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Designated according to Article 29 of Regulation (EU) No 305/2011

Member of EOTA
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European Technical Assessment ETA 24/1082 of 05/12/2024

I General Part

Technical Assessment Body issuing the ETA:	**TECNALIA RESEARCH & INNOVATION**
Trade name of the construction product	**SACCUS**
Product family to which the construction product belongs	Fire Stopping and Sealing Product: Penetration Seals
Manufacturer	ROTHO BLAAS SRL Via dell'Adige 39040 Cortaccia (BZ) ITALY www.rothoblaas.com
Manufacturing plant	PS1
This European Technical Assessment contains	30 pages including 1 annex which forms 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 Fire stopping and fire sealing products: Penetration seals

Table of contents

II SPECIFIC PARTS

1. Technical description of the product

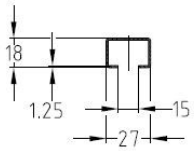
SACCUS is an intumescent filled bag used in multiple to form penetration seals to reinstate the fire resistance performance where cables and tubes penetrate flexible walls, rigid walls or rigid floors.

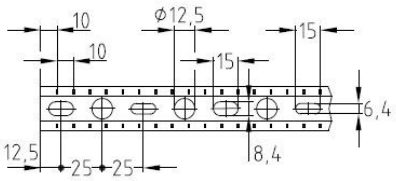
SACCUS consists of a polyethylene and fire-resistant fiberglass bag covered on both sides by a polyurethane coating filled with intumescent material. It is supplied in five different sizes:

Dimensions	Weight
120x100x25 mm	300 g +/- 30 g
120x150x30 mm	450 g +/- 45 g
120x200x30 mm	600 g +/- 60 g
120x250x35 mm	870 g +/- 87 g
120x300x35 mm	1050 g +/- 105 g

Ancillary products:

- Installation in floors:
  - Metallic mesh 30 x 30 x 3 mm
  - Steel profile 27 x 18 x 1.25 mm





  - PANEL
  - SEAL W

- Installation in walls:
  - PANEL
  - SEAL W

Ancillary products referred to in this European Technical Assessment within the framework of evaluating resistance to fire (see Annex A) are not covered by this ETA and cannot be CE-marked on the basis of it.

2. Specification of the intended uses in accordance with the applicable European Assessment Document (hereinafter EAD)

2.1 Intended uses

The intended use of SACCUS is to reinstate the fire resistance performance of various types of walls and floors (detailed below in clause 2.1.1) where they are penetrated by different services.

2.1.1 The specific elements of construction that SACCUS may be used to provide a penetration seal in, are as follows (for details see Annex A).

Flexible walls:

a) The flexible wall must have a minimum thickness of 120 or 125 mm and comprise steel studs lined on both faces with minimum 2 layers of 12.5 mm thick boards.
b) The flexible wall must have a minimum thickness of 100 mm and comprise steel studs lined on both faces with minimum 2 layers of 12.5 mm thick boards.
c) The flexible wall must have a minimum thickness of 80 mm and comprise steel studs lined on both faces with minimum 1 layer of 15 mm thick board.

Rigid walls:

d) The rigid wall must have a minimum thickness of 200 mm and comprise concrete or masonry.
e) The rigid wall must have a minimum thickness of 120 or 125 mm and comprise concrete or masonry.

Lining walls:

f) The lining wall must have a minimum thickness of 125 mm and comprise 75 mm steel studs lined on the fire-exposed side with minimum 2 layers of 25 mm thick boards.
g) The lining wall must have a minimum thickness of 80 mm and comprise 50 mm steel studs lined on the fire-exposed side with minimum 2 layers of 15 mm thick boards.

Sandwich panel walls:

h) The sandwich panel wall must have a minimum thickness of 100 mm and comprise an insulating material lined on both faces with galvanized steel sheet.

Cross laminated timber (CLT) walls:

i) The CLT wall must have a minimum thickness of 137 mm and consist of CLT panels.

Rigid floors:

j) The rigid floor must have a minimum thickness of 150 or 200 mm and consist of concrete or aerated concrete with a minimum density of 1600 kg/m^3.

Cross laminated timber (CLT) floors:

k) The CLT floor must have a minimum thickness of 158 mm and consist of CLT panels.

The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period.

2.1.2 SACCUS may be used as a penetration seal with specific service installations (for details see Annex A).

a) Cables (single or bundled), corrugated pipes, cable carriers, e.g., cable trays, ladders, baskets.
Cable trays can either be metallic or combustible (PVC).

2.2 Use category

Type Y_2: intended for use at temperatures below 0ºC, but with no exposure to rain no UV. Since the requirements for Type Y_2 are met, also are met requirements for Type Z_1 and Z_2.

2.3 Working life

The provisions made in this European Technical Assessment are based on an assumed working life of 10 years as minimum, provided that SACCUS are subject to appropriate use and maintenance.

The indications given on the working life cannot be interpreted as a guarantee given by the producer or Assessment Body but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

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

Basic requirement for construction work	Essential characteristics	Performance
BWR 2 Safety in case of fire	Reaction to fire	Clause 3.1.1.
	Resistance to fire	Clause 3.1.2.
BWR 3 Hygiene, health and the environment	Air permeability	Clause 3.2.1.
	Water permeability	Clause 3.2.2.
	Content, emission and/or release of dangerous substances	Clause 3.2.3.
BWR 4 Safety and accessibility in use	Mechanical resistance and stability	Clause 3.3.1.
	Resistance to impact / movement	Clause 3.3.2.
	Adhesion	Clause 3.3.3.
	Durability	Y_2 Clause 3.3.4.
BWR 5 Protection against noise	Airborne sound insulation	Clause 3.4.1.
BWR 6 Energy economy and heat retention	Thermal properties	Clause 3.5.1.
	Water vapour permeability	Clause 3.5.2.

3.1 Safety in case of fire (BWR 2)

3.1.1 Reaction to fire

Reaction-to-fire classification of SACCUS was carried out in accordance with EN 13501-1 and in compliance Annex A.1 of EAD 350454-00-1104. SACCUS has a reaction to fire classification B-s1, d0.

3.1.2 Resistance to fire

The resistance to fire performance according to EN 13501-2 of penetration seals is given in Annex A of this document. The tests were carried out according to EN 1366-3.

3.2 Hygiene, health and the environment (BWR 3)

3.2.1 Air permeability

Performance not assessed.

3.2.2 Water permeability

Performance not assessed.

3.2.3 Content, emission and/or release of dangerous substances

Performance not assessed.

3.3 Safety and accessibility in use (BWR 4)

3.3.1 Mechanical resistance and stability

Performance not assessed.

3.3.2 Resistance to impact/movement

Performance not assessed.

3.3.3 Adhesion

Performance not assessed.

3.3.4 Durability

SACCUS fulfils the requirements of use category Y_2 in accordance with EAD 350454-00-1104, Section 1.2. The tests were carried out in accordance with the following methods:

- Appearance (according to EAD 350454-00-1104 Annex B.12)
- Tear strength of fabric (according to EAD 350454-00-1104 Annex B.5.4.1 - EN ISO 13934-1)
- Tear strength of seams (according to EAD 350454-00-1104 Annex B.5.4.2 - EN ISO 13935-1)
- Expansion ratio (according to EOTA TR 024, clause 3.1.11)
- Expansion pressure (according to EOTA TR 024, clause 3.1.12)

3.4 Protection against noise (BWR 5)

3.4.1 Airborne sound insulation

Performance not assessed.

3.5 Energy economy and heat retention (BWR 6)

3.5.1 Thermal properties

Performance not assessed.

3.5.2 Water vapour permeability

Performance not assessed.

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

According to the decision 1999/454/EC - Commission decision of 22 June 1999 (OJ L 178/52 of 14/07/99, p. 3), as amended by Decision of the Commission 2001/596/EC of 8 January 2001 (OJ L 209/33 of 2/8/2001, p.2) the system of assessment and verification of constancy of performance (see Annex V to the regulation (EU) No 305/2011 and EC Delegated Act No 568/2014 of 18 February 2014) given in the following table apply:

Product(s)	Intended use(s)	Level(s) or class(es)	System(s)
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 provided for in the applicable EAD

All the necessary technical details for the implementation of the AVCP system are laid down in the Control Plan deposited at Tecnalia Research and Innovation, with which the Factory Production Control shall be in accordance.

The Control Plan is a confidential part of the ETA and is only handed over to the notified body involved in the assessment and verification of constancy of performance.

Issued in Azpeitia, on 05/12/2024

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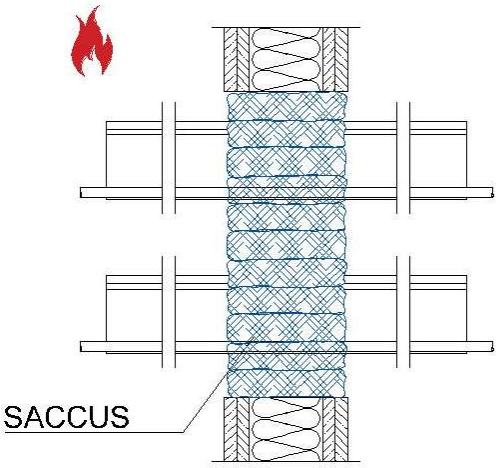
Miguel Mateos
Innovation and Conformity Assessment Point
Tecnalia Research & Innovation

Annex A: Resistance to fire classification of SACCUS

A.1 Flexible and rigid wall constructions with wall thickness of minimum 120 mm (for more details see 2.1.1 a) and e)).

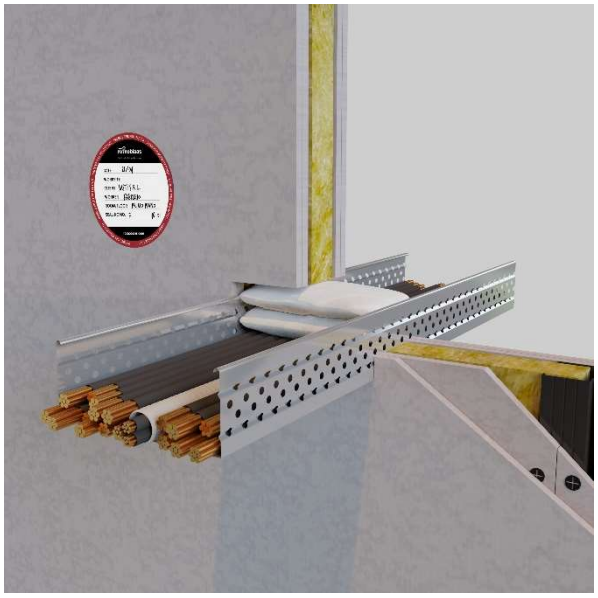
Requirement: Minimum seal width of 120 mm and SACCUS positioned in horizontal in line to the wall width.
Cables according to EN 1366-3, maximum aperture 600 mm x 600 mm.

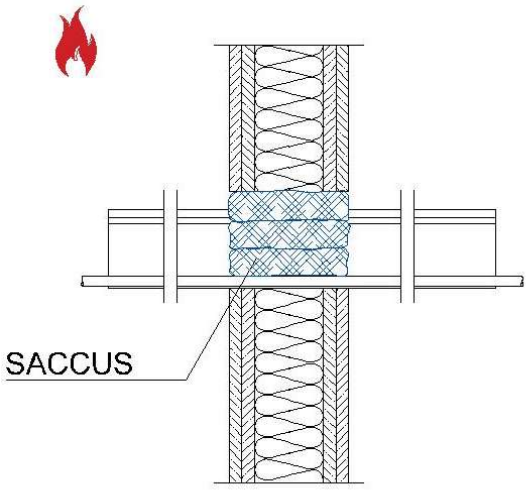


Cable	Cable type	Diameter	Group
A1	small sheathed	Maximum Ø 21 mm	1
A2	small sheathed		1
A3	small sheathed		1
B	small sheathed		1
Fire Resistance Classification: EI 120			

A.2 Flexible and rigid wall constructions with wall thickness of minimum 120 mm (for more details see 2.1.1 a) and e)).

Requirement: Minimum seal width of 120 mm and SACCUS positioned in horizontal in line to the wall width.
Cables according to EN 1366-3, maximum aperture 540 mm x 100 mm.

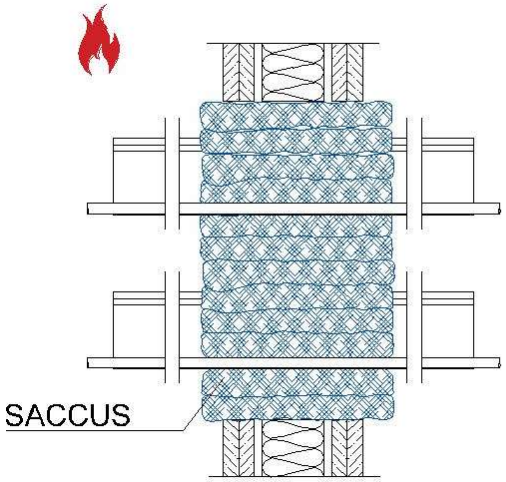




Cable	Cable type	Diameter	Group
A1	small sheathed	Maximum Ø 21 mm	1
A2	small sheathed		1
A3	small sheathed		1
B	small sheathed		1
Fire Resistance Classification: EI 120			

A.3 Flexible and rigid wall constructions with wall thickness of minimum 125 mm (for more details see 2.1.1 a) and e)).

Requirement: Minimum seal width of 200 mm and SACCUS positioned in horizontal.
Cables according to EN 1366-3 standard configuration for large cables, maximum aperture 600 mm x 600 mm.



Cable	Cable type	Diameter	Group
A1	small sheathed	Maximum Ø 21 mm	1
A2	small sheathed		1
A3	small sheathed		1
B	small sheathed		1
Fire Resistance Classification: EI 120			

Cable	Cable type	Diameter	Group
C1	medium sheathed	21 ≤ Ø ≤ 50 mm	2
C2	medium sheathed		2
C3	medium sheathed		2
E	medium sheathed		2
Fire Resistance Classification: EI 90 E 120			

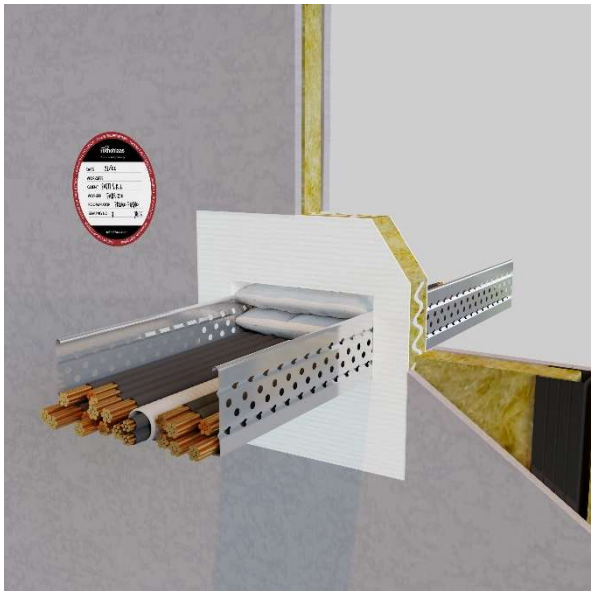
Cable	Cable type	Diameter	Group
D1	large sheathed	50 ≤ Ø ≤ 80 mm	3
D2	large sheathed		3
D3	large sheathed		3
Fire Resistance Classification: EI 60 E 120			

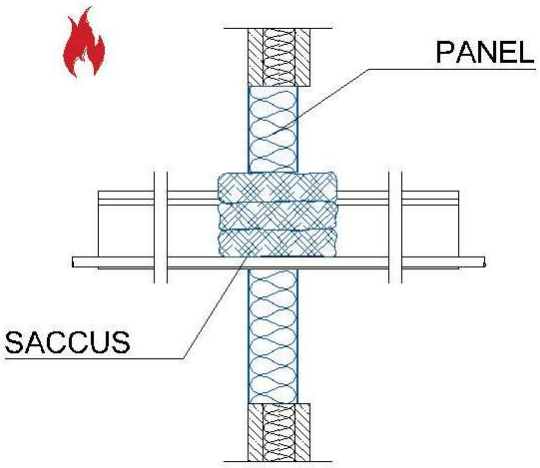
Cable	Cable type	Diameter	Group
F	Tied bundle (telecommunications cables)	Maximum Ø 100 mm tied bundle made of single cable maximum Ø 21 mm.	4
Fire Resistance Classification: EI 120			

Cable	Cable type	Diameter	Group
G1	non-sheathed (wire)	Maximum Ø 17 mm	5
G2	non-sheathed (wire)	Maximum Ø 24 mm	5
Fire Resistance Classification: EI 120			

A.4 Flexible and rigid wall constructions with wall thickness of minimum 80 mm (for more details see 2.1.1 c)).

Requirement: Minimum seal width of 120 mm and SACCUS positioned in horizontal in line to the wall width.
Cables according to EN 1366-3, maximum aperture 550 mm x 600 mm.

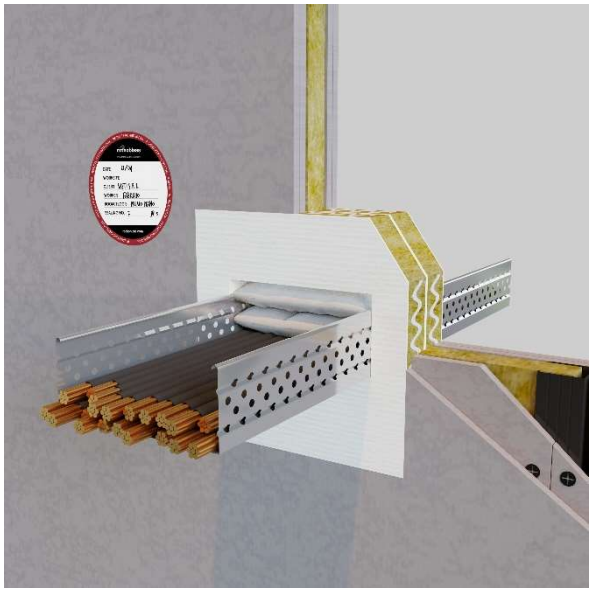


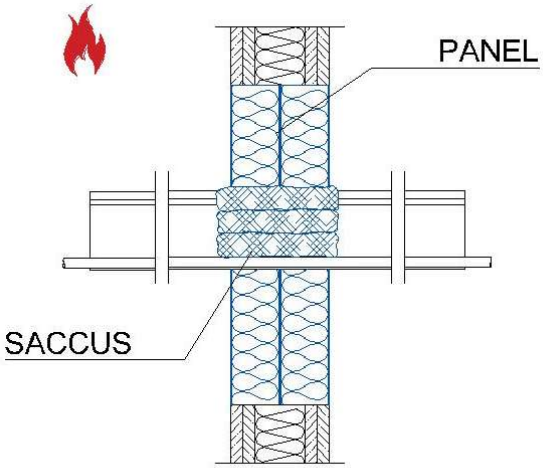


Cable	Cable type	Diameter	Group
A1	small sheathed	Maximum Ø 21 mm	1
A2	small sheathed		1
A3	small sheathed		1
B	small sheathed		1
Fire Resistance Classification: EI 60			

A.5 Flexible and rigid wall constructions with wall thickness of minimum 100 mm (for more details see 2.1.1 b)).

Requirement: Minimum seal width of 120 mm and SACCUS positioned in horizontal in line to the wall width.
Cables according to EN 1366-3, maximum aperture 550 mm x 600 mm.

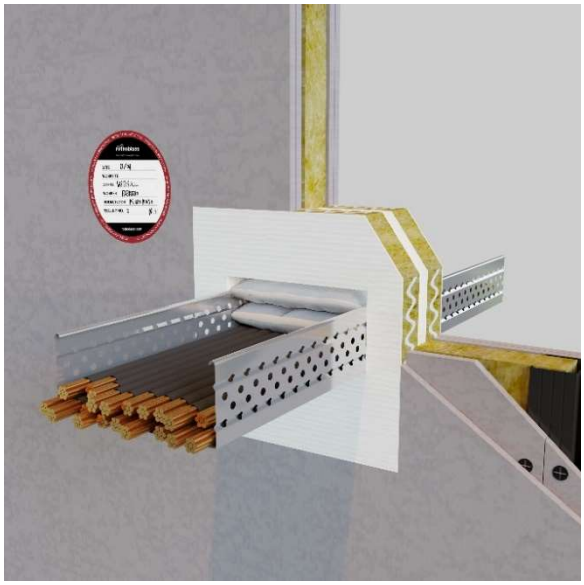


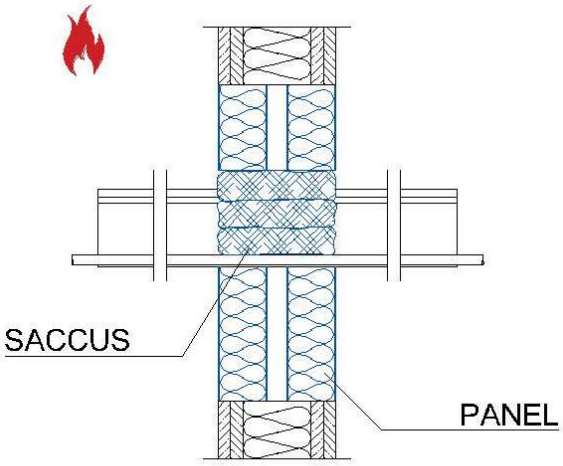


Cable	Cable type	Diameter	Group
A1	small sheathed	Maximum Ø 21 mm	1
A2	small sheathed		1
A3	small sheathed		1
B	small sheathed		1
Fire Resistance Classification: EI 120			

A.6 Flexible and rigid wall constructions with wall thickness of minimum 120 mm (for more details see 2.1.1 a) and e)).

Requirement: Minimum seal width of 120 mm and SACCUS positioned in horizontal in line to the wall width.
Cables according to EN 1366-3, maximum aperture 1750 mm x 1000 mm.

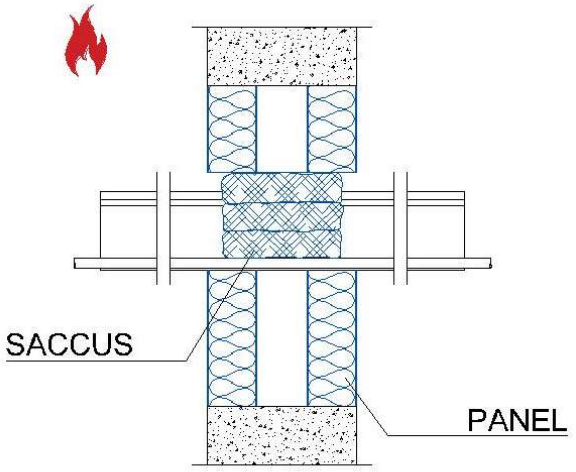




Cable	Cable type	Diameter	Group
A1	small sheathed	Maximum Ø 21 mm	1
A2	small sheathed		1
A3	small sheathed		1
B	small sheathed		1
Fire Resistance Classification: EI 120			

A.7 Rigid wall constructions with wall thickness of minimum 150 mm (for more details see 2.1.1 e)).

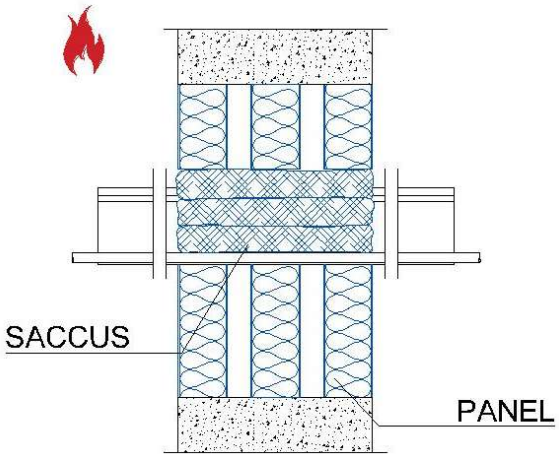
Requirement: Minimum seal width of 120 mm and SACCUS positioned in horizontal in line to the wall width.
Cables according to EN 1366-3, maximum aperture 1800 mm x 650 mm.



Cable	Cable type	Diameter	Group
A1	small sheathed	Maximum Ø 21 mm	1
A2	small sheathed		1
A3	small sheathed		1
B	small sheathed		1
Fire Resistance Classification: EI 180			

A.8 Rigid wall constructions with wall thickness of minimum 200 mm (for more details see 2.1.1 d)).

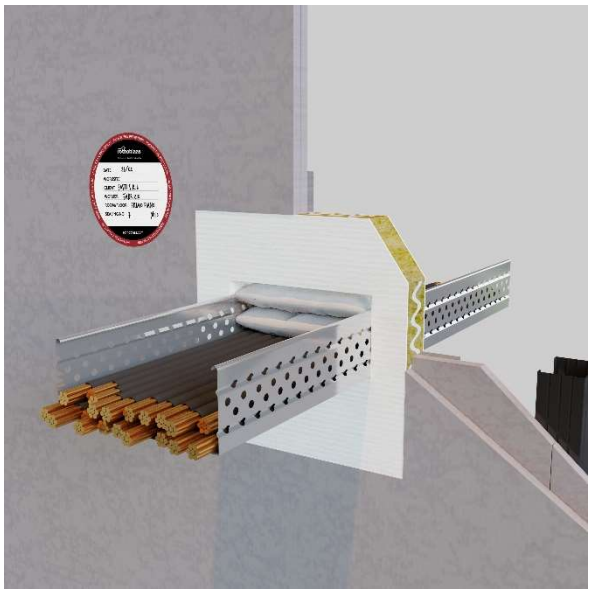
Requirement: Minimum seal width of 200 mm and SACCUS positioned in horizontal in line to the wall width.
Cables according to EN 1366-3, maximum aperture 600 mm x 250 mm.

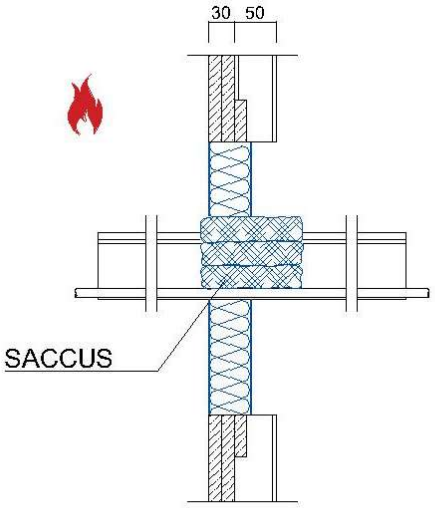


Cable	Cable type	Diameter	Group
A1	small sheathed	Maximum Ø 21 mm	1
A2	small sheathed		1
A3	small sheathed		1
B	small sheathed		1
Fire Resistance Classification: EI 240			

A.9 Lining wall constructions with wall thickness of minimum 80 mm (for more details see 2.1.1 g)).

Lining consisting of two layers of 15 mm thick boards, 30 mm in total.
Requirement: Minimum seal width of 120 mm and SACCUS positioned in horizontal in line to the wall.
A single layer gypsum-board perimeter frame on either the fire-exposed or non-exposed side of the lining wall.
Cables according to EN 1366-3, maximum aperture 500 mm x 1060 mm.

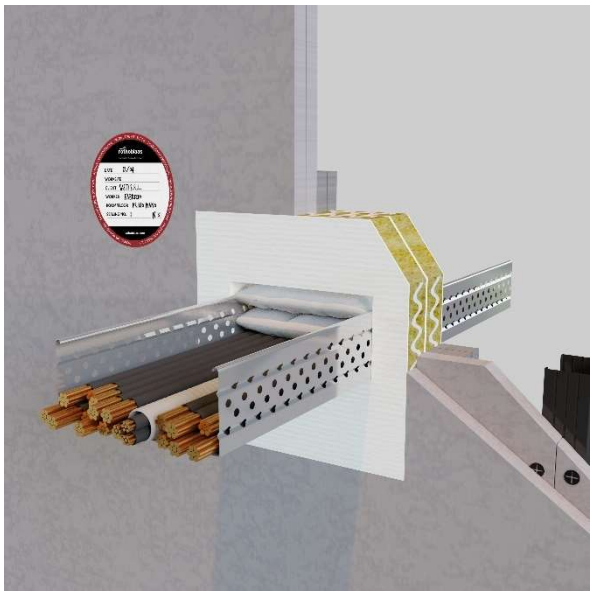


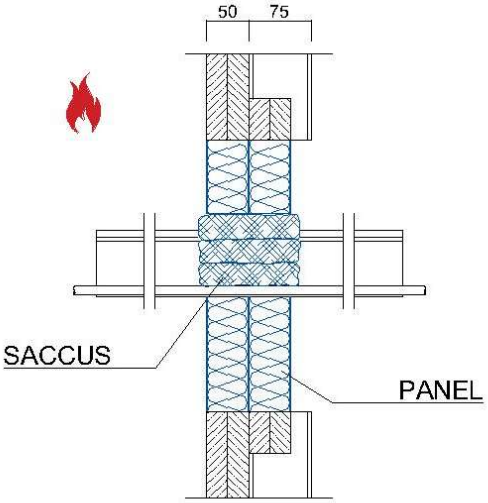


Cable	Cable type	Diameter	Group
A1	small sheathed	Maximum Ø 21 mm	1
A2	small sheathed		1
A3	small sheathed		1
B	small sheathed		1
Fire Resistance Classification: EI 60			

A.10 Lining wall constructions with wall thickness of minimum 125 mm (for more details see 2.1.1 f)).

Lining consisting of two layers of 25 mm thick boards, 50 mm in total.
Requirement: Minimum seal width of 120 mm and SACCUS positioned in horizontal in line to the wall.
Double gypsum-board perimeter frame on either the fire-exposed or non-exposed side of the lining wall.
Cables according to EN 1366-3, maximum aperture 550 mm x 1050 mm.

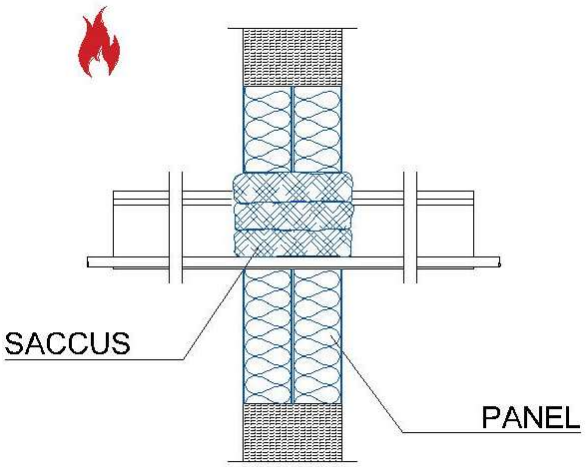




Cable	Cable type	Diameter	Group
A1	small sheathed	Maximum Ø 21 mm	1
A2	small sheathed		1
A3	small sheathed		1
B	small sheathed		1
Fire Resistance Classification: EI 120			

A.11 Sandwich panel wall constructions with wall thickness of minimum 100 mm (for more details see 2.1.1 h)).

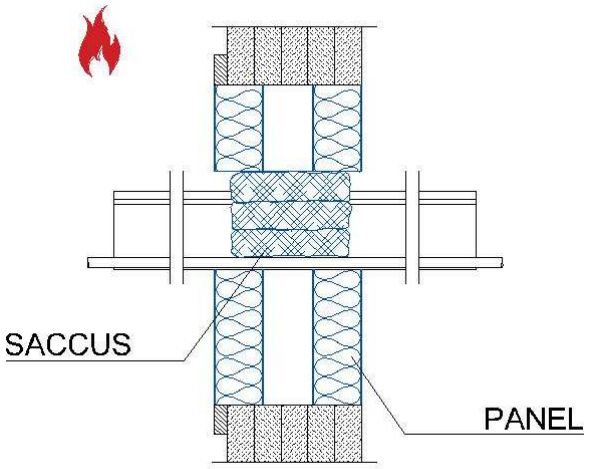
Requirement: Minimum seal width of 120 mm and SACCUS positioned in horizontal in line to the wall width.
Cables according to EN 1366-3, maximum aperture 600 mm x 1000 mm.



Cable	Cable type	Diameter	Group
A1	small sheathed	Maximum Ø 21 mm	1
A2	small sheathed		1
A3	small sheathed		1
B	small sheathed		1
Fire Resistance Classification: EI 120			

A.12 Cross laminated timber (CLT) wall constructions with wall thickness of minimum 137 mm (for more details see 2.1.1 i)).

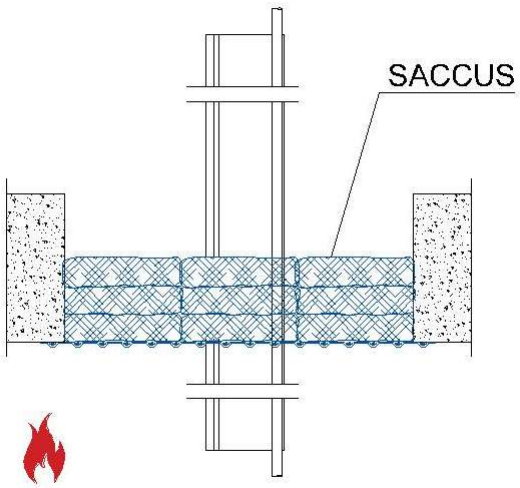
Requirement: Minimum seal width of 120 mm and SACCUS positioned in horizontal in line to the wall width. A single layer gypsum-board perimeter frame on the fire-exposed side of the partition. Cables according to EN 1366-3, maximum aperture 600 mm x 600 mm.



Cable	Cable type	Diameter	Group
H07RN-F 5G1,5	small sheathed	Maximum Ø 21 mm	1
FG16OR 16 5G1,5	small sheathed		1
H05VV-F 5G1,5	small sheathed		1
FG16R16 1X95	small sheathed		1
Fire Resistance Classification: EI 120			

A.13 Rigid floor constructions with floor thickness of minimum 150 mm (for more details see 2.1.1 j)).

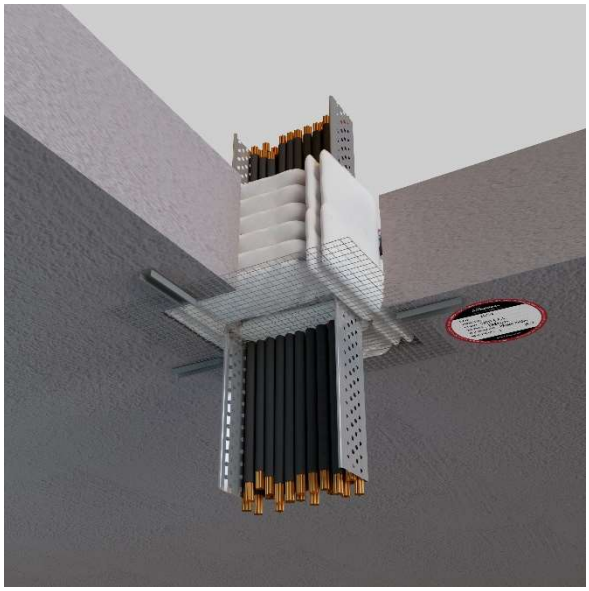
Requirement: Minimum seal width of 120 mm and SACCUS positioned in horizontal.
Cables according to EN 1366-3, maximum aperture 600 mm x 600 mm.

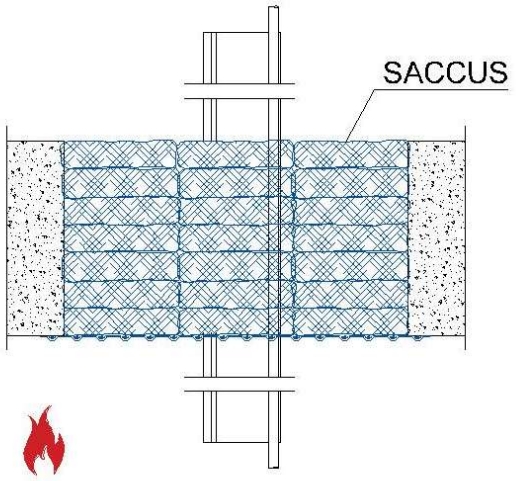


Cable	Cable type	Diameter	Group
A1	small sheathed	Maximum Ø 21 mm	1
A2	small sheathed		1
A3	small sheathed		1
B	small sheathed		1
Fire Resistance Classification: EI 120 E 180			

A.14 Rigid floor constructions with floor thickness of minimum 200 mm (for more details see 2.1.1 j)).

Requirement: Minimum seal width of 200 mm and SACCUS positioned in horizontal.
Cables according to EN 1366-3, maximum aperture 600 mm x 600 mm.

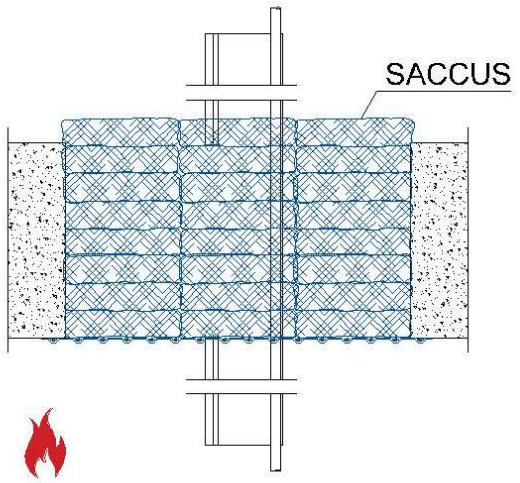




Cable Group	Cable type	Fire Resistance Classification	
1	small sheathed	EI 90	E 120
2	medium sheathed	EI 90	E 120
3	large sheathed	EI 60	E 120
4	tied bundle (telecommunications cables)	EI 90	E 120
5	non-sheathed (wire)	EI 90	E 120

A.15 Rigid floor constructions with floor thickness of minimum 200 mm (for more details see 2.1.1 j)).

Requirement: Minimum seal width of 240 mm and SACCUS positioned in horizontal.
Cables according to EN 1366-3 standard configuration for large cables, maximum aperture 600 mm x 600 mm.



Cable	Cable type	Diameter	Group
A1	small sheathed	Maximum Ø 21 mm	1
A2	small sheathed		1
A3	small sheathed		1
B	small sheathed		1
Fire Resistance Classification: EI 120 E 180			

Cable	Cable type	Diameter	Group
C1	medium sheathed	21 ≤ Ø ≤ 50 mm	2
C2	medium sheathed		2
C3	medium sheathed		2
E	medium sheathed		2
Fire Resistance Classification: EI 120 E 180			

Cable	Cable type	Diameter	Group
D1	large sheathed	50 ≤ Ø ≤ 80 mm	3
D2	large sheathed		3
D3	large sheathed		3
Fire Resistance Classification: EI 120 E 180			

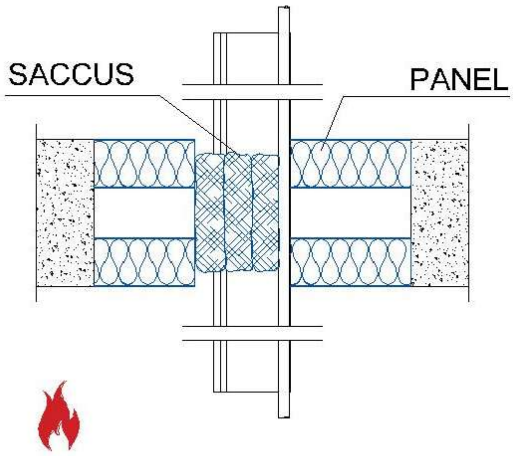
Cable	Cable type	Diameter	Group
F	Tied bundle (telecommunications cables)	Maximum Ø 100 mm tied bundle made of single cable maximum Ø 21 mm.	4
Fire Resistance Classification: EI 120 E 180			

Cable	Cable type	Diameter	Group
G1	non-sheathed (wire)	Maximum Ø 17 mm	5
G2	non-sheathed (wire)	Maximum Ø 24 mm	5
Fire Resistance Classification: EI 120 E 180			

A.16 Rigid floor constructions with floor thickness of minimum 150 mm (for more details see 2.1.1 j)).

Requirement: Minimum seal width of 120 mm and SACCUS positioned in horizontal.
Cables according to EN 1366-3, maximum aperture 600 mm x 600 mm [(ii)].

[(ii)] Maximum size can be enlarged up to (2000 x 1000) mm when supporting profiles are installed beneath the panels. Steel slotted profiles (30 mm width and 1 mm thick) placed under the panel's splices at maximum 500 mm, fixed to the floor at both profile's ends with expansion anchors Ø60 mm x 8 mm.

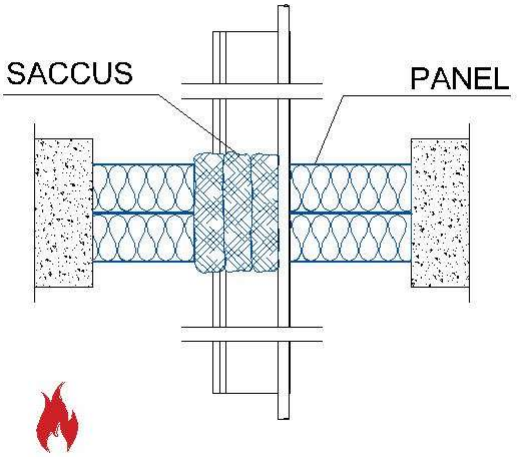


Cable	Cable type	Diameter	Group
A1	small sheathed	Maximum Ø 21 mm	1
A2	small sheathed		1
A3	small sheathed		1
B	small sheathed		1
Fire Resistance Classification: EI 180			

A.17 Rigid floor constructions with floor thickness of minimum 200 mm (for more details see 2.1.1 j)).

Requirement: Minimum seal width of 120 mm and SACCUS positioned in vertical centrally aligned with the floor.
Cables according to EN 1366-3, maximum aperture 250 mm x 600 mm [(ii)].

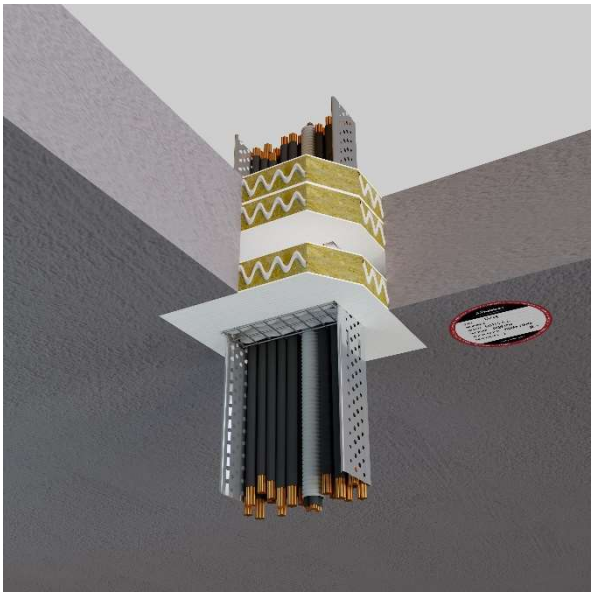
[(ii)] Maximum size can be enlarged up to (2000 x 1000) mm when supporting profiles are installed beneath the panels. Steel slotted profiles (30 mm width and 1 mm thick) placed under the panel's splices at maximum 500 mm, fixed to the floor at both profile's ends with expansion anchors Ø60 mm x 8 mm.

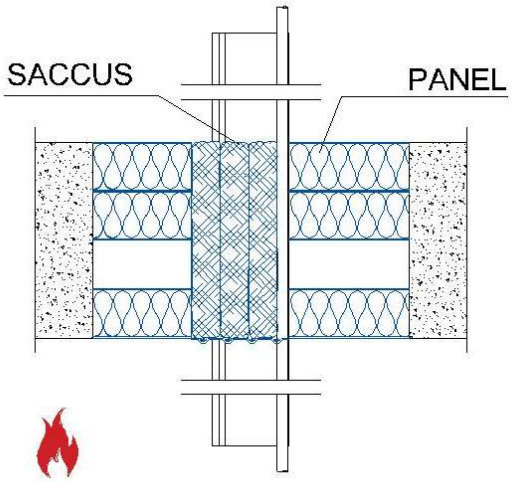


Cable	Cable type	Diameter	Group
A1	small sheathed	Maximum Ø 21 mm	1
A2	small sheathed		1
A3	small sheathed		1
B	small sheathed		1
Fire Resistance Classification: EI 180			

A.18 Rigid floor constructions with floor thickness of minimum 200 mm (for more details see 2.1.1 j)).

Requirement: Minimum seal width of 200 mm and SACCUS positioned in vertical.
Cables according to EN 1366-3, maximum aperture 200 mm x 1360 mm.

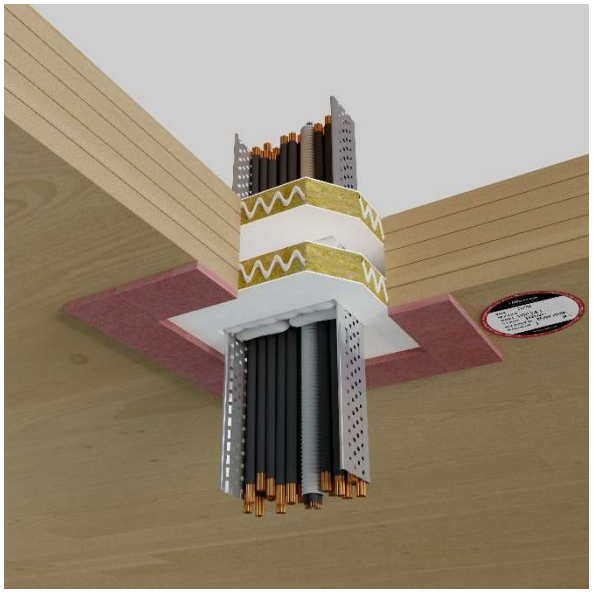


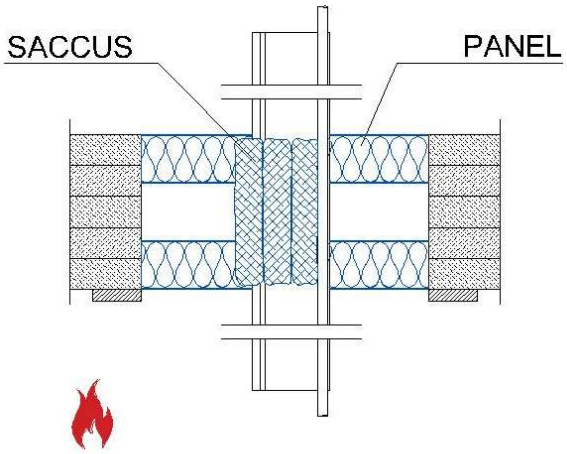


Cable	Cable type	Diameter	Group
A1	small sheathed	Maximum Ø 21 mm	1
A2	small sheathed		1
A3	small sheathed		1
B	small sheathed		1
Fire Resistance Classification: EI 240			

A.19 Cross laminated timber (CLT) floor constructions with floor thickness of minimum 158 mm (for more details see 2.1.1 k)).

Requirement: Minimum seal width of 150 mm and SACCUS positioned in vertical.
A single layer gypsum-board perimeter frame on the fire-exposed side of the floor.
Cables according to EN 1366-3, maximum aperture 700 mm x 500 mm.





Cable	Cable type	Diameter	Group
H07RN-F 5G1,5	small sheathed	Maximum Ø 21 mm	1
FG16OR 16 5G1,5	small sheathed		1
H05VV-F 5G1,5	small sheathed		1
FG16R16 1X95	small sheathed		1
Fire Resistance Classification: EI 120			