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

GENERAL PRODUCT DESCRIPTION

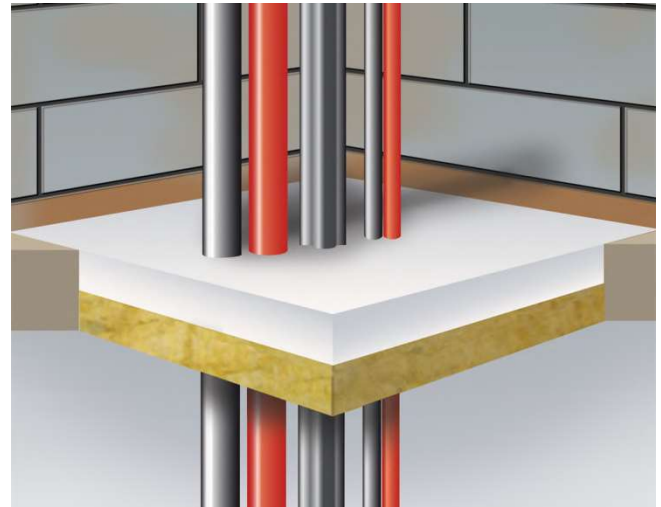
Protecta® EX Mortar is a dry white powder consisting of inorganic compounds and perlite. When mixed with water the compounds form a highly thermally insulating fire seal to prevent the spread of fire and smoke through openings in fire rated walls and floors, including openings formed to accommodate building service penetrations. Protecta® EX Mortar expands by up to 1% by hydraulic action during curing ensuring a very tight seal around service penetrations and the surrounding construction. Protecta® EX Mortar has a rapid setting time and is easy to sand or drill after cure. The compound dries to an off-white colour which may be painted if required.

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 30mm from seal edges. Services within the system Protecta® EX Mortar 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 30mm 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 100 mm and comprise steel studs or timber studs*) lined on both faces with minimum 2 layers of 12.5 mm thick boards. Rigid walls must have a minimum thickness of 100 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.

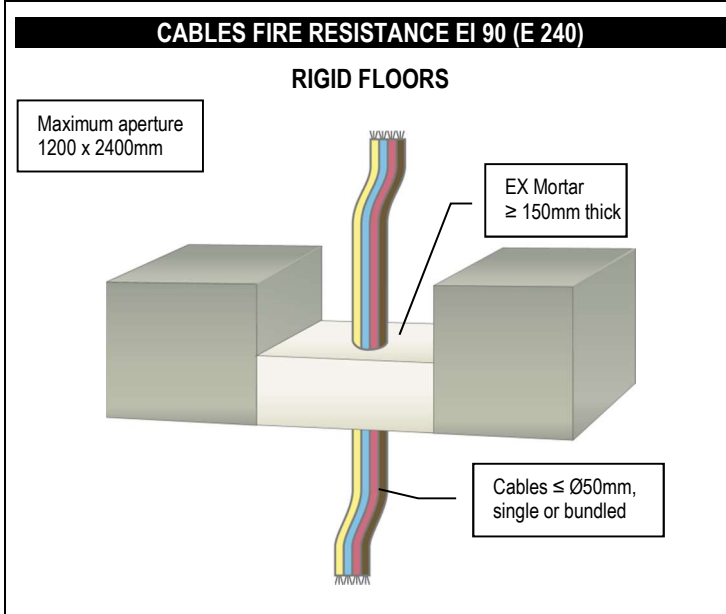
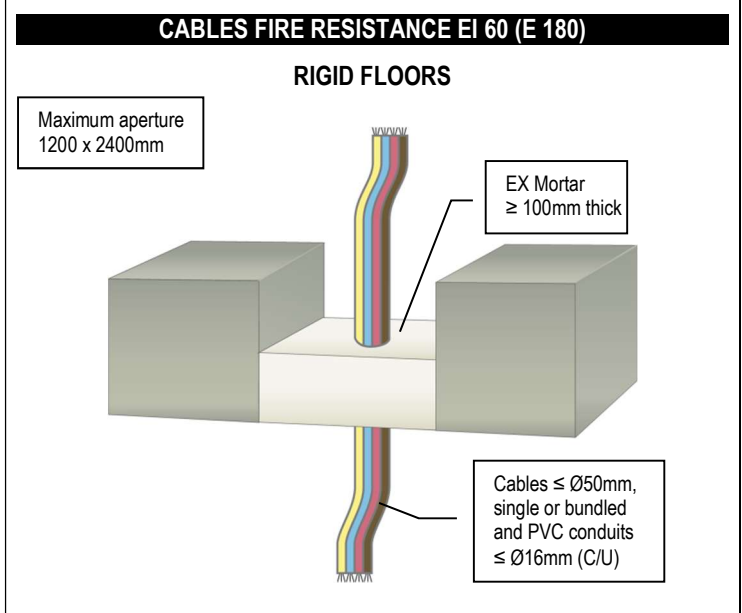
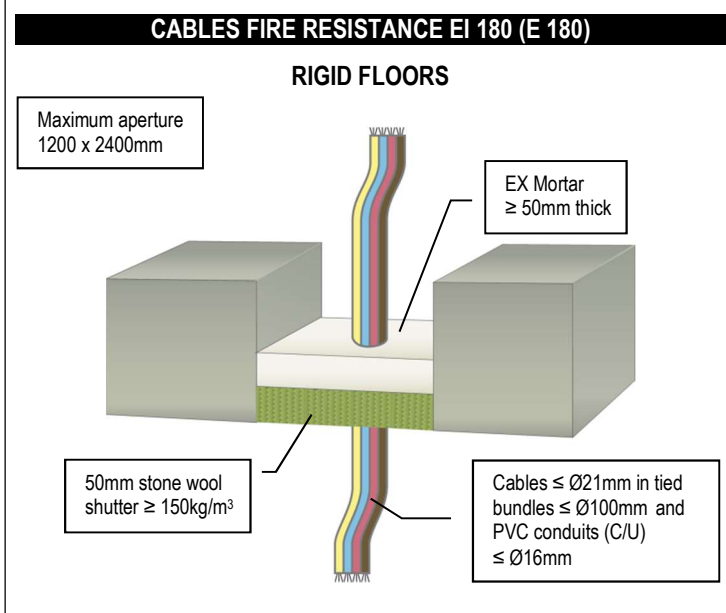
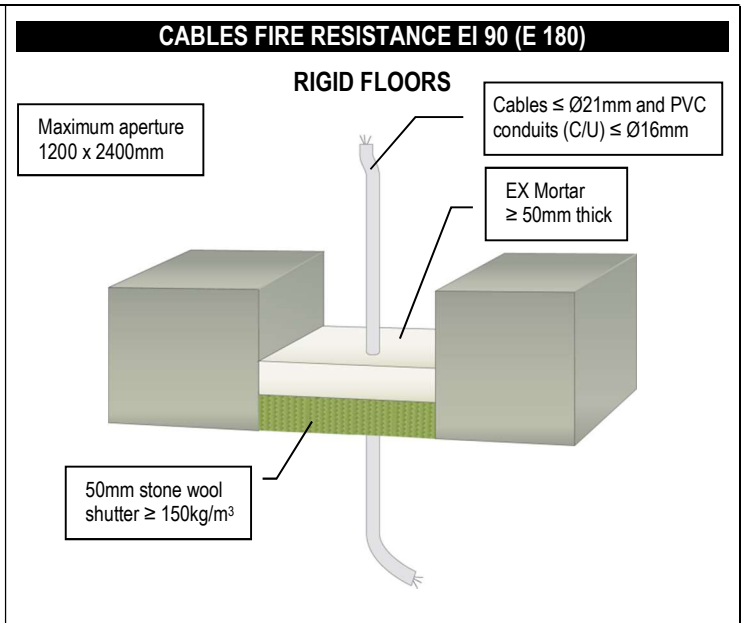
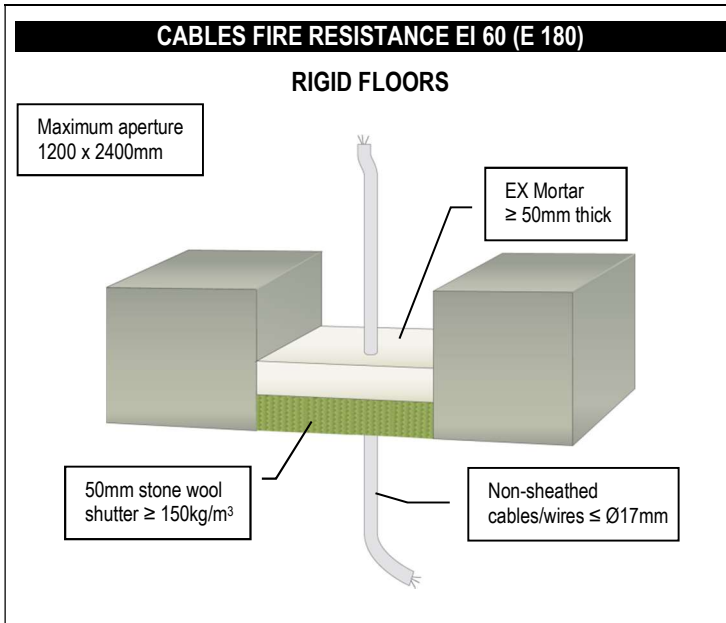


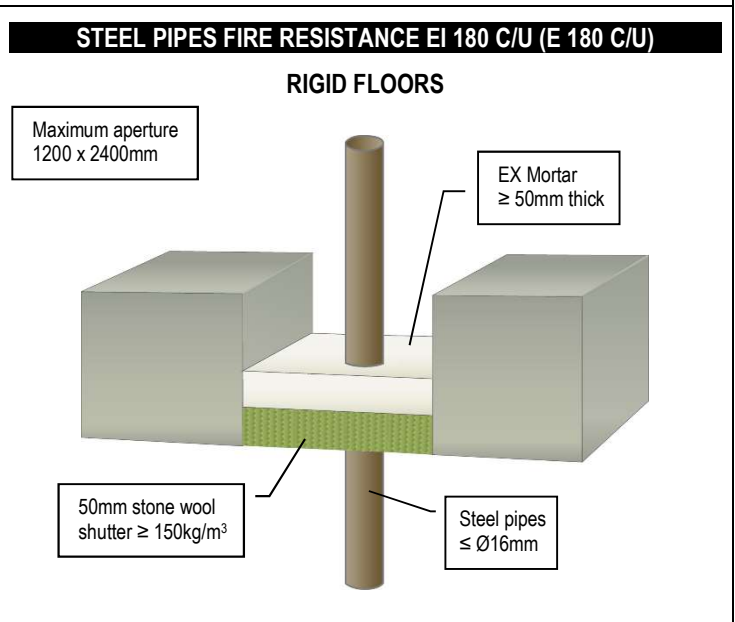
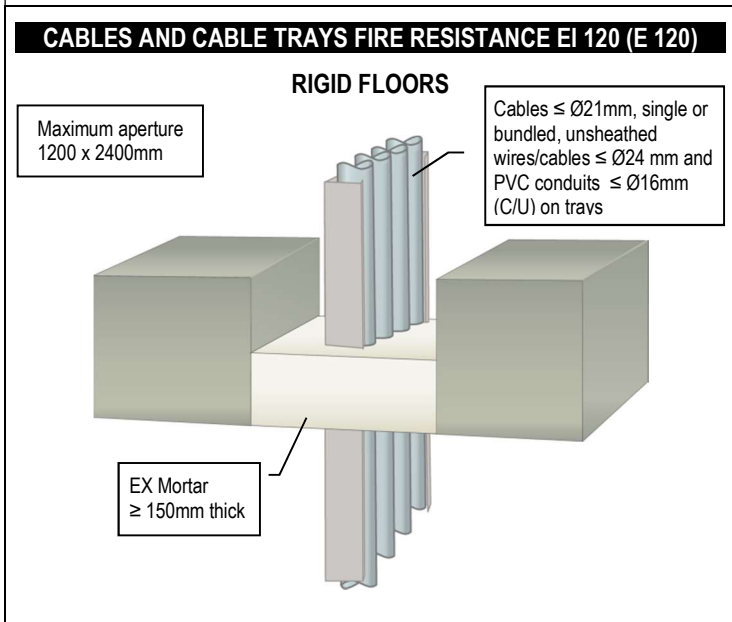
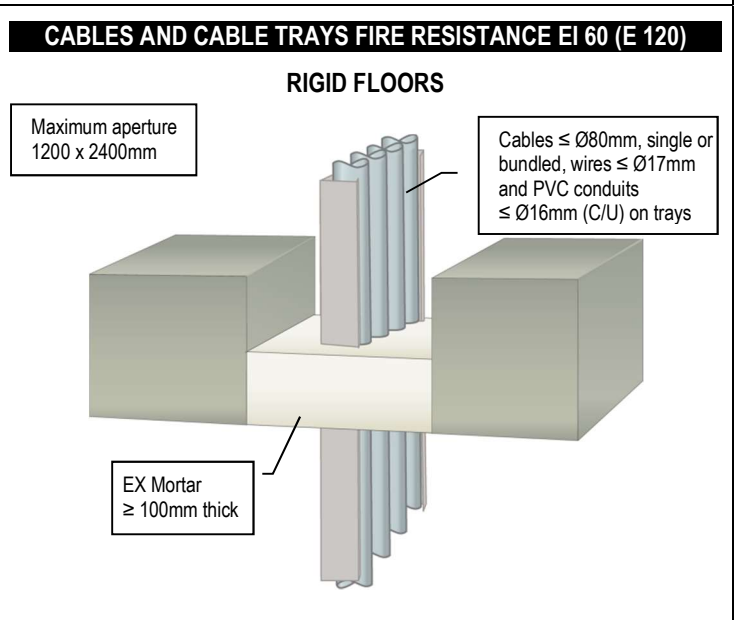
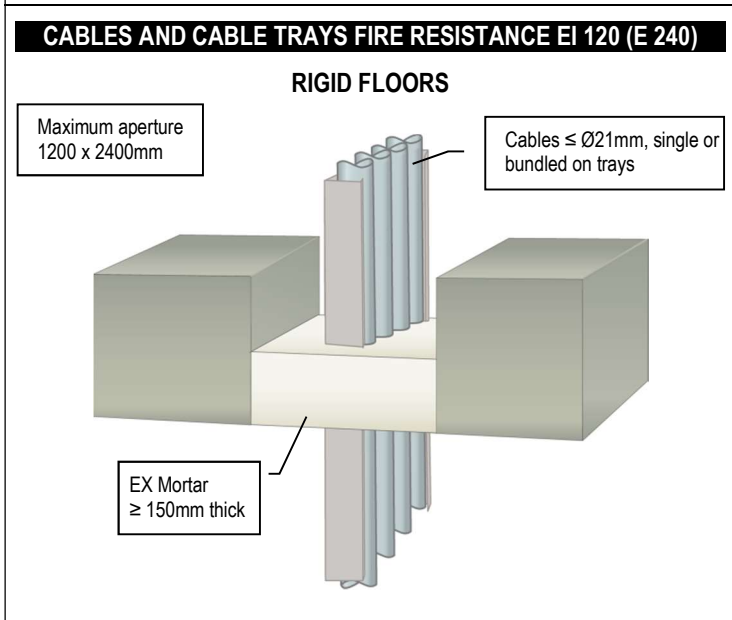
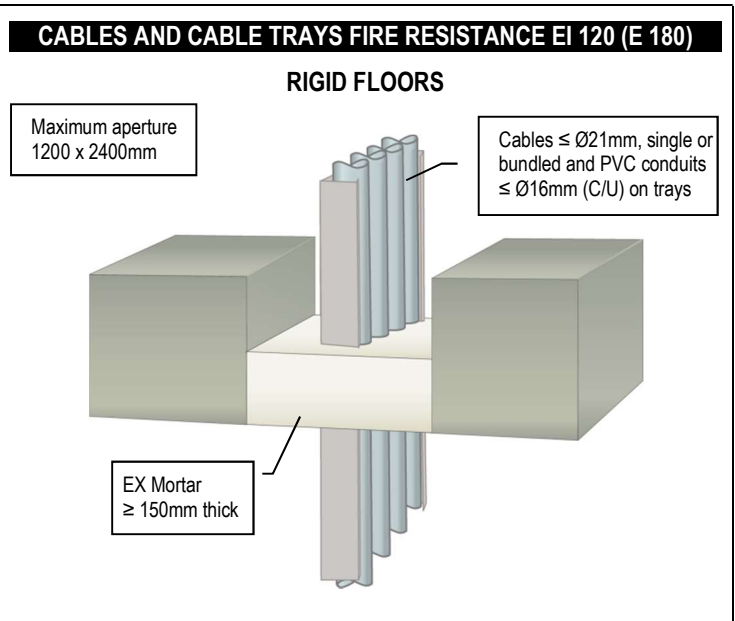
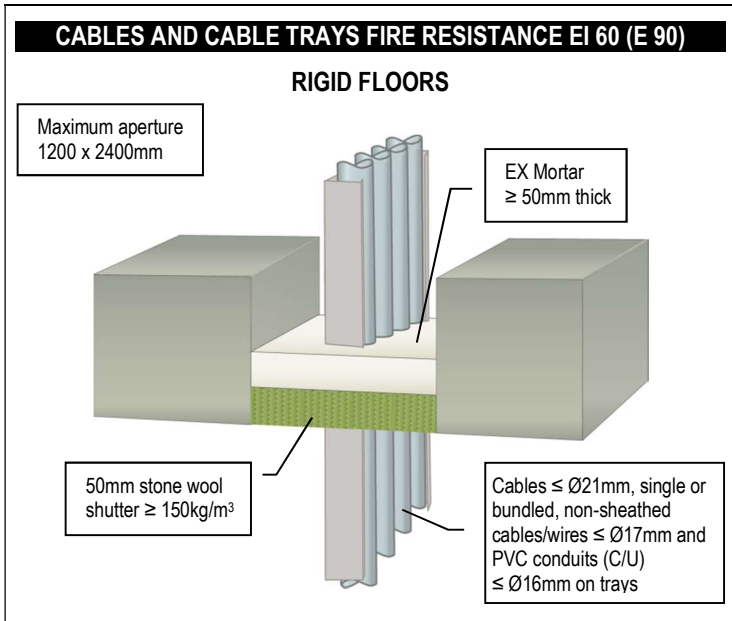
INSTALLATION

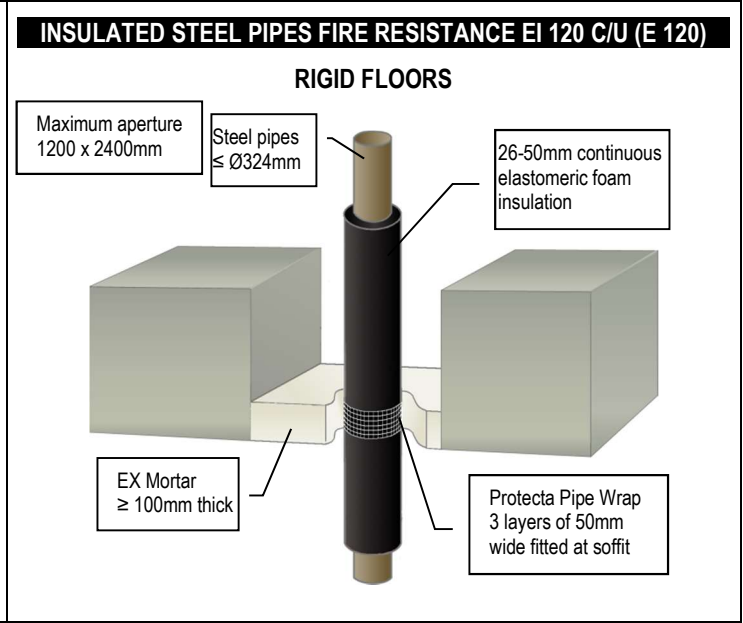
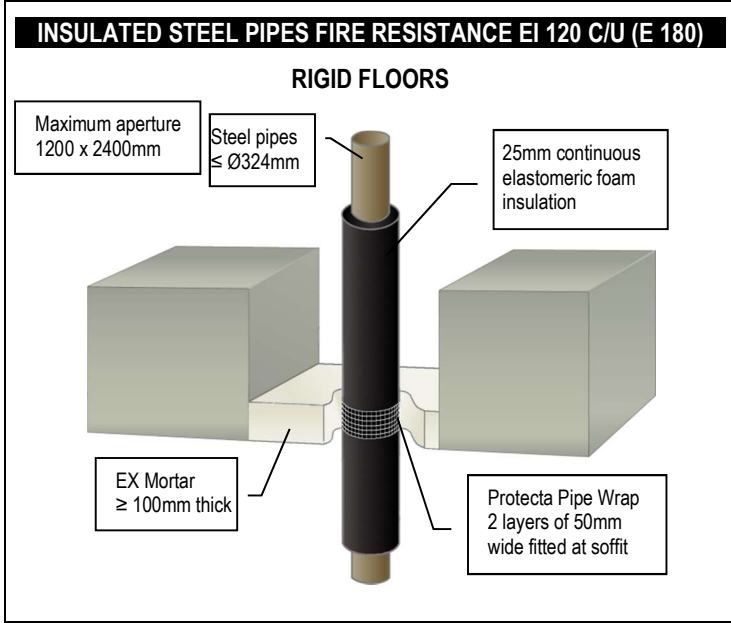
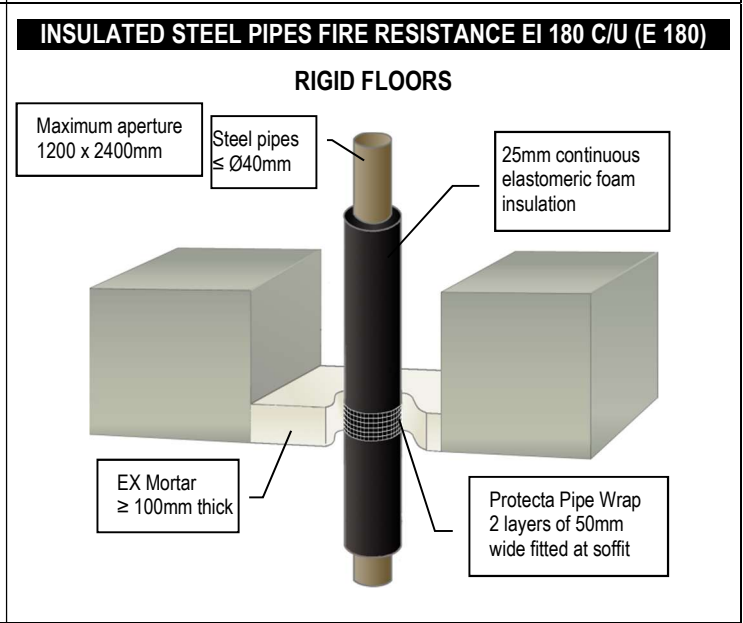
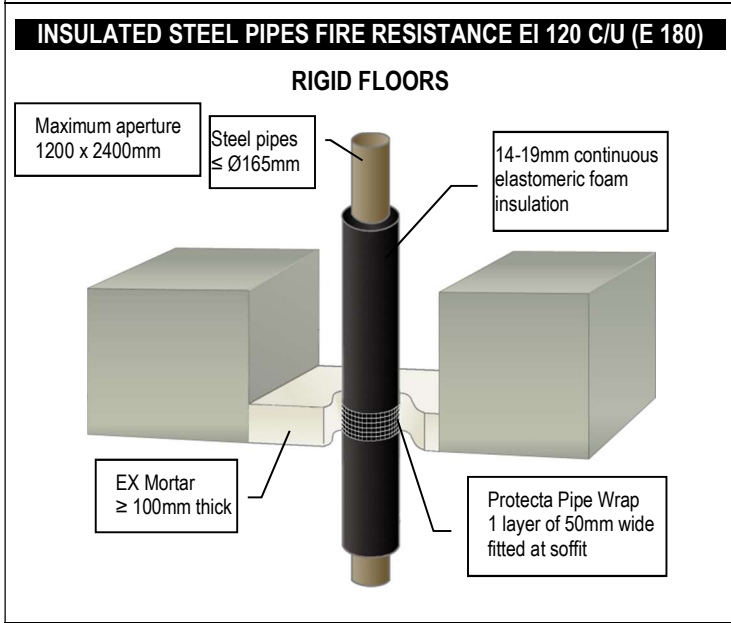
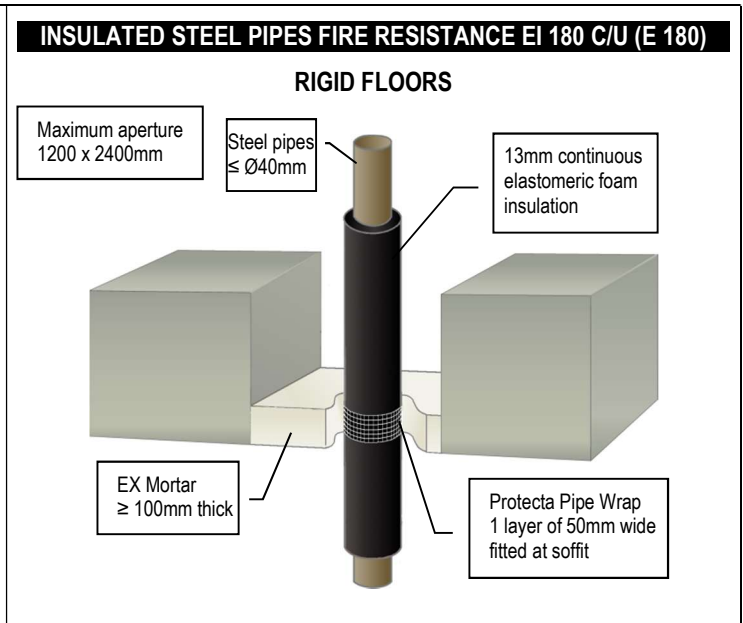
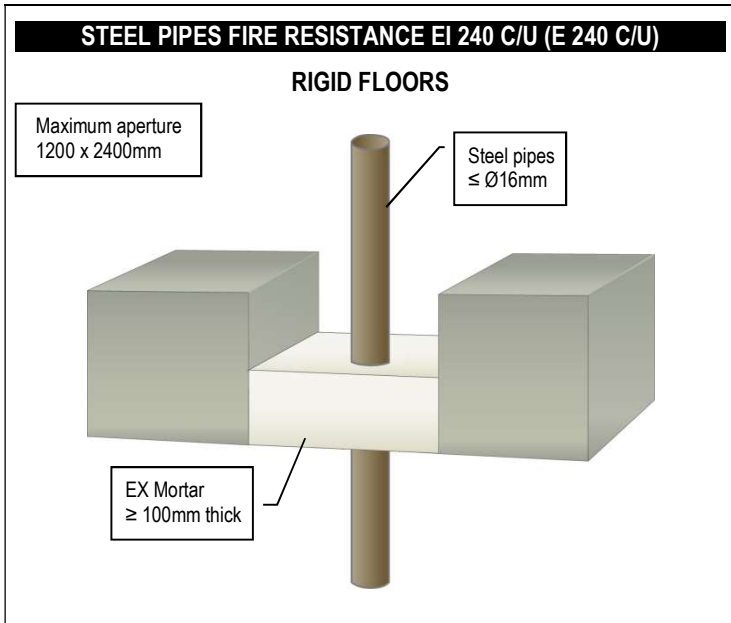
1. Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
2. If the mortar seal is required to be load bearing, please see instructions in the Technical Data Sheet.
3. Bare metal pipes passing through the seal must be protected against corrosion using a suitable primer/protection system.
4. When sealing gypsum walls the mortar should be flush with the surface of the gypsum on both sides.
5. When sealing masonry or concrete constructions, the seal can be positioned to either side of the construction or anywhere in between.
6. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. 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.
7. Install a stone wool shutter board where is necessary to achieve the required thickness of mortar (see the drawings on pages 2-16). Make sure that this achieves a very tight seal – any small openings should be sealed with Protecta® FR Acrylic.
8. Pour clean water into a suitable mixing vessel and pour enough mortar to obtain the required consistency. Mix well to avoid lumps. Always add the mortar to the water, do not reverse this mixing process. For different mix ratios and drying times, please refer to the Technical Data Sheet.
9. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.

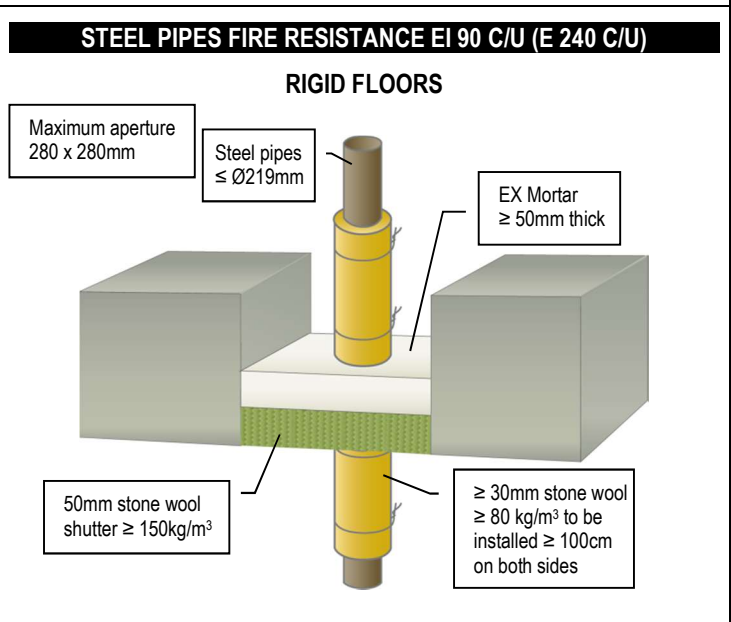
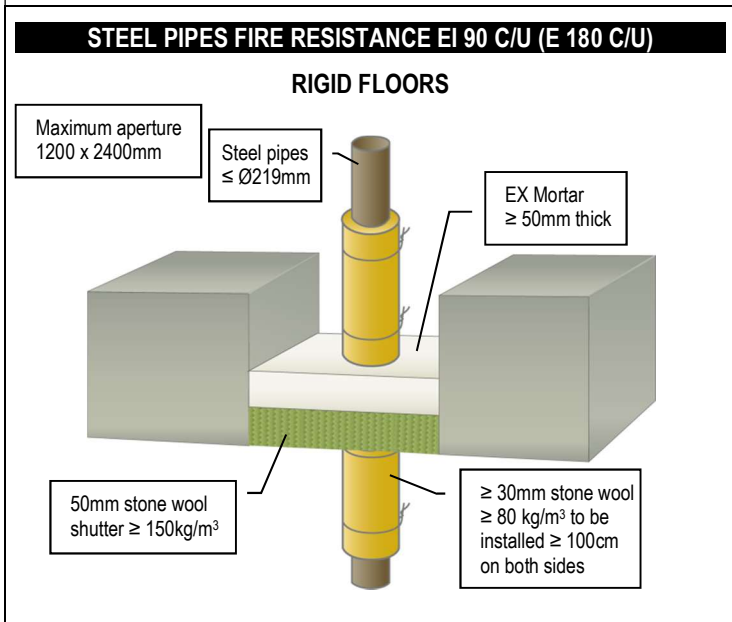
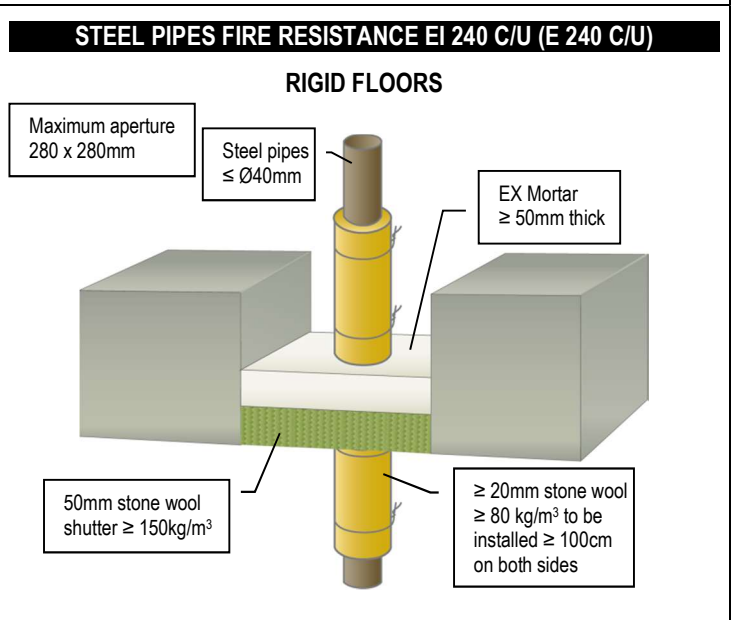
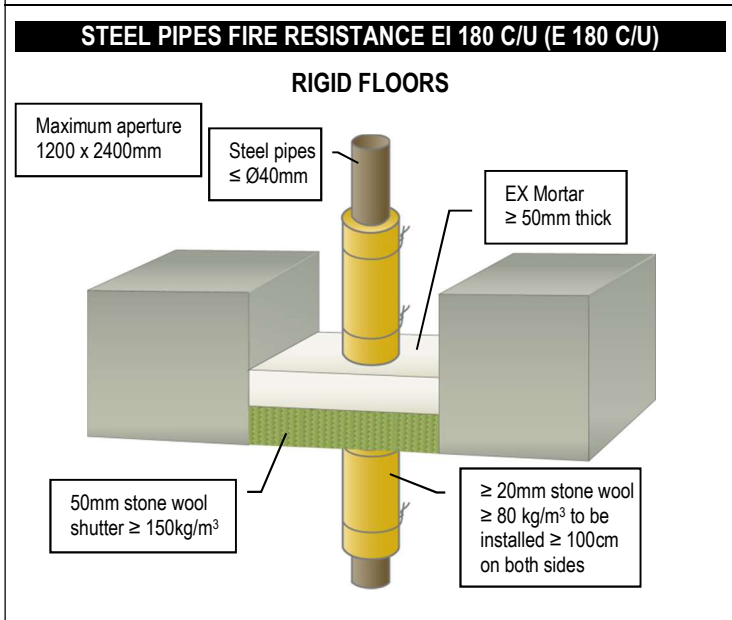
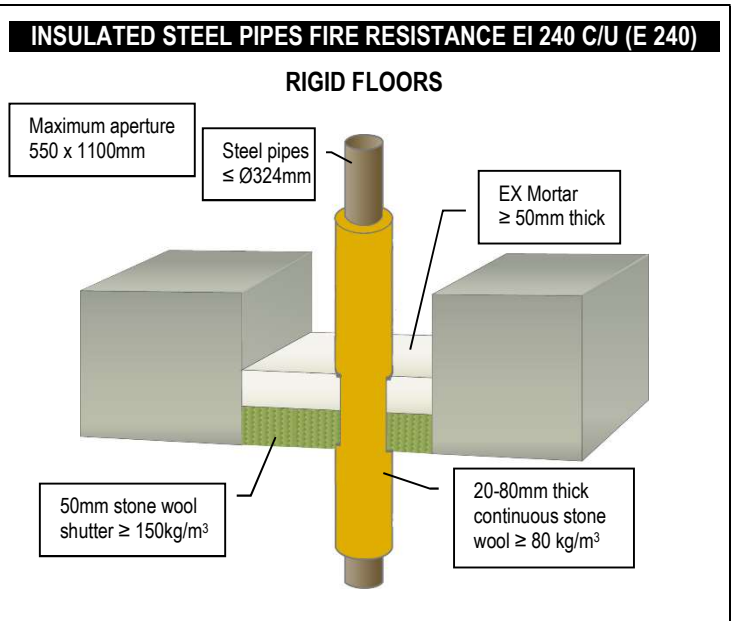
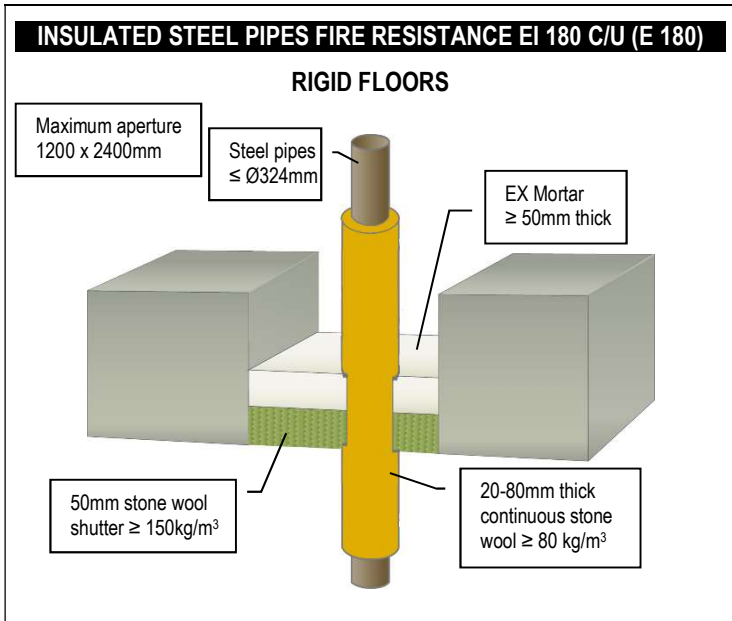
TEST STANDARDS

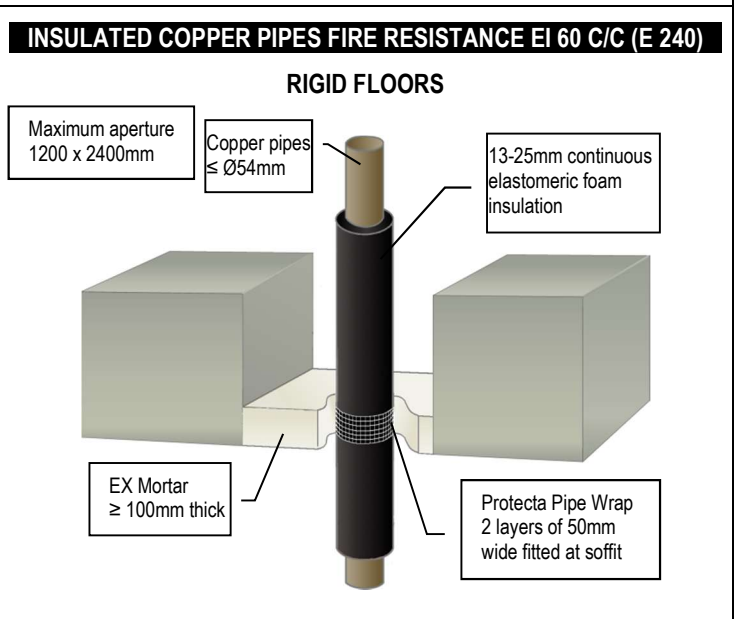
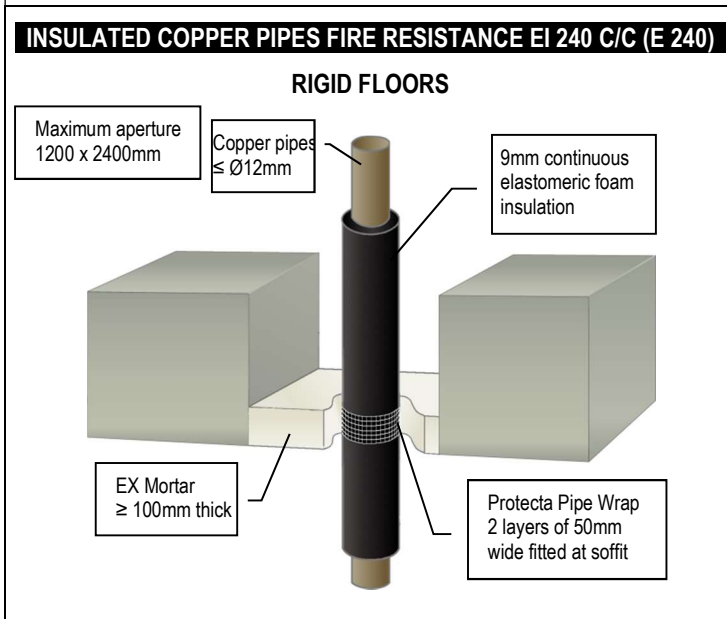
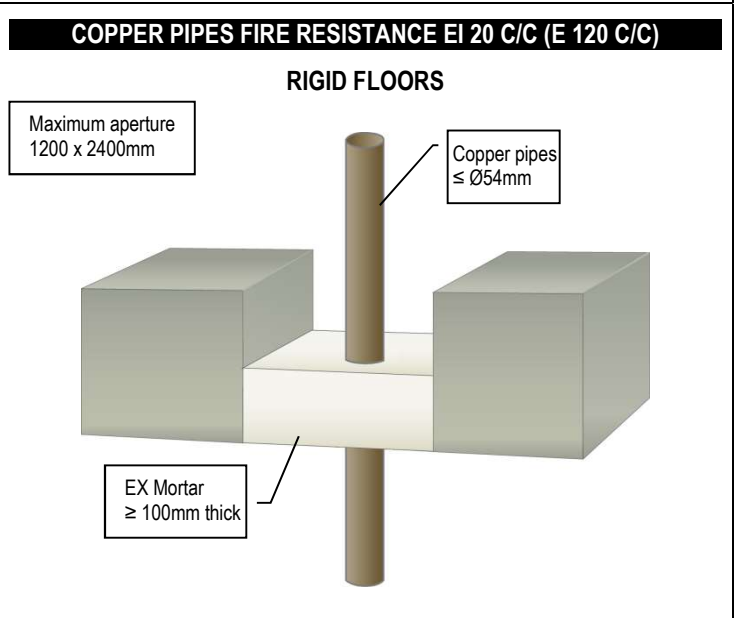
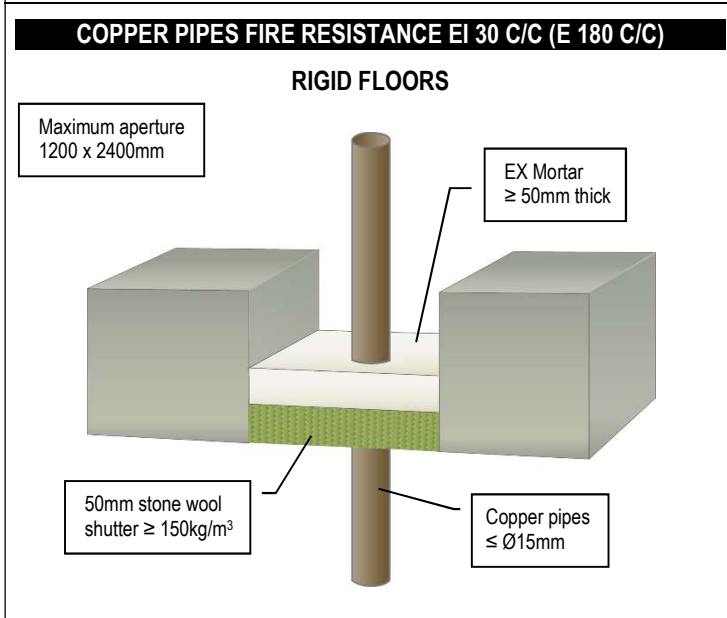
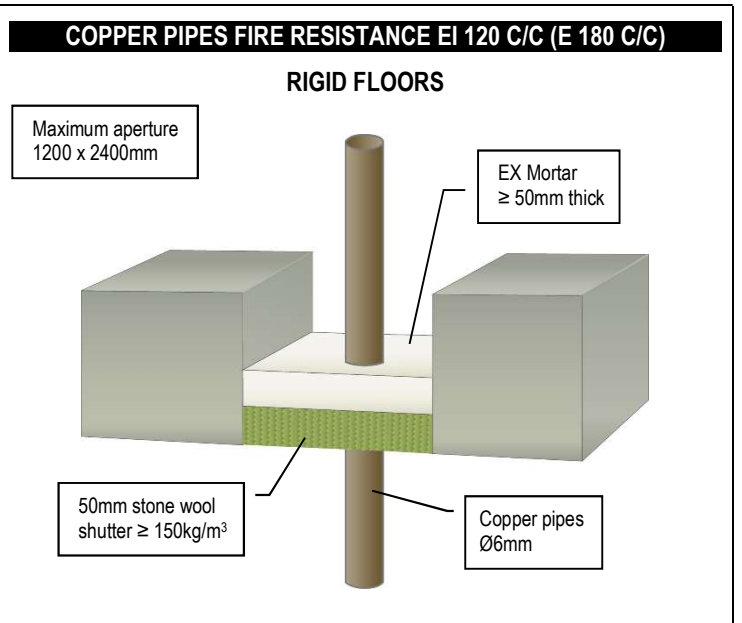
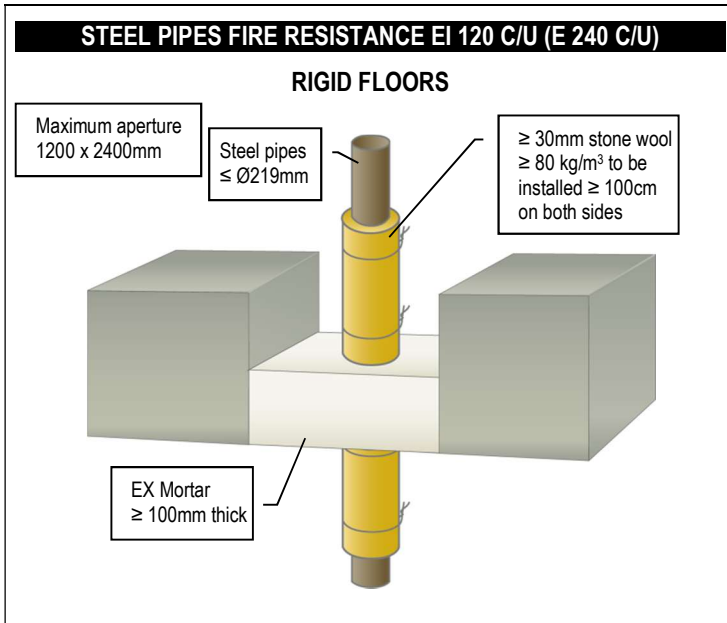
This Installation Instruction is based on the product's European Technical Assessment, issued in accordance with regulation (EU) No 305/2011, on the basis of ETAG 026-2 and 3, edition 2011, used as European Assessment Document (EAD).

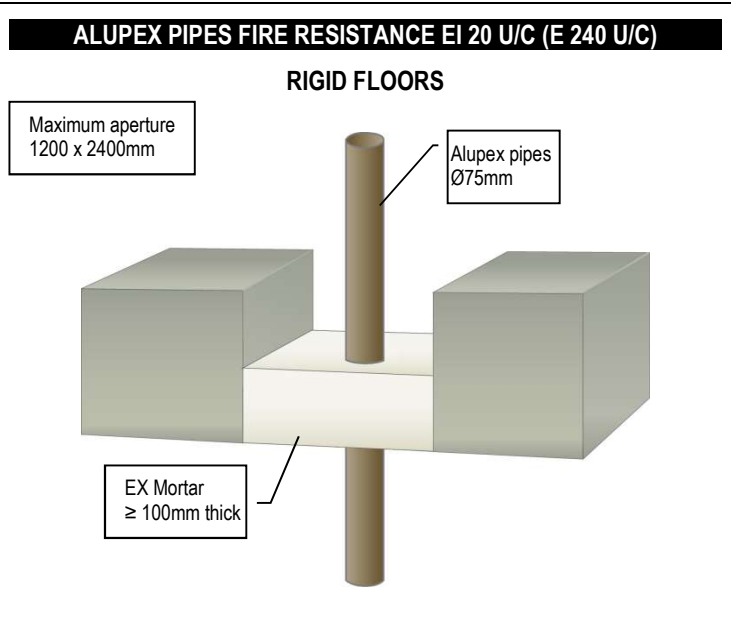
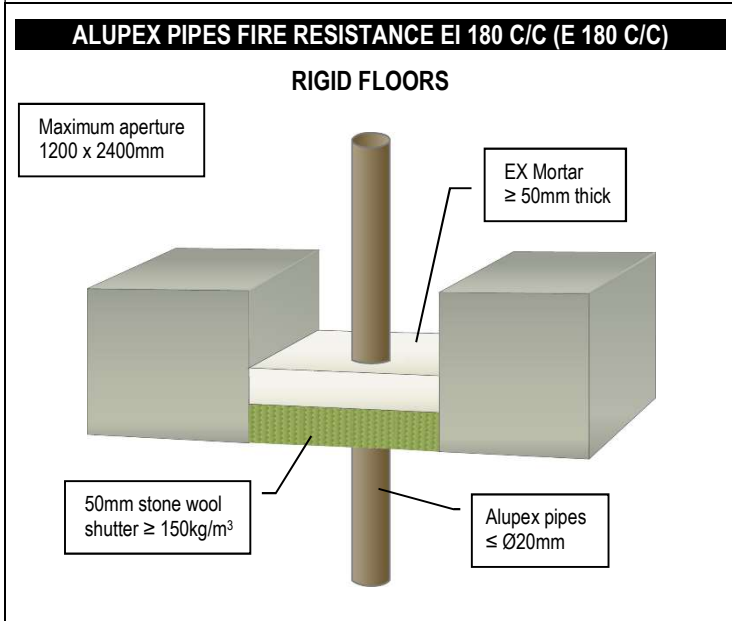
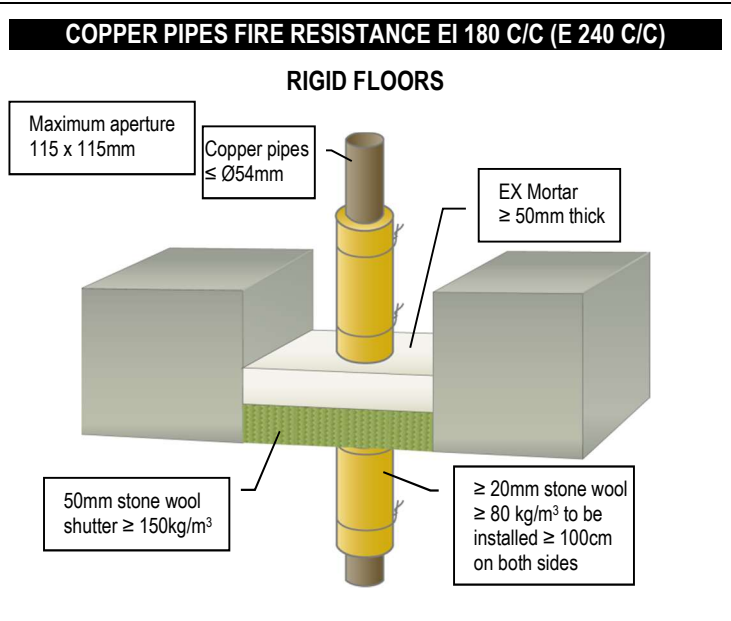
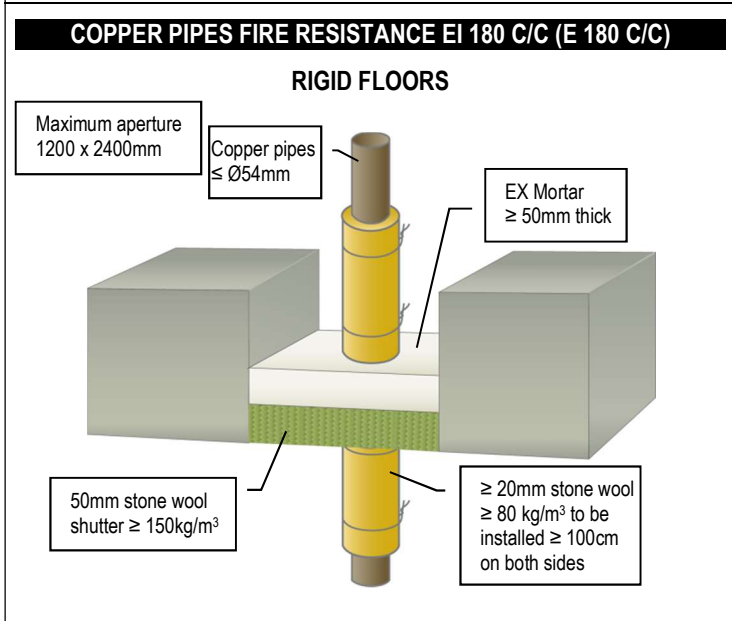
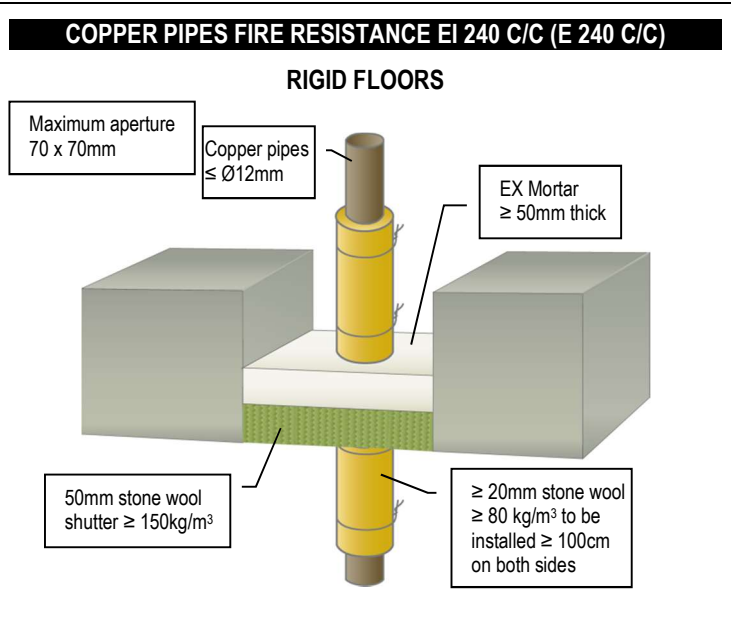
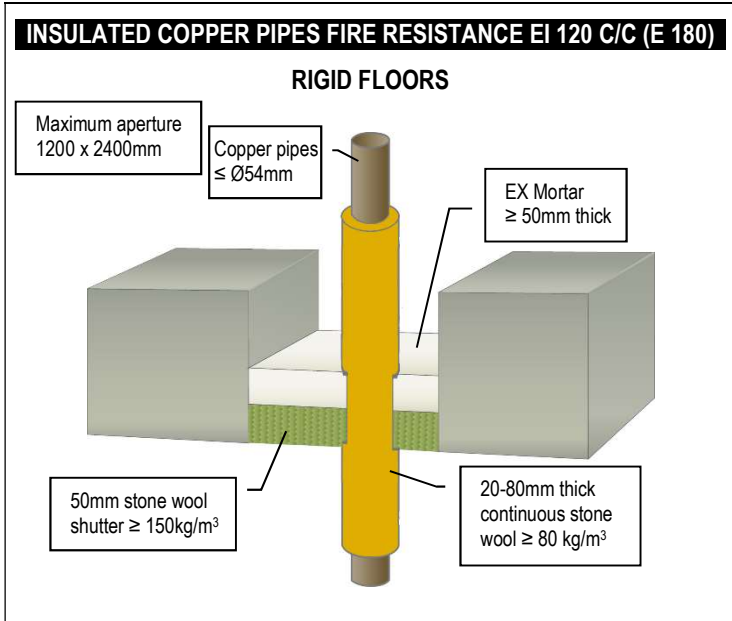


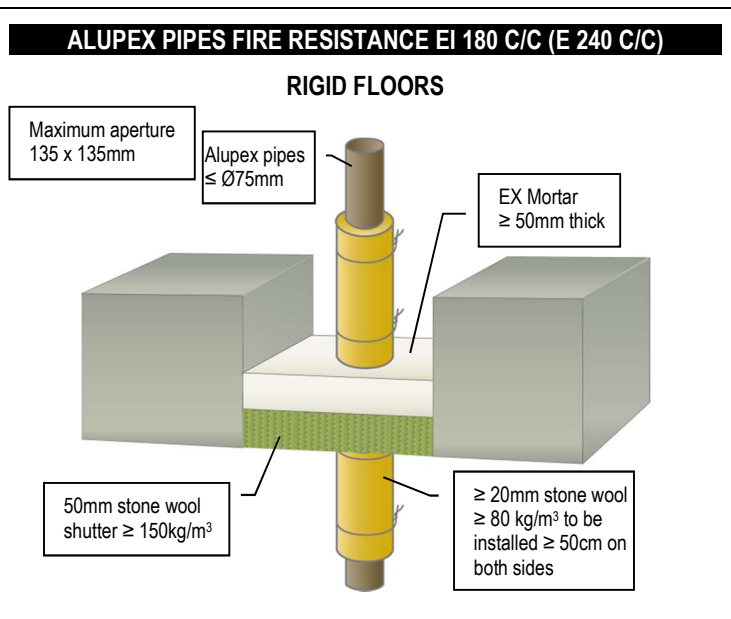
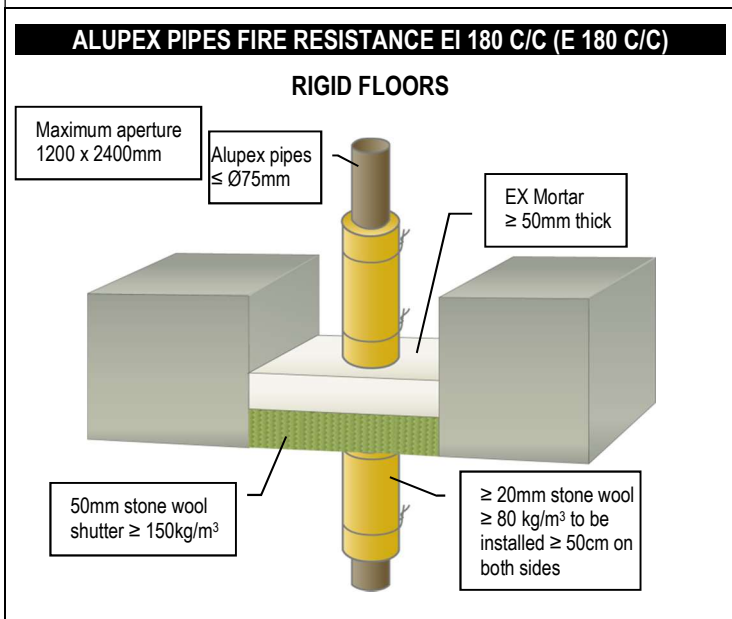
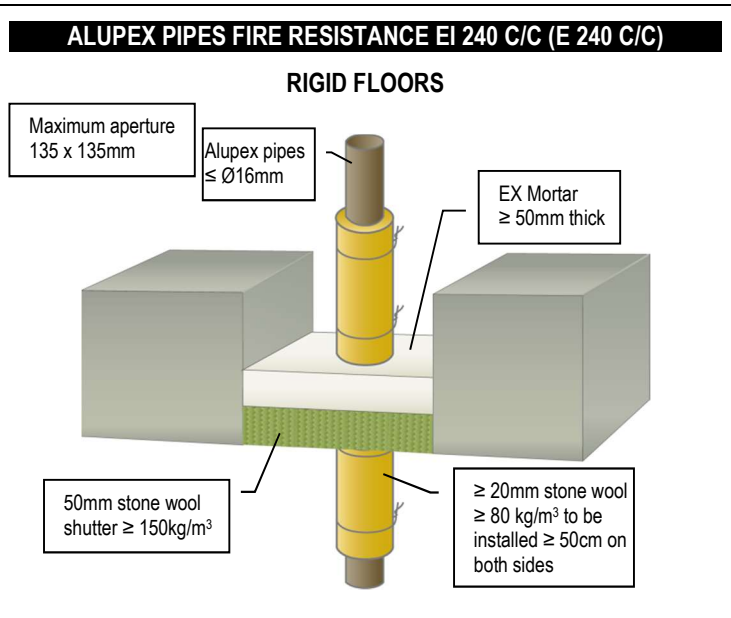
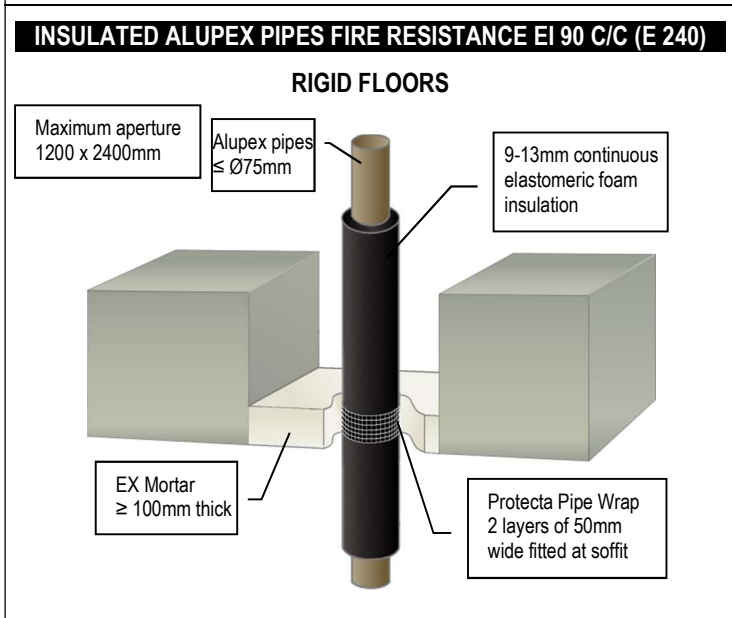
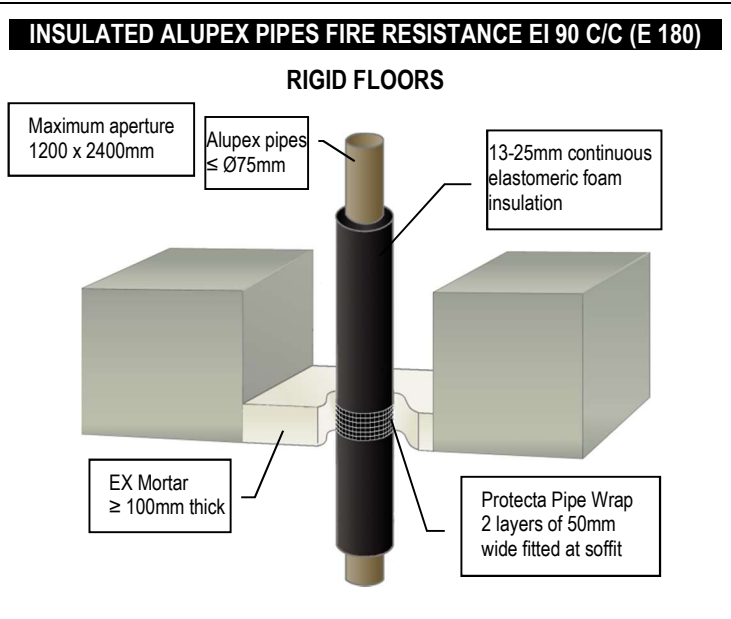
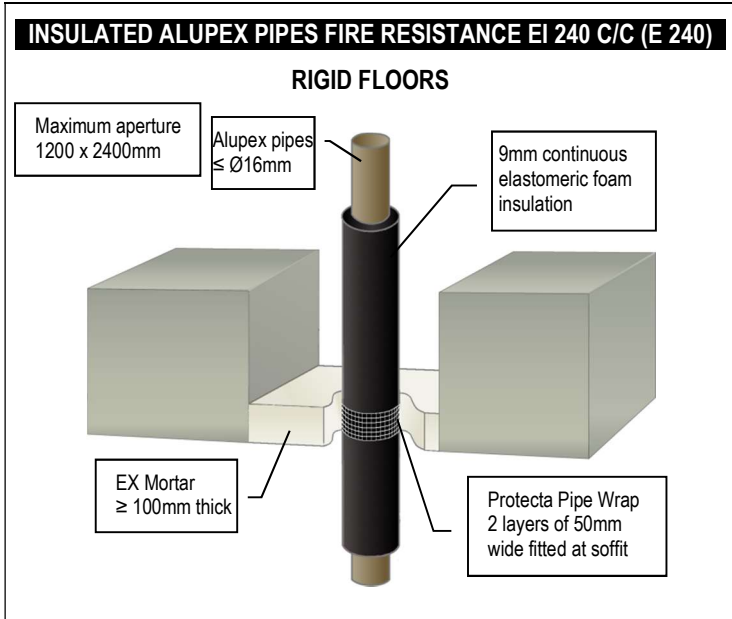


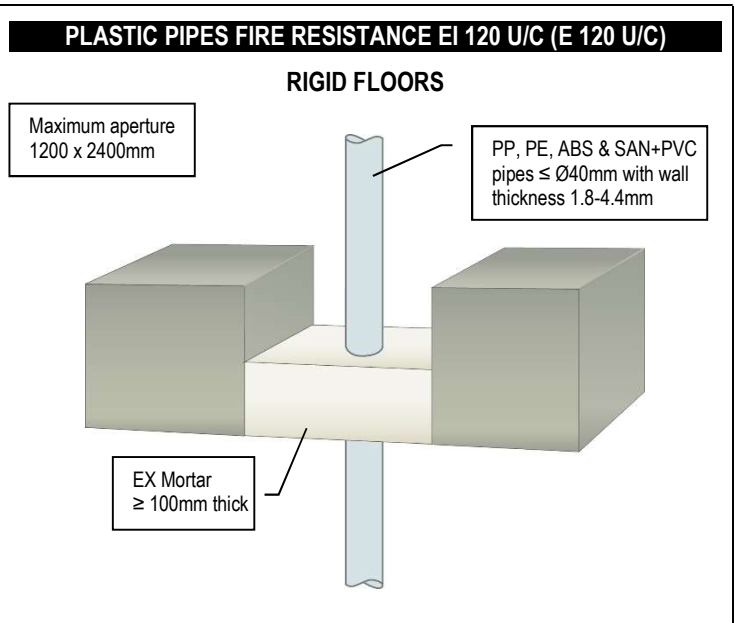
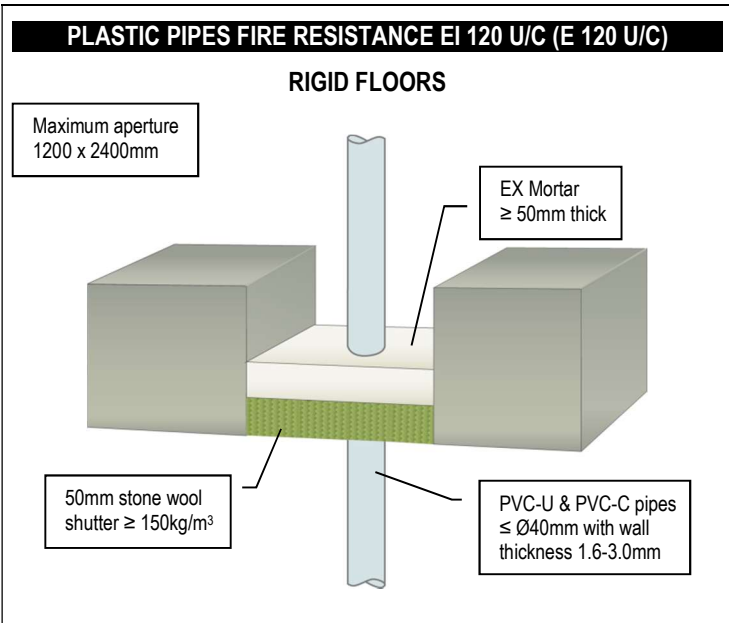












PLASTIC PIPES FIRE RESISTANCE EI 120 - 240

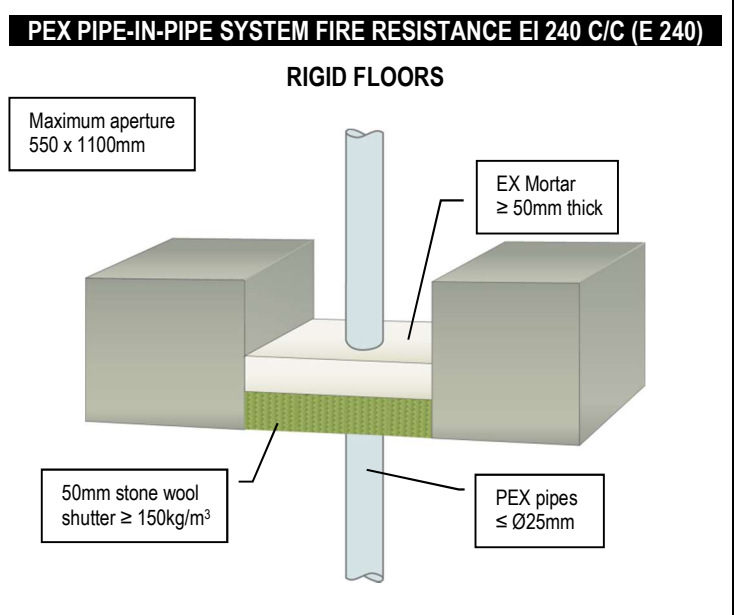
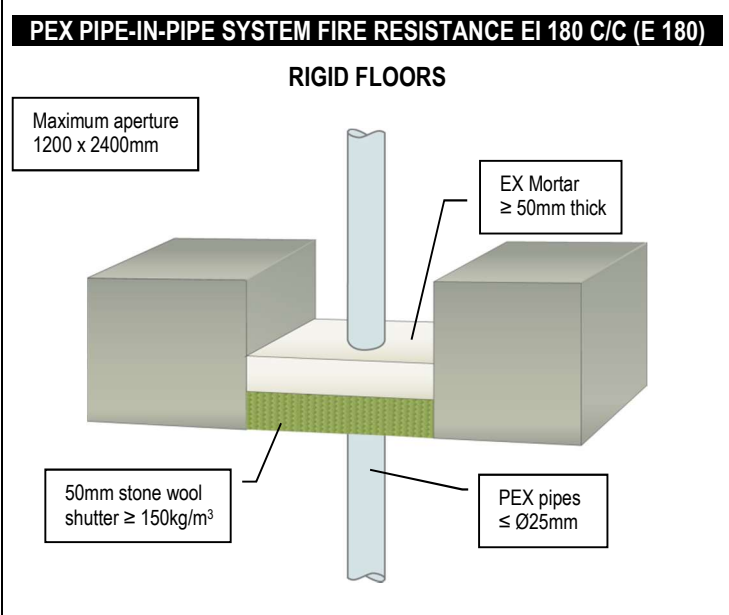
RIGID FLOORS

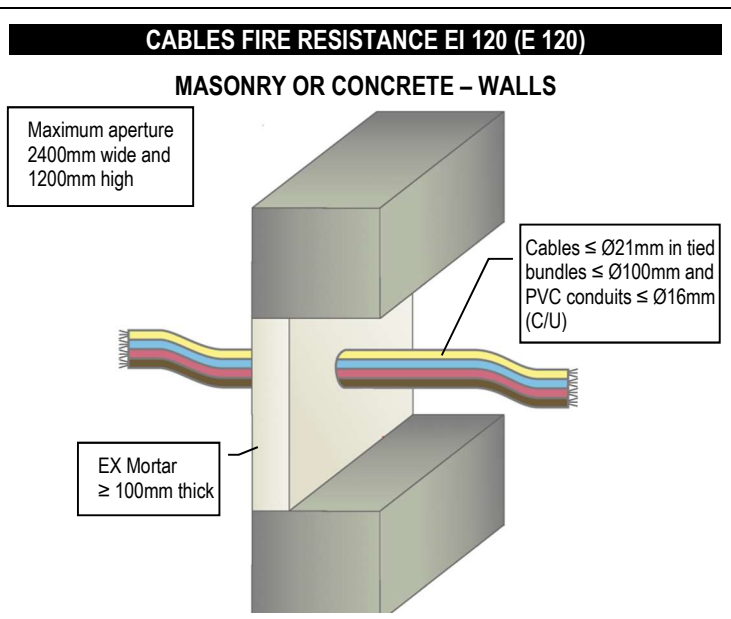
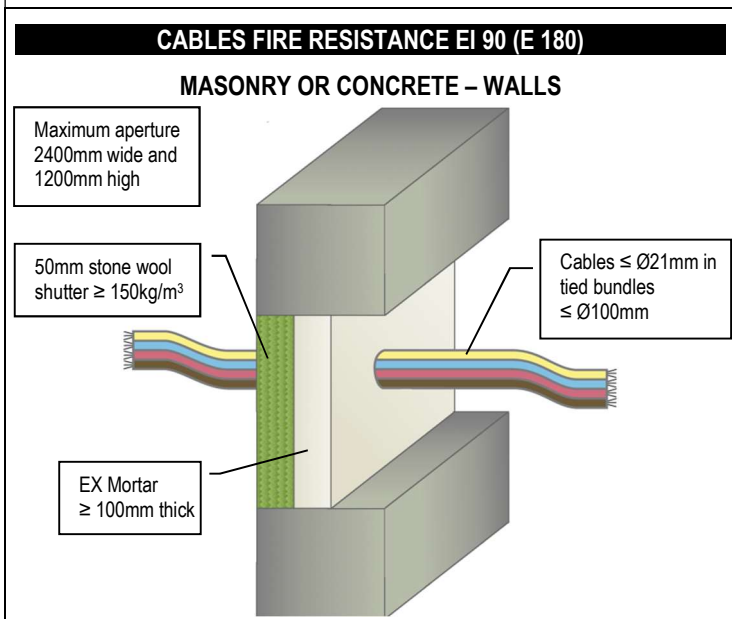
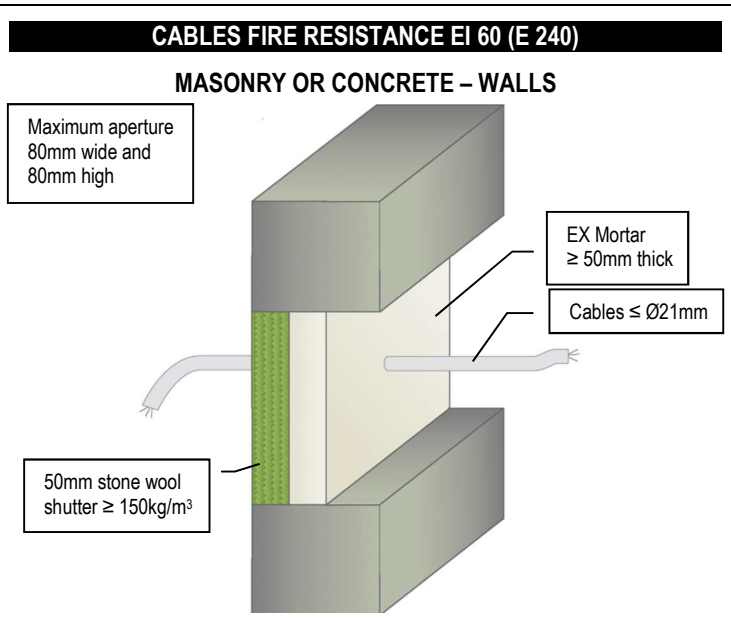
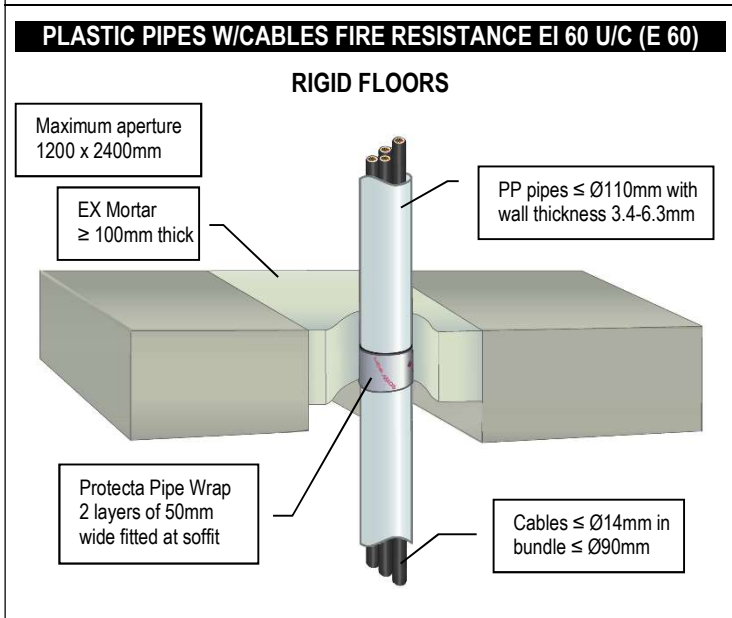
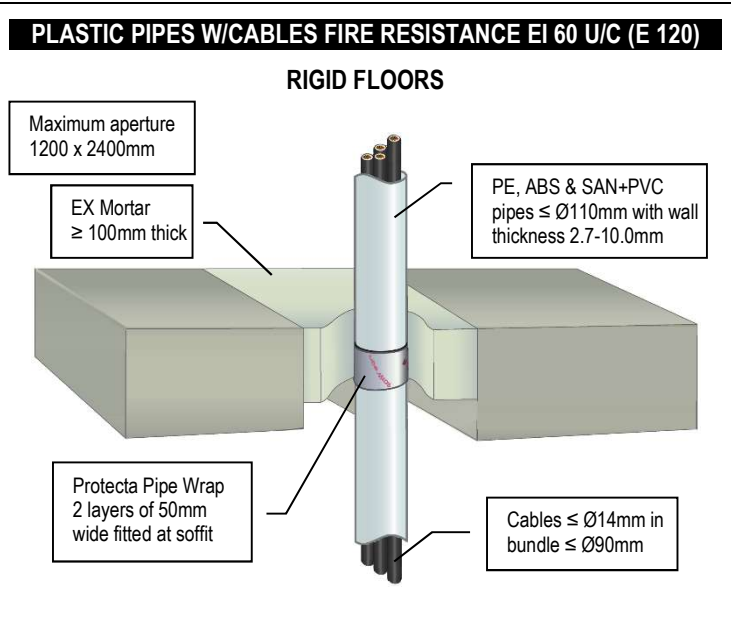
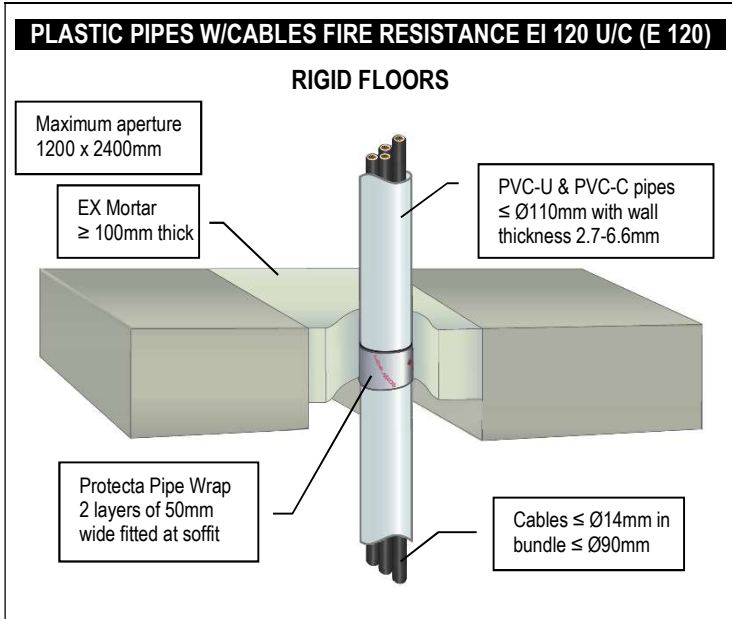
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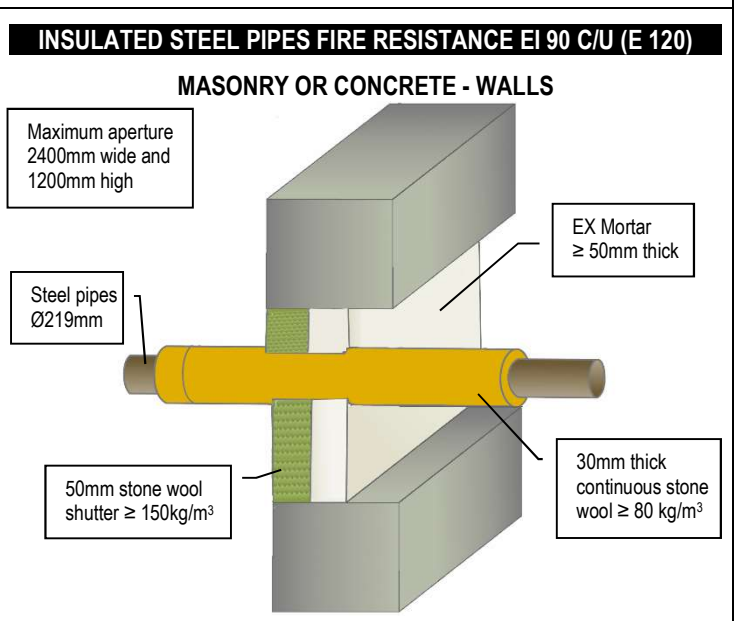
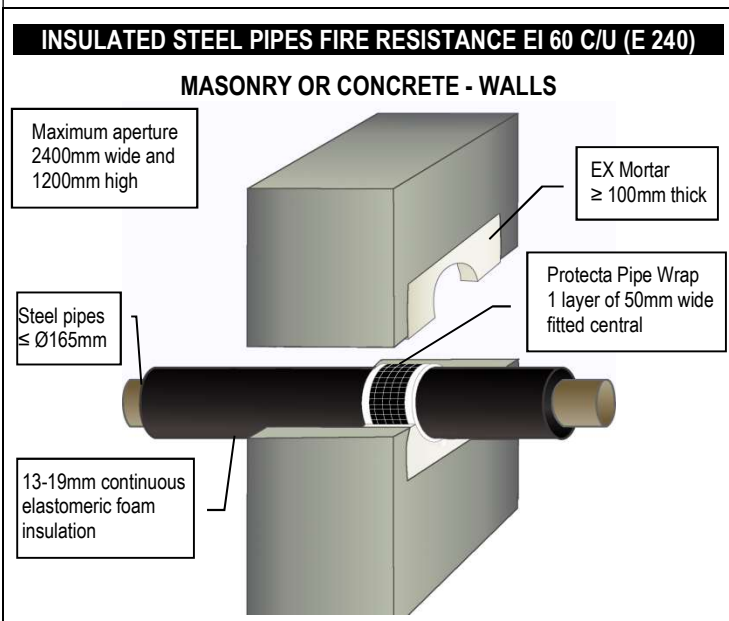
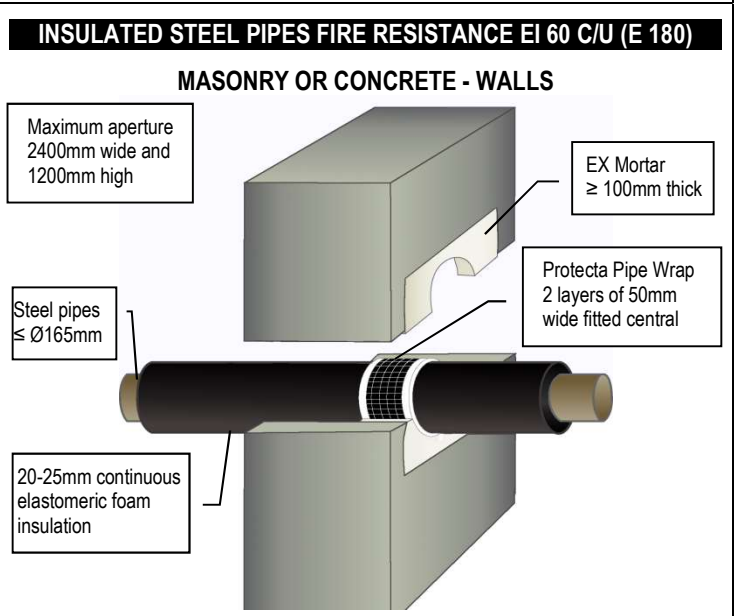
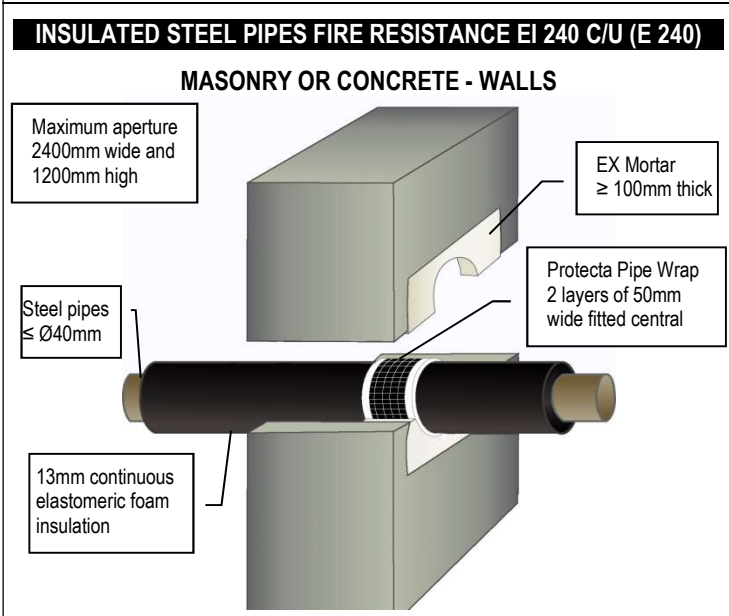
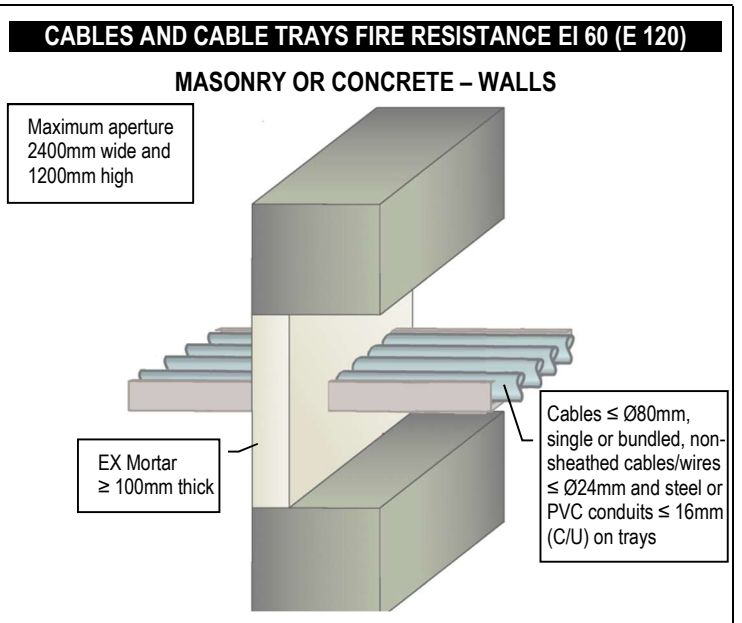
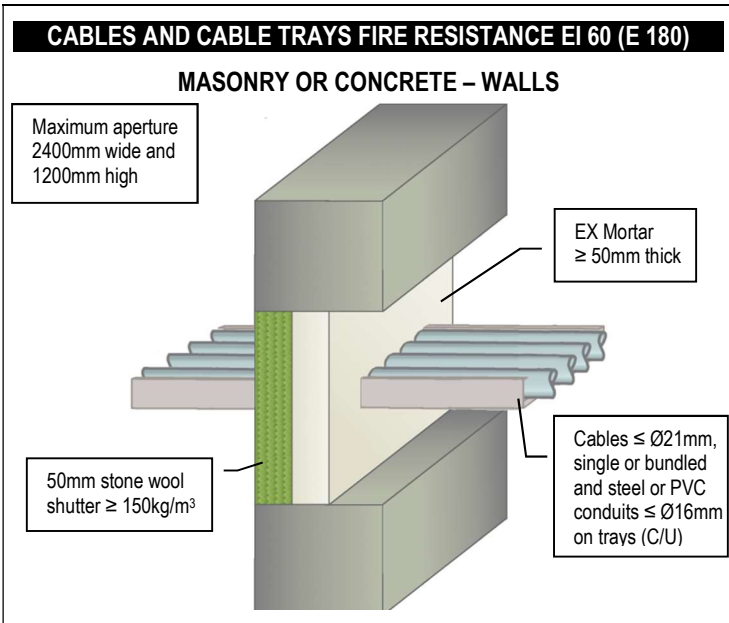
Protecta FR Pipe Wrap to the bottom of the seal

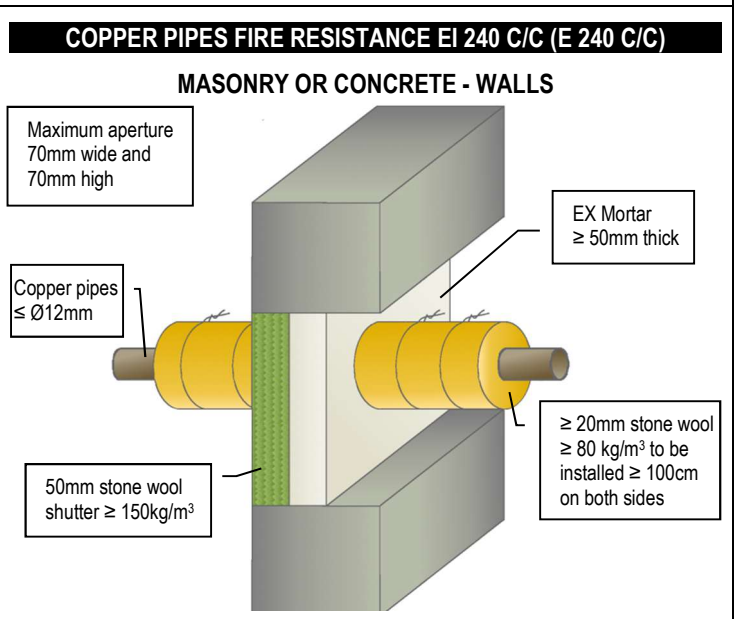
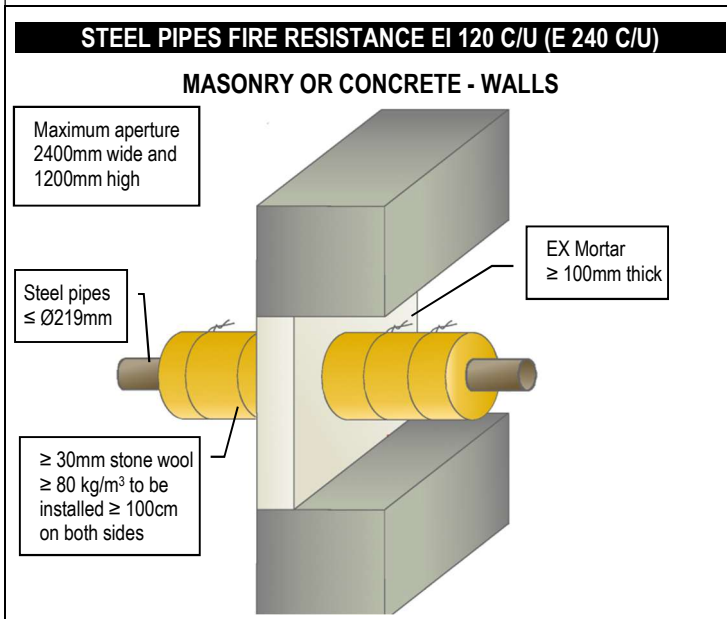
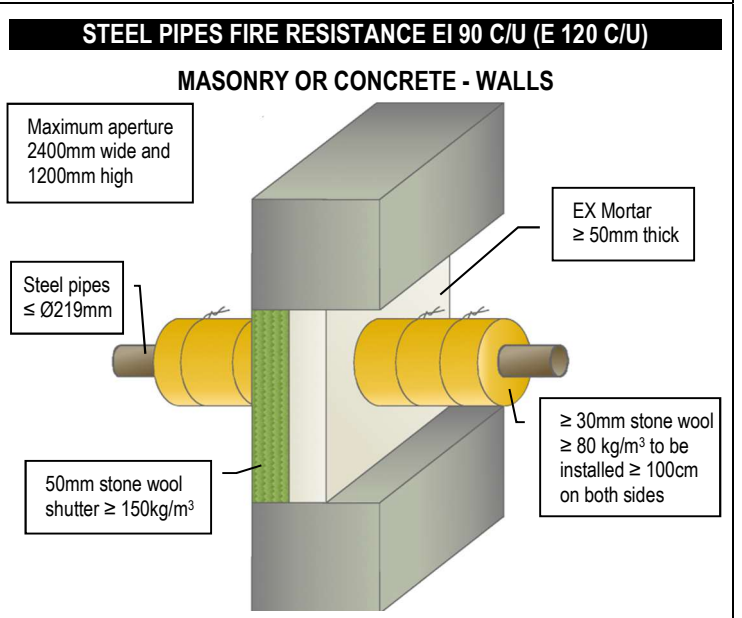
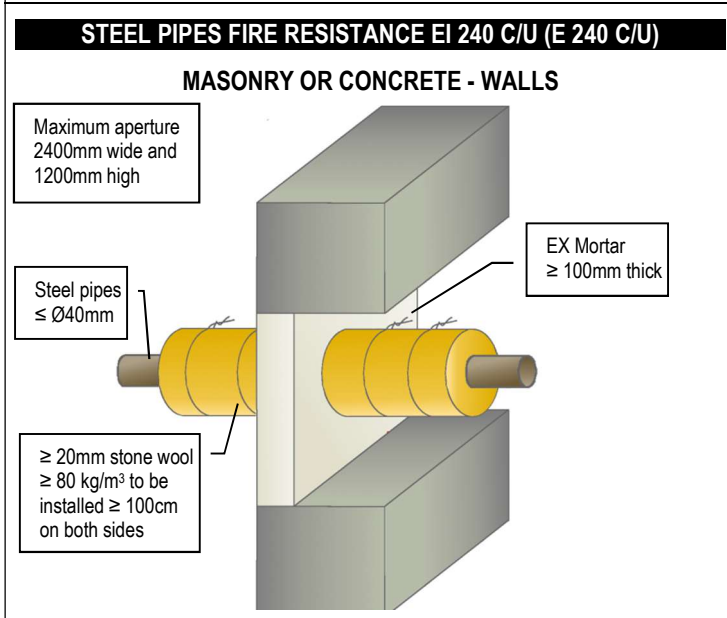
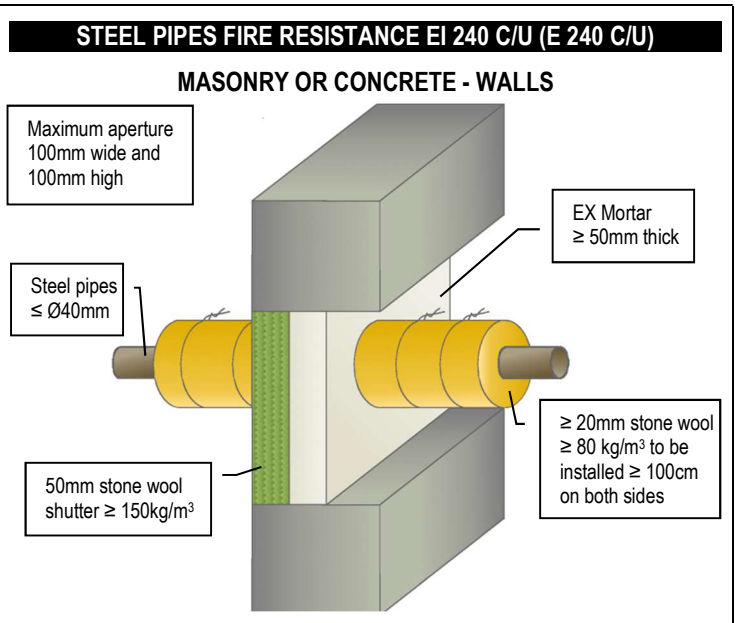
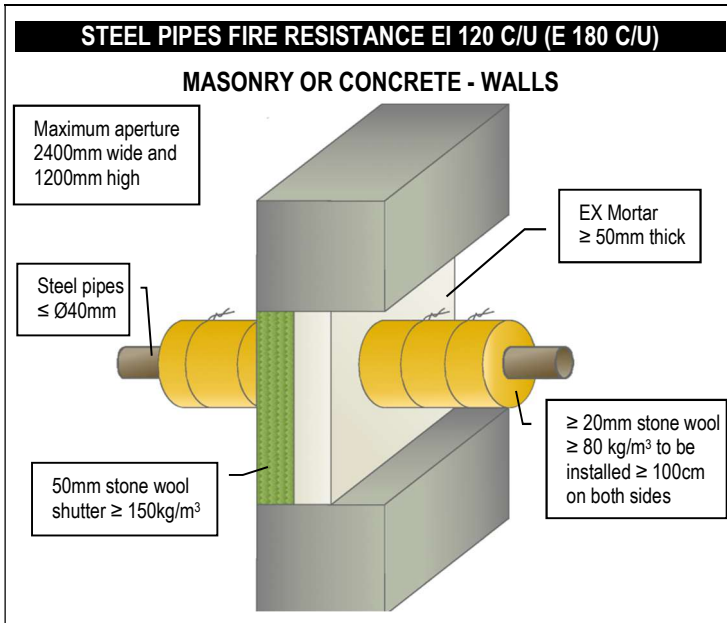
EX Mortar ≥ 100mm thick

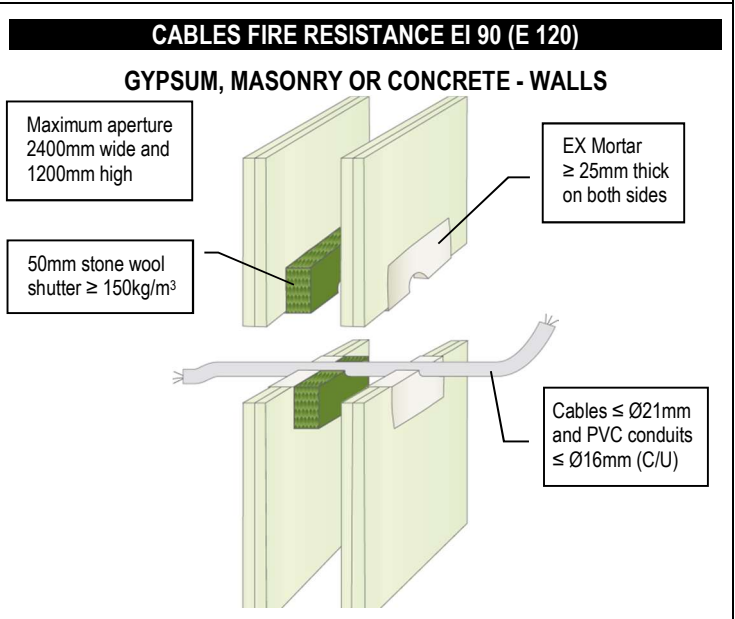
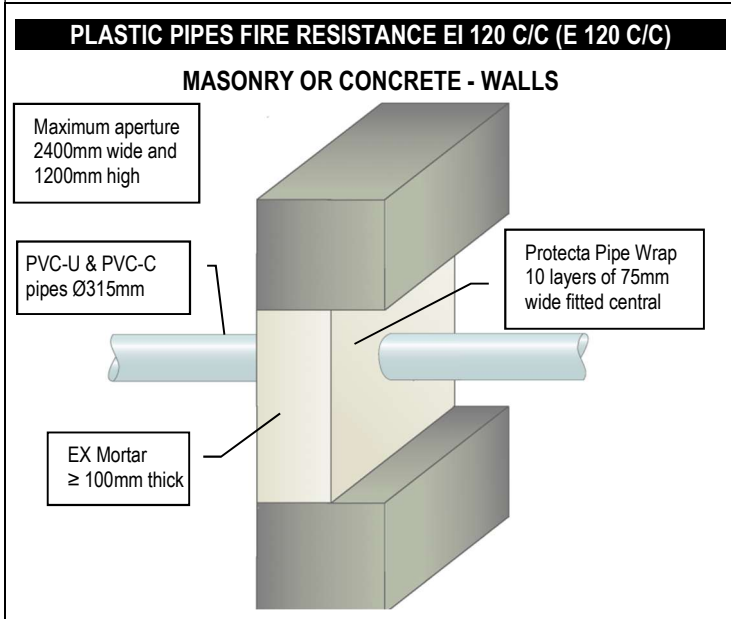
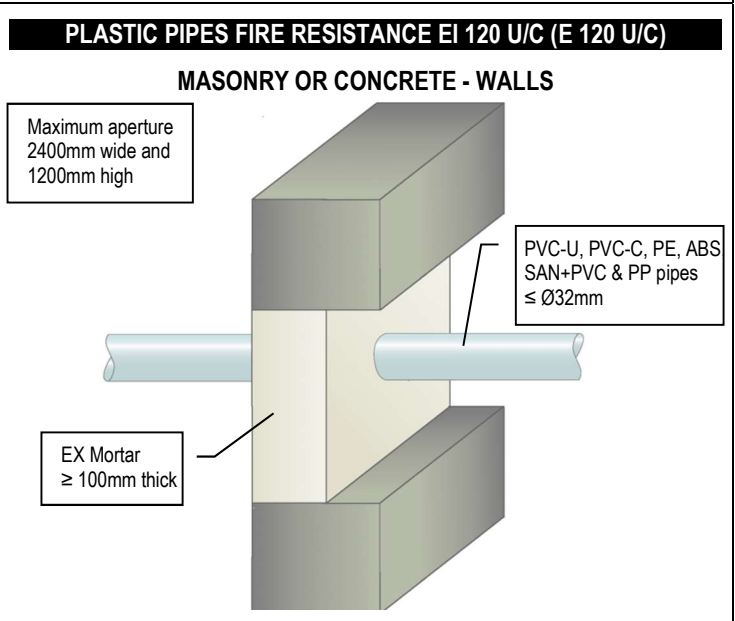
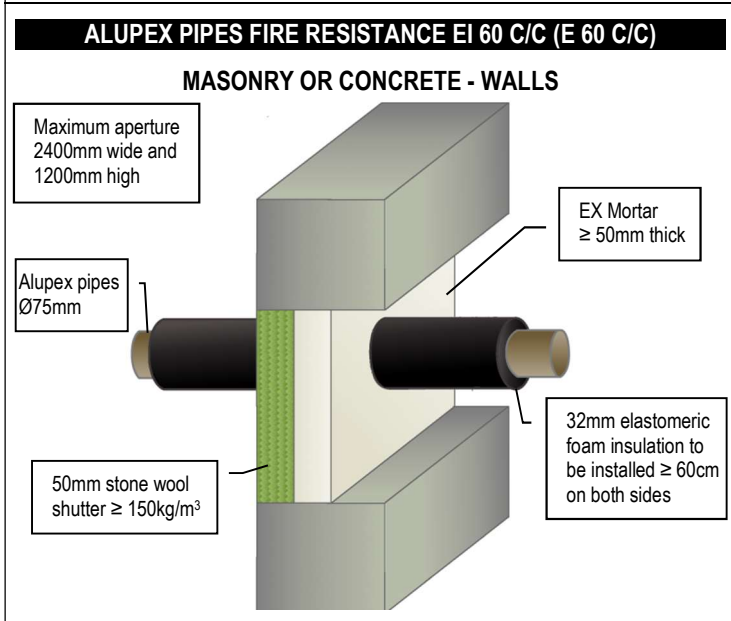
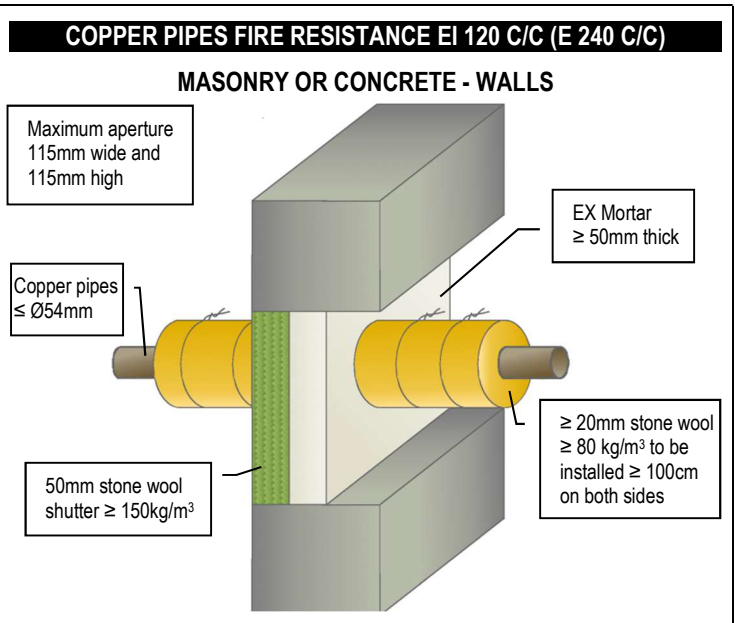
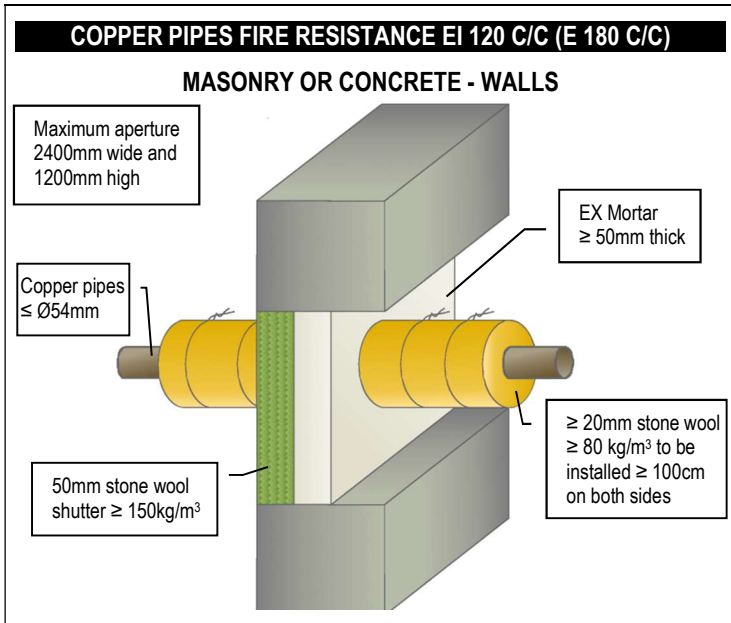
Services	Pipe Wall Thickness	Pipe Wrap	Classification
≤ Ø40mm PVC-U & PVC-C	1.8 – 3.7mm	50 x 1.8mm (1 layer)	EI 120 U/U (E 180 U/U)
≤ Ø40mm PE, ABS & SAN+PVC	2.4 – 3.7mm	50 x 1.8mm (1 layer)	EI 240 U/U (E 240 U/U)
≤ Ø40mm PP	1.8 – 5.5mm	50 x 1.8mm (1 layer)	EI 120 U/U (E 120 U/U)
≤ Ø110mm PVC-U & PVC-C	3.0 – 6.6mm	50 x 3.6mm (2 layers)	EI 240 U/C (E 240 U/C)
≤ Ø110mm PE, ABS & SAN+PVC	3.4 – 10.0mm	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)
≤ Ø110mm PP	2.7 – 6.3mm	50 x 3.6mm (2 layers)	EI 240 U/C (E 240 U/C)
≤ Ø125mm PVC-U & PVC-C	3.5 – 7.4mm	50 x 7.2mm (4 layers)	EI 120 U/C (E 120 U/C)
≤ Ø125mm PE, ABS & SAN+PVC	3.9 – 11.4mm	50 x 7.2mm (4 layers)	EI 240 U/C (E 240 U/C)
≤ Ø125mm PP	3.4 – 11.4mm	50 x 7.2mm (4 layers)	EI 240 U/C (E 240 U/C)
≤ Ø160mm PVC-U & PVC-C	4.5mm	50 x 10.8mm (6 layers)	EI 240 C/C (E 240 C/C)
≤ Ø160mm PE, ABS & SAN+PVC	4.9 – 14.6mm	50 x 10.8mm (6 layers)	EI 120 U/C (E 120 U/C)
≤ Ø160mm PP	4.9 – 14.6mm	50 x 10.8mm (6 layers)	EI 240 U/C (E 240 U/C)
≤ Ø250mm PE, ABS & SAN+PVC	7.8mm	75 x 12.6mm (7 layers)	EI 180 C/C (E 180 C/C)

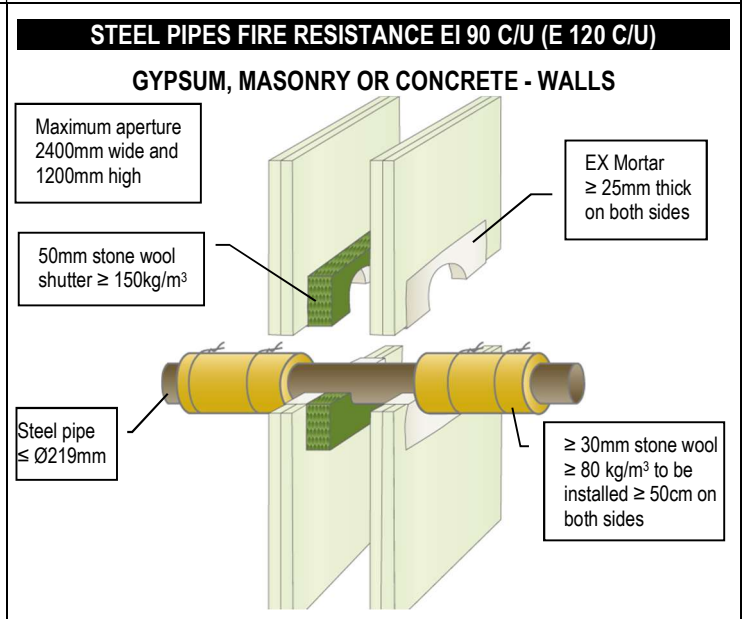
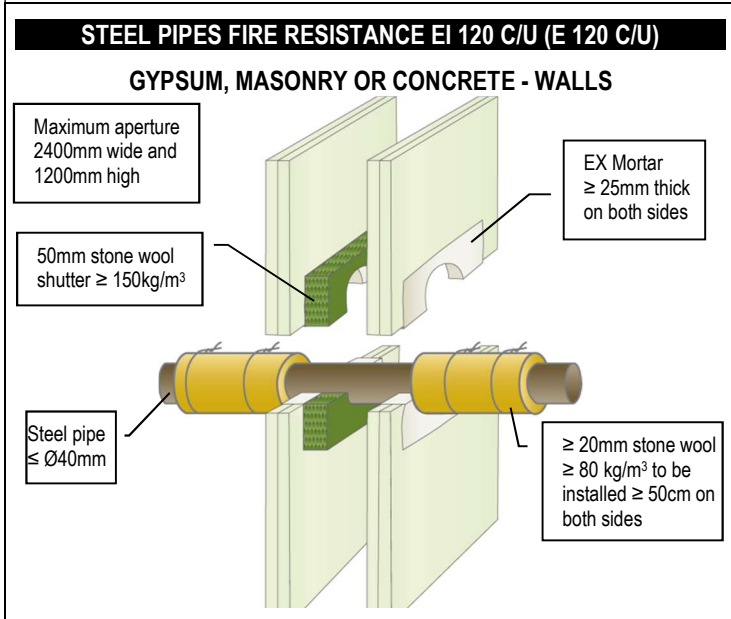
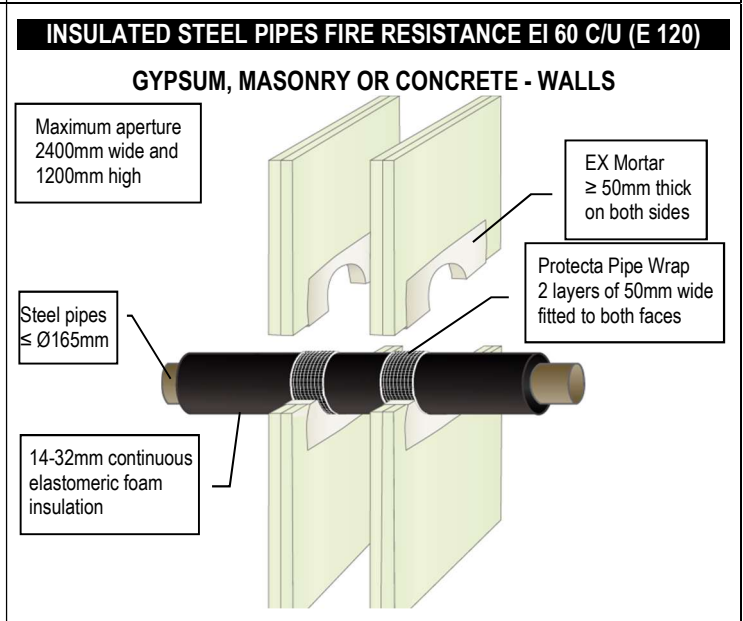
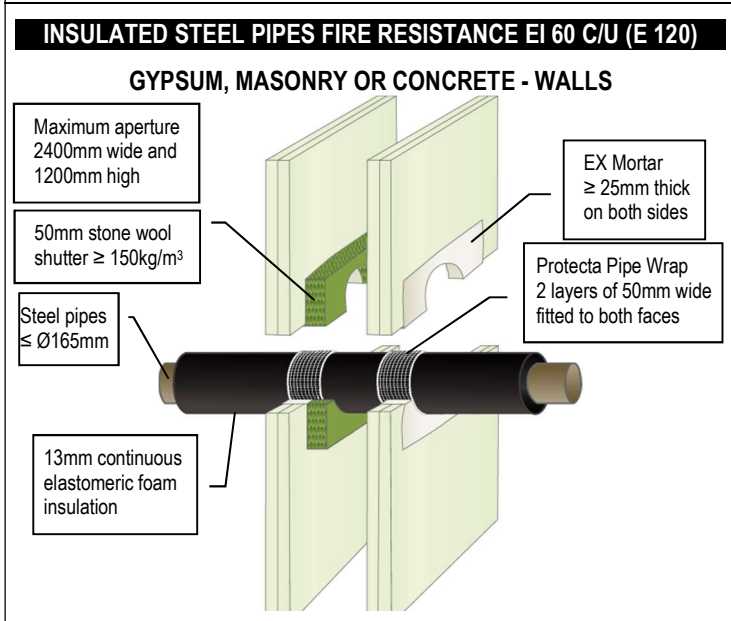
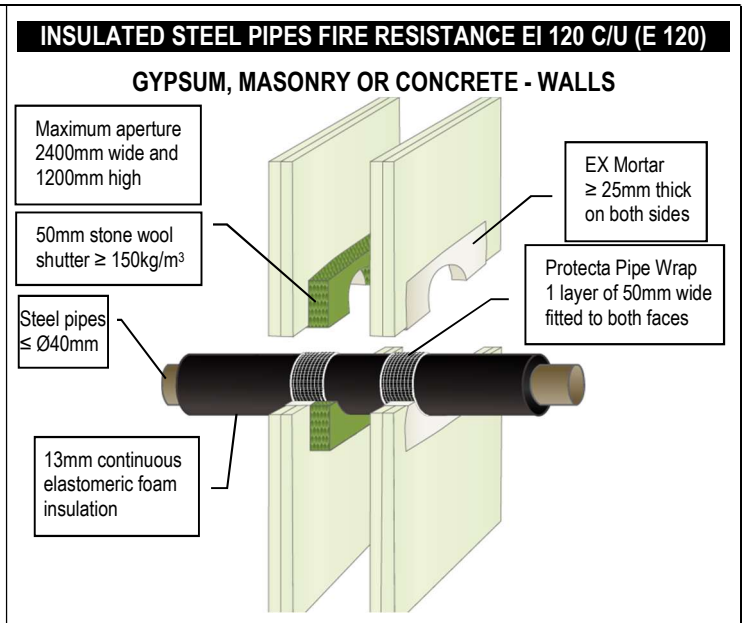
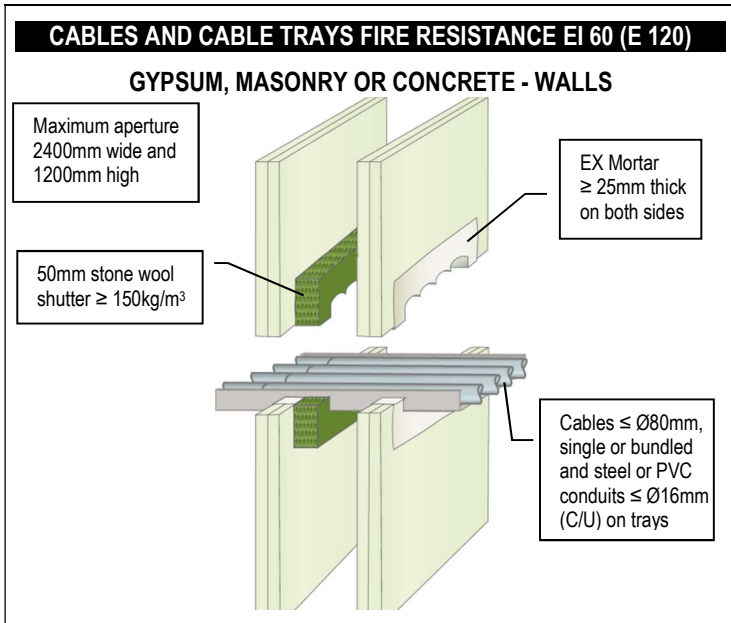












INSULATED COPPER PIPES FIRE RESISTANCE EI 120 C/C (E 120)

GYPSUM, MASONRY OR CONCRETE - WALLS

Maximum aperture 2400mm wide and 1200mm high

50mm stone wool shutter $\geq 150\text{kg/m}^3$

Copper pipe $\leq \text{Ø}54\text{mm}$

9-25mm continuous elastomeric foam insulation

EX Mortar $\geq 25\text{mm}$ thick on both sides

Protecta Pipe Wrap 2 layers of 50mm wide fitted to both faces

COPPER PIPES FIRE RESISTANCE EI 120 C/C (E 120 C/C)

GYPSUM, MASONRY OR CONCRETE - WALLS

Maximum aperture 2400mm wide and 1200mm high

50mm stone wool shutter $\geq 150\text{kg/m}^3$

Copper pipes $\leq \text{Ø}54\text{mm}$

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

EX Mortar $\geq 25\text{mm}$ thick on both sides

INSULATED ALUPEX PIPES FIRE RESISTANCE EI 120 C/C (E 120)

GYPSUM, MASONRY OR CONCRETE - WALLS

Maximum aperture 2400mm wide and 1200mm high

50mm stone wool shutter $\geq 150\text{kg/m}^3$

Alupex pipe $\leq \text{Ø}75\text{mm}$

9-25mm continuous elastomeric foam insulation

EX Mortar $\geq 25\text{mm}$ thick on both sides

Protecta Pipe Wrap 2 layers of 50mm wide fitted to both faces

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

GYPSUM, MASONRY OR CONCRETE - WALLS

Maximum aperture 2400mm wide and 1200mm high

50mm stone wool shutter $\geq 150\text{kg/m}^3$

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

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

EX Mortar $\geq 25\text{mm}$ thick on both sides

PLASTIC PIPES FIRE RESISTANCE EI 60-120

GYPSUM, MASONRY OR CONCRETE - WALLS

Maximum aperture 2400mm wide and 1200mm high

Protecta Pipe Wraps to both sides

Plastic pipes

EX Mortar $\geq 25\text{mm}$ thick on both sides of 50mm stone wool shutter $\geq 150\text{kg/m}^3$

Services	Pipe Wall Thickness	Pipe Wrap	Classification
$\leq \text{Ø}40\text{mm}$ PVC-U & PVC-C	3.0 – 4.3mm	50 x 1.8mm (1 layer)	EI 60 U/C (E 120 U/C)
$\leq \text{Ø}40\text{mm}$ PE, ABS & SAN+PVC	3.2 – 3.7mm	50 x 1.8mm (1 layer)	EI 120 U/C (E 120 U/C)
$\leq \text{Ø}40\text{mm}$ PP	4.0 – 5.5mm	50 x 1.8mm (1 layer)	EI 120 U/C (E 120 U/C)
$\leq \text{Ø}110\text{mm}$ PVC-U & PVC-C	2.7 – 6.6mm	50 x 3.6mm (2 layers)	EI 90 U/C (E 120 U/C)
$\leq \text{Ø}110\text{mm}$ PE, ABS & SAN+PVC	4.2 – 10.0mm	50 x 3.6mm (2 layers)	EI 60 U/C (E 60 U/C)
$\leq \text{Ø}110\text{mm}$ PP	6.6mm	50 x 3.6mm (2 layers)	EI 90 U/C (E 120 U/C)
$\leq \text{Ø}125\text{mm}$ PVC-U & PVC-C	3.7 – 7.4mm	50 x 5.4mm (3 layers)	EI 120 U/C (E 120 U/C)
$\leq \text{Ø}125\text{mm}$ PE, ABS & SAN+PVC	12.0mm	50 x 5.4mm (3 layers)	EI 120 U/C (E 120 U/C)
$\leq \text{Ø}125\text{mm}$ PP	17.1mm	50 x 5.4mm (3 layers)	EI 90 U/C (E 120 U/C)
$\leq \text{Ø}160\text{mm}$ PVC-U & PVC-C	3.2 – 9.5mm	50 x 7.2mm (4 layers)	EI 60 U/C (E 60 U/C)
$\leq \text{Ø}160\text{mm}$ PE, ABS & SAN+PVC	12.0mm	50 x 7.2mm (4 layers)	EI 90 U/C (E 120 U/C)
$\leq \text{Ø}160\text{mm}$ PP	4.0 – 21.9mm	50 x 7.2mm (4 layers)	EI 60 U/C (E 120 U/C)

