



## TECHNICAL DATA SHEET

### General Product Description

Protecta® FR Board is designed to prevent the spread of fire and smoke through openings in fire rated walls and floors where openings are formed to allow the installation of multiple building services. Protecta® FR Board will also maintain the acoustic design performance in fire rated walls and floors.

Protecta® FR Board consists of a high density stone wool core, over-coated with Protecta® FR Coating. The top coating provides additional protection by significantly reducing the permeability of the stone wool core and prevents the passage of hot gases, thus reducing the temperature rise on the unexposed side and reducing heat conduction through the building services.

Protecta® FR Board is available with top coating on one or two sides, selected on the basis of installation considerations and fire resistance. On site, Protecta® FR Board must be used together with Protecta® FR Acrylic for sealing around building services and the surrounding construction.

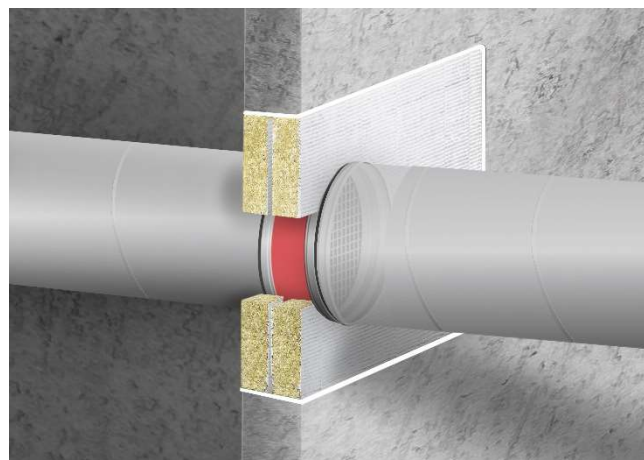
### Properties & Precautions

- Classified for all types of constructions with or without building service penetrations
- Simple and very quick to install
- Easy to retrofit additional building services after installation
- Permanently flexible - will accommodate movements during fire and smaller movements in the construction it has been fitted within
- Suitable for most surfaces, including concrete, bricks, masonry, steel, wood, gypsum, glass, plastic and most non-porous surfaces
- May be used in unlimited lengths in walls with heights up to 1200 mm and in floors with widths up to 800 mm.
- May be installed in gypsum walls with or without framing around the opening
- Halogen free with added fungicides
- Once fully cured, the board resists UV, humidity and frost
- Protecta® FR Board can be supplied with a smooth surface
- Precautions are required to be taken to prevent a person stepping onto a blank horizontal penetration seal

### Sound Insulation

Description	Sound reduction
Single 50 or 60mm FR Board 2-S as linear seal	Rw 55 dB
Single 50 or 60mm FR Board 2-S as large seal	Rw 29 dB
Double 50 or 60mm FR Board 1-S or 2-S as large seal	Rw 52 dB
50 or 60mm FR Board 1-S or 2-S with 50mm cavity, large seal	Rw 53 dB

Protecta® FR Board has been tested at BM Trada (UKAS accredited); according to EN ISO 10140-2:2010.



### Resistance to Fire

Construction	Description	Classification
Flexible walls comprise gypsum, masonry, aerated concrete or concrete	Unlimited width by 1200mm high blank seal with double 50mm Protecta FR Board 1-S	EI 120 (E 120)
Rigid walls comprise masonry, aerated concrete or concrete, within walls or between the head of walls and the soffit of floor slabs	Unlimited width by 1200mm high blank seal with single 60mm Protecta FR Board 2-S	EI 90 (E 240)
	Unlimited width by 1200mm high blank seal with double 60mm Protecta FR Board 2-S	EI 180 (E 240)
	Up to 1200 mm by 1200 mm blank seal with double 60mm Protecta FR Board 2-S	EI 240 (E 240)
Rigid floors comprise aerated concrete or concrete within floors or between floors and walls	Up to 1200 mm by 600 mm blank seal with single 60mm Protecta FR Board 2-S	EI 120 (E 240)
	Up to 1200 mm by 600 mm blank seal with double 60mm Protecta FR Board 2-S	EI 180 (E 240)
	Up to 2400 mm by 1200 mm blank seal with single 60mm Protecta FR Board 2-S (see also below)	EI 90 (E 120)
	Unlimited length by 120mm wide linear seal with single 60mm Protecta FR Board 2-S	EI 120 (E 240)

NB. Please read the Installation Instructions before usage.

### Additional Aperture Sizes in Floors

Under EN 1366-3 rules, results from tests in floors with a penetration seal length of minimum 1m apply to any length as long as perimeter length to seal area ratio is not smaller than that of the test specimen. The following aperture sizes are therefore allowed where 2400 x 1200 mm is described in this data sheet and in the installation instructions.

Maximum Aperture Sizes within Floors or between Floors and Walls
1200 mm width x 2400 mm length (tested)
1100 mm width x 2900 mm length
1000 mm width x 4000 mm length
900 mm width x 7000 mm length
≤ 800 mm width x ∞ (infinite) length



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### Emission Data (indoor air quality)

Compound	Emission rate after 4 weeks
TVOC	0.20 mg/m <sup>2</sup> h
Formaldehyde	n.d.
Ammonia	n.d.
Carcinogenic	n.d.
n.d. means not detected	

Protecta® FR Board complies with the requirements of BREEAM according to the M1 Protocol for Chemical and Sensory Testing of Building Materials as published by RTS version 15.12.2004 which is the best possible environmental and indoor hygiene health protection mark for coatings. Tested by Eurofins Product Testing, report number 392-2014-00000407B.

### Pipe end configurations

When testing pipes, one can choose not to cap (or close) the pipe, or cap the pipe inside the furnace, or outside the furnace, or on both sides. The configuration chosen depends on the intended application of the pipe and/or the installation environment.

The code defining if a pipe is capped is stated after the fire classification. For instance EI 60 C/U which means the pipe was capped inside the furnace, and uncapped outside the furnace. The test configuration defines the approvals possible.

Our engineering judgment based on EN 1366-3:2009 are:

Intended use of pipe	Pipe end condition <sup>4)</sup>	
Rainwater pipe, plastic	At drainage	U/U <sup>1)</sup>
	Not at drainage	C/C <sup>2)</sup>
Drainage or sewage pipe, plastic	Ventilated drain	U/U <sup>1)</sup>
	Unventilated drain	U/C <sup>1)</sup>
	Drain w/water trap	U/C <sup>1)</sup>
	Not at drainage	C/C <sup>2)</sup>
Pipe in closed circuit (water, gas, air, electricity etc.)	C/C <sup>2) 3)</sup>	
Flue gas recovery system pipe, plastic	U/C <sup>1)</sup>	
Pipe with open ends and ≥ 50cm length on both sides, plastic	U/U <sup>2)</sup>	
Pipe supported by suspension system, metal	Fire rated support	C/U <sup>1)</sup>
	Non-fire rated	U/C <sup>1)</sup>
Waste disposal shaft pipe, metal	U/C <sup>1)</sup>	

<sup>1)</sup> Suggested in EN 1366-3:2009. <sup>2)</sup> Polyseam's judgment based on tests.

<sup>3)</sup> Metal pipes should have fire rated support. <sup>4)</sup> U/U classified fire seals cover C/U, U/C and C/C. C/U classified fire seals cover U/C and C/C. U/C classified fire seals cover C/C.

### Technical Data

Condition	Ready for use, pre-coated boards
Density	Board: 160 kg/m <sup>3</sup> (150 – 170 kg/m <sup>3</sup> ) Coating: 1.3 – 1.4 kg/ltr
Durability	Y <sub>1</sub> - Intended for use at temperatures below 0°C with exposure to UV and humidity but no exposure to rain. Includes lower classes Y <sub>2</sub> , Z <sub>1</sub> and Z <sub>2</sub> .
Flash point	None
Non-sticky	Max. 75 minutes (sealant)
Film forming	Max. 25 minutes (sealant)
Totally hardened	3 to 5 days depending on thickness and temperature
Flexibility	Medium, 12.5%
Thermal conduct.	0.038 W/mK
Storage	May be stored for a long period of time. To be stored in temperatures between 5°C and 30°C
Compatibility	Suitable for use with most materials, but should not be used in direct contact with bituminous materials
Limitations	If the boards are to be used in permanently humid areas Protecta® FR Coating should be applied over the sealant
Temperature range	-30°C to +80°C (when hardened)
Installation temp.	+5°C to +50°C
Colour	White surface, green core FR Acrylic: NCS 1202 – Y26R, RAL 9002
Packaging	FR Board 50x600x1200 mm: 80 pcs per pallet FR Board 60x600x1200mm: 72 pcs per pallet