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Please refer to Protecta® FR Damper for guidance on fire sealing ventilation ducts.

## GENERAL PRODUCT DESCRIPTION

Protecta® FR Board has been designed to maintain the fire resistance of separating walls and floors where they are breached by single or multiple building services. The board consists of a stone wool core, sealed with Protecta® FR Coating on 1 or both faces.

Selection of the board coated on 1 or both faces is determined by installation considerations and fire resistance requirements. When installed on site, Protecta® FR Board should be used with Protecta® FR Acrylic for sealing around service penetrations and the adjacent separating construction.

## GENERAL GUIDE

**Minimum separations and limitations:** Services can be sealed as specified in the detailed drawings. An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

**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/m<sup>3</sup>. Rigid floors must have a minimum thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650 kg/m<sup>3</sup>. 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.

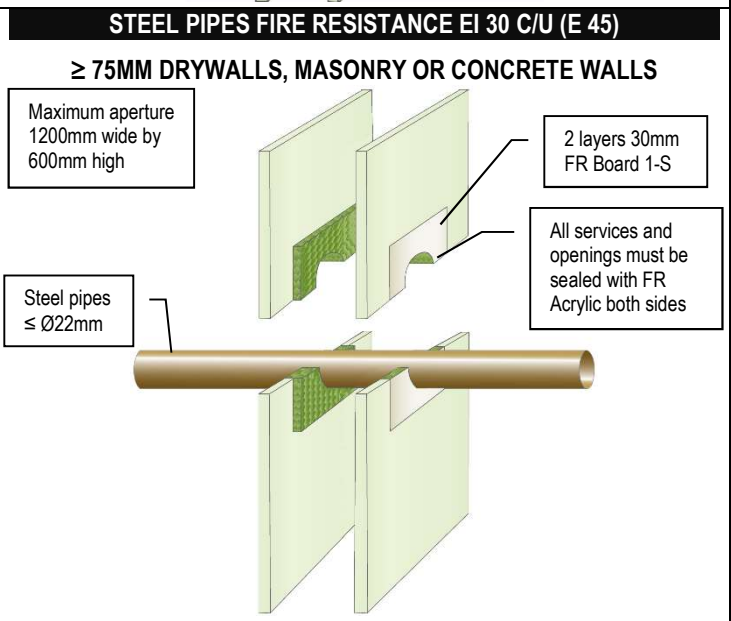
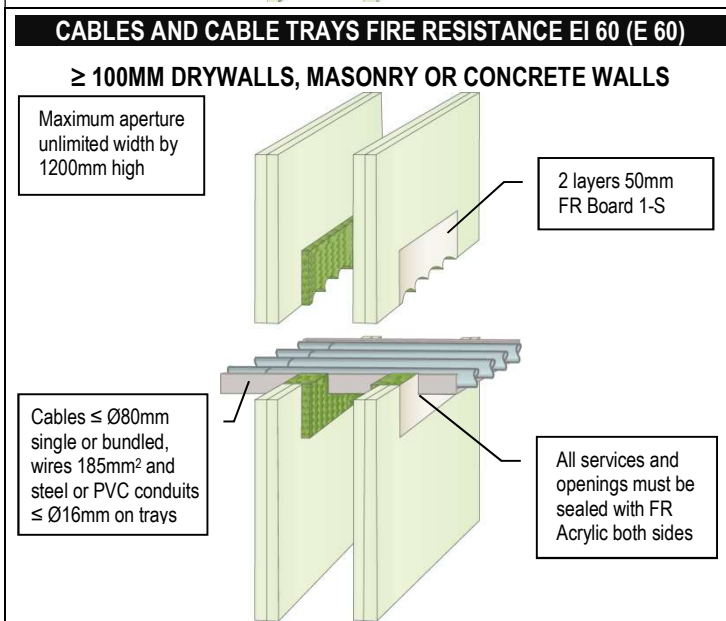
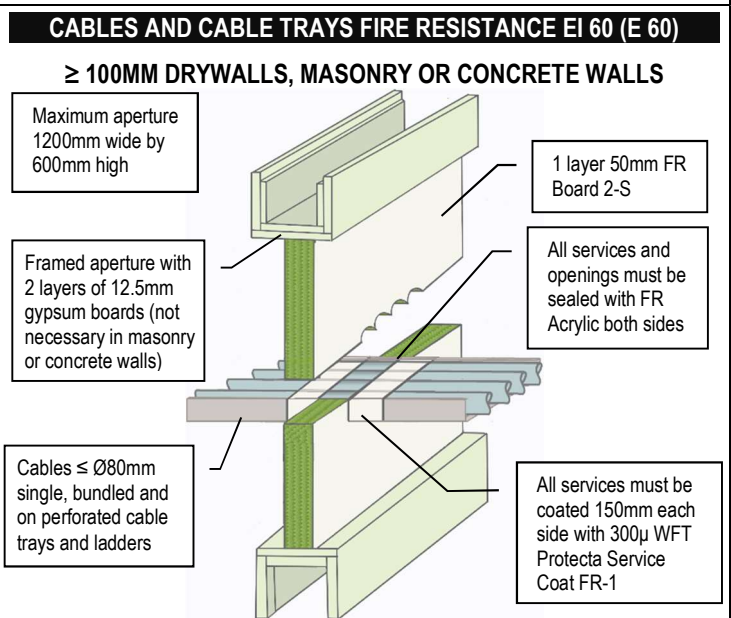
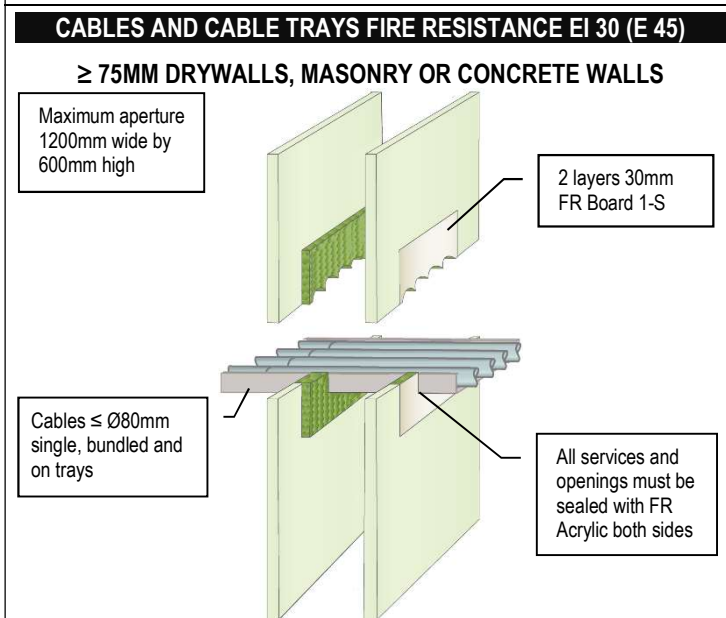
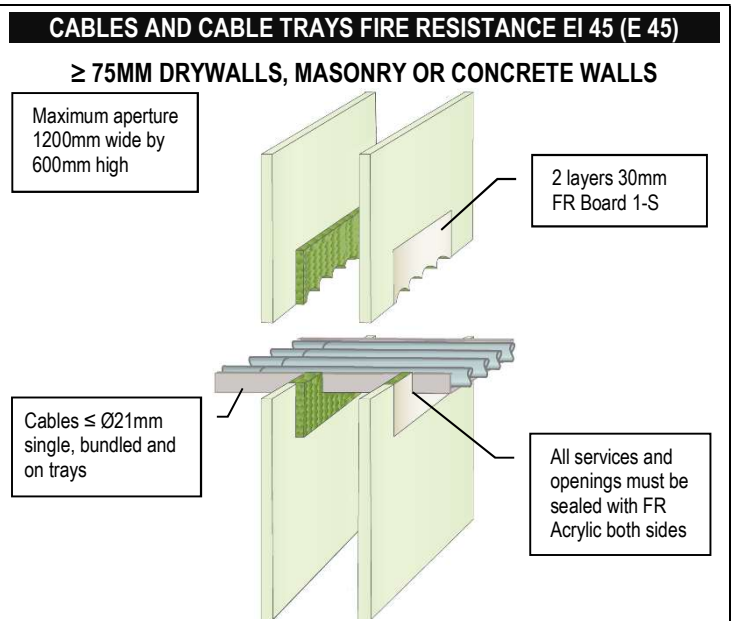
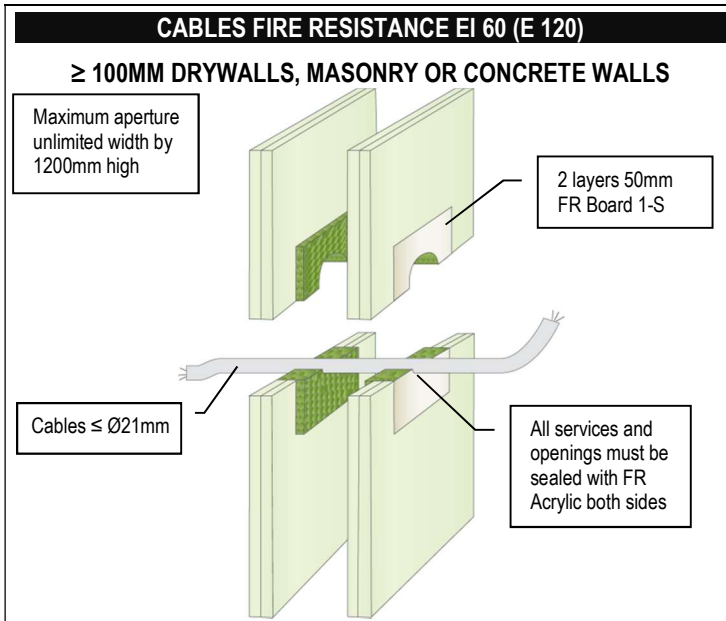


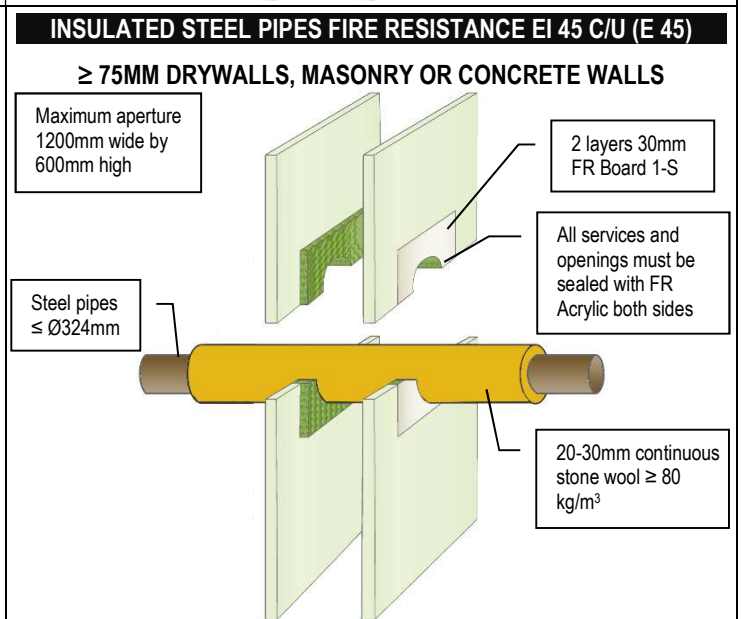
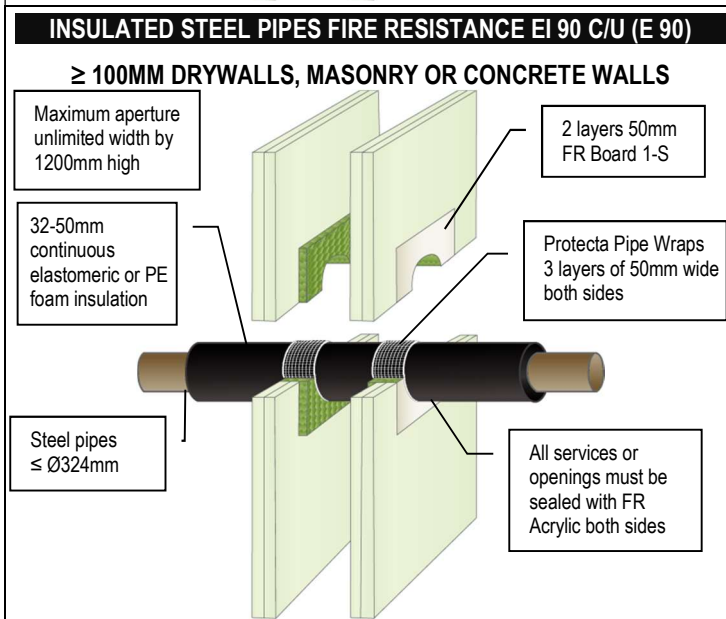
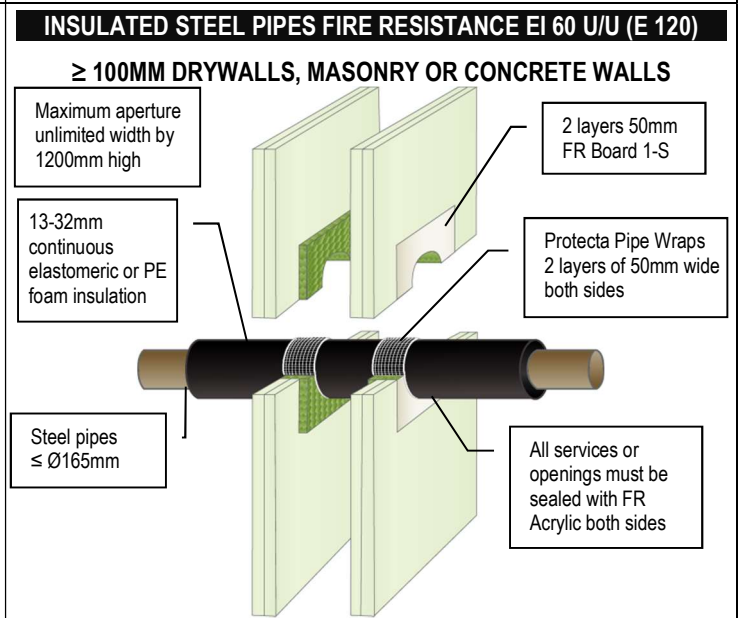
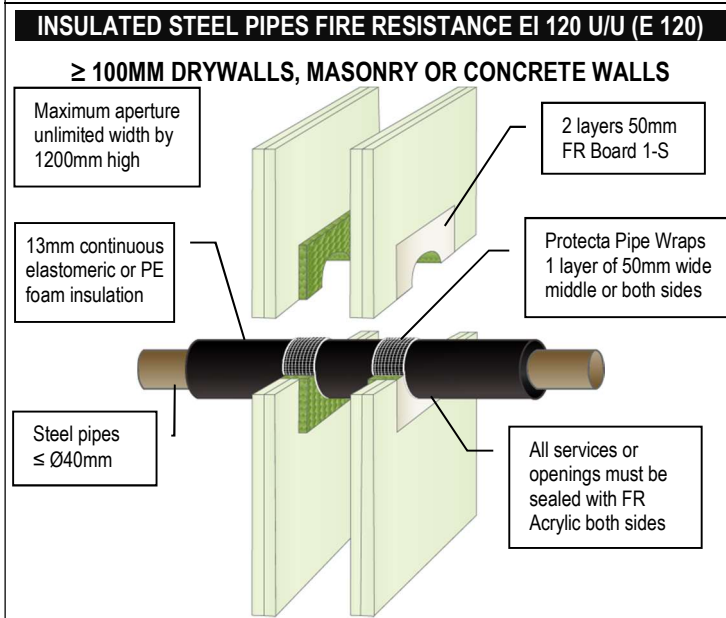
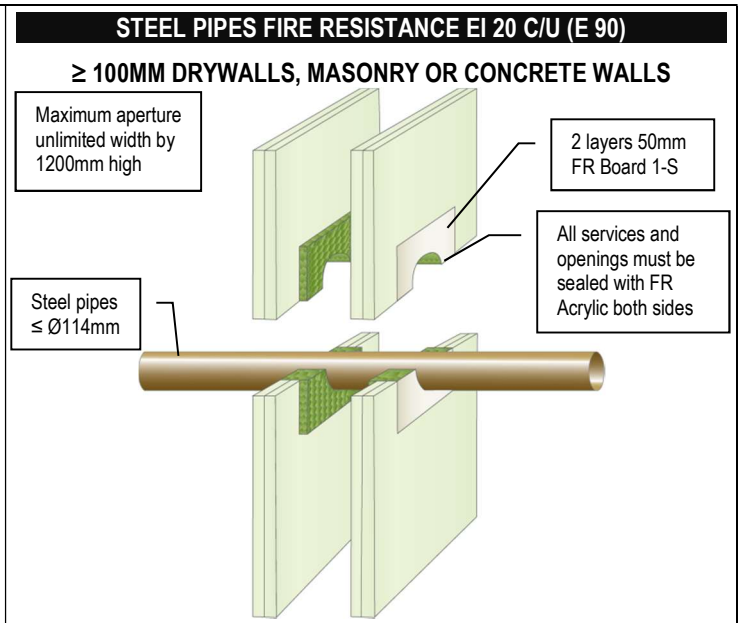
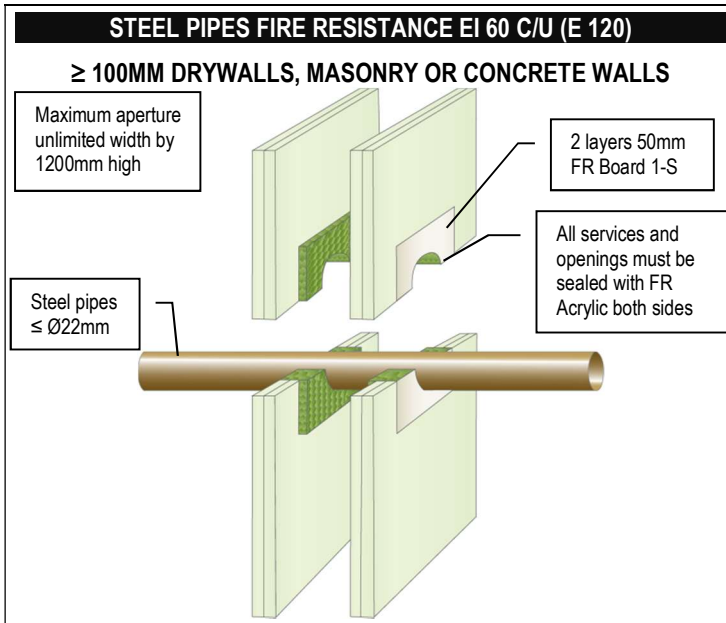
## INSTALLATION

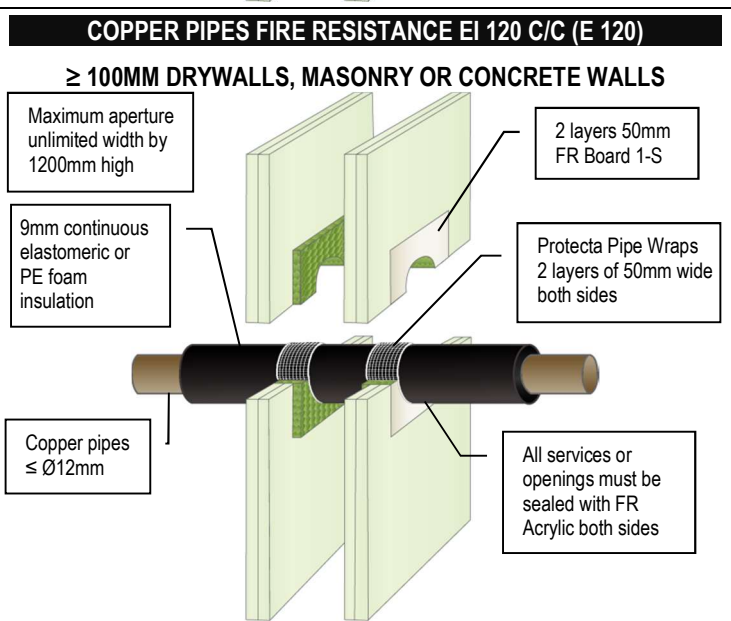
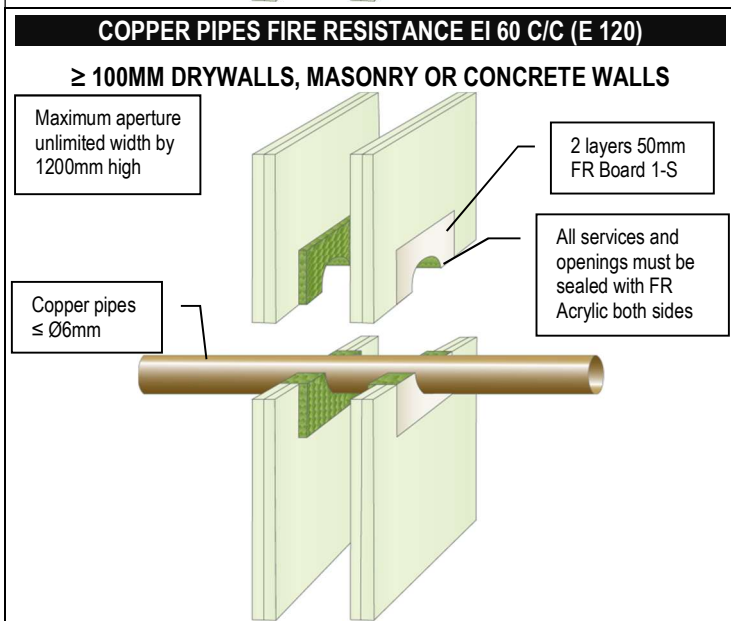
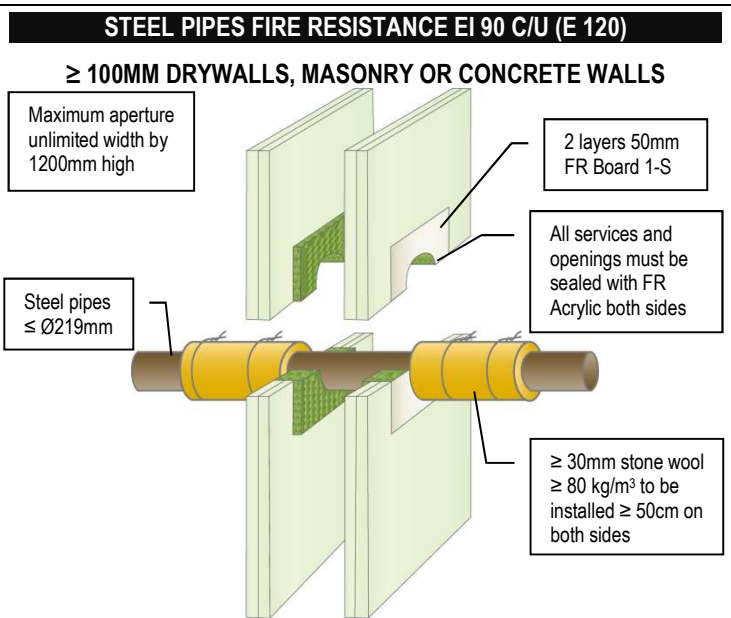
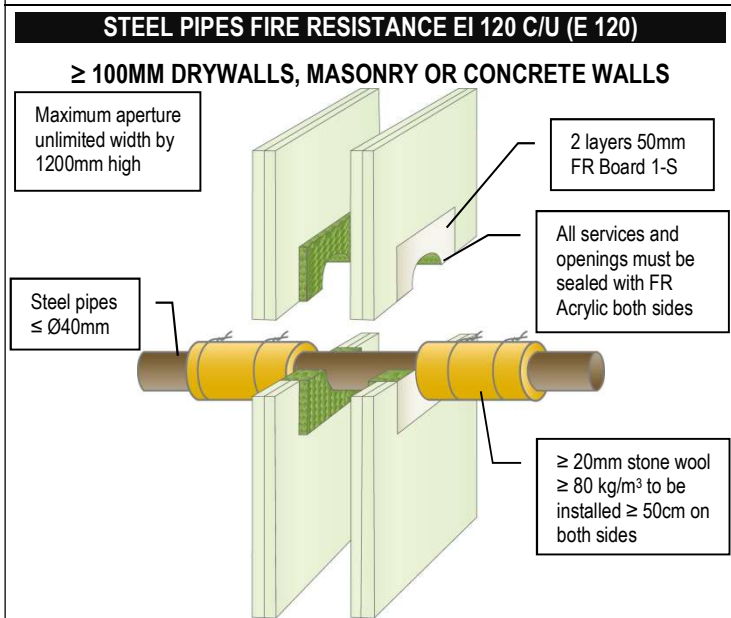
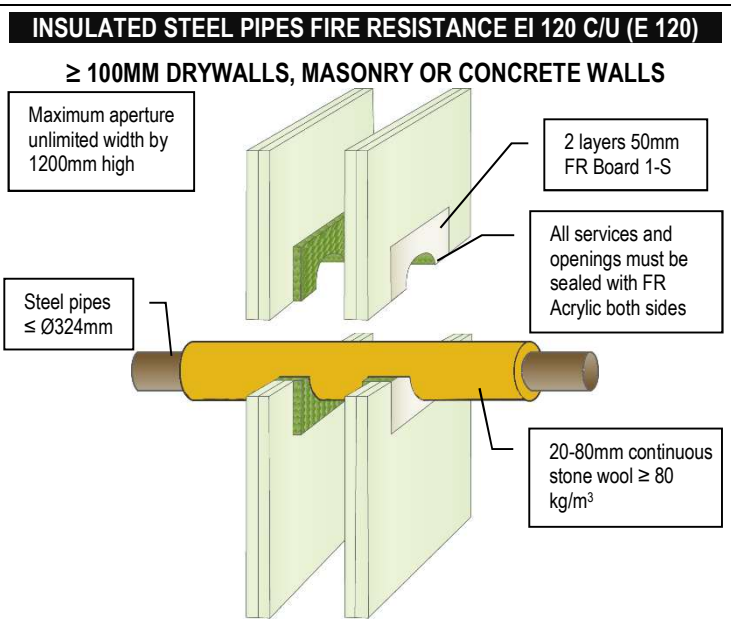
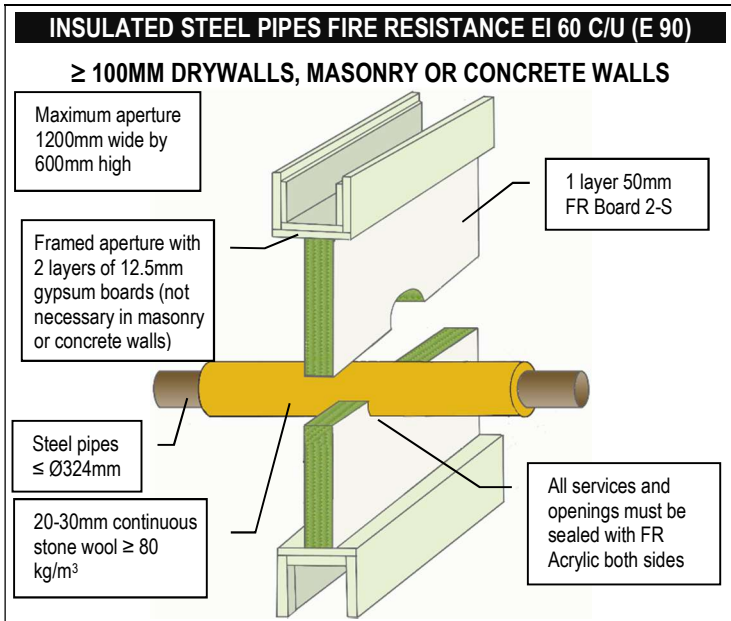
1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
2. Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
3. Select the type and number of boards to meet the required fire classification using the drawings on pages 2-20.
4. When fitting boards into drywalls the coated side of the board should be flush with the surface of the wall on both sides. In seals wider than 2400mm, uninterrupted separating studs will be required at 2400mm centers or less.
5. When fitting double layer 60mm thick boards in masonry or concrete constructions, the boards should be flush with the surface of the construction on both sides to maximize the fire resistance. If this is not possible, there should be an air gap of at least 30mm between the boards.
6. When fitting single layer boards in masonry or concrete constructions, the board can be positioned to either side of the construction or anywhere in between.
7. When installing Protecta® FR Board in hollow floor slabs or boards, fire seals specified as single layer boards 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.
8. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
9. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
10. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.

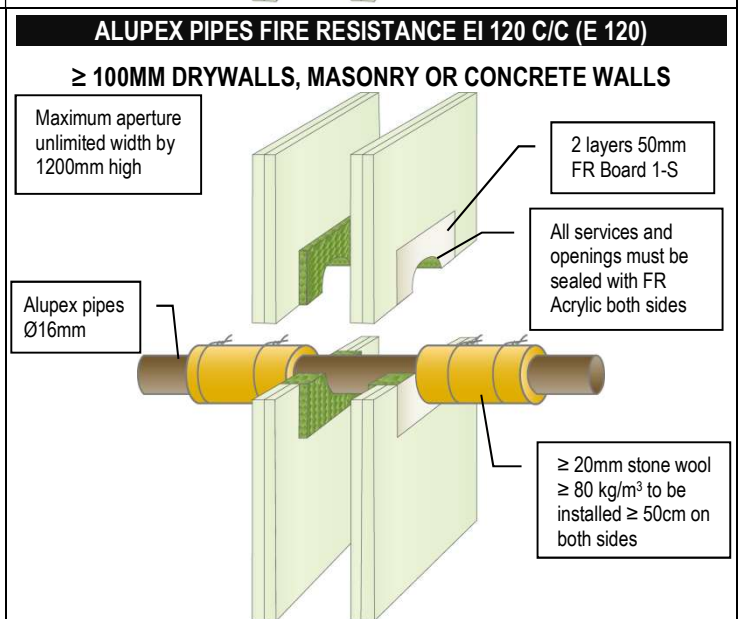
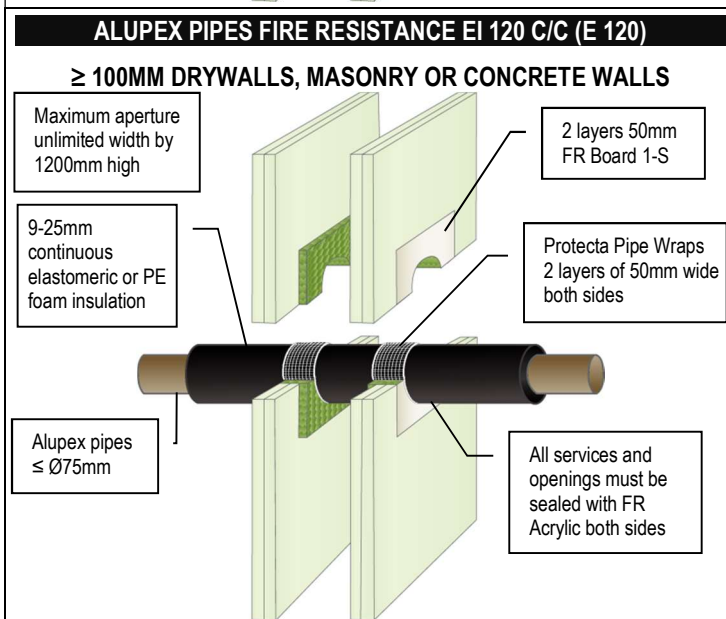
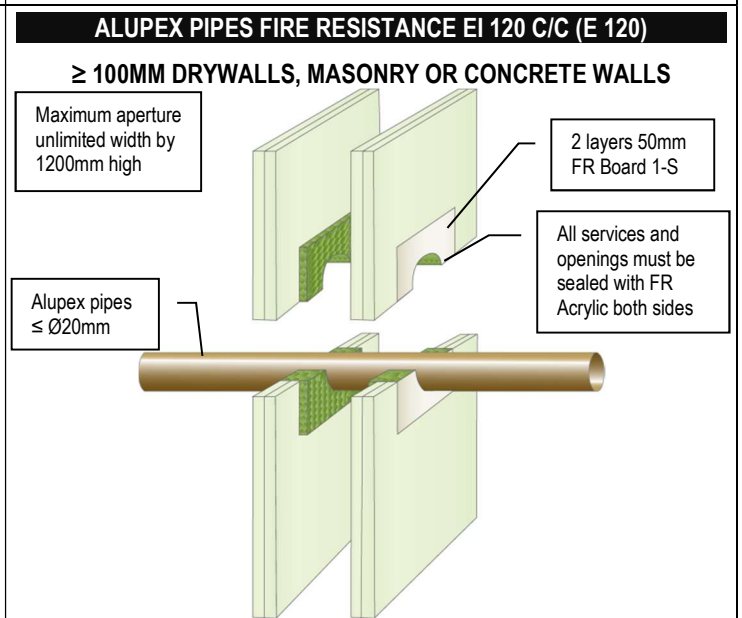
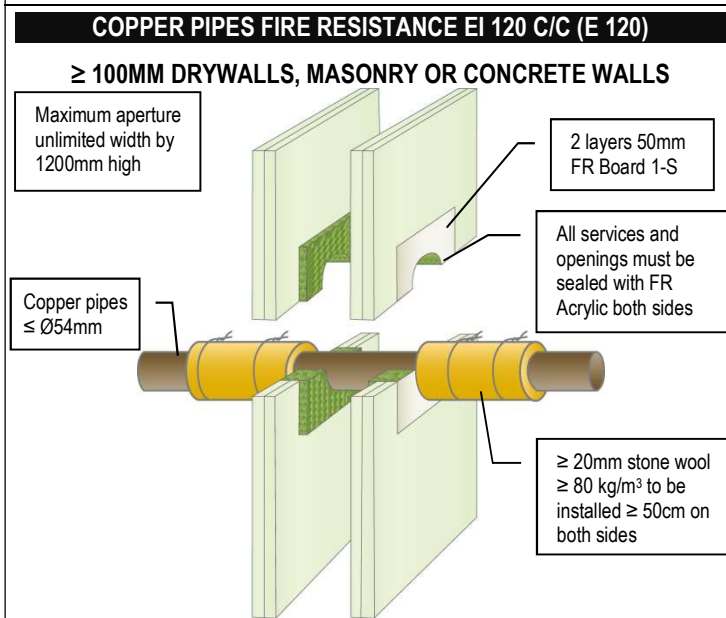
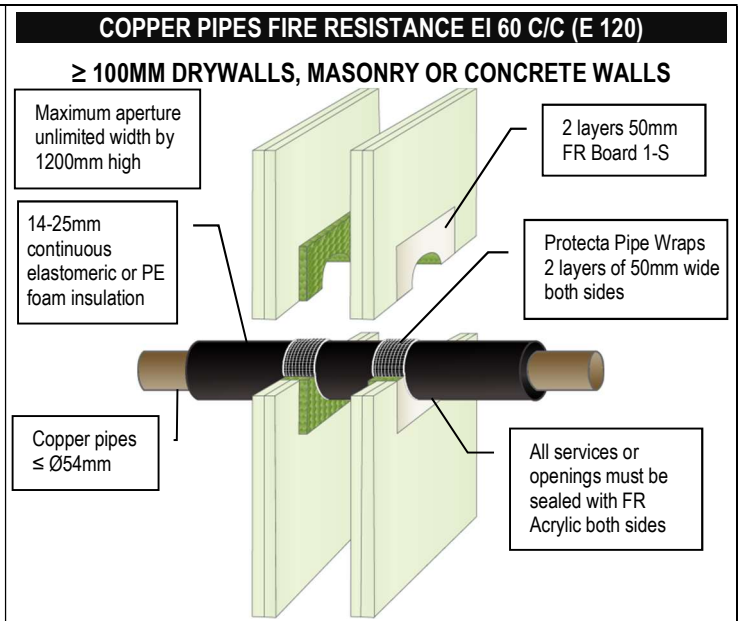
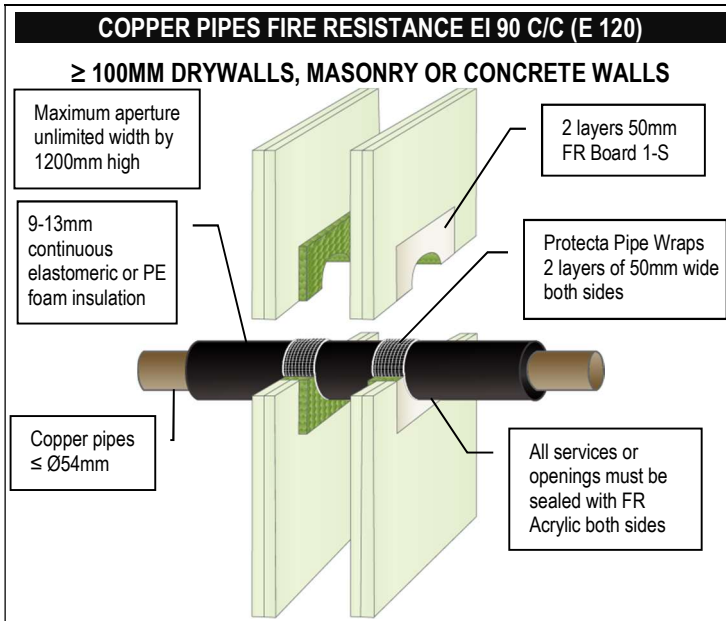
## TEST STANDARDS

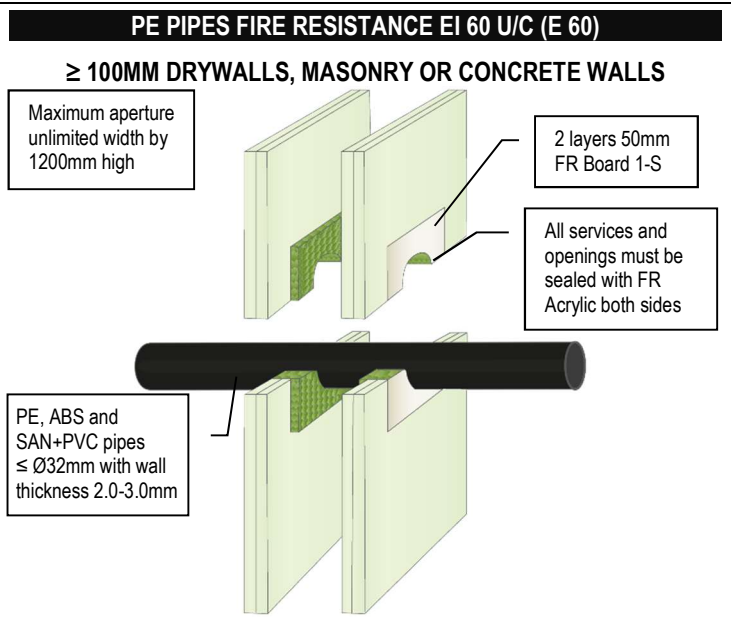
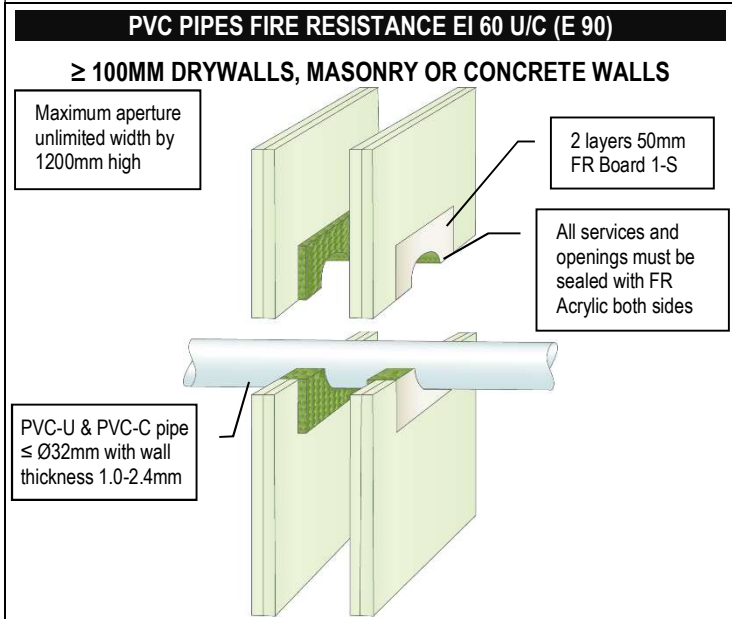
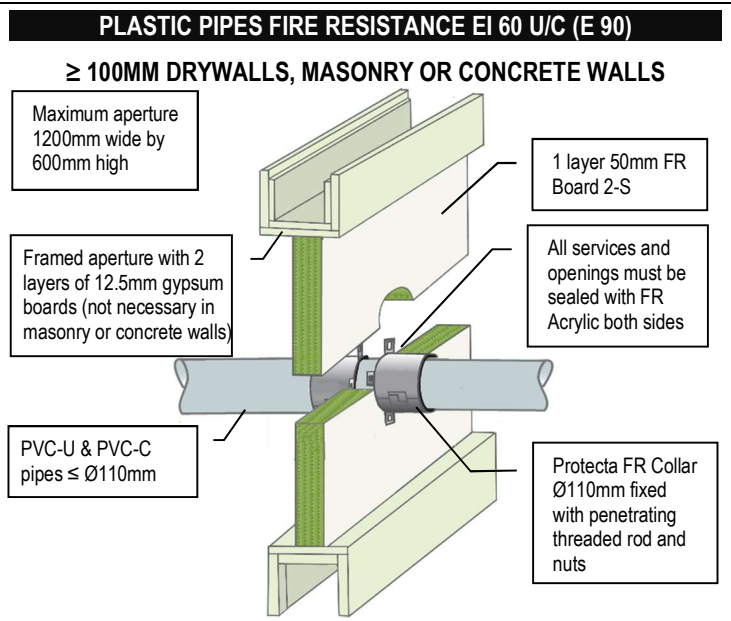
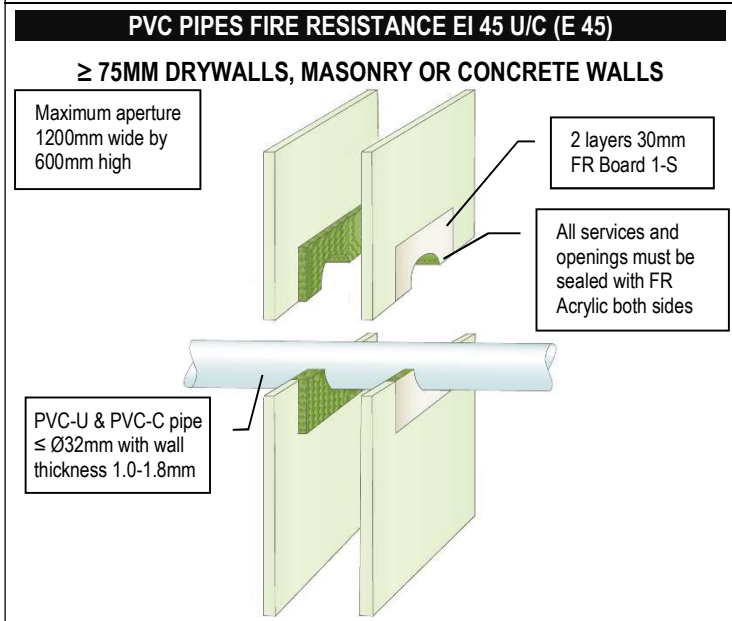
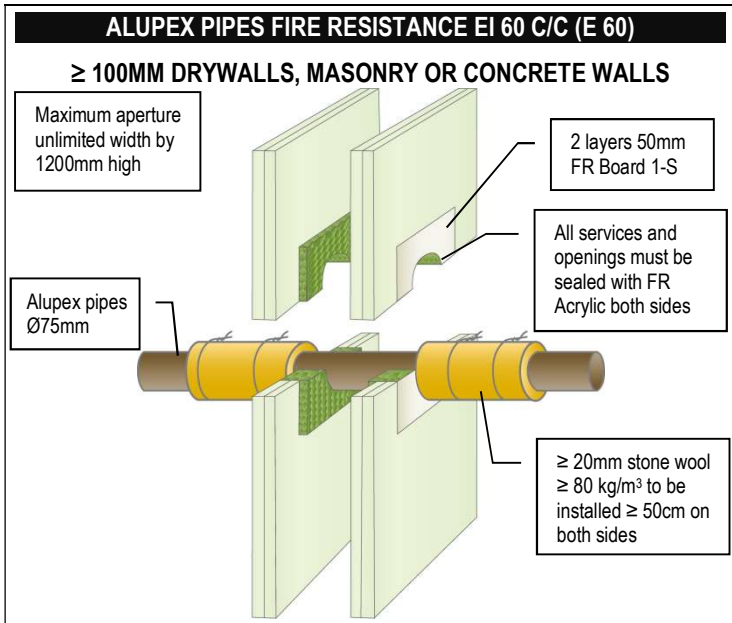
This Installation Instruction is based on the product's European Technical Assessment issued in accordance with regulation (EU) No 305/2011 on the basis of EAD 350454-00-1104, September 2017.

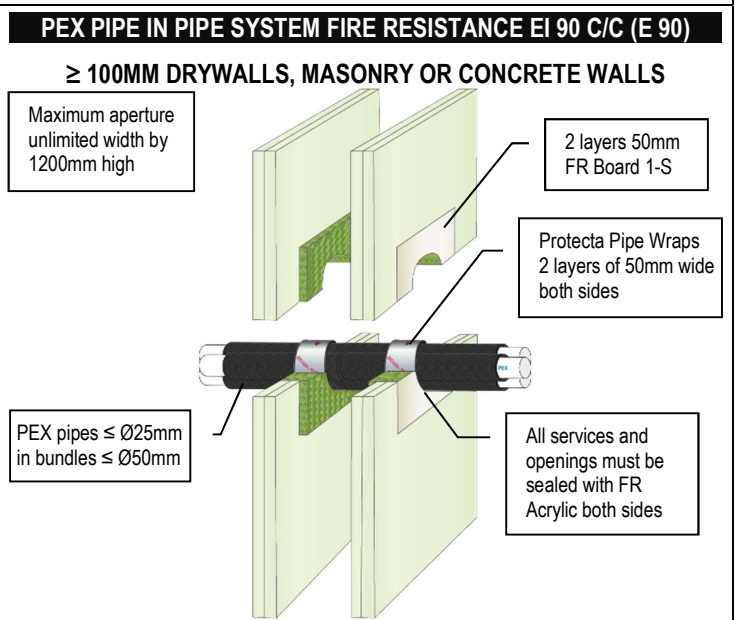
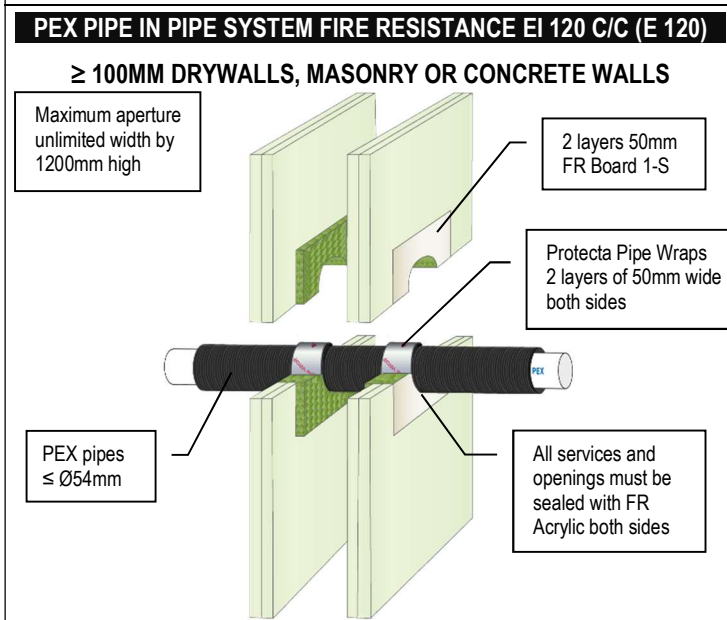
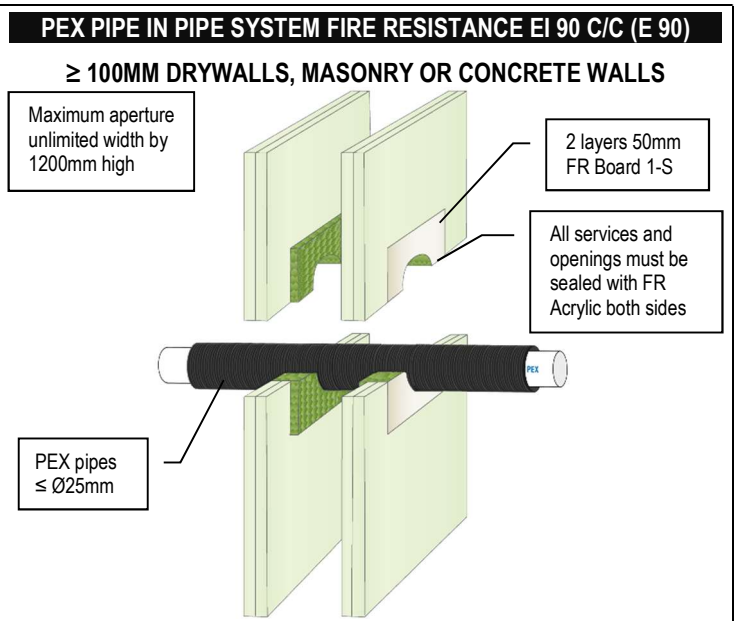
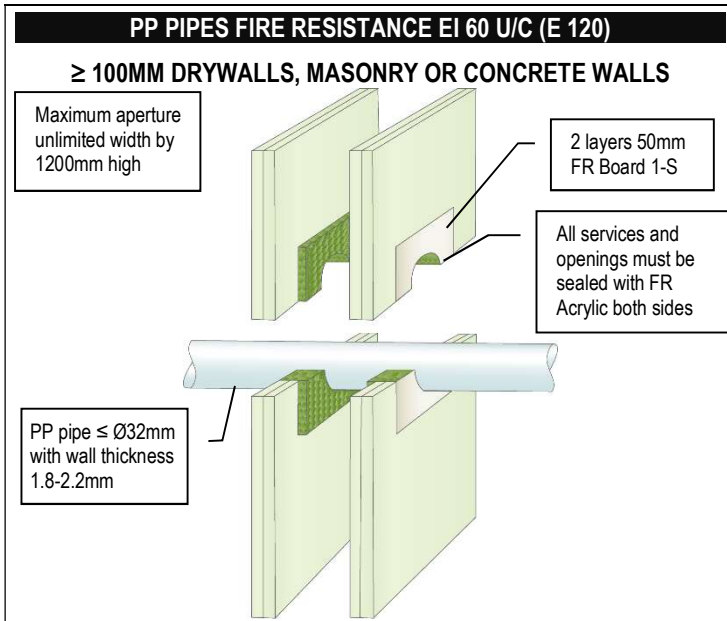




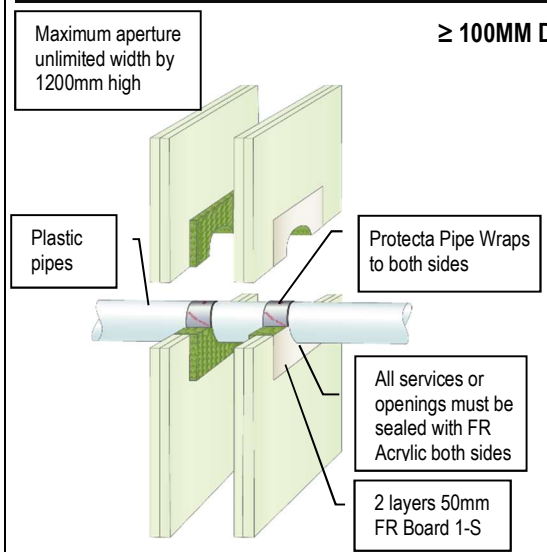








**PLASTIC PIPES FIRE RESISTANCE EI 90-120**



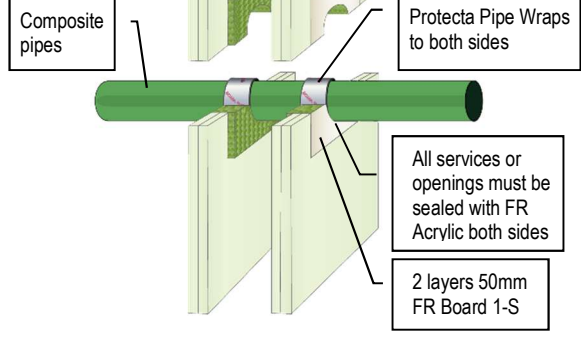
Services	Pipe Wall Thickness	FR Pipe Wrap	Classification
≤ Ø 40mm PVC-U & PVC-C	1.9 – 3.0mm	50 x 1.8mm (1 layer)	EI 120 U/U (E 120 U/U)
≤ Ø 40mm PE, ABS & SAN+PVC	2.4 – 3.7mm	50 x 1.8mm (1 layer)	EI 120 U/U (E 120 U/U)
≤ Ø 40mm PP	1.8 – 5.5mm	50 x 1.8mm (1 layer)	EI 120 U/U (E 120 U/U)
≤ Ø 110mm PVC-U & PVC-C	2.7 – 6.6mm	50 x 3.6mm (2 layers)	EI 90 U/C (E 120 U/C)
≤ Ø 110mm PE, ABS & SAN+PVC	4.2 – 10.0mm	50 x 3.6mm (2 layers)	EI 90 U/C (E 120 U/C)
≤ Ø 110mm PP	2.7 – 15.1mm	50 x 3.6mm (2 layers)	EI 90 U/U (E 90 U/U)
≤ Ø 125mm PVC-U & PVC-C	3.7 – 7.4mm	50 x 5.4mm (3 layers)	EI 90 U/C (E 120 U/C)
≤ Ø 125mm PE, ABS & SAN+PVC	4.8 – 12.0mm	50 x 5.4mm (3 layers)	EI 90 U/C (E 120 U/C)
≤ Ø 125mm PP	3.1 – 17.1mm	50 x 5.4mm (3 layers)	EI 90 U/C (E 120 U/C)
≤ Ø 160mm PVC-U & PVC-C	9.5mm	50 x 7.2mm (4 layers)	EI 90 U/C (E 120 U/C)
≤ Ø 160mm PE, ABS & SAN+PVC	14.6mm	50 x 7.2mm (4 layers)	EI 90 U/C (E 120 U/C)
≤ Ø 160mm PP	21.9mm	50 x 7.2mm (4 layers)	EI 90 U/C (E 120 U/C)
≤ Ø 200mm PVC-U & PVC-C	9.0 – 10.2mm	50 x 18.0mm (10 layers)	EI 90 C/C (E 90 C/C)
≤ Ø 250mm PVC-U & PVC-C	8.5 – 11.0mm	50 x 18.0mm (10 layers)	EI 90 C/C (E 90 C/C)
≤ Ø 315mm PVC-U & PVC-C	7.7 – 12.1mm	50 x 18.0mm (10 layers)	EI 90 C/C (E 90 C/C)
≤ Ø 400mm PVC-U & PVC-C	9.8 – 15.3mm	50 x 28.8mm (16 layers)	EI 90 C/C (E 90 C/C)

**COMPOSITE AQUATHERM GREEN SDR9 PLASTIC PIPES FIRE RESISTANCE EI 90**

**≥ 100MM DRYWALLS, MASONRY OR CONCRETE WALLS**

Maximum aperture unlimited width by 1200mm high

Services	FR Pipe Wrap	Classification
Ø 32mm Aquatherm Green SDR9 pipes	50 x 1.8mm (1 layer)	EI 90 C/C (E 120 C/C)
Ø 40mm Aquatherm Green SDR9 pipes	50 x 3.6mm (2 layers)	EI 90 C/C (E 120 C/C)
Ø 50mm Aquatherm Green SDR9 pipes	50 x 3.6mm (2 layers)	EI 90 C/C (E 120 C/C)
Ø 63mm Aquatherm Green SDR9 pipes	50 x 3.6mm (2 layers)	EI 90 C/C (E 120 C/C)
Ø 75mm Aquatherm Green SDR9 pipes	50 x 3.6mm (2 layers)	EI 90 C/C (E 120 C/C)
Ø 90mm Aquatherm Green SDR9 pipes	50 x 3.6mm (2 layers)	EI 90 C/C (E 120 C/C)
Ø 110mm Aquatherm Green SDR9 pipes	50 x 3.6mm (2 layers)	EI 90 C/C (E 120 C/C)

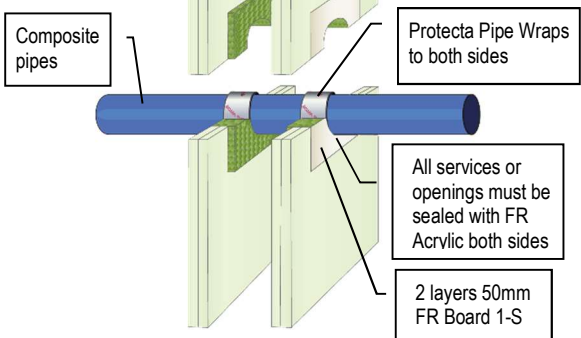


**COMPOSITE BLUEPOWER PLASTIC PIPES FIRE RESISTANCE EI 90**

**≥ 100MM DRYWALLS, MASONRY OR CONCRETE WALLS**

Maximum aperture unlimited width by 1200mm high

Services	FR Pipe Wrap	Classification
Ø 32mm BluePower pipes	50 x 3.6mm (2 layers)	EI 90 U/U (E 90 U/U)
Ø 40mm BluePower pipes	50 x 3.6mm (2 layers)	EI 90 U/U (E 90 U/U)
Ø 50mm BluePower pipes	50 x 3.6mm (2 layers)	EI 90 U/U (E 90 U/U)
Ø 75mm BluePower pipes	50 x 3.6mm (2 layers)	EI 90 C/U (E 90 C/U)
Ø 90mm BluePower pipes	50 x 3.6mm (2 layers)	EI 90 C/U (E 90 C/U)
Ø 110mm BluePower pipes	50 x 3.6mm (2 layers)	EI 90 C/U (E 90 C/U)

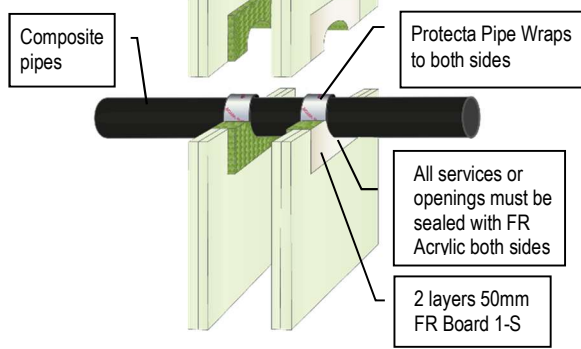


**COMPOSITE GEBERIT SILENT-PP PIPES FIRE RESISTANCE EI 120**

**≥ 100MM DRYWALLS, MASONRY OR CONCRETE WALLS**

Maximum aperture unlimited width by 1200mm high

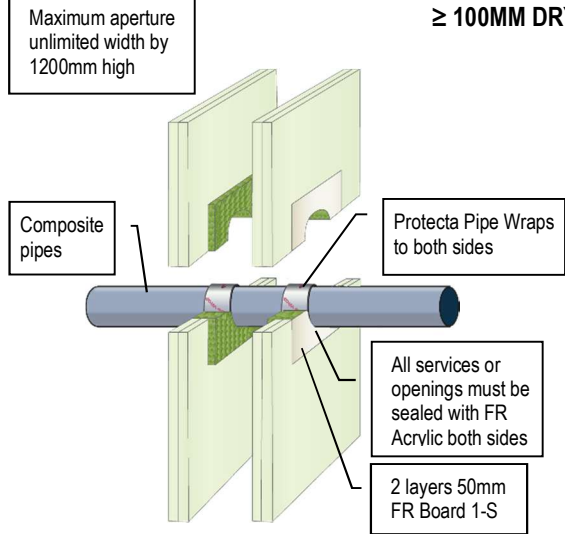
Services	FR Pipe Wrap	Classification
Ø 32mm Geberit Silent-PP pipes	50 x 3.6mm (2 layers)	EI 120 U/U (E 120 U/U)
Ø 40mm Geberit Silent-PP pipes	50 x 3.6mm (2 layers)	EI 120 U/U (E 120 U/U)
Ø 50mm Geberit Silent-PP pipes	50 x 3.6mm (2 layers)	EI 120 U/U (E 120 U/U)
Ø 75mm Geberit Silent-PP pipes	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)
Ø 90mm Geberit Silent-PP pipes	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)
Ø 110mm Geberit Silent-PP pipes	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)





**COMPOSITE POLO-KAL NG PLASTIC PIPES FIRE RESISTANCE EI 120**

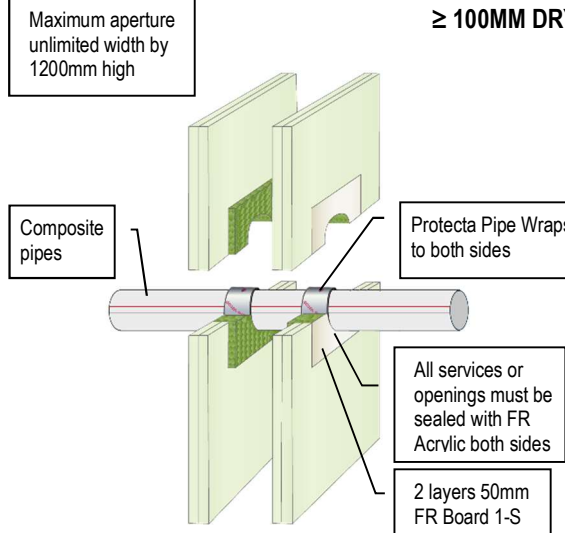
**≥ 100MM DRYWALLS, MASONRY OR CONCRETE WALLS**



Services	FR Pipe Wrap	Classification
Ø 32mm Polo-Kal NG pipes	50 x 3.6mm (2 layers)	EI 120 U/U (E 120 U/U)
Ø 40mm Polo-Kal NG pipes	50 x 3.6mm (2 layers)	EI 120 U/U (E 120 U/U)
Ø 50mm Polo-Kal NG pipes	50 x 3.6mm (2 layers)	EI 120 U/U (E 120 U/U)
Ø 75mm Polo-Kal NG pipes	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)
Ø 90mm Polo-Kal NG pipes	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)
Ø 110mm Polo-Kal NG pipes	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)
Ø 125mm Polo-Kal NG pipes	50 x 7.2mm (4 layers)	EI 120 U/C (E 120 U/C)
Ø 160mm Polo-Kal NG pipes	50 x 10.8mm (6 layers)	EI 120 U/C (E 120 U/C)

**COMPOSITE REHAU RAUPIANO PLUS PLASTIC PIPES FIRE RESISTANCE EI 120**

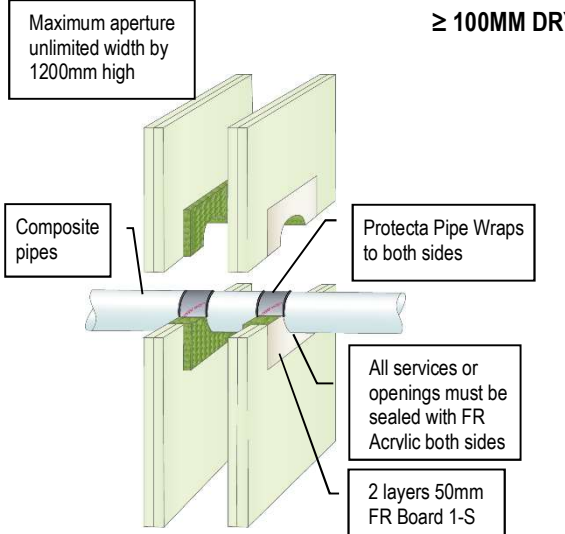
**≥ 100MM DRYWALLS, MASONRY OR CONCRETE WALLS**



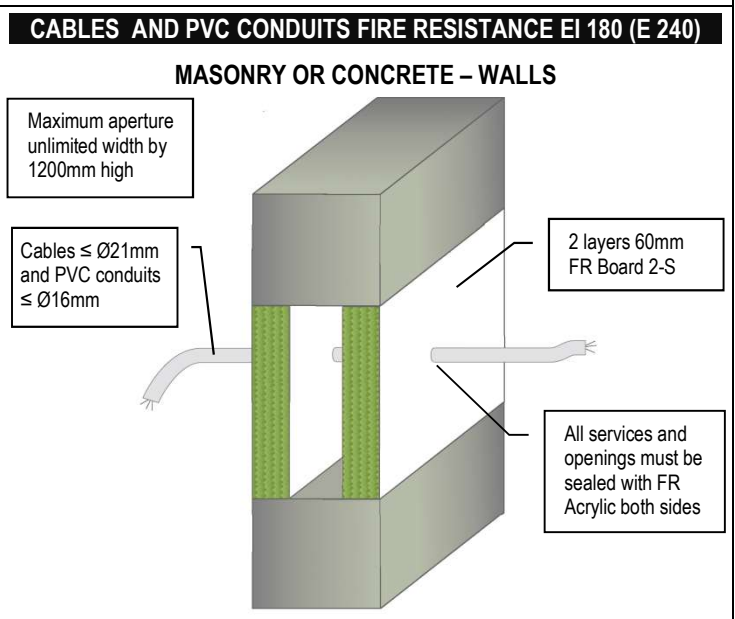
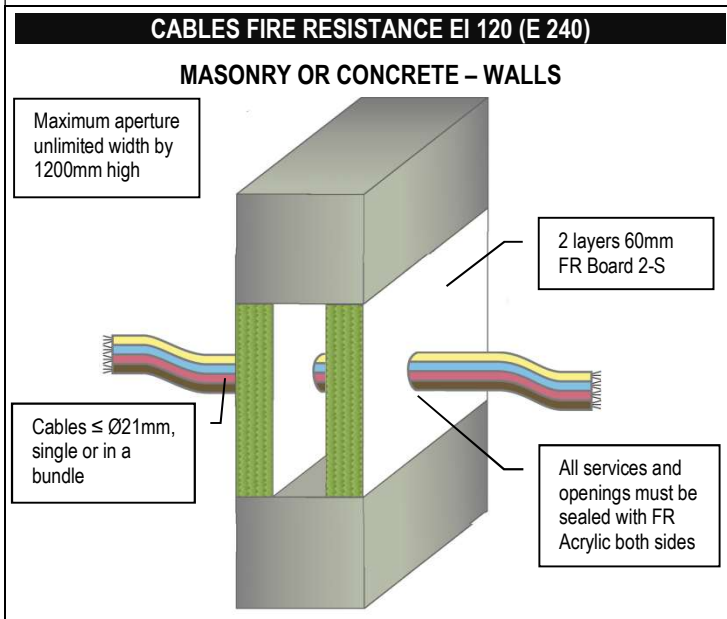
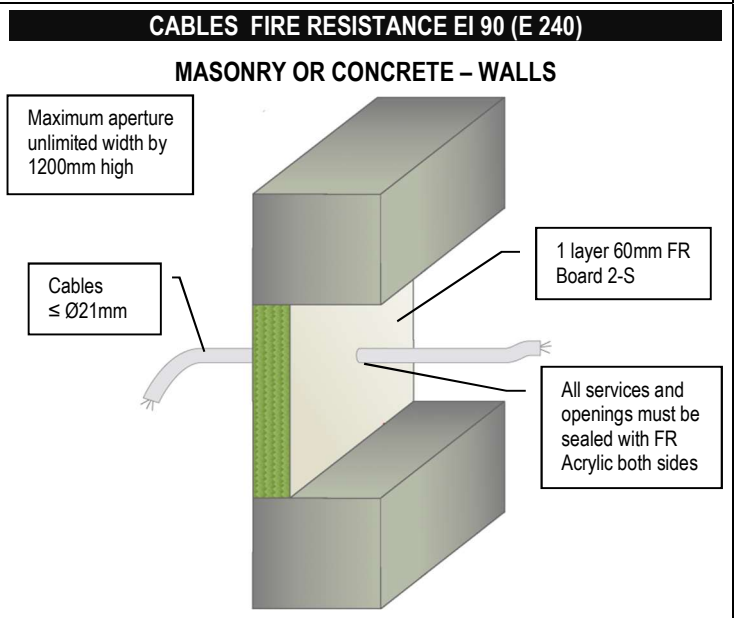
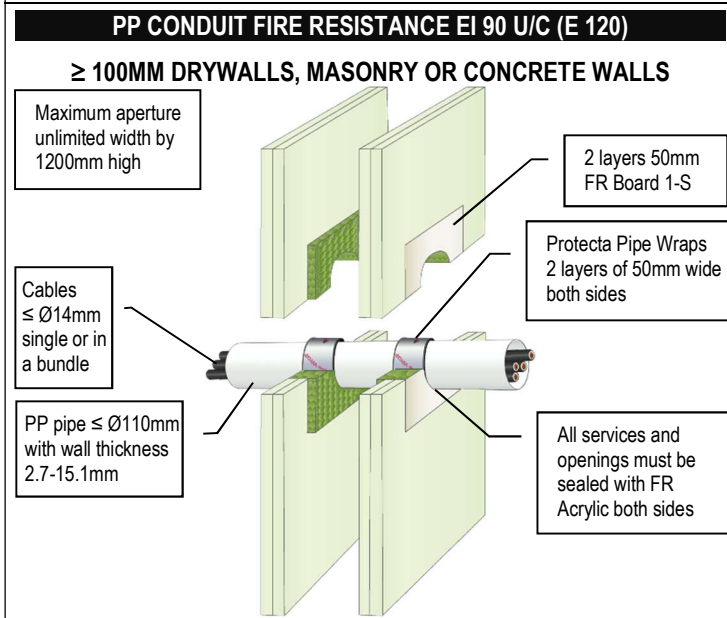
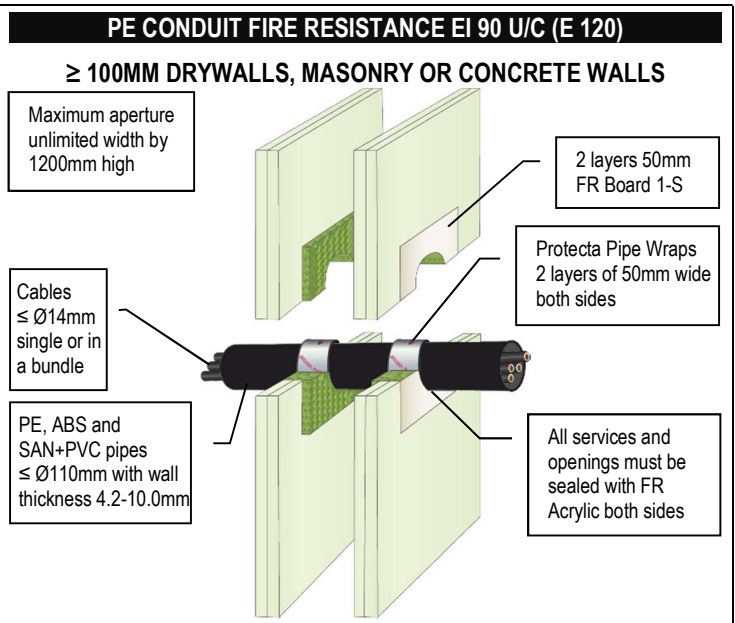
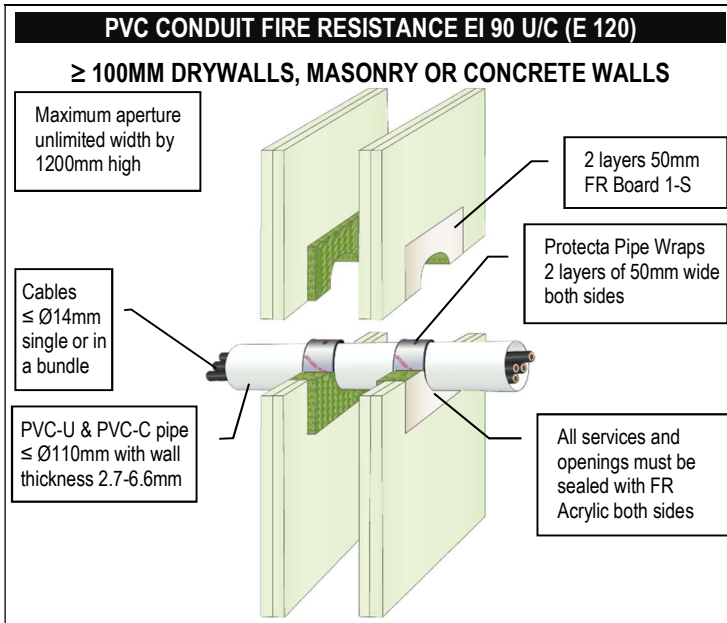
Services	FR Pipe Wrap	Classification
Ø 40mm Rehau Raupiano Plus pipes	50 x 3.6mm (2 layers)	EI 120 U/U (E 120 U/U)
Ø 50mm Rehau Raupiano Plus pipes	50 x 3.6mm (2 layers)	EI 120 U/U (E 120 U/U)
Ø 75mm Rehau Raupiano Plus pipes	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)
Ø 90mm Rehau Raupiano Plus pipes	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)
Ø 110mm Rehau Raupiano Plus pipes	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)
Ø 125mm Rehau Raupiano Plus pipes	50 x 7.2mm (4 layers)	EI 120 U/C (E 120 U/C)
Ø 160mm Rehau Raupiano Plus pipes	50 x 10.8mm (6 layers)	EI 120 U/C (E 120 U/C)

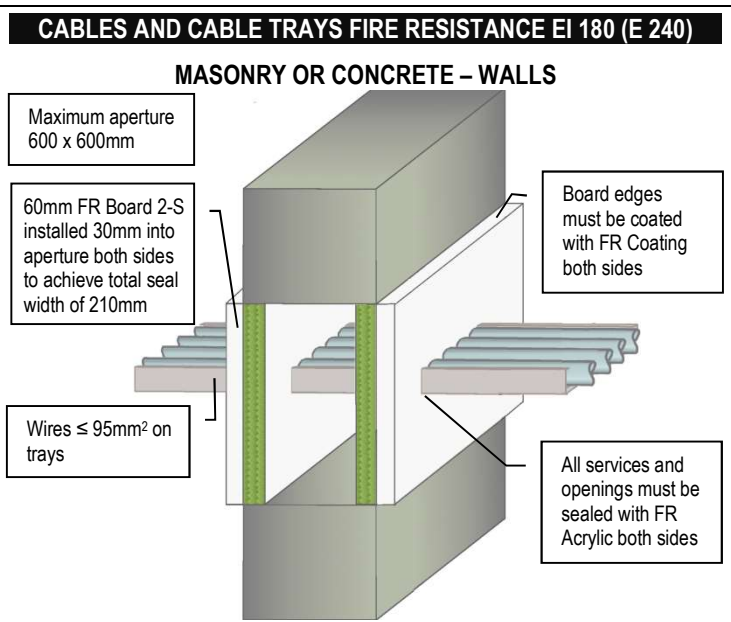
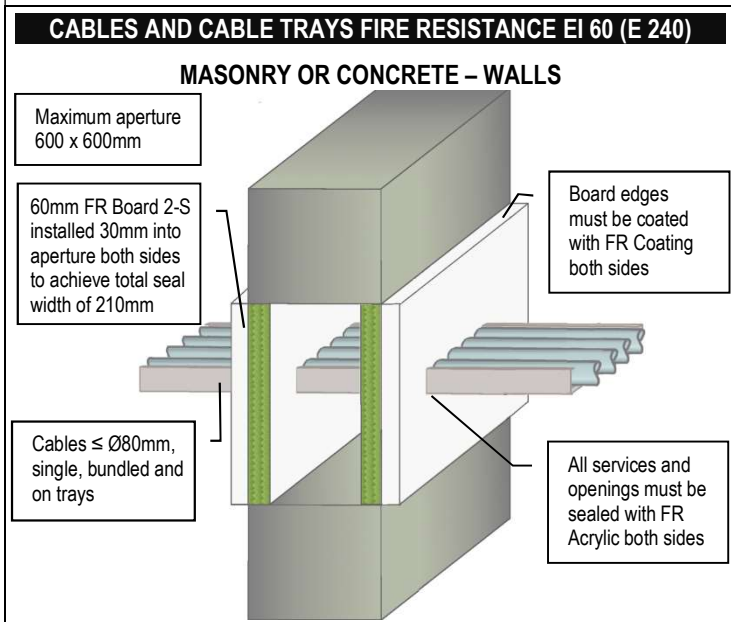
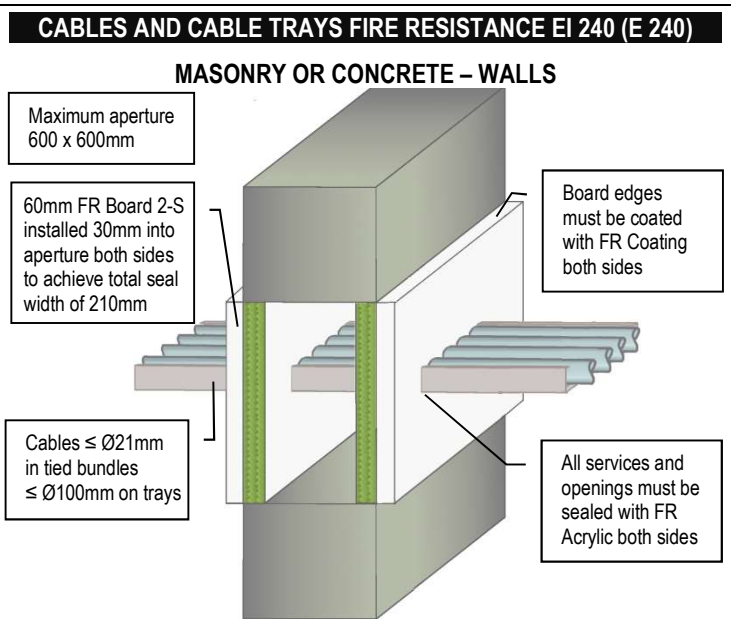
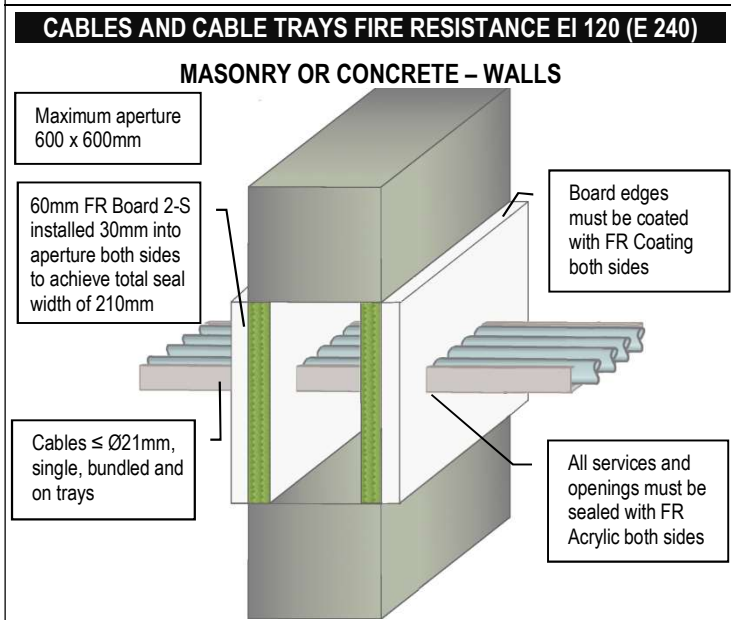
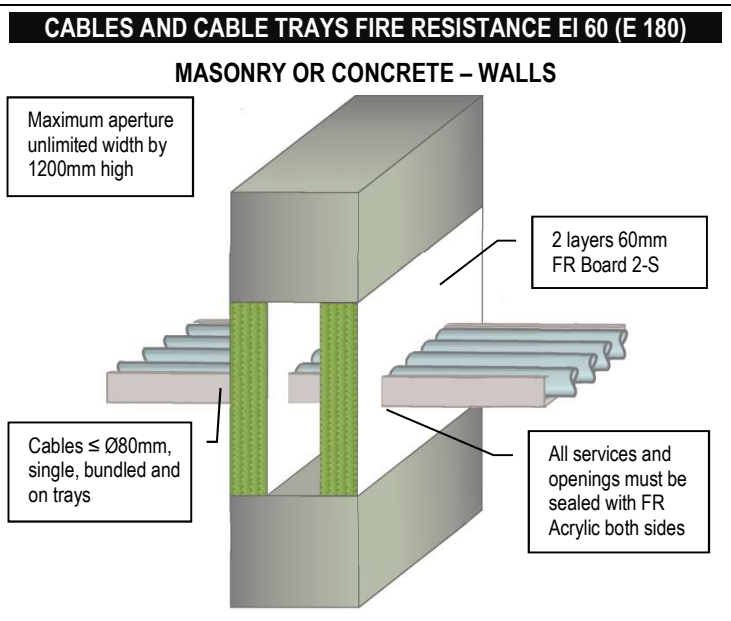
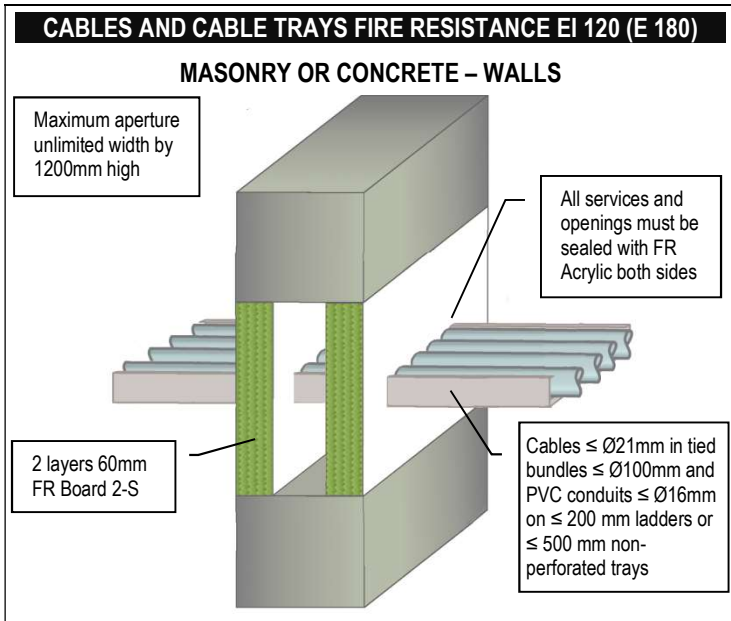
**COMPOSITE WAVIN SITECH PLASTIC PIPES FIRE RESISTANCE EI 60-90**

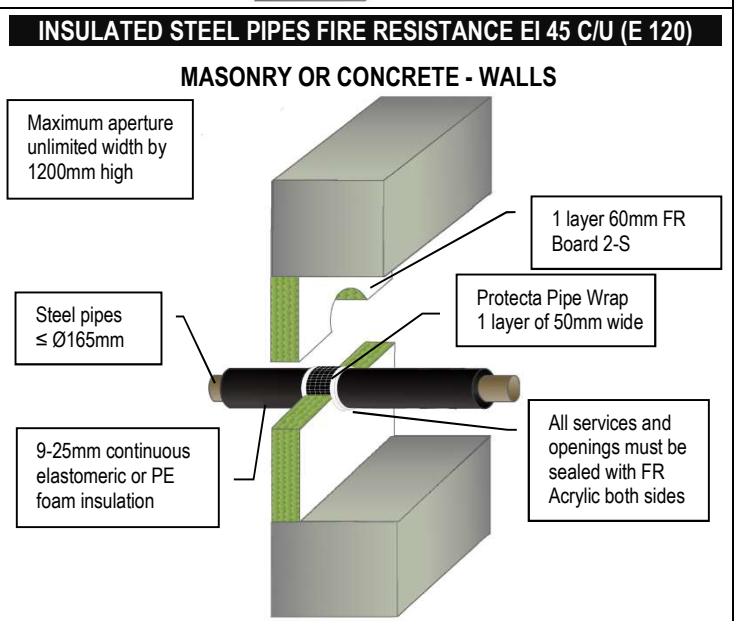
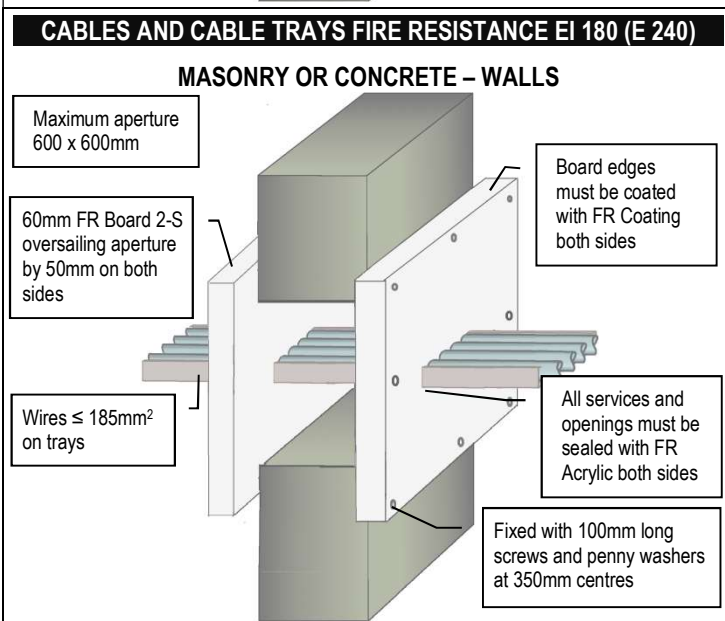
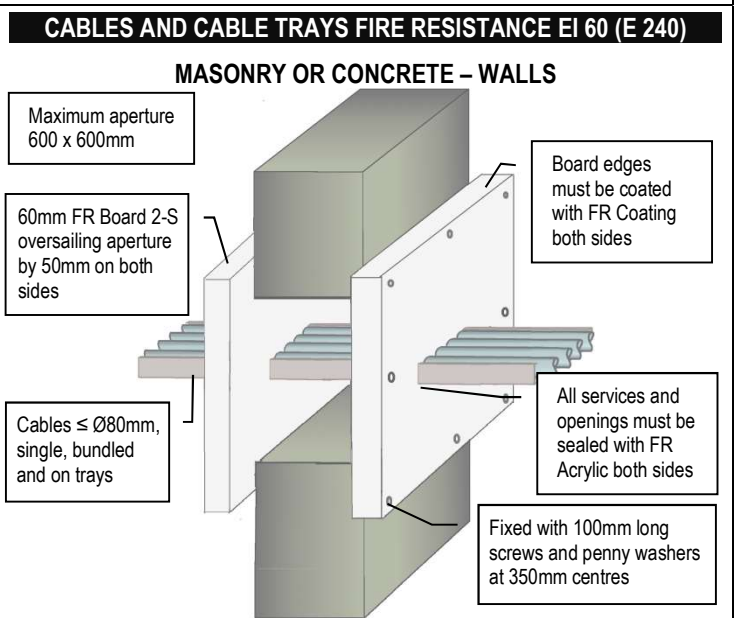
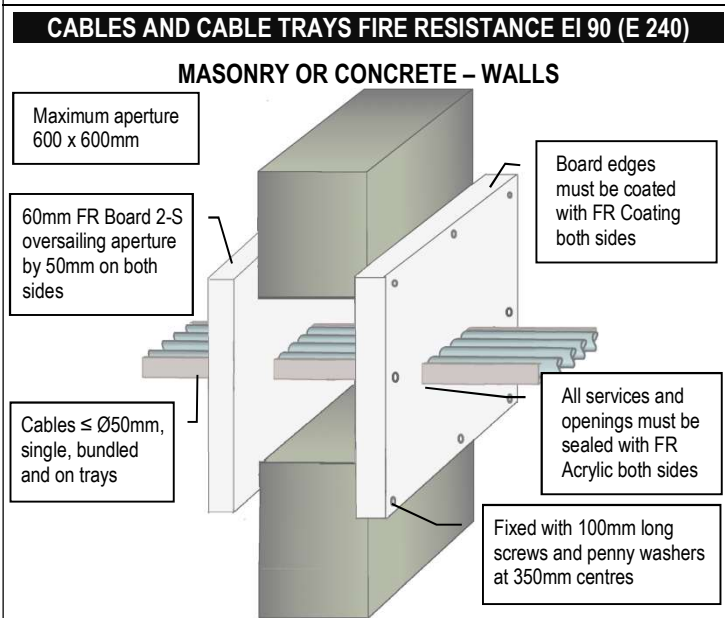
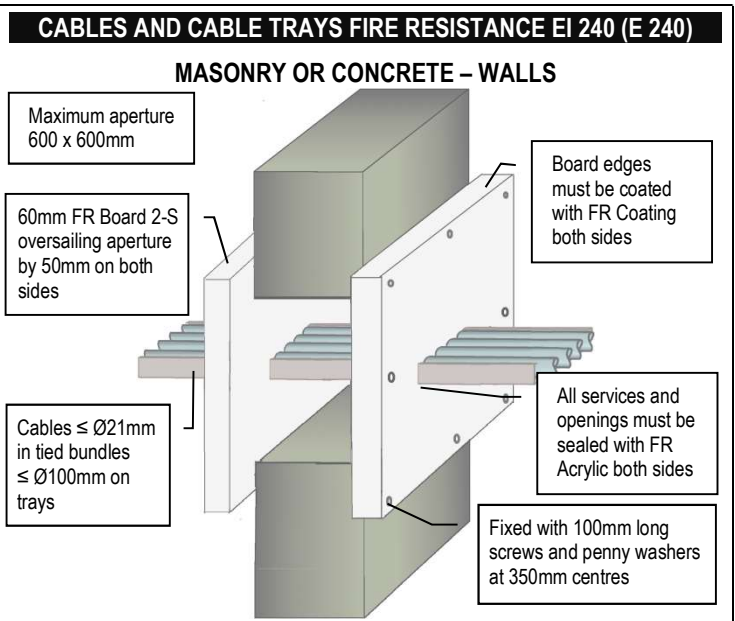
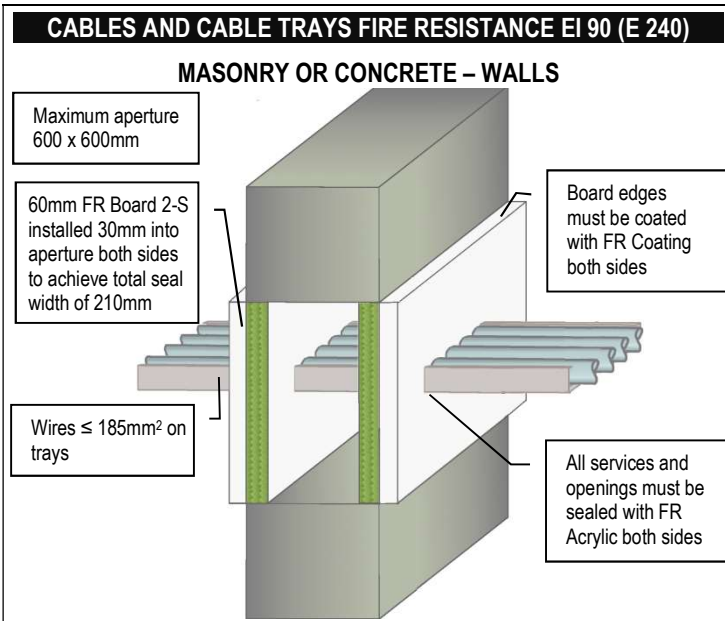
**≥ 100MM DRYWALLS, MASONRY OR CONCRETE WALLS**

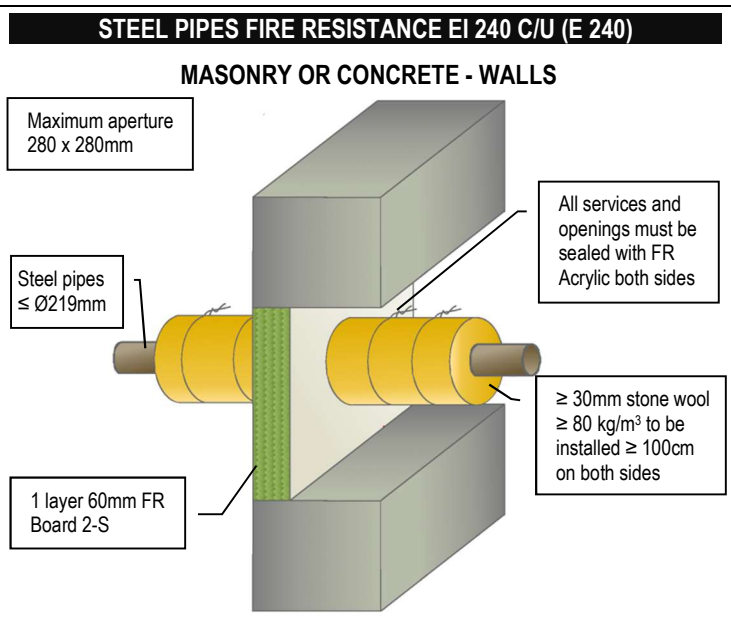
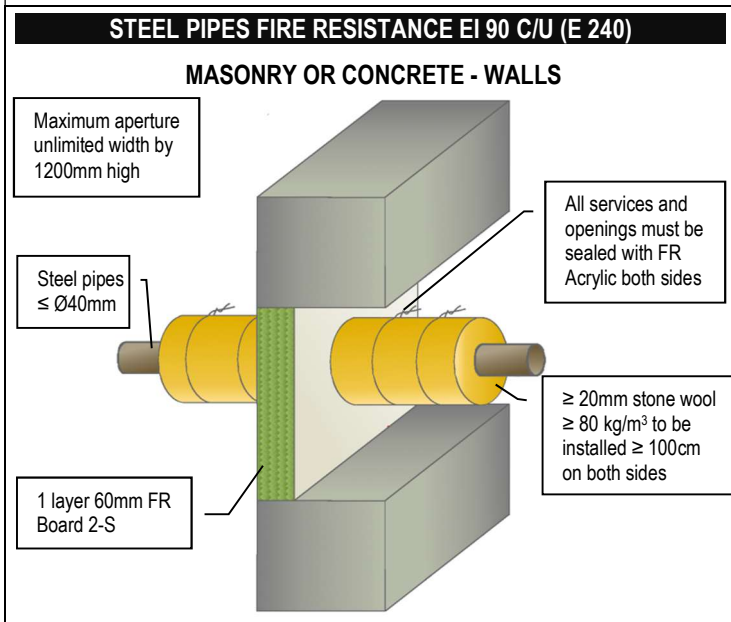
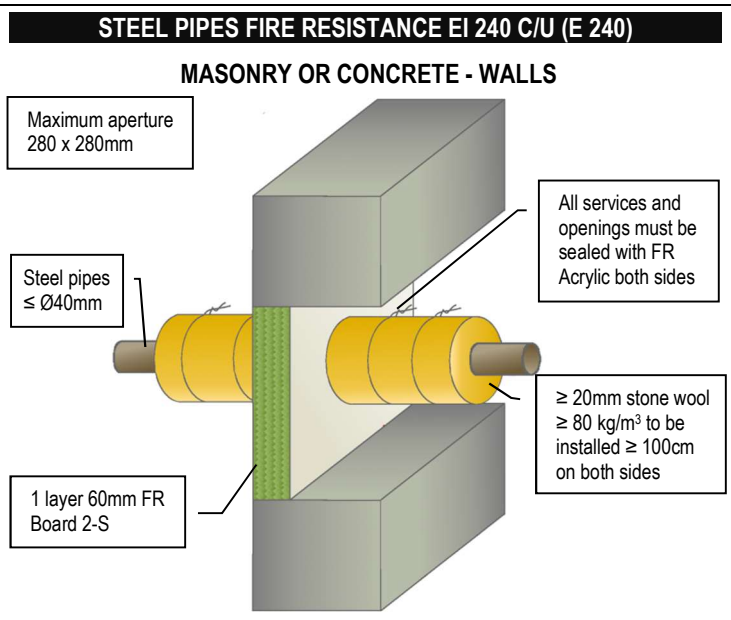
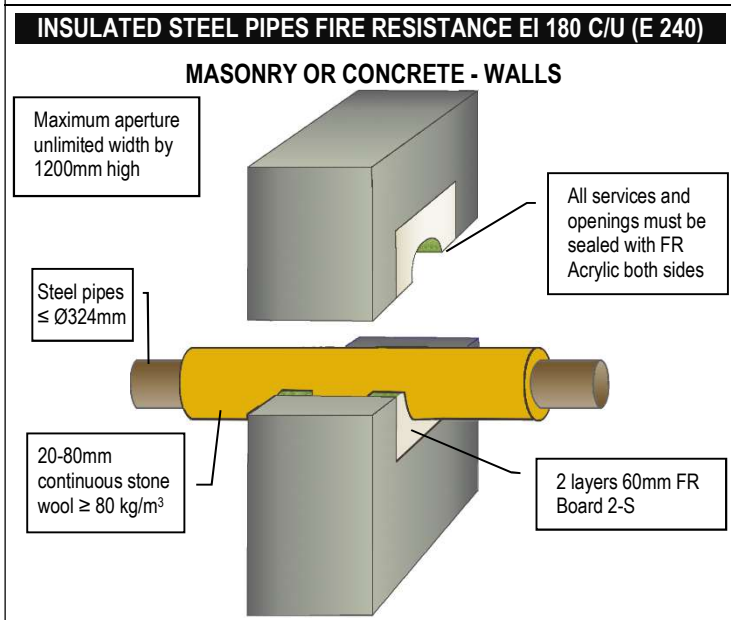
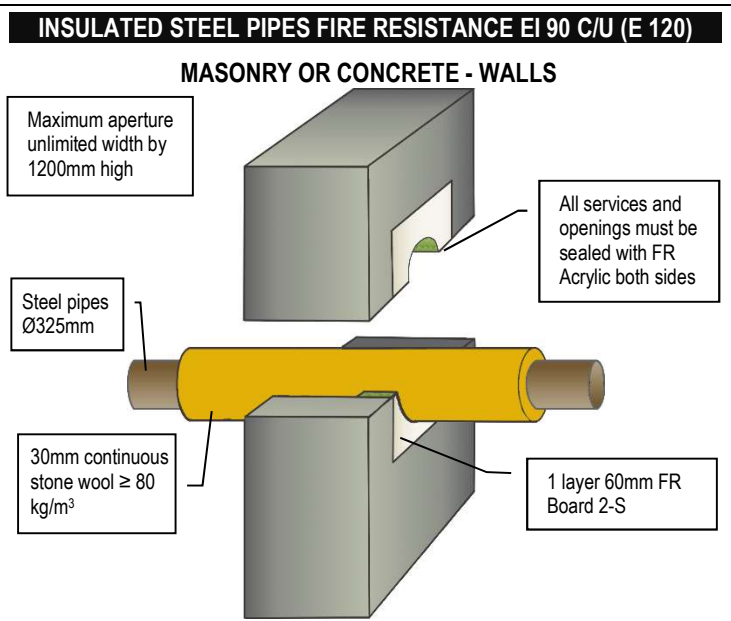
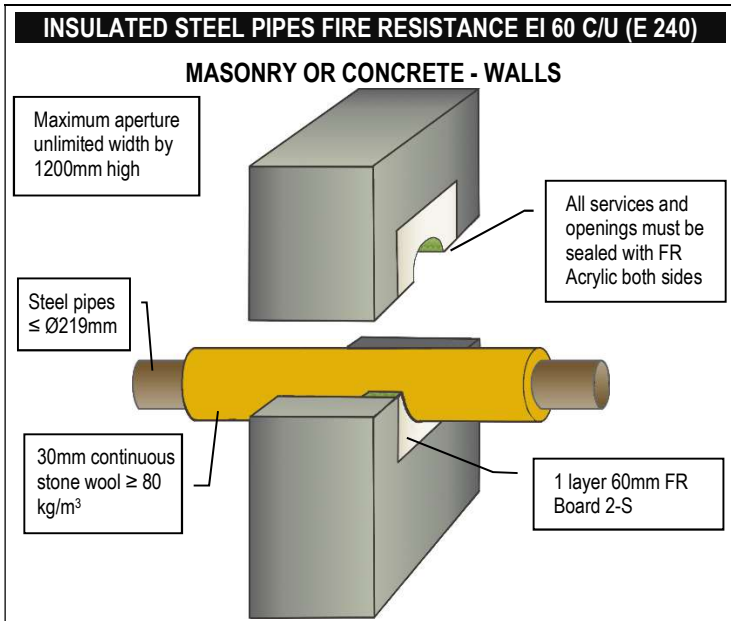


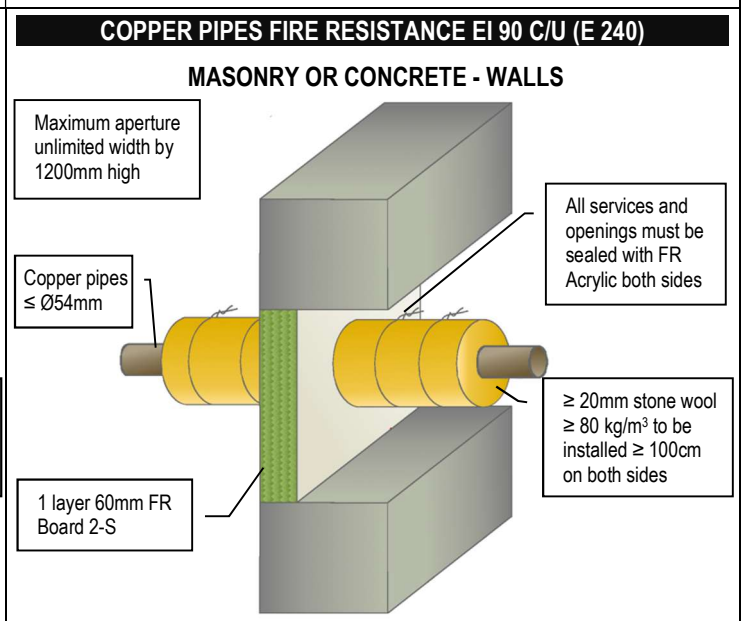
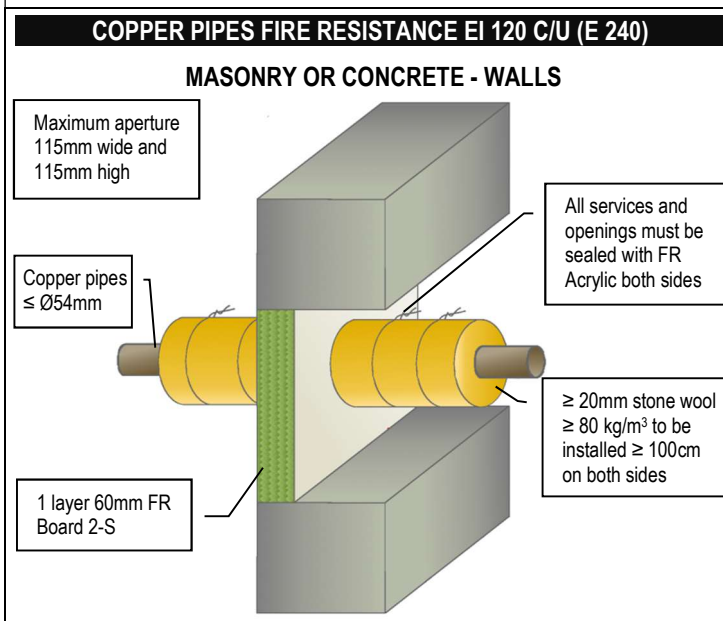
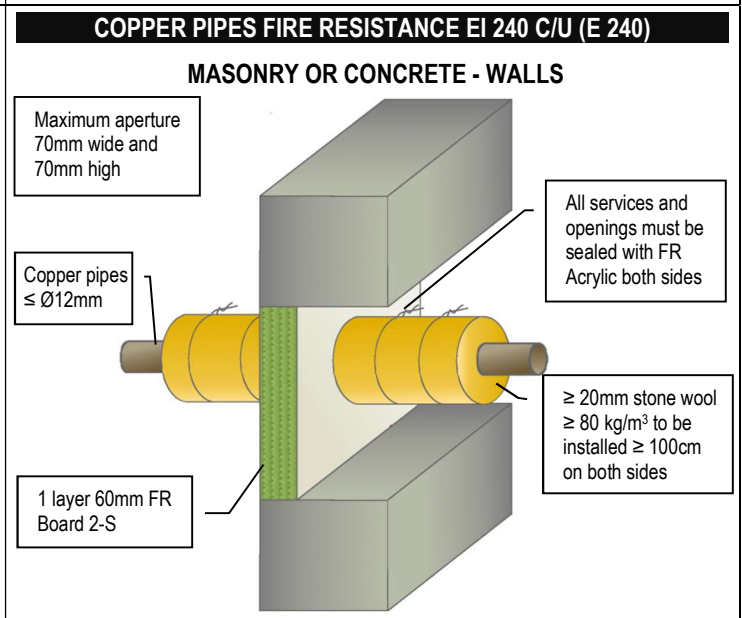
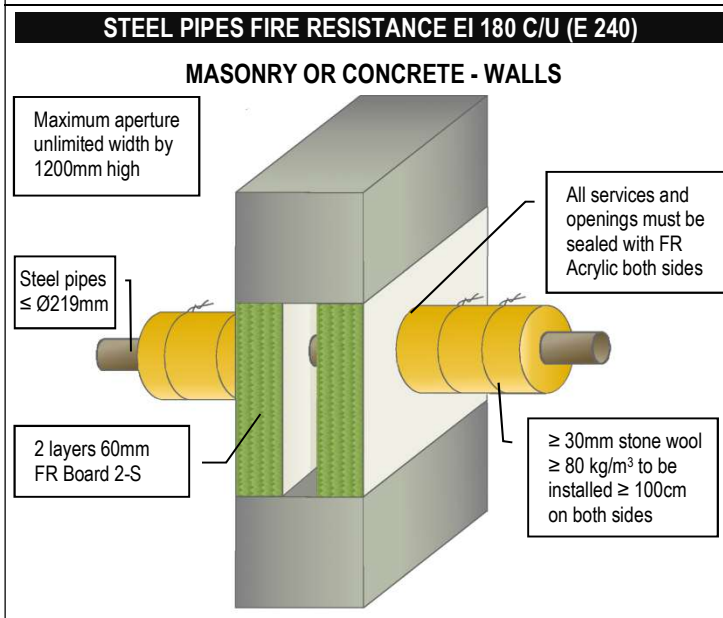
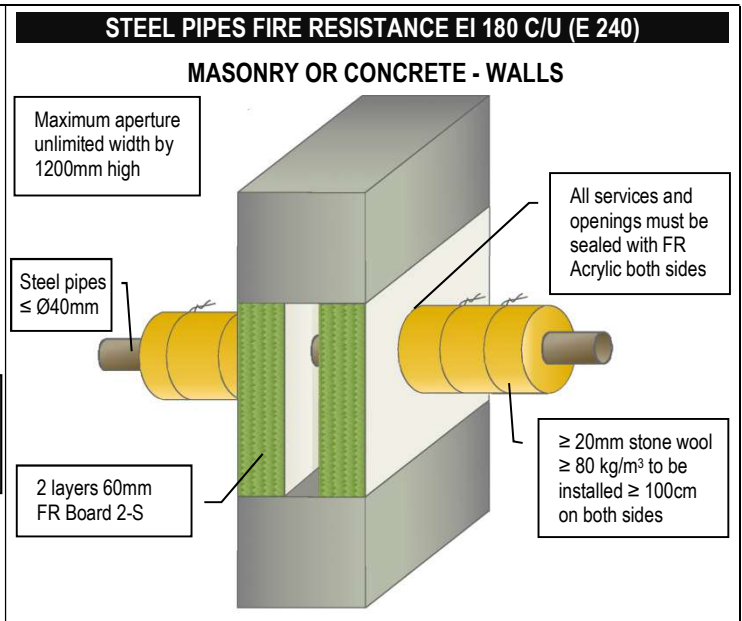
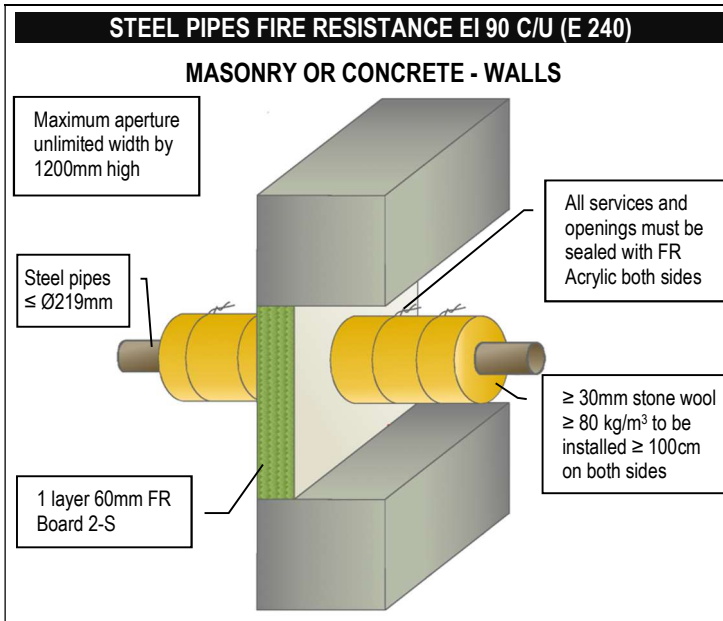
Services	FR Pipe Wrap	Classification
Ø 32mm Wavin SiTech pipes	50 x 3.6mm (2 layers)	EI 90 U/U (E 120 U/U)
Ø 40mm Wavin SiTech pipes	50 x 3.6mm (2 layers)	EI 90 U/U (E 120 U/U)
Ø 50mm Wavin SiTech pipes	50 x 3.6mm (2 layers)	EI 90 U/U (E 120 U/U)
Ø 75mm Wavin SiTech pipes	50 x 3.6mm (2 layers)	EI 60 U/C (E 120 U/C)
Ø 90mm Wavin SiTech pipes	50 x 3.6mm (2 layers)	EI 60 U/C (E 120 U/C)
Ø 110mm Wavin SiTech pipes	50 x 3.6mm (2 layers)	EI 60 U/C (E 120 U/C)

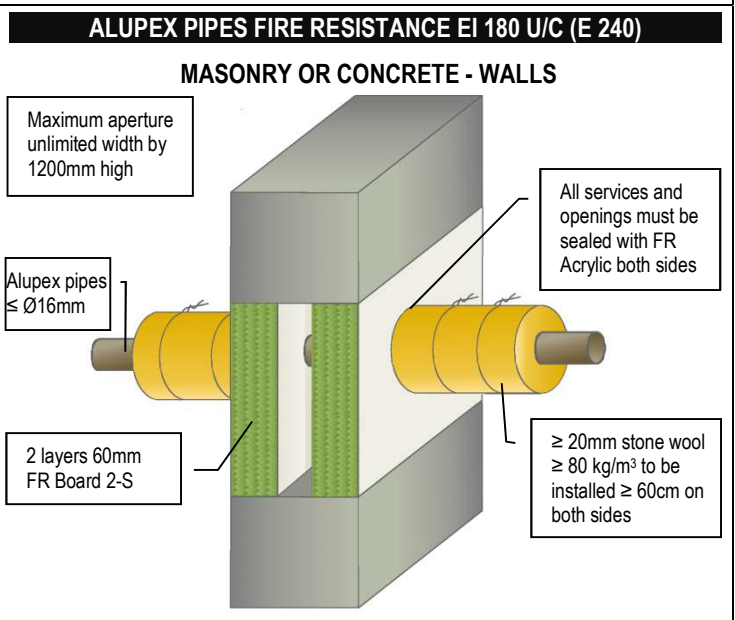
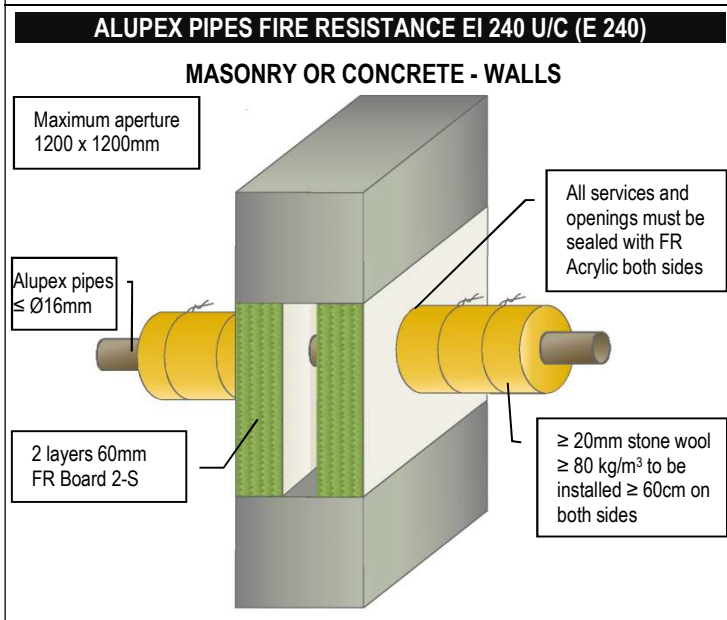
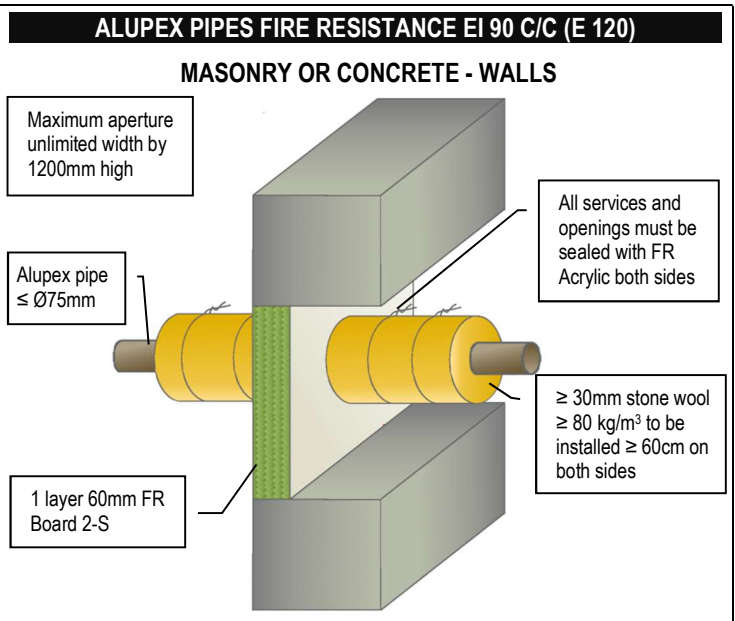
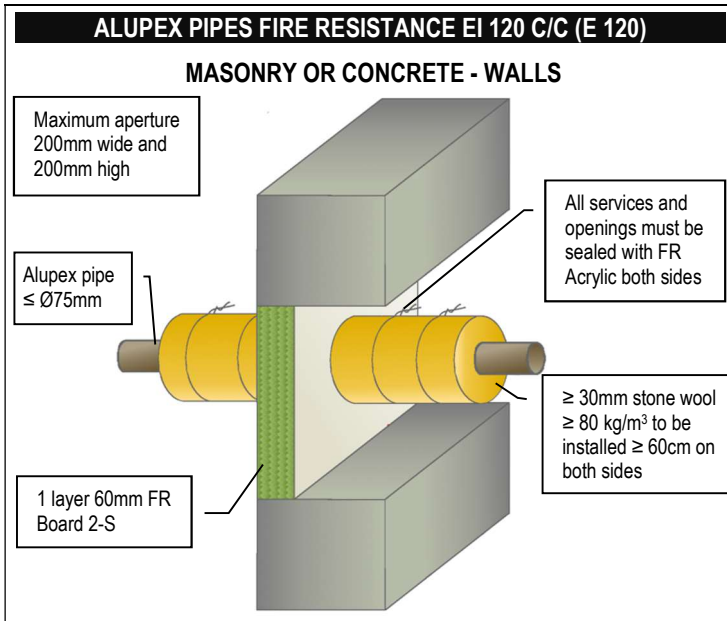




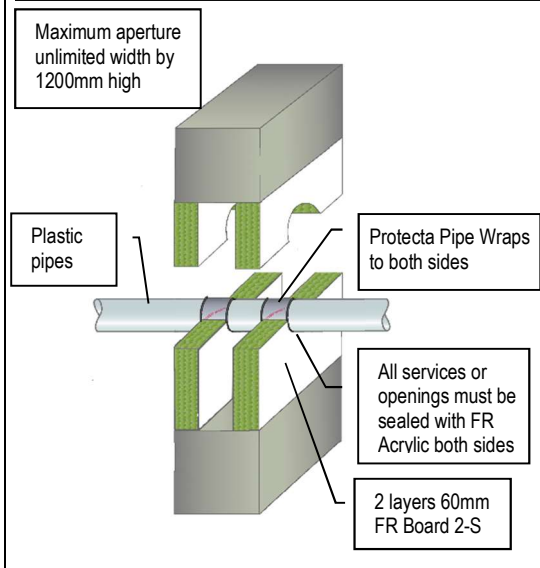




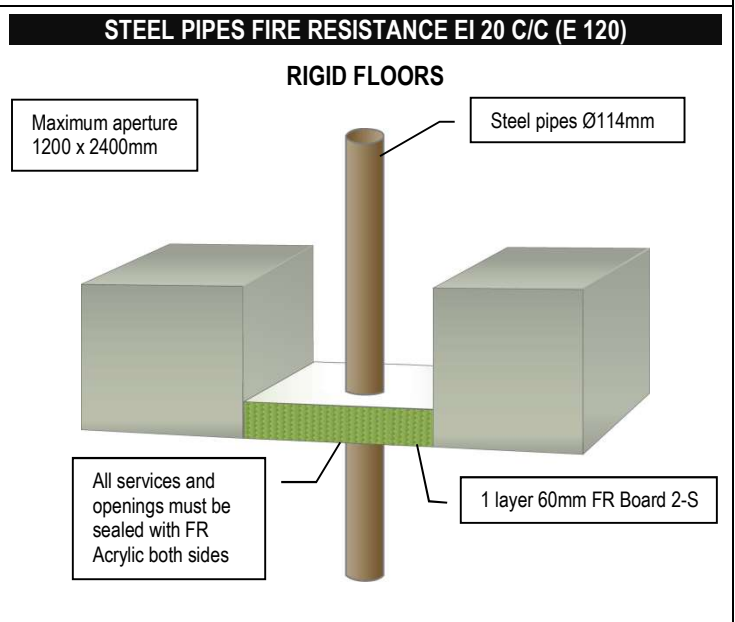
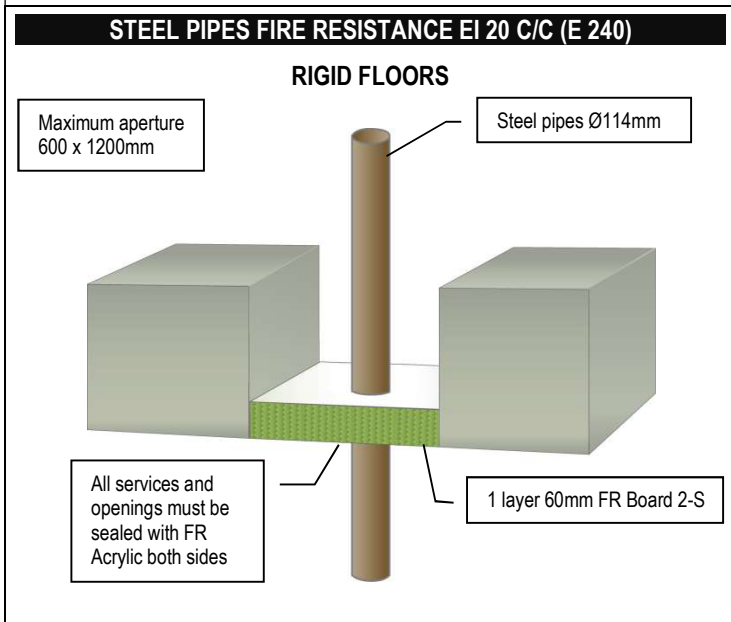
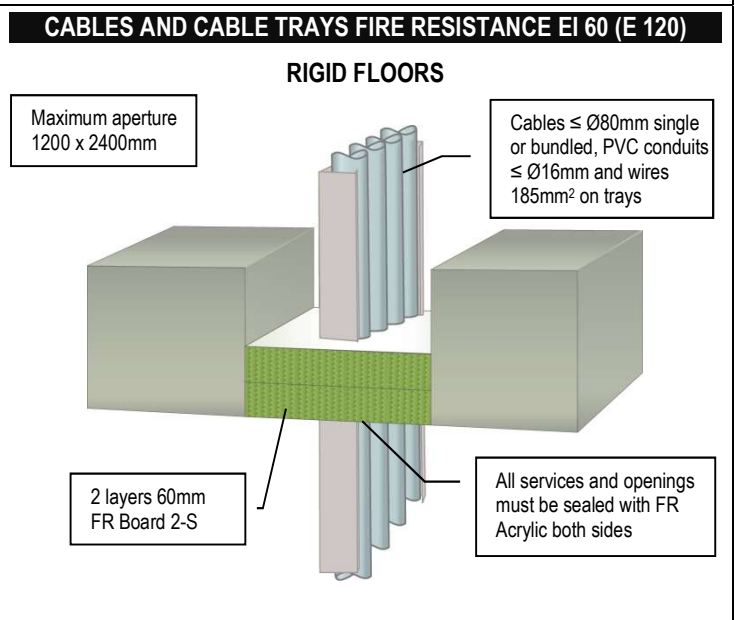
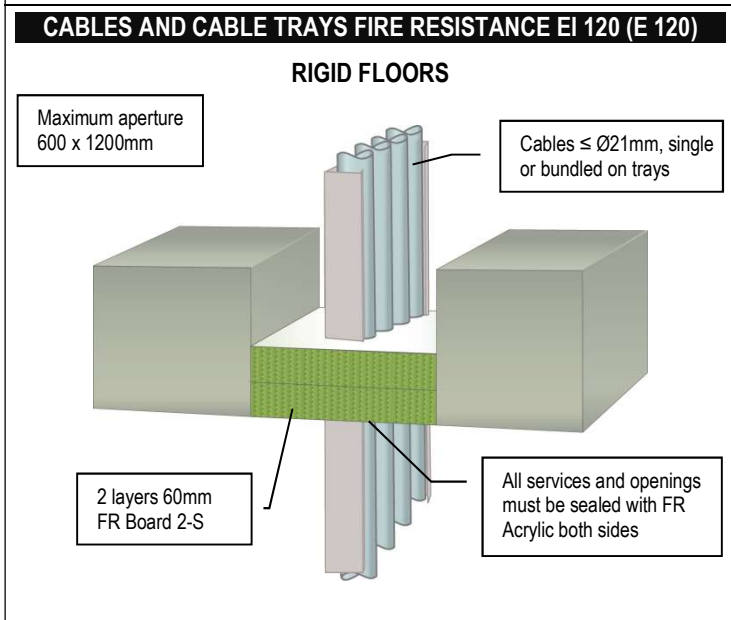
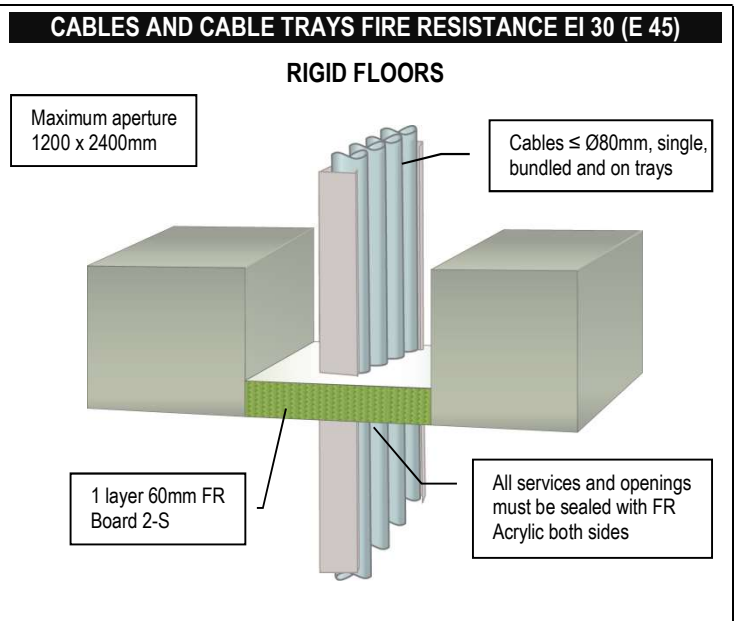
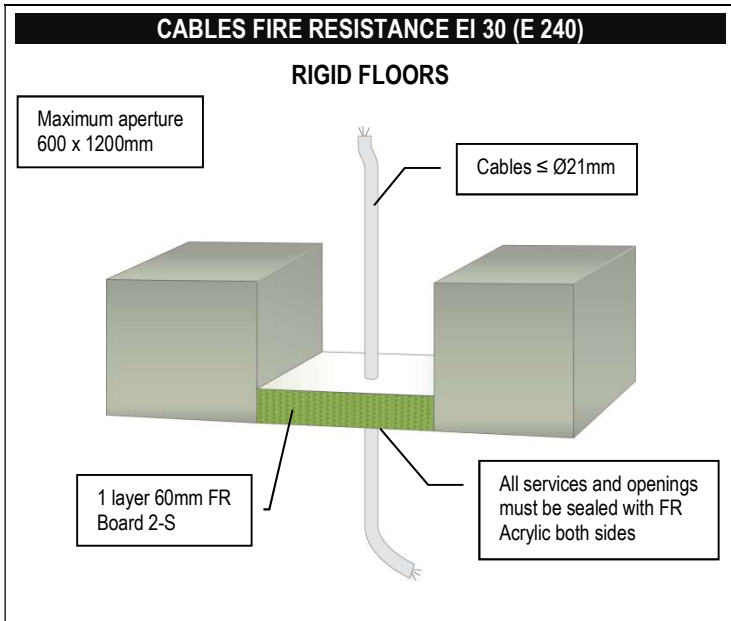




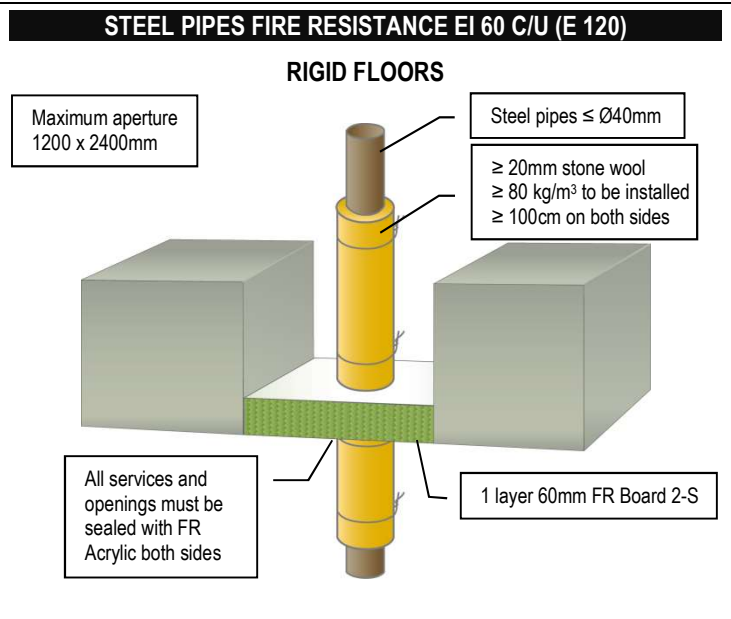
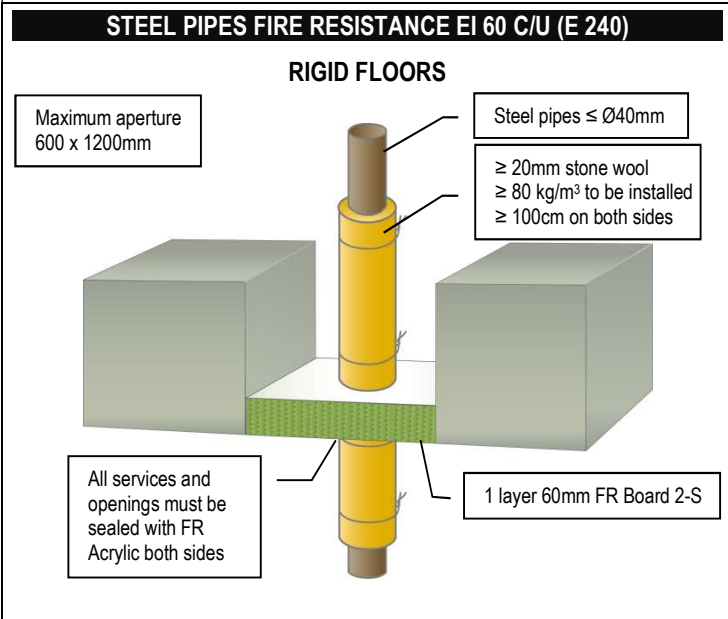
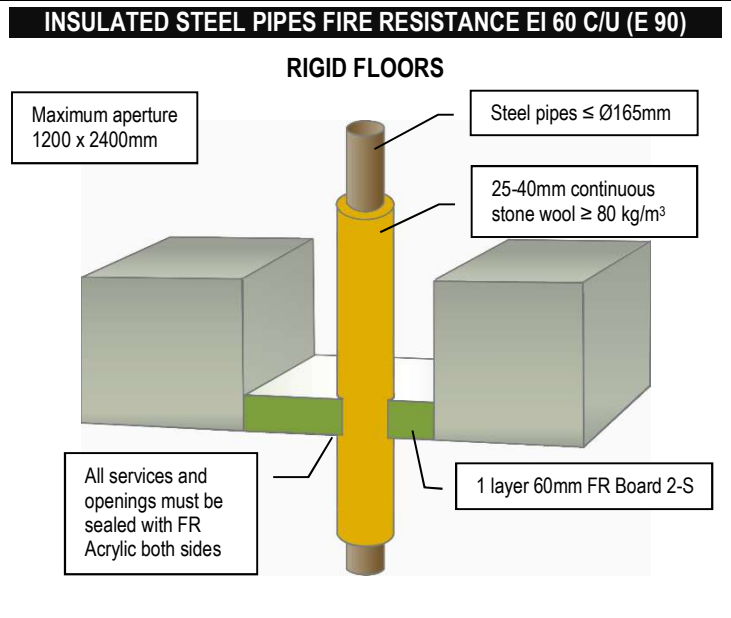
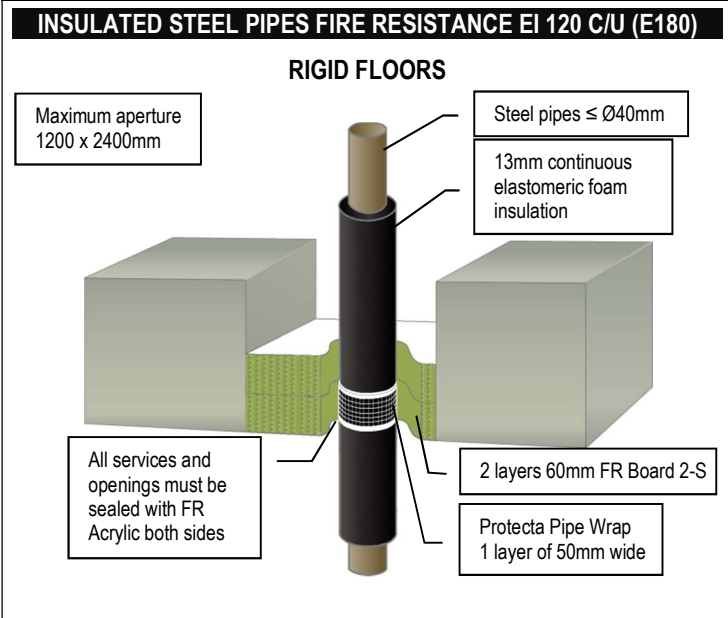
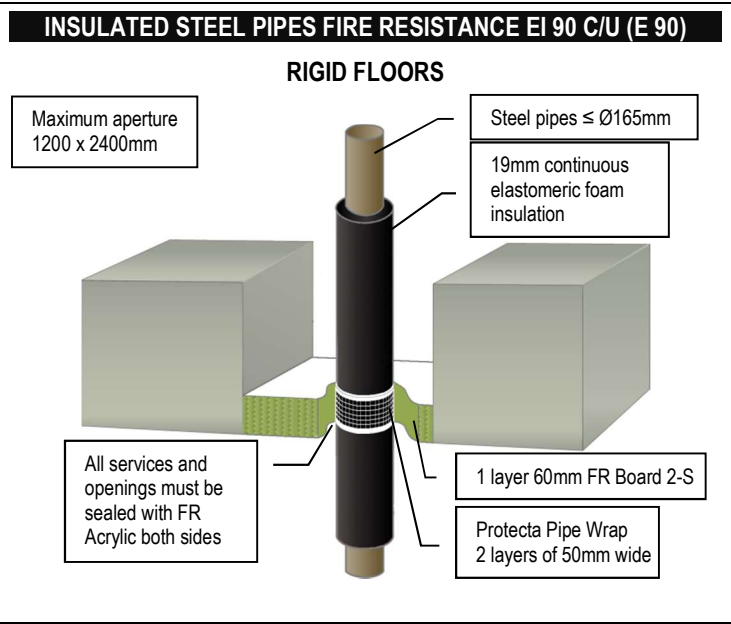
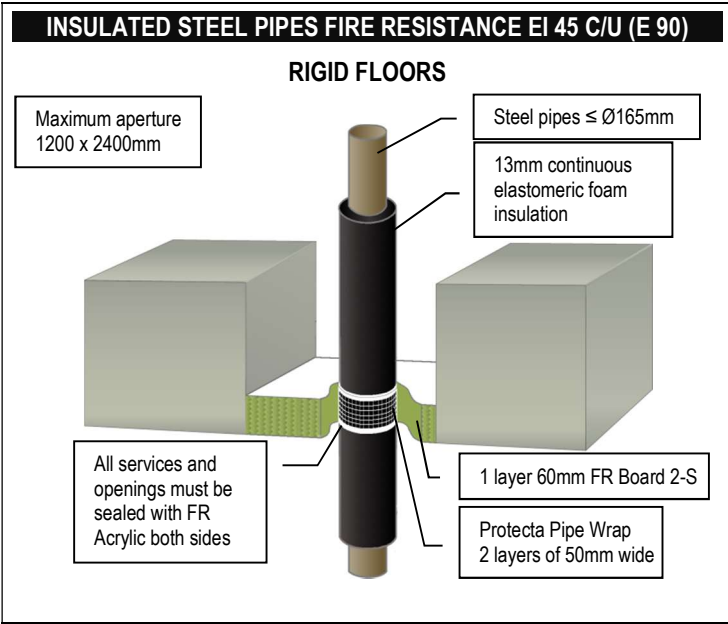
**PLASTIC PIPES FIRE RESISTANCE EI 120-240**

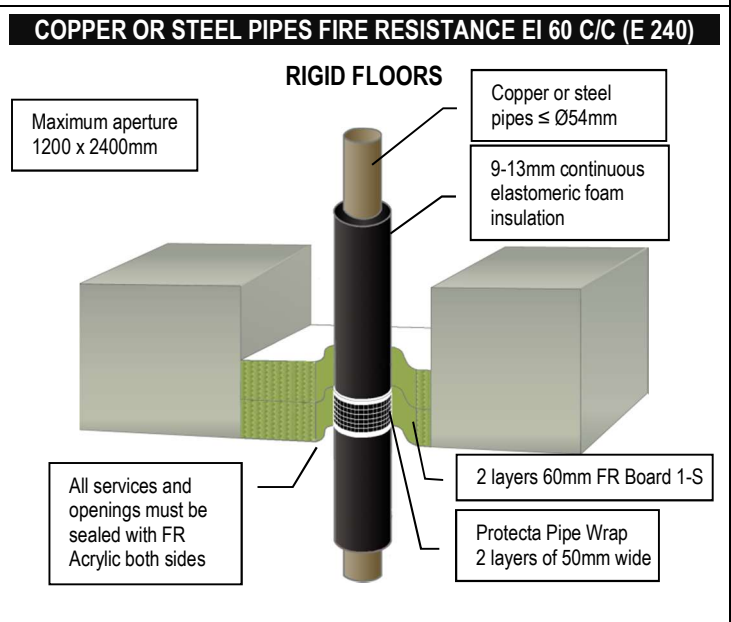
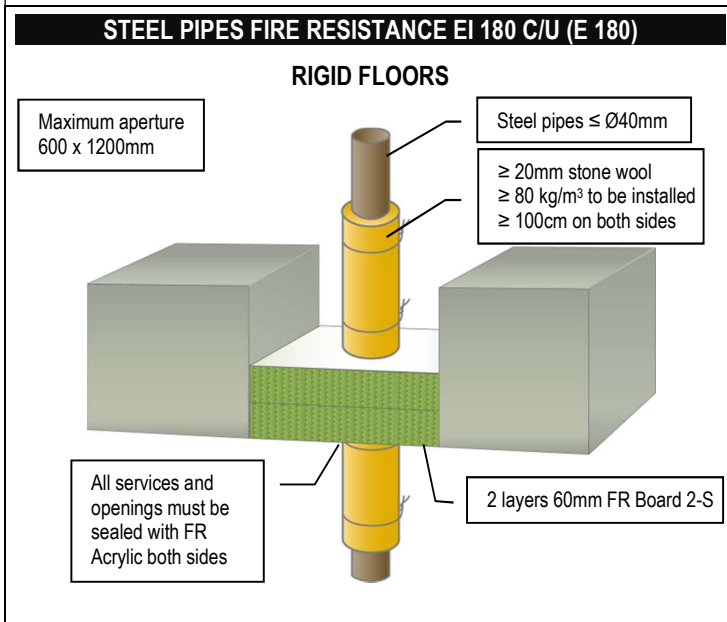
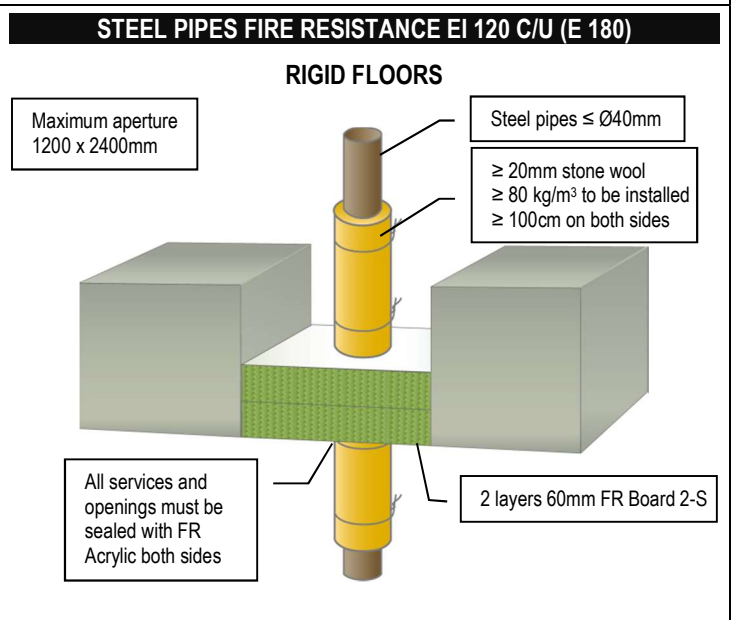
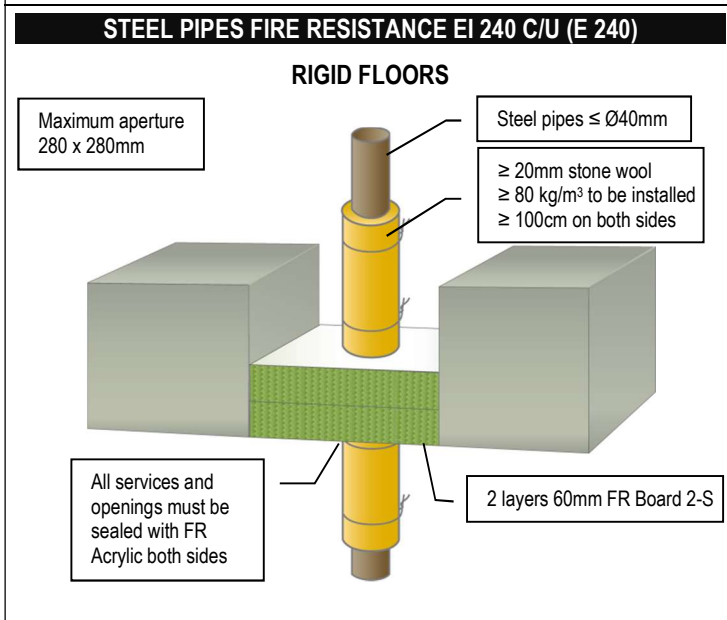
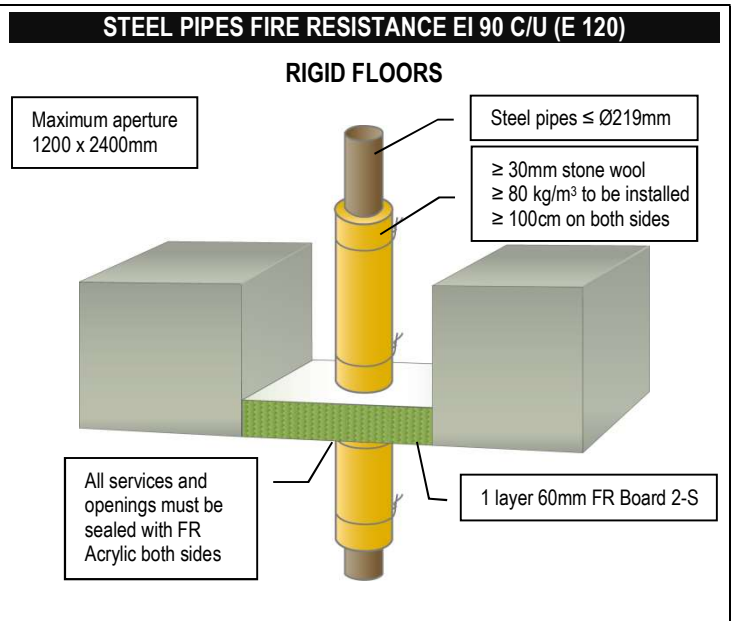
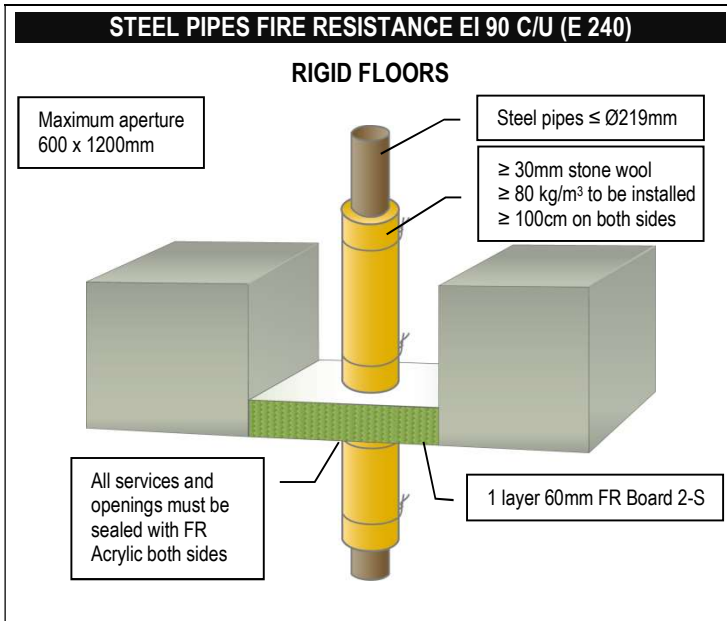


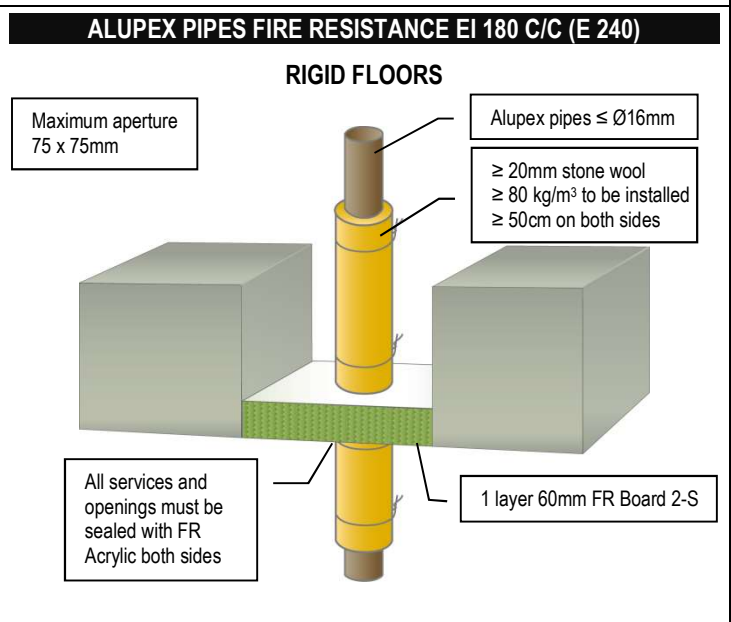
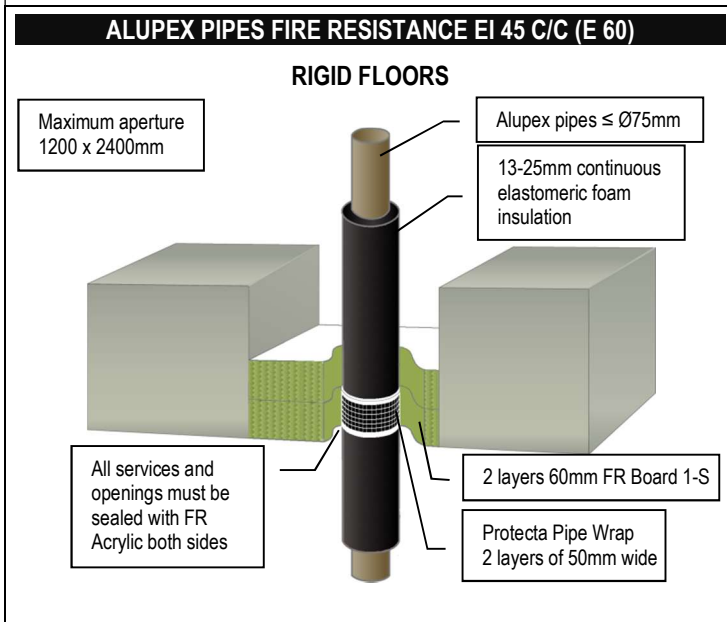
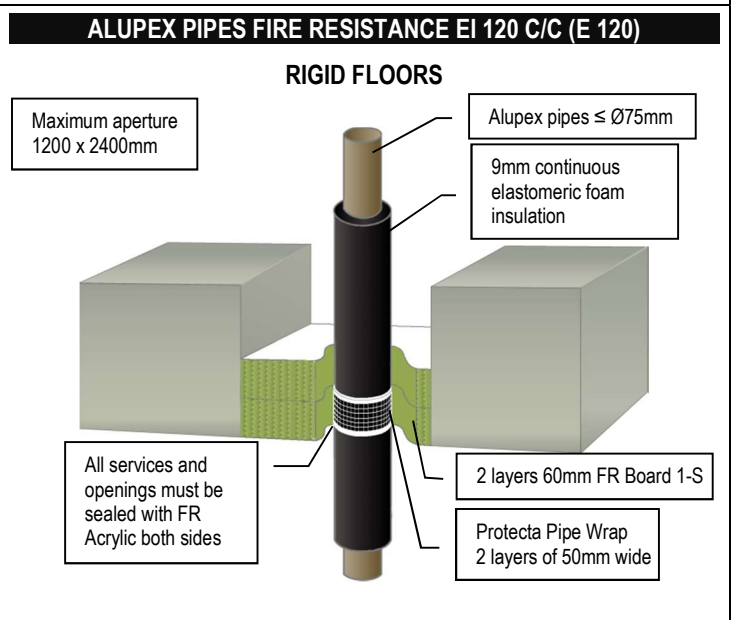
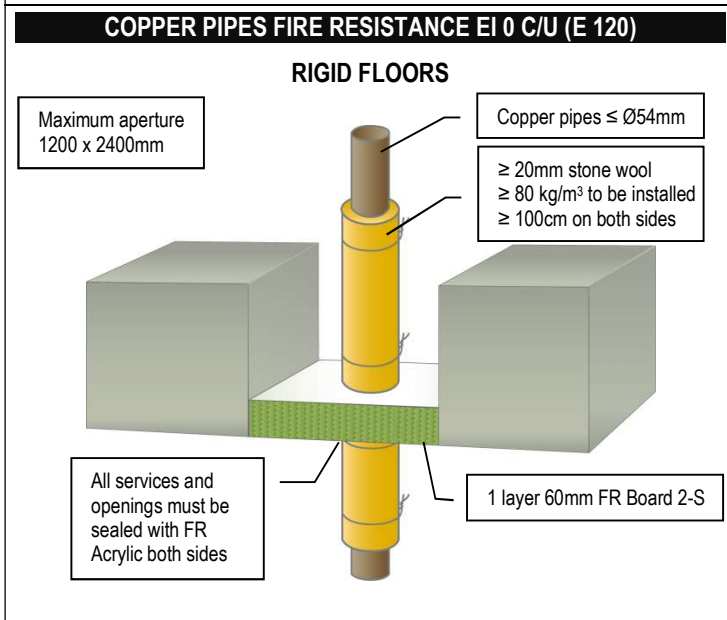
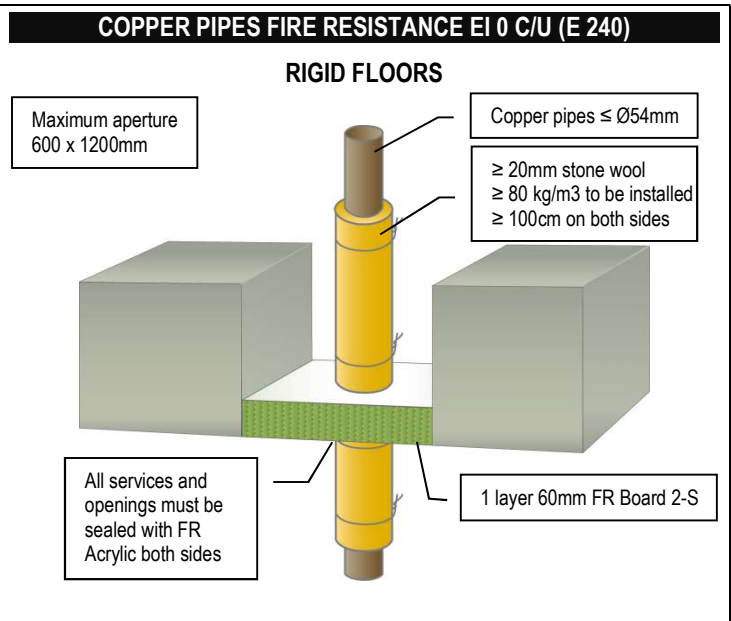
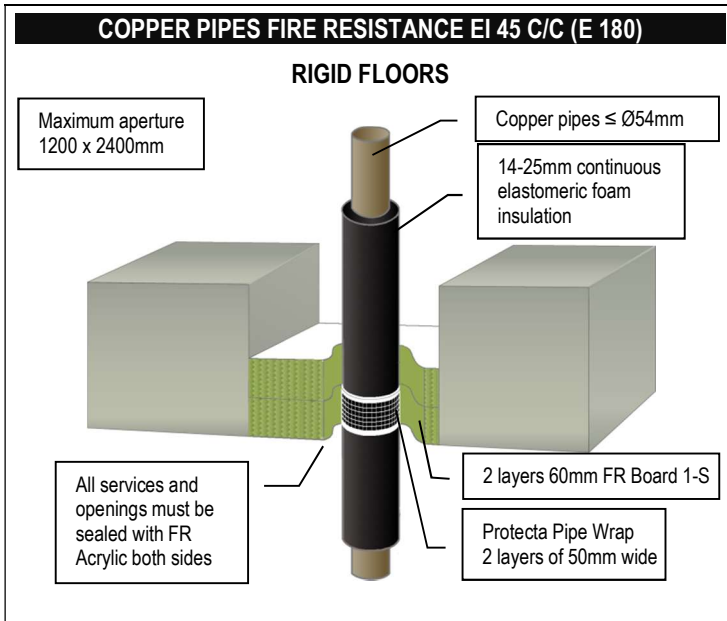
Services	Pipe Wall Thickness	FR Pipe Wrap	Classification
$\leq \varnothing 40\text{mm}$ PVC-U & PVC-C	1.9 – 3.0mm	50 x 1.8mm (1 layer)	EI 240 U/C (E 240 U/C)
$\leq \varnothing 40\text{mm}$ PE, ABS & SAN+PVC	2.4 – 4.6mm	50 x 1.8mm (1 layer)	EI 240 U/C (E 240 U/C)
$\leq \varnothing 40\text{mm}$ PP	1.8 – 5.5mm	50 x 1.8mm (1 layer)	EI 240 U/C (E 240 U/C)
$\leq \varnothing 110\text{mm}$ PVC-U & PVC-C	2.7 – 6.6mm	50 x 3.6mm (2 layers)	EI 240 U/C (E 240 U/C)
$\leq \varnothing 110\text{mm}$ PE, ABS & SAN+PVC	3.4 – 10.0mm	50 x 3.6mm (2 layers)	EI 240 U/C (E 240 U/C)
$\leq \varnothing 110\text{mm}$ PP	2.7 – 10.0mm	50 x 3.6mm (2 layers)	EI 240 C/C (E 240 C/C)
$\leq \varnothing 125\text{mm}$ PVC-U & PVC-C	4.7 – 7.4mm	50 x 7.2mm (4 layers)	EI 240 U/C (E 240 U/C)
$\leq \varnothing 125\text{mm}$ PE, ABS & SAN+PVC	3.9 – 7.4mm	50 x 7.2mm (4 layers)	EI 240 U/C (E 240 U/C)
$\leq \varnothing 125\text{mm}$ PP	3.1 – 11.4mm	50 x 7.2mm (4 layers)	EI 240 C/C (E 240 C/C)
$\leq \varnothing 160\text{mm}$ PVC-U & PVC-C	4.0 – 9.5mm	50 x 10.8mm (6 layers)	EI 240 U/C (E 240 U/C)
$\leq \varnothing 160\text{mm}$ PE, ABS & SAN+PVC	4.9 – 9.5mm	50 x 10.8mm (6 layers)	EI 240 U/C (E 240 U/C)
$\leq \varnothing 160\text{mm}$ PP	4.9 – 14.6mm	50 x 10.8mm (6 layers)	EI 240 C/C (E 240 C/C)
$\leq \varnothing 200\text{mm}$ PVC-U & PVC-C	5.0 – 10.2mm	75 x 18.0mm (10 layers)	EI 120 C/C (E 120 C/C)
$\leq \varnothing 250\text{mm}$ PVC-U & PVC-C	6.0 – 11.0mm	75 x 18.0mm (10 layers)	EI 120 C/C (E 120 C/C)
$\leq \varnothing 315\text{mm}$ PVC-U & PVC-C	7.7 – 12.1mm	75 x 18.0mm (10 layers)	EI 120 C/C (E 120 C/C)
$\leq \varnothing 400\text{mm}$ PVC-U & PVC-C	9.8 – 15.3mm	75 x 28.8mm (16 layers)	EI 120 C/C (E 120 C/C)











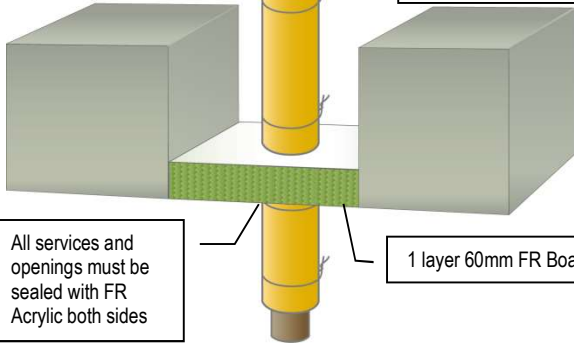
**ALUPEX PIPES FIRE RESISTANCE EI 90 C/C (E 240)**

**RIGID FLOORS**

Maximum aperture  
600 x 1200mm

Alupex pipes  $\leq \varnothing 75\text{mm}$

$\geq 20\text{mm}$  stone wool  
 $\geq 80 \text{ kg/m}^3$  to be installed  
 $\geq 50\text{cm}$  on both sides



All services and openings must be sealed with FR Acrylic both sides

1 layer 60mm FR Board 2-S

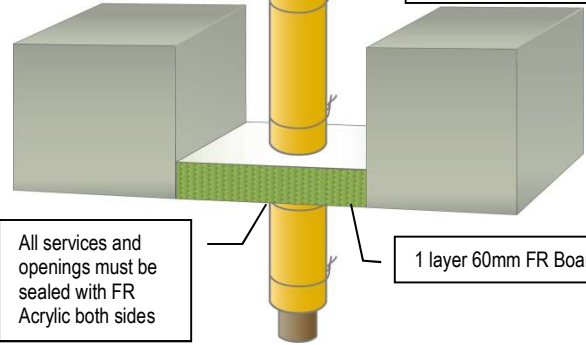
**ALUPEX PIPES FIRE RESISTANCE EI 90 C/C (E 120)**

**RIGID FLOORS**

Maximum aperture  
1200 x 2400mm

Alupex pipes  $\leq \varnothing 75\text{mm}$

$\geq 20\text{mm}$  stone wool  
 $\geq 80 \text{ kg/m}^3$  to be installed  
 $\geq 50\text{cm}$  on both sides



All services and openings must be sealed with FR Acrylic both sides

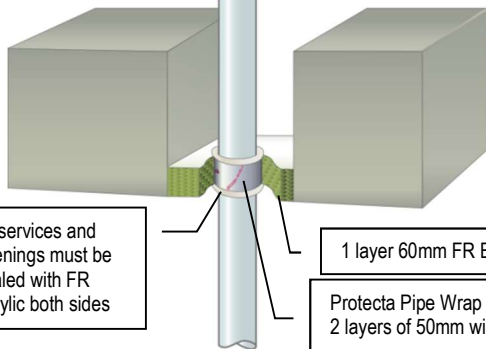
1 layer 60mm FR Board 2-S

**PVC PIPES FIRE RESISTANCE EI 90 U/C (E 90)**

**RIGID FLOORS**

Maximum aperture  
1200 x 2400mm

PVC-U & PVC-C pipe  
 $\varnothing 110\text{mm}$  with wall thickness 3.4mm



All services and openings must be sealed with FR Acrylic both sides

1 layer 60mm FR Board 2-S

Protecta Pipe Wrap  
2 layers of 50mm wide