

PROTECTA® FR ACRYLIC

INSTALLATION INSTRUCTIONS



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For guidance on fire sealing ventilation ducts, please refer to Protecta FR Damper's Technical Data Sheet.

GENERAL GUIDE

Protecta® FR Acrylic is designed to prevent the spread of fire, smoke and gases through openings in fire rated walls and floors. FR Acrylic should be applied over suitable backing materials to ensure correct width to depth ratio, and to reduce shrinkage of the joint during hardening.

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 should be 10mm to allow for correct fitting of backing and seal depth. Minimum separation between apertures should be at least 30mm, except in timber constructions where apertures can be placed linear (horizontally in walls) with no required separation. For larger joint dimensions or apertures other than described in the detailed drawings, Protecta® FR Board or EX Mortar should be used. In areas with a high degree of humidity and/or in joints with excessive movement, Protecta® FR IPT should be used.

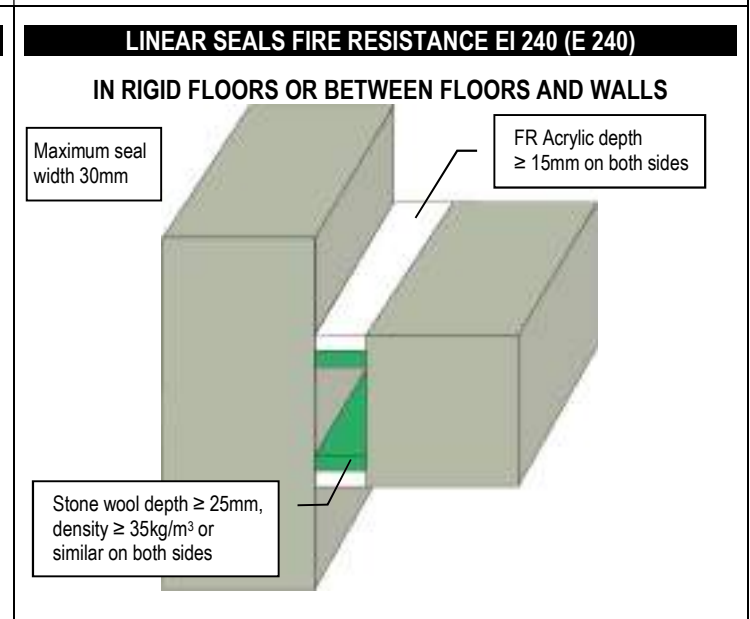
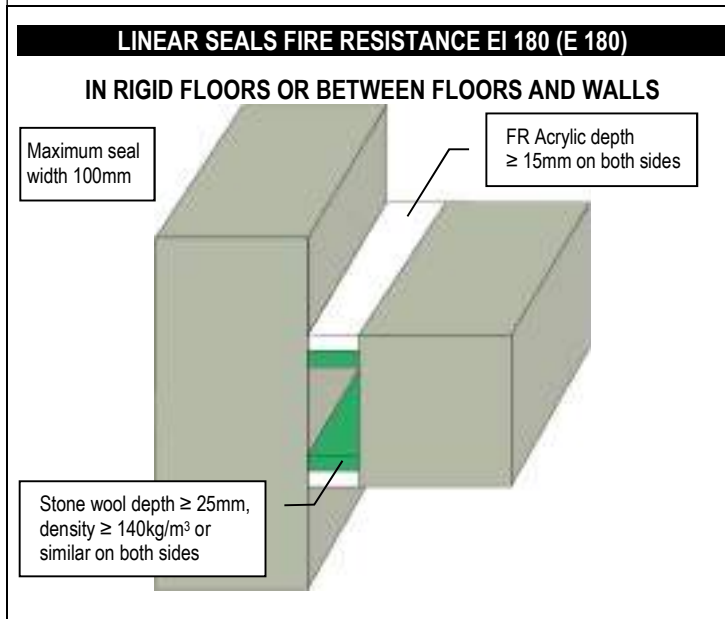
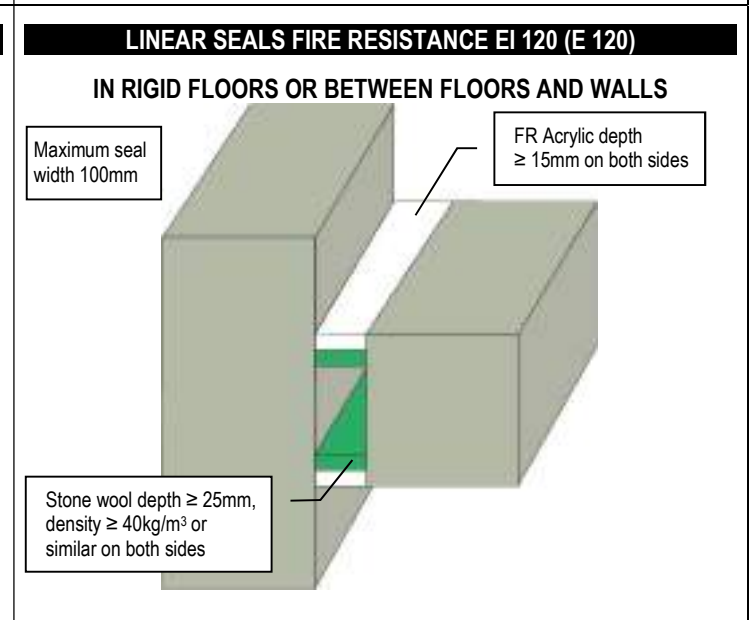
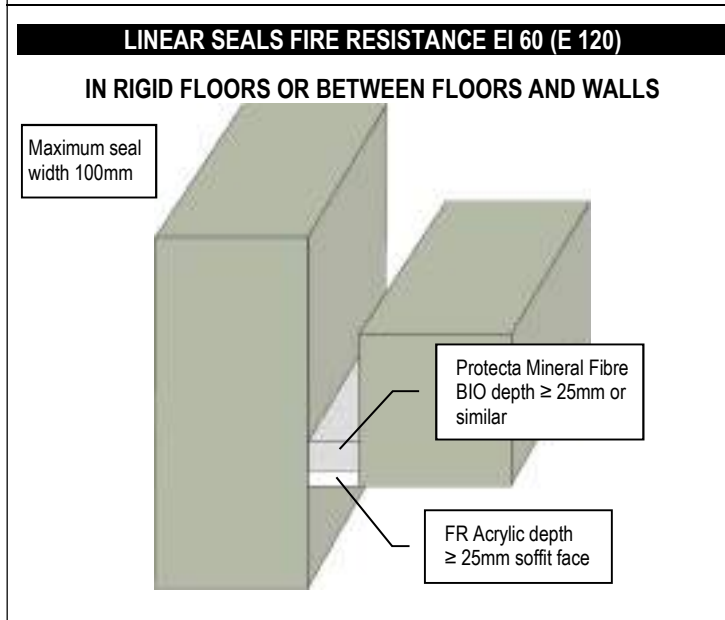
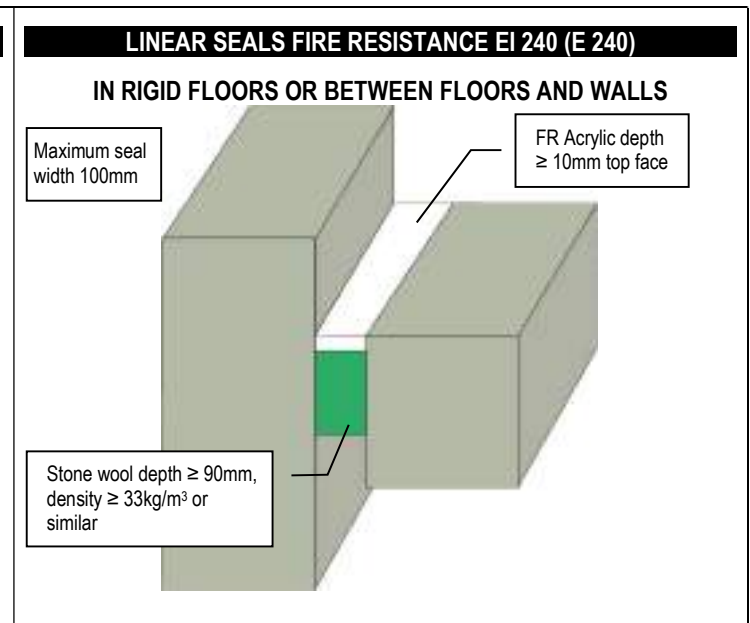
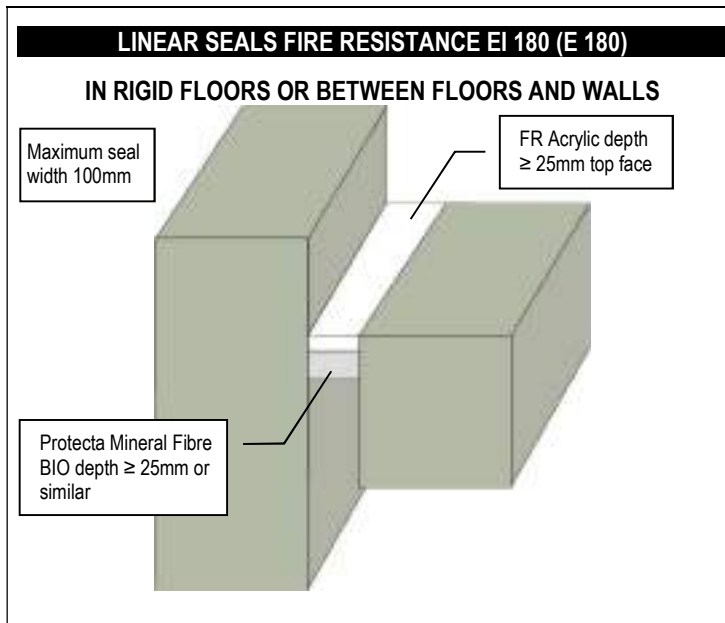
Supporting constructions: Flexible walls must have a minimum thickness of 75mm and comprise steel studs or timber studs*) lined on both faces with minimum 1 layer of 12.5mm thick boards. Timber walls must have a minimum thickness of 100mm and comprise solid wood or cross-laminated timber. Rigid walls must have a minimum thickness of 75mm 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 150mm (except composite floors) and comprise aerated concrete or concrete with a minimum density of 650 kg/m³. Timber floors must have a minimum thickness of 150mm 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. Services shall be supported at maximum 350mm away from both faces of the wall constructions and 550mm from the upper face of floor constructions.

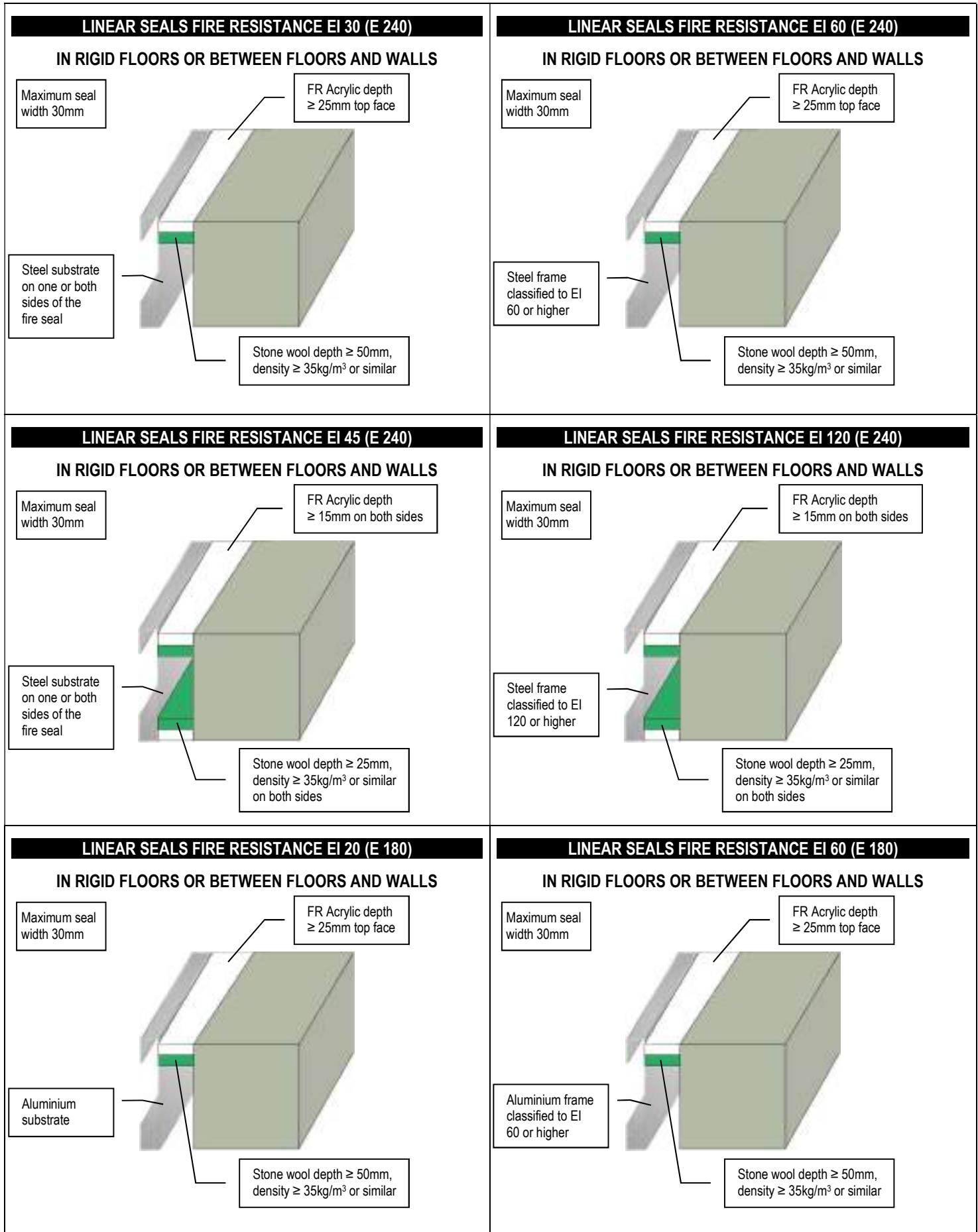
*) Timber studs: no part of the penetration seal may be closer than 100mm to a stud, and minimum 100mm of insulation of class A1 or A2 according to EN 13501-1 must be provided within the cavity between the penetration seal and the stud. In linear seals, there is no minimum distance and insulation required.

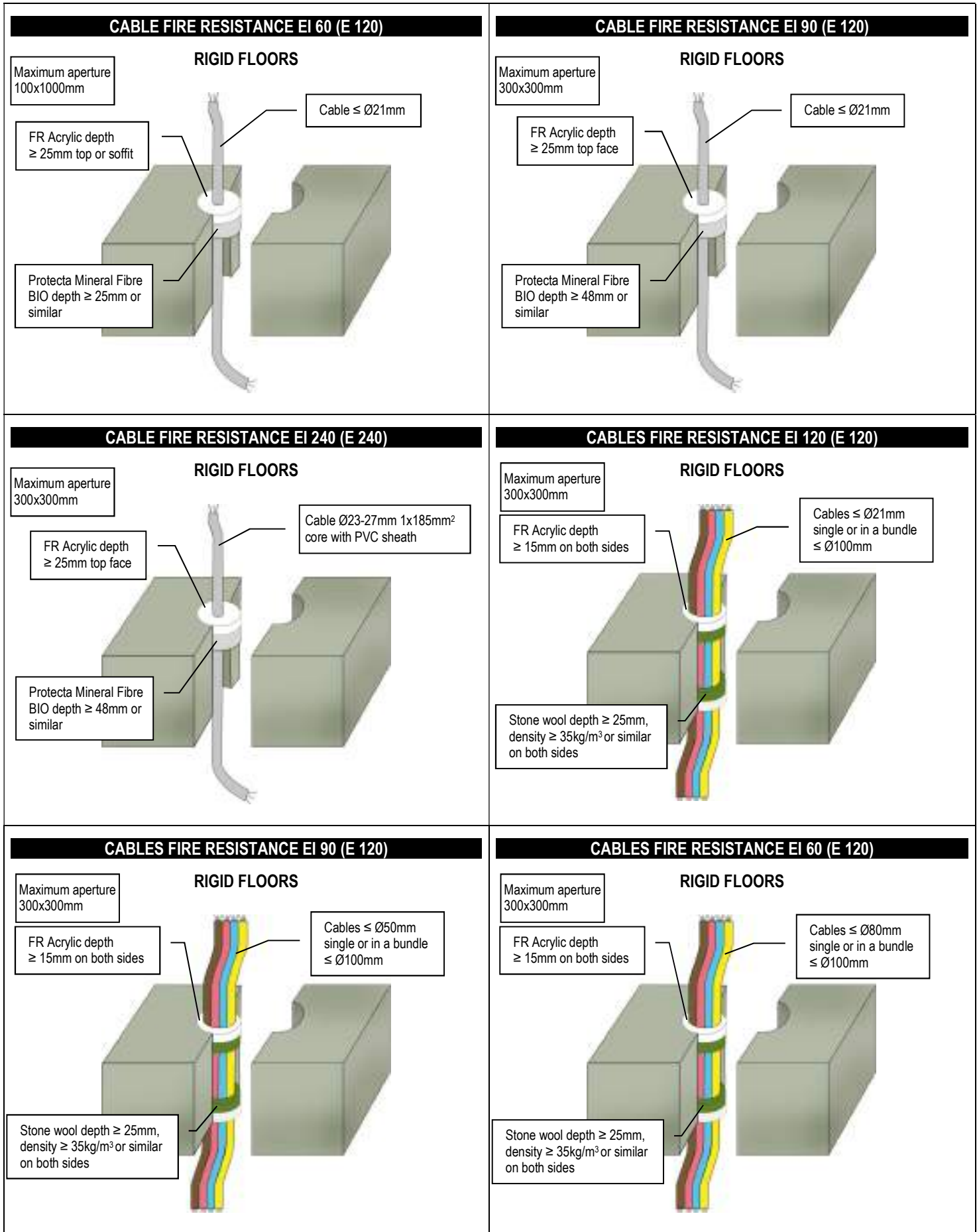


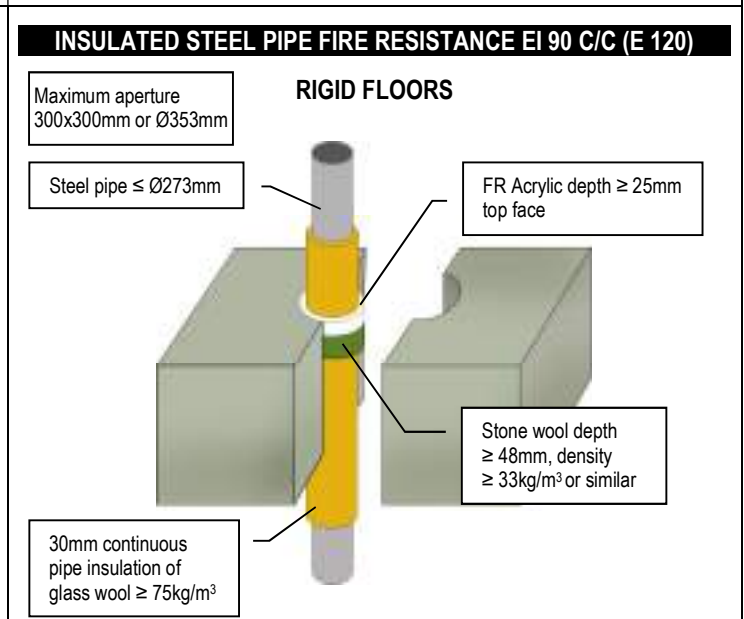
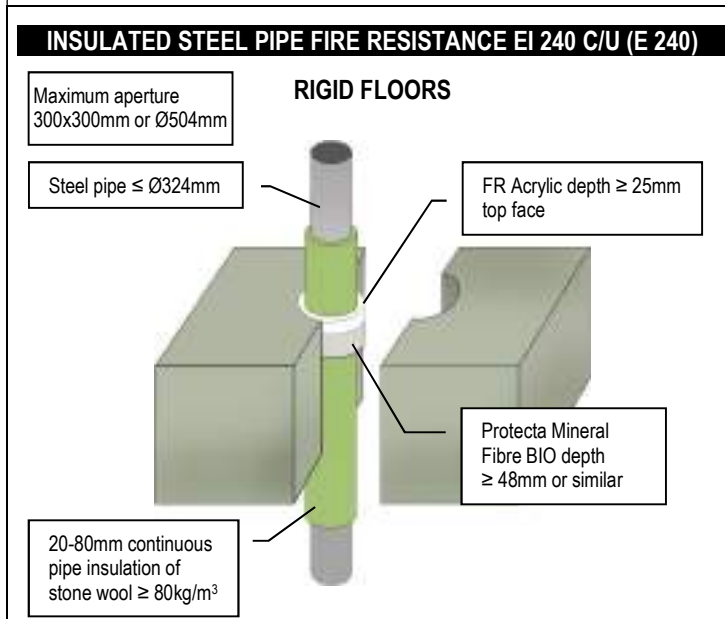
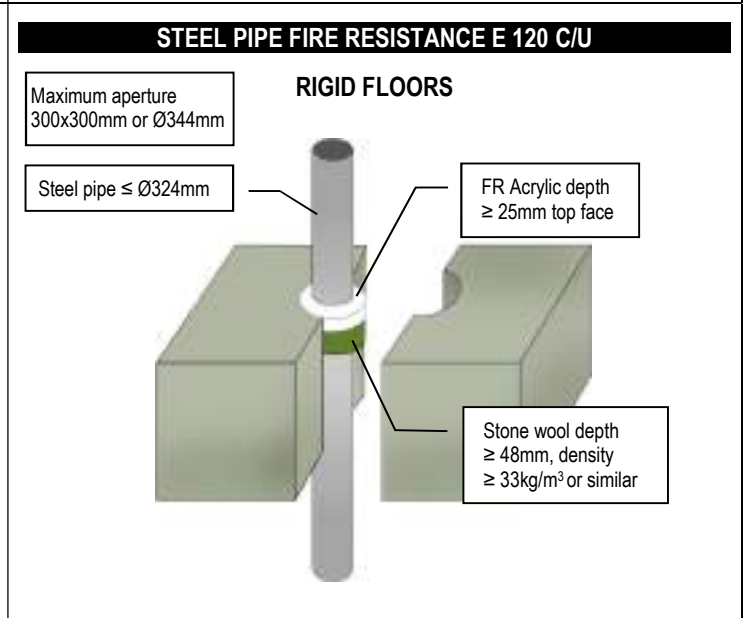
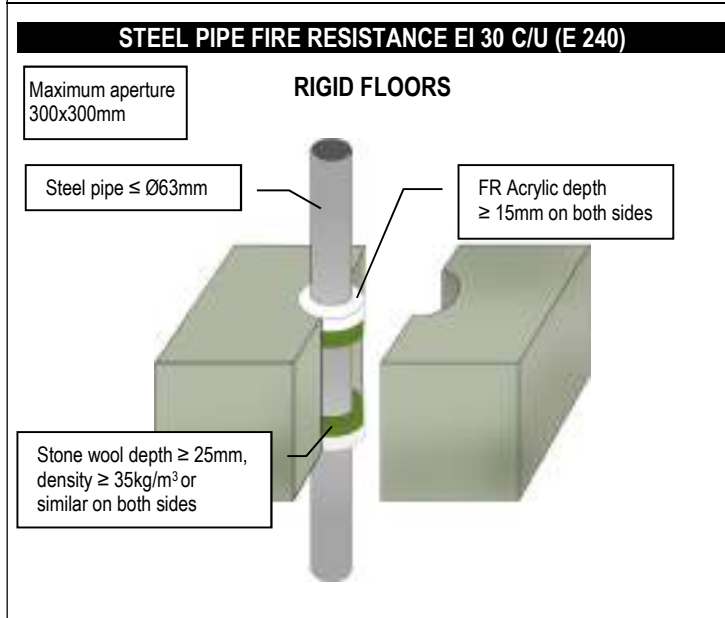
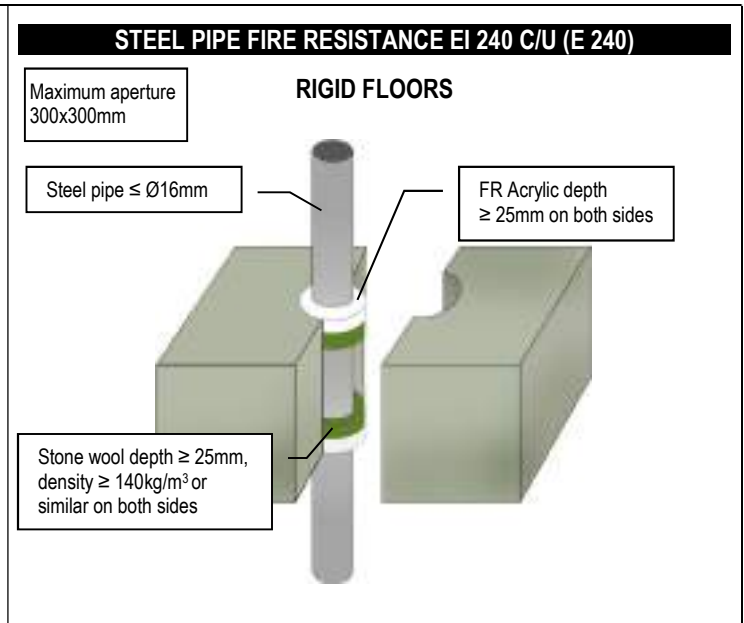
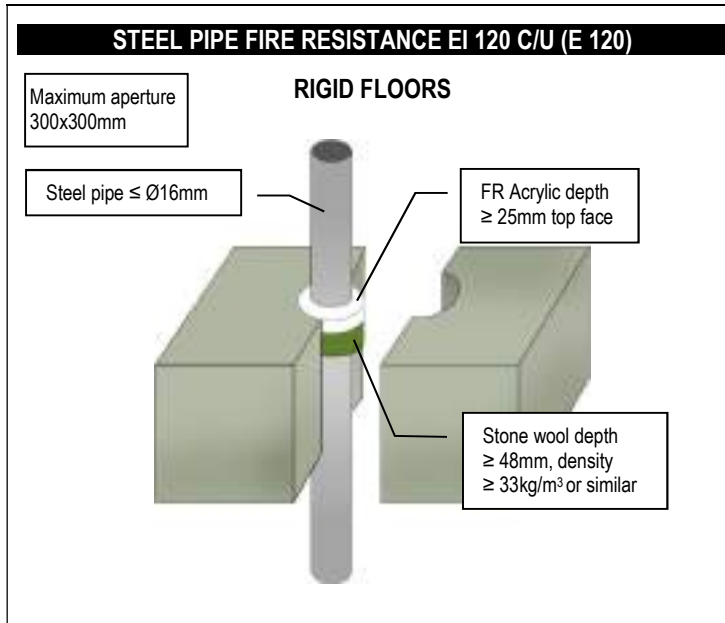
INSTALLATION

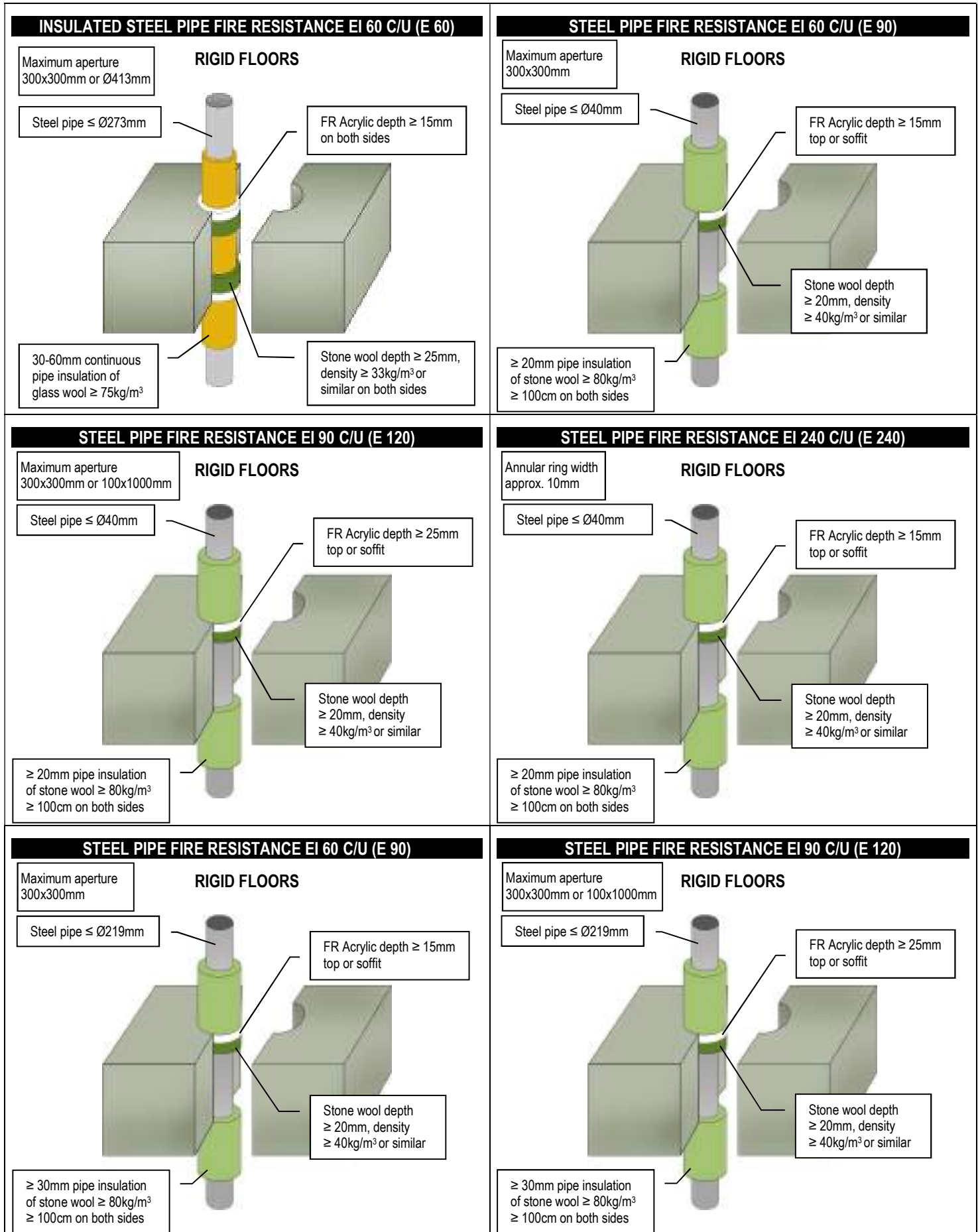
1. Before installing Protecta® FR Acrylic, ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
2. Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
3. As Protecta® FR Acrylic 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.
4. When installing the sealant in gypsum boards, the exposed edges of the board can be wetted with water, or Protecta® FR Acrylic diluted with water to prime the surfaces, helping adhesion and preventing excessive joint shrinkage.
5. When installing Protecta® FR Acrylic in hollow floor slabs or boards, fire seals specified as single sided should be installed from the soffit side of the floor assuming there is sufficient thickness of concrete below the void to follow the installation guide. Where this is not the case, tubular voids should be filled with stone wool, normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
6. Where single sided top face seals are described, these can also be used in composite floors (e.g., concrete filled, steel trapezoidal decking).
7. An aperture with or without penetrating services, can include a steel or plastic sleeve casted or friction fitted within rigid constructions. Plastic sleeves should have a maximum wall thickness of 14.6 mm.
8. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
9. Fill the gap or joint with Protecta® FR Acrylic to the required depth. Refer to the drawings on following pages 2 to 37 for guidance on joint design/dimensions. If installation does not have to meet any specific fire specification, it is recommended that a width to depth ratio of 2:1 is utilized, with a minimum depth of 12mm of sealant.
10. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
11. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.

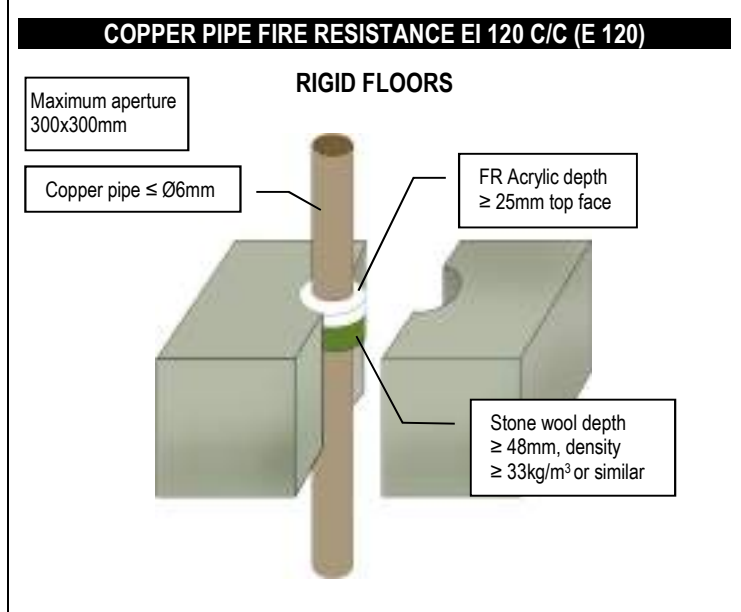
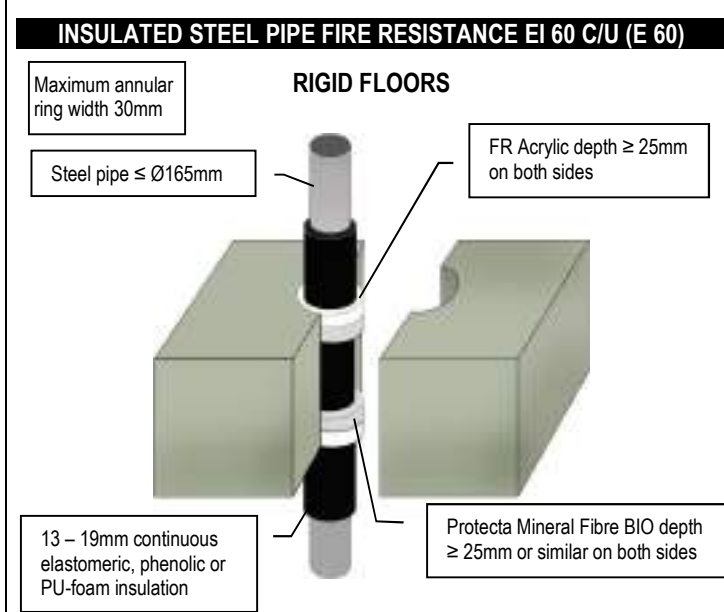
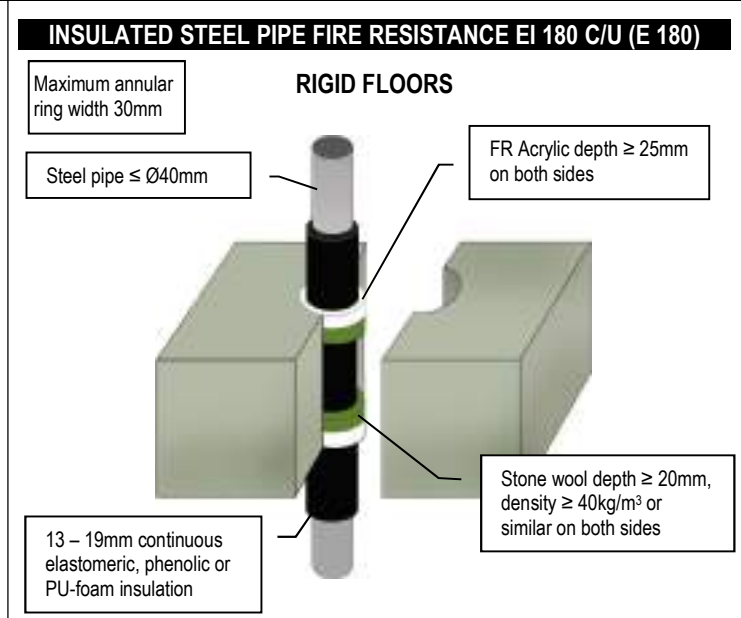
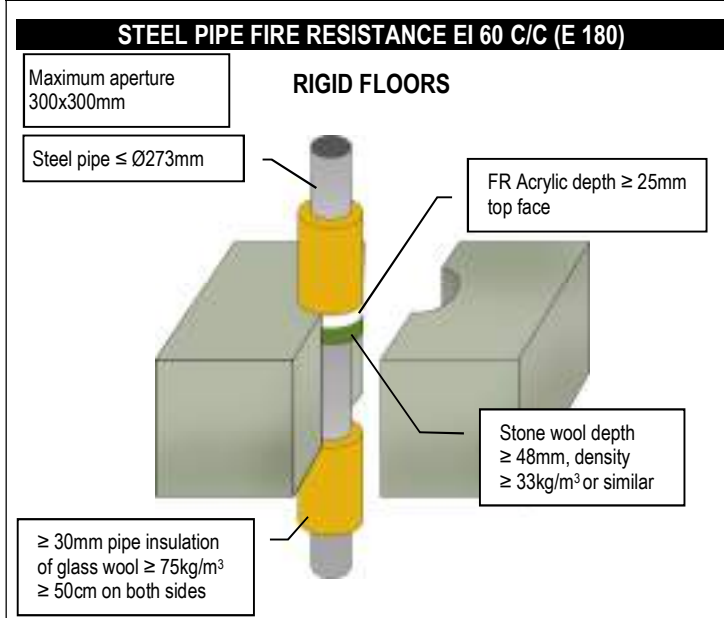
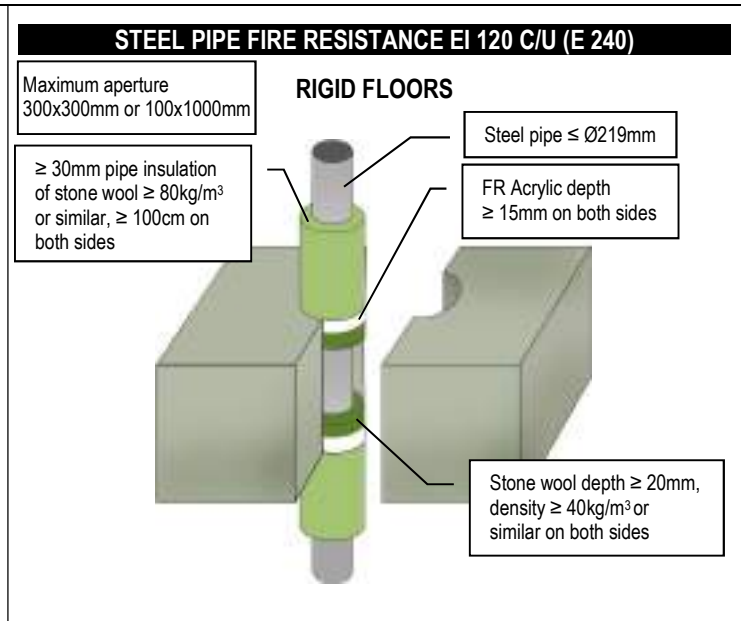
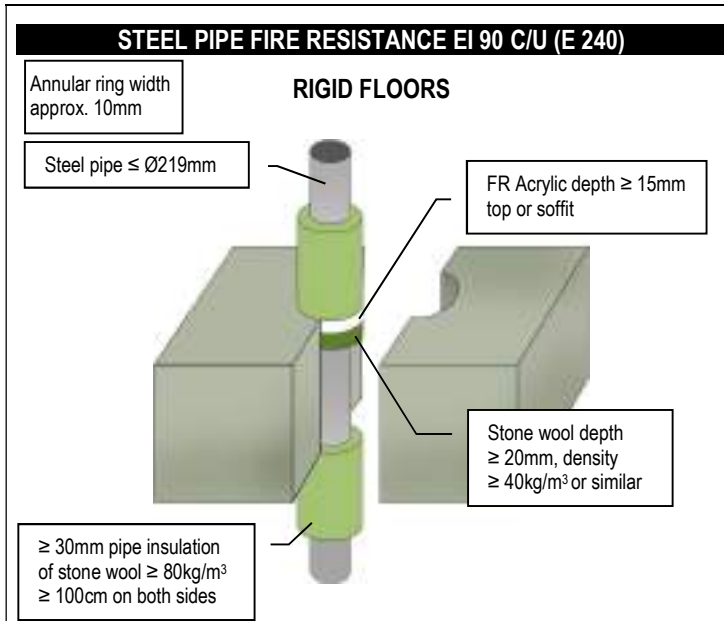


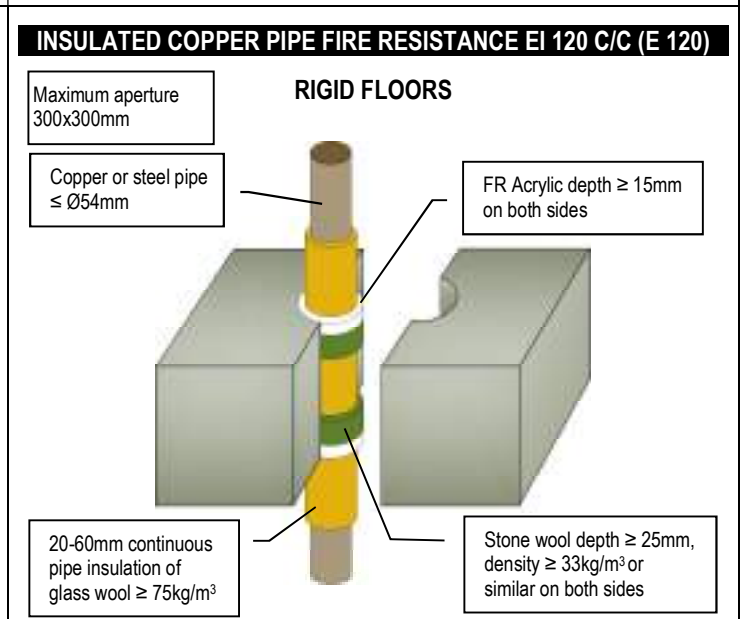
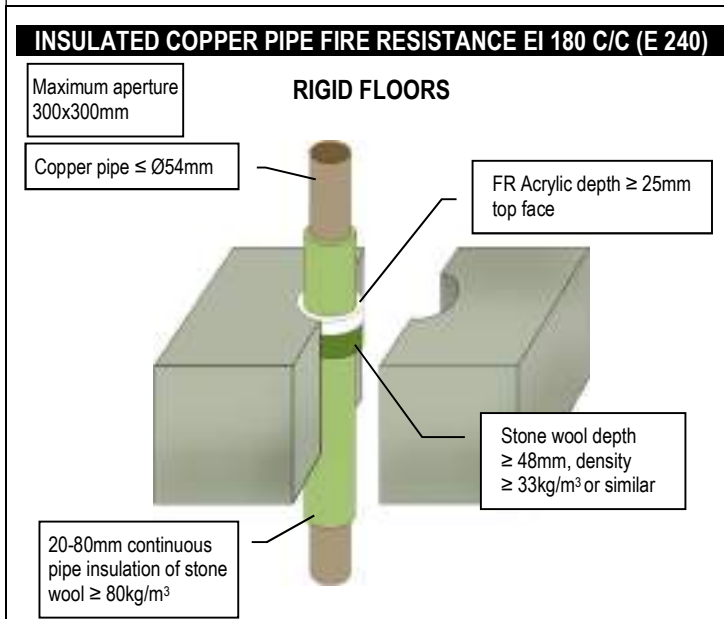
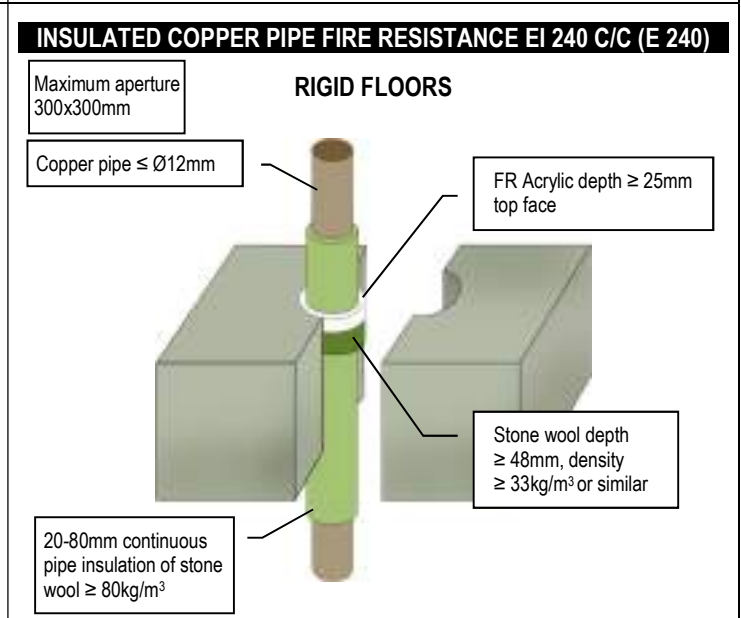
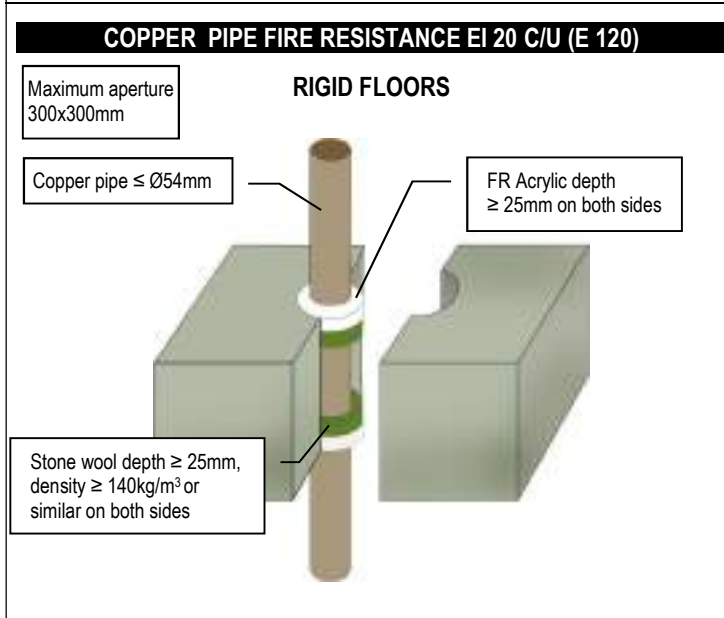
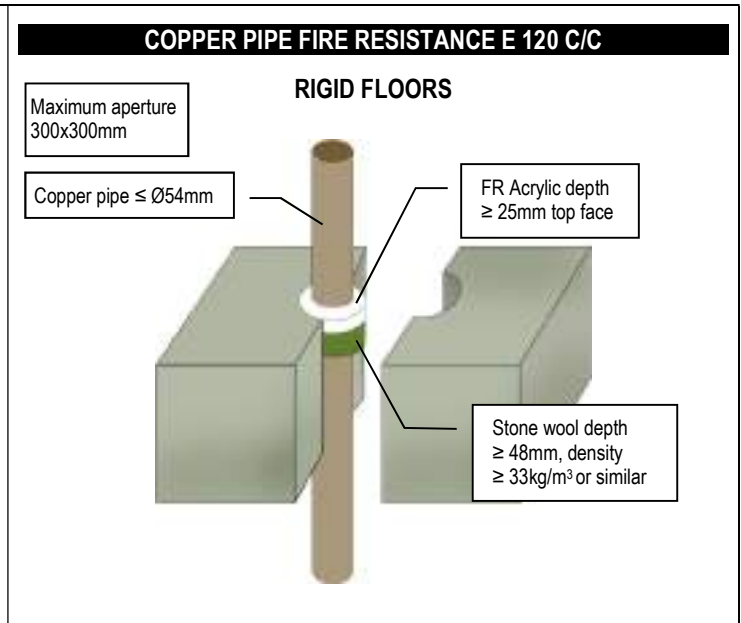
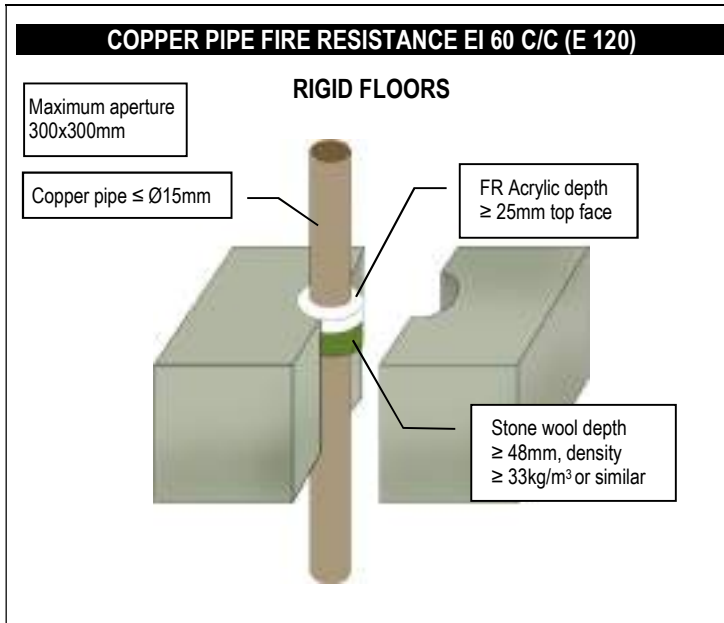




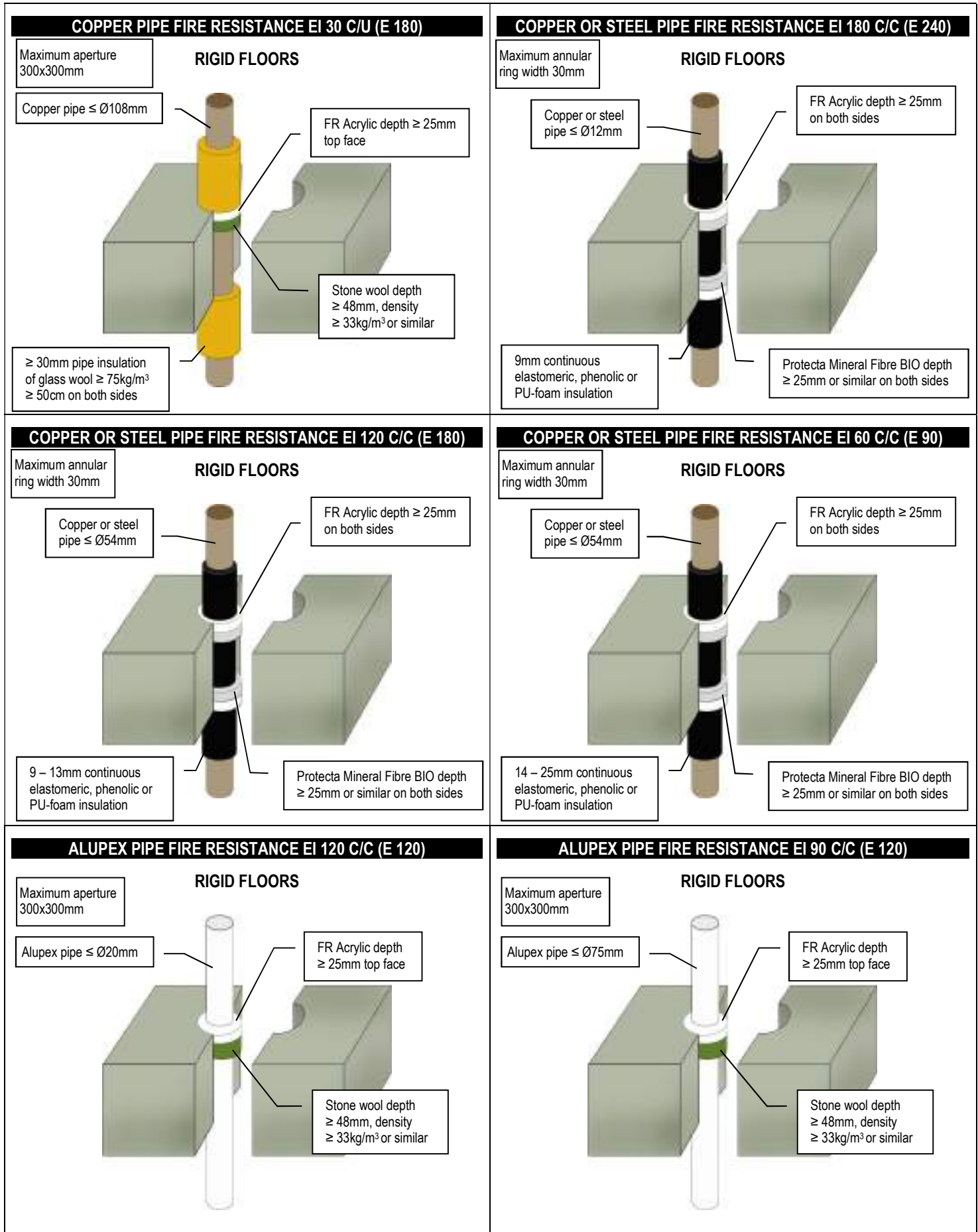


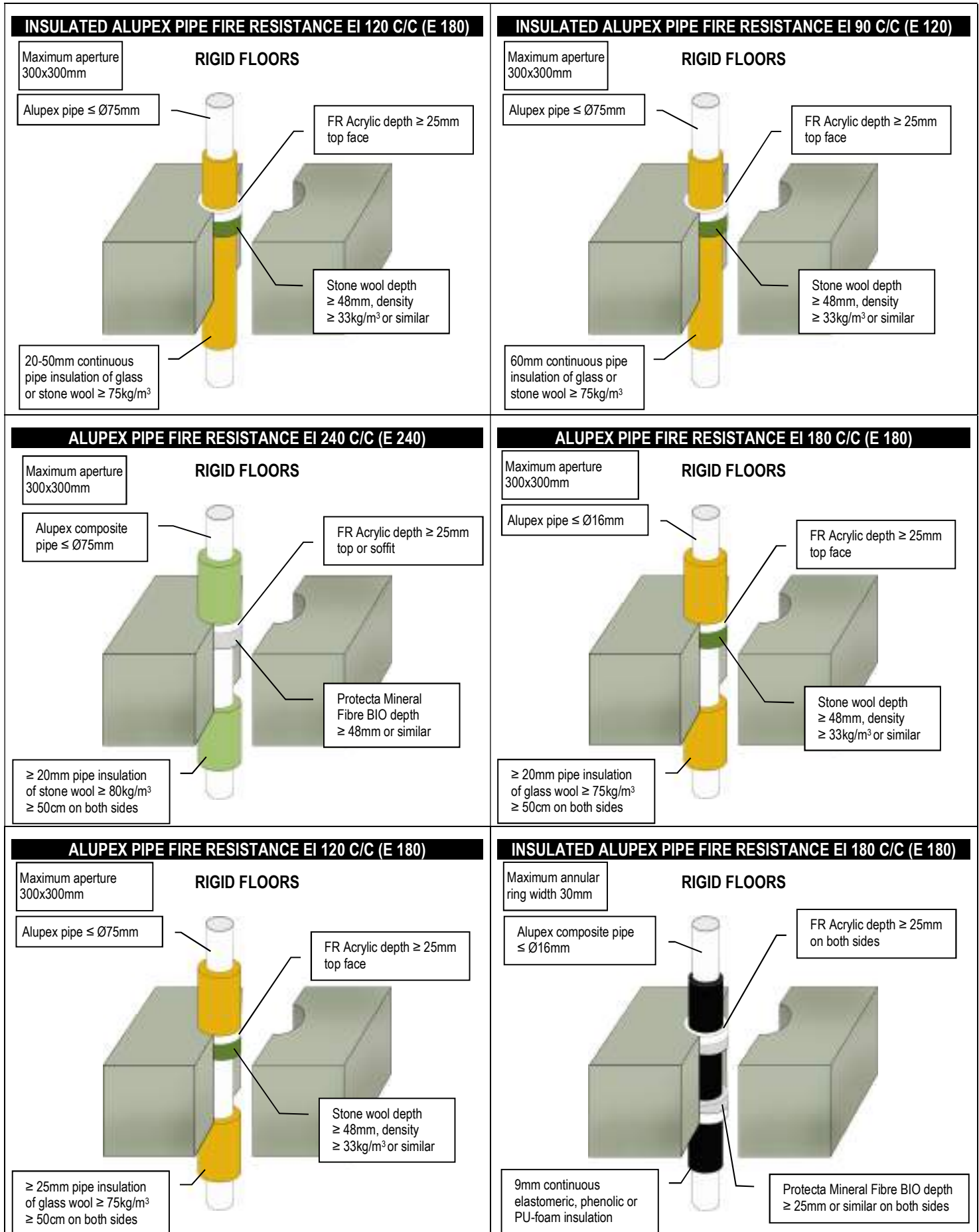


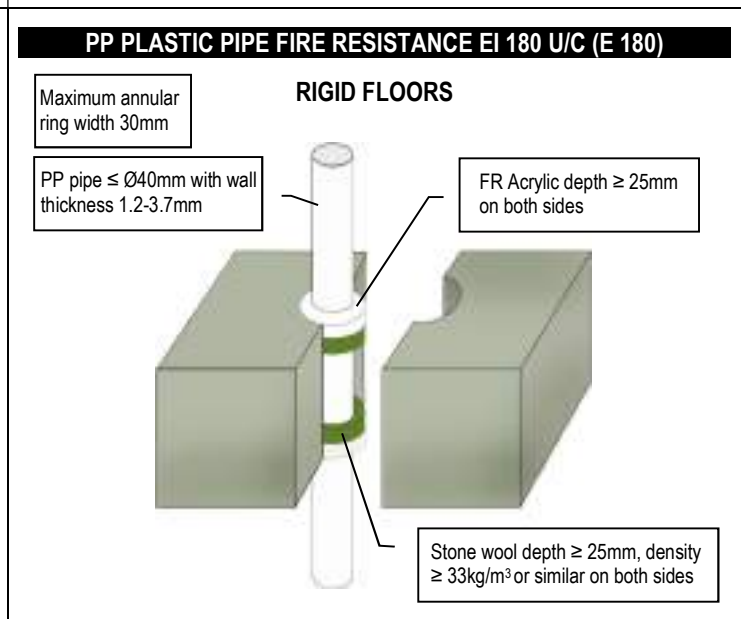
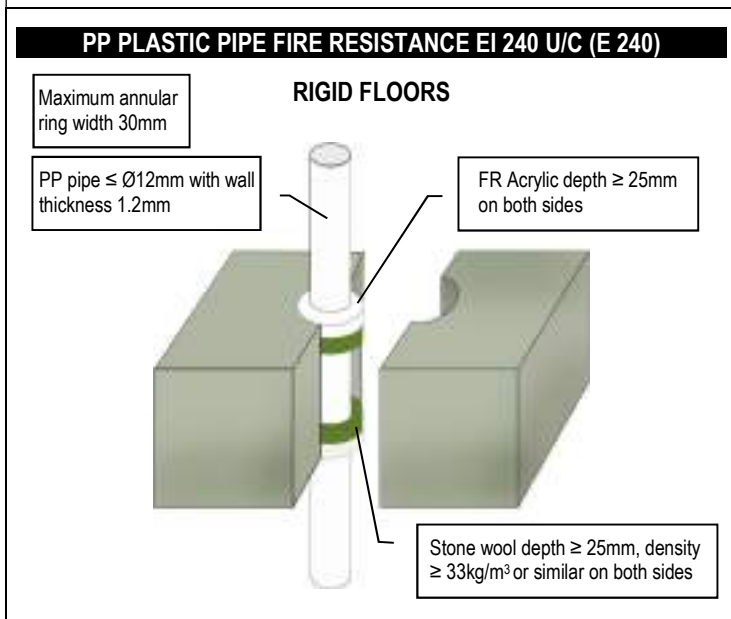
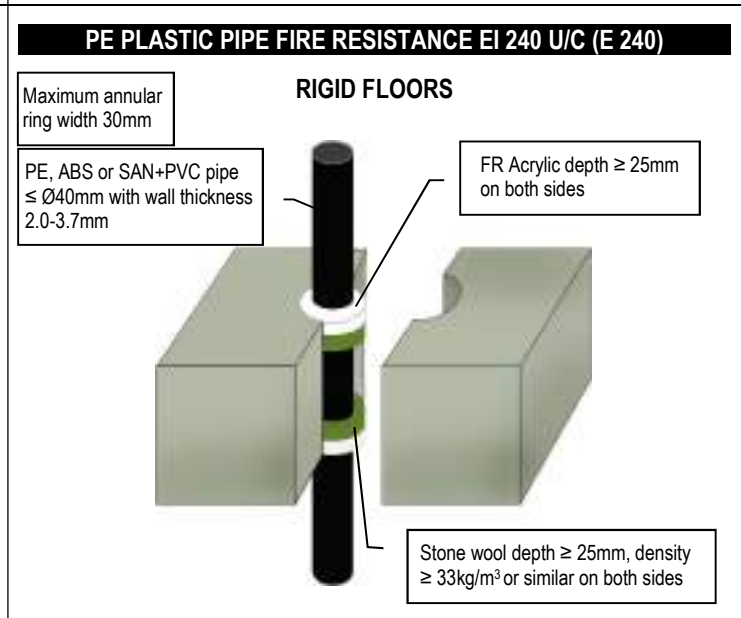
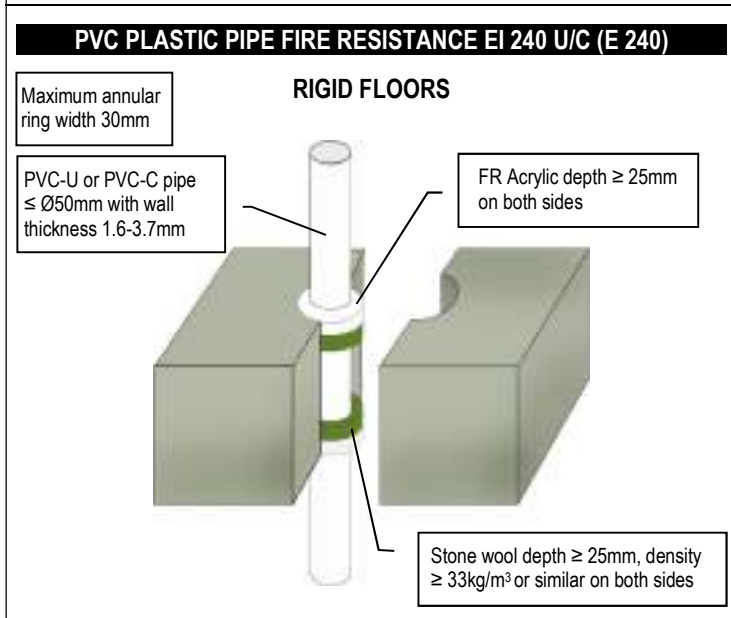
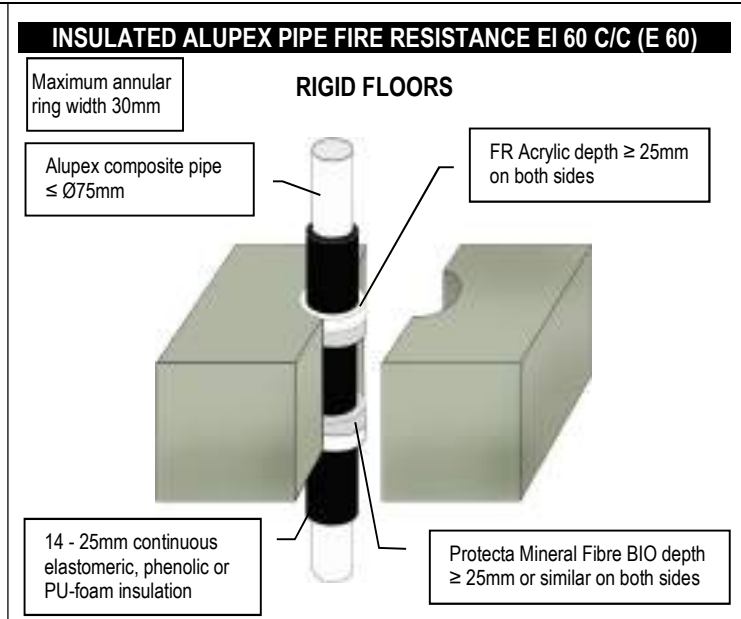
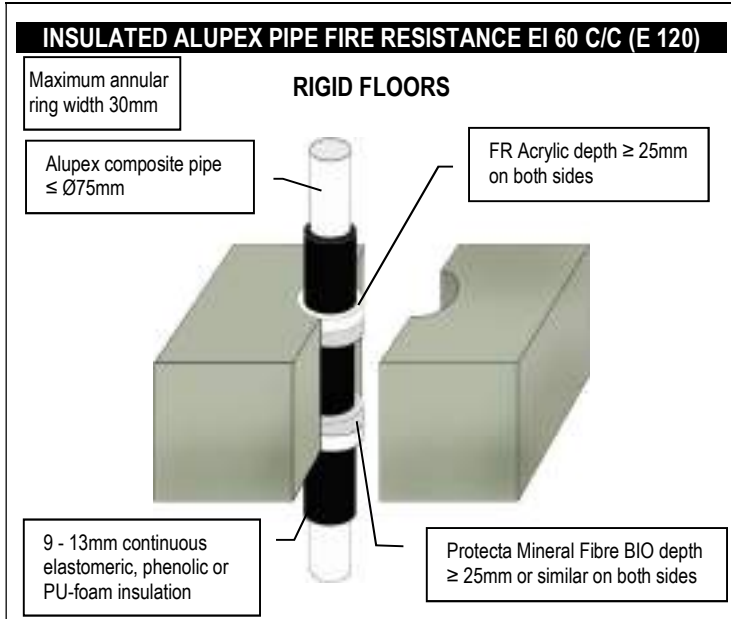




<p>COPPER PIPE FIRE RESISTANCE EI 240 C/U (E 240)</p> <p>Annular ring width approx. 10mm</p> <p>RIGID FLOORS</p> <p>Copper pipe $\leq \varnothing 12\text{mm}$</p> <p>FR Acrylic depth $\geq 15\text{mm}$ top or soffit</p> <p>Stone wool depth $\geq 20\text{mm}$, density $\geq 40\text{kg/m}^3$ or similar</p> <p>$\geq 20\text{mm}$ pipe insulation of stone wool $\geq 80\text{kg/m}^3$ $\geq 100\text{cm}$ on both sides</p>	<p>COPPER PIPE FIRE RESISTANCE EI 60 C/U (E 90)</p> <p>Maximum aperture 300x300mm</p> <p>RIGID FLOORS</p> <p>Copper pipe $\leq \varnothing 54\text{mm}$</p> <p>FR Acrylic depth $\geq 15\text{mm}$ top or soffit</p> <p>Stone wool depth $\geq 20\text{mm}$, density $\geq 40\text{kg/m}^3$ or similar</p> <p>$\geq 20\text{mm}$ pipe insulation of stone wool $\geq 80\text{kg/m}^3$ $\geq 100\text{cm}$ on both sides</p>
<p>COPPER OR STEEL PIPE FIRE RESISTANCE EI 120 C/U (E 120)</p> <p>Maximum aperture 300x300mm or 100x1000mm</p> <p>RIGID FLOORS</p> <p>Copper or steel pipe $\leq \varnothing 54\text{mm}$</p> <p>FR Acrylic depth $\geq 25\text{mm}$ top or soffit</p> <p>Stone wool depth $\geq 20\text{mm}$, density $\geq 40\text{kg/m}^3$ or similar</p> <p>$\geq 20\text{mm}$ pipe insulation of stone wool $\geq 80\text{kg/m}^3$ $\geq 100\text{cm}$ on both sides</p>	<p>COPPER OR STEEL PIPE FIRE RESISTANCE EI 180 C/U (E 240)</p> <p>Annular ring width approx. 10mm</p> <p>RIGID FLOORS</p> <p>Copper or steel pipe $\leq \varnothing 54\text{mm}$</p> <p>FR Acrylic depth $\geq 15\text{mm}$ top or soffit</p> <p>Stone wool depth $\geq 20\text{mm}$, density $\geq 40\text{kg/m}^3$ or similar</p> <p>$\geq 20\text{mm}$ pipe insulation of stone wool $\geq 80\text{kg/m}^3$ $\geq 100\text{cm}$ on both sides</p>
<p>COPPER PIPE FIRE RESISTANCE EI 20 C/C (E 90)</p> <p>Maximum aperture 300x300mm</p> <p>RIGID FLOORS</p> <p>Copper pipe $\leq \varnothing 159\text{mm}$</p> <p>FR Acrylic depth $\geq 25\text{mm}$ top face</p> <p>Stone wool depth $\geq 48\text{mm}$, density $\geq 33\text{kg/m}^3$ or similar</p> <p>$\geq 30\text{mm}$ pipe insulation of stone wool $\geq 80\text{kg/m}^3$ $\geq 100\text{cm}$ on both sides</p>	<p>COPPER OR STEEL PIPE FIRE RESISTANCE EI 180 C/C (E 180)</p> <p>Maximum aperture 300x300mm</p> <p>RIGID FLOORS</p> <p>Copper or steel pipe $\leq \varnothing 54\text{mm}$</p> <p>FR Acrylic depth $\geq 25\text{mm}$ top face</p> <p>Stone wool depth $\geq 48\text{mm}$, density $\geq 33\text{kg/m}^3$ or similar</p> <p>$\geq 20\text{mm}$ pipe insulation of glass wool $\geq 75\text{kg/m}^3$ $\geq 50\text{cm}$ on both sides</p>







PP PLASTIC PIPE FIRE RESISTANCE EI 90 U/C (E 90)

RIGID FLOORS

Maximum annular ring width 30mm

PP pipe $\leq \text{Ø}75\text{mm}$ with wall thickness 1.2-6.8mm

FR Acrylic depth $\geq 25\text{mm}$ on both sides

Stone wool depth $\geq 25\text{mm}$, density $\geq 33\text{kg/m}^3$ or similar on both sides

PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 90 C/C (E 90)

RIGID FLOORS

Maximum annular ring width 30mm

PEX pipe $\leq \text{Ø}25\text{mm}$

FR Acrylic depth $\geq 25\text{mm}$ top face

Protecta Mineral Fibre BIO depth $\geq 48\text{mm}$ or similar

PVC CONDUIT FIRE RESISTANCE EI 240 U/C (E 240)

RIGID FLOORS

Maximum annular ring width 30mm

PVC-U & PVC-C pipe $\leq \text{Ø}40\text{mm}$ with wall thickness 1.6-3.7mm

FR Acrylic depth $\geq 25\text{mm}$ on both sides

Cables $\leq \text{Ø}21\text{mm}$ single or in a bundle

Stone wool depth $\geq 25\text{mm}$, density $\geq 33\text{kg/m}^3$ or similar on both sides

PE CONDUIT FIRE RESISTANCE EI 180 U/C (E 180)

RIGID FLOORS

Maximum annular ring width 30mm

PE, ABS & SAN+PVC pipe $\leq \text{Ø}40\text{mm}$ with wall thickness 2.0-3.7mm

FR Acrylic depth $\geq 25\text{mm}$ on both sides

Cables $\leq \text{Ø}21\text{mm}$ single or in a bundle

Stone wool depth $\geq 25\text{mm}$, density $\geq 33\text{kg/m}^3$ or similar on both sides

PP CONDUIT FIRE RESISTANCE EI 180 U/C (E 180)

RIGID FLOORS

Maximum annular ring width 30mm

PP pipe $\leq \text{Ø}40\text{mm}$ with wall thickness 1.2-3.7mm

FR Acrylic depth $\geq 25\text{mm}$ on both sides

Cables $\leq \text{Ø}21\text{mm}$ single or in a bundle

Stone wool depth $\geq 25\text{mm}$, density $\geq 33\text{kg/m}^3$ or similar on both sides

CABLES FIRE RESISTANCE EI 120 (E 120)

TIMBER FLOORS

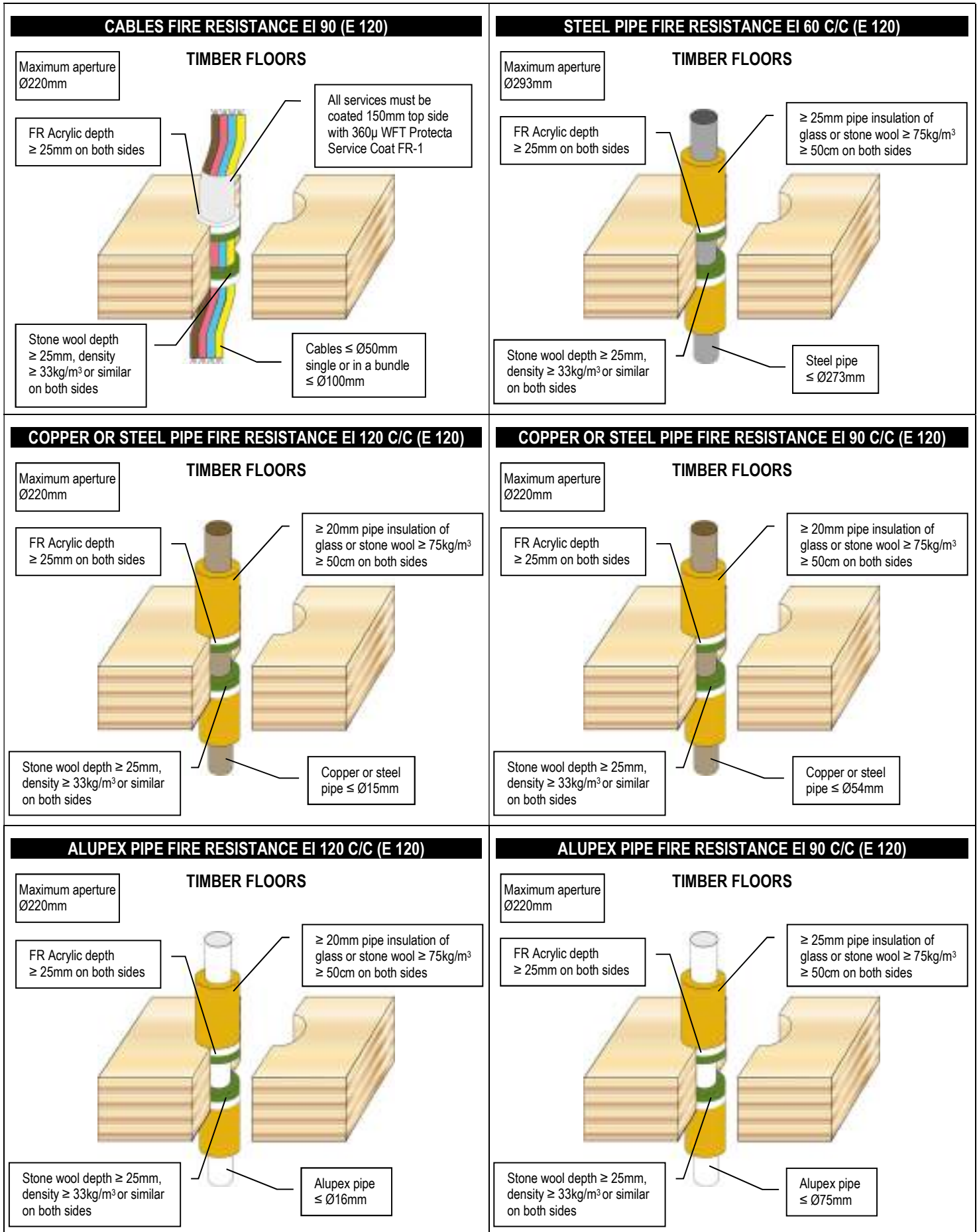
Maximum aperture $\text{Ø}220\text{mm}$

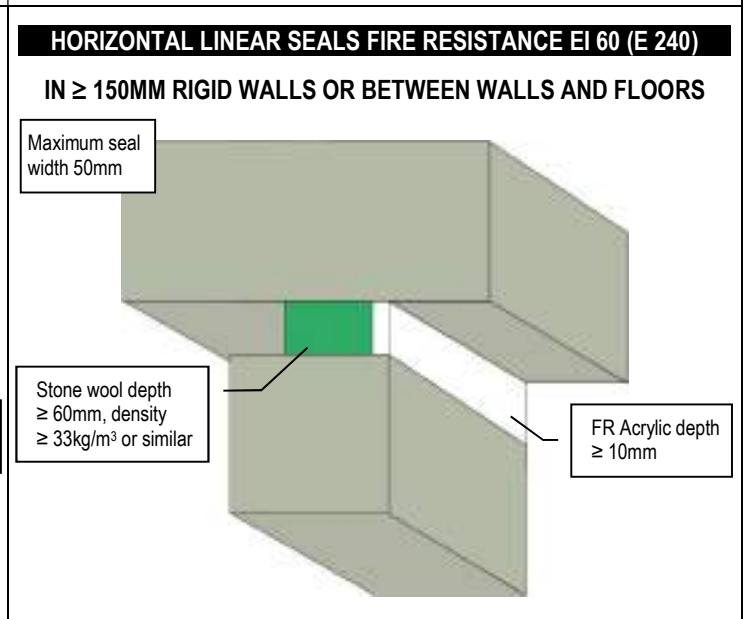
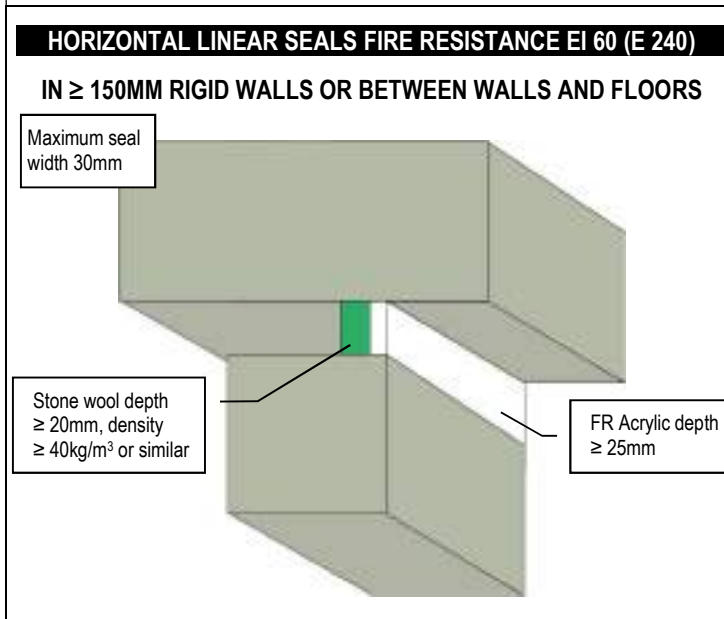
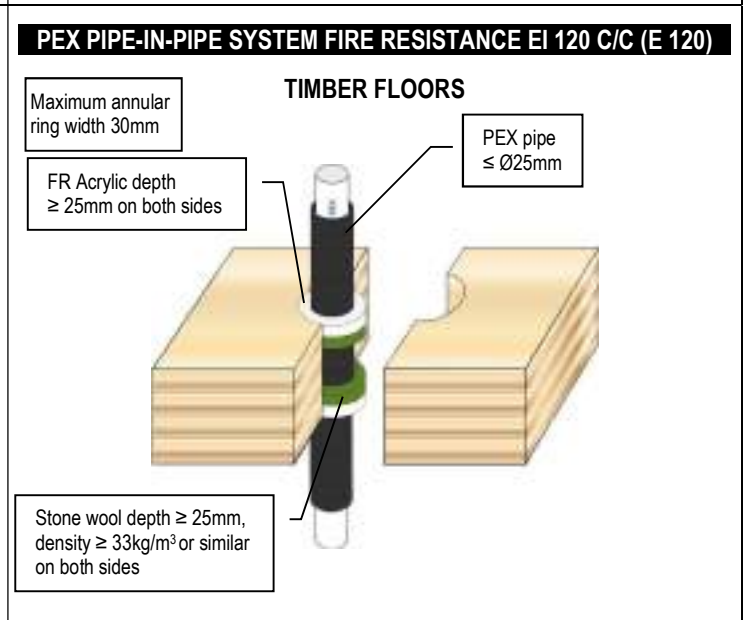
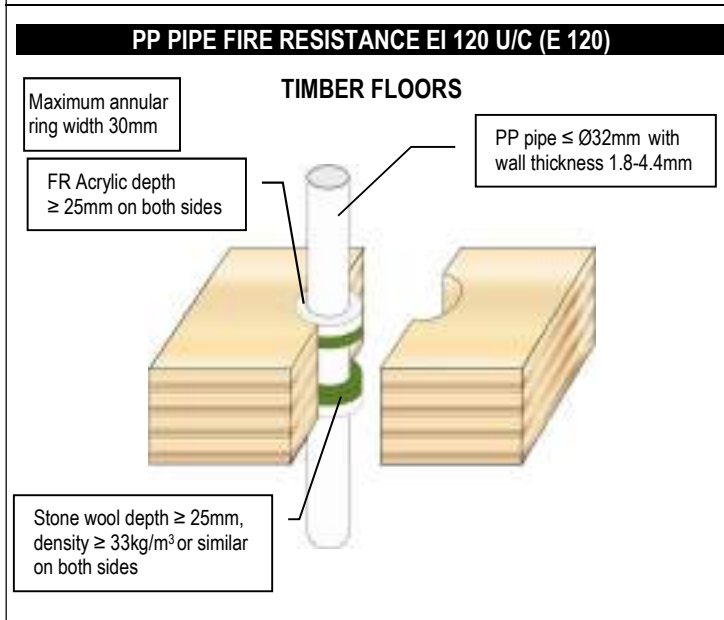
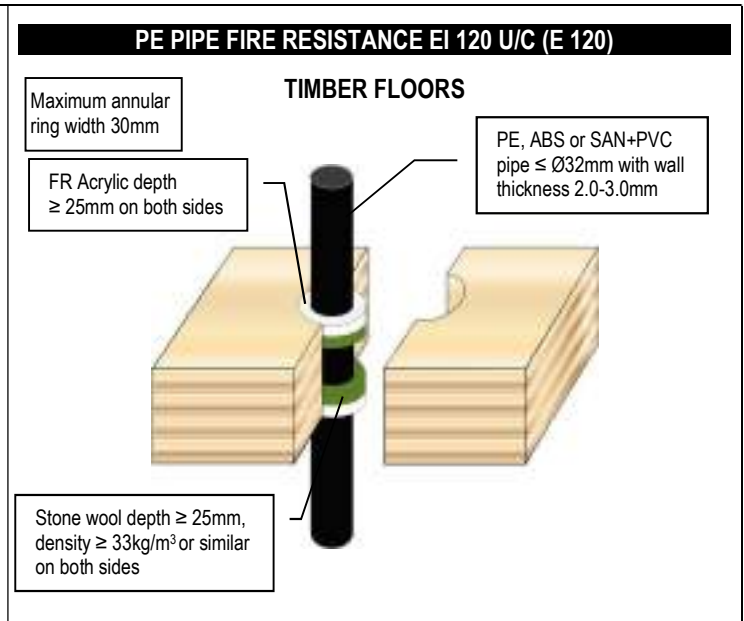
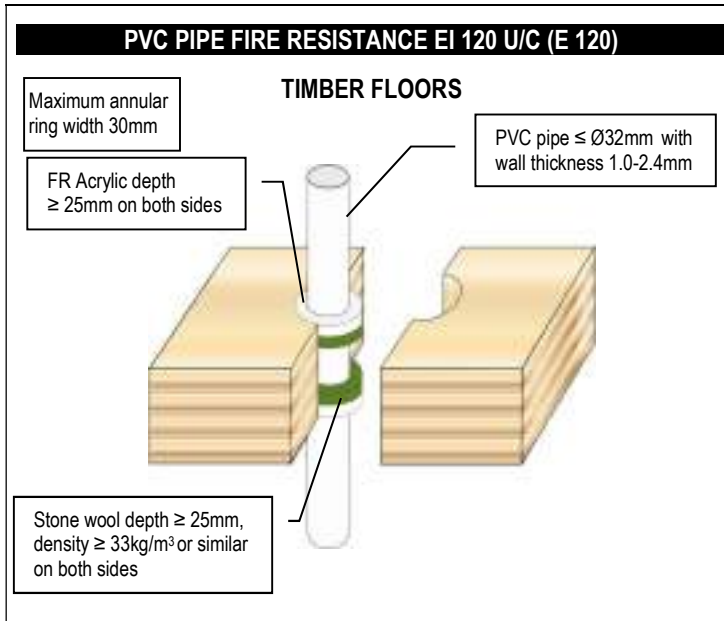
FR Acrylic depth $\geq 25\text{mm}$ on both sides

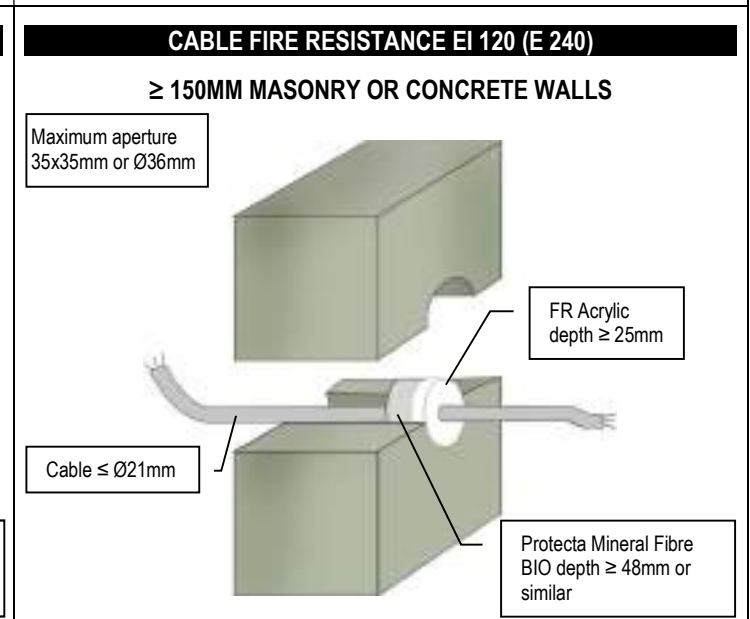
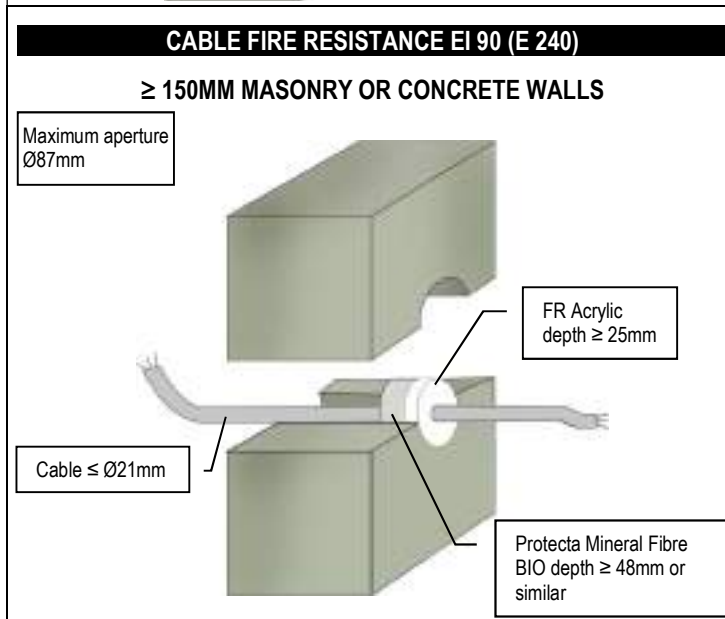
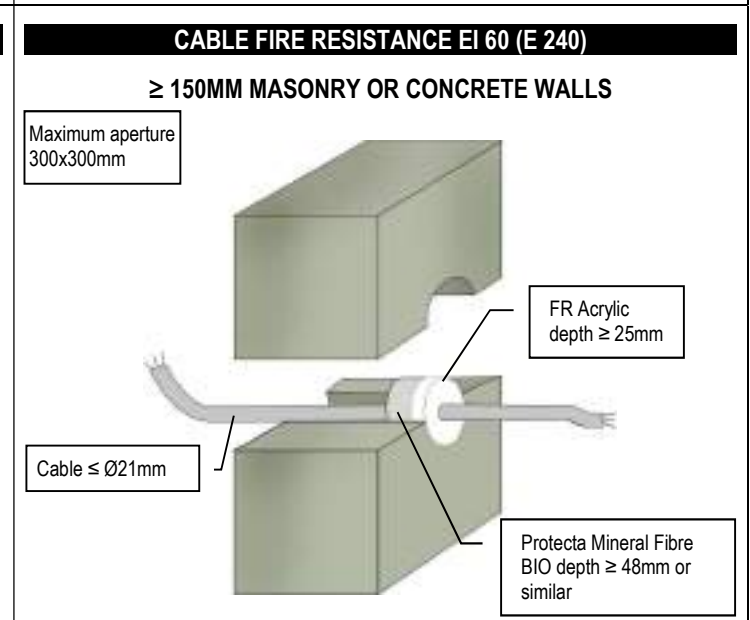
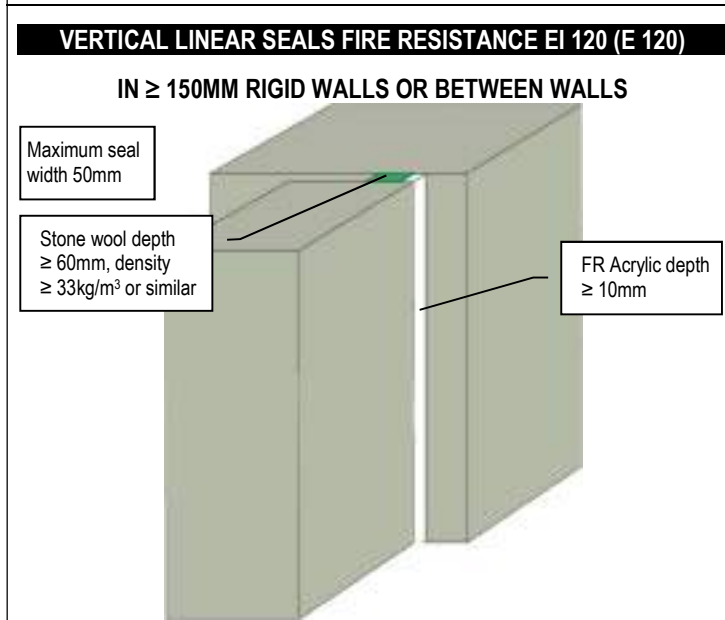
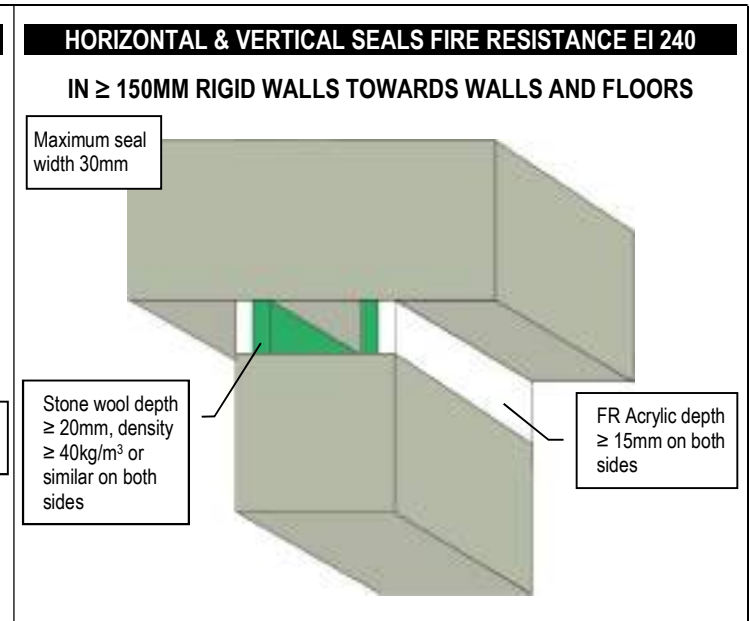
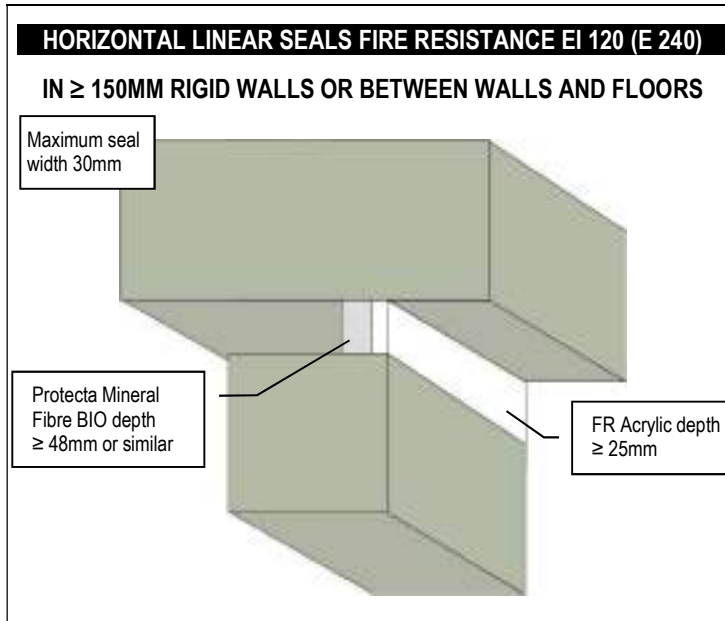
All services must be coated 150mm top side with 360 μ WFT Protecta Service Coat FR-1

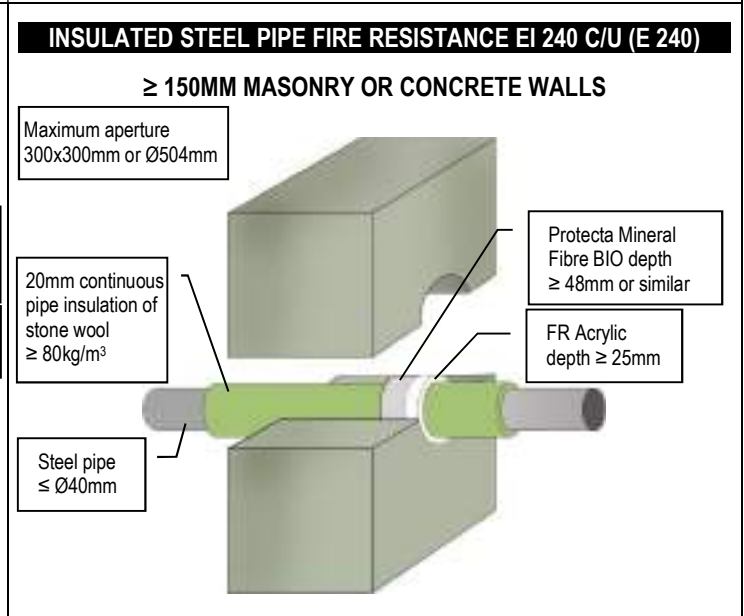
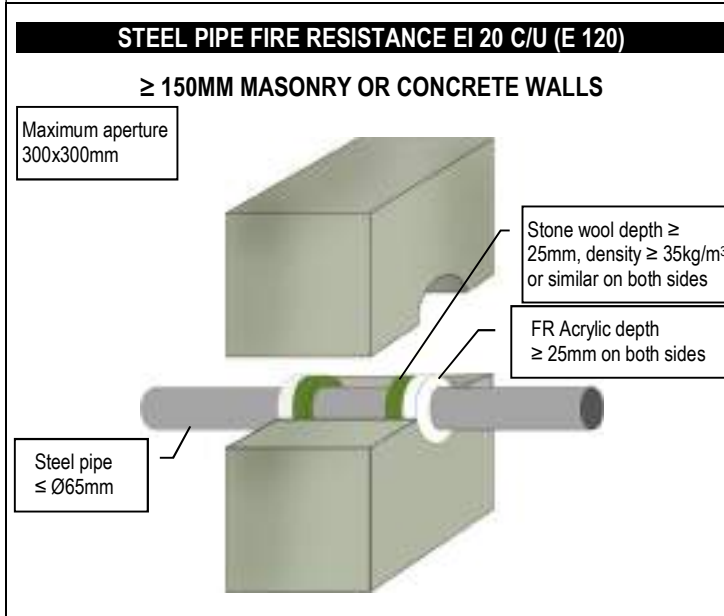
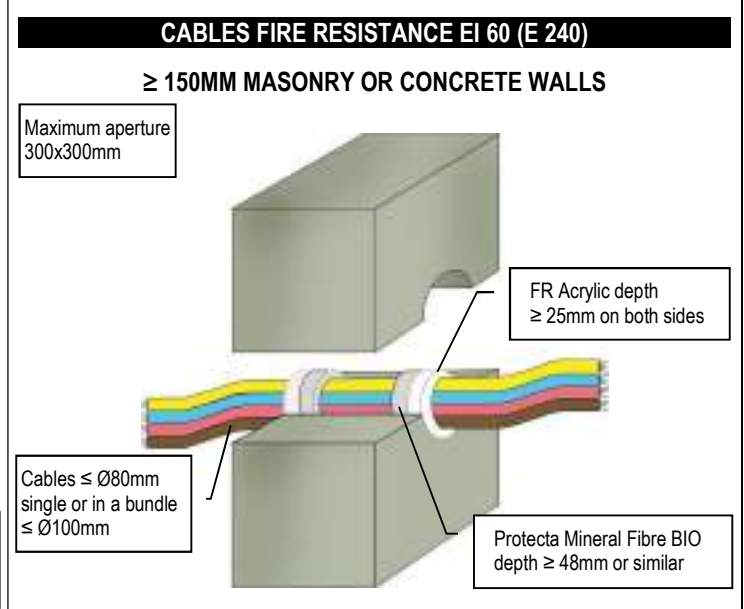
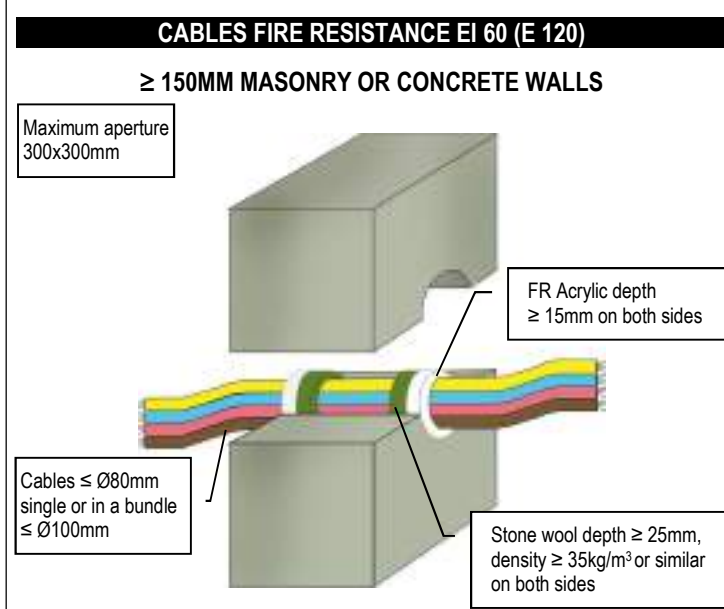
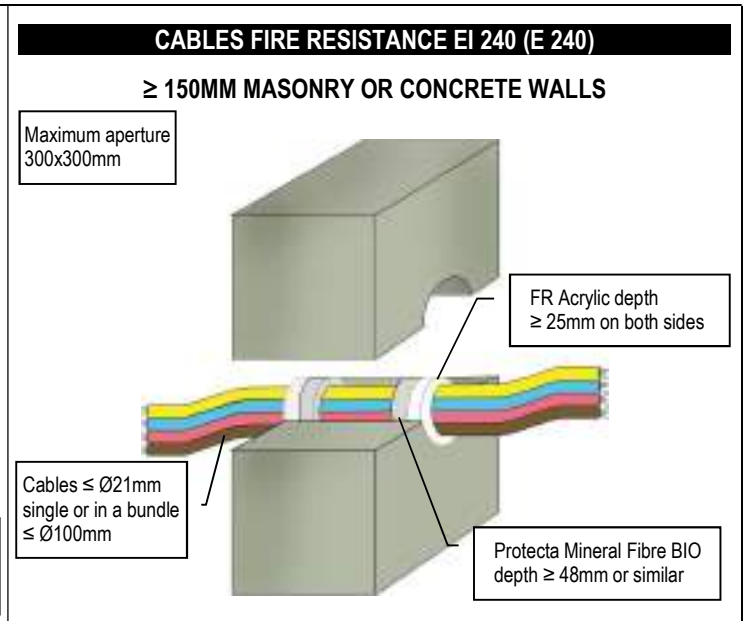
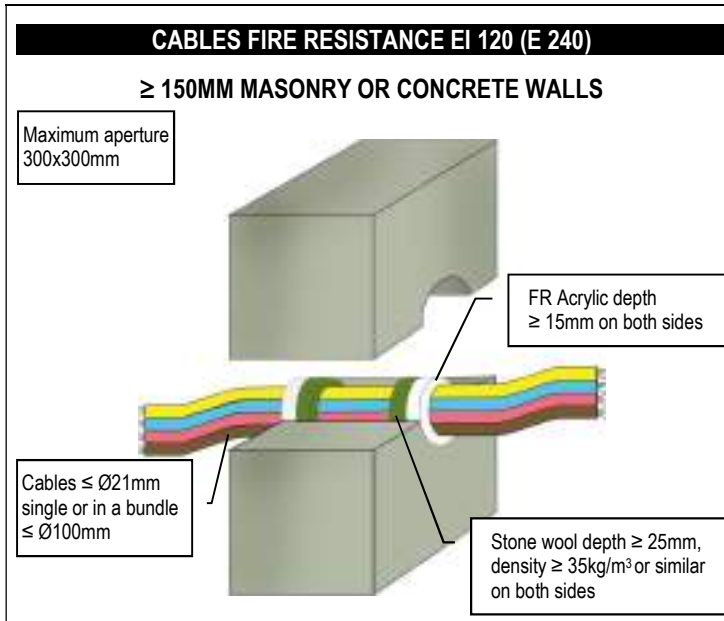
Stone wool depth $\geq 25\text{mm}$, density $\geq 33\text{kg/m}^3$ or similar on both sides

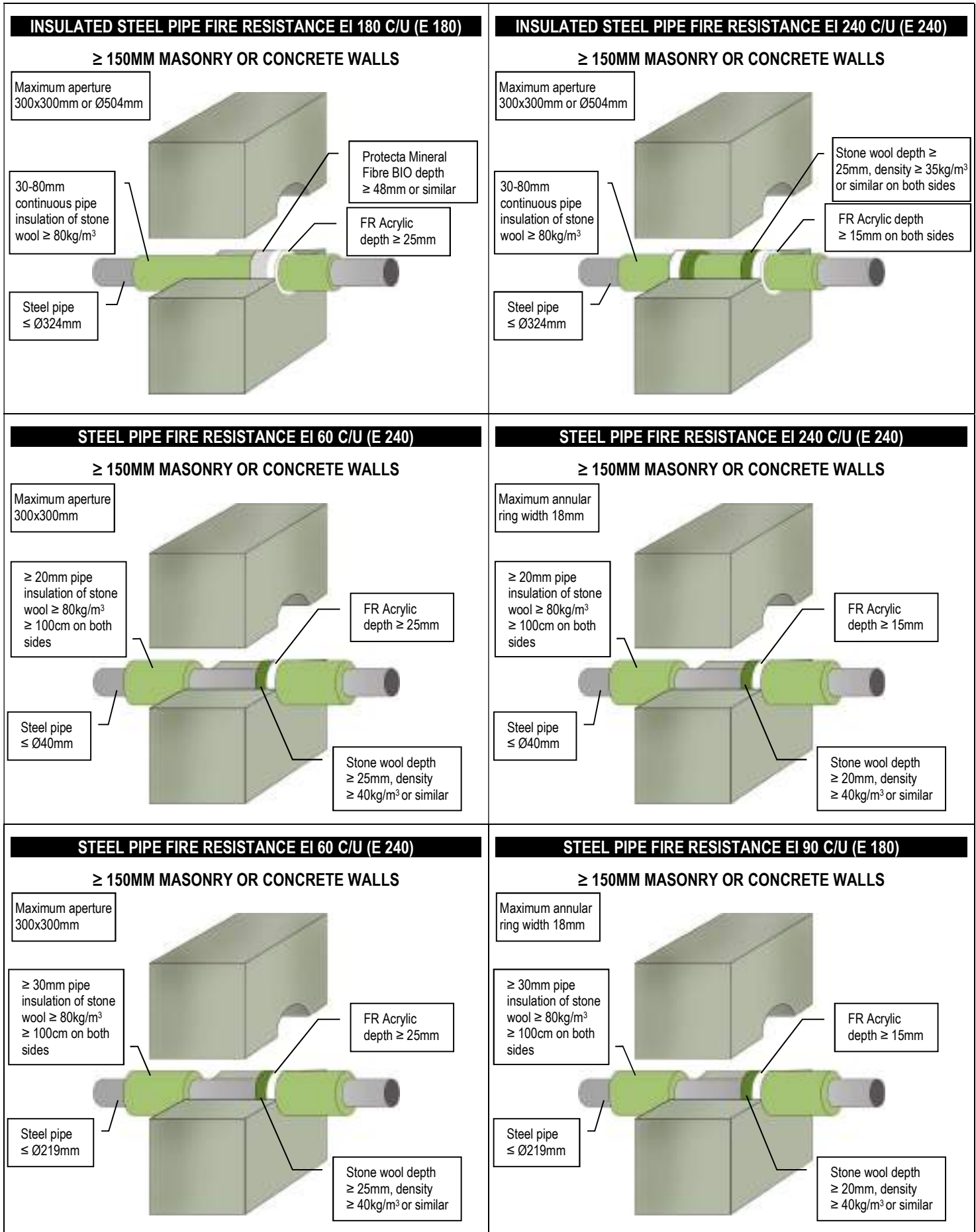
Cables $\leq \text{Ø}14\text{mm}$ single or in a bundle $\leq \text{Ø}100\text{mm}$

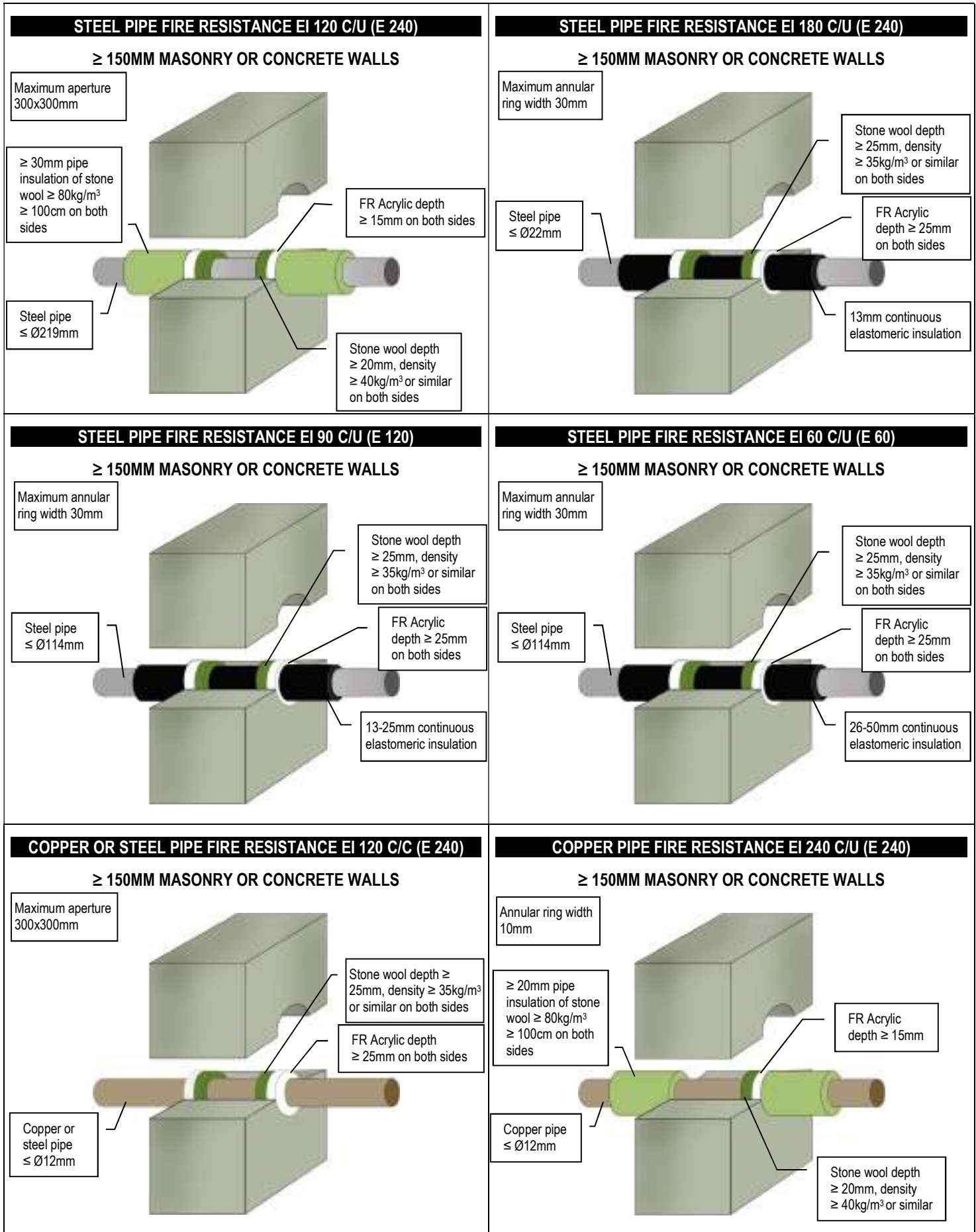




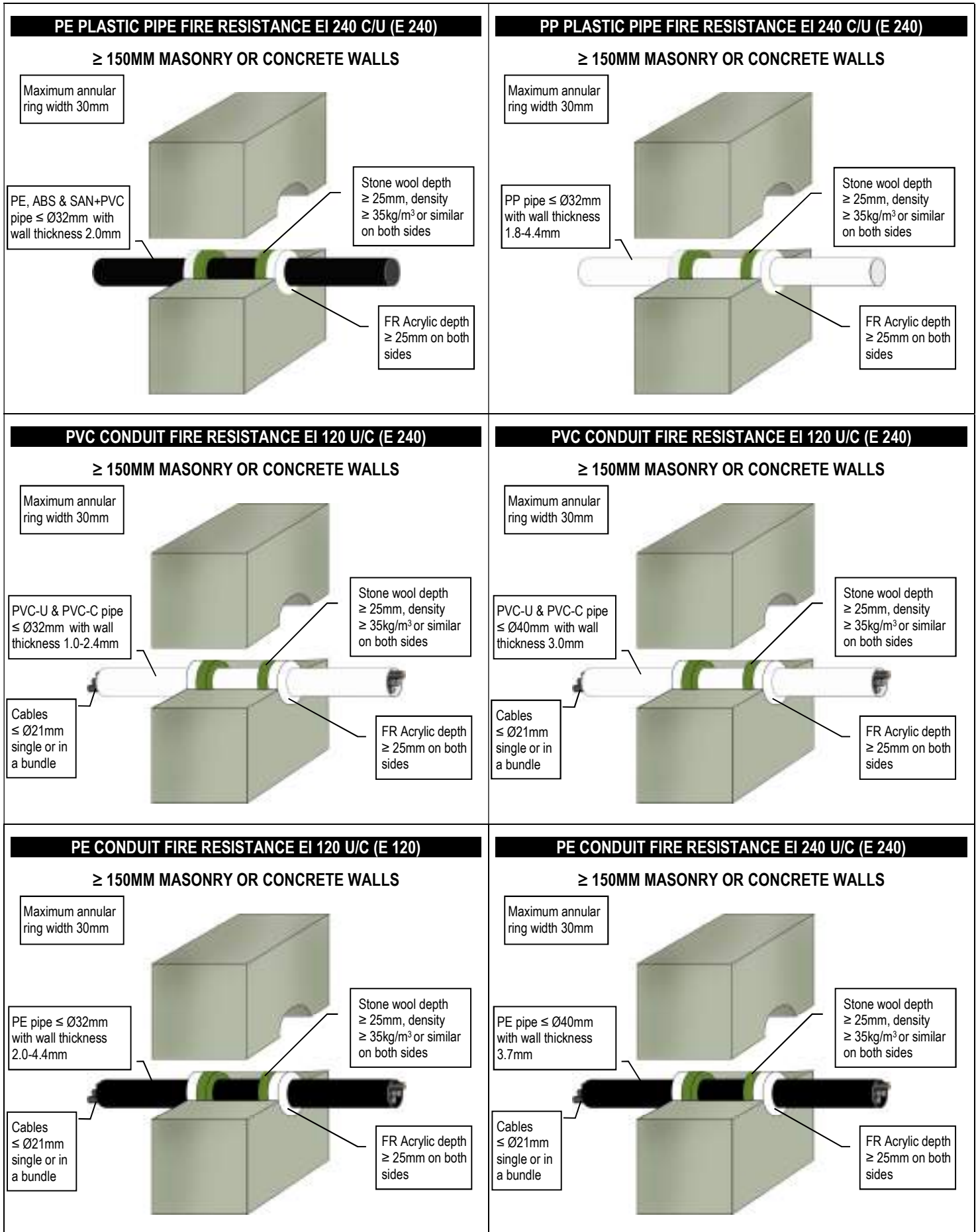


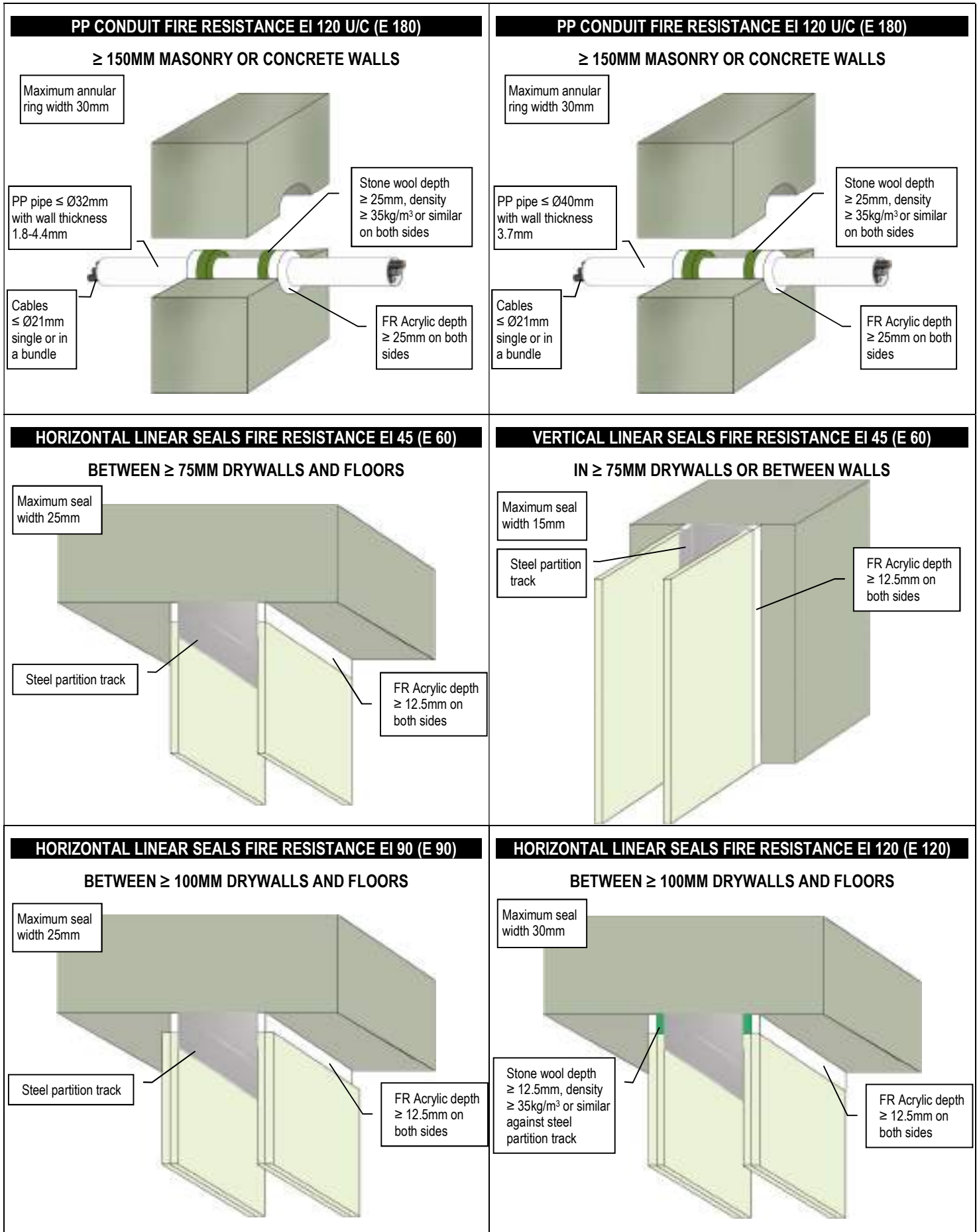


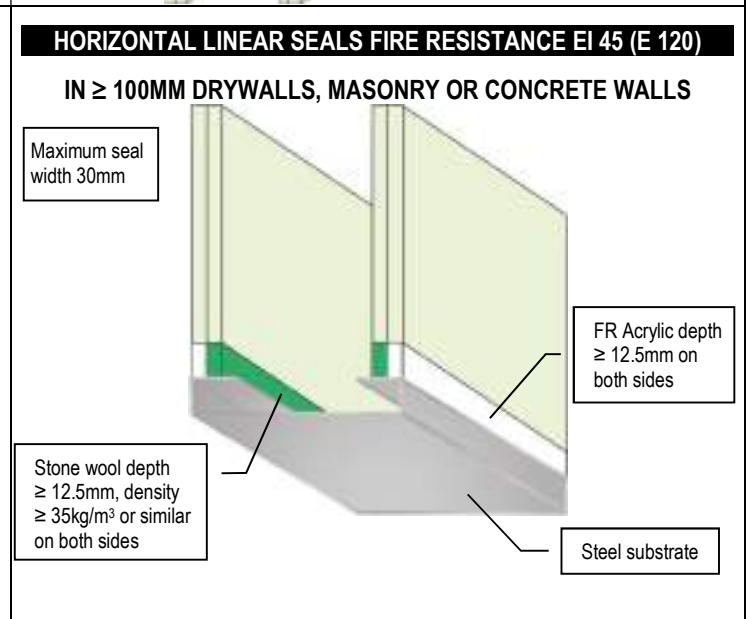
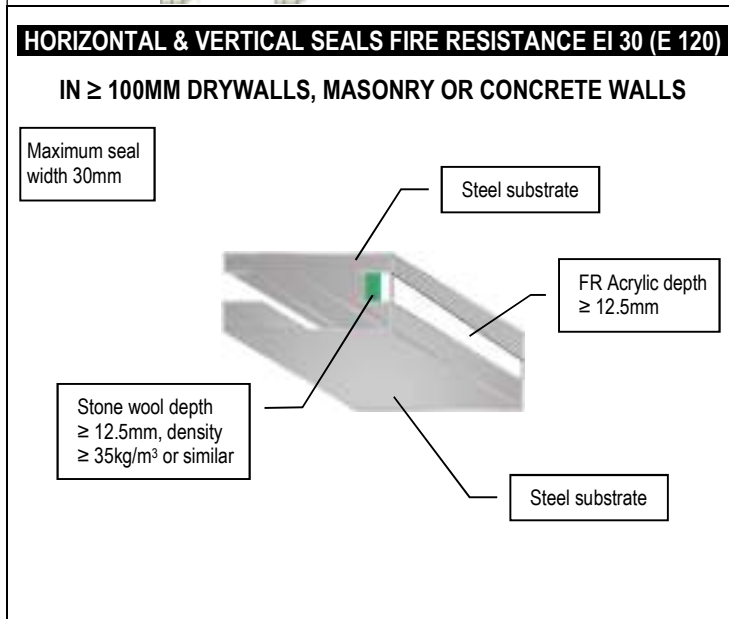
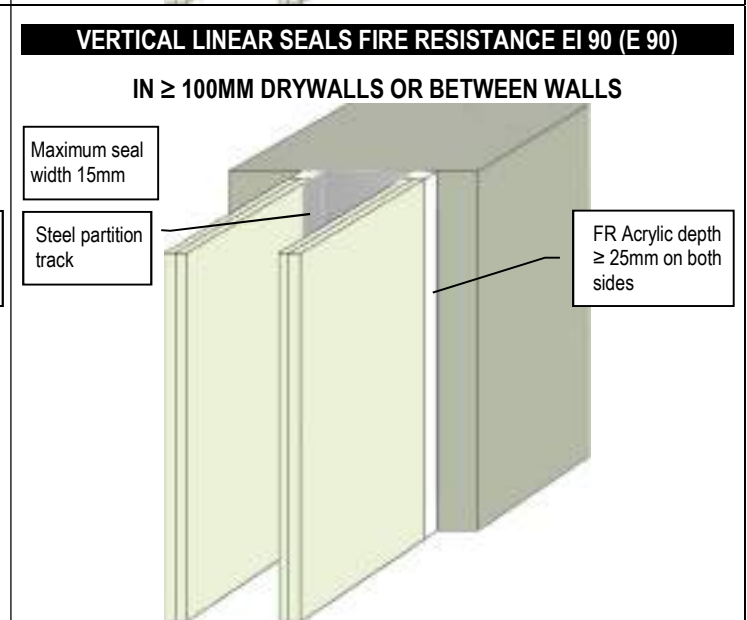
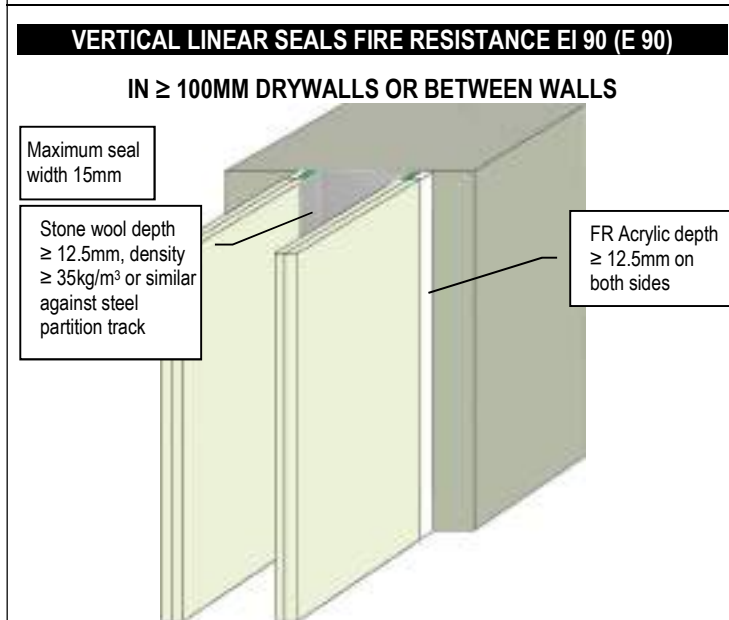
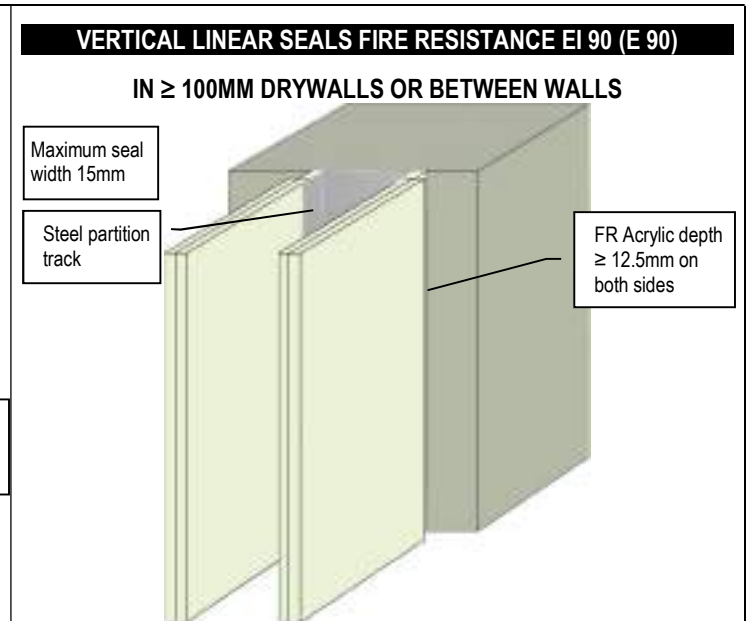
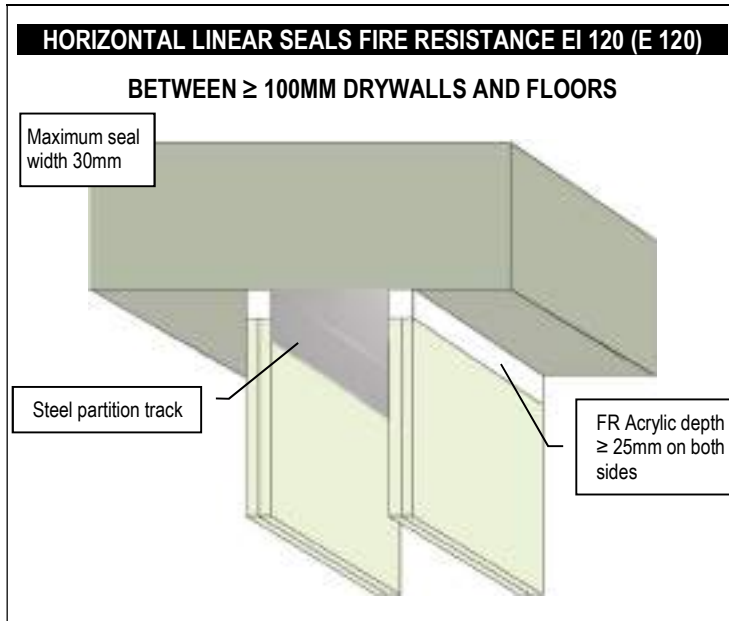




<p>COPPER PIPE FIRE RESISTANCE EI 60 C/U (E 240)</p> <p>≥ 150MM MASONRY OR CONCRETE WALLS</p> <p>Maximum aperture 300x300mm</p> <p>≥ 20mm pipe insulation of stone wool ≥ 80kg/m³ ≥ 100cm on both sides</p> <p>Copper pipe ≤ Ø54mm</p> <p>FR Acrylic depth ≥ 25mm</p> <p>Stone wool depth ≥ 25mm, density ≥ 40kg/m³ or similar</p>	<p>COPPER OR STEEL PIPE FIRE RESISTANCE EI 180 C/U (E 240)</p> <p>≥ 150MM MASONRY OR CONCRETE WALLS</p> <p>Annular ring width approx. 10mm</p> <p>≥ 20mm pipe insulation of stone wool ≥ 80kg/m³ ≥ 100cm on both sides</p> <p>Copper or steel pipe ≤ Ø54mm</p> <p>FR Acrylic depth ≥ 15mm</p> <p>Stone wool depth ≥ 20mm, density ≥ 40kg/m³ or similar</p>
<p>ALUPEX PIPE FIRE RESISTANCE EI 60 C/U (E 240)</p> <p>≥ 150MM MASONRY OR CONCRETE WALLS</p> <p>Maximum aperture 300x300mm</p> <p>≥ 25mm Protecta Mineral Fibre BIO ≥ 60cm on both sides</p> <p>Alupex pipe ≤ Ø75mm</p> <p>FR Acrylic depth ≥ 25mm</p> <p>Stone wool depth ≥ 25mm, density ≥ 40kg/m³ or similar</p>	<p>ALUPEX PIPE FIRE RESISTANCE EI 120 C/U (E 120)</p> <p>≥ 150MM MASONRY OR CONCRETE WALLS</p> <p>Maximum annular ring width 30mm</p> <p>≥ 25mm Protecta Mineral Fibre BIO ≥ 60cm on both sides</p> <p>Alupex pipe ≤ Ø75mm</p> <p>FR Acrylic depth ≥ 15mm</p> <p>Stone wool depth ≥ 20mm, density ≥ 40kg/m³ or similar</p>
<p>PVC PLASTIC PIPE FIRE RESISTANCE EI 240 U/C (E 240)</p> <p>≥ 150MM MASONRY OR CONCRETE WALLS</p> <p>Maximum annular ring width 30mm</p> <p>PVC-U & PVC-C pipe ≤ Ø32mm with wall thickness 1.0-2.4mm</p> <p>Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides</p> <p>FR Acrylic depth ≥ 25mm on both sides</p>	<p>PE PLASTIC PIPE FIRE RESISTANCE EI 120 C/U (E 120)</p> <p>≥ 150MM MASONRY OR CONCRETE WALLS</p> <p>Maximum annular ring width 30mm</p> <p>PE, ABS & SAN+PVC pipe ≤ Ø32mm with wall thickness 2.0-4.4mm</p> <p>Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides</p> <p>FR Acrylic depth ≥ 25mm on both sides</p>







<p>HORIZONTAL & VERTICAL SEALS FIRE RESISTANCE EI 60 (E 120)</p> <p>IN ≥ 100MM DRYWALLS, MASONRY OR CONCRETE WALLS</p> <p>Maximum seal width 30mm</p> <p>FR Acrylic depth ≥ 12.5mm on both sides</p> <p>Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar on both sides</p> <p>Steel frame classified to EI 60 or higher</p>	<p>HORIZONTAL & VERTICAL SEALS FIRE RESISTANCE EI 60 (E 60)</p> <p>IN ≥ 100MM DRYWALLS, MASONRY OR CONCRETE WALLS</p> <p>Maximum seal width 30mm</p> <p>FR Acrylic depth ≥ 12.5mm</p> <p>Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar</p> <p>≥ 12mm thick architrave fixed with ≥ 25mm steel pins, nails or screws at nominal 300mm centres</p> <p>Timber frame</p>
<p>HORIZONTAL & VERTICAL SEALS FIRE RESISTANCE EI 60 (E 90)</p> <p>IN ≥ 100MM DRYWALLS, MASONRY OR CONCRETE WALLS</p> <p>Maximum seal width 30mm</p> <p>FR Acrylic depth ≥ 12.5mm on both sides</p> <p>Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar on both sides</p> <p>Timber frame</p>	<p>CABLE FIRE RESISTANCE EI 45 (E 60)</p> <p>≥ 75MM DRYWALLS, MASONRY OR CONCRETE WALLS</p> <p>Maximum aperture 150x150mm</p> <p>Cable ≤ Ø21mm</p> <p>FR Acrylic depth ≥ 12.5mm on both sides</p>
<p>CABLES FIRE RESISTANCE EI 30 (E 45)</p> <p>≥ 75MM DRYWALLS, MASONRY OR CONCRETE WALLS</p> <p>Maximum aperture 150x150mm</p> <p>Cables ≤ Ø21mm in a bundle ≤ Ø100mm</p> <p>FR Acrylic depth ≥ 12.5mm on both sides</p>	<p>CABLES FIRE RESISTANCE EI 90 (E 120)</p> <p>≥ 100MM DRYWALLS, MASONRY OR CONCRETE WALLS</p> <p>Maximum aperture 300x300mm</p> <p>Cables ≤ Ø21mm single or in a bundle ≤ Ø50mm</p> <p>Stone wool depth ≥ 12.5mm, density ≥ 33kg/m³ or similar on both sides</p> <p>FR Acrylic depth ≥ 12.5mm on both sides</p>

