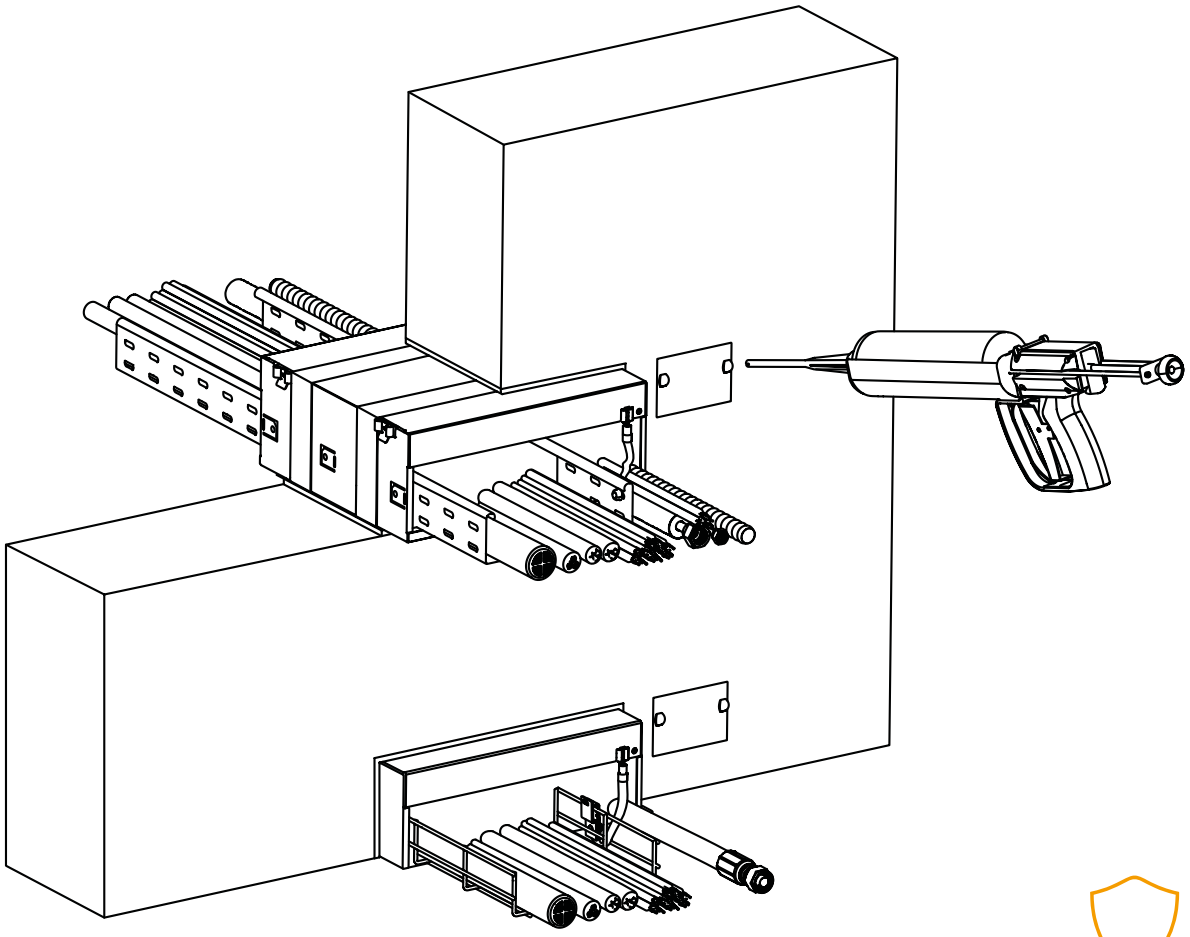


Mounting instructions

PYROPLUG® MagicBox

OBO BETTERMANN

PYROPLUG® MagicBox
Mounting instructions

Table of contents

1 About these instructions 5

1.1 Target group 5

1.2 Relevance of these instructions 5

1.3 Types of warning information 5

1.4 Basic standards and regulations 5

1.5 Applicable documents 5

2 Intended use 5

3 Safety 6

3.1 General safety information 6

3.2 Personal protective equipment 6

4 Necessary tools. 6

5 System description 8

5.1 System features 8

5.2 System overview 8

5.2.1 4-sided PYROPLUG® MagicBox 8

5.2.2 3-sided PYROPLUG® MagicBox 9

5.3 Accessories 9

6 Installation requirements, PYROPLUG® MagicBox 10

6.1 Approved installation situations 10

6.1.1 PYROPLUG® MagicBox, 4-sided 10

6.1.2 PYROPLUG® MagicBox, 3-sided 11

6.2 Component thicknesses, component spacings and insulation spacings 11

6.3 Approved assignment 12

6.4 Minimum distances between installations 13

7 Mounting 13

7.1 Mounting the 4-sided PYROPLUG® MagicBox 13

7.1.1 Wall mounting 13

7.1.2 First support of the installations 15

7.1.3 Ceiling mounting 16

7.2 Mounting the 3-sided PYROPLUG® MagicBox 18

7.2.1 Wall mounting 18

7.2.2 Ceiling mounting 20

7.3 Connecting the equipotential bonding 21

7.4 Attaching the identification plate 21

7.5 Retrofitting 22

8 Maintaining the system. 22

9 Disposing of the system 22

10 Technical data. 23

10.1 4-sided PYROPLUG® MagicBox (interior height 60 mm) 23

10.2 3-sided PYROPLUG® MagicBox (interior height 60 mm) 23

10.3 4-sided PYROPLUG® MagicBox (interior height 110 mm) 23

10.4 3-sided PYROPLUG® MagicBox (interior height 110 mm) 24

1 About these instructions

1.1 Target group

These instructions are aimed at specialists trained in fire protection.

1.2 Relevance of these instructions

These instructions are based on the standards valid at the time of compilation (August 2022).

Please read the instructions carefully before starting mounting. We will not accept any warranty claims for damage caused through non-observance of these instructions.

Any images are intended merely as examples. Mounting results may look different.

In these instructions, cables and lines are referred to simply as cables.

To find out more about planning and mounting the product, we recommend a comprehensive training course.

1.3 Types of warning information

VORSICHT

Type of risk!
Shows a risky situation. If the safety instruction is not observed, then medium or minor injuries may occur.

Note! *Indicates important information or assistance.*

1.4 Basic standards and regulations

- EN 1366 Part 3
- EN 13501 Parts 1 and 2
- EN 1363
- EU BauPVO (CPR)

1.5 Applicable documents

- European Technical Assessment ETA-22/0175
- Safety data sheet, PYROSIT® NG fire protection foam
- Declaration of performance 05-DOP-014
- General construction type approval Z-19.53-2618

2 Intended use

PYROPLUG® MagicBox is an insulation system for the interior of buildings. It closes openings in fire-resistant walls with component thicknesses of 100 mm or more or ceilings of 150 mm or more, through which the ca-

bles, electrical installation pipes, pipes or cable support systems are run. If there is a fire, the PYROPLUG® MagicBox insulation system prevents the spread of fire and smoke in the area of the penetration. The insulation system has an EI90 fire resistance class (fire-resistant).

The PYROPLUG® MagicBox is not designed for any other use than that described here. If the PYROPLUG® MagicBox is used for another purpose, then this shall render all liability, warranty and replacement claims null and void.

3 Safety

3.1 General safety information

Observe the following general safety information:

– The PYROPLUG® MagicBox is not suitable for improving the stability of a wall or ceiling. Ensure that the wall or ceiling is sufficiently stable, despite the opening, without the application of fire insulation.

– The installation of the fire insulation may not compromise the stability of the adjacent elements – even in the event of a fire. Consult the proof of application of the component.

– All the technical specifications of the approvals, such as permitted insulation size, wall/ceiling types, fire resistance classes, installations and their first support, work areas, etc. must be followed. Insulation areas in ceilings must be secured against being walked on.

3.2 Personal protective equipment

List of personal protective equipment to be used:

Hand protection
Wear chemical-resistant protective gloves.
Recommended material: Butylene rubber, nitrile rubber, fluorine rubber, PVC.

Eye protection
Wear protective glasses, frame goggles.

Physical protection
Wear protective clothing and non-slip shoes.

4 Necessary tools

List of required tools:

– Trowel, brush, masking tape

– Screwdriver

– Pressing gun for cartridge

– Knife with serrated edge or box cutter
– Tape measure

5 System description

The PYROPLUG® MagicBox insulation system consists of a stainless steel housing with intumescent fire protection inlays. Residual openings are closed off with PYROSIT® NG fire protection foam.

5.1 System features

– For mounting in light-duty partitions, solid walls and ceilings
– 4-sided variants for mounting in walls and ceilings
– 3-sided variants for mounting in walls on the raw floor, beneath system floors and as insulation of rising sections in ceilings
– Available with the interior heights 60 mm and 110 mm
– Suitable for the passing-through of cable support systems of up to 600 mm width and 110 mm side height
– Room closure (E) and insulation (I) during a fire up to 90 minutes (EI90 classification) – Fire-resistant

5.2 System overview

5.2.1 4-sided PYROPLUG® MagicBox

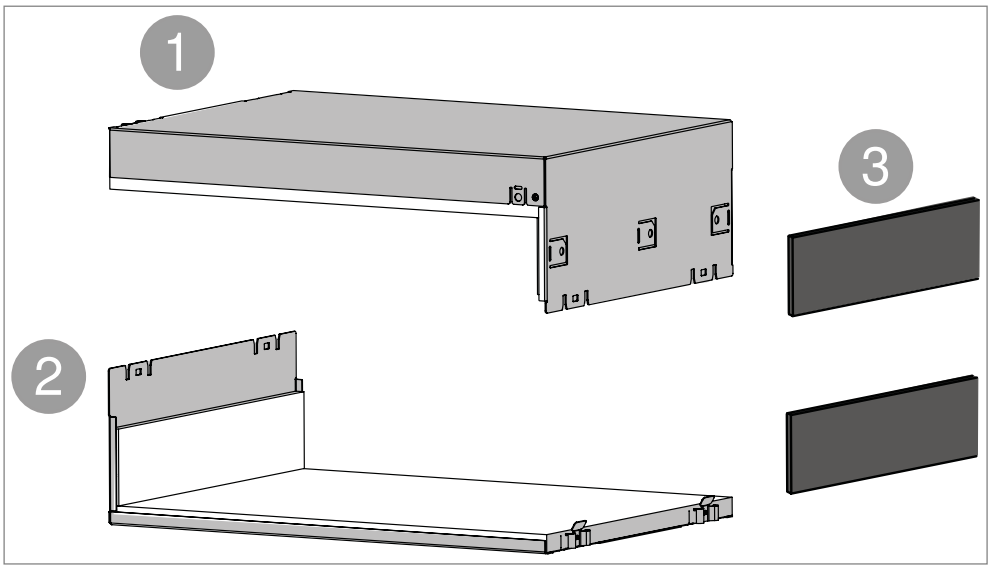


Abb. 1: Product description, 4-sided PYROPLUG® MagicBox

1 PYROPLUG® MagicBox housing cover
2 PYROPLUG® MagicBox housing base
3 2 graphite strips

5.2.2 3-sided PYROPLUG® MagicBox

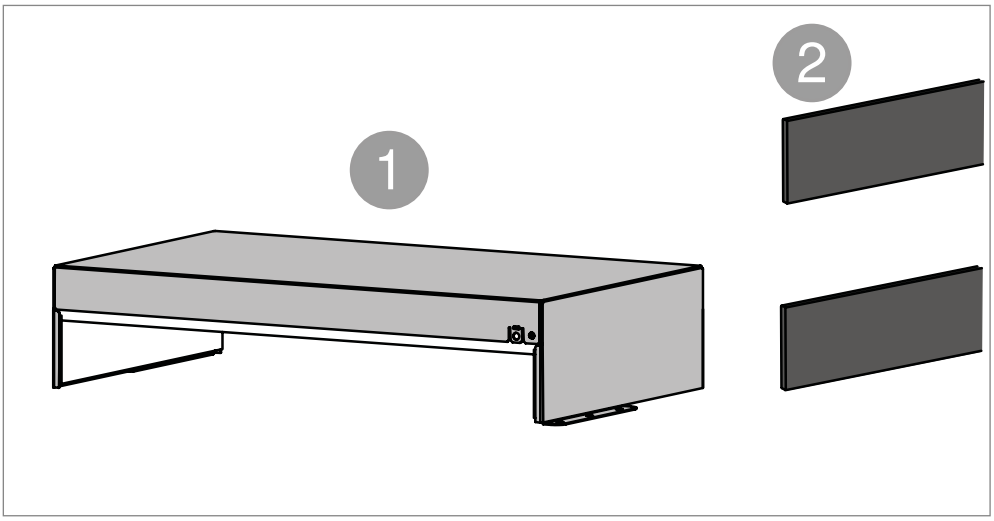
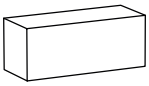
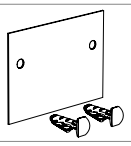
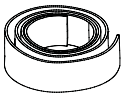
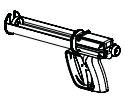
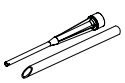


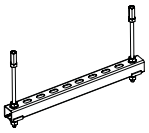
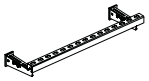
Abb. 2: Product description, 3-sided PYROPLUG® MagicBox

1 PYROPLUG® MagicBox housing

2 2 graphite strips

5.3 Accessories

Designation/ type/item no.	Figure	Function
PYROSIT® NG FBS-S fire protection foam (Item no. 7203800)		Sealing of remaining openings
Plaster filler		Closing of the ring gap around the PYROPLUG® MagicBox
Inlay blocks PMB-SI 4/ PMB-SI 8 (item no. 7204184, 7204188)		Closure of larger cavities or reserve insulation
KS-S DE identification plate (item no. 7205425)		Labelling of the insulation
PMB-GS graphite strip (item no. 7204180)		Foams up to close the gap that forms around the MagicBox in the event of fire.
FBS-PH cartridge pistol (Item no. 7203806)		2-component cartridge pistol for use with the PYROSIT® NG fire protection foam.
FBS-M mixing pipe set (Item no. 7203803)		Mixing pipes for PYROSIT® NG fire protection foam. To be exchanged after work interruptions and to reach inaccessible locations.

Designation/ type/item no.	Figure	Function
Support structure, pendulum (Item no. 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. Available up to a width of max. 400 mm.
Support structure, brackets (Item no. 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. Available up to a width of max. 400 mm.

Tab. 1: Accessories

6 Installation requirements, PYROPLUG® MagicBox

To ensure the functionality of the PYROPLUG® MagicBox, installations and installation locations must fulfil technical and structural requirements.

6.1 Approved installation situations

6.1.1 4-sided PYROPLUG® MagicBox

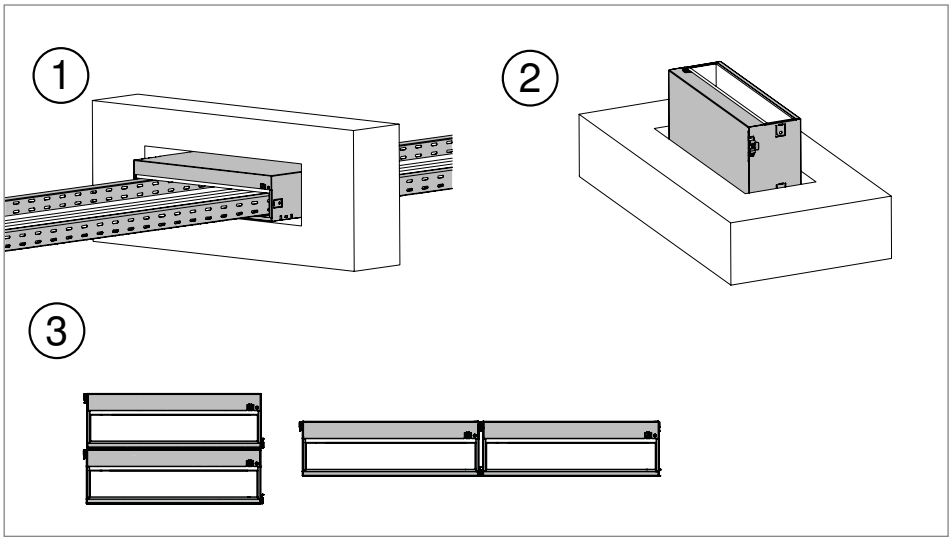


Abb. 3: Installation situation, 4-sided PYROPLUG® MagicBox

– Individually in light-duty partition or solid wall ①
– Solid ceiling ②
– Group arrangement position (max. 2 next to each other or 2 on top of each other) ③

6.1.2 3-sided PYROPLUG® MagicBox

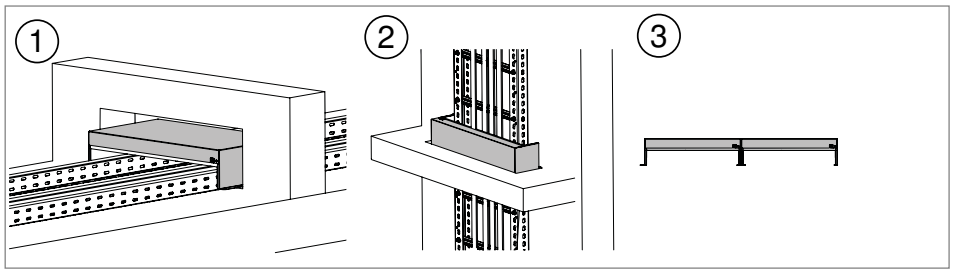


Abb. 4: Installation situation, 3-sided PYROPLUG® MagicBox

– Flush to raw floor ①
– Ceiling insulation above rising section ②
– Group arrangement position (max. 2 next to each other) ③

6.2 Component thicknesses, component spacings and insulation spacings

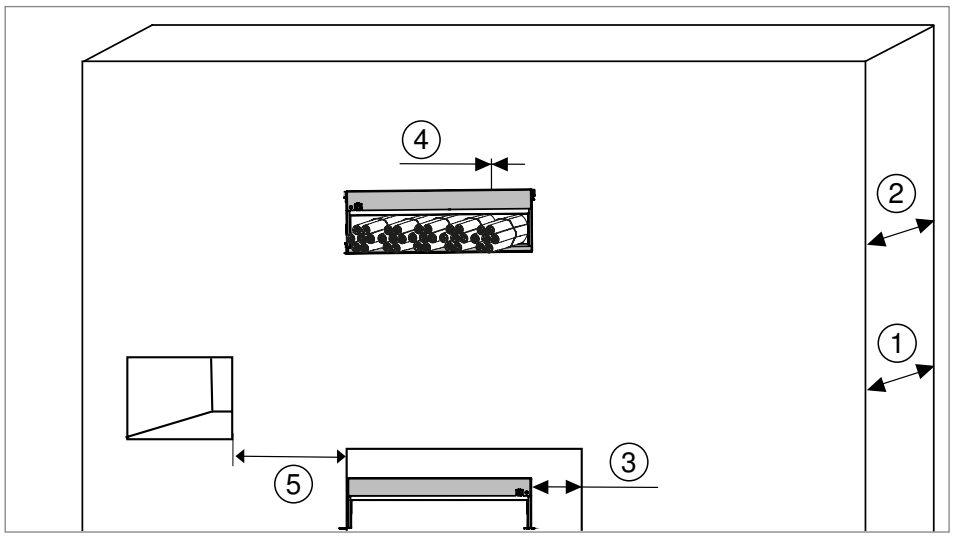


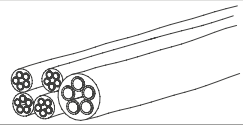
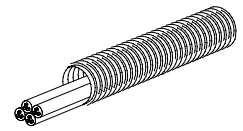
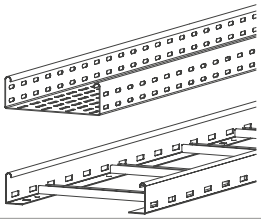
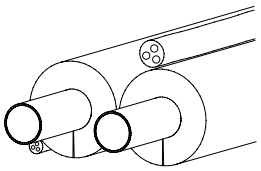
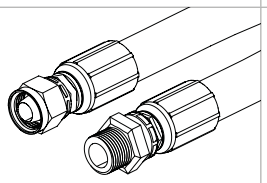
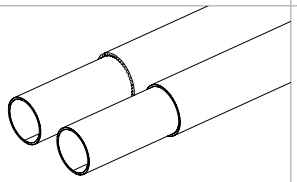
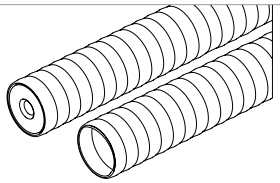
Abb. 5: Insulation distances to other components or component openings

Item	Designation	Wall (mm)	Ceiling (mm)
1	Component thickness	≥ 100	≥ 150
2	Insulation thickness (corresponds to the housing length)	300	300
3	Ring gap around the PYROPLUG® MagicBox in the component opening	≤ 10	≤ 30
4	Spacing of the installations within the PYROPLUG® MagicBox	0*	0*
5	Distance to other openings and installations	≥ 200	≥ 200

Tab. 2: Insulation distances to other components or component openings

**Exceptions e.g. for hydraulic hoses – see approval*

6.3 Approved assignment

Cables	
	Electrical cables of all types, total diameter of the individual cables ≤ 80 mm
Electrical installation pipes (EIP) made of plastic and steel	
	Pipes according to EN 61386-1/-21/-22 With and without cable assignment max. 21 mm cable diameter; max. EIP Ø 63 mm, bundled up to max. 100 mm For details, see aBG Z-19.53-2618, Section 2.3.2.3
Cable support systems	
	Cable trays, perforated and unperforated Cable ladders Mesh cable trays
Other assignment	
	Klimasplit cable combinations consisting of copper pipes up to 22.22 mm with heat insulation, condensate hose and up to three accompanying cables For details, see aBG Z-19.53-2618, Section 2.3.6.1
	Hydraulic cables with AEROQUIP wire mesh inlay up to 64.3 mm For details, see aBG Z-19.53-2618, Section 2.3.4
	Copper pipes up to 35 mm and PU hard foam insulation WICU eco For details, see aBG Z-19.53-2618, Section 2.3.5
	Hollow conductor cables of the product ranges CELLFLEX, RADIAFLEX and HELIFLEX of make RFS GmbH, Hanover, and the product ranges HELIAX and RADIAX of make CommScope Technologies Germany GmbH, Oberhausen For details, see aBG Z-19.53-2618, Section 2.3.2.2

6.4 Minimum distances between installed items

In order to guarantee the functionality of the PYROPLUG® MagicBox insulation system, the following minimum distances must be observed between the installations in solid walls, ceilings and light-duty partitions:

– Distance between Klimaspilt cables and other installations: 20 mm

– Distance between hydraulic lines and other installations: 50 mm

– Distance between all other installations: 0 mm

7 Installation

7.1 Mounting the 4-sided PYROPLUG® MagicBox

7.1.1 Wall mounting

The mounting of the PYROPLUG® MagicBox in the wall can be performed flexibly in the following order:

– Insertion of the PYROPLUG® MagicBox into the component opening, then assignment/mounting of a cable support system

– Attachment of the PYROPLUG® MagicBox to an existing cable support system, then pushing into the component opening

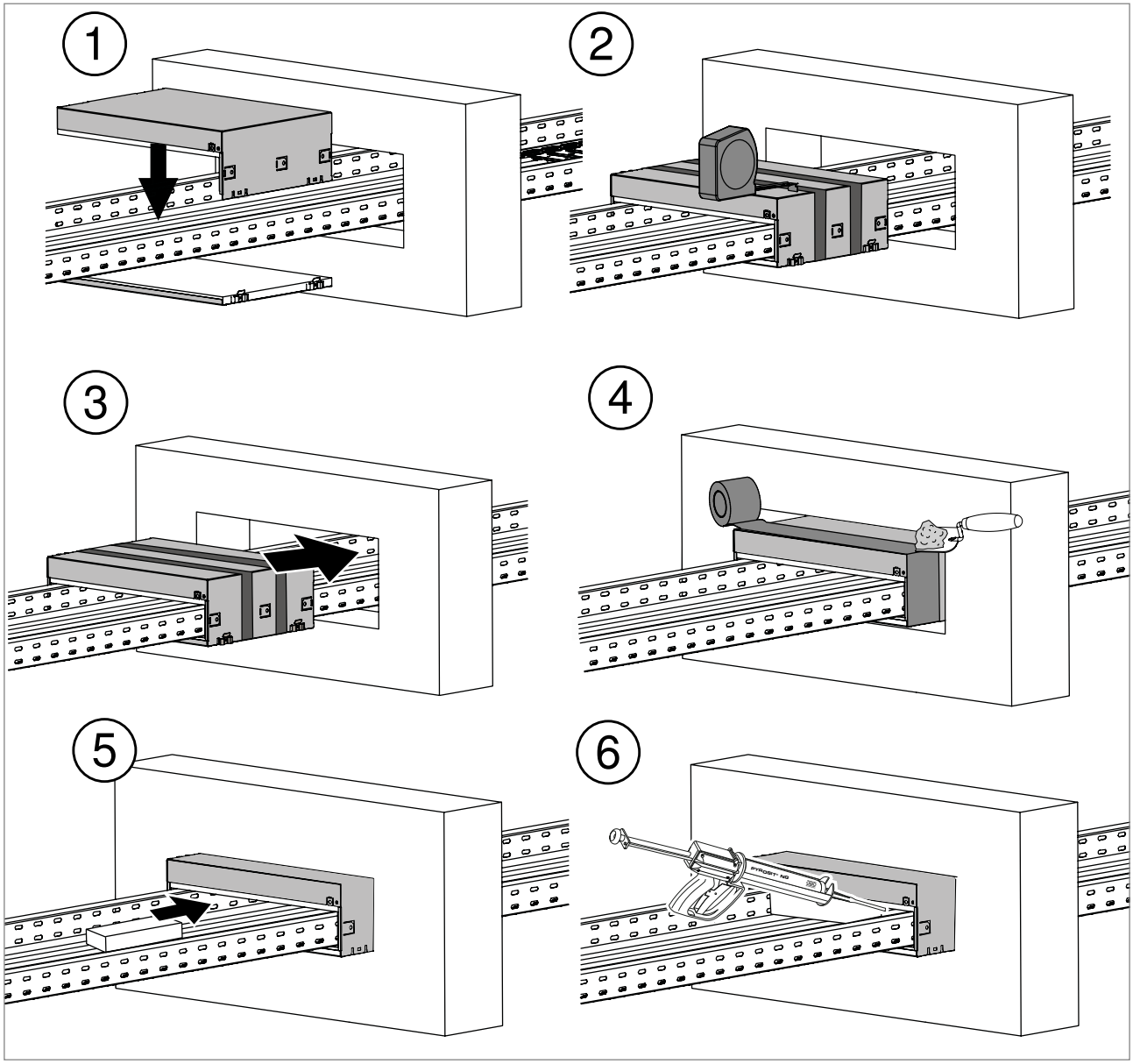


Abb. 6: Mounting the 4-sided PYROPLUG® MagicBox (wall mounting)

1. Click the cover and base of the housing together. ①
   For existing installation with cable support system: Attach the PYROPLUG® MagicBox between the component opening and last suspension of the cable support system and click together.
2. Measure the wall thickness and attach the graphite strips symmetrically at the appropriate distance. ②
3. Push the PYROPLUG® MagicBox into the component opening so that the graphite strips are flush with the end. ③
4. Mask the PYROPLUG® MagicBox and close off the ring gap around the PYROPLUG® MagicBox with plaster filler. ④
5. Perform the installations.
6. Fill large cavities with inlay blocks. ⑤

7. Close off residual openings with PYROSIT® NG fire protection foam. (6)

→ Create equipotential bonding using flat connectors, see „7.3 Potentialausgleich anschließen“ auf Seite <?>.

→ Attach the identification plate, see „7.4 Kennzeichnungsschild anbringen“ auf Seite <?>.

Note! *The PYROPLUG® MagicBox can also be used as reserve insulation and be completely filled with inlay blocks. Cavities must be sealed with PYROSIT® NG fire protection foam.*

Group arrangement

In the case of mounting in a group arrangement, the mounting of the individual PYROPLUG® MagicBoxes takes place as described in „7.2.1 Wandmontage“ auf Seite <?>.

The cavities between the PYROPLUG® MagicBoxes do not have to be closed off if the graphite strips are touching. Otherwise, close off with PYROSIT® NG.

7.1.2 First support of the installations

When the PYROPLUG® MagicBox is mounted in combination with the pendulum or bracket support structures, the distance between the first support structure and the PYROPLUG® MagicBox may not exceed 20 cm.

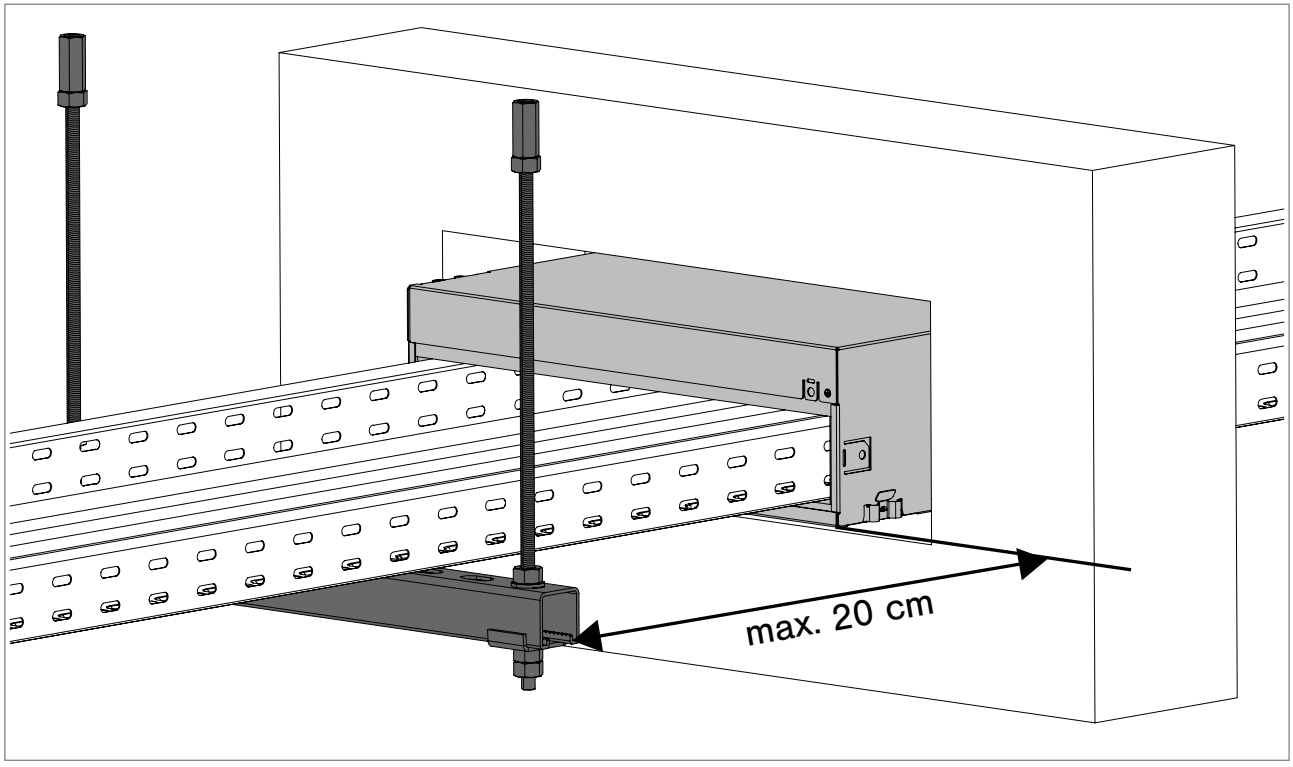


Abb. 7: Mounting the 4-sided PYROPLUG® MagicBox (support structure)

8. Mount the first support of the support structure (pendulum or bracket) at a distance of max. 20 cm.

7.1.3 Ceiling mounting

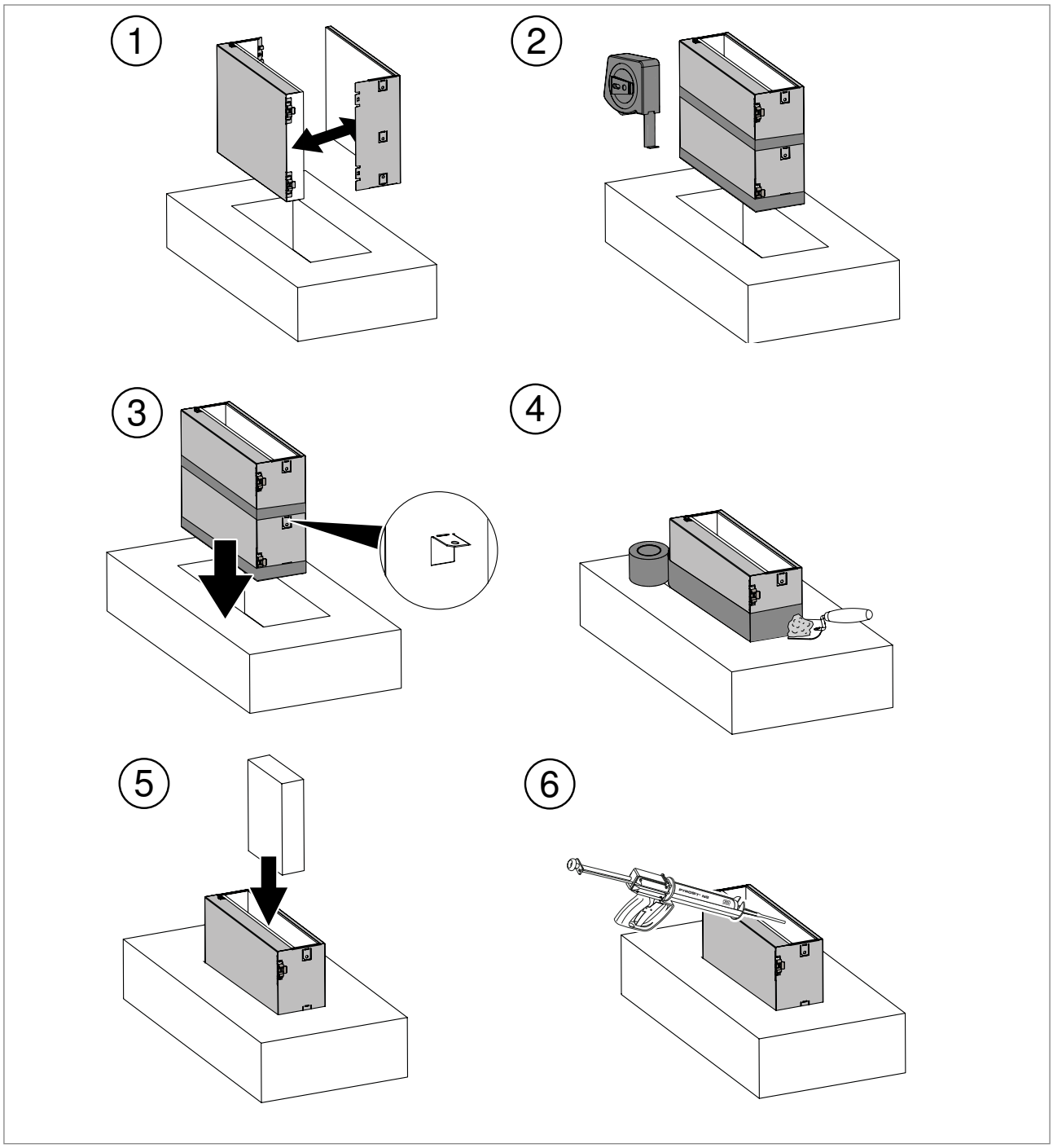


Abb. 8: Mounting the 4-sided PYROPLUG® MagicBox (ceiling mounting)

1. Click the cover and base of the housing together. (1)
2. Measure the wall thickness and attach the graphite strips at the appropriate distance. (2) Attach the first graphite strip flush to the edge of the PYROPLUG® MagicBox. Attach the second graphite strip according to the component thickness on the PYROPLUG® MagicBox.
3. Bend the side strap over. (3)
4. Insert the PYROPLUG® MagicBox into the component opening. The bent straps hold the PYROPLUG® MagicBox in position.

5. Mask the PYROPLUG® MagicBox and close off the ring gap around the PYROPLUG® MagicBox with plaster filler. ④
6. Perform the installations.
7. Fill larger cavities with inlay blocks. ⑤
8. Close off the residual opening with PYROSIT® NG fire protection foam. ⑥

→ Create equipotential bonding using flat connectors, see „7.3 Potentialausgleich anschließen“ auf Seite <?>.

→ Attach the identification plate, see „7.4 Kennzeichnungsschild anbringen“ auf Seite <?>.

7.2 Mounting the 3-sided PYROPLUG® MagicBox

7.2.1 Wall mounting

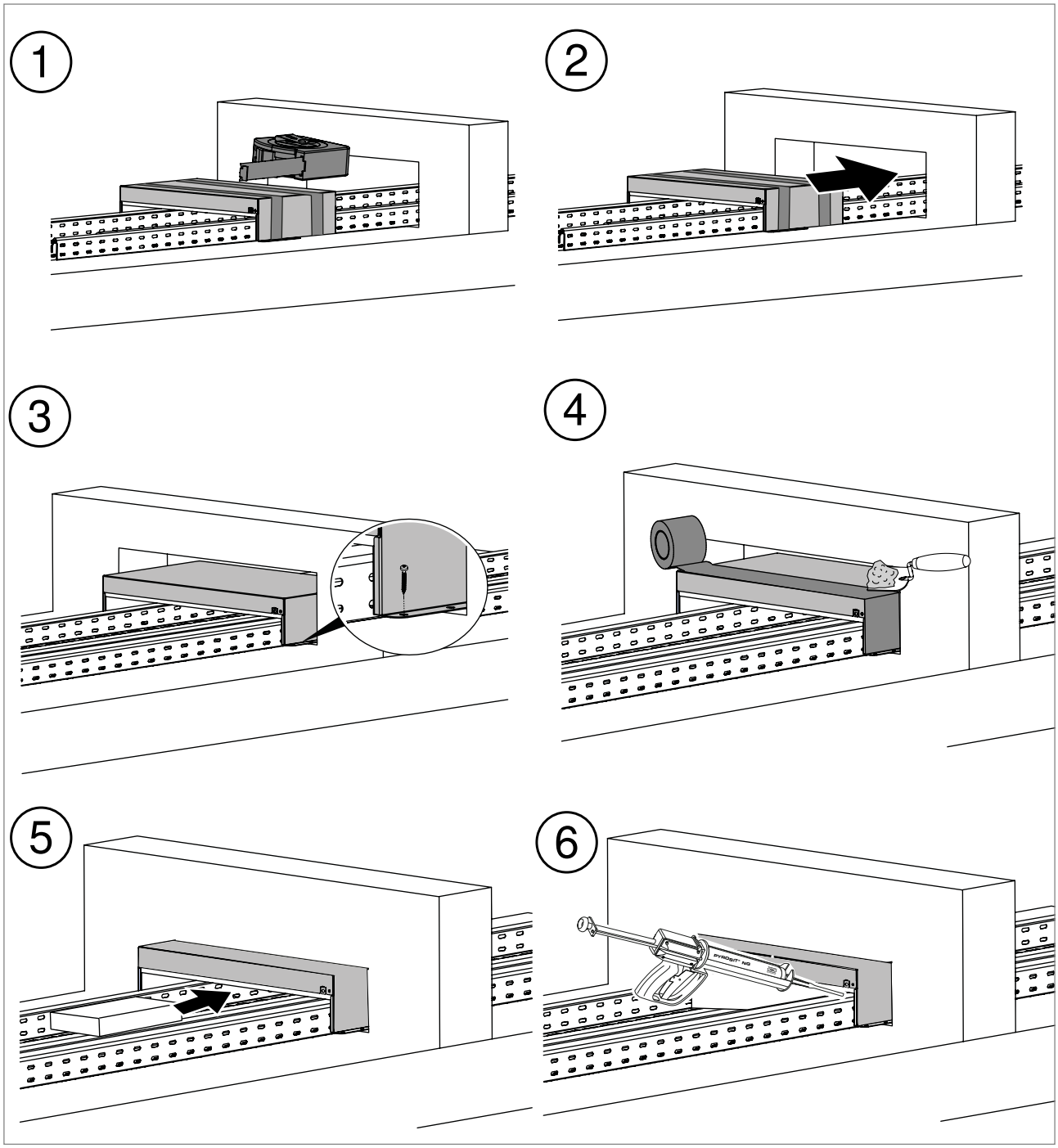


Abb. 9: Mounting the 3-sided PYROPLUG® MagicBox (wall mounting)

1. Measure the wall thickness and attach the graphite strips symmetrically at the appropriate distance. (1)
2. Insert the PYROPLUG® MagicBox into the component opening so that it is flush with the base. (2)
3. Fix the PYROPLUG® MagicBox to the base using screws to fix the position. (3)
   Note! *Fastening material not contained in the scope of delivery.*

4. Mask the PYROPLUG® MagicBox and close off the gap around the PYROPLUG® MagicBox with plaster filler. (4)
5. Perform the installations.
6. Fill large cavities with inlay blocks. (5)
7. Close off residual openings with PYROSIT® NG fire protection foam. (6)

→ Create equipotential bonding using flat connectors, see „7.3 Potentialausgleich anschließen“ auf Seite <?>

→ Attach the identification plate, see „7.4 Kennzeichnungsschild anbringen“ auf Seite <?>.

Group arrangement

In the case of mounting in a group arrangement, the mounting of the individual PYROPLUG® MagicBoxes takes place as described in „7.2.1 Wandmontage“ auf Seite 17. To fix the position, fix the PYROPLUG® MagicBox group to the two outermost straps of the base using screws.

The cavities between the PYROPLUG® MagicBoxes do not have to be closed off if the graphite strips are touching. Otherwise, close off with PYROSIT® NG.

7.2.2 Ceiling mounting

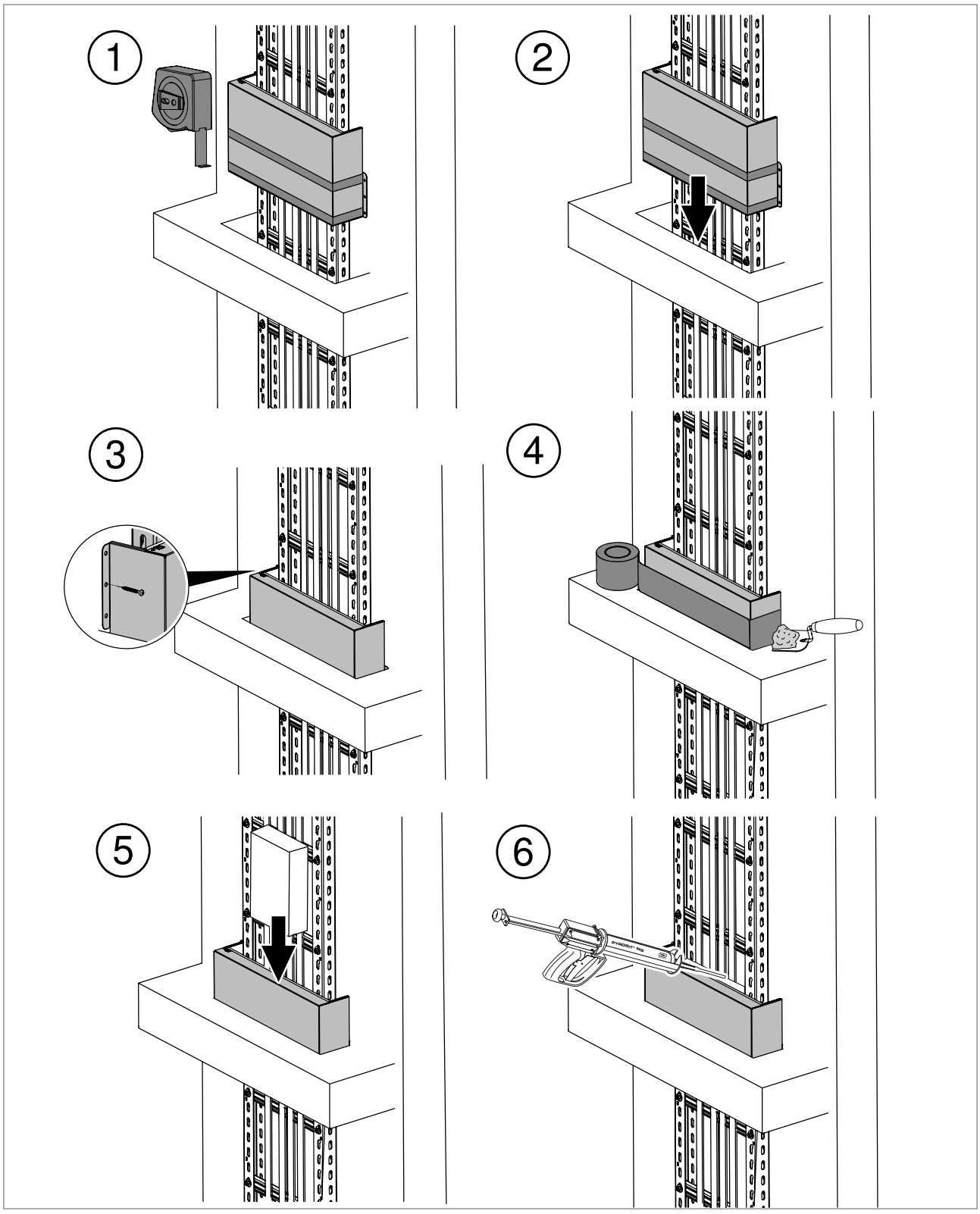


Abb. 10: Mounting the 3-sided PYROPLUG® MagicBox (ceiling mounting)

1. Measure the wall thickness and attach the graphite strips at the appropriate distance. ① Attach the first graphite strip flush to the edge of the PYROPLUG® MagicBox. Attach the second graphite strip according to the component thickness on the PYROPLUG® MagicBox.
2. Insert the PYROPLUG® MagicBox into the component opening. ②

3. Fix the PYROPLUG® MagicBox to the base using screws to fix the position. ③
   Note! *Fastening material not contained in the scope of delivery.*
4. Mask the PYROPLUG® MagicBox and close off the gap around the PYROPLUG® MagicBox with plaster filler. ④
5. Perform the installations.
6. Fill large cavities with inlay blocks. ⑤
7. Close off residual openings with PYROSIT® NG fire protection foam. ⑥

→ Create equipotential bonding using flat connectors, see „7.3 Potentialausgleich anschließen“ auf Seite <?>.

→ Attach the identification plate, see „7.4 Kennzeichnungsschild anbringen“ auf Seite <?>.

7.3 Connecting the equipotential bonding

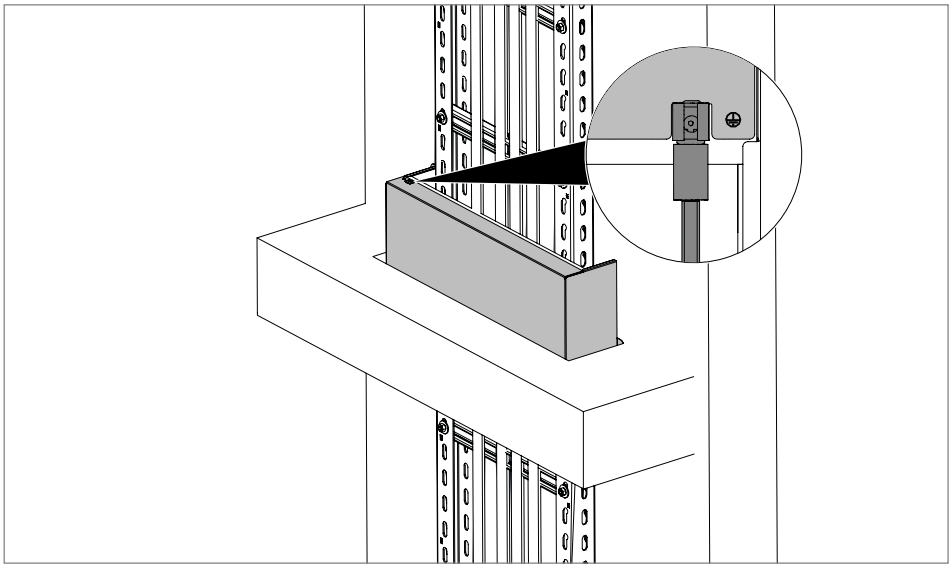


Abb. 11: Creating equipotential bonding

Create a connection to the equipotential bonding via the earthing point on the PYROPLUG® MagicBox using a flat connector (size 6.3) or suitable screws.

7.4 Attaching the identification plate

The insulation must be labelled according to the proof of suitability

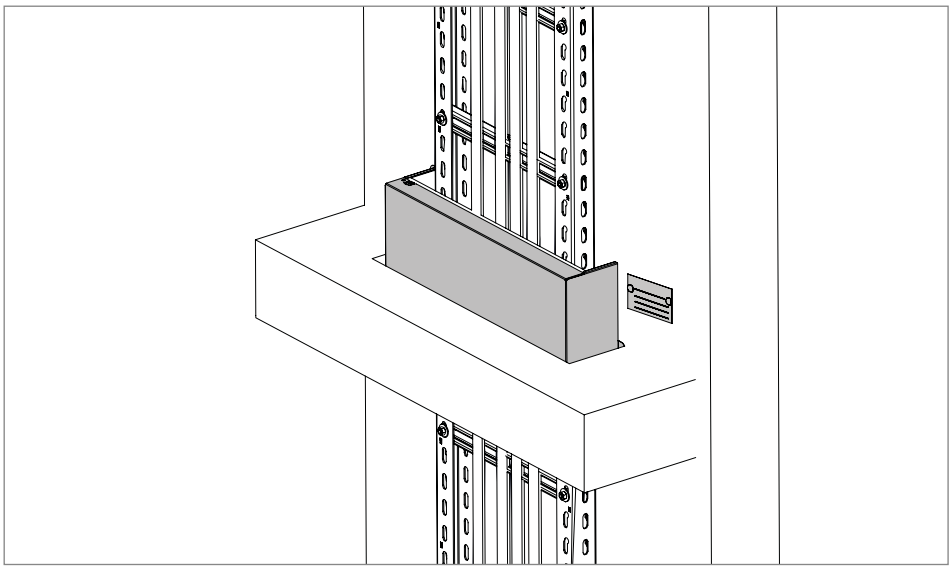


Abb. 12: Attaching the identification plate

1. Complete the KS-S DE identification legibly using a permanent marker.
2. Attach the KS-S DE identification plate next to the insulation.

7.5 Retrofitting

There are the following options for retrofitting the PYROPLUG® MagicBox:

– Removal of one or more inlay blocks, if available

– Penetrate the foam using individual cables

– Penetrate the foam with an installation pipe

Then, close off residual openings with PYROSIT® NG fire protection foam.

8 Maintaining the system

The PYROPLUG® MagicBox insulation system does not require maintenance.

During an inspection of electrical systems, carry out a visual inspection of the insulation. Close off any gaps with PYROSIT® NG fire protection foam.

9 Disposing of the system

National laws and regulations must be observed for disposal.

Disposal during building demolition

– Installed PYROPLUG® MagicBox materials must be disposed of as mixed construction waste

– Separate foams and steel and dispose of them separately.

Disposal after a fire

VORSICHT

Irritant effect!
If there is a fire, burning cable insulation can create corrosive gases, which have an irritant and corrosive effect. When disposing of fire insulation which has been subjected to a fire, wear breathing protection and protective clothing.

If components of the PYROPLUG® MagicBox system or other parts of the fire insulation are exposed to fire damage, then the complete insulation must be removed and disposed of. During disposal, obtain advice from a local fire damage repair company.

10 Technical data

10.1 4-sided PYROPLUG® MagicBox (interior height 60 mm)

Type	Item no.	Dimension
PMB 610-4 A2	7204000	300 x 123 x 130 mm
PMB 620-4 A2	7204004	300 x 223 x 130 mm
PMB 630-4 A2	7204008	300 x 323 x 130 mm
PMB 640-4 A2	7204012	300 x 423 x 130 mm
PMB 650-4 A2	7204016	300 x 523 x 130 mm
PMB 660-4 A2	7204020	300 x 623 x 130 mm

Tab. 3: Technical data, 4-sided PYROPLUG® MagicBox (interior height 60 mm)

10.2 3-sided PYROPLUG® MagicBox (interior height 60 mm)

Type	Item no.	Dimension
PMB 610-3 A2	7204030	300 x 123 x 116 mm
PMB 620-3 A2	7204034	300 x 223 x 116 mm
PMB 630-3 A2	7204038	300 x 323 x 116 mm
PMB 640-3 A2	7204042	300 x 423 x 116 mm
PMB 650-3 A2	7204046	300 x 523 x 116 mm
PMB 660-3 A2	7204050	300 x 623 x 116 mm

Tab. 4: Technical data, 4-sided PYROPLUG® MagicBox (interior height 110 mm)

10.3 4-sided PYROPLUG® MagicBox (interior height 110 mm)

Type	Item no.	Dimension
PMB 110-4 A2	7204120	300 x 123 x 181 mm
PMB 120-4 A2	7204124	300 x 223 x 181 mm
PMB 130-4 A2	7204128	300 x 323 x 181 mm
PMB 140-4 A2	7204132	300 x 423 x 181 mm

Type	Item no.	Dimension
PMB 150-4 A2	7204136	300 x 523 x 181 mm
PMB 160-4 A2	7204140	300 x 623 x 181 mm

Tab. 5: Technical data, 4-sided PYROPLUG® MagicBox (interior height 110 mm)

10.4 3-sided PYROPLUG® MagicBox (interior height 110 mm)

Type	Item no.	Dimension
PMB 110-3 A2	7204150	300 x 123 x 166 mm
PMB 120-3 A2	7204154	300 x 223 x 166 mm
PMB 130-3 A2	7204158	300 x 323 x 166 mm
PMB 140-3 A2	7204162	300 x 423 x 166 mm
PMB 150-3 A2	7204166	300 x 523 x 166 mm
PMB 160-3 A2	7204170	300 x 623 x 181 mm

Tab. 6: Technical data, 3-sided PYROPLUG® MagicBox (interior height 110 mm)

OBO Bettermann Holding GmbH & Co. KG
P.O. Box 1120
58694 Menden
GERMANY

Customer Service Germany
Tel.: +49 (0)2373 89-1700
Fax: +49 (0)2373 89-1238
E-mail: info@obo.de

www.obo-bettermann.com

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