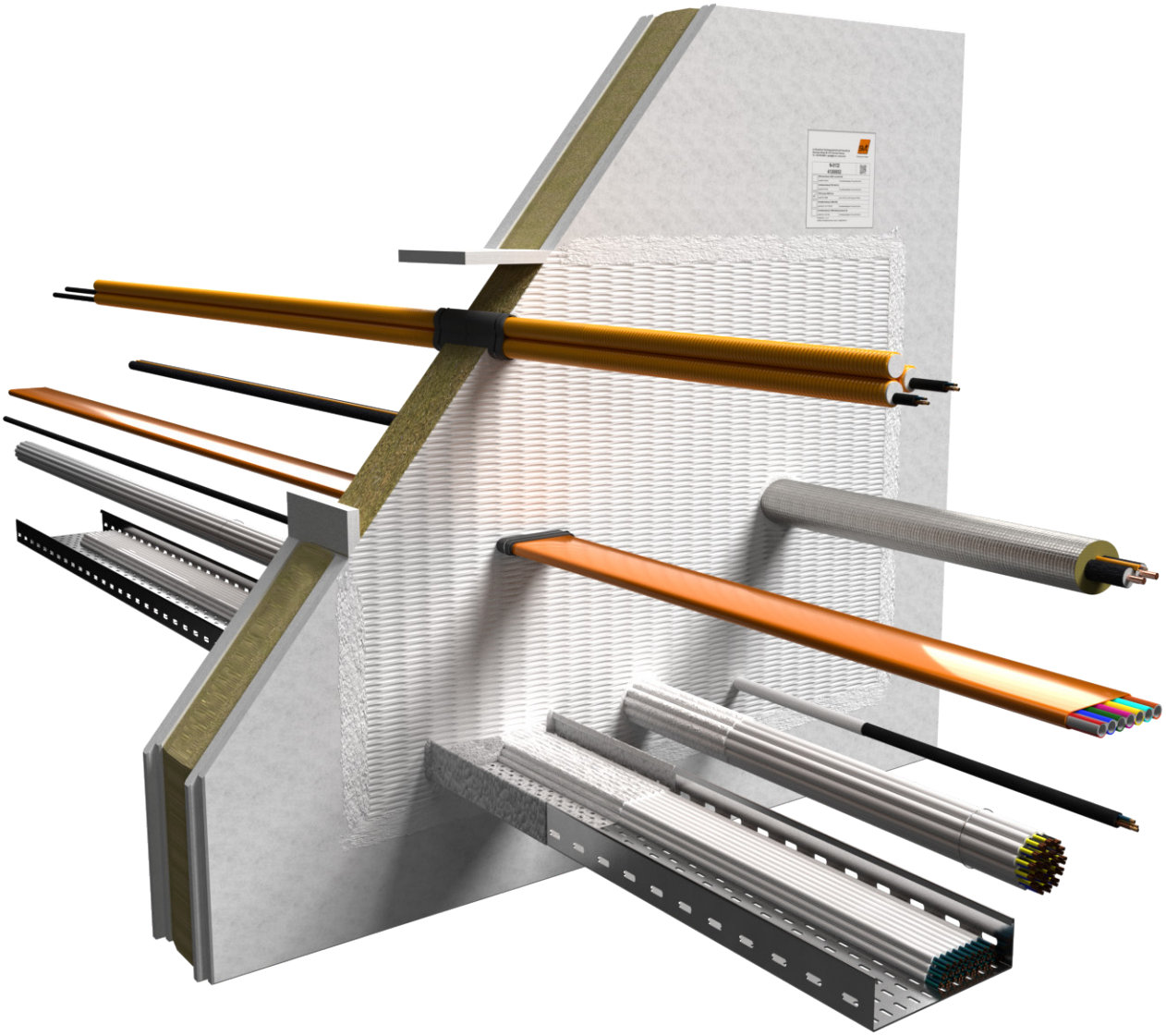
PYRO-SAFE® Flammotect-ONE

Ablative Mineral Fibre Board Seal

Mixed penetration sealing system made of one mineral fibre board (80 mm) and an ablative coating for electrical cables of any type.
Maximum fire resistance class EI 120 according to EN 13501-2



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1. Preliminary remarks / Overview

1.1 Target group

The installation instructions are intended solely for personnel trained in fire protection.

1.2 Use of the instructions

Before starting work, read through these installation instructions completely once. Pay particular attention to the following safety instructions.

The authorisation holder assumes no liability for damage caused by failure to comply with these instructions.

Pictorial representations serve as examples only. Installation results may differ in appearance.

Unless stated otherwise, all lengths are specified in mm.

All information in this document represents the state of the art at the time of writing or the current version of the standard.

Upon request, svt will be pleased to provide the relevant legal and technical framework and manufacturer specifications for each individual case.

1.2.1 Safety instructions

The safety data sheets must be consulted when processing the penetration seal components.

Personal protective equipment:

	Wear protective clothing and non-slip shoes.
	Use safety goggles, safety glasses.
	P2 particle filter in case of short-term or low level exposure. For intensive or prolonged exposure use a breathing apparatus with independent air supply. Use breathing protection in compliance with international/national standards.
	Use chemically resistant gloves. Recommended materials: butyl rubber, nitrile rubber, fluorinated rubber, PVC.

Safety instructions for the installation of floor penetration seals

	The area below the floor penetration seal must be cordoned off against entry during penetration seal work (barrier tape and warning sign: warning of possible falling objects, do not enter the area, penetration seal work in floor openings).
	The contractor for the production of floor penetration seals must inform the client in writing (for forwarding to the client or appointed representative) that after the production of the fire penetration seals in floors, these must be secured on site against loads, in particular against being stepped on, by suitable measures (e.g. by fencing or by covering with grating).

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1.3 Field of application

The PYRO-SAFE® Flammotect-ONE single layer mixed penetration sealing system in wall and floor openings has been assessed in accordance with ETAG 026-2 in terms of the „Reaction to fire“, „Fire resistance“, „Release of dangerous substances“ and „Durability and serviceability“ product characteristics.

Reaction to fire

The ablative component PYRO-SAFE® FLAMMOTECT-A meets class E for reaction to fire in accordance with EN 13501-1; the intumescent material PYRO-SAFE® DG-CR meets class B-s1, d0 for reaction to fire in accordance with EN 13501-1; the mineral fibre boards meet class A1 and the mineral fibre mats meet class A2-s1,d0 for reaction to fire in accordance with EN 13501-1.

Fire resistance

PYRO-SAFE® Flammotect-ONE meets the maximum requirements of class EI 120 in accordance with EN 13501-2.

When installed in walls or floors with a lower fire resistance duration, the fire resistance duration of the penetration seal is also reduced to that of the fire resistance class of the wall or floor.

Release of dangerous substances

The ablative component PYRO-SAFE® FLAMMOTECT-A component and the intumescent material PYRO-SAFE® DG-CR do not contain any substances identified as dangerous in the list of the European Commission.

The mineral fibre board; the mineral fibre mat and the loose mineral fibre wool do not contain any dangerous substances listed in Directive 67/548/EC or Regulation (EC) No. 1272/2008 or the Indicative List on Dangerous Substances.

Durability and serviceability

The ablative component PYRO-SAFE® FLAMMOTECT-A and the intumescent material PYRO-SAFE® DG-CR meet the requirements of type X in accordance with EOTA TR 024.

PYRO-SAFE® Flammotect-ONE can be subjected to the conditions of interior rooms with and without exposure to moisture or atmospheric conditions, without substantial changes to the fire protection characteristics to be expected.

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1.4 Building elements

Plasterboard walls with steel substructure

In stud design and double-sided cladding with at least 2 layers of 12.5 mm cement or gypsum-bound building boards with a reaction to fire of class A1 or A2 according to EN 13501-1.

The stud construction must be complemented by additional wall struts and transoms to form the reveal.

The walls must be classified with the required fire resistance rating according to EN 13501-2.

Plasterboard walls with wood substructure

In stud design and double-sided cladding with at least 2 layers of 12.5 mm cement or gypsum-bound building boards with a reaction to fire of class A1 or A2 according to EN 13501-1.

The distance between the opening and the studs and transoms must be ≥ 100 mm and the hollow spaces between the cladding of the wall, studs and transoms and the opening reveal must be tightly sealed to a depth of ≥ 100 mm with mineral wool, reaction to fire class A1 or A2 according to EN 13501-1.

The walls must be classified for the required fire resistance rating according to EN 13501-2.

Cladding of reveal in plasterboard walls

Alongside the opening edge, corresponding to the wall panelling, with at least two layers of 12.5 mm cement or gypsum-bound building boards with a reaction to fire of class A1 or A2 according to EN 13501-1.

Solid walls

Made of concrete or reinforced concrete with a density of ≥ 450 kg/m³.

The walls must be classified for the desired fire resistance time according to EN 13501-2.

Solid floors

Made of concrete, reinforced concrete or aerated concrete with a density of ≥ 550 kg/m³.

The floors must be classified for the required fire resistance rating according to EN 13501-2.

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2. Fire resistance classes

2.1 Walls

Installation in Walls			
Service	Measure	Fire resistance class	Source*
Cables, cable bundles and cable trays with coating PYRO-SAFE® FLAMMOTECT-A			
Cables Ø ≤ 21 mm	≥ 200 mm x dry film thickness ≥ 1.00 mm	EI 90	1
Cables Ø > 21 mm to ≤ 50 mm	≥ 200 mm x dry film thickness ≥ 1.00 mm	EI 90	1
Cables Ø > 50 mm to ≤ 80 mm	≥ 200 mm x dry film thickness ≥ 1.00 mm	EI 90	1
Cable bundles Ø ≤ 100 mm	≥ 200 mm x dry film thickness ≥ 1.00 mm	EI 90	1
Plastic conduits Ø ≤ 16 mm	≥ 200 mm x dry film thickness ≥ 1.00 mm	EI 120	1
Steel conduits Ø ≤ 16 mm	≥ 200 mm x dry film thickness ≥ 1.00 mm	EI 90	1
Electrical installation conduits (EIC) with fire protection wrap PYRO-SAFE® DG-CR 1.5 – wrap width 125 mm			
EIC made of plastic Ø 25–32 mm, bundled Ø ≤ 100 mm, with/without cables (Ø ≤ 21 mm)	1 x 2-layer	EI 90 U/U	1
EIR made of plastic single Ø ≤ 63 mm, with/without cables (Ø ≤ 21 mm)	1 x 2-layer	EI 120 U/U	1
speedpipes bundled or single, with/without glass fibre cables, with fire protection wrap PYRO-SAFE® DG-CR 1.5 – wrap width 125 mm			
max. 7 Spcs. pipe outer Ø ≤ 10–14	1 x 1-layer	EI 120 U/U	1
HVAC split line combinations with fire protection wrap PYRO-SAFE® DG-CR 1.5 – wrap width 125 mm			
• max. 2 pipes made of copper, steel, stainless steel, cast iron (λ ≤ 380 W/m·K) , Ø ≤ 18 mm, pipe thickness 1–14.2 mm, 9 mm PE foam • max. 1 pipe made of PVC-U acc. to EN 1329-1, EN 1453-1, EN 1452-1 or PVC-C acc. to EN 1566-1, Ø ≤ 25.0 mm, pipe thickness 1.5 mm • max. 3 single cables Ø ≤ 14.0 mm	1 x 2-layer	EI 90	1
	1 x 2-layer + lamella mat Klimarock	EI 120	

* 1 → KB 321051702-A,Rev1 of 10.01.2022

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2.2 Floors

Installation in floors			
Service	Measure	Fire resistance class	Source*
Cables, cable bundles and cable trays with coating PYRO-SAFE® FLAMMOTECT-A			
Cables Ø ≤ 21 mm	≥ 200 mm x dry film thickness ≥ 1.00 mm	EI 90	1
Cables Ø > 21 mm to ≤ 50 mm	≥ 200 mm x dry film thickness ≥ 1.00 mm	EI 90	1
Cables Ø > 50 mm to ≤ 80 mm	≥ 200 mm x dry film thickness ≥ 1.00 mm	EI 90	1
Cable bundles Ø ≤ 100 mm	≥ 200 mm x dry film thickness ≥ 1.00 mm	EI 90	1
Plastic conduits Ø ≤ 16 mm	≥ 200 mm x dry film thickness ≥ 1.00 mm	EI 120	1
Electrical installation conduits (EIC) with fire protection wrap PYRO-SAFE® DG-CR 1.5 – wrap width 125 mm			
EIC made of plastic Ø 25–32 mm, bundled Ø ≤ 100 mm, with/without cables (Ø ≤ 21 mm)	1 x 2-layer	EI 90 U/U	1
EIR made of plastic single Ø ≤ 63 mm, with/without cables (Ø ≤ 21 mm)	1 x 2-layer	EI 90 U/U	1
speedpipes bundled or single, with/without glass fibre cables, with fire protection wrap PYRO-SAFE® DG-CR 1.5 – wrap width 125 mm			
max. 7 pcs. pipe outer Ø ≤ 10–14	1 x 1-layer	EI 120 U/U	1
HVAC split line combinations with fire protection wrap PYRO-SAFE® DG-CR 1.5 – wrap width 125 mm			
• max. 2 pipes made of copper, steel, stainless steel, cast iron (λ ≤ 380 W/m·K) , Ø ≤ 18 mm, pipe thickness 1–14.2 mm, 9 mm PE foam • max. 1 pipe made of PVC-U acc. to EN 1329-1, EN 1453-1, EN 1452-1 or PVC-C acc. to EN 1566-1, Ø ≤ 25.0 mm, pipe thickness 1.5 mm • max. 3 single cables Ø ≤ 14.0 mm	1 x 2-layer	EI 90	1
	1 x 2-layer + lamella mat Klimarock	EI 120	

* 1 → KB 321051702-A,Rev1 of 10.01.2022

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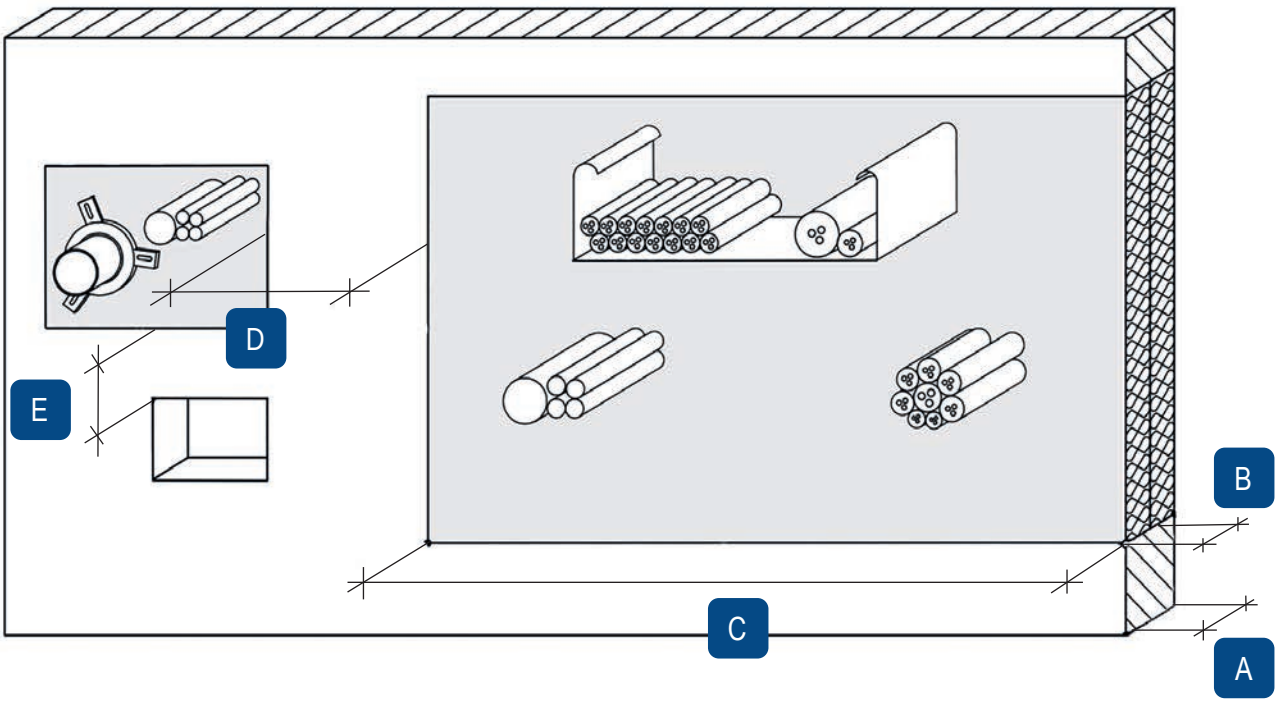
3. Thicknesses / penetration seal distances

Dimensions			
Item	Name	Wall [mm]	Floor [mm]
A	thickness of building element	≥ 100	≥ 150
B	thickness of penetration seal	≥ 80	≥ 80
C	maximum dimensions of the opening (width x height)	2000 x 600	see diagram*
D	Distance to other cable or pipe penetration seals		
	one opening / both openings > 400 mm x 400 mm	≥ 200	≥ 200
	both openings ≤ 400 mm x 400 mm	≥ 100	≥ 100
E	Distance to other openings or installations		
	one opening / both openings > 200 mm x 200 mm	≥ 200	≥ 200
	both openings ≤ 200 mm x 200 mm	≥ 100	≥ 100



The total allowable cross section of the installations (outer dimensions) is ≤ 60% of the construction opening.

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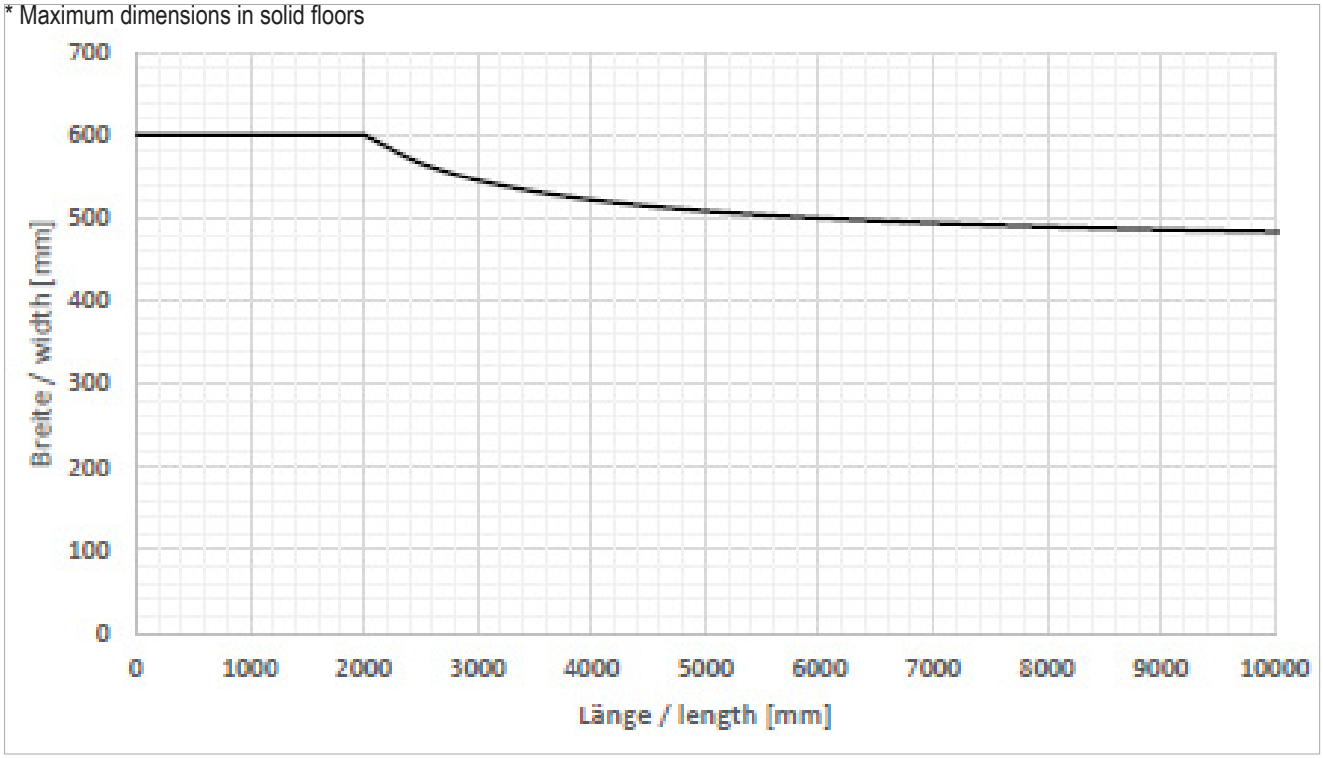
* Maximum dimensions in solid floors



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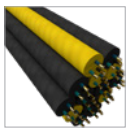
4. Allowed services

4.1 Cables / cable bundles / cable trays / electrical installation conduits / PE pipes

Electrical cables and lines of all types (including fibre optic cables)

Maximum outer diameter of the individual cables ≤ 80 mm.



Cable bundles

Ø ≤ 100 mm with single cable Ø ≤ 21 mm.

No gusset filling necessary for tightly packed, tied cable bundles.

Cable trays

Cable trays and ladders made of steel (with organic coating if applicable) as long as the fire reaction class complies at least with class A2 according to EN 13501-1.

Electrical installation conduits (EIC)

made of plastic Ø ≤ 63 mm single or bundled Ø ≤ 100 mm, with/without cable (Ø ≤ 21 mm)

speedpipes indoor (PE pipes for glass fibre cables and micro cables)

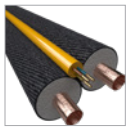
by Gabocom Systemtechnik GmbH, bundled or individual, with/without glass fibre cable

pipe outer Ø [mm]	≤ 10	≤ 14
max. number [pcs.]	7	7
pipe wall thickness [mm]	≤ 1.0	≤ 2.0

Conduits made of steel or plastic

steel or plastic pipes with outer Ø ≤ 16 mm

4.2 Further allowed services



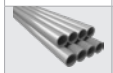
HVAC split line combinations

e.g. Tubolit DuoSplit made by Armacell, HVAC split line combinations by WÜRTH or combinations with equivalent parameters.

Double or single copper pipe and pipe insulation of 9 mm thickness made of PE foam in accordance with EN 14313 with optional accompanying lines (one plastic pipe (U/U) made of PVC-U, outer Ø 25 mm and pipe wall thickness 1.5 mm, in accordance with EN 1453-1 or EN 1452-1 and DIN 8061/ DIN 8062 and up to 3 sheathed lines with max. 5 cores of ≤ 1.5 mm², Ø ≤ 14 mm, or 4 sheathed lines Ø ≤ 21 mm without spacing.

5. Distances

PYRO-SAFE® Flammotect-ONE – distances in wall and floor

									Seal edge		
		Cables	Cable bundles	Kabeltrage-systeme	Electrical installation conduits single or bundled	Conduits made of steel or plastic	HVAC split line combinations	PE lines speedpipes	Upper	Lower	Side
	Cables	≥ 0 (one above the other ≥ 100)			≥ 100	≥ 100	≥ 200	≥ 200	≥ 20	≥ 0	≥ 0
	Cable bundles	≥ 0 (one above the other ≥ 100)			≥ 100	≥ 100	≥ 200	≥ 200	≥ 20	≥ 0	≥ 0
	Cable trays	≥ 0 (one above the other ≥ 100)			≥ 100	≥ 100	≥ 200	≥ 200	≥ 20	≥ 0	≥ 0
	Electrical installation conduits single or bundled	≥ 100			≥ 100	≥ 100	≥ 100	≥ 200	≥ 25	≥ 25	≥ 25
	Conduits made of steel or plastic	≥ 100			≥ 100	≥ 0	≥ 100	≥ 100	≥ 20	≥ 0	≥ 0
	HVAC split line combinations	≥ 200			≥ 100	≥ 100	≥ 100	≥ 200	≥ 25	≥ 25	≥ 25
	PE lines speedpipes	≥ 200			≥ 100	≥ 100	≥ 200	≥ 100	≥ 20	≥ 20	≥ 20

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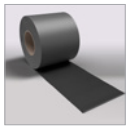
6. Used Products

PYRO-SAFE® FLAMMOTECT-A
Coating
in accordance with ETA-14/0418
12.5 kg pail – Art. no. 01155101
15.0 kg pail – Art. no. 01155105

PYRO-SAFE® FLAMMOTECT-A
Solid emulsion
in accordance with ETA-14/0418
12.5 kg pail – Art. no. 01155106
15.0 kg pail – Art. no. 01155107

PYRO-SAFE® FLAMMOTECT-A
Filler
in accordance with ETA-14/0418
12.5 kg pail – Art. no. 01155104
15.0 kg pail – Art. no. 01155109
310 ml cartridge – Art. no. 01155125

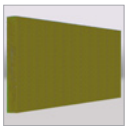


PYRO-SAFE® DG-CR 1.5
Fire protection wrap
in accordance with ETA-16/0268
Roll à 10 m x 125 mm – Art. no. 01261125

Lamella mat Klimarock
in accordance with DIN EN 14303 and
DoP DE0628071802 dated 13.07.2018
Reaction to fire class according to
EN 13501-1: Class A1
Dimensions 610 x 50 cm
Thickness 30 mm
Roll à 3.05 m² – product no. 01187100
It is allowed to apply any lamella mats / mineral fibre mats / mineral fibre pipe shells as long as they match the following requirements:
EN 14303
Density ≥ 40 kg/m³
Reaction to fire class A1 acc. to EN 13501-1
Thickness ≥ 30 mm

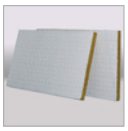
Mineral wool A1

Reaction to fire class acc. to EN 13501-1: A1
Melting point ≥ 1000 °C
10 kg bag – Art. no. 01183000



Mineral fibre board acc. to EN 13162

Criteria: Density ≥ 150 kg/m³
Reaction to fire class A1 according to EN 13501:1
Melting point ≥ 1000 °C.
(TR10) tensile strength vertical to board surface ≥ 10 kPa according to EN 1607
Thickness ≥ 80 mm



Mineral fibre boards
pre-coated on both sides with
PYRO-SAFE® FLAMMOTECT-A
Dimensions 1000 x 600 x 80 mm
Carton à 4 pcs. – Art. no. 01182180

Recommended tools
filler, brush, masking tape,
mineral wool knife and saw,
if required: plastic film, folding ladder,
lock wire pliers, steel wire (galvanised)

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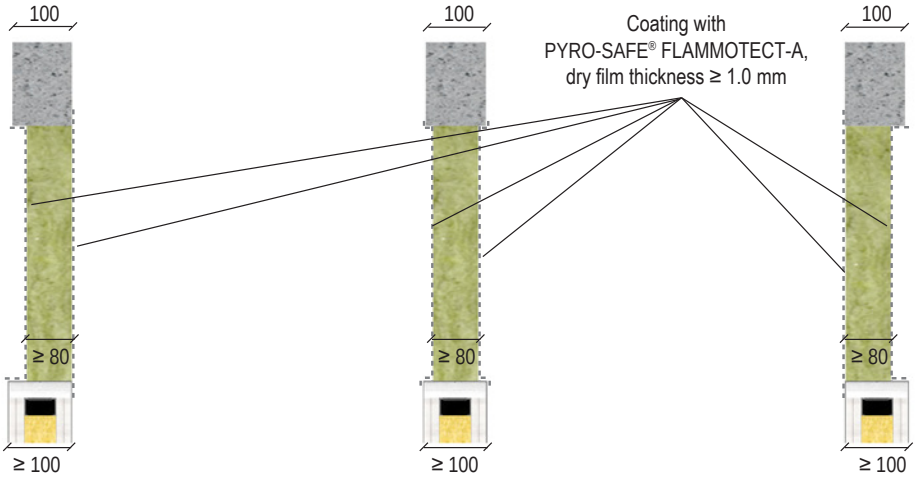
7. Design variants

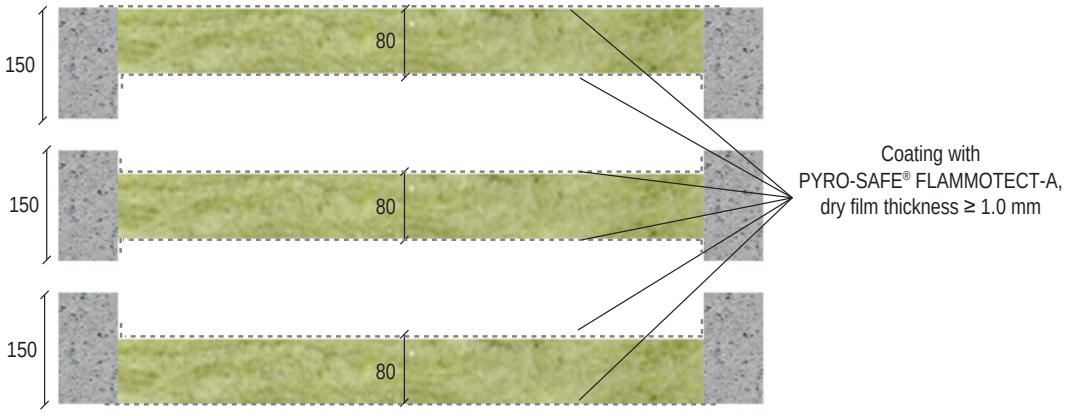
- The sealing system may be used to close openings without installations (reserve penetration for subsequent configurations).
- The penetration sealing system surface of mineral fibre boards and their edges, and 20 mm all around on the structural element must be coated with PYRO-SAFE® FLAMMOTECT-A (with a dry film thickness of at least 1.0 mm).
- Annular gaps ≤ 5 mm around cables, cable bundles, cable trays as well as speedpipes and HVAC split line combinations must be closed by applying PYRO-SAFE® FLAMMOTECT-A coating inside the penetration area. Gaps > 5 mm must be closed by filling them with loose mineral fibre wool and applying coating.

Design variants in walls



Dimensions in mm

Design variants in floors



Dimensions in mm

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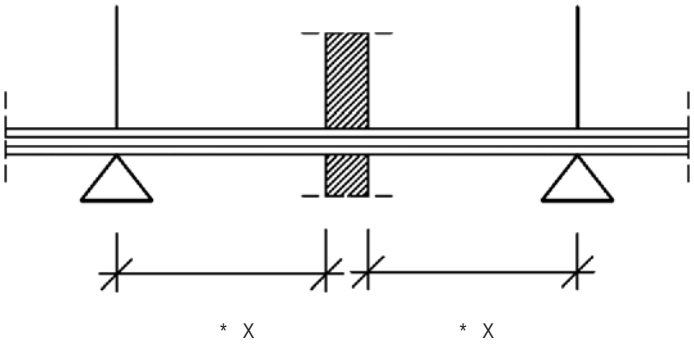
7.1 Initial brackets (supports)

Essential parts of the brackets/supports for the installations in front of the wall penetration sealing system must be non-combustible (Baustoffklasse DIN 4102-A) and must be configured with a spacing as per the overview on both sides.



Initial bracket (support) of the installations in front of the wall penetration sealing system made of steel or equivalent.

Initial brackets	Wall*	Floor*
Cables, cable bundles, cable trays	≤ 250	≤ 250
Electrical installation conduits	≤ 250	≤ 250
speedpipes for glass fibre cables and micro cables	≤ 250	≤ 250
HVAC split line combinations	≤ 250	≤ 250
		Dimensions in mm

* from seal surface

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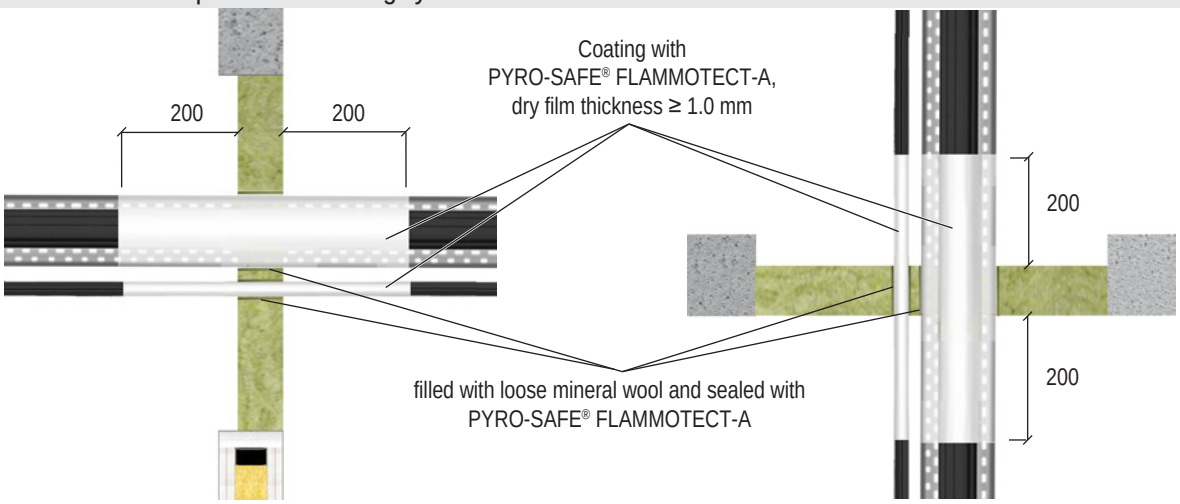
8. Fire protection measures

8.1 Cables / cable bundles / cable trays

- Cables and cable bundles may be installed with or without cable trays.
- Cable bundles may be installed unopened in the seal. It is not necessary to fill the gussets if the bundles consist of parallel-running cables that are tightly packed, tied, stitched or welded together.
- The supporting structures for cable trays must be designed in such a way that the penetration seal will not be subjected to additional mechanical stress in case of fire.
- The annular gap must be filled with loose mineral wool and sealed with PYRO-SAFE® FLAMMOTECT-A.
- For cable support structures made of sheet steel or hollow aluminium profiles, the spars must be drilled and filled with the ablative coating PYRO-SAFE® FLAMMOTECT-A in the penetration area (on-site agreement of the measures required).

Design for wall and floor penetration sealing system



For thicknesses and design variants, see page 13

Dimensions in mm

PYRO-SAFE® Flammotect-ONE

Installation in walls					
Service	Dimensions [mm]	Fire protection coating PYRO-SAFE® FLAMMOTECT-A			Fire resistance class
		Dry film thickness [mm]	Inside seal [mm]	Outside seal [mm]	
Cables	Ø ≤ 21	1.00	80	200 on both sides	EI 90
	Ø > 21 to ≤ 50				EI 90
	Ø > 50 to ≤ 80				EI 90
Cable bundles	Ø ≤ 100				EI 90
Plastic conduits	Ø ≤ 16				EI 120
Steel conduits	Ø ≤ 16				EI 90

Installation in floors					
Service	Dimensions [mm]	Fire protection coating PYRO-SAFE® FLAMMOTECT-A			Fire resistance class
		Dry film thickness [mm]	Inside seal [mm]	Outside seal [mm]	
Cables	Ø ≤ 21	1.00	80	200 on both sides	EI 90
	Ø > 21 bis ≤ 50				EI 90
	Ø > 50 bis ≤ 80				EI 90
Cable bundles	Ø ≤ 100				EI 90
Plastic conduits	Ø ≤ 16				EI 120

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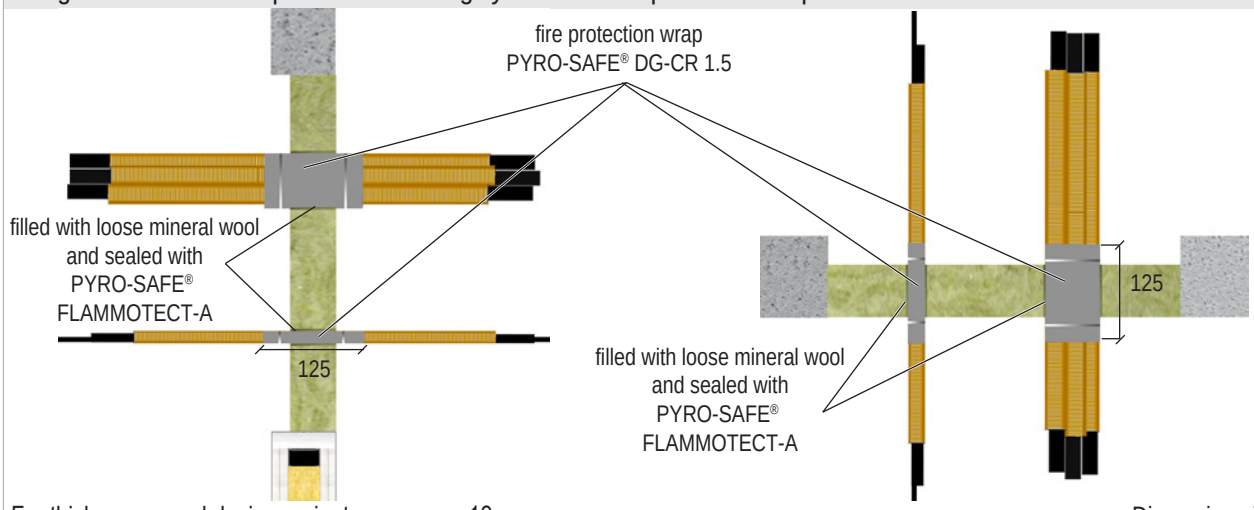
8.2 Electrical installation conduits (EIC)

- It is possible to install both single and bundled EICs with and without cables.
- The EICs must be wrapped on both sides of the layer with the fire protection wrap PYRO-SAFE® DG-CR 1.5.
- The fire protection wrap PYRO-SAFE® DG-CR 1.5 is coated on one side and equipped with a protective film. The film must be removed before applying the wrap. The wrap is applied with the coated side facing inwards and fastened with steel wires.
- The annular gap must be filled with loose mineral wool and sealed with PYRO-SAFE® FLAMMOTECT-A.
- The EICs must protrude over the seal's edge by at least 150 mm.

Design for wall and floor penetration sealing system with fire protection wrap PYRO-SAFE® DG-CR 1.5



For thicknesses and design variants, see page 13

Dimensions in mm

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Installation in walls								
Services	Dimensions [mm]	Fire protection wrap PYRO-SAFE® DG-CR 1.5						Fire resistance class
		Wrap width [mm]	Number of wraps [n]	Number of layers [n]	Overlap [mm]	Inside seal [mm]	Outside seal [mm]	
EIC made of plastic, single	single Ø ≤ 63, with/without cables (Ø ≤ 21)	125	1	2	0	80	22.5 on both sides	EI 90 U/U
EIC made of plastic, bundled	Ø 25–32, bundled Ø ≤ 100, with/without cables (Ø ≤ 21)							EI 90 U/U

Installation in floors								
Services	Dimensions [mm]	Fire protection wrap PYRO-SAFE® DG-CR 1.5						Fire resistance class
		Wrap width [mm]	Number of wraps [n]	Number of layers [n]	Overlap [mm]	Inside seal [mm]	Outside seal [mm]	
EIC made of plastic, single	single Ø ≤ 63, with/without cables (Ø ≤ 21)	125	1	2	0	80	22.5 on both sides	EI 90 U/U
EIC made of plastic, bundled	Ø 25–32, bundled Ø ≤ 100, with/without cables (Ø ≤ 21)							EI 90 U/U

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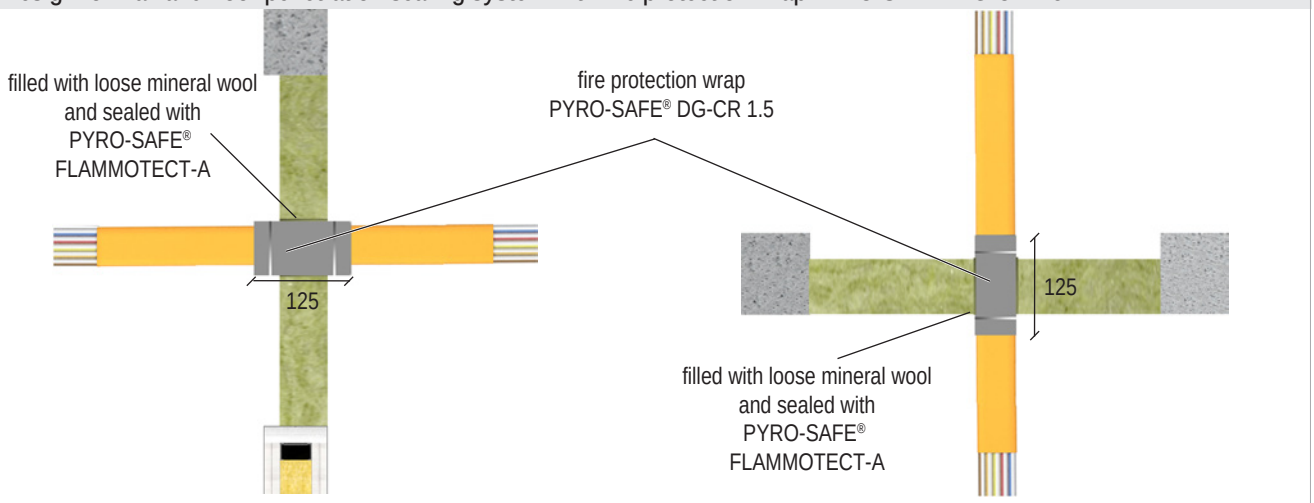
8.3 speedpipes (PE lines for glass fibre cables and micro cables)

- The speedpipes must be arranged vertically to the surface of the building element.
- The speedpipes must be wrapped on both sides of the layer with the fire protection wrap PYRO-SAFE® DG-CR 1.5.
- The fire protection wrap PYRO-SAFE® DG-CR 1.5 is coated on one side and equipped with a protective film. The film must be removed before applying the wrap. The wrap is applied with the coated side facing inwards and fastened with steel wires.
- The annular gap must be filled with loose mineral wool and sealed with PYRO-SAFE® FLAMMOTECT-A.

Design for wall and floor penetration sealing system with fire protection wrap PYRO-SAFE® DG-CR 1.5



For thicknesses and design variants, see page 13

Dimensions in mm

Installation in walls

Number of PE lines	Outer Ø [mm]	Wall thickness [mm]	Fire protection wrap PYRO-SAFE® DG-CR 1.5						Fire resistance class
			Wrap width [mm]	Number of wraps [n]	Number of layers [n]	Overlap [mm]	Inside seal [mm]	Outside seal [mm]	
7	10.0	1.0	125	1	1	0	80	22.5 on both sides	EI 120
	14.0	2.0							

Installation in floors

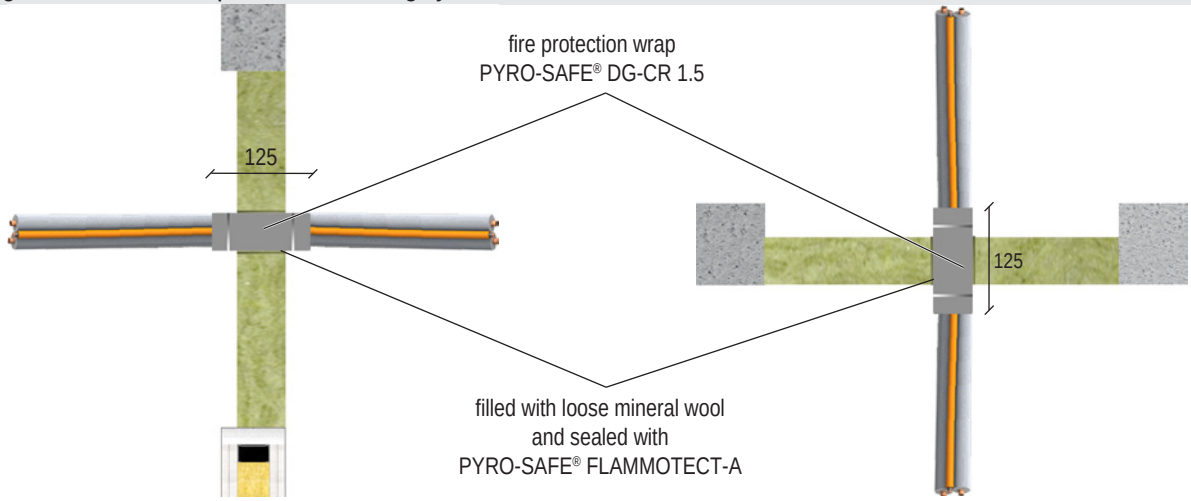
Number of PE lines	Outer Ø	Wall thickness [mm]	Fire protection wrap PYRO-SAFE® DG-CR 1.5						Fire resistance class
			Wrap width [mm]	Number of wraps [n]	Number of layers [n]	Overlap [mm]	Inside seal [mm]	Outside seal [mm]	
7	10.0	1.0	125	1	1	0	80	22.5 on both sides	EI 120
	14.0	2.0							

PYRO-SAFE® Flammotect-ONE

8.4 HVAC split line combinations

- HVAC split line combinations Tubolit DuoSplit must be installed at a right angle to the surface of the building element.
- The HVAC split line combinations must be wrapped with the fire protection wrap PYRO-SAFE® DG-CR 1.5.
- The fire protection wrap PYRO-SAFE® DG-CR 1.5 is coated on one side and equipped with a protective film. The film must be removed before applying the wrap. The wrap is applied with the coated side facing inwards and fastened with steel wires.
- The annular gap must be filled with loose mineral wool and sealed with PYRO-SAFE® FLAMMOTECT-A.

Design for wall and floor penetration sealing system



For thicknesses and design variants, see page 13

Dimensions in mm

PYRO-SAFE® Flammotect-ONE

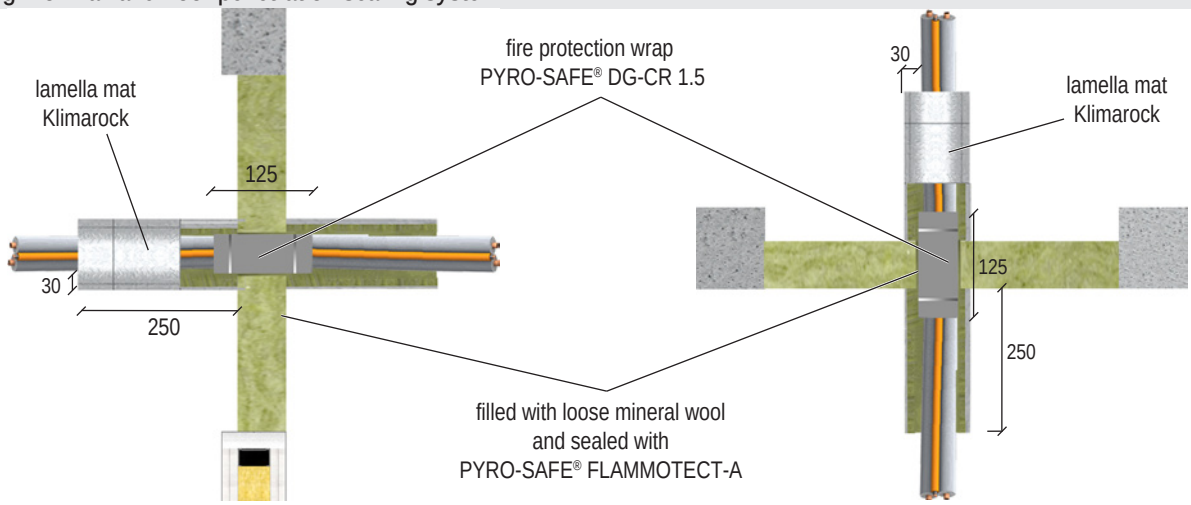
Installation in walls							
HVAC split line combination	Fire protection wrap PYRO-SAFE® DG-CR 1.5						Feuerwider-Fire resistance class
Service	Wrap width [mm]	Number of wraps [n]	Number of layers [n]	Overlap [mm]	Inside seal [mm]	Outside seal [mm]	
• max. 2 pipes made of copper, steel, stainless steel, cast iron (λ ≤ 380 W/m·K) , Ø ≤ 18 mm, pipe thickness 1–14.2 mm, 9 mm PE foam • max. 1 pipe made of PVC-U acc. to EN 1329-1, EN 1453-1, EN 1452-1 or PVC-C acc. to EN 1566-1, Ø ≤ 25.0 mm, pipe thickness 1.5 mm • max. 3 single cables Ø ≤ 14.0 mm	125	1	2	0	80	22.5 on both sides	EI 90

Installation in floors							
HVAC split line combination	Fire protection wrap PYRO-SAFE® DG-CR 1.5						Fire resistance class
Service	Wrap width [mm]	Number of wraps [n]	Number of layers [n]	Overlap [mm]	Inside seal [mm]	Outside seal [mm]	
• max. 2 pipes made of copper, steel, stainless steel, cast iron (λ ≤ 380 W/m·K) , Ø ≤ 18 mm, pipe thickness 1–14.2 mm, 9 mm PE foam • max. 1 pipe made of PVC-U acc. to EN 1329-1, EN 1453-1, EN 1452-1 or PVC-C acc. to EN 1566-1, Ø ≤ 25.0 mm, pipe thickness 1.5 mm • max. 3 single cables Ø ≤ 14.0 mm	125	1	2	0	80	22.5 on both sides	EI 90

PYRO-SAFE® Flammotect-ONE

8.4.1 HVAC split line combinations - variation with lamella mat

Design for wall and floor penetration sealing system



For thicknesses and design variants, see page 13

Dimensions in mm

Installation in walls

HVAC split line combination	Fire protection wrap PYRO-SAFE® DG-CR 1.5						Lamella mat Klimarock		Fire resistance class
Service	Wrap width [mm]	Number of wraps [n]	Number of layers [n]	Overlap [mm]	Inside seal [mm]	Outside seal [mm]	Insulation length [mm]	Insulation thickness [mm]	
• max. 2 pipes made of copper, steel, stainless steel, cast iron (λ ≤ 380 W/m·K), Ø ≤ 18 mm, pipe thickness 1–14.2 mm, 9 mm PE foam • max. 1 pipe made of PVC-U acc. to EN 1329-1, EN 1453-1, EN 1452-1 or PVC-C acc. to EN 1566-1, Ø ≤ 25.0 mm, pipe thickness 1.5 mm • max. 3 single cables Ø ≤ 14.0 mm	125	1	2	0	80	22,5 on both sides	250	30	EI 120 U/C

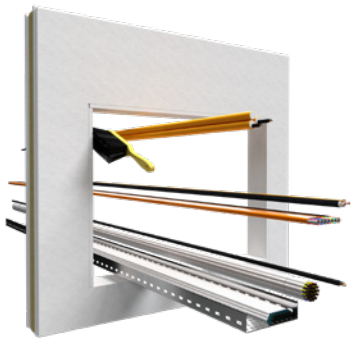
Installation in floors

HVAC split line combination	Fire protection wrap PYRO-SAFE® DG-CR 1.5						Lamella mat Klimarock		Fire resistance class
Service	Wrap width [mm]	Number of wraps [n]	Number of layers [n]	Overlap [mm]	Inside seal [mm]	Outside seal [mm]	Insulation length [mm]	Insulation thickness [mm]	
• max. 2 pipes made of copper, steel, stainless steel, cast iron (λ ≤ 380 W/m·K), Ø ≤ 18 mm, pipe thickness 1–14.2 mm, 9 mm PE foam • max. 1 pipe made of PVC-U acc. to EN 1329-1, EN 1453-1, EN 1452-1 or PVC-C acc. to EN 1566-1, Ø ≤ 25.0 mm, pipe thickness 1.5 mm • max. 3 single cables Ø ≤ 14.0 mm	125	1	2	0	80	22,5 on both sides	250	30	EI 120 U/C

PYRO-SAFE® Flammotect-ONE

9. Installation steps

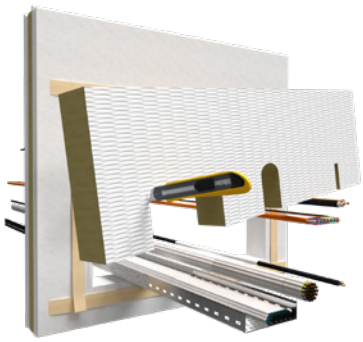
1. Clean the inside edges (reveal must be panelled).



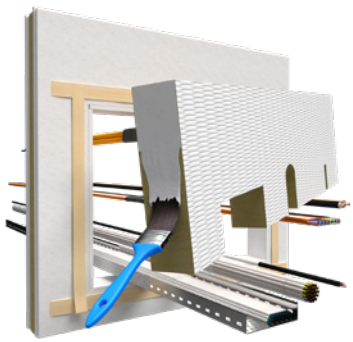
2. Mask the opening with crepe tape on all sides, keeping 20 mm distance to the edge. Coat the cables with PYRO-SAFE® FLAMMOTECT-A.

3. Wrap electrical installation conduits, speedpipes and HVAC split line combinations with PYRO-SAFE® DG-CR 1.5.

4. Cut mineral fibre boards to size (make cut-outs for the installations).



5. Coat the edges of the mineral fibre boards with PYRO-SAFE® FLAMMOTECT-A and firmly place boards in position.

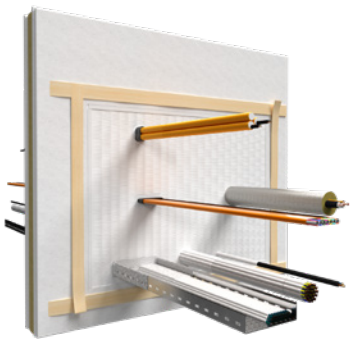


6. Seal the remaining opening / joint gaps with mineral fibre or fill with PYRO-SAFE® FLAMMOTECT-A.

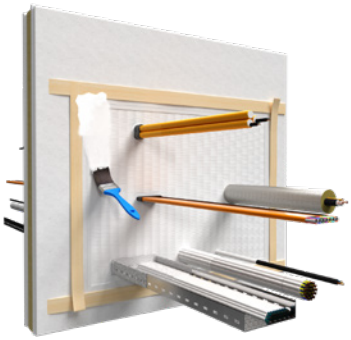
PYRO-SAFE® Flammotect-ONE

7. Coat cables along the required length with PYRO-SAFE® FLAMMOTECT-A.

8. Wrap HVAC split line combinations with additional section insulation if necessary.



9. Final coating with PYRO-SAFE® FLAMMOTECT-A (dry film thickness ≥ 1.0 mm)



10. If required, label the penetration seal. Fill out the label neatly and attach it firmly next to/above (not on!) the penetration seal.

Declaration of Performance

No. 01155-PYRO-SAFE-FLAMMOTECT-A

Protect your values.

Date: 2021-12-16
Rev.: 05

1. Unique identification code of the product type	PYRO-SAFE FLAMMOTECT-A	
2. Intended use	Fire stopping product for use in penetration seals, linear joints and gap sealings	
3. Manufacturer	svt Brandschutz Vertriebsgesellschaft mbH International, Gluesinger Strasse 86, D - 21217 Seevetal	
4. System for assessing and verifying constancy of performance	System 1	
5. European Assessment Document	EAD 350141-00-1106: 09/2017	EAD 350454-00-1104: 09/2017
6. European Technical Assessment	ETA-18/0237: 16.05.2018	ETA-14/0418: 16.12.2021
7. Technical Assessment Body	ETA-Danmark A/S, Nordhavn	DIBt, Berlin
8. The notified body	0761	

9. Declared performance

Essential characteristics	Performance	Harmonised technical specifications
Safety in case of fire (BWR 2)		
Reaction to fire	Class E	EAD 350141-00-1106 / EAD 350454-00-1104
Resistance to fire	Maximum EI 240: EN 13501-2	EAD 350454-00-1104
	Maximum Class EI 120-H-X-B-W-00-200 Maximum Class EI 120-V-X-B-W-00-200	EAD 350141-00-1106
Hygiene, health and environment (BWR 3)		EAD 350141-00-1106 / EAD 350454-00-1104
Air permeability	NPD	
Water permeability	NPD	
Content, emission and/or release of dangerous substances	No dangerous substances	
Safety and accessibility (BWR 4)		
Mechanical resistance and stability	NPD	
Resistance to impact / movement	NPD	
Adhesion	NPD	
Durability	Use category type X	
Protection against noise (BWR 5)		
Airborne sound insulation	Rw(C;C tr)= 50 (-2; -6) dB	
Energy economy and heat retention (BWR 6)		
Thermal properties	NPD	
Water vapor permeability μ	NPD	

The performance of the product identified above is in conformity with the set of declared performances.
This declaration of performance is issued, in accordance with Regulation (EU) No. 305/2011, under the sole responsibility of the manufacturer identified above. DoP online available at www.svt.de
Signed for and on behalf of the manufacturer by:

i.V.	Christian Meyer-Korte	i.A.	Daniel Bernhardi
Product Management Construction		Technical Documentation Construction	

The manufacturer‘s specifications regarding use and installation must be strictly observed.