



### General Product Description

Designed to prevent the spread of fire and smoke through joints and openings in fire rated walls and floors (including openings formed around building service penetrations); Protecta® FR Acrylic will also maintain the acoustic design performance.

When subjected to atmospheric conditions, the sealant cures however, it will retain a degree of elasticity for joint movement. Under fire exposure, Protecta® FR Acrylic creates a robust fire seal by the formation of a durable intumescent char.

Protecta® FR Acrylic can be used with a suitable filling material i.e. stone wool or Protecta® backing material in order to secure correct width to depth ratio, and to reduce the shrinking of the sealant during curing. Minimum depth and maximum width of the joints are included in the installation instructions. Thermal activation takes place at approx. 180°C when the material will expand (intumesce) and prevent the passage of fire and smoke for periods up to and beyond 4 hours.

### Properties

- High end formula, certified in most countries Worldwide
- Faster application times and minimal material use due to its ability to achieve high fire ratings and single sided installations
- Classified for fire sealing all types of constructions such as drywalls, masonry walls, concrete walls and rigid floors
- Tested for fire stopping of service penetrations in cross-laminated timber walls and floors
- Classified for fire sealing all types of building service penetrations such as cables, cable bundles, cable conduits, steel pipes, copper pipes, composite pipes, PVC pipes, PE pipes, ABS pipes, PP pipes and PEX pipe-in-pipes
- Classified with commonly used pipe insulations such as stone wool, glass wool, elastomeric and phenolic, both interrupted and continuous through the fire seal
- Causes no deleterious effects on cPVC pipes like BlazeMaster, supported by mechanical testing evidence
- Tested for fire sealing around wooden door frames
- May be installed in gypsum walls with or without framing around the opening
- Very high sound insulation
- Air, smoke and gas tight, tested at 1,000 Pascal
- Low emissions - environmentally and user friendly
- Simple to apply with a smooth surface finish
- Permanently flexible – will accommodate movement up to 12.5%
- No priming necessary for application to most materials
- Suitable for most surfaces, including concrete, masonry, steel, gypsum, glass, plastics and most non-porous surfaces
- Hardens quickly and tack free after 1 hour (the fire performance specification of the joint filler has been derived when the joint filler has been let to cure for a month)
- 18 months storage time (under correct conditions)
- 30 years working life



### Emission Data (indoor air quality)

Compound	Emission rate after 3 days	Emission rate after 4 weeks
TVOC	83 µg/m <sup>3</sup>	< 5 µg/m <sup>3</sup>
TSVOC	n.d.	< 5 µg/m <sup>3</sup>
VOC w/o NIK	n.d.	< 5 µg/m <sup>3</sup>
R Value	n.d.	< 1
Formaldehyde	< 3 µg/m <sup>3</sup>	n.d.
Acetaldehyde	< 3 µg/m <sup>3</sup>	n.d.
Sum for+ace	< 0.002 ppm	n.d.
Carcinogenic	< 1 µg/m <sup>3</sup>	< 1 µg/m <sup>3</sup>
n.d. or < means not detected		

Protecta® FR Acrylic complies with the requirements of GEV, and the results correspond to the EMICODE emission class EC 1<sup>PLUS</sup> - the best possible environmental and indoor hygiene health protection mark\*). Tested by Eurofins Product Testing, report number G12870B.

\*) Excludes the pure white version.

### Analysis of cPVC Pipes e.g. BlazeMaster

Analysed using Fourier Transform Infrared (FTIR) Spectroscopy; examination of the sealant contact regions of the cPVC pipe after removal of the sealant showed no evidence of visible discolouration or changes at the pipe surface.

Protecta® FR Acrylic has also been tested for chemical resistance of a sealant when applied to a cPVC pipe. The sealant does not affect cPVC pipes as the tests showed no difference between the control and exposed results at Yield.

Tested by Intertek, report numbers IWTN/W000009628ARL001 and WTN/W000009628RLM001.

### Resistance to Fire – Linear Seals

Construction	Seal position	Minimum seal depth	Backing material	Maximum seal width	Fire resistance
Flexible walls comprise gypsum, masonry, aerated concrete or concrete (≥ 75 mm thick)	Both sides against steel partition head track	12.5 mm	None necessary	25 mm	EI 45 (E 60)
	Both sides against steel partition side track	12.5 mm	None necessary	15 mm	EI 45 (E 60)
Flexible walls comprise gypsum, masonry, aerated concrete or concrete (≥ 100 mm thick)	Both sides against steel partition head track	12.5 mm	None necessary	25 mm	EI 90 (E 90)
		12.5 mm	Mineral stone wool minimum 12.5mm deep	30 mm	EI 120 (E 120)
		25.0 mm	None necessary	30 mm	EI 120 (E 120)
	Both sides against steel partition side track	12.5 mm	None necessary	15 mm	EI 90 (E 90)
	Both sides in vertical seals	12.5 mm	Mineral stone wool minimum 20mm deep	30 mm	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 (≥ 150 mm thick)	Single sided in horizontal seals	25.0 mm	Mineral stone wool minimum 20mm deep	30 mm	EI 60 (E 240)
		10.0 mm	Mineral stone wool minimum 60mm deep	50 mm	EI 60 (E 240)
		25.0 mm	Protecta Mineral Fibre BIO minimum 48mm deep	30 mm	EI 120 (E 240)
	Single sided in vertical seals	10.0 mm	Mineral stone wool minimum 60mm deep	50 mm	EI 120 (E 120)
	Double sided in horizontal or vertical seals	15.0 mm	Mineral stone wool minimum 20mm deep	30 mm	EI 240 (E 240)
Rigid floors comprise aerated concrete or concrete within floors or between floors and walls (≥ 150 mm thick)	Single sided soffit face	25.0 mm	Protecta Mineral Fibre BIO minimum 25mm deep	100 mm	EI 60 (E 120)
	Single sided top face	25.0 mm	Protecta Mineral Fibre BIO minimum 25mm deep	100 mm	EI 180 (E 180)
		10.0 mm	Mineral stone wool minimum 90mm deep	100 mm	EI 240 (E 240)
	Double sided top and soffit	15.0 mm	Mineral stone wool minimum 25mm deep	100 mm	EI 120 (E 120)
		15.0 mm	Mineral stone wool with density ≥ 140kg/m <sup>3</sup> minimum 25mm deep	100 mm	EI 180 (E 180)
		15.0 mm	Mineral stone wool minimum 25mm deep	30 mm	EI 240 (E 240)

### Sound Insulation

Description	Sound reduction
Single sided seal ≥12mm depth	Rw 62 dB
Double sided seal ≥12mm depth	Rw >62 dB

Protecta® FR Acrylic - tested at EXOVA BM Trada (UKAS accredited); according to EN ISO 10140-2:2010. Usage of any backing material is optional, due to the tests being conducted with sealant only.

### 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, acrylic based filler
Specific gravity	1.56 – 1.60
Flash point	None
Reaction to fire	Class D-s1, d1
Expansion in fire	1 : 2-3
Non-sticky	Max. 75 minutes
Film forming	Max. 25 minutes
Totally hardened	3 to 5 days depending on thickness and temperature
Flexibility	12.5% according to ISO 11600
Durability	Z <sub>2</sub> intended for use in internal conditions with humidity classes other than Z <sub>1</sub> , excluding temperatures below 0 °C
BWR 3	Use category IA1, S/W3
Thermal conduct.	0.845 W/mK (+/- 3%) @ 20mm depth
Storage	18 months stored in unopened cartridges. To be stored in temperatures between 10°C and 30°C
Working life	30 years
Service temp.	-20 to +70°C
Application temp.	+5 to +30°C
Compatibility	Suitable for use with most materials, but should not be used in direct contact with bituminous materials
Limitations	Should not be used in permanently damp areas or in joints with high movement
Classification	CE-marked - Sealant for fire rated joints and penetrations class EI 240
Standard colours	Standard white, pure white, grey or red
Colour codes	White: RAL 9002 / NCS S1002-Y Grey: NCS: S5500-N
Packaging	Box containing 25 cartridges each 310 ml Box containing 12 foil packed each 600 ml Pallets 310 ml: 64 boxes per pallet equals 1600 pcs Pallets 600 ml: 91 boxes per pallet equals 1092 pcs

### Test Standards

This Technical Data Sheet and the Installation Instructions 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.