

PROTECTA® FR GRAPHITE

INSTALLATION INSTRUCTIONS



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For fire sealing additional pipes and classifications, please refer to Protecta FR Collar's Technical Data Sheet and 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.

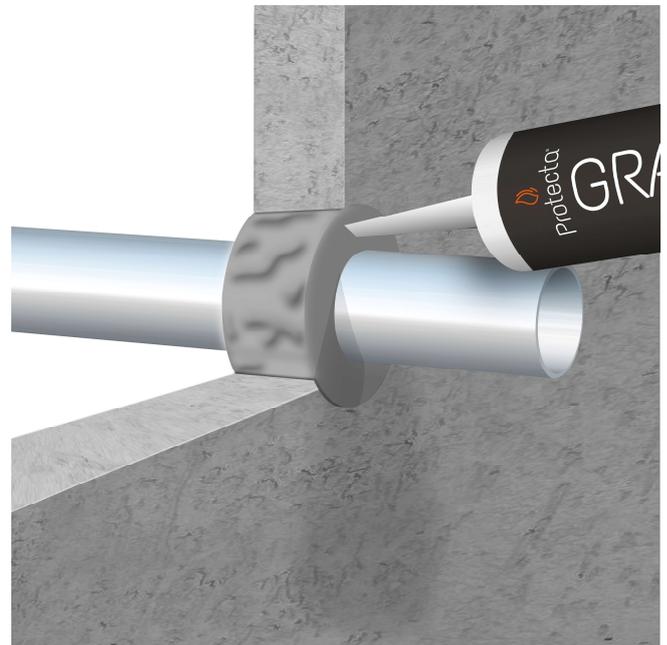
Protecta® FR Graphite is designed to fire seal difficult services which traditional fire rated mastics do not achieve, such as large plastic pipes. Protecta® FR Graphite can be used with a suitable filling material, i.e. stone wool or Protecta® Backing material in order to ensure correct width to depth 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.

GENERAL GUIDE

Minimum separations and limitations: Services can be sealed as specified in the detailed drawings. Minimum separation between services and the edge of the seal within each aperture must be 10 mm to allow for correct fitting of backing and seal depth. Minimum separation between apertures should be at least 30 mm, except in timber floors where apertures can be placed linear with no required separation. For larger apertures other than described in the detailed drawings, Protecta® FR Board or EX Mortar should be used.

Supporting constructions: Flexible walls must have a minimum thickness of 100 mm and comprise steel studs or timber studs*) lined on both faces with minimum 2 layers of 12.5 mm thick boards. Timber walls must have a minimum thickness of 100 mm and comprise solid wood or cross-laminated timber. Rigid walls must have a minimum thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a minimum density of 350 kg/m³ (650 kg/m³ in rigid wall details). Rigid floors must have a minimum thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650 kg/m³. Timber floors must have a minimum thickness of 150 mm and comprise solid wood or cross-laminated timber. The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period.

*) Timber studs: no part of the penetration seal may be closer than 100 mm to a stud, and minimum 100 mm 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.

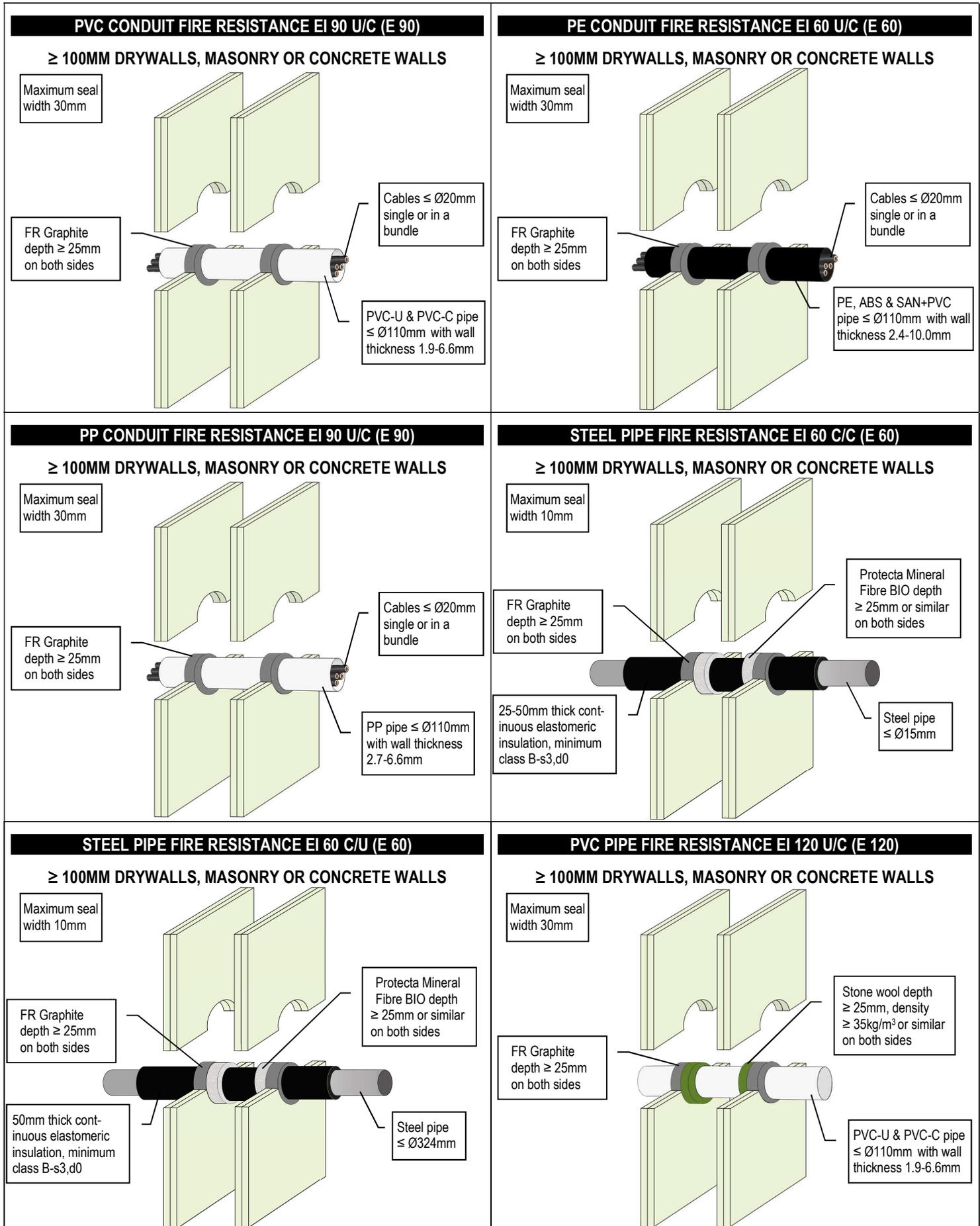


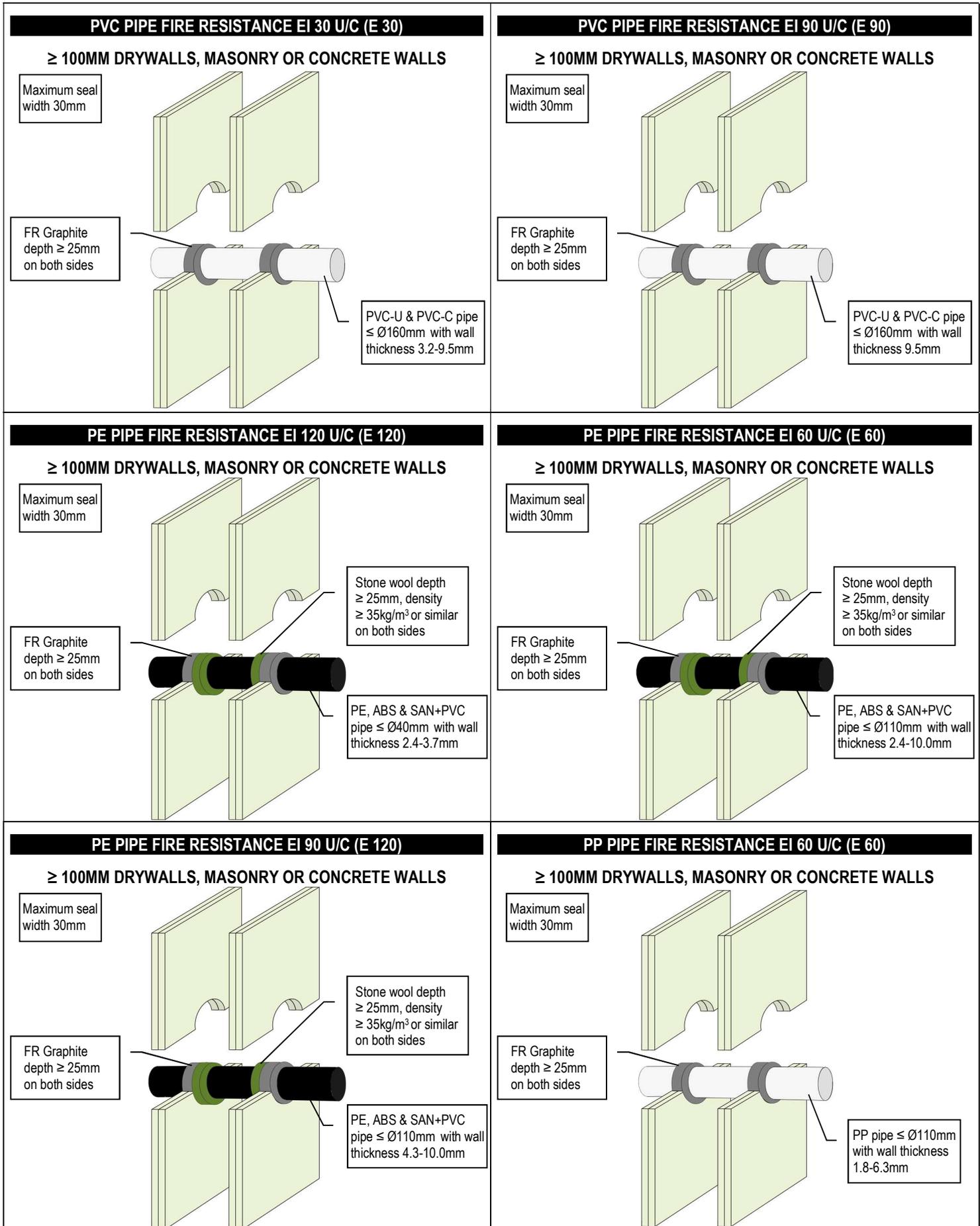
INSTALLATION

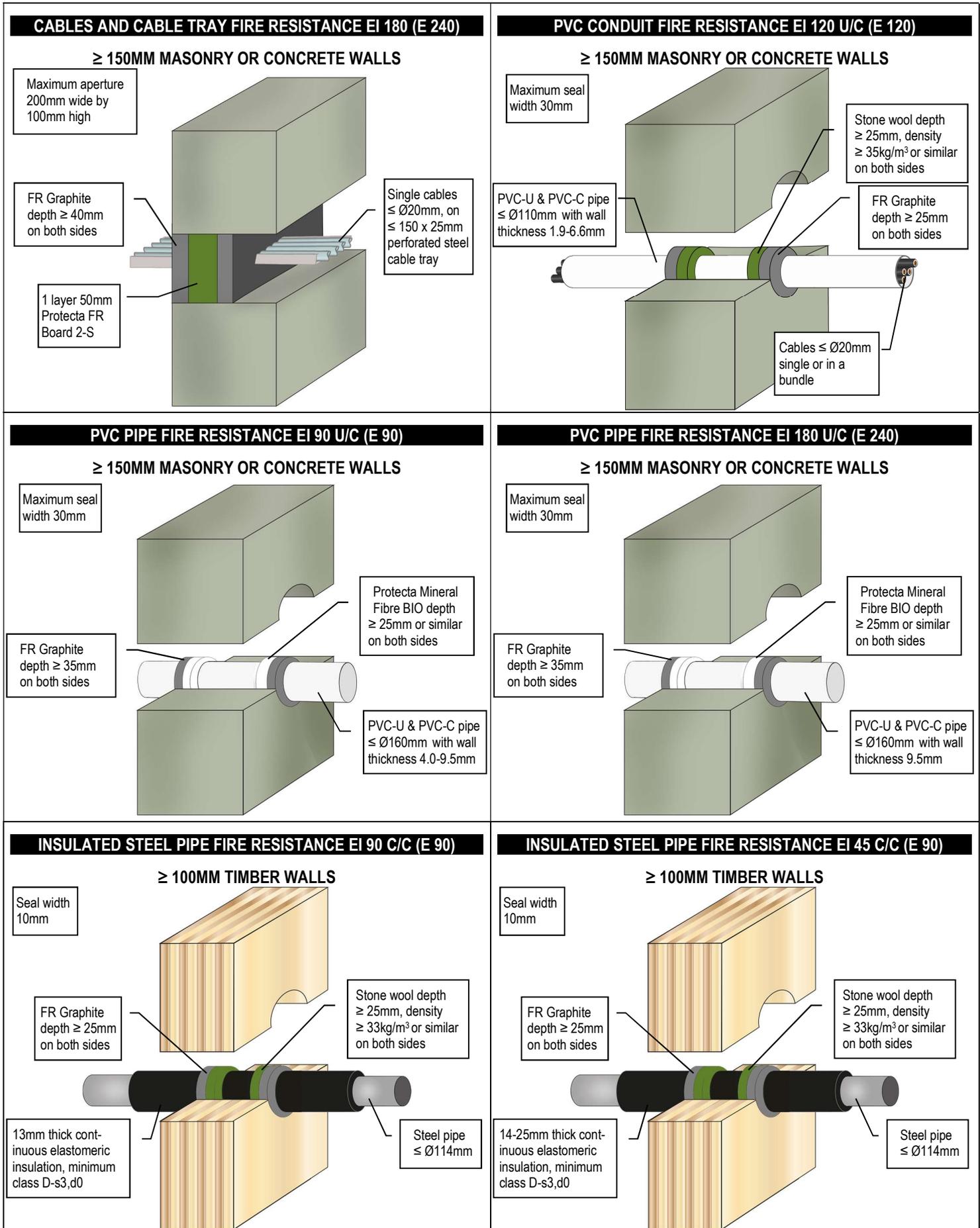
1. Before installing Protecta® FR Graphite ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
2. As Protecta® FR Graphite is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface prior to this installation.
3. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
4. Fill the gap or joint with Protecta® FR Graphite to the required depth. Refer to the drawings on following pages 2 to 9 for guidance on joint design/dimensions.
5. Apply the sealant generously avoiding air bubbles. Finish the bead with a moist spatula or pallet knife. Avoid excessive tooling/smoothing as this may make the seal surface wet and soft.
6. Protecta® FR Graphite can be over-painted with most emulsion or alkyd (gloss) paints.

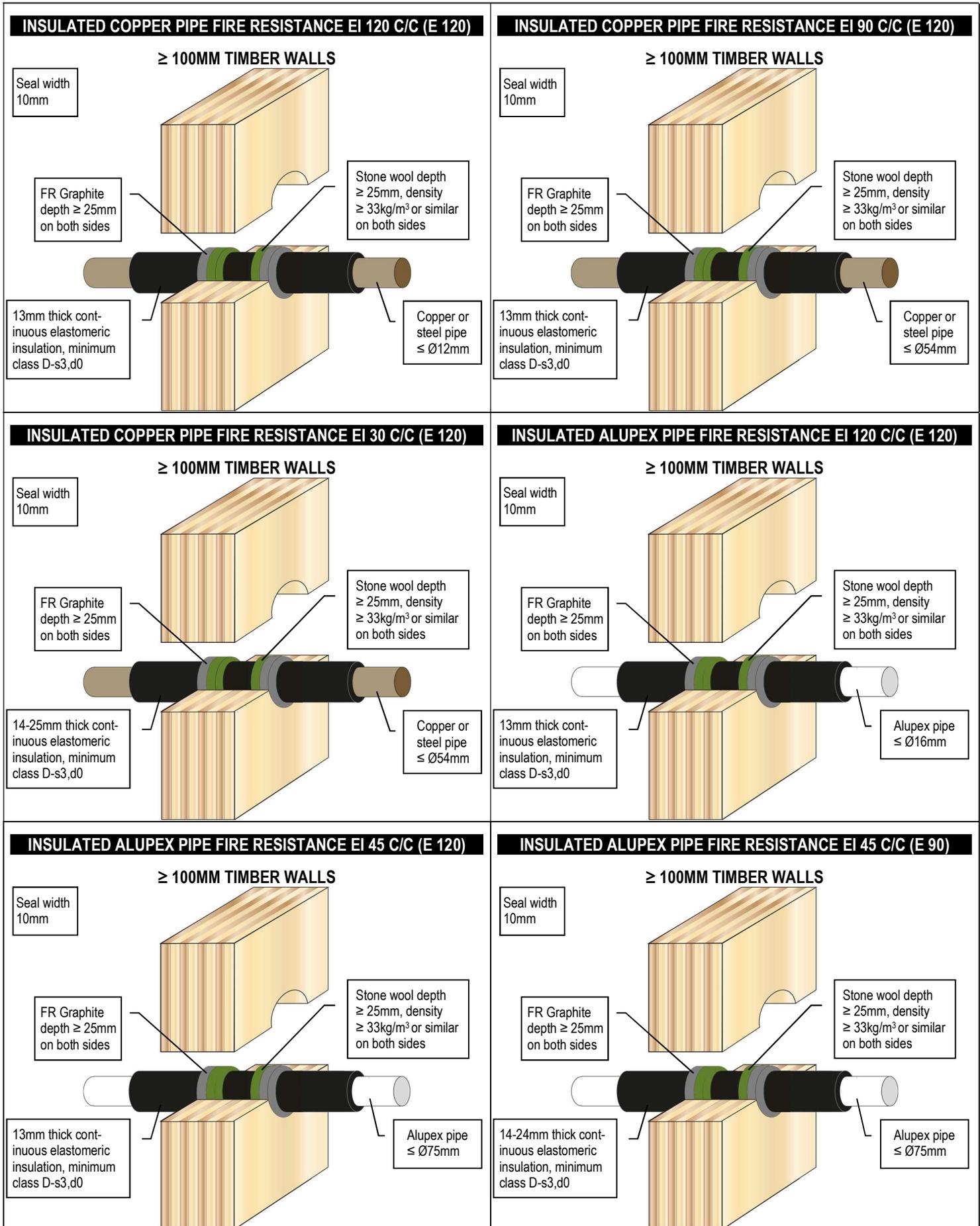
TEST STANDARDS

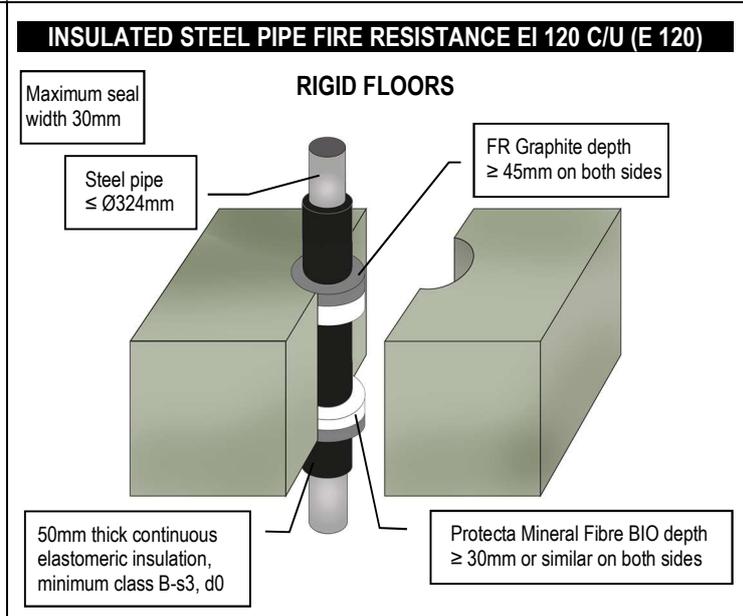
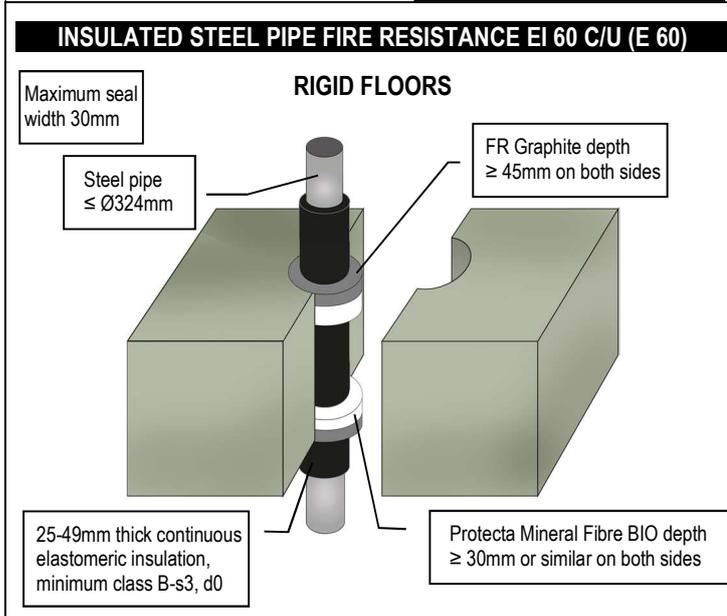
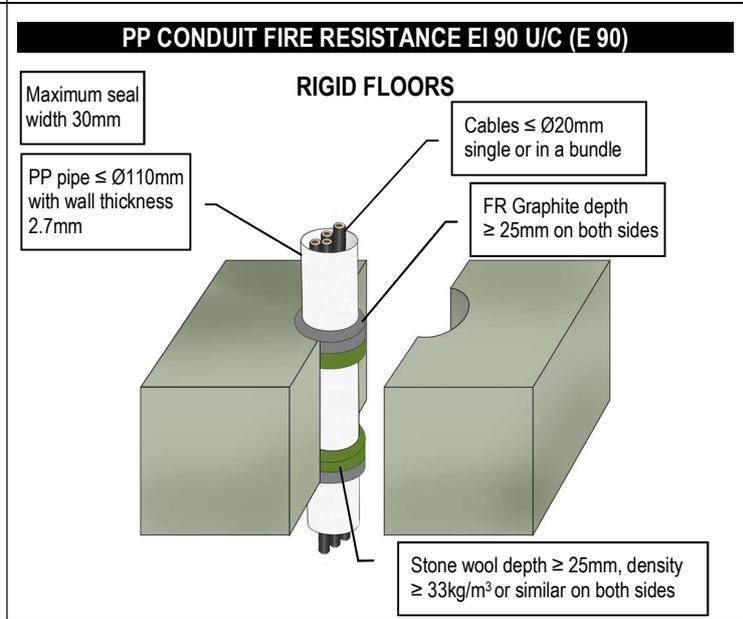
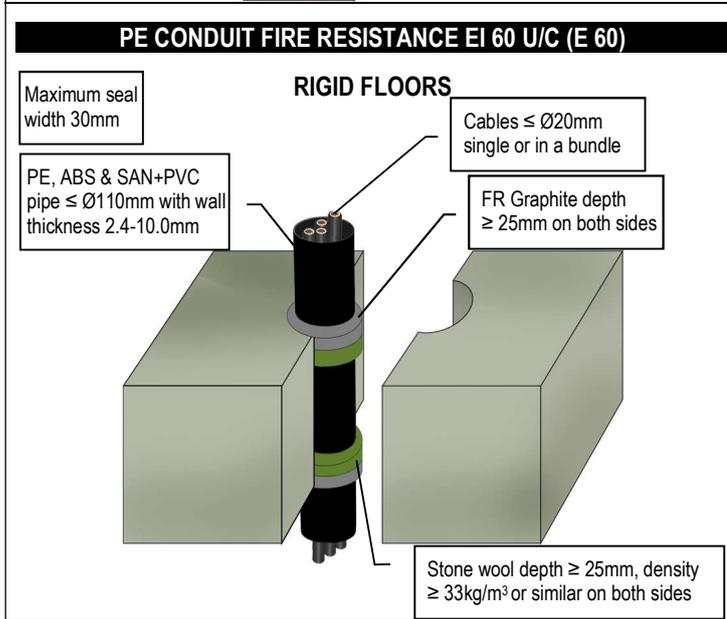
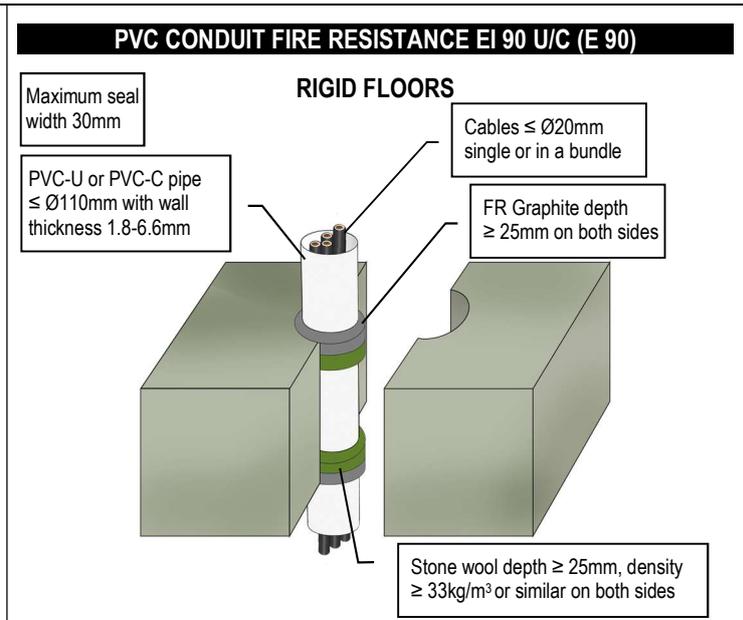
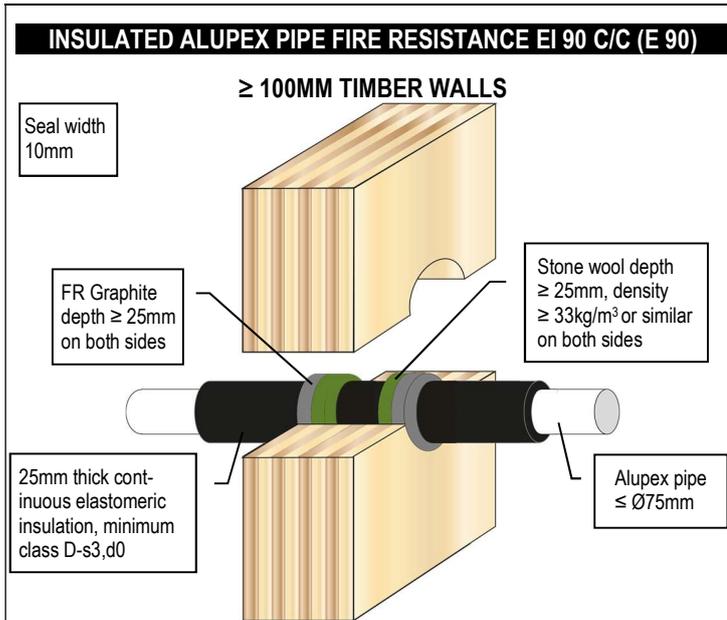
The Technical Data Sheet and Installation Instructions are based on the product's European Technical Assessment issued in accordance with regulation (EU) No 305/2011 on the basis of EAD 350454-00-1104, September 2017, tested to EN 1366-3 in conjunction with EN 1363-1. The product hold the following approval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











<p>PVC PIPE FIRE RESISTANCE EI 240 U/U (E 240)</p> <p>RIGID FLOORS</p> <p>Maximum seal width 30mm</p> <p>PVC-U or PVC-C pipe $\leq \varnothing 40\text{mm}$ with wall thickness 1.8-3.7mm</p> <p>FR Graphite depth $\geq 25\text{mm}$ on both sides</p> <p>Stone wool depth $\geq 25\text{mm}$, density $\geq 35\text{kg/m}^3$ or similar on both sides</p>	<p>PVC PIPE FIRE RESISTANCE EI 90 C/U (E 90)</p> <p>RIGID FLOORS</p> <p>Maximum seal width 30mm</p> <p>PVC-U or PVC-C pipe $\leq \varnothing 110\text{mm}$ with wall thickness 1.8-6.6mm</p> <p>FR Graphite depth $\geq 25\text{mm}$ on both sides</p> <p>Stone wool depth $\geq 25\text{mm}$, density $\geq 35\text{kg/m}^3$ or similar on both sides</p>
<p>PVC PIPE FIRE RESISTANCE EI 60 U/C (E 60)</p> <p>RIGID FLOORS</p> <p>Maximum seal width 30mm</p> <p>PVC-U or PVC-C pipe $\leq \varnothing 160\text{mm}$ with wall thickness 4.0-9.5mm</p> <p>FR Graphite depth $\geq 35\text{mm}$ on both sides</p> <p>Protecta Mineral Fibre BIO depth $\geq 25\text{mm}$ or similar on both sides</p>	<p>PE PIPE FIRE RESISTANCE EI 60 U/U & EI 240 U/C (E 60/240)</p> <p>RIGID FLOORS</p> <p>Maximum seal width 30mm</p> <p>PE, ABS & SAN+PVC pipe $\leq \varnothing 40\text{mm}$ with wall thickness 2.4-3.7mm</p> <p>FR Graphite depth $\geq 25\text{mm}$ on both sides</p> <p>Stone wool depth $\geq 25\text{mm}$, density $\geq 35\text{kg/m}^3$ or similar on both sides</p>
<p>PE PIPE FIRE RESISTANCE EI 60 U/C (E 60)</p> <p>RIGID FLOORS</p> <p>Maximum seal width 30mm</p> <p>PE, ABS & SAN+PVC pipe $\leq \varnothing 110\text{mm}$ with wall thickness 2.4-10.0mm</p> <p>FR Graphite depth $\geq 25\text{mm}$ on both sides</p> <p>Stone wool depth $\geq 25\text{mm}$, density $\geq 35\text{kg/m}^3$ or similar on both sides</p>	<p>PE PIPE FIRE RESISTANCE EI 90 U/C (E 90)</p> <p>RIGID FLOORS</p> <p>Maximum seal width 30mm</p> <p>PE, ABS & SAN+PVC pipe $\varnothing 110\text{mm}$ with wall thickness 4.3-10.0mm</p> <p>FR Graphite depth $\geq 25\text{mm}$ on both sides</p> <p>Stone wool depth $\geq 25\text{mm}$, density $\geq 35\text{kg/m}^3$ or similar on both sides</p>

