

General Product Description

Protecta® FR Coating spray grade, is an ablative sealant coating designed to enhance, seal and fire protect mineral fibres. It is based on a durable polymer system with inert fillers, non-halogenated fire retardants and a preservative to resist microbial attack.

Protecta® FR Coating is designed to be applied via spraying directly onto mineral fibres. The coating dries to give a sound, flexible white surface finish. During installation of mineral fibres, the cured sealant coating reduces de-lamination and increases surface stability for adhesive and fixing sealant application.

The ablative property of the coating resists flame spread and protects the mineral fibres against fire penetration by significantly reducing the permeability of the mineral fibre core and prevents the passage of hot gases, thus reducing the temperature rise on the unexposed side.

Mineral fibres coated with Protecta® FR Coating are designed to prevent the spread of fire and smoke through openings in fire rated walls and floors. The system will also maintain the acoustic design performance and, air and smoke permeability.

Properties & Precautions

- The coating applied on mineral fibres is classified for all types of constructions
- Simple and very quick to install
- Resists UV, humidity and frost (once cured)
- Excellent properties for fire resistance, sound insulation and air/smoke permeability
- Permanently flexible - will accommodate movements in the construction it has been fitted within
- Suitable for most surfaces, including concrete, bricks, masonry, steel, wood, gypsum, glass, plastics and most non-porous surfaces
- May be used in unlimited lengths in walls with heights up to 1,200mm and in floors with widths up to 800mm
- May be installed in insulated or un-insulated drywalls with or without framing around the opening
- Halogen free with added fungicides
- Precautions are required to be taken to prevent a person stepping onto a blank horizontal seal
- The coating is not intended for application on bituminous substrates or substrates that can extrude certain oils and plasticizers or solvents
- The coating is not recommended for use in submerged joints or areas exposed to high abrasion
- The coating should not come into contact with food or medical applications

Sound Insulation

Description	Sound reduction
Linear seal ≤ 120mm wide with Protecta FR Coating 1.0mm WFT on both sides of ≥ 50mm thick stone wool with density ≥ 150kg/m ³	Rw 55 dB

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



Emission Data (indoor air quality)

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

Protecta® FR Coating 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.

Air Permeability

Positive Pressure (Pa)	Leakage (m ³ /h)	Negative Pressure (Pa)	Leakage (m ³ /h)
25	0.00	25	0.00
50	0.01	50	0.01
100	0.03	100	0.02
200	0.08	200	0.04
300	0.20	300	0.11
450	0.63	450	0.49
600	1.01	600	0.95

Protecta® FR Coating has been tested at Warringtonfire Testing and Certification Ltd (UKAS accredited); according to EN 1026: 2016.

Test Standards

This Installation Instructions and the Technical Data Sheet are based on the product's European Technical Assessment issued in accordance with regulation (EU) No 305/2011 on the basis of EAD 350454-00-1104, September 2017, tested to EN 1366-3, -4 & -12 in conjunction with EN 1363-1. The product hold the following approval marks: CE-Mark, UL-EU Certificate, UAE Certificate of Compliance and AS Assessment.



Resistance to Fire – Linear Seals

Construction	Description	Classification
≥ 100mm thick constructions with linear joints in a vertical construction and horizontal wall joints abutting a floor, ceiling or roof		
Joints within drywalls and rigid substrates	≤ 1200mm wide seal with double ≥ 50mm thick stone-wool at density ≥ 150kg/m ³ coated on both outer faces with ≥ 1.0mm WFT of Protecta FR Coating	Horizontal seal: EI 120 (E 120)
≥ 150mm thick constructions with linear joints in a vertical construction and horizontal wall joints abutting a floor, ceiling or roof		
Joints within rigid substrates, any position	≤ 1200mm wide seal with single ≥ 60mm thick stone-wool at density ≥ 150kg/m ³ coated on both faces with ≥ 1.0mm WFT of Protecta FR Coating	Horizontal seal: EI 90 (E 240)
	≤ 1200mm wide seal with double ≥ 60mm thick stone-wool at density ≥ 150kg/m ³ coated on both sides with ≥ 1.0mm WFT of Protecta FR Coating	Horizontal seal: EI 180 (E 240)
	≤ 120mm wide seal with single ≥ 100mm thick stone-wool at density ≥ 33kg/m ³ compressed into gap by ≥ 40% and coated single sided with ≥ 1.2mm WFT of Protecta FR Coating overlapped by ≥ 15mm onto wall surface	Horizontal seal: EI 30 (E 120)
	≤ 120mm wide seal with single ≥ 100mm thick stone-wool at density ≥ 35kg/m ³ compressed into gap by ≥ 40% and coated on both faces with ≥ 1.2mm WFT of Protecta FR Coating overlapped by ≥ 15mm onto wall surface	Horizontal seal: EI 180 (E 240)
	≤ 200mm wide seal with single ≥ 100mm thick stone-wool at density ≥ 80kg/m ³ compressed into gap by ≥ 10% and coated single sided with ≥ 1.2mm WFT of Protecta FR Coating overlapped by ≥ 15mm onto wall surface	Vertical seal: EI 30 (E 180)
	≤ 200mm wide seal with single ≥ 100mm thick stone-wool at density ≥ 80kg/m ³ compressed into gap by ≥ 10% and coated on both faces with ≥ 1.2mm WFT of Protecta FR Coating overlapped by ≥ 15mm onto wall surface	Vertical seal: EI 120 (E 240)
Joints within rigid and aluminium substrates, any position	≤ 540mm wide seal with single ≥ 80mm thick stone-wool at density ≥ 80kg/m ³ compressed into gap by ≥ 20mm and bonded to one vertical side of the construction and in-between stone-wool with 10mm beads of Protecta FR Adhesive applied 10mm in from both faces, leaving one vertical side not bonded but friction fitted and coated on both faces with ≥ 1.0mm WFT of Protecta FR Coating	Vertical seal: EI 30 (E 180) Seal only: EI 120 (E 180)
≥ 150mm thick constructions with linear joints in a horizontal construction, horizontal linear joints in a vertical construction, horizontal floor joints abutting a wall and perimeter of floors		
Joints within rigid substrates, any position	≤ 800mm wide seal with single ≥ 60mm thick stone-wool at density ≥ 150kg/m ³ coated on both faces with ≥ 1.0mm WFT of Protecta FR Coating	EI 90 (E 120)

	≤ 400mm wide seal with single ≥ 60mm thick stone-wool at density ≥ 150kg/m ³ coated on both faces with ≥ 1.0mm WFT of Protecta FR Coating	EI 120 (E 240)
	≤ 120mm wide seal with top flush single ≥ 100mm thick stone-wool at density ≥ 33kg/m ³ coated on top face with ≥ 1.0mm WFT of Protecta FR Coating	EI 180 (E 240)
	≤ 200mm wide seal with top flush single ≥ 100mm thick stone-wool at density ≥ 80kg/m ³ compressed into gap by ≥ 20% and coated on top face with ≥ 1.2mm WFT of Protecta FR Coating	EI 240 (E 240)
Joints within rigid and aluminium substrates, any position	≤ 300mm wide seal with single ≥ 60mm thick stone-wool at density ≥ 160kg/m ³ coated on both faces with ≥ 1.0mm WFT of Protecta FR Coating	EI 60 (E 120) Seal only: EI 90 (E 120)
Joints within rigid, aluminium and steel substrates, top face position	≤ 600mm wide seal with single ≥ 60mm thick stone-wool at density ≥ 160kg/m ³ coated on both faces with ≥ 1.0mm WFT of Protecta FR Coating	E 120 Seal only: EI 120 (E 120)
	≤ 200mm wide seal with top flush single ≥ 100mm thick stone-wool at density ≥ 80kg/m ³ compressed into gap by ≥ 20% and coated on top face with ≥ 1.2mm WFT of Protecta FR Coating	EI 15 (E 240) Seal only: EI 120 (E 240)

Installation Instructions

- Before installing the mineral fibre stone-wool core, please ensure that the surface of all surrounding constructions is free from all loose contaminants, dust and grease. The stone-wool should be dry and sound, and any large loose pieces should be brushed off before spraying.
- Protecta® FR Coating is water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- Select the type of stone-wool core and friction fit into the seal according to the fire resistance table on this page. Any gaps or imperfections in the stone-wool must be filled with Protecta® FR Acrylic. Where the stone-wool has a density of 150kg/m³ or above, all joints must be sealed with Protecta® FR Acrylic on both sides prior to coating.
- Spray apply Protecta® FR Coating to the stone-wool according to the fire resistance table on this page. Spraying pressures will depend on the type of pump and nozzle used approximately 1700 to 2300 psi using a 25 to 35 thou' tip. Apply the coating in smooth strokes and with the minimum of overspray to achieve an even film thickness and consistent drying across the stone-wool.
- Calculate minimum 1.0 or 1.2 litre of Protecta® FR Coating per m² (see table on this page). The required wet film thickness is usually achieved when the surface is to a satisfactory proper white finish when dry.
- Overspray can increase drying times. Drying times will be dependent on film thickness, ambient temperature and humidity and may be reduced by using drying ovens and/or fans.
- Protecta® FR Coating can be over-painted with most emulsion or alkyd (gloss) paints.

Supporting Constructions

Flexible walls must have a minimum thickness of 100mm and comprise steel studs or timber studs*) lined on both faces with minimum 2 layers of 12.5mm thick boards. Rigid walls must have a minimum thickness of 100mm and comprise concrete, aerated concrete or masonry, with a minimum density of 350 kg/m³. Rigid floors must have a minimum thickness of 150mm and comprise aerated concrete or concrete with a minimum density of 650 kg/m³.

*) Timber studs: no part of the penetration seal may be closer than 100mm to a stud, and minimum 100mm of insulation of class A1 or A2 according to EN 13501-1 must be provided within the cavity between the penetration seal and the stud.

Packaging

Protecta® FR Coating spray grade is available in 200 litre plastic lined smooth sided steel drums or in 8 litre plastic pails.



Technical Data

Form	Ready to use viscous paste
Cure system	Water loss
Colour	White
Non-sticky	Max. 75 minutes
Film forming	Max. 25 minutes
Totally hardened	3 to 5 days depending on thickness and temperature
Reaction to fire	Class D-s1, d0
Flexibility	+/- 7.5 % (depending on the mineral fibre core used)
Density	1.3 – 1.4 kg/ltr
pH	8.5 - 9.2
Flash point	None
Solids Content	> 58 % (w/w)
Temperature range	-30 °C to +80 °C (when hardened)
Application temp.	+5 °C to +50 °C
Durability	Y ₁ - Intended for use at temperatures below 0 °C with exposure to UV and humidity but no exposure to rain. Includes lower classes Y ₂ , Z ₁ and Z ₂ .
Shelf life	Up to 12 months when stored in unopened containers under cool dry conditions. AVOID FROST and extremes of temperature. Stored between +5 °C to +30 °C
Working life	Minimum 25 years if conditions are met

Health and Safety

Wash the material from the skin while still wet. Material in contact with eyes should be washed out immediately with water. Seek medical advice if discomfort persists. More detailed information can be found in the relevant Protecta® FR Coating Safety Data Sheet.