Mounting instructions

Fire protection filler PYROCOAT® Mastic DSC

OBO BETTERMANN

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Mounting instructions

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1 About these instructions

1.1 Target group

The instructions are aimed at installers with fire protection training.

1.2 Relevance of these instructions

These instructions are based on the standards valid at the time of compilation (January 2026).

Before commencing work, read these instructions through once completely. We will not accept any warranty claims for damage caused through non-observance of these instructions.

Keep all the documents supplied with the system, so that the information is available should you need it.

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

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

1.3 Types of warning information

CAUTION

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

Note! *Indicates important information or assistance.*

1.4 Basic standards and regulations

– EN 1366-3

– EN 13501-1 / EN 13501-2

– EN 1363

– EU-BauPVO

1.5 Applicable documents

– European Technical Assessment ETA-25/0277

Note! *In addition to the European Technical Assessment ETA-25/0277, further national requirements for setting up insulation in building codes and building regulations may apply.*

– Declaration of performance 05-DOP-018

– Safety data sheet PYROCOAT® Mastic DSC

The declarations of performance can be viewed for the appropriate products at www.obo.global.

2 Intended use

PYROCOAT® Mastic DSC fire protection filler is a fire protection insulation system for building interiors, used to close openings in fire-resistant components (walls, ceilings, shaft walls) through which cables, electrical installation pipes or combustible or non-combustible pipelines are run. In case of fire, this prevents the spread of fire and smoke in the area of the penetration.

The system is not designed for any purpose other than the one described here. If the system is installed and used for another purpose, any liability, warranty or damage claims shall be rendered null and void.

3 Safety

3.1 General safety information

Observe the following general safety information:

– PYROCOAT® Mastic DSC fire protection filler is not suitable for improving the stability of a wall, ceiling or shaft wall. Structural measures must be taken to ensure that the wall, ceiling or shaft wall is sufficiently stable, despite the opening, without the application of an insulation system.

– Ensure that the installation of the fire insulation does not compromise the stability of the adjacent element – even in the event of a fire. Consult the proof of application of the component.

– Observe and comply with all the appropriate regulations and technical regulations of other units, in particular those for electrical engineering.

– Fire insulation in ceilings must be safeguarded against loads, in particular including being walked on, by means of suitable measures (e.g. through protectors, barriers or covering them with a grating).

– The fire protection filler is intended for use in interior spaces. As the insulation system belongs to the use category X, however, the interior spaces are not subject to any restrictions in terms of ambient temperature and air humidity.

– Observe the safety data sheets of the products.

3.2 Personal protective equipment

List of personal protective equipment to be used:

Use hand protection

Wear eye protection

Wear protective clothing

4 Product description fire protection filler PYROCOAT® Mastic DSC

4.1 Basic principles

Fire protection filler PYROCOAT® Mastic DSC is a fire protection insulation system that can be used in lightweight partitions, solid walls, solid ceilings and shaft walls in interior spaces with and without moisture. The approved installations include cables, electrical installation pipes as well as combustible and non-combustible pipelines for heating, sanitary and drinking water installations and Klimasplit cable combinations.

Correct mounting ensures that the insulation system prevents the cold smoke gases, created during the initial stages of fire, from spreading into adjacent areas. This prevents the spread of fires through the wall/ceiling opening for a period of up to 120 minutes.

Fire protection filler PYROCOAT® Mastic DSC is particularly suited to round penetrations with individually installed items.

4.2 System components

The system consists of a filler forming an insulation layer that is delivered in a 310 ml 1-C cartridge, as well as loose mineral wool for filling the ring gap.

Fig. 1: Fire protection filler PYROCOAT® Mastic DSC and mineral wool MIW-S

Figure no.	Designation	Item number
1	Fire protection filler PYROCOAT® Mastic DSC	7202320
2	MIW-S mineral wool	7202306

Tab. 1: System components

4.3 Accessories

Figure no.	Designation	Item number
1	SHT adhesive tape, self-adhesive, transparent	7202521
2	Mineral wool, aluminium-clad, MIW-MA	7202308
3	Identification plate for insulation systems	7205425
4	Metal strip clips	
	Metal strip clips, narrow (150 mm), MBS 015 A2	7203099
	Metal strip clips, narrow (300 mm), MBS 030 A2	7203103
	Metal strip clips, narrow (450 mm), MBS 045 A2	7203105
	Metal strip clips, narrow (610 mm), MBS 061 A2	7203107
	Metal strip clips, wide (750 mm), MBS 075 A2	7203109

Tab. 2: Accessories

5 Checking the installation requirements

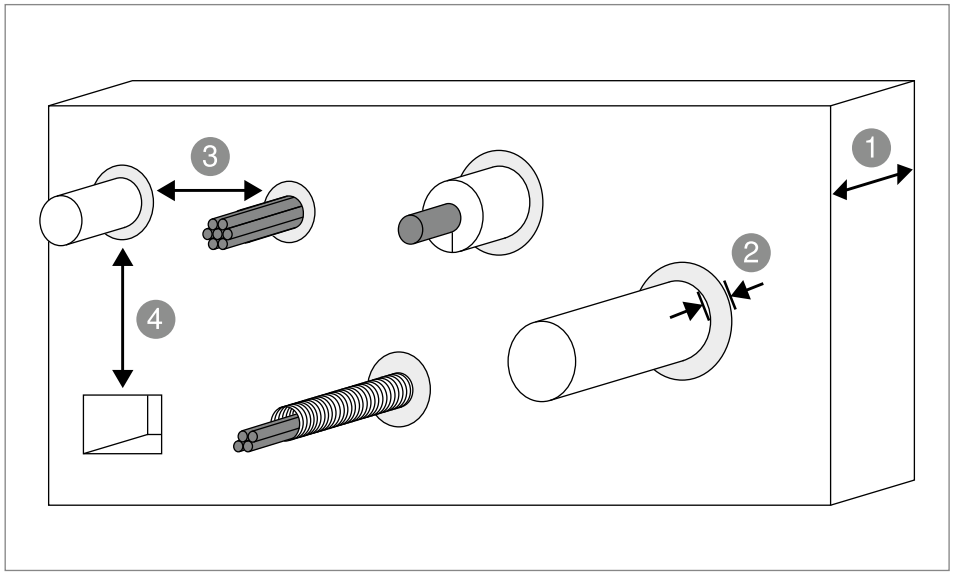

Fig. 2: Dimensions and distances

1 Component strength

2 Ring gap size

3 Distances to other insulation

4 Distances to other installed items

5.1 Checking the component opening

Before creating the insulation, check whether the dimensions of the opening and, if applicable, distances to further openings are permissible.

Check the component type and thickness to determine which fire resistance class can be achieved and what installations are permissible.

The ring gap around installed items must comply with specified dimensions.

Note! *The required specifications regarding dimensions and component thickness can be found in the chapters “9.1 Minimum component thicknesses and ring gap dimensions” on page 18 and “9.2 Distances between openings” on page 18.*

5.2 Checking the assignment

Before creating the insulation, check which installations (electrical installation pipes, combustible pipes, non-combustible pipes, HVAC split line combinations) may be passed through the insulation.

Note! *The necessary specifications for assignment can be found in the chapter “9.3 Approved installations and fire resistance classifications” on page 19.*

5.3 Checking for necessary additional measures

After determining the permissible assignment, check whether any other measures are necessary on the intended installations.

The following measures can be performed independently of the installations performed:

– Route insulation made of FEF or mineral wool mats

Note! *Mounting information for necessary additional measures can be found in the chapter “10.1 Route insulation on non-combustible pipes” on page 28.*

6 Creating insulation

Note! *When mounting the insulation system, the approval ETA-25/0277 and the appropriate national regulations are of primary importance.*

6.1 Preparing the opening

1. Cover the floor with foil on both sides of the insulation opening, if necessary.

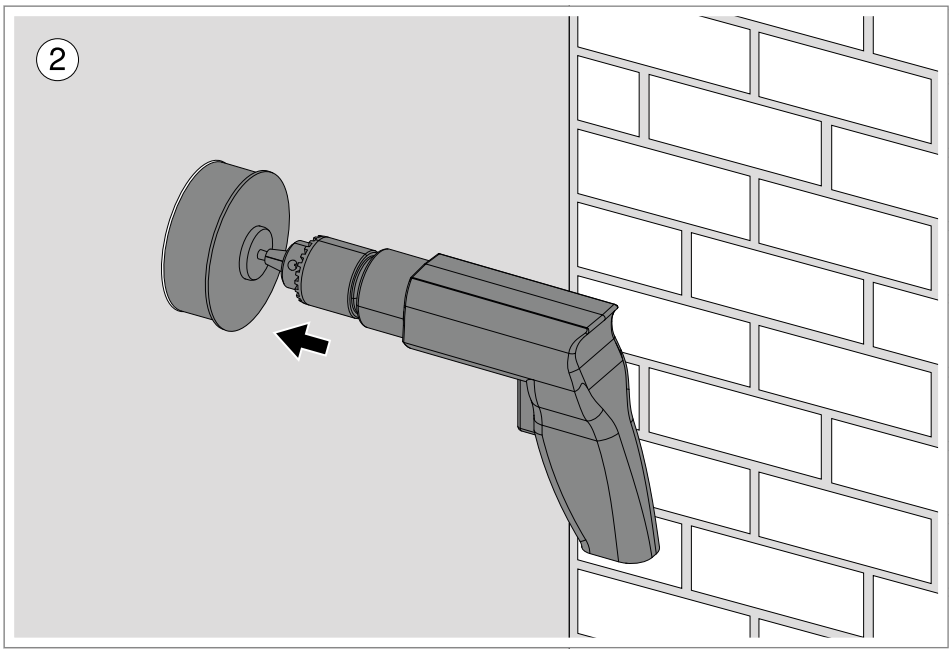

Fig. 3: Drill hole (example: solid wall)

2. Drill a hole in the required size. The component and any necessary backfilling with mineral wool determine the width of the ring gap around the installed items.

Note! *The necessary specifications for the size of the ring gap can be found in the chapter “9.1 Minimum component thicknesses and ring gap dimensions” on page 18.*

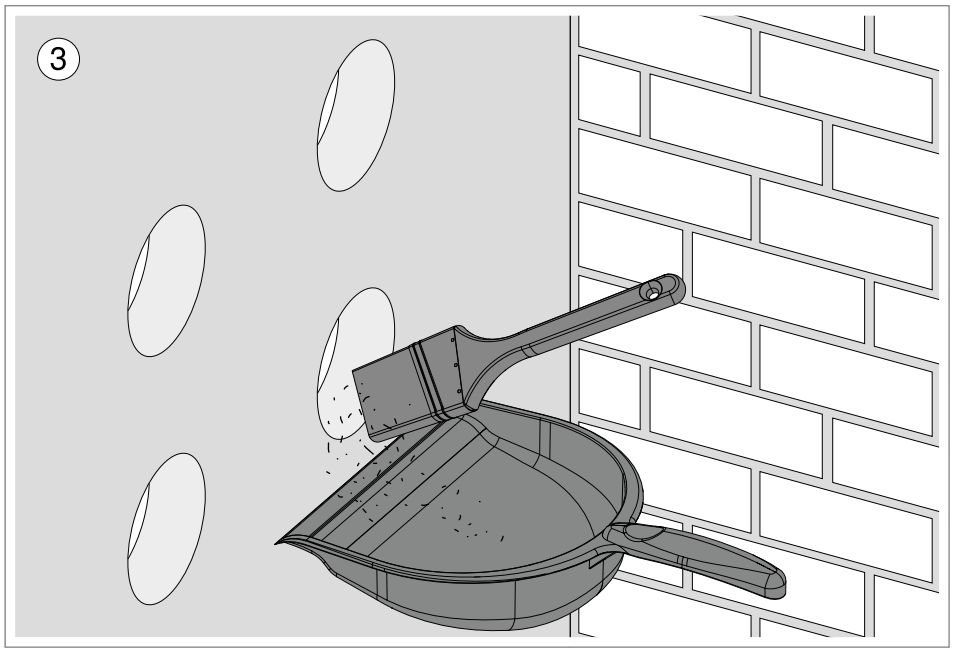

Fig. 4: Clean hole (example: solid wall)

3. Clean the hole, e.g. with a brush or hand cleaner.

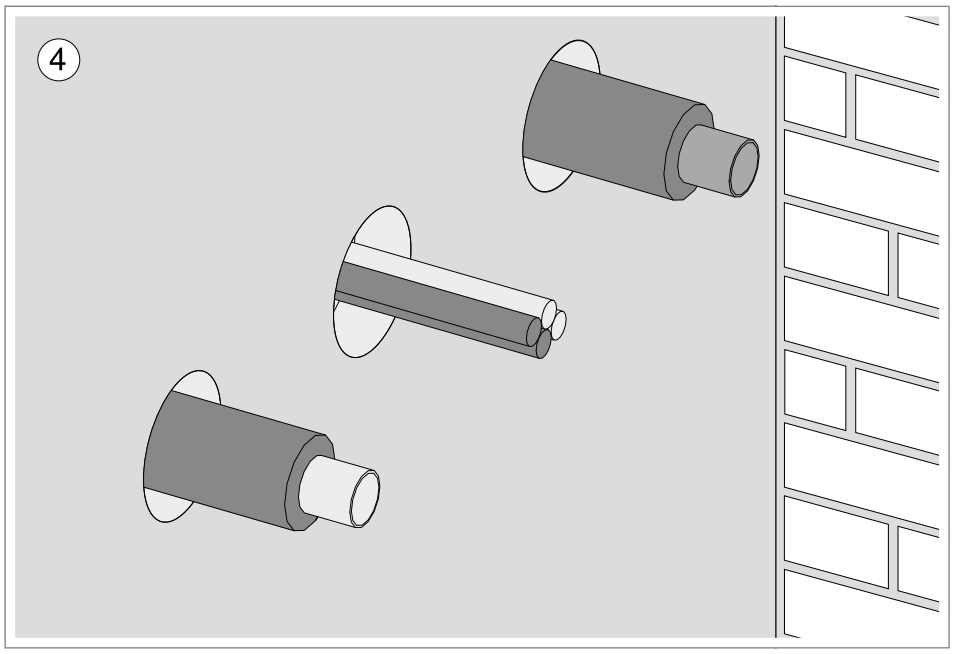

Fig. 5: Install cable or pipe (example: solid wall)

4. Run the cable or pipe through the hole.

6.2 Installing route insulation

If installations require route insulation, install it according to the specifications of the pipe manufacturer and the European Technical Assessment.

Note! *The necessary specifications for pipe wall thicknesses, insulation materials and thicknesses can be found in the chapter “10.1 Route insulation on non-combustible pipes” on page 28.*

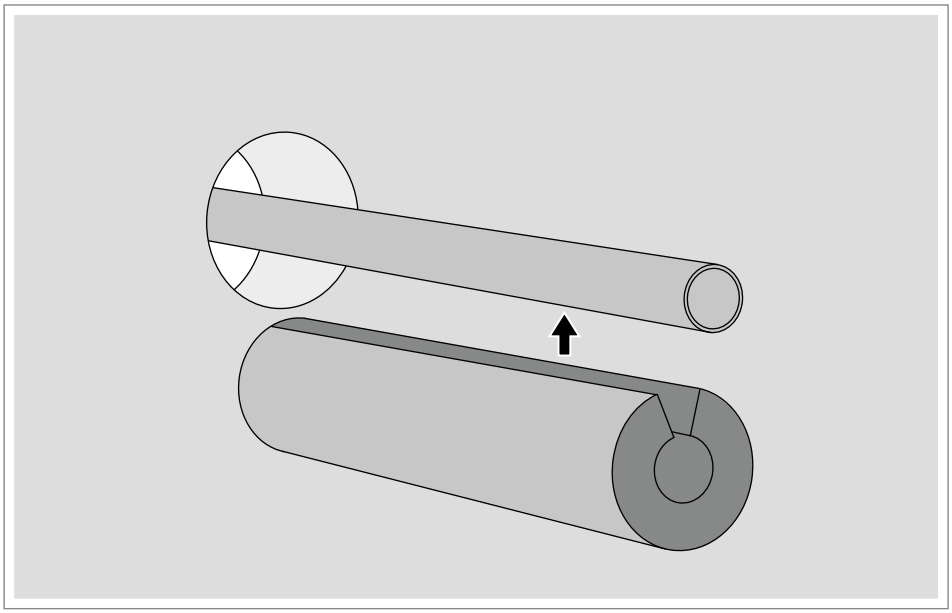

Fig. 6: Installing route insulation

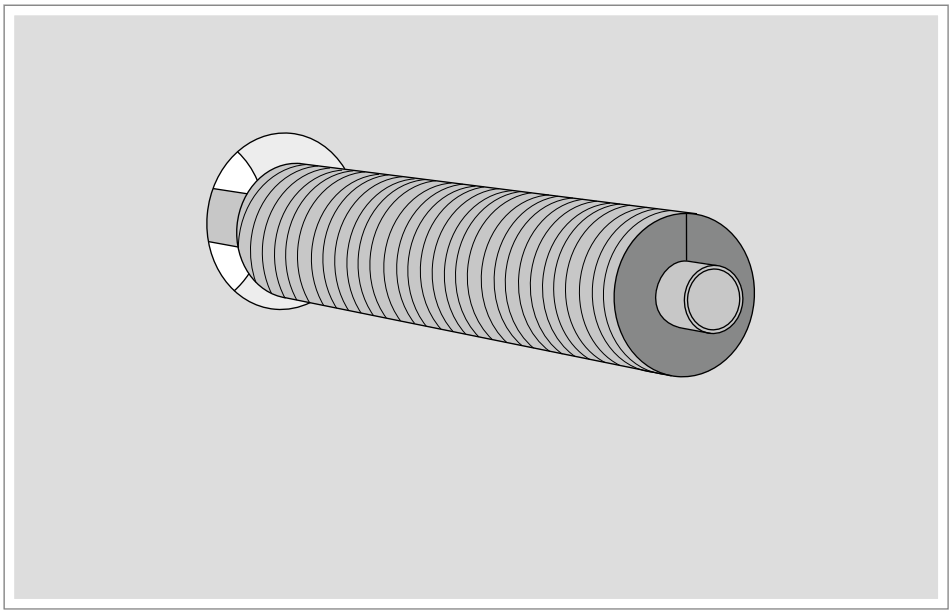

Fig. 7: Route insulation installed and secured

6.3 Establishing supports

Support installed items to avoid overloading the insulation in the event of a fire.

– Establish the supports for the installed items on both sides of the insulation.

– Fasten the support to the ceiling or wall using fire protection-approved fastening materials.

– The supports and fastenings must be fastened on both sides of the fire insulation so that, in the event of fire, no additional mechanical load can impact on the fire insulation for the length of the required fire resistance class. In this context, the technical rules and specifications of the manufacturer of the pipe systems and fastening systems, including cable support systems, must be complied with.

Note! *The necessary specifications for supports can be found in the chapter “9.5 First support of installations” on page 25.*

6.4 Closing the opening

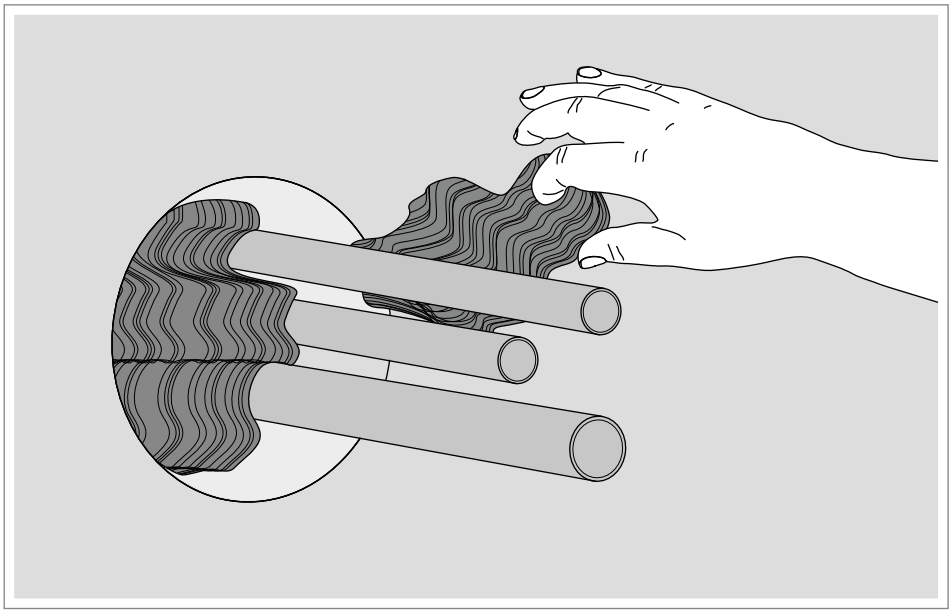

Fig. 8: Fill ring gap with mineral wool

1. If necessary, fill the hole with mineral wool.

Note! *The necessary specifications for backfilling with mineral wool can be found in the chapter “9.3 Approved installations and fire resistance classifications” on page 19.*

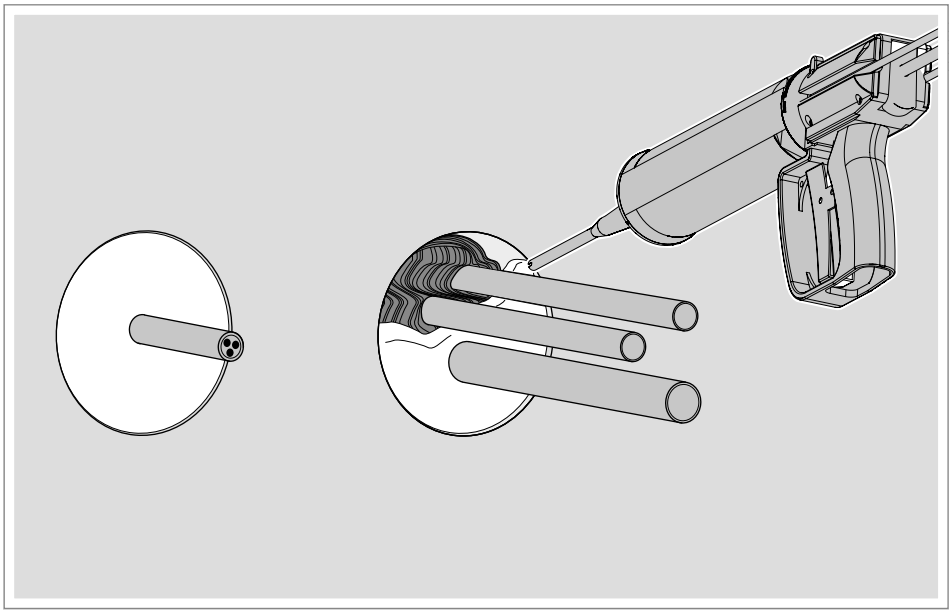

Fig. 9: Fill the ring gap with fire protection filler

2. Fill the ring gap around the installed items from both sides of the component using fire protection filler and smooth out. The minimum filling depth on both sides is at least 20 mm (in shaft walls) or 25 mm (in walls/ceilings).

3. If necessary, secure the insulation to prevent access or removal of the material.

6.5 Attaching the identification plate

Fill out the identification plate clearly with a permanent marker and attach it permanently on one side next to the insulation.

6.6 Installing cables and pipes at a later time

– Additional pipes cannot be installed later in insulations that have already been created with PYROCOAT® Mastic DSC.

– Cables can be run later through electrical installation pipes that have already been installed.

– Installed items can be replaced in insulation already created with PYROCOAT® Mastic DSC:

  – During replacement, check whether the ring gap has the required size for the new installation, and adjust the opening as needed. Next, perform the new installation and create the insulation following these instructions.

6.7 Tips and notes

– The insulation system can be installed by one person.

7 PYROCOAT® Mastic DSC maintenance

Fire protection filler PYROCOAT® Mastic DSC is maintenance-free. Nonetheless, we recommend carrying out a visual inspection of the insulation at regular intervals, as part of the inspection of the technical building systems:

1. Check whether all component parts of the insulation are tightly sealed with the PYROCOAT® Mastic DSC fire protection filler.

2. Reseal any gaps with PYROCOAT® Mastic DSC fire protection filler.

8 PYROCOAT® Mastic DSC disposal

Observe national laws and regulations for disposal.

During installation

– Dispose of non-empty cartridges and unused PYROCOAT® Mastic DSC fire protection filler as hazardous waste.

– Only dispose of completely emptied cartridges with household waste.

During building demolition

– Dispose of used PYROCOAT® Mastic DSC fire protection filler as mixed construction waste.

After a fire

CAUTION

Danger of irritant effect!
If there is a fire, burning plastic and insulation materials can create corrosive gases, which have an irritant and corrosive effect. When disposing of system components which have been subjected to a fire, wear breathing protection and protective clothing.

If the PYROCOAT® Mastic DSC system has been subjected to a fire, remove and dispose of the complete insulation. During disposal, obtain advice from a local fire damage repair company.

9 Approved installations and installation locations

9.1 Minimum component thicknesses and ring gap dimensions

Component	Minimum component thickness	Ring gap filling depth	Ring gap width	
			Without mineral wool	With mineral wool
Lightweight partition with metal or wooden sub-construction [1]	100 mm	On both sides ≥ 25 mm	≥ 10 mm to ≤ 25 mm	≥ 10 mm to ≤ 50 mm
Solid wall	100 mm			
Solid ceiling	150 mm			
Shaft wall [2]	40 mm	On both sides ≥ 20 mm		-

[1] The opening in walls with wood sub-construction must be a distance of at least 100 mm to the wood stands. Fill the space between the insulation opening and wood stands with non-combustible insulating material to a depth of at least 100 mm.
[2] Construction of metal stand-off structure with double board panelling on one side

Tab. 3: Minimum component thicknesses and ring gap dimensions

9.2 Distances between openings

Note! *The distance between the openings is measured from the outer edge of the ring gap.*

Distance between opening and:	Distance between the openings (in mm)
Insulation acc. to ETA-25/0277	≥ 100
Other cable, combined or pipe insulation	≥ 100
Other openings or installed items	≥ 100

Tab. 4: Distances between openings

9.3 Approved installations and fire resistance classifications

The chapters 9.3.1, 9.3.2, 9.3.3 and 9.3.4 specify the permitted installations and fire resistance classifications for insulation in solid walls, solid ceilings and lightweight partitions.

Insulation in shaft walls is described separately in chapter “9.3.5 Combustible pipes and multilayer composite pipes in shaft walls” on page 23.

9.3.1 Cables, electrical installation pipes, coaxial cables

Note! *The ring gap around cables, electrical installation pipes and coaxial cables must always be backfilled with mineral wool.*

Installed item		Component		
		Lightweight partition wall	Solid wall	Solid ceiling
Cables/cable support structures	Cables up to Ø 21 mm	EI 120	EI 120	EI 120
	Cables up to Ø 50 mm	-	-	EI 60
	Cables E-YCWY up to Ø 47 mm	EI 90	EI 90	-
	Cables H07RN-F up to Ø 61 mm	EI 90	EI 90	-
	Cable bundle up to Ø 100 mm Individual cable up to Ø 21 mm	EI 120	EI 120	EI 120
	Cable bundle up to Ø 150 mm Individual cable up to Ø 21 mm	EI 90	EI 120	EI 120
	Cable bundle up to Ø 180 mm Individual cable up to Ø 21 mm	EI 90	EI 120	-
Electrical installation pipes	Electrical installation pipe made of plastic up to Ø 32 mm with/without cables up to Ø 21 mm	EI 120-U/U	EI 120-U/U	EI 120-U/U
	Electrical installation pipe bundle made of plastic up to Ø 90 mm Individual electrical installation pipe up to Ø 32 mm with/without cables up to Ø 21 mm	EI 60-U/U	EI 60-U/U	EI 120-U/U
	Electrical installation pipe bundle made of plastic up to Ø 100 mm Individual electrical installation pipe up to Ø 32 mm with/without cables up to Ø 21 mm	EI 60-U/U	EI 60-U/U	-
Coaxial cable	RFS CELLFLEX- LCF up to Ø 50.3 mm	EI 120-U/C	EI 120-U/C	EI 120-U/C
	RFS RADIAFLEX- RLK up to Ø 48.2 mm	EI 120-U/C	EI 120-U/C	EI 120-U/C
	CommScope HELIAX – AVA up to Ø 51.1 mm	EI 120-U/C	EI 120-U/C	EI 120-U/C

Tab. 5: Cables, electrical installation pipes, coaxial cables

9.3.2 Non-combustible pipes

Note! *Non-combustible pipes must be run through the insulation opening at a right angle.*

Note! *Information for necessary additional measures can be found in chapter “10.1 Route insulation on non-combustible pipes” on page 28.*

Material	Pipe diameter	Pipe wall thickness		Thickness of the insulation		Length of the insulation L		Wall	Ceiling
		from	to	from	to	Continuous (LS/CS)	Interrupted (LI/CI)		
Without path insulation									
Copper	≤ 15	1.0	1.0	-		-	-	-	EI 120-C/U [1.3]
	≤ 18	1.0	1.0					-	EI 90-C/U [1.3]
	≤ 22	1.0	1.0					-	EI 60-C/U [1.3]
Steel, stainless steel, cast iron	≤ 26.9	2.0	2.0					EI 90-C/U [1]	-
	≤ 42.4	2.3	14.2					-	EI 120-C/U [2]
	≤ 48.3	2.1	14.2					-	EI 120-C/U [2.3]
	≤ 48.3	2.1	14.2					-	EI 90-C/U [1.4]
With mineral wool mats									
Copper	≤ 54	1.5	14.2	30	30	-	✓ / 2 x ≥ 500	EI 120-C/U	EI 120-C/U
	≤ 54	1.0	14.2	30	60	✓ / ≥ 1,000	-	EI 120-C/U [2]	EI 120-C/U [2]
	54 to 76	1.0	14.2	30	60	✓ / ≥ 1,500	-	-	EI 120-C/U
	≤ 88.9	1.5	14.2	30	60	✓ / ≥ 1,500	-	EI 90-C/U [1]	EI 90-C/U [1]
	76 to 88.9	1.0	14.2	60	60	✓ / ≥ 1,500	-	-	EI 120-C/U
Steel, stainless steel, cast iron	≤ 88.9	1.5	14.2	30	60	-	✓ / 2 x ≥ 500	EI 120-C/U	EI 120-C/U
	88.9 to 114	1.5	14.2	60	60	-	✓ / 2 x ≥ 500	EI 120-C/U	EI 120-C/U
	88.9 to 114	1.5	14.2	30	60	-	✓ / 2 x ≥ 500	-	EI 120-C/U
	≤ 54	1.0	14.2	30	60	✓ / ≥ 1,000	-	EI 120-C/U [2]	EI 120-C/U [2]
	≤ 114	1.0	14.2	30	60	✓ / ≥ 1,500	-	EI 120-C/U [2]	EI 120-C/U [2]
With mineral wool lining									
Copper	≤ 54	1.0	14.2	20	30	✓ [5]	-	-	EI 120-C/U [2]
	≤ 88.9	1.0	14.2	30	30	✓ [5]		EI 120-C/U [1]	EI 120-C/U [1]
	≤ 88.9	1.0	14.2	30	30	✓ [5]		EI 90-C/U	EI 120-C/U
Steel, stainless steel, cast iron	≤ 54	1.0	14.2	20	30	✓ [5]		EI 120-C/U [1]	EI 120-C/U [1]
	≤ 54	1.0	14.2	20	30	✓ [5]		EI 90-C/U	EI 120-C/U
	≤ 88.9	1.0	14.2	30	40	✓ [5]		EI 120-C/U [1]	EI 120-C/U [1]
	≤ 88.9	1.0	14.2	30	40	✓ [5]		EI 90-C/U	EI 120-C/U
	≤ 114	1.0	14.2	40	40	✓ [5]		EI 120-C/U [1]	EI 120-C/U [1]
	≤ 114	1.0	14.2	40	40	✓ [5]		EI 90-C/U	EI 120-C/U
With flexible elastomer foam									
Copper, steel, stainless steel, cast iron	≤ 28	1.0	14.2	19	25	✓ / ≥ 1,250	-	EI 120-C/U [2]	EI 120-C/U [2]
	28 to 42	1.0	14.2	25	25	✓ / ≥ 1,250		EI 120-C/U [2]	EI 120-C/U [2]
	≤ 42	1.0	14.2	19	38	✓ / ≥ 1,250		EI 120-C/U [1]	EI 120-C/U [1]
	≤ 54	1.0	14.2	38	38	✓ / ≥ 1,250		EI 60-C/U	EI 120-C/U
	≤ 54	1.0	14.2	38	38	✓ / ≥ 1,250		EI 120-C/U [1]	EI 120-C/U [1]
	≤ 54	1.0	14.2	19	38	✓ / ≥ 1,250		-	EI 120-C/U [2]

[1] With mineral wool backfilling
[2] Optionally with or without mineral wool backfilling
[3] Only in ceilings with component thickness ≥ 200 mm
[4] With zero spacing to the same pipes
[5] Only version “CS” (continuous insulation routed through main insulation)

Tab. 6: Non-combustible pipes (dimensions in mm)

9.3.3 Combustible pipes

Note! *Combustible pipes may be equipped with a PE acoustic insulation hose with a 5 mm insulation thickness.*

Material	Pipe diameter		Pipe wall thickness		Wall	Ceiling
	from	to	from	to		
Combustible controlled pipes with/without PE acoustic insulation hose						
PVC-U	-	≤ 50	1.8	1.8	EI 120-U/U	EI 120-U/U
	> 50	≤ 75	1.8	1.8	EI 90-U/U	EI 120-U/U
	-	≤ 110	1.8	8.1	EI 120-U/C [2]	EI 120-U/C [2]
PE, PE-X ABS SAN+PVC PP-H	-	≤ 50	1.8	1.8	EI 120-U/U	EI 120-U/U
	-	≤ 75	1.8	1.9	EI 90-U/U	-
	-	≤ 110	1.8	10.0	EI 120-U/C [2]	EI 120-U/C [2]
Combustible uncontrolled pipes with/without PE acoustic insulation hose						
Friatec Friaphon	52	≤ 110	2.8	5.3	EI 120-U/C [2]	EI 120-U/C [2]
Pipelife Master 3	-	≤ 50	2.0	2.0	EI 120-U/U	-
	≥ 50	≤ 110	1.8	3.0	EI 120-U/C [2]	EI 120-U/C [2]
Poloplast POLO-KAL 3S	-	≤ 75	3.8	3.8	EI 60-U/U	-
	≥ 75	≤ 110	3.8	4.8	EI 120-U/C [2]	EI 120-U/C [2]
Poloplast POLO-KAL NG Poloplast POLO-KAL XS	-	≤ 50	2.0	2.0	EI 120-U/U	-
	≥ 50	≤ 110	2.0	3.4	-	EI 120-U/C [2]
Geberit Silent Pro	-	≤ 50	3.2	3.2	EI 120-U/U	-
	≥ 50	≤ 110	3.0	4.5	EI 90-U/C [2]	EI 120-U/C [2]
Geberit Silent PP	-	≤ 50	2.0	2.0	EI 120-U/U	-
	≥ 50	≤ 110	2.0	3.6	-	EI 120-U/C [2]
Geberit Silent db20	-	≤ 56	3.2	3.2	EI 120-U/U	-
	≥ 56	≤ 110	2.0	3.6	-	EI 120-U/C [2]
Rehau Raupiano Plus	-	≤ 50	1.8	1.8	EI 120-U/U	-
	≥ 50	≤ 110	1.8	2.7	-	EI 120-U/C [2]
CONEL Drain	-	≤ 50	1.8	1.8	EI 120-U/U	-
Ostendorf Skolan Safe	-	≤ 58	4.0	4.0	EI 120-U/U	-
	≥ 58	≤ 110	4.0	5.3	-	EI 120-U/C [2]
Silenta Premium	-	≤ 58	5.3	5.3	EI 120-U/U	-
Valsir Triplus	-	≤ 50	1.9	1.9	EI 120-U/U	-
	≥ 50	≤ 110	1.8	3.4	-	EI 120-U/C [2]
Wavin AS+	-	≤ 50	3.0	3.0	EI 90-U/U	-
Wavin SiTech+	-	≤ 50	2.1	2.1	EI 90-U/U	-
	≥ 32	≤ 110	1.8	3.4	-	EI 120-U/C [2]
Multilayer composite pipes with/without PE acoustic insulation hose						
Geberit Mepla	-	≤ 16	2.25	2.25	EI 90-U/C	EI 120-U/C [2]
					EI 120-U/C [1]	
	> 16	≤ 50	2.25	4.0	EI 90-U/C [1]	EI 120-U/C [1]
			> 4.0	4.7	-	EI 120-U/C
		≤ 75	2.25	4.7	EI 30-U/C [1]	EI 120-U/C [1]
Ke Kelit KELOX KM 110	-	≤ 16	2.0	2.0	EI 120-U/C [1]	EI 120-U/C [1]
					EI 90-U/C	-
	> 16	≤ 75	2.0	7.5	EI 90-U/C [1]	EI 120-U/C [1]

Material	Pipe diameter		Pipe wall thickness		Wall	Ceiling
	from	to	from	to		
Uponor Uni Pipe PLUS	-	≤ 32	2.0	3.0	EI 120-U/C [1]	EI 120-U/C [1]
					EI 90-U/C	-
Rehau Rautitan stabil	-	≤ 40	2.0	6.0	EI 120-U/C [1]	EI 120-U/C [1]
					EI 90-U/C	-
FRÄNKISCHE alpex F50	-	≤ 32	2.0	3.0	EI 120-U/C [1]	EI 120-U/C [1]
FRÄNKISCHE alpex L	-	≤ 40	3.5	3.5	EI 120-U/C [2]	EI 120-U/C [2]
	-	≤ 40	2.6	3.5	EI 90-U/C	-
	-	≤ 75	3.5	5.0	EI 30-U/C [1]	EI 120-U/C [2]

[1] With mineral wool backfilling
[2] Optionally with or without mineral wool backfilling

Tab. 7: Combustible pipes (dimensions in mm)

9.3.4 HVAC split line combinations

Note! *The ring gap around HVAC split line combinations must always be backfilled with mineral wool.*

Installed item	Diameter	Pipe wall thickness		Thickness of the insulation		Additional insulation		Wall	Ceiling
		from	to	Type	Dimension	Type	Dimension		
HVAC split line combination, consisting of:									
≤ 2 copper pipes	≤ 18	1.0	14.2	PEF [1]	9.0	MW [2]	2 x 30 x 250	EI 120	-
1 PVC pipe	≤ 25	1.5	1.5	-					
≤ 2 cables	≤ 14	-	-						
HVAC split line combination, consisting of:									
≤ 2 copper pipes	≤ 22	1.0	14.2	PEF [1]	9.0	-	-	EI 90	EI 120
1 PVC pipe	≤ 25	1.5	1.5	-					
≤ 2 cables	≤ 14	-	-						
HVAC split line combination, consisting of:									
≤ 2 copper pipes	≤ 22	1.0	14.2	PEF [1]	14.0	-	-	EI 120-C/U	EI 120-C/U

[1] PE foam
[2] Mineral wool insulation type “Klimarock” (LI/CI = installed locally/continuously but interrupted in the insulation area)

Tab. 8: HVAC split line combinations (dimensions in mm)

9.3.5 Combustible pipes and multilayer composite pipes in shaft walls

Pipe type	Pipe diameter	Pipe wall thickness	Shaft wall
Without PE acoustic insulation hose			
Poloplast POLO-KAL NG	≤ 50	≤ 2.0	EI 90-U/U
Poloplast POLO-KAL XS			
Geberit Silent PP			
With/without 9 mm PE acoustic insulation hose			
Geberit Mepla	≤ 32	≤ 3.0	EI 90-U/C
Rehau Rautitan stabil	≤ 32	≤ 4.7	
Ke Kelit KELOX KM 110 [1]	≤ 32	≤ 3.0	
With 19 mm FEF insulation			
Poloplast POLO-KAL NG	≤ 50	≤ 2.0	EI 90-U/U
Poloplast POLO-KAL XS			
Geberit Silent PP			
Geberit Mepla	≤ 32	≤ 3.0	EI 90-U/C
Rehau Rautitan stabil	≤ 32	≤ 4.7	
Ke Kelit KELOX KM 110	≤ 32	≤ 3.0	
[1] With zero spacing to the same pipes			

Tab. 9: Combustible pipes and multilayer composite pipes in shaft walls (dimensions in mm)

9.4 Minimum distances between installations

The installations penetrated individually through the insulation must have a certain distance between each other, measured from the outer edge of the ring gap.

The ring gap around the installed items must be at least 10 mm. The maximum width of the ring gap is 25 mm for insulations without mineral wool backfilling and 50 mm for insulations with mineral wool backfilling.

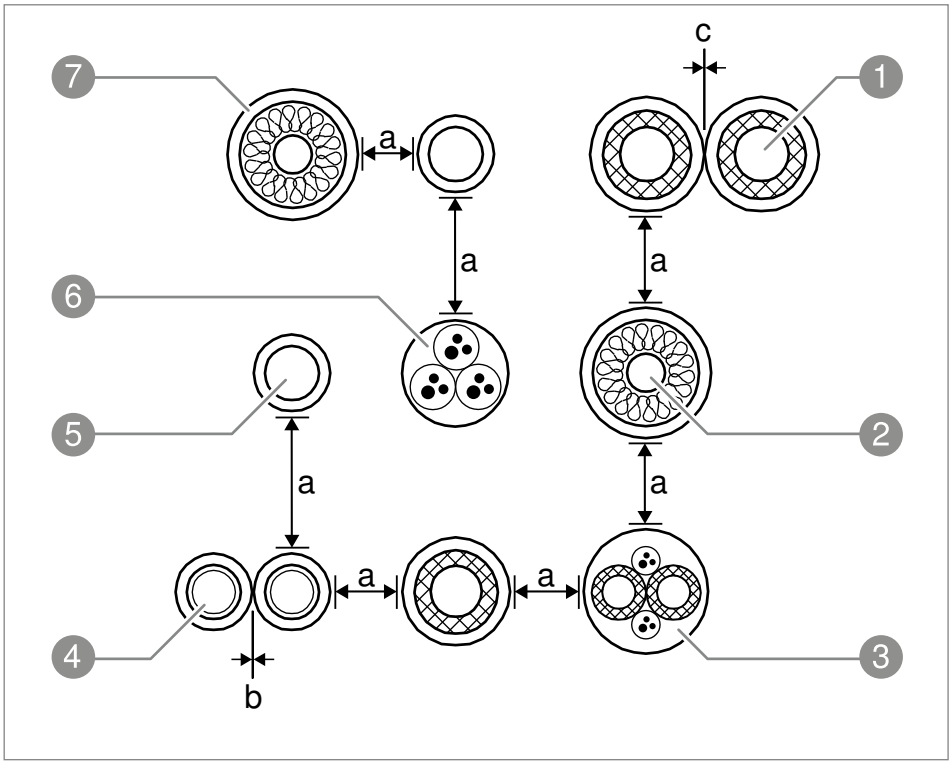

Fig. 10: Minimum distances between installations

1 Combustible pipes with insulation

2 Non-combustible pipes with insulation

3 HVAC split line combinations

4 Non-combustible pipes

5 Combustible pipes

6 Cables/cable bundles/electrical installation pipes/hollow-core conductors

7 Ring gap

	Component	Installations	Necessary measures	Distance
a	Lightweight partition, solid wall, solid ceiling	❶ ❷ ❸ ❹ ❺ ❻	-	≥ 100 mm
	Shaft wall	❶ ❺		
b	Solid ceiling	Uninsulated pipes made of steel, stainless steel or cast iron	- Pipe diameter up to Ø 48.3 mm - Pipe wall thickness of 2.1 mm to 14.2 mm - Mineral wool backfilling in the ring gap	≥ 0 mm
c	Shaft wall	Multilayer composite pipes Ke Kelit KELOX KM 110 (with/without 9 mm PE acoustic insulation hose)	- Pipe diameter Ø 20 mm up to Ø 32 mm - In horizontal arrangement	≥ 0 mm

Tab. 10: Minimum distances between installations

9.5 First support of installations

– The essential parts of supports and fastenings must be non-combustible.

– Mount the first support of cables, cable bundles, electrical installation pipes and hollow-core conductors on both sides of the insulation at a max. distance of 500 mm. The installed items may be laid outside of the insulation on cable support structures.

– Mount the first support of pipes (combustible and non-combustible, with or without insulation) and HVAC split line combinations on both sides of the main insulation at a distance of max. 500 mm (walls/ceilings) or 600 mm (shaft walls) from the main insulation.

– The following fastenings can serve as support, for example:

  – Metal screw-in spacer clips

  – Pendulum suspensions with mounting rails and threaded rods

  – Wall bracket and mounting rail constructions

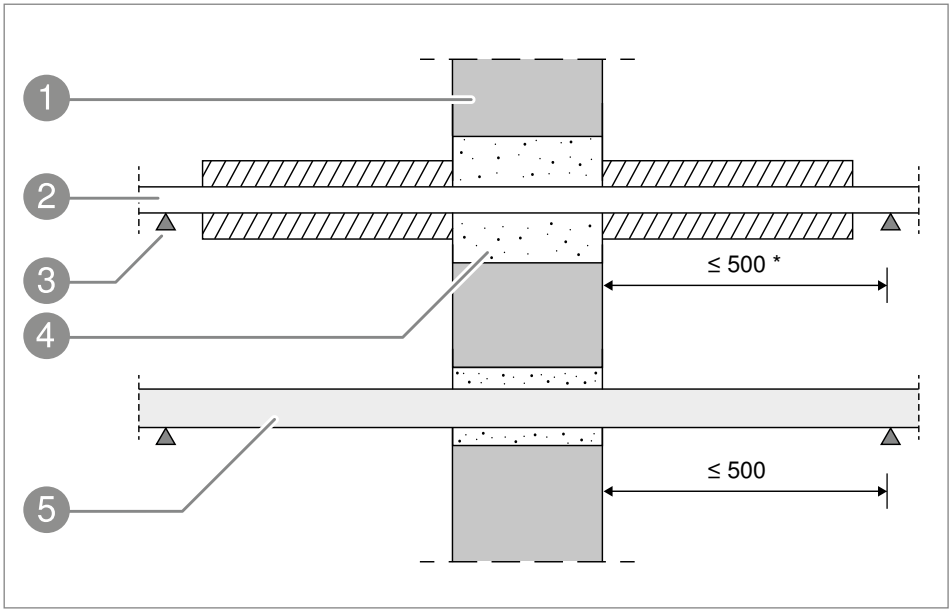

Fig. 11: Support of installations in walls

1 Wall

2 Pipes (combustible and non-combustible, with or without insulation), HVAC split line combinations

3 First support of the installations

4 Fire protection filler PYROCOAT® Mastic DSC (with or without mineral wool backfilling)

5 Cables/cable bundles/electrical installation pipes/hollow-core conductors

* For penetrations through shaft walls, the maximum distance of the first support is ≤ 600 mm.

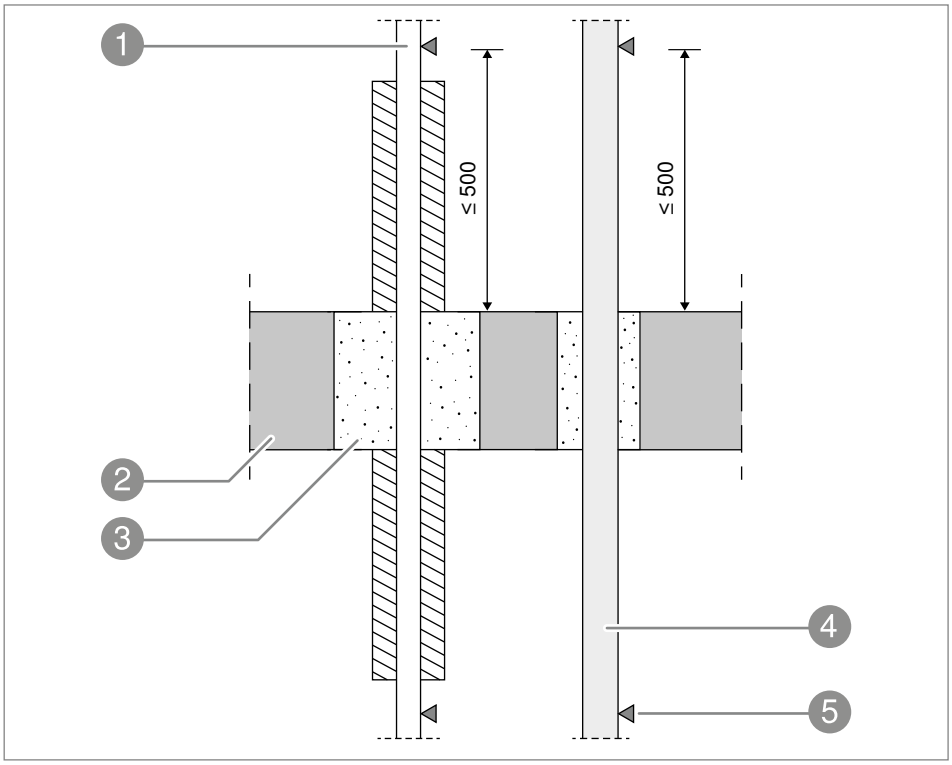

Fig. 12: Support of installations in ceilings

1 Pipes (combustible and non-combustible, with or without insulation), HVAC split line combinations

2 Ceiling

3 Fire protection filler PYROCOAT® Mastic DSC (with or without mineral wool backfilling)

4 Cables/cable bundles/electrical installation pipes/hollow-core conductors

5 First support of the installations

10 Necessary additional measure

10.1 Route insulation on non-combustible pipes

When installing insulation, for some penetrated non-combustible pipes, it is necessary to install route insulation to achieve the required fire resistance class. The route insulation must comply with the specifications of the manufacturer for the pipes used and the specifications of ETA-25/0277.

If the non-combustible pipes are not insulated or if they are equipped with insulation that is not permissible, this insulation must be installed or replaced in the main insulation area in accordance with the specifications of chapter 9.4.2 “Non-combustible pipes”.

There are different types of pipe insulations:

- **Locally installed and penetrated (LS = local sustained):**
  The insulation is installed on the pipe in the specified length L and penetrated through the main insulation. The width of the ring gap is measured from the outer edge of the insulation. Make sure that the insulation has the same length on both sides of the main insulation.

- **Installed and penetrated continuously (CS = continuous sustained):**
  The insulation is installed along the entire length of the pipe and is penetrated through the main insulation. The width of the ring gap is once again measured from the outer edge of the insulation.

- **Locally installed and interrupted (LI = local interrupted):**
  The insulation is installed on the pipe in the specified length L before and after the main insulation. The width of the ring gap is measured from the outer edge of the installed pipe.

- **Installed continuously, but interrupted in the main insulation area (CI = continuous interrupted):**
  The insulation installed continuously on the pipe is removed in the area of the main insulation. The width of the ring gap is once again measured from the outer edge of the pipe.

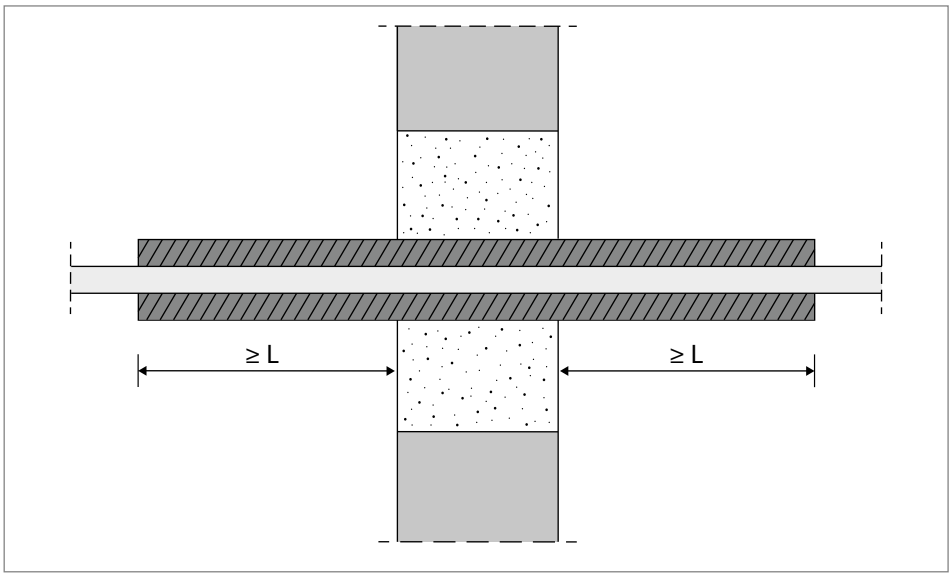

Fig. 13: Pipe with continuous insulation (LS/CS)

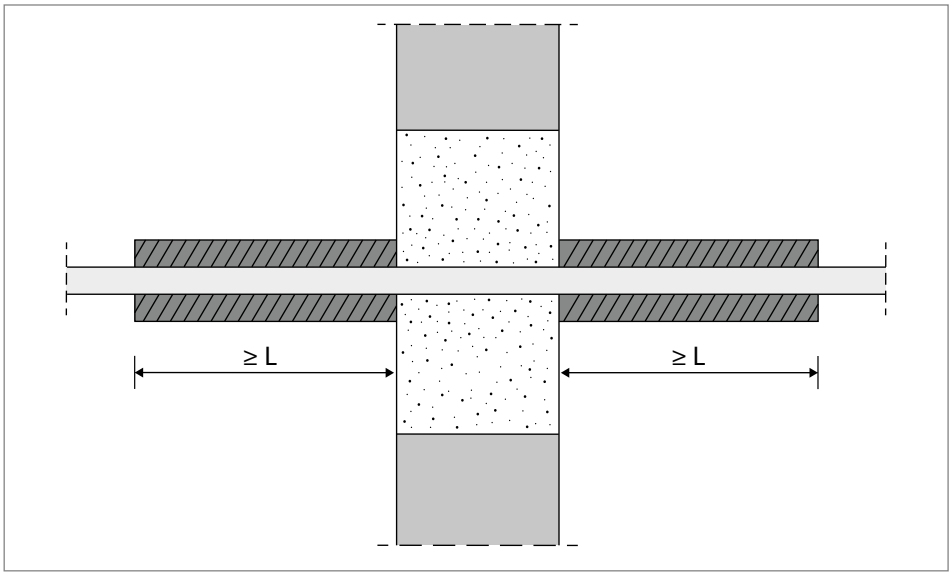

Fig. 14: Metal pipe with interrupted insulation (LI/CI)

11 Appendix – declaration of conformity (sample)

Insulation system according to EN 1366 Part 3

Name and address of the company which erected the cable insulation

Building site or building with address

Required fire resistance class

Date of erection

This is confirmation that

– The insulation(s) “PYROCOAT® Mastic DSC”, for installation in walls, ceilings and shaft walls with a fire resistance class up to EI 120, was (were) correctly created, installed and labelled according to all the individual requirements and in compliance with all the requirements of the named proof of usability (European Technical Assessment ETA-25/0277, issued by ETA-Danmark A/S) and

– The building products used to produce the object of the approval (e.g. insulation compounds, mineral fibre plates, route insulations, etc.) were labelled according to the requirements of the proof of usability.

Place, date Stamp and signature

This confirmation must be given to the builder for forwarding, if necessary, to the responsible construction supervisory board.

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