PROTECTA® EX MORTAR
INSTALLATION INSTRUCTIONS

Protecta®

INDEX FOR DETAILED DRAWINGS

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

GENERAL PRODUCT DESCRIPTION

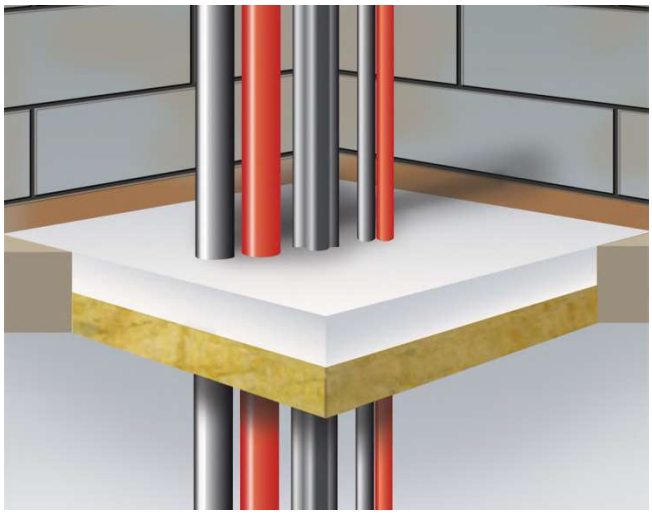
Protecta® EX Mortar is a dry white powder consisting of inorganic compounds and perlite. When mixed with water the compounds form a highly thermally insulating fire seal to prevent the spread of fire and smoke through openings in fire rated walls and floors, including openings formed to accommodate building 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/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.

*) 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 drywalls the mortar should be flush with the surface of the wall 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 2-19). 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 add the mortar to obtain the required consistency. Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. 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 EAD 350454-00-1104, September 2017.

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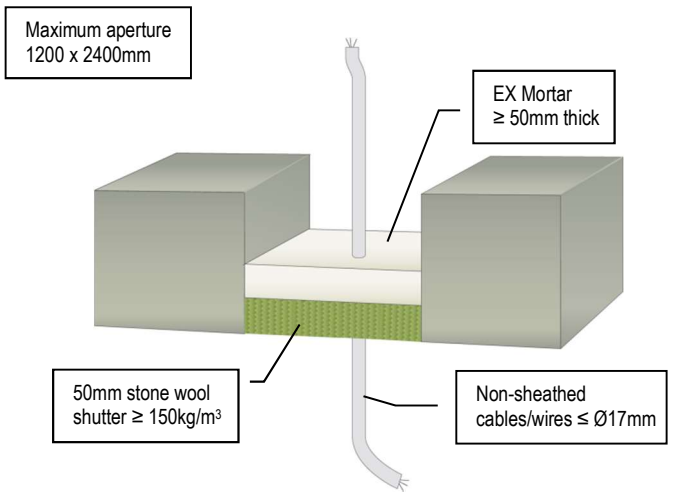
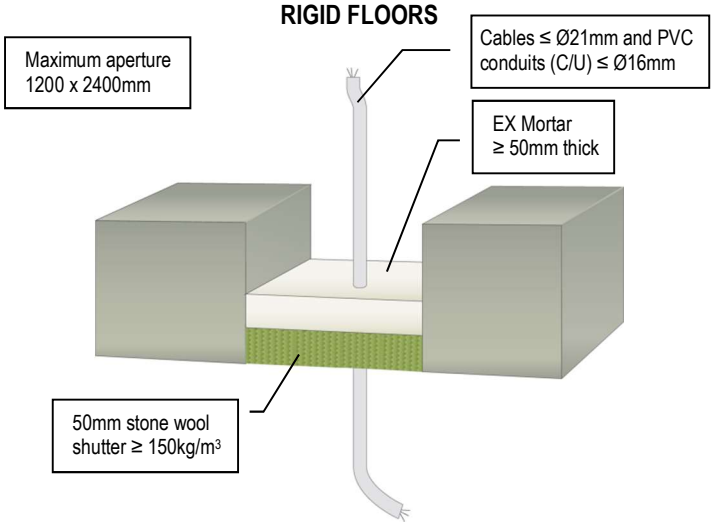
CABLES FIRE RESISTANCE EI 60 (E 180)

RIGID FLOORS



CABLES FIRE RESISTANCE EI 90 (E 180)

RIGID FLOORS



CABLES FIRE RESISTANCE EI 180 (E 180)

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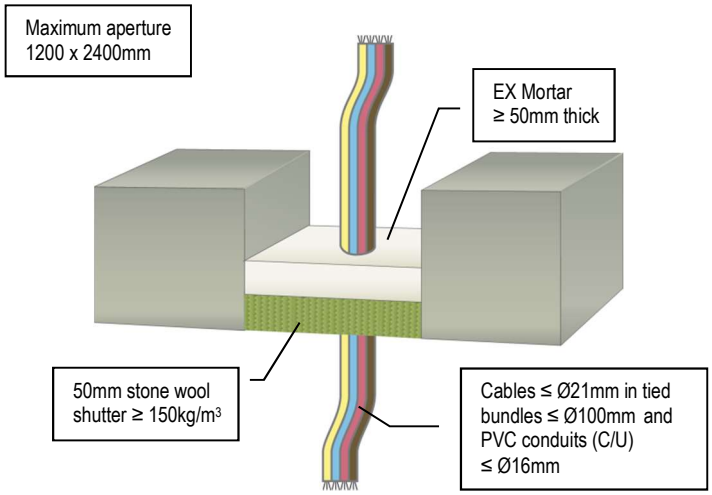

CABLES FIRE RESISTANCE EI 90 (E 240)

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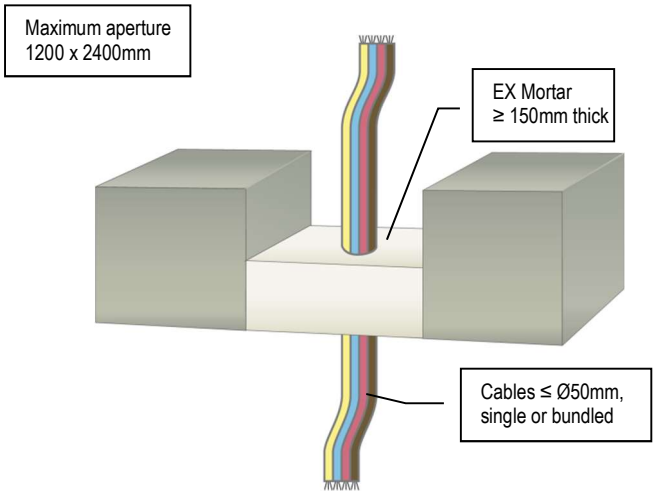

CABLES AND CABLE TRAYS FIRE RESISTANCE EI 60 (E 90)

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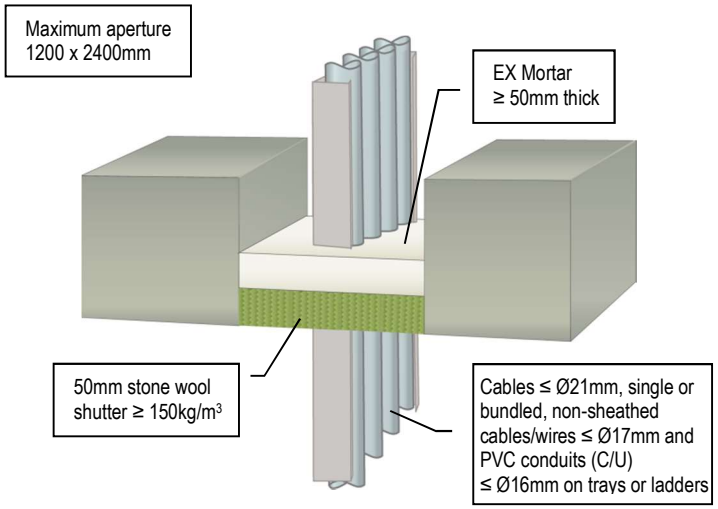

CABLES AND CABLE TRAYS FIRE RESISTANCE EI 60 (E 180)

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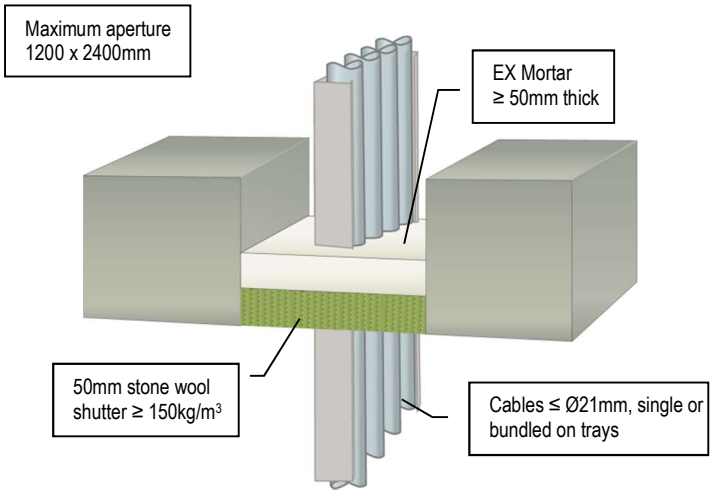

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CABLES AND CABLE TRAYS FIRE RESISTANCE EI 120 (E 120)

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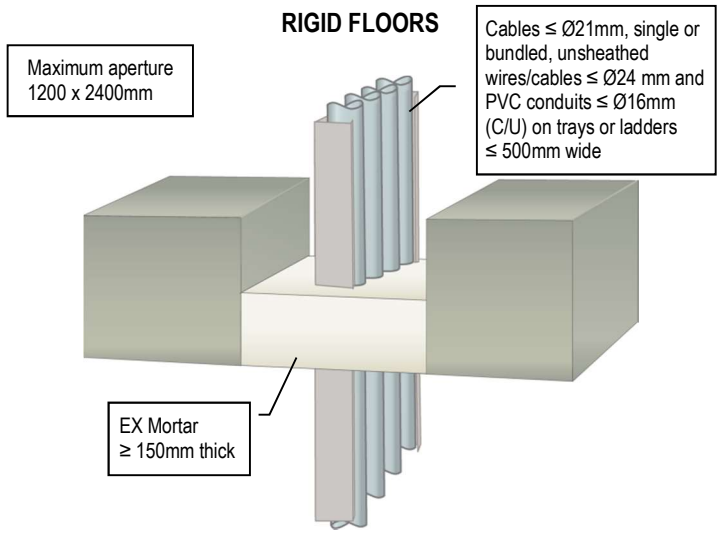

CABLES AND CABLE TRAYS FIRE RESISTANCE EI 120 (E 240)

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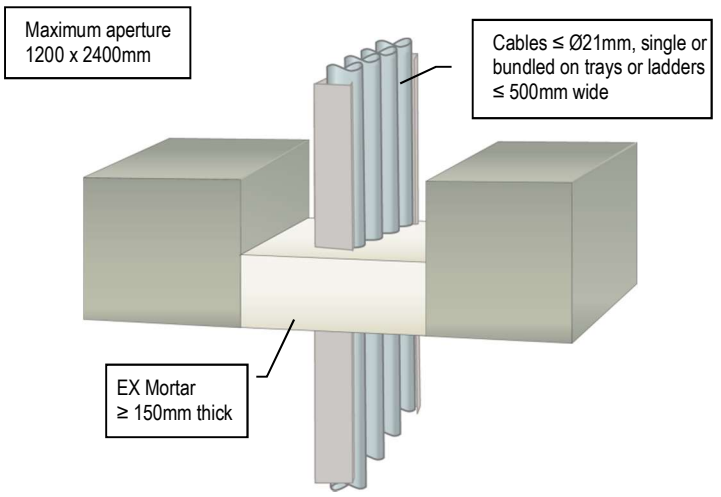

CABLES AND CABLE TRAYS FIRE RESISTANCE EI 60 (E 180)

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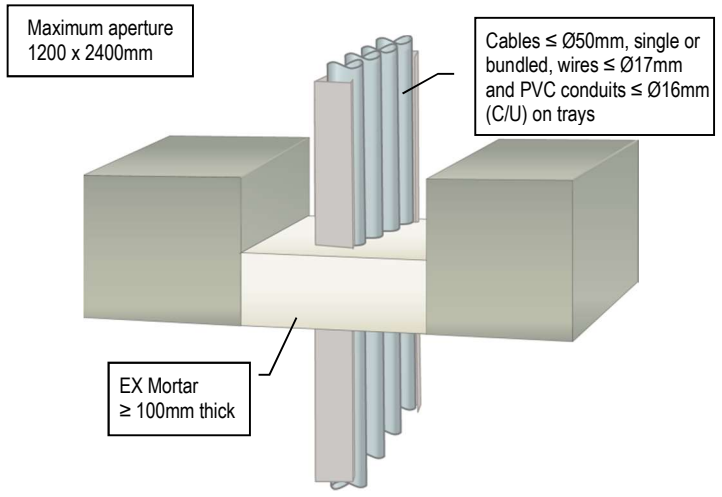

CABLES AND CABLE TRAYS FIRE RESISTANCE EI 60 (E 120)

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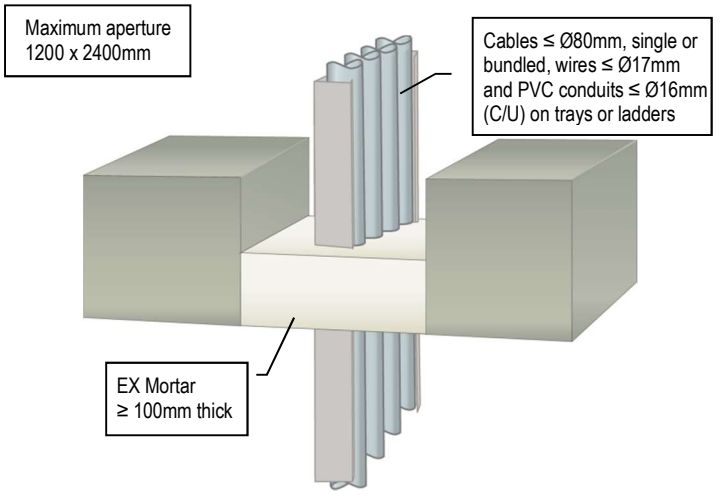

STEEL PIPES FIRE RESISTANCE EI 180 C/U (E 180 C/U)

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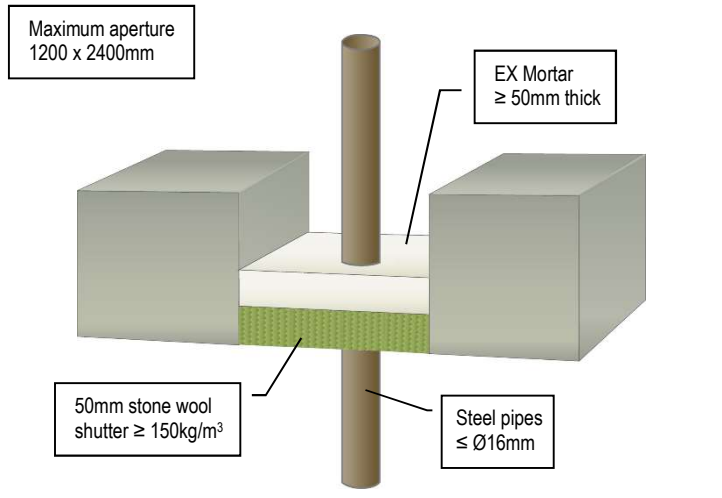

STEEL PIPES FIRE RESISTANCE EI 240 C/U (E 240 C/U)

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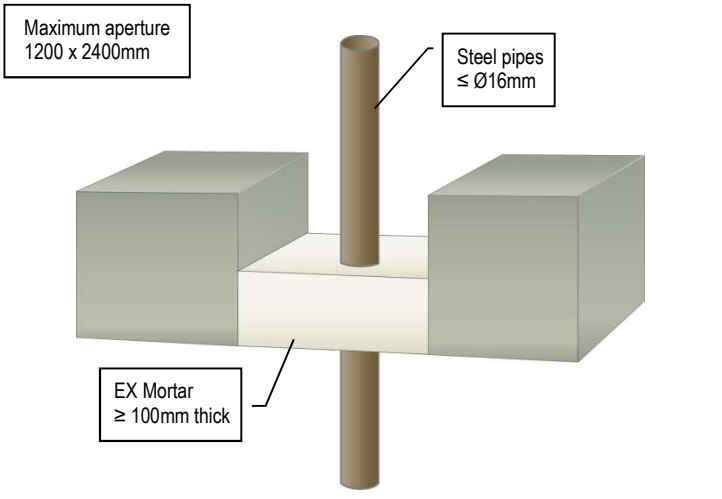

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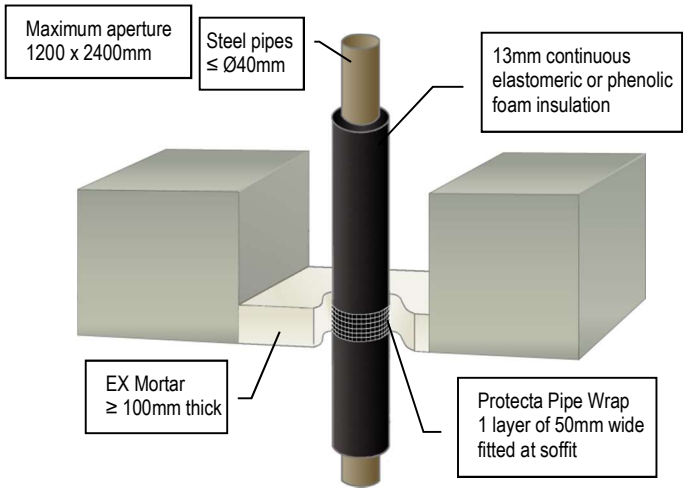
INSULATED STEEL PIPES FIRE RESISTANCE EI 180 C/U (E 180)

RIGID FLOORS



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

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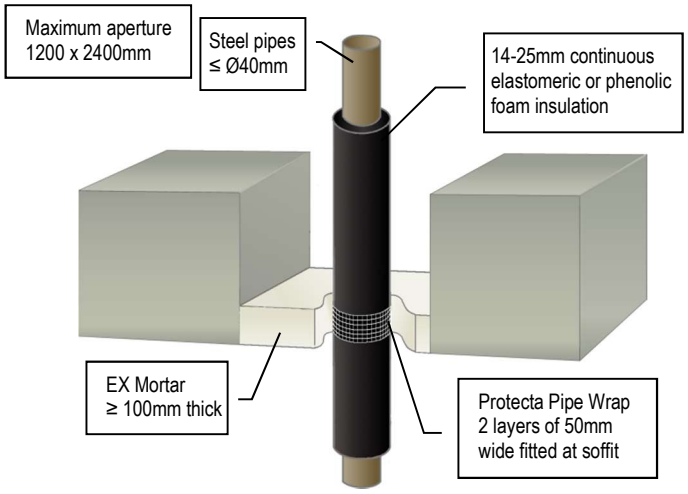

INSULATED STEEL PIPES FIRE RESISTANCE EI 120 C/U (E 180)

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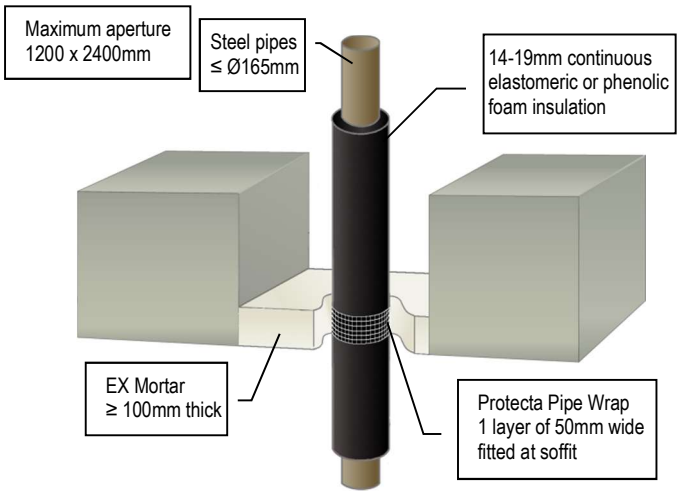

INSULATED STEEL PIPES FIRE RESISTANCE EI 120 C/U (E 180)

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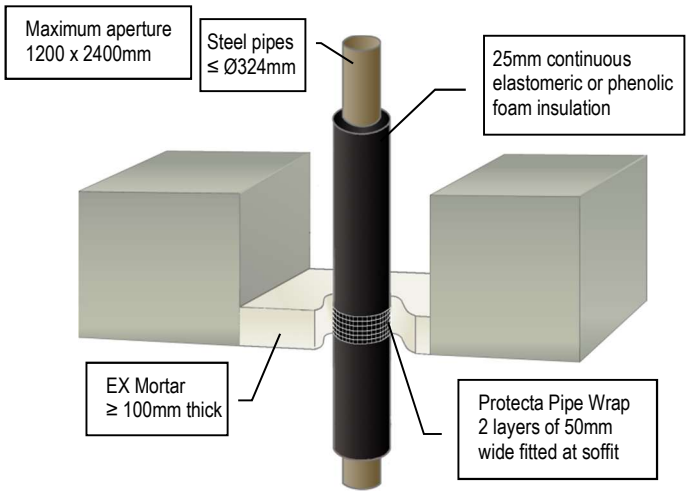

INSULATED STEEL PIPES FIRE RESISTANCE EI 120 C/U (E 120)

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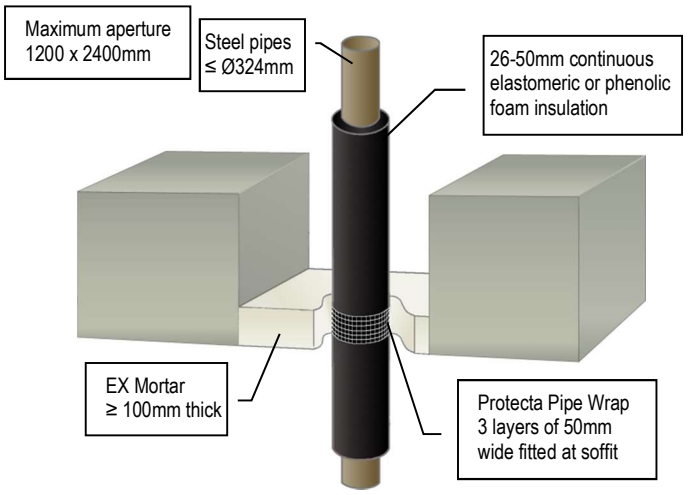

INSULATED STEEL PIPES FIRE RESISTANCE EI 180 C/U (E 180)

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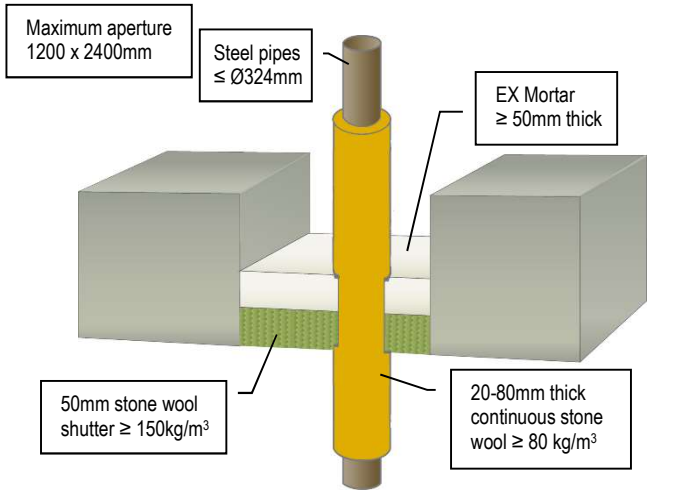

INSULATED STEEL PIPES FIRE RESISTANCE EI 240 C/U (E 240)

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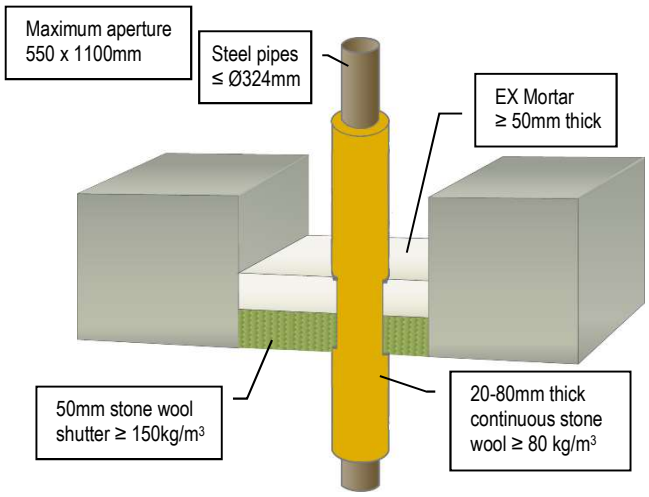

STEEL PIPES FIRE RESISTANCE EI 180 C/U (E 180 C/U)

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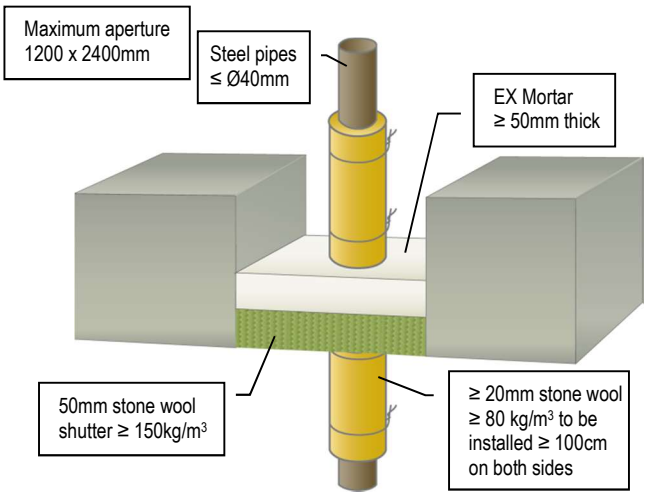
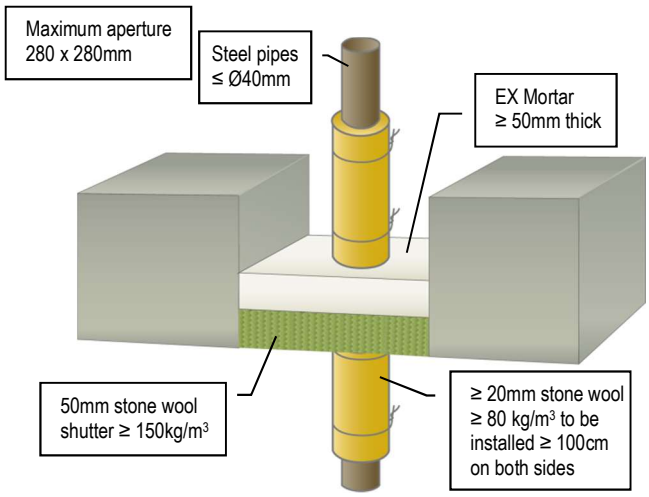


STEEL PIPES FIRE RESISTANCE EI 240 C/U (E 240 C/U)

RIGID FLOORS



STEEL PIPES FIRE RESISTANCE EI 90 C/U (E 180 C/U)

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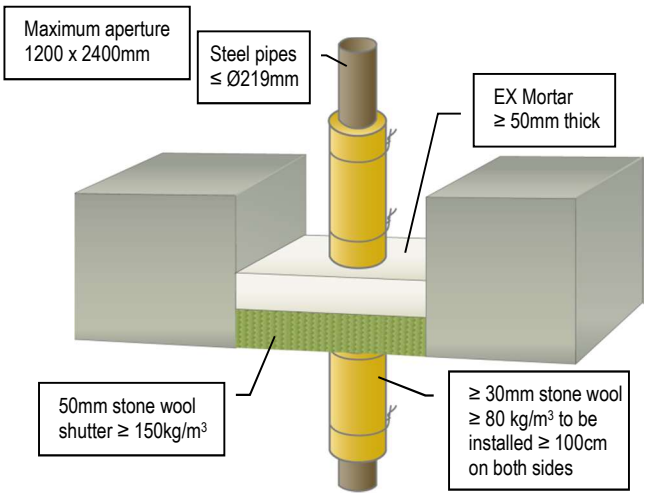

STEEL PIPES FIRE RESISTANCE EI 90 C/U (E 240 C/U)

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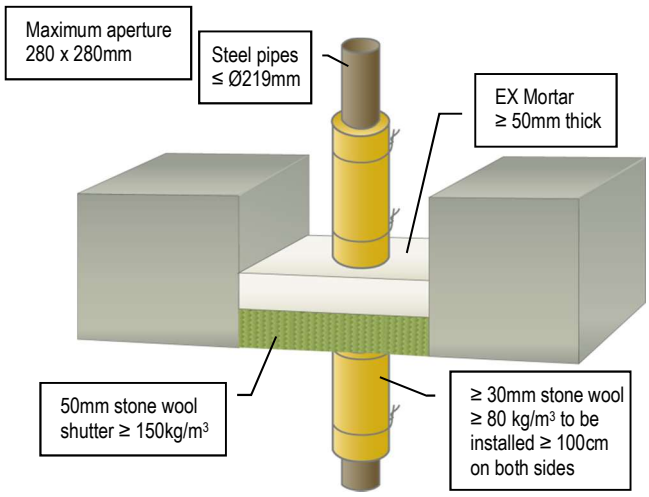
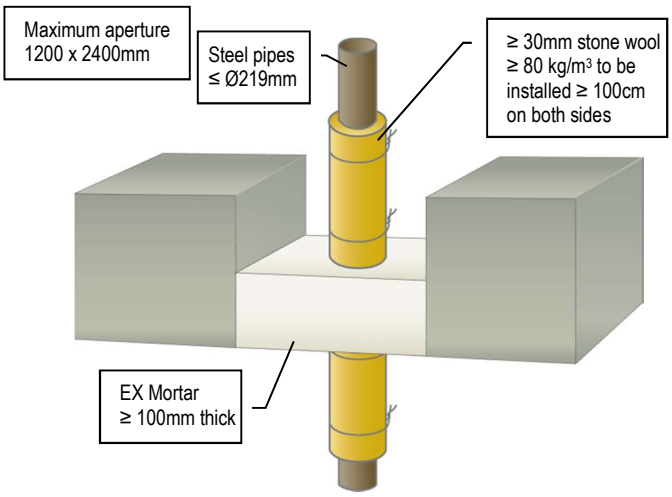


STEEL PIPES FIRE RESISTANCE EI 120 C/U (E 240 C/U)

RIGID FLOORS



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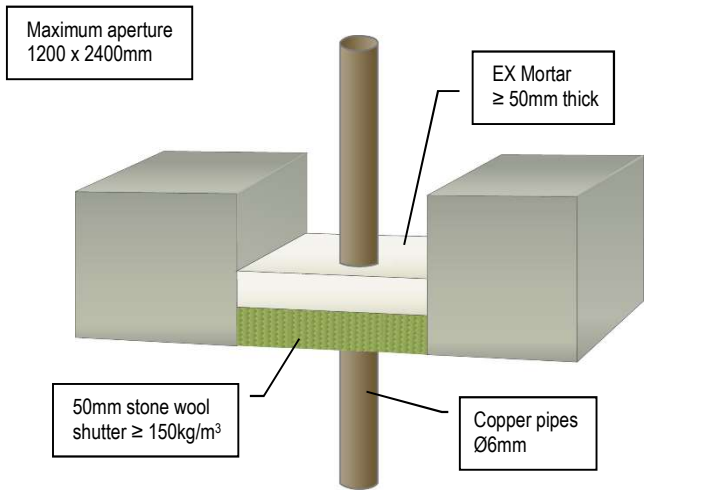
COPPER PIPES FIRE RESISTANCE EI 120 C/C (E 180 C/C)

RIGID FLOORS



COPPER PIPES FIRE RESISTANCE EI 30 C/C (E 180 C/C)

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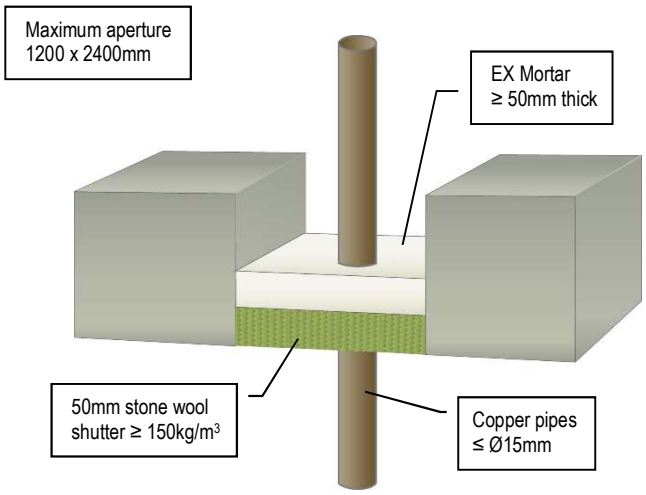

COPPER OR STEEL PIPES FIRE RESISTANCE EI 20 C/C (E 120)

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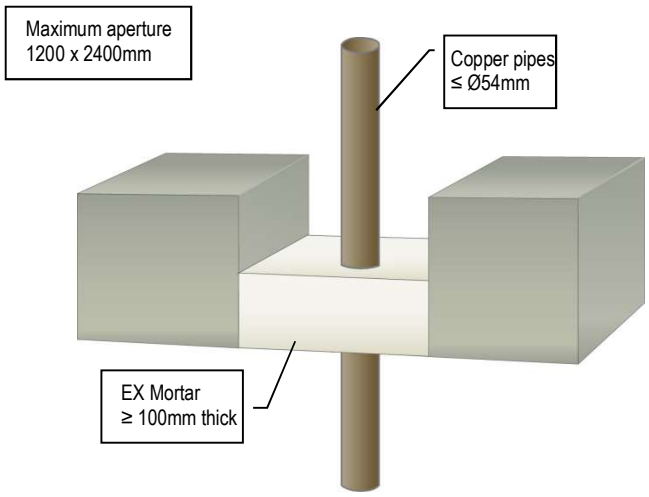
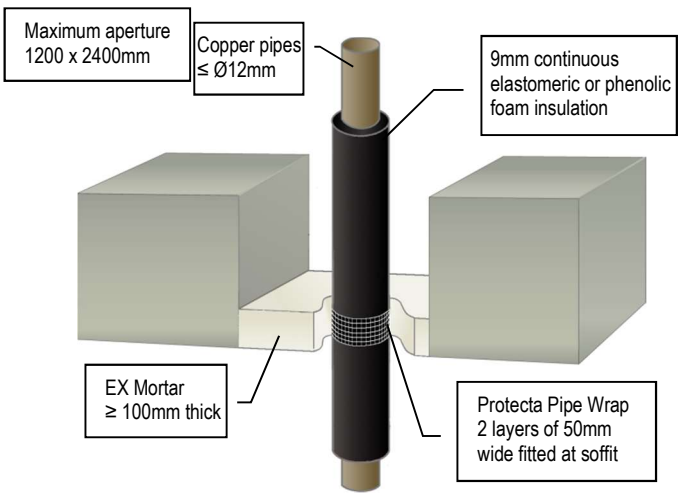


INSULATED COPPER PIPES FIRE RESISTANCE EI 240 C/C (E 240)

RIGID FLOORS



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

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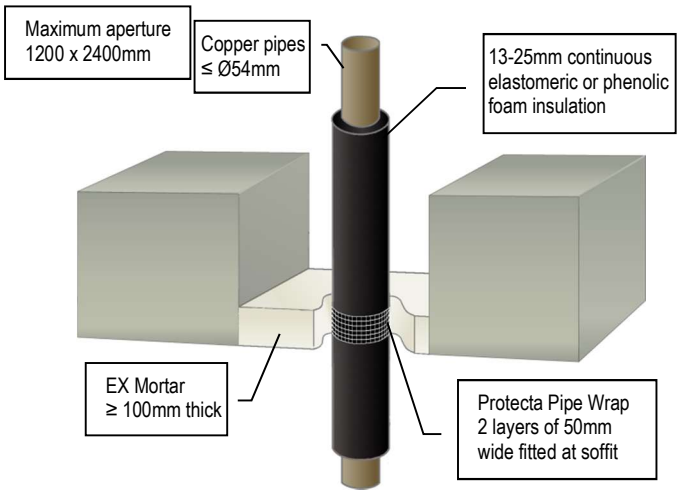

INSULATED COPPER PIPES FIRE RESISTANCE EI 120 C/C (E 180)

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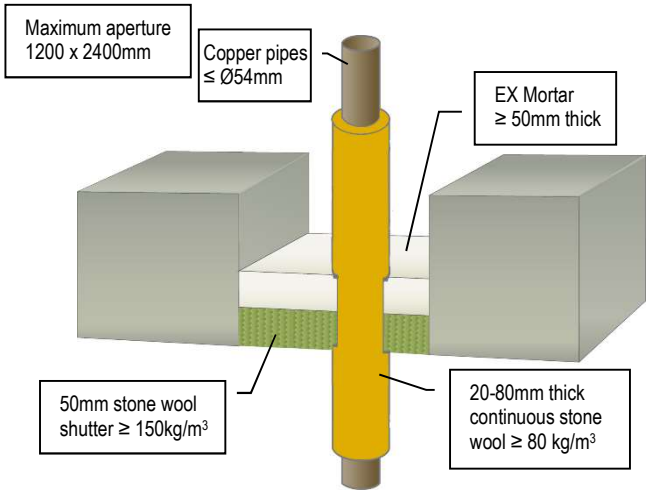

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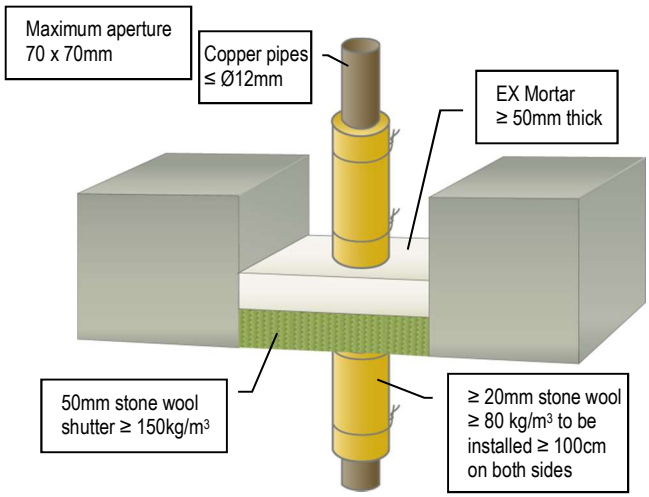
COPPER PIPES FIRE RESISTANCE EI 240 C/C (E 240 C/C)

RIGID FLOORS



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

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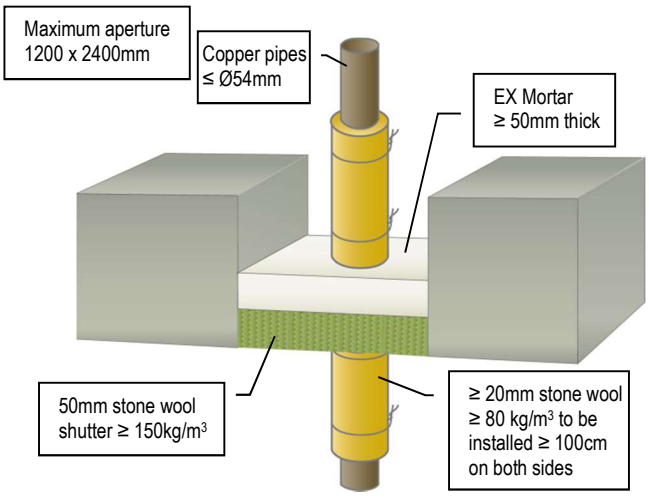
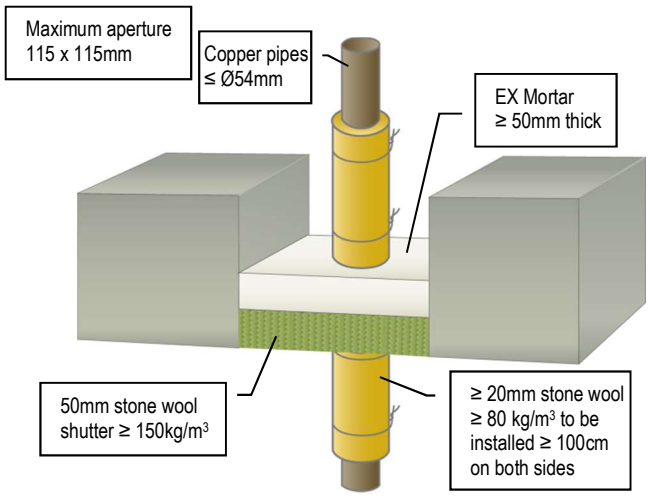


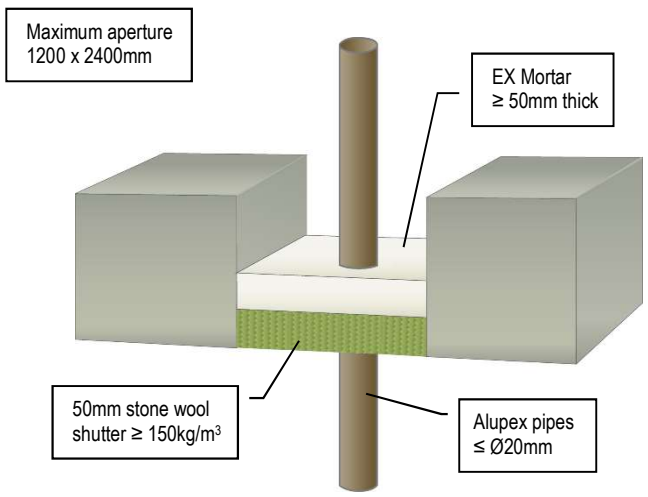
COPPER PIPES FIRE RESISTANCE EI 180 C/C (E 240 C/C)

RIGID FLOORS



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

RIGID FLOORS



ALUPEX PIPES FIRE RESISTANCE EI 20 U/C (E 240 U/C)

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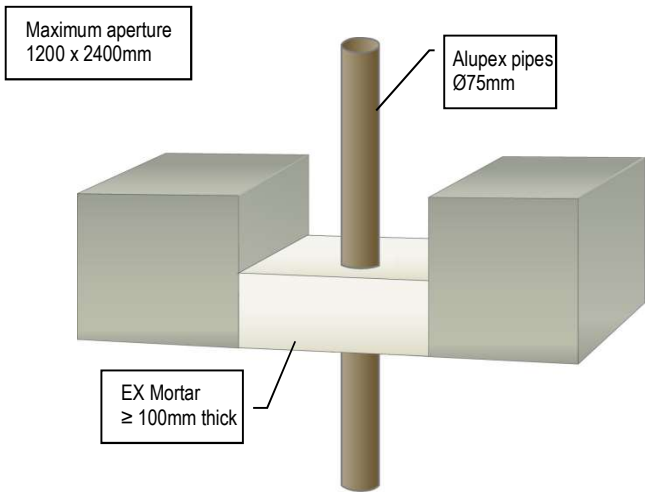
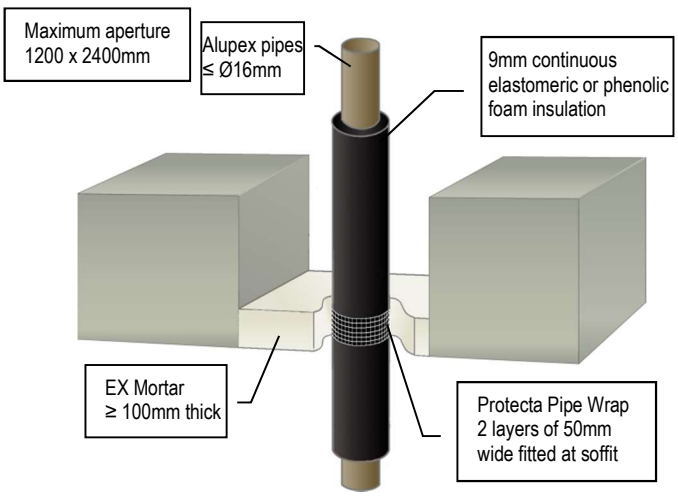


INSULATED ALUPEX PIPES FIRE RESISTANCE EI 240 C/C (E 240)

RIGID FLOORS



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

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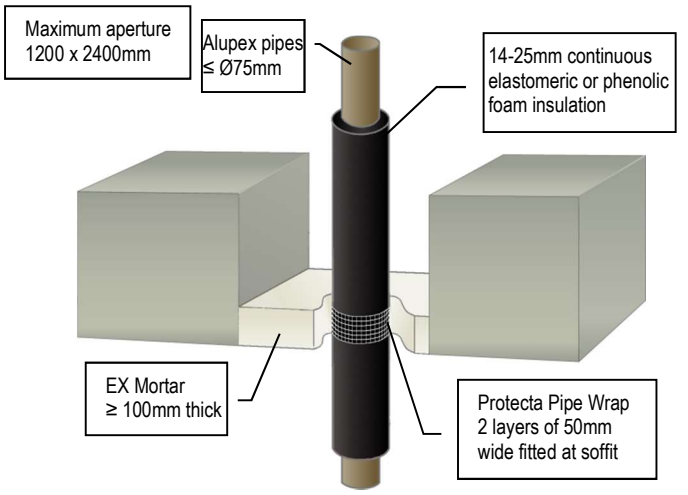
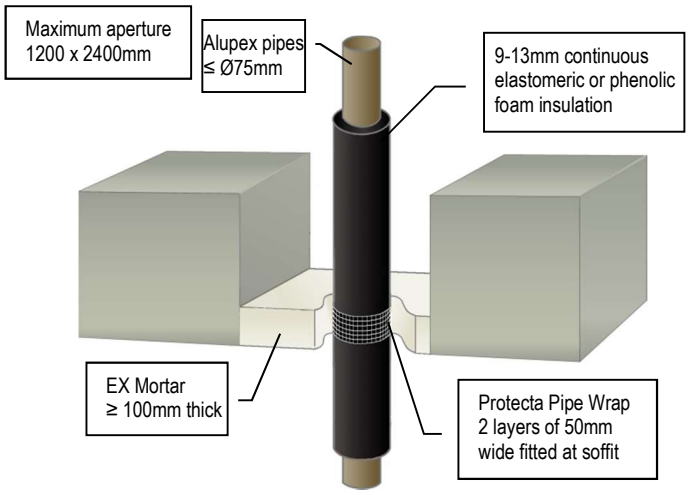


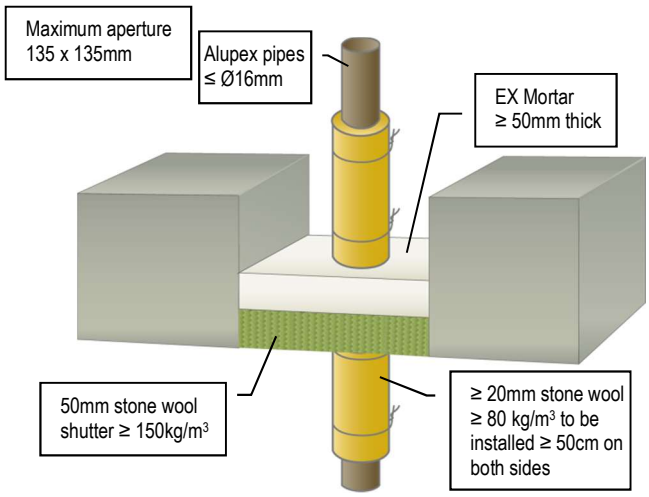
INSULATED ALUPEX PIPES FIRE RESISTANCE EI 90 C/C (E 240)

RIGID FLOORS



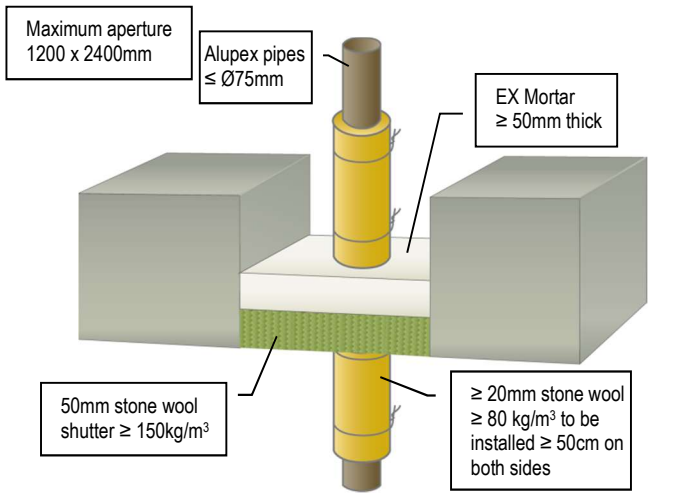
ALUPEX PIPES FIRE RESISTANCE EI 240 C/C (E 240 C/C)

RIGID FLOORS



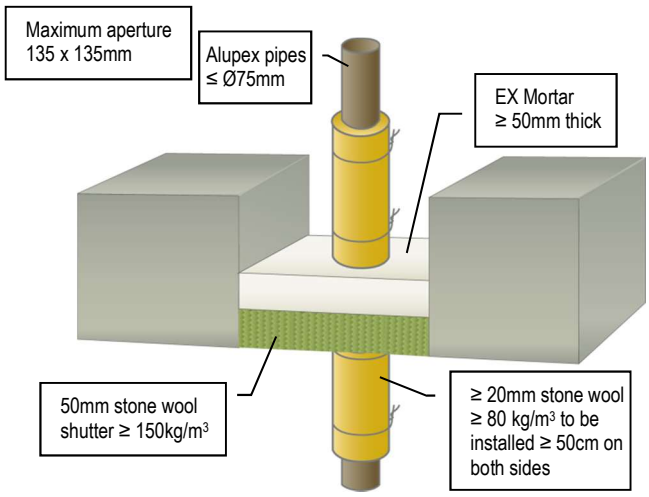
ALUPEX PIPES FIRE RESISTANCE EI 180 C/C (E 180 C/C)

RIGID FLOORS



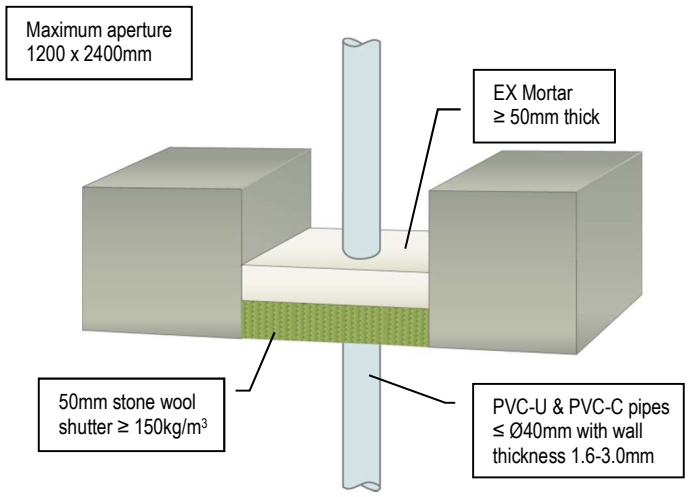
ALUPEX PIPES FIRE RESISTANCE EI 180 C/C (E 240 C/C)

RIGID FLOORS



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

RIGID FLOORS



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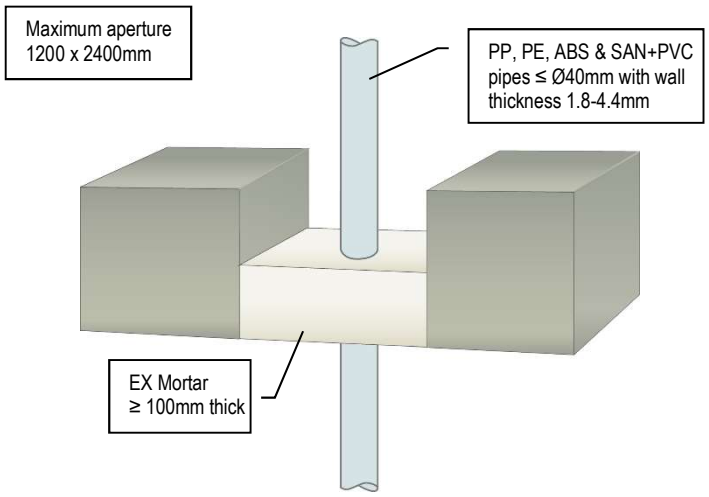
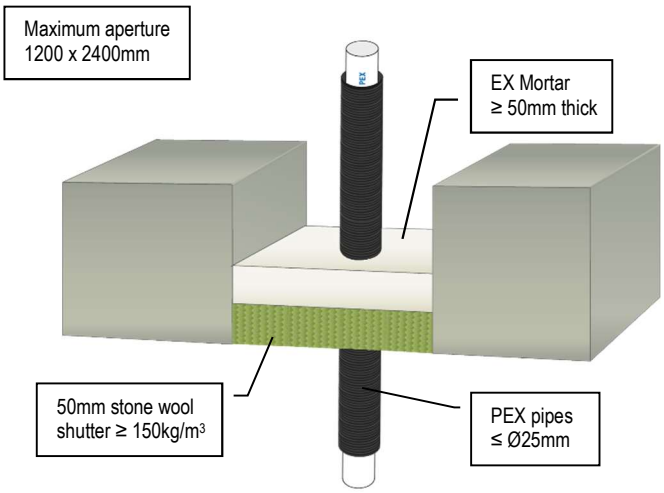
PE, PP & ABS PIPES FIRE RESISTANCE EI 120 U/C (E 120 U/C)

RIGID FLOORS



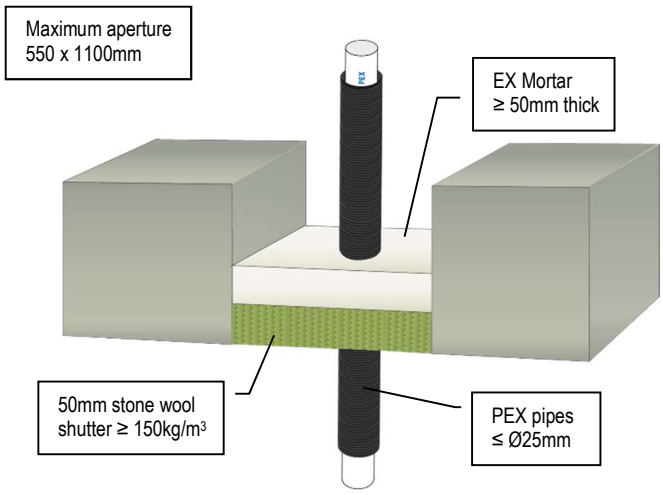
PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 180 C/C (E 180)

RIGID FLOORS



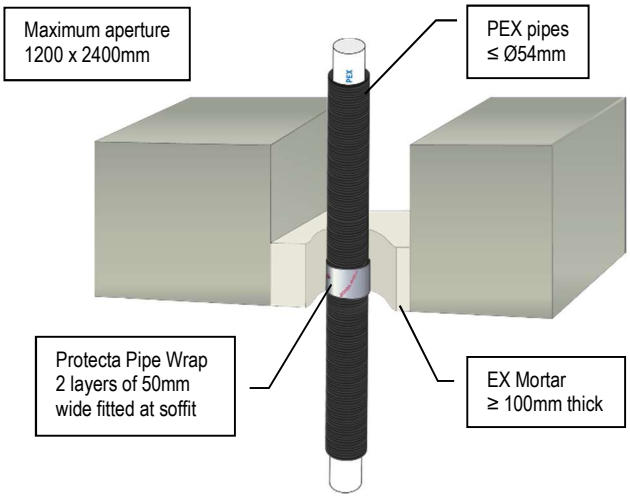
PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 240 C/C (E 240)

RIGID FLOORS



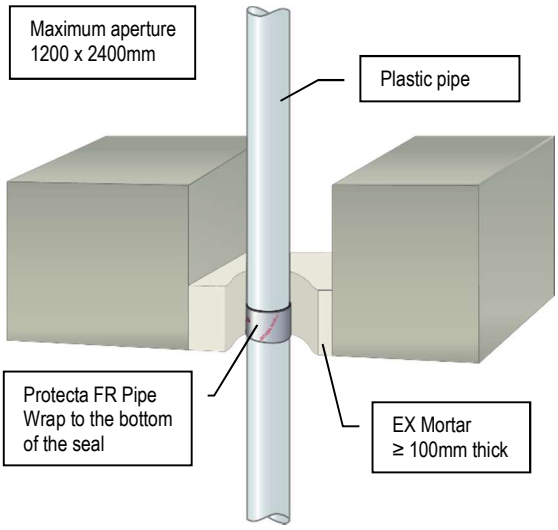
PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 120 C/C (E 120)

RIGID FLOORS



PLASTIC PIPES IN U/C & C/C CONFIGURATIONS

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	1.9 – 6.6mm	50 x 3.6mm (2 layers)	EI 240 U/C (E 240 U/C)
≤ Ø110mm PE, ABS & SAN+PVC	2.5 – 10.0mm	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)
≤ Ø110mm PP	1.9 – 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	4.5 – 9.5mm	50 x 10.8mm (6 layers)	EI 90 C/C (E 90 C/C)
≤ Ø160mm PVC-U & PVC-C	4.5mm	50 x 10.8mm (6 layers)	EI 240 C/C (E 240 C/C)
≤ Ø160mm PVC-U & PVC-C	9.5mm	50 x 10.8mm (6 layers)	EI 90 U/C (E 90 U/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)

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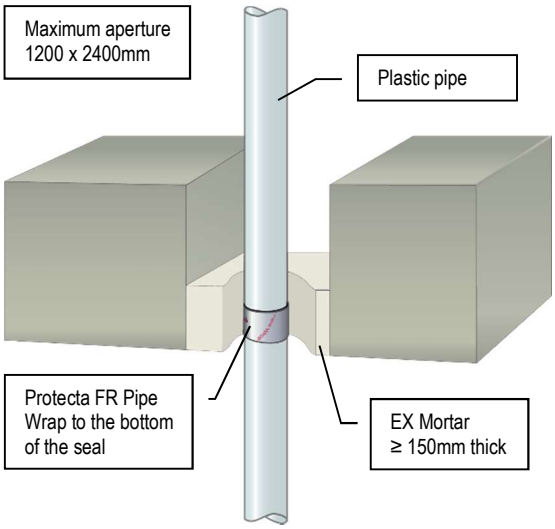
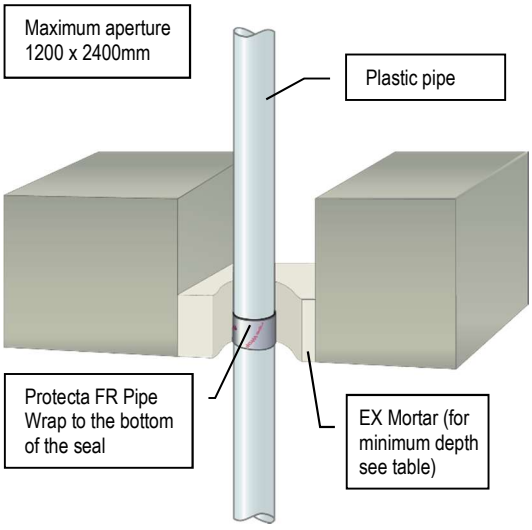
PLASTIC PIPES IN U/U CONFIGURATION



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	1.9 – 6.8mm	50 x 7.2mm (4 layers)	EI 60 U/U (E 60 U/U)
≤ Ø110mm PE, ABS & SAN+PVC	3.4 – 10.0mm	75 x 5.4mm (3 layers)	EI 240 U/U (E 240 U/U)
≤ Ø110mm PP	3.7 – 10.5mm	50 x 7.2mm (4 layers)	EI 240 U/U (E 240 U/U)
≤ Ø125mm PVC-U & PVC-C	1.9 – 7.4mm	50 x 7.2mm (4 layers)	EI 60 U/U (E 60 U/U)
Ø125mm PVC-U & PVC-C	7.4mm	50 x 7.2mm (4 layers)	EI 120 U/U (E 120 U/U)
Ø125mm PE, ABS & SAN+PVC	11.4mm	50 x 7.2mm (4 layers)	EI 240 U/U (E 240 U/U)
Ø125mm PP	11.4mm	50 x 7.2mm (4 layers)	EI 240 U/U (E 240 U/U)
Ø140mm PVC-U & PVC-C	6.5 – 8.3mm	75 x 10.8mm (6 layers)	EI 30 U/U (E 120 U/U)
Ø140mm PE, ABS & SAN+PVC	8.0 – 12.4mm	75 x 10.8mm (6 layers)	EI 120 U/U (E 240 U/U)
Ø140mm PP	12.8mm	75 x 7.2mm (4 layers)	EI 240 U/U (E 240 U/U)
Ø160mm PVC-U & PVC-C	9.5mm	75 x 7.2mm (4 layers)	EI 30 U/U (E 120 U/U)
≤ Ø160mm PE, ABS & SAN+PVC	4.9 – 14.6mm	75 x 7.2mm (4 layers)	EI 120 U/U (E 120 U/U)
≤ Ø160mm PE, ABS & SAN+PVC	3.9 – 14.6mm	75 x 18.0mm (10 layers)	EI 120 U/U (E 240 U/U)
Ø160mm PP	14.6mm	75 x 7.2mm (4 layers)	EI 240 U/U (E 240 U/U)

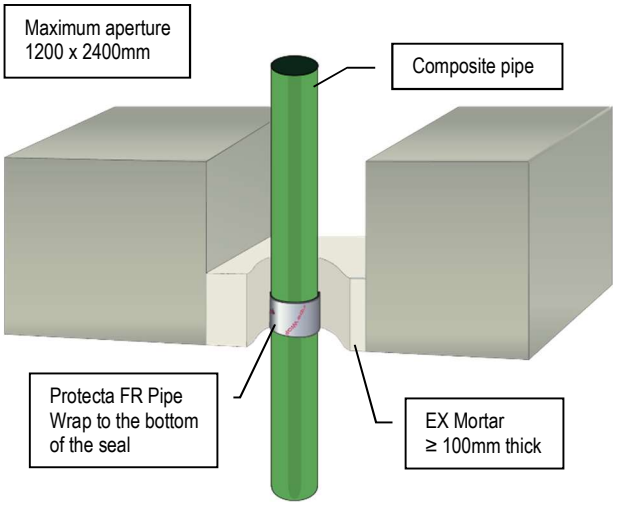
LARGE PLASTIC PIPES



RIGID FLOORS

Services	Pipe Wall Thickness	Mortar Depth	Pipe Wrap	Classification
Ø160mm PVC-U & PVC-C	4.5 – 9.5mm	120mm	50 x 10.8mm (6 layers)	EI 120 U/C (E 120 U/C)
≤ Ø200mm PP	4.9 – 18.2mm	120mm	75 x 10.8mm (6 layers)	EI 240 C/C (E 240 C/C)
≤ Ø250mm PE, ABS & SAN+PVC	7.8mm	100mm	75 x 12.6mm (7 layers)	EI 180 C/C (E 180 C/C)
≤ Ø315mm PVC-U & PVC-C	4.5 – 12.1mm	120 mm	75 x 18.0mm (10 layers)	EI 90 C/C (E 90 C/C)
Ø315mm PVC-U & PVC-C	7.7mm	120 mm	75 x 18.0mm (10 layers)	EI 120 C/C (E 120 C/C)
≤ Ø315mm PE, ABS & SAN+PVC	4.9 – 18.7mm	150mm	75 x 18.0mm (10 layers)	EI 60 C/C (E 60 C/C)
≤ Ø315mm PP	4.9 – 28.6mm	150mm	75 x 18.0mm (10 layers)	EI 60 C/C (E 60 C/C)
Ø315mm PP	7.7mm	150mm	75 x 18.0mm (10 layers)	EI 180 C/C (E 180 C/C)

COMPOSITE AQUATHERM GREEN SDR9 PLASTIC PIPES FIRE RESISTANCE EI 240



RIGID FLOORS

Services	FR Pipe Wrap	Classification
Ø 32mm Aquatherm Green SDR9 pipes	50 x 1.8mm (1 layer)	EI 240 C/C (E 240 C/C)
Ø 40mm Aquatherm Green SDR9 pipes	50 x 3.6mm (2 layers)	EI 240 C/C (E 240 C/C)
Ø 50mm Aquatherm Green SDR9 pipes	50 x 3.6mm (2 layers)	EI 240 C/C (E 240 C/C)
Ø 63mm Aquatherm Green SDR9 pipes	50 x 3.6mm (2 layers)	EI 240 C/C (E 240 C/C)
Ø 75mm Aquatherm Green SDR9 pipes	50 x 3.6mm (2 layers)	EI 240 C/C (E 240 C/C)
Ø 90mm Aquatherm Green SDR9 pipes	50 x 3.6mm (2 layers)	EI 240 C/C (E 240 C/C)
Ø 110mm Aquatherm Green SDR9 pipes	50 x 3.6mm (2 layers)	EI 240 C/C (E 240 C/C)

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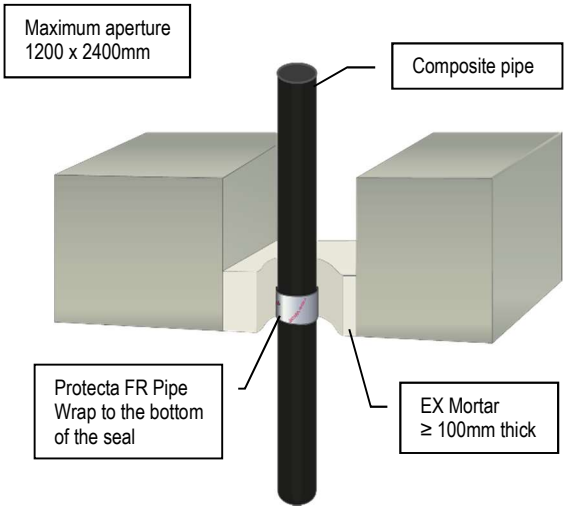
COMPOSITE GEBERIT SILENT-PP PLASTIC PIPES FIRE RESISTANCE EI 120

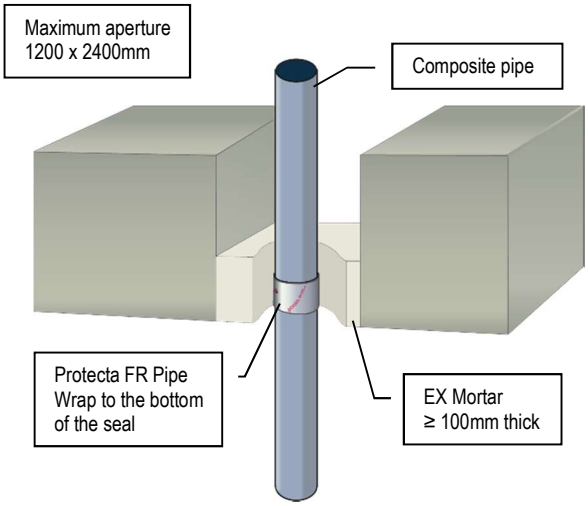
RIGID FLOORS



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 180 – 240

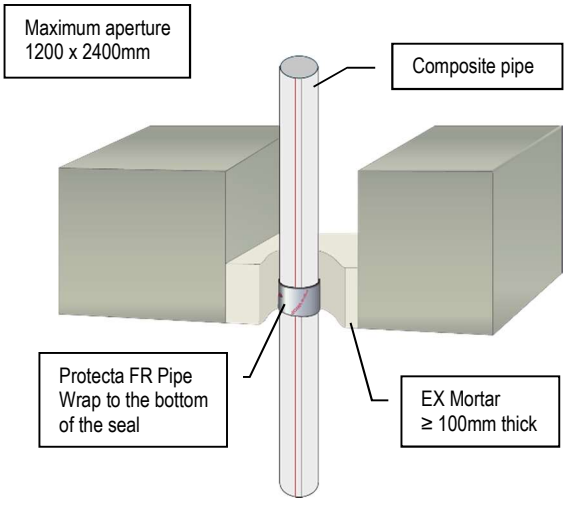
RIGID FLOORS



Services	FR Pipe Wrap	Classification
Ø 32mm Polo-Kal NG pipes	50 x 3.6mm (2 layers)	EI 180 U/C (E 180 U/C)
Ø 40mm Polo-Kal NG pipes	50 x 3.6mm (2 layers)	EI 180 U/C (E 180 U/C)
Ø 50mm Polo-Kal NG pipes	50 x 3.6mm (2 layers)	EI 180 U/C (E 180 U/C)
Ø 75mm Polo-Kal NG pipes	50 x 3.6mm (2 layers)	EI 180 U/C (E 180 U/C)
Ø 90mm Polo-Kal NG pipes	50 x 3.6mm (2 layers)	EI 180 U/C (E 180 U/C)
Ø 110mm Polo-Kal NG pipes	50 x 3.6mm (2 layers)	EI 180 U/C (E 180 U/C)
Ø 125mm Polo-Kal NG pipes	50 x 7.2mm (4 layers)	EI 240 U/C (E 240 U/C)
Ø 160mm Polo-Kal NG pipes	50 x 10.8mm (6 layers)	EI 240 U/C (E 240 U/C)

COMPOSITE REHAU RAUPIANO PLUS PLASTIC PIPES FIRE RESISTANCE EI 120

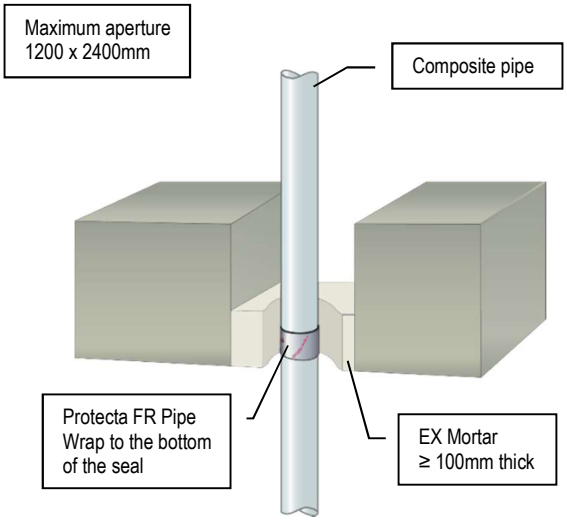
RIGID FLOORS



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 240 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 120

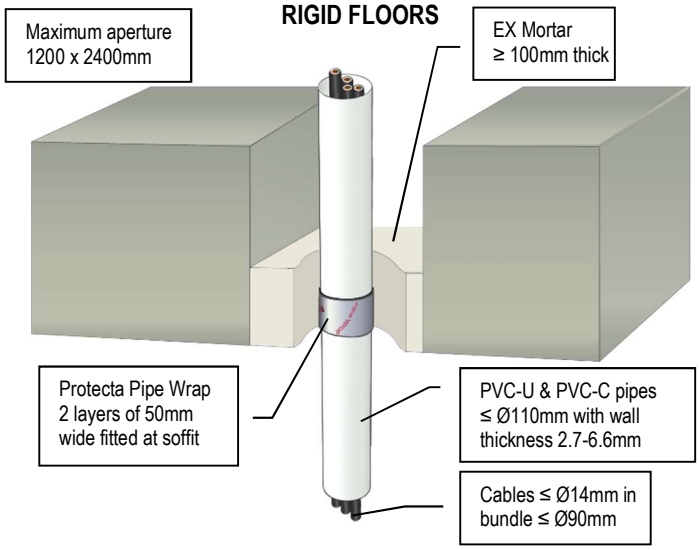
RIGID FLOORS



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

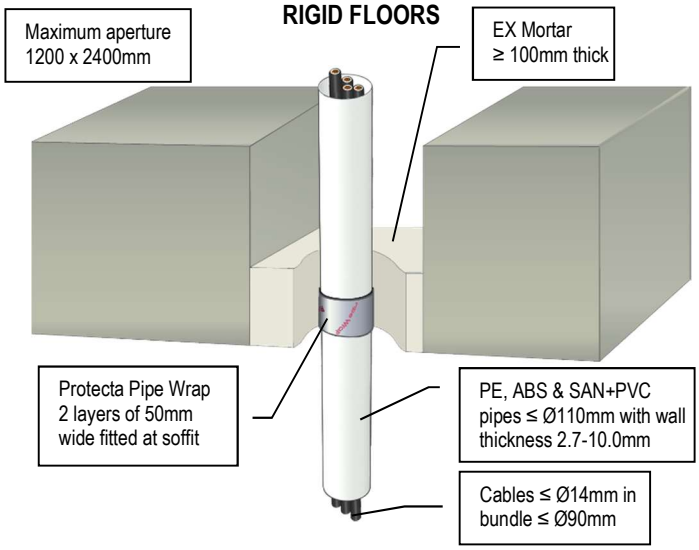
PLASTIC PIPES W/CABLES FIRE RESISTANCE EI 120 U/C (E 120)

RIGID FLOORS



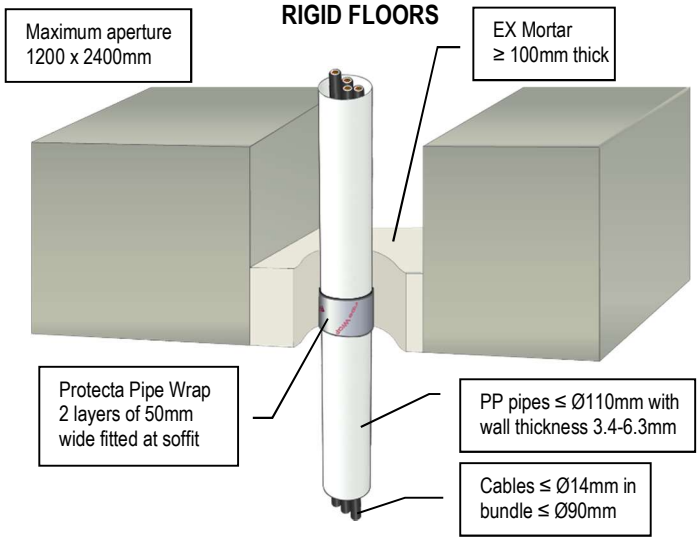
PLASTIC PIPES W/CABLES FIRE RESISTANCE EI 60 U/C (E 120)

RIGID FLOORS



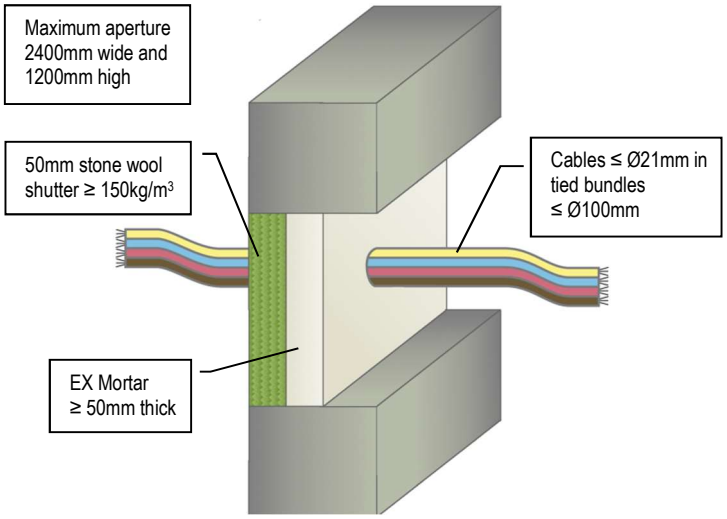
PLASTIC PIPES W/CABLES FIRE RESISTANCE EI 60 U/C (E 60)

RIGID FLOORS



CABLES FIRE RESISTANCE EI 90 (E 180)

MASONRY OR CONCRETE – WALLS



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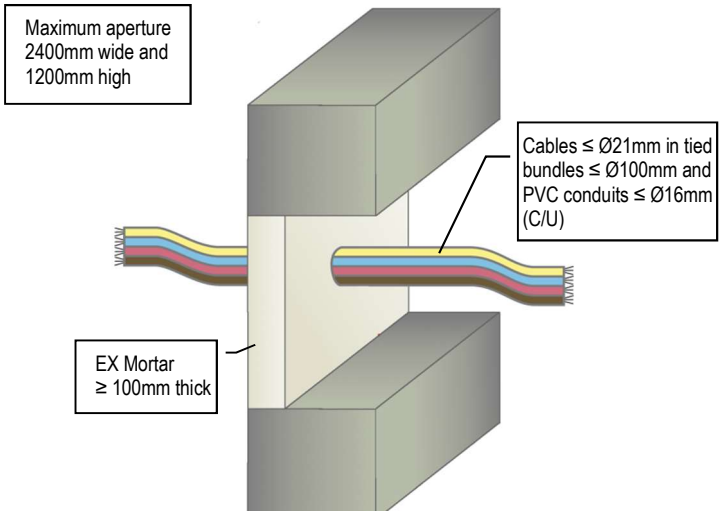
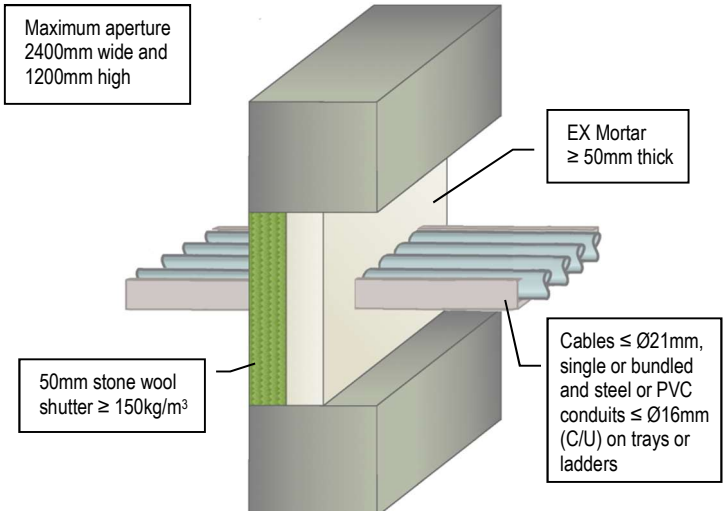
CABLES FIRE RESISTANCE EI 120 (E 120)

MASONRY OR CONCRETE – WALLS



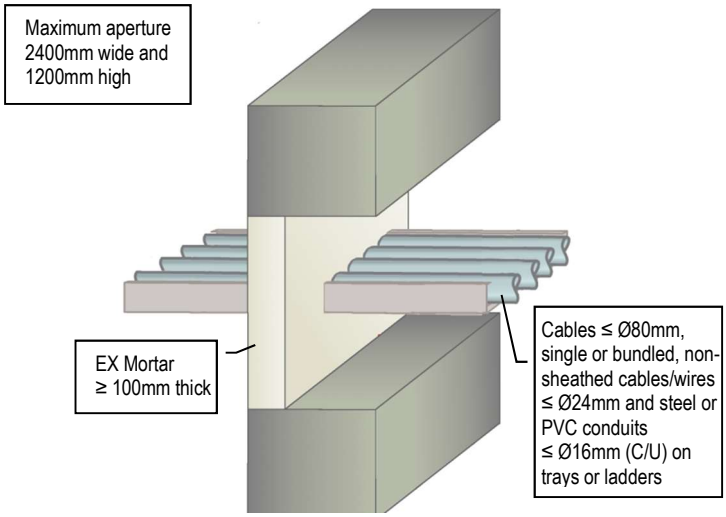
CABLES AND CABLE TRAYS FIRE RESISTANCE EI 60 (E 180)

MASONRY OR CONCRETE – WALLS



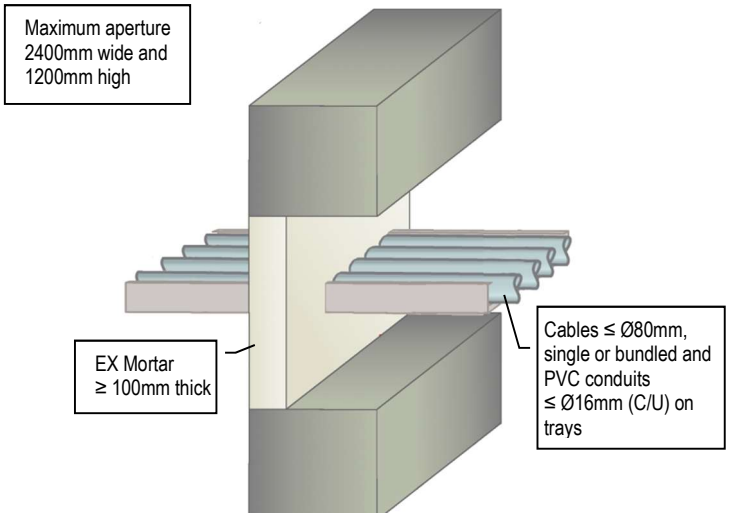
CABLES AND CABLE TRAYS FIRE RESISTANCE EI 60 (E 120)

MASONRY OR CONCRETE – WALLS



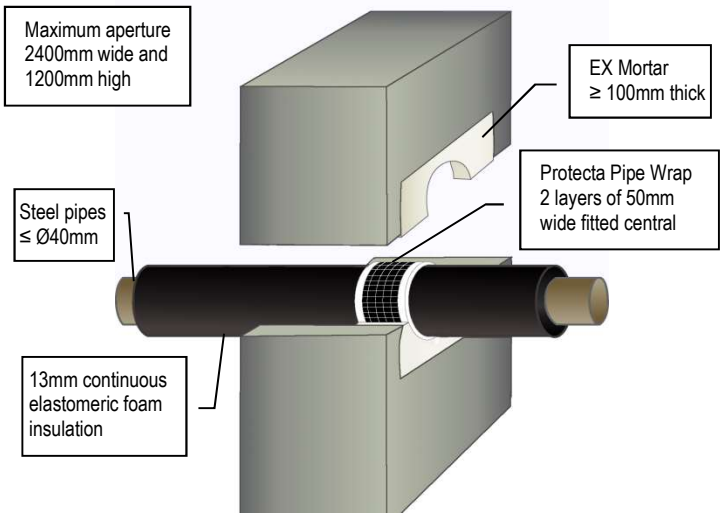
CABLES AND CABLE TRAYS FIRE RESISTANCE EI 60 (E 240)

MASONRY OR CONCRETE – WALLS



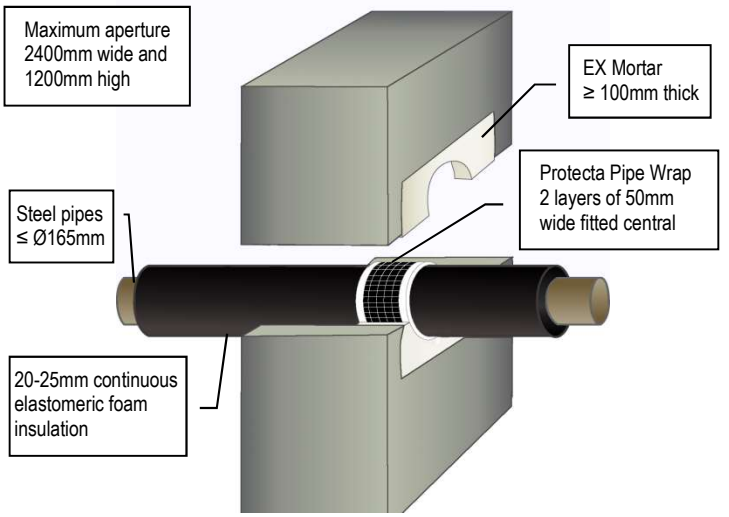
INSULATED STEEL PIPES FIRE RESISTANCE EI 240 C/U (E 240)

MASONRY OR CONCRETE - WALLS



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

MASONRY OR CONCRETE - WALLS



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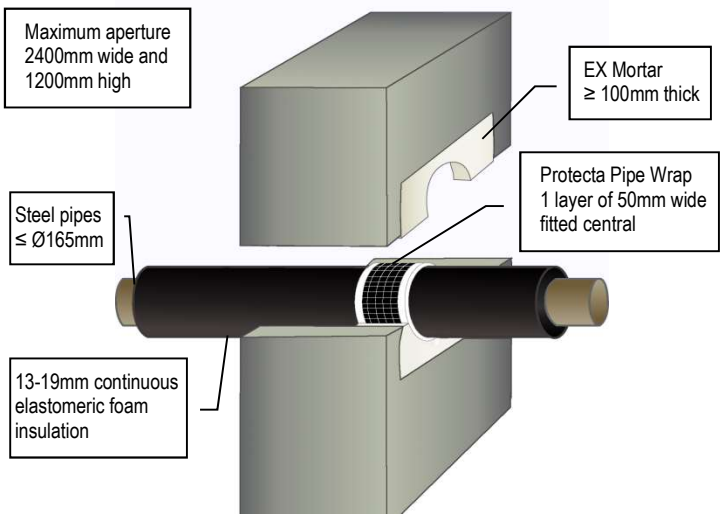
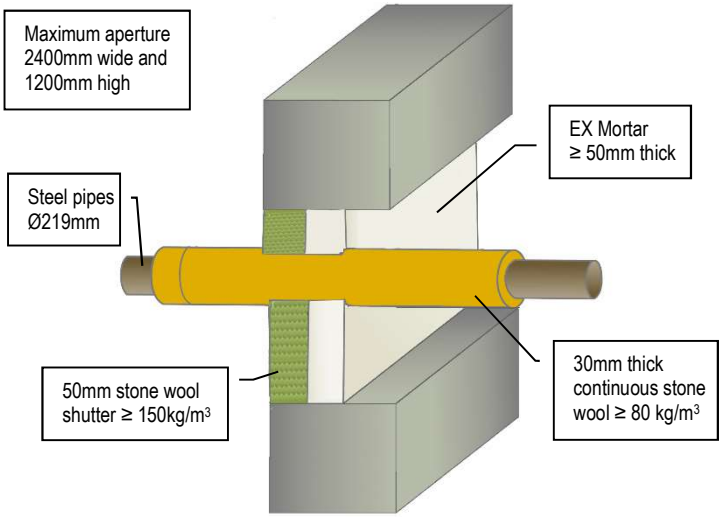
INSULATED STEEL PIPES FIRE RESISTANCE EI 60 C/U (E 240)

MASONRY OR CONCRETE - WALLS



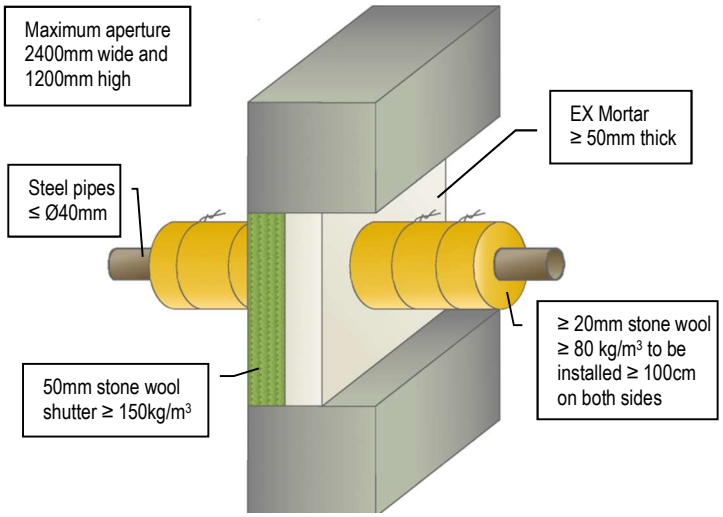
INSULATED STEEL PIPES FIRE RESISTANCE EI 90 C/U (E 120)

MASONRY OR CONCRETE - WALLS



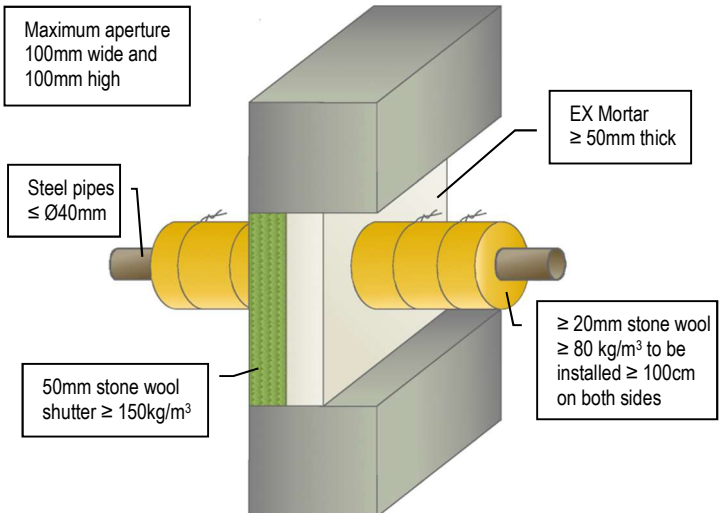
STEEL PIPES FIRE RESISTANCE EI 120 C/U (E 180 C/U)

MASONRY OR CONCRETE - WALLS



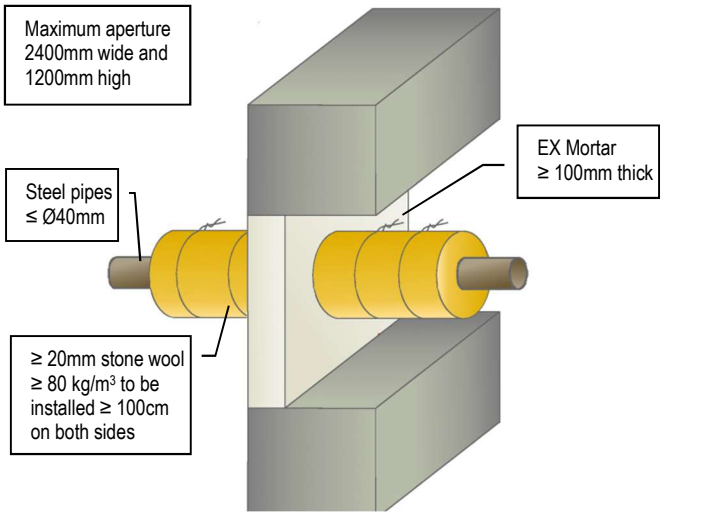
STEEL PIPES FIRE RESISTANCE EI 240 C/U (E 240 C/U)

MASONRY OR CONCRETE - WALLS



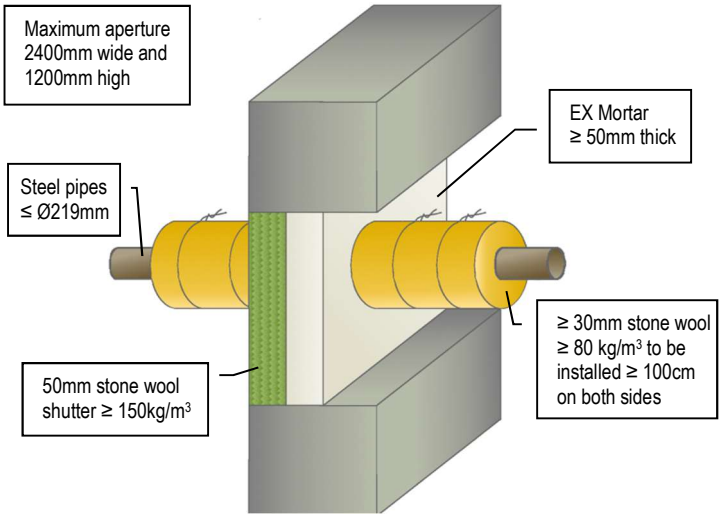
STEEL PIPES FIRE RESISTANCE EI 240 C/U (E 240 C/U)

MASONRY OR CONCRETE - WALLS



STEEL PIPES FIRE RESISTANCE EI 90 C/U (E 120 C/U)

MASONRY OR CONCRETE - WALLS



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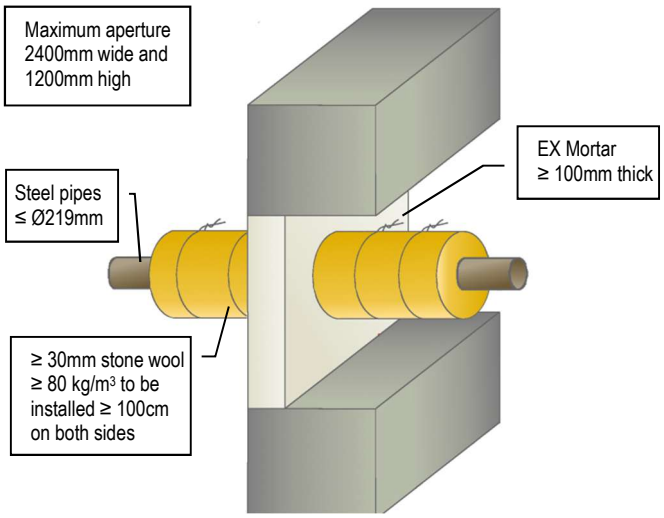
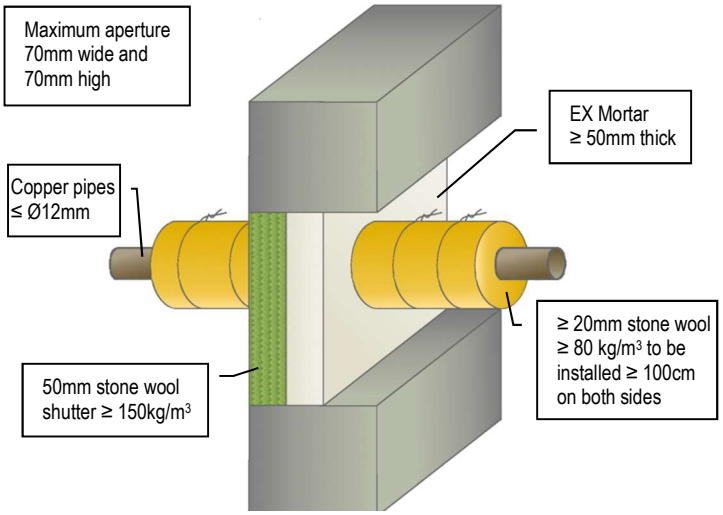
STEEL PIPES FIRE RESISTANCE EI 120 C/U (E 240 C/U)

MASONRY OR CONCRETE - WALLS



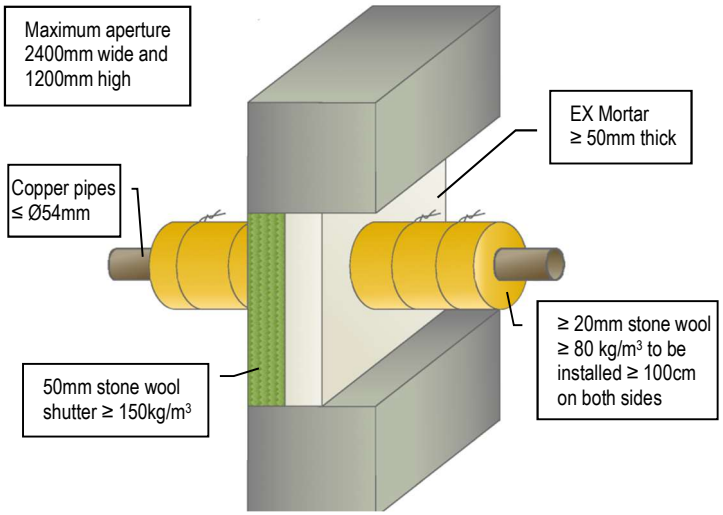
COPPER PIPES FIRE RESISTANCE EI 240 C/C (E 240 C/C)

MASONRY OR CONCRETE - WALLS



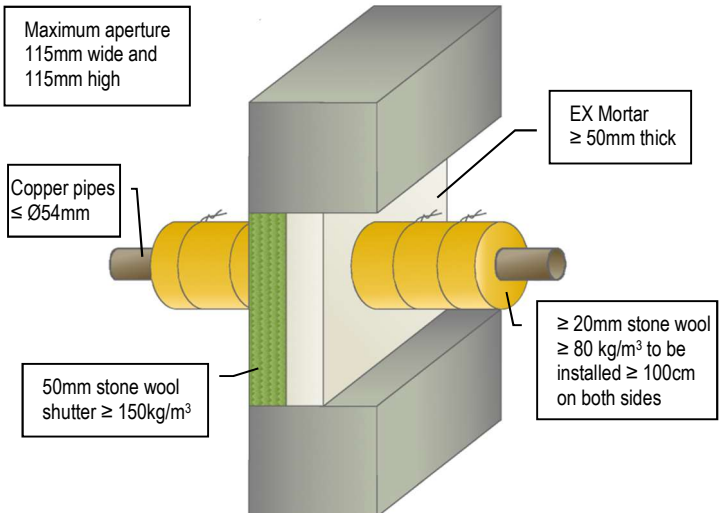
COPPER PIPES FIRE RESISTANCE EI 120 C/C (E 180 C/C)

MASONRY OR CONCRETE - WALLS



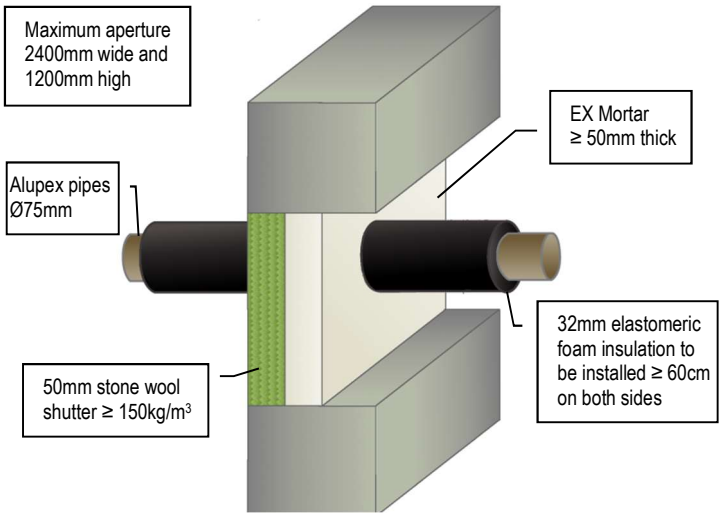
COPPER PIPES FIRE RESISTANCE EI 120 C/C (E 240 C/C)

MASONRY OR CONCRETE - WALLS



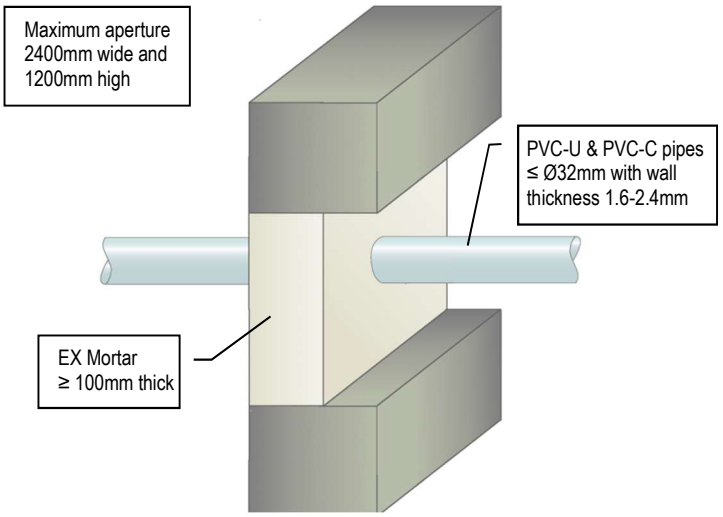
ALUPEX PIPES FIRE RESISTANCE EI 60 C/C (E 60 C/C)

MASONRY OR CONCRETE - WALLS



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

MASONRY OR CONCRETE - WALLS



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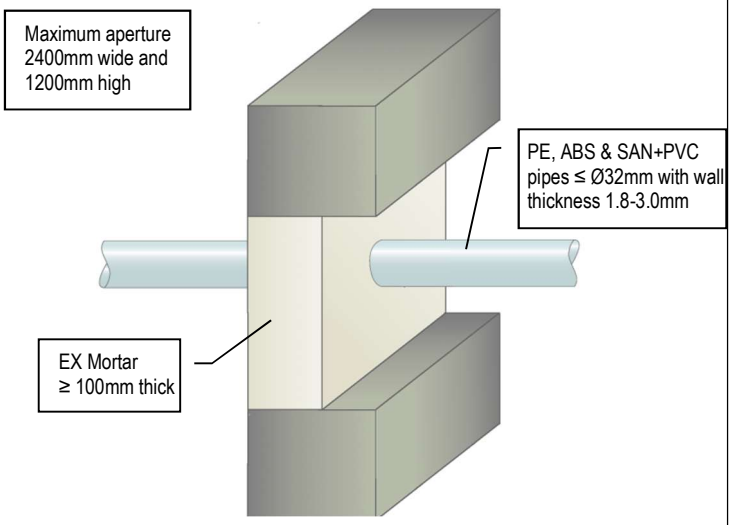
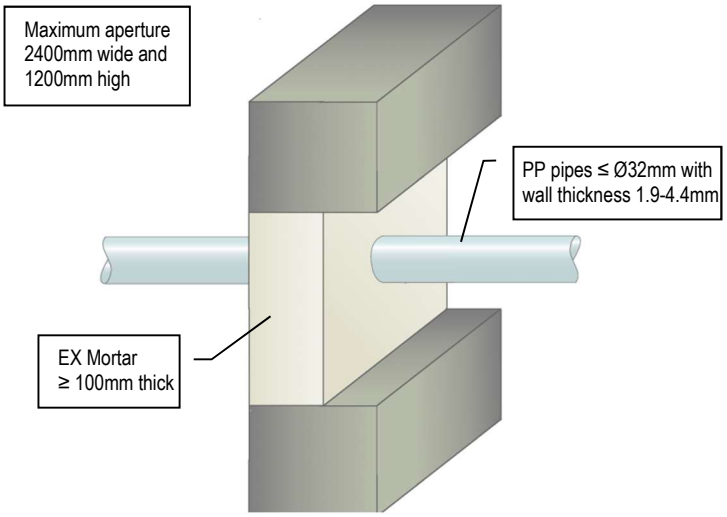
PE & ABS PIPES FIRE RESISTANCE EI 120 U/C (E 120 U/C)

MASONRY OR CONCRETE - WALLS



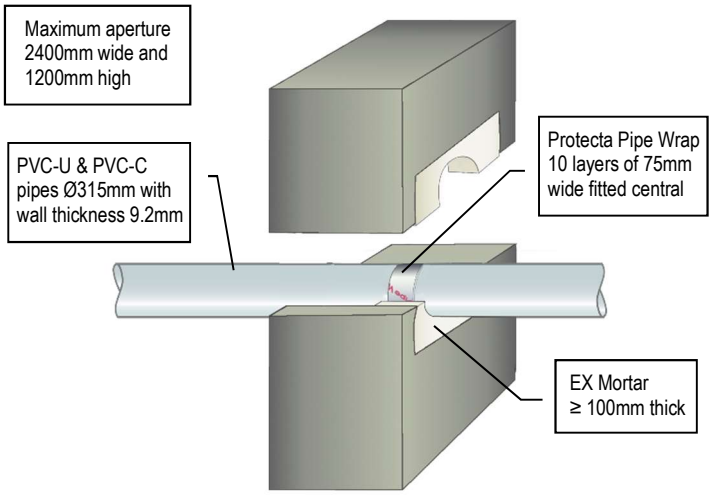
PP PIPES FIRE RESISTANCE EI 120 U/C (E 120 U/C)

MASONRY OR CONCRETE - WALLS



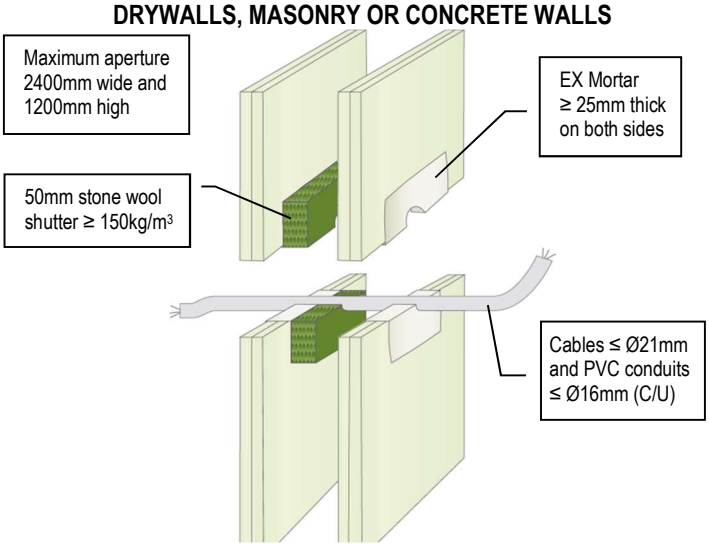
PLASTIC PIPES FIRE RESISTANCE EI 120 C/C (E 120 C/C)

MASONRY OR CONCRETE - WALLS



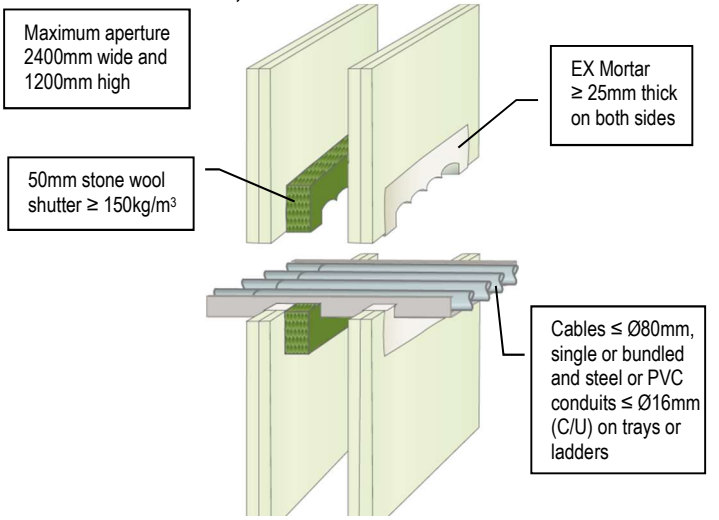
CABLES FIRE RESISTANCE EI 90 (E 120)

DRYWALLS, MASONRY OR CONCRETE WALLS



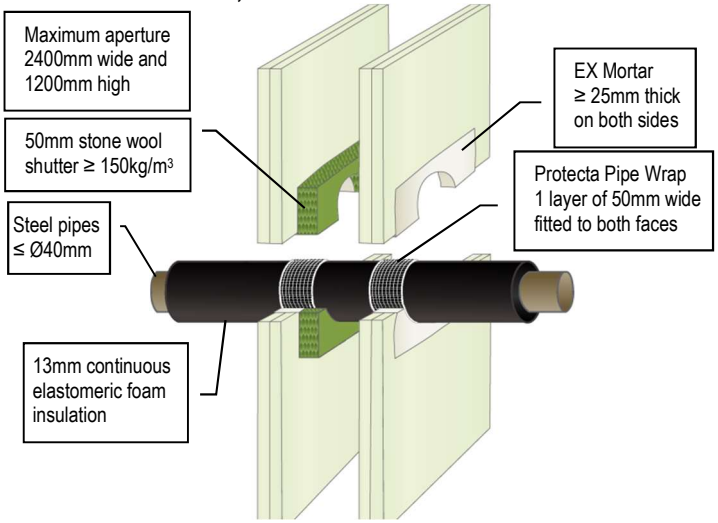
CABLES AND CABLE TRAYS FIRE RESISTANCE EI 60 (E 120)

DRYWALLS, MASONRY OR CONCRETE WALLS



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

DRYWALLS, MASONRY OR CONCRETE WALLS



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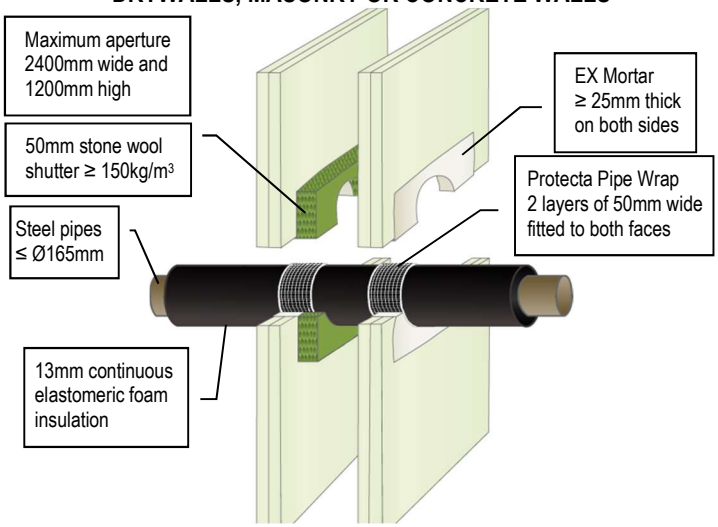
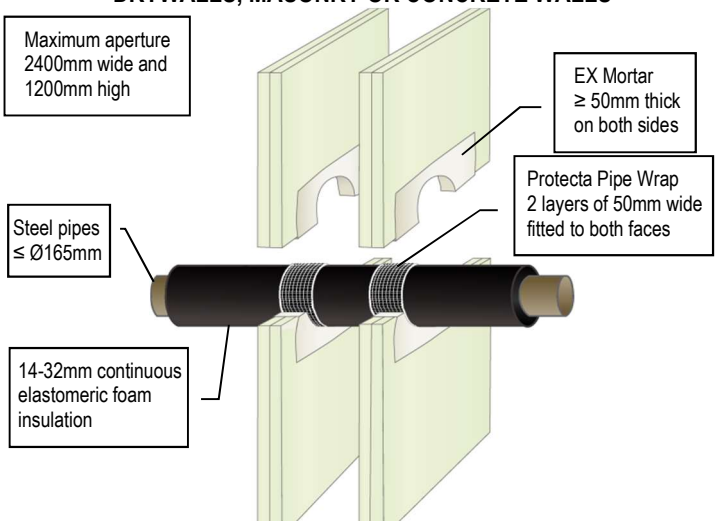
INSULATED STEEL PIPES FIRE RESISTANCE EI 60 C/U (E 120)

DRYWALLS, MASONRY OR CONCRETE WALLS



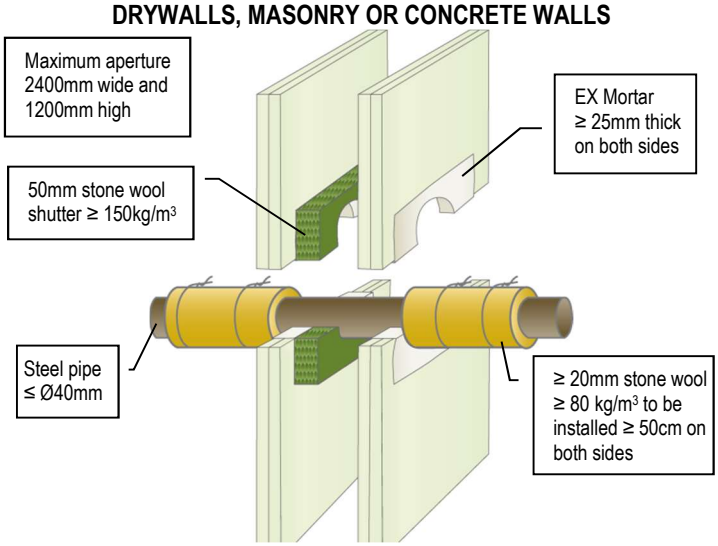
INSULATED STEEL PIPES FIRE RESISTANCE EI 60 C/U (E 120)

DRYWALLS, MASONRY OR CONCRETE WALLS



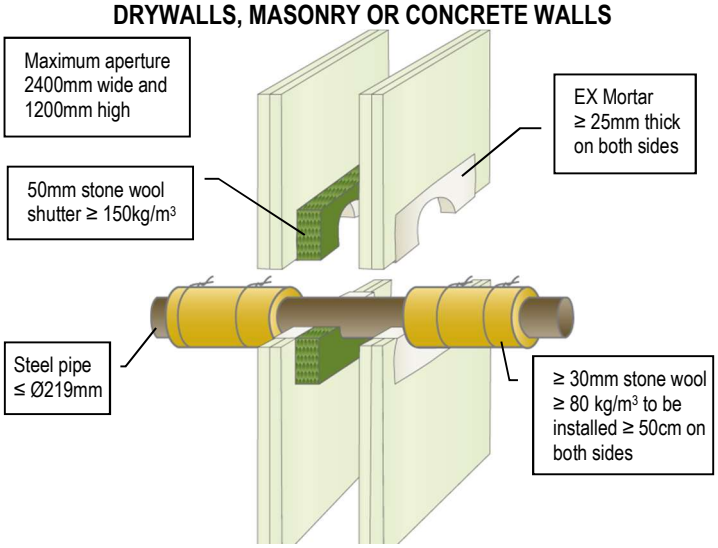
STEEL PIPES FIRE RESISTANCE EI 120 C/U (E 120 C/U)

DRYWALLS, MASONRY OR CONCRETE WALLS



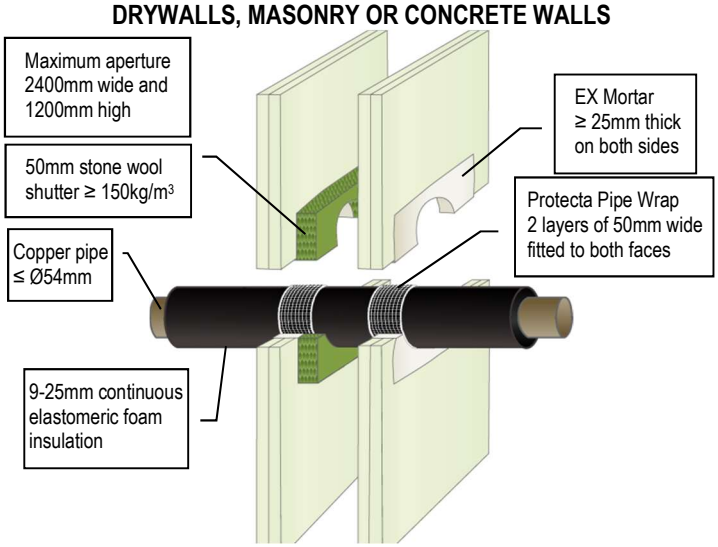
STEEL PIPES FIRE RESISTANCE EI 90 C/U (E 120 C/U)

DRYWALLS, MASONRY OR CONCRETE WALLS



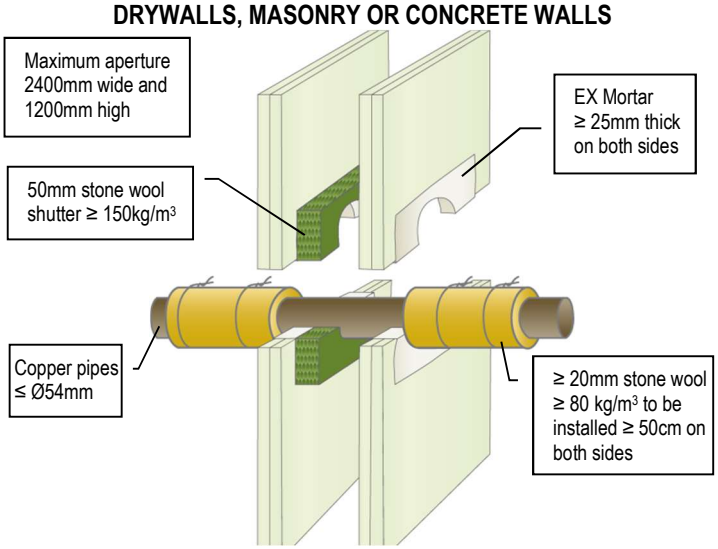
INSULATED COPPER PIPES FIRE RESISTANCE EI 120 C/C (E 120)

DRYWALLS, MASONRY OR CONCRETE WALLS



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

DRYWALLS, MASONRY OR CONCRETE WALLS



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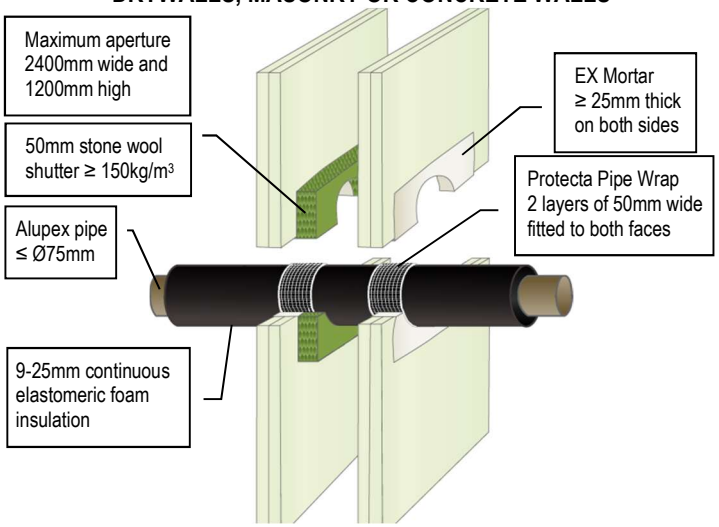
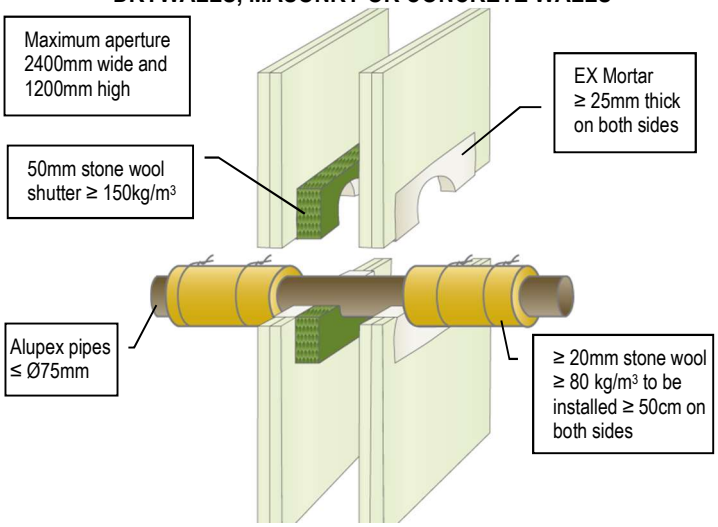
INSULATED ALUPEX PIPES FIRE RESISTANCE EI 120 C/C (E 120)

DRYWALLS, MASONRY OR CONCRETE WALLS



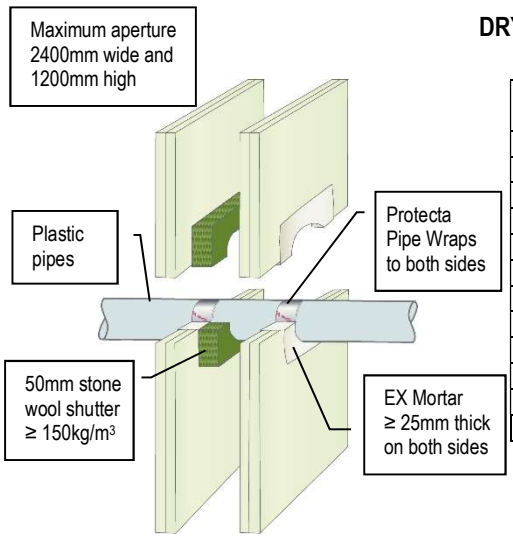
ALUPEX PIPES FIRE RESISTANCE EI 120 C/C (E 120 C/C)

DRYWALLS, MASONRY OR CONCRETE WALLS



PLASTIC PIPES FIRE RESISTANCE EI 60-120

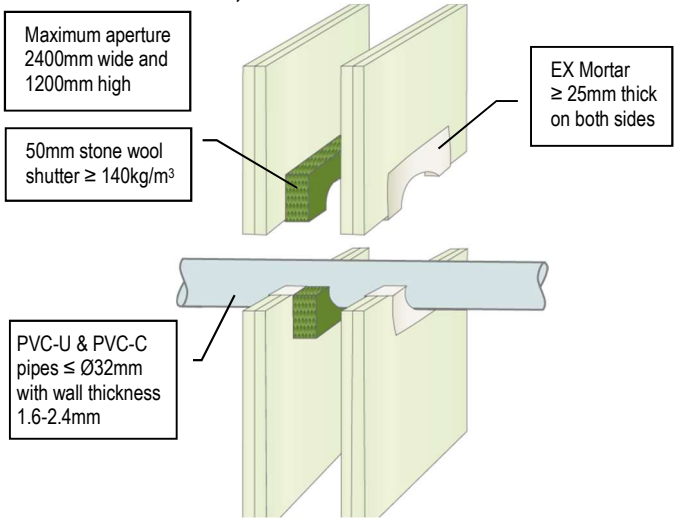
DRYWALLS, MASONRY OR CONCRETE WALLS



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)

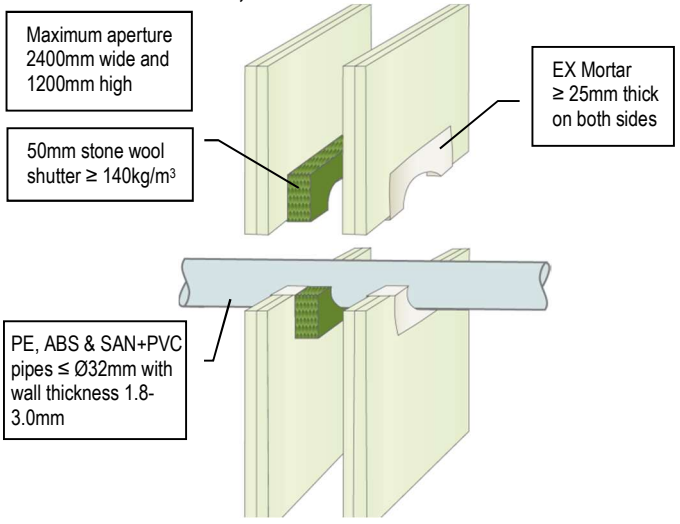
PVC PIPES FIRE RESISTANCE EI 120 U/C (E 120 U/C)

DRYWALLS, MASONRY OR CONCRETE WALLS



PE & ABS PIPES FIRE RESISTANCE EI 120 U/C (E 120 U/C)

DRYWALLS, MASONRY OR CONCRETE WALLS



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

DRYWALLS, MASONRY OR CONCRETE WALLS