

## European Technical Assessment

**ETA-15/0432  
of 01/09/2022**

English translation prepared by CSTB - Original version in French language

### General Part

Nom commercial du kit  
*Trade name of the kit*

Mousse intumescente coupe-feu EasyPART  
*Intumescent Fire Stopping Foam EasyPART*

Famille de produit  
*Product family*

**Produits de compartimentage et de calfeutrement au feu :**  
**Calfeutremements de pénétration**  
***Fire Stopping and Sealing Product :***  
***Penetration Seals***

Titulaire  
*Manufacturer*

NUVIA PROTECTION  
1306 route d'Argent  
38510 Morestel  
France

Usine de fabrication e  
*Manufacturing plants*

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Cette évaluation contient  
*This Assessment contains*

29 pages incluant 25 pages d'annexes qui font partie intégrante de cette évaluation.

*29 pages including 25 pages of annexes which form an integral part of this assessment.*

Base de l'ETE  
*Basis of ETA*

DEE 350454-00-1104  
EAD 350454-00-1104

Cette évaluation remplace  
*This Assessment replaces*

ETE 15/0432 délivrée le 12/09/2015  
ETA 15/0432 issued on 12/09/2015

## Specific Part

### 1 Technical description of the product

The EasyPART fire stopping product is an intumescent fire stopping foam to form a penetration seal to reinstate the fire protect floor and wall constructions, where cables and pipes penetrate these walls and floors.

According to the description of the construction product, the EasyPART fire stopping foam is a penetration seal (see EAD 350454-00-1104, Section 1.1).

### 2 Specification of the intended use

#### 2.1 Intended use

The intended use of the EasyPART fire stopping foam is to maintain the fire resistance of a separating element at the position where services pass through.

EasyPART can be used in conjunction with additional thermal protection formed by EasyPART and installed at the unexposed side of the construction. The specific separating elements in which EasyPART may be used to form a penetration seal are as follows:

Rigid floors: The floors must have a minimum thickness of 180 mm (or 200 mm depending on the seal dimensions) and comprise reinforced concrete with a minimum density of 2200 kg/m<sup>3</sup>.

Rigid walls: The walls must have a minimum thickness of 200 mm and comprise aerated concrete with a minimum density of 650 kg/m<sup>3</sup>.

Flexible walls: The walls must have a minimum thickness of 98 mm and comprise all support elements detailed in Annexes B10 and B11.

The surrounding construction must be classified in accordance with EN 13501-2 for the required fire resistance period. This ETA does not cover the use of this product as a penetration seal in sandwich panel constructions.

The EasyPART penetration seal is intended to be penetrated by the following:

Cables: See Annex B for further details

#### 2.2 Type of use

The fire stopping foam can be used for the following environmental conditions:

Type of use	Environmental conditions
Type Z <sub>2</sub>	Intended for internal conditions with humidity lower than 85% RH excluding temperatures below 0°C, without exposure to rain or UV
Type Z <sub>1</sub>	Intended for internal use with humidity equal to or higher than 85% RH excluding temperatures below 0°C <sup>1</sup> , without exposure to rain

#### 2.3 Assumed working life

Provisions made in this European Technical Assessment are based on an assumed intended working life of 10 years, provided that the assembled product is subjected to appropriate use and maintenance in accordance with this ETA.

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<sup>1</sup> This type of use applies for internal humidity class 5 in accordance with EN ISO 13788.

The real working life may be, in normal use conditions, considerably longer without major degradation affecting the basic requirements for works<sup>2</sup>.

Indications given regarding the working life cannot be interpreted as a guarantee given by the manufacturer or his representatives nor by EOTA nor by the Technical Assessment Body issuing this ETA based on EAD 35350140-00-1106, but are regarded only as a means for choosing the appropriate products in relation to the expected economically reasonable working life of the works. They are also not appropriate to serve as a basis to deliver performance of the product for essential characteristics related to the basic requirement 7 for construction works.

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

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

Essential characteristic	Performance
Reaction to fire	Class according to EN 13501-1: E
Resistance to fire	Class according to EN 13501-2: See Annex B

#### 3.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Air permeability	No performance assessed
Water permeability	No performance assessed
Content, emission and/or release of dangerous substances	The manufacturer has presented a written declaration precisating that the product and/or the components of the product do not contain any substances that are classified as dangerous according to Directive 67/548/EEC and Regulation (EC) No 1272/2008 and listed in the "indicative list on dangerous substances" of the SGDS <sup>3</sup> .

#### 3.3 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Mechanical resistance and stability	No performance assessed
Resistance to impact/movement	No performance assessed
Adhesion	No performance assessed
Durability	Z <sub>1</sub>

<sup>2</sup> The real working life of a product incorporated in a specific type of works depends on the environmental conditions to which that type of works is subjected, as well as on the particular conditions of the design, execution, use and maintenance of that type of works. Therefore, it cannot be excluded that in certain cases, the real working life of the product may also be shorter than referred to above.

<sup>3</sup> In addition to the specific conditions relative to content, emission and/or release of dangerous substances in this ETA, other requirements for products with the same intended use may exist (for example, transposition of European legislation and national laws, regulations and administrative provisions). In order to address the provisions of the Construction Products Regulation, these requirements must also be respected, when and where they apply.

### 3.4 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance	
Thermal properties <sup>4</sup>	Conductivity $\lambda$ (W/m·K)	0,0433
	Thermal resistance $R$ (m <sup>2</sup> ·K/W)	1,1
Water vapour permeability	No performance assessed	

### 4 Assessment and verification of constancy of performance (AVCP)

According to the Decision 1999/454/EC of the European Commission<sup>5</sup>, the system of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) given in the following Table applies.

Product	Intended use	Level or class	System
Fire stopping and fire sealing products	For fire compartmentation and/or fire protection or fire performance	any	1

### 5 Technical details necessary for the implementation of the AVCP system, as planned in the relevant EAD

Technical details necessary for the implementation of the Assessment and verification of constancy of performance (AVCP) system are laid down in the control plan deposited at Centre Scientifique et Technique du Bâtiment.

The control plan including confidential informations, it is not included in the published part of this ETA.

The manufacturer shall, on the basis of a contract, involve a notified body approved in the field of fire stopping and sealing products for issuing the certificate of conformity CE based on the control plan.

The Notified Body shall visit the factory at least twice a year for surveillance of the manufacturer.

The original French version is signed by

Anca Cronopol

Head of the Structure, Masonry, Partition Division

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<sup>4</sup> At ambient temperature (24,3°C)

<sup>5</sup> Official Journal of the European Communities L 178/52 of 14.7.1999

Annex A: Product description



Product sheet

EasyPART Intumescent fireproof foam



EasyPART is a two-component intumescent firestop foam for sealing electrical and mechanical penetrations.

Guaranteed free of halogenated derivatives, EasyPART can be used with a manual, pneumatic or electrical gun.

Benefits

- Very high expansion rate (x12 approx)
- Easy to use: ready-to-use-product with an applicator gun
- Fast setting time.
- Easy to rework through-holes without changing the existing caulking

Key points

EI 120  
 → Fire resistance

x12  
 → Expansion rate

0  
 → Guaranteed free of halogenated derivatives



Ref: ET EasyPART 1001 - 04 - 231119

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EasyPART Intumescent Fire Stopping Foam

Product description

Annex A1



A PRODUCT RANGE BY  
 NUVIATECH PROTECTION

## EasyPART

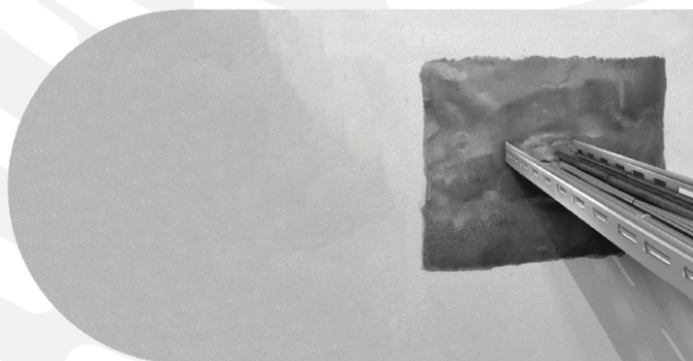
EI 120 intumescent fireproof foam

### Description

EasyPART is a two-component intumescent foam.  
 Available in 2 sizes: 2,6L or 5L of expanded foam .  
 Cartridges size: 210ml or 400ml.

Caulking of small to large openings up to 1200mmx800mm

Slab or wall configurations, on all supports: drywall, masonry, concrete



Cartridge	Gun	Photos
EasyPART 2,6L	Standard manual gun	
	Standard pneumatic gun	
	Standard gun for screwdriver	
EasyPART 5L	Manual two-component gun	
	Pneumatic two-component gun	
EasyPART 2,6L and 5 L	Electrical gun (battery operated)	

### Implementation

- Calculate the volume of the opening to be filled and the number of cartridges needed.
- Clean and degrease the surfaces
- If necessary, make a lightweight case (cardboard, polyane....)
- Remove the cap and screw on the static mixer
- Using a suitable gun, extract the foam to completely fill the opening
- Allow to dry for 15 minutes before removing the case and then place the compliance label

### Special features

- Density: approx. 0.08 Kg/L
- Thermal conductivity (according to ISO 8302) : 0.04W/(m.K)
- Shelf life : 12 months maximum (see label on the cartridge)
- Reaction to the fire classification: E

### Safety measures

- Refer to the product safety data sheet
- Observe the usual rules of work hygiene
- Wear suitable PPE: gloves, protective clothing & glasses

### Approval and qualifications

- ETA-15/0432
- PV EFACTIS 13-A-492 Rev1
- Tested according to European standard EN 1366-3

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EasyPART Intumescent Fire Stopping Foam

Product description

Annex A1

**Annex B: Resistance to fire classification**

**Minimum density of supporting construction in which EasyPART is used as a penetration seal**

Supporting construction	Minimum density
Rigid floors	≥ 2200 kg/m <sup>3</sup>
Rigid walls	≥ 2200 kg/m <sup>3</sup> or ≥ 650 kg/m <sup>3</sup> (see Annex B)

**Minimum thickness of EasyPART fire stopping foam**

Supporting construction	Minimum thickness
Rigid floors	≥ 180 mm or ≥ 200 mm (see Annex B)
Rigid walls	≥ 200 mm
Flexible walls	≥ 200 mm (with respect to specific conditions detailed in Annexes B10 and B11).

**Maximum seal sizes filled with EasyPART fire stopping foam**

Supporting construction	Maximum size
Rigid floors with thickness ≥ 180 mm	300 mm × 100 mm (see Annex B2)
Rigid floors with thickness ≥ 200 mm	500 mm × 300 mm (see Annexes B2 and B3) 1200 mm × 800 mm (see Annexes B5 and B6)
Rigid walls with thickness ≥ 200 mm	500 mm × 300 mm (see Annexes B8 and B9) 1200 mm × 800 mm (see Annex B7)
Flexible walls with thickness ≥ 98 mm	530 mm × 355 mm or $\phi = 100$ mm (with respect to specific conditions detailed in Annexes B10 and B11)

**Installation supports that may penetrate the penetration seal**

Steel cable trays (galvanized steel with a perforated bottom and without closure cap on both ends.

**Installations that may penetrate the penetration seal (details in Annexes B2 to B11)**

Cables (non-sheathed).

Metallic pipes (C/U).

EasyPART Intumescent Fire Stopping Foam

General information

Annex B1

**Working space**

Supporting construction	Minimum working space <sup>1)</sup>					Seal passage size
	a1	a2	a3	a4	a5	
Rigid floors with thickness ≥ 180 mm	90 mm	-	35 mm	55 mm	-	300 mm x 100 mm
Rigid floors with thickness ≥ 200 mm	150 mm	-	130 mm	120 mm	-	500 mm x 300 mm
	50 mm	70 mm	50 mm	135 mm	100 mm	1200 mm x 800 mm
	See Annex B6 for metallic pipes					1200 mm x 800 mm
Rigid walls with thickness ≥ 200 mm	150 mm	-	130 mm	120 mm	-	500 mm x 300 mm
	50 mm	100 mm	50 mm	10 mm	150 mm	1200 mm x 800 mm
Flexible walls with thickness ≥ 98 mm	150 mm	-	130 mm	120 mm	-	530 mm x 355 mm
						$\phi = 100$ mm

<sup>1)</sup> Definition of working space is specified with example in EN 1366-3, Annex A

EasyPART Intumescent Fire Stopping Foam

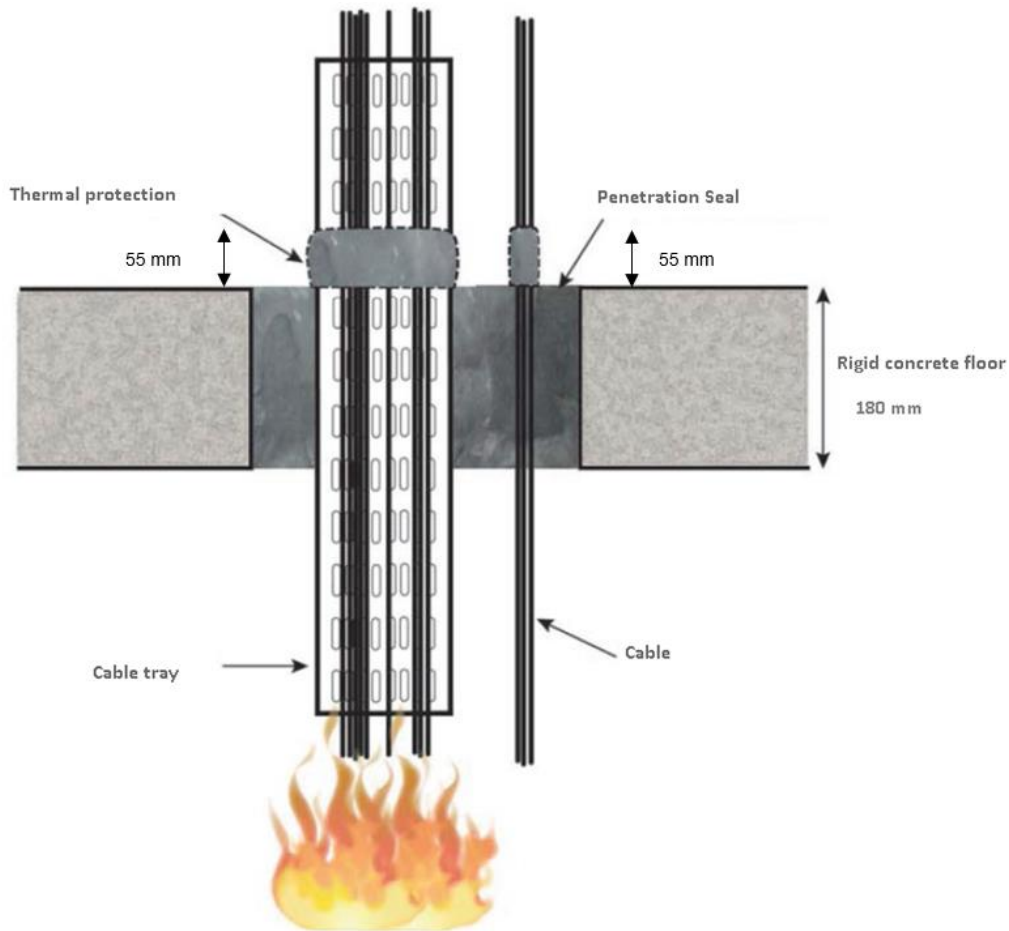
General information

Annex B1



**Annex B2: Resistance to fire classification**

**Penetration seal: Electrical cables fitted within rigid floor with a minimum thickness of 180 mm, sealed with EasyPART fire stopping foam and thermal protection**



Services	Classification	Seal size	Seal thickness
<b>Copper electric cables</b>	E 120; I 120	300 mm x 100 mm	180 mm
12 cables Cu $\phi = 6$ mm			
12 cables 30 pairs x 0,9 mm <sup>2</sup> - Cu - $\phi = 7$ mm			
8 cables 5G 1,5 mm <sup>2</sup> - Cu $\phi = 10$ mm			
<b>Cable tray</b>	E 120; I 120	300 mm x 100 mm	180 mm
Galvanized steel 120 mm x 30 mm x 1,5 mm cable tray with a perforated bottom and without closure cap on both ends			
<b>Thermal protection<sup>6</sup></b>	E 120; I 120	300 mm x 100 mm	180 mm
EasyPART applied with 40 mm – 60 mm length with 55 mm thickness on the unexposed face			

<sup>6</sup> Thermal protection is optional. It is conducted by cutting the EasyPART fire stopping foam in a way to leave the cables partially covered with foam on 40 to 60 mm length on the unexposed face and a thickness of 55 mm.

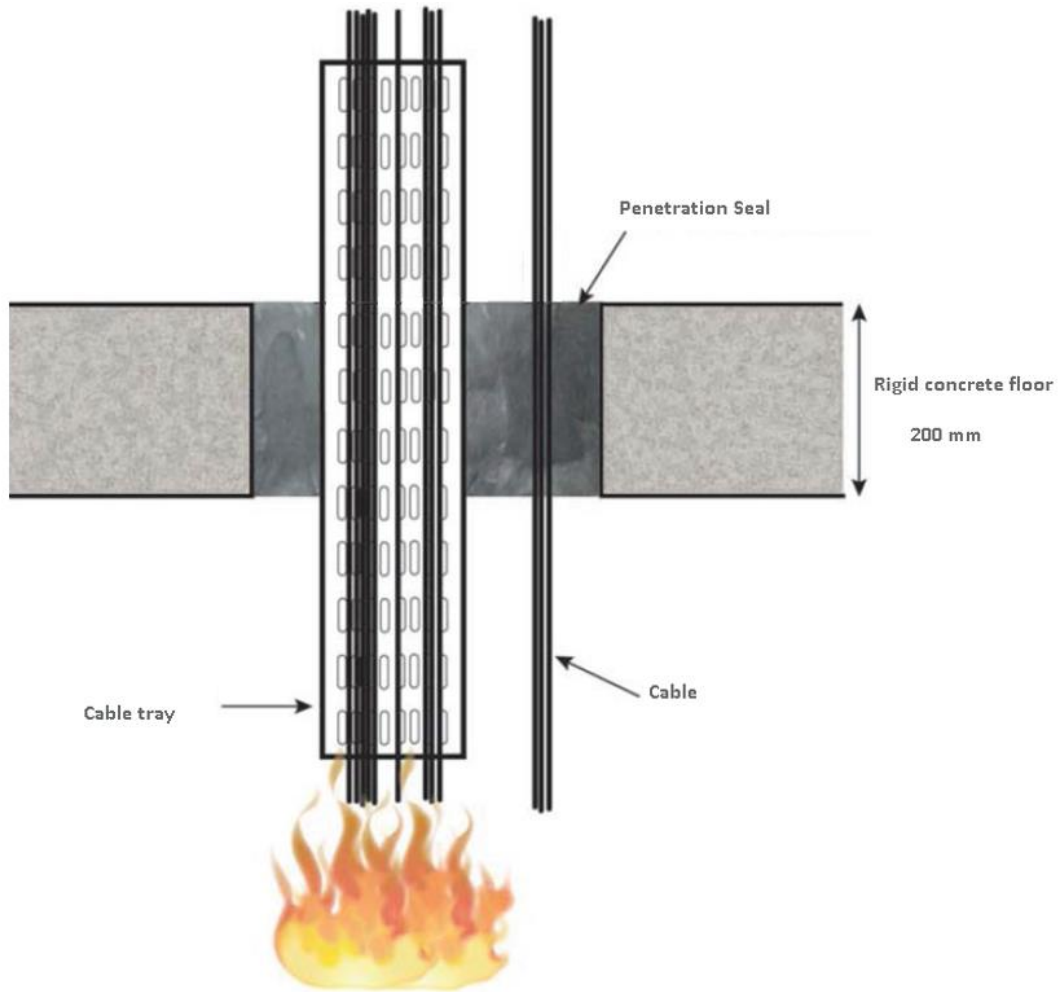
**EasyPART Intumescent Fire Stopping Foam**

**Resistance to fire classification**  
 Rigid floor constructions with minimum floor thickness of 180 mm

**Annex B2**

**Annex B3: Resistance to fire classification**

**Penetration seal: Electrical cables fitted within rigid floor with a minimum thickness of 200 mm, sealed with EasyPART fire stopping foam**



Services	Classification	Seal size	Seal thickness
<b>Copper electric cables</b>	E 180; I 60	500 mm x 300 mm	200 mm
4 cables Cu $\phi = 16$ mm – 4 x 10 mm <sup>2</sup>			
10 cables Cu $\phi = 6$ mm Coaxial			
7 cables Cu $\phi = 11$ mm 30 pairs x 0,5 mm <sup>2</sup>			
8 cables Cu $\phi = 11$ mm 5G 1,5 mm <sup>2</sup>			
<b>Cable tray</b>			
Galvanized steel 200 mm x 50 mm x 1,5 mm cable tray with a bottom perforated and without closure cap at two ends			

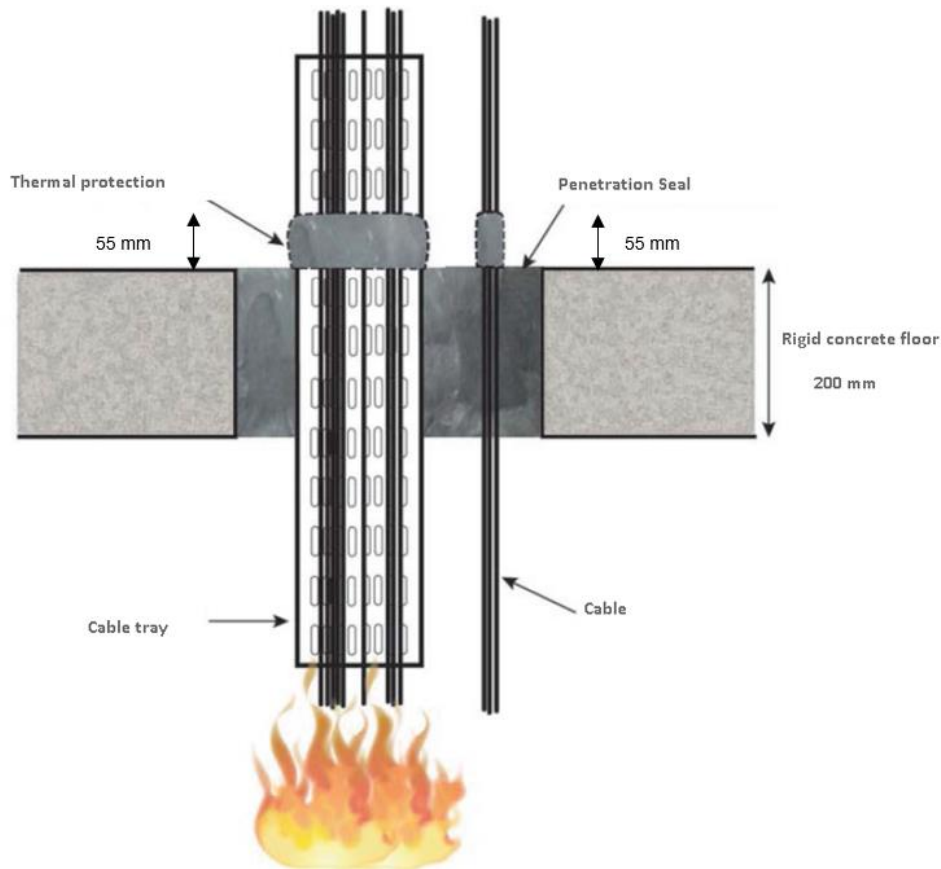
EasyPART Intumescent Fire Stopping Foam

**Resistance to fire classification**  
 Rigid floor constructions with minimum floor thickness of 200 mm

**Annex B3**

**Annex B4: Resistance to fire classification**

**Penetration seal: Electrical cables fitted within rigid floor with a minimum thickness of 200 mm, sealed with EasyPART fire stopping foam and thermal protection**



Services	Classification	Seal size	Seal thickness
<b>Copper electric cables</b>	E 180; I 120	500 mm x 300 mm	200 mm
4 cables Cu $\phi = 16$ mm – 4 x 10 mm <sup>2</sup>			
10 cables Cu $\phi = 6$ mm Coaxial			
7 cables Cu $\phi = 11$ mm 30 pairs x 0,5 mm <sup>2</sup>			
8 cables Cu $\phi = 11$ mm 5G 1,5 mm <sup>2</sup>			
<b>Cable tray</b>			
Galvanized steel 200 mm x 50 mm x 1,5 mm cable tray with a bottom perforated and without closure cap at two ends			
<b>Thermal protection<sup>7</sup></b>			
EasyPART applied with 60 mm length x 55 mm thickness on the unexposed face			

<sup>7</sup> Thermal protection is optional. It is conducted by cutting the EasyPART fire stopping foam in a way to leave the cables partially covered with foam on 60 mm length on the unexposed face and a thickness of 55 mm.

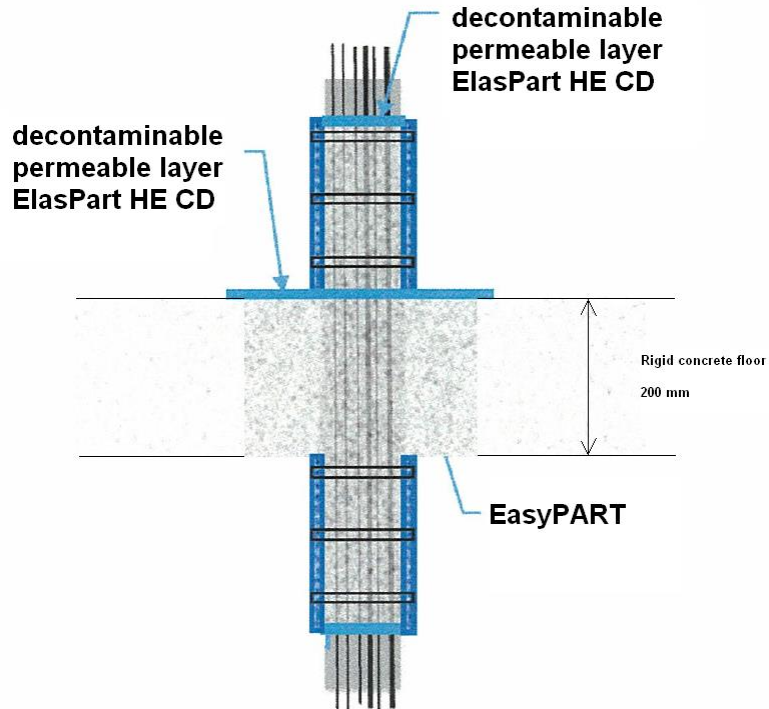
**EasyPART Intumescent Fire Stopping Foam**

**Resistance to fire classification**  
 Rigid floor constructions with minimum floor thickness of 200 mm

**Annex B4**

**Annex B5: Resistance to fire classification**

**Penetration seal: Metallic cables fitted within rigid floor with a minimum thickness of 200 mm, sealed with EasyPART fire stopping foam and thermal protection**



Services	Classification	Seal size	Seal thickness
<b>Copper electric cables</b>	E 180; I 180	1200 mm x 800 mm	200 mm
2 cables Cu 400 mm <sup>2</sup> BT/SH			
2 cables Cu 4 x 95 mm <sup>2</sup> BT/SH			
1 cable Cu 3 x 35 mm <sup>2</sup> BT/SH			
2 cables Cu 4 x 2,5 mm <sup>2</sup> BT/SH			
1 bundle of 18 cables Cu 4 x 2,5 mm <sup>2</sup> BT/SH			
<b>Cable tray</b>			
Galvanized steel 604 mm x 96 mm x 1,5 mm cable tray with a bottom perforated and without closure cap at two ends			
<b>Thermal protection (detailed in the following table)</b>			

EasyPART Intumescent Fire Stopping Foam

**Resistance to fire classification**  
 Rigid floor constructions with minimum floor thickness of 200 mm

**Annex B5**

Services	Classification	Seal size	Seal thickness
<b>Copper electric cables</b>	E 180; I 180	1200 mm x 800 mm	200 mm
1 cable Cu 400 mm <sup>2</sup> MT/SH			
2 cables Cu 2 x 95 mm <sup>2</sup> BT/SH			
2 cables Cu 4 x 35 mm <sup>2</sup> BT/SH			
2 cables Cu 3 x 1,5 mm <sup>2</sup> BT/SH			
1 bundle of 18 cables Cu 3 x 1,5 mm <sup>2</sup> BT/SH			
<b>Cable tray</b>			
Galvanized steel 604 mm x 96 mm x 1,5 mm cable tray with a bottom perforated and without closure cap at two ends			
Thermal protection (detailed in the following table)			
<b>Aluminium electric cables</b>			
1 cable Alum 630 mm <sup>2</sup> MT/SH			
1 cable Alum 630 mm <sup>2</sup> BT/SH			
1 cable Alum 3 x 95 mm <sup>2</sup> MT/SH			
1 cable Alum 3 x 240 mm <sup>2</sup> BT/SH			
<b>Cable tray</b>			
Galvanized steel 316 mm x 96 mm x 1,5 mm cable tray with a bottom perforated and without closure cap at two ends			
Thermal protection (detailed in the following table)			
<b>Copper control blinded cables</b>	E 180; I 120	1200 mm x 800 mm	200 mm
15 cables Cu 48 x 0,5 mm <sup>2</sup> Control cable shielded/SH			
15 cables Cu 3 x 1 mm <sup>2</sup> Control cable shielded/SH			
<b>Cable tray</b>			
Galvanized steel 316 mm x 96 mm x 1,5 mm cable tray with a bottom perforated and without closure cap at two ends			
<b>Copper control blinded cables</b>			
11 cables Cu 48 x 1 mm <sup>2</sup> Control cable shielded/SH			
12 cables Cu 19 x 1 mm <sup>2</sup> Control cable shielded/SH			
<b>Cable tray</b>			
Galvanized steel 316 mm x 96 mm x 1,5 mm cable tray with a bottom perforated and without closure cap at two ends			
<b>Copper measurement cables</b>			
4 cables Cu 1 pair x 1 mm <sup>2</sup> Mesure/SH			
4 cables Cu 12 pairs x 0,5 mm <sup>2</sup> Mesure/SH			
4 cables Cu 12 pairs x 1 mm <sup>2</sup> Mesure/SH			
1 cables Cu 1 pair x 1 mm <sup>2</sup> Mesure/SH			
10 cables Cu 12 pairs x 1 mm <sup>2</sup> Compensation/SH			

EasyPART Intumescent Fire Stopping Foam

**Resistance to fire classification**  
 Rigid floor constructions with minimum floor thickness of 200 mm

Annex B5

Services	Classification	Seal size	Seal thickness
<b>Cable tray</b>	E 180; I 180	1200 mm x 800 mm	200 mm
Galvanized steel 316 mm x 96 mm x 1,5 mm cable tray with a bottom perforated and without closure cap at two ends			
<b>Optical fibres</b>			
2 x 4 optical fibres Fibre optique/SH			
2 x 6 optical fibres Fibre optique/SH			
2 x 10 optical fibres Fibre optique/SH			
1 x 4 optical fibres Fibre optique/SH			
1 x 6 optical fibres Fibre optique/SH			
1 x 10 optical fibres Fibre optique/SH			
<b>Cable tray</b>			
Galvanized steel 195 mm x 48 mm x 1,5 mm cable tray with a bottom perforated and without closure cap at two ends			
<b>Distribution cable</b>			
1 distribution cable Cu 4 x 2,5 mm <sup>2</sup> BT/SH			
<b>Copper Bus bar</b>			
1 flat bus bar Cu 40 x 5 mm			
<b>Thermal protection (detailed in the following table)</b>			
<b>Copper Bus bar</b>			
1 braid bus bar Cu 182 mm <sup>2</sup>			
<b>Thermal protection (detailed in the following table)</b>			
<b>Copper Bus bar</b>			
1 braid bus bar Cu 48 mm <sup>2</sup>			
<b>Thermal protection (detailed in the following table)</b>			
<b>Copper Bus bar</b>			
1 braid bus bar Cu 150 mm <sup>2</sup>			
<b>Thermal protection (detailed in the following table)</b>			
<b>Copper Bus bar</b>			
1 braid bus bar Cu 70 mm <sup>2</sup>			
<b>Thermal protection (detailed in the following table)</b>			
<b>Copper Bus bar</b>			
1 rod bus bar Cu 31,5 x 3,2 mm <sup>2</sup>			
<b>Thermal protection (detailed in the following table)</b>			
<b>Copper Bus bar</b>			
1 rod bus bar Cu 50 x 5 mm <sup>2</sup>			
<b>Thermal protection (detailed in the following table)</b>			

EasyPART Intumescent Fire Stopping Foam

**Resistance to fire classification**  
 Rigid floor constructions with minimum floor thickness of 200 mm

Annex B5

**Details of thermal insulation**

The thermal protection is realized by applying the tissue TisPART with 350 mm height and an overlap of minimum 30 mm on the perimeter of cable tray on the unexposed and exposed sides and injecting foam EasyPART into the thermal protection sleeves.

Principle of mounting thermal protection by tissue TisPart and EasyPart:

- Pre-cut the tissue TisPart Intum to size of the cable tray L1, L2 and L3 with a height of 350 mm and an overlap of minimum 30 mm on the perimeter.
- Glue the tissue with glue StickPart.
- Establish the tissue on cable trays and bus bars (braid and rod bus bars).
- Maintain the tissue during its drying (5 hours) by using an adhesive tape.
- Replace the maintain device by hooping iron wire with diameter under 1 mm.
- Cast the foam EasyPart with a height of 350 mm on the unexposed and exposed sides to fire.

The permeable seal by silicone sealant ElasPart HE CD is settled on the unexposed side to fire in the case where the presences of thermal protection sleeve. Here is the principle of settling of permeable seal:

- Establish an adhesive tape with a thickness greater than 30 mm so as to make a protrusion exceeding 50 mm over the reinforced concrete support construction.
- Dust the surface of foam EasyPart and concrete which is delimited by the adhesive tape.
- Prepare the layer of permeable seal with ElasPart HE CD (by weighting compound A: 90,9% and compound - B: 9,1%)
- Cover the seal by a layer of ElasPart HE CD with thickness between 6 and 8 mm.
- Cover the thermal protection sleeve by a layer of ElasPart HE CD with thickness between 6 and 8 mm.

The classification is valid with or without the permeable layer. The permeable layer could be settled on the unexposed side or on the two sides without changing the classification result.

The field of direct application applies to the external dimensions of the service.

The classification are valid in the condition that the total value of the service sections (include insulation) does not exceed 5,6% of the section of seal.

The maximum opening dimensions 1200 × 800 mm could not be sealed without the presence of services.

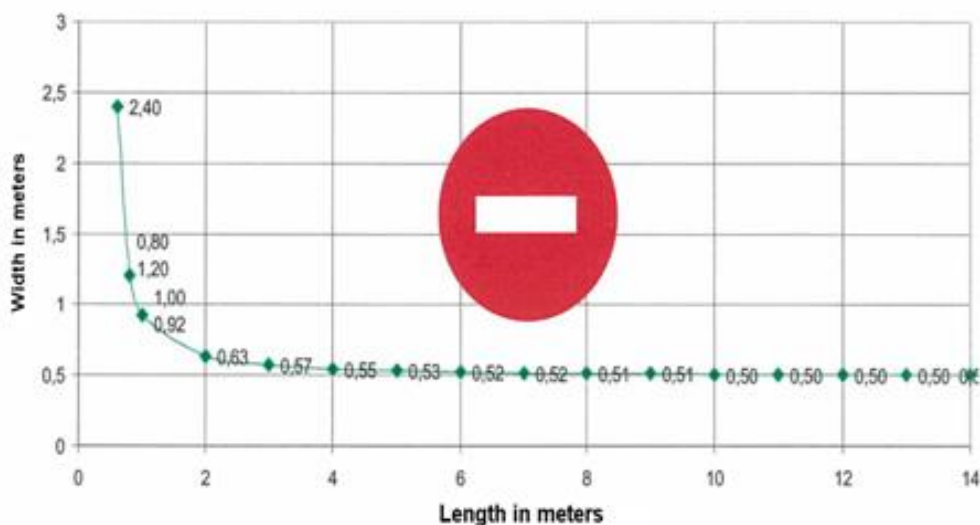
**EasyPART Intumescent Fire Stopping Foam**

**Resistance to fire classification**  
Rigid floor constructions with minimum floor thickness of 200 mm

**Annex B5**

The classification is applicable, to a slab test with one side is greater than 1000 mm with all combinations of length / width, the ratio perimeter / section of seal is not less than the tested ratio, means:

Maximum dimensions for the sealant system by 200 mm foam EasyPart coated with a permeable layer ElasPart HE CD throughing slab only



The perimeter / section ratio of tested seal is  $4,16 \text{ m}^{-1}$ . The different valid dimensions are the dimensions below the curve figured above.

EasyPART Intumescent Fire Stopping Foam

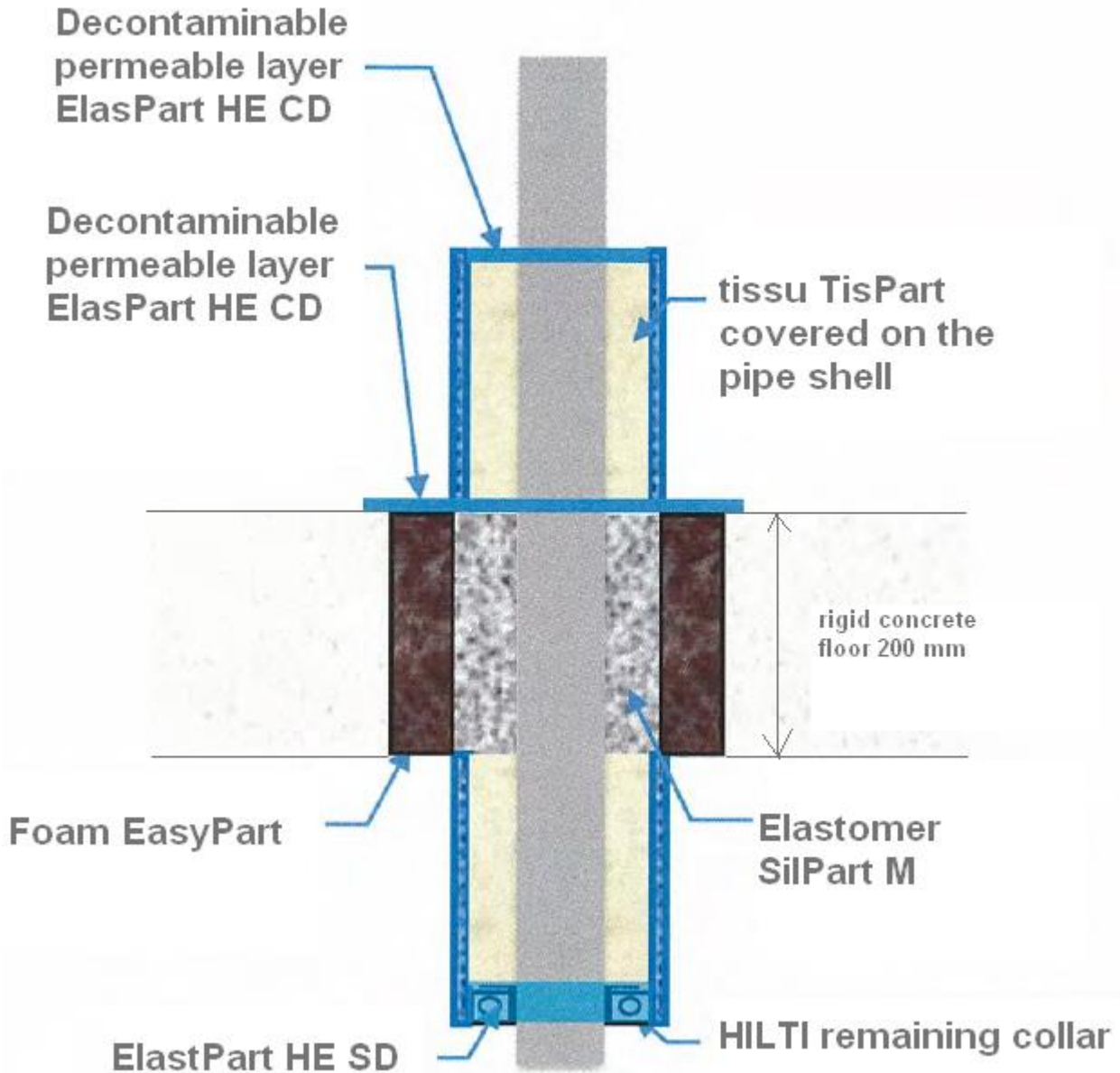
Resistance to fire classification  
 Rigid floor constructions with minimum floor thickness of 200 mm

Annex B5



**Annex B6: Resistance to fire classification**

**Penetration seal: Metallic pipes fitted within the rigid floor 200 mm with EasyPART, SilPart M plus thermal protection**



Services	Classification	Seal size	Seal thickness
<b>Black steel pipe</b>	E 120; I 120 C/U, C/C	1200 mm x 800 mm	200 mm
1 black steel pipe with $\phi_{ext} = 323,9$ mm and thickness = 12,5 mm			
Shell around the pipe by applying the SilPART with a thickness of 50 mm			
<b>Thermal protection Type 1 (detailed in the following table)</b>			

**EasyPART Intumescent Fire Stopping Foam**

**Resistance to fire classification**  
 Rigid floor constructions with minimum floor thickness of 200 mm

**Annex B6**

Services	Classification	Seal size	Seal thickness
<b>Black steel pipe</b>	E 120; I 90 C/U, C/C		
1 black steel pipe with $\phi_{ext} = 323,9$ mm and thickness = 4 mm			
Shell around the pipe by applying the SilPART with a thickness of 50 mm			
<b>Thermal protection Type 1 (detailed in the following table)</b>	E 120; I 120 C/U, C/C	1200 mm x 800 mm	200 mm
<b>Black steel pipe</b>			
1 black steel pipe with $\phi_{ext} = 114,3$ mm and thickness = 4 mm			
Shell around the pipe by applying the SilPART with a thickness of 50 mm			
<b>Thermal protection Type 1 (detailed in the following table)</b>			
<b>Black steel pipe</b>			
1 black steel pipe with $\phi_{ext} = 114,3$ mm and thickness = 12,5 mm			
Shell around the pipe by applying the SilPART with a thickness of 30 mm			
<b>Thermal protection Type 2 (detailed in the following table)</b>			
<b>Black steel pipe</b>			
1 black steel pipe with $\phi_{ext} = 114,3$ mm and thickness = 4 mm			
Shell around the pipe by applying the SilPART with a thickness of 30 mm			
<b>Thermal protection Type 2 (detailed in the following table)</b>			
<b>Black steel pipe</b>			
1 black steel pipe with $\phi_{ext} = 48,3$ mm and thickness = 3,6 mm			
Shell around the pipe by applying the SilPART with a thickness of 30 mm			
<b>Thermal protection Type 2 (detailed in the following table)</b>			
<b>Black steel pipe</b>			
1 black steel pipe with $\phi_{ext} = 48,3$ mm and thickness = 5 mm			
<b>Black steel pipe</b>			
1 black steel pipe with $\phi_{ext} = 48,3$ mm and thickness = 3,6 mm			
<b>Black steel pipe</b>			
1 black steel pipe with $\phi_{ext} = 13,7$ mm and thickness = 2,24 mm			
<b>Black steel pipe</b>			
1 black steel pipe with $\phi_{ext} = 60,3$ mm and thickness = 5,6 mm			
Shell around the pipe by applying the SilPART with a thickness of 30 mm			
<b>Thermal protection Type 2 (detailed in the following table)</b>			

EasyPART Intumescent Fire Stopping Foam

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 Rigid floor constructions with minimum floor thickness of 200 mm

Annex B6

Services	Classification	Seal size	Seal thickness
<b>Copper pipe</b>	E 120; I 90 C/U, C/C	1200 mm x 800 mm	200 mm
1 black steel pipe with $\phi_{ext} = 60,3$ mm and thickness = 2 mm			
Shell around the pipe by applying the SilPART with a thickness of 30 mm			
<b>Thermal protection Type 2 (detailed in the following table)</b>			
<b>Copper pipe</b>			
1 black steel pipe with $\phi_{ext} = 60,3$ mm and thickness = 1 mm			
Shell around the pipe by applying the SilPART with a thickness of 30 mm			
<b>Thermal protection Type 2 (detailed in the following table)</b>			
<b>Copper pipe</b>			
1 black steel pipe with $\phi_{ext} = 13,7$ mm and thickness = 1 mm			
Shell around the pipe by applying the SilPART with a thickness of 30 mm			
<b>Thermal protection Type 2 (detailed in the following table)</b>			
<b>Copper pipe</b>			
1 black steel pipe with $\phi_{ext} = 33,7$ mm and thickness = 1 mm			
Shell around the pipe by applying the SilPART with a thickness of 30 mm			
<b>Thermal protection Type 2 (detailed in the following table)</b>			

**Details of thermal insulation**

The thermal protections is realized as following:

- Type 1: Apply the mineral wool with a 50 mm thickness and a 350 mm length around the pipe and covering by a tissue TisPART with 350 mm height and an overlap of minimum 30 mm on the perimeter of mineral wool on the unexposed and exposed sides.
- Type 2: Apply the mineral wool with a 30 mm thickness and a 350 mm length around the pipe and covering by a tissue TisPART with 350 mm height and an overlap of minimum 30 mm on the perimeter of mineral wool on the unexposed and exposed sides.

Principle of mounting thermal protection by mineral wool and tissue TisPart:

- Prepare the shell by mineral wool with a length of 350 mm for each pipe and a thickness adapted to the diameter of service.
- Glue the shell by glue StickPart
- Maintain the inferior part of shell by collar
- Pre-cut the tissue TisPart Intum to a 350 mm height and an enough length to have an overlap of minimum 30 mm on the perimeter of mineral wool.
- Glue the tissue with glue StickPart
- Maintain the tissue during its drying (5 hours) by using an adhesive tape.
- Replace the maintain device by hooping iron wire with diameter under 1 mm.
- Finish the top side sleeve by casting ElasPart HE CD and the underside sleeve by trowelling ElasPart HE SD (base ElasPart HE CD + addition of a thixotropic agent).

**EasyPART Intumescent Fire Stopping Foam**

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 Rigid floor constructions with minimum floor thickness of 200 mm

**Annex B6**

The permeable seal by silicone sealant ElasPart HE CD is settled on the unexposed side to fire in the case where the presences of thermal protection sleeve. Here is the principle of settling of permeable seal:

- Establish an adhesive tape with a thickness greater than 30 mm so as to make a protrusion exceeding 50 mm over the reinforced concrete support construction.
- Dust the surface of foam EasyPart and concrete which is delimited by the adhesive tape.
- Prepare the layer of permeable seal with ElasPart HE CD (by weighting compound A: 90,9% and compound B: 9,1%)
- Cover the seal by a layer of ElasPart HE CD with thickness between 6 and 8 mm.

The classifications are valid only for the material of metallic pipe tested.

The classifications with more metallic pipes installed through a single opening are valid for the installation of a single pipe through a single opening of the same type.

The length of isolation could be increased but not reduced.

The density of insulation tested is 1,8 kg/L, this value could be increased but not reduced.

The insulation should be classified at least A2 according to EN 13501-1.

The classifications with pipes installed perpendicularly to seal are valid for metallic pipes installed perpendicular up to an angle of 45° according to the seal system.

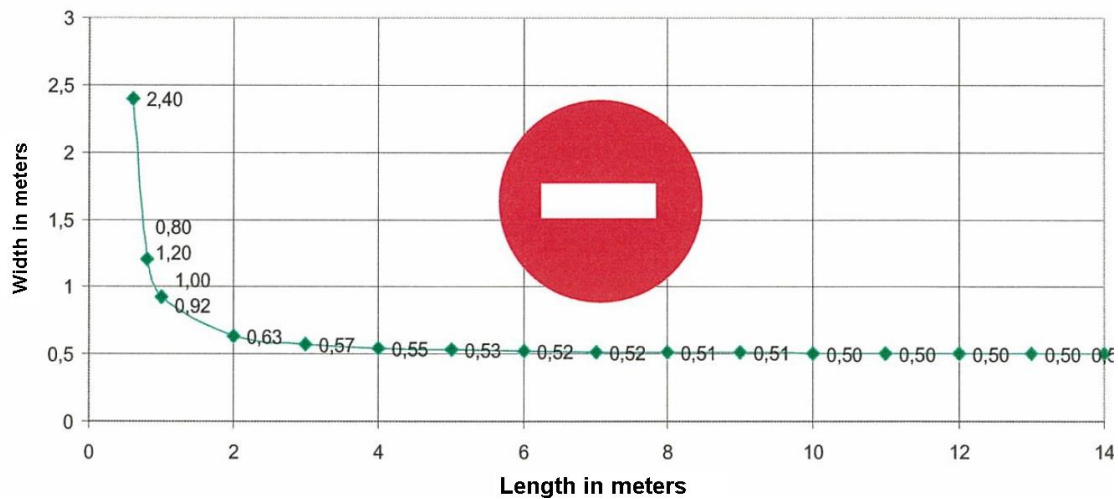
The classification is valid with or without the permeable layer. The permeable layer could be settled on the unexposed side or on the two sides without changing the classification result.

The field of direct application applies to the external dimensions of the service.

The classification are valid in the condition that the total value of the service sections (include insulation) does not exceed 5,6% of the section of seal.

The classification is applicable, to a slab test with one side is greater than 1000 mm with all combinations of length / width, the ratio perimeter / section of seal is not less than the tested ratio, means:

**Maximum authorized dimensions for the sealant system by 200mm elastomer SilPart M and foam EasyPart coated with a permeable layer ElasPart HE CD throughing slab only**



The perimeter / section ratio of tested seal is 4,16 m<sup>-1</sup>. The different valid dimensions are the dimensions below the curve figured above.

The pipe configuration is C/U (capped / non capped), this configuration only cover the configurations C/U and C/C.

The opening dimensions indicated above could not be sealed without the presence of services.

**EasyPART Intumescent Fire Stopping Foam**

**Resistance to fire classification**  
 Rigid floor constructions with minimum floor thickness of 200 mm

**Annex B6**

For the pipes tested, the working distances are as following:

$\phi_{ext} = 13,7 \text{ mm}$ ;  $a_1 = a_2 = 25 \text{ mm}$ ,  $a_3 = 50 \text{ mm}$

$\phi_{ext} = 33,7 \text{ mm}$ ;  $a_1 = a_2 = 25 \text{ mm}$ ,  $a_3 = 50 \text{ mm}$

$\phi_{ext} = 48,3 \text{ mm}$ ;  $a_1 = a_2 = 25 \text{ mm}$ ,  $a_3 = 50 \text{ mm}$

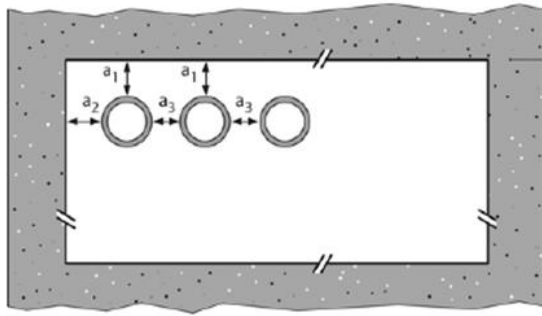
$\phi_{ext} = 60,3 \text{ mm}$ ;  $a_1 = a_2 = 25 \text{ mm}$ ,  $a_3 = 50 \text{ mm}$

$\phi_{ext} = 114,3 \text{ mm}$ ;  $a_1 = a_2 = 50 \text{ mm}$ ,  $a_3 = 100 \text{ mm}$

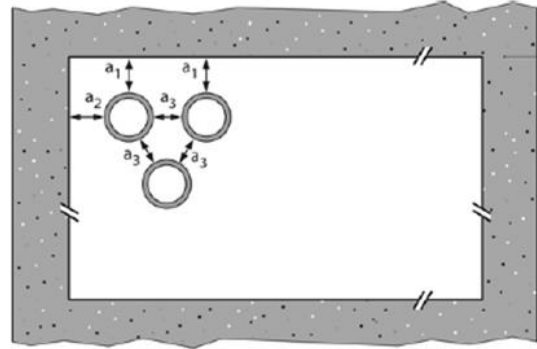
$\phi_{ext} = 323,9 \text{ mm}$ ;  $a_1 = a_2 = 40 \text{ mm}$ ,  $a_3 = 225 \text{ mm}$

For the seal contains more than one metallic pipes, the distances  $a_1$ ,  $a_2$  and  $a_3$  could be increased.

Option 1



Option 2



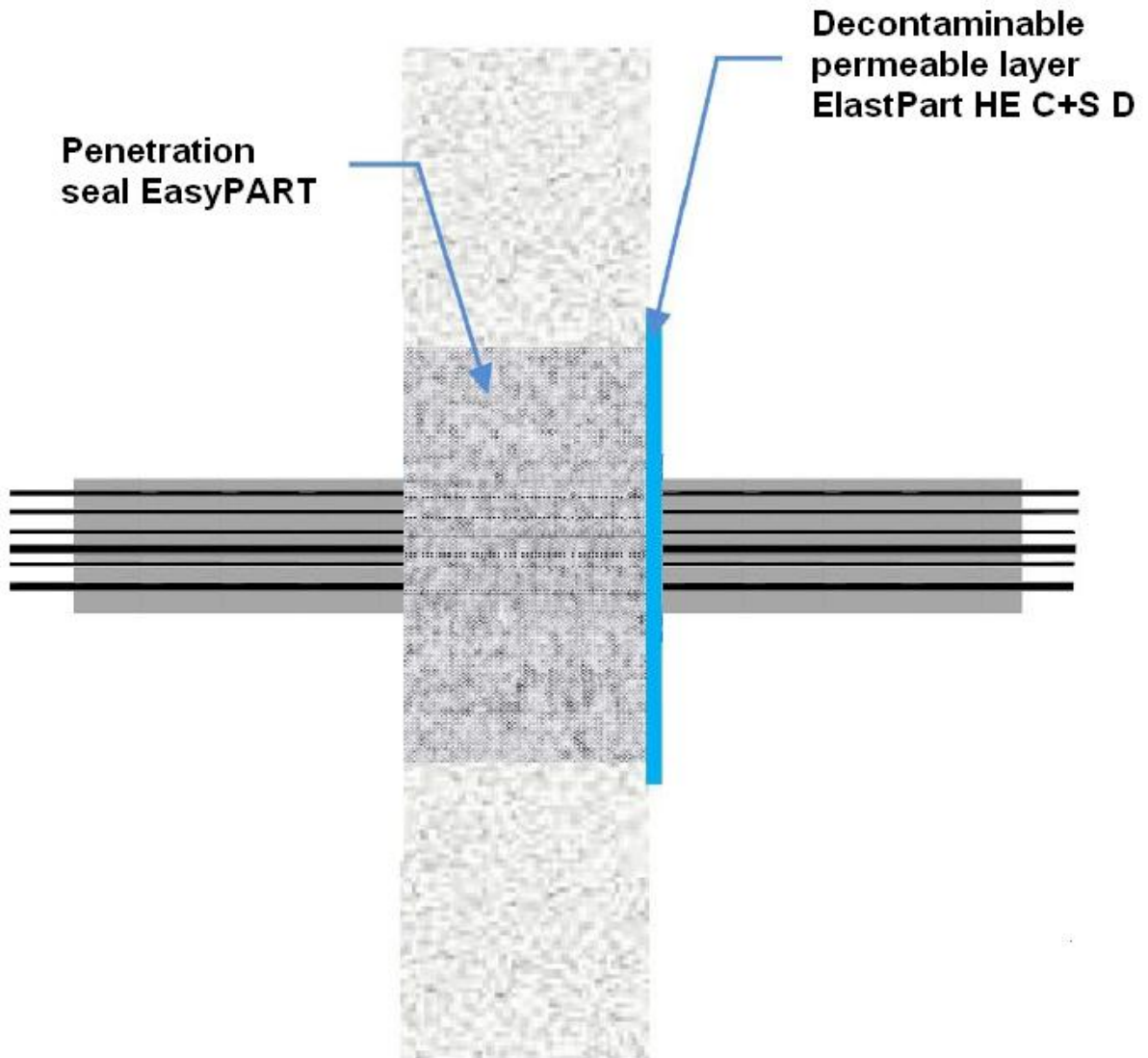
EasyPART Intumescent Fire Stopping Foam

Resistance to fire classification  
Rigid floor constructions with minimum floor thickness of 200 mm

Annex B6

**Annex B7: Resistance to fire classification**

**Penetration seal: Metallic cables fitted within the rigid wall 200 mm with EasyPART foam**



Services	Classification	Seal size	Seal thickness
<b>Copper electric cables</b>	E 180; I 120	1200 mm x 800 mm	200 mm
1 bundle of 15 cables Cu 48 x 0,5 mm <sup>2</sup> Control cable shielded/SH			
1 bundle of 15 cables Cu 3 x 1 mm <sup>2</sup> Control cable shielded/SH			
<b>Cable tray</b>			
Galvanized steel 316 mm x 96 mm x 1,5 mm cable tray with a bottom perforated and without closure cap at two ends			

**EasyPART Intumescent Fire Stopping Foam**

**Resistance to fire classification**  
 Rigid wall constructions with minimum wall thickness of 200 mm

**Annex B7**

Services	Classification	Seal size	Seal thickness
<b>Copper electric cables</b>	E 180; I 180	1200 mm x 800 mm	200 mm
1 bundle of 11 cables Cu 48 x 1 mm <sup>2</sup> Control cable shielded/SH			
1 bundle of 12 cables Cu 19 x 1 mm <sup>2</sup> Control cable shielded/SH			
<b>Cable tray</b>			
Galvanized steel 316 mm x 96 mm x 1,5 mm cable tray with a bottom perforated and without closure cap at two ends			
<b>Copper electric cables</b>			
1 bundle of 4 cables Cu 1 pair x 0,5 mm <sup>2</sup> , 4 cables Cu 12 pairs x 1 mm <sup>2</sup> and 4 cables Cu 12 pairs x 1 mm <sup>2</sup> Mesure/SH			
1 cable Cu 1 pair x 1 mm <sup>2</sup> Mesure/SH			
1 cable Cu 12 pairs x 1 mm <sup>2</sup> Compensation/SH			
1 bundle of 9 cables Cu 12 pairs x 1 mm <sup>2</sup> Compensation/SH			
<b>Cable tray</b>			
Galvanized steel 316 mm x 96 mm x 1,5 mm cable tray with a bottom perforated and without closure cap at two ends			
<b>Optical fibres</b>			
1 bundle of 2 x 4,2 x 6,2 x 10 optical fibres Fibre optique/SH			
1 bundle of 1 x 6,1 x 10 optical fibres Fibre optique/SH			
1 x 4 optical fibre Fibre optique/SH			
<b>Cable tray</b>			
Galvanized steel 195 mm x 48 mm x 1,5 mm cable tray with a bottom perforated and without closure cap at two ends			
<b>Distribution cable</b>			
1 distribution cable Cu 4 x 2,5 mm <sup>2</sup> BT/SH			

**Details of thermal insulation**

The permeable seal by silicone sealant ElasPart HE SD is settled on the unexposed side to fire. Here is the principle of settling of permeable seal:

- Cup four tissue tapes TisPart so as to obtain a covering with the civil engineering and a covering of 50 mm between each tissue tape.
- Glue the TisPart tapes by silicon ERlasPart HE SD (by weighting compound A: 90,9% and compound B: 9,1%)
- Dry for 24 hours.

The classification up to EI 120 is valid with or without the permeable layer. The permeable layer could be not settled on the unexposed side without changing the classification result.

The classification beyond EI 120 is valid with the permeable layer.

The field of direct application applies to the external dimensions of the service.

The classification are valid in the condition that the total value of the service sections (include insulation) does not exceed 5,6% of the section of seal.

The opening could not be sealed without the presence of services

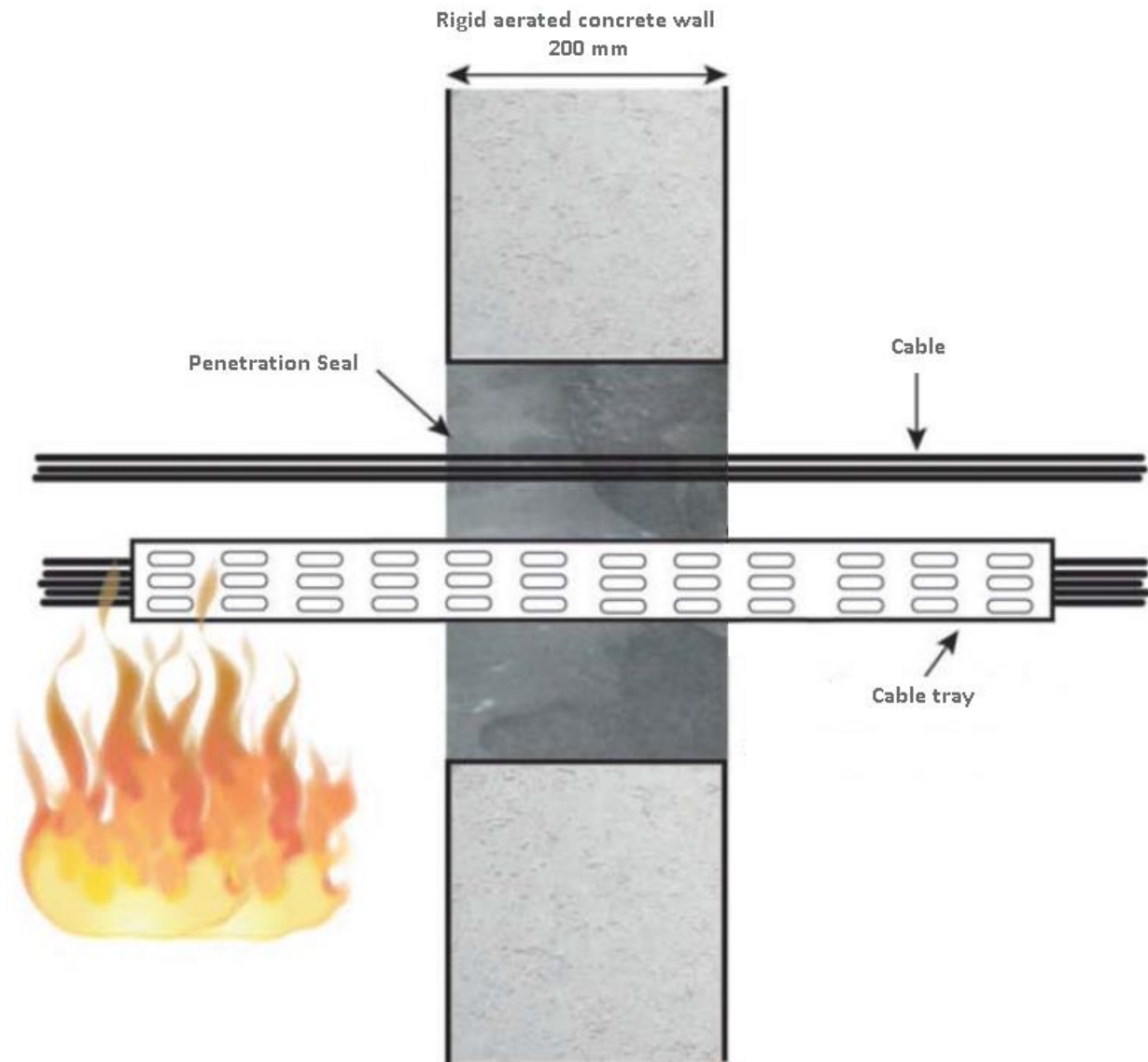
**EasyPART Intumescent Fire Stopping Foam**

**Resistance to fire classification**  
 Rigid wall constructions with minimum wall thickness of 200 mm

**Annex B7**

**Annex B8: Resistance to fire classification**

**Penetration seal: Electrical cables fitted within the rigid wall 200 mm with EasyPART foam**



Services	Classification	Seal size	Seal thickness
<b>Copper electric cables</b>	E 180; I 90	500 mm x 300 mm	200 mm
4 cables Cu $\phi$ 16 mm – 4 x 10 mm <sup>2</sup>			
10 cables Cu $\phi$ 6 mm Coaxial			
7 cables Cu $\phi$ 11 mm 30 pairs x 0,5 mm <sup>2</sup>			
8 cables Cu $\phi$ 11 mm 5G 1,5 mm <sup>2</sup>			
<b>Cable tray</b>			
Galvanized steel 200 mm x 50 mm x 1,5 mm cable tray with a bottom perforated and without closure cap at two ends			

**EasyPART Intumescent Fire Stopping Foam**

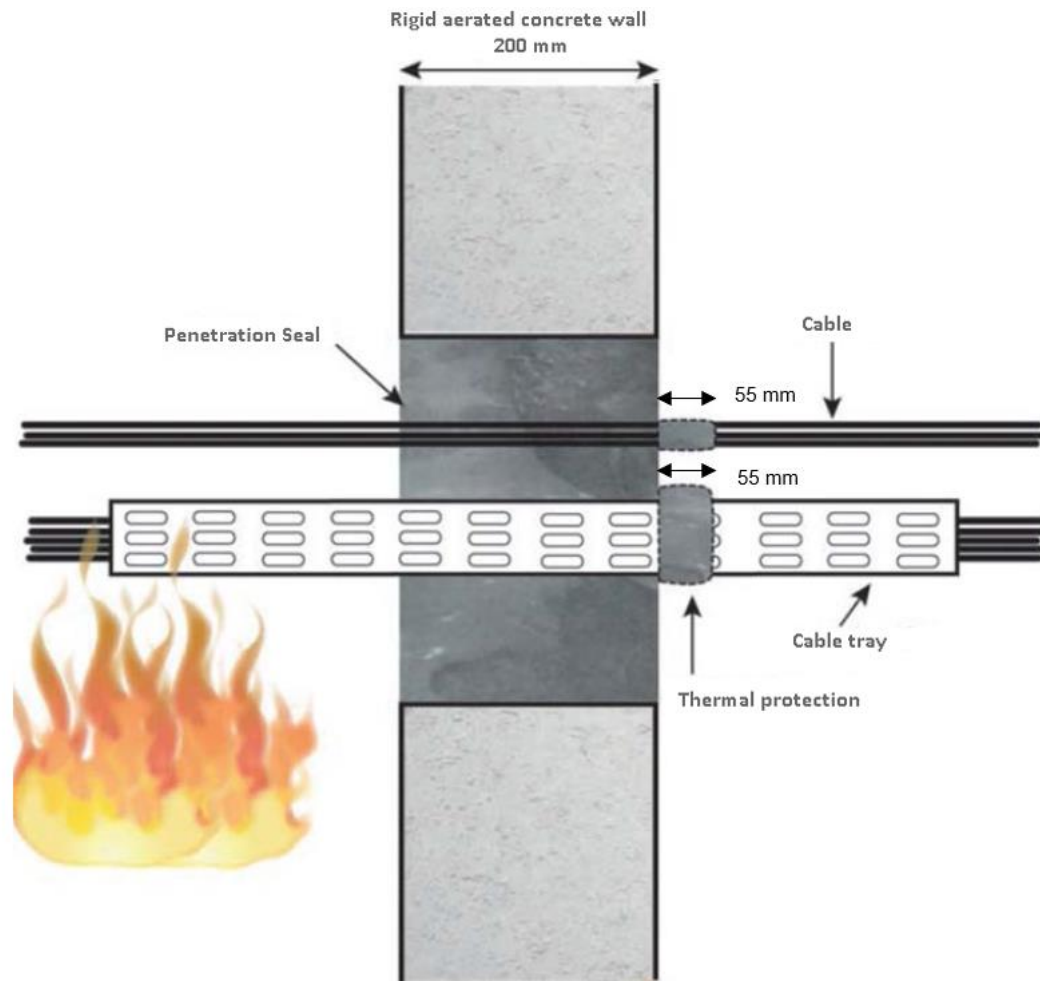
**Resistance to fire classification**  
 Rigid wall constructions with minimum wall thickness of 200 mm

**Annex B8**



**Annex B9: Resistance to fire classification**

**Penetration seal: Electrical cables fitted within the rigid wall 200 mm with EasyPART foam plus thermal protection**



Services	Classification	Seal size	Seal thickness
<b>Copper electric cables</b>	E 180; I 120	500 mm x 300 mm	200 mm
4 cables Cu $\phi$ 16 mm – 4 x 10 mm <sup>2</sup>			
10 cables Cu $\phi$ 6 mm Coaxial			
7 cables Cu $\phi$ 11 mm 30 pairs x 0,5 mm <sup>2</sup>			
8 cables Cu $\phi$ 11 mm 5G 1,5 mm <sup>2</sup>			
<b>Cable tray</b>	E 180; I 120	500 mm x 300 mm	200 mm
Galvanized steel 200 mm x 50 mm x 1,5 mm cable tray with a bottom perforated and without closure cap at two ends			
<b>Thermal protection<sup>8</sup></b>	E 180; I 120	500 mm x 300 mm	200 mm
EasyPART applied with 60 mm length x 55 mm thickness on the unexposed face			

<sup>8</sup> Thermal protection is optional. It is conducted by cutting the EasyPART fire stopping foam in a way to leave the cables partially covered with foam on 60 mm length on the unexposed face and a thickness of 55 mm.

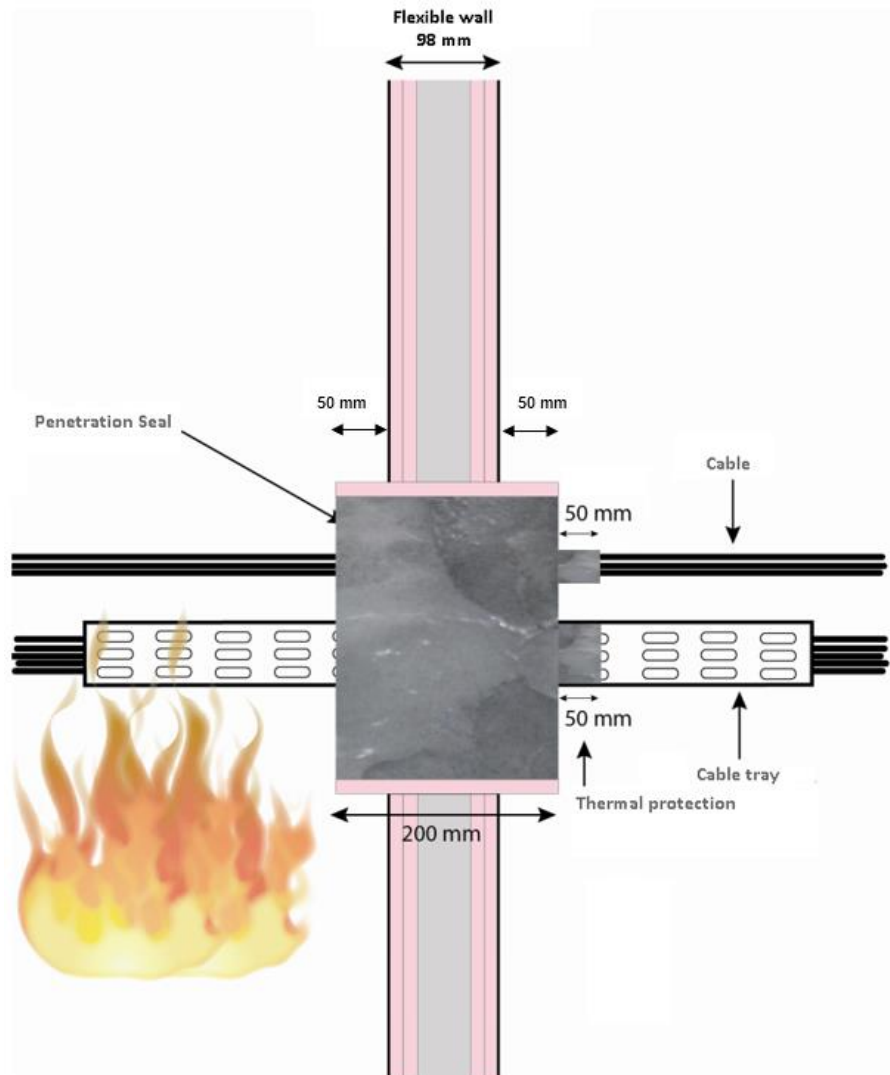
**EasyPART Intumescent Fire Stopping Foam**

**Resistance to fire classification**  
 Rigid wall constructions with minimum wall thickness of 200 mm

**Annex B9**

**Annex B10: Resistance to fire classification**

**Penetration seal: Electrical cables fitted within the flexible wall 98 mm with EasyPART foam plus thermal protection**



Services	Classification	Seal size	Seal thickness
<b>Copper electric cables in bundle</b>	E 120; I 120	530 mm x 355 mm	200 mm
2 bundles of 6 cables 4 pairs x 0,6 mm <sup>2</sup> - $\phi$ 6 mm			
2 bundles of 4 cables - $\phi$ 6,5 mm			
1 bundle of 5 cables 5G 15 mm <sup>2</sup> - $\phi$ 10,5 mm			
2 bundles of 2 cables 4G 2,5 mm <sup>2</sup> - $\phi$ 12 mm			
<b>Cable tray</b>			
Galvanized steel 320 mm x 80 mm x 1,5 mm cable tray with a bottom perforated and without closure cap at two ends			
<b>Thermal protection</b>			
EasyPART applied with 200 mm length x 50 mm thickness on the unexposed face			

**EasyPART Intumescent Fire Stopping Foam**

**Resistance to fire classification**  
 Flexible wall constructions with minimum wall thickness of 98 mm

**Annex B10**

Support elements	Material	Characteristics	Supplier
<b>Frame</b>			
Channel: STIL R48/300	Galvanized steel	Dim (mm): 29 x 48 x 29	PLACOPLATRE
Jamb: STIL M 48	Galvanized steel	Dim (mm): 6 x 34 x 46 x 36 x 6	PLACOPLATRE
Fixing: HPS 1 6/5 x 30	Nylon / Steel	For anchors: φ 6 x 30 For screws: φ 4 x 37	SPIT
<b>Thermal Insulation</b>			
Insulation: PAR 45	Glass wool	Thickness: 45 mm Area density: 0,5175 kg/m <sup>2</sup>	ISOVER
<b>Facing</b>			
Facing: Placoflam BA 13	Gypsum based	Dim (mm): 1200 x 3000 x 12,5 Area density: 10,6 kg/m <sup>2</sup>	PLACOPLATRE
Screws: TTPC 45	Phosphated steel	TF φ 3,5 x 45	PLACOPLATRE
Coating: PLACO JOINT PR2	Gypsum based	Normal hardening, Bag of 25 kg (12 L of water)	PLACOPLATRE
Joint tape	Micro perforated paper	Thickness: 2 mm, Width: 50 mm	PLACOPLATRE
<b>Enclosure</b>			
BA 25 fixed in the trimmer by screw TTPC 45 every 150 mm	Gypsum based	Length: 200 mm, Thickness: 25 mm	PLACOPLATRE

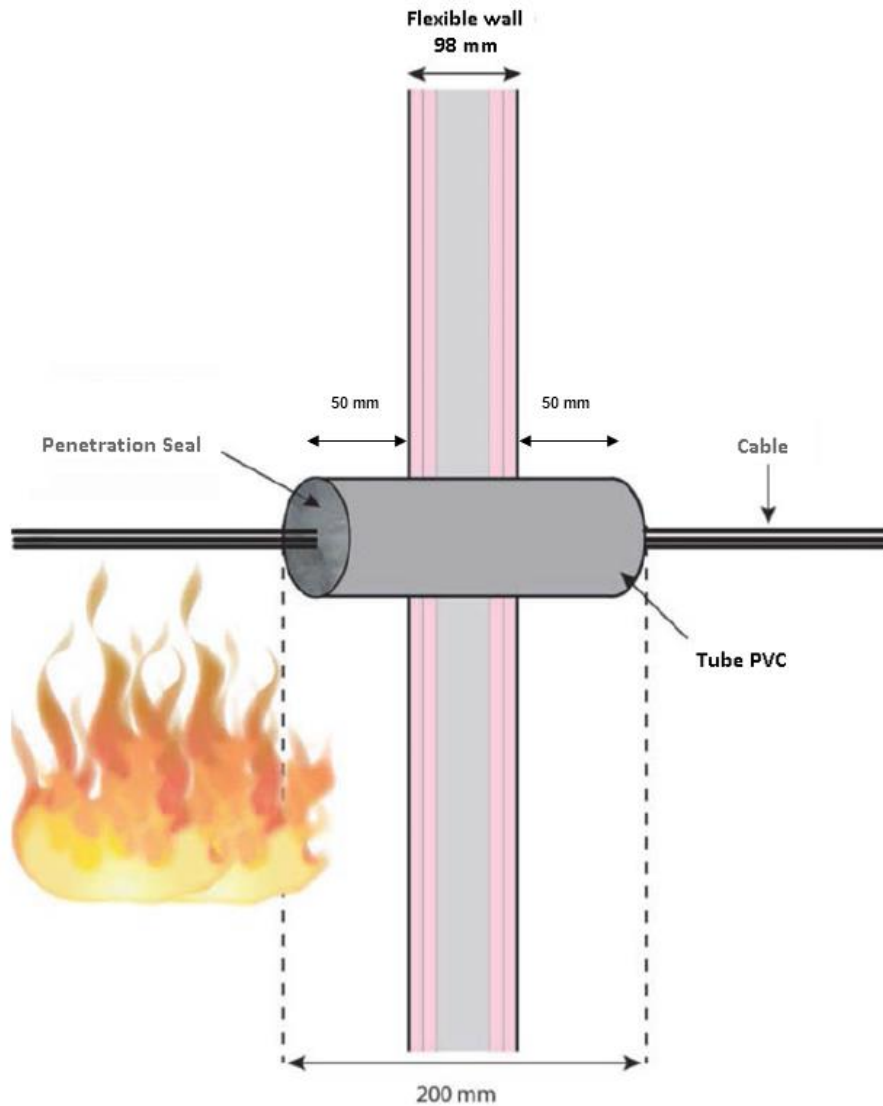
EasyPART Intumescent Fire Stopping Foam

**Resistance to fire classification**  
 Flexible wall constructions with minimum wall thickness of 98 mm

**Annex B10**

**Annex B11: Resistance to fire classification**

**Penetration seal: Electrical cables fitted within the flexible wall 98 mm with EasyPART foam**



Services	Classification	Seal size	Seal thickness
<b>Copper electric cables</b>	E 120; I 120	φ 100	200 mm
2 cables φ 6,5 mm			
2 cables 4 pairs × 0,6 mm <sup>2</sup> - φ 6 mm			
1 cable 4G 2,5 mm <sup>2</sup> - φ 12 mm			
<b>PVC Tube</b>			
1 PVC tube of φ 100 mm × 200 mm length × 2 mm thickness with a fire classification M1 through the wall			
EasyPART filled in the PVC tube around the cables			

**EasyPART Intumescent Fire Stopping Foam**

**Resistance to fire classification**  
 Flexible wall constructions with minimum wall thickness of 98 mm

**Annex B11**

Support elements	Material	Characteristics	Supplier
<b>Frame</b>			
Channel: STIL R48/300	Galvanized steel	Dim (mm): 29 x 48 x 29	PLACOPLATRE
Jamb: STIL M 48	Galvanized steel	Dim (mm): 6 x 34 x 46 x 36 x 6	PLACOPLATRE
Fixing: HPS 1 6/5 x 30	Nylon / Steel	For anchors: φ 6 x 30 For screws: φ 4 x 37	SPIT
<b>Thermal Insulation</b>			
Insulation: PAR 45	Glass wool	Thickness: 45 mm Area density: 0,5175 kg/m <sup>2</sup>	ISOVER
<b>Facing</b>			
Facing: Placoflam BA 13	Gypsum based	Dim (mm): 1200 x 3000 x 12,5 Area density: 10,6 kg/m <sup>2</sup>	PLACOPLATRE
Screws: TTPC 45	Phosphated steel	TF Ø 3,5 x 45	PLACOPLATRE
Coating: PLACO JOINT PR2	Gypsum based	Normal hardening, Bag of 25 kg (12 L of water)	PLACOPLATRE
Joint tape	Micro perforated paper	Thickness: 2 mm, Width: 50 mm	PLACOPLATRE

EasyPART Intumescent Fire Stopping Foam

**Resistance to fire classification**  
 Flexible wall constructions with minimum wall thickness of 98 mm

**Annex B11**