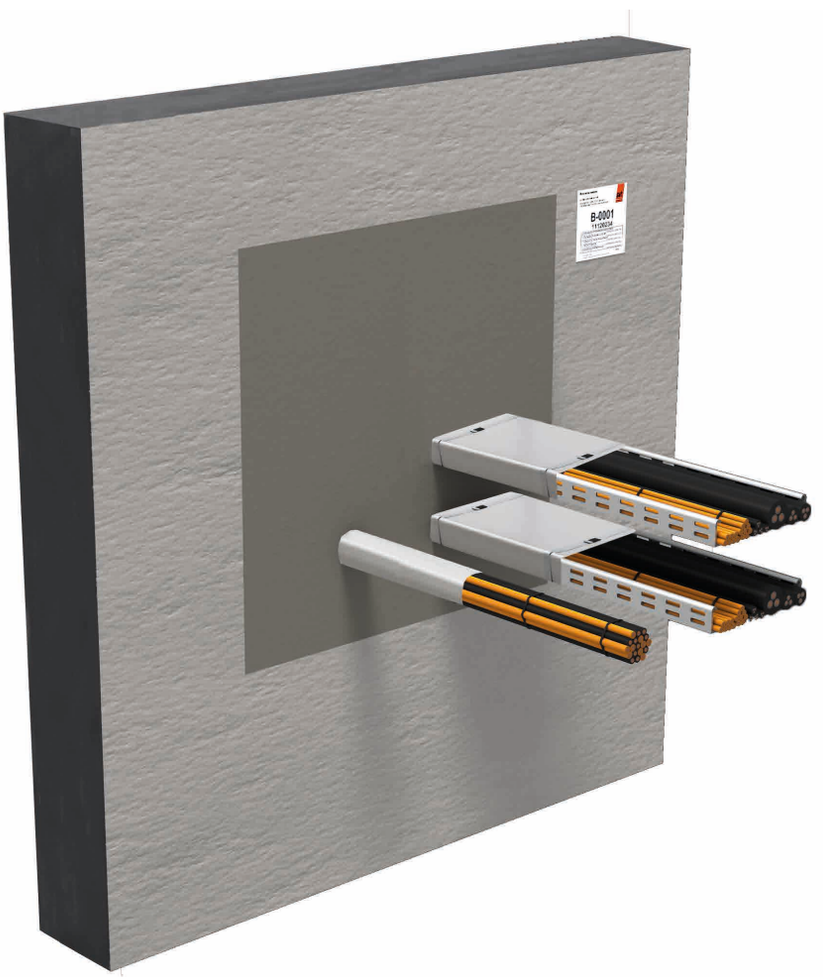
protect your values

PYRO-SAFE Novasit BM

Cable sealing EI 240

Installation instructions

Fibre-free fire stop system made of special mortar for electrical cables.
Fire resistance class EI 240 compliant with EN 13501-2 in accordance with ETA-16/0132 and classification reports no.: 02163/11/Z00NP and 01858.1/12/Z00NP



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1. Preliminary remarks / Overview

1.1 Target group

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

1.1 Use of the instructions

• Read through these installation in their entirety before beginning work. Pay particular attention to the following safety instructions.

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

• Figures appear as examples only. Your installation results may differ in appearance.

1.1 Safety instructions

Refer to the safety data sheets when processing the fire protection compound PYRO-SAFE NOVASIT BM

Personal protective equipment:

Breathing protection – Dust mask
If the exposure limit values are exceeded (e.g. can happen when mixing), use particle-filtering half mask FFP 1 (white).

Hand protection – Protective gloves
Wear waterproof, abrasion- and alkali-resistant nitrile gloves.

Eye protection – Wear safety goggles.

Body protection – Wear protective clothing.

Safety instructions for the installation of floor penetration seals:

• The area underneath the floor penetration seal must be cordoned off against entry (warning cordoning tape and sign) during the mortaring and during the curing time (28 days): Warning against possible falling objects, do not enter area, mortaring work in floor component openings!

• The contractor for the manufacture of floor penetration seals must inform the client in writing (for sending to the constructors or duly appointed representative) that, after the manufacture of the fire penetration seals in floors, they must be secured on site against loading by suitable measures (e.g. by a safety fence or by covering by means of a grating), in particular against being entered.

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1.2 Scope

The PYRO-SAFE Novasit BM mixed penetration sealing system with mortar in wall and floor openings with PYRO-SAFE NOVASIT BM belong to the “mortar” product type in accordance with ETAG 026-2 and is assessed and evaluated accordingly. The fire protection mortar PYRO-SAFE NOVASIT BM is classified as a product for use in penetration seals in accordance with ETA-16/0132.

Reaction to fire

PYRO-SAFE NOVASIT BM is classified as A1 in accordance with EN 13501-1.

Fire resistance

PYRO-SAFE Novasit BM complies with requirements of class EI 240 for cables 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

None

Durability and serviceability

The fire protection mortar „PYRO-SAFE NOVASIT BM“ fulfils the type Z_2 in accordance with EOTA TR 024.
PYRO-SAFE Novasit BM can be subjected to the conditions of inside rooms with and without exposure to moisture, without substantial changes to the fire protection characteristics being expected.

1.2 Structural elements

Solid walls

made of masonry, concrete, reinforced concrete, porous concrete, ceramic bricks, hollow bricks or air bricks with a density ≥ 600 kg/m³. The walls must be correspondingly rated for the required fire resistance class in accordance with EN 13501-2.

Solid floors

made of concrete, reinforced concrete with a density of ≥ 1700 kg/m³. The walls must be correspondingly rated for the required fire resistance class in accordance with EN 13501-2.

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1.3 Fire resistance classes for wall and floor partition

Fire resistance classes					
	Measures	Wall		Floor	
		Fire resistance class	Source*	Fire resistance class	Source*
Cables, cable bundles and cable trays with fire protection wrap „PYRO-SAFE DG-CR 1.5“ – Wrap width = 500 mm					
Cables Ø ≤ 80 mm	2 x 2 layers	**EI 240**	1	**EI 240**	2
Cable bundles Ø ≤ 100 mm with cables ≤ 21 mm	2 x 2 layers	**EI 240**	1	**EI 240**	2

*Classification report no.:
1 → 02163/11/Z00NP, 2 → KB 01858.1/12/Z00NP

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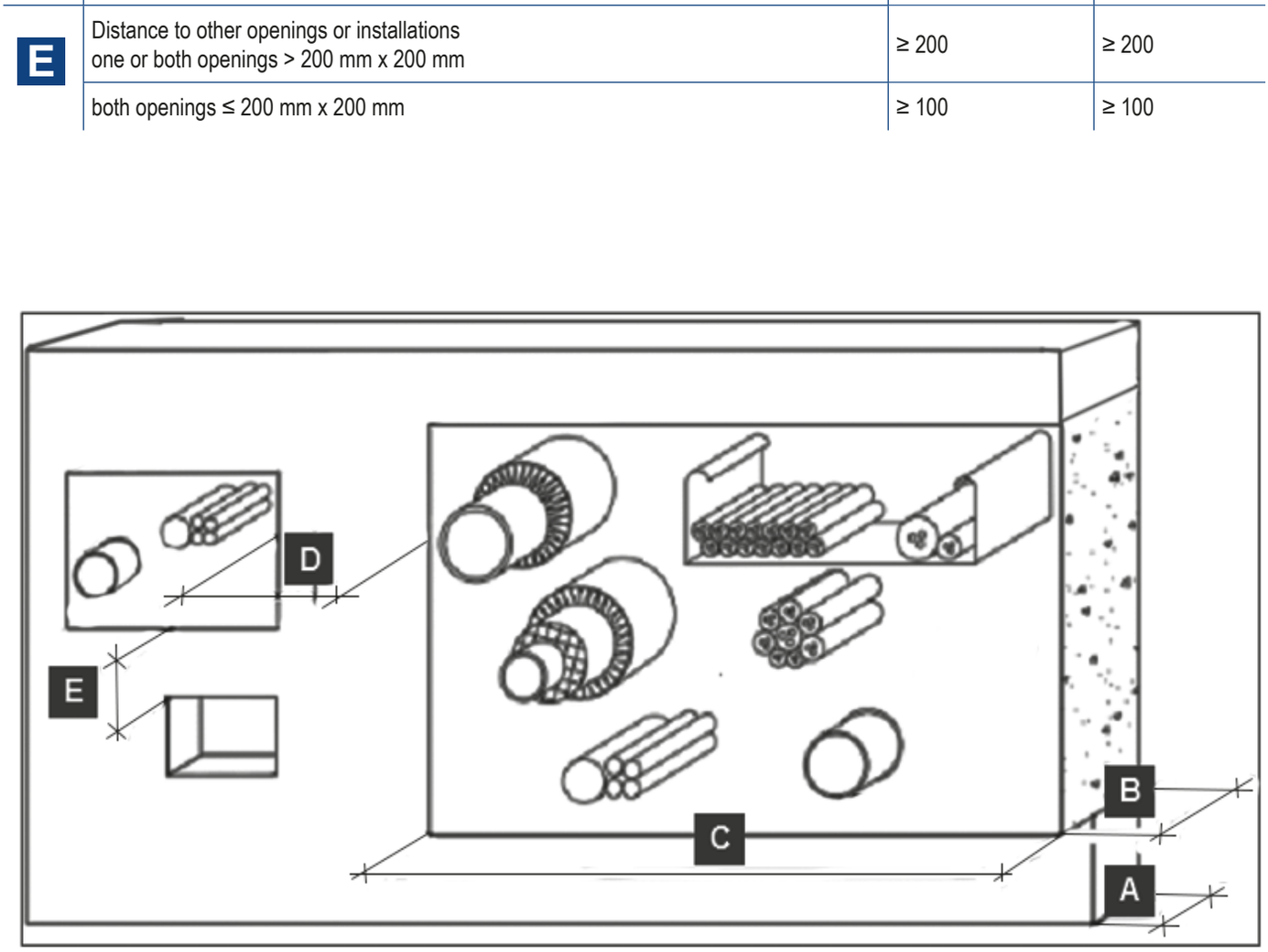
1.4 Field of application (Dimensions)

Dimensions			
Pos.	**Legend**	**Wall [mm]**	**Floor [mm]**
A	Thickness of structural element	≥ 240	≥ 200
B	Thickness of penetration seal	≥ 240	≥ 240
C	Maximum dimensions of the opening (width x height)	600 x 600	600 x 600
D	Distance to other cable- oder pipe penetration seals one or 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 or both openings > 200 mm x 200 mm	≥ 200	≥ 200
	both openings ≤ 200 mm x 200 mm	≥ 100	≥ 100



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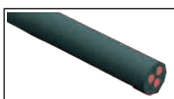
2. Allowed services
2.1 Cables / cable bundles / cable supports

	**Electrical cables and lines of all types (including optical fibre cables)** overall cross-section of individual cables up to Ø ≤ 80 mm
	**Cable bundles** up to Ø ≤ 100 mm with cables up to Ø ≤ 21 mm. No filling needed for tightly compressed and tied bundles.
	**Cable trays** Cable ducts 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.

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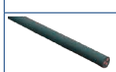
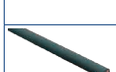
3. Spacing requirements

Spacing requirements – walls

				Seal edge		
				Upper	Under	Side
 Cables	≥ 10 (next to each other) ≥ 40 (above each other)			≥ 30	≥ 20	
 Cable bundles						
 Cable trays						

Spacing requirements – floors

				Seal edge		
				Front	Back	Side
 Cables	≥ 10 (next to each other) ≥ 40 (above each other)			≥ 30	≥ 20	
 Cable bundles						
 Cable trays						

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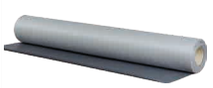
4. Used products

	**PYRO-SAFE NOVASIT BM** **Fire protection mortar** in accordance with ETA-16/0132 20 kg bag – ***product No. 01161000***
	**PYRO-SAFE NOVASIT BM** **Fire protection mortar** in accordance with ETA-16/0132 10 kg pail – ***product No. 01161010***
	**PYRO-SAFE DG-CR 1.5** **Fire protection wrap** in accordance with ETA-16/0268 ***product No. 01261000***
	**Label** 1 piece – ***product No. 01229000***
	**Recommended tools** • Mixing container – mortar cask • Mixing paddle • Masonry tools (round dippers) • Wire binding pliers, size 10 key or ratchet

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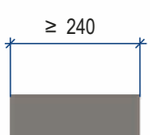
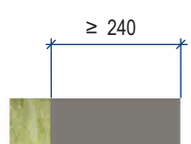
5. Regulations and variants

- The combination penetration seal may be used for closing openings without installations (so-called reserve penetration seal).
- Penetration seal in floors shall be protected on site by client with suitable barriers or covered with grating, in order to prevent them from being load or walked on.
- During installation in walls, one side can be boxed in if necessary and, for floor penetration seals, the underside can boxed in.
- **For installation in floors, sealing surfaces larger than 500 mm x 500 mm without penetration of cables and cable trays must be carried out with a professional friction-locked steel reinforcement!**

Variants in solid walls





PYRO-SAFE NOVASIT BM fire protection mortar
Lost formwork e.g. made of mineral fibre mat (non-flammable, melting point > 1000 °C)

Dimension specifications in mm

Variants in solid floors

PYRO-SAFE NOVASIT BM fire protection mortar
Lost formwork e.g. made of mineral fibre mat (non-flammable, melting point > 1000 °C)

Dimension specifications in mm

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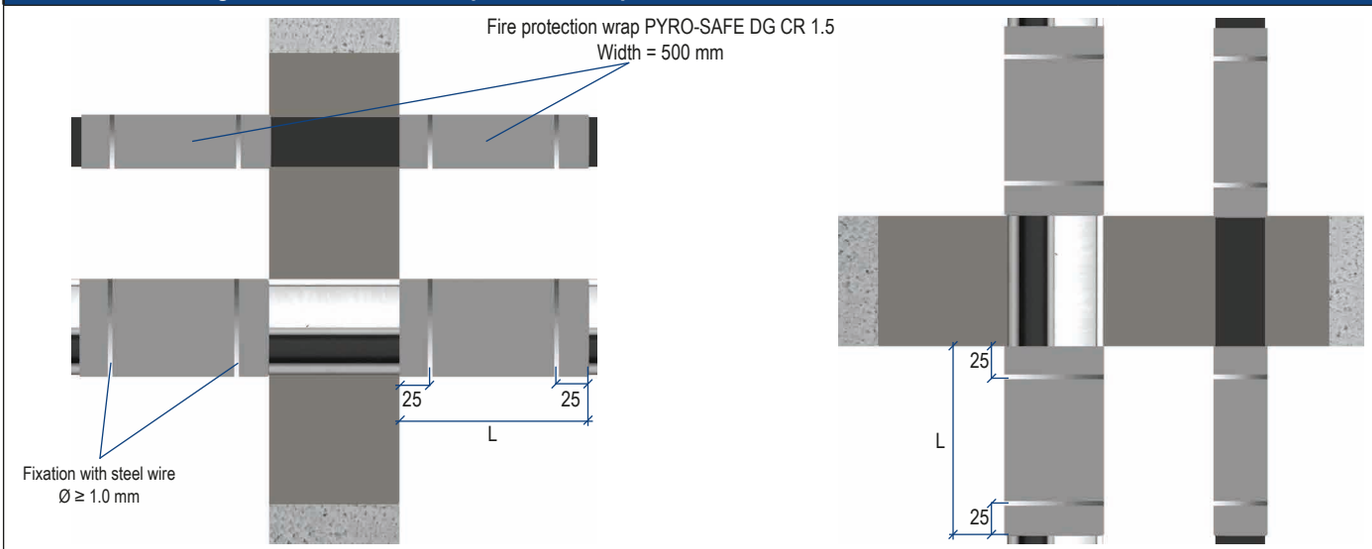
6. Fire protection measures
6.1 Cables / cable bundles / cable support structures

- The feed-through of cables or cables bundles is permitted without and with cable trays.
- Cable bundles can be guided unopened through the penetration sealing. If they consist of parallel-running cables that are densely packed and permanently bound, stitched or welded together they don´t have to be filled inside with filler material.
- The support structures of the cable trays must be formed in such a way that, in case of fire, no additional mechanical loading of the penetration sealing can occur.
- The PYRO-SAFE DG-CR 1.5 fire protection wrap is coated and covered with a protective film on one side. Before installation the protective film shall be removed, the coated side have to be inside. Fixation of the wrap with steel wires.

Measures for sealing in walls and floors fire protection wrap „PYRO-SAFE DG-CR 1.5“



PYRO-SAFE NOVASIT BM fire protection mortar
Wall-/Floor-, seal thickness and implementation variants see page 19

Dimension specifications in mm

		Dimensions [mm]	Fire protection wrap PYRO-SAFE DG-CR 1.5						Fire protection class	
			Wrap width L [mm]	Qty. wraps [n]	Qty. layer [n]	Overlapping [mm]	Inside seal [mm]	Outside seal [mm]	Wall	Floor
Wall / Floor	Cables	Ø ≤ 80	500	2	2	45 - 60	0	500	EI 240	EI 240
	Cable bundles	Ø ≤ 100	500	2	2	0	0	500	EI 240	EI 240

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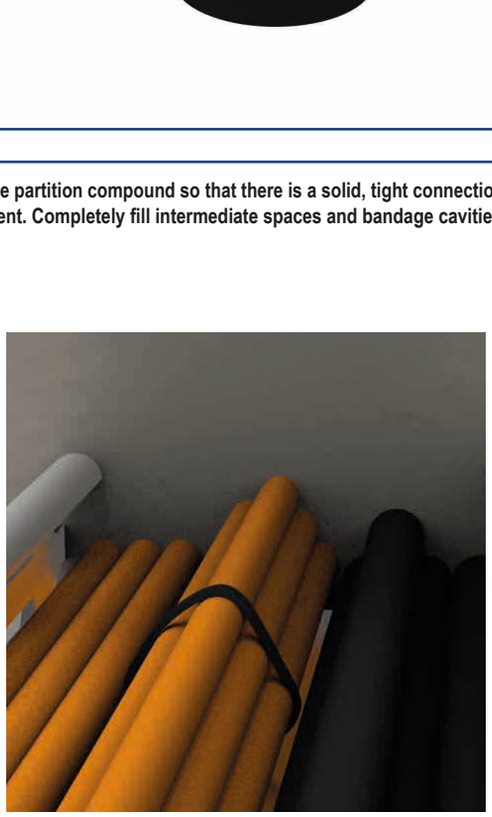
8. General installation steps

1. Mix a PYRO-SAFE NOVASIT BM 20 kg sack of fireproofing compound with approx. 6 litres of water. Pour water into a mixing container, add mortar. Follow the safety instructions on p. 3.

2. Stir to mix in thoroughly. After approx. 4-5 minutes soaking period, mix up again thoroughly.

3. If necessary, cover the floor on both sides with film, clean the recess, wet absorbing surfaces of the recess with water.

6. Apply the partition compound so that there is a solid, tight connection to the component. Completely fill intermediate spaces and bandage cavities.



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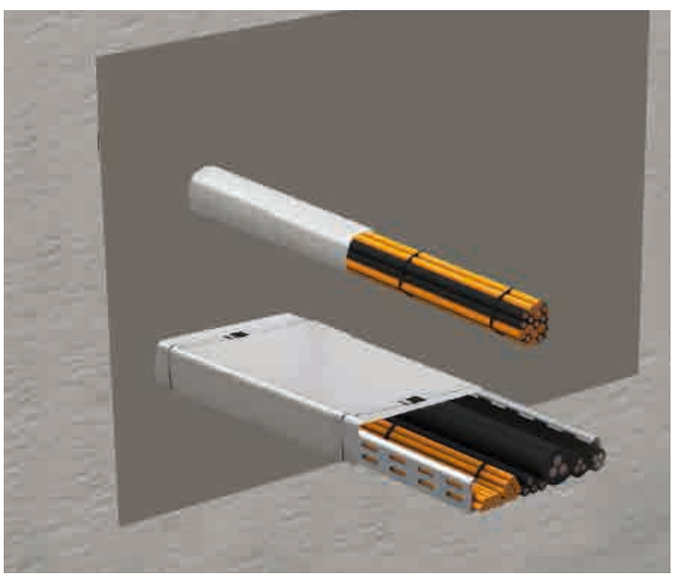
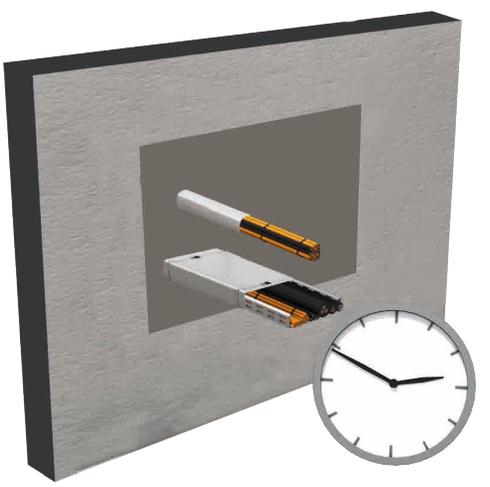
PYRO-SAFE Novasit BM

8. General installation steps

7. Cable / cable bundles / cable supports accordingly to p. 11 with fire protection wrap PYRO-SAFE DG-CR 1.5 on both sides, length 500 mm and fixation with steel wire.

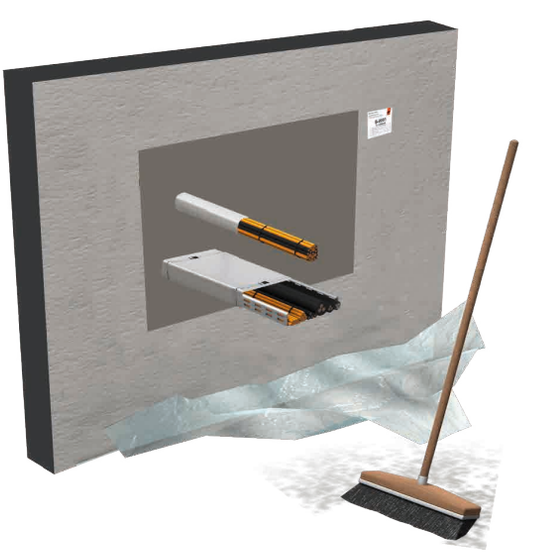


8. After appropriate hardening, smooth the surfaces with the trowel and fully rework any shrinkage cracks. The same applies to the areas after removing the formwork.



9. If required or mandatory, fill the identification label and apply on the side or below (not on!) the installation.

10. After the mortar residues dry, remove them from cables, walls and floors, clean surfaces including the removal of the cover films and dispose of properly.



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Declaration of Performance
Nr. 01161000-NOVASIT-BM
PYRO-SAFE NOVASIT BM

Unique identification code of the product type
PYRO-SAFE NOVASIT BM

Intended use:
Product for use in penetration seals

Producer
svt Brandschutz Vertriebsgesellschaft mbH International
Gluesinger Strasse 86
D - 21217 Seevetal

System for assessing and verifying constancy of performance
System 1

European Assessment Document
ETAG 026-2:2008-01-01

Harmonised technical Specification/ European Technical Assessment	*EC cerificate of conformity*
EN 998-2: 2010	0764-CPD-0190
ETA-16/0132 dated 16.01.2017	**0761-CPR-0582**

Technical Assessment Body
Deutsches Institut für Bautechnik (DIBt), Berlin

The notified body
Materialprüfanstalt für das Bauwesen Braunschweig, code number 0761

Declared performance

Essential characteristics	Performance	Harmonised technical specification
Reaction to fire	class A1	EN 13501-1
Pressure resistance	M 2,5	EN 998-2:2010
Gross density (dry mortar)	900 kg/m³	
Starting shear strength (Adhesive shear strength)	0,15 N/mm² (table value)	
Water absorption	NPD	
Chloride content	≤ 0,10 M.-%	
Water vapor permeability μ	5/20 (table value)	
Thermal conductivity $\Lambda_{10,dry}$	≤ 0,25 W/(mK) for P=50% ≤ 0,27 W/(mK) for P=90% (table values acc. EN 1745)	
Emission of dangerous substances	no dangerous substances	ETAG 026-2
Durability and serviceability	Use category type Z_2	EOTA TR 024
Fire resistance	Depending on the type of installation, the type of building element and the penetrating services – see ETA-16/0132	EN 13501-2

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
Head of Product Management

i.V. Andree Schober
Head of chemical department