

PROTECTA® FR IPT

TECHNICAL DATA SHEET



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For application guidance please refer to the Installation Instructions.

Description

Protecta® FR IPT is a high performance, professional quality, one part ready to use sealant and adhesive. Based on an innovative new Inert Polymer Technology it is suitable for a wide variety of building trade applications including decorating, flooring, joinery, plumbing and tiling and out-performs conventional silicone, MSP, butyl and acrylic based products as a sealant and adhesive – the only sealant free from dangerous emissions.

Protecta® FR IPT is designed for sealing joints, voids/irregular holes in walls, partitions and other structures, resulting in an airtight and watertight seal. IPT is a non-reactive environmentally friendly chemistry that ensures compatibility with most building materials and has the unique property of moving dynamically to accommodate the natural or unexpected movements of sealed/bonded joints within a building, for long-lasting performance.

Protecta® FR IPT eliminates the selection choices that need to be made with conventional sealants and adhesives. Choosing a product for a building application can be confusing especially as there are a wide number of products available and within those products a variety of grades, with variations in properties to suit the substrate or application. Protecta® FR IPT overcomes this by offering the tradesman one solution for all internal building applications.

Features

- Primerless adhesion
- Excellent adhesion to most common substrates
- Dynamic for low and high modulus applications
- 3D joint movement capability minimum 25%
- Can be used for all applications internally
- Fire rated up to 4 hours both integrity and insulation
- Resistant against radon (radioactive particles)
- Excellent slump resistance
- Only technology available that is VOC free
- Resistant to mould and mildew
- Low dirt pick up
- Non staining on susceptible surfaces
- Easy to apply and tool off
- Excess can be wiped before curing with a damp cloth
- Paintable
- Low shrinkage
- Does not yellow



Properties

Protecta® FR IPT remains permanently flexible and is paintable with both alkyd resin and water based paints. Suitable applications include:

- Internal sealing around doors and windows
- Sealing where air quality for health is important
- Sanitary applications including showers
- Sealing of gaps around fitted furniture and worktops
- Sealing around flooring
- Fire resistant sealing
- Radon resistant sealing
- Decorating caulking and sealing
- Air and sound sealing

Protecta® FR IPT can be used as an adhesive and has excellent initial grab quickly developing a high bond strength resulting in a permanent fixing. It is easy and economical to apply and is ideal for general construction.

IPT bonds to most building materials. Substrates include:

- Brick, concrete, stone, slate, ceramic, marble, granite
- Timber, plywood, block board, chipboard, fibreboard
- uPVC plastic trims and polycarbonate
- Insulating board
- Expanded polystyrene
- Plasterboard and plaster
- Metals, aluminium, steel, lead, copper and alloys
- Painted surfaces

Surplus uncured material can be easily removed using a damp cloth as the uncured sealant is completely soluble in water.

Limitations

- Where metals are not compatible with water contact, they should be primed prior to any sealant application.
- The sealant is soluble in water in wet/uncured state and cannot be used submerged or in rain. Applied sealant must not be sprayed with water or other fluids before skin formation (<30 min).
- The sealant should not be used outdoors due to the design of the curing process technology.
- Very narrow seals cure faster than normal. There is a special version of IPT that cures more slowly.
- Recommended for use in joints up to 20mm wide, larger joints widths can be accommodated.

Pipe End Configurations

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

¹⁾ Suggested in EN 1366-3:2009.

²⁾ Polyseam' s judgment based on tests.

³⁾ Metal pipes should have fire rated support.

⁴⁾ 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.

Sound Insulation

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

Protecta® FR IPT has been 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.

Usage

Usage for a standard 300ml cartridge.

Joint size (mm)	6 x 6	9 x 6	12 x 6	25 x 10	7 x 7 fillet	10 x 10 fillet
Linear m./cartridge	8.63	5.5	4.1	1.2	12.0	6.0

Emission data (indoor air quality)

Compound	Emission rate after 3 days	Emission rate after 4 weeks
TVOC	7.7 µg/m ³	n.d. (< 5 µg/m ³)
TSVOC	n.d. (< 5 µg/m ³)	n.d. (< 5 µg/m ³)
VOC w/o NIK	n.d. (< 5 µg/m ³)	n.d. (< 5 µg/m ³)
R Value	n.d. (< 1)	n.d. (< 1)
Formaldehyde	n.d. (< 3 µg/m ³)	n.d. (< 3 µg/m ³)
Acetaldehyde	n.d. (< 3 µg/m ³)	n.d. (< 3 µg/m ³)
Sum for+ace	n.d. (< 0.002 ppm)	n.d. (< 0.002 ppm)
Carcinogenic	n.d. (< 1 µg/m ³)	n.d. (< 1 µg/m ³)
n.d. means not detected		

Protecta® FR IPT complies with the requirements of GEV and the results correspond to the EMICODE emission class EC 1^{PLUS} which is the best possible environmental and indoor hygiene health protection mark.

IPT is the only technology available with no dangerous emissions during usage and curing. Tested by Eurofins Product Testing, report number G17798A.

Resistance to Fire – Linear Seals

Construction	Seal position	Minimum seal depth	Backing material	Maximum seal width	Fire resistance
Drywalls, masonry, aerated concrete or concrete walls (≥ 75 mm thick)	Both sides against steel partition horizontal tracks	12.5 mm	None necessary	25 mm	EI 45 (E 60)
Drywalls, masonry, aerated concrete or concrete walls (≥ 100 mm thick)	Both sides against steel partition horizontal tracks	12.5 mm	None necessary	25 mm	EI 60 (E 90)
		12.5 mm	Mineral stone wool minimum 12.5mm deep	30 mm	EI 120 (E 120)
	Both sides against steel partition vertical tracks	12.5 mm	None necessary	15 mm	EI 120 (E 120)
	Both sides in horizontal or vertical seals	12.5 mm	Mineral stone wool minimum 12.5mm 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	15.0 mm	Mineral stone wool minimum 45mm deep	30 mm	EI 60 (E 240)
	Double sided in horizontal seals	15.0 mm	Mineral stone wool minimum 45mm 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 top face	25.0 mm	Protecta Mineral Fibre BIO minimum 48mm deep	30 mm	EI 180 (E 240)
	Double sided top and soffit	15.0 mm	Mineral stone wool minimum 20mm deep	30 mm	EI 240 (E 240)

For fire sealing service penetrations, please refer to the Installation Instructions.



Technical Data

Condition	Ready to use thixotropic paste
Specific gravity	1.54 g/cm ³
VOC	0 g/l
Durability w/ageing	Type X (UV / water) (pass)
Chemical resistance	Test passed (resistant)
Salt water immersion	Test passed (resistant)
Microbiologic growth	0 (no growth)
Hardness	Shore A 47
Shrinkage	15% volume single sided
Tensile properties	3.79 MPa (379 N/mm ²)
Tensile elongation	270 %
3D-tensile properties	0.24 MPa (24 N/cm ²)
3D-tensile elongation	106 %
Tear properties	50 %
Compression resistance	434 N / 1569 MPa
Radon resistance	1.5mm thickness IPT gives Z = 2.9 - 108 s/m
Flashpoint	None
Reaction to fire	Classification D-s2, d0
Fire resistance	Up to class EI 240
Tack free time	60 minutes maximum
Skin time	30 minutes maximum
Rate of cure	10% at 24 hours
Solids content	> 80 %
Resistance to flow	< 0.5 mm
Shelf life	Up to 12 months when stored in unopened cartridges under cool dry conditions and 6 months in opened and resealed cartridges. Avoid temperatures above 35°C & below 5°C.
Frost	Uncured sealant should not be frozen.
Thermal Conductivity	0.845 W/mK (+/- 3%) at 20mm depth (to EN 12667)
Compatibility	Can be used in contact with most building and decorating materials.
Service Temp	-40 °C to +75 °C
Classification CE	Facade (interior) 25LM Sanitary joints XS1

Colours	A range of colours are available. Standard colours are white, light grey, grey, anthracite, black and brown.
Packaging	200ml flexitube, 300ml and 380ml cartridge, 300ml and 600ml foil.
Health & safety	No health hazard, indoor hygiene EMICODE EC1 ^{PLUS} classification, approved for BREEAM rated building projects. See safety data sheet.
Test laboratories	SP Sveriges Provningsverk, SE Intertek Chemicals & Phar., GB BM Trada, GB Warringtonfire, GB Eurofins Product Testing, DK .
Responsible	Protecta® Sealants & Adhesives manufactured by Polyseam Limited in UK Phone +44(0)1484 421036.

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