

PROTECTA® FR ACRYLIC

INSTALLATION INSTRUCTIONS



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Please refer to Protecta® FR Damper for guidance on fire sealing ventilation ducts. Please also refer to the Technical Data Sheet.

GENERAL GUIDE

Minimum separations and limitations: Minimum separation between services and the edge of the seal within each aperture should be 10mm to allow for correct fitting of backing and seal depth, however, less width will sustain fire resistance if correct fitting of the fire seal is achieved. Minimum separation between apertures is not required, except where the required fire classification is equal to, or above EI 180, which requires a minimum separation of 30mm.

Protecta® FR Acrylic seals which involve services penetrating both sides of a flexible wall or floor, may also be used in the situation where the services penetrate one side of the wall or floor only, and the remaining side of the wall or floor is not penetrated at the same point (i.e. the services continue on the inside of the construction).

Supporting constructions: Flexible walls must have a minimum thickness of 75mm and comprise steel or timber studs lined on both faces with minimum 1 layer of 12.5mm thick boards. Flexible wall solutions may also be used in rigid walls with a minimum density of 350 kg/m³. Panel walls must have a minimum thickness of 100mm and comprise steel sheets, minimum 0.5mm thick, on both sides of a mineral fibre core, with a minimum density of 115 kg/m³. Timber walls must have a minimum thickness of 100mm and comprise solid wood or cross-laminated timber. Rigid walls must have a minimum thickness of 75mm and comprise concrete, aerated concrete or masonry, with a minimum density of 650 kg/m³. Rigid floors must have a minimum thickness of 150mm (except composite floors) and comprise aerated concrete or concrete with a minimum density of 650 kg/m³. Flexible floors must have a minimum thickness of 228mm and comprise timber joists with minimum 1 layer of 18.0mm thick boards at top face, and 12.5mm at soffit face. Flexible floor solutions may also be used in rigid floors with a minimum density of 350 kg/m³. Timber floors must have a minimum thickness of 150mm and comprise solid wood or cross-laminated timber. Where single sided top face seals are described in the solutions, these can also be used in composite floors (e.g., concrete filled, steel trapezoidal decking).

The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period. Services shall be supported at maximum 350mm away from both faces of the wall constructions and 550mm from the upper face of floor constructions. Where cable trays are discontinued on both sides of the penetration seal, the maximum distance to the trays should be 150 mm. There is no minimum distance required for the fixings of the cable trays, but it is suggested such fixings and the cable trays are constructed so they provide support for the duration of the required fire classification.

Services: Metallic pipes through the system Protecta® FR Acrylic may be used in all angles between 90° and 45° in all directions. Where steel pipes are mentioned, this includes iron pipes. Where PP pipes are mentioned, this includes PP-MV, PP-H, PP-R and similar. Where PE pipes are mentioned, this includes PE-LD, PE-MD, PE-HD, PE-X and similar.



INSTALLATION

1. Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
2. As Protecta® FR Acrylic is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface prior to this installation.
3. When installing Protecta® FR Acrylic in hollow floor slabs, top side seals should be completed double sided without reduction of the seal depth on either side. There must be sufficient thickness of concrete below and above the void for the depth of the fire seal. Where this is not the case, tubular voids should be plugged with stone wool backing material before sealing the aperture.
4. An aperture with or without penetrating services, can include a steel or plastic sleeve casted or friction fitted within rigid constructions. Plastic sleeves should have a maximum wall thickness of 14.6 mm.
5. Before installing Protecta® FR Acrylic, ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
6. In gypsum boards and other loose particle boards, the exposed edges of the board should be wetted with water, or Protecta® FR Acrylic diluted with water to prime the surfaces, helping adhesion and preventing excessive joint shrinkage.
7. Find the required sealant depth and backing material in the detailed drawings on pages 2 to 57. If installation does not have to meet any specific fire specification, it is recommended that a width to depth ratio of 2:1 is utilized, with a minimum depth of 12mm of sealant.
8. Use the required backing material and cut this slightly oversize and insert into the gap ensuring a tight friction fit. If no backing material is required, mineral wool or foam backer rod is ideal. Ensure same sealant depth is used within the entire seal.
9. Fill the gap or joint with Protecta® FR Acrylic to the required depth. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
10. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.

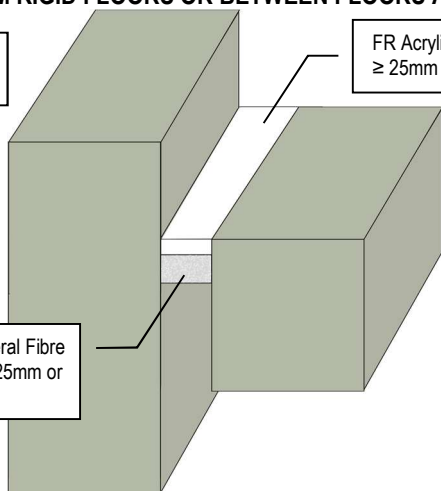
LINEAR SEALS FIRE RESISTANCE EI 180 (E 180)

IN ≥ 150MM RIGID FLOORS OR BETWEEN FLOORS AND WALLS

Maximum seal width 100mm

FR Acrylic depth ≥ 25mm top face

Protecta Mineral Fibre BIO depth ≥ 25mm or similar



23/0257-A.4.1-2

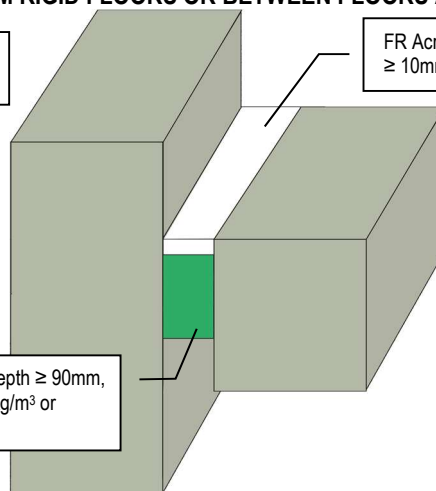
LINEAR SEALS FIRE RESISTANCE EI 240 (E 240)

IN ≥ 150MM RIGID FLOORS OR BETWEEN FLOORS AND WALLS

Maximum seal width 100mm

FR Acrylic depth ≥ 10mm top face

Stone wool depth ≥ 90mm, density ≥ 33kg/m³ or similar



23/0257-A.4.1-6

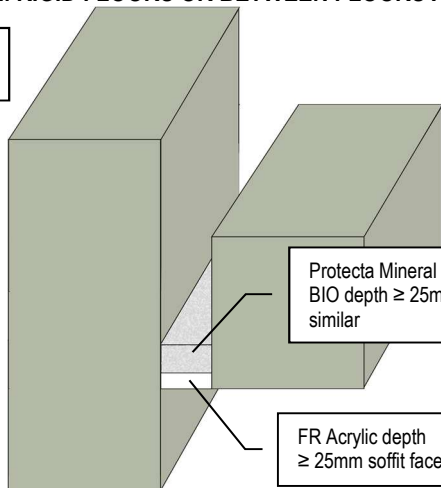
LINEAR SEALS FIRE RESISTANCE EI 60 (E 120)

IN ≥ 150MM RIGID FLOORS OR BETWEEN FLOORS AND WALLS

Maximum seal width 100mm

Protecta Mineral Fibre BIO depth ≥ 25mm or similar

FR Acrylic depth ≥ 25mm soffit face



23/0257-A.4.1-1

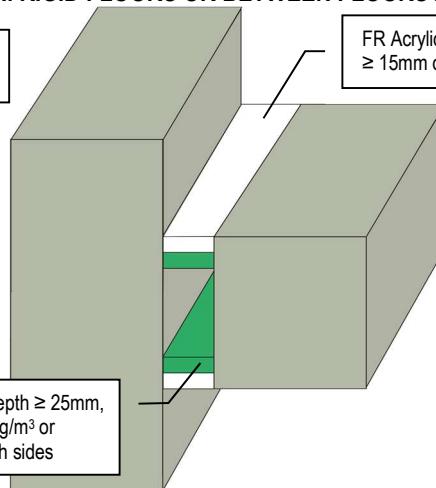
LINEAR SEALS FIRE RESISTANCE EI 120 (E 120)

IN ≥ 150MM RIGID FLOORS OR BETWEEN FLOORS AND WALLS

Maximum seal width 100mm

FR Acrylic depth ≥ 15mm on both sides

Stone wool depth ≥ 25mm, density ≥ 40kg/m³ or similar on both sides



23/0257-A.4.1-3

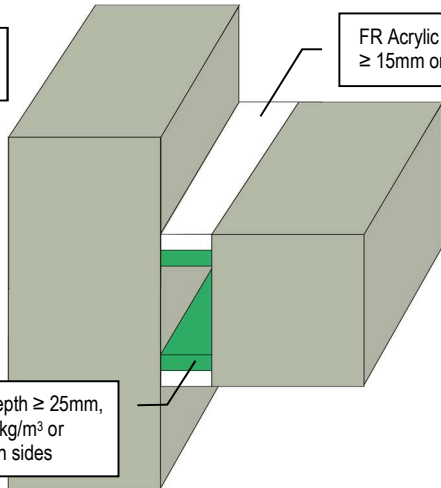
LINEAR SEALS FIRE RESISTANCE EI 180 (E 180)

IN ≥ 150MM RIGID FLOORS OR BETWEEN FLOORS AND WALLS

Maximum seal width 100mm

FR Acrylic depth ≥ 15mm on both sides

Stone wool depth ≥ 25mm, density ≥ 140kg/m³ or similar on both sides



23/0257-A.4.1-4

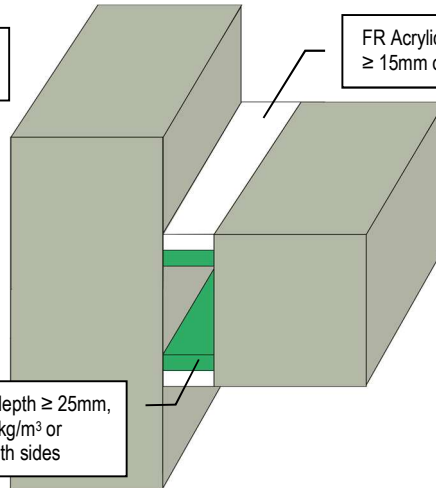
LINEAR SEALS FIRE RESISTANCE EI 240 (E 240)

IN ≥ 150MM RIGID FLOORS OR BETWEEN FLOORS AND WALLS

Maximum seal width 30mm

FR Acrylic depth ≥ 15mm on both sides

Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides



23/0257-A.4.1-5

LINEAR SEALS FIRE RESISTANCE EI 30 (E 240)

IN ≥ 150MM RIGID FLOORS OR BETWEEN FLOORS AND WALLS

Maximum seal width 30mm

FR Acrylic depth ≥ 25mm top face

Steel substrate on one or both sides of the fire seal

Stone wool depth ≥ 50mm, density ≥ 35kg/m³ or similar

23/0257-A.4.2-1

LINEAR SEALS FIRE RESISTANCE EI 60 (E 240)

IN ≥ 150MM RIGID FLOORS OR BETWEEN FLOORS AND WALLS

Maximum seal width 30mm

FR Acrylic depth ≥ 25mm top face

Steel frame classified to EI 60 or higher

Stone wool depth ≥ 50mm, density ≥ 35kg/m³ or similar

23/0257-A.4.2-4

LINEAR SEALS FIRE RESISTANCE EI 45 (E 240)

IN ≥ 150MM RIGID FLOORS OR BETWEEN FLOORS AND WALLS

Maximum seal width 30mm

FR Acrylic depth ≥ 15mm on both sides

Steel substrate on one or both sides of the fire seal

Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides

23/0257-A.4.2-2

LINEAR SEALS FIRE RESISTANCE EI 120 (E 240)

IN ≥ 150MM RIGID FLOORS OR BETWEEN FLOORS AND WALLS

Maximum seal width 30mm

FR Acrylic depth ≥ 15mm on both sides

Steel frame classified to EI 120 or higher

Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides

23/0257-A.4.2-5

LINEAR SEALS FIRE RESISTANCE EI 20 (E 180)

IN ≥ 150MM RIGID FLOORS OR BETWEEN FLOORS AND WALLS

Maximum seal width 30mm

FR Acrylic depth ≥ 25mm top face

Aluminium substrate

Stone wool depth ≥ 50mm, density ≥ 35kg/m³ or similar

23/0257-A.4.2-3

LINEAR SEALS FIRE RESISTANCE EI 60 (E 180)

IN ≥ 150MM RIGID FLOORS OR BETWEEN FLOORS AND WALLS

Maximum seal width 30mm

FR Acrylic depth ≥ 25mm top face

Aluminium frame classified to EI 60 or higher

Stone wool depth ≥ 50mm, density ≥ 35kg/m³ or similar

23/0257-A.4.2-6

CABLE FIRE RESISTANCE EI 60 (E 120)

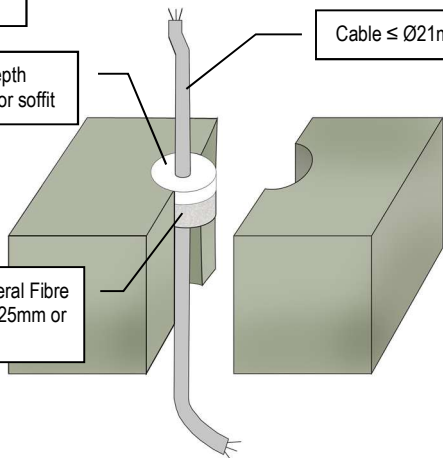
≥ 150MM RIGID FLOORS

Maximum aperture
100x1000mm

FR Acrylic depth
≥ 25mm top or soffit

Cable ≤ Ø21mm

Protecta Mineral Fibre
BIO depth ≥ 25mm or
similar



22/0735-A.6.1-1

CABLE FIRE RESISTANCE EI 90 (E 120)

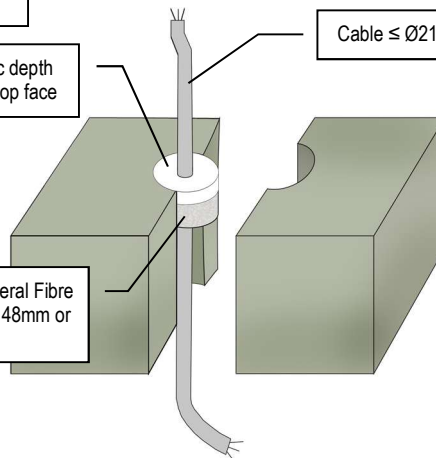
≥ 150MM RIGID FLOORS

Maximum aperture
300x300mm

FR Acrylic depth
≥ 25mm top face

Cable ≤ Ø21mm

Protecta Mineral Fibre
BIO depth ≥ 48mm or
similar



22/0735-A.6.2-4

CABLE FIRE RESISTANCE EI 240 (E 240)

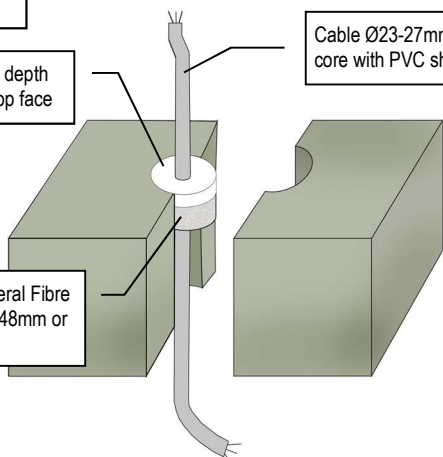
≥ 150MM RIGID FLOORS

Maximum aperture
300x300mm

FR Acrylic depth
≥ 25mm top face

Cable Ø23-27mm 1x185mm²
core with PVC sheath

Protecta Mineral Fibre
BIO depth ≥ 48mm or
similar



22/0735-A.6.2-5

CABLES FIRE RESISTANCE EI 120 (E 120)

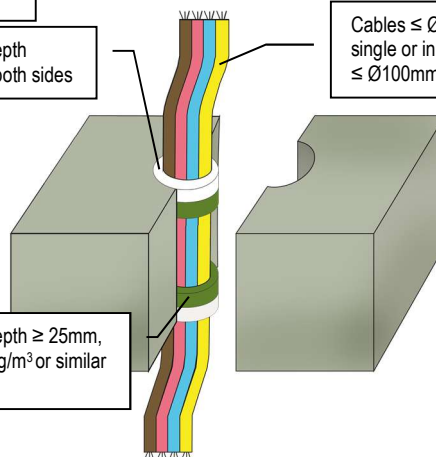
≥ 150MM RIGID FLOORS

Maximum aperture
300x300mm

FR Acrylic depth
≥ 15mm on both sides

Cables ≤ Ø21mm
single or in a bundle
≤ Ø100mm

Stone wool depth ≥ 25mm,
density ≥ 35kg/m³ or similar
on both sides



22/0735-A.6.5-1

CABLES FIRE RESISTANCE EI 90 (E 120)

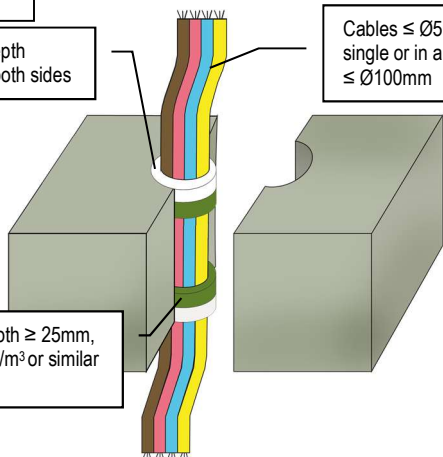
≥ 150MM RIGID FLOORS

Maximum aperture
300x300mm

FR Acrylic depth
≥ 15mm on both sides

Cables ≤ Ø50mm
single or in a bundle
≤ Ø100mm

Stone wool depth ≥ 25mm,
density ≥ 35kg/m³ or similar
on both sides



22/0735-A.6.5-2

CABLES FIRE RESISTANCE EI 60 (E 120)

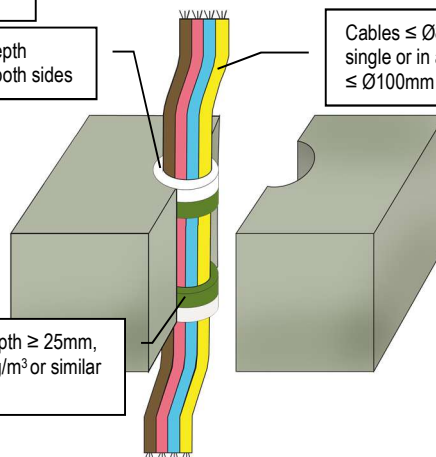
≥ 150MM RIGID FLOORS

Maximum aperture
300x300mm

FR Acrylic depth
≥ 15mm on both sides

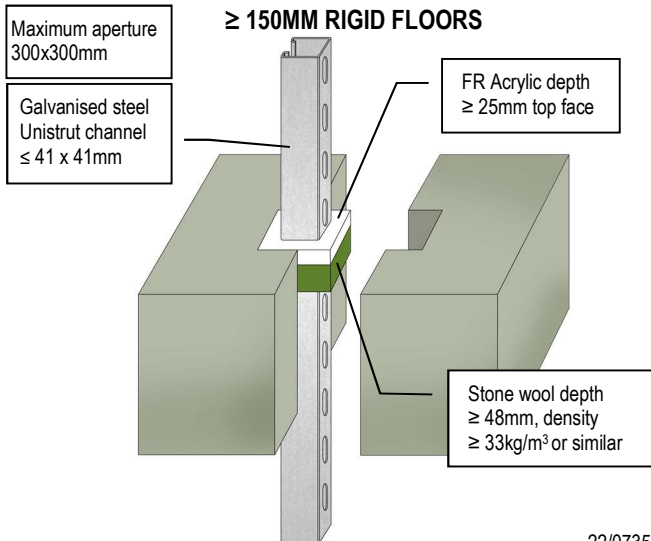
Cables ≤ Ø80mm
single or in a bundle
≤ Ø100mm

Stone wool depth ≥ 25mm,
density ≥ 35kg/m³ or similar
on both sides



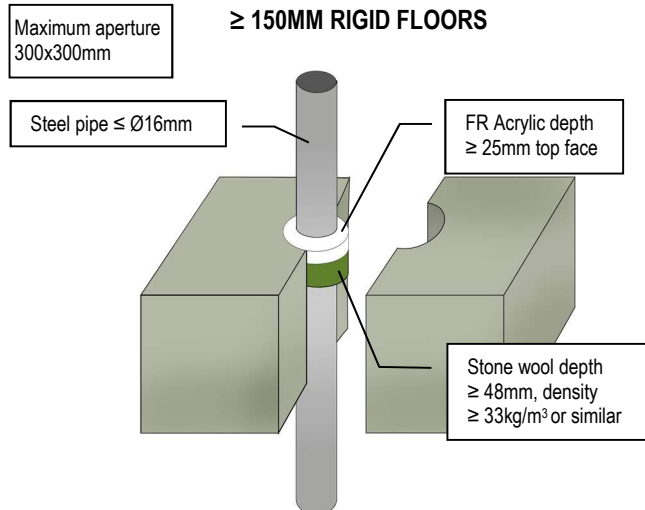
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UNISTRUT CHANNEL FIRE RESISTANCE EI 180 (E 180)



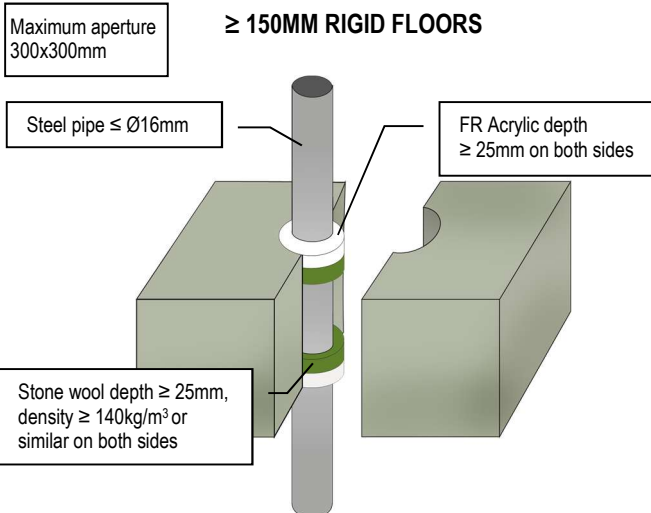
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STEEL PIPE FIRE RESISTANCE EI 120 C/U (E 120)



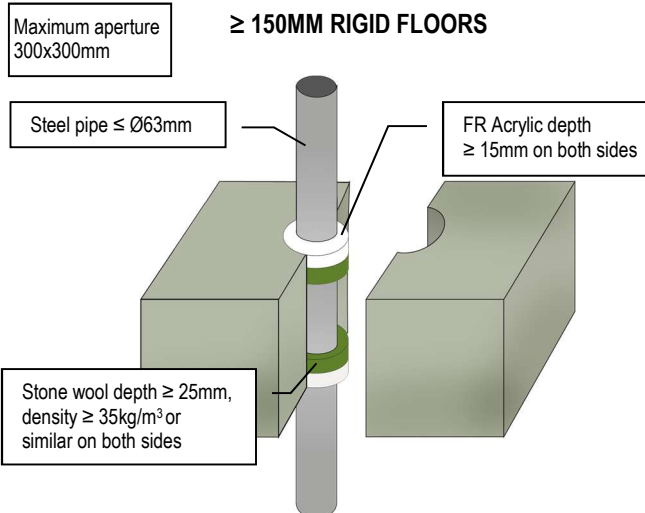
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STEEL PIPE FIRE RESISTANCE EI 240 C/U (E 240)



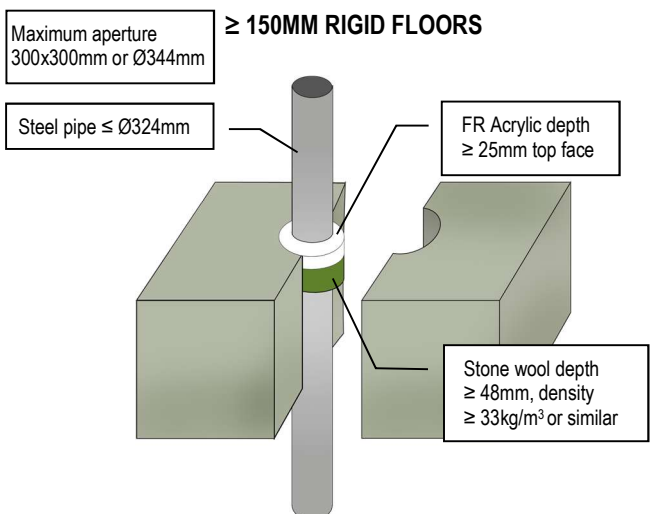
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STEEL PIPE FIRE RESISTANCE EI 30 C/U (E 240)



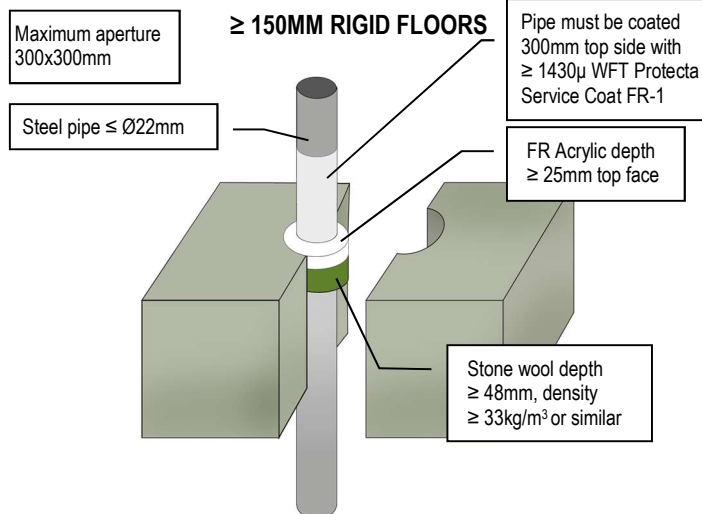
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STEEL PIPE FIRE RESISTANCE E 120 C/U

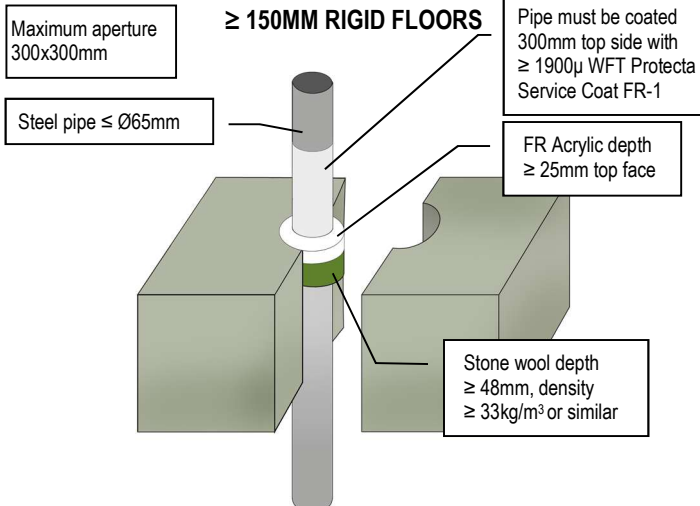


22/0735-A.6.3-2

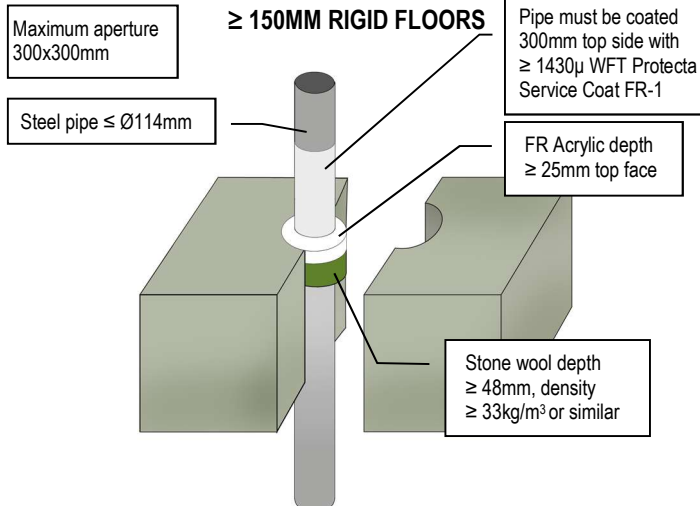
STEEL PIPE FIRE RESISTANCE EI 120 C/U (E 120)



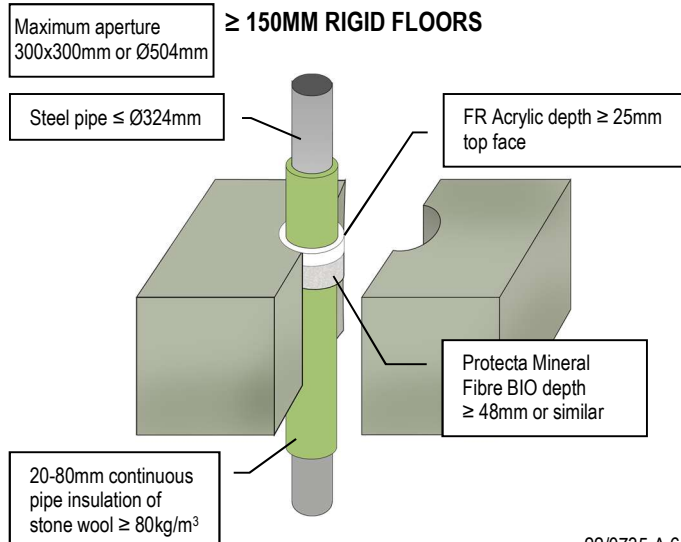
22/0735-A.6.8-5

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


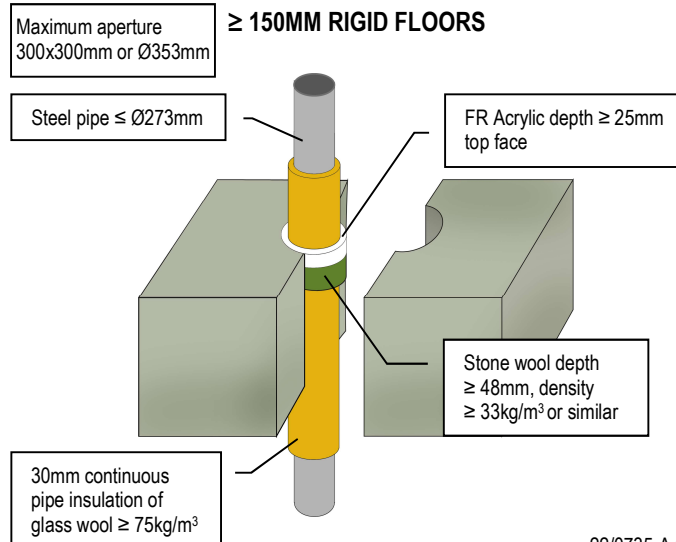
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STEEL PIPE FIRE RESISTANCE EI 45 C/U (E 120)


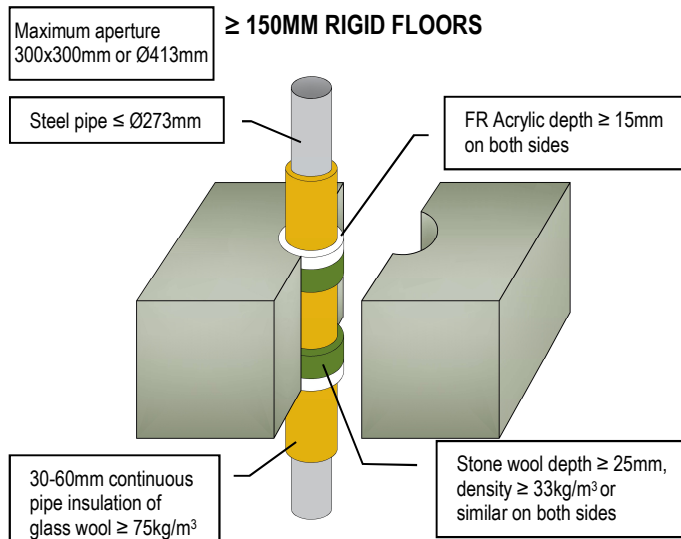
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INSULATED STEEL PIPE FIRE RESISTANCE EI 240 C/U (E 240)


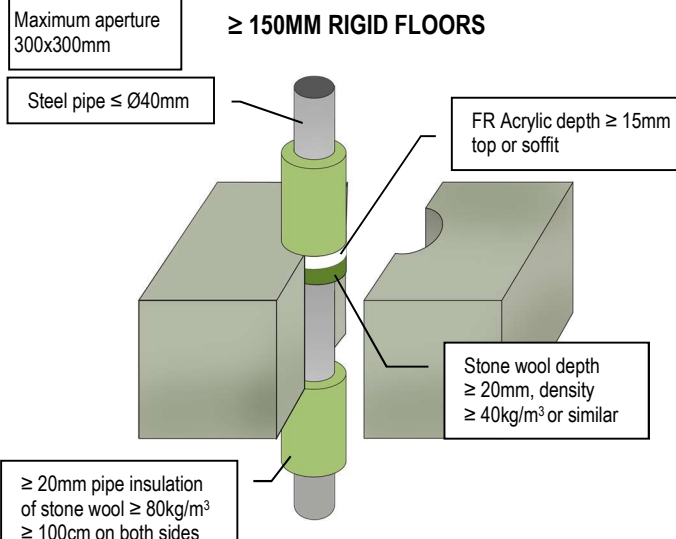
22/0735-A.6.7-2

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


22/0735-A.6.3-3

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


22/0735-A.6.11-3

STEEL PIPE FIRE RESISTANCE EI 60 C/U (E 90)


22/0735-A.6.6-11

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

Maximum aperture
300x300mm or
100x1000mm

≥ 150MM RIGID FLOORS

Steel pipe ≤ Ø40mm

FR Acrylic depth ≥ 25mm
top or soffit

Stone wool depth
≥ 20mm, density
≥ 40kg/m³ or similar

≥ 20mm pipe insulation
of stone wool ≥ 80kg/m³
≥ 100cm on both sides

22/0735-A.6.6-9

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

Maximum annular
ring width 10mm

≥ 150MM RIGID FLOORS

Steel pipe ≤ Ø40mm

FR Acrylic depth ≥ 15mm
top or soffit

Stone wool depth
≥ 20mm, density
≥ 40kg/m³ or similar

≥ 20mm pipe insulation
of stone wool ≥ 80kg/m³
≥ 100cm on both sides

22/0735-A.6.6-7

STEEL PIPE FIRE RESISTANCE EI 60 C/U (E 90)

Maximum aperture
300x300mm

≥ 150MM RIGID FLOORS

Steel pipe ≤ Ø219mm

FR Acrylic depth ≥ 15mm
top or soffit

Stone wool depth
≥ 20mm, density
≥ 40kg/m³ or similar

≥ 30mm pipe insulation
of stone wool ≥ 80kg/m³
≥ 100cm on both sides

22/0735-A.6.6-12

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

Maximum aperture
300x300mm or
100x1000mm

≥ 150MM RIGID FLOORS

Steel pipe ≤ Ø219mm

FR Acrylic depth ≥ 25mm
top or soffit

Stone wool depth
≥ 20mm, density
≥ 40kg/m³ or similar

≥ 30mm pipe insulation
of stone wool ≥ 80kg/m³
≥ 100cm on both sides

22/0735-A.6.6-10

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

Maximum annular
ring width 10mm

≥ 150MM RIGID FLOORS

Steel pipe ≤ Ø219mm

FR Acrylic depth ≥ 15mm
top or soffit

Stone wool depth
≥ 20mm, density
≥ 40kg/m³ or similar

≥ 30mm pipe insulation
of stone wool ≥ 80kg/m³
≥ 100cm on both sides

22/0735-A.6.6-8

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

Maximum aperture
300x300mm or 100x1000mm

≥ 150MM RIGID FLOORS

Steel pipe ≤ Ø219mm

FR Acrylic depth
≥ 15mm on both sides

Stone wool depth ≥ 20mm,
density ≥ 40kg/m³ or
similar on both sides

≥ 30mm pipe insulation
of stone wool ≥ 80kg/m³
or similar, ≥ 100cm on
both sides

22/0735-A.6.12-2

STEEL PIPE FIRE RESISTANCE EI 60 C/C (E 180)

Maximum aperture
300x300mm or Ø353mm

≥ 150MM RIGID FLOORS

Steel pipe ≤ Ø273mm

FR Acrylic depth ≥ 25mm
top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar

≥ 30mm pipe insulation
of glass wool ≥ 75kg/m³
≥ 50cm on both sides

22/0735-A.6.8-8

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

Maximum annular
ring width 30mm

≥ 150MM RIGID FLOORS

Steel pipe ≤ Ø40mm

FR Acrylic depth ≥ 25mm
on both sides

Stone wool depth ≥ 20mm,
density ≥ 40kg/m³ or
similar on both sides

13 – 19mm continuous
elastomeric, phenolic or
PU-foam insulation

22/0735-A.6.11-1

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

Maximum annular
ring width 30mm

≥ 150MM RIGID FLOORS

Steel pipe ≤ Ø165mm

FR Acrylic depth ≥ 25mm
on both sides

13 – 19mm continuous
elastomeric, phenolic or
PU-foam insulation

Protecta Mineral Fibre BIO depth
≥ 25mm or similar on both sides

22/0735-A.6.11-2

GAS PIPE FIRE RESISTANCE EI 120 C/C (E 240)

Maximum aperture
300x300mm

≥ 150MM RIGID FLOORS

Flexible double sleeve
steel gas pipe ≤ Ø26mm

FR Acrylic depth
≥ 25mm top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar

22/0735-A.6.3-15

GAS PIPE FIRE RESISTANCE EI 90 C/C (E 120)

Maximum aperture
300x300mm

≥ 150MM RIGID FLOORS

Flexible double sleeve
steel gas pipe ≤ Ø73mm

FR Acrylic depth
≥ 25mm top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar

22/0735-A.6.3-16

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

Maximum aperture
300x300mm

≥ 150MM RIGID FLOORS

Copper pipe ≤ Ø6mm

FR Acrylic depth
≥ 25mm top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar

22/0735-A.6.3-4

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

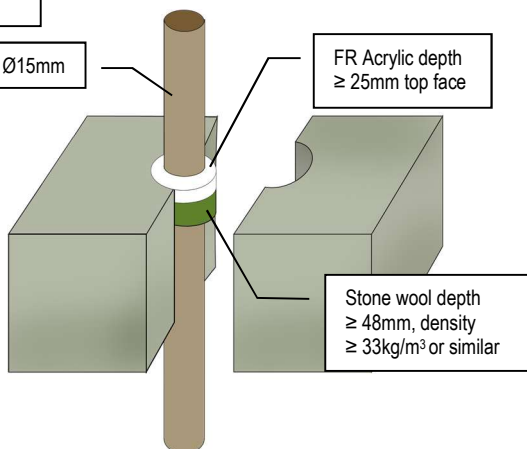
Maximum aperture
300x300mm

≥ 150MM RIGID FLOORS

Copper pipe ≤ Ø15mm

FR Acrylic depth
≥ 25mm top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar



22/0735-A.6.3-5

COPPER PIPE FIRE RESISTANCE E 120 C/C

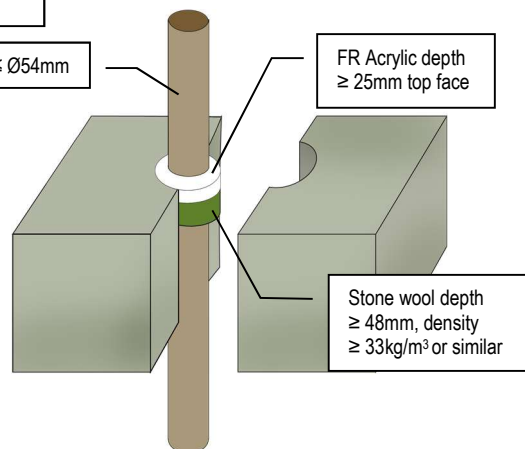
Maximum aperture
300x300mm

≥ 150MM RIGID FLOORS

Copper pipe ≤ Ø54mm

FR Acrylic depth
≥ 25mm top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar



22/0735-A.6.3-6

COPPER PIPE FIRE RESISTANCE EI 20 C/U (E 120)

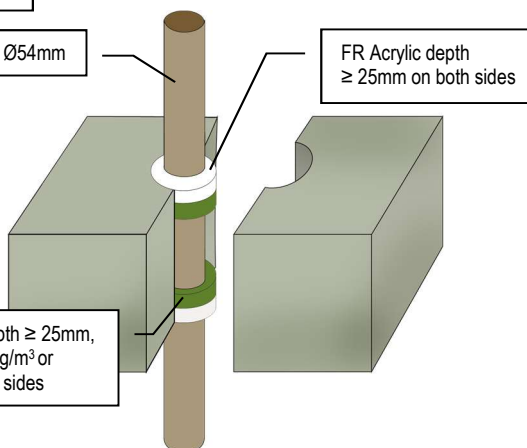
Maximum aperture
300x300mm

≥ 150MM RIGID FLOORS

Copper pipe ≤ Ø54mm

FR Acrylic depth
≥ 25mm on both sides

Stone wool depth ≥ 25mm,
density ≥ 140kg/m³ or
similar on both sides



22/0735-A.6.10-1

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

Maximum aperture
300x300mm

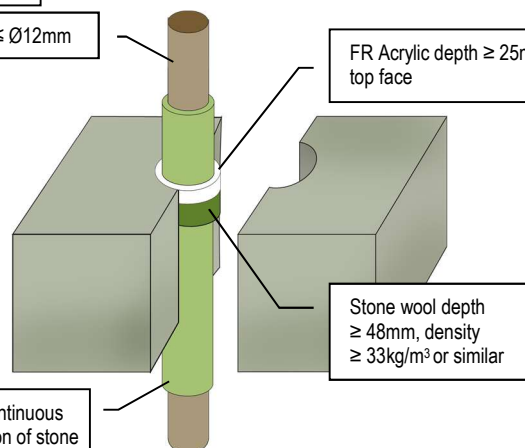
≥ 150MM RIGID FLOORS

Copper pipe ≤ Ø12mm

FR Acrylic depth ≥ 25mm
top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar

20-80mm continuous
pipe insulation of stone
wool ≥ 80kg/m³



22/0735-A.6.3-7

INSULATED COPPER PIPE FIRE RESISTANCE EI 180 C/C (E 240)

Maximum aperture
300x300mm

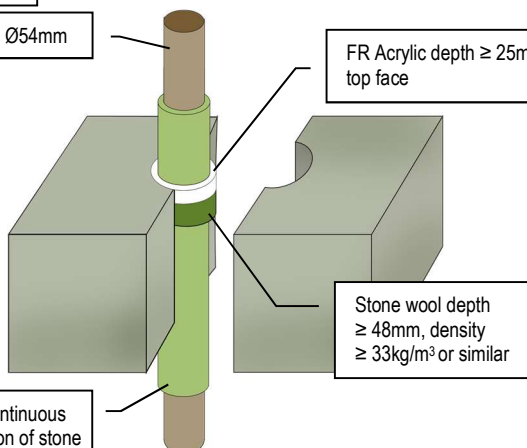
≥ 150MM RIGID FLOORS

Copper pipe ≤ Ø54mm

FR Acrylic depth ≥ 25mm
top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar

20-80mm continuous
pipe insulation of stone
wool ≥ 80kg/m³



22/0735-A.6.3-8

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

Maximum aperture
300x300mm

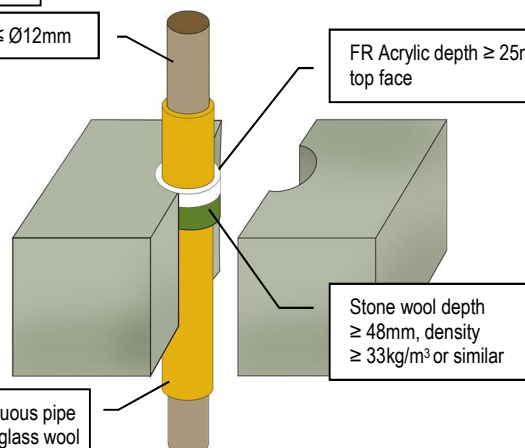
≥ 150MM RIGID FLOORS

Copper pipe ≤ Ø12mm

FR Acrylic depth ≥ 25mm
top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar

20mm continuous pipe
insulation of glass wool
≥ 75kg/m³



22/0735-A.6.3-9

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

Maximum aperture
300x300mm

≥ 150MM RIGID FLOORS

Copper or steel pipe
≤ Ø54mm

FR Acrylic depth ≥ 15mm
on both sides

20-60mm continuous
pipe insulation
of glass wool ≥ 75kg/m³

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or
similar on both sides

22/0735-A.6.11-7

COPPER PIPE FIRE RESISTANCE EI 240 C/U (E 240)

Maximum annular
ring width 10mm

≥ 150MM RIGID FLOORS

Copper pipe ≤ Ø12mm

FR Acrylic depth
≥ 15mm top or soffit

Stone wool depth
≥ 20mm, density
≥ 40kg/m³ or similar

≥ 20mm pipe insulation
of stone wool ≥ 80kg/m³
≥ 100cm on both sides

22/0735-A.6.6-2

COPPER PIPE FIRE RESISTANCE EI 60 C/U (E 90)

Maximum aperture
300x300mm

≥ 150MM RIGID FLOORS

Copper pipe ≤ Ø54mm

FR Acrylic depth ≥ 15mm
top or soffit

Stone wool depth
≥ 20mm, density
≥ 40kg/m³ or similar

≥ 20mm pipe insulation
of stone wool ≥ 80kg/m³
≥ 100cm on both sides

22/0735-A.6.6-4

COPPER OR STEEL PIPE FIRE RESISTANCE EI 120 C/U (E 120)

Maximum aperture
300x300mm or 100x1000mm

150MM RIGID FLOORS

Copper or steel
pipe ≤ Ø54mm

FR Acrylic depth ≥ 25mm
top or soffit

Stone wool depth
≥ 20mm, density
≥ 40kg/m³ or similar

≥ 20mm pipe insulation
of stone wool ≥ 80kg/m³
≥ 100cm on both sides

22/0735-A.6.6-3

COPPER OR STEEL PIPE FIRE RESISTANCE EI 180 C/U (E 240)

Maximum annular
ring width 10mm

≥ 150MM RIGID FLOORS

Copper or steel
pipe ≤ Ø54mm

FR Acrylic depth ≥ 15mm
top or soffit

Stone wool depth
≥ 20mm, density
≥ 40kg/m³ or similar

≥ 20mm pipe insulation
of stone wool ≥ 80kg/m³
≥ 100cm on both sides

22/0735-A.6.6-1

COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 180)

Maximum aperture
300x300mm

≥ 150MM RIGID FLOORS

Copper pipe ≤ Ø159mm

FR Acrylic depth ≥ 25mm
top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar

≥ 30mm pipe insulation
of stone wool ≥ 80kg/m³
≥ 100cm on both sides,
adhered to pipe with
Protecta FR Adhesive

22/0735-A.6.8-4

COPPER OR STEEL PIPE FIRE RESISTANCE EI 180 C/C (E 180)

Maximum aperture
300x300mm

≥ 150MM RIGID FLOORS

Copper or steel
pipe ≤ Ø54mm

FR Acrylic depth ≥ 25mm
top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar

≥ 20mm pipe insulation
of glass wool ≥ 75kg/m³
≥ 50cm on both sides

22/0735-A.6.8-1

COPPER PIPE FIRE RESISTANCE EI 30 C/U (E 180)

Maximum aperture
300x300mm

≥ 150MM RIGID FLOORS

Copper pipe ≤ Ø108mm

FR Acrylic depth ≥ 25mm
top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar

≥ 30mm pipe insulation
of glass wool ≥ 75kg/m³
≥ 50cm on both sides

22/0735-A.6.8-2

COPPER OR STEEL PIPE FIRE RESISTANCE EI 180 C/C (E 240)

Maximum annular
ring width 30mm

≥ 150MM RIGID FLOORS

Copper or steel
pipe ≤ Ø12mm

FR Acrylic depth ≥ 25mm
on both sides

9mm continuous
elastomeric, phenolic or
PU-foam insulation

Protecta Mineral Fibre BIO depth
≥ 25mm or similar on both sides

22/0735-A.6.11-4

COPPER OR STEEL PIPE FIRE RESISTANCE EI 120 C/C (E 180)

Maximum annular
ring width 30mm

≥ 150MM RIGID FLOORS

Copper or steel
pipe ≤ Ø54mm

FR Acrylic depth ≥ 25mm
on both sides

9 – 13mm continuous
elastomeric, phenolic or
PU-foam insulation

Protecta Mineral Fibre BIO depth
≥ 25mm or similar on both sides

22/0735-A.6.11-5

COPPER OR STEEL PIPE FIRE RESISTANCE EI 60 C/C (E 90)

Maximum annular
ring width 30mm

≥ 150MM RIGID FLOORS

Copper or steel
pipe ≤ Ø54mm

FR Acrylic depth ≥ 25mm
on both sides

14 – 25mm continuous
elastomeric, phenolic or
PU-foam insulation

Protecta Mineral Fibre BIO depth
≥ 25mm or similar on both sides

22/0735-A.6.11-6

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

Maximum aperture
300x300mm

≥ 150MM RIGID FLOORS

Alupex pipe ≤ Ø20mm

FR Acrylic depth
≥ 25mm top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar

22/0735-A.6.3-10

ALUPEX PIPE FIRE RESISTANCE EI 90 C/C (E 120)

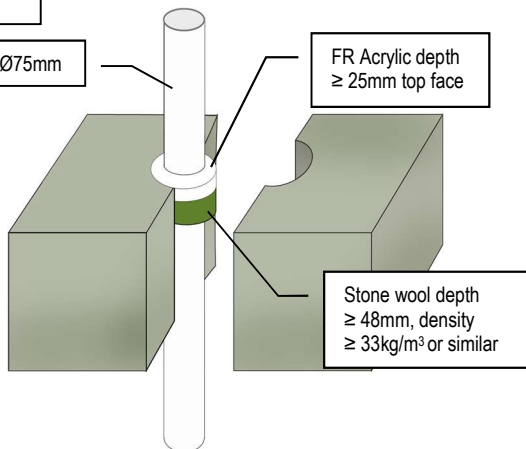
Maximum aperture
300x300mm

≥ 150MM RIGID FLOORS

Alupex pipe ≤ Ø75mm

FR Acrylic depth
≥ 25mm top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar



22/0735-A.6.3-11

INSULATED ALUPEX PIPE FIRE RESISTANCE EI 120 C/C (E 180)

Maximum aperture
300x300mm

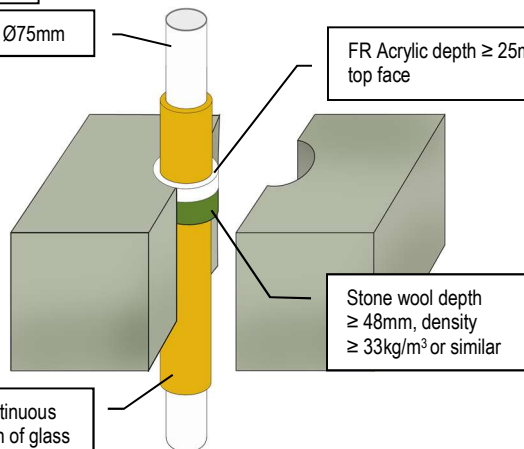
≥ 150MM RIGID FLOORS

Alupex pipe ≤ Ø75mm

FR Acrylic depth ≥ 25mm
top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar

20-50mm continuous
pipe insulation of glass
or stone wool ≥ 75kg/m³



22/0735-A.6.3-12

INSULATED ALUPEX PIPE FIRE RESISTANCE EI 90 C/C (E 120)

Maximum aperture
300x300mm

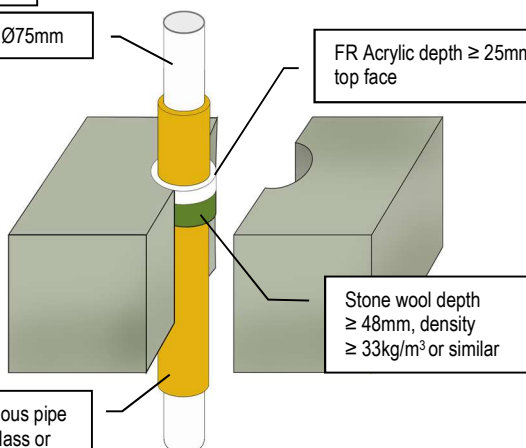
≥ 150MM RIGID FLOORS

Alupex pipe ≤ Ø75mm

FR Acrylic depth ≥ 25mm
top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar

60mm continuous pipe
insulation of glass
or stone wool ≥ 75kg/m³



22/0735-A.6.3-13

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

Maximum aperture
300x300mm

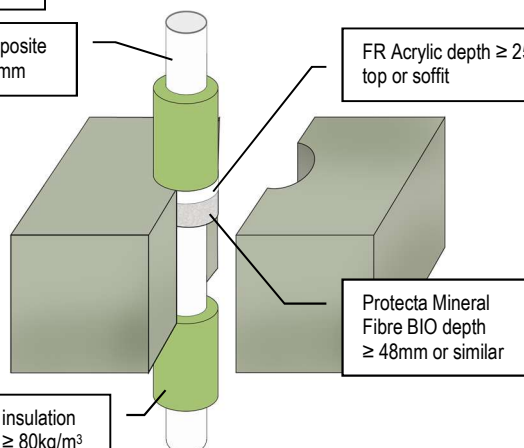
≥ 150MM RIGID FLOORS

Alupex composite
pipe ≤ Ø75mm

FR Acrylic depth ≥ 25mm
top or soffit

Protecta Mineral
Fibre BIO depth
≥ 48mm or similar

≥ 20mm pipe insulation
of stone wool ≥ 80kg/m³
≥ 50cm on both sides



22/0735-A.6.9-1

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

Maximum aperture
300x300mm

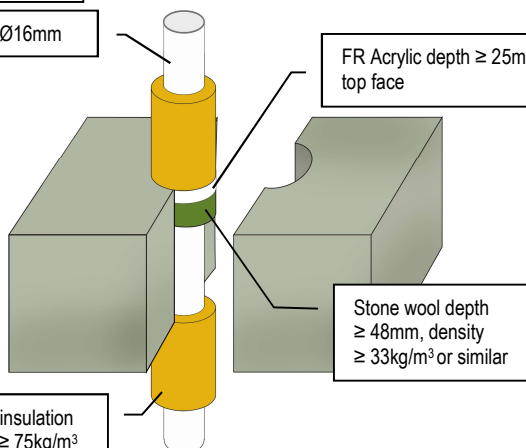
≥ 150MM RIGID FLOORS

Alupex pipe ≤ Ø16mm

FR Acrylic depth ≥ 25mm
top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar

≥ 20mm pipe insulation
of glass wool ≥ 75kg/m³
≥ 50cm on both sides



22/0735-A.6.8-9

ALUPEX PIPE FIRE RESISTANCE EI 120 C/C (E 180)

Maximum aperture
300x300mm

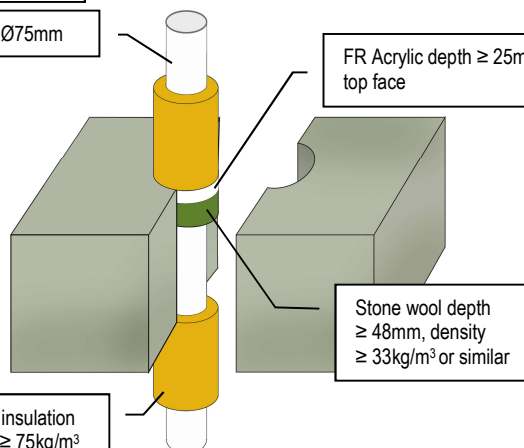
≥ 150MM RIGID FLOORS

Alupex pipe ≤ Ø75mm

FR Acrylic depth ≥ 25mm
top face

Stone wool depth
≥ 48mm, density
≥ 33kg/m³ or similar

≥ 25mm pipe insulation
of glass wool ≥ 75kg/m³
≥ 50cm on both sides



22/0735-A.6.8-10

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

Maximum annular ring width 30mm

≥ 150MM RIGID FLOORS

Alupex composite pipe ≤ Ø16mm

FR Acrylic depth ≥ 25mm on both sides

9mm continuous elastomeric, phenolic or PU-foam insulation

Protecta Mineral Fibre BIO depth ≥ 25mm or similar on both sides

22/0735-A.6.11-8

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

Maximum annular ring width 30mm

≥ 150MM RIGID FLOORS

Alupex composite pipe ≤ Ø75mm

FR Acrylic depth ≥ 25mm on both sides

9 - 13mm continuous elastomeric, phenolic or PU-foam insulation

Protecta Mineral Fibre BIO depth ≥ 25mm or similar on both sides

22/0735-A.6.11-9

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

Maximum annular ring width 30mm

≥ 150MM RIGID FLOORS

Alupex composite pipe ≤ Ø75mm

FR Acrylic depth ≥ 25mm on both sides

14 - 25mm continuous elastomeric, phenolic or PU-foam insulation

Protecta Mineral Fibre BIO depth ≥ 25mm or similar on both sides

22/0735-A.6.11-10

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

Maximum annular ring width 30mm

≥ 150MM RIGID FLOORS

PVC-U or PVC-C pipe ≤ Ø50mm with wall thickness 1.6-3.7mm

FR Acrylic depth ≥ 25mm on both sides

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

22/0735-A.6.4-1

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

Maximum annular ring width 30mm

≥ 150MM RIGID FLOORS

PE, ABS or SAN+PVC pipe ≤ Ø40mm with wall thickness 2.0-3.7mm

FR Acrylic depth ≥ 25mm on both sides

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

22/0735-A.6.4-7

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

Maximum annular ring width 30mm

≥ 150MM RIGID FLOORS

PP pipe ≤ Ø12mm with wall thickness 1.2mm

FR Acrylic depth ≥ 25mm on both sides

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

22/0735-A.6.4-3

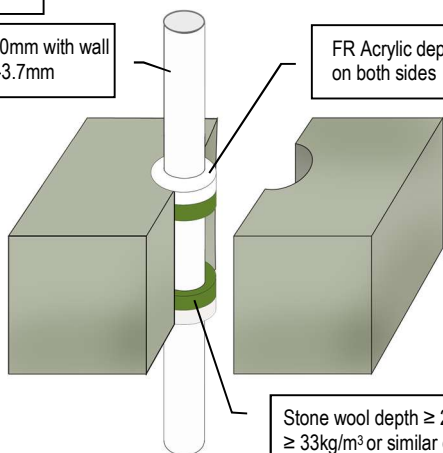
PP PLASTIC PIPE FIRE RESISTANCE EI 180 U/C (E 180)

Maximum annular ring width 30mm

≥ 150MM RIGID FLOORS

PP pipe ≤ Ø40mm with wall thickness 1.2-3.7mm

FR Acrylic depth ≥ 25mm on both sides



Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

22/0735-A.6.4-4

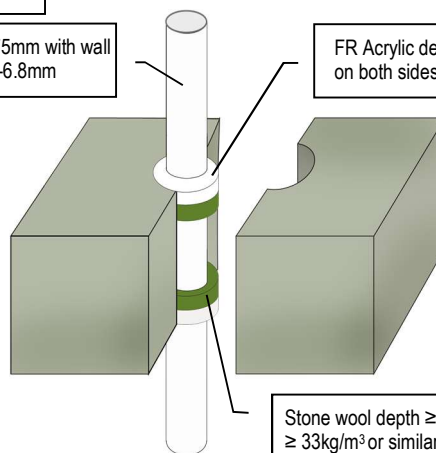
PP PLASTIC PIPE FIRE RESISTANCE EI 90 U/C (E 90)

Maximum annular ring width 30mm

≥ 150MM RIGID FLOORS

PP pipe ≤ Ø75mm with wall thickness 1.2-6.8mm

FR Acrylic depth ≥ 25mm on both sides



Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

22/0735-A.6.4-5

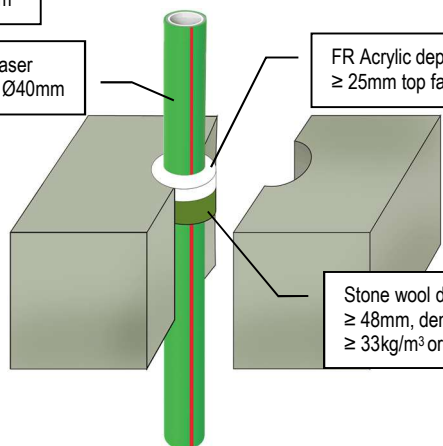
AQUATECHNIK PIPE FIRE RESISTANCE EI 120 C/C (E 120)

Maximum annular ring width 30mm

≥ 150MM RIGID FLOORS

Aquatechnik Faser Fiber-T pipe ≤ Ø40mm

FR Acrylic depth ≥ 25mm top face



Stone wool depth ≥ 48mm, density ≥ 33kg/m³ or similar

22/0735-A.6.3-14

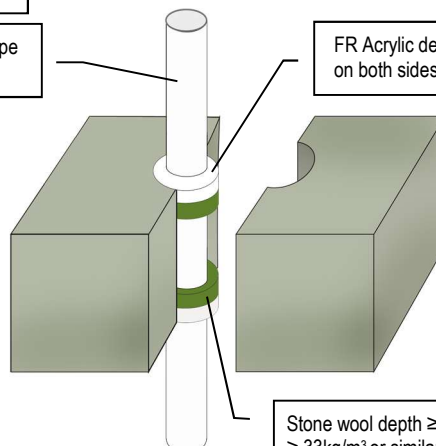
POLYBUTYLENE PIPE FIRE RESISTANCE EI 240 C/C (E 240)

Maximum annular ring width 30mm

≥ 150MM RIGID FLOORS

Polybutylene pipe ≤ Ø28mm

FR Acrylic depth ≥ 15mm on both sides



Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

22/0735-A.6.4-12

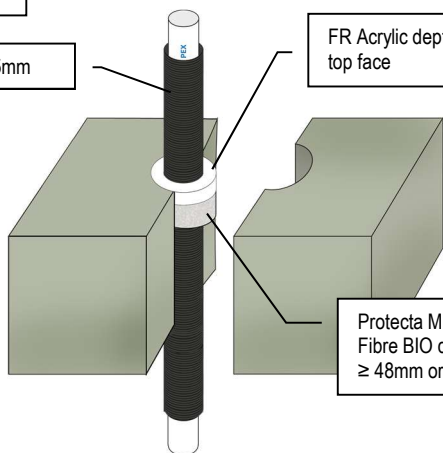
PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 90 C/C (E 90)

Maximum annular ring width 30mm

≥ 150MM RIGID FLOORS

PEX pipe ≤ Ø25mm

FR Acrylic depth ≥ 25mm top face



Protecta Mineral Fibre BIO depth ≥ 48mm or similar

22/0735-A.6.7-3

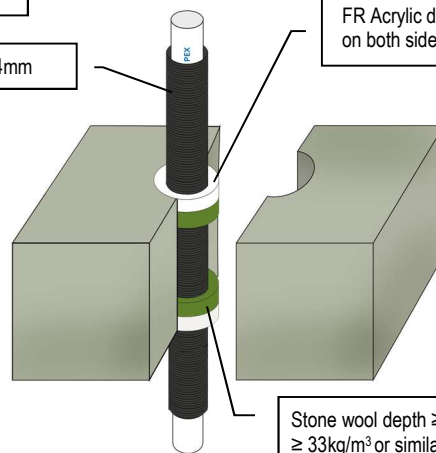
PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 240 C/C (E 240)

Maximum annular ring width 30mm

≥ 150MM RIGID FLOORS

PEX pipe ≤ Ø44mm

FR Acrylic depth ≥ 25mm on both sides



Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

22/0735-A.6.4-10

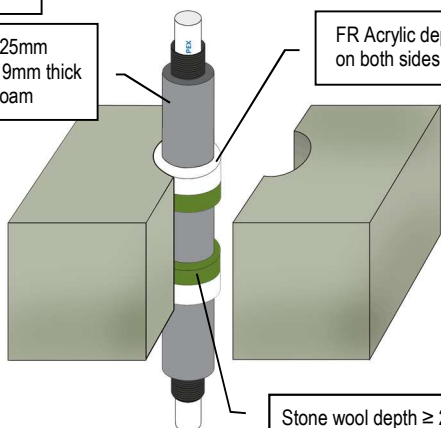
PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 60 C/C (E 60)

Maximum annular ring width 30mm

≥ 150MM RIGID FLOORS

PEX pipe ≤ Ø25mm insulated with 9mm thick polyethylene foam

FR Acrylic depth ≥ 25mm on both sides



Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

22/0735-A.6.4-11

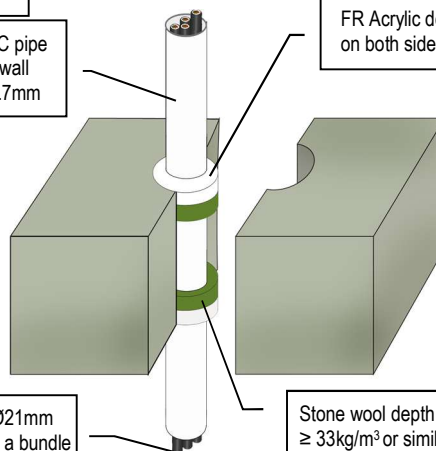
PVC CONDUIT FIRE RESISTANCE EI 240 U/C (E 240)

Maximum annular ring width 30mm

≥ 150MM RIGID FLOORS

PVC-U & PVC-C pipe ≤ Ø40mm with wall thickness 1.6-3.7mm

FR Acrylic depth ≥ 25mm on both sides



Cables ≤ Ø21mm single or in a bundle

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

22/0735-A.6.4-2

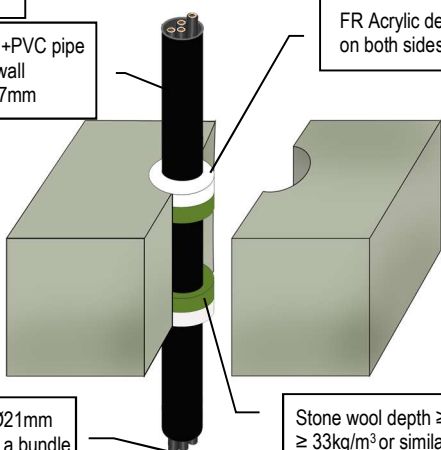
PE CONDUIT FIRE RESISTANCE EI 180 U/C (E 180)

Maximum annular ring width 30mm

≥ 150MM RIGID FLOORS

PE, ABS & SAN+PVC pipe ≤ Ø40mm with wall thickness 2.0-3.7mm

FR Acrylic depth ≥ 25mm on both sides



Cables ≤ Ø21mm single or in a bundle

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

22/0735-A.6.4-8

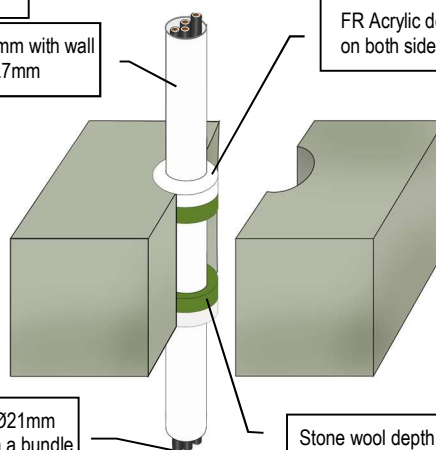
PP CONDUIT FIRE RESISTANCE EI 180 U/C (E 180)

Maximum annular ring width 30mm

≥ 150MM RIGID FLOORS

PP pipe ≤ Ø40mm with wall thickness 1.2-3.7mm

FR Acrylic depth ≥ 25mm on both sides



Cables ≤ Ø21mm single or in a bundle

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

22/0735-A.6.4-6

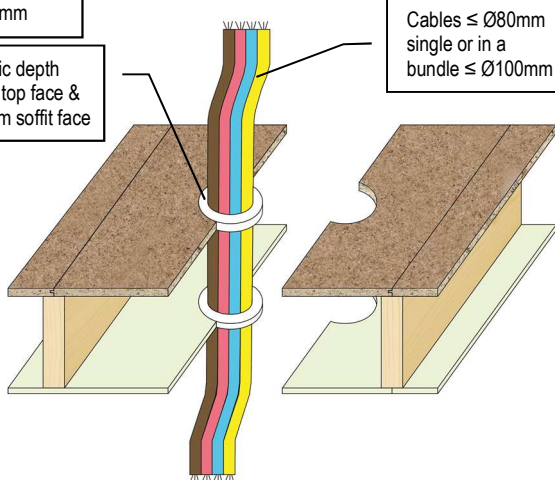
CABLES FIRE RESISTANCE EI 30 (E 30)

Maximum aperture 300x300mm

≥ 228MM FLEXIBLE FLOORS

FR Acrylic depth ≥ 18mm top face & ≥ 12.5mm soffit face

Cables ≤ Ø80mm single or in a bundle ≤ Ø100mm



22/0735-A.7.1-2

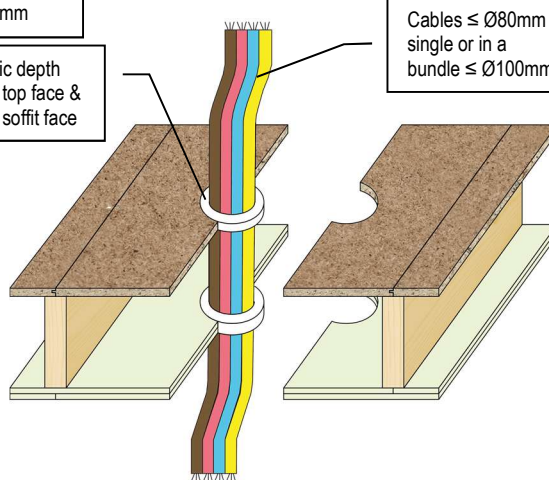
CABLES FIRE RESISTANCE EI 60 (E 60)

Maximum aperture 150x150mm

≥ 240MM FLEXIBLE FLOORS

FR Acrylic depth ≥ 18mm top face & ≥ 25mm soffit face

Cables ≤ Ø80mm single or in a bundle ≤ Ø100mm



22/0735-A.7.5-2

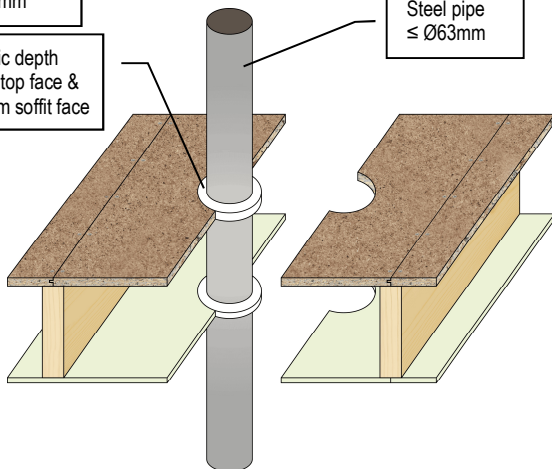
STEEL PIPE FIRE RESISTANCE EI 30 C/U (E 30)

≥ 228MM FLEXIBLE FLOORS

Maximum aperture
300x300mm

FR Acrylic depth
≥ 18mm top face &
≥ 12.5mm soffit face

Steel pipe
≤ Ø63mm



22/0735-A.7.2-3

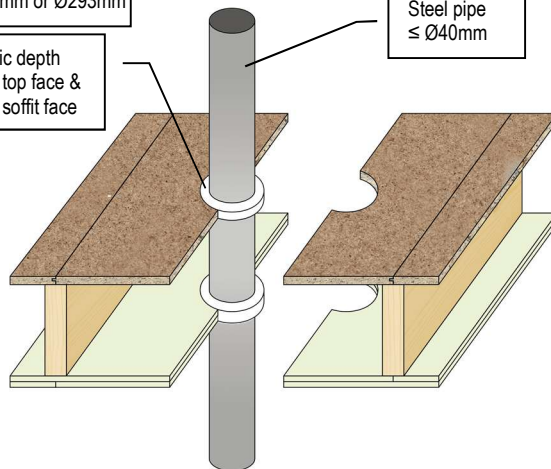
STEEL PIPE FIRE RESISTANCE EI 60 C/U (E 60)

≥ 240MM FLEXIBLE FLOORS

Maximum aperture
150x150mm or Ø293mm

FR Acrylic depth
≥ 18mm top face &
≥ 25mm soffit face

Steel pipe
≤ Ø40mm



22/0735-A.7.6-3

STEEL PIPE FIRE RESISTANCE EI 30 C/U (E 30)

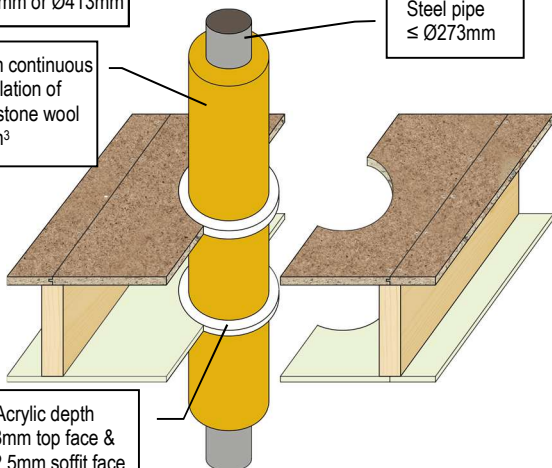
≥ 228MM FLEXIBLE FLOORS

Maximum aperture
300x300mm or Ø413mm

30-60mm continuous
pipe insulation of
glass or stone wool
≥ 75kg/m³

Steel pipe
≤ Ø273mm

FR Acrylic depth
≥ 18mm top face &
≥ 12.5mm soffit face



22/0735-A.7.3-2

STEEL PIPE FIRE RESISTANCE EI 60 C/U (E 60)

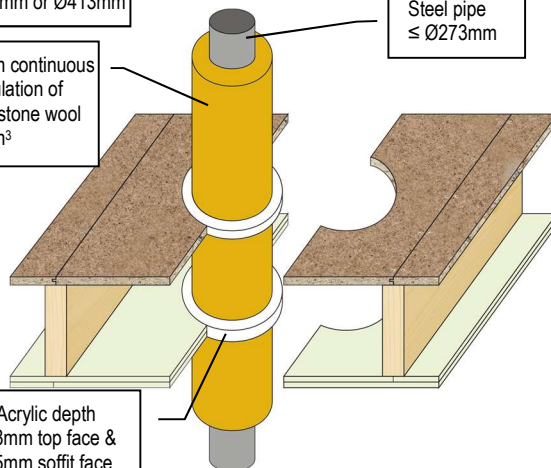
≥ 240MM FLEXIBLE FLOORS

Maximum aperture
150x150mm or Ø413mm

30-60mm continuous
pipe insulation of
glass or stone wool
≥ 75kg/m³

Steel pipe
≤ Ø273mm

FR Acrylic depth
≥ 18mm top face &
≥ 25mm soffit face



22/0735-A.7.7-2

STEEL PIPE FIRE RESISTANCE EI 30 C/U (E 30)

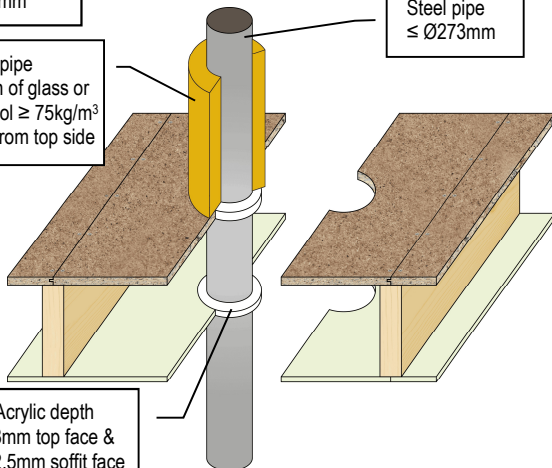
≥ 228MM FLEXIBLE FLOORS

Maximum aperture
300x300mm

≥ 30mm pipe
insulation of glass or
stone wool ≥ 75kg/m³
≥ 50cm from top side

Steel pipe
≤ Ø273mm

FR Acrylic depth
≥ 18mm top face &
≥ 12.5mm soffit face



22/0735-A.7.2-4

STEEL PIPE FIRE RESISTANCE EI 60 C/U (E 60)

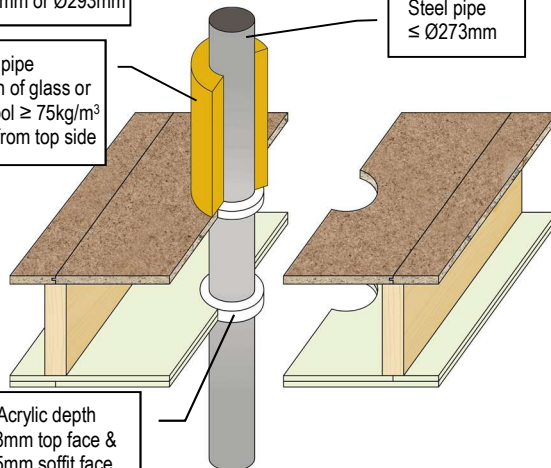
≥ 240MM FLEXIBLE FLOORS

Maximum aperture
150x150mm or Ø293mm

≥ 30mm pipe
insulation of glass or
stone wool ≥ 75kg/m³
≥ 50cm from top side

Steel pipe
≤ Ø273mm

FR Acrylic depth
≥ 18mm top face &
≥ 25mm soffit face



22/0735-A.7.6-4

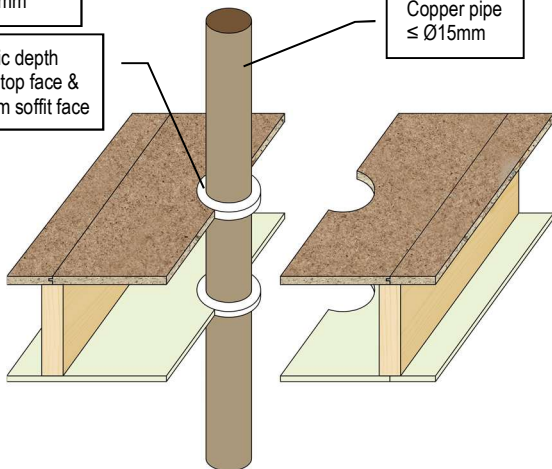
COPPER PIPE FIRE RESISTANCE EI 30 C/C (E 30)

≥ 228MM FLEXIBLE FLOORS

Maximum aperture
300x300mm

FR Acrylic depth
≥ 18mm top face &
≥ 12.5mm soffit face

Copper pipe
≤ Ø15mm



22/0735-A.7.2-1

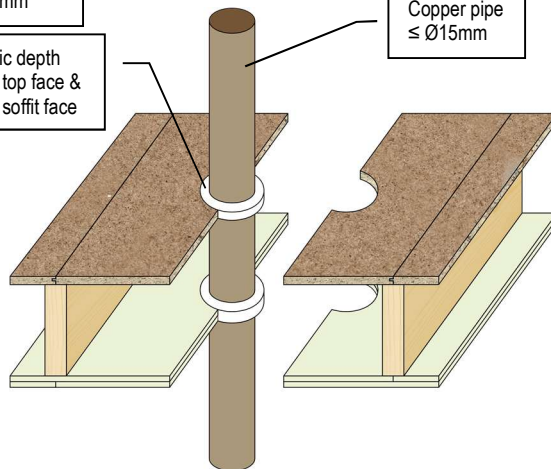
COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 60)

≥ 240MM FLEXIBLE FLOORS

Maximum aperture
150x150mm

FR Acrylic depth
≥ 18mm top face &
≥ 25mm soffit face

Copper pipe
≤ Ø15mm



22/0735-A.7.6-1

COPPER PIPE FIRE RESISTANCE EI 30 C/C (E 30)

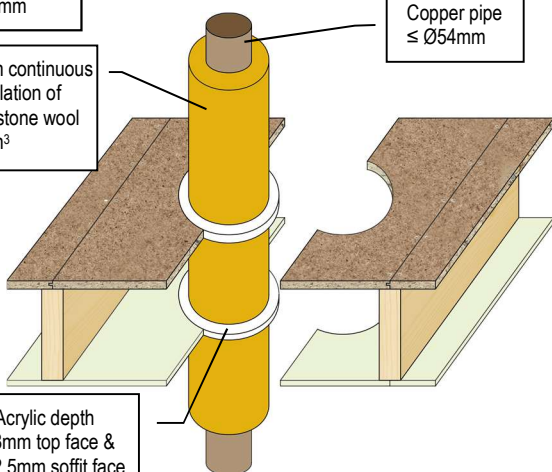
≥ 228MM FLEXIBLE FLOORS

Maximum aperture
300x300mm

20-60mm continuous
pipe insulation of
glass or stone wool
≥ 75kg/m³

Copper pipe
≤ Ø54mm

FR Acrylic depth
≥ 18mm top face &
≥ 12.5mm soffit face



22/0735-A.7.3-1

COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 60)

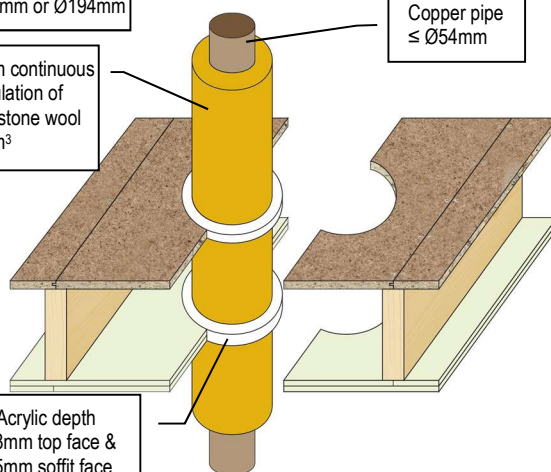
≥ 240MM FLEXIBLE FLOORS

Maximum aperture
150x150mm or Ø194mm

20-60mm continuous
pipe insulation of
glass or stone wool
≥ 75kg/m³

Copper pipe
≤ Ø54mm

FR Acrylic depth
≥ 18mm top face &
≥ 25mm soffit face



22/0735-A.7.7-1

COPPER PIPE FIRE RESISTANCE EI 30 C/C (E 30)

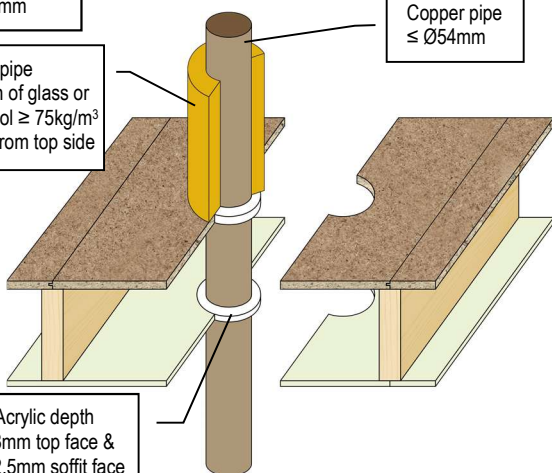
≥ 228MM FLEXIBLE FLOORS

Maximum aperture
300x300mm

≥ 20mm pipe
insulation of glass or
stone wool ≥ 75kg/m³
≥ 50cm from top side

Copper pipe
≤ Ø54mm

FR Acrylic depth
≥ 18mm top face &
≥ 12.5mm soffit face



22/0735-A.7.2-2

COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 60)

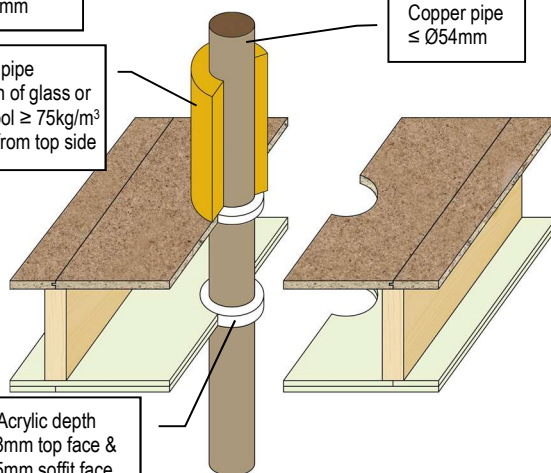
≥ 240MM FLEXIBLE FLOORS

Maximum aperture
150x150mm

≥ 20mm pipe
insulation of glass or
stone wool ≥ 75kg/m³
≥ 50cm from top side

Copper pipe
≤ Ø54mm

FR Acrylic depth
≥ 18mm top face &
≥ 25mm soffit face

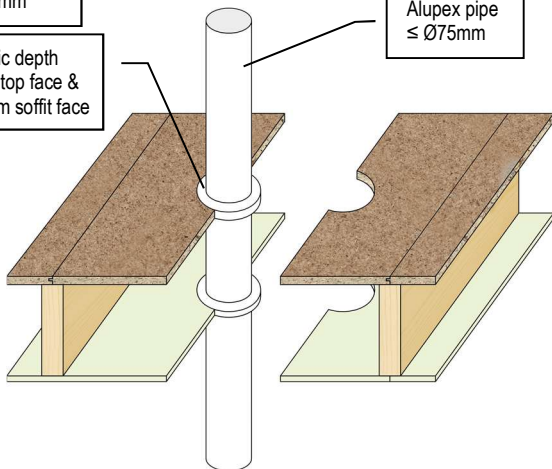


22/0735-A.7.6-2

ALUPEX PIPE FIRE RESISTANCE EI 30 C/C (E 30)
≥ 228MM FLEXIBLE FLOORS

Maximum aperture
300x300mm

FR Acrylic depth
≥ 18mm top face &
≥ 12.5mm soffit face

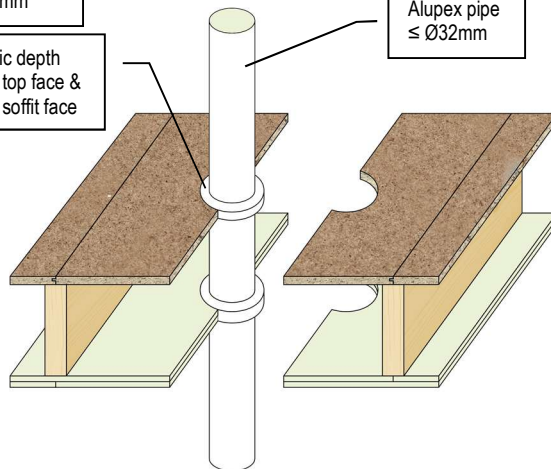
Alupex pipe
≤ Ø75mm


22/0735-A.7.2-5

ALUPEX PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 240MM FLEXIBLE FLOORS

Maximum aperture
150x150mm

FR Acrylic depth
≥ 18mm top face &
≥ 25mm soffit face

Alupex pipe
≤ Ø32mm


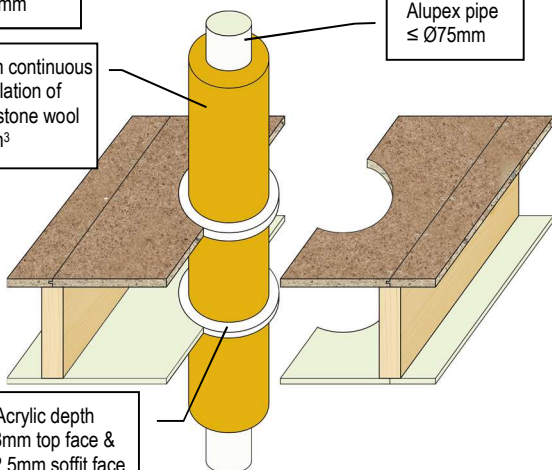
22/0735-A.7.6-5

ALUPEX PIPE FIRE RESISTANCE EI 30 C/C (E 30)
≥ 228MM FLEXIBLE FLOORS

Maximum aperture
300x300mm

25-60mm continuous
pipe insulation of
glass or stone wool
≥ 75kg/m³

Alupex pipe
≤ Ø75mm

FR Acrylic depth
≥ 18mm top face &
≥ 12.5mm soffit face


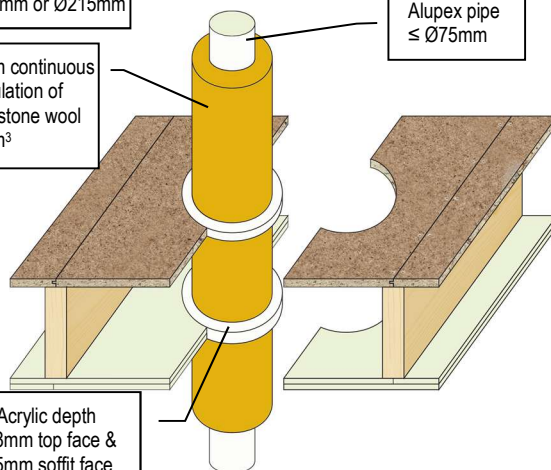
22/0735-A.7.3-3

ALUPEX PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 240MM FLEXIBLE FLOORS

Maximum aperture
150x150mm or Ø215mm

25-60mm continuous
pipe insulation of
glass or stone wool
≥ 75kg/m³

Alupex pipe
≤ Ø75mm

FR Acrylic depth
≥ 18mm top face &
≥ 25mm soffit face


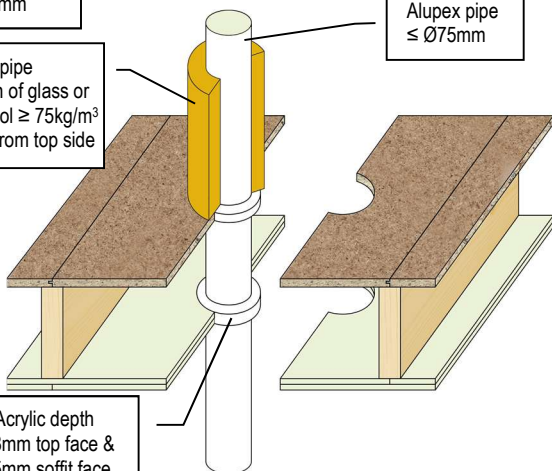
22/0735-A.7.7-3

ALUPEX PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 240MM FLEXIBLE FLOORS

Maximum aperture
150x150mm

≥ 20mm pipe
insulation of glass or
stone wool ≥ 75kg/m³
≥ 50cm from top side

Alupex pipe
≤ Ø75mm

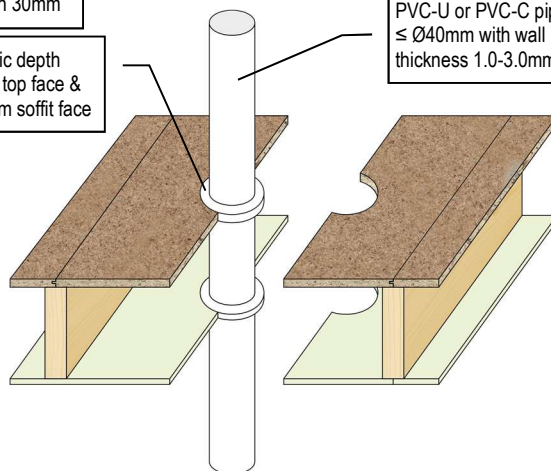
FR Acrylic depth
≥ 18mm top face &
≥ 25mm soffit face


22/0735-A.7.6-6

PVC PLASTIC PIPE FIRE RESISTANCE EI 30 U/C (E 30)
≥ 228MM FLEXIBLE FLOORS

Maximum annular
ring width 30mm

FR Acrylic depth
≥ 18mm top face &
≥ 12.5mm soffit face

PVC-U or PVC-C pipe
≤ Ø40mm with wall
thickness 1.0-3.0mm


22/0735-A.7.2-7

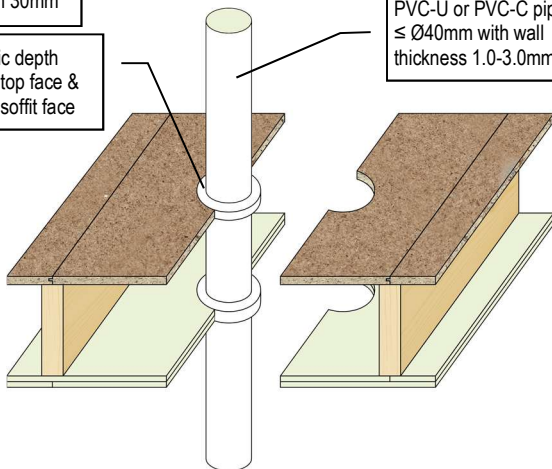
PVC PLASTIC PIPE FIRE RESISTANCE EI 60 U/C (E 60)

≥ 240MM FLEXIBLE FLOORS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 18mm top face & ≥ 25mm soffit face

PVC-U or PVC-C pipe ≤ Ø40mm with wall thickness 1.0-3.0mm



22/0735-A.7.6-8

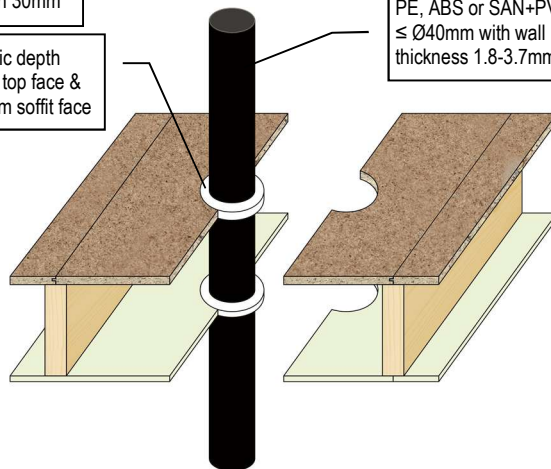
PE PLASTIC PIPE FIRE RESISTANCE EI 30 U/C (E 30)

≥ 228MM FLEXIBLE FLOORS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 18mm top face & ≥ 12.5mm soffit face

PE, ABS or SAN+PVC pipe ≤ Ø40mm with wall thickness 1.8-3.7mm



22/0735-A.7.2-8

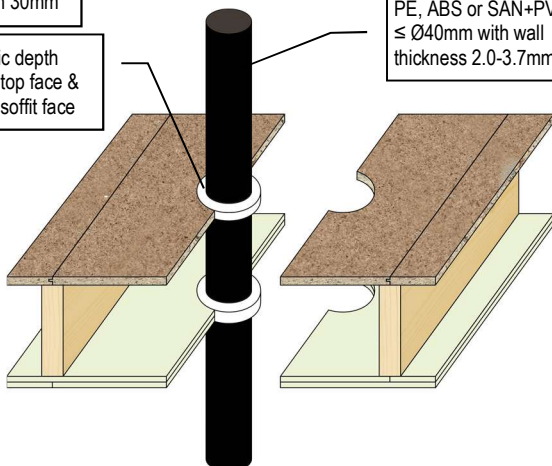
PE PLASTIC PIPE FIRE RESISTANCE EI 60 U/C (E 60)

≥ 240MM FLEXIBLE FLOORS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 18mm top face & ≥ 25mm soffit face

PE, ABS or SAN+PVC pipe ≤ Ø40mm with wall thickness 2.0-3.7mm



22/0735-A.7.6-9

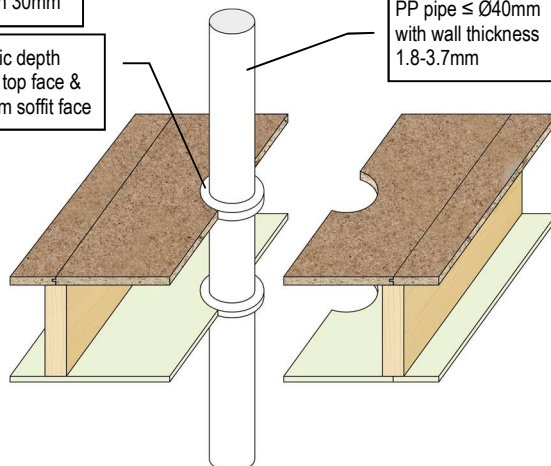
PP PLASTIC PIPE FIRE RESISTANCE EI 30 U/C (E 30)

≥ 228MM FLEXIBLE FLOORS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 18mm top face & ≥ 12.5mm soffit face

PP pipe ≤ Ø40mm with wall thickness 1.8-3.7mm



22/0735-A.7.2-9

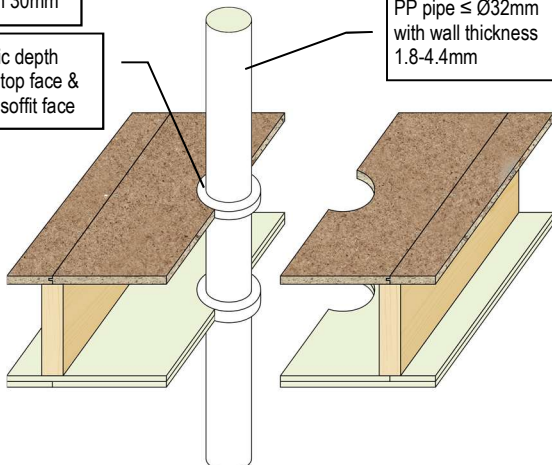
PP PLASTIC PIPE FIRE RESISTANCE EI 60 U/C (E 60)

≥ 240MM FLEXIBLE FLOORS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 18mm top face & ≥ 25mm soffit face

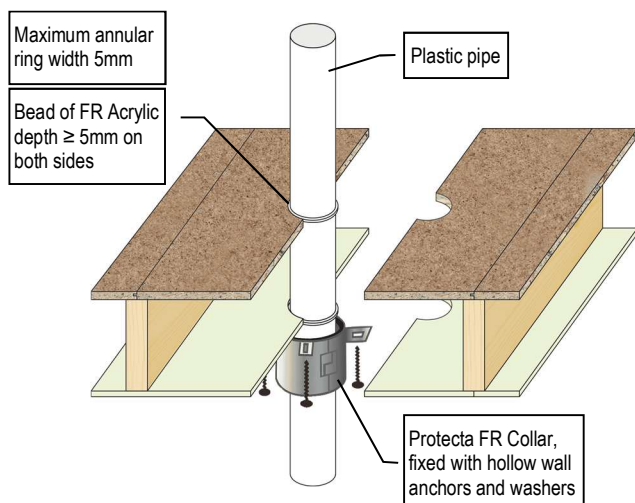
PP pipe ≤ Ø32mm with wall thickness 1.8-4.4mm



22/0735-A.7.6-10

PLASTIC PIPE FIRE RESISTANCE EI 30 (E 30)

≥ 228MM FLEXIBLE FLOORS



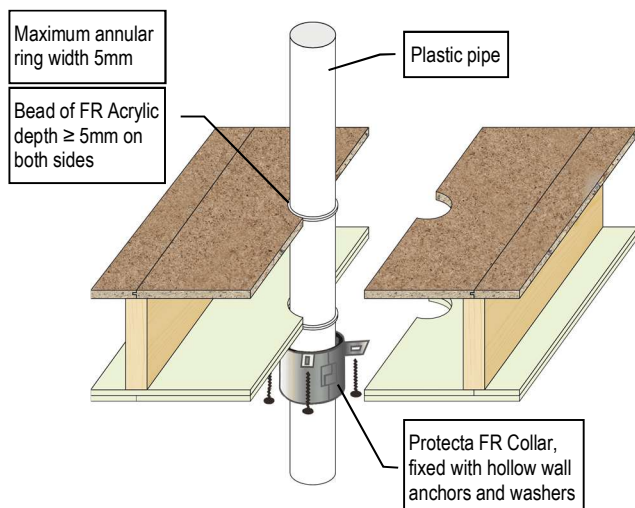
Pipe	Pipe W/T	Collar Ø x h	Config
≤ Ø 50mm PVC	2.4mm	≤ 50mm x ≥ 30mm	U/U
≤ Ø 50mm PE	3.0 – 4.6mm	≤ 50mm x ≥ 30mm	U/U
≤ Ø 50mm PP	1.8 – 4.6mm	≤ 50mm x ≥ 30mm	U/U
≤ Ø 110mm PVC	2.4 – 6.6mm	≤ 110mm x ≥ 30mm	U/U
≤ Ø 110mm PE	3.0 – 10.0mm	≤ 110mm x ≥ 30mm	U/C
≤ Ø 110mm PE	3.0 – 10.0mm	≤ 110mm x ≥ 50mm	U/U
≤ Ø 110mm PP	1.8 – 6.3mm	≤ 110mm x ≥ 30mm	U/C
≤ Ø 110mm PP	1.8 – 6.3mm	≤ 110mm x ≥ 50mm	U/U
≤ Ø 160mm PVC	3.2 – 9.5mm	≤ 160mm x ≥ 60mm	U/C
≤ Ø 160mm PE	3.4 – 14.6mm	≤ 160mm x ≥ 60mm	U/C
≤ Ø 160mm PP	4.2 – 14.6mm	≤ 160mm x ≥ 60mm	U/C

If the annular gap is above 5mm, an oversized collar may be used with maximum size of Ø160mm, subject to an increase in sealant depth to minimum 18mm at top face and 12.5mm at soffit face

22/0735-A.7.4-1

PLASTIC PIPE FIRE RESISTANCE EI 60 (E 60)

≥ 240MM FLEXIBLE FLOORS



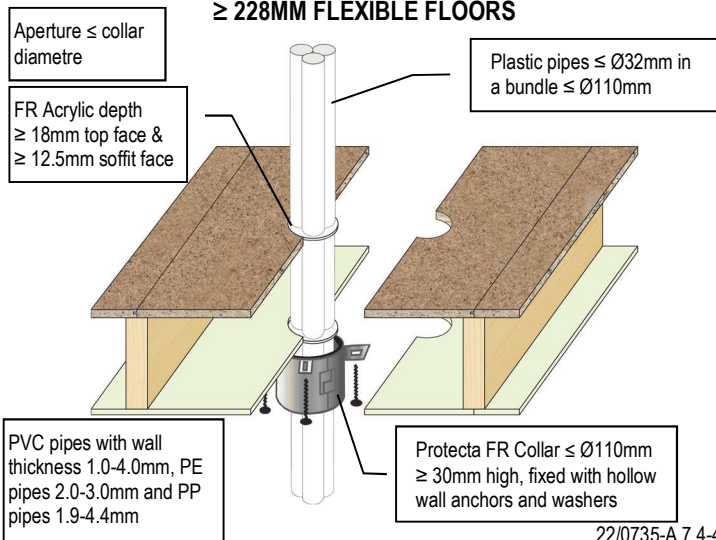
Pipe	Pipe W/T	Collar Ø x h	Config
≤ Ø 50mm PVC	2.4 – 3.7mm	≤ 50mm x ≥ 30mm	U/U
≤ Ø 50mm PE	3.0 – 4.6mm	≤ 50mm x ≥ 30mm	U/U
≤ Ø 50mm PP	1.8 – 4.6mm	≤ 50mm x ≥ 30mm	U/U
≤ Ø 110mm PVC	2.4 – 6.6mm	≤ 110mm x ≥ 30mm	U/U
≤ Ø 110mm PE	3.0 – 10.0mm	≤ 110mm x ≥ 30mm	U/C
≤ Ø 110mm PE	3.0 – 10.0mm	≤ 110mm x ≥ 50mm	U/U
≤ Ø 110mm PP	1.8 – 6.3mm	≤ 110mm x ≥ 30mm	U/C
≤ Ø 110mm PP	1.8 – 6.3mm	≤ 110mm x ≥ 50mm	U/U
≤ Ø 160mm PVC	3.2 – 9.5mm	≤ 160mm x ≥ 60mm	U/C
≤ Ø 160mm PE	3.4 – 14.6mm	≤ 160mm x ≥ 60mm	U/C
≤ Ø 160mm PP	4.2 – 14.6mm	≤ 160mm x ≥ 60mm	U/C

If the annular gap is above 5mm, an oversized collar may be used with maximum size of Ø160mm, subject to an increase in sealant depth to minimum 18mm at top face and 25mm at soffit face

22/0735-A.7.8-1

PLASTIC PIPES FIRE RESISTANCE EI 30 U/C (E 30)

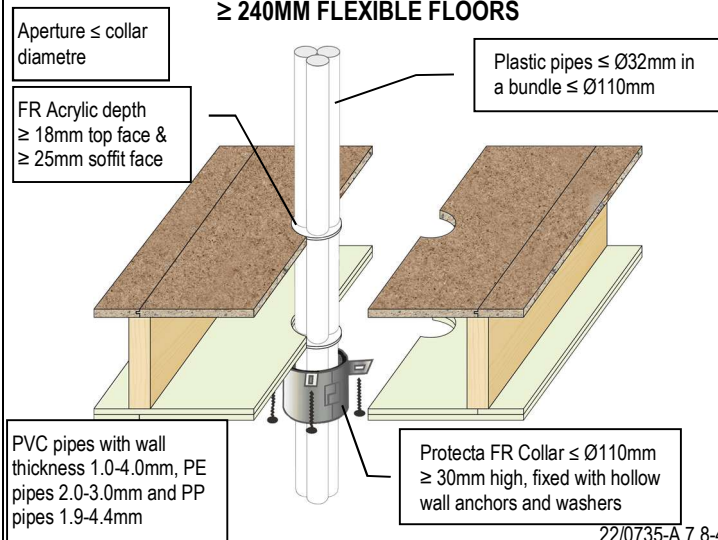
≥ 228MM FLEXIBLE FLOORS



22/0735-A.7.4-4

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

≥ 240MM FLEXIBLE FLOORS



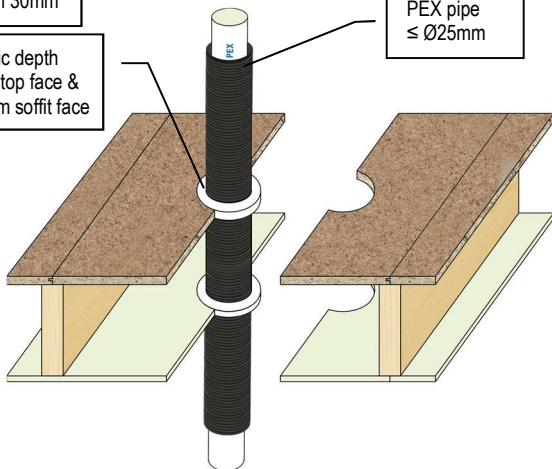
22/0735-A.7.8-4

PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 30 C/C (E 30)
≥ 228MM FLEXIBLE FLOORS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 18mm top face & ≥ 12.5mm soffit face

PEX pipe ≤ Ø25mm



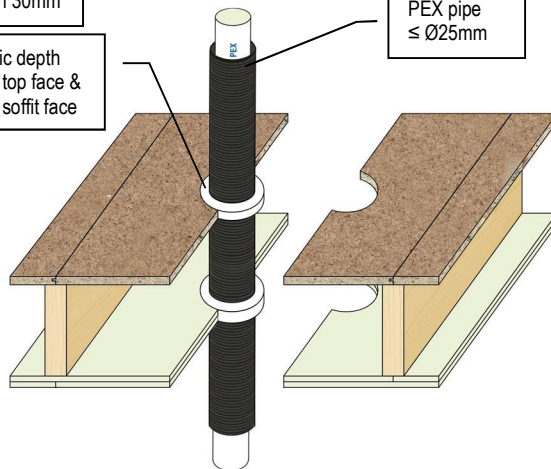
22/0735-A.7.2-6

PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 60 C/C (E 60)
≥ 240MM FLEXIBLE FLOORS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 18mm top face & ≥ 25mm soffit face

PEX pipe ≤ Ø25mm



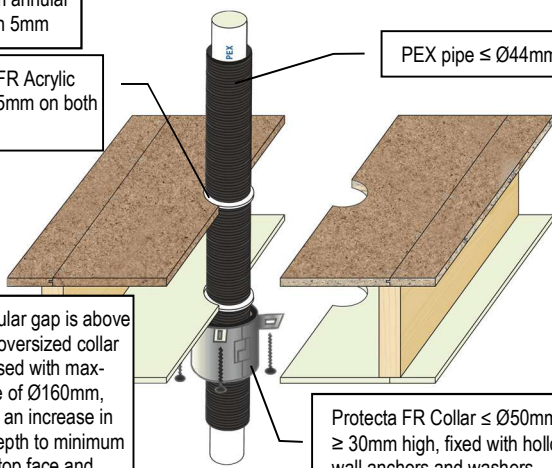
22/0735-A.7.6-7

PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 30 C/C (E 30)
≥ 228MM FLEXIBLE FLOORS

Maximum annular ring width 5mm

Bead of FR Acrylic depth ≥ 5mm on both sides

PEX pipe ≤ Ø44mm



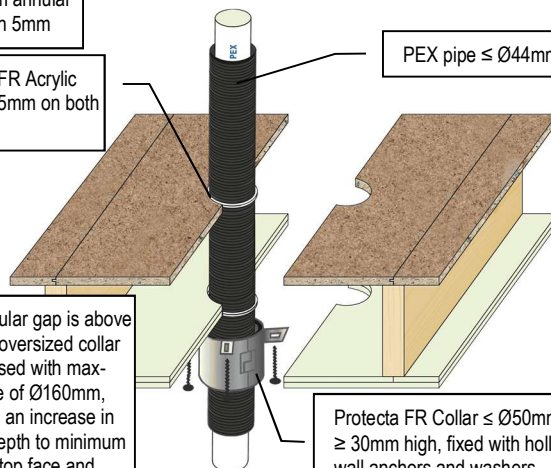
22/0735-A.7.4-15

PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 60 C/C (E 60)
≥ 240MM FLEXIBLE FLOORS

Maximum annular ring width 5mm

Bead of FR Acrylic depth ≥ 5mm on both sides

PEX pipe ≤ Ø44mm



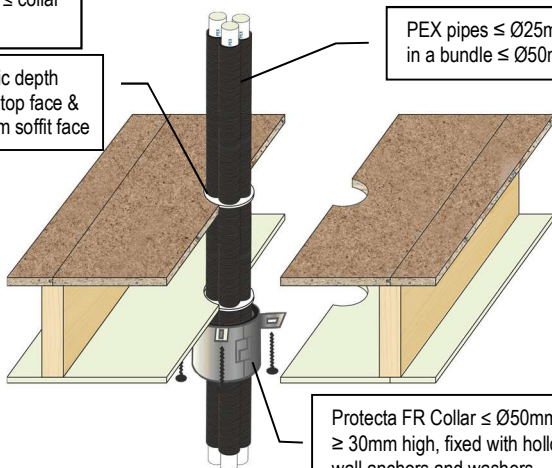
22/0735-A.7.8-15

PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 30 C/C (E 30)
≥ 228MM FLEXIBLE FLOORS

Aperture ≤ collar diameter

FR Acrylic depth ≥ 18mm top face & ≥ 12.5mm soffit face

PEX pipes ≤ Ø25mm in a bundle ≤ Ø50mm



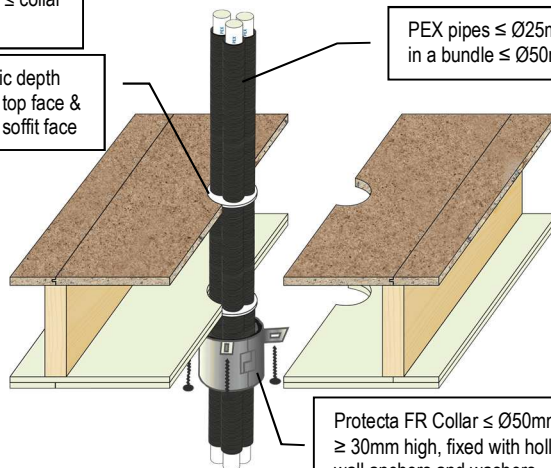
22/0735-A.7.4-16

PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 60 C/C (E 60)
≥ 240MM FLEXIBLE FLOORS

Aperture ≤ collar diameter

FR Acrylic depth ≥ 18mm top face & ≥ 25mm soffit face

PEX pipes ≤ Ø25mm in a bundle ≤ Ø50mm

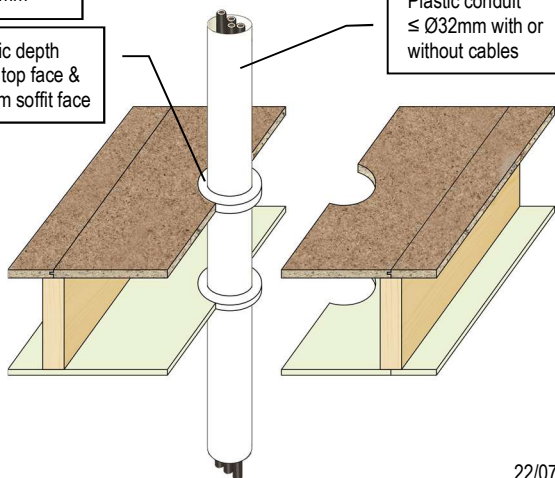


22/0735-A.7.8-16

CONDUIT FIRE RESISTANCE EI 30 U/U (E 30)
≥ 228MM FLEXIBLE FLOORS

Maximum aperture
300x300mm

FR Acrylic depth
≥ 18mm top face &
≥ 12.5mm soffit face

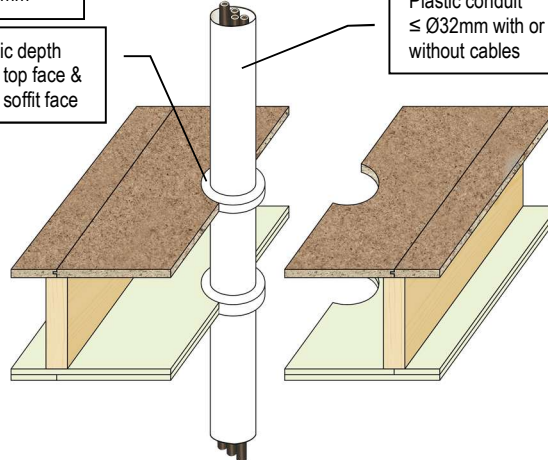
Plastic conduit
≤ Ø32mm with or
without cables


22/0735-A.7.1-3

CONDUIT FIRE RESISTANCE EI 60 U/U (E 60)
≥ 240MM FLEXIBLE FLOORS

Maximum aperture
150x150mm

FR Acrylic depth
≥ 18mm top face &
≥ 25mm soffit face

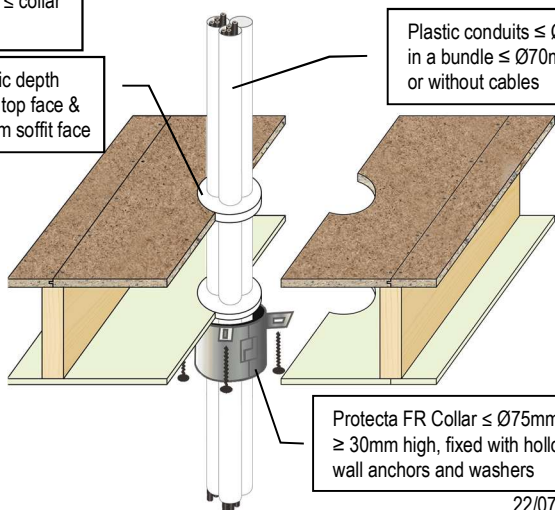
Plastic conduit
≤ Ø32mm with or
without cables


22/0735-A.7.5-3

CONDUITS FIRE RESISTANCE EI 30 U/U (E 30)
≥ 228MM FLEXIBLE FLOORS

Aperture ≤ collar
diameter

FR Acrylic depth
≥ 18mm top face &
≥ 12.5mm soffit face

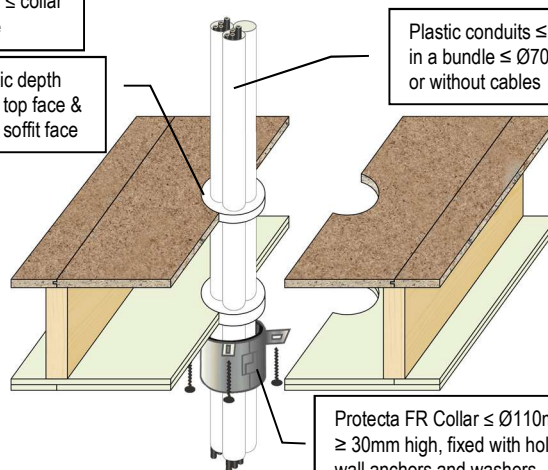
Plastic conduits ≤ Ø32mm
in a bundle ≤ Ø70mm with
or without cables


22/0735-A.7.1-4

CONDUITS FIRE RESISTANCE EI 60 U/U (E 60)
≥ 240MM FLEXIBLE FLOORS

Aperture ≤ collar
diameter

FR Acrylic depth
≥ 18mm top face &
≥ 25mm soffit face

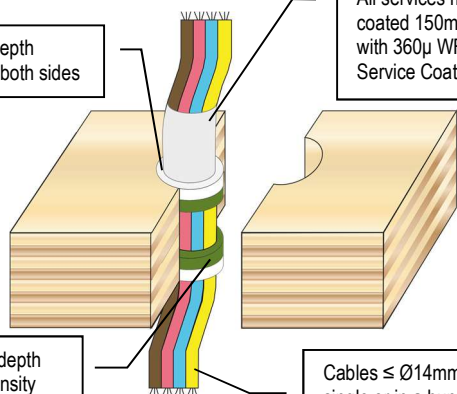
Plastic conduits ≤ Ø32mm
in a bundle ≤ Ø70mm with
or without cables


22/0735-A.7.5-4

CABLES FIRE RESISTANCE EI 120 (E 120)
≥ 150MM TIMBER FLOORS

Maximum aperture
Ø220mm

FR Acrylic depth
≥ 25mm on both sides

All services must be
coated 150mm top side
with 360µ WFT Protecta
Service Coat FR-1

Stone wool depth
≥ 25mm, density
≥ 33kg/m³ or similar
on both sides

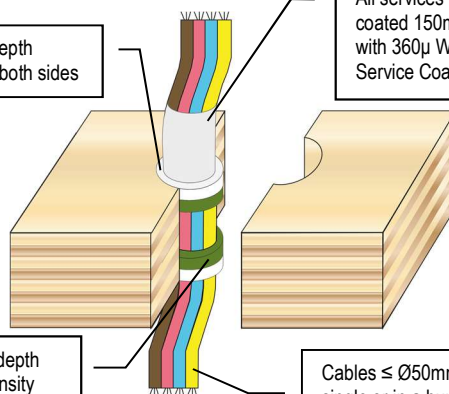
Cables ≤ Ø14mm
single or in a bundle
≤ Ø100mm

22/0735-A.8.1-2

CABLES FIRE RESISTANCE EI 90 (E 120)
≥ 150MM TIMBER FLOORS

Maximum aperture
Ø220mm

FR Acrylic depth
≥ 25mm on both sides

All services must be
coated 150mm top side
with 360µ WFT Protecta
Service Coat FR-1

Stone wool depth
≥ 25mm, density
≥ 33kg/m³ or similar
on both sides

Cables ≤ Ø50mm
single or in a bundle
≤ Ø100mm

22/0735-A.8.1-4

STEEL PIPE FIRE RESISTANCE EI 60 C/C (E 120)

Maximum aperture
Ø293mm

≥ 150MM TIMBER FLOORS

FR Acrylic depth
≥ 25mm on both sides

≥ 25mm pipe insulation of
glass or stone wool ≥ 75kg/m³
≥ 50cm on both sides

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or similar
on both sides

Steel pipe
≤ Ø273mm

22/0735-A.8.2-1

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

Maximum aperture
Ø220mm

≥ 150MM TIMBER FLOORS

FR Acrylic depth
≥ 25mm on both sides

≥ 20mm pipe insulation of
glass or stone wool ≥ 75kg/m³
≥ 50cm on both sides

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or similar
on both sides

Copper or steel
pipe ≤ Ø15mm

22/0735-A.8.2-2

COPPER OR STEEL PIPE FIRE RESISTANCE EI 90 C/C (E 120)

Maximum aperture
Ø220mm

≥ 150MM TIMBER FLOORS

FR Acrylic depth
≥ 25mm on both sides

≥ 20mm pipe insulation of
glass or stone wool ≥ 75kg/m³
≥ 50cm on both sides

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or similar
on both sides

Copper or steel
pipe ≤ Ø54mm

22/0735-A.8.2-3

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

Maximum aperture
Ø220mm

≥ 150MM TIMBER FLOORS

FR Acrylic depth
≥ 25mm on both sides

≥ 20mm pipe insulation of
glass or stone wool ≥ 75kg/m³
≥ 50cm on both sides

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or similar
on both sides

Alupex pipe
≤ Ø16mm

22/0735-A.8.2-4

ALUPEX PIPE FIRE RESISTANCE EI 90 C/C (E 120)

Maximum aperture
Ø220mm

≥ 150MM TIMBER FLOORS

FR Acrylic depth
≥ 25mm on both sides

≥ 25mm pipe insulation of
glass or stone wool ≥ 75kg/m³
≥ 50cm on both sides

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or similar
on both sides

Alupex pipe
≤ Ø75mm

22/0735-A.8.2-5

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

Maximum annular
ring width 30mm

≥ 150MM TIMBER FLOORS

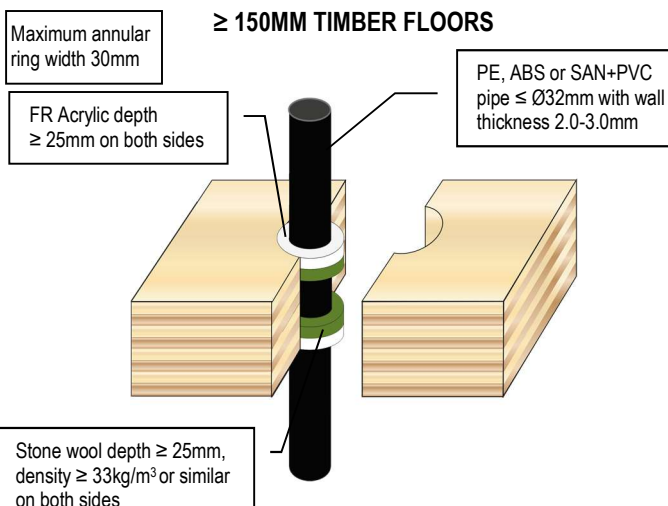
FR Acrylic depth
≥ 25mm on both sides

PVC pipe ≤ Ø32mm with
wall thickness 1.0-2.4mm

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or similar
on both sides

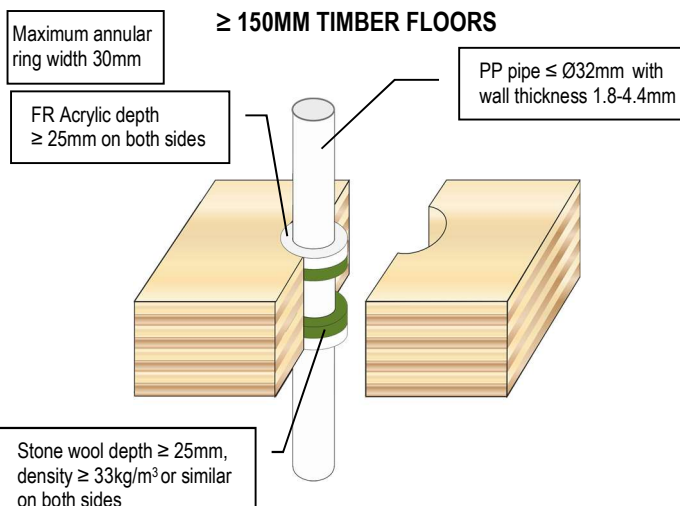
22/0735-A.8.3-1

PE PIPE FIRE RESISTANCE EI 120 U/C (E 120)



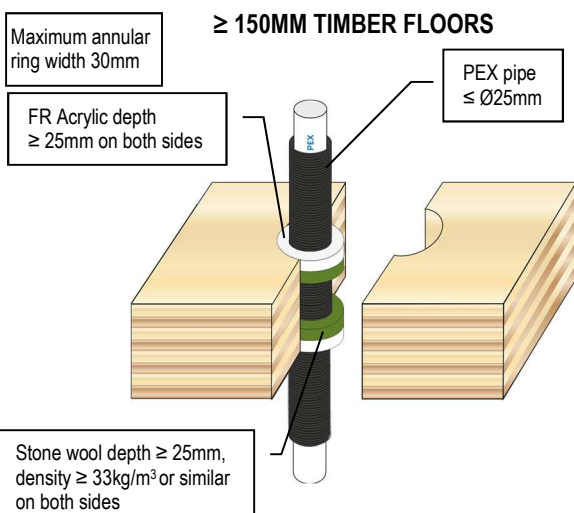
22/0735-A.8.3-2

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



22/0735-A.8.3-3

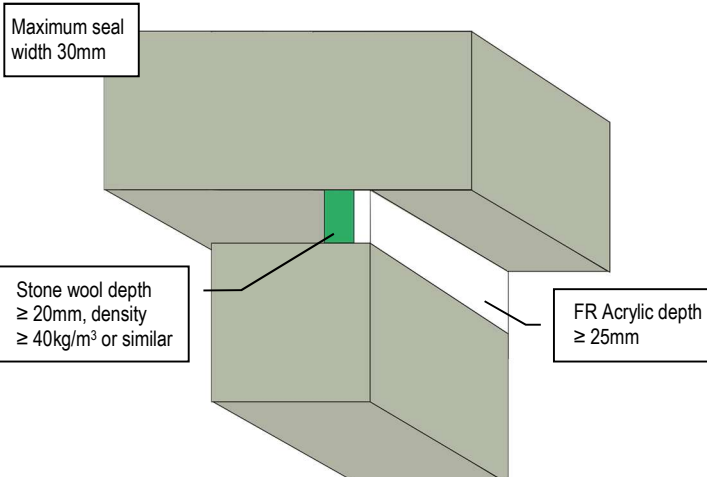
PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 120 C/C (E 120)



22/0735-A.8.3-4

HORIZONTAL LINEAR SEALS FIRE RESISTANCE EI 60 (E 240)

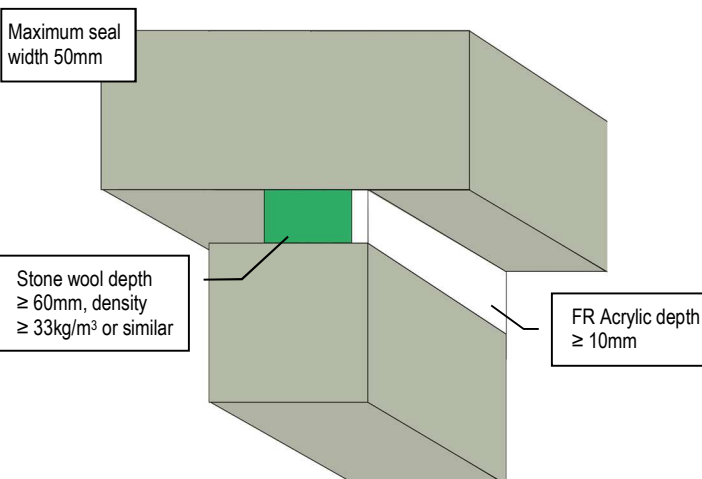
IN ≥ 150MM RIGID WALLS OR BETWEEN WALLS AND FLOORS



23/0257-A.3.1-1

HORIZONTAL LINEAR SEALS FIRE RESISTANCE EI 60 (E 240)

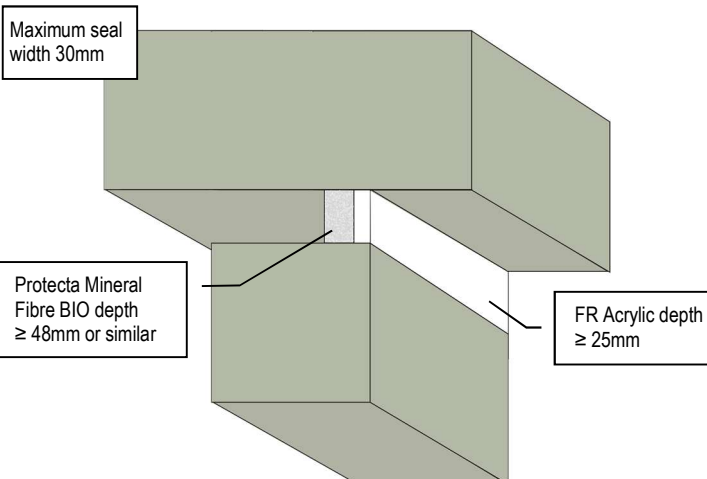
IN ≥ 150MM RIGID WALLS OR BETWEEN WALLS AND FLOORS



23/0257-A.3.1-4

HORIZONTAL LINEAR SEALS FIRE RESISTANCE EI 120 (E 240)

IN ≥ 150MM RIGID WALLS OR BETWEEN WALLS AND FLOORS



23/0257-A.3.1-6

HORIZONTAL & VERTICAL SEALS FIRE RESISTANCE EI 240

IN ≥ 150MM RIGID WALLS TOWARDS WALLS AND FLOORS

Maximum seal width 30mm

Stone wool depth ≥ 20mm, density ≥ 40kg/m³ or similar on both sides

FR Acrylic depth ≥ 15mm on both sides

23/0257-A.3.1-2

VERTICAL LINEAR SEALS FIRE RESISTANCE EI 120 (E 120)

IN ≥ 150MM RIGID WALLS OR BETWEEN WALLS

Maximum seal width 50mm

Stone wool depth ≥ 60mm, density ≥ 33kg/m³ or similar

FR Acrylic depth ≥ 10mm

23/0257-A.3.1-5

CABLE FIRE RESISTANCE EI 60 (E 240)

≥ 150MM RIGID WALLS

Maximum aperture 300x300mm

FR Acrylic depth ≥ 25mm

Cable ≤ Ø21mm

Protecta Mineral Fibre BIO depth ≥ 48mm or similar

22/0735-A.1.1-2

CABLE FIRE RESISTANCE EI 90 (E 240)

≥ 150MM RIGID WALLS

Maximum aperture Ø87mm

FR Acrylic depth ≥ 25mm

Cable ≤ Ø21mm

Protecta Mineral Fibre BIO depth ≥ 48mm or similar

22/0735-A.1.1-1

CABLE FIRE RESISTANCE EI 120 (E 240)

≥ 150MM RIGID WALLS

Maximum aperture 35x35mm or Ø36mm

FR Acrylic depth ≥ 25mm

Cable ≤ Ø21mm

Protecta Mineral Fibre BIO depth ≥ 48mm or similar

22/0735-A.1.1-3

CABLES FIRE RESISTANCE EI 120 (E 240)

≥ 150MM RIGID WALLS

Maximum aperture 300x300mm

FR Acrylic depth ≥ 15mm on both sides

Cables ≤ Ø21mm single or in a bundle ≤ Ø100mm

Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides

22/0735-A.1.2-1

CABLES FIRE RESISTANCE EI 240 (E 240)

≥ 150MM RIGID WALLS

Maximum aperture
300x300mm

Cables ≤ Ø21mm
single or in a bundle
≤ Ø100mm

FR Acrylic depth
≥ 25mm on both sides

Protecta Mineral Fibre BIO
depth ≥ 48mm or similar

22/0735-A.1.2-4

CABLES FIRE RESISTANCE EI 60 (E 120)

≥ 150MM RIGID WALLS

Maximum aperture
300x300mm

Cables ≤ Ø80mm
single or in a bundle
≤ Ø100mm

FR Acrylic depth
≥ 15mm on both sides

Stone wool depth ≥ 25mm,
density ≥ 35kg/m³ or similar
on both sides

22/0735-A.1.2-2

CABLES FIRE RESISTANCE EI 60 (E 240)

≥ 150MM RIGID WALLS

Maximum aperture
300x300mm

Cables ≤ Ø80mm
single or in a bundle
≤ Ø100mm

FR Acrylic depth
≥ 25mm on both sides

Protecta Mineral Fibre BIO
depth ≥ 48mm or similar

22/0735-A.1.2-3

STEEL PIPE FIRE RESISTANCE EI 20 C/U (E 240)

≥ 150MM RIGID WALLS

Maximum aperture
300x300mm

Steel pipe
≤ Ø65mm

Stone wool depth ≥ 25mm,
density ≥ 35kg/m³
or similar on both sides

FR Acrylic depth
≥ 25mm on both sides

22/0735-A.1.8-1

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

≥ 150MM RIGID WALLS

Maximum aperture
300x300mm or Ø504mm

20mm continuous
pipe insulation of
stone wool
≥ 80kg/m³

Steel pipe
≤ Ø40mm

Protecta Mineral
Fibre BIO depth
≥ 48mm or similar

FR Acrylic
depth ≥ 25mm

22/0735-A.1.5-1

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

≥ 150MM RIGID WALLS

Maximum aperture
300x300mm or Ø504mm

30-80mm
continuous pipe
insulation of stone
wool ≥ 80kg/m³

Steel pipe
≤ Ø324mm

Protecta Mineral
Fibre BIO depth
≥ 48mm or similar

FR Acrylic
depth ≥ 25mm

22/0735-A.1.5-2

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

≥ 150MM RIGID WALLS

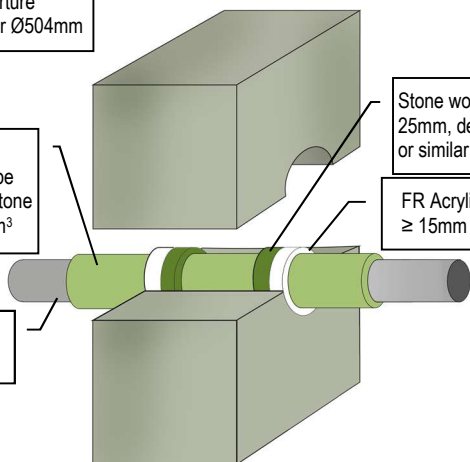
Maximum aperture
300x300mm or Ø504mm

30-80mm
continuous pipe
insulation of stone
wool ≥ 80kg/m³

Stone wool depth ≥
25mm, density ≥ 35kg/m³
or similar on both sides

FR Acrylic depth
≥ 15mm on both sides

Steel pipe
≤ Ø324mm



22/0735-A.1.7-2

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

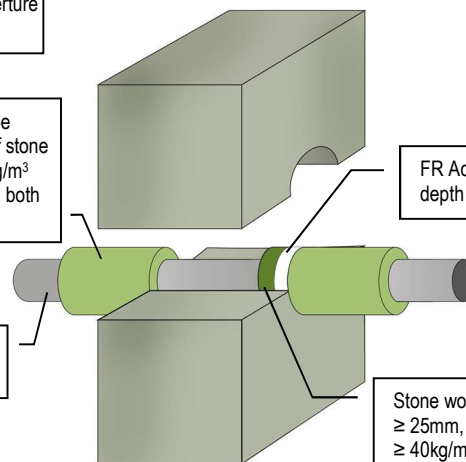
≥ 150MM RIGID WALLS

Maximum aperture
300x300mm

≥ 20mm pipe
insulation of stone
wool ≥ 80kg/m³
≥ 100cm on both
sides

FR Acrylic
depth ≥ 25mm

Steel pipe
≤ Ø40mm



Stone wool depth
≥ 25mm, density
≥ 40kg/m³ or similar

22/0735-A.1.4-3

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

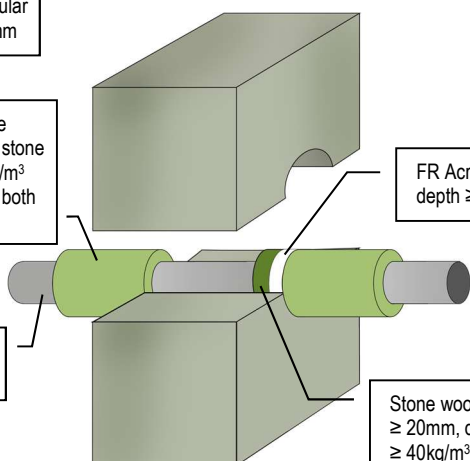
≥ 150MM RIGID WALLS

Maximum annular
ring width 18mm

≥ 20mm pipe
insulation of stone
wool ≥ 80kg/m³
≥ 100cm on both
sides

FR Acrylic
depth ≥ 15mm

Steel pipe
≤ Ø40mm



Stone wool depth
≥ 20mm, density
≥ 40kg/m³ or similar

22/0735-A.1.3-4

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

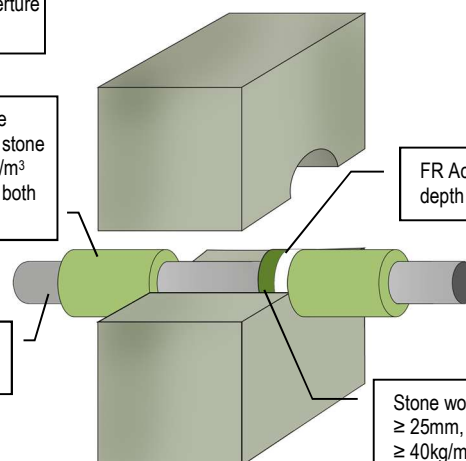
≥ 150MM RIGID WALLS

Maximum aperture
300x300mm

≥ 30mm pipe
insulation of stone
wool ≥ 80kg/m³
≥ 100cm on both
sides

FR Acrylic
depth ≥ 25mm

Steel pipe
≤ Ø219mm



Stone wool depth
≥ 25mm, density
≥ 40kg/m³ or similar

22/0735-A.1.4-4

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

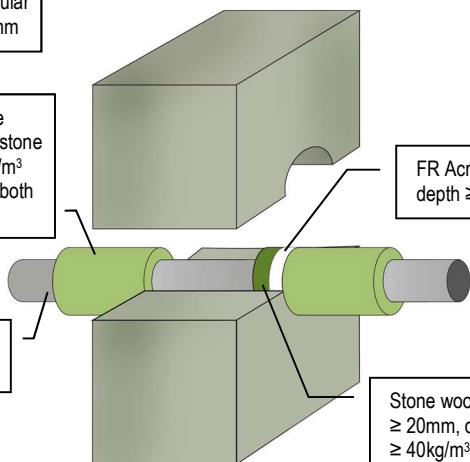
≥ 150MM RIGID WALLS

Maximum annular
ring width 18mm

≥ 30mm pipe
insulation of stone
wool ≥ 80kg/m³
≥ 100cm on both
sides

FR Acrylic
depth ≥ 15mm

Steel pipe
≤ Ø219mm



Stone wool depth
≥ 20mm, density
≥ 40kg/m³ or similar

22/0735-A.1.3-5

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

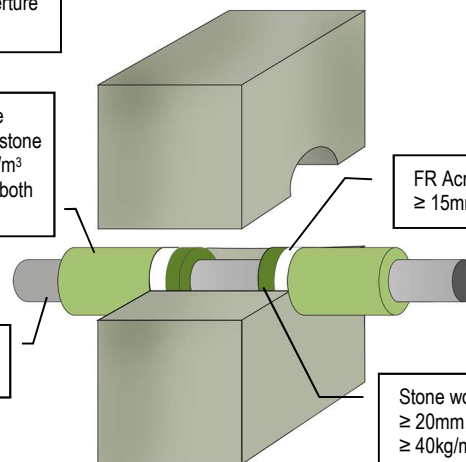
≥ 150MM RIGID WALLS

Maximum aperture
300x300mm

≥ 30mm pipe
insulation of stone
wool ≥ 80kg/m³
≥ 100cm on both
sides

FR Acrylic depth
≥ 15mm on both sides

Steel pipe
≤ Ø219mm



Stone wool depth
≥ 20mm, density
≥ 40kg/m³ or similar
on both sides

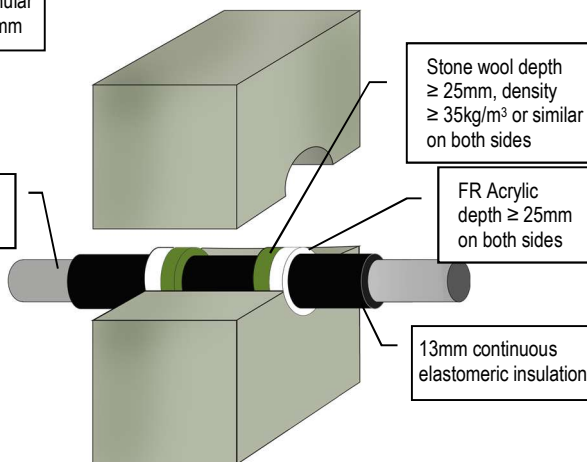
22/0735-A.1.6-2

STEEL PIPE FIRE RESISTANCE EI 180 C/U (E 240)

≥ 150MM RIGID WALLS

Maximum annular ring width 30mm

Steel pipe ≤ Ø22mm



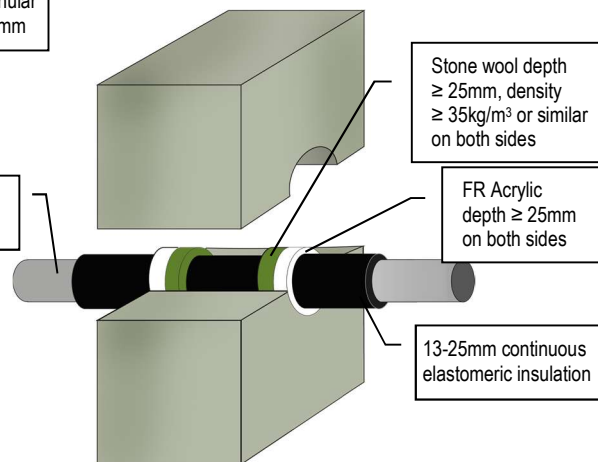
22/0735-A.1.8-2

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

≥ 150MM RIGID WALLS

Maximum annular ring width 30mm

Steel pipe ≤ Ø114mm



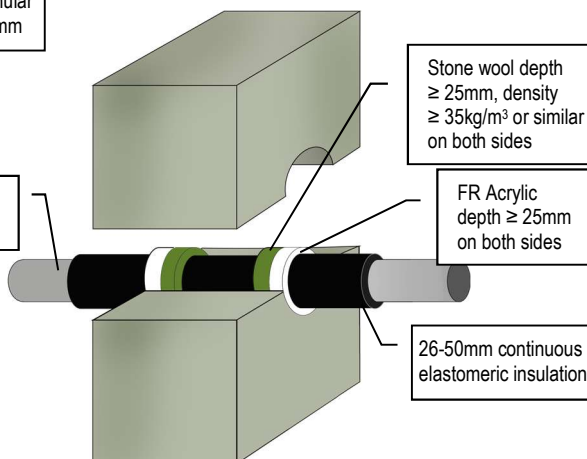
22/0735-A.1.8-3

STEEL PIPE FIRE RESISTANCE EI 60 C/U (E 60)

≥ 150MM RIGID WALLS

Maximum annular ring width 30mm

Steel pipe ≤ Ø114mm



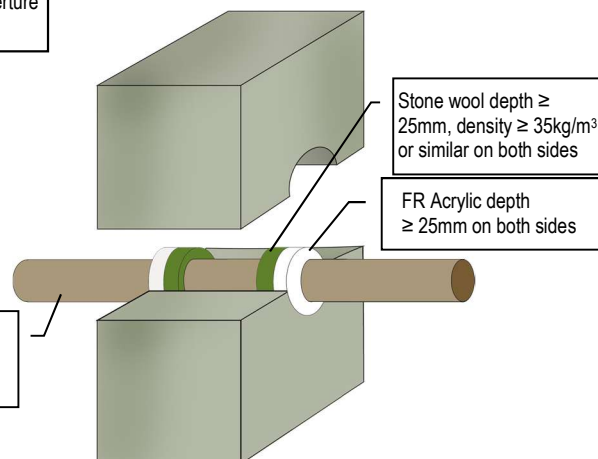
22/0735-A.1.8-4

COPPER OR STEEL PIPE FIRE RESISTANCE EI 120 C/C (E 240)

≥ 150MM RIGID WALLS

Maximum aperture 300x300mm

Copper or steel pipe ≤ Ø12mm



22/0735-A.1.8-5

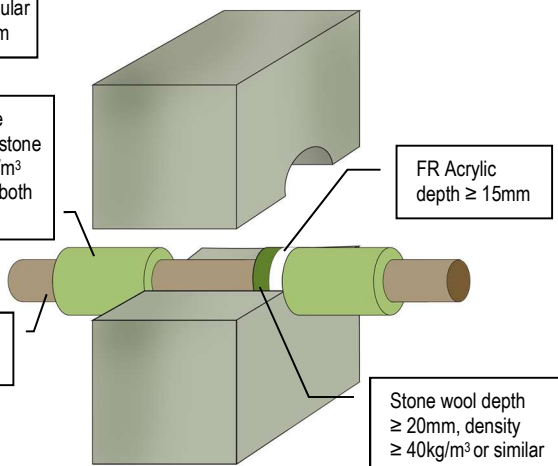
COPPER PIPE FIRE RESISTANCE EI 240 C/U (E 240)

≥ 150MM RIGID WALLS

Maximum annular ring width 8mm

≥ 20mm pipe insulation of stone wool ≥ 80kg/m³ ≥ 100cm on both sides

Copper pipe ≤ Ø12mm



22/0735-A.1.3-2

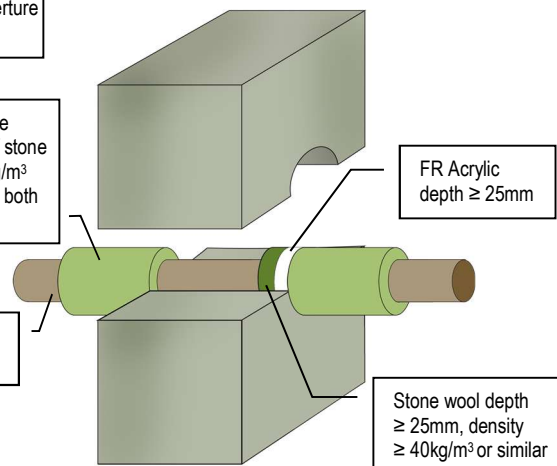
COPPER PIPE FIRE RESISTANCE EI 60 C/U (E 240)

≥ 150MM RIGID WALLS

Maximum aperture 300x300mm

≥ 20mm pipe insulation of stone wool ≥ 80kg/m³ ≥ 100cm on both sides

Copper pipe ≤ Ø54mm



22/0735-A.1.4-1

COPPER OR STEEL PIPE FIRE RESISTANCE EI 180 C/U (E 240)

≥ 150MM RIGID WALLS

Maximum annular ring width 9mm

≥ 20mm pipe insulation of stone wool ≥ 80kg/m³
≥ 100cm on both sides

FR Acrylic depth ≥ 15mm

Copper or steel pipe ≤ Ø54mm

Stone wool depth ≥ 20mm, density ≥ 40kg/m³ or similar

22/0735-A.1.3-1

ALUPEX PIPE FIRE RESISTANCE EI 60 C/U (E 240)

≥ 150MM RIGID WALLS

Maximum aperture 300x300mm

≥ 25mm Protecta Mineral Fibre BIO
≥ 60cm on both sides

FR Acrylic depth ≥ 25mm

Alupex pipe ≤ Ø75mm

Stone wool depth ≥ 25mm, density ≥ 40kg/m³ or similar

22/0735-A.1.4-2

ALUPEX PIPE FIRE RESISTANCE EI 120 C/U (E 120)

≥ 150MM RIGID WALLS

Maximum annular ring width 30mm

≥ 25mm Protecta Mineral Fibre BIO
≥ 60cm on both sides

FR Acrylic depth ≥ 15mm

Alupex pipe ≤ Ø75mm

Stone wool depth ≥ 20mm, density ≥ 40kg/m³ or similar

22/0735-A.1.3-3

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

≥ 150MM RIGID WALLS

Maximum annular ring width 30mm

PVC-U & PVC-C pipe ≤ Ø32mm with wall thickness 1.0-2.4mm

Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides

FR Acrylic depth ≥ 25mm on both sides

22/0735-A.1.9-1

PE PLASTIC PIPE FIRE RESISTANCE EI 120 C/U (E 120)

≥ 150MM RIGID WALLS

Maximum annular ring width 30mm

PE, ABS & SAN+PVC pipe ≤ Ø32mm with wall thickness 2.0-4.4mm

Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides

FR Acrylic depth ≥ 25mm on both sides

22/0735-A.1.9-9

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

≥ 150MM RIGID WALLS

Maximum annular ring width 30mm

PE, ABS & SAN+PVC pipe ≤ Ø32mm with wall thickness 2.0mm

Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides

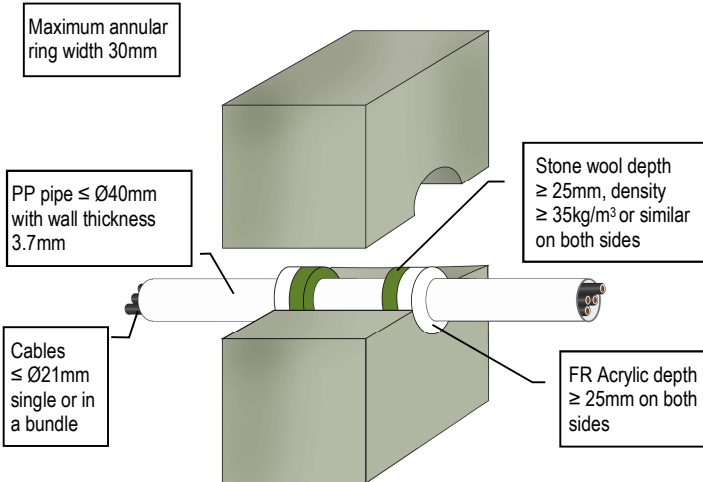
FR Acrylic depth ≥ 25mm on both sides

22/0735-A.1.9-8

PP PLASTIC PIPE FIRE RESISTANCE EI 240 C/U (E 240) ≥ 150MM RIGID WALLS Maximum annular ring width 30mm PP pipe ≤ Ø32mm with wall thickness 1.8-4.4mm Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides FR Acrylic depth ≥ 25mm on both sides 22/0735-A.1.9-5	PVC CONDUIT FIRE RESISTANCE EI 120 U/C (E 240) ≥ 150MM RIGID WALLS Maximum annular ring width 30mm PVC-U & PVC-C pipe ≤ Ø32mm with wall thickness 1.0-2.4mm Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides Cables ≤ Ø21mm single or in a bundle FR Acrylic depth ≥ 25mm on both sides 22/0735-A.1.9-2
PVC CONDUIT FIRE RESISTANCE EI 120 U/C (E 240) ≥ 150MM RIGID WALLS Maximum annular ring width 30mm PVC-U & PVC-C pipe ≤ Ø40mm with wall thickness 3.0mm Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides Cables ≤ Ø21mm single or in a bundle FR Acrylic depth ≥ 25mm on both sides 22/0735-A.1.9-3	PE CONDUIT FIRE RESISTANCE EI 120 U/C (E 120) ≥ 150MM RIGID WALLS Maximum annular ring width 30mm PE pipe ≤ Ø32mm with wall thickness 2.0-4.4mm Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides Cables ≤ Ø21mm single or in a bundle FR Acrylic depth ≥ 25mm on both sides 22/0735-A.1.9-10
PE CONDUIT FIRE RESISTANCE EI 240 U/C (E 240) ≥ 150MM RIGID WALLS Maximum annular ring width 30mm PE pipe ≤ Ø40mm with wall thickness 3.7mm Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides Cables ≤ Ø21mm single or in a bundle FR Acrylic depth ≥ 25mm on both sides 22/0735-A.1.9-11	PP CONDUIT FIRE RESISTANCE EI 120 U/C (E 180) ≥ 150MM RIGID WALLS Maximum annular ring width 30mm PP pipe ≤ Ø32mm with wall thickness 1.8-4.4mm Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides Cables ≤ Ø21mm single or in a bundle FR Acrylic depth ≥ 25mm on both sides 22/0735-A.1.9-6

PP CONDUIT FIRE RESISTANCE EI 120 U/C (E 180)

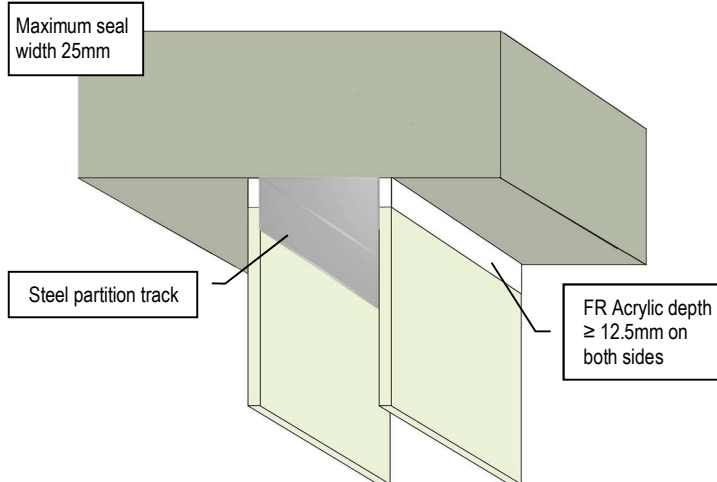
≥ 150MM RIGID WALLS



22/0735-A.1.9-7

HORIZONTAL LINEAR SEALS FIRE RESISTANCE EI 45 (E 60)

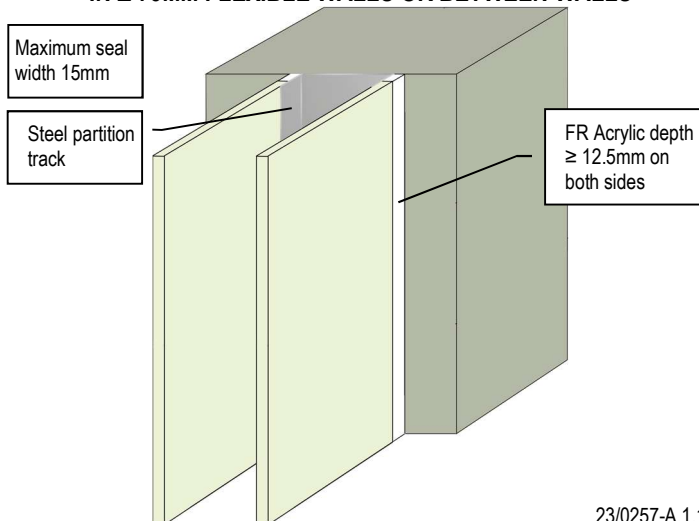
BETWEEN ≥ 75MM FLEXIBLE WALLS AND FLOORS



23/0257-A.1.1-1

VERTICAL LINEAR SEALS FIRE RESISTANCE EI 45 (E 60)

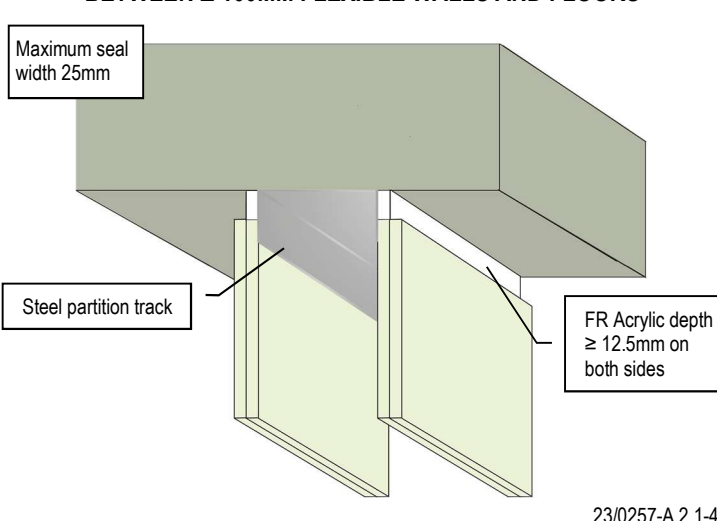
IN ≥ 75MM FLEXIBLE WALLS OR BETWEEN WALLS



23/0257-A.1.1-2

HORIZONTAL LINEAR SEALS FIRE RESISTANCE EI 90 (E 90)

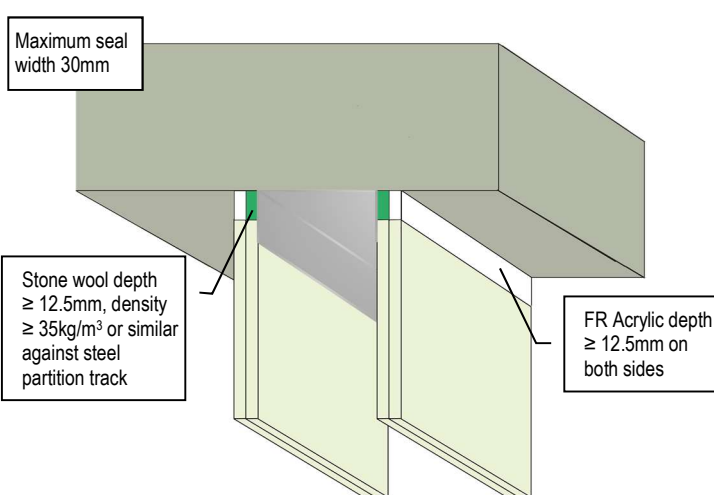
BETWEEN ≥ 100MM FLEXIBLE WALLS AND FLOORS



23/0257-A.2.1-4

HORIZONTAL LINEAR SEALS FIRE RESISTANCE EI 120 (E 120)

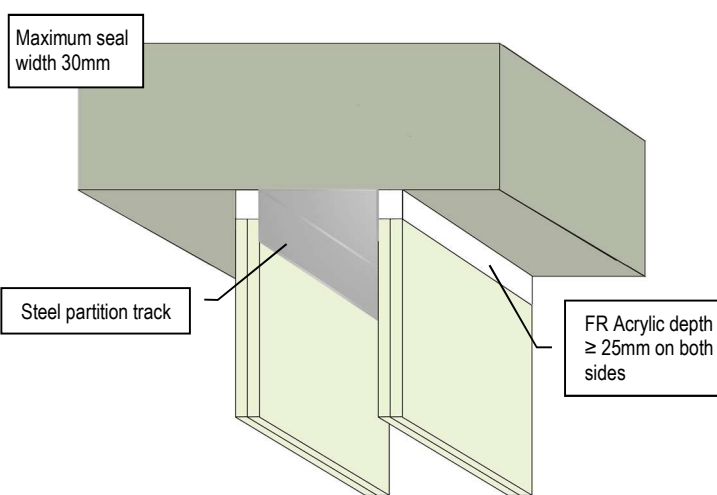
BETWEEN ≥ 100MM FLEXIBLE WALLS AND FLOORS



23/0257-A.2.1-1

HORIZONTAL LINEAR SEALS FIRE RESISTANCE EI 120 (E 120)

BETWEEN ≥ 100MM FLEXIBLE WALLS AND FLOORS



23/0257-A.2.1-3

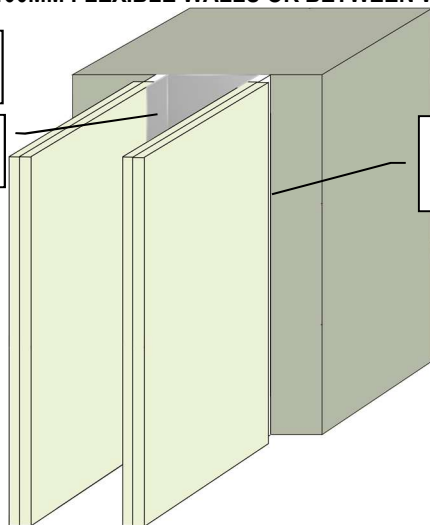
VERTICAL LINEAR SEALS FIRE RESISTANCE EI 90 (E 90)

IN ≥ 100MM FLEXIBLE WALLS OR BETWEEN WALLS

Maximum seal width 15mm

Steel partition track

FR Acrylic depth ≥ 12.5mm on both sides



23/0257-A.2.1-5

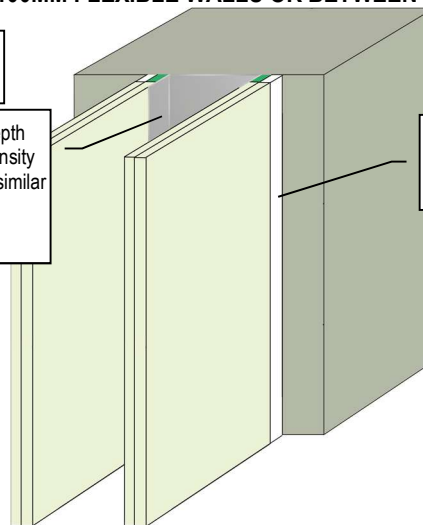
VERTICAL LINEAR SEALS FIRE RESISTANCE EI 90 (E 90)

IN ≥ 100MM FLEXIBLE WALLS OR BETWEEN WALLS

Maximum seal width 15mm

Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar against steel partition track

FR Acrylic depth ≥ 12.5mm on both sides



23/0257-A.2.1-6

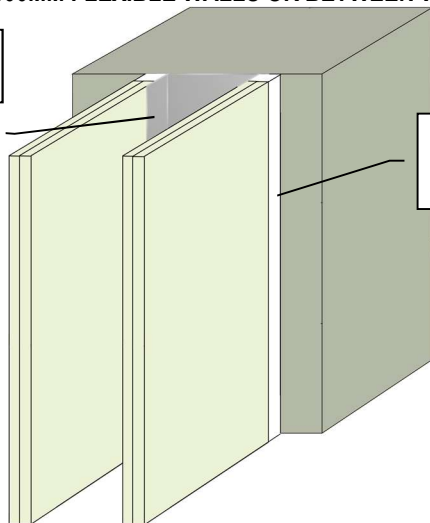
VERTICAL LINEAR SEALS FIRE RESISTANCE EI 90 (E 90)

IN ≥ 100MM FLEXIBLE WALLS OR BETWEEN WALLS

Maximum seal width 15mm

Steel partition track

FR Acrylic depth ≥ 25mm on both sides



23/0257-A.2.1-7

HORIZONTAL & VERTICAL SEALS FIRE RESISTANCE EI 30 (E 120)

IN ≥ 100MM FLEXIBLE OR RIGID WALLS

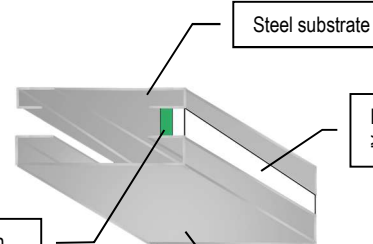
Maximum seal width 30mm

Steel substrate

FR Acrylic depth ≥ 12.5mm

Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar

Steel substrate



23/0257-A.2.4-1

HORIZONTAL & VERTICAL SEALS FIRE RESISTANCE EI 30 (E 120)

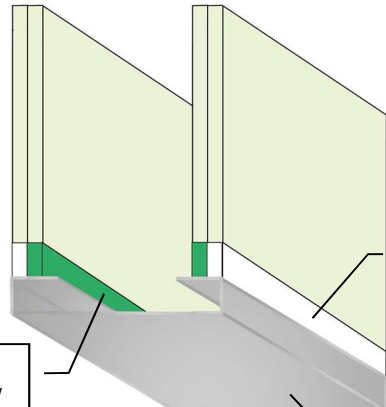
IN ≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum seal width 30mm

FR Acrylic depth ≥ 12.5mm on both sides

Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar on both sides

Steel substrate



23/0257-A.2.5-1

HORIZONTAL & VERTICAL SEALS FIRE RESISTANCE EI 60 (E 120)

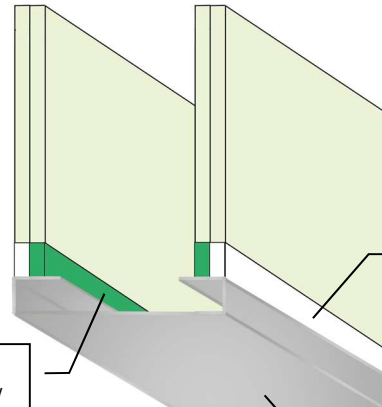
IN ≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum seal width 30mm

Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar on both sides

FR Acrylic depth ≥ 12.5mm on both sides

Steel frame classified to EI 60 or higher



23/0257-A.2.5-3

HORIZONTAL & VERTICAL SEALS FIRE RESISTANCE EI 60 (E 60)

IN ≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum seal width 30mm

FR Acrylic depth ≥ 12.5mm

Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar

≥ 12mm thick architrave fixed with ≥ 25mm steel pins, nails or screws at nominal 300mm centres

Timber frame

23/0257-A.2.2-1

HORIZONTAL & VERTICAL SEALS FIRE RESISTANCE EI 60 (E 90)

IN ≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum seal width 30mm

FR Acrylic depth ≥ 12.5mm on both sides

Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar on both sides

Timber frame

23/0257-A.2.3-1

CABLE FIRE RESISTANCE EI 45 (E 60)

≥ 75MM FLEXIBLE OR RIGID WALLS

Maximum aperture 150x150mm

Cable ≤ Ø21mm

FR Acrylic depth ≥ 12.5mm on both sides

22/0735-A.2.1-2

CABLES FIRE RESISTANCE EI 30 (E 45)

≥ 75MM FLEXIBLE OR RIGID WALLS

Maximum aperture 150x150mm

Cables ≤ Ø21mm in a bundle ≤ Ø100mm

FR Acrylic depth ≥ 12.5mm on both sides

22/0735-A.2.1-3

CABLES FIRE RESISTANCE EI 90 (E 120)

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture 300x300mm

Cables ≤ Ø21mm single or in a bundle ≤ Ø50mm

Stone wool depth ≥ 12.5mm, density ≥ 33kg/m³ or similar on both sides

FR Acrylic depth ≥ 12.5mm on both sides

22/0735-A.3.1-2

CABLES FIRE RESISTANCE EI 120 (E 120)

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture 300x300mm

Cables ≤ Ø21mm single or in a bundle ≤ Ø100mm

Stone wool depth ≥ 20mm, density ≥ 40kg/m³ or similar on both sides

FR Acrylic depth ≥ 25mm on both sides

22/0735-A.3.1-3

CABLES FIRE RESISTANCE EI 60 (E 120)

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture
300x300mm

Cables ≤ Ø80mm
single or in a bundle
≤ Ø100mm

Protecta Mineral
Fibre BIO depth
≥ 25mm or similar
on both sides

FR Acrylic depth
≥ 25mm on both
sides

22/0735-A.3.1-4

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

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture
600x600mm

Cables ≤ Ø21mm
single and bundled,
with cable trays

FR Acrylic depth
≥ 12.5mm on
both sides

Protecta Mineral
Fibre BIO depth
≥ 25mm or similar
on both sides

22/0735-A.3.1-6

CABLES AND CABLE TRAYS FIRE RESISTANCE EI 30 (E 60)

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture
600x600mm

Cables ≤ Ø80mm and
conduits ≤ Ø32mm,
single and bundled,
with or without trays

FR Acrylic depth
≥ 12.5mm on
both sides

Protecta Mineral
Fibre BIO depth
≥ 25mm or similar
on both sides

22/0735-A.3.1-7

UNISTRUT CHANNEL FIRE RESISTANCE EI 60 (E 120)

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture
300x300mm

FR Acrylic depth
≥ 12.5mm on
both sides

Galvanised
steel Unistrut
channel
≤ 41 x 41mm

Stone wool depth
≥ 12.5mm, density
≥ 33kg/m³ or
similar on both
sides

22/0735-A.3.1-9

STEEL PIPE FIRE RESISTANCE EI 30 C/U (E 60)

≥ 75MM FLEXIBLE OR RIGID WALLS

Maximum aperture
150x150mm

FR Acrylic depth
≥ 12.5mm on
both sides

Steel pipe
≤ Ø22mm

22/0735-A.2.1-5

STEEL PIPE FIRE RESISTANCE EI 90 C/C (E 90)

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture
300x300mm

FR Acrylic depth
≥ 12.5mm on
both sides

Steel pipe
≤ Ø30mm

Stone wool depth
≥ 12.5mm, density
≥ 35kg/m³ or
similar on both
sides

22/0735-A.3.4-15

STEEL PIPE FIRE RESISTANCE EI 120 C/C (E 120)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture
300x300mm

FR Acrylic depth
≥ 25mm on both
sides

Steel pipe
Ø22-30mm

Stone wool depth
≥ 25mm, density
≥ 35kg/m³ or
similar on both
sides

22/0735-A.3.3-1

STEEL PIPE FIRE RESISTANCE E 120 C/U
≥ 120MM FLEXIBLE OR RIGID WALLS

Maximum aperture
300x300mm or Ø344mm

FR Acrylic depth
≥ 15mm on both
sides

Steel pipe
≤ Ø324mm

Stone wool depth
≥ 15mm, density
≥ 35kg/m³ or
similar on both
sides

22/0735-A.4.1-1

STEEL PIPE FIRE RESISTANCE EI 120 C/U (E 120)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture
300x300mm or
Ø504mm

FR Acrylic depth
≥ 12.5mm on
both sides

Pipe must be coated
300mm each side with
≥ 2140µ WFT Protecta
Service Coat FR-1

Steel pipe
≤ Ø22mm

Stone wool depth
≥ 12.5mm, density
≥ 33kg/m³ or
similar on both
sides

22/0735-A.3.2-1

STEEL PIPE FIRE RESISTANCE EI 90 C/U (E 120)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture
300x300mm or
Ø504mm

FR Acrylic depth
≥ 12.5mm on
both sides

Pipe must be coated
300mm each side with
≥ 2140µ WFT Protecta
Service Coat FR-1

Steel pipe
≤ Ø65mm

Stone wool depth
≥ 12.5mm, density
≥ 33kg/m³ or
similar on both
sides

22/0735-A.3.2-2

STEEL PIPE FIRE RESISTANCE EI 45 C/U (E 120)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture
300x300mm or
Ø504mm

FR Acrylic depth
≥ 12.5mm on
both sides

Pipe must be coated
300mm each side with
≥ 2140µ WFT Protecta
Service Coat FR-1

Steel pipe
≤ Ø114mm

Stone wool depth
≥ 12.5mm, density
≥ 33kg/m³ or
similar on both
sides

22/0735-A.3.2-3

INSULATED STEEL PIPE FIRE RESISTANCE EI 45 C/U (E 60)
≥ 75MM FLEXIBLE OR RIGID WALLS

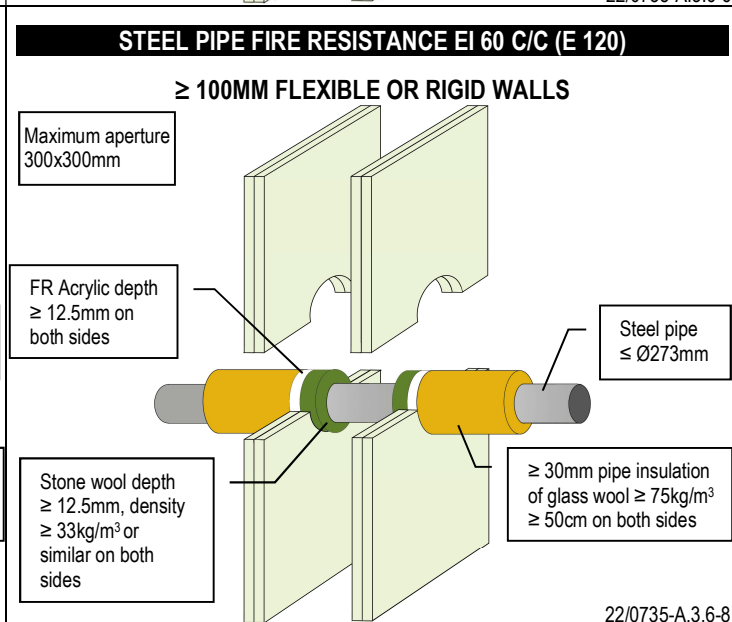
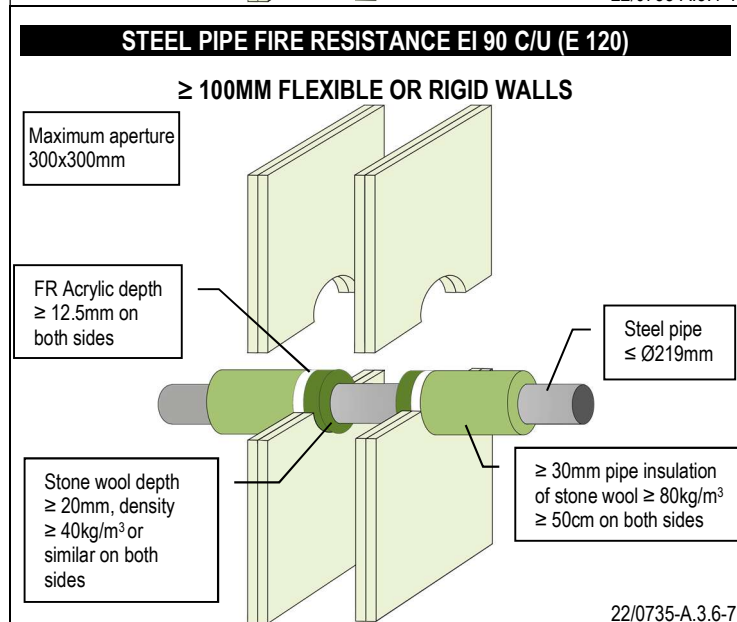
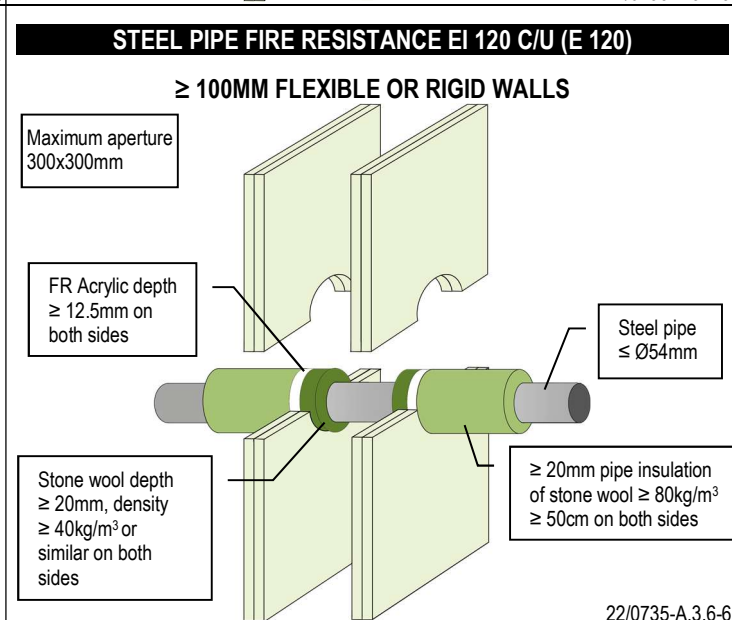
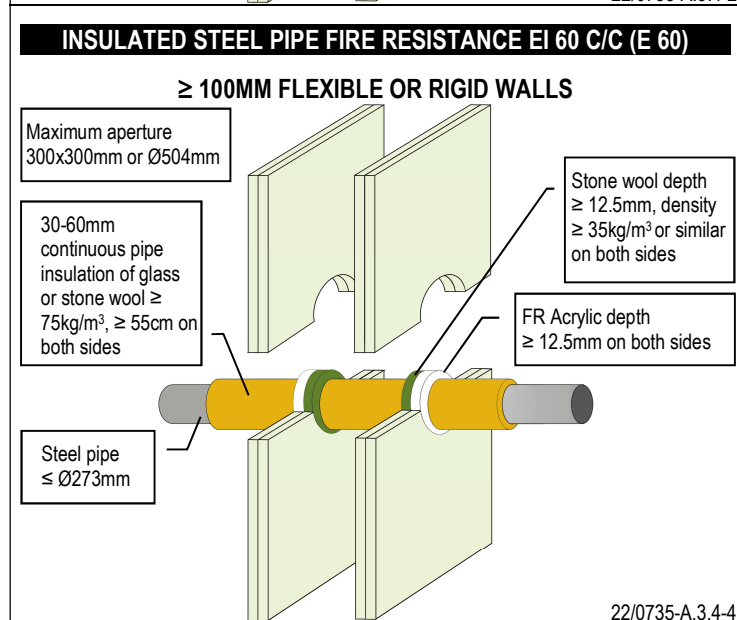
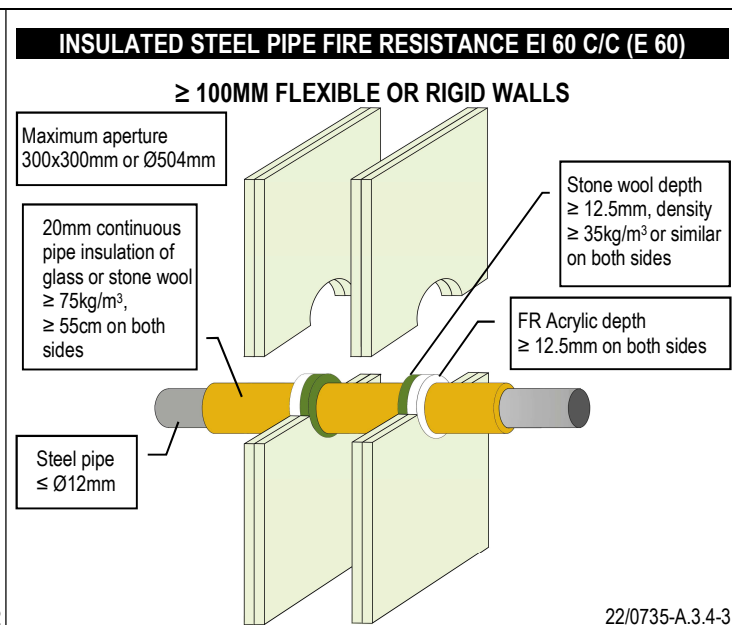
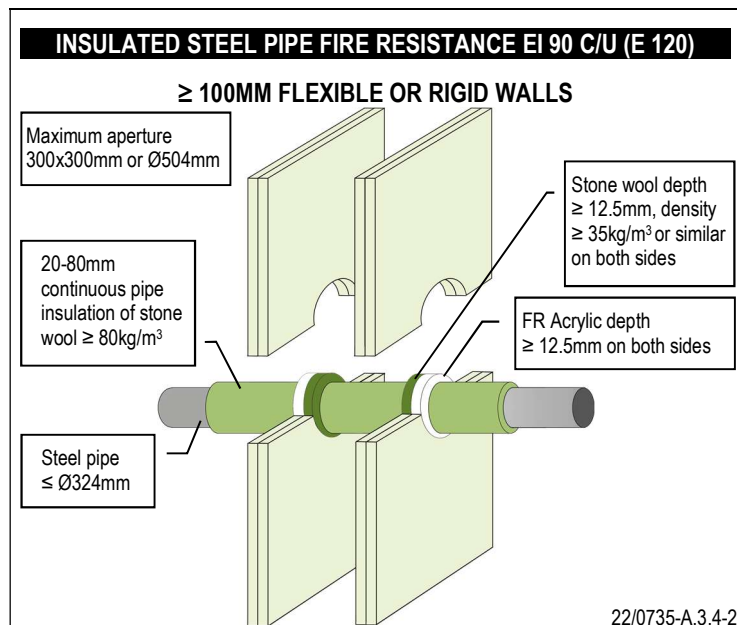
Maximum aperture
150x150mm or Ø344mm

20-30mm
continuous pipe
insulation of stone
wool ≥ 80kg/m³

FR Acrylic depth
≥ 12.5mm on both sides

Steel pipe
≤ Ø324mm

22/0735-A.2.1-6



STEEL PIPE FIRE RESISTANCE EI 120 C/C (E 120)

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 12.5mm on both sides

Steel pipe ≤ Ø40mm

Stone wool depth ≥ 20mm, density ≥ 40kg/m³ or similar on both sides

13 – 19mm continuous elastomeric insulation

22/0735-A.3.3-4

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

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 12.5mm on both sides

Steel pipe ≤ Ø165mm

Stone wool depth ≥ 12.5mm, density ≥ 33kg/m³ or similar on both sides

9mm continuous elastomeric insulation

22/0735-A.3.3-2

STEEL PIPE FIRE RESISTANCE EI 60 C/U (E 60)

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 12.5mm on both sides

Steel pipe ≤ Ø165mm

Stone wool depth ≥ 12.5mm, density ≥ 33kg/m³ or similar on both sides

13 – 25mm continuous elastomeric insulation

22/0735-A.3.3-3

STEEL PIPE FIRE RESISTANCE EI 60 C/C (E 120)

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Steel pipe ≤ Ø165mm

Protecta Mineral Fibre BIO depth ≥ 25mm or similar on both sides

13 – 19mm continuous elastomeric insulation

22/0735-A.3.3-5

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

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Steel pipe ≤ Ø16mm

15mm continuous phenolic insulation

22/0735-A.3.3-20

STEEL PIPE FIRE RESISTANCE EI 60 C/U (E 90)

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Steel pipe ≤ Ø273mm

25mm continuous phenolic insulation

22/0735-A.3.3-21

STEEL PIPE FIRE RESISTANCE EI 60 C/U (E 60)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Steel pipe ≤ Ø273mm

26 – 100mm continuous phenolic insulation

22/0735-A.3.3-22

GAS PIPE FIRE RESISTANCE EI 90 C/C (E 120)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture 300x300mm

FR Acrylic depth ≥ 12.5mm on both sides

Flexible double sleeve steel gas pipe ≤ Ø26mm

Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar on both sides

22/0735-A.3.4-9

GAS PIPE FIRE RESISTANCE EI 60 C/C (E 120)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture 300x300mm

FR Acrylic depth ≥ 12.5mm on both sides

Flexible double sleeve steel gas pipe ≤ Ø73mm

Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar on both sides

22/0735-A.3.4-10

COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 90)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture 300x300mm

FR Acrylic depth ≥ 12.5mm on both sides

Copper pipe ≤ Ø12mm

Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar on both sides

22/0735-A.3.4-17

COPPER PIPE FIRE RESISTANCE EI 30 C/C (E 90)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture 300x300mm

FR Acrylic depth ≥ 12.5mm on both sides

Copper pipe Ø13-22mm

Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar on both sides

22/0735-A.3.4-18

COPPER PIPE FIRE RESISTANCE E 120 C/C
≥ 120MM FLEXIBLE OR RIGID WALLS

Maximum aperture 300x300mm

FR Acrylic depth ≥ 15mm on both sides

Copper pipe ≤ Ø54mm

Stone wool depth ≥ 15mm, density ≥ 35kg/m³ or similar on both sides

22/0735-A.4.1-2

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

≥ 100MM FLEXIBLE OR RIGID WALLS

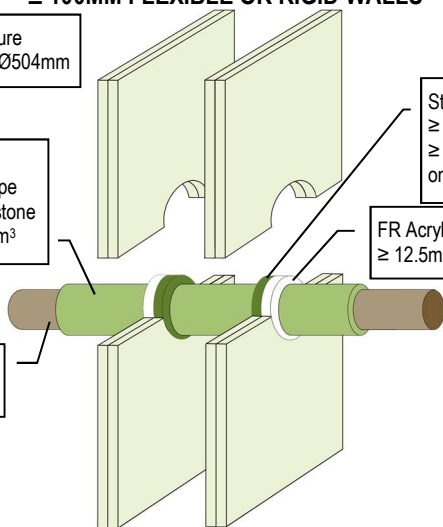
Maximum aperture
300x300mm or Ø504mm

20-80mm
continuous pipe
insulation of stone
wool ≥ 80kg/m³

Stone wool depth
≥ 12.5mm, density
≥ 35kg/m³ or similar
on both sides

FR Acrylic depth
≥ 12.5mm on both sides

Copper pipe
≤ Ø54mm



22/0735-A.3.4-19

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

≥ 100MM FLEXIBLE OR RIGID WALLS

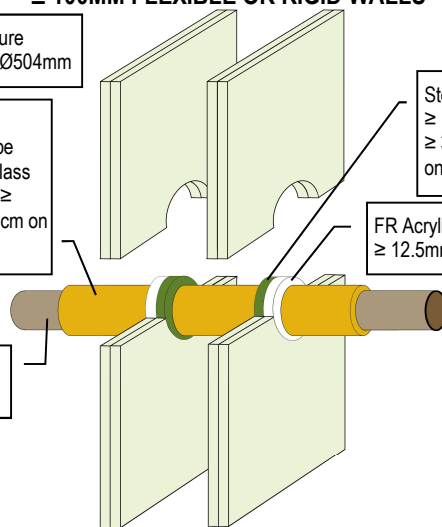
Maximum aperture
300x300mm or Ø504mm

20-60mm
continuous pipe
insulation of glass
or stone wool ≥
75kg/m³, ≥ 55cm on
both sides

Stone wool depth
≥ 12.5mm, density
≥ 35kg/m³ or similar
on both sides

FR Acrylic depth
≥ 12.5mm on both sides

Copper pipe
≤ Ø54mm



22/0735-A.3.4-20

COPPER PIPE FIRE RESISTANCE EI 120 C/U (E 120)

≥ 100MM FLEXIBLE OR RIGID WALLS

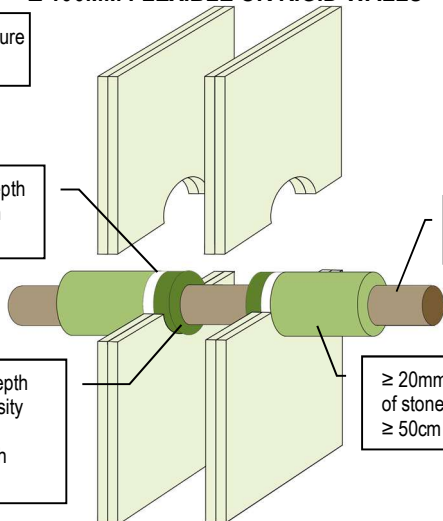
Maximum aperture
300x300mm

FR Acrylic depth
≥ 12.5mm on
both sides

Copper pipe
≤ Ø54mm

Stone wool depth
≥ 20mm, density
≥ 40kg/m³ or
similar on both
sides

≥ 20mm pipe insulation
of stone wool ≥ 80kg/m³
≥ 50cm on both sides



22/0735-A.3.6-1

COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 60)

≥ 100MM FLEXIBLE OR RIGID WALLS

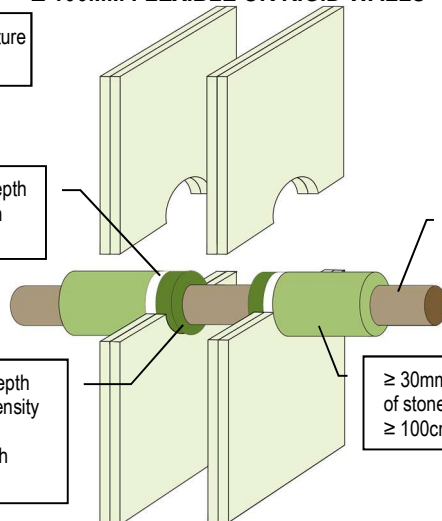
Maximum aperture
300x300mm

FR Acrylic depth
≥ 12.5mm on
both sides

Copper pipe
≤ Ø159mm

Stone wool depth
≥ 12.5mm, density
≥ 33kg/m³ or
similar on both
sides

≥ 30mm pipe insulation
of stone wool ≥ 80kg/m³
≥ 100cm on both sides



22/0735-A.3.6-2

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

≥ 100MM FLEXIBLE OR RIGID WALLS

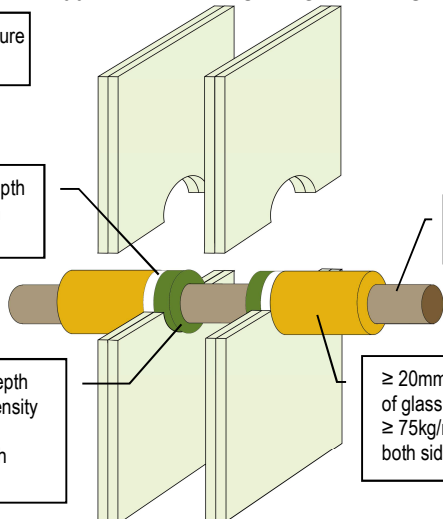
Maximum aperture
300x300mm

FR Acrylic depth
≥ 12.5mm on
both sides

Copper pipe
≤ Ø54mm

Stone wool depth
≥ 12.5mm, density
≥ 33kg/m³ or
similar on both
sides

≥ 20mm pipe insulation
of glass or stone wool
≥ 75kg/m³ ≥ 50cm on
both sides



22/0735-A.3.6-3

COPPER PIPE FIRE RESISTANCE EI 30 C/C (E 120)

≥ 100MM FLEXIBLE OR RIGID WALLS

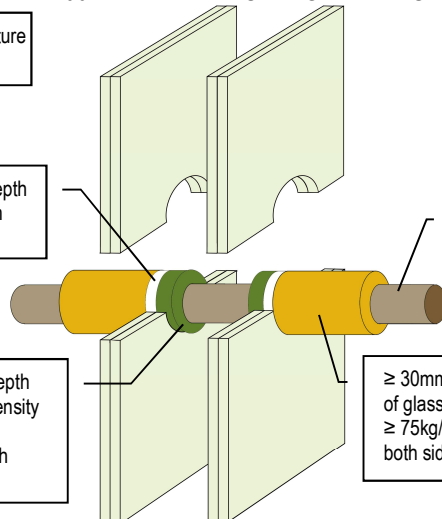
Maximum aperture
300x300mm

FR Acrylic depth
≥ 12.5mm on
both sides

Copper pipe
≤ Ø108mm

Stone wool depth
≥ 12.5mm, density
≥ 33kg/m³ or
similar on both
sides

≥ 30mm pipe insulation
of glass or stone wool
≥ 75kg/m³ ≥ 50cm on
both sides



22/0735-A.3.6-4

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

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Copper pipe ≤ Ø12mm

Protecta Mineral Fibre BIO depth ≥ 25mm or similar on both sides

9mm continuous elastomeric insulation

22/0735-A.3.3-6

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

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Copper pipe ≤ Ø54mm

Protecta Mineral Fibre BIO depth ≥ 25mm or similar on both sides

9 - 18mm continuous elastomeric insulation

22/0735-A.3.3-7

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

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Copper pipe ≤ Ø54mm

Protecta Mineral Fibre BIO depth ≥ 25mm or similar on both sides

19mm continuous elastomeric insulation

22/0735-A.3.3-8

COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 60)

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Copper pipe ≤ Ø54mm

Protecta Mineral Fibre BIO depth ≥ 25mm or similar on both sides

20 - 25mm continuous elastomeric insulation

22/0735-A.3.3-9

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

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Copper pipe ≤ Ø54mm

15mm continuous phenolic insulation

22/0735-A.3.3-10

COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 90)

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Copper pipe ≤ Ø54mm

16 - 30mm continuous phenolic insulation

22/0735-A.3.3-11

COPPER PIPE FIRE RESISTANCE EI 30 C/C (E 45)

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Copper pipe ≤ Ø159mm

15 – 100mm continuous phenolic insulation

22/0735-A.3.3-12

COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 60)

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Protecta Pipe Wraps 1 layer of 50mm wide both sides

Copper pipe ≤ Ø159mm

100mm continuous phenolic insulation

22/0735-A.3.3-13

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

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture 300x300mm

FR Acrylic depth ≥ 12.5mm on both sides

Alupex pipe ≤ Ø20mm

Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar on both sides

22/0735-A.3.4-11

ALUPEX PIPE FIRE RESISTANCE EI 30 C/C (E 120)

≥ 120MM FLEXIBLE OR RIGID WALLS

Maximum aperture 300x300mm

FR Acrylic depth ≥ 15mm on both sides

Alupex pipe ≤ Ø75mm

Stone wool depth ≥ 15mm, density ≥ 35kg/m³ or similar on both sides

22/0735-A.4.1-3

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

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture 300x300mm or Ø504mm

20-50mm continuous pipe insulation of glass or stone wool ≥ 75kg/m³

Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar on both sides

FR Acrylic depth ≥ 12.5mm on both sides

Alupex pipe ≤ Ø75mm

22/0735-A.3.4-12

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

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture 300x300mm or Ø504mm

60mm continuous pipe insulation of glass or stone wool ≥ 75kg/m³

Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar on both sides

FR Acrylic depth ≥ 12.5mm on both sides

Alupex pipe ≤ Ø75mm

22/0735-A.3.4-13

ALUPEX PIPE FIRE RESISTANCE EI 120 C/C (E 120)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum aperture
300x300mm

FR Acrylic depth
≥ 12.5mm on
both sides

Alupex pipe
≤ Ø75mm

Stone wool depth
≥ 12.5mm, density
≥ 33kg/m³ or
similar on both
sides

≥ 20mm pipe insulation
of glass or stone wool
≥ 75kg/m³ ≥ 50cm on
both sides

22/0735-A.3.5-2

ALUPEX PIPE FIRE RESISTANCE EI 90 C/C (E 120)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular
ring width 30mm

FR Acrylic depth
≥ 12.5mm on
both sides

Alupex pipe
≤ Ø16mm

Stone wool depth
≥ 12.5mm, density
≥ 33kg/m³ or similar
on both sides

9mm continuous
elastomeric insulation

22/0735-A.3.3-14

ALUPEX PIPE FIRE RESISTANCE EI 120 C/C (E 120)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular
ring width 30mm

FR Acrylic
depth ≥ 25mm
on both sides

Alupex pipe
≤ Ø16mm

Protecta Mineral
Fibre BIO depth
≥ 25mm or similar
on both sides

9mm continuous
elastomeric insulation

22/0735-A.3.3-18

ALUPEX PIPE FIRE RESISTANCE EI 45 C/C (E 60)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular
ring width 30mm

FR Acrylic depth
≥ 12.5mm on
both sides

Alupex pipe
≤ Ø75mm

Stone wool depth
≥ 12.5mm, density
≥ 33kg/m³ or similar
on both sides

9mm continuous
elastomeric insulation

22/0735-A.3.3-15

ALUPEX PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular
ring width 30mm

FR Acrylic
depth ≥ 25mm
on both sides

Alupex pipe
≤ Ø75mm

Protecta Mineral
Fibre BIO depth
≥ 25mm or similar
on both sides

9mm continuous
elastomeric insulation

22/0735-A.3.3-19

ALUPEX PIPE FIRE RESISTANCE EI 60 C/C (E 90)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular
ring width 30mm

FR Acrylic depth
≥ 12.5mm on
both sides

Alupex pipe
≤ Ø75mm

Stone wool depth
≥ 12.5mm, density
≥ 33kg/m³ or similar
on both sides

13 – 24mm continuous
elastomeric insulation

22/0735-A.3.3-16

ALUPEX PIPE FIRE RESISTANCE EI 90 C/C (E 90)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 12.5mm on both sides

Stone wool depth ≥ 12.5mm, density ≥ 33kg/m³ or similar on both sides

Alupex pipe ≤ Ø75mm

25mm continuous elastomeric insulation

22/0735-A.3.3-17

PVC PLASTIC PIPE FIRE RESISTANCE EI 120 U/C (E 120)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 10mm

FR Acrylic depth ≥ 25mm on both sides

PVC-U & PVC-C pipe ≤ Ø32mm with wall thickness 1.0-2.4mm

22/0735-A.3.7-1

PVC PLASTIC PIPE FIRE RESISTANCE EI 120 C/C (E 120)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

PVC-U & PVC-C pipe ≤ Ø32mm with wall thickness 1.0-1.6mm

22/0735-A.3.7-3

PVC PLASTIC PIPE FIRE RESISTANCE EI 90 U/C (E 120)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

PVC-U & PVC-C pipe ≤ Ø32mm with wall thickness 1.7-2.4mm

22/0735-A.3.7-2

PE PLASTIC PIPE FIRE RESISTANCE EI 30 U/C (E 30)
≥ 75MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 12.5mm on both sides

PE, ABS & SAN+PVC pipe ≤ Ø32mm with wall thickness 2.0-3.0mm

22/0735-A.2.1-12

PE PLASTIC PIPE FIRE RESISTANCE EI 120 U/C (E 120)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

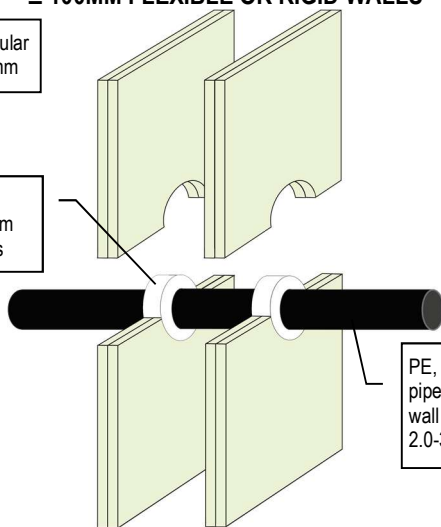
FR Acrylic depth ≥ 25mm on both sides

PE, ABS & SAN+PVC pipe Ø20mm with wall thickness 2.0mm

22/0735-A.3.7-7

PE PLASTIC PIPE FIRE RESISTANCE EI 90 C/C (E 90)
≥ 100MM FLEXIBLE OR RIGID WALLS

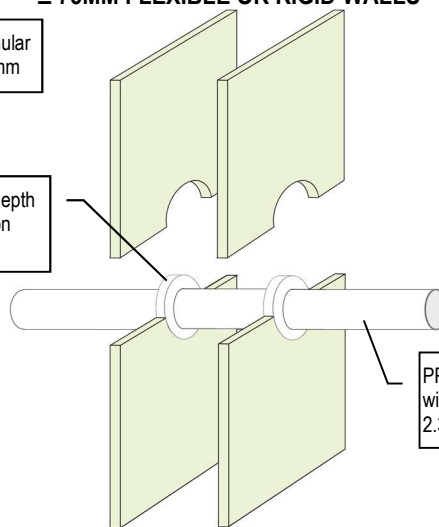
Maximum annular
ring width 30mm

FR Acrylic
depth ≥ 25mm
on both sides

PE, ABS & SAN+PVC
pipe ≤ Ø32mm with
wall thickness
2.0-3.0mm

22/0735-A.3.7-8

PP PLASTIC PIPE FIRE RESISTANCE EI 30 U/C (E 30)
≥ 75MM FLEXIBLE OR RIGID WALLS

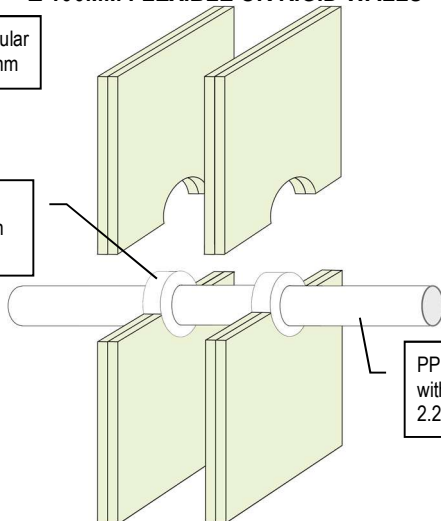
Maximum annular
ring width 30mm

FR Acrylic depth
≥ 12.5mm on
both sides

PP pipe ≤ Ø32mm
with wall thickness
2.3-4.4mm

22/0735-A.2.1-9

PP PLASTIC PIPE FIRE RESISTANCE EI 120 U/C (E 120)
≥ 100MM FLEXIBLE OR RIGID WALLS

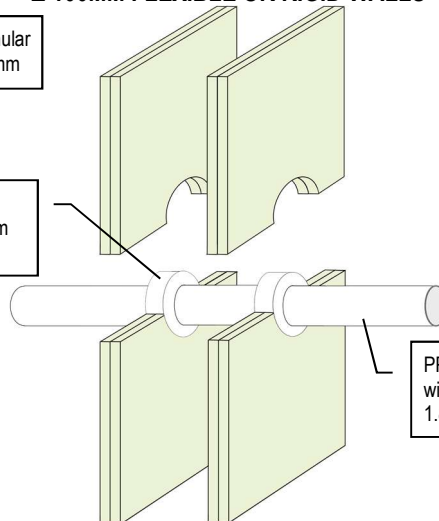
Maximum annular
ring width 30mm

FR Acrylic
depth ≥ 25mm
on both sides

PP pipe Ø20mm
with wall thickness
2.2mm

22/0735-A.3.7-4

PP PLASTIC PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 100MM FLEXIBLE OR RIGID WALLS

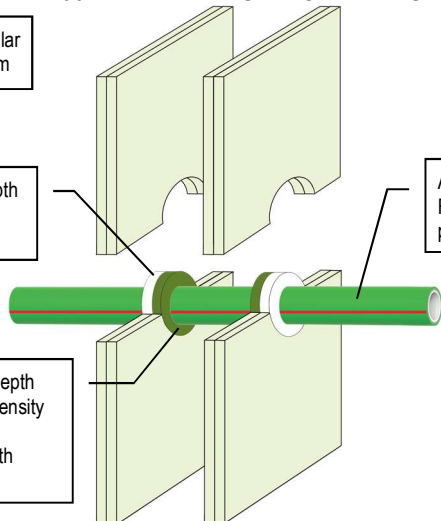
Maximum annular
ring width 30mm

FR Acrylic
depth ≥ 25mm
on both sides

PP pipe ≤ Ø32mm
with wall thickness
1.8-4.4mm

22/0735-A.3.7-6

AQUATECHNIK PIPE FIRE RESISTANCE EI 120 C/C (E 120)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular
ring width 30mm

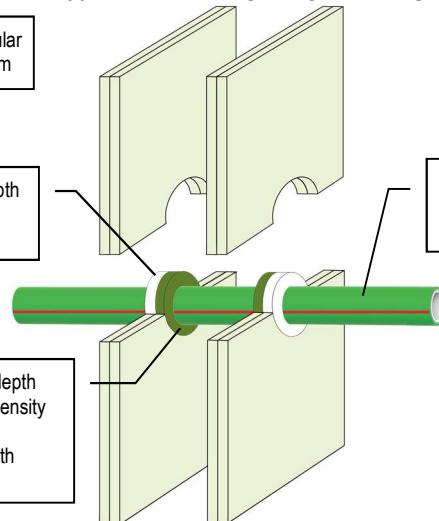
FR Acrylic depth
≥ 12.5mm on
both sides

Aquatechnik
Faser Fiber-T
pipe ≤ Ø20mm

Stone wool depth
≥ 12.5mm, density
≥ 35kg/m³ or
similar on both
sides

22/0735-A.3.4-7

AQUATECHNIK PIPE FIRE RESISTANCE EI 90 C/C (E 90)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular
ring width 30mm

FR Acrylic depth
≥ 12.5mm on
both sides

Aquatechnik
Faser Fiber-T
pipe ≤ Ø40mm

Stone wool depth
≥ 12.5mm, density
≥ 35kg/m³ or
similar on both
sides

22/0735-A.3.4-8

POLYBUTYLENE PIPE FIRE RESISTANCE EI 120 C/C (E 120)

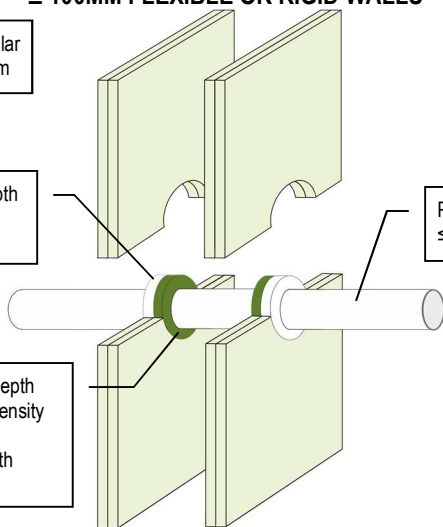
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 12.5mm on both sides

Polybutylene pipe ≤ Ø28mm

Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar on both sides



22/0735-A.3.4-6

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

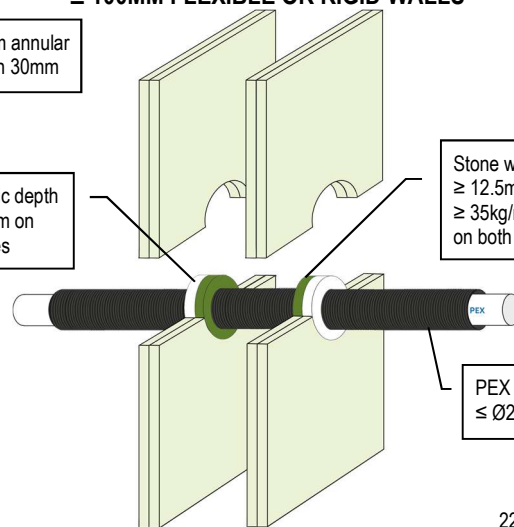
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 12.5mm on both sides

Stone wool depth ≥ 12.5mm, density ≥ 35kg/m³ or similar on both sides

PEX pipe ≤ Ø25mm



22/0735-A.3.4-5

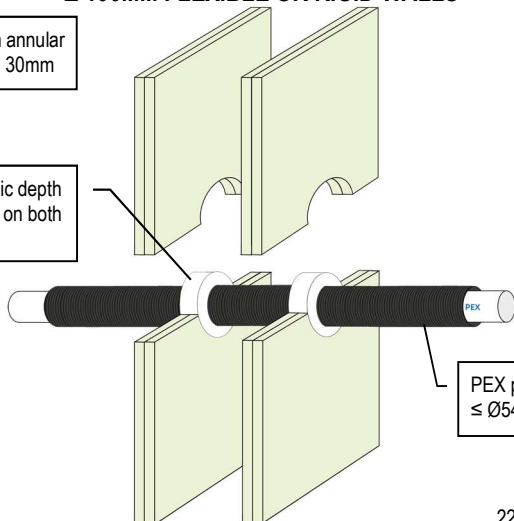
PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 45 C/C (E 60)

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

PEX pipe ≤ Ø54mm



22/0735-A.3.7-9

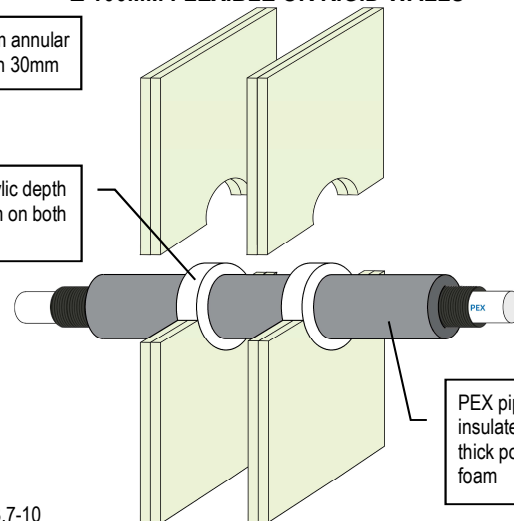
PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 45 C/C (E 45)

≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

PEX pipe ≤ Ø34mm insulated with 9mm thick polyethylene foam



22/0735-A.3.7-10

PVC CONDUIT FIRE RESISTANCE EI 45 U/C (E 60)

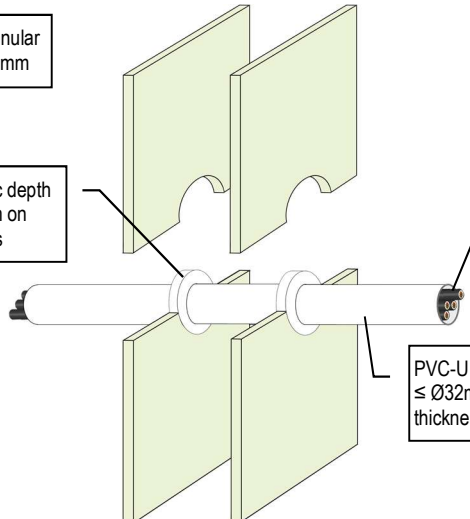
≥ 75MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 12.5mm on both sides

Cables ≤ Ø21mm single or in a bundle

PVC-U & PVC-C pipe ≤ Ø32mm with wall thickness 1.0-1.8mm



22/0735-A.2.1-7

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

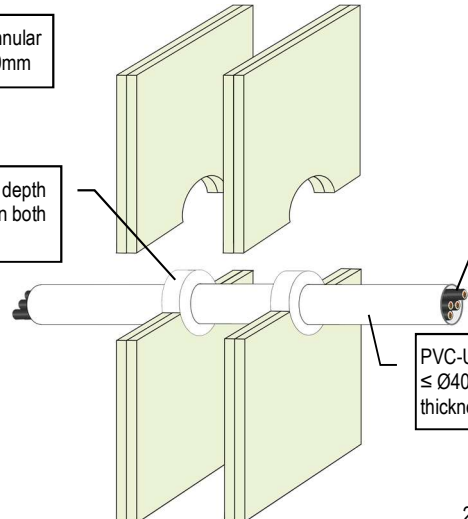
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Cables ≤ Ø21mm single or in a bundle

PVC-U & PVC-C pipe ≤ Ø40mm with wall thickness 1.0-1.9mm



22/0735-A.3.1-11

PE CONDUIT FIRE RESISTANCE EI 30 U/C (E 45)
≥ 75MM FLEXIBLE OR RIGID WALLS

Maximum annular
ring width 30mm

FR Acrylic depth
≥ 12.5mm on
both sides

Cables
≤ Ø21mm
single or in
a bundle

PE, ABS & SAN+PVC
pipe ≤ Ø32mm with
wall thickness 2.0-
3.0mm

22/0735-A.2.1-13

PE CONDUIT FIRE RESISTANCE EI 90 U/C (E 90)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular
ring width 30mm

FR Acrylic depth
≥ 25mm on both
sides

Cables
≤ Ø21mm
single or in
a bundle

PE, ABS & SAN+PVC
pipe ≤ Ø40mm with
wall thickness 2.0-
3.0mm

22/0735-A.3.1-12

PP CONDUIT FIRE RESISTANCE EI 30 U/C (E 45)
≥ 75MM FLEXIBLE OR RIGID WALLS

Maximum annular
ring width 30mm

FR Acrylic depth
≥ 12.5mm on
both sides

Cables
≤ Ø21mm
single or in
a bundle

PP pipe ≤ Ø32mm
with wall thickness
2.3-4.4mm

22/0735-A.2.1-10

PP CONDUIT FIRE RESISTANCE EI 90 U/C (E 90)
≥ 100MM FLEXIBLE OR RIGID WALLS

Maximum annular
ring width 30mm

FR Acrylic depth
≥ 25mm on both
sides

Cables
≤ Ø21mm
single or in
a bundle

PP pipe ≤ Ø40mm
with wall thickness
1.8-2.2mm

22/0735-A.3.1-13

CABLES FIRE RESISTANCE EI 60 (E 60)
≥ 100MM PANEL WALLS

Maximum aperture
300x300mm

Cables ≤ Ø21mm
single or in a bundle
≤ Ø100mm

Stone wool depth
≥ 25mm, density
≥ 40kg/m³ or similar
on both sides

FR Acrylic depth
≥ 25mm on both
sides

22/0735-A.3.1-3P

CABLES FIRE RESISTANCE EI 60 (E 60)
≥ 100MM PANEL WALLS

Maximum aperture
300x300mm

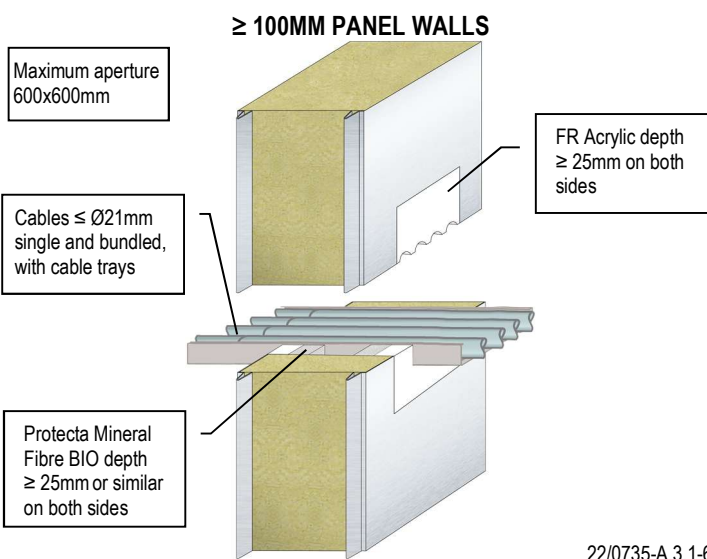
Cables ≤ Ø80mm
single or in a bundle
≤ Ø100mm

Protecta Mineral
Fibre BIO depth
≥ 25mm or similar
on both sides

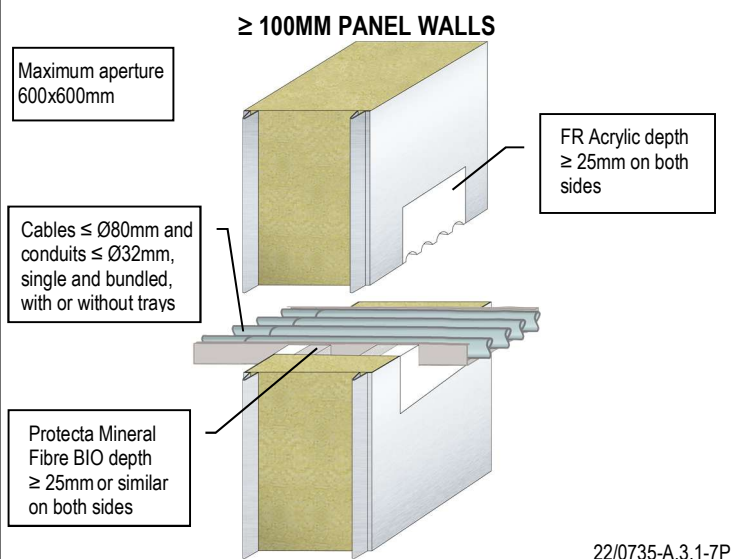
FR Acrylic depth
≥ 25mm on both
sides

22/0735-A.3.1-4P

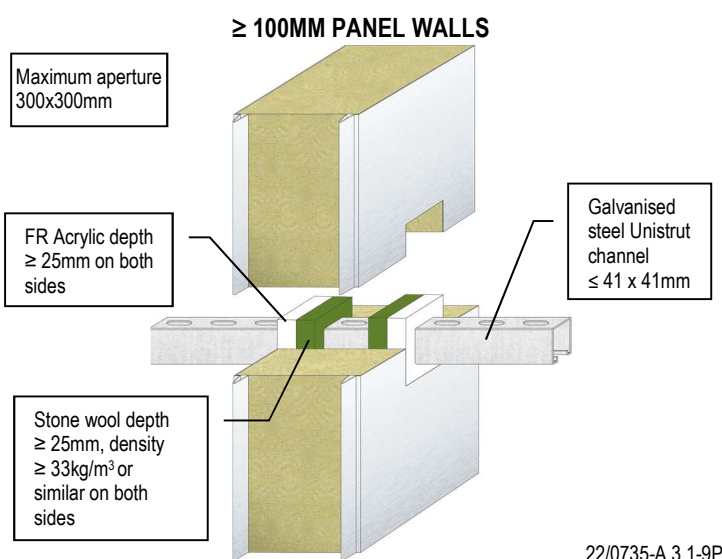
CABLES AND CABLE TRAYS FIRE RESISTANCE EI 60 (E 60)



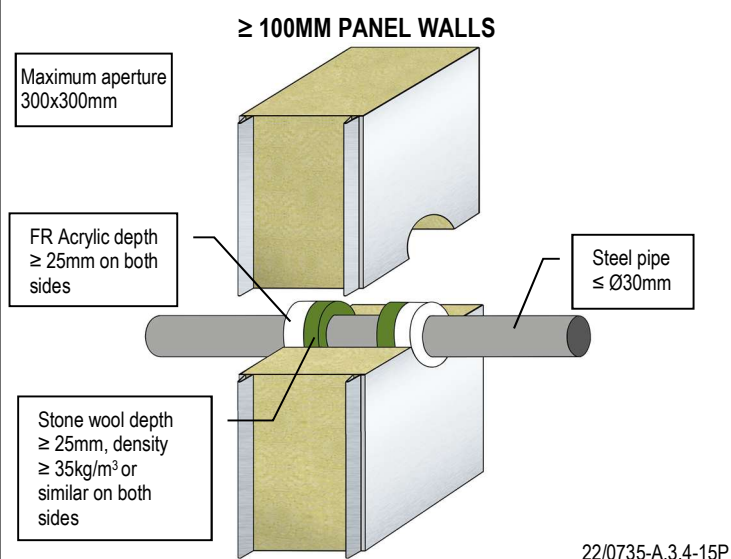
CABLES AND CABLE TRAYS FIRE RESISTANCE EI 30 (E 60)



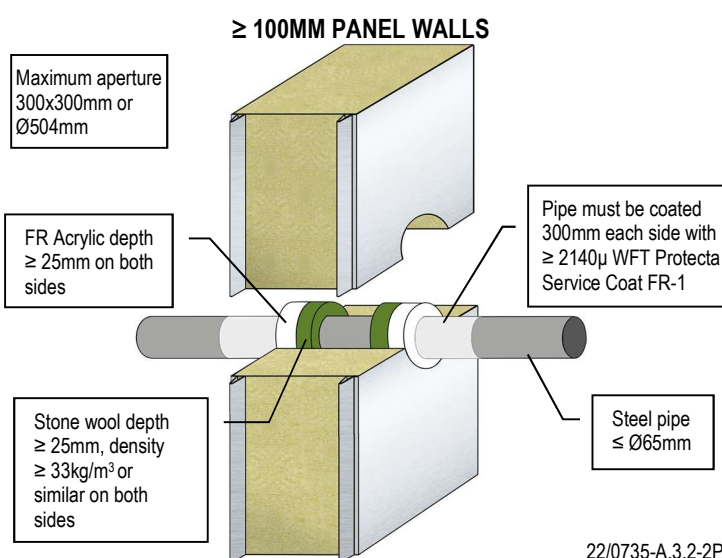
UNISTRUT CHANNEL FIRE RESISTANCE EI 60 (E 60)



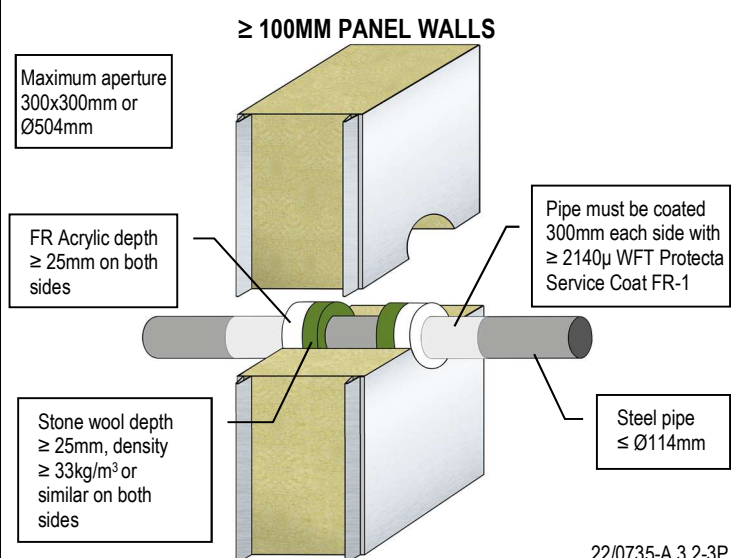
STEEL PIPE FIRE RESISTANCE EI 60 C/C (E 60)

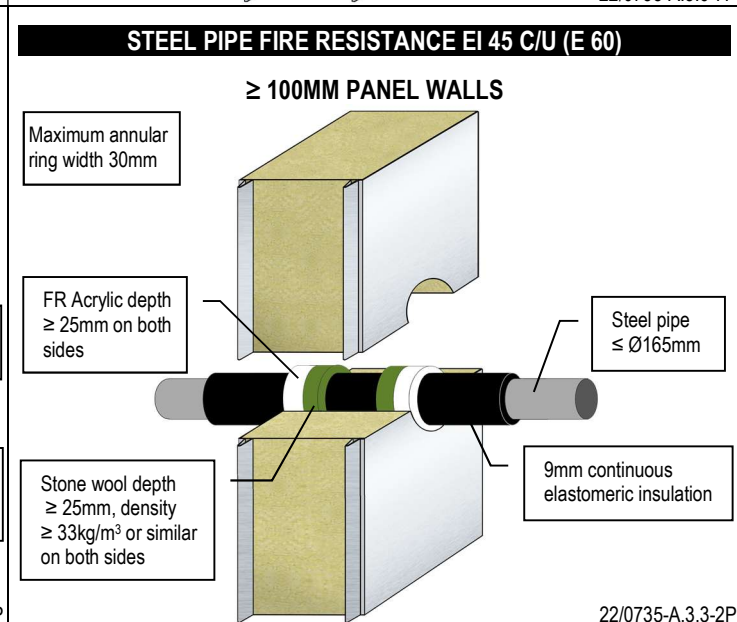
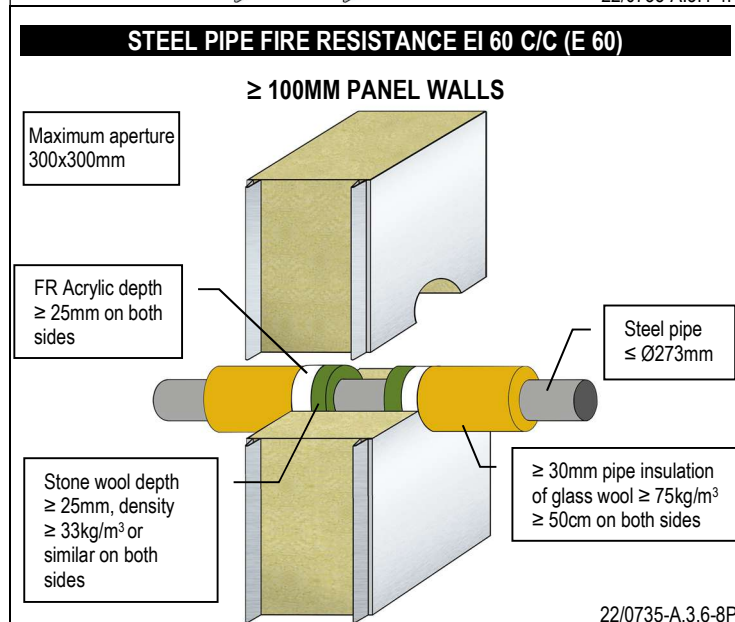
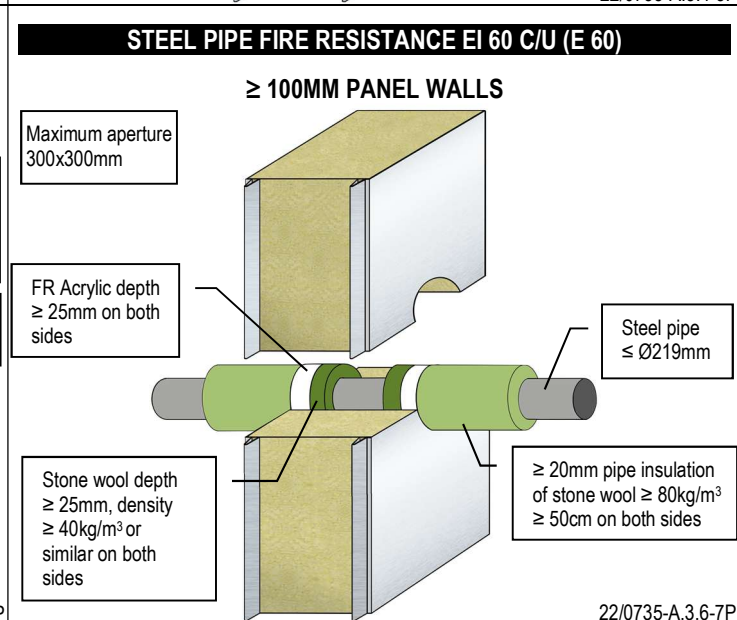
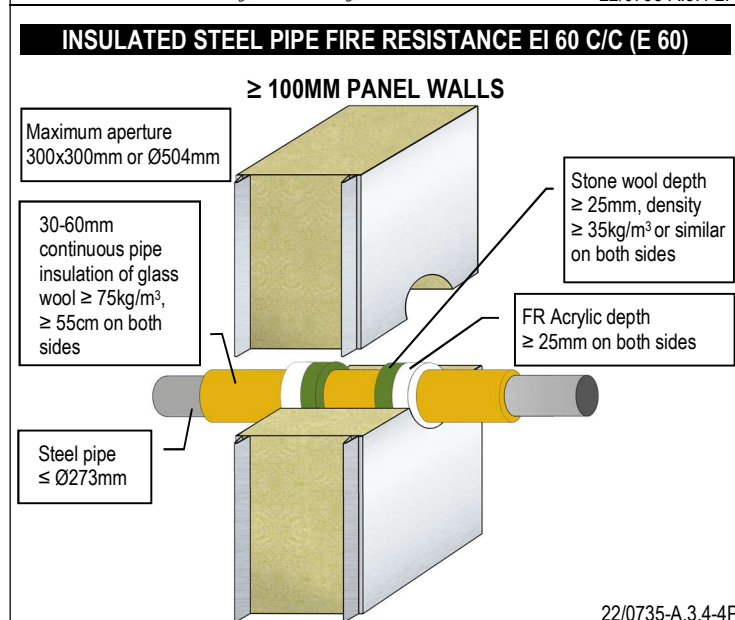
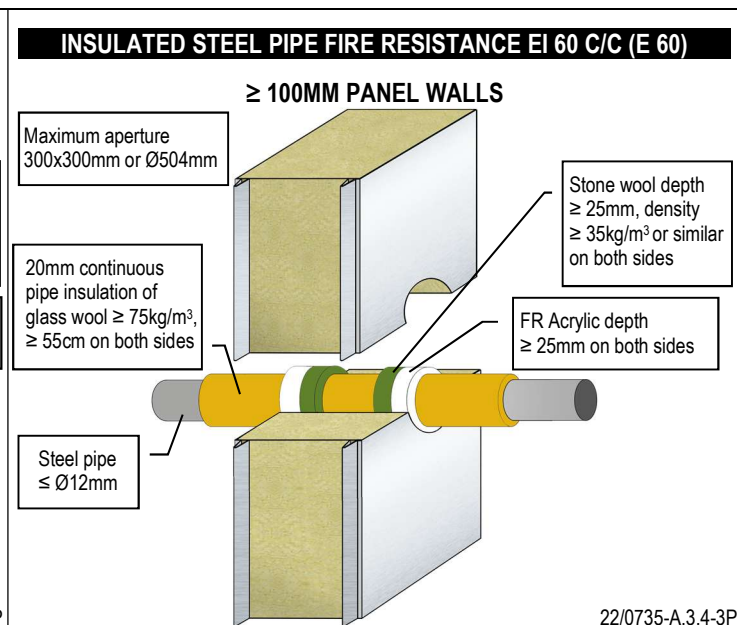
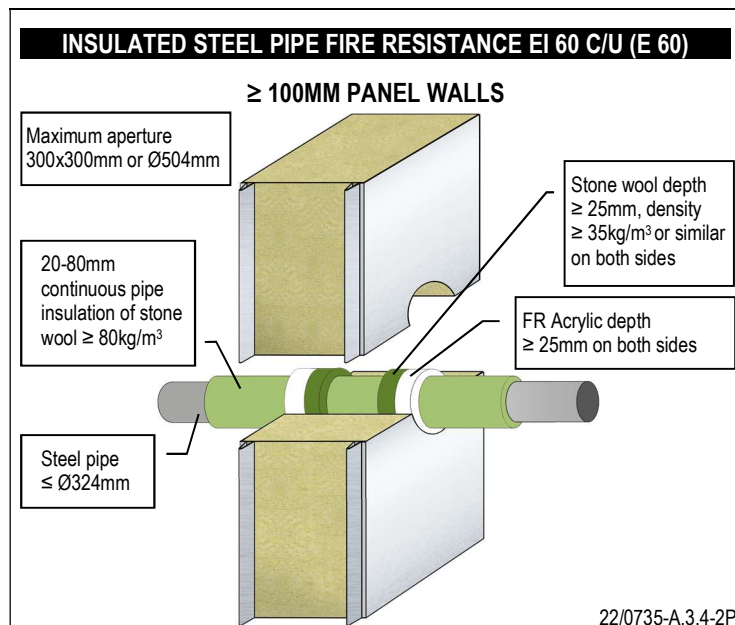


STEEL PIPE FIRE RESISTANCE EI 60 C/U (E 60)



STEEL PIPE FIRE RESISTANCE EI 45 C/U (E 60)





STEEL PIPE FIRE RESISTANCE EI 60 C/U (E 60)

≥ 100MM PANEL WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Steel pipe ≤ Ø165mm

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

13 – 25mm continuous elastomeric insulation

22/0735-A.3.3-3P

STEEL PIPE FIRE RESISTANCE EI 60 C/U (E 60)

≥ 100MM PANEL WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Steel pipe ≤ Ø16mm

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

15mm continuous phenolic insulation

22/0735-A.3.3-20P

STEEL PIPE FIRE RESISTANCE EI 60 C/U (E 60)

≥ 100MM PANEL WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Steel pipe ≤ Ø273mm

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

25 – 100mm continuous phenolic insulation

22/0735-A.3.3-22P

GAS PIPE FIRE RESISTANCE EI 60 C/C (E 60)

≥ 100MM PANEL WALLS

Maximum aperture 300x300mm

FR Acrylic depth ≥ 25mm on both sides

Flexible double sleeve steel gas pipe ≤ Ø73mm

Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides

22/0735-A.3.4-10P

COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 60)

≥ 100MM PANEL WALLS

Maximum aperture 300x300mm

FR Acrylic depth ≥ 25mm on both sides

Copper pipe ≤ Ø12mm

Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides

22/0735-A.3.4-17P

COPPER PIPE FIRE RESISTANCE EI 30 C/C (E 60)

≥ 100MM PANEL WALLS

Maximum aperture 300x300mm

FR Acrylic depth ≥ 25mm on both sides

Copper pipe Ø13-22mm

Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides

22/0735-A.3.4-18P

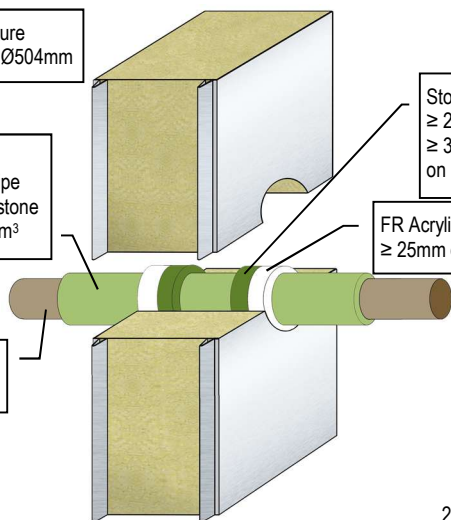
INSULATED COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 100MM PANEL WALLS

Maximum aperture
300x300mm or Ø504mm

20-80mm
continuous pipe
insulation of stone
wool ≥ 80kg/m³

Stone wool depth
≥ 25mm, density
≥ 35kg/m³ or similar
on both sides

FR Acrylic depth
≥ 25mm on both sides

Copper pipe
≤ Ø54mm


22/0735-A.3.4-19P

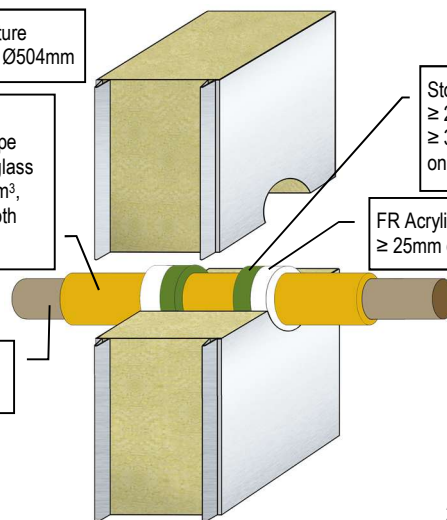
INSULATED COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 100MM PANEL WALLS

Maximum aperture
300x300mm or Ø504mm

20-60mm
continuous pipe
insulation of glass
wool ≥ 75kg/m³,
≥ 55cm on both
sides

Stone wool depth
≥ 25mm, density
≥ 35kg/m³ or similar
on both sides

FR Acrylic depth
≥ 25mm on both sides

Copper pipe
≤ Ø54mm


22/0735-A.3.4-20P

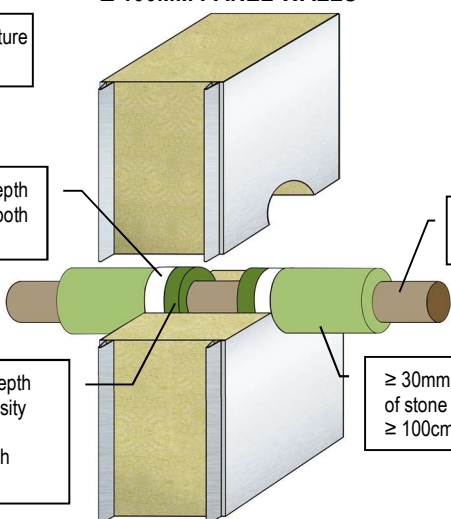
COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 100MM PANEL WALLS

Maximum aperture
300x300mm

FR Acrylic depth
≥ 25mm on both
sides

Copper pipe
≤ Ø159mm

Stone wool depth
≥ 25mm, density
≥ 33kg/m³ or
similar on both
sides

≥ 30mm pipe insulation
of stone wool ≥ 80kg/m³
≥ 100cm on both sides


22/0735-A.3.6-2P

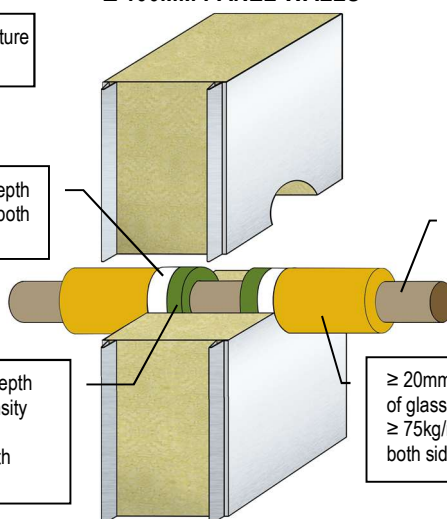
COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 100MM PANEL WALLS

Maximum aperture
300x300mm

FR Acrylic depth
≥ 25mm on both
sides

Copper pipe
≤ Ø54mm

Stone wool depth
≥ 25mm, density
≥ 33kg/m³ or
similar on both
sides

≥ 20mm pipe insulation
of glass or stone wool
≥ 75kg/m³ ≥ 50cm on
both sides


22/0735-A.3.6-3P

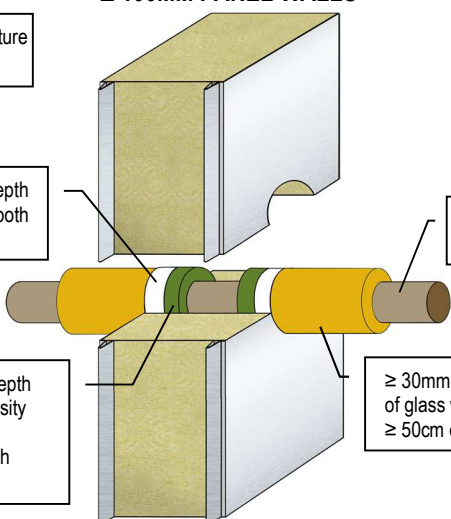
COPPER PIPE FIRE RESISTANCE EI 30 C/C (E 60)
≥ 100MM PANEL WALLS

Maximum aperture
300x300mm

FR Acrylic depth
≥ 25mm on both
sides

Copper pipe
≤ Ø108mm

Stone wool depth
≥ 25mm, density
≥ 33kg/m³ or
similar on both
sides

≥ 30mm pipe insulation
of glass wool ≥ 75kg/m³
≥ 50cm on both sides


22/0735-A.3.6-4P

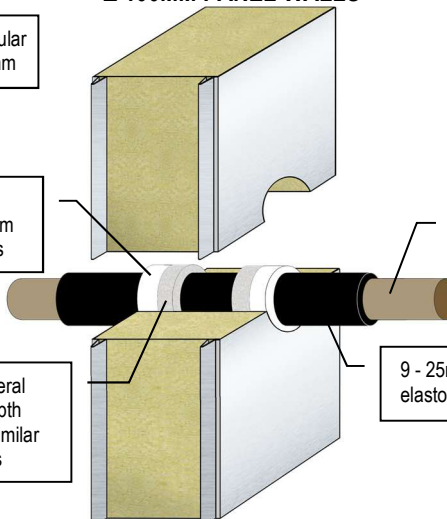
COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 100MM PANEL WALLS

Maximum annular
ring width 30mm

FR Acrylic
depth ≥ 25mm
on both sides

Copper pipe
≤ Ø54mm

Protecta Mineral
Fibre BIO depth
≥ 25mm or similar
on both sides

9 - 25mm continuous
elastomeric insulation


22/0735-A.3.3-9P

COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 60)

≥ 100MM PANEL WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

Copper pipe ≤ Ø54mm

15 – 30mm continuous phenolic insulation

22/0735-A.3.3-11P

COPPER PIPE FIRE RESISTANCE EI 30 C/C (E 45)

≥ 100MM PANEL WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

Copper pipe ≤ Ø159mm

15 – 100mm continuous phenolic insulation

22/0735-A.3.3-12P

COPPER PIPE FIRE RESISTANCE EI 60 C/C (E 60)

≥ 100MM PANEL WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

Protecta Pipe Wraps 1 layer of 50mm wide both sides

Copper pipe ≤ Ø159mm

100mm continuous phenolic insulation

22/0735-A.3.3-13P

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

≥ 100MM PANEL WALLS

Maximum aperture 300x300mm

FR Acrylic depth ≥ 25mm on both sides

Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides

Alupex pipe ≤ Ø20mm

22/0735-A.3.4-11P

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

≥ 100MM PANEL WALLS

Maximum aperture 300x300mm or Ø504mm

20-60mm continuous pipe insulation of glass or stone wool ≥ 75kg/m³

Alupex pipe ≤ Ø75mm

Stone wool depth ≥ 25mm, density ≥ 35kg/m³ or similar on both sides

FR Acrylic depth ≥ 25mm on both sides

22/0735-A.3.4-12P

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

≥ 100MM PANEL WALLS

Maximum aperture 300x300mm

FR Acrylic depth ≥ 25mm on both sides

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

Alupex pipe ≤ Ø75mm

≥ 20mm pipe insulation of glass or stone wool ≥ 75kg/m³ ≥ 50cm on both sides

22/0735-A.3.5-2P

ALUPEX PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 100MM PANEL WALLS

Maximum annular
ring width 30mm

FR Acrylic
depth ≥ 25mm
on both sides

Alupex pipe
≤ Ø75mm

Protecta Mineral
Fibre BIO depth
≥ 25mm or similar
on both sides

9mm continuous
elastomeric insulation

22/0735-A.3.3-19P

ALUPEX PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 100MM PANEL WALLS

Maximum annular
ring width 30mm

FR Acrylic depth
≥ 25mm on both
sides

Alupex pipe
≤ Ø75mm

Stone wool depth
≥ 25mm, density
≥ 33kg/m³ or similar
on both sides

13 – 25mm continuous
elastomeric insulation

22/0735-A.3.3-16P

PVC PLASTIC PIPE FIRE RESISTANCE EI 60 U/C (E 60)
≥ 100MM PANEL WALLS

Maximum annular
ring width 10mm

FR Acrylic
depth ≥ 25mm
on both sides

Stone wool depth
≥ 25mm, density
≥ 33kg/m³ or similar
on both sides

PVC-U & PVC-C pipe
≤ Ø32mm with wall
thickness 1.0-2.4mm

22/0735-A.3.7-1P

PVC PLASTIC PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 100MM PANEL WALLS

Maximum annular
ring width 30mm

FR Acrylic
depth ≥ 25mm
on both sides

Stone wool depth
≥ 25mm, density
≥ 33kg/m³ or similar
on both sides

PVC-U & PVC-C pipe
≤ Ø32mm with wall
thickness 1.0-1.6mm

22/0735-A.3.7-3P

PVC PLASTIC PIPE FIRE RESISTANCE EI 60 U/C (E 60)
≥ 100MM PANEL WALLS

Maximum annular
ring width 30mm

FR Acrylic
depth ≥ 25mm
on both sides

Stone wool depth
≥ 25mm, density
≥ 33kg/m³ or similar
on both sides

PVC-U & PVC-C pipe
≤ Ø32mm with wall
thickness 1.7-2.4mm

22/0735-A.3.7-2P

PE PLASTIC PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 100MM PANEL WALLS

Maximum annular
ring width 30mm

FR Acrylic
depth ≥ 25mm
on both sides

Stone wool depth
≥ 25mm, density
≥ 33kg/m³ or similar
on both sides

PE, ABS & SAN+PVC
pipe ≤ Ø32mm with
wall thickness
2.0-3.0mm

22/0735-A.3.7-8P

PP PLASTIC PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 100MM PANEL WALLS

Maximum annular
ring width 30mm

FR Acrylic
depth ≥ 25mm
on both sides

Stone wool depth
≥ 25mm, density
≥ 33kg/m³ or similar
on both sides

PP pipe ≤ Ø32mm
with wall thickness
1.8-4.4mm

22/0735-A.3.7-6P

AQUATECHNIK PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 100MM PANEL WALLS

Maximum annular
ring width 30mm

FR Acrylic depth
≥ 25mm on both
sides

Stone wool depth
≥ 25mm, density
≥ 35kg/m³ or
similar on both
sides

Aquatechnik
Faser Fiber-T
pipe ≤ Ø40mm

22/0735-A.3.4-8P

POLYBUTYLENE PIPE FIRE RESISTANCE EI 60 C/C (E 60)
≥ 100MM PANEL WALLS

Maximum annular
ring width 30mm

FR Acrylic depth
≥ 25mm on both
sides

Stone wool depth
≥ 25mm, density
≥ 35kg/m³ or
similar on both
sides

Polybutylene pipe
≤ Ø28mm

22/0735-A.3.4-6P

PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 60 C/C (E 60)
≥ 100MM PANEL WALLS

Maximum annular
ring width 30mm

FR Acrylic depth
≥ 25mm on both
sides

Stone wool depth
≥ 25mm, density
≥ 35kg/m³ or
similar on both
sides

PEX pipe
≤ Ø25mm

22/0735-A.3.4-5P

PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 45 C/C (E 60)
≥ 100MM PANEL WALLS

Maximum annular
ring width 30mm

FR Acrylic depth
≥ 25mm on both
sides

Stone wool depth
≥ 25mm, density
≥ 33kg/m³ or similar
on both sides

PEX pipe
≤ Ø54mm

22/0735-A.3.7-9P

PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 45 C/C (E 45)
≥ 100MM PANEL WALLS

Maximum annular
ring width 30mm

FR Acrylic depth
≥ 25mm on both
sides

Stone wool depth
≥ 25mm, density
≥ 33kg/m³ or similar
on both sides

PEX pipe ≤ Ø34mm
insulated with 9mm
thick polyethylene
foam

22/0735-A.3.7-10P

PVC CONDUIT FIRE RESISTANCE EI 60 U/C (E 60)
≥ 100MM PANEL WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

Cables ≤ Ø21mm single or in a bundle

PVC-U & PVC-C pipe ≤ Ø40mm with wall thickness 1.0-1.9mm

22/0735-A.3.1-11P

PE CONDUIT FIRE RESISTANCE EI 60 U/C (E 60)
≥ 100MM PANEL WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

Cables ≤ Ø21mm single or in a bundle

PE, ABS & SAN+PVC pipe ≤ Ø40mm with wall thickness 2.0-3.0mm

22/0735-A.3.1-12P

PP CONDUIT FIRE RESISTANCE EI 60 U/C (E 60)
≥ 100MM PANEL WALLS

Maximum annular ring width 30mm

FR Acrylic depth ≥ 25mm on both sides

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

Cables ≤ Ø21mm single or in a bundle

PP pipe ≤ Ø40mm with wall thickness 1.8-2.2mm

22/0735-A.3.1-13P

CABLES FIRE RESISTANCE EI 90 (E 90)
≥ 100MM TIMBER WALLS

Maximum aperture Ø180mm

Cables ≤ Ø14mm single or in a bundle ≤ Ø100mm

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

FR Acrylic depth ≥ 25mm on both sides

22/0735-A.5.1-2

CABLES FIRE RESISTANCE EI 30 (E 90)
≥ 100MM TIMBER WALLS

Maximum aperture Ø180mm

Cables ≤ Ø50mm single or in a bundle ≤ Ø100mm

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

FR Acrylic depth ≥ 25mm on both sides

22/0735-A.5.1-4

CABLE FIRE RESISTANCE EI 90 (E 90)
≥ 100MM TIMBER WALLS

Maximum aperture Ø180mm

Cable ≤ Ø21mm

All services must be coated 150mm both sides with 400µ WFT Protecta Service Coat FR-1

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

FR Acrylic depth ≥ 25mm on both sides

22/0735-A.5.2-2

CABLES FIRE RESISTANCE EI 60 (E 90)

Maximum aperture
Ø180mm

≥ 100MM TIMBER WALLS

Cables ≤ Ø50mm
single or in a
bundle
≤ Ø100mm

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or
similar on both sides

All services must be
coated 150mm both
sides with 400µ
WFT Protecta
Service Coat FR-1

FR Acrylic
depth ≥ 25mm
on both sides

22/0735-A.5.2-3

STEEL PIPE FIRE RESISTANCE EI 60 C/C (E 90)

Maximum aperture
Ø293mm

≥ 100MM TIMBER WALLS

Steel pipe
≤ Ø273mm

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or
similar on both sides

≥ 25mm pipe
insulation of glass
or stone wool ≥
75kg/m³ ≥ 50cm
on both sides

FR Acrylic
depth ≥ 25mm
on both sides

22/0735-A.5.3-1

STEEL PIPE FIRE RESISTANCE EI 30 C/U (E 30)

Maximum annular
ring width 30mm

≥ 100MM TIMBER WALLS

Steel pipe
≤ Ø114mm

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or
similar on both sides

9 – 25mm
continuous
elastomeric
insulation

FR Acrylic
depth ≥ 25mm
on both sides

22/0735-A.5.4-1

COPPER OR STEEL PIPE FIRE RESISTANCE EI 60 C/C (E 90)

Maximum aperture
Ø180mm

≥ 100MM TIMBER WALLS

Copper or
steel pipe
≤ Ø54mm

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or
similar on both sides

≥ 20mm pipe
insulation of glass
or stone wool ≥
75kg/m³ ≥ 50cm
on both sides

FR Acrylic
depth ≥ 25mm
on both sides

22/0735-A.5.3-2

COPPER OR STEEL PIPE FIRE RESISTANCE EI 60 C/C (E 90)

Maximum annular
ring width 30mm

≥ 100MM TIMBER WALLS

Copper or
steel pipe
≤ Ø12mm

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or
similar on both sides

9mm
continuous
elastomeric
insulation

FR Acrylic
depth ≥ 25mm
on both sides

22/0735-A.5.4-2

COPPER OR STEEL PIPE FIRE RESISTANCE EI 30 C/C (E 60)

Maximum annular
ring width 30mm

≥ 100MM TIMBER WALLS

Copper or
steel pipe
≤ Ø54mm

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or
similar on both sides

9mm
continuous
elastomeric
insulation

FR Acrylic
depth ≥ 25mm
on both sides

22/0735-A.5.4-3

COPPER PIPE FIRE RESISTANCE EI 20 C/C (E 30)

Maximum annular
ring width 30mm

≥ 100MM TIMBER WALLS

Copper pipe
≤ Ø54mm

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or
similar on both sides

10 – 25mm
continuous
elastomeric
insulation

FR Acrylic
depth ≥ 25mm
on both sides

22/0735-A.5.4-4

ALUPEX PIPE FIRE RESISTANCE EI 90 C/C (E 90)

Maximum aperture
Ø180mm

≥ 100MM TIMBER WALLS

Alupex pipe
≤ Ø75mm

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or
similar on both sides

≥ 25mm pipe
insulation of glass
or stone wool ≥
75kg/m³ ≥ 50cm
on both sides

FR Acrylic
depth ≥ 25mm
on both sides

22/0735-A.5.3-3

ALUPEX PIPE FIRE RESISTANCE EI 90 C/C (E 90)

Maximum annular
ring width 30mm

≥ 100MM TIMBER WALLS

Alupex pipe
≤ Ø16mm

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or
similar on both sides

9mm
continuous
elastomeric
insulation

FR Acrylic
depth ≥ 25mm
on both sides

22/0735-A.5.4-5

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

Maximum annular
ring width 30mm

≥ 100MM TIMBER WALLS

Alupex pipe
≤ Ø75mm

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or
similar on both sides

9mm
continuous
elastomeric
insulation

FR Acrylic
depth ≥ 25mm
on both sides

22/0735-A.5.4-6

ALUPEX PIPE FIRE RESISTANCE EI 45 C/C (E 45)

Maximum annular
ring width 30mm

≥ 100MM TIMBER WALLS

Alupex pipe
≤ Ø75mm

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or
similar on both sides

10 – 25mm
continuous
elastomeric
insulation

FR Acrylic
depth ≥ 25mm
on both sides

22/0735-A.5.4-7

PVC PIPE FIRE RESISTANCE EI 90 U/C (E 90)

Maximum annular
ring width 30mm

≥ 100MM TIMBER WALLS

PVC pipe
≤ Ø32mm with
wall thickness
1.0-2.4mm

Stone wool depth ≥ 25mm,
density ≥ 33kg/m³ or
similar on both sides

FR Acrylic
depth ≥ 25mm
on both sides

22/0735-A.5.5-1

PE PIPE FIRE RESISTANCE EI 90 U/C (E 90)

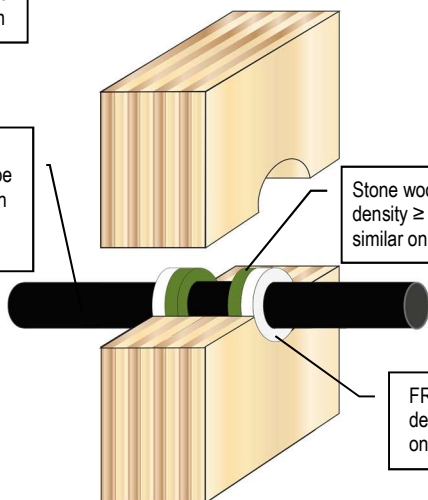
Maximum annular ring width 30mm

≥ 100MM TIMBER WALLS

PE, ABS or SAN+PVC pipe ≤ Ø32mm with wall thickness 2.0-3.0mm

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

FR Acrylic depth ≥ 25mm on both sides



22/0735-A.5.5-2

PP PIPE FIRE RESISTANCE EI 90 U/C (E 90)

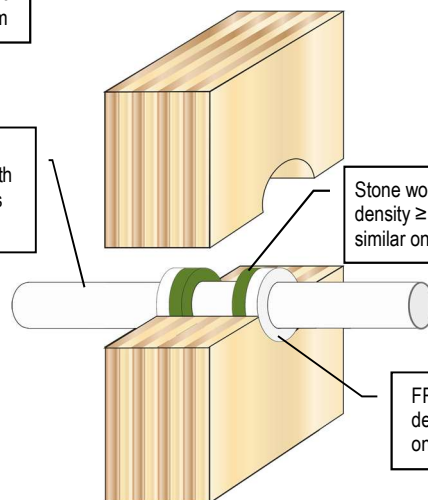
Maximum annular ring width 30mm

≥ 100MM TIMBER WALLS

PP pipe ≤ Ø32mm with wall thickness 1.8-4.4mm

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

FR Acrylic depth ≥ 25mm on both sides



22/0735-A.5.5-3

PEX PIPE-IN-PIPE SYSTEM FIRE RESISTANCE EI 90 C/C (E 90)

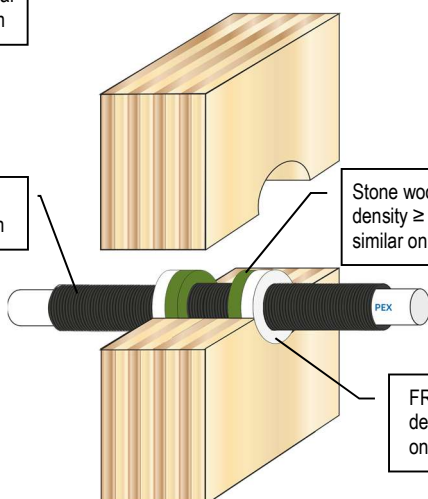
Maximum annular ring width 30mm

≥ 100MM TIMBER WALLS

PEX pipe ≤ Ø25mm

Stone wool depth ≥ 25mm, density ≥ 33kg/m³ or similar on both sides

FR Acrylic depth ≥ 25mm on both sides



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