Document no.</b>	IEC-3630/081/10-AR Z-19.11-1971 ETA-13/0158
<b>Prevention of fire spread</b>	Min. 120 minutes
<b>Material properties</b>	Exterior grey glass fibre mesh, interior red Materials class EN 13501-1: B1, d0,s1 – hardly flammable Weather-resistant, resistant to various chemicals and oils
<b>Max. fastening spacing</b>	0.5 m
<b>Cable types and cross-sections</b>	No restriction

#### Caution!

The use of photovoltaic cables over fire walls may require the approval of the local construction authorities. A positive special report is available.



## PYROWRAP® Wet - Cable bandage for areas subject to moisture and damp

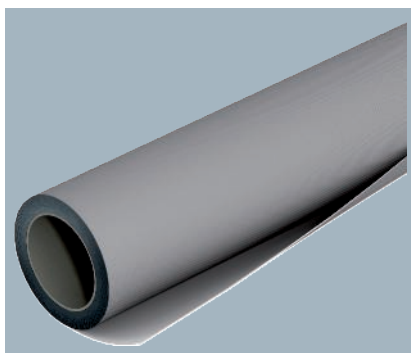


Type	Length m	Width mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>FSB-WB</b>	20	1100	1	2,200.000	<b>7203160</b>

Weatherproof fire protection jacketing made of flexible mesh with fire protection coating to prevent fire spreading via cables and cable support systems. External side grey, internal side red. One roll contains 22 m<sup>2</sup>.

The use of photovoltaic cables over fire walls may require the approval of the local construction authorities. A positive special report is available.

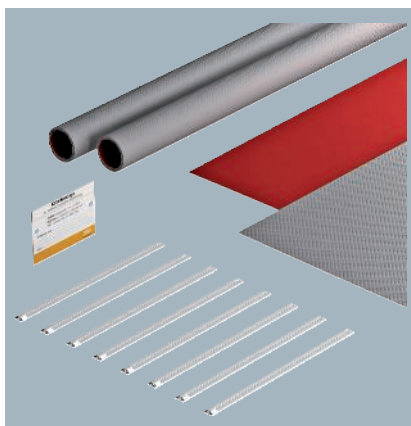
## PYROWRAP® Wet - Cable bandage for indoor areas and wet rooms



Type	Length m	Width mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>FSB-WLS</b>	10	1100	1	1,000.000	<b>7203170</b>

Fire protection jacketing made of flexible mesh with fire protection coating to prevent fire spreading via cables and cable support systems. If there is a fire, the bandage only creates very little smoke, and is thus approved by the MBO building regulations as a measure for improved behaviour in case of fire in building classes 1 to 3. Hardly-flammable substance, according to EN 13501-1 - Class C-s2, d0). External side grey, internal side light grey. Can be moist wiped, use in interiors and wet rooms. One roll contains 11 m<sup>2</sup>, nominal thickness 0.7 mm.

## Complete set for external applications



Type	Length mm	Width mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>FSB-K32</b>	550	380	1	96.000	<b>7203150</b>
<b>FSB-K82</b>	550	880	1	213.000	<b>7203154</b>

Complete set for covering cable bundles or cable support systems without cover to prevent a fire spreading. Application in outdoor areas. Each of the sets contains 4 sections of the weather-resistant cable bandage PYROWRAP® Wet, 8 metal strip clips and an identification plate. Sufficient for approx. 2 m length.

Dimension data: Sections of the FSB-WB bandage

Scope of the surrounding cable support systems:

FSB-K32 maximum 320 mm

FSB-K82 maximum 820 mm

(including min. 5 cm bandage overlap)

Use with photovoltaic cables over firewalls may require the approval of the local construction authorities. A positive special report is available.

VA 2B

### Metal strip clips, wide

Type	Length mm	Width mm	Pack Piece	Weight kg/100 pc.	Item no.
MBS 075	750	12	25	2.300	7203108
MBS 100	1000	12	25	3.000	7203110
MBS 120	1200	12	25	3.600	7203112
MBS 150	1500	12	25	4.400	7203114



Metal strip clip in ladder form with single lock. For high-temperature and weatherproof fixing. Use MBS-Z pliers to tighten.

VA 2B

### Metal strip clips, narrow

Type	Length mm	Width mm	Pack Piece	Weight kg/100 pc.	Item no.
MBS 015	150	7	100	0.230	7203100
MBS 030	300	7	100	0.399	7203102
MBS 045	450	7	50	0.602	7203104
MBS 061	610	7	50	0.806	7203106



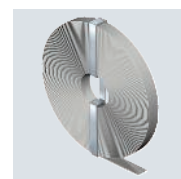
Metal strip clip in ladder form with single lock. For high-temperature and weatherproof fixing. Use MBS-Z pliers to tighten.

## Tightening straps

St

### Tightening strap for fastening of cable bandages

Type	Width mm	Per roll m	Pack Piece	Weight kg/100 pc.	Item no.
FSB-SB 100	15	100	1	220.000	7203131



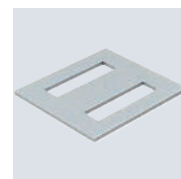
100 m roll of lightweight, galvanised tightening strap, for universal fastening.

## Tightening strap locks

St

### Tightening strap lock

Type	Length mm	Width mm	Pack Piece	Weight kg/100 pc.	Item no.
FSB-SV	26	24	50	0.340	7203132



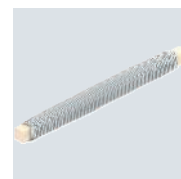
Tightening strap lock with buckle, for simple fixing of the tightening straps FSB-SB.

## Winding wire for fixing

St

### Winding wire for path insulation

Type	Length m	Pack Piece	Weight kg/100 pc.	Item no.
MIW-TD	50	1	10.000	7202309

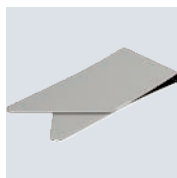


The steel wire is used to fix the section insulation. It is non-combustible and guarantees optimum retention of the section insulation on non-combustible pipes and cables.

## Securing clip

VA

### Securing clip



Type	Width		Height		Pack Piece	Weight kg/100 pc.	Item no.
	mm	mm	mm	mm			
FSB-SC	14	29			50	0.180	7203134

Stainless steel clip to secure the bend tightening strap. Provides prevention of removal from the lock.

## Pliers

St

### Pliers for metal strip clips



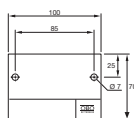
Type	Pack Piece	Weight kg/100 pc.	Item no.

High-quality spring chuck with cutting tool for metal strip clips, type MBS.

## Identification plates

PVC

### Identification plate

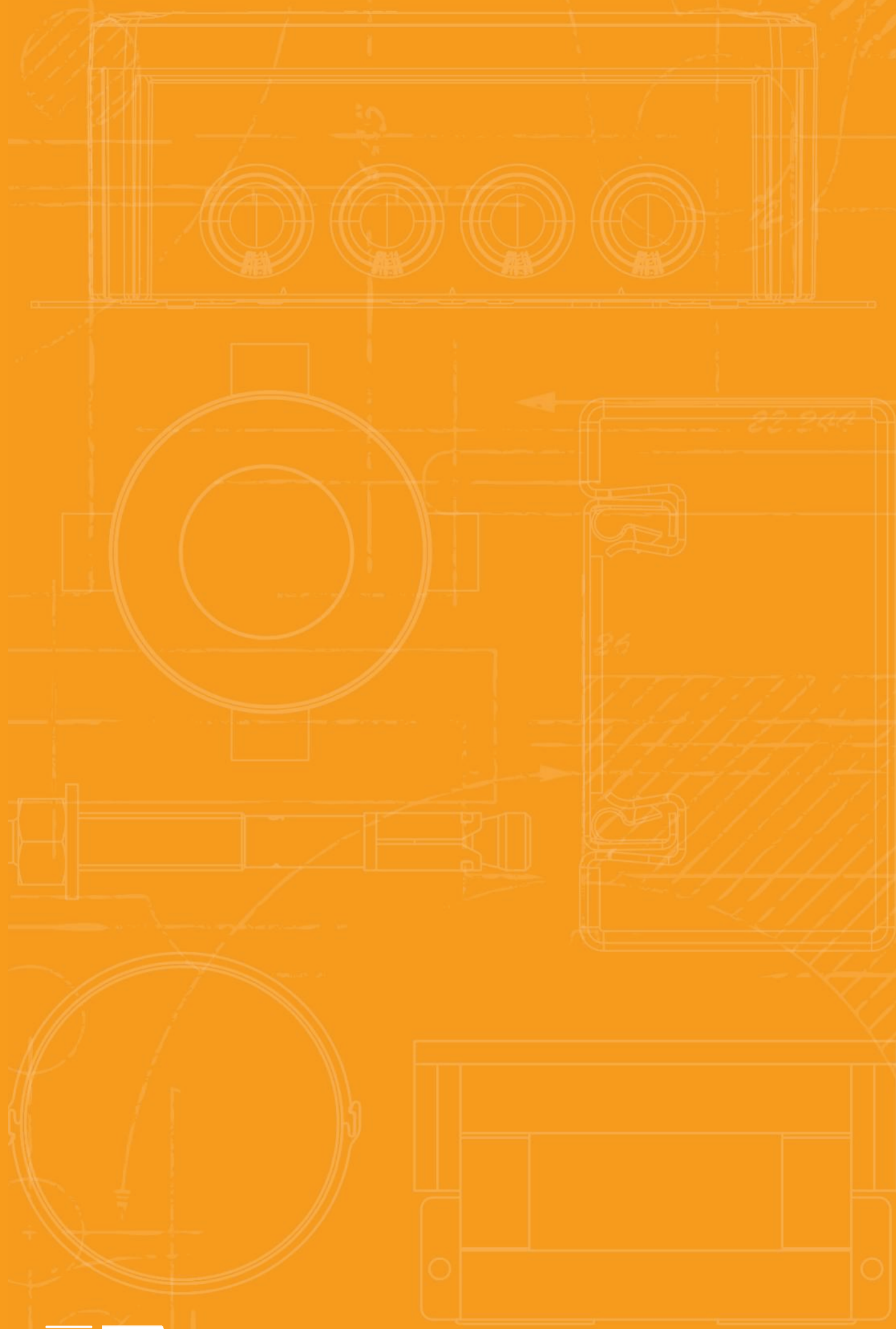


Type	Language		Pack Piece	Weight kg/100 pc.	Item no.
KS-FSB DE	German		1	2.400	7203140
KS-FSB IT	Italian		1	2.400	7203143

Universal identification plate to be written on with waterproof and light-resistant felt-tip pen for cable bandages, including two push-fit anchors.







# Fire protection duct for roof structures, to prevent the spread of fire



PYROLINE® Rapid PLMR metal fire protection duct

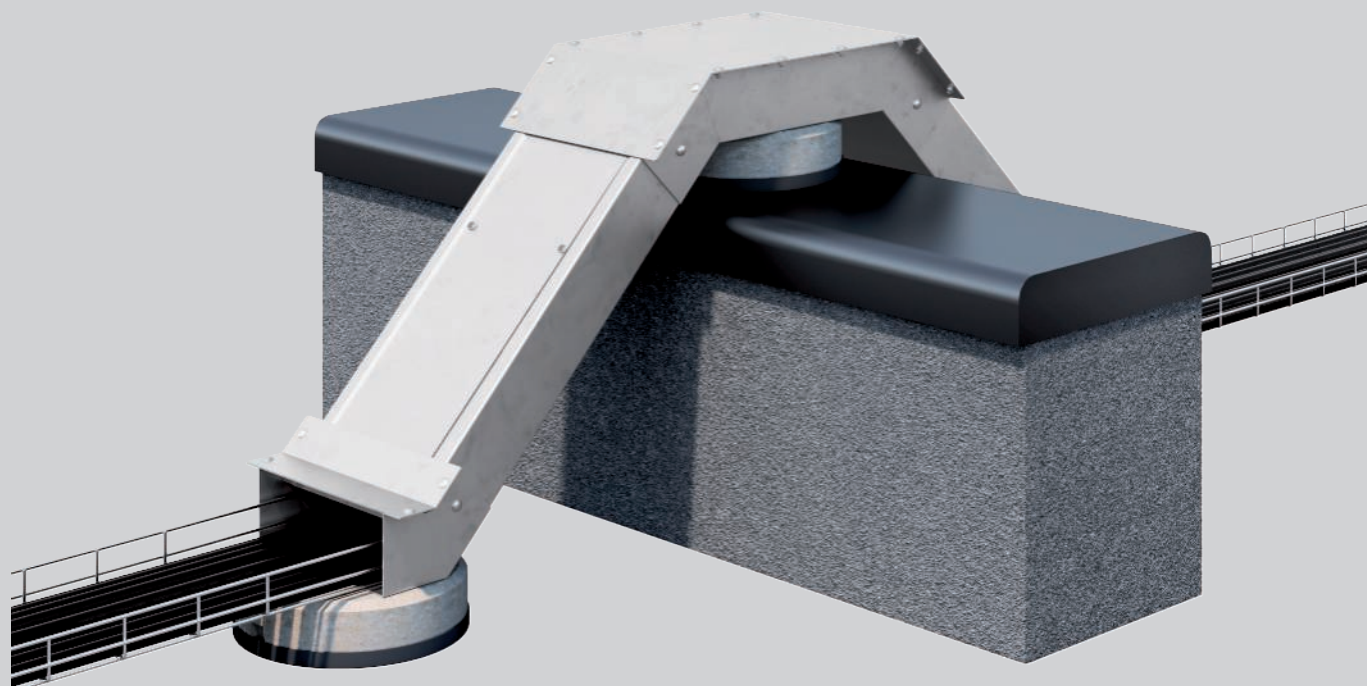
132



## PYROLINE® PLMR

### Fire protection duct for external applications

#### System description



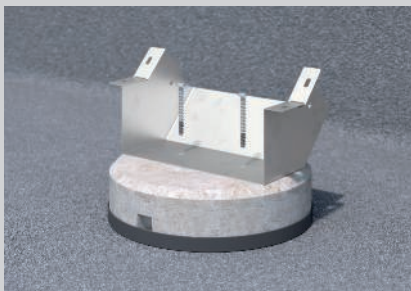
The PYROLINE® PLMR installation duct with intumescent fire protection mesh prevents the spread of fire and protects against the effects of a cable fire. It offers a fire resistance period of up to 90 minutes. Obstacles in external areas can be overcome using the stainless steel installation duct and the matching fittings. Mounting can take place on FangFix concrete blocks. The screws to fasten the duct cover are included in the scope of delivery.

Can be used as a special solution for the routing of cables over fire walls according to the expert opinion GA-2021/047b-Nau. Solution according to the EItAnlagen 2020 of the BMI +AMEV (Section 7.3.3.5 - Photovoltaic systems - Fire protection). Only the appropriate pre-terminated fittings may be used.

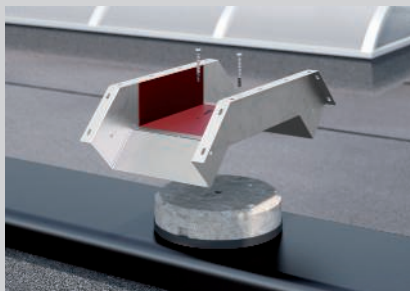
# PYROLINE® PLMR

## Fire protection duct for external applications

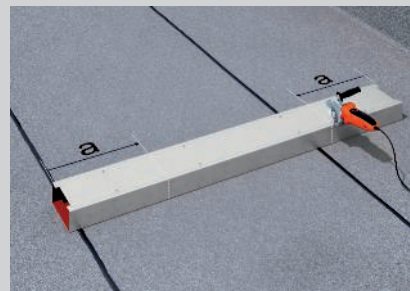
### Installation principle



Fastening of the level, rising, on the FangFix concrete block.



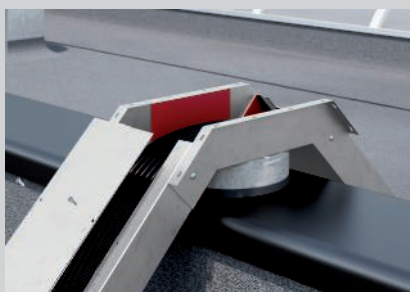
Fastening of the level, double falling, on the FangFix concrete block.



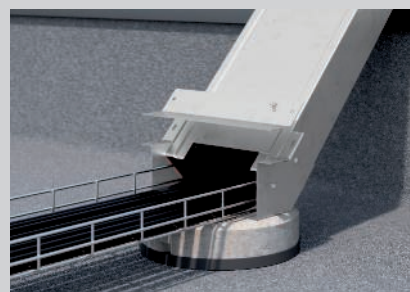
Cutting of the installation duct to the required length.



Joining of installation duct and fittings.



Mounting of the duct cover after cable routing.



Mounting of the level cover, rising.



Mounting of the level cover, double falling.



Mounting example of the installation duct with fittings to overcome obstacles.



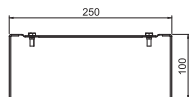
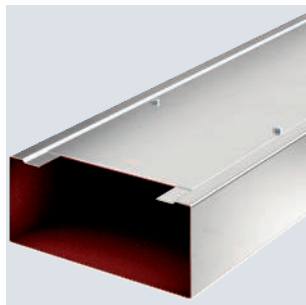
Application example of the stainless steel installation duct.

### Installation duct to prevent the spread of fire

<b>Proofs of usability</b>	IEC test report of the iBMB MPA Materials Testing Institute, Braunschweig European Material Approval of the DIBt Surveyor's report by the IBB
<b>Documents</b>	IEC 60332-3-22 Cat. A test report no. 3630/081/10-AR ETA-18/0430 Declaration of performance 05-DOP-012 GA-2021/047b-Nau
<b>Prevention of fire spread</b>	Min. 90 minutes
<b>Material properties</b>	Corrosion-resistant stainless steel duct with intumescent fire protection mesh
<b>Material class, fire protection mesh</b>	C-s2,d0 according to EN 13501-1 - hardly flammable
<b>Cable types and cross-sections</b>	No restriction

## Metal installation duct, for outdoor applications

VA



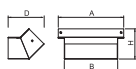
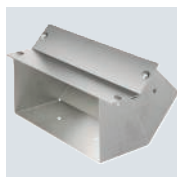
Type	Dim.		Dim. i	Length	Pack	Weight	Item no.
	B	H					
PLMR 1025 A2	250	100	157	2000	2	750.000	7216401

Metal installation duct with intumescent fire protection mesh. Prevents the spread of fire and protects against the impacts of a cable fire. Fire resistance up to 90 minutes. With the corresponding fittings, it is possible to overcome obstacles in outdoor areas. Suitable for mounting on FangFix concrete blocks. Can be used as a special solution in the routing of cables over fire walls according to surveyor's report GA-2021/047a. Solution according to EitAnlagen 2020 of BMI+AMEV. Only approved pre-terminated fittings may be used.

Including screws to fasten the duct cover.

## Level, rising, for PLMR installation duct

VA



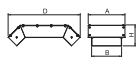
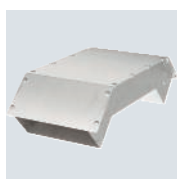
Type	Dim.		Dim.		Pack	Weight	Item no.
	A	B	D	H			
PLMR-LR 1025 A2	310	253	170	143	1	98.000	7216451

Level, rising version. Suitable for the PLMR installation duct. To overcome obstacles in outdoor areas.

Including bolts and nuts.

## Level, double falling, for PLMR installation duct

VA

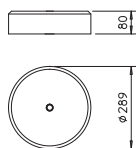


Type	Pack	Weight	Item no.
PLMR-LFD 1025 A2	1	443.000	7216456

Level, double falling version with intumescent fire protection mesh. Suitable for the PLMR installation duct. To overcome obstacles in outdoor areas.

Including bolts and nuts.

## Concrete base for FangFix system, min. 10 kg

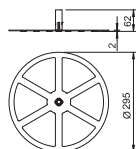
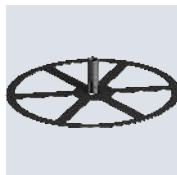


Type	Nominal size Ø	Pack	Weight	Item no.
F-FIX-S10	289	1	1,000.000	5403117

- Min. 10 kg block of Ø 289 mm, high level of stability
- Frost-resistant concrete
- Stackable

## Base for FangFix system 10 kg

PP



Type	Nominal size Ø	Pack	Weight	Item no.
F-FIX-B10	295	10	7.600	5403124

Edge protection with integrated dowel (basic) suitable for FangFix 10 kg system.

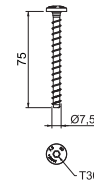


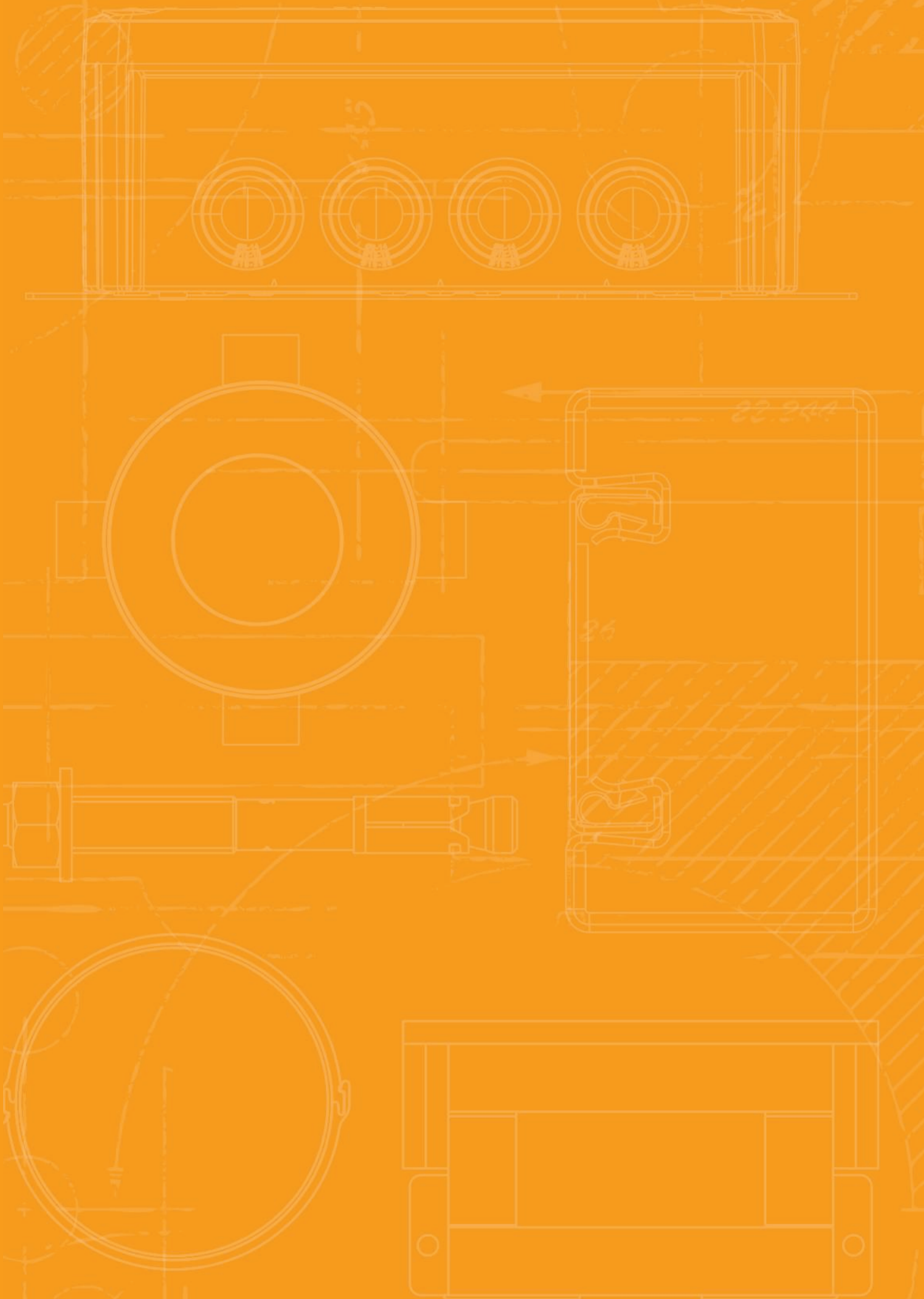
VA

## MMS-plus P round head tie, with panhead, made of A4 stainless steel







Type	Dimension mm	Drill hole		Screw system	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
		Ø	Head Ø					
MMS+ P 7.5x75 A4	7,5x75	6	14.5	Torx	75	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.












































# Directories

	Test marks	138
	Pictogram explanation	140
	Alphabetical table of contents	144
	Type listing	146
	Numeric directory	150
	For the latest general conditions of sale and delivery please see <a href="https://obo.de/vlb">obo.de/vlb</a> .	



## Test marks
























	American Bureau of Shipping, USA		Underwriters Laboratories Inc., USA + CSA, Canada
	AENOR, Producto Certificado, Spain		Österreichischer Verband für Elektrotechnik, Austria
	STOWARZYSZENIE ELEKTRYKÓW POLSKICH, Poland		ISTITUTO ITALIANO DEL MARCHO DI QUALITÀ, Italy
	Lightning current-tested		RINA 1861, Ship Classification, Certification and Services
	Lightning current-tested, Class H (100 kA)		Underwriters Laboratories Inc., USA
	CEBEC, Belgium		SEMKO An Inchcape Testing Services Company, Sweden
	Canadian Standards Association, Canada		Eidgenössisches Starkstrominspektorat, Switzerland
	DEMKO, Danmarks Elektriske Materielkontrol, Denmark		South African Bureau of Standards
	Deutsches Institut für Bautechnik Berlin, Germany		Shock-tested, Bundesamt für Zivilschutz, Germany
	Det Norske Veritas		Sähkötarkastuskeskus Elinspektionscentralen Electrical Inspectorate, Finland
	ENEC Austria		Underwriters Laboratories Inc., USA
	ATEX certificate for explosive areas		Underwriters Laboratories Inc., USA
	ELEKTROTECHNICKÝ ZKUŠEBNÍ ÚSTAV, Czech Republic		Verband der Elektrotechnik, Elektronik, Informationstechnik e.V., Germany
	FIMKO, Finland		German Association of Electricians, tested safety
	Forschungs- und Materialprüfungsanstalt, Germany		5-year warranty
	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		







# 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

	Communautés Européennes, EC declaration of conformity according to EC directives
	RoHS-conformant



















## Quality marks

	Halogen-free; without chlorine, fluorine and bromine
	Flame resistant 650 °C
	Flame resistant 750 °C
	Flame resistant 960 °C
	UV-resistant




## Specific product symbols

	Diameter 60 mm
	Diameter 68 mm
	Protection device to DIN EN 61643-11 or IEC 61643-11
	Transition from LPZ 2 to LPZ 3
	Acoustic signalling

## Applications



	Remote signalling
	Acoustic signalling
	Integrated Service Digital Network, ISDN applications
	Digital Subscriber Line, DSL applications
	Analogue telecommunication
	Category 5 TwisterPair
	Channel Performance to American EIA/TIA standard
	Measuring, controlling and regulating systems
	TV applications
	SAT-TV applications
	MultiBase base
	LifeControl
	Intrinsically safe protection device for potentially explosive areas
	Channel Performance to ISO/IEC 11801
	Power over Ethernet
	230/400 V system
	Protection rating IP 54
	Protection rating IP 65

## Lightning protection classes







	Protection device to DIN EN 61643-11 or IEC 61643-11
	Combination protection device made of type 1 and type 2
	Protection device to DIN EN 61643-11 or IEC 61643-11








## Lightning protection classes

	Protection device to DIN EN 61643-11 or IEC 61643-11
	Protection device to DIN EN 61643-11 or IEC 61643-11



## Lightning protection zone

	Transition from LPZ 0 to LPZ 1
	Transition from LPZ 0 to LPZ 2
	Transition from LPZ 0 to LPZ 3
	Transition from LPZ 1 to LPZ 2
	Transition from LPZ 1 to LPZ 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

	Maintenance of electrical function class E30
	Maintenance of electrical function class E90














## Clamp clip base shapes

	Clamp clip for C profile rail, slot width 11–12 mm
	Clamp clip for C profile rail, slot width 16–17 mm
	Clamp clip for C profile rail, slot width 18–22 mm


## Diameter

	Diameter 60 mm
	Diameter 68 mm
	Diameter 70 mm
	Diameter 74 mm





## Entries

	4 cable entries
	6 cable entries
	7 cable entries
	8 cable entries
	9 cable entries
	10 cable entries
	12 cable entries
	10 cable entries ECO
	12 cable entries ECO
	14 cable entries ECO
	16 cable entries
	18 cable entries ECO
	24 cable entries






## Gland thread

	Thread metric
	Thread Pg





## Entry size

	M20 entry
	M25 entry
	M32 entry
	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

# Pictogram explanation







## Nominal cross-section

	Nominal cross-section 1.5 mm <sup>2</sup>
	Nominal cross-section 1.5–2.5 mm <sup>2</sup>
	Nominal cross-section 2.5 mm <sup>2</sup>
	Nominal cross-section 2.5–4 mm <sup>2</sup>
	Nominal cross-section 4 mm <sup>2</sup>
	Nominal cross-section 4–6 mm <sup>2</sup>
	Nominal cross-section 6 mm <sup>2</sup>
	Nominal cross-section 10 mm <sup>2</sup>
	Nominal cross-section 16 mm <sup>2</sup>













## Nominal voltage

	Nominal voltage 400 V
	Nominal voltage 500 V
	Nominal voltage 660 V





## Polarity

	3-pole
	5-pole
	7-pole
	8-pole
	10-pole
	12-pole



## Slot widths

	Slot width 7.5 mm
	Slot width 11 mm
	Slot width 11–12 mm
	Slot width 12 mm
	Slot width 15 mm
	Slot width 16 mm
	Slot width 16.5 mm
	Slot width 16–17 mm
	Slot width 17 mm
	Slot width 18 mm
	Slot width 22 mm
	Slot width 35 mm










## Screw heads

	Philips screw
	Torx screw
	Phillips screw
	Pozidriv











## Firing devices

	Bolt-firing tool
	Nail device





## Protection rating

	Protection rating IP 20
	Protection rating IP 30
	Protection rating IP 31
	Protection rating IP 44
	Protection rating IP 54
	Protection rating IP 55
	Protection rating IP 65
	Protection rating IP 66
	Protection rating IP 67
	Protection rating IP 68

## Metals

	Aluminium
	Aluminium/steel
	Stainless steel, rustproof
	Stainless steel, rustproof
	Stainless steel, rustproof
	Copper
	Brass
	Steel
	Malleable iron
	Die-cast zinc

## Plastics

	Acrylonitrile butadiene styrene
	Duroplast, Aminoplast, type 131.5
	Duroplast, melamine resin, type 150
	Ethylene vinyl acetate

## Plastics

<b>FA</b>	Fibre-proof material DIN 28091
<b>GFK</b>	Fibreglass-reinforced plastic
<b>NBR SBR</b>	Rubber mixture
<b>NBR</b>	Nitrile rubber
<b>PETR</b>	Petrolatum
<b>PA</b>	Polyamide
<b>PA/ GF</b>	Polyamide, fibreglass reinforced
<b>PBPT</b>	Polybutylene terephthalate
<b>PC</b>	Polycarbonate
<b>PE</b>	Polyethylene
<b>PP</b>	Polypropylene
<b>PP/GF</b>	Polypropylene, fibreglass reinforced
<b>PS</b>	Polystyrene
<b>PVC</b>	Polyvinylchloride
<b>ZELL PE</b>	Cellular polyethylene



# Alphabetical table of contents

## 2

2-component fire protection foam PYROSIT® NG; 50, 62, 84

## A

Ablation coating in a bucket; 36, 101

Ablation coating in a cartridge; 36, 101

Adhesive tape; 30, 38, 52, 86

Aluminium adhesive tape for section insulation; 30, 38, 86

## B

Base for FangFix system 10 kg; 134

Battery; 50-51

Battery-operated cartridge pistol; 50

Bolt tie BZ-U; 94

## C

Cable bandage for dry areas; 126

Cable bandage for wet areas; 126

Cable coil; 52, 86

Calcium silicate plate; 31, 38, 44, 52, 86

Complete set; 126

Concrete base for FangFix system, min. 10 kg; 134

## E

Empty mini pipe shell; 85

## F

Fire protection bandage; 114

Fire protection bolt tie; 30, 44, 85, 94

Fire protection case; 51

## H

Hexagonal nut DIN 934; 29, 37, 93

## I

Identification plate; 31, 39, 45, 53, 63, 87, 95, 102, 109, 114, 118, 128

Identification plate for single cable; 118

Identification plate for small insulation; 114

Inlay block for PYROPLUG® MagicBox; 62

Insulation layer creator in a bucket; 108, 118

Insulation layer creator in a cartridge; 108, 118

Intumescent insulating strip; 62

## L

Level, double falling, for PLMR installation duct; 134

Level, rising, for PLMR installation duct; 134

## M

Metal installation duct, for outdoor applications; 134

Metal strip clips, narrow; 101, 127

Metal strip clips, wide; 127

Mineral fibre plate, pre-coated; 36

Mineral wool; 108, 118

Mixer pipe set; 50

MMS-plus P 7.5x75 round head tie, with panhead,; 135 made of A4 stainless steel

## N

Nail tie N with thread; 94

## P

Pipe sleeve with 10 fastening straps; 93

Pipe sleeve with 12 fastening straps; 93

Pipe sleeve with 2 fastening straps; 28, 36, 92

Pipe sleeve with 4 fastening straps; 29, 36, 92

Pipe sleeve with 6 fastening straps; 29, 37, 92

Pipe sleeve with 8 fastening straps; 92

Pliers for metal strip clips; 128

Professional cartridge pistol; 50

PYROBAG® fire protection cushion; 44

PYROCOMB® Intube half shell; 100

PYROCOMB® Intube pipe shell, Ø 120 mm; 100

PYROCOMB® Intube pipe shell, Ø 60 mm; 100

PYROCOMB® Intube pipe shell, Ø 90 mm; 100

PYROMIX® dry mortar in bucket; 28, 101

PYROMIX® dry mortar in paper sack; 28, 101

PYROPLUG® Block foam block; 51, 84

PYROPLUG® Block vacuum block; 84

PYROPLUG® Box box insulation; 85

PYROPLUG® MagicBox, four-sided, interior height 110; 61 mm

PYROPLUG® MagicBox, four-sided, interior height 60; 60 mm

PYROPLUG® MagicBox, three-sided, interior height; 61 110 mm

PYROPLUG® MagicBox, three-sided, interior height 60; 60 mm

PYROPLUG® Peg plugs; 84

PYROPLUG® Screed filler; 84

PYROPLUG® Shell drill crown insulation; 85

PYROSIT® NG Starter Set; 50

## S

Section insulation for metal pipes; 30, 38, 51, 86

Securing clip; 128

Steel wire grid; 44, 85

Support structure, brackets; 31, 39, 44, 52, 62, 87, 94, 102, 108, 114

Support structure, pendulum; 31, 39, 45, 53, 63, 87, 95, 102, 109, 114

## T

Tempering box; 51

Threaded rod; 29, 37, 93

Tightening strap for fastening of cable bandages; 127

Tightening strap lock; 127

## W

Washer ISO 7093; 29, 37, 93

Winding wire for section insulation; 30, 38, 52, 86, 127

Wrap for insulation; 31, 37-38, 108









# Type listing

Type	GTIN	Item no.	Page
TCX-090	5856627	/pc. 7202206	29
TCX-090	5856627	7202206	36
TCX-090	5856627	7202206	92
TCX-110	5856665	7202207	29
TCX-110	5856665	7202207	36
TCX-110	5856665	7202207	92
TCX-125	5856672	7202208	29
TCX-125	5856672	7202208	36
TCX-125	5856672	7202208	92
TCX-140	5856689	7202209	29
TCX-140	5856689	7202209	37
TCX-140	5856689	7202209	92
TCX-160	5856719	7202210	29
TCX-160	5856719	7202210	37
TCX-160	5856719	7202210	92
TCX-180	6086917	7202212	92
TCX-200	6053674	7202214	92
TCX-225	6086924	7202213	93
TCX-250	6086931	7202215	93
TCX-280	6086948	7202216	93
TCX-300	6086979	7202217	93
TCX-315	6086986	7202218	93
TCX-355	6086993	7202219	93
TCX-400	6087006	7202220	93
		/100 pc.	
TR M6 1M G	5253211	3141047	29
TR M6 1M G	5253211	3141047	37
TR M6 1M G	5253211	3141047	93
TR M8 1M G	5253334	3141128	29
TR M8 1M G	5253334	3141128	37
TR M8 1M G	5253334	3141128	93
WS M6 D28 G	5300311	3402207	29
WS M6 D28 G	5300311	3402207	37
WS M6 D28 G	5300311	3402207	93
WS M8 D28 G	5300373	3402215	29
WS M8 D28 G	5300373	3402215	37
WS M8 D28 G	5300373	3402215	93





# Numeric directory

GTIN	Item no.	Page	GTIN	Item no.	Page	GTIN	Item no.	Page
5253211	/100 pc. <b>3141047</b>	29	5693345	/100 pc. <b>7203100</b>	127	5850076	/pc. <b>7206104</b>	28
5253334	<b>3141128</b>	29	5693352	<b>7203102</b>	127			
5298090	<b>3400069</b>	29	5693369	<b>7203104</b>	101	7274641	<b>7216401</b>	134
5298151	<b>3400085</b>	29	5693376	<b>7203106</b>	127	7274672	<b>7216451</b>	134
			5693383	<b>7203108</b>	127	7274665	<b>7216456</b>	134
			5693390	<b>7203110</b>	127			
5300311	<b>3402207</b>	29	5693406	<b>7203112</b>	127			
5300373	<b>3402215</b>	29	5693413	<b>7203114</b>	127			
				/pc.				
6651290	<b>3498103</b>	30	5693420	<b>7203120</b>	128			
6952175	<b>3498105</b>	30	5993056	<b>7203131</b>	127			
	/100 pc.			/100 pc.				
6559657	<b>3498108</b>	30	5693444	<b>7203132</b>	127			
6559664	<b>3498261</b>	30	5726425	<b>7203134</b>	128			
6842568	<b>3498262</b>	30		/pc.				
6952243	<b>3498274</b>	135	5811671	<b>7203140</b>	128			
	/100 pc.		6515332	<b>7203143</b>	128			
6411818	<b>3498320</b>	94	5921851	<b>7203150</b>	126			
6411948	<b>3498396</b>	94	5921868	<b>7203154</b>	126			
			5706434	<b>7203160</b>	126			
5070078	<b>5403117</b>	134	6608737	<b>7203163</b>	31			
5070085	<b>5403124</b>	134	6651887	<b>7203165</b>	38			
			6475513	<b>7203170</b>	126			
	/pc.		5817499	<b>7203800</b>	50			
5856559	<b>7202200</b>	28		price/pac				
5856566	<b>7202201</b>	28	5817505	<b>7203803</b>	50			
5856597	<b>7202203</b>	28		/pc.				
5856603	<b>7202204</b>	29	6436347	<b>7203805</b>	50			
5856610	<b>7202205</b>	29	5817536	<b>7203806</b>	50			
5856627	<b>7202206</b>	29	5817543	<b>7203809</b>	51			
5856665	<b>7202207</b>	29	6642892	<b>7203813</b>	50			
5856672	<b>7202208</b>	29	6820900	<b>7203816</b>	51			
5856689	<b>7202209</b>	29		/pc.				
5856719	<b>7202210</b>	29	6436354	<b>7203818</b>	51			
6086917	<b>7202212</b>	92						
6086924	<b>7202213</b>	93	6811984	<b>7204000</b>	60			
6053674	<b>7202214</b>	92	6811991	<b>7204004</b>	60			
6086931	<b>7202215</b>	93	6812004	<b>7204008</b>	60			
6086948	<b>7202216</b>	93	6812011	<b>7204012</b>	60			
6086979	<b>7202217</b>	93	6812028	<b>7204016</b>	60			
6086986	<b>7202218</b>	93	6812035	<b>7204020</b>	60			
6086993	<b>7202219</b>	93	6812042	<b>7204030</b>	60			
6087006	<b>7202220</b>	93	6812066	<b>7204034</b>	60			
5847854	<b>7202283</b>	31	6812073	<b>7204038</b>	60			
5850120	<b>7202295</b>	36	6812080	<b>7204042</b>	60			
5850137	<b>7202300</b>	108	6812097	<b>7204046</b>	60			
5850144	<b>7202302</b>	108	6812103	<b>7204050</b>	60			
6447138	<b>7202305</b>	30	6811809	<b>7204120</b>	61			
5918929	<b>7202306</b>	108	6811830	<b>7204124</b>	61			
6423125	<b>7202308</b>	30	6811847	<b>7204128</b>	61			
6447152	<b>7202309</b>	30	6811854	<b>7204132</b>	61			
5850182	<b>7202310</b>	36	6811861	<b>7204136</b>	61			
5850199	<b>7202312</b>	36	6811892	<b>7204140</b>	61			
6447169	<b>7202316</b>	114	6811908	<b>7204150</b>	61			
5428190	<b>7202322</b>	84	6811915	<b>7204154</b>	61			
6839520	<b>7202436</b>	31	6811922	<b>7204158</b>	61			
6839551	<b>7202446</b>	31	6811953	<b>7204162</b>	61			
	/pc.		6811960	<b>7204166</b>	61			
6434459	<b>7202505</b>	51	6811977	<b>7204170</b>	61			
5428275	<b>7202510</b>	52	7343309	<b>7204180</b>	62			
6434466	<b>7202515</b>	84	7343323	<b>7204184</b>	62			
5847915	<b>7202521</b>	52	7343347	<b>7204188</b>	62			
6434503	<b>7202553</b>	84	6810161	<b>7204290</b>	100			
6434510	<b>7202557</b>	84	6810178	<b>7204292</b>	100			
6434527	<b>7202561</b>	84	6810185	<b>7204296</b>	100			
6434565	<b>7202565</b>	84		/pc.				
6434572	<b>7202569</b>	84	6135752	<b>7204300</b>	100			
6434589	<b>7202573</b>	84	6135769	<b>7204304</b>	100			
6434626	<b>7202577</b>	84	6448081	<b>7204306</b>	100			
6434633	<b>7202581</b>	84						
5428336	<b>7202613</b>	85	5809647	<b>7205420</b>	118			
5428343	<b>7202617</b>	85	6515370	<b>7205421</b>	118			
6142811	<b>7202624</b>	85	5448259	<b>7205425</b>	31			
6142934	<b>7202628</b>	85	6461974	<b>7205426</b>	31			
6144013	<b>7202660</b>	85	5703808	<b>7205427</b>	31			
6460991	<b>7202709</b>	44	6515288	<b>7205428</b>	31			
6460878	<b>7202725</b>	44	5725695	<b>7205429</b>	31			
6460755	<b>7202741</b>	44	6561810	<b>7205430</b>	31			
5847861	<b>7202904</b>	31	6593675	<b>7205431</b>	31			
5847878	<b>7202912</b>	31		/pc.				
5847885	<b>7202963</b>	44	6446872	<b>7205438</b>	31			
5847892	<b>7202971</b>	44						
			5850083	<b>7206058</b>	28			





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