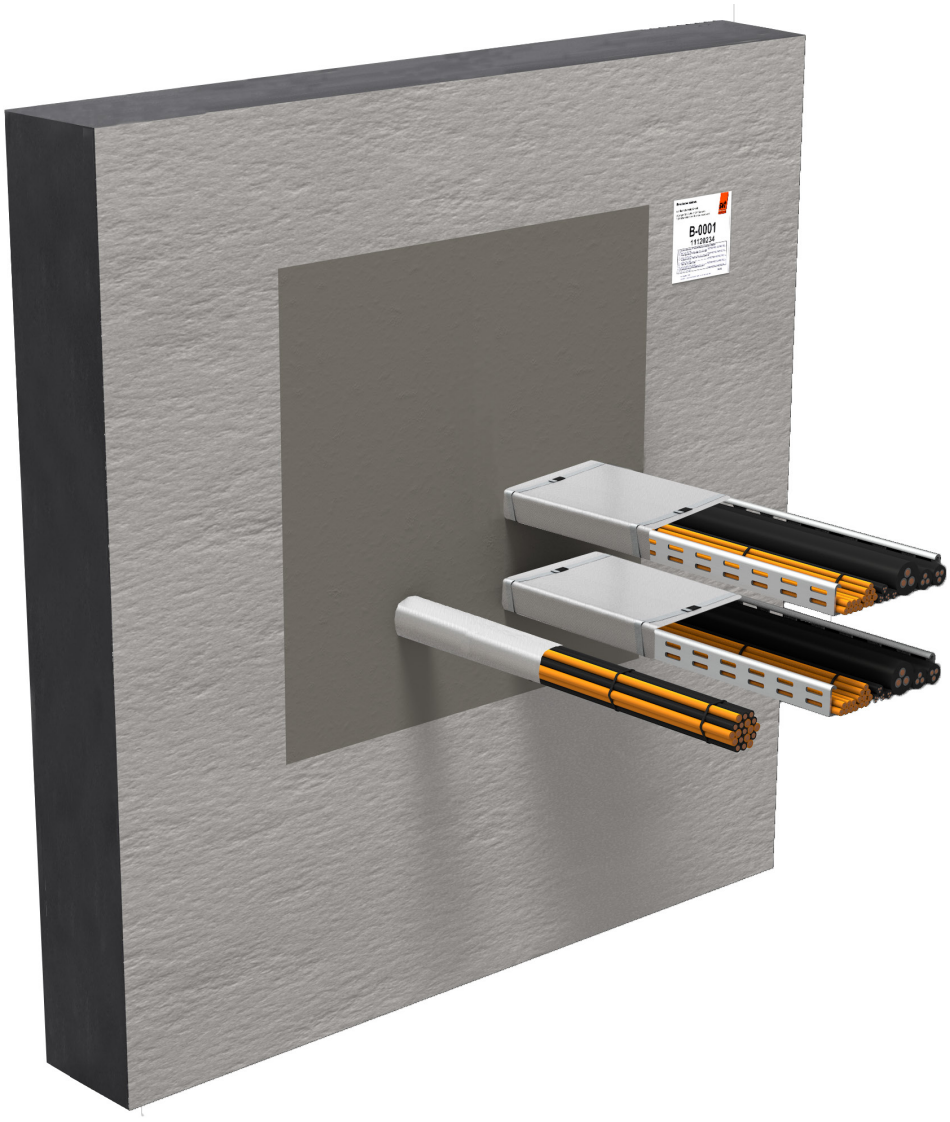
PYRO-SAFE® Novasit BM 240

Installation instructions

Fibre-free fire stop system made of special mortar for electrical cables, cable bundles and Cable support constructions.
Fire resistance class EI 240 compliant with EN 13501-2 in accordance with ETA-16/0132



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PYRO-SAFE® Novasit BM 240

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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

- Read through these installation instructions 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. Installation results may differ in appearance.
- Unless otherwise indicated, all lengths are in millimeters
- All information in this document corresponds to the current state of the art or the valid standard version at the time of preparation. Upon request, svt will gladly provide the relevant statutory and technical framework conditions or manufacturer‘s specifications for each individual case.
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- PYRO-SAFE® is a registered trademark of the svt group.

1.3 Safety instructions

- The safety data sheets must be used for advice when processing the fire protection compounds.
- Personal protective equipment:

	Wear protective clothing and non-slip shoes.
	Use protective goggles, wrap-around glasses.
	In case of short-term or low-level exposure: P2 particle filter. In case of intensive or long-term exposure: use self-contained breathing apparatus. Only use respirators that comply with international/national standards.
	Use chemicals-resistant protective gloves. Recommended material: butyl rubber, nitrile rubber, fluoro rubber, PVC.

Safety instructions for the installation of floor penetration seals

	The area below the floor penetration seal must be cordoned off while work on the penetration seal is underway (warning tape, or sign: danger - falling objects; keep off this area; sealing work underway in the floor above!
	The company that is commissioned to install the floor penetration seals shall provide the client with written information (to be passed on to the owner or his authorised representative), pointing out that fire-resistant penetration seals in floors must be provided on site with adequate protection (e.g. barriers), or covered with grating to prevent them from being walked on after installation.

1.4 Scope

The PYRO-SAFE® Novasit BM 240 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 240 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..

1.5 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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1.6 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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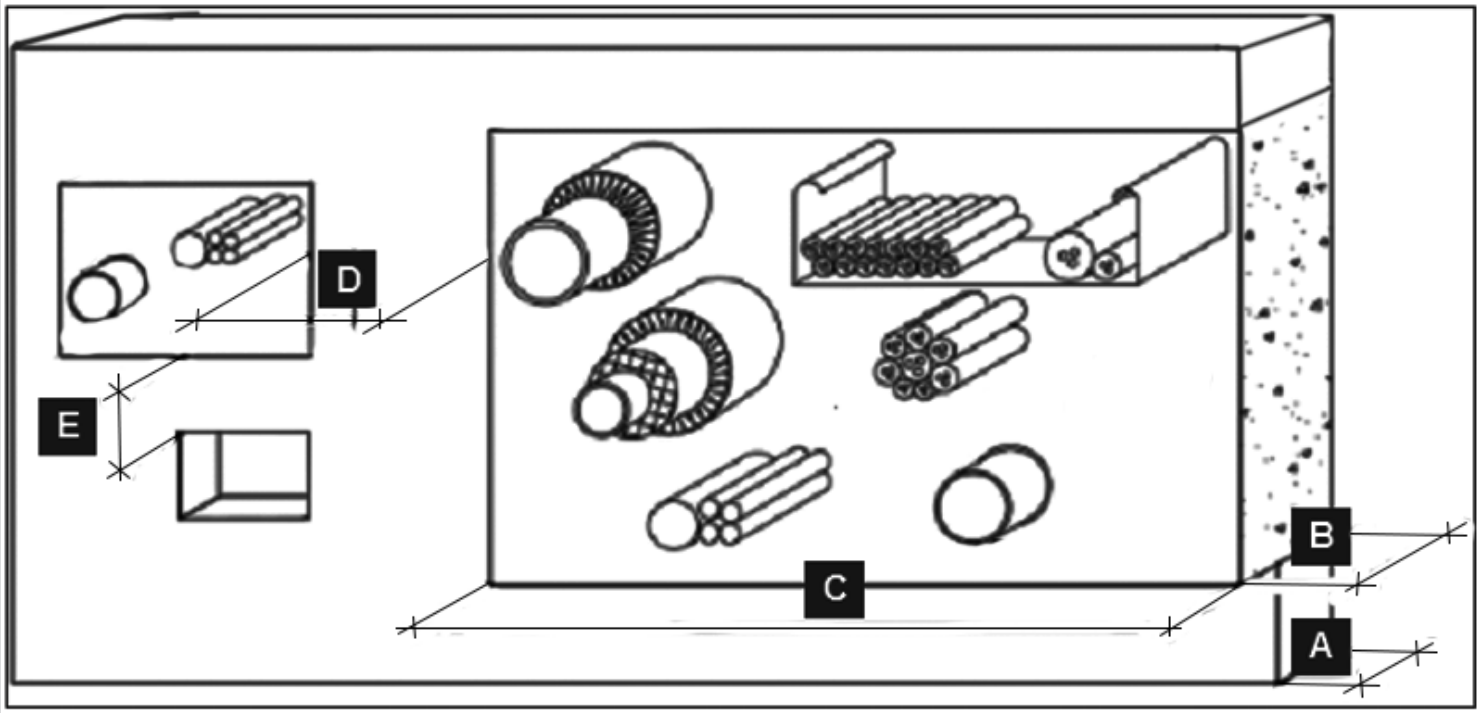
1.7 Field of application (Dimensions)

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- or 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

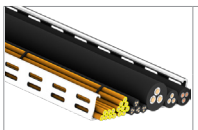


2. Allowed services

Electrical cables and lines of all types (including optical fibre cables)
Overall cross-section of individual cable 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 support constructions

Cable ducts and trays 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.

3. Spacing requirements

Spacing requirements – walls

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

Spacing requirements – floors

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

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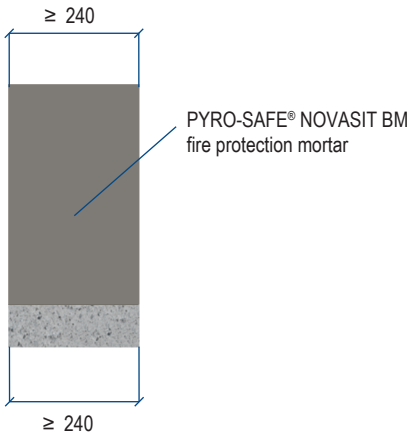
4. Used products

	**PYRO-SAFE® NOVASIT BM** **Fire protection mortar** In accordance with ETA-16/0132 20 kg Bag – Product No. 01161000 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 Cover sheeting Masonry tools (round dippers) Wire binding pliers, size 10 key or ratchet steel wire

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.
- 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!

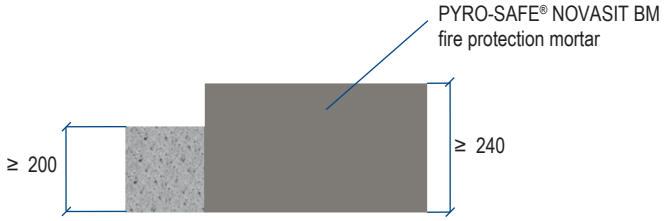
Variants in solid walls



Lost formwork e.g. made of mineral fibre mat (non-flammable, melting point > 1000 °C)

Dimension in mm

Variants in solid floors



Lost formwork e.g. made of mineral fibre mat (non-flammable, melting point > 1000 °C)

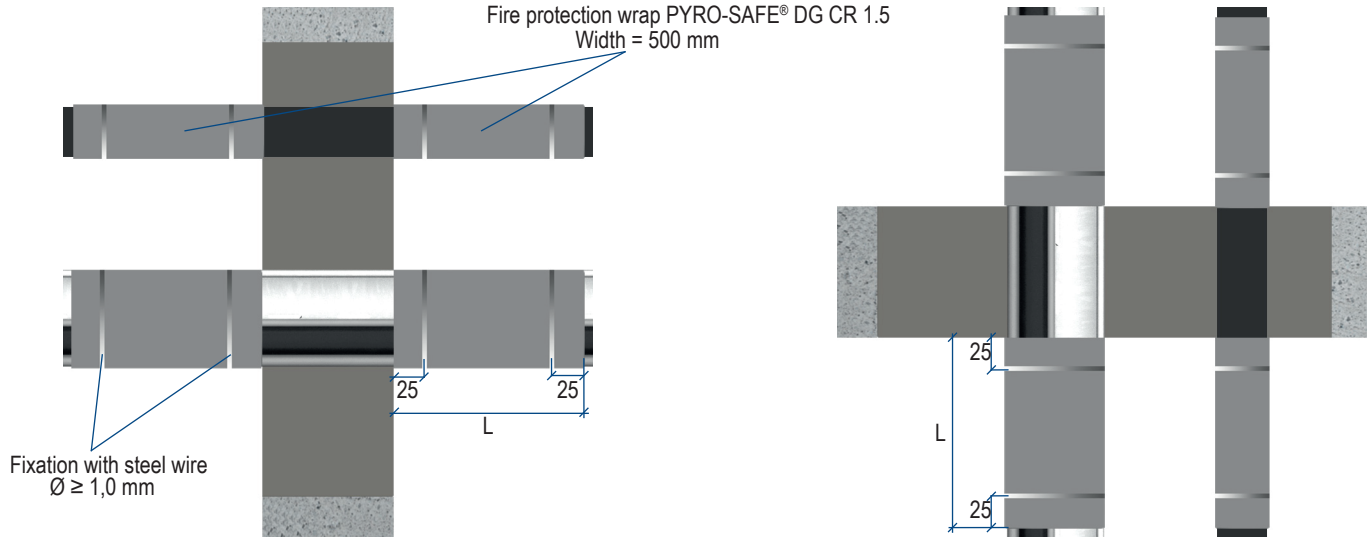
Dimension in mm

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“



Wall-/Floor-, seal thickness and implementation variants see page 9

Dimension 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
Cables	Ø ≤ 80	500	2	2	0	0	500	EI 240	EI 240
Cable bundles	Ø ≤ 100	500	2	2	0	0	500	EI 240	EI 240

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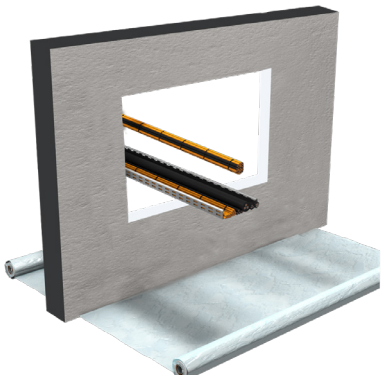
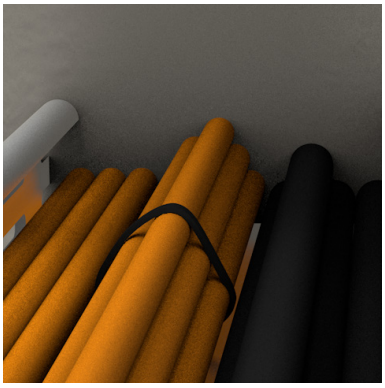
7. Installation steps

Mix a PYRO-SAFE® NOVASIT BM 20 kg sack of fireproofing compound with approx. 6 litres of water. Stir to mix in thoroughly. After approx. 4-5 minutes soaking period, mix up again.
Follow the safety instructions on page 3

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

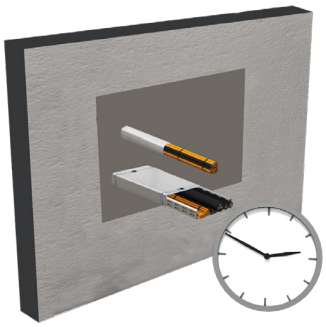


2. Apply the partition compound so that there is a solid, tight connection to the component. Completely fill intermediate spaces and bandage cavities.



3. Cable / cable bundles / cable supports accordingly to page 10 with fire protection wrap PYRO-SAFE® DG-CR 1.5 on both sides, length 500 mm and fixation with steel wire.

4. 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.



5. If required or mandatory, fill the identification label and apply on the side or below (not on!) the installation. Remove mortar residues from cables, walls and floors. Dispose of cover foils and mortar residues properly.

Declaration of Performance

No. 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

Manufacturer
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 026-2:2011

European Technical Assessment
ETA-16/0132 vom 16.01.2017

Cerificate of constancy of performance
0761-CPR-0582

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

The notified body
Civil Engineering Materials Testing Institute (MPA BS) in Braunschweig, code number 0761

Declared performance

Essential characteristics	Performance	Harmonised technical specifications
Reaction to fire	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 Λ 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 Z2	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:

p.p. Christian Meyer-Korte
Head of Product Management / Private Label

p.p. Andree Schober
Head of chemical department

Protect your values.

Fire protection worldwide

svt Brandschutz Vertriebsgesellschaft mbH International

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