PROTECTA® FR PIPE WRAP
INSTALLATION INSTRUCTIONS

Protecta®

INDEX FOR FIRE CLASSIFICATIONS

GENERAL PRODUCT DESCRIPTION

Protecta® FR Pipe Wrap is designed to maintain the fire resistance of fire separating walls and floors when these are breached by plastic pipes or metal pipes with continuous combustible insulation, and may be used in gypsum, masonry or concrete walls and concrete floors. Each pipe wrap consists of a graphite based reactive intumescent strip, which reacts to heat and closes the opening left by the softening plastic pipe or pipe insulation in a fire. The pipe wrap is installed completely around the pipes or insulation and secured with the self-adhesive tab. The annular space around the pipe wrap is sealed with Protecta® EX Mortar or Protecta® FR Board.

GENERAL GUIDE

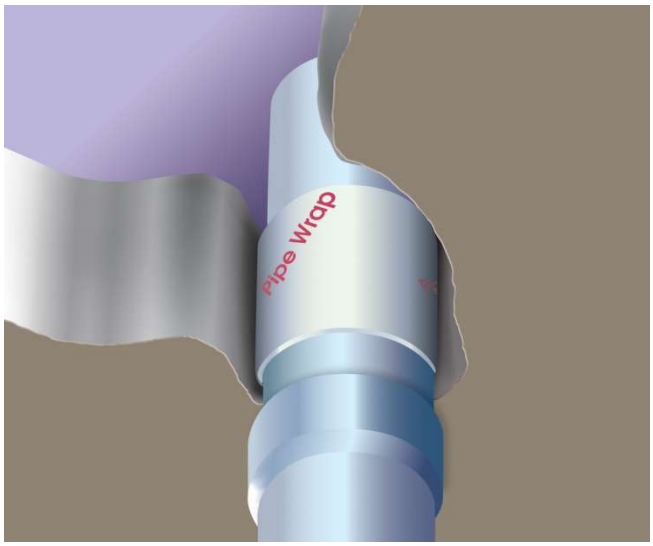
Minimum separations and limitations: Services can be sealed as specified in the detailed drawings on pages 2 to 9. An aperture can include several services, and they may also be different. Minimum separation between services and also between services and the edge of the seal within each aperture should be 30 mm to allow for correct fitting of any stone wool shutter and seal depth. Minimum separation between apertures should be at least 20 cm. 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/m^3. Rigid floors must have a minimum thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650 kg/m^3. The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period. First service support should be fitted at 300 mm from the fire seal in walls and 250 mm in floors.

*) 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.

CERTIFICATION

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).



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. Fix a suitable pipe wrap around the service penetration and fasten with the tape as tightly as possible in order to prevent any excess opening between the pipe wrap and the service.
3. In floors, only one pipe wrap is required to be installed flush with the soffit so that the edge of the wrap is visible from the underside when back-filled. For walls it is normal to fit a wrap on both sides of the wall, again with the edge just visible. Please see detail drawings of installation methods on pages 2 to 9.
4. When installing pipe wraps 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 the fire seal. 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.
5. Once the wrap is securely installed, fire seal the empty aperture surrounding the pipe wraps as follows:

   Floors with Protecta® EX Mortar: Install a cast shutter plate or board. Make sure that this achieves a very tight seal. Pour clean water into a suitable mixing vessel and pour enough mortar to obtain the required consistency. Pour or trowel the mortar onto the shutter making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles.

   Walls with Protecta® FR Board: Cut the required boards to suit the aperture dimensions and type and size of service penetrations. 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. All joints, gaps or imperfections in the installed seal must be sealed with Protecta® FR Acrylic on both sides.

   Please see Technical Data Sheets and Installation Instructions for Protecta® EX Mortar and FR Board for additional details.

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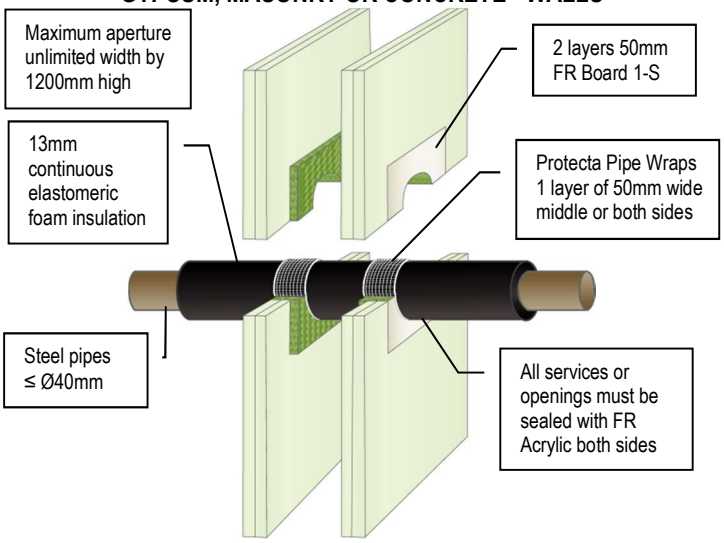
Installation Instructions to
ETA 14/0247, 13/0673 & 13/0672

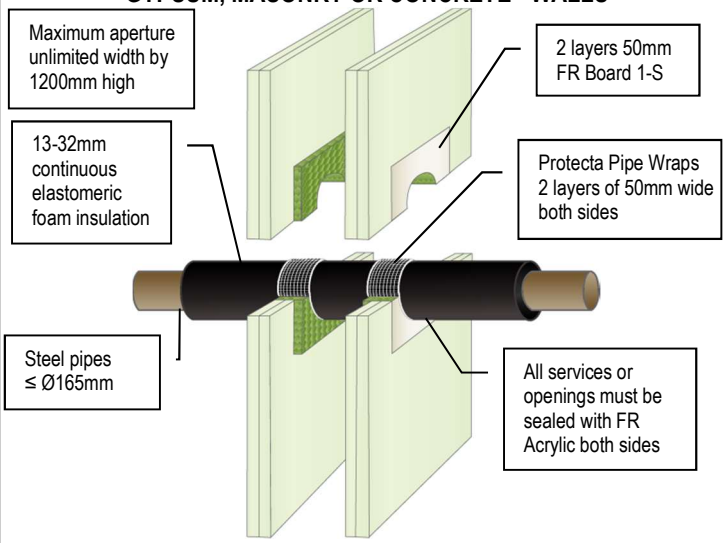
STEEL PIPES FIRE RESISTANCE EI 120 U/U (E 120)

GYPSUM, MASONRY OR CONCRETE - WALLS



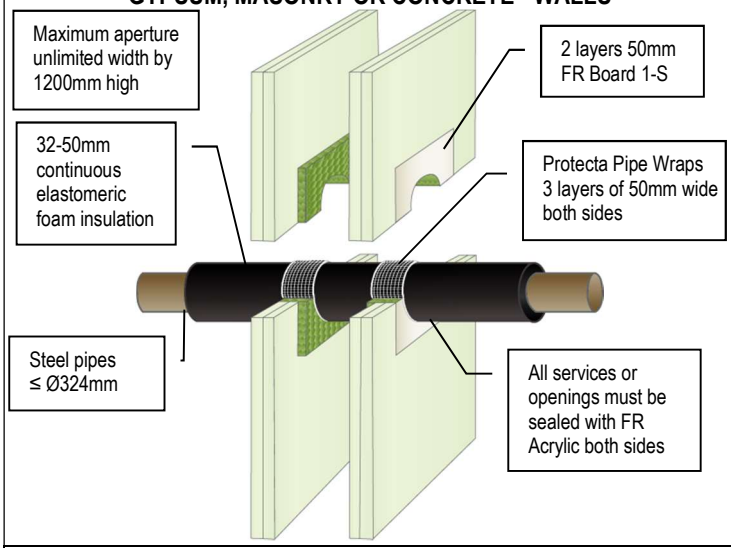
STEEL PIPES FIRE RESISTANCE EI 60 U/U (E 120)

GYPSUM, MASONRY OR CONCRETE - WALLS



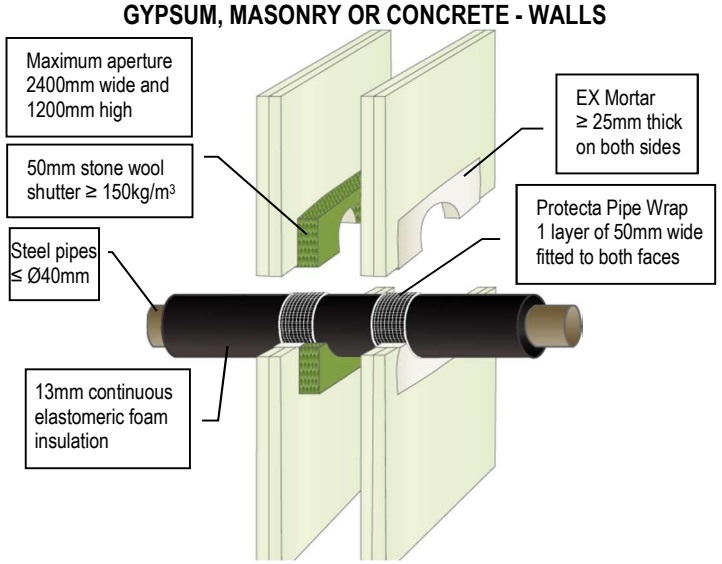
STEEL PIPES FIRE RESISTANCE EI 90 C/U (E 90)

GYPSUM, MASONRY OR CONCRETE - WALLS



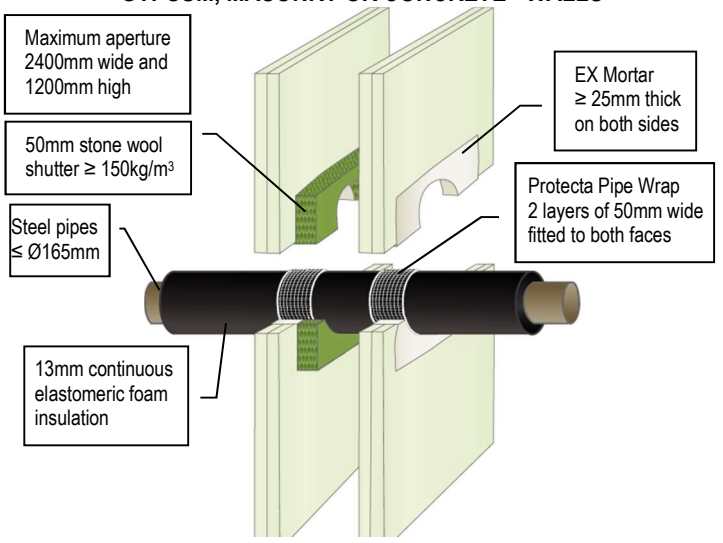
STEEL PIPES FIRE RESISTANCE EI 120 C/U (E 120)

GYPSUM, MASONRY OR CONCRETE - WALLS



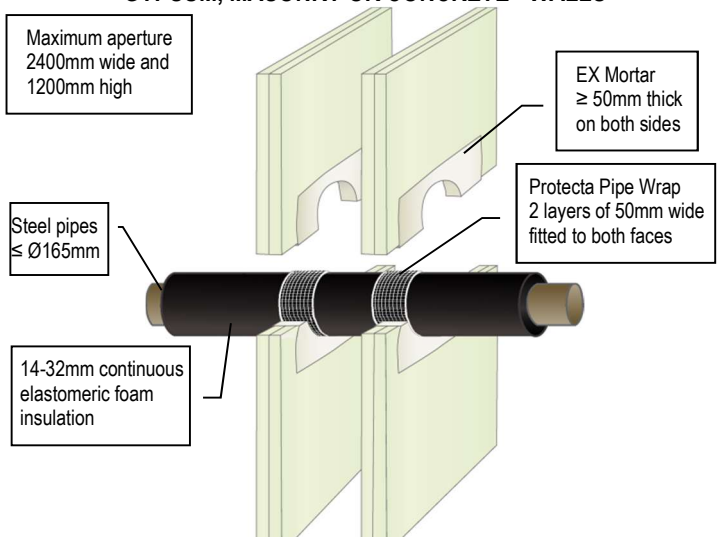
STEEL PIPES FIRE RESISTANCE EI 60 C/U (E 120)

GYPSUM, MASONRY OR CONCRETE - WALLS



STEEL PIPES FIRE RESISTANCE EI 60 C/U (E 120)

GYPSUM, MASONRY OR CONCRETE - WALLS



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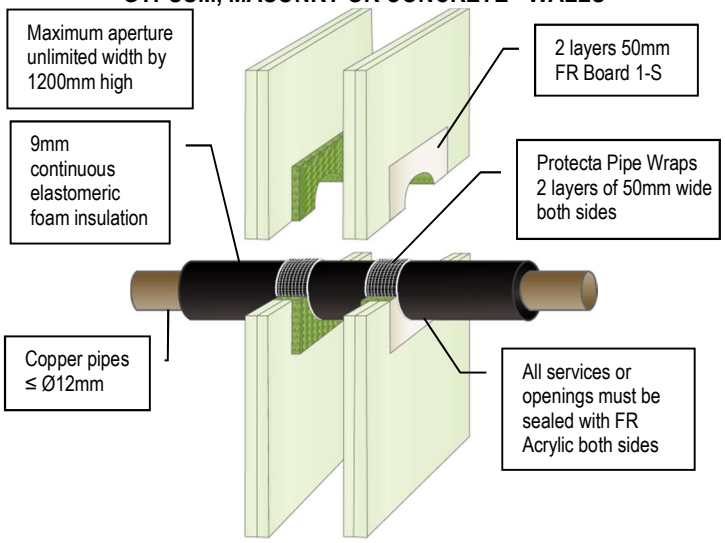
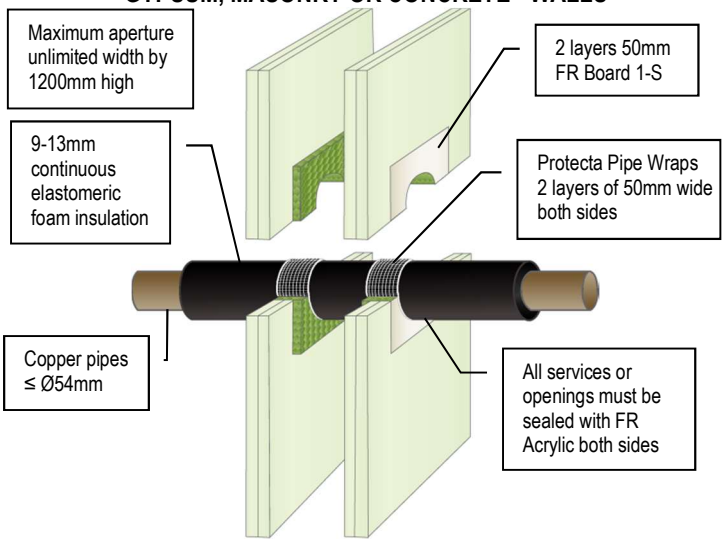
COPPER PIPES FIRE RESISTANCE EI 120 C/C (E 120)

GYPSUM, MASONRY OR CONCRETE - WALLS



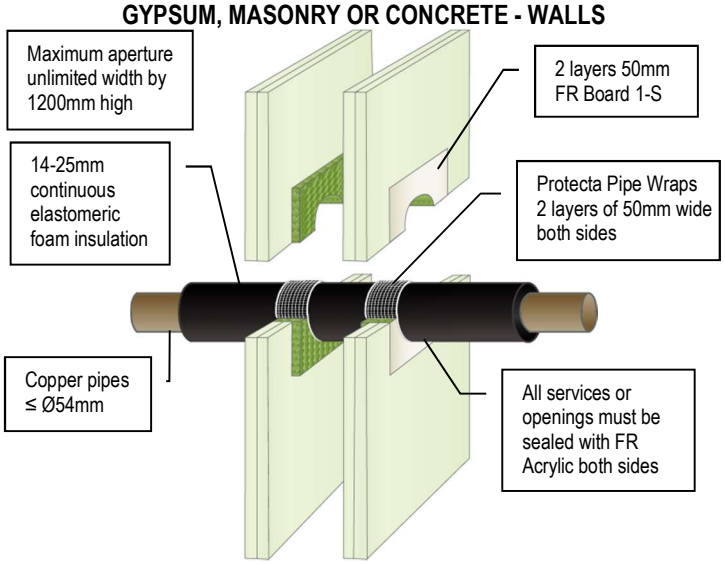
COPPER PIPES FIRE RESISTANCE EI 90 C/C (E 120)

GYPSUM, MASONRY OR CONCRETE - WALLS



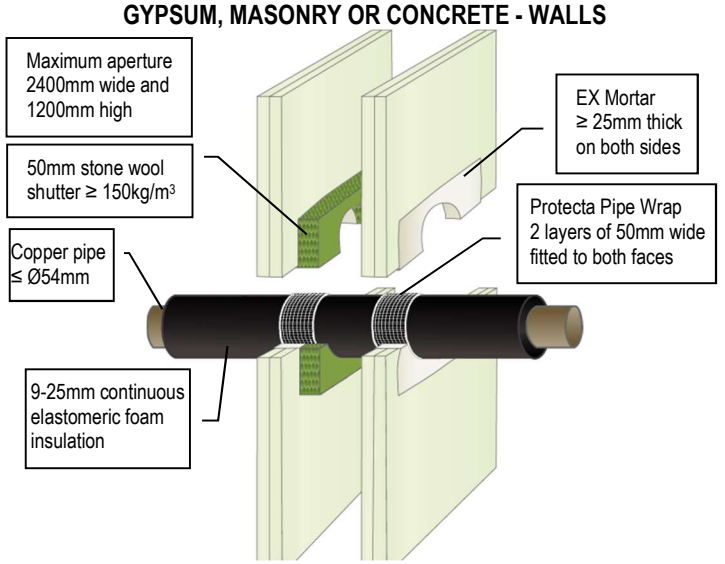
COPPER PIPES FIRE RESISTANCE EI 60 C/C (E 120)

GYPSUM, MASONRY OR CONCRETE - WALLS



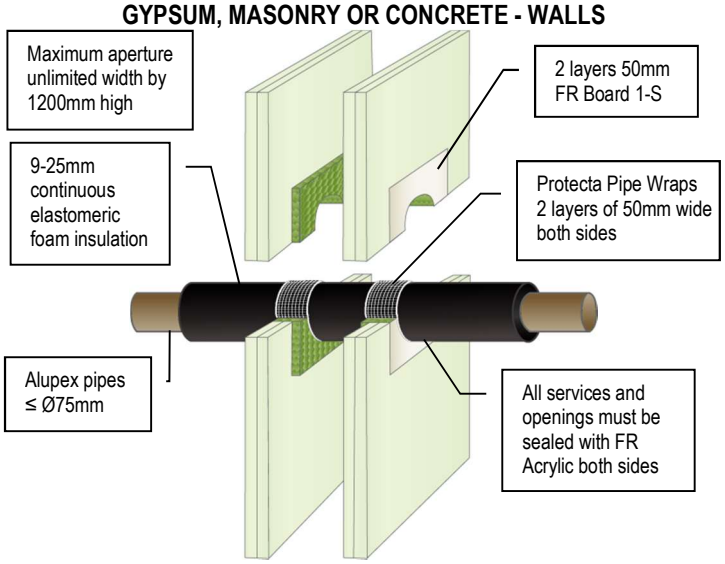
COPPER PIPES FIRE RESISTANCE EI 120 C/C (E 120)

GYPSUM, MASONRY OR CONCRETE - WALLS



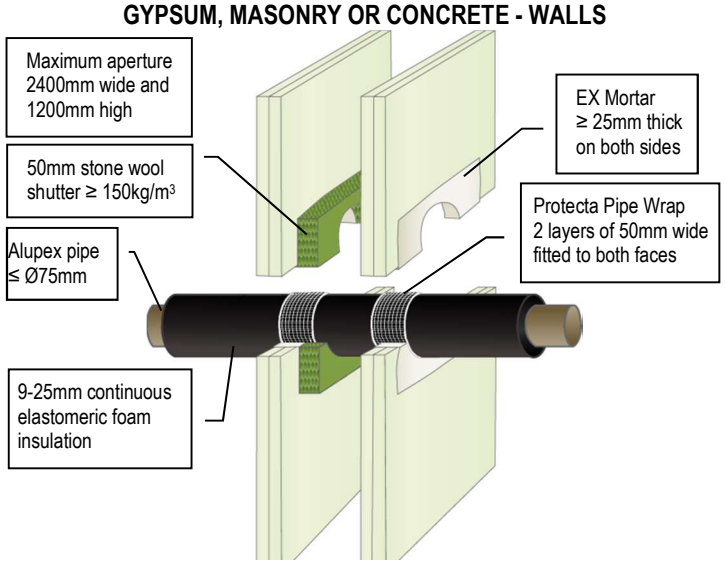
ALUPEX PIPES FIRE RESISTANCE EI 120 C/C (E 120)

GYPSUM, MASONRY OR CONCRETE - WALLS



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

GYPSUM, MASONRY OR CONCRETE - WALLS



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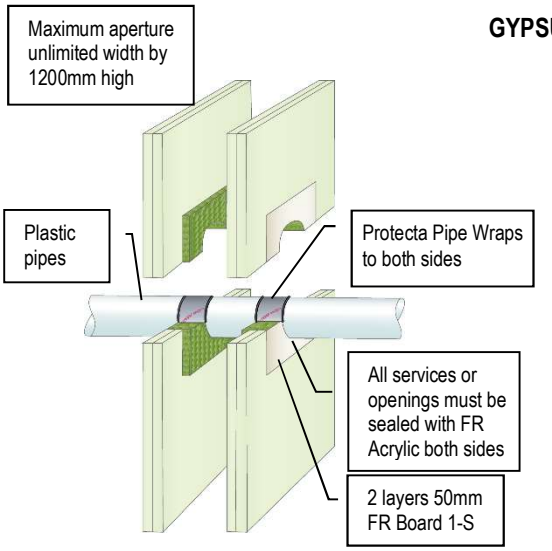
PLASTIC PIPES FIRE RESISTANCE EI 90-120

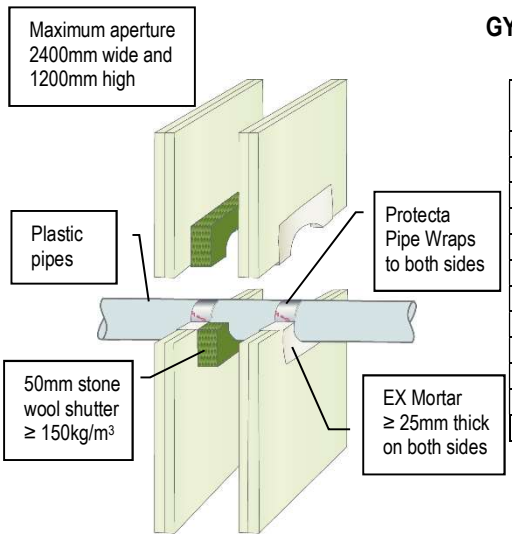
GYPSUM, MASONRY OR CONCRETE - WALLS



Services	Wrap	Classification
≤ Ø40mm PVC-U & PVC-C	50 x 1.8mm (1 layer)	EI 120 U/U, C/U, U/C, C/C
≤ Ø40mm PE, ABS & SAN+PVC	50 x 1.8mm (1 layer)	EI 120 U/U, C/U, U/C, C/C
≤ Ø40mm PP	50 x 1.8mm (1 layer)	EI 120 U/U, C/U, U/C, C/C
Ø41-110mm PVC-U & PVC-C	50 x 3.6mm (2 layers)	E 120 U/C, C/C & EI 90 U/C, C/C
Ø41-110mm PE, ABS & SAN+PVC	50 x 3.6mm (2 layers)	E 120 U/C, C/C & EI 90 U/C, C/C
Ø41-110mm PP	50 x 3.6mm (2 layers)	EI 90 U/U, C/U, U/C, C/C
Ø125mm PVC-U & PVC-C	50 x 5.4mm (3 layers)	E 120 U/C, C/C & EI 90 U/C, C/C
Ø125mm PE, ABS & SAN+PVC	50 x 5.4mm (3 layers)	E 120 U/C, C/C & EI 90 U/C, C/C
Ø125mm PP	50 x 5.4mm (3 layers)	E 120 U/C, C/C & EI 90 U/C, C/C
Ø160mm PVC-U & PVC-C	50 x 7.2mm (4 layers)	E 120 U/C, C/C & EI 90 U/C, C/C
Ø160mm PE, ABS & SAN+PVC	50 x 7.2mm (4 layers)	E 120 U/C, C/C & EI 90 U/C, C/C
Ø160mm PP	50 x 7.2mm (4 layers)	E 120 U/C, C/C & EI 90 U/C, C/C

PLASTIC PIPES FIRE RESISTANCE EI 60-120

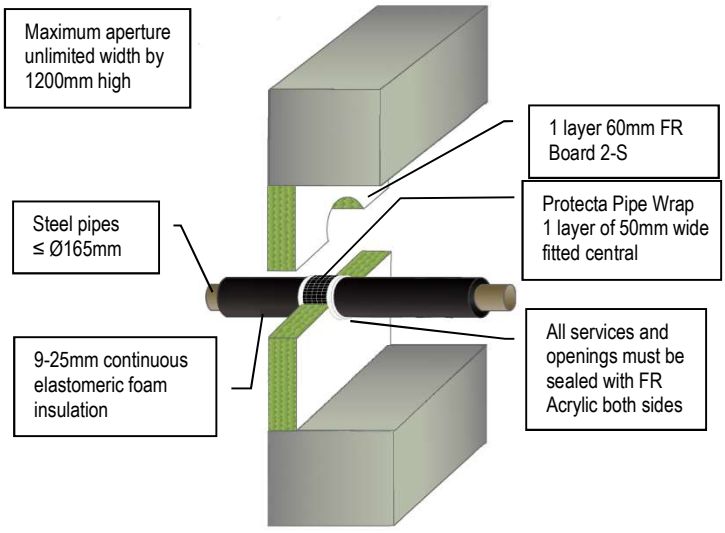
GYPSUM, MASONRY OR CONCRETE - WALLS



Services	Pipe Wall Thickness	Pipe Wrap	Classification
≤ Ø40mm PVC-U & PVC-C	3.0 – 4.3mm	50 x 1.8mm (1 layer)	EI 60 U/C (E 120 U/C)
≤ Ø40mm PE, ABS & SAN+PVC	3.2 – 3.7mm	50 x 1.8mm (1 layer)	EI 120 U/C (E 120 U/C)
≤ Ø40mm PP	4.0 – 5.5mm	50 x 1.8mm (1 layer)	EI 120 U/C (E 120 U/C)
≤ Ø110mm PVC-U & PVC-C	2.7 – 6.6mm	50 x 3.6mm (2 layers)	EI 90 U/C (E 120 U/C)
≤ Ø110mm PE, ABS & SAN+PVC	4.2 – 10.0mm	50 x 3.6mm (2 layers)	EI 60 U/C (E 60 U/C)
≤ Ø110mm PP	6.6mm	50 x 3.6mm (2 layers)	EI 90 U/C (E 120 U/C)
≤ Ø125mm PVC-U & PVC-C	3.7 – 7.4mm	50 x 5.4mm (3 layers)	EI 120 U/C (E 120 U/C)
≤ Ø125mm PE, ABS & SAN+PVC	12.0mm	50 x 5.4mm (3 layers)	EI 120 U/C (E 120 U/C)
≤ Ø125mm PP	17.1mm	50 x 5.4mm (3 layers)	EI 90 U/C (E 120 U/C)
≤ Ø160mm PVC-U & PVC-C	3.2 – 9.5mm	50 x 7.2mm (4 layers)	EI 60 U/C (E 60 U/C)
≤ Ø160mm PE, ABS & SAN+PVC	12.0mm	50 x 7.2mm (4 layers)	EI 90 U/C (E 120 U/C)
≤ Ø160mm PP	4.0 – 21.9mm	50 x 7.2mm (4 layers)	EI 60 U/C (E 120 U/C)

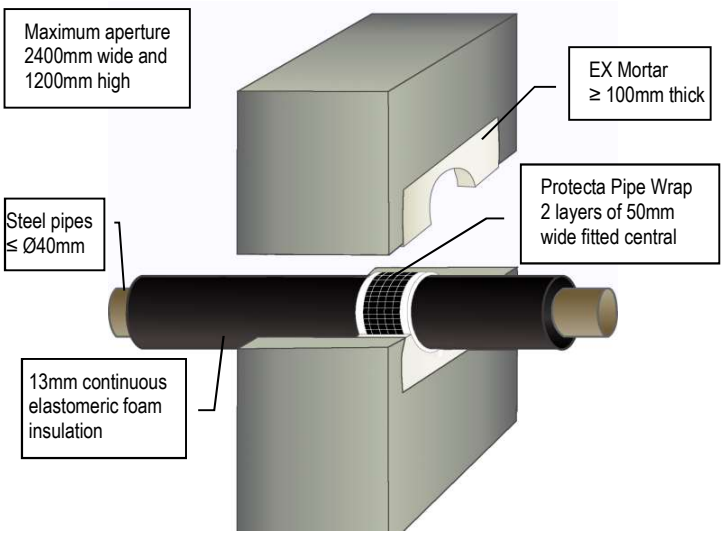
STEEL PIPES FIRE RESISTANCE EI 45 C/U (E 120)

MASONRY OR CONCRETE - WALLS



STEEL PIPES FIRE RESISTANCE EI 240 C/U (E 240)

MASONRY OR CONCRETE - WALLS



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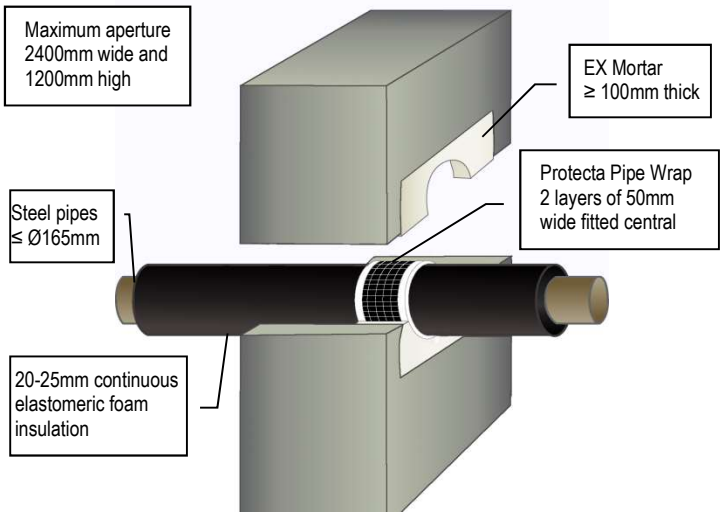
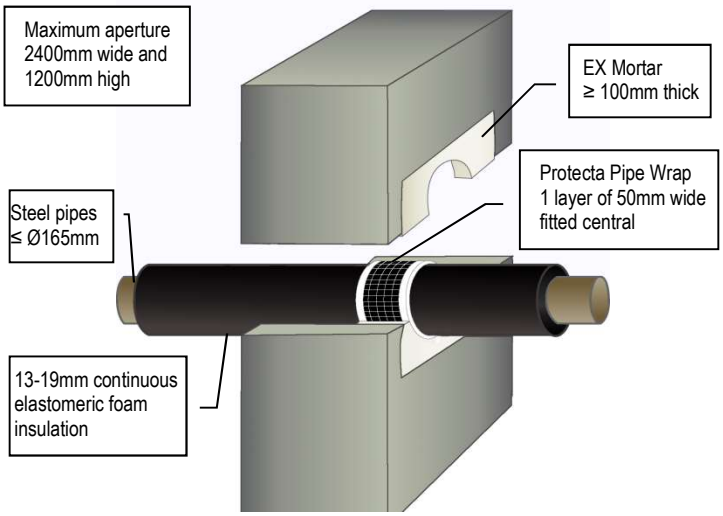
STEEL PIPES FIRE RESISTANCE EI 60 C/U (E 180)

MASONRY OR CONCRETE - WALLS



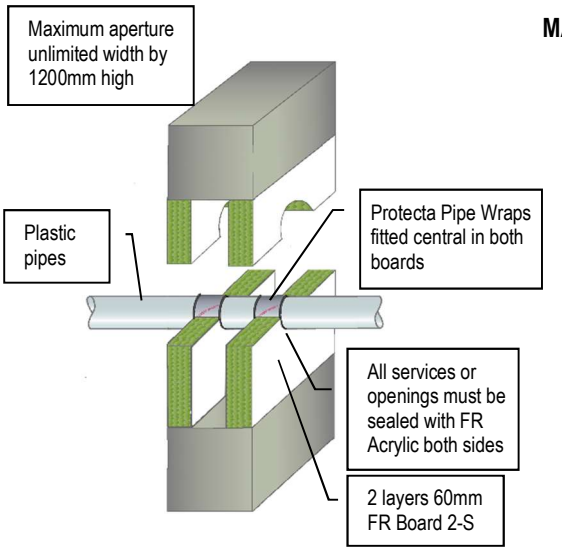
STEEL PIPES FIRE RESISTANCE EI 60 C/U (E 240)

MASONRY OR CONCRETE - WALLS



PLASTIC PIPES FIRE RESISTANCE EI 240

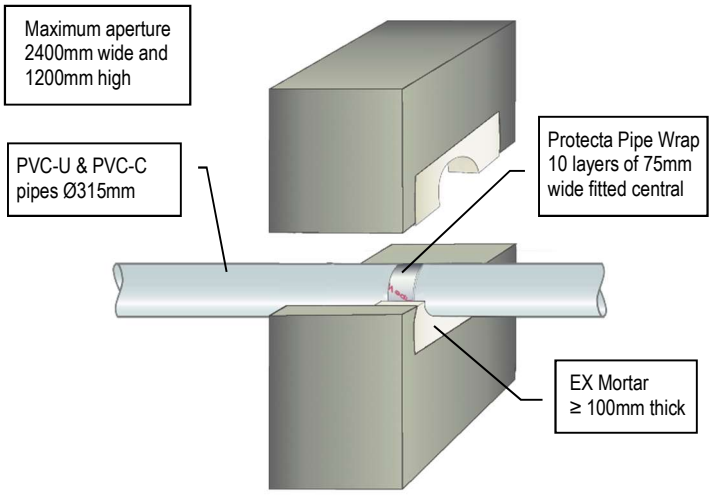
MASONRY OR CONCRETE - WALLS



Services	Wrap	Classification
≤ Ø40mm PVC-U & PVC-C	50 x 1.8mm (1 layer)	EI 240 C/C, U/C
≤ Ø40mm PE, ABS & SAN+PVC	50 x 1.8mm (1 layer)	EI 240 C/C, U/C
≤ Ø40mm PP	50 x 1.8mm (1 layer)	EI 240 C/C, U/C
Ø41-110mm PVC-U & PVC-C	50 x 3.6mm (2 layers)	EI 240 C/C, U/C
Ø41-110mm PE, ABS & SAN+PVC	50 x 3.6mm (2 layers)	EI 240 C/C, U/C
Ø41-110mm PP	50 x 3.6mm (2 layers)	EI 240 C/C
Ø111-125mm PVC-U & PVC-C	50 x 7.2mm (4 layers)	EI 240 C/C, U/C
Ø111-125mm PE, ABS & SAN+PVC	50 x 7.2mm (4 layers)	EI 240 C/C, U/C
Ø111-125mm PP	50 x 7.2mm (4 layers)	EI 240 C/C
Ø126-160mm PVC-U & PVC-C	50 x 10.8mm (6 layers)	EI 240 C/C, U/C
Ø126-160mm PE, ABS & SAN+PVC	50 x 10.8mm (6 layers)	EI 240 C/C, U/C
Ø126-160mm PP	50 x 10.8mm (6 layers)	EI 240 C/C

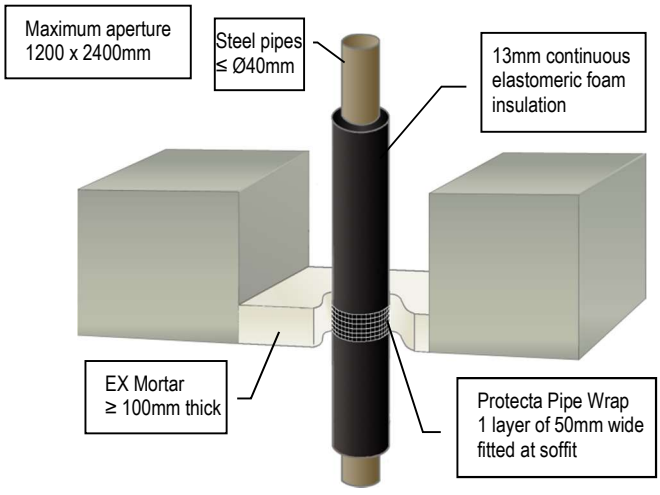
PLASTIC PIPES FIRE RESISTANCE EI 120 C/C (E 120 C/C)

MASONRY OR CONCRETE - WALLS



STEEL PIPES FIRE RESISTANCE EI 180 C/U (E 180)

RIGID FLOORS



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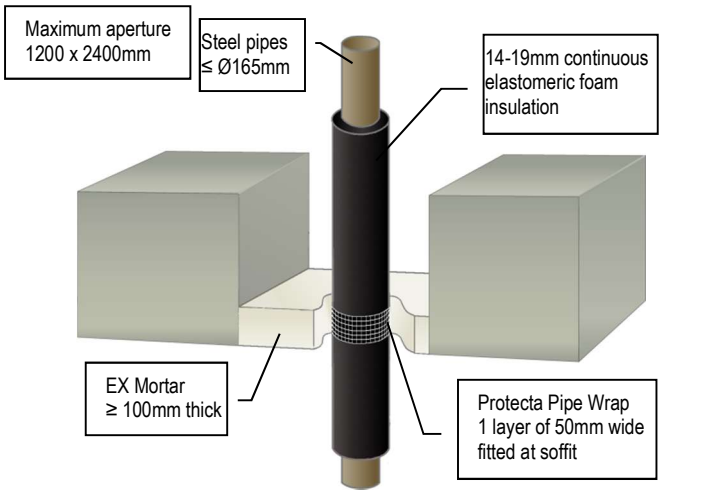
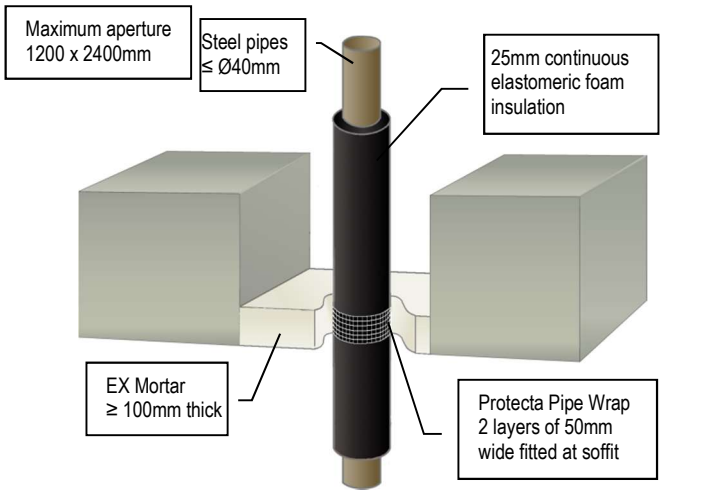
STEEL PIPES FIRE RESISTANCE EI 120 C/U (E 180)

RIGID FLOORS



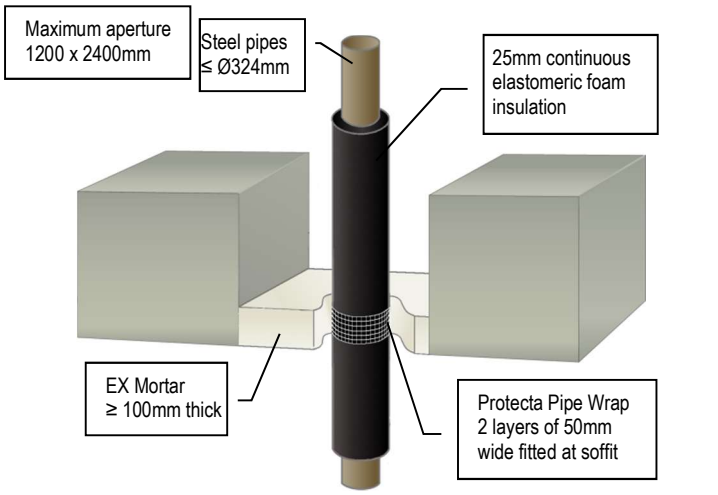
STEEL PIPES FIRE RESISTANCE EI 180 C/U (E 180)

RIGID FLOORS



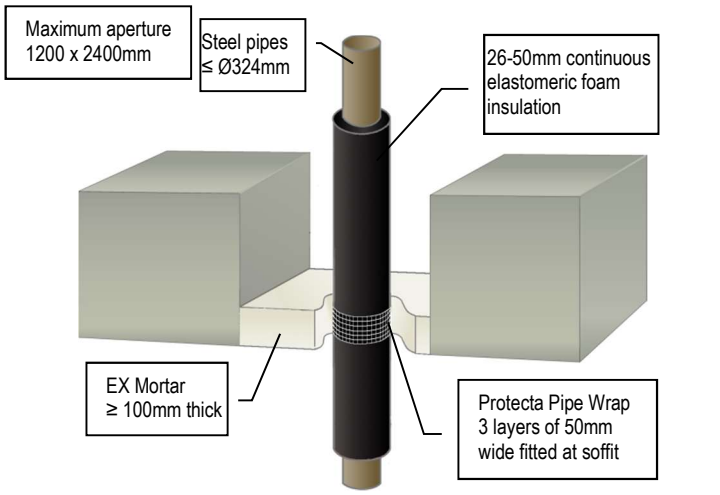
STEEL PIPES FIRE RESISTANCE EI 120 C/U (E 180)

RIGID FLOORS



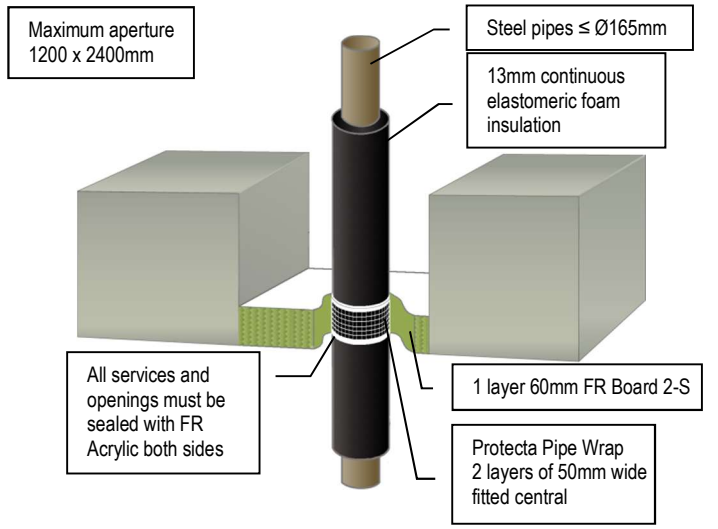
STEEL PIPES FIRE RESISTANCE EI 120 C/U (E 120)

RIGID FLOORS



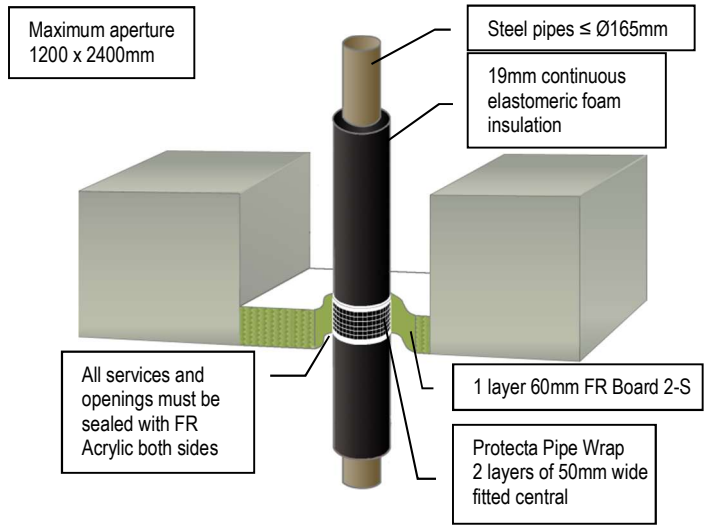
STEEL PIPES FIRE RESISTANCE EI 45 C/U (E 90)

RIGID FLOORS



STEEL PIPES FIRE RESISTANCE EI 90 C/U (E 90)

RIGID FLOORS



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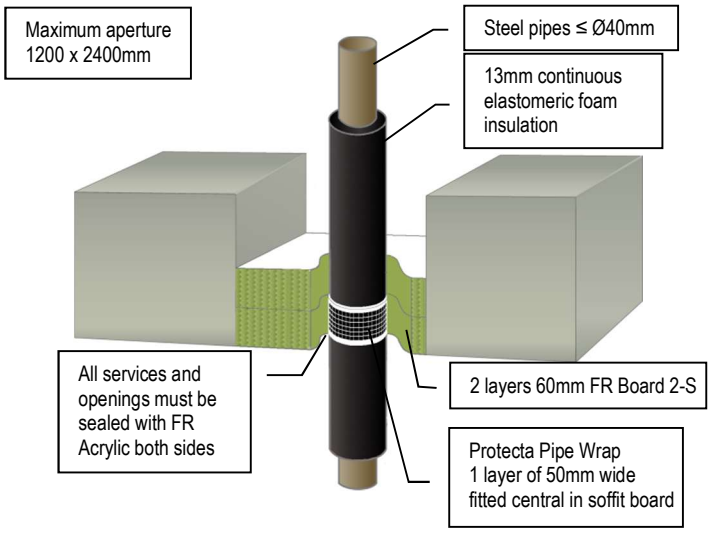
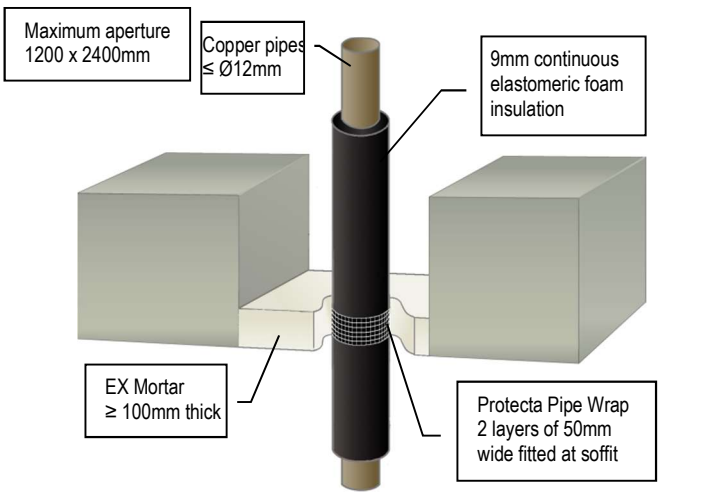
STEEL PIPES FIRE RESISTANCE EI 120 C/U (E180)

RIGID FLOORS



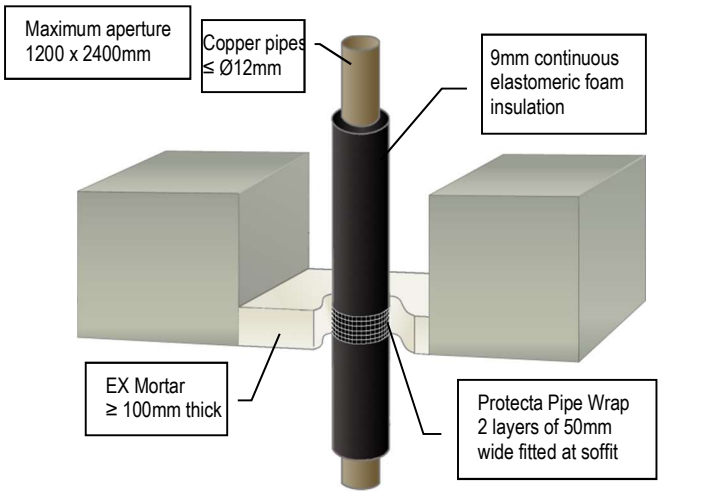
COPPER PIPES FIRE RESISTANCE EI 240 C/C (E 240)

RIGID FLOORS



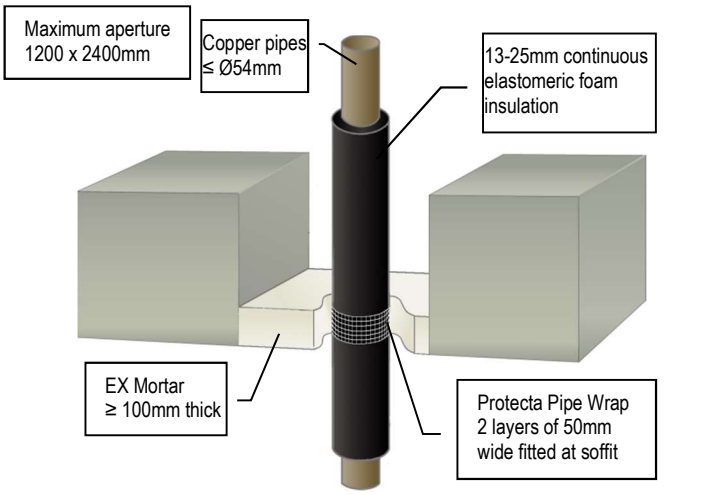
COPPER PIPES FIRE RESISTANCE EI 240 C/C (E 240)

RIGID FLOORS



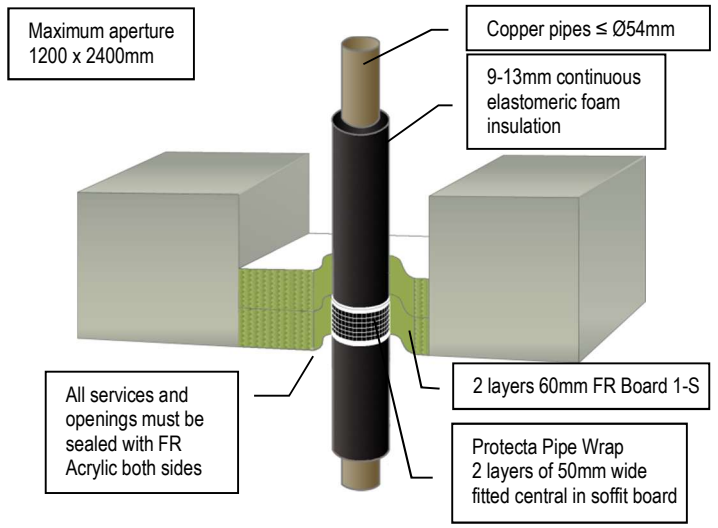
COPPER PIPES FIRE RESISTANCE EI 60 C/C (E 240)

RIGID FLOORS



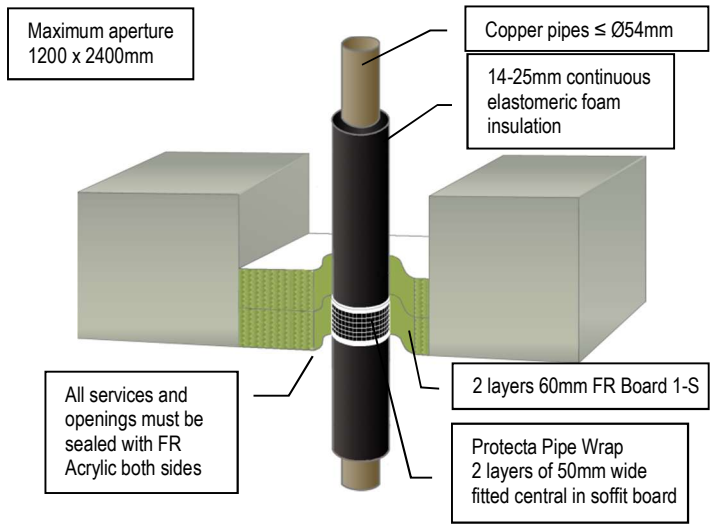
COPPER PIPES FIRE RESISTANCE EI 60 C/C (E 240)

RIGID FLOORS



COPPER PIPES FIRE RESISTANCE EI 45 C/C (E 180)

RIGID FLOORS



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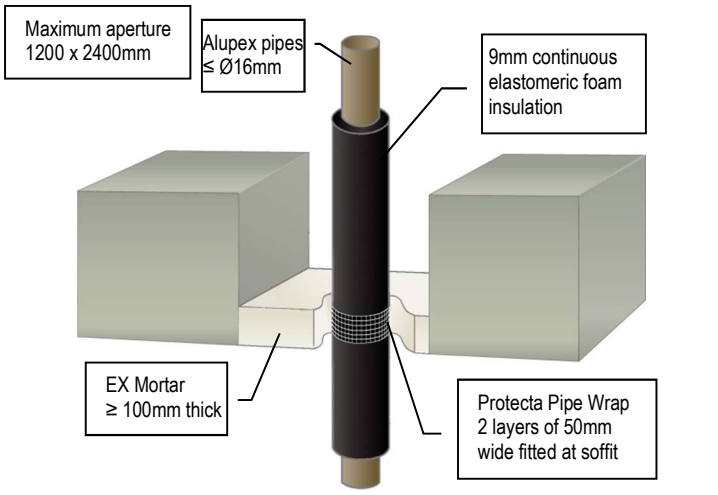
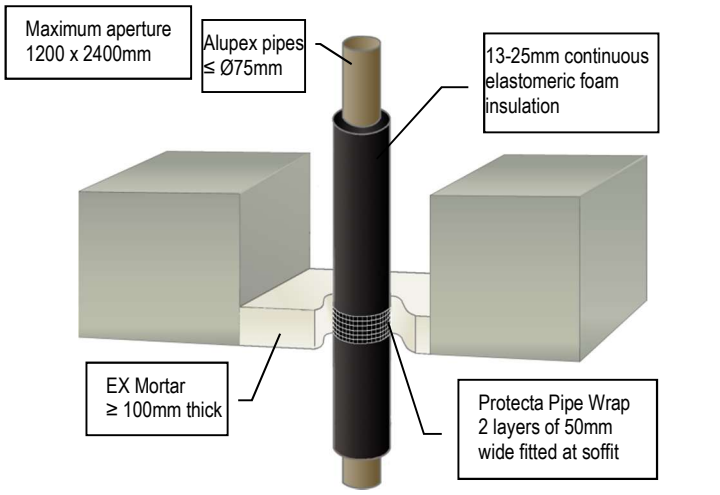
ALUPEX PIPES FIRE RESISTANCE EI 240 C/C (E 240)

RIGID FLOORS



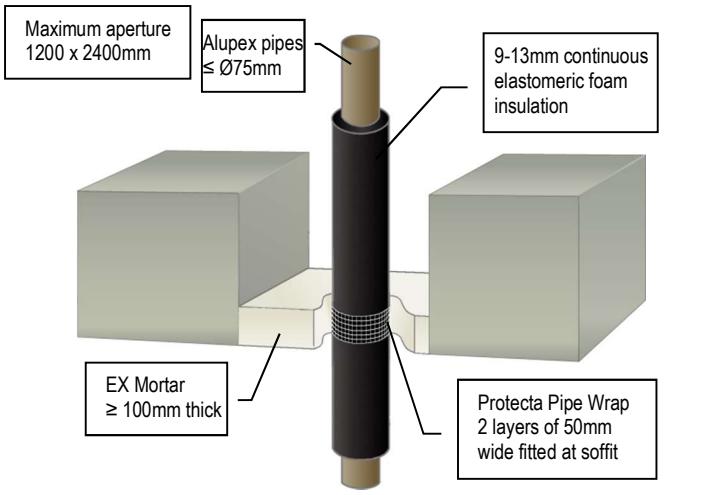
ALUPEX PIPES FIRE RESISTANCE EI 90 C/C (E 180)

RIGID FLOORS



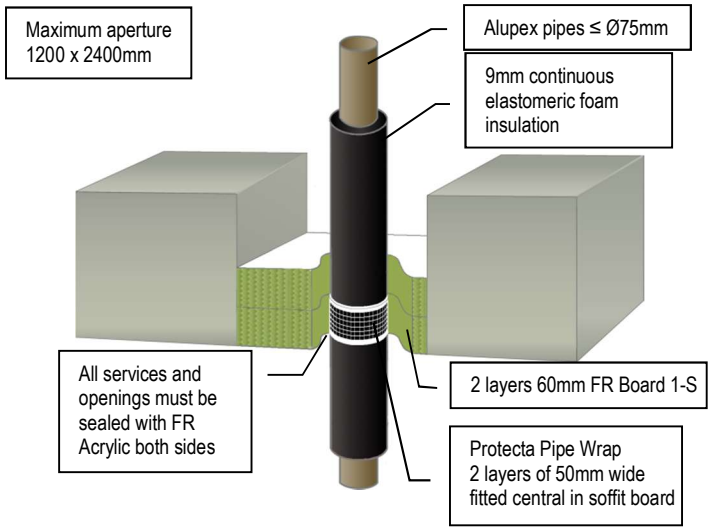
ALUPEX PIPES FIRE RESISTANCE EI 90 C/C (E 240)

RIGID FLOORS



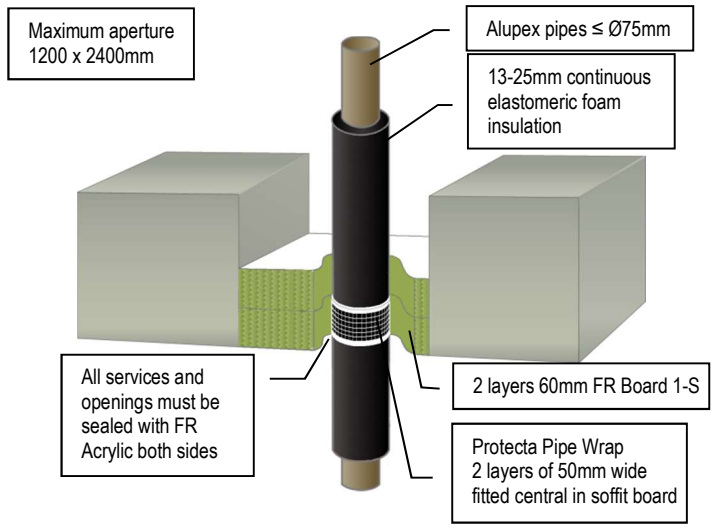
ALUPEX PIPES FIRE RESISTANCE EI 120 C/C (E 120)

RIGID FLOORS



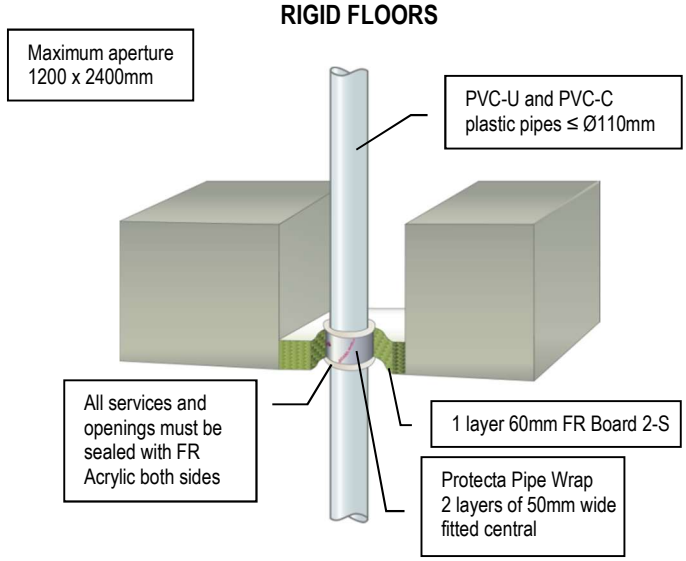
ALUPEX PIPES FIRE RESISTANCE EI 45 C/C (E 60)

RIGID FLOORS



PLASTIC PIPES FIRE RESISTANCE EI 90 U/C (E 90)

RIGID FLOORS



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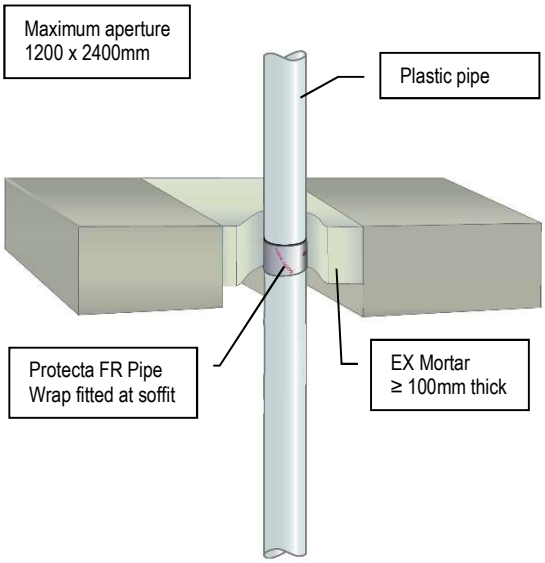
PLASTIC PIPES FIRE RESISTANCE EI 120 - 240

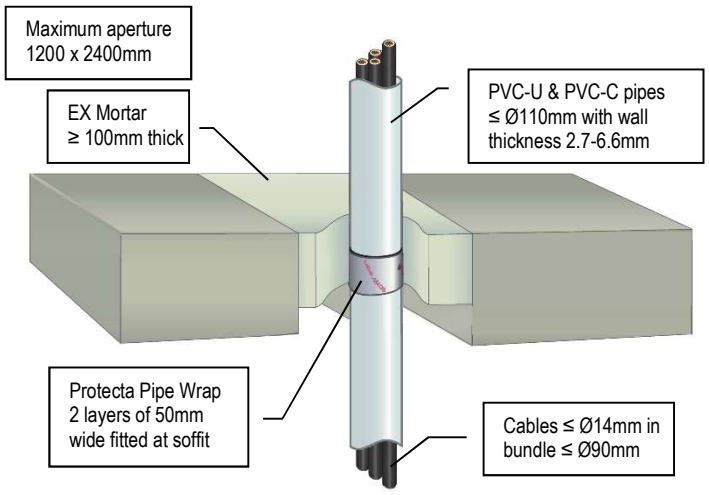
RIGID FLOORS



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)

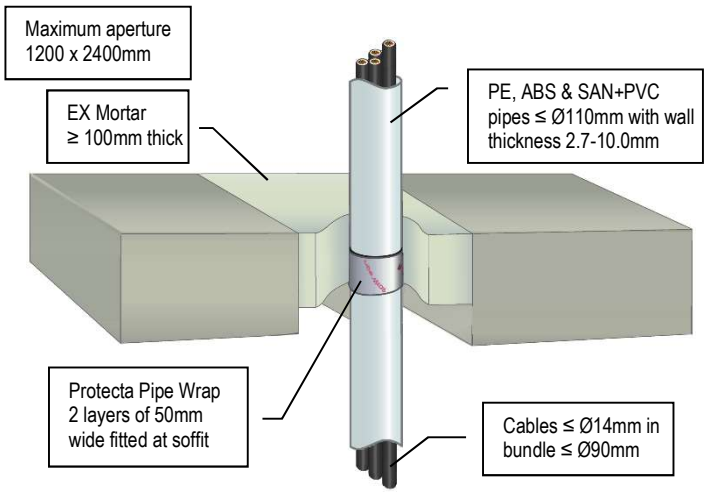
PLASTIC PIPES W/CABLES FIRE RESISTANCE EI 120 U/C (E 120)

RIGID FLOORS



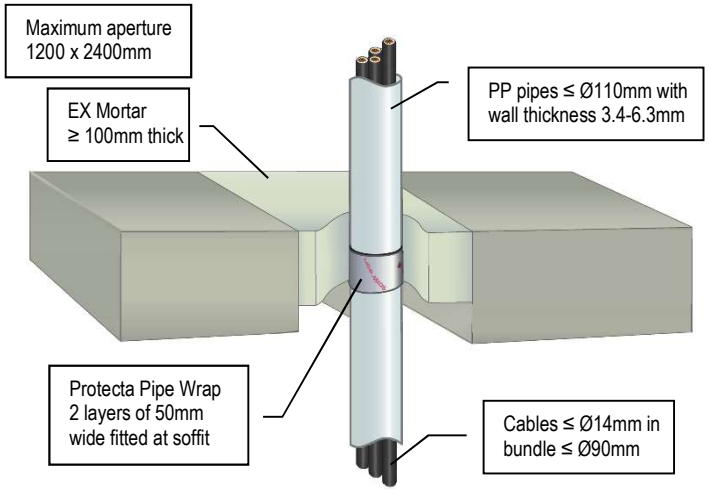
PLASTIC PIPES W/CABLES FIRE RESISTANCE EI 60 U/C (E 120)

RIGID FLOORS



PLASTIC PIPES W/CABLES FIRE RESISTANCE EI 60 U/C (E 60)

RIGID FLOORS



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