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

GENERAL PRODUCT DESCRIPTION

Protecta® FR Acrylic is a high specification formulation designed to prevent the spread of fire, smoke and gases through openings in fire rated walls and floors; specifically linear movement joints and openings for building service penetrations. FR Acrylic expands when it is subjected to fire and closes openings around penetrations when any combustible or low temperature melting materials have burnt away. 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.

GENERAL GUIDE

Minimum separations and limitations: Services (single) 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. 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.

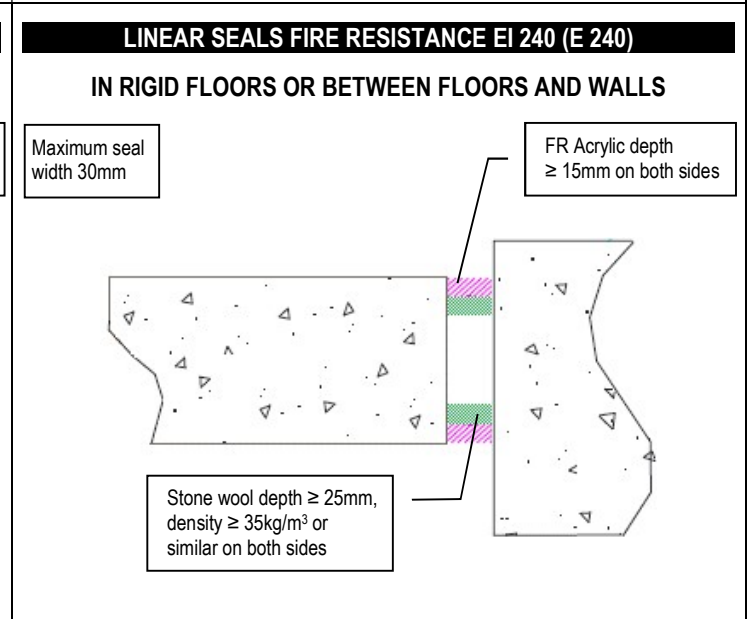
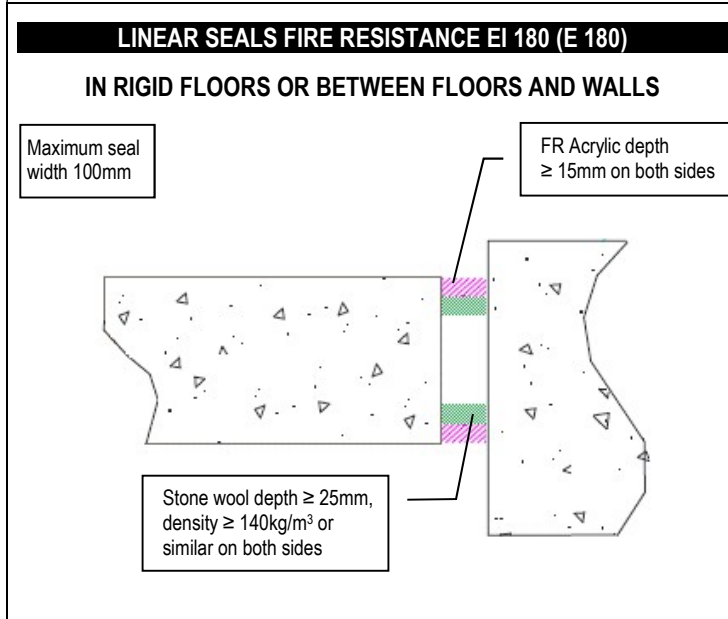
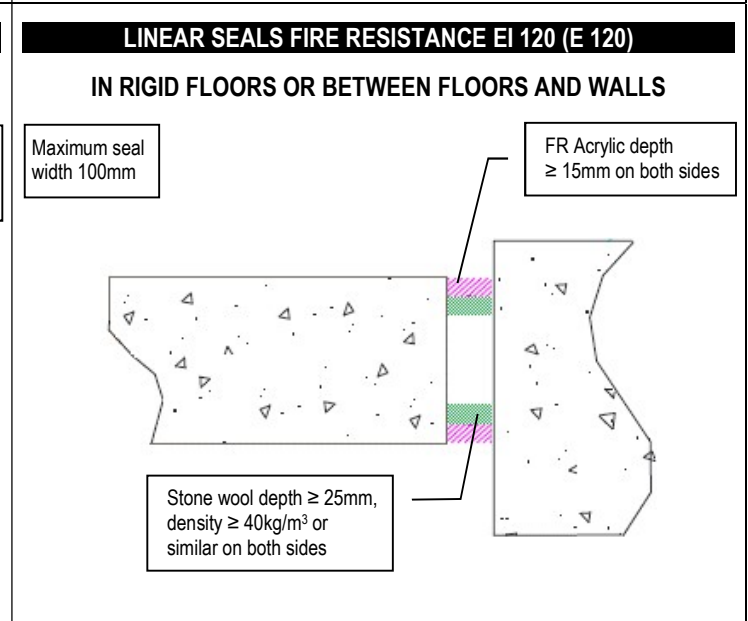
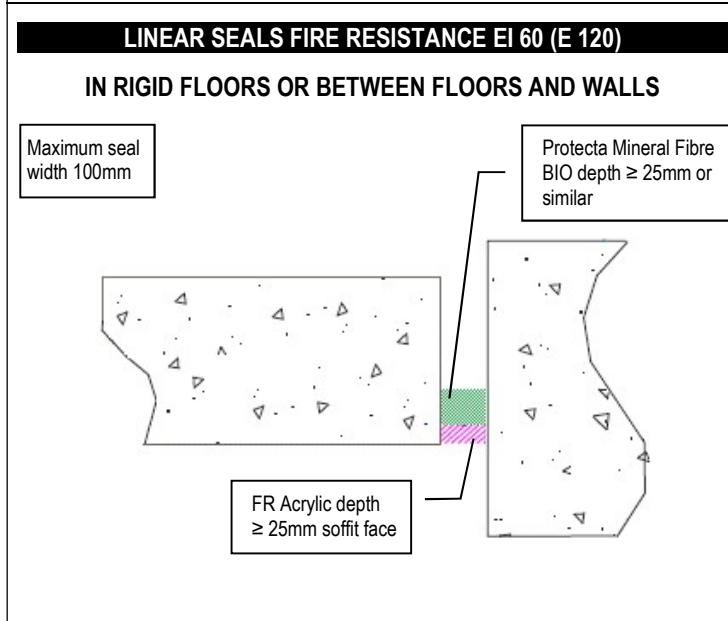
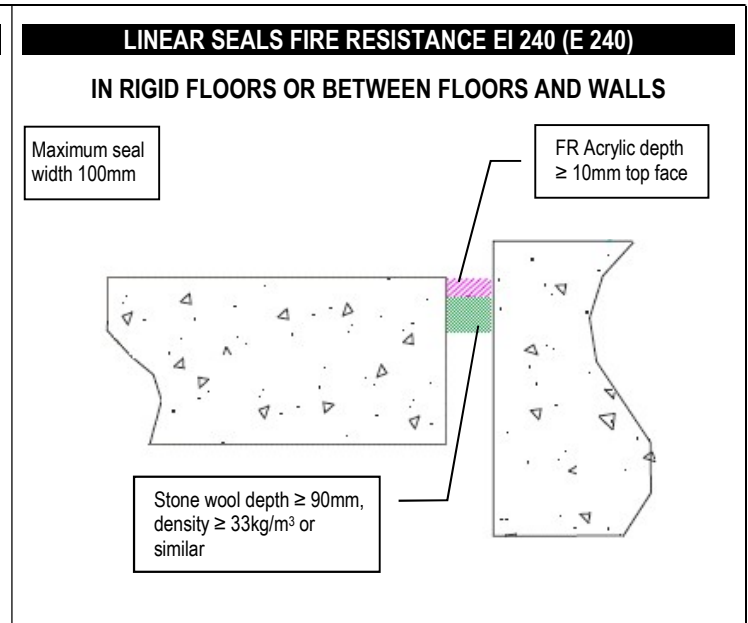
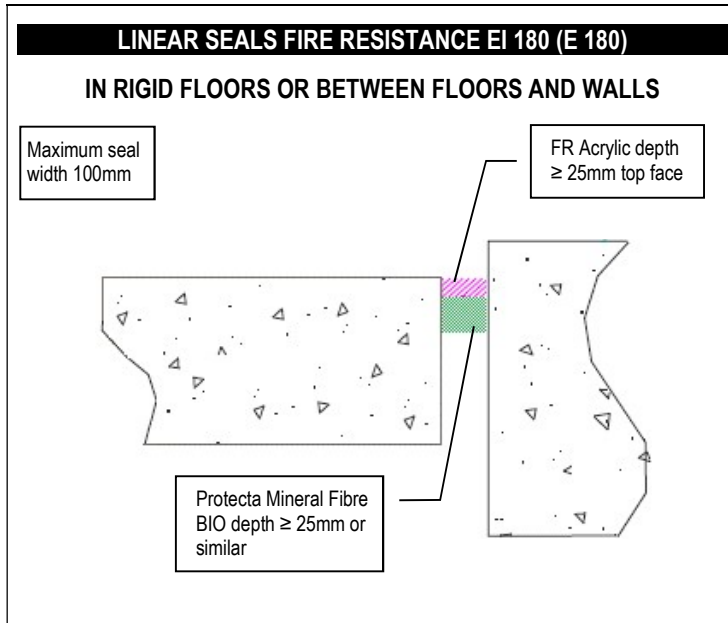
Supporting constructions: Flexible walls must have a minimum thickness of 75 mm and comprise steel studs or timber studs*) lined on both faces with minimum 1 layer of 12.5 mm thick boards. Rigid walls must have a minimum thickness of 75 mm and comprise concrete, aerated concrete or masonry, with a minimum density of 650 kg/m³. Rigid floors must have a minimum thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650 kg/m³. The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period.

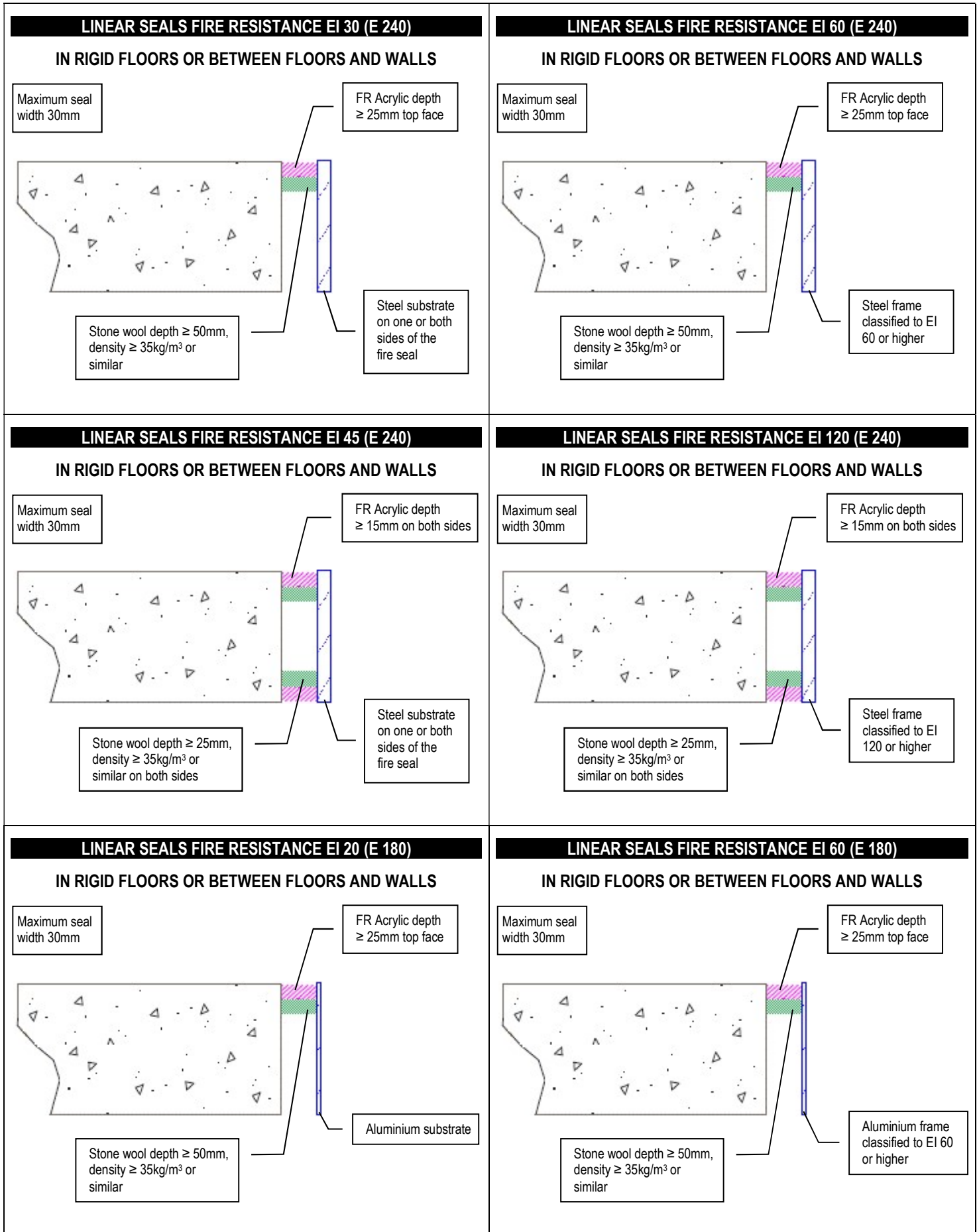
*) Timber studs: no part of the penetration seal may be closer than 100 mm to a stud, and minimum 100 mm of insulation of class A1 or A2 according to EN 13501-1 must be provided within the cavity between the penetration seal and the stud. In linear seals, there is no minimum distance and insulation required.

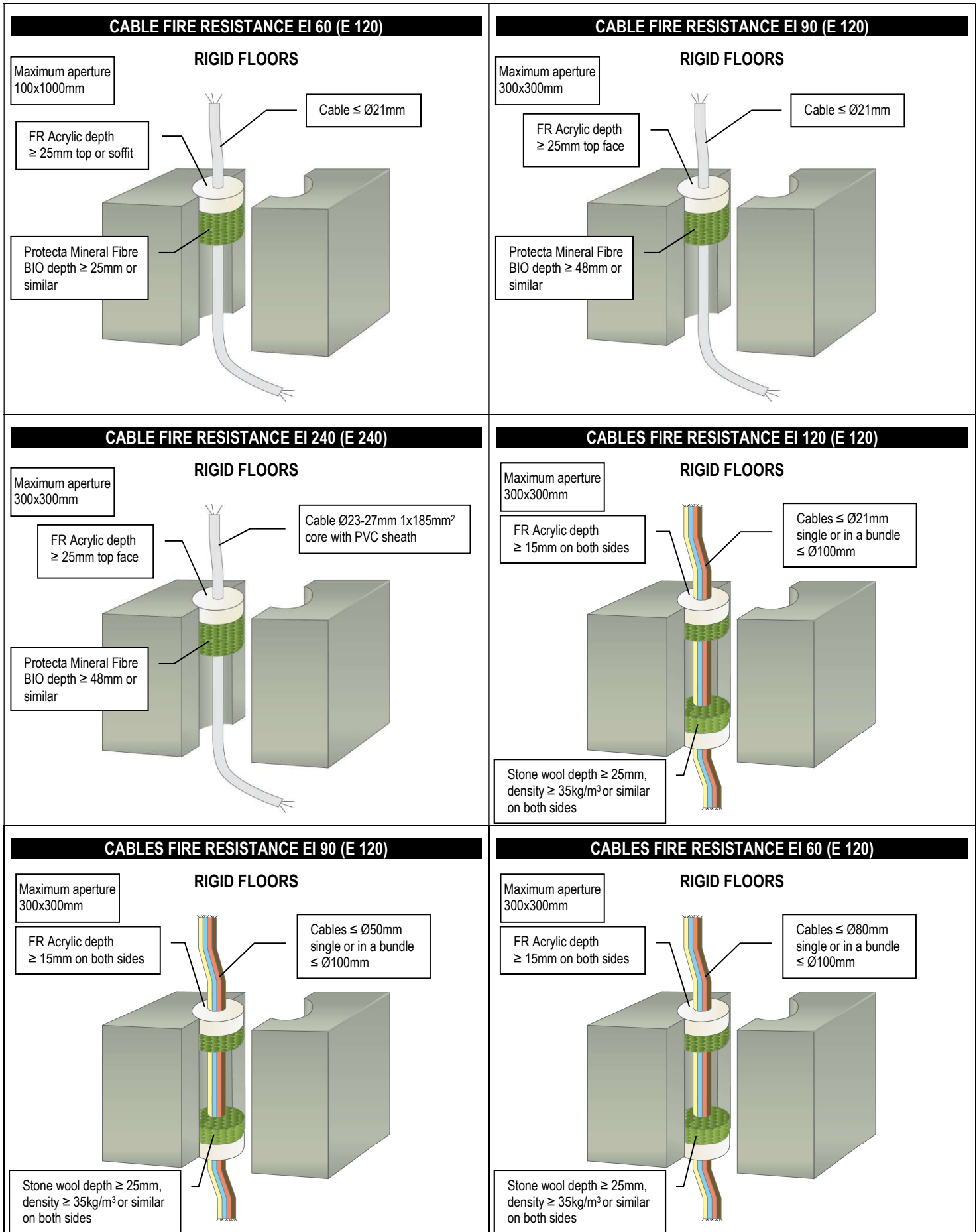


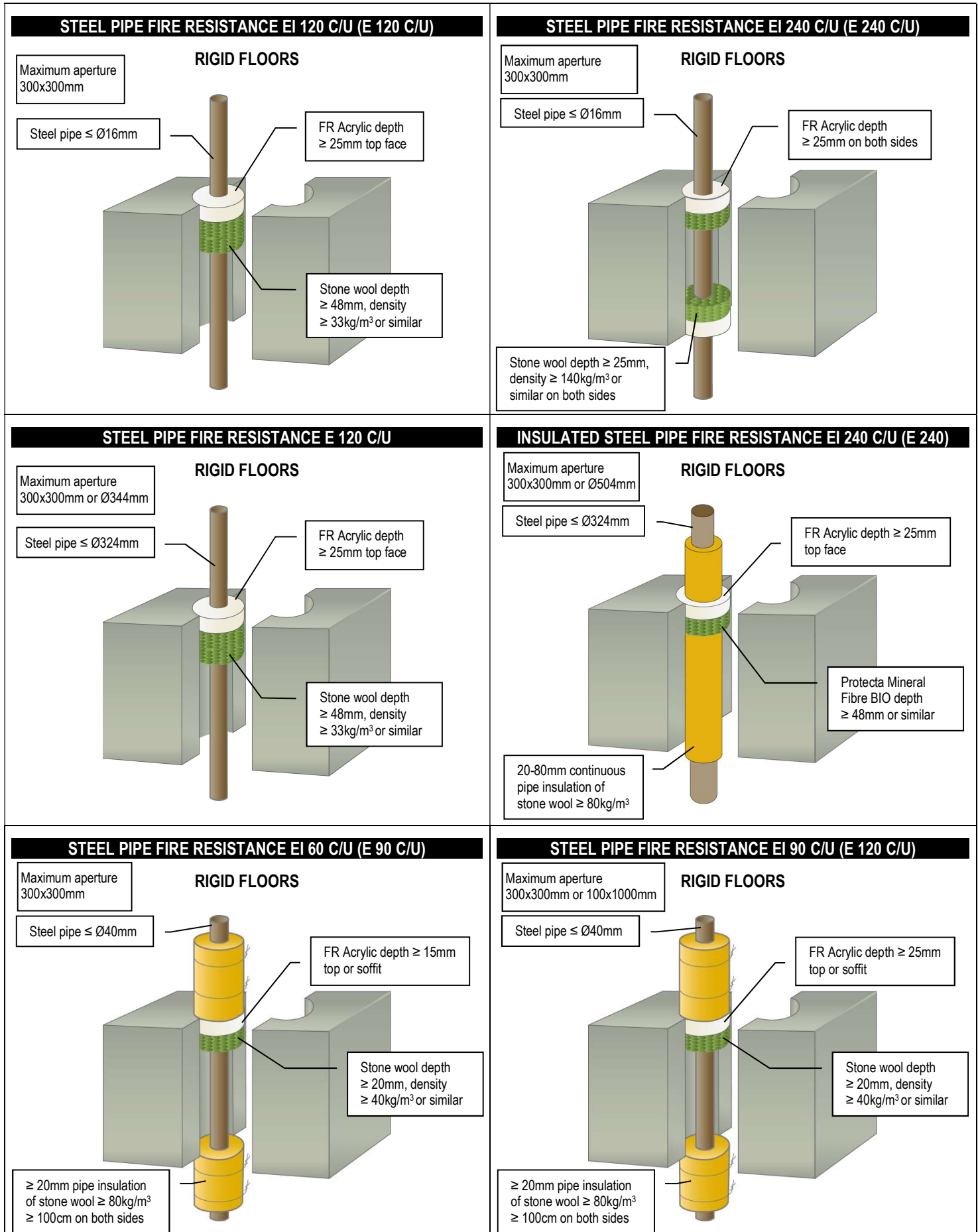
INSTALLATION

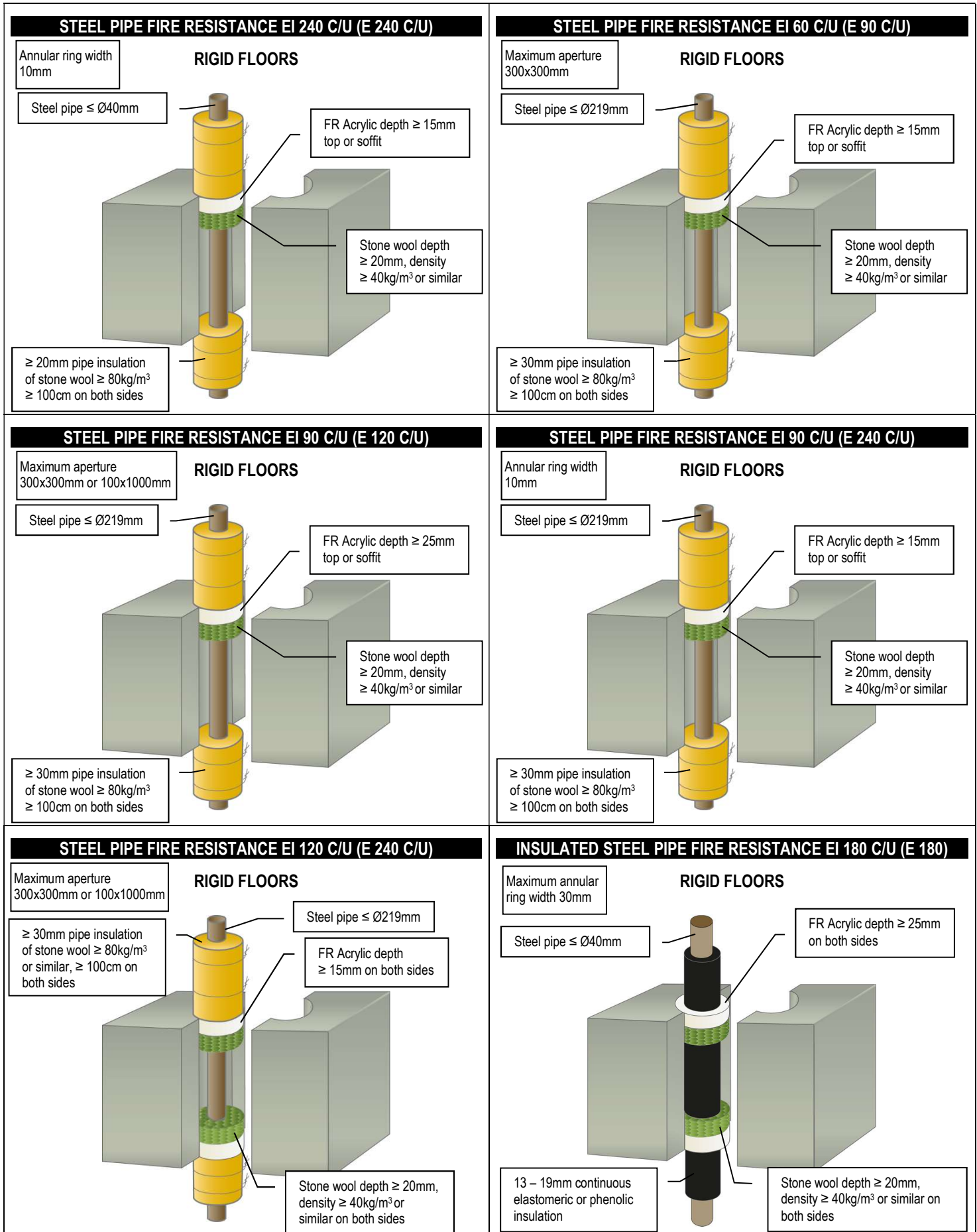
1. Before installing Protecta® FR Acrylic, ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
2. Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface 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. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
7. Fill the gap or joint with Protecta® FR Acrylic to the required depth. Refer to the drawings on following pages 2 to 26 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.
8. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
9. Protecta® FR Acrylic can be over-painted with most emulsion or alkylid (gloss) paints.

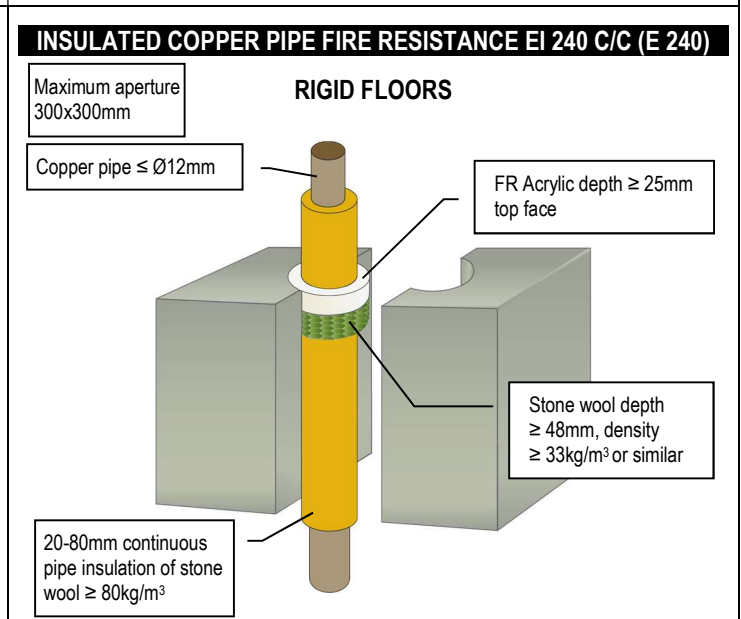
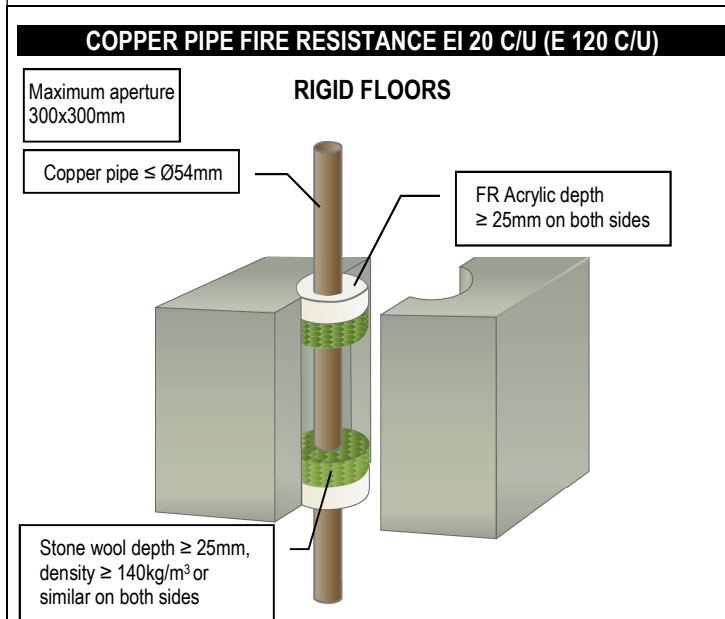
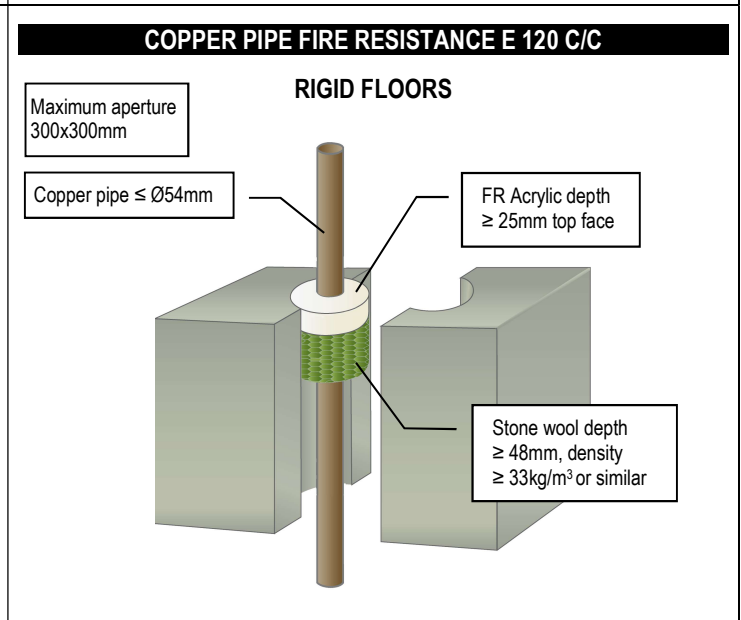
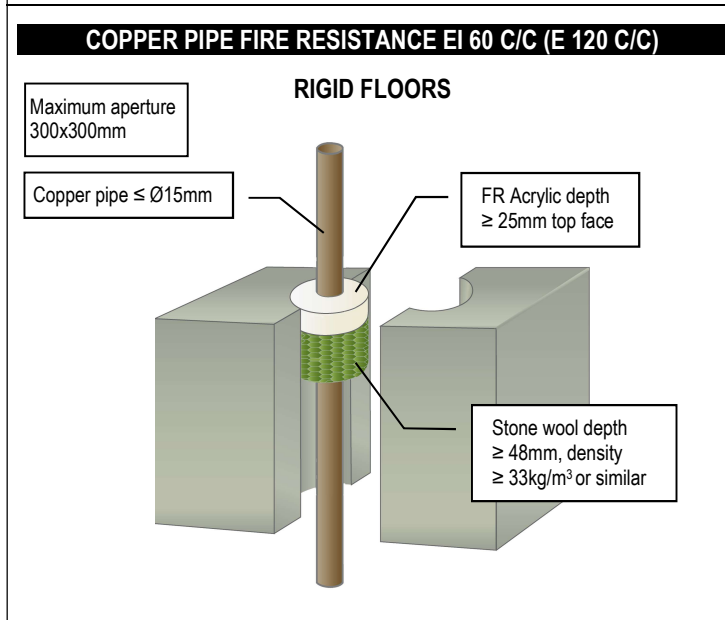
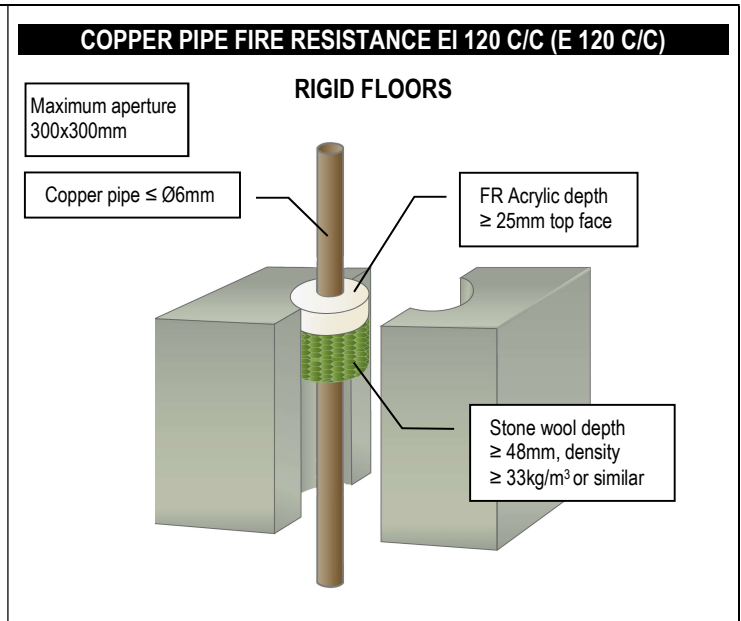
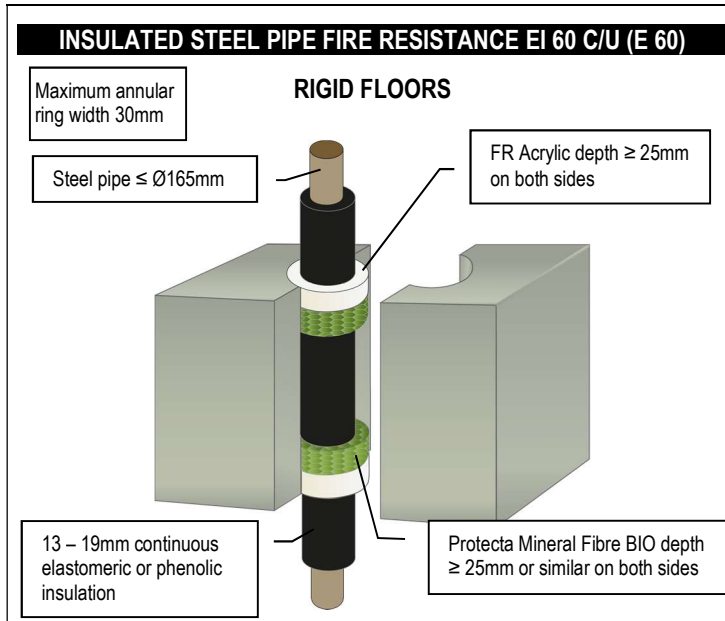




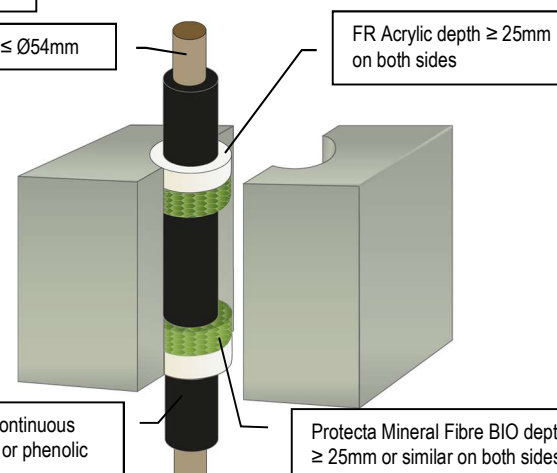
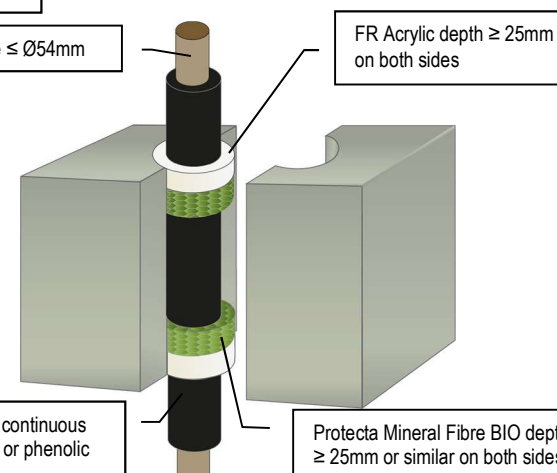
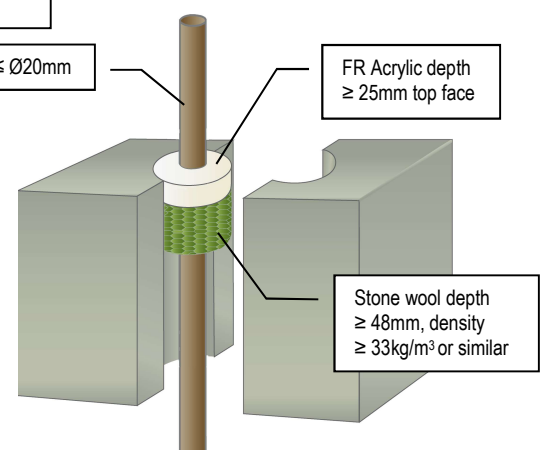
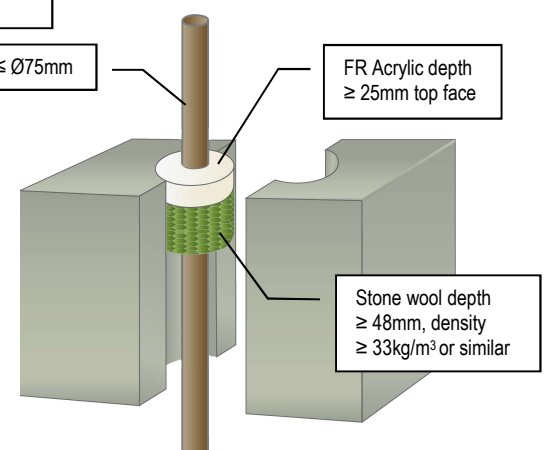
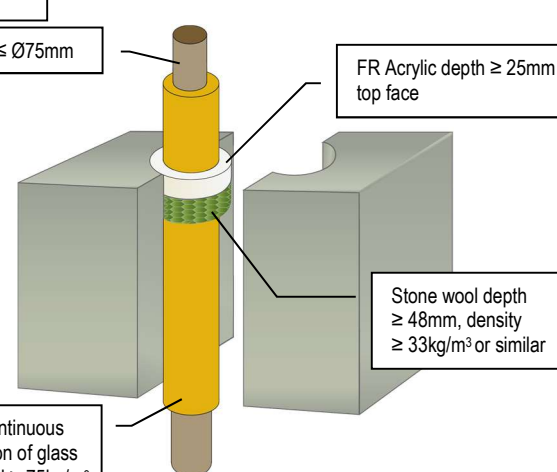
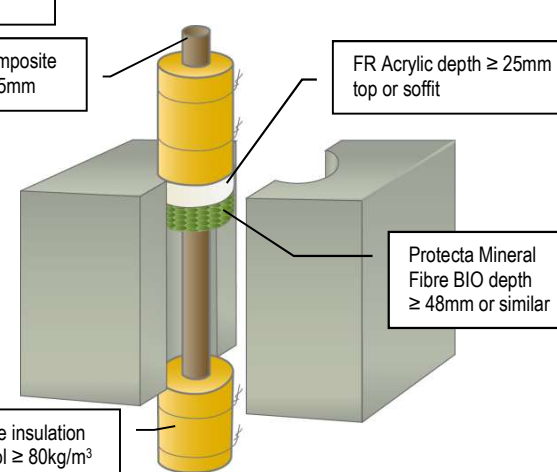








<p>INSULATED COPPER PIPE FIRE RESISTANCE EI 180 C/C (E 240)</p> <p>Maximum aperture 300x300mm</p> <p>Copper pipe $\leq \varnothing 54\text{mm}$</p> <p>RIGID FLOORS</p> <p>FR Acrylic depth $\geq 25\text{mm}$ top face</p> <p>Stone wool depth $\geq 48\text{mm}$, density $\geq 33\text{kg/m}^3$ or similar</p> <p>20-80mm continuous pipe insulation of stone wool $\geq 80\text{kg/m}^3$</p>	<p>COPPER PIPE FIRE RESISTANCE EI 240 C/U (E 240 C/U)</p> <p>Annular ring width 10mm</p> <p>Copper pipe $\leq \varnothing 12\text{mm}$</p> <p>RIGID FLOORS</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 C/U)</p> <p>Maximum aperture 300x300mm</p> <p>Copper pipe $\leq \varnothing 54\text{mm}$</p> <p>RIGID FLOORS</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 120 C/U (E 120 C/U)</p> <p>Maximum aperture 300x300mm or 100x1000mm</p> <p>Copper pipe $\leq \varnothing 54\text{mm}$</p> <p>RIGID FLOORS</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 PIPE FIRE RESISTANCE EI 180 C/U (E 240 C/U)</p> <p>Annular ring width 10mm</p> <p>Copper pipe $\leq \varnothing 54\text{mm}$</p> <p>RIGID FLOORS</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>INSULATED COPPER PIPE FIRE RESISTANCE EI 180 C/C (E 240)</p> <p>Maximum annular ring width 30mm</p> <p>Copper pipe $\leq \varnothing 12\text{mm}$</p> <p>RIGID FLOORS</p> <p>FR Acrylic depth $\geq 25\text{mm}$ on both sides</p> <p>9mm continuous elastomeric or phenolic insulation</p> <p>Protecta Mineral Fibre BIO depth $\geq 25\text{mm}$ or similar on both sides</p>

<p>INSULATED COPPER PIPE FIRE RESISTANCE EI 120 C/C (E 180)</p> <p>Maximum annular ring width 30mm</p> <p>RIGID FLOORS</p> <p>Copper pipe $\leq \varnothing 54\text{mm}$</p> <p>FR Acrylic depth $\geq 25\text{mm}$ on both sides</p> <p>9 – 13mm continuous elastomeric or phenolic insulation</p> <p>Protecta Mineral Fibre BIO depth $\geq 25\text{mm}$ or similar on both sides</p> 	<p>INSULATED COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 90)</p> <p>Maximum annular ring width 30mm</p> <p>RIGID FLOORS</p> <p>Copper pipe $\leq \varnothing 54\text{mm}$</p> <p>FR Acrylic depth $\geq 25\text{mm}$ on both sides</p> <p>14 – 25mm continuous elastomeric or phenolic insulation</p> <p>Protecta Mineral Fibre BIO depth $\geq 25\text{mm}$ or similar on both sides</p> 
<p>ALUPEX PIPE FIRE RESISTANCE EI 120 C/C (E 120 C/C)</p> <p>Maximum aperture 300x300mm</p> <p>RIGID FLOORS</p> <p>Alupex pipe $\leq \varnothing 20\text{mm}$</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>ALUPEX PIPE FIRE RESISTANCE EI 90 C/C (E 120 C/C)</p> <p>Maximum aperture 300x300mm</p> <p>RIGID FLOORS</p> <p>Alupex pipe $\leq \varnothing 75\text{mm}$</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>INSULATED ALUPEX PIPE FIRE RESISTANCE EI 120 C/C (E 180)</p> <p>Maximum aperture 300x300mm</p> <p>RIGID FLOORS</p> <p>Alupex pipe $\leq \varnothing 75\text{mm}$</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>20-50mm continuous pipe insulation of glass or stone wool $\geq 75\text{kg/m}^3$</p> 	<p>ALUPEX PIPE FIRE RESISTANCE EI 240 C/C (E 240 C/C)</p> <p>Maximum aperture 300x300mm</p> <p>RIGID FLOORS</p> <p>Alupex composite pipe $\leq \varnothing 75\text{mm}$</p> <p>FR Acrylic depth $\geq 25\text{mm}$ top or soffit</p> <p>Protecta Mineral Fibre BIO depth $\geq 48\text{mm}$ or similar</p> <p>$\geq 20\text{mm}$ pipe insulation of stone wool $\geq 80\text{kg/m}^3$ $\geq 50\text{cm}$ on both sides</p> 

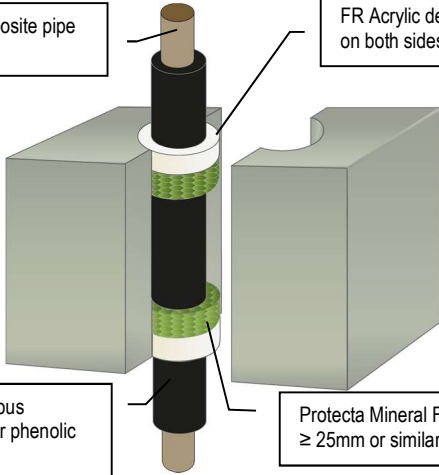
INSULATED ALUPEX PIPE FIRE RESISTANCE EI 180 C/C (E 180)

Maximum annular ring width 30mm

RIGID FLOORS

Alupex composite pipe $\leq \varnothing 16\text{mm}$

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



9mm continuous elastomeric or phenolic insulation

Protecta Mineral Fibre BIO depth $\geq 25\text{mm}$ or similar on both sides

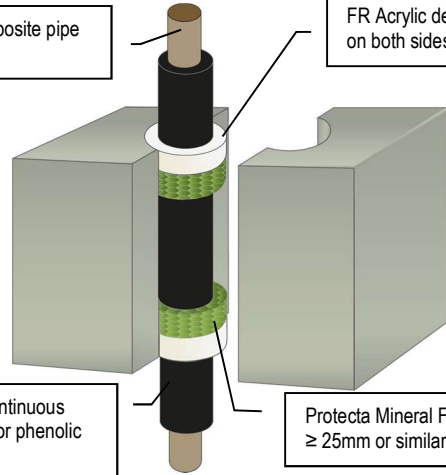
INSULATED ALUPEX PIPE FIRE RESISTANCE EI 60 C/C (E 120)

Maximum annular ring width 30mm

RIGID FLOORS

Alupex composite pipe $\leq \varnothing 75\text{mm}$

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



9 - 13mm continuous elastomeric or phenolic insulation

Protecta Mineral Fibre BIO depth $\geq 25\text{mm}$ or similar on both sides

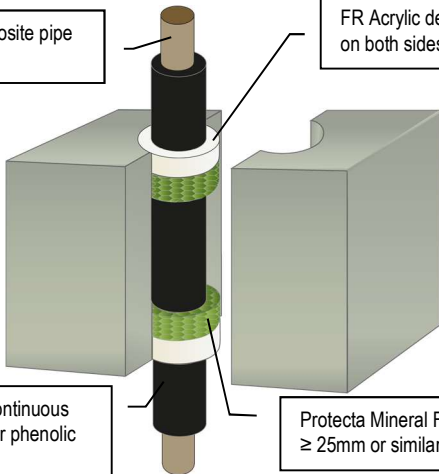
INSULATED ALUPEX PIPE FIRE RESISTANCE EI 60 C/C (E 60)

Maximum annular ring width 30mm

RIGID FLOORS

Alupex composite pipe $\leq \varnothing 75\text{mm}$

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



14 - 25mm continuous elastomeric or phenolic insulation

Protecta Mineral Fibre BIO depth $\geq 25\text{mm}$ or similar on both sides

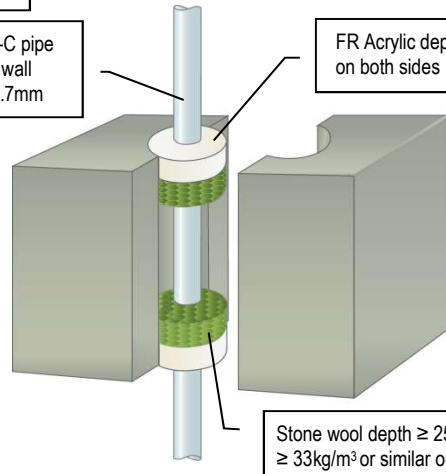
PVC PLASTIC PIPE FIRE RESISTANCE EI 240 U/C (E 240 U/C)

Maximum annular ring width 30mm

RIGID FLOORS

PVC-U or PVC-C pipe $\leq \varnothing 50\text{mm}$ with wall thickness 1.6-3.7mm

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

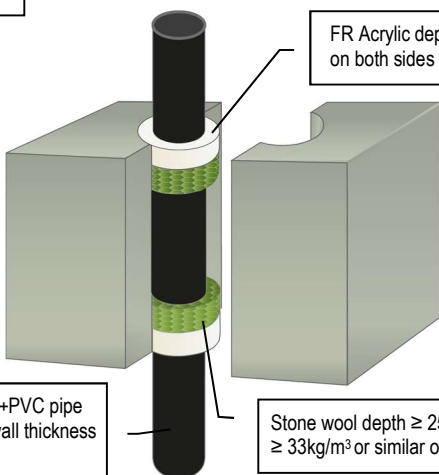
PE PLASTIC PIPE FIRE RESISTANCE EI 240 U/C (E 240 U/C)

Maximum annular ring width 30mm

RIGID FLOORS

PE, ABS or SAN+PVC pipe $\leq \varnothing 40\text{mm}$ with wall thickness 2.0-2.4mm

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

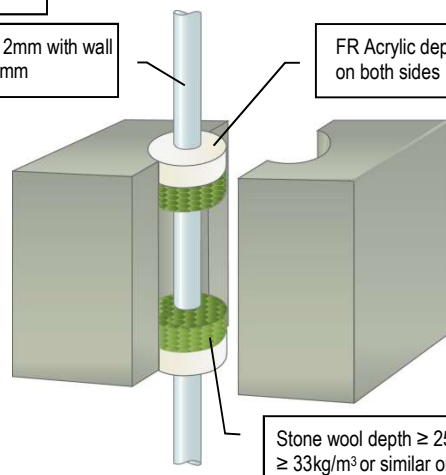
PP PLASTIC PIPE FIRE RESISTANCE EI 240 U/C (E 240 U/C)

Maximum annular ring width 30mm

RIGID FLOORS

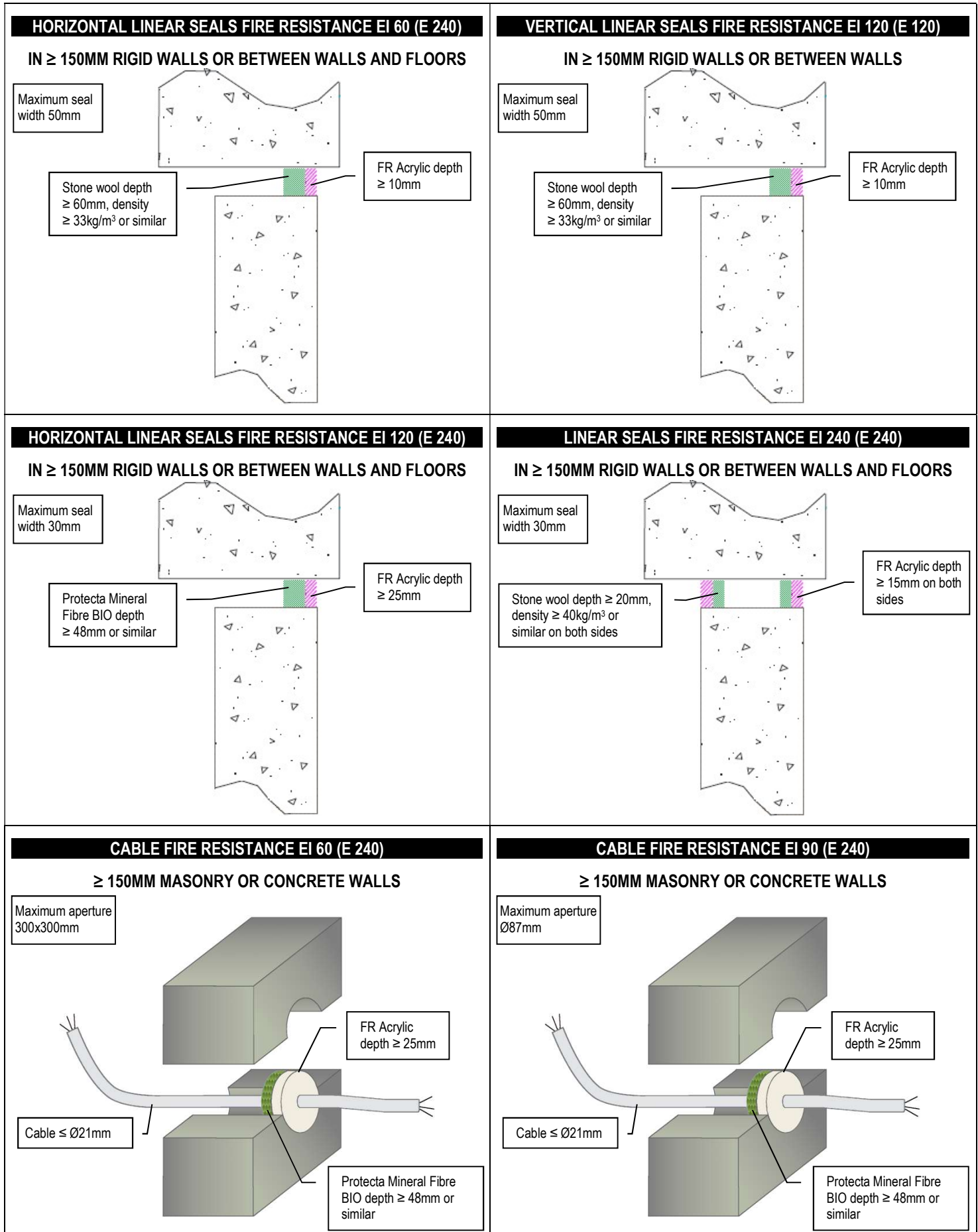
PP pipe $\leq \varnothing 12\text{mm}$ with wall thickness 1.2mm

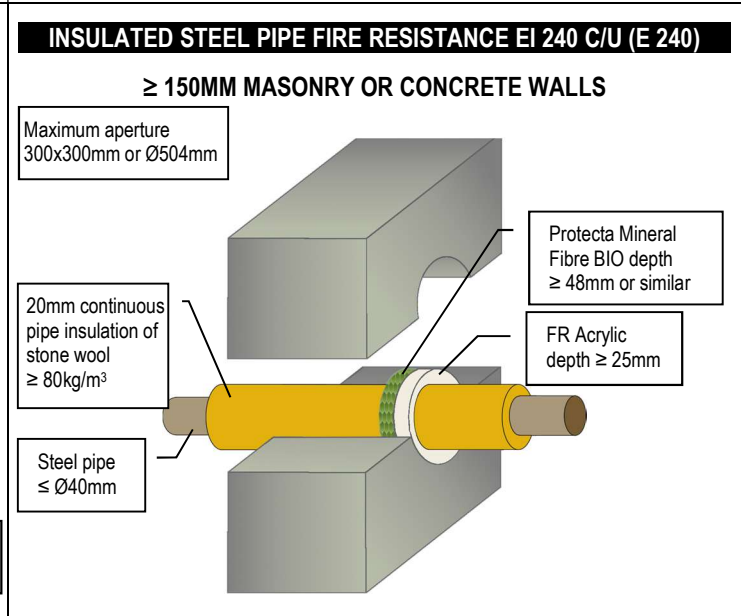
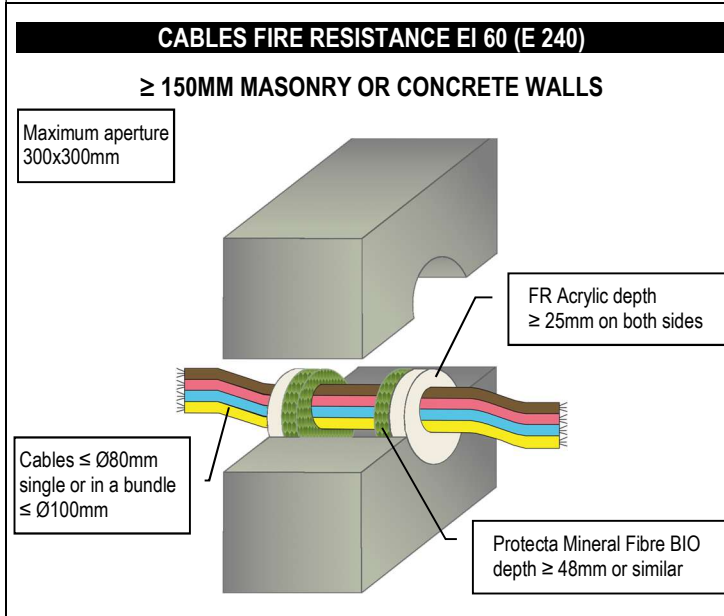
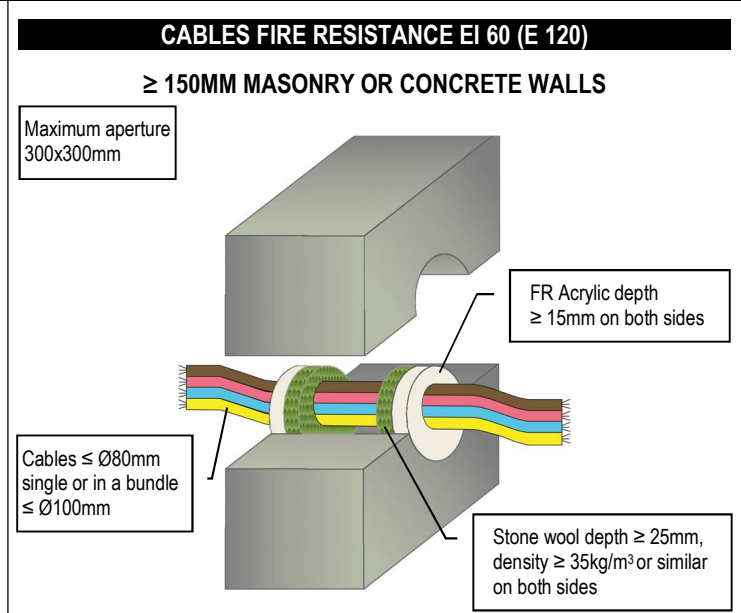
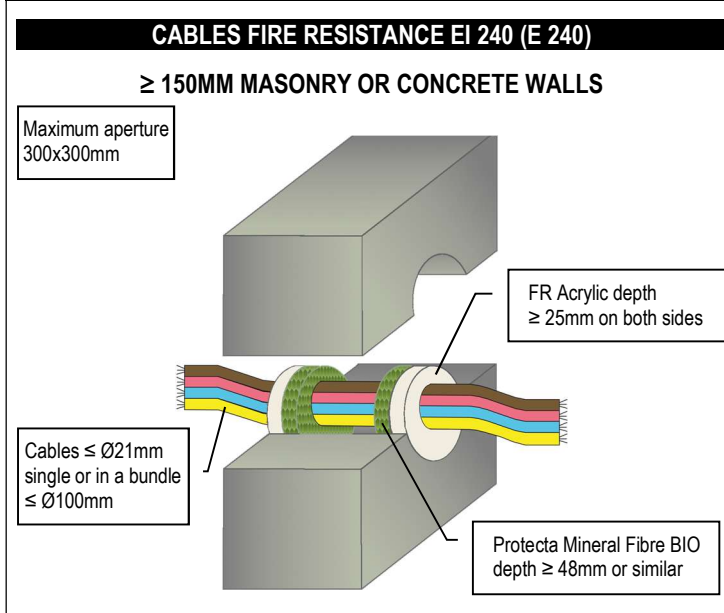
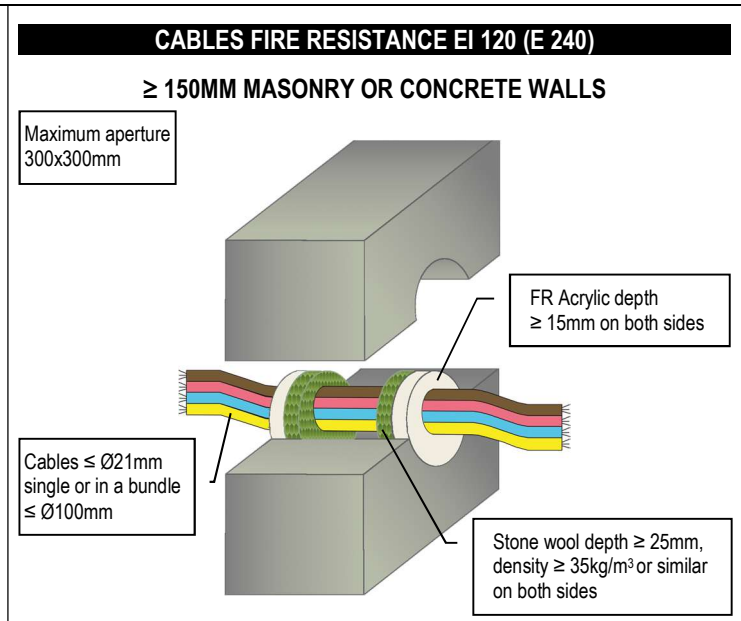
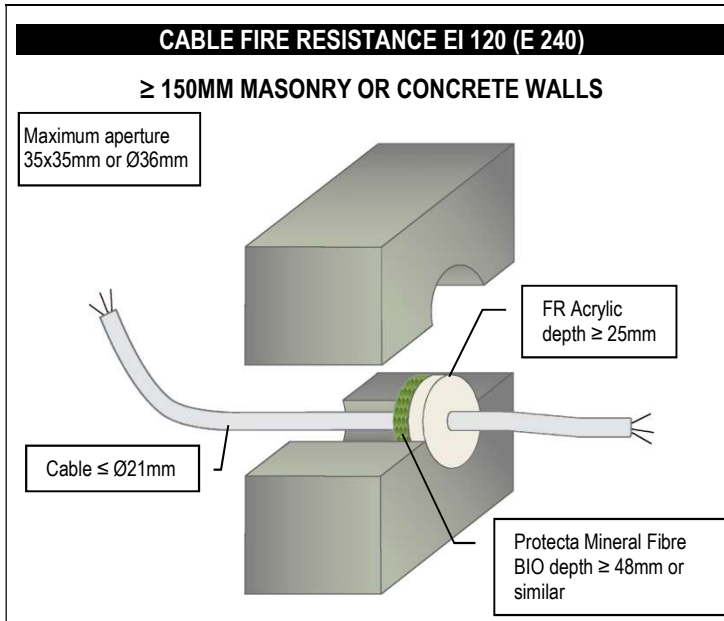
FR Acrylic depth $\geq 25\text{mm}$ on both sides

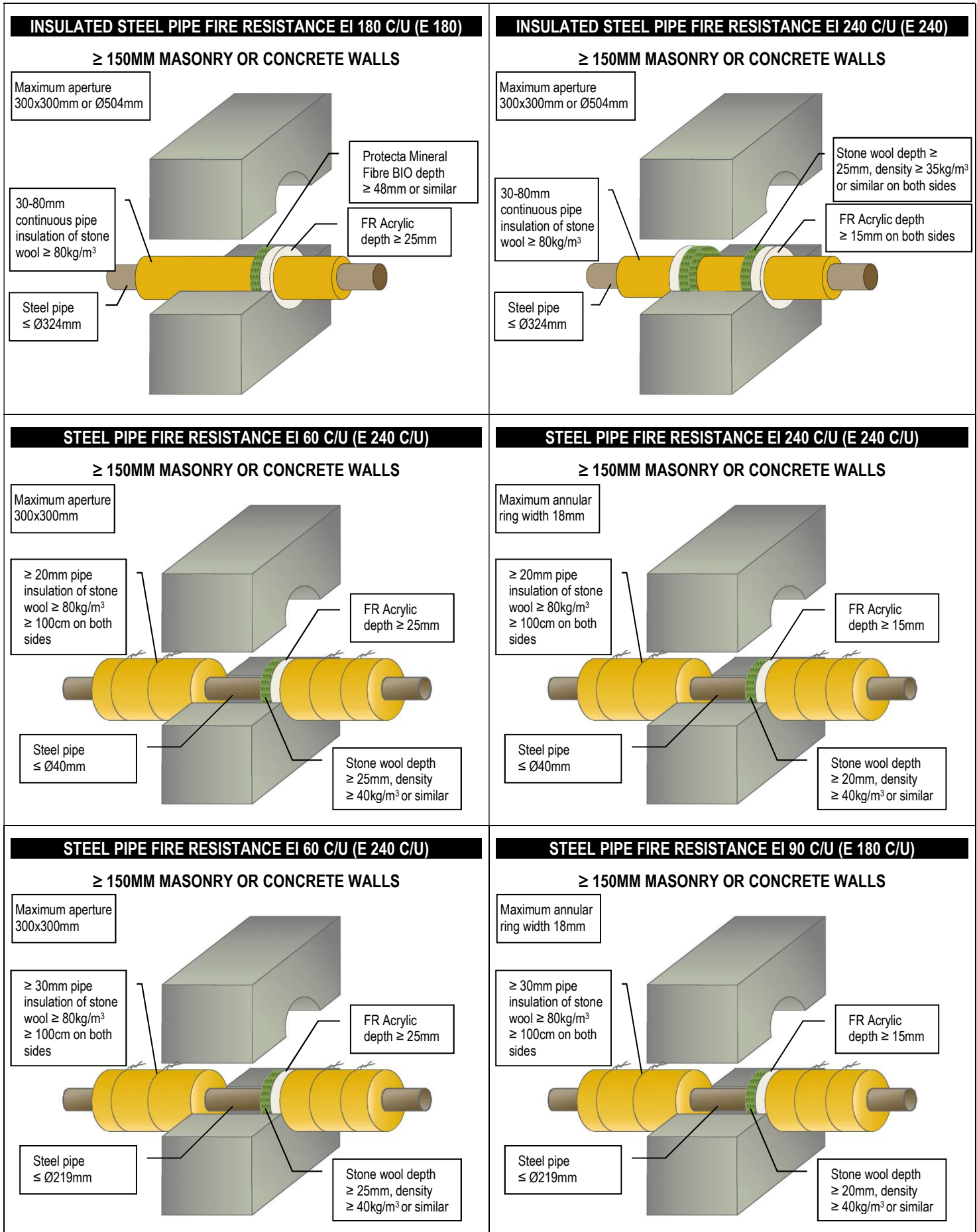


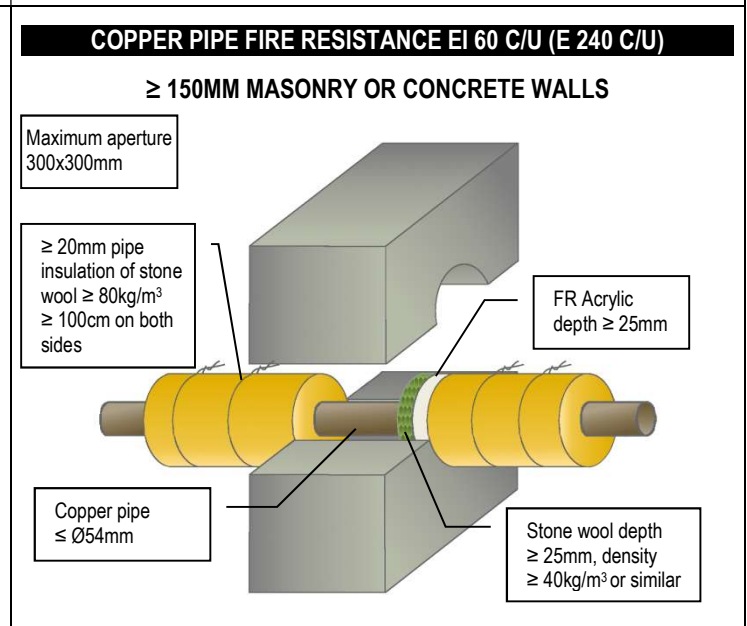
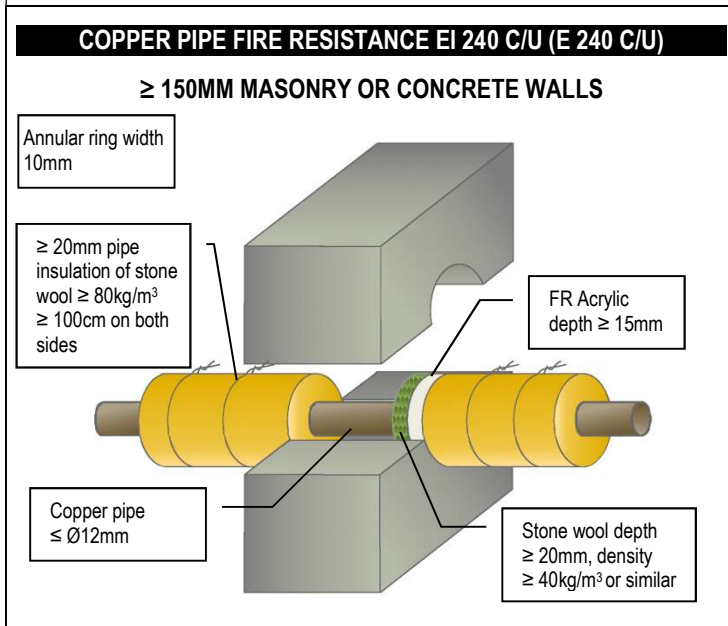
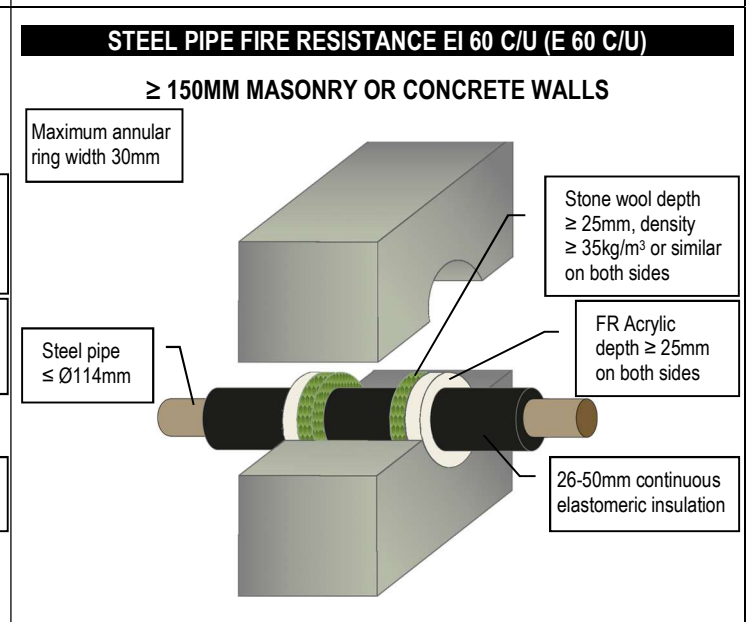
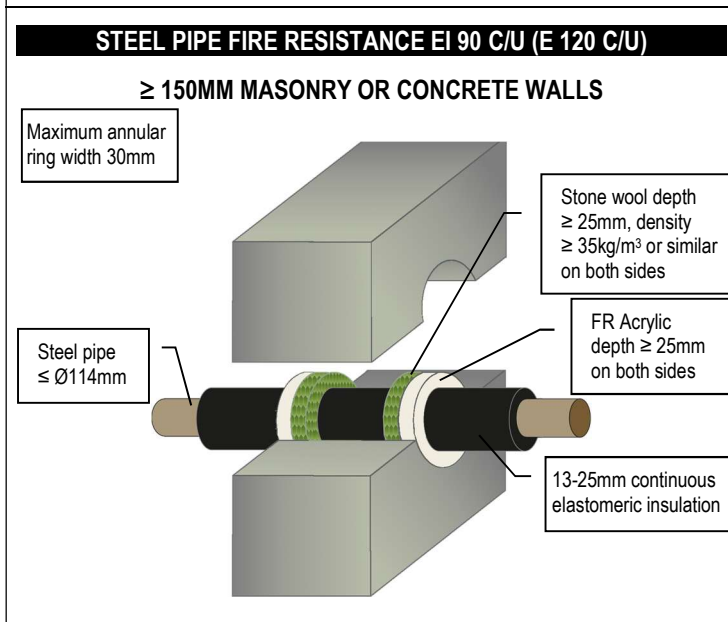
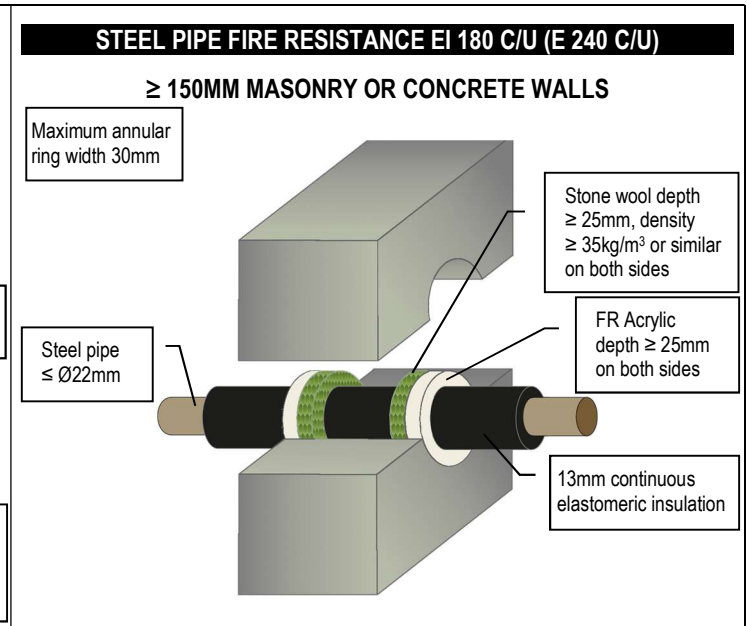
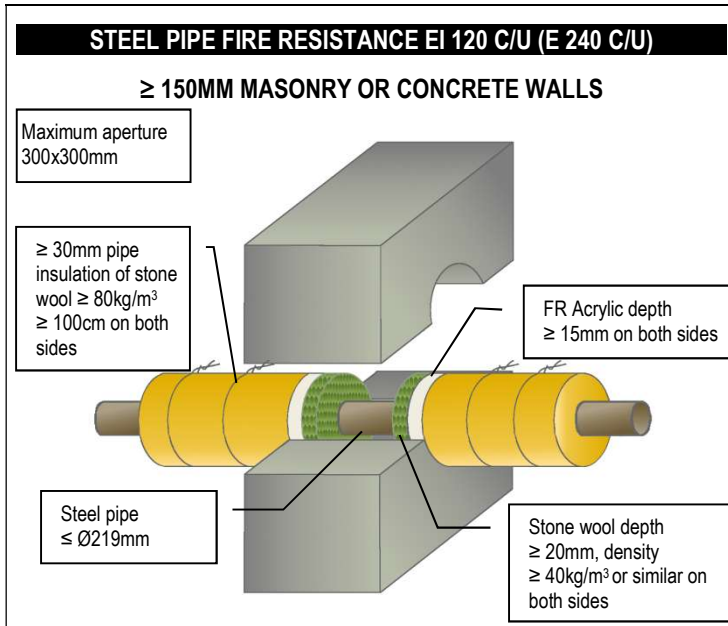
Stone wool depth $\geq 25\text{mm}$, density $\geq 33\text{kg/m}^3$ or similar on both sides

<p>PP PLASTIC PIPE FIRE RESISTANCE EI 90 U/C (E 90 U/C)</p> <p>RIGID FLOORS</p> <p>Maximum annular ring width 30mm</p> <p>PP pipe ≤ Ø75mm with wall thickness 1.2-6.8mm</p> <p>FR Acrylic depth ≥ 25mm on both sides</p> <p>Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides</p>	<p>PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 90 C/C (E 90)</p> <p>RIGID FLOORS</p> <p>Maximum annular ring width 30mm</p> <p>PEX pipe ≤ Ø25mm</p> <p>FR Acrylic depth ≥ 25mm top face</p> <p>Protecta Mineral Fibre BIO depth ≥ 48mm or similar</p>
<p>PVC CONDUIT FIRE RESISTANCE EI 240 U/C (E 240 U/C)</p> <p>RIGID FLOORS</p> <p>Maximum annular ring width 30mm</p> <p>PVC-U & PVC-C pipe ≤ Ø40mm with wall thickness 1.6-3.7mm</p> <p>FR Acrylic depth ≥ 25mm on both sides</p> <p>Cables ≤ Ø21mm single or in a bundle</p> <p>Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides</p>	<p>PE CONDUIT FIRE RESISTANCE EI 180 U/C (E 180 U/C)</p> <p>RIGID FLOORS</p> <p>Maximum annular ring width 30mm</p> <p>PE, ABS & SAN+PVC pipe ≤ Ø40mm with wall thickness 2.0-2.4mm</p> <p>FR Acrylic depth ≥ 25mm on both sides</p> <p>Cables ≤ Ø21mm single or in a bundle</p> <p>Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides</p>
<p>PP CONDUIT FIRE RESISTANCE EI 180 U/C (E 180 U/C)</p> <p>RIGID FLOORS</p> <p>Maximum annular ring width 30mm</p> <p>PP pipe ≤ Ø40mm with wall thickness 1.2-1.8mm</p> <p>FR Acrylic depth ≥ 25mm on both sides</p> <p>Cables ≤ Ø21mm single or in a bundle</p> <p>Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides</p>	<p>HORIZONTAL LINEAR SEALS FIRE RESISTANCE EI 60 (E 240)</p> <p>IN ≥ 150MM RIGID WALLS OR BETWEEN WALLS AND FLOORS</p> <p>Maximum seal width 30mm</p> <p>Stone wool depth ≥ 20mm, density ≥ 40kg/m³ or similar</p> <p>FR Acrylic depth ≥ 25mm</p>

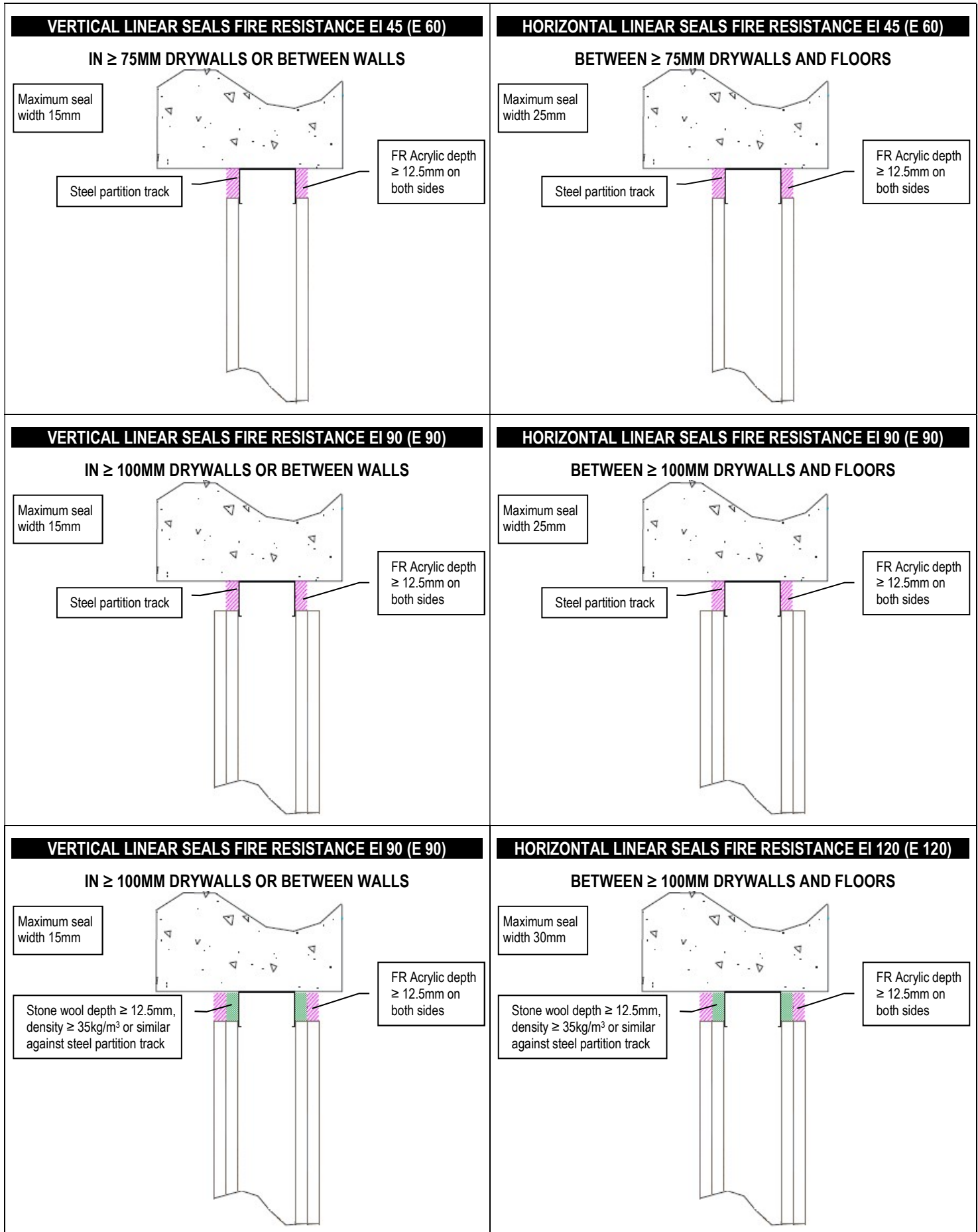


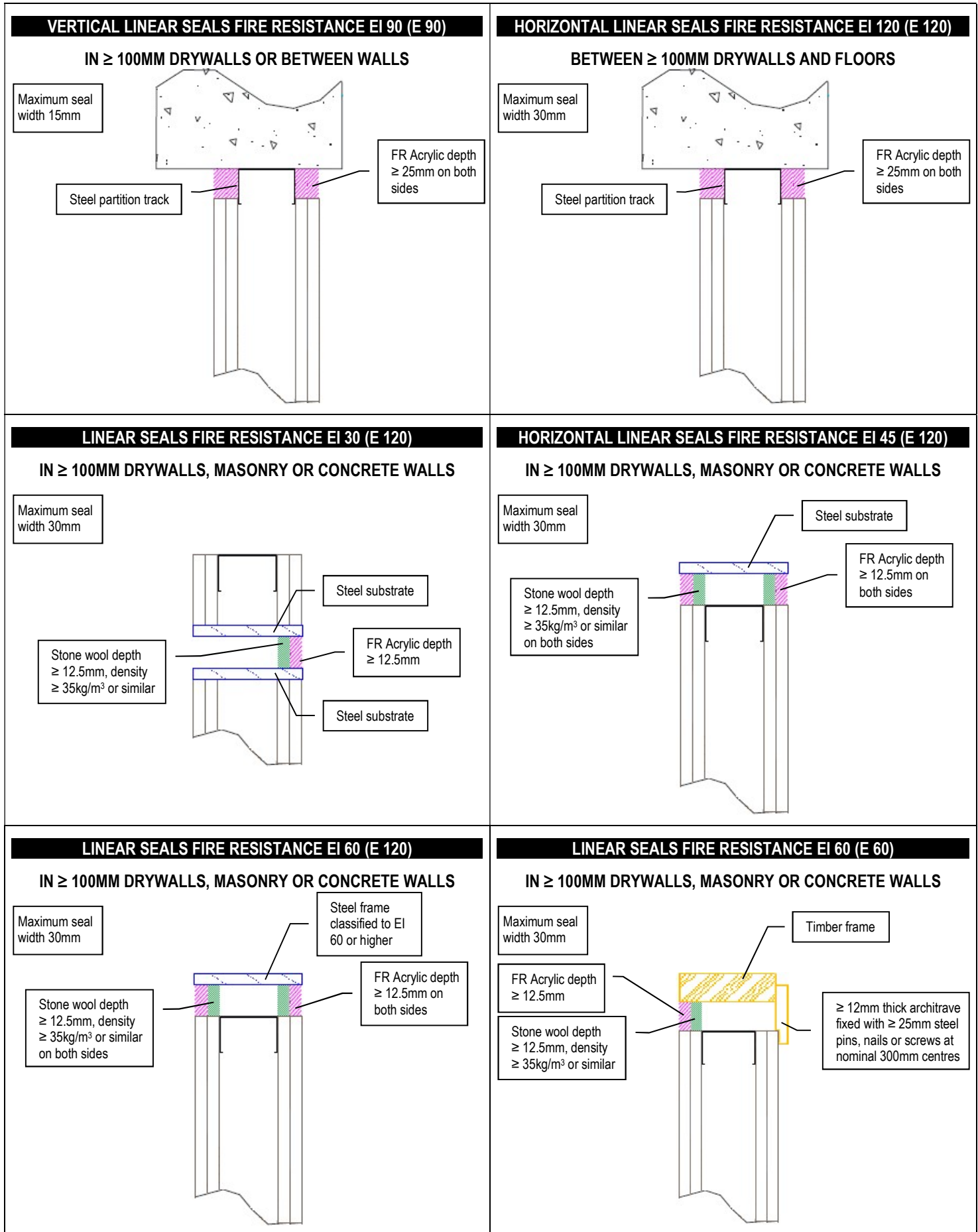


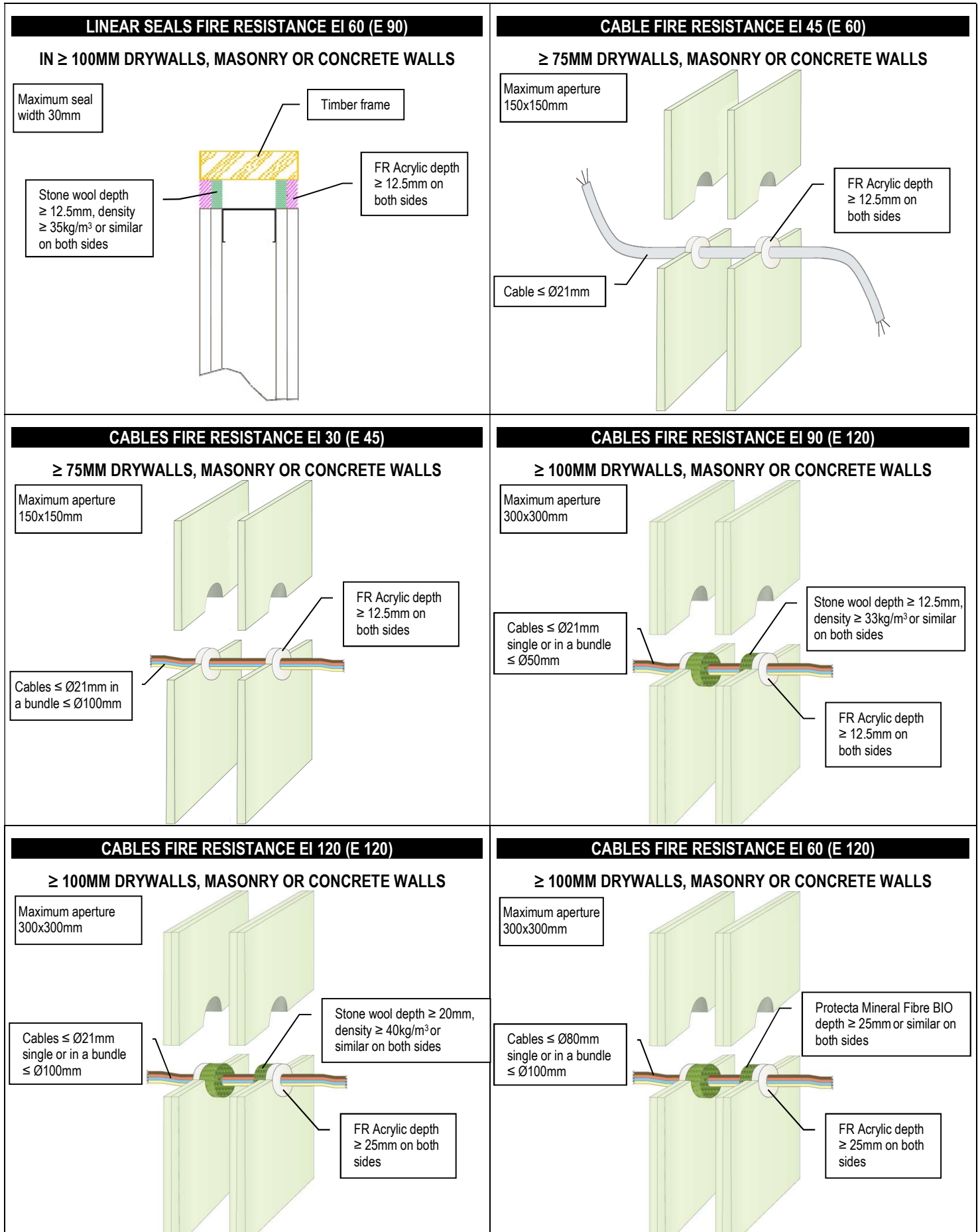


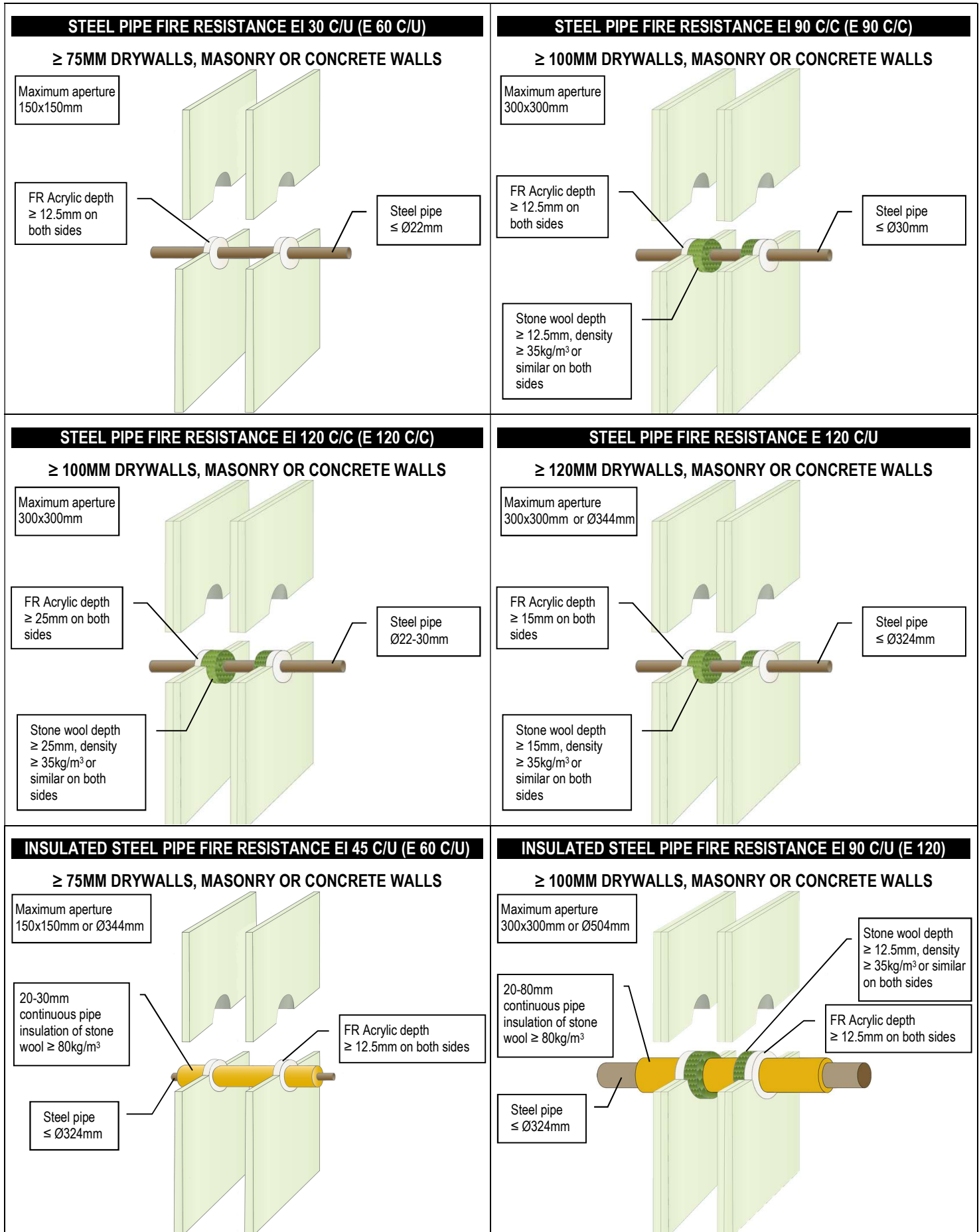


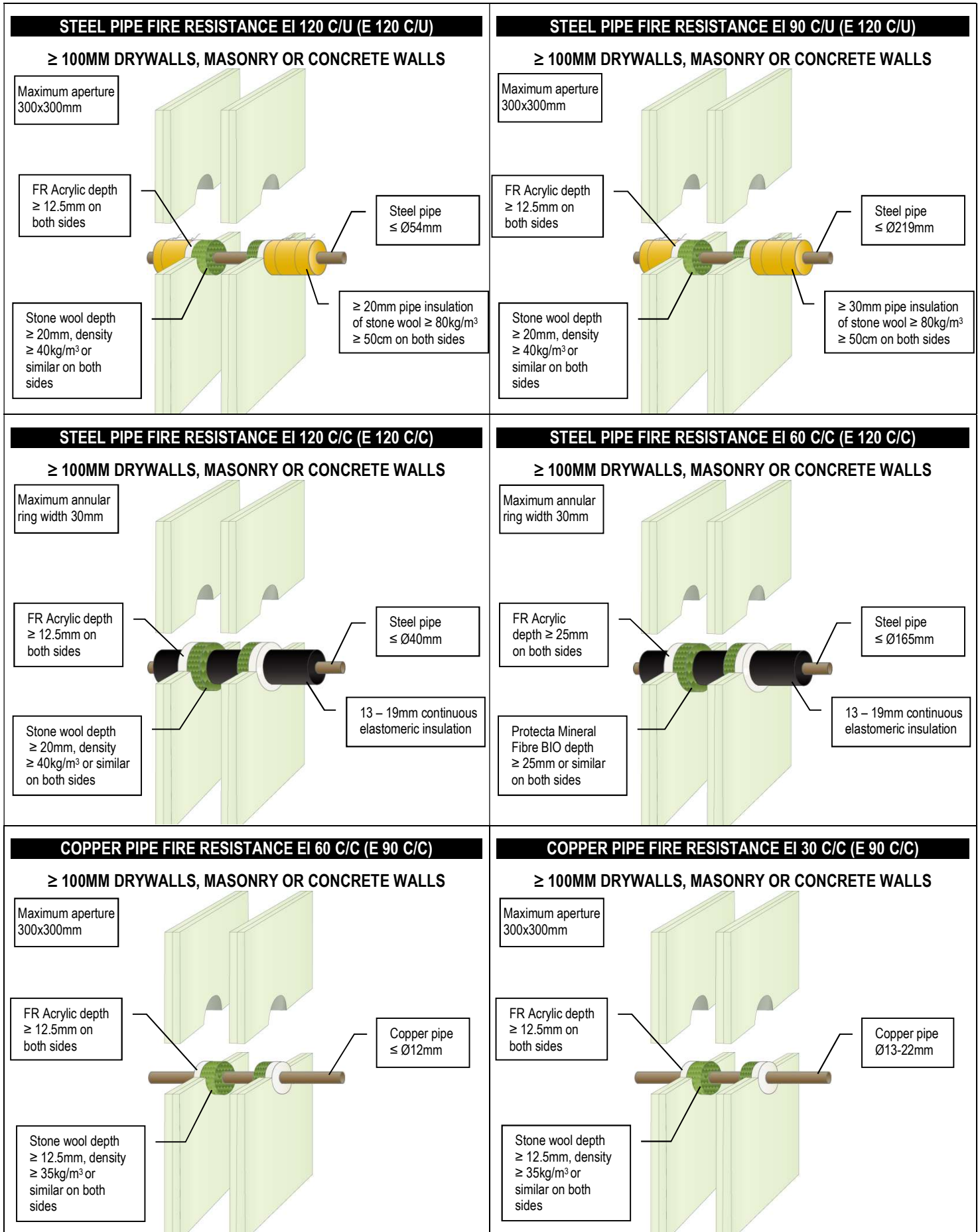
<p>COPPER PIPE FIRE RESISTANCE EI 180 C/U (E 240 C/U)</p> <p>≥ 150MM MASONRY OR CONCRETE WALLS</p> <p>Annular ring width 10mm</p> <p>≥ 20mm pipe insulation of stone wool ≥ 80kg/m³ ≥ 100cm on both sides</p> <p>FR Acrylic depth ≥ 15mm</p> <p>Copper pipe ≤ Ø54mm</p> <p>Stone wool depth ≥ 20mm, density ≥ 40kg/m³ or similar</p>	<p>ALUPEX PIPE FIRE RESISTANCE EI 60 C/U (E 240 C/U)</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>FR Acrylic depth ≥ 25mm</p> <p>Alupex composite pipe ≤ Ø75mm</p> <p>Stone wool depth ≥ 25mm, density ≥ 40kg/m³ or similar</p>
<p>ALUPEX PIPE FIRE RESISTANCE EI 120 C/U (E 120 C/U)</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>FR Acrylic depth ≥ 15mm</p> <p>Alupex composite pipe ≤ Ø75mm</p> <p>Stone wool depth ≥ 20mm, density ≥ 40kg/m³ or similar</p>	<p>PVC PLASTIC PIPE FIRE RESISTANCE EI 240 U/C (E 240 U/C)</p> <p>≥ 150MM MASONRY OR CONCRETE WALLS</p> <p>Maximum annular ring width 30mm</p> <p>Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides</p> <p>PVC-U & PVC-C pipe ≤ Ø32mm with wall thickness 1.0-1.6mm</p> <p>FR Acrylic depth ≥ 25mm on both sides</p>
<p>PE PLASTIC PIPE FIRE RESISTANCE EI 240 C/U (E 240 C/U)</p> <p>≥ 150MM MASONRY OR CONCRETE WALLS</p> <p>Maximum annular ring width 30mm</p> <p>Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides</p> <p>PE, ABS & SAN+PVC pipe ≤ Ø32mm with wall thickness 2.0mm</p> <p>FR Acrylic depth ≥ 25mm on both sides</p>	<p>PP PLASTIC PIPE FIRE RESISTANCE EI 180 C/U (E 180 C/U)</p> <p>≥ 150MM MASONRY OR CONCRETE WALLS</p> <p>Maximum annular ring width 30mm</p> <p>Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides</p> <p>PP pipe Ø32mm with wall thickness 2.0-4.4mm</p> <p>FR Acrylic depth ≥ 25mm on both sides</p>

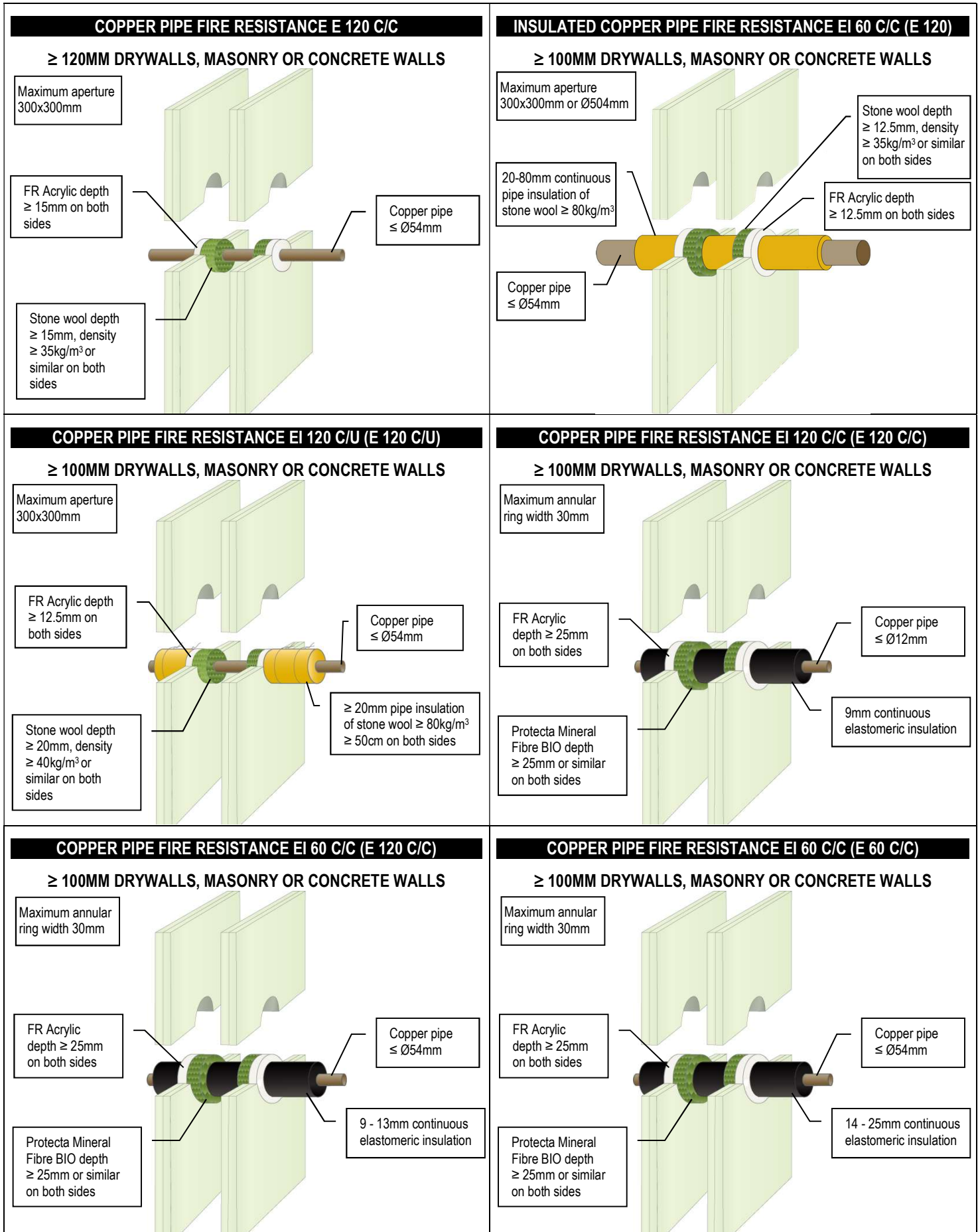


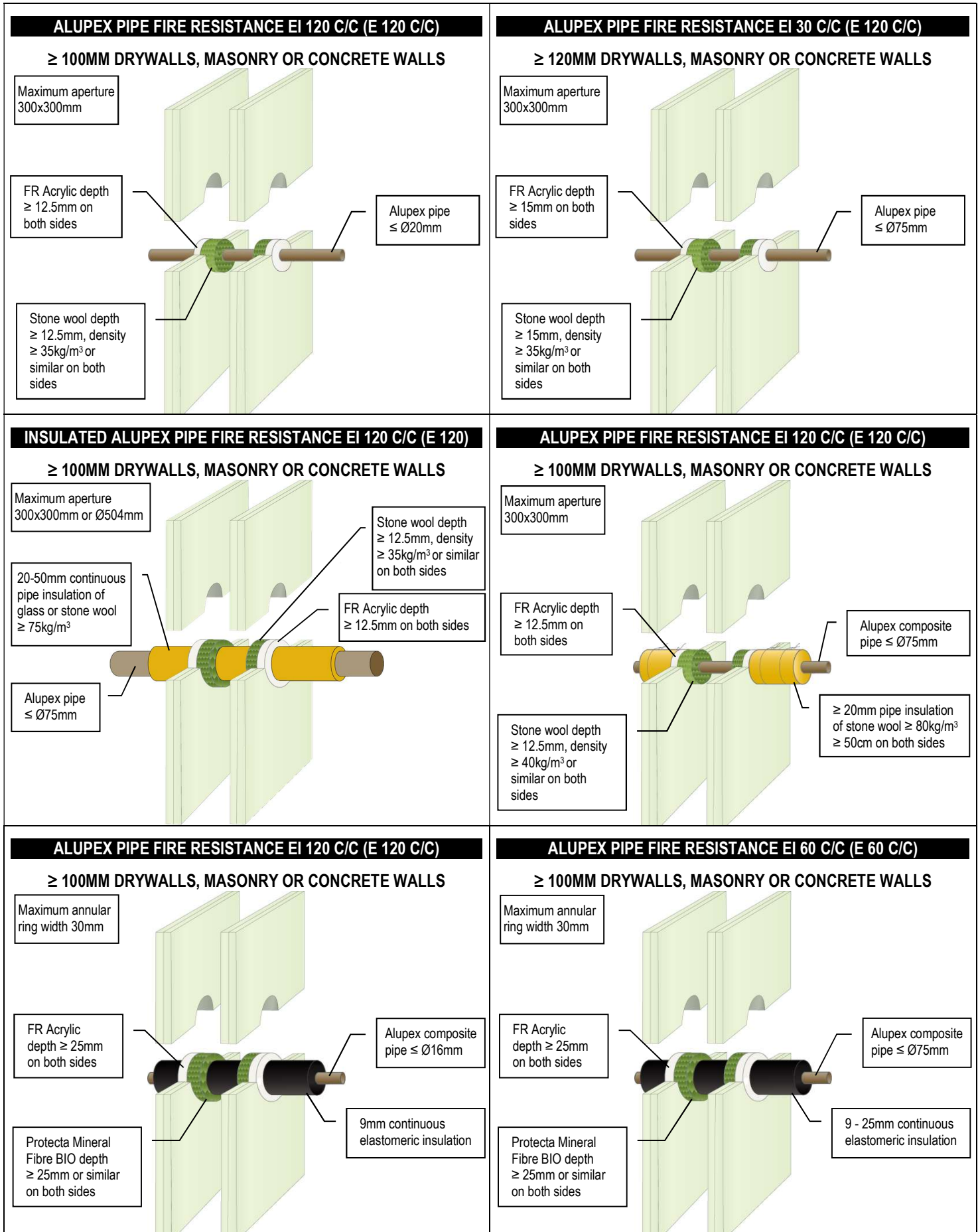


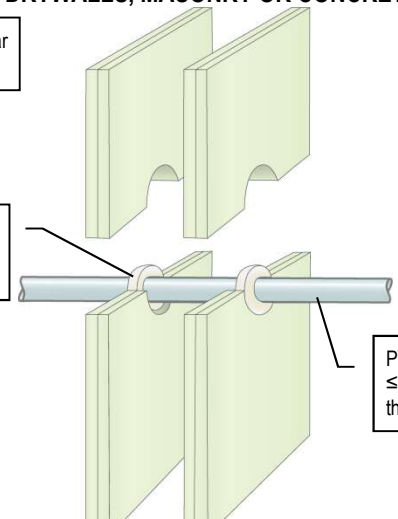
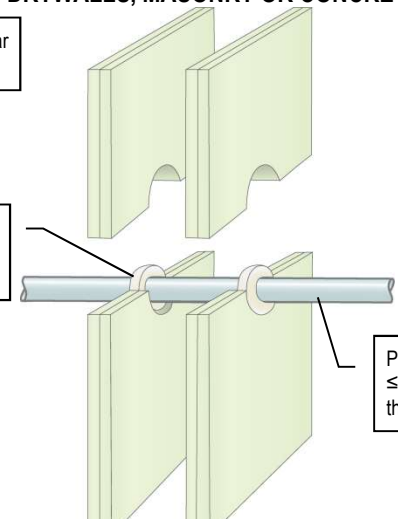
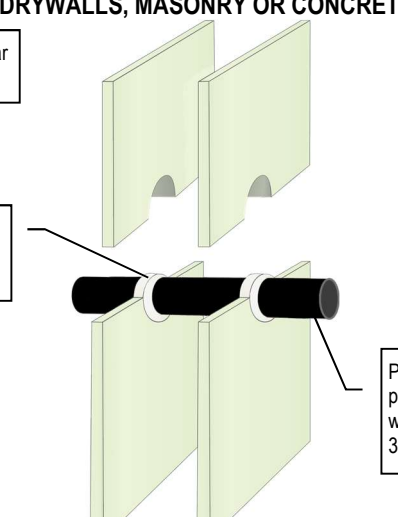
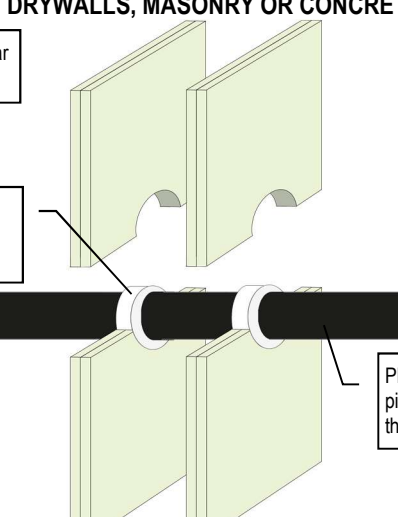
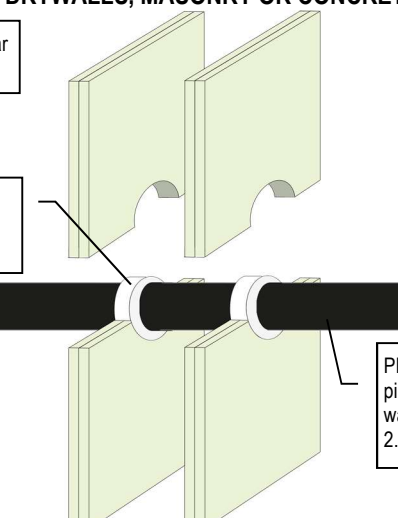










<p>PVC PLASTIC PIPE FIRE RESISTANCE EI 90 U/C (E 120 U/C)</p> <p>≥ 100MM DRYWALLS, MASONRY OR CONCRETE WALLS</p> <p>Maximum annular ring width 30mm</p> <p>FR Acrylic depth ≥ 25mm on both sides</p> <p>PVC-U & PVC-C pipe ≤ Ø32mm with wall thickness 1.0-2.4mm</p> 	<p>PVC PLASTIC PIPE FIRE RESISTANCE EI 120 C/C (E 120 C/C)</p> <p>≥ 100MM DRYWALLS, MASONRY OR CONCRETE WALLS</p> <p>Maximum annular ring width 30mm</p> <p>FR Acrylic depth ≥ 25mm on both sides</p> <p>PVC-U & PVC-C pipe ≤ Ø32mm with wall thickness 1.0-1.6mm</p> 
<p>PE PLASTIC PIPE FIRE RESISTANCE EI 30 U/C (E 30 U/C)</p> <p>≥ 75MM DRYWALLS, MASONRY OR CONCRETE WALLS</p> <p>Maximum annular ring width 30mm</p> <p>FR Acrylic depth ≥ 12.5mm on both sides</p> <p>PE, ABS & SAN+PVC pipe ≤ Ø32mm with wall thickness 2.0-3.0mm</p> 	<p>PE PLASTIC PIPE FIRE RESISTANCE EI 120 U/C (E 120 U/C)</p> <p>≥ 100MM DRYWALLS, MASONRY OR CONCRETE WALLS</p> <p>Maximum annular ring width 30mm</p> <p>FR Acrylic depth ≥ 25mm on both sides</p> <p>PE, ABS & SAN+PVC pipe Ø20mm with wall thickness 2.0mm</p> 
<p>PE PLASTIC PIPE FIRE RESISTANCE EI 90 C/C (E 90 C/C)</p> <p>≥ 100MM DRYWALLS, MASONRY OR CONCRETE WALLS</p> <p>Maximum annular ring width 30mm</p> <p>FR Acrylic depth ≥ 25mm on both sides</p> <p>PE, ABS & SAN+PVC pipe ≤ Ø32mm with wall thickness 2.0-3.0mm</p> 	<p>PP PLASTIC PIPE FIRE RESISTANCE EI 30 U/C (E 30 U/C)</p> <p>≥ 75MM DRYWALLS, MASONRY OR CONCRETE WALLS</p> <p>Maximum annular ring width 30mm</p> <p>FR Acrylic depth ≥ 12.5mm on both sides</p> <p>PP pipe ≤ Ø32mm with wall thickness 2.3-4.4mm</p> 