PYRO-SAFE CT ML

Installation instructions

The PYRO-SAFE CT ML cable tube in the raised floor penetration seal design variant for cable and conduit penetrations in rated walls, also below fire doors and lightweight partition walls.
Fire resistance classes EI 30, EI 45, EI 60, EI 90, EI 120 according to EN 13501-2 in accordance with ETA-13/0821; ETA-16/0016 and Classification report No. KB-210006707

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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 these installation instructions thoroughly before beginning work. Make sure to pay particular attention to the safety instructions below.
- The authorisation holder assumes no liability for damage caused by failure to comply with these instructions.
- Pictures are examples only. Installation results may differ in appearance.

1.1 Safety instructions

Refer to the safety data sheets when processing partition components.

Personal protective equipment:

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.

Hand protection
Use chemically resistant gloves.
Recommended materials: Butyl rubber, nitrile rubber, fluorinated rubber, PVC.

Eye protection
Use safety goggles, safety glasses.

Body protection
Wear protective clothing and non-slip shoes.

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1.2 Field of application - Scope

The fitness for use of PYRO-SAFE CT ML cable penetration sealing has been assessed in accordance with ETAG 026-2 in terms of the "Reaction to fire", "Resistance to fire", "Release of dangerous substances" and "Durability and Serviceability" product characteristics.

Reaction to fire

The "PYRO-SAFE FLMMOTECT-A" ablative components and the "PYRO-SAFE DG-CR SK" intumescent material meet Class E for reaction to fire in accordance with EN 13501-1; the "Hardrock 040" mineral fibre board meets Class A1 for reaction to fire in accordance with EN 13501-1.

Resistance to fire

At a maximum, PYRO-SAFE CT ML meets the requirements of Class EI 120. When installed in walls with a lower fire resistance duration, the fire resistance duration of the penetration is also reduced to that of the fire resistance rating of the wall.

Release of dangerous substances

The "PYRO-SAFE FLAMMOTECT-A“ ablative component as well as the "PYRO-SAFE DG-CR SK“ intumescent fire protection fabric contain no substances registered as hazardous on the list of substances registered with the European Commission. The "Hardrock 040" mineral fibre board contains no hazardous substances listed in Directive 67/548/EEC, in Regulation (EC) No 1272/2008 or on the Indicative List of Dangerous Substances.

Durability and Serviceability

The "PYRO-SAFE FLAMMOTECT-A“ ablative components and the "PYRO-SAFE DG-CR SK" intumescent fire protection fabric meet the requirements of type X for durability in accordance with EOTA TR 024.
PYRO-SAFE CT ML can be subjected to the conditions of interior rooms with and without exposure to moisture (and outdoor exposure), with no substantive changes to the fire protection characteristics to be expected.

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1.2 Field of application - Structural elements

Plasterboard walls with steel frame

Studwork, double-coated on both sides 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 in accordance with EN 13501-1. The walls must be correspondingly rated for the required fire resistance rating in accordance with EN 13501-2.

Applicability of DIN 4102

Ratings in accordance with DIN 4102-2 and in accordance with DIN EN 13501-2, DIN EN 13501-3 and DIN EN 13501-5 may alternatively be used as proof of the required fire resistance rating. (Building Rules List A Part 1 Amendment 0.1).

Massive walls

Made of masonry, concrete, reinforced concrete or cellular concrete with a thickness of ≥ 450 kg/m³.
The walls must be correspondingly rated for the required fire resistance rating in accordance with EN 13501-2.

- Installation in rated walls, also possible under fire doors.

1.2.1 Field of application - raised floor systems

- No fire resistance rating requirement for the raised floor. The floor panels must only be non-flammable.
- Required height of the raised floor 8 cm to 15 cm.

1.3 Fire resistance classes

PYRO-SAFE CT ML fire resistance classes

Configuration/ Fire resistance class	Fire resistance classes					
	EI 30	EI 45	EI 60	EI 90	EI 120	E 120
Cable and cable bundles						
Single cable Ø ≤ 21 mm	●	●	●	●	●	●
Single Cable Ø > 21 mm - Ø ≤ 50 mm	●	●	●	●	-	●
Cable bundle Ø ≤ 107 mm withCables Ø ≤ 21 mm	●	●	●	●	●	●
Flexible electrical installation conduit (conduit) made of plastic						
conduit bundle with conduit Ø ≥ 16 mm - Ø ≤ 32 mm with/without cable Ø ≤ 21 mm	●	●	●	●	●	●

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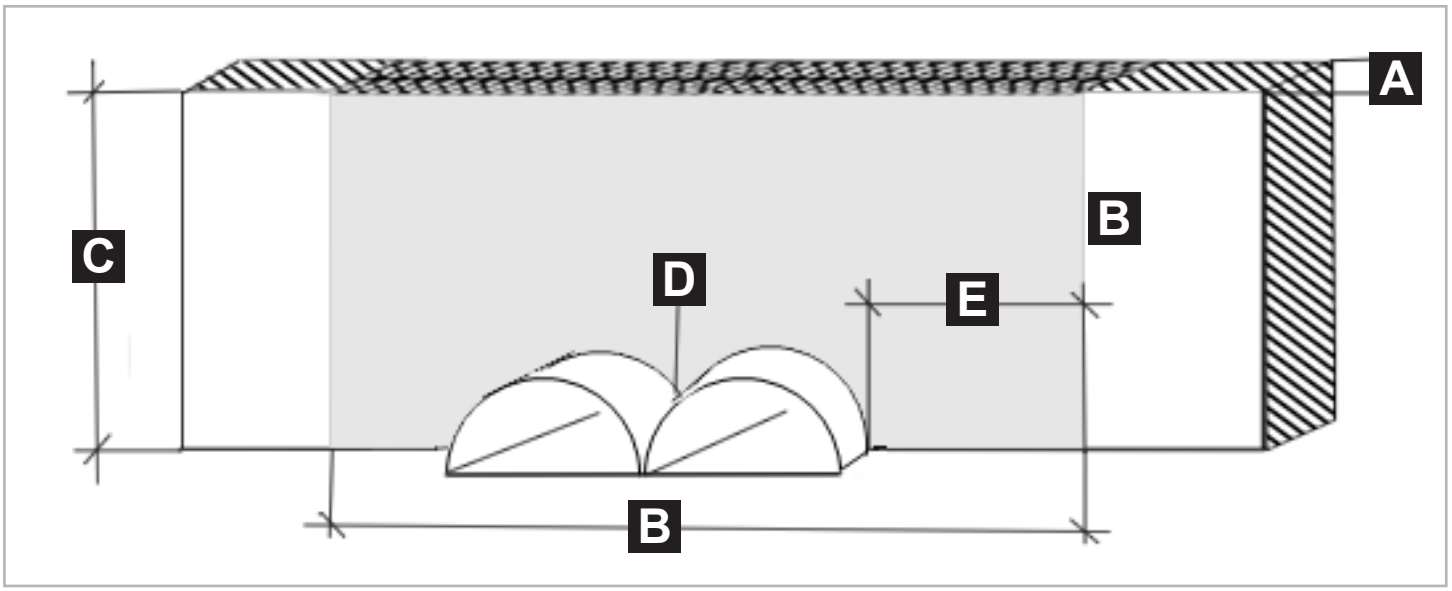
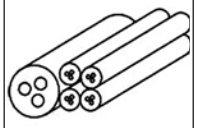
1.4 Field of application - Dimensions

Dimensions arranged individually		
Item	**Name**	**Wall [mm]**
A	Thickness of structural element	≥ 100
B	Maximum dimensions of the component opening (width x height)	2000 x 80 - 2000 x 150
C	Distance from base floor to lower edge of raised floor	80 - 150
D	Horizontal spacing for grouped installations	0
E	Spacing from opening reveal	≥ 15

* Minimum thickness of raised floor panels ≥ 40 mm



2.1 Allowed services - Cables and conduits



Electrical cables and lines of all types (also fibre optic cables) except waveguides

Cable up to Ø ≤ 50 mm

Cable conduits

Made of PE-HD with outside -Ø ≤ 32 mm, with and without Cable assignment, cable -Ø ≤ 21 mm

3. Spacing

- The PYRO-SAFE CT-ML Cable Tubes may be completely filled with cables, cable bundles or electric wiring conduits.
- Cables, cable bundles and electric wiring conduits may adjoin each other and rest against the inside PYRO-SAFE CT-ML Cable Tube wall.

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4. Used products

PYRO-SAFE CT ML cable Tube

Consisting of PYRO-SAFE cable tube half shell with bottom flap

Melamine resin-plugs

Melamine resin plug
Thickness: 42 ± 2 mm

PYRO-SAFE FLAMMOTECT- A Paint

Fire protection rating in accordance with EN 13501-1: Class E
12.5 kg pail - Art. No. 01155101
15 kg pail - Art. No. 01155105

PYRO-SAFE FLAMMOTECT- A Solid emulsion

Fire protection rating in accordance with EN 13501-1: Class E
12.5 kg pail - Art. No. 01155106
15 kg pail - Art. No. 01155107

PYRO-SAFE FLAMMOTECT- A Filler

Fire protection rating in accordance with EN 13501-1: Class E
12.5 kg pail - Art. No. 01155104
15 kg pail - Art. No. 01155109

PYRO-SAFE FLAMMOTECT- A Filler

Fire protection rating in accordance with EN 13501-1: Class E
310 ml cartridge - Art. No. 01155115

Mineral fibre board

Pre-coated on one side with PYRO-SAFE FLAMMOTECT - A
Format 1000 x 600 x 50 mm
Art. No. 01181160

Mineral wool

In accordance with abZ Z-23.15-1468
Fire protection rating in accordance with EN 13501-1: A1
Melting point ≥ 1000 °C
10 kg bag - Art. No. 01183000

PYRO-SAFE NOVASIT BM
Fire protection compound
Rated in accordance with EN 998-2
Composition of the dry mortar according to formula submitted to DIBt
10 kg bucket - Art. No. 01161010

PYRO-SAFE NOVASIT BM
Fire protection compound
Rated in accordance with EN 998-2
Composition of the dry mortar according to formula submitted to DIBt
20 kg bag - Art. No. 01161000

PYRO-SAFE NOVASIT VGM
Fire protection mortar
Rated in accordance with EN 998-2
Composition of the dry mortar according to formula submitted to DIBt
30 kg bag - Art. No. 01164000

PYRO-SAFE NOVASIT K2
Fire protection mortar
Rated in accordance with EN 998-2
Composition of the dry mortar according to formula submitted to DIBt
25 kg bag - Art. No. 01163000

Recommended tools

- Putty knife, brush, masking tape
- Cutting knife and saw
- Plastic tarp, folding ladder if required
- Wire binding pliers, galvanized steel wire

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5. Regulations and variants

- The penetration may be used to close openings without installation ("reserve penetration").
- When installing in a lightweight partition wall, a soffit revetment may be required.
- When installing the penetration in parts with a lower fire resistance rating, the minimum component thickness must still be complied with. Any labelling of the penetration that may be required must then be done at the lower fire resistance rating.
- The European Technical Assessment (ETA-16/0016) is applicable to all further information.

PYRO-SAFE CT ML in solid walls

PYRO-SAFE CT ML in lightweight partition walls

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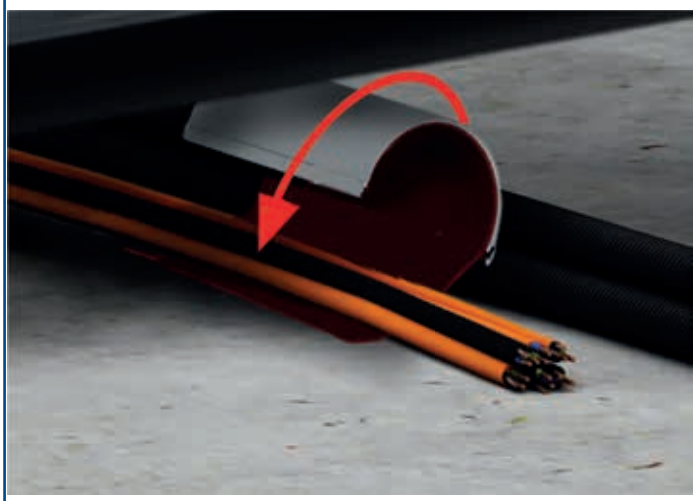
PYRO-SAFE CT ML

6. Installation procedure
6.1 Cables, conduits in solid walls

1. Install the PYRO-SAFE CT ML.
The bottom flap must be placed below the cables/pipes.
To secure the cable tube in position we recommend to attach it with perforated metal tape on the Floor.

1a. Lift the lines up a bit and place the flap underneath them.

1b. Carefully place the PYRO-SAFE CT ML over the lines.
Make sure that all of the lines are completely underneath the half shell.



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PYRO-SAFE CT ML

6.1 Cables, conduits in solid walls

2. The complete closure of the opening (residual gap) can be done using non-flammable materials (rating A or A-s1,d0 in accordance with EN13501-1) such as concrete, cement mortar or gypsum mortar.

2a. Pour water into a mixing container, add mortar. refer to the safety instructions on p. 3.

3. Stir to mix in thoroughly. After soaking for approx. 4-5 minutes, mix again thoroughly.

4. Apply the insulating compound so that a strong seal is made with the component. On the top, approx. 2 cm of raised floor remain as an expansion joint.

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6.1 Cables, conduits in solid walls

5. After appropriately bonding the expansion joint, stuff firmly with mineral wool.

6. Cut the stoppers to size

7. Fit stopper on one side and use PYRO-SAFE FLAMMOTECT-A to seal it. Stuff conduit openings with mineral wool and seal with PYRO-SAFE FLAMMOTECT-A.

8. Label penetration if required.
Legibly complete penetration sign and permanently affix it next to or above the penetration (not on it!).

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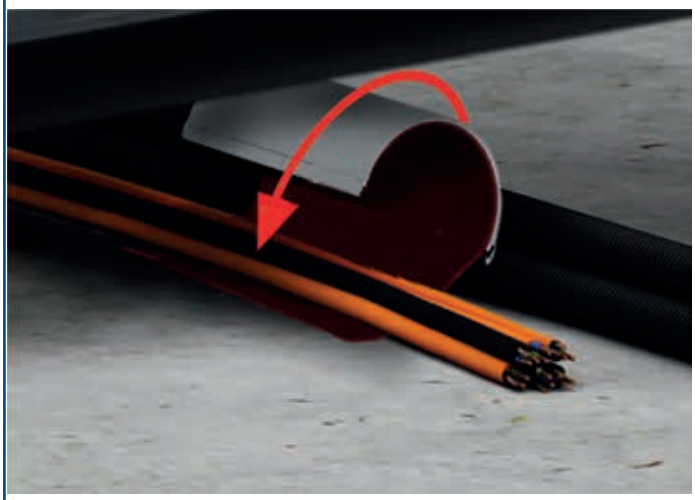
PYRO-SAFE CT ML

6. Installation procedure
6.2 Cables, conduits in plasterboard walls

1. (Plasterboard wall: (edge planking is not supplied by the manufacturer)

1a. Lift the lines up a bit and place the flap underneath them.

1b. Carefully place the PYRO-SAFE CT ML over the lines. Make sure that all of the lines are completely underneath the half shell.



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6.2 Cables, conduits in lightweight partition walls

2. Install the PYRO-SAFE CT ML.
The bottom flap must be placed below the cables/pipes.

3. Cut mineral fibre board to size. On the top of the raised floor, approx. 2cm can remain as an expansion joint.

4. Brush the edges of the mineral fibre board using PYRO-SAFE FLAMMOTECT-A and firmly seat board into position. Place the mineral fibre board so that the painted side is showing on the outside.

5. Stuff residual opening and expansion joint using mineral fibre. Cut stoppers to size and fit stopper on one side

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6.2 Cables, conduits in lightweight partition walls

6. Seal stopper using PYRO-SAFE FLAMMOTECT A.
Close off conduit opening using mineral wool and seal using PYRO-SAFE FLAMMOTECT A. Dry film thickness ≥ 1 mm

7. Top coat using PYRO-SAFE FLAMMOTECT-A.

8. Label penetration, if required.
Legibly complete penetration sign and permanently affix it next to or above the penetration (not on it!).

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Declaration of Performance
N° 0128-PYRO-SAFE-CT
PYRO-SAFE CT/ CT ML Cable Tube

Unique identification code of the product type
PYRO-SAFE CT/ CT ML Cable Tube

Intended use:
Product for cable penetration seal
The cable penetration seal is used for closing openings in fire-resistant walls or floors, through which cables were passed. It is to maintain the fire resistance of the wall or floor in the region of the penetration.

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

European Technical Approval/Assessment	*EC cerificate of conformity*
ETA-13/0821 dated 28.06.2013	**0761-CPD-0294**
ETA-16/0016 dated 18.01.2016	**0761-CPR-0460**

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 specifications
Reaction to fire	Classification according to appendix of ETA-13/0821 and ETA-16/0016	EN 13501-1
Fire resistance	Depending on the type of installation, the type of building element and the penetrating services, classes EI 30, EI 45, EI 60, EI 90, EI 120 - see ETA-13/0821 and ETA-16/0016	EN 13501-2
Emission of dangerous substances	no dangerous substances	ETAG 026-2
Durability and serviceability	Use category type X	EOTA TR 024

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