

1. Scope & Application

This Method Statement covers the sequence of activities for the Supply & Apply of Fire stop Applications for MEP penetrations, it has been assumed that, material to be used in the defined process have been subjected to and approved by the client's nominated representative, as per contractual requirements.

2. List of Standards

01	EN 13501	This European Standard provides the reaction to fire classification procedure for all construction products, including products incorporated within building elements. Products are considered in relation to their end use application. In this case for Protecta FR Acrylic Sealant for MEP penetrations
02	EN 1026	This European Standard defines the test method to be used to determine the air permeability of any material, when submitted to positive or negative test pressures.

3. Terminology

4. Materials Used

- Protecta FR Acrylic
- Protecta Pipe Wrap
- Roxul Rockwool – 64 kg/m³ density

5. Tools & Equipment Used

- Brush for cleaning the surface before application
- Measuring Tape
- Cutter / Knife for cutting rockwool
- Scrapper for tooling the finished application
- PPE Kit
- Step Ladder (A-type, single type, podium type)

6. Methodology

- Ensuring that all materials and Equipment to be used are in good condition, available and certified to carry out and complete works
- Ensure that work area has been inspected and in safe condition before commencing the works
- Manpower for the works will be available and they'll be safety inducted, read and understood of the method statement and risk assessment
- All the workers will provided with the appropriate Personal Protective Equipment (PPE) to carry out the work safely
- Main Contractor should provide good access and Egress. Ensure there is a clear and safe across and way out of the work place
- Any increment in the core cut sizes compared to the details mentioned in the BOQ will be notified to the concerned site in charge and the same to be rectified by the client with concrete before fire sealant application.
- Clean around openings, surfaces to which sealant will be applied
- Ensure that these are free and clear from loose debris, dust & dirt
- Install Pipe Wrap on the applicable PVC pipes (above 32 mm diameter)

- Cut an install rockwool as per required thickness and pushed into the gap to achieve the required sealant depth for sealant installation.
- Sealant to be applied with an applicator gun and tooled to a neat finish
- All fire stopping / smoke sealing materials will be installed by Falcon Acoustics & Passive Fire Solutions PVT LTD
- Conduct good housekeeping at work place like removing all scrap materials and dispose waste materials properly at the end of every working day.
- When all works are done, demobilize the materials and equipment's from site

7. Quality Acceptance criteria / tolerances

- Cable / Cable Bunch Penetration – Sealant depth 15mm both side with 25mm thick rockwool backing
- PVC pipe penetration – Sealant depth 25mm both side with 25mm thick rockwool backing for upto 32mm dia pipe
- PVC pipe penetration – Pipe wrap 2 layer (50mm x 1.8mm) for 80 mm dia PVC pipe with Sealant depth 25mm both side with 25mm thick rockwool
- Metallic pipe penetration - Sealant – Sealant depth 15mm both side with 25mm thick rockwool backing
- Above given details to be checked as per submitted drawings

8. Work Completion and delivery requirements

A work related to Fire sealant application shall not be deemed as complete till such time all the following conditions are fulfilled

- There are no defects in the fire sealant application
- All quality documents, test certificates have been submitted
- All quality observations are closed as per requirements
- Handover / take over notes for the respective work area
- All snag points are attended to the satisfaction of the EIC

9. Submittals

a) Technical Data Sheet (TDS)

b) Material Inspection Reports

c) Check list

10. Method of Measurement

The Mode of Measurement shall be on per penetration basis as per BOQ details in work order. Any deviation in the same will be notified.

11. Annexure's

Material Safety Data Sheet (MSDS)

Smoke test reports

Material UL – EU certifications

Product ETA (European Technical Assessment)

Inspection & Test plan (MTC to be supplied per lot of material delivered as per batch number)

UL-EU CERTIFICATE

Certificate No. UL-EU-00912-CPR
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Date of Issue 2015-10-09
Revision 2020-11-27

Certificate Holder
Polyseam Ltd
15 St Andrews Road
Huddersfield, West Yorkshire
HD1 6SB, UK

Manufacturer
Polyseam Ltd
15 St Andrews Road
Huddersfield, West Yorkshire
HD1 6SB, UK

Certified Product Type Fire Stop - Sealant
Product Trade Name Protecta FR Acrylic
Trademark N/A
Rating/Classification See Appendix

Harmonised Technical Specifications EAD 350454-00-1104, September 2017/ EAD 350141-00-1106, September 2017 / EN 13501-2

Supporting Documentation ETA 18/0904, ETA 13/0879, EC – CERTIFICATE OF CONFORMITY - 0843 – CPR – 0139 and Classification Report No. 13CA21782 A Issue 2 / 4786594903 A Issue 2 / 4788077223 Issue 1 / 4788672831 Issue 1 / 4789129519 Issue 1 / 4789553848

Additional information Additional test evidence is held on file
Expiry date 2025-10-08



This is to certify that representative samples of the Certified Product listed above have been investigated by Underwriters Laboratories to the Standard(s) indicated on this Certificate, in accordance with the UL Global Services Agreement and the UL-EU Mark Service Terms and Conditions ("Agreement"). The Certificate Holder is entitled to use the UL-EU Mark for the Certified Product listed on the certificate and manufactured at the production site(s) listed, in accordance with the terms of the Agreement. Only those products bearing the UL-EU Mark for Europe should be considered as being covered by UL's UL-EU Mark Service. This Certificate shall remain valid through the Expiration date, unless a Standard identified on this Certificate is amended or withdrawn prior to that date or there is a non-compliance with the Agreement.

Authorized Certification Decision Maker
Chris Miles



Appendix UL-EU CERTIFICATE

Certificate No. UL-EU-00912-CPR
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This certificate relates to the use of Protecta FR Acrylic for fire stopping where there are joints in or between walls & floors or service penetrations through floors and walls. The detailed scope is given in pages 3 to 58 of this Certificate. This shows the thickness and acceptable dimensions, substrates and orientations required to provide fire resistance periods of up to 240 minutes for differing services and wall/floor constructions.

The product is certificated on the basis of:

- i) ETA 18/0904 & ETA 13/0879
- ii) EC – CERTIFICATE OF CONFORMITY - 0843 – CPD – 0139
- iii) Inspection and surveillance of factory production control by UL
- iv) Fire resistance test data in accordance with EN 1366-3 and 1366-4
- v) Classification in accordance with EN 13501-2
- vi) Durability and Serviceability as defined in EAD 350141-00-1106*

* Protecta FR Acrylic sealant has been tested in accordance with BS EN ISO 8339: 2005 and BS EN ISO 9046: 2004 to demonstrate its suitability for use in internal conditions with humidity lower than 85 % RH, excluding temperatures below 0°C, without exposure to rain or UV. These conditions are designated Z₂ in EAD 350454-00-1104, September 2017 and EAD 350141-00-1106.

The movement capability of Protecta FR Acrylic joint seals is restricted to ≤ 7.5%

Protecta FR Acrylic is a sealant used to form a penetration seal around metallic pipes with and without combustible insulation, plastic pipes, combustible cable conduits, composite pipes and electrical cables to reinstate the fire resistance performance of wall and floor constructions, where they have been provided with apertures for the penetration of services. It is also used to form linear gap seals where gaps are present in wall and floor constructions and linear joint seals where wall and floor constructions abut.

Protecta FR Acrylic is supplied in liquid form contained within 310 & 380 ml cartridges and 300 to 600 ml foil packs. The sealant is gunned into the aperture in the separating element/elements and around the service or services, to a specified depth utilising a backing material.



Appendix UL-EU CERTIFICATE

Certificate No. **UL-EU-00912-CPR**
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Product: Protecta FR Acrylic		
Product-type: Sealant		Intended use: Linear Joint, Gap Seal & Penetration Seal
Assessment method	Essential characteristic	Product Performance
BWR 2 Safety in case of fire		
EN 13501-1	Reaction to fire	Class B-s1, d0
EN 13501-2	Resistance to fire	See pages 5 to 43
BWR 3 Hygiene, health and environment		
Declaration of manufacturer & EN 16516	Content, emission and/or release of dangerous substances	Use categories: IA1, S/W2 Declaration of manufacturer
EN 1026:2000	Air permeability (material property)	See page 59
EAD 350141-00-1106, Annex C & EN 12390-8	Water permeability (material property)	No performance determined
BWR 4 Safety in use		
EOTA TR 001:2003	Mechanical resistance and stability	No performance determined
EOTA TR 001:2003	Resistance to impact/movement	No performance determined
EOTA TR 001:2003 ISO 11600 & EAD 350141-00-1106, Clause 2.2.13	Adhesion	No performance determined
EAD 350141-00-1106, Clause 2.2.12	Durability	Z ₂
EAD 350141-00-1106, Clause 2.2.13	Movement capacity	No performance determined
EAD 350141-00-1106, Clause 2.2.14	Cycling of perimeter seals for curtain walls	No performance determined
EAD 350141-00-1106, Clause 2.2.15	Compression set	No performance determined
EAD 350141-00-1106, Clause 2.2.16	Linear expansion on setting	No performance determined
BWR 5 Protection against noise		
EN 10140-1,2,4,5/ EN ISO 717-1	Airborne sound insulation	Rw(C;Ctr)= 62 (-1;-5) dB*
BWR 6 Energy economy and heat retention		
EN 12664, EN 12667, EN 12939, EN ISO 8990, EN ISO 6946, EN ISO 10456	Thermal properties	No performance determined
EN ISO 12572, EN 12086, EN ISO 10456	Water vapour permeability	No performance determined

*12 mm depth and only applicable to linear joint and gap seals

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Appendix UL-EU CERTIFICATE

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PROTECTA FR Acrylic: Double Sided Penetration Seals in Walls									
Substrate	Minimum Substrate Thickness (mm)	Services	Sealant Depth (mm)	Backing Material	Minimum Backing Depth (mm)	Maximum Seal Size	Fire Resistance (mins.)		
							E	EI	
Masonry/ Concrete	150	Blank seals	15	Stone wool 35 kg/m ³	25	300 x 300 mm	240	240	
		Electric cables up to 21 mm diameter, single or in a bundle.					240	120	
		Electric cables 22-80 mm diameter, single or in a bundle.					120	60	
		Blank seals	25	Protecta Mineral Fibre BIO	48		240	240	
		Electric cables up to 80 mm diameter, single or in a bundle.					240	60	
		Telecoms cables up to 21 mm diameter, single or in a bundle up to 100 mm diameter					240	240	

Minimum separation between cables and the edge of the seal of 10 mm

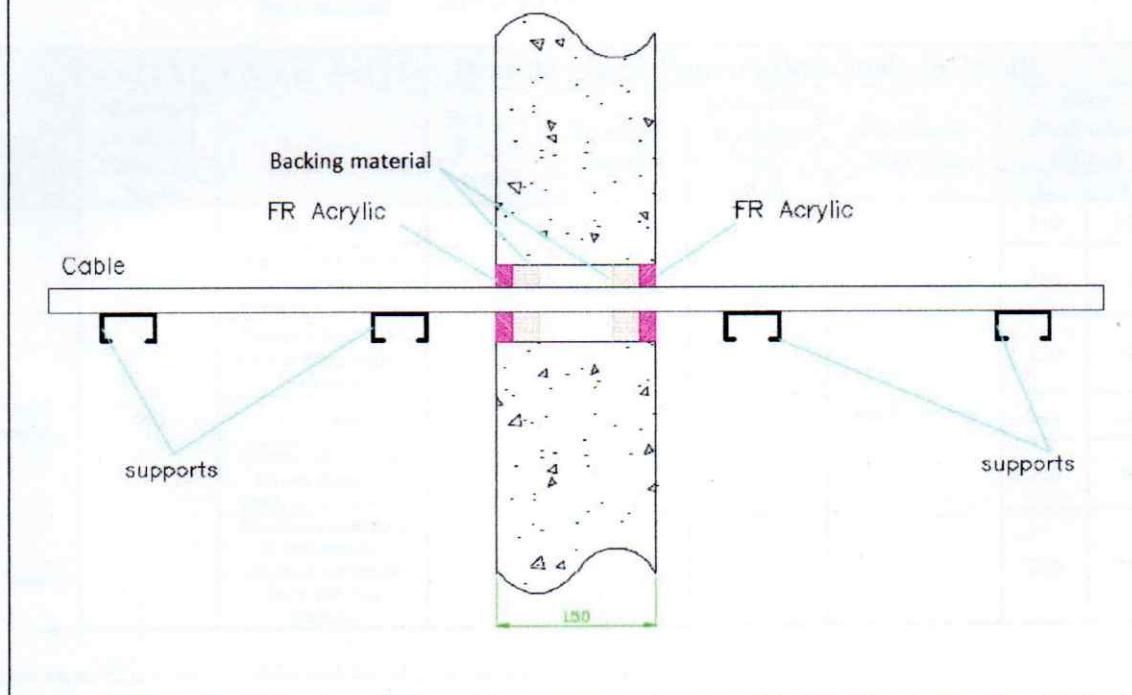
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A.1.2 Double side penetration seal with cables

Penetration Seal: Cables fitted with Protecta FR Acrylic to both sides of the wall, backed with stone wool or mineral fibre insulation. Maximum seal size of 300 x 300 mm and minimum separation between cables and the edge of the seal of 10 mm.

Construction details:



A.1.2.1

Services	Sealant depth	Backing (minimum)	Insulation	Classification
Blank seals				EI 240
Electric cables up to 21 mm diameter, single or in a bundle.	15 mm	25 mm Stone wool 35 kg/m ³		E 240, EI 120
Electric cables 22-80 mm diameter, single or in a bundle.				E 120, EI 60
Blank seals				EI 240
Electric cables up to 80 mm diameter, single or in a bundle.	25 mm	48 mm Protecta Mineral Fibre BIO		E 240, EI 60
Cables up to 21 mm diameter, single or in a bundle up to 100 mm diameter				EI 240

Appendix UL-EU Certificate

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PROTECTA FR Acrylic: Double Sided Penetration Seals in Walls 15 mm deep**
Protecta FR Acrylic / 20 or 30 mm deep minimum 40 kg/m³ stone wool backing

Substrate	Minimum Substrate Thickness (mm)	Services – Mild or Stainless Steel Pipe (fitted centrally)	Maximum Seal Size (mm)	Insulation LI or CI	Fire Resistance (mins.)	
					E	EI
Masonry/ Concrete	150	40 mm diameter/1.5-14.2 mm wall*	300 x 300	1000 mm length of 20 mm Stone wool insulation 80 kg/m ³	240	240
		40 mm diameter/1.5-14.2 mm wall*				
		50 mm diameter/1.7-14.2 mm wall*				
		60 mm diameter/1.9-14.2 mm wall*				
		75 mm diameter/2.2-14.2 mm wall*				
		90 mm diameter/2.5-14.2 mm wall*				
		100 mm diameter/2.7-14.2 mm wall*				
		115 mm diameter/3-14.2 mm wall*				
		140 mm diameter/3.5-14.2 mm wall*				
		165 mm diameter/ 3.9-14.2 mm wall*				
		180 mm diameter/ 4.2-14.2 mm wall*				
		200 mm diameter/ 4.6-14.2 mm wall*				
		219 mm diameter/ 5.0-14.2 mm wall*				

LI = Local Interrupted

CI = Continuous Interrupted

All pipe classifications are pipe end configuration C/U (U=Uncapped, C=Capped).

* Typical pipe diameters shown, intermediate sizes are possible.

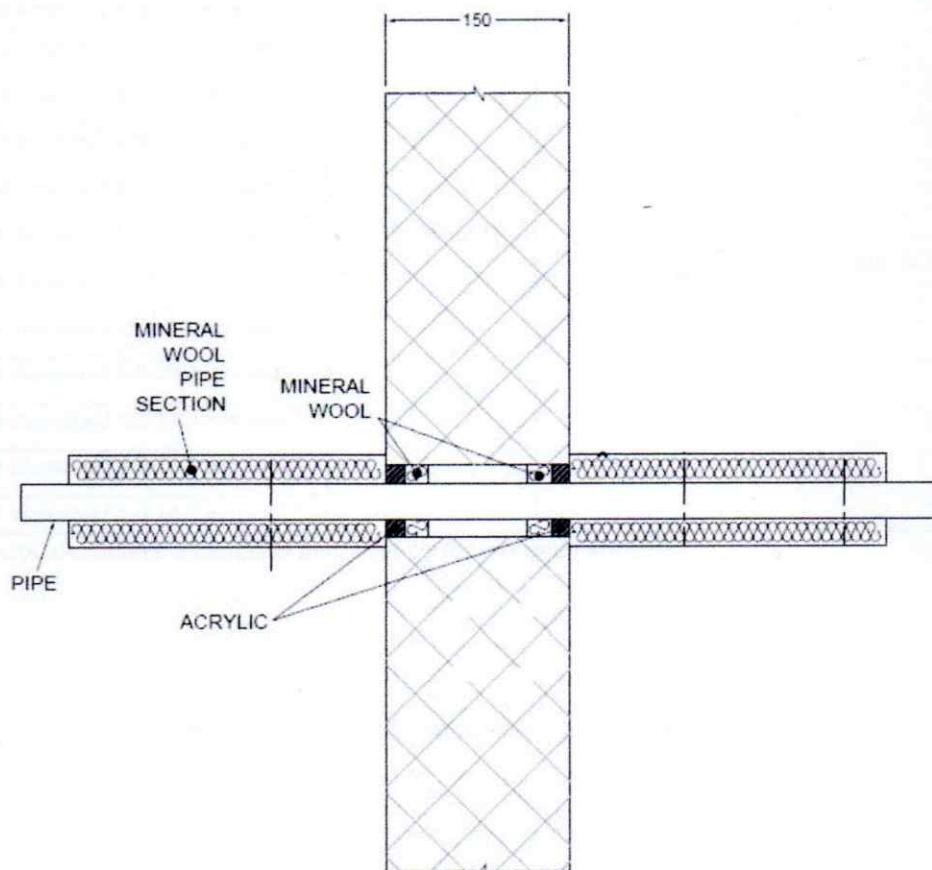
** seal applied to both sides of the wall



A.1.6 Double side penetration seal with metallic pipes

Penetration Seal: 1000 mm (min.) LI (Local Interrupted) or CI (Continuous Interrupted) insulated metallic pipes (single) fitted at any position within the aperture, with 15 mm deep Protecta FR Acrylic to both sides of the wall, backed with 20 or 30 mm deep minimum 40 kg/m³ stone wool insulation.

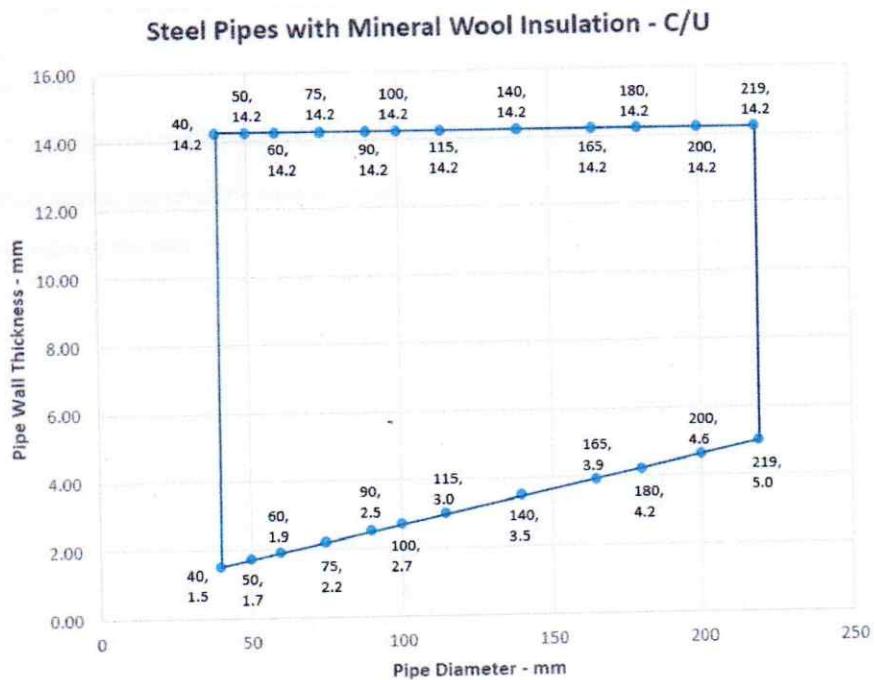
Construction details:



A.1.6.1

Services	Maximum seal size	Insulation (minimum)	Classification
Mild or stainless steel pipe			
40 mm diameter/1.5-14.2 mm wall*		20 mm Stone wool insulation 80 kg/m ³	EI 240 C/U
40 mm diameter/1.5-14.2 mm wall*			
50 mm diameter/1.7-14.2 mm wall*			
60 mm diameter/1.9-14.2 mm wall*			
75 mm diameter/2.2-14.2 mm wall*			
90 mm diameter/2.5-14.2 mm wall*			
100 mm diameter/2.7-14.2 mm wall*			
115 mm diameter/3-14.2 mm wall*		30 mm Stone wool insulation 80 kg/m ³	E 240, EI 120 C/U
140 mm diameter/3.5-14.2 mm wall*			
165 mm diameter/ 3.9-14.2 mm wall*			
180 mm diameter/ 4.2-14.2 mm wall*			
200 mm diameter/ 4.6-14.2 mm wall*			
219 mm diameter/ 5.0-14.2 mm wall*			

* Typical pipe diameters shown, see below graph for intermediate sizes



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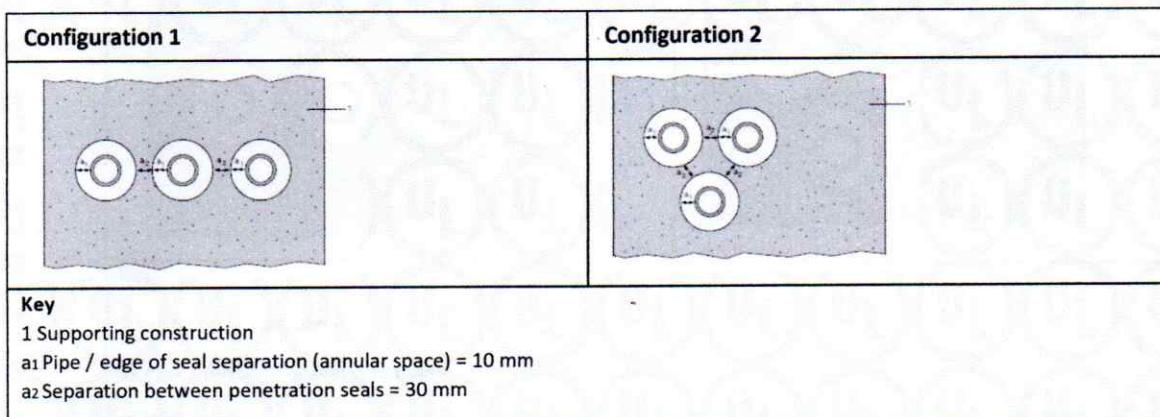
PROTECTA FR Acrylic: Double Sided Penetration Seals in Walls**

25 mm deep Protecta FR Acrylic / 25 mm deep stone wool insulation minimum 35 kg/m³ backing - Maximum seal size 300 x 300 mm or 300 mm Ø

Substrate	Minimum Substrate Thickness (mm)	Services (fitted centrally)	Seal Width Around Pipe (a1)	Sealant Depth (mm)	Backing Material	Fire Resistance (mins.)	
						E	EI
Masonry/ Concrete	150	PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1, PVC-C according to EN 1566-1 6-32 mm Ø/1.0-2.4 mm wall	10 mm	25	25 mm stone wool insulation min. 35 kg/m ³	240	240
		PP pipe according to EN 1451-1 or DIN 8077/8078 32 mm Ø/2.0-4.4 mm wall				180	180
		PP pipe according to EN 1451-1 or DIN 8077/8078 12-32 mm Ø/1.8-4.4 mm wall				240	240
		PE pipe according to EN 1519-1, EN 12201-2 and EN 12666-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1 20-32 mm Ø/2.0 mm wall				240	240
		PE pipe according to EN 1519-1, EN 12201-2 and EN 12666-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1 20-32 mm diameter/2.0-4.4 mm wall				120	120

All pipe classifications are pipe end configuration C/U (U=Uncapped, C=Capped) Except PVC-U pipes which are U/C.

** seal applied to both sides of the wall



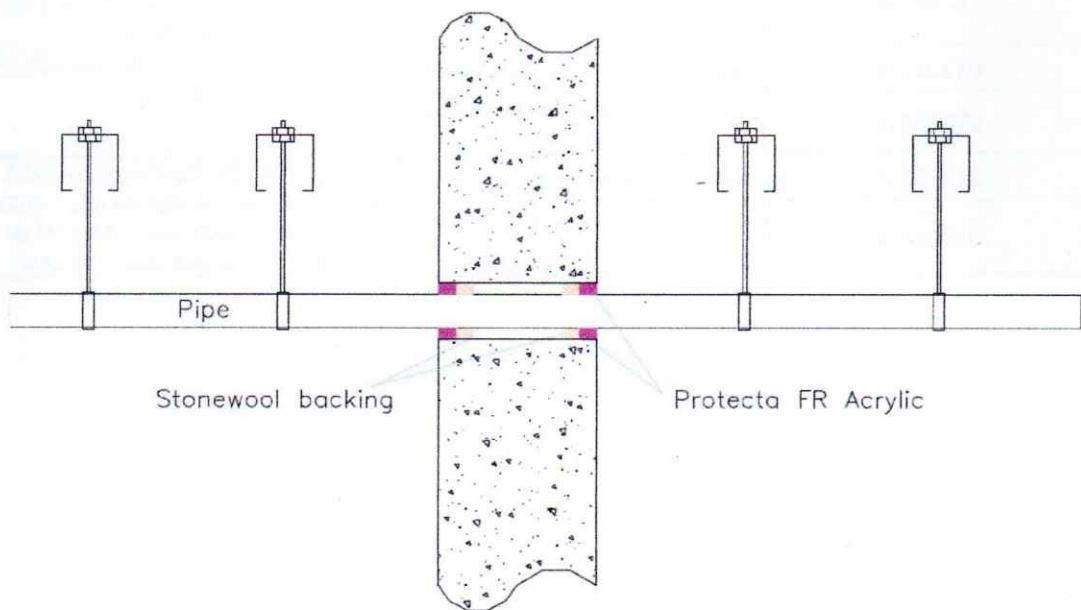
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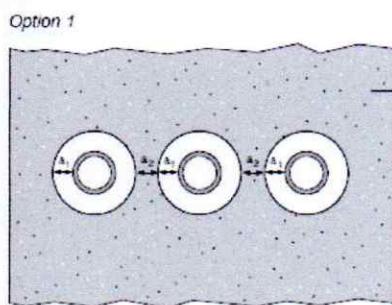
A.1.9 Double side penetration seal with plastic pipes

Penetration Seal: Plastic pipes (single) fitted at any position within the aperture, with 25 mm Protecta FR Acrylic to both sides of the wall, backed with 25 mm deep stone wool insulation minimum 35 kg/m³. Minimum annular space 10 mm (A1) and minimum separation between penetration seals 30 mm (A2). Maximum seal size 300 x 300 mm / 300 mm Ø

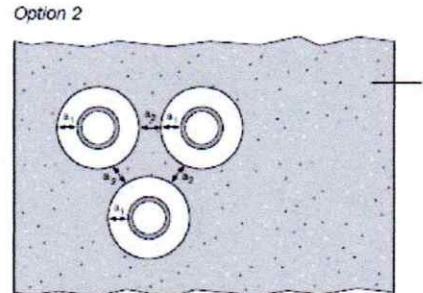
Construction details:



Configuration 1



Configuration 2



Key

1 Supporting construction

a1 Pipe / top edge of seal separation

a2 Pipe / side edge of seal separation

A.1.9.1 Double side penetration seal with plastic pipes

Pipe material	Size	Classification
PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1, PVC-C according to EN 1566-1	6-32 mm diameter/1.0-2.4 mm wall	EI 240 U/C
PP pipe according to EN 1451-1 or DIN 8077/8078	32 mm diameter/2.0-4.4 mm wall	EI 180 C/U
	12-32 mm diameter/1.8-4.4 mm wall	EI 240 C/U
PE pipe according to EN 1519-1, EN 12201-2 and EN 12666-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1	20-32 mm diameter/2.0 mm wall	EI 240 C/U
	20-32 mm diameter/2.0-4.4 mm wall	EI 120 C/U

a3 Pipe / pipe separation

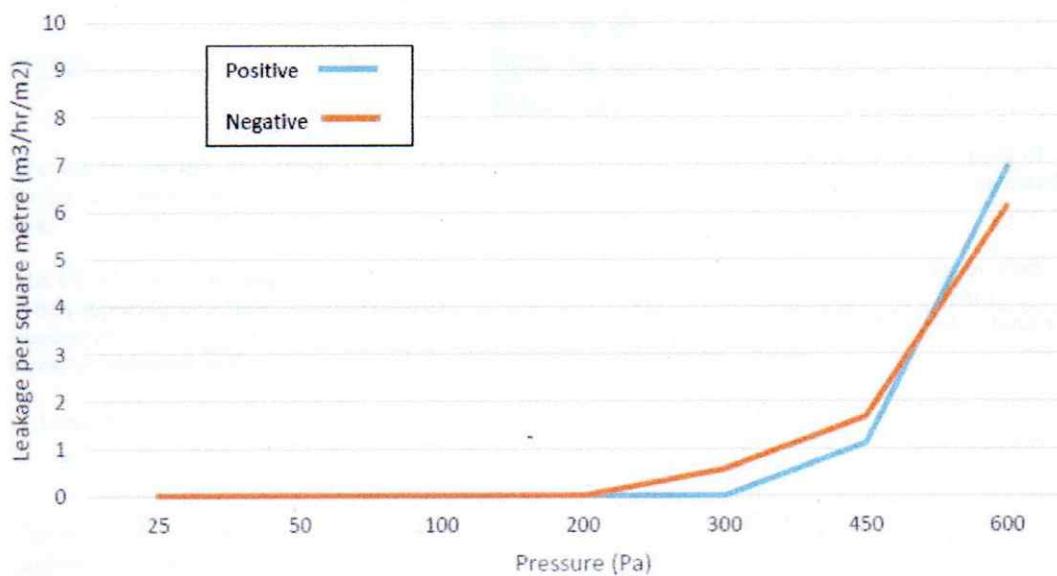
A.6.5.1

Services	Wraps (both sides)	Permitted configuration for seal separation	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1 and PVC-C according to EN 1566-1			
Diameter up to 40 mm, wall thickness 1.9 – 3.0 mm	50 x 1.8 mm (1 layer)		EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter up to 110 mm, wall thickness 2.7 - 6.6 mm	50 x 3.6 mm (2 x 1.8 layer)	1 & 2 between PVC-U/PVC-C, PE/ABS/SAN+PVC and PP pipes in any combination	E 120 U/C, E 120 C/C
Diameter up to 125 mm, wall thickness 3.7 – 7.4 mm	50 x 5.4 mm (3 x 1.8 layer)		EI 90 U/C, EI 90 C/C
Diameter up to 160 mm, wall thickness 9.5 mm *	50 x 7.2 mm (4 x 1.8 layer)		
Diameter up to 315 mm, wall thickness 7.7-12.1 mm*	50 x 18 mm (10 x 1.8 layers)	n/a	EI 90 C/C
Diameter up to 400 mm, wall thickness 9.8-15.3 mm*	50 x 28.8 mm (16 x 1.8 layers)	n/a	EI 90 C/C
Diameter up to 110 mm, wall thickness 2.7-6.6 mm, fully or partially filled conduits with cables up to 14 mm diameter	50 x 3.6 mm (2 x 1.8 layers)	1 & 2	EI 120 U/C, EI 90 U/C
PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1			
Diameter up to 40 mm, wall thickness 2.4 – 3.7 mm	50 x 1.8 mm (1 layer)		EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter up to 110 mm, wall thickness 4.2 - 10 mm	50 x 3.6 mm (2 x 1.8 layer)	1 & 2 between PVC-U/PVC-C, PE/ABS/SAN+PVC and PP pipes in any combination	E 120 U/C, E 120 C/C
Diameter up to 125 mm, wall thickness 4.8 – 12 mm	50 x 5.4 mm (3 x 1.8 layer)		EI 90 U/C, EI 90 C/C
Diameter up to 160 mm, wall thickness 14.6 mm	50 x 7.2 mm (4 x 1.8 layer)		
Diameter up to 110 mm, wall thickness 4.2-10 mm, fully or partially filled conduits with cables up to 14 mm diameter	50 x 3.6 mm (2 x 1.8 layers)	1 & 2	E 120 U/C, EI 90 U/C
PP pipe according to EN 1852-1: 2009			
Diameter up to 40 mm, wall thickness 1.8 – 5.5 mm	50 x 1.8 mm (1 layer)		EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter up to 110 mm, wall thickness 2.7 - 15.1 mm	50 x 3.6 mm (2 x 1.8 layer)	1 & 2 between PVC-U/PVC-C, PE/ABS/SAN+PVC and PP pipes in any combination	EI 90 U/U, EI 90 C/U, EI 90 U/C, EI 90 C/C
Diameter up to 125 mm, wall thickness 3.1 – 17.1 mm	50 x 5.4 mm (3 x 1.8 layer)		E 120 U/C, E 120 C/C
Diameter up to 160 mm, wall thickness 21.9 mm	50 x 7.2 mm (4 x 1.8 layer)		EI 90 U/C, EI 90 C/C
Diameter up to 110 mm, wall thickness 2.7-15.1 mm, fully or partially filled conduits with cables up to 14 mm diameter	50 x 3.6 mm (2 x 1.8 layers)	1 & 2	E 120 U/C, EI 90 U/C
Uponor Wirsbo PEX pipe in pipe system according to ISO 15875			
Diameter up to 54 mm/4.0 mm wall thickness (outer pipe), 28 mm	50 x 3.6 mm (2 x 1.8 layers)	1 & 2	EI 120 C/C

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Product tested	10mm deep x 30mm wide Protecta FR Acrylic			
	Summary of testing procedure	Pressure (Pa)	Leakage (m ³ /h)	Result
			Leakage (m ³ /m ² /h)	
Results under negative chamber pressure	25	0.00	-	0.00
	50	0.00		0.00
	100	0.00		0.00
	200	0.00		0.00
	300	0.02		0.56
	450	0.06		1.67
	600	0.22		6.11
Results under positive chamber pressure	25	0.00		0.00
	50	0.00		0.00
	100	0.00		0.00
	200	0.00		0.00
	300	0.00		0.00
	450	0.04		1.11
	600	0.25		6.94



Appendix UL-EU Certificate

Certification Mark	UL-EU mark
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The UL-EU Mark, as displayed below, shall appear on certified products only. Minimum size is not specified, as long as the Mark is legible. The following is suggested.



The minimum height of the registered trademark symbol ® shall be 1 mm. When the overall diameter of the UL-EU Mark is less than 9.5 mm, the trademark symbol may be omitted if it is not legible to the naked eye.

The UL-EU Mark may appear on a label, nameplate, or may be cast, stamped or molded into the product. When appearing on a label or nameplate, the Manufacturer's name or trademark along with a model number are also required on that same label or nameplate. If cast, stamped or molded, the Manufacturer's name or trademark and model number shall also appear elsewhere on the product.

All content shall be in accordance with the details provided on this UL-EU Certificate.

PROCUREMENT

The Production site may reproduce the Mark or obtain it from a UL authorized supplier. The list of UL authorized suppliers can be found on UL's online directory at www.ul.com.



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 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, concrete floors and composite floors
- Classified 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
- Classified for fire sealing against timber, steel and aluminium such as door and window frames
- Causes no deleterious effects on cPVC pipes like BlazeMaster, supported by mechanical testing evidence
- May be installed in drywalls with or without framing around the opening
- Very high sound insulation
- Air, smoke and gas tight, tested at 600 Pascal
- Available in the Polyseam Eco-Foil system
- Low emissions - environmentally and user friendly
- Simple to apply with a smooth surface finish
- 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
TVOOC	170 µg/m³	< 5 µg/m³
TSVOC	n.d.	< 5 µg/m³
VOC w/o NIK	25 µg/m³	< 5 µg/m³
R Value	0.33	0
Formaldehyde	< 3 µg/m³	< 3 µg/m³
Acetaldehyde	< 3 µg/m³	< 3 µg/m³
Sum for+ace	< 0.002 ppm	< 0.002 ppm
Carcinogenic	< 1 µg/m³	< 1 µg/m³
n.d. or < means not detected		

Regulation or Protocol	Conclusion
French VOC Regulation	A+
French CMR components	Pass
Italian CAM	Pass
ABG / AgBB to the guidelines of DIBt	Pass
Belgian Regulation	Pass
EMICODE	EC 1 PLUS
Indoor Air Comfort GOLD®	Pass
Blue Angel (DE-UZ 123)	Pass
BREEAM-International	Exemplary Level
BREEAM-NOR	Pass
LEED v4.1	Compliant

Protecta® FR Acrylic has been tested by Eurofins Product Testing; reports available upon request.



TECHNICAL DATA SHEET

Protecta®

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 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.

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; the tests showed no difference between the control and exposed results at Yield.

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

Air Permeability

Positive Pressure (Pa)	Leakage (m³/h/m²)	Negative Pressure (Pa)	Leakage (m³/h/m²)
25	0.00	25	0.00
50	0.00	50	0.00
100	0.00	100	0.00
200	0.00	200	0.00
300	0.00	300	0.56
450	1.11	450	1.67
600	6.94	600	6.11

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

Technical Data

Condition	Ready for use, acrylic based filler
Specific gravity	1.56 – 1.60
Flash point	None
Reaction to fire	B – s1, d0
Air permeability	Air, smoke and gas tight tested to EN 1026: 2016
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% in mortar/concrete/masonry to EN ISO 9046
Durability	Z ₂ intended for use in internal conditions with humidity classes other than Z ₁ , 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	Sealant for fire rated joints and penetrations class EI 240
Standard colours	Standard white, pure white, grey or red. Different batches may have minor colour deviations.
Colour codes	White: RAL 9002 / NCS S1002-Y Grey: NCS: S5500-N
Packaging	Box containing 25 foils/cartridges each 300/310 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, tested to EN 1366-3, -4 & -12 in conjunction with EN 1363-1. The product hold the following approval marks; CE-mark for Europe, UL-EU Certificate Internationally, UAE Certificate of Compliance & AS assessment for Australia and New Zealand.

PROTECTA® FR PIPE WRAP

TECHNICAL DATA SHEET



General Product Description

Protecta® FR Pipe Wrap is designed to maintain the fire resistance of fire separating walls and floors when these are breached by plastic pipes, conduits or metal pipes with continuous combustible insulation, and may be used in drywalls, masonry or concrete walls and concrete floors.

Each pipe wrap consists of a graphite based reactive intumescent strip, which reacts to heat and closes the opening left by the softening plastic pipe or pipe insulation in a fire. The pipe wrap is installed completely around the pipes or insulation and secured with the self-adhesive tab. The annular space around the pipe wrap is sealed with Protecta® EX Mortar or Protecta® FR Board.

Properties

- For plastic pipe sizes from smallest pipes available to Ø400 mm with a wide range of pipe wall thicknesses
- For pipes with continuous combustible pipe insulation
- For plastic pipes with cables (conduits)
- Pipe wraps comes in two different types; ready made for most common diameters and in 25 metre rolls for all diameters
- Fire classifications up to 240 minutes for both integrity and insulation
- Certified for PVC-U, PVC-C, PE, LDPE, MDPE, HDPE, ABS, SAN+PVC and PP pipes plus numerous composite pipes
- Tested and certified for U/U pipe end applications
- Classified for fire sealing in all types of constructions
- Excellent sound insulation
- No emissions - environmentally and user friendly
- Simple to install in both Protecta® FR Board and EX Mortar
- Unlimited storage time (under correct conditions)
- 25 years working life guarantee

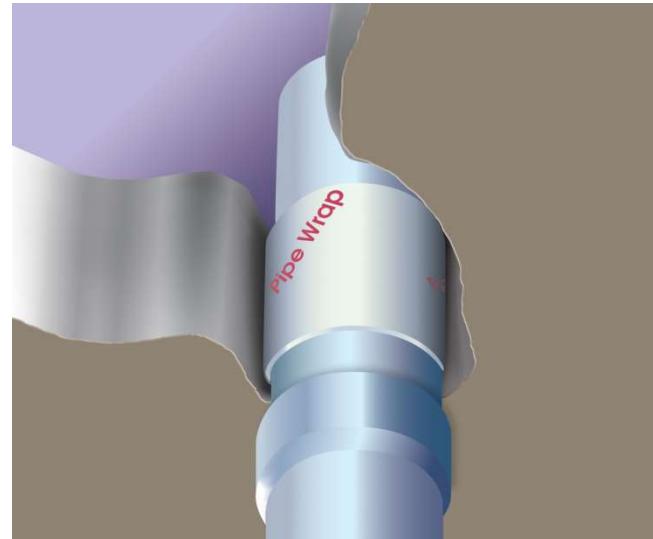
Sound Insulation

Description	Sound reduction
Pipe Wraps installed in FR Board	Rw 52 dB
Pipe Wraps installed in EX Mortar	Rw 48 dB

The sound insulation value is only valid for the fire seal and not for other elements in the building construction. The sound insulation has been tested by the accredited laboratory Warringtonfire in Great Britain according to EN ISO 10140-2. Test report is available upon request.

Sizes and Intended Use

Pno.	Size	Qty/ Bag	Intended Use
P068	FR Pipe Wrap 55mm	25	Plastic pipes & conduits ≤ Ø55mm
P076	FR Pipe Wrap 82mm	25	Plastic pipes & conduits ≤ Ø82mm
P069	FR Pipe Wrap 110mm	25	Plastic pipes & conduits ≤ Ø110mm
P074	FR Pipe Wrap 125mm	20	Plastic pipes ≤ Ø125mm
P075	FR Pipe Wrap 160mm	12	Plastic pipes ≤ Ø160mm
P077	FR Pipe Wrap 200mm	1	Plastic pipes ≤ Ø200mm
P083	FR Pipe Wrap 250mm	1	Plastic pipes ≤ Ø250mm
P141	FR Pipe Wrap 315mm	1	Plastic pipes ≤ Ø315mm
P298	FR Pipe Wrap 400mm	1	Plastic pipes ≤ Ø400mm
P099	FR Pipe Wrap 50mmx25m	1	Pipes with combustible pipe insulation, plastic pipes & conduits
P106	FR Pipe Wrap 75mmx25m	1	



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 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.

Technical Data

Durability & life	Same as the product it is installed within; Protecta FR Board or EX Mortar
Installation	Refer to Installation Instructions for Protecta FR Board and EX Mortar
Conditioning procedure	EN 13238:2010
Expansion ratio	28:1
Expansion pressure	55 N
Colour	Anthracite
Graphite weight/density	1.3 kg/m ² per mm thickness / 1300 kg/m ³
Normal expansion time	Less than 10 minutes
Minimum expansion temp.	150 °C
Storage	Store in temperatures between 5 °C and 30 °C



SAFETY DATA SHEET
PROTECTA FR ACRYLIC SEALANT

Page: 1

Compilation date: 22/01/2018

Revision date: 25/01/2021

Revision No: 1.2

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: PROTECTA FR ACRYLIC SEALANT

Product code: PRO005

Synonyms: INTUMESCENT ACRYLIC
BRANDFOG AKRYL
FR ACRYLIC SEALANT

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of substance / mixture: PC1: Adhesives, sealants.

1.3. Details of the supplier of the safety data sheet

Company name: Polyseam Ltd
15 St Andrews Road
Huddersfield
West Yorkshire
HD1 6SB
United Kingdom
Tel: +44 (0)1484 421036
Email: post.uk@polyseam.com

1.4. Emergency telephone number

Emergency tel: +44 (0)1484 421036

(office hours only)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: This product has no classification under CLP.

2.2. Label elements

Label elements:

Precautionary statements: P102: Keep out of reach of children.

P302+P350: IF ON SKIN: Gently wash with plenty of soap and water.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

Other hazards: Not applicable.

[cont...]

SAFETY DATA SHEET
PROTECTA FR ACRYLIC SEALANT

Page: 2

PBT: This product is not identified as a PBT/vPvB substance.

Section 3: Composition/information on ingredients

3.2. Mixtures

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Wash immediately with plenty of soap and water.

Eye contact: Bathe the eye with running water for 15 minutes.

Ingestion: Wash out mouth with water.

Inhalation: Not applicable.

4.2. Most important symptoms and effects, both acute and delayed

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: No data available.

Delayed / immediate effects: No data available.

4.3. Indication of any immediate medical attention and special treatment needed

Immediate / special treatment: Not applicable.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Suitable extinguishing media for the surrounding fire should be used.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to section 8 of SDS for personal protection details.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Absorb into dry earth or sand. Collect mechanically for disposal.

[cont...]

SAFETY DATA SHEET
PROTECTA FR ACRYLIC SEALANT

Page: 3

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS. Refer to section 13 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Ensure there is sufficient ventilation of the area.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a cool, well ventilated area.

Suitable packaging: Must only be kept in original packaging.

7.3. Specific end use(s)

Specific end use(s): PC1: Adhesives, sealants.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Workplace exposure limits: No data available.

DNEL/PNEC Values

DNEL / PNEC No data available.

8.2. Exposure controls

Engineering measures: Not applicable.

Respiratory protection: Respiratory protection not required.

Hand protection: Gloves are not normally required.

Eye protection: Safety glasses.

Skin protection: Protective clothing.

Environmental: No special requirement.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Paste

Colour: Various

Odour: Characteristic odour

Evaporation rate: No data available.

Oxidising: Not applicable.

Solubility in water: Soluble

Viscosity: Viscous

Boiling point/range°C: Not applicable.

Melting point/range°C: Not applicable.

Flammability limits %: lower: Not applicable.

upper: Not applicable.

Flash point°C: Not applicable.

Autoflammability°C: Not applicable.

Vapour pressure: No data available.

Relative density: 1.55 to 1.65

pH: 8.0

[cont...]

SAFETY DATA SHEET
PROTECTA FR ACRYLIC SEALANT

Page: 4

VOC g/l: 4.45

9.2. Other information

Other information: Not applicable.

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions.

Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Conditions to avoid: No information available

10.5. Incompatible materials

Materials to avoid: Not applicable.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes of carbon dioxide / carbon monoxide.

Section 11: Toxicological information

11.1. Information on toxicological effects

Excluded hazards for substance:

Hazard	Route	Basis
Acute toxicity (ac. tox. 4)	-	No hazard: calculated
Acute toxicity (ac. tox. 3)	-	No hazard: calculated
Acute toxicity (ac. tox. 2)	-	No hazard: calculated
Acute toxicity (ac. tox. 1)	-	No hazard: calculated
Skin corrosion/irritation	-	No hazard: calculated
Serious eye damage/irritation	-	No hazard: calculated
Respiratory/skin sensitisation	-	No hazard: calculated
Germ cell mutagenicity	-	No hazard: calculated
Carcinogenicity	-	No hazard: calculated
Reproductive toxicity	-	No hazard: calculated
STOT-single exposure	-	No hazard: calculated

[cont...]

SAFETY DATA SHEET
PROTECTA FR ACRYLIC SEALANT

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STOT-repeated exposure	-	No hazard: calculated
Aspiration hazard	-	No hazard: calculated

Symptoms / routes of exposure

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: No data available.

Delayed / immediate effects: No data available.

Other information: Not applicable.

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity values: No data available.

12.2. Persistence and degradability

Persistence and degradability: Biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential: No bioaccumulation potential.

12.4. Mobility in soil

Mobility: No data available.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Other adverse effects: Negligible ecotoxicity.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company.

Recovery operations: Not applicable.

Waste code number: 08 04 10

Disposal of packaging: Dispose of as normal industrial waste.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

Transport class: This product does not require a classification for transport.

[cont...]

SAFETY DATA SHEET
PROTECTA FR ACRYLIC SEALANT

Page: 6

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Specific regulations: Not applicable.

15.2. Chemical Safety Assessment

Chemical safety assessment: A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

Section 16: Other information

Other information

Other information: according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

SAFETY DATA SHEET

In accordance with 1907/2006 Annex II (2015/830) and 1272/2008

(All references to EU regulations and directives are abbreviated into only the numeric term)

Issued 2017-05-29

Replaces issued SDS 2014-08-08

Version number 3.0



SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Trade name Protecta FR Pipe Wrap

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Graphite used in passive fire protection

1.3. Details of the supplier of the safety data sheet

Company	Polyseam Ltd 15 St Andrews Road Huddersfield , West Yorkshire HD1 6SB, UK +44(0)1484 421036 post.uk@polyseam.com
Telephone	
E-mail	
Website	www.protecta.co.uk

1.4. Emergency telephone number

In case of emergency contact toxicological information, emergency tel 112 (within Europe) or 911 (for USA and Canada). For other countries, use the built-in emergency number in your cell phone

For non-emergency poison information, see <http://www.who.int/ipcs/poisons/centre/directory/euro/en/>

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification in accordance with 1272/2008

Upon assessment, FR Pipe Wraps are not classified as hazardous according to 1272/2008.

This product is assessed and not classified as hazardous

2.2. Label elements

Label information in accordance with 1272/2008

Hazard pictograms	Not applicable
Signal words	Not applicable
Hazard statements	Not applicable

2.3. Other hazards

Not relevant.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product is composed of an outer polyethylene sleeve which contains a graphite based intumescent strip.

Explanations to the classification and labelling of the ingredients are given in Section 16e. Official abbreviations are printed in normal font. Text in italics are specifications and/or complement used in the calculation of the hazards of this mixture, c.f. Section 16b
Also contains component(s) not necessary to label.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Upon breathing in

Not applicable.

Upon contact with the eyes

Not applicable.

Upon skin contact

Not applicable.

Upon ingestion

Not applicable.

4.2. Most important symptoms and effects, both acute and delayed

Not applicable.

4.3. Indication of any immediate medical attention and special treatment needed

Not applicable.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Extinguish with materials intended for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

5.3. Advice for fire-fighters

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Not applicable.

6.2. Environmental precautions

Not applicable.

6.3. Methods and material for containment and cleaning up

Carefully collect the material for combustion.

6.4. Reference to other sections

Not applicable

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

None.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool and dry place (above freezing temperature and not greater than 30°C).

Store only in the original package.

7.3. Specific end use(s)

Not relevant.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. National limit values, United Kingdom

All ingredients (cf. Section 3) lack occupational exposure limit values.

8.2. Exposure controls

In terms of minimizing risks, no special attention is needed for this product besides the general obligations that follow EU directive 89/391 and national occupational legislation.

Protective gloves are normally not needed due to the properties of this product, but may be necessary for other reasons, e.g.

mechanical risks, temperature conditions or microbiological risks. Very sensitive persons can use gloves labelled "Low Chemical resistant" or "Waterproof" or with the pictogram indicated here.



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance	Form: Plastic strip / bag Colour: As supplied
b) Odour	Characteristic
c) Odour threshold	Not applicable
d) pH	Not applicable
e) Melting point/freezing point	Not applicable
f) Initial boiling point and boiling range	Not applicable
g) Flash point	Not applicable
h) Evaporation rate	Not applicable
i) Flammability (solid, gas)	Not applicable
j) Upper/lower flammability or explosive limits	Not applicable
k) Vapour pressure	Not applicable
l) Vapour density	Not applicable
m) Relative density	Not applicable
n) Solubility	Insoluble in water
o) Partition coefficient: n-octanol/water	Not applicable
p) Auto-ignition temperature	Not applicable
q) Decomposition temperature	Not applicable
r) Viscosity	Not applicable
s) Explosive properties	Not applicable
t) Oxidising properties	Not applicable

9.2. Other information

Material intumesces at approximately 200°C.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

The product contains no substances which can lead to hazardous reactions at normal use.

10.2. Chemical stability

The product is stable at normal storage and handling conditions.

10.3. Possibility of hazardous reactions

No hazardous reactions known.

10.4. Conditions to avoid

Not indicated

10.5. Incompatible materials

Not indicated

10.6. Hazardous decomposition products

None under normal conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

General or unspecific toxicity

The product is not classified as toxic.

Acute effects

Not classified as an acutely toxic substance.

Harmfulness

The product is not classified as harmful to health.

Repeated dose toxicity

To the best of our knowledge, no chronic effects have been reported for this product.

Carcinogenicity

To the best of our knowledge, no carcinogenic effects have been reported for this product.

CMR effects

To the best of our knowledge, no mutagenic or otherwise genetic or reproductive toxic effects have been reported for this product.

Sensibilisation

Hypersensitive reactions cannot be ruled out for persons who are overtly sensitive.

Corrosive and irritating effects

The product is not corrosive. Minor irritation cannot be ruled out for persons who are prone/susceptible.

Synergism and antagonism

To the best of our knowledge, no synergistic effects have been reported for this product or any of its ingredients.

Effect on judgement and other psychological effects

To the best of our knowledge this product does not affect discernment if used in the manner intended.

Effect on human microflora

Effects on human micro flora have not been proven, or are negligible.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

In the local environment minor ecological effects may occur in case of large discharge.

12.2. Persistence and degradability

The product does not degrade in the natural environment.

12.3. Bioaccumulative potential

Neither this product, nor its contents, accumulates in nature.

12.4. Mobility in soil

The product is not miscible with water.

12.5. Results of PBT and vPvB assessment

No chemical safety report has been executed.

12.6. Other adverse effects

Not indicated

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste handling for the product

The product is not classified as hazardous waste.

EWC code 17 06 04.

Also take local regulations for dealing with waste into account.

Cf. also national waste regulations.

Recycling of the product

This product is not usually recycled.

Transportation of waste

Waste class J(0) - Does not have adverse effects on health or the environment.

SECTION 14: TRANSPORT INFORMATION

This product is only supposed to be transported by road or railway and just the transport regulations ADR/RID thus apply. If other means of transport are to be used, contact the publisher of this safety data sheet.

14.1. UN number

Not classified as dangerous goods

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Not applicable

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Not applicable.

15.2. Chemical safety assessment

Assessment and chemical safety report in accordance with 1907/2006 Annex I has not yet been performed.

SECTION 16: OTHER INFORMATION

16a. Indication of where changes have been made to the previous version of the safety data sheet

Revisions of this document

This is the first version.

16b. Legend to abbreviations and acronyms used in the safety data sheet

Full texts for Hazard Class and Category Code mentioned in section 3

Not applicable.

Explanations of the abbreviations in Section 14

ADR European Agreement concerning the International Transport of Dangerous Goods by Road

RID Regulations concerning the International Transport of Dangerous Goods by Rail

16c. Key literature references and sources for data

Sources for data

Primary data for the calculation of the hazards has preferentially been taken from the official European classification list, 1272/2008 Annex I , as updated to 2013-02-28.

Where such data was lacking, on the second hand the documentation on which this official classification is based was used, e.g. IUCLID (International Uniform Chemical Information Database). On the third hand, information was used from reputable international chemical suppliers, and on the fourth hand from other available information, e.g. safety data sheets from other suppliers or information from non-profit associations, whereby the reliability of the source was judged by an expert. If, in spite of this, reliable information was not found, the hazards were judged by expert opinions based on the known properties of similar substances, and according to the principles in 1907/2006 and 1272/2008.

Full texts for Regulations mentioned in this Safety Data Sheet

453/2010 COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

1272/2008 REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

1907/2006 REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC Annex I

16d. Methods of evaluating information referred to in 1272/2008 Article 9 which was used for the purpose of classification

The calculation of the hazards of this mixture has been performed as an evaluation by applying a weight of evidence determination using expert judgement in accordance with 1272/2008 Annex I, weighing all available information having a bearing on the determination of the hazards of the mixture, and in accordance with 1907/2006 Annex XI.

16e. Advice on any training appropriate for workers to ensure protection of human health and the environment

Warning for misuse

This product is not expected to cause severe harm to humans or the environment. However the manufacturer, the distributor or the supplier cannot be responsible for unusual or criminal use of the product.