

Technical Data Sheet

Cavity Barrier

UIC of product-type: PARA, RCB, TECSEB

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CE Certification
Air Permeability
Movement Rigid Walls
Pipes Linear joints
Acoustic Rating
Trays Rigid Floors
CE Certification
Air Permeability



CE Certification
Penetration Seals
Movement Rigid Walls
Metallic Pipes Linear
Flexible Walls Acoustic
Cable Trays Rigid Floors
Plastic Pipes CE Certification
Air Permeability



APPROVED
CF5126
Paraflam ONLY



ETA 16-0763
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Paraflam ONLY



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Product Technical Data

Product Overview

Technical Description of Paraflam SEB

Paraflam SEB Cavity Barrier comprises a one piece closed dimension product having a structural internal stone wool core. The product has integrated aluminium foil facings to provide class 'O' rating and excellent resistance to smoke. The unique method of manufacture provides a resilient lateral compression required to ensure a tight fit. Designed to be used in Ceiling Cavity, Slab Edge or Under Floor installations and upgrades.

Technical Description of Silverliner Open State Cavity Barrier

Silverliner Open State Cavity Barrier is developed to protect the voids between the outer facade and the inner construction element of the building. There are two versions of Silverliner developed by FSi depending on the building requirements, first is a Ventilated Cavity Barrier which leaves up to a 50mm gap to ensure movement of air and moisture within the building. Second is a Non - Ventilated which keeps tight within the gap but allows movement within the building. The aluminium foil facing provides class 'O' rating and excellent resistance to smoke. A unique method of manufacture provides a resilient lateral compression required to ensure a tight fit.

Technical Description of Tecnica SEB

Tecnica SEB is a pre-built, pre-cut, multi layered barrier designed to prevent the passage of fire between compartment floors at the edge of slabs, offering acoustic isolation and waterproofing whilst still allowing for building movement. There are 16 build up possibilities within the product range which offer differing engineered solutions and capabilities. The products have integral aluminium foil facings to provide class 'O' rating and excellent resistance to smoke.

A unique patented method of manufacture provides a resilient lateral compression required to ensure a tight fit to allow building movement. The core technology is a revolutionary binder based on rapidly renewable materials instead of petro-based chemicals. It reduces embodied energy and deliver superior environmental sustainability. The intumescent is not effected by moisture, it does have a European Classification for internal and external applications.

Intended Use

- Ideal for Historical Building Upgrades
- Voids up to 300mm wide
- Air and Water Permeability Tested
- Moisture Resistance
- Up to 120 minutes Fire Resistance
- Suitable to close up to 25mm ventilation gap (50mm gap is available).
- Voids up to 450mm wide.
- Dynamic movement testing 500 cycles per 30 minutes (non ventilated).
- Free of halogens, asbestos, fibres and silica and is non toxic.
- Life expectancy of over 25 years.
- Contributes to Green Building.

Key Product Points

- High speed installation
- Single component
- No VOC
- No Curing time required
- Easy low maintenance system
- Excellent Acoustic Isolation Properties
- Suitable for use in irregular applications
- Long Life and ease of installation for minimum waste
- Softer feel, Odourless and Easy to Cut
- Superior Level of Sustainability



Performance Data - Paraflam - Floor

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Substrates

The floors shall be a minimum of **150mm thick**. Masonry / Concrete floors shall have a minimum density for concrete or brick of 780kg/m³ and for aerated concrete blocks of 600kg/m³. All floors shall have at least the same fire rating as that required for the Sealing system.

Terminology

Fire performance in accordance with EN1366-3, EN1366-4, Classification 13501-2:2007 + A1:2009, ETAG-026, Air Permeability EN1026, Sound EN10140. Fire resistance classes are: E = Integrity, the product can withstand the fire from the non-fire side, I = Insulation, the product can withstand the temperature travelling down the service, U/U = Uncapped inside and outside the furnace, U/C = Uncapped inside and Capped outside the furnace, C/U = Capped inside and Uncapped outside the furnace.

Description	Result	Test Standard
Description	Silver Foil Wrapped. Can be fully encased.	
Fire Resistance	60mins, 30/30	BS 476 - 20/22, DIN 4102 B2 ASFP Open State Cavity Barrier Test TGD 19
Density	Stone wool 80kg/m ³	ISO 2811-1:2011
Weather Resistance	Yes	ETAG 026 - Type X
Dimensions	75mm and 100mm thick, widths as required	
Thermal Conductivity	0.035 W/mK	ETAG 026
Bracket Requirements	Brackets should be positioned at 300mm, and 700mm (brackets must be fixed to the rigid structure using no combustible fixings. Minimum 2 brackets per 1200mm length)	
Expected Shelf Life	N/A	N/A

Rigid Floor

Linear Joints

Rigid Floor constructions with a minimum thickness of 150mm	
Penetration Specification	Classification
Paraflam SEB Linear Joint Seal, 100mm thick x 160mm wide (Compressed to 150mm) 80kg/m ³ .	E 120 - H - X - F - W00-150 EI 60 - H - X - F - W00-150

Joint Seals in Floor Installations with a minimum thickness of 150mm.					
Minimum Depth and Density of Material	Joint Width Range (mm)	Element of construction	Fixings	Integrity (mins)	Insulation
100mm / 80kg/m ³	0 - 500	Aerated concrete / concrete floor / double sided softwood (40mm thick).	600mm centres both sides of the seal.	45	30
	0 - 560	Aerated concrete / concrete floor / double sided softwood (40mm thick).	600mm centres both sides of the seal.	60	30
	0 - 350	Aerated concrete / concrete floor.	600mm centres both sides of the seal.	60	30
75mm / 80kg/m ³	0 - 310	Aerated concrete / concrete floor / double sided softwood (40mm thick).	N/A	60	30
Installation Technique	Compress horizontally orientated, Paraflam board into gap/joint to finish flush with the surface of the floor, with a minimum compression of 10mm.				
Installation of Support Fixings	Mild steel 'Z' type angle support brackets with dimensions of 400 x 50 x 200 x 25 installed at mid depth of the barrier to provide support. The mild steel support brackets are to be mechanically fixed to the associated substrate.				



Performance Data - Paraflam - Floor

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Rigid Floor

Linear Joints

Joint Seals in Floor Installations with a minimum thickness of 150mm.					
Minimum Depth and Density of Material	Joint Width Range (mm)	Element of construction	Fixings	Integrity (mins)	Insulation
100mm / 80kg/m ³	0 - 560	Aerated concrete / concrete floor / single sided softwood (40mm thick).	600mm centres both sides of the seal.	60	30
	0 - 350	Aerated concrete / concrete floor.	600mm centres one side of the seal.	60	30
75mm / 80kg/m ³	0 - 310	Aerated concrete / concrete floor / single sided softwood (40mm thick).	N/A	60	30
100mm / 80kg/m ³	0 - 150	Aerated concrete / concrete floor.	N/A	120	60
Installation Technique	Compress horizontally orientated, Paraflam board into gap/joint to finish flush with the surface of the floor, with a minimum compression of 10mm.				
Installation of Support Fixings	Mild steel 'Z' type angle support brackets with dimensions of 400 x 50 x 200 x 25 installed at mid depth of the barrier to provide support. The mild steel support brackets are to be mechanically fixed to the associated substrate.				

Joint Seals in Floor Installations with a minimum thickness of 250mm.					
Product Name	PARAFLAM SEB				
Minimum Depth and Density of Material	Joint Width Range (mm)	Element of construction	Fixings	Integrity (mins)	Insulation
100mm / 80kg/m ³	0 - 590	Aerated concrete / concrete floor.	550mm centres both sides of the seal.	120	60
Installation Technique	Compress horizontally orientated, Paraflam board into gap/joint to finish flush with the surface of the floor, with a minimum compression of 10mm.				
Installation of Support Fixings	Mild steel 'Z' type angle support brackets spanning the full width of the seal, installed at mid depth of the barrier to provide support. The mild steel support brackets are to be mechanically fixed to the associated substrate.				



Performance Data - Paraflam - Wall

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Substrates

The walls shall be a minimum of **100mm thick**. Drywalls shall comprise a minimum of 2 layers of 'Type F' Gypsum board on both faces, with minimum 50mm studs. Masonary / Concrete walls shall have a minimum density for concrete or brick of 780kg/m³ and for aerated concrete blocks of 600kg/m³. All walls shall have at least the same fire resistance as that required for the sealing system.

Service support requirements

Services should be rigidly supported via steel angles, hangers or channels, not further than 400mm from the surface of the sealing system on both faces of wall and top face of floor unless specified otherwise in the performance data.

Terminology

Fire performance in accordance with EN1366-3, EN1366-4, Classification 13501-2:2007 + A1:2009, ETAG-026, Air Permeability EN1026, Sound EN10140. Fire resistance classes are: E = Integrity, the product can withstand the fire from the non-fire side, I =Insulation, the product can withstand the temperature travelling down the service, U/U = Uncapped inside and outside the furnace, U/C = Uncapped inside and Capped outside the furnace, C/U = Capped inside and Uncapped outside the furnace.

Rigid Wall

Linear Joints

Joint Seals in Wall Installations with a minimum thickness of 250mm thick.

Minimum Depth and Density of Material	Joint Width Range (mm)	Element of construction	Fixings	Integrity (mins)	Insulation
100mm / 80kg/m ³	0 - 200	Aerated concrete / concrete wall.	600mm centres one side of the seal.	120	60
Installation Technique	Compress vertically orientated, Paraflam board into gap / joint to finish flush with the surface of the wall, with a minimum compression of 10mm. All splice joints to be sealed along the joint with foil tape on both faces of the seal.				



Performance Data - Silverliner Cavity Barrier - Wall

Substrates

The walls shall be a minimum of **100mm thick**. Drywalls shall comprise a minimum of 2 layers of 'Type F' Gypsum board on both faces, with minimum 50mm studs. Masonry / Concrete walls shall have a minimum density for concrete or brick of 780kg/m³ and for aerated concrete blocks of 600kg/m³. All walls shall have at least the same fire resistance as that required for the sealing system.

Terminology

Fire performance in accordance with EN1366-3, EN1366-4, Classification 13501-2:2007 + A1:2009, ETAG-026, Air Permeability EN1026, Sound EN10140. Fire resistance classes are: E = Integrity, the product can withstand the fire from the non-fire side, I =Insulation, the product can withstand the temperature travelling down the service, U/U = Uncapped inside and outside the furnace, U/C = Uncapped inside and Capped outside the furnace, C/U = Capped inside and Uncapped outside the furnace.

Silverliner Open State Cavity Barrier - Ventilated

Description	Result	Test Standard
Description	Silver Foil Wrapped with Black Encased Intumescent edge. Can be fully encased.	
Fire Resistance	60mins, 30/30	BS 476 - 20/22, DIN 4102 B2 ASFP Open State Cavity Barrier Test TGD 19
Closure Time	> 5mins	
Activation	Approx 180°C - (Intumescent Material)	
Expansion Volume	25 times thickness of material (1.4mm = 30mm)	ETAG 026
Expansion Pressure	approx. 0.7N/mm ²	ETAG 026
Density	Stone wool 80kg/m ³ Intumescent 1.3g/cm ³	ISO 2811-1:2011
Weather Resistance	Yes	ETAG 026 - Type X
Sag	0%	
Open Void Size	25mm - 50mm	
Dimensions	75mm thickness x 1000mm long	
Width	30mm to 450mm	
Bracket Requirements	Brackets should be positioned at 200mm, 500mm, and 800mm (brackets must be fixed to the rigid structure using no combustible fixings. Minimum 3 brackets per 1200mm length.	



Performance Data - Silverliner Cavity Barrier - Wall

Silverliner Open State Cavity Barrier - Non - Ventilated

Description	Result	Test Standard
Description	Silver Foil Wrapped with Black Encased Elastomeric Flexible Intumescent edge. Can be fully encased.	
Fire Resistance	120mins	BS 476 - 20/22
Activation	Approx 180°C - (Intumescent Material)	
Expansion Volume	25 times thickness of material (1.4mm = 30mm)	ETAG 026
Expansion Pressure	approx. 0.7N/mm ²	ETAG 026
Density	Mineral Fibre 80kg/m ³ Intumescent 1.3g/cm ³	ISO 2811-1:2011
Weather Resistance	Yes	EN 10140
Acoustic Isolation	39dB	EN 1026
Air Permeability	600Pa - 100Pa 11.1/8.9 m ³ /h/m ²	
Sag	0%	
Movement	500 cycles per 30 mins - 50% expansion and compression	
Dimensions	75mm thickness x 1000mm long	
Width	40mm to 450mm	
Bracket Requirements	Brackets should be positioned at 300mm and 700mm (brackets must be fixed to the rigid structure using no combustible fixings. Minimum 2 brackets per 1200mm length.	

Rigid Floor

Linear Joints

Rigid Floor constructions with minimum wall thickness of 250mm		
Penetration Specification	Integrity	Insulation
Silverliner Open State Cavity Barrier RCB 100, 225mm wide x 900mm long x 100mm thick.	120 minutes	90 minutes



Performance Data - Silverliner Cavity Barrier - Floor

Substrates

The floors shall be a minimum of **150mm thick**. Masonry / Concrete floors shall have a minimum density for concrete or brick of 780kg/m³ and for aerated concrete blocks of 600kg/m³. All floors shall have at least the same fire rating as that required for the Sealing system.

Terminology

Fire performance in accordance with EN1366-3, EN1366-4, Classification 13501-2:2007 + A1:2009, ETAG-026, Air Permeability EN1026, Sound EN10140. Fire resistance classes are: E = Integrity, the product can withstand the fire from the non-fire side, I =Insulation, the product can withstand the temperature travelling down the service, U/U = Uncapped inside and outside the furnace, U/C = Uncapped inside and Capped outside the furnace, C/U = Capped inside and Uncapped outside the furnace.

Rigid Floor

Linear Joints

Rigid Floor constructions with minimum floor thickness of 250mm		
Penetration Specification	Integrity	Insulation
Silverliner Open State Cavity Barrier RCB 75, 200mm wide x 900mm long x 75mm thick	120 minutes	60 minutes
Silverliner Open State Cavity Barrier RCB 100, 200mm wide x 900mm long x 100mm thick	120 minutes	60 minutes



Performance Data - Tecnica SEB - Floor

Substrates

The floors shall be a minimum of **150mm thick**. Masonry / Concrete floors shall have a minimum density for concrete or brick of 780kg/m³ and for aerated concrete blocks of 600kg/m³. All floors shall have at least the same fire rating as that required for the Sealing system.

Terminology

Fire performance in accordance with EN1366-3, EN1366-4, Classification 13501-2:2007 + A1:2009, ETAG-026, Air Permeability EN1026, Sound EN10140. Fire resistance classes are: E = Integrity, the product can withstand the fire from the non-fire side, I = Insulation, the product can withstand the temperature travelling down the service, U/U = Uncapped inside and outside the furnace, U/C = Uncapped inside and Capped outside the furnace, C/U = Capped inside and Uncapped outside the furnace.

Description	Result	Test Standard
Description	Multi Layered Stone Wool & Thermoplastic Composite	
Density	80kg/m ³ and 140kg/m ³	ISO 2811-1:2011
Thermal	0.35 to 0.37W/mk	
Testing	120 minutes Fire Resistance 60 minutes Fire Resistance 63dB Acoustic Reduction (maximum) Euroclass A1 Water Tightness* at 60 kpa Water Absorption* No Penetration >250N WPM* Adhesion to Steel >250N WPM* Adhesion to Primed Concrete	BS476:22 EN1366-4 EN10140 BS EN ISO 13501-1 EN 1928:2002 ASTM D 570 ASTM D 1000 ASTM D 1000
Thickness	100 - 140mm	
Acoustic Membrane	2 - 12.5mm thickness	
Acoustic Isolation**	33 - 63 dB	EN 10140
Waterproof Membrane	1.0 mm density polyethylene film with self adhesive compound	
Dimensions	Cut to size	
Void Size	300mm wide x Length	
Heat Aging	No defects at 300°C	
Bracket Requirements	Brackets should be positioned at 300mm, and 700mm (brackets must be fixed to the rigid structure using no combustible fixings. Minimum 2 brackets per 1200mm length)	
Expected Shelf Life	N/A	N/A

Rigid Floor

Linear Joints

Rigid Floor constructions with minimum floor thickness of 150mm	
Penetration Specification	Classification
Tecnica SEB Linear Joint Seal, 114.5mm thick x 170mm wide (Compressed to 150mm) 80kg/m ³ and 140kg/m ³ .	E 120 - H - X - F - W00-150 EI 120 - H - X - F - W00-150



Extended Scope of Works

Direct field of application – DiAP and Extended Field of Application- EXAP

DiAP and EXAP rules are an output from European harmonization of fire testing methods, classifications and product standards where applicable. At a national level, experienced persons or fire test organisations have previously provided assessments of expected performance based on expert judgement and opinion, however these rules allow interpretation through the specific EN 1366 test standard.

DiAP and EXAP rules are provided in the EN 1366 and EN 15882 test standards series. They are derived from information obtained from tests carried out in accordance with relevant EN 1366 tests at recognised laboratories in Europe. The test results achieved by a particular design may be directly applied to a limited number of variations without recourse to expert advice, providing the design remains substantially as tested. EXAPs shall be based on primary test evidence to a specific part of the EN 1366 series and may be supplemented by appropriate test evidence generated from other sources, or other relevant historical data. The EXAP rules consider changes in the tested design beyond the scope of direct application and may also consider variations to the tested design.

Direct field of application - DiAP

Fire Stopping systems of this type are often complicated by extensive changes in modern buildings and their influence on the fire hazard should be considered carefully. The fire hazard can be reduced by providing penetration seals at the points where the services pass through fire separating elements (walls/floors).

The impact of fire on a construction or service system can vary considerably. A strict scientific approach to the problem of adequate testing of a sealing system would, therefore, be to design a series of tests each of which corresponds to a specified fire situation and arrangement. However, such an approach would probably fail due to its economic consequences, as tests of this type are very timeconsuming and costly. The method of test described in the EN 1366 series has therefore been designed with the intention of covering a wide range of fire situations in a minimum of tests. To allow a wider field of application, standard configurations are defined on the basis of general experience and historic data wherever possible. As frequently a number of influencing parameters was considered when defining the standard configurations, not all of which may be addressed explicitly in the field of direct application rules (e.g. metalscreen of cables). To allow nevertheless flexibility a modular approach was taken as far as possible so that various combinations of standard configuration elements can be used to fit the needs of the user.

Where a nonstandard configuration was used, the field of application is restricted to what was tested, however the field of direct application rules given in the various parts of the EN 1366 series may be applied, subject to deviating rules given in the annexes of each part. Rules cover supporting construction, orientation, penetrating services, service supports, penetration seal size, distances and overall configurations of penetration seal materials and services to be included.

Extended Field of Application- EXAP

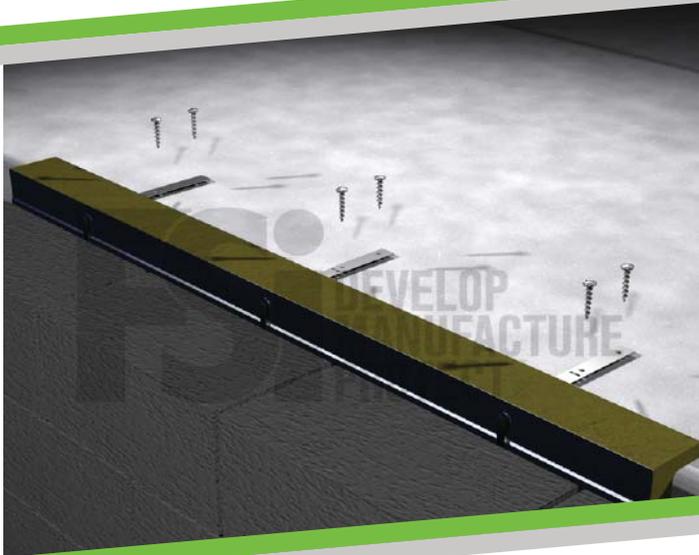
The purpose EXAP document is to provide the principles and guidance for the preparation of extended application documents for penetration sealing systems tested in accordance with the EN 1366 and EN 15882 series. The field of the extended application document is additional to the direct field of application given within the relevant part of EN 1366 and may be applied to or based on a single test, or a number of tests, which provide the relevant information for the formulation of an extended application.

There are a number of practical limitations on the size and design of elements that can be tested by the standard methods of fire resistance test. When these elements are required to be larger, or are of a modified design, there is a necessity to be able to confirm their performance, without the ability of being able to test them. To achieve this, extended application documents for the various elements are used.

Due to the diverse nature of materials and constructions used to seal openings in fire resistant separating elements it has been necessary to separate the extended application principles into generic seal types within the specific EXAP EN 15882 series. Often more than one variation is to be incorporated, should this be the case the overall effect shall be considered. Principles common to all generic seal types are given in the EXAP and rules for each specific generic seal type are given. The Annex provide rules for the application of test results and provides information relating to the extended application of those test results on for service penetrations.

Variables for each seal type, which require consideration included are as follows:

- 1) Separating element;
- 2) Type of service;
- 3) Size of service;
- 4) Seal size and configuration
- 5) Material changes (components or formulation) – comparison test approach, reduced test program
- 6) Orientation
- 7) Penetration seals at the head of walls (like a linear joint) – consider the issue of movement
- 8) Penetration seals at slab edges (like a linear joint) – consider the issue of movement
- 9) Distances of penetration seals to other openings in the separating element e.g. doors



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