

# PROTECTA® FR GRAPHITE

## INSTALLATION INSTRUCTIONS



### GENERAL PRODUCT DESCRIPTION

Protecta® FR Graphite is a high specification formulation designed to prevent the spread of fire, smoke and gases through openings in fire rated walls and floors. Protecta® FR Graphite expands when it is subjected to fire and closes openings around penetrations when any combustible or low temperature melting materials have burnt away. Protecta® FR Graphite is designed to fire seal difficult services which traditional fire rated mastics do not achieve such as large plastic pipes.

### FIRE CLASSIFICATION - TABLE

Penetration/Joint type & max dimensions	Installation Min seal depth, max seal width and backing material	Classification
<b>FLEXIBLE AND RIGID WALL CONSTRUCTIONS ≥ 100MM</b>		
PVC-U and PVC-C pipe 110 mm diameter and 1.9 – 6.6 mm wall	25mm deep 30mm wide graphite to both sides backed with 25mm stone wool insulation	EI 120 U/C C/C FRR -/120/120
PE, ABS and SAN+PVC pipe 110 mm diameter and 2.4 – 10.0 mm wall	25mm deep 30mm wide graphite to both sides backed with 25mm stone wool insulation	EI 60 U/C C/C FRR -/60/60
PP pipe 110 mm diameter and 6.6 mm wall	25mm deep 30mm wide graphite to both sides backed with 25mm stone wool insulation	EI 120 U/C C/C FRR -/120/120
<b>RIGID WALL CONSTRUCTIONS ≥ 150MM</b>		
PVC-U and PVC-C pipe 110 mm diameter and 2.0 – 3.5 mm wall	40mm deep 22mm wide graphite to both sides of single 50 or 60mm Protecta FR Board 2-S	EI 240 U/C C/C FRR -/240/240
PE, ABS and SAN+PVC pipe 32 mm diameter and 3.2 mm wall	40mm deep 25mm wide graphite to both sides of single 50 or 60mm Protecta FR Board 2-S	EI 240 U/C C/C FRR -/240/240
ABS pipe 110 mm diameter and 2.3 – 3.5 mm wall	40mm deep 26mm wide graphite to both sides of single 50 or 60mm Protecta FR Board 2-S	EI 240 U/C C/C FRR -/240/240
Perforated steel cable tray 150mm with cables <sup>1)</sup>	40mm deep 200x100mm (w x h) graphite to both sides of single 50 or 60mm Protecta FR Board 2-S	E 240 EI 180 FRR -/240/180
<b>RIGID FLOOR CONSTRUCTIONS ≥ 150MM</b>		
PVC-U and PVC-C pipe 110 mm diameter and 1.8 – 6.6 mm wall	25mm deep 30mm wide graphite to both sides backed with 25mm stone wool insulation	EI 90 U/C C/C FRR -/90/90 <sup>2)</sup>
PE, ABS and SAN+PVC pipe 110 mm diameter and 2.4 – 10.0 mm wall	25mm deep 30mm wide graphite to both sides backed with 25mm stone wool insulation	EI 60 U/C C/C U/U FRR -/60/60

<sup>1)</sup> ≤20 mm diameter single copper core armored cables and twin earth cables.  
<sup>2)</sup> ≤40 mm diameter pipes used in U/U configurations give an FRR -/240/240.

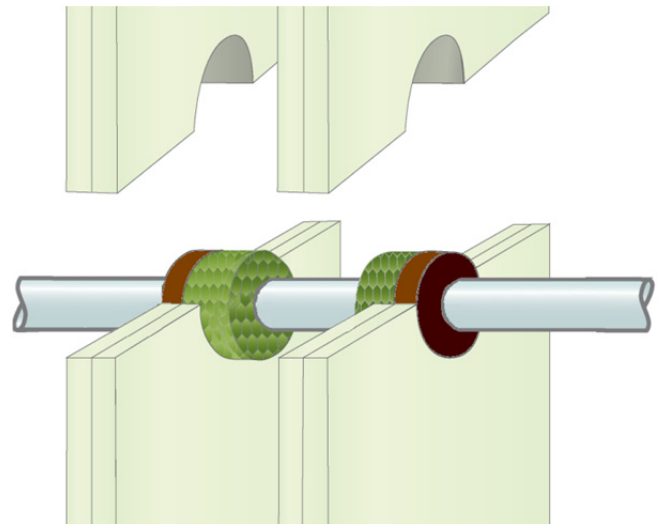
**Supporting construction:** Flexible walls must have a minimum thickness of 100 mm and comprise steel studs lined on both faces with minimum 2 layers of 12.5 mm thick boards. The walls must also incorporate a full fill core insulation of stone wool (35kg/m<sup>3</sup> density). Rigid walls and floors must comprise concrete, aerated concrete or masonry, with a minimum density of 650 kg/m<sup>3</sup>. The service support must be classified in accordance with EN 13501-2 for the required fire resistance period.

### SOUND INSULATION

Description	Sound reduction
Single sided seal 25mm depth without backing material	53 dB RW

Same or higher sound reduction will be achieved with greater depth, double sided or with backing material. The sound insulation value is only valid for the sealant and not for other elements in the building construction. The sound insulation has been tested by the accredited laboratory BM Trada in Great Britain according to EN ISO 10140-2. Test report is available upon request.

### TYPICAL DETAIL



### INSTALLATION

- Before installing Protecta® FR Graphite ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Make sure that the gap to be sealed is wide enough to accommodate the correct backing material where this is a requirement. In practice, this should not be less than 10mm.
- Minimum separation between penetration seals is 30 mm.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Make sure the correct depth is achieved.
- Fill the gap with Protecta® FR Graphite to the required depth. For type of sealing and necessary depth of the seal, see the tables on the left.
- Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush. The smoothing should be done within 5 minutes.
- Where Protecta® FR Graphite is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be taken (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- As Protecta® FR Graphite is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface.

### CERTIFICATION

This Installation Instruction is based on the product's European Technical Assessment, issued in accordance with regulation (EU) No 305/2011, on the basis of ETAG 026-2 and 3, edition 2011, used as European Assessment Document (EAD).