

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-16/0016**  
**of 27 February 2020**

English translation prepared by DIBt - Original version in German language

### General Part

Technical Assessment Body issuing the  
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

"PYRO-SAFE CT Cable Tube" and "PYRO-SAFE CT ML  
Cable Tube"

Product family  
to which the construction product belongs

Construction product for use in penetration seals

Manufacturer

svt Brandschutz  
Vertriebsgesellschaft mbH International  
Glüsinger Straße 86  
21217 Seevetal  
DEUTSCHLAND

Manufacturing plant

Herstellwerk I

This European Technical Assessment  
contains

13 pages including 9 annexes which form an integral part  
of this assessment

This European Technical Assessment is  
issued in accordance with Regulation (EU)  
No 305/2011, on the basis of

EAD 350454-00-1104

This version replaces

ETA-16/0016 issued on 18 January 2016

**European Technical Assessment**

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## Specific part

### 1 Technical description of the product

The construction products consist of PVC-U half-pipes and an inlay made of an intumescent material which expands under heat exposure.

- In the case of the construction product "PYRO-SAFE CT Cable Tube", design variant 1, two half-pipes are joined by means of a click fastener to form a pipe sleeve. The inlay is bonded into the half-pipes (see Annex 3).
- In the case of the construction product "PYRO-SAFE CT Cable Tube", design variant 2, two half-pipes are joined by means of a fastener taking the shape of an H profile to form a pipe sleeve. The half-pipes are coated with the inlay (see Annex 3).
- The construction product "PYRO-SAFE CT ML Cable Tube" consists of a half-pipe. The inlay is bonded into the half-pipe. The inlay overlaps the half-pipe by about the half-pipe's diameter. This overlap is used to form the bottom (see Annex 4).

A detailed technical description (e.g. dimensions) and fire safety related performance criteria for the construction products are given in Annexes 1 to 4. Detailed information on the construction products' components are deposited with Deutsches Institut für Bautechnik.

#### NOTE:

The characteristics listed are suitable both for identifying the construction products as well as for performing the manufacturer's factory production control.

### 2 Specification of the intended use in accordance with the applicable European Assessment Document

The construction products "PYRO-SAFE CT Cable Tube" and "PYRO-SAFE CT ML Cable Tube" shall be used as part of cable penetration seals.

Cable penetration seals are used to seal openings in fire-resistant walls or floors, which are penetrated by cables. Their aim is to preserve the walls' or floors' fire resistance in the area of the penetrations.

Within the framework of this ETA, the fire resistance was demonstrated for cable penetration seals consisting of two half-pipes of the type "PYRO-SAFE CT Cable Tube" (for floor and wall installations) and for cable penetration seals consisting of one half-pipe of the type "PYRO-SAFE CT ML Cable Tube" (for wall installations).

The cable penetration seals had a closure made of a flexible foam on both sides for "PYRO-SAFE CT Cable tube" pipe sleeves or one side for "PYRO-SAFE CT ML Cable Tube" half-pipes.

After inserting the foam into the remaining openings, this closure was sealed from the outside with an ablative fire stopping product.

In addition, the joints between the pipe sleeve or the half-pipe and the surrounding component were sealed.

More detailed information and data on the verified penetration seals are given in annexes 5 to 9.

The construction product "PYRO-SAFE CT Cable Tube" and "PYRO-SAFE CT ML Cable Tube" may be used for penetration seals of use category X (outdoor use – rain, UV light, frost) provided that the other components of the penetration seal, which are not the subject of this ETA, meet the durability requirements. The resistance to fire of the penetration seals shall be verified on a case-by case basis.

The performances given in Section 3 apply exclusively to the penetration seals assessed as part of the ETA procedure (e.g. with respect to the design and arrangement of the penetration seals' components as well as the type and position of the services).

### 3 Performance of the product and references to the methods used for its assessment

#### 3.1 Intended use: use in penetration seals

#### 3.2 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Resistance to fire of a penetration seal containing the product	<p>The resistance to fire depends on the design and installation of the penetration seal and on the other components that make up the penetration seal.</p> <p>More details on the tested penetration seals and the related fire resistance classes are given in Annexes 1 to 9.</p>

### 4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

In accordance with European Assessment Document (EAD) no. 350454-00-1104, the following legal base shall apply: 1999/454/EC.

The system to be applied is: system 1.

### 5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 27 February 2020 by Deutsches Institut für Bautechnik

Maja Tiemann  
Head of Department

*beglaubigt:*  
Bisemeier

The factory manufactured construction products of the type "PYRO-SAFE CT Cable Tube" and of the type "PYRO-SAFE CT ML Cable Tube" consist of PVC-U half-pipes and an inlay made of an intumescent material. They are used to seal openings in fire-resistant walls and floors.

**Properties and performance criteria of the components of the construction products of the type "PYRO-SAFE CT Cable Tube" and of the type "PYRO-SAFE CT ML Cable Tube"**

Component	Description
"Half-pipe" (with glued groove bar or click fastener)	Dimensions: Ø = 60 mm, 90 mm, 116,4; s = 3,2 mm (depending on the version); l = 150 mm, 200 mm or 300 mm Material: PVC-U according to EN 1452
"Inlay" for "PYRO-SAFE CT Cable Tube", design variant 1 and "PYRO-SAFE CT ML Cable Tube"	"PYRO-SAFE DG-CR SK": Thickness = 1,5 mm (dry layer thickness) Material: intumescent material* Classification of fire behavior according to EN 13501-1: E
"Inlay" for "PYRO-SAFE CT Cable Tube", design variant 2	"PYRO-SAFE DG": Thickness = 1,5 mm (dry layer thickness) Material: intumescent material* Classification of fire behavior according to EN 13501-1: B-s1, d0

The properties listed can be used both for the identification of the construction product and for the implementation of the factory production control of the manufacturer.

Implementation details for the factory production control are included in the inspection plan.

\*The composition of the materials is deposited at DIBt.

**Description of the additional ingredients of the tested sealings**

"Closure" (for closing the pipe sleeve)	Thickness = 40 mm; diameter corresponding to the pipe diameter; Material: flexible foam of the type "Basotect" or "Basotect G" der Fa. BASF AG Classification of fire behavior acc. to EN 13501-1: C-s1, d0
"Sealing"	Thickness ≥ 0,5 mm (dry layer thickness) Material: ablative coating material "PYRO-SAFE FLAMMOTECT-A" acc. to ETA-14/0418 Classification of fire behavior according to EN 13501-1: E
50 mm thick mineral wood plates	"Rockwool Hardrock 040" Deutsche Rockwool Mineralwoll GmbH, 45866 Gladbeck, Germany; acc. to EN 13162 Classification of fire behavior acc. to EN 13501-1: A1
Mineral wool	"Rockwool Lose Wolle RL"; Deutsche Rockwool Mineralwoll GmbH, 45866 Gladbeck, Germany; acc. to EN 14303 Classification of fire behavior acc. to EN 13501-1: Class A1
32 mm thick system floor plates	"GIFAfloor FHB" Knauf Classification of fire behavior acc. to EN 13501-1: A1
Closure of the residual joint	Material: "PYRO-SAFE NOVASIT BM" acc. to ETA-16/0132 Classification of fire behaviour acc. to EN 13501-1: A1
Closure of the residual joint	"PYRO-SAFE NOVASIT K2" Material: Fire protection mortar acc. to EN 998-2 Classification of fire behaviour acc. to EN 13501-1: A1
Kabelwickel	Thickness = 1,5 mm; width = 125 mm Material: intumescent material „PYRO-SAFE DG-CR" acc. to ETA-16/0268 Classification of fire behavior acc. to EN 13501-1: Class C-s1,d0

"PYRO-SAFE CT Cable Tube" and "PYRO-SAFE CT ML Cable Tube"

Description of the construction products, properties and performances

Annex 1

**Performance of tested penetration seals, comprising the construction product "PYRO-SAFE CT Cable Tube" or "PYRO-SAFE CT ML Cable Tube"**

	Essential requirement	Test method	Construction of the sample	Performance acc. EN 13501-2
1	Resistance to fire	EN 1366-3	Cable penetration seal containing the product "PYRO-SAFE CT Cable Tube" used in a 100 mm thick flexible wall; design and layout of the penetration seal acc. to annex 6*	EI 90
2	Resistance to fire	EN 1366-3	Cable penetration seal containing the product "PYRO-SAFE CT Cable Tube" used in a 150 mm thick rigid floor; design and layout of the penetration seal acc. to annex 6*	EI 120
3	Resistance to fire	EN 1366-3	Cable penetration seal containing the product "PYRO-SAFE CT Cable Tube" used in a 100 mm thick flexible wall; design and layout of the penetration seal acc. to annex 7*	EI 90
4	Resistance to fire	EN 1366-3	Cable penetration seal containing the product "PYRO-SAFE CT Cable Tube" used in a 150 mm thick rigid floor; design and layout of the penetration seal acc. to annex 7*	EI 90
5	Resistance to fire	EN 1366-3	Cable penetration seal containing the product "PYRO-SAFE CT ML Cable Tube"; design and layout of the penetration seal acc. to annex 9*	EI 90 resp. EI 120

The tested/ illustrated seals are only examples for the use.

The illustrations are without guarantee for completeness.

The use of the construction products "PYRO-SAFE CT Cable Tube" and "PYRO-SAFE CT ML Cable Tube" in penetration seals shall be in accordance with national requirements for planning, design and execution and in accordance with the installation instruction of the manufacturer.

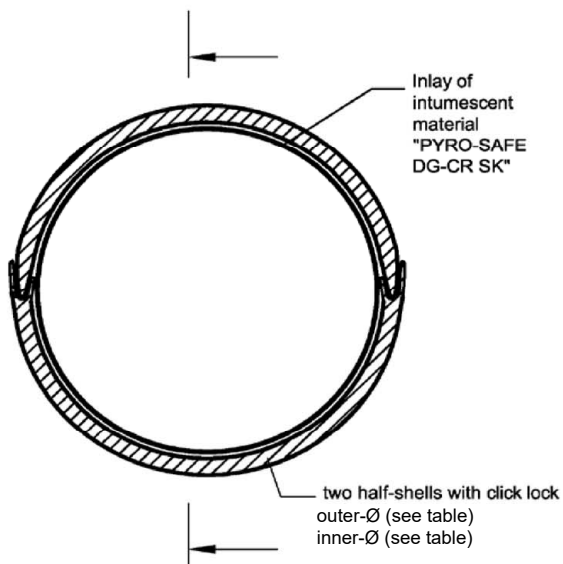
"PYRO-SAFE CT Cable Tube" and "PYRO-SAFE CT ML Cable Tube"

Description of the construction products, properties and performances

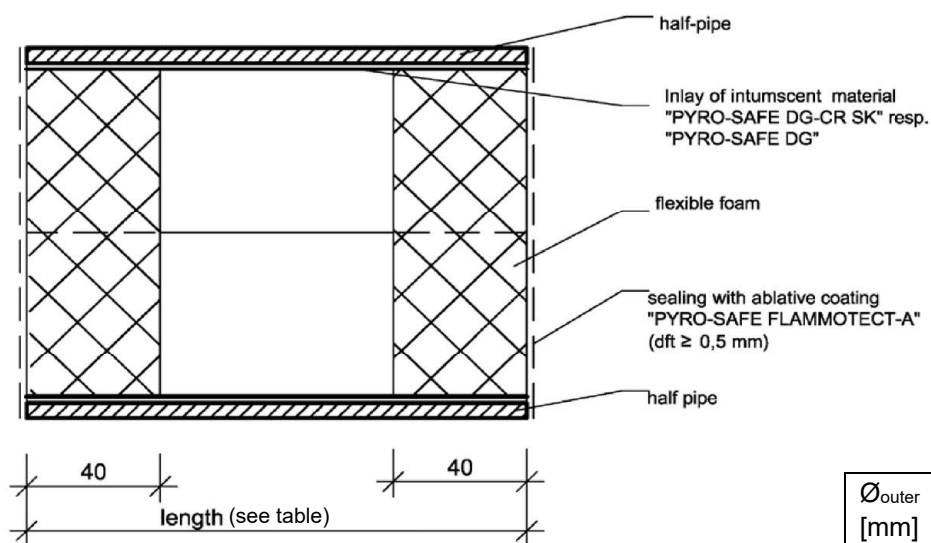
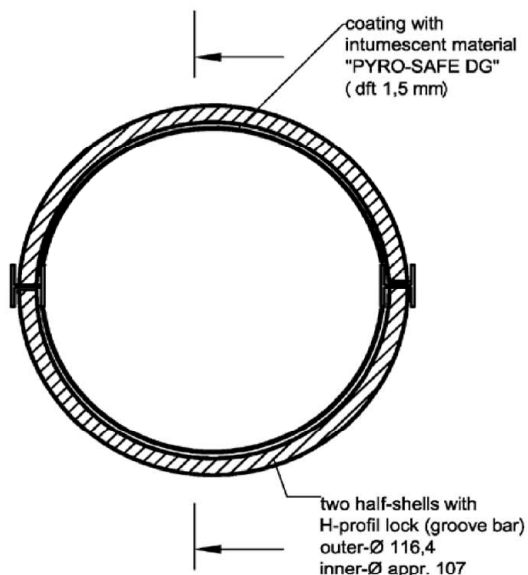
Annex 2

"PYRO-SAFE CT Cable Tube"

"PYRO-SAFE CT Cable Tube"  
version 1



"PYRO-SAFE CT Cable Tube"  
version 2



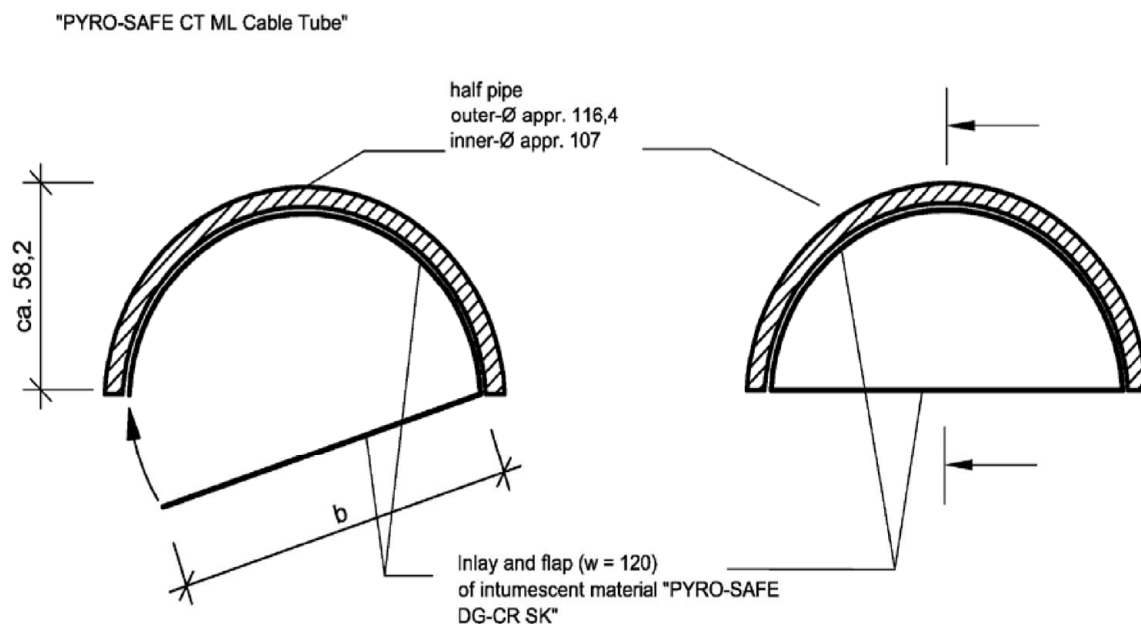
Ø <sub>outer</sub> [mm]	Ø <sub>inner</sub> [mm]	L <sub>Pipesleeve</sub> [mm]
60	50,6	150
90	80,6	150
		200
		300
116,4	107	150
		200
		300

dimensions in mm

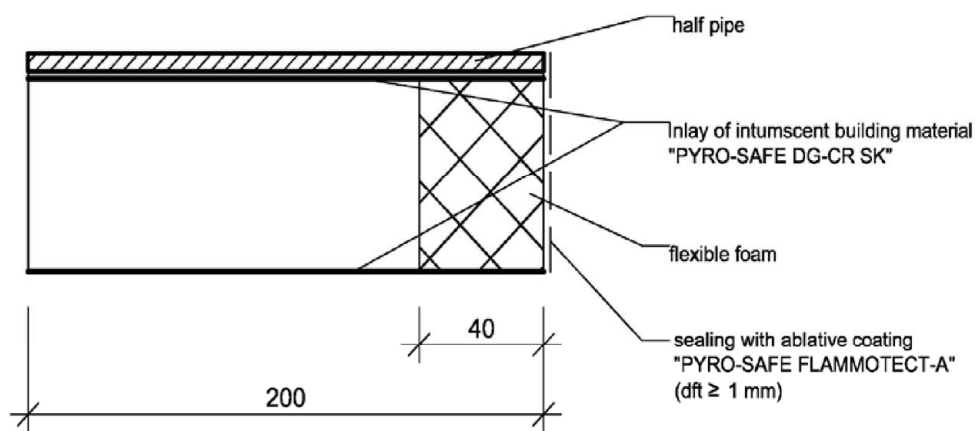
"PYRO-SAFE CT Cable Tube" and "PYRO-SAFE CT ML Cable Tube"

Construction of pipe sleeve "PYRO-SAFE CT Cable Tube", variants 1 and 2

Annex 3



section view A-A (installed)



closing and sealing are needed on one side only!

dimensions in mm

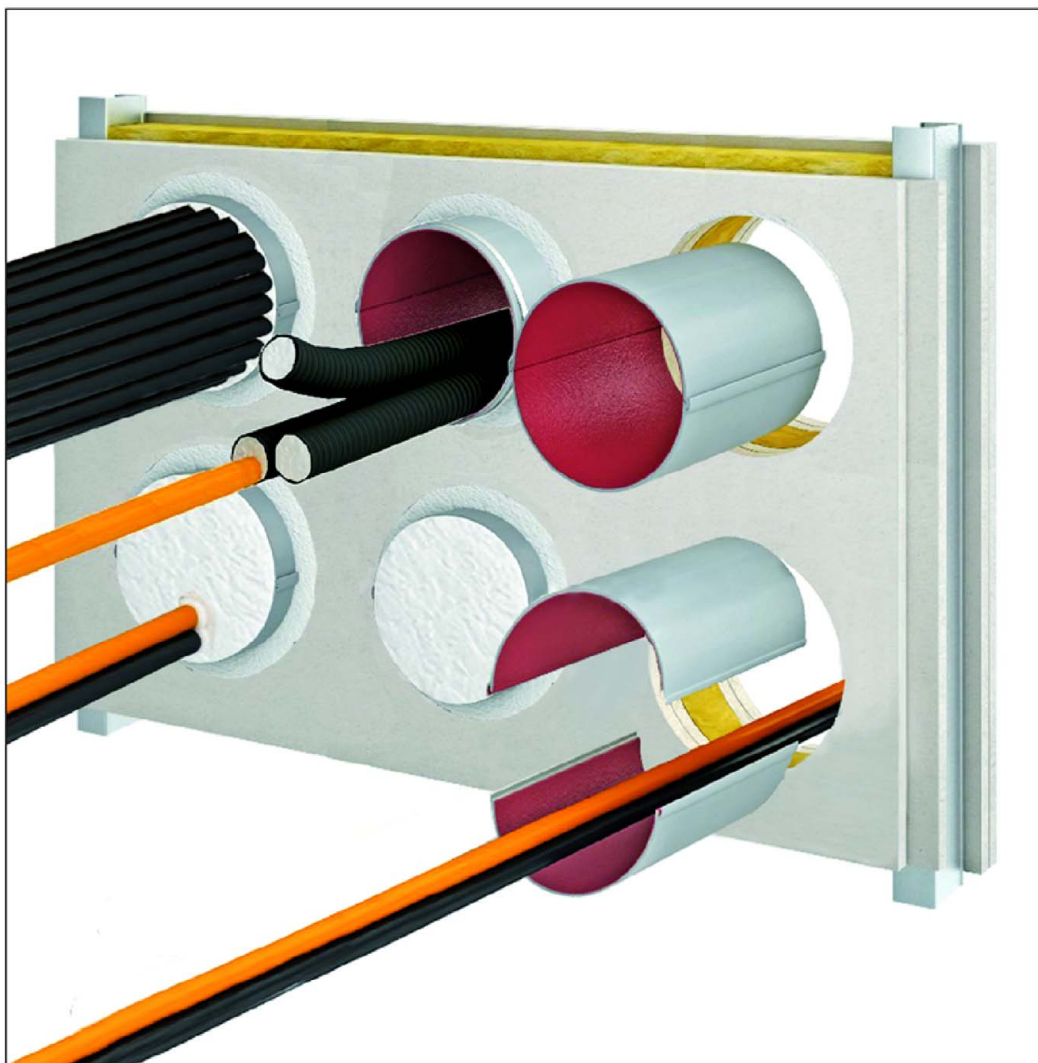
"PYRO-SAFE CT Cable Tube" and "PYRO-SAFE CT ML Cable Tube"

Construction of pipe sleeve "PYRO-SAFE CT ML Cable Tube"

Annex 4



"PYRO-SAFE CT Cable Tube"



"PYRO-SAFE CT Cable Tube" and "PYRO-SAFE CT ML Cable Tube"

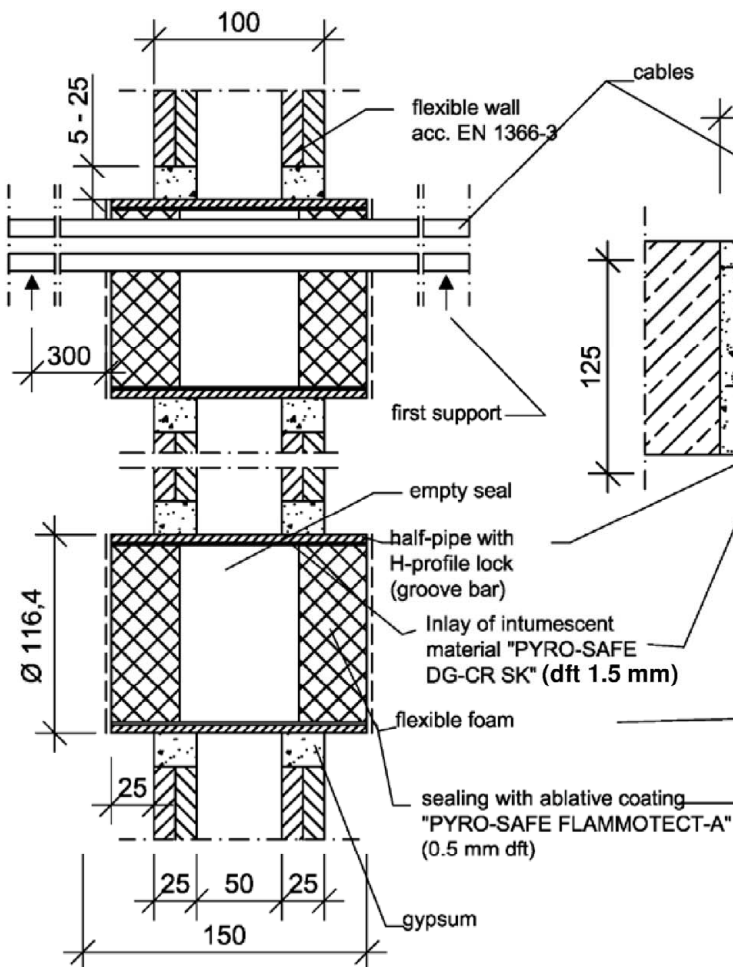
Schematic representation of the built-in pipe sleeves type "PYR-SAFE CT Cable Tube"

Annex 5

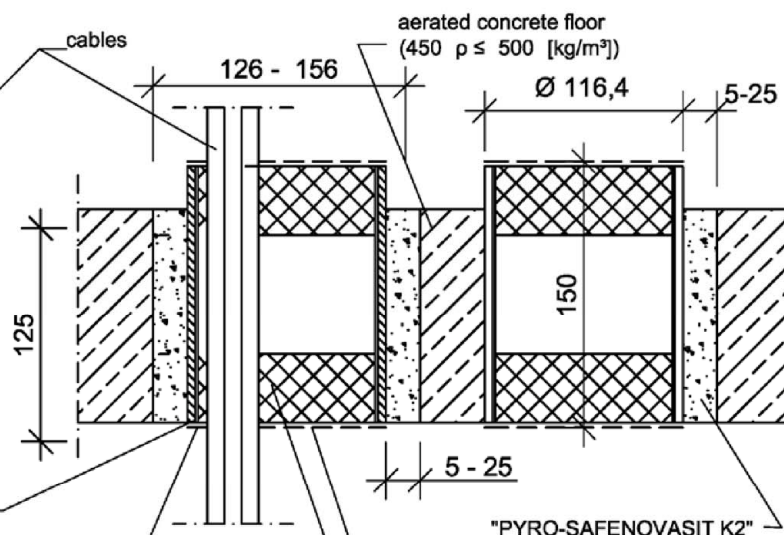
<p>"PYRO-SAFE CT Cable Tube" and "PYRO-SAFE CT ML Cable Tube"</p>	<p>Annex 6</p>
<p>Example for cable penetration seal of fire resistance class EI 90 (wall) EI 120 (floor), using the pipe sleeve "PYRO-SAFE CT Cable Tube"</p>	

"PYRO-SAFE CT Cable Tube", version 2

Intersection, wall construction



Intersection, floor construction



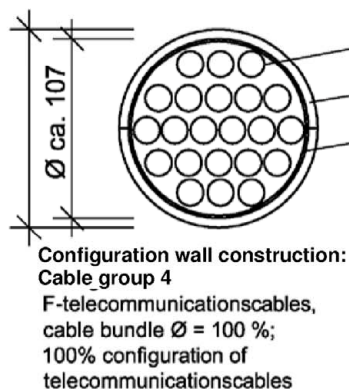
Configuration floor construction:  
100% configuration

cable group 1  
A1: 5 x; Ø 13 mm  
A2: 5 x; Ø ~ 11.5 mm  
A3: 1 x; Ø ~ 11.5 mm  
B : 1 x; Ø ~ 19 mm

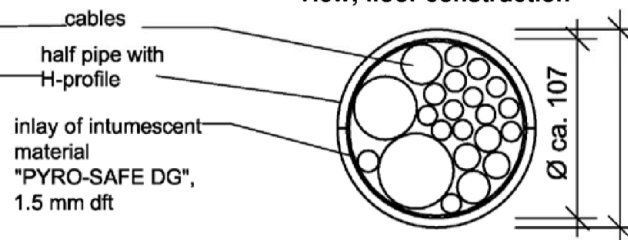
cable group 2  
C1: 1x; Ø ~ 45 mm  
C3: 1x; Ø ~ 36 mm  
E : 1x; Ø ~ 24 mm

cable group 3  
F: 3x; Ø ~ 15.5 mm

View, wall construction



View, floor construction

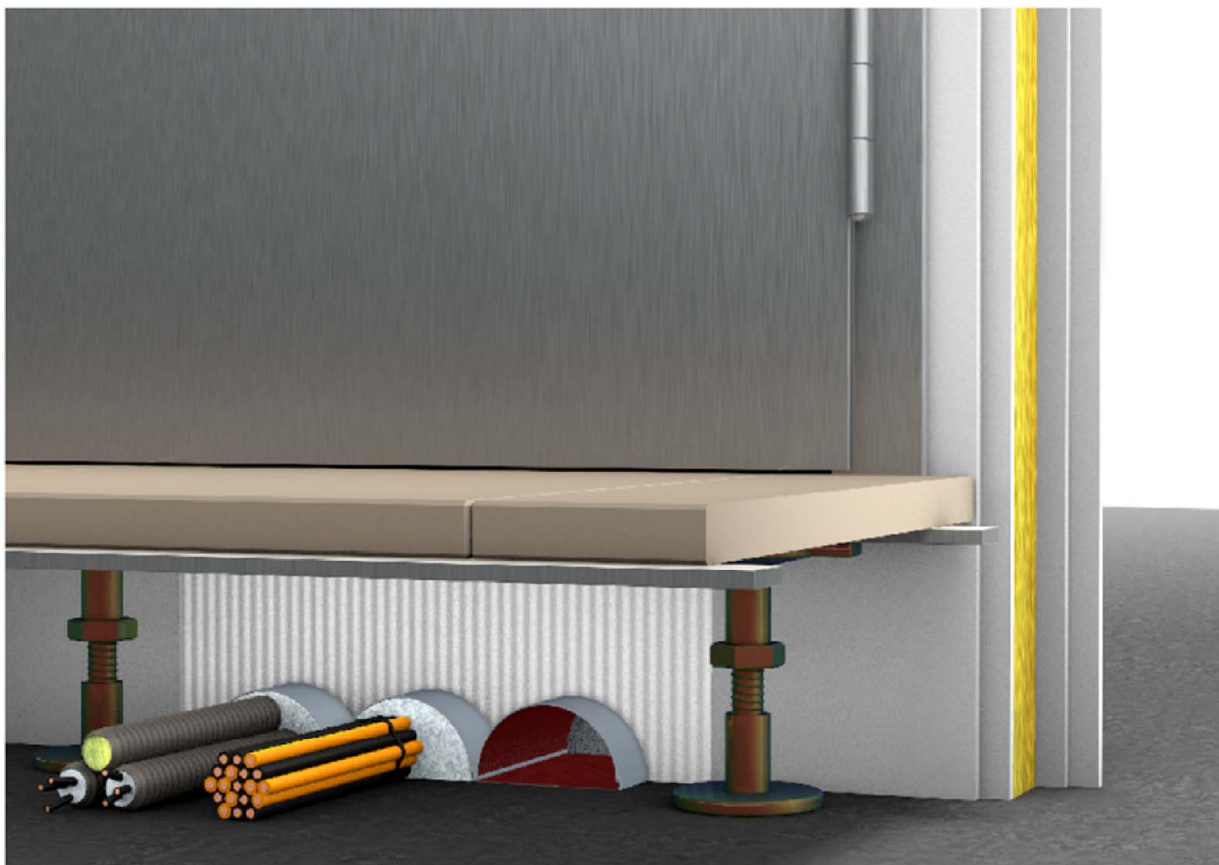


"PYRO-SAFE CT Cable Tube" and "PYRO-SAFE CT ML Cable Tube"

Example for cable penetration seal of fire resistance class EI 90,  
using the pipe sleeve "PYRO-SAFE CT Cable Tube"

Annex 7

"PYRO-SAFE CT ML Cable Tube"



"PYRO-SAFE CT Cable Tube" and "PYRO-SAFE CT ML Cable Tube"

Schematic representation of the built-in pipe sleeves type "PYRO-SAFE CT ML Cable Tube"

Annex 8



# "PYRO-SAFE CT ML Cable Tube"

## View

### Example 1 (EI 90)

configuration:

1 x C2-cable 4 x 95<sup>2</sup>

1 x E-cable 1 x 185<sup>2</sup>

### Example 2 (EI 120)

3 x A1-cable 5 x 1.5<sup>2</sup>

3 x A2-cable 5 x 1.5<sup>2</sup>

3 x A3-cable 5 x 1.5<sup>2</sup>

1 x B-cable 1 x 95<sup>2</sup>

### Example 3 (EI 120)

conduit with 1 x A1-cable 5 x 1.5<sup>2</sup>

conduit with 1 x A2-cable 5 x 1.5<sup>2</sup>

conduit with 1 x A3-cable 5 x 1.5<sup>2</sup>

conduit empty

conduit empty

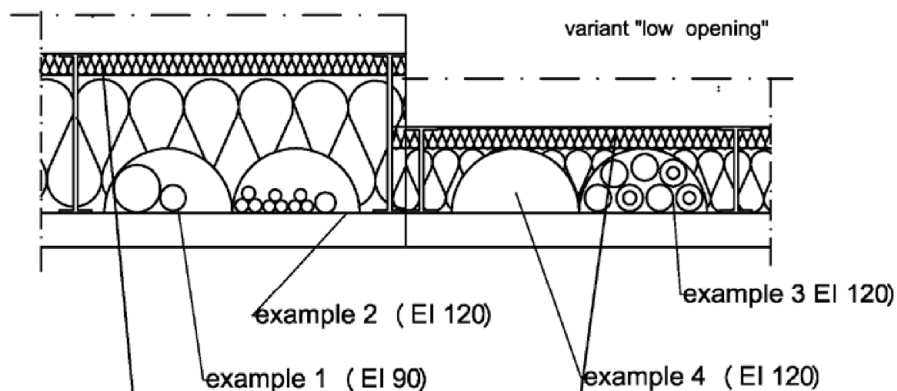
(conduit one sided sealed with  
"PYRO-SAFE FLAMMOTECT-A"

### Example 4 (EI 120)

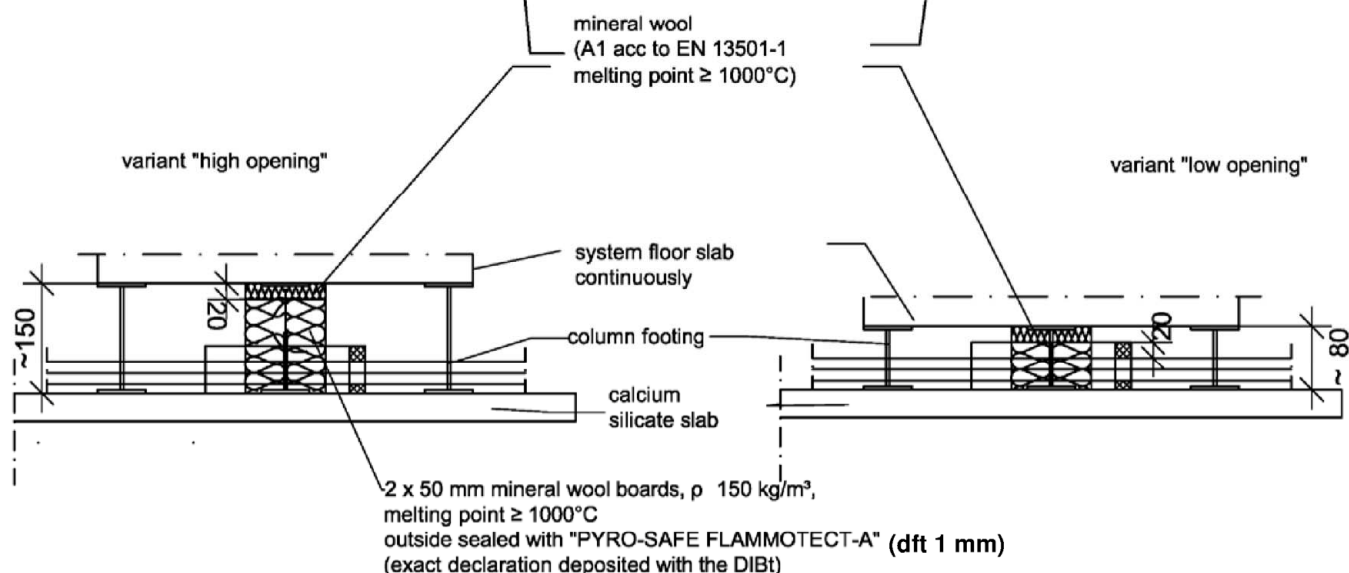
blank seal

variant "high opening"

variant "low opening"



## section view



"PYRO-SAFE CT Cable Tube" and "PYRO-SAFE CT ML Cable Tube"

Cable penetration seals of fire resistance EI 90 respectively EI 120, using the pipe sleeves  
"PYRO-SAFE CT ML Cable Tube"

Annex 9