

FIRESAFE / FSB

Firestop Boards for Penetration Seals

TECHNICAL DATA SHEET

Date: 30/07/2025

Rev.: 0

Prepared by: PP

Checked by: HKE

European approvals:

ETA No.: 25/0231 Penetration Seals

DoP No.: FS/PP/FSP - 30/07/2025

CE 2821

PRODUCT DESCRIPTION

FIRESAFE / FSB1 and / FSB2 are fire boards with an internal high-density rock wool core treated with FIRESAFE / FSP fire retardant paint on one or both sides.

FIRESAFE / FSB is intended as a fire seal for larger gaps, creating a fireproof and smokeproof barrier to adjacent rooms.



Fire resistance
≤ 240 minutes



Acoustic insulation
Rw ≤ 28 dB



Lifespan
25 years



Paintable
After 24 hours



PROPERTIES
✓ Fire resistance ≤ 240
✓ CE marked
✓ High acoustic insulation properties
✓ Environmentally friendly and user-friendly
✓ Quick and easy installation
✓ Framing in plaster walls is not needed.
✓ Permanently flexible
✓ Paintable after 24 hours
✓ Primer is generally not needed
✓ Product lifespan at least 25 years

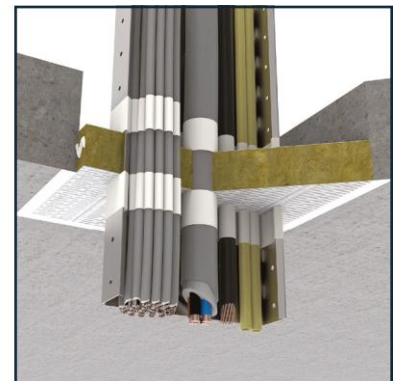
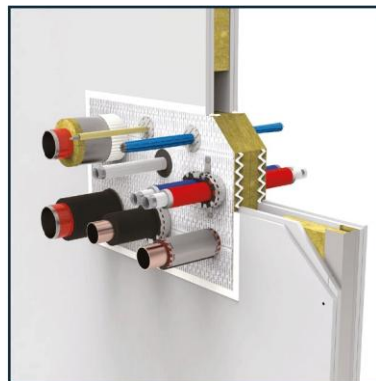
AREA OF USE
✓ Masonry and cast wall constructions, density ≥ 350 kg/m ³
✓ Masonry and cast wall constructions, density ≥ 400 kg/m ³
✓ Insulated and non-insulated plaster walls ≥ 100 mm
✓ CLT (cross-laminated timber constructions) walls ≥ 100 mm
✓ CLT (cross-laminated timber constructions) deck ≥ 140 mm
✓ Sandwich panel walls ≥ 100 mm
✓ Fire sealing for all installation penetrations
✓ Size of wall opening ≤ 1500 x 2500 mm, 3.75 m ²
✓ Size of deck opening ≤ 1200 x 1200 mm; ≤ 9000 x 900 mm.
✓ Combined with FIRESAFE / FSA - FSG - FSW - FSC - FSP - FSD - M bandage

Scan the QR code for detailed information



Packaging

FIRESAFE / FSB	Fire retardant paint	Sheet thickness	Dimensions	Pallet	Item no.
FIRESAFE / FSB1	Painted, one side	50 mm	1000 x 625 mm	60 pcs.	100.208
FIRESAFE / FSB2	Painted, two sides	60 mm	1000 x 625 mm	50 pcs.	100.209



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FIRESAFE / FSB

Firestop Boards for Penetration Seals

1. Technical data

FIRESAFE / FSB1 - Firestop Boards	EAN code 7070800102351
FIRESAFE / FSB2 - Firestop Boards	EAN code 7070800102368
Condition	Ready to use, rock wool firestop boards with fire retardant paint
Colour	White surface, yellow-green internal core
Colour code	RAL 9002 / NCS S1002-Y
Storage temperature during transport	+5 °C to +50 °C
Shelf life	No expiry date in unopened plastic packaging and at temperatures between +5 °C to +30 °C
Temperature during application	+5 °C to +50 °C
Permanent temperature resistance	-20 °C to +70 °C
Fully cured	3 to 5 days depending on the thickness of the fire retardant paint and the temperature
Flexibility	± 12.5 % (in accordance with ISO 11600)
Density	160 kg/m ³
Thermal conductivity	0.039 W·m ⁻¹ ·K ⁻¹ in accordance with EN 12667
Usage category ¹⁾	Type Z ₂ in accordance with EAD 350454-00-1104. Indoor use.
Paintable ²⁾	Yes
Can be installed from 1 side	Yes
Airtight and smokeproof	Yes, in accordance with S _a and S ₂₀₀ NEN 6075
Acoustic properties	50 mm with both sides coated: R _w (C;C _{tr}) = 28 (-1 ; -2) dB
Reaction to fire	Class E in accordance with EN 13501-1
Certification / fire resistance	Classification in accordance with EN 13501-1/2
VOC content	1 g/l
European approvals	ETA 25/0231. Penetration Seals
Tested combinations	FIRESAFE / FSA - FSG - FSW - FSC - FSP- FSD - M bandage
Test standards	Tested in accordance with EN 1366-3. Penetration Seals
Product lifespan	Minimum 25 years

¹⁾ Permitted environmental conditions

Fire sealant for use in conditions with < 85% RH, with protection against temperatures below 0 °C, and with no exposure to rain or UV (TR 024, type Z₂). Indoor environments.

²⁾ Paintable

FIRESAFE / FSB can be painted with most water-based paints.

2. Acoustic properties

FIRESAFE / FSB has been tested in accordance with EN ISO 10140.

An equal or higher noise insulation level can be achieved with a thicker or double-sided rock wool coated board.

The noise insulation value only applies to the fire sealant and not to the other elements of the construction.

With a WFT (wet film thickness) of 1.0 mm, the fire retardant paint FIRESAFE / FSP is applied to both sides of 50-mm thick rock wool with a density of 160 kg/m³:

✓ Tested solution FIRESAFE / FSB1: thickness 50 mm, fire retardant paint on one side = R_w 28 dB.

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3. Installation instructions

1



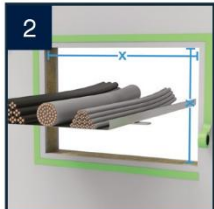
Ensure that the penetration and opening are cleared of any dust, debris, or grease. Apply moisture to the construction if needed.

6



Seal any openings or gaps between the installation or the construction and the FSB fire board using the FSA sealant. Even out the FSA sealant using a moistened spatula or grouting tool.

2



Measure the opening in the construction and measure installations, making markings on the FIRESAFE / FSB fire board. Use masking tape for a good-looking end result.

7



Stir the FIRESAFE / FSP fire retardant paint bucket well before use.

3



Adapt the opening for the FIRESAFE / FSB fire board to the desired dimensions using a saw or knife.

8



Apply the FIRESAFE / FSP fire retardant paint. Extend it 50 mm out on the installation using a paintbrush. Where cosmetic repairs are needed, the entire seal can also be painted using

4



Adapt the opening for installation penetrations in the FIRESAFE / FSB fire board using a saw or knife.

9



Remove the masking tape for an appealing and tidy appearance.

5



Seal openings between the construction and the FIRESAFE / FSB fire board using the FIRESAFE / FSA sealant. Seal openings between the installation and the FIRESAFE / FSB fire board using the FIRESAFE / FSA sealant.

10



Fill out the fire rating label and glue it next to the penetration seal.



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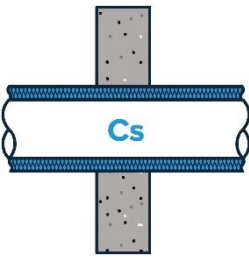
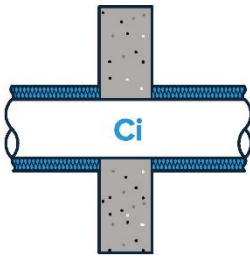
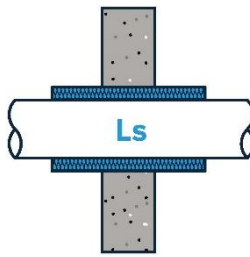
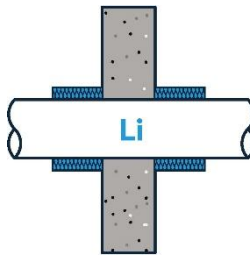
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FIRESAFE / FS^B

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4. Pipe insulation (Configuration)

As different insulations serve different purposes, they may be placed around pipes as insulation using various configurations. Take this into account when applying fire sealant to these pipes. Possible configurations are shown below:

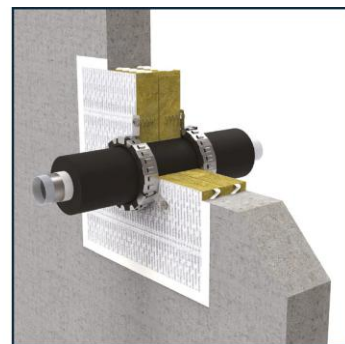
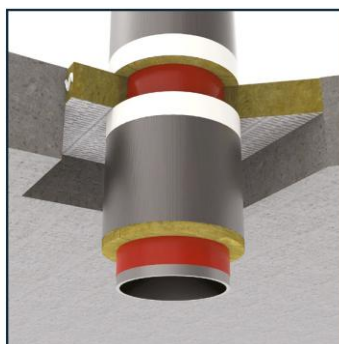
1. Continuous pipe insulation		2. Local pipe insulation	
Cs: Continuous pipe insulation, on both sides, also in the penetration itself.	Ci: Continuous pipe insulation, on both sides, excluding the penetration itself.	Ls: Local pipe insulation in the specified length locally on both sides, also in the penetration itself.	Li: Local pipe insulation in the specified length locally on both sides, excluding the penetration itself.
			

5. Permitted pipe insulation materials

FIRESAFE / FS^B is a board with surface treatment and makes up part of the Firesafe fire sealing system. FIRESAFE / FS^B boards with surface treatment are to be used in combination with FIRESAFE / FS^A Firestop Acrylic and FIRESAFE / FS^P Firestop fire retardant paint. This system has been thoroughly tested in combination with installation penetrations with various, associated insulation materials. The permitted insulation materials are displayed in the table below.

Insulation types	Pipe types	Permitted ¹⁾
Rock wool insulation Fire class A1 in accordance with EN 13501-1	✓ Copper pipes ✓ Steel and stainless steel pipes ✓ Cast iron pipes	✓ Rock wool, minimum density 80 kg/m³ or equivalent
Elastic pipe insulation Fire classes BL-s3,d0 of B-s3,d0 to D-s3,d0 or DL-s3,d0 in accordance with EN 13501-1.	✓ Steel and stainless steel pipes ✓ Cast iron pipes ✓ Fibre-reinforced composite pipes ✓ Multilayer pipes	✓ Armaflex AF (EVO) / XG / SH / NH / HT / Ultima ✓ Kaiflex KK Plus S1 / S2 / ST / HT ✓ K-Flex EC (AD) / ST / SK / SRC (Eco) or equivalent

¹⁾ Insulation materials must possess at least the same fire resistance as tested in accordance with EN 13501-1.



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6. Tested product combinations

Always check ETA 25/0231 for the proper application and resistance.

FIRESAFE / Product	Application	Size Ø [mm]	Insulation type	Construction			Classification in minutes
				FW-100	MW-100	MV-150	
FIRESAFE / FSC Universal Pipe Cuffs	Plastic pipes	≤ 110	Non-insulated	✓	✓	✓	EI 120. U/U
		≤ 125				✓	EI 120. U/C
	Noise-dampening pipes	≤ 110				✓	EI 90. U/U
	Fibre-reinforced composite pipes	≤ 110	Elastic	✓	✓	✓	EI 120. U/C
		≤ 50		✓	✓		
	Multilayer pipes	≤ 50		✓	✓		
		≤ 32	PE foam	✓	✓		
		≤ 63	Phenolic	✓	✓		
	Copper, cast iron, and steel pipes	≤ 114.3	Elastic			✓	EI 90. C/U
		≤ 139.7	Glass wool	✓	✓		
	Drinking hose system	≤ 145	Elastic	✓	✓	✓	EI 120. U/C

FIRESAFE / Product	Application	Size Ø [mm]	Insulation type	Construction			Classification in minutes
				FW-100	MW-100	MV-150	
FIRESAFE / FSG Graphite-based, heat expanding fire sealant	Plastic pipes with/without cable(s)	≤ 25	Non-insulated	✓	✓	✓	EI 90. U/U
	Plastic pipes	≤ 110		✓	✓	✓	EI 120. U/U
	Fibre-reinforced composite pipes	≤ 90		✓	✓		EI 60. U/C
			Elastic	✓	✓		
	Multilayer pipes	≤ 40	Non-insulated	✓	✓	✓	EI 120. U/C
		≤ 32	PE foam	✓	✓	✓	
		≤ 75	Elastic	✓	✓	✓	
	Copper, cast iron, and steel pipes	≤ 114.3	Elastic	✓	✓	✓	EI 60. C/U
			PIR	✓	✓		
	Cast iron and steel pipes	≤ 60.3	FIRESAFE / FSG	✓	✓		EI 90. C/U
Gas pipe	≤ 32	Multitherm Bandage ⁽¹⁾	✓	✓	✓	EI 120. U/C	

¹⁾ Multitherm Bandage on pipe. Length 75 - 150 mm out on each side of the Construction. ETA 25/0231.

FW-100: Light partition wall. Plaster walls with a thickness of ≥ 100 mm.

MW-100: Masonry and cast wall constructions, thickness ≥ 100 mm. Density 350 kg/m³.

MV-150: Masonry and cast wall constructions, thickness ≥ 150 mm. Density 400 kg/m³.

See next page. Permitted: Plastic pipes, - Fibre-reinforced composite pipes, - Multilayer pipes, - Permitted elastic insulation types

7. Permitted: Plastic pipes, - Fibre-reinforced composite pipes, - Multilayer pipes, - Permitted elastic insulation types

Permitted plastic pipes (or equivalent)	Permitted fibre-reinforced pipes (or equivalent)
✓ PE(-HD), PE-X, ABS, SAN+PVC, PP, PVC(-U/-C) pipes	✓ Aquatechnik Fusio PP-R 80, Aquatechnik Fusio PP-RCT ✓ Aquatherm Blue-S, Aquatherm Blue-MF, Aquatherm Red-MF ✓ Aquatherm Green-MF, Aquatherm Green-MS ✓ Aquatherm Green-S, Aquatherm Lilac-S, Aquatherm Grey-MS and Aquatherm Orange M ✓ Bänninger PP-R, Bänninger Climatic PP-RCTen Bänninger Watertec PP-RCT
Permitted noise dampening plastic pipes (or equivalent)	Permitted cellular rubber-type elastic insulation (or equivalent)
✓ Coes PhoNoFire, Coestilen BluePower, Geberit Silent PP, Geberit Silent dB 20 ✓ Girpi Friaphon, Marley Silent, Pipelife Master 3, PhonEX AS ✓ Poloplast POLO-KAL NG, Poloplast POLO-KAL 3S, Skolan dB, Raupiano Plus ✓ Valsir Triplus, Wavin SiTech+, Wavin AS, DykaSono, Uponor Decibel	✓ Reaction to fire class ≤ B-s1, d0 - e.g. ArmaFlex Ultima, Kaiflex KK Plus S1 ✓ Reaction to fire class ≤ B-s2, d0 - e.g. ArmaFlex AF EVO, Kaiflex KK Plus S2 / ST, K-Flex ST ✓ Reaction to fire class ≤ B-s3, d0 - e.g. ArmaFlex AF / XG / SH, K-Flex H ✓ Reaction to fire class ≤ C-s2, d0 - e.g. Kaiflex HT S2 ✓ Reaction to fire class ≤ D-s3, d0 - e.g. ArmaFlex NH / SH / HT ✓ The insulation may also have the classifications BL, CL, or DL (linear insulation).
Permitted multilayer pipes (or equivalent)	
✓ Alpex DUO, Valsir Pexal, Valsir Mixal and APE Plain (PE-Xb/AL/PE-Xb) ✓ Geberit Mepla and Uponor Unipipe (PE-RT/AL/PE-RT) ✓ Henco and Uponor (PE-Xc/AL/PE-Xc) ✓ Uponor, REHAU (PE-Xa) and REHAU (PE-Xc) ✓ SP Superpipe and POLYGON PEX (PE-X/AL/PE-X) ✓ Valsir Pexal and Valsir Mixal (PE/AL/PE-Xb) ✓ Wavin Tigris, Protecta-Line System and Alpex F50 Profi (PE-X/AL/PE)	

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8. Tested product combinations

Always check ETA 25/0231 for the proper application and resistance.

FIRESAFE / Product	Application	Size Ø [mm]	Insulation type	Construction			Classification in minutes
				FW-100	MW-100	MV-150	
FIRESAFE / FSW Fire gasket	Plastic pipes	≤ 110	Non-insulated			✓	EI 120. U/C
		≤ 125		✓	✓		EI 120. U/U
		≤ 160		✓	✓		EI 90. U/C
	Noise-dampening pipes	≤ 110				✓	EI 240. U/U
		≤ 125				✓	EI 240. U/C
		≤ 160		✓	✓		EI 120. U/U
	Fibre-reinforced composite pipes	≤ 110		✓	✓		EI 120. U/C
	Copper, cast iron, and steel pipes	≤ 324	Elastic	✓	✓		EI 120. C/U
		≤ 168				✓	

FIRESAFE / Product	Application	Size Ø [mm]	Insulation type	Construction			Classification in minutes
				FW-100	MW-100	MV-150	
FIRESAFE / FSD Disc	Plastic electrical conduit with and without cable. Alternatively, cable only	≤ 16 (5x)	Non-insulated	✓	✓	✓	EI 90. U/U
	Plastic electrical conduit with and without cable. Alternatively, cable only	≤ 25		✓	✓	✓	EI 90. U/U
	Cable	≤ 21		✓	✓	✓	EI 90
		≤ 12				✓	EI 120
	Cable bundles	≤ 25		✓	✓	✓	EI 60
	Multilayer pipes	≤ 16		✓	✓	✓	EI 90. U/C
	Copper, cast iron, and steel pipes	≤ 15		✓	✓		EI 45. C/U
							✓
Cast iron and steel pipes	≤ 17.2	✓	✓		EI 90. C/U		

FIRESAFE / Product	Application	Size Ø [mm]	Insulation type	Construction			Classification in minutes
				FW-100	MW-100	MV-150	
Multitherm Bandage Thermal insulation	Cables and cable trays	≤ 21	Non-insulated	✓	✓		EI 120
						✓	EI 90
	Multilayer pipes	≤ 26		✓	✓		EI 120. U/C
	Copper, cast iron, and steel pipes	≤ 88.9		✓	✓		EI 60. C/U
		≤ 54				✓	EI 90. C/U

FW-100: Light partition wall. Plaster walls with a thickness of ≥ 100 mm.

MW-100: Masonry and cast wall constructions, thickness ≥ 100 mm. Density 350 kg/m³.

MV-150: Masonry and cast wall constructions, thickness ≥ 150 mm. Density 400 kg/m³.

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9. Performance for cables, cable risers, cable trays in light plaster walls, and in solid concrete walls

Always check ETA 25/0031 for the proper application and resistance

Cables - cable risers - cable trays	FIRESAFE / FSB system	Fire rating out onto installation		Construction		Classification in minutes
		Length 50 mm ≥ 1 mm ⁽¹⁾ FIRESAFE / FSP	Length 150 mm ≥ 1.5 mm ⁽¹⁾ FIRESAFE / FSP	FW-100	MW-150	
Cables, cable risers / cable trays with and without perforation	FIRESAFE / FSB1 2 x 50 mm	✓		✓	✓	EI 60
			✓	✓	✓	EI 120
					✓	EI 240
Cables d ≤ Ø 80 mm, bundles ≤ Ø 100 mm		✓		✓	✓	EI 120
			✓	✓	✓	EI 90
Cables without cable shells ≤ Ø 24 mm		✓		✓	✓	EI 45
			✓	✓	✓	EI 60
Plastic pipes ≤ d Ø 16 mm		✓		✓	✓	EI 120
			✓	✓	✓	EI 180
Copper pipes ≤ d Ø 16 mm		✓		✓	✓	EI 45
			✓	✓	✓	EI 45
Steel pipes ≤ d Ø 16 mm		✓		✓	✓	EI 60
			✓	✓	✓	EI 90

¹⁾ Wet film thickness ≥ 1 mm, length 50 mm, or wet film thickness ≥ 1,5 mm, length 150 mm with FIRESAFE / FSP.

Cables - cable risers - cable trays	FIRESAFE / FSB system	Fire resistance out onto installation	Construction		Classification in minutes
		Length 150 mm ≥ 1 mm ⁽¹⁾ FIRESAFE / FSP	FW-100	MW-150	
Cable risers, cables/cable trays with and without perforation	FIRESAFE / FSB2 1 x 60 mm		✓	✓	EI 60
Cables d ≤ Ø 80 mm, bundles ≤ Ø 100 mm		✓	✓	✓	EI 60
Cables without shells d ≤ Ø 24 mm		✓	✓	✓	EI 45
Plastic pipes d ≤ Ø 16 mm		✓	✓	✓	EI 60
Copper pipes d ≤ Ø 16 mm		✓	✓	✓	EI 45
Steel pipes d ≤ Ø 16 mm		✓	✓	✓	EI 60

¹⁾ Wet film thickness ≥ 1 mm length, 150 mm with FIRESAFE / FSP.

FW-100: Light partition wall. Plaster walls with a thickness of ≥ 100 mm.

MW-150: Masonry and cast wall constructions, thickness ≥ 150 mm. Density 350 kg/m³.

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10. Performance for cables, cable risers, cable trays in masonry cast deck constructions

Cables - cable trays - cable risers	FIRESAFE / FSB system	Fire resistance out onto installation		Deck	Classification in minutes
		Length 50 mm ≥ 1 mm ⁽¹⁾ FIRESAFE / FSP	Length 150 mm ≥ 1.5 mm ⁽¹⁾ FIRESAFE / FSP	MV-150	
Cable risers, cables/cable trays with and without perforation	FIRESAFE / FSB2 2 x 50 mm	✓		✓	EI 90
			✓	✓	EI 120
Cables d ≤ Ø 50 mm, bundles d ≤ Ø 100 mm		✓		✓	EI 90
Cables d ≤ Ø 80 mm, bundles d ≤ Ø 100 mm			✓	✓	EI 120
Cables without cable shells d ≤ Ø 24 mm		✓		✓	EI 45
			✓	✓	EI 90
Copper pipes with cables d ≤ Ø 16 mm.		✓		✓	EI 90
			✓	✓	EI 120

1) Wet film thickness ≥ 1 mm, length 50 mm, or wet film thickness ≥ 1,5 mm, length 150 mm with FIRESAFE / FSP.

Cables - cable trays - cable risers	FIRESAFE / FSB system	Fire rating out onto installation	Deck	Classification in minutes
		Length 150 mm ≥ 1 mm ⁽¹⁾ FIRESAFE / FSP	MV-150	
Cables, cable risers / cable trays with and without perforation	FIRESAFE / FSB2 1 x 60 mm	✓	✓	EI 90
Cables d ≤ Ø 50 mm, bundles d ≤ Ø 100 mm		✓	✓	EI 60
Cables without cable shells ≤ Ø 24 mm		✓	✓	EI 45
Copper pipes with cables ≤ Ø 16 mm		✓	✓	EI 90

¹⁾ Wet film thickness ≥ 1 mm length, 150 mm with FIRESAFE / FSP.

MV-150: Masonry and cast wall constructions, thickness ≥ 150 mm. Density 400 kg/m³.

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FIRESAFE / FSB

Firestop Boards for Penetration Seals

TECHNICAL DATA SHEET

Date: 30/07/2025

Rev.: 0

Prepared by: PP

Checked by: HKE

European approvals:

ETA No: 25/0231 Penetration Seals

DoP No.: FS/PP/FSP - 30/07/2025

CE 2821

11. Maximum recess size in plaster board and concrete walls

Size of recess [mm]	FIRESAFE / FSB system	Construction			Classification in minutes
		FW-100		MW-150	
		Without framing in recess	With framing in recess		
1500 x 2500 mm (w x h). Max. 3.75 m ² , ≤ Ø 1954	FIRESAFE / FSB1 2 x 50 mm	✓	✓	✓	EI 60
625 x 475 mm (w x h). Max. 0.29 m ² , ≤ Ø 550		✓	✓	✓	EI 120
1500 x 2500 mm (w x h). Max. 3.75 m ² , ≤ Ø 1954			✓	✓	EI 120
1200 x 2000 mm (w x h). Max. 2.4 m ² , ≤ Ø 1748			✓	✓	EI 180
750 x 1250 mm (w x h). Max. 0.93 m ² , ≤ Ø 1093	FIRESAFE / FSB1 2 x 50 mm. Electrical cabinets	✓	✓	✓	EI 120
1200 x 2000 mm (w x h). Max. 2.4 m ² , ≤ Ø 1748	FIRESAFE / FSB2 1 x 60 mm		✓	✓	EI 60
1500 x 1500 mm (w x h). Max. 2.26 m ² , ≤ Ø 1354			✓	✓	EI 60
563 x 525 mm (w x h). Max. 0.29 m ² , ≤ Ø 548			✓	✓	EI 90
450 x 420 mm (w x h). Max. 0.19 m ² , ≤ Ø 491			✓	✓	EI 120
1200 x 1200 mm (w x h). Max. 1.44 m ² , ≤ Ø 1354	FIRESAFE / FSB2 - 2 x 60 mm			✓	EI 240
750 x 600 mm (w x h). Max. 0.45 m ² , ≤ Ø 757	FIRESAFE / FSB2 - 2 x 60 mm. Electrical cabinets			✓	EI 240

FW-100: Light partition wall. Plaster walls with a thickness of ≥ 100 mm.

MW-150: Masonry and cast wall constructions, thickness ≥ 150 mm. Density 350 kg/m³.

12. Maximum recess size in concrete decks

Cables - cable trays - cable risers Size of recess [mm]	FIRESAFE / FSB system	Construction MW-150	Rating in minutes
1200 x 1200 square, ≤ Ø 1354 9000 x 900 rectangular opening	FIRESAFE / FSB1 2 x 50 mm	✓	EI 90
600 x 400, ≤ Ø 553		✓	EI 120
450 x 450, ≤ Ø 508		✓	EI 240
1200 x 1200 square, ≤ Ø 1354 9000 x 900 rectangular opening	FIRESAFE / FSB2 1 x 60 mm	✓	EI 90

MW-150: Masonry and cast wall constructions, thickness ≥ 150 mm. Density 350 kg/m³.

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13. Service support - suspension systems and distances

Wall figure a: The distance to the nearest or first service support for all types of technical installations may be ≤ 450 mm from the fire partition, except for cable trays, which must be ≤ 250 mm from the fire partition.

Floor figure b: The distance to the nearest or first service support for all types of technical installations may be ≤ 450 mm from the fire partition, except for cable trays, which must be ≤ 250 mm from the fire partition.

Figure a.

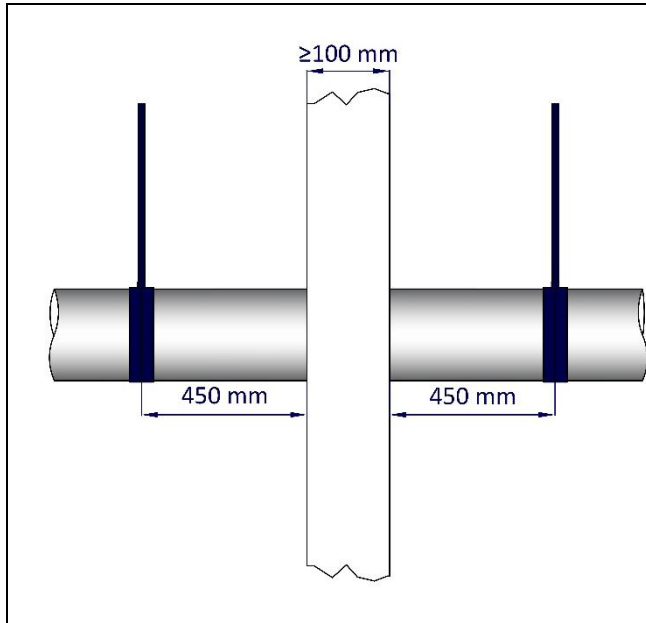
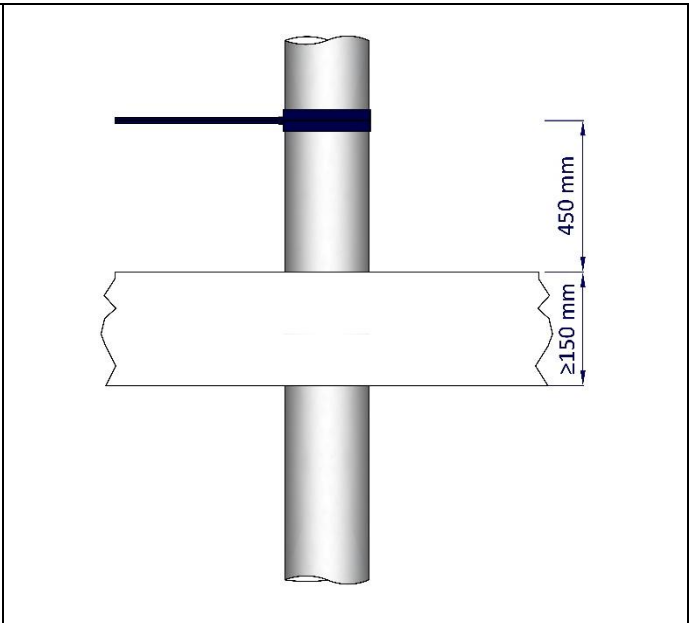
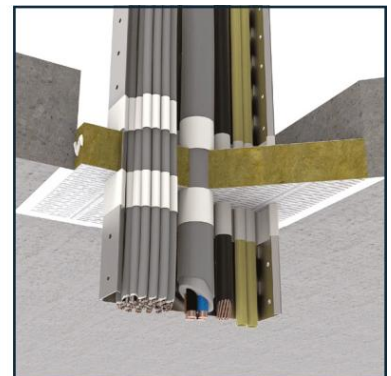
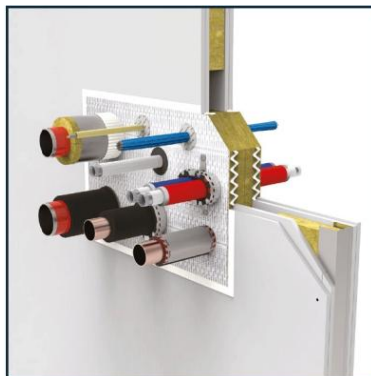


Figure b.



14. Joints and gaps in plaster and masonry walls, cast concrete decks

Joints and openings in the FIRESAFE / FSP system and installations must undergo further treatment using FIRESAFE / FSA Firestop Acrylic upon installation. Joints between the construction and the FIRESAFE / FSP must always undergo further treatment upon installation.



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15. Specific properties

The FIRESAFE / FSB system has a range of specific properties. This makes the system easy and efficient to use. For instance, this system allows you to avoid installing framing in light partition walls. The table below shows maximum recess dimensions.

FIRESAFE / FSB	Thickness [mm]	Maximum opening	
		Insulated and non-insulated plaster walls ⁽¹⁾ and masonry/cast walls ≥ 100 mm	Masonry/cast deck constructions, thickness ≥ 150 mm.
FIRESAFE / FSB1	2 x 50	1500 x 2500 (w x h or h x w) max. 3.75 m ²	1200 x 1200 mm square or rectangular opening, 9000 x 900 mm.
FIRESAFE / FSB2	1 x 60		

¹⁾ Framing not needed in recesses for light plaster partitions, stud weights and frames.

FIRESAFE / FSB fireboards are to be glued using FIRESAFE / FSA sealant in the construction.

16. Explanation of abbreviations for pipe ends (cf. EN 1366-3: 2021)

Instructions:

The test configuration will determine approval for the use of pipes. Before a type of pipe undergoes testing, the intended use of the pipes must be taken into account. Where will the plastic pipes be used in practice?

Test standard EN 1366-3 provides requirements for this. This will decide whether or not the pipe must be capped. See the test configuration in **Table 1** for flammable plastic pipes and **Table 2** for metal pipes.

During fire testing, the ends of the pipe and fire sealing systems must be tested to determine whether the pipes must be capped at one or both ends, or kept fully uncapped in the building. Pressure, smoke, and hot gases must not be able to pass through the pipes or fire sealing systems in the event of a fire.

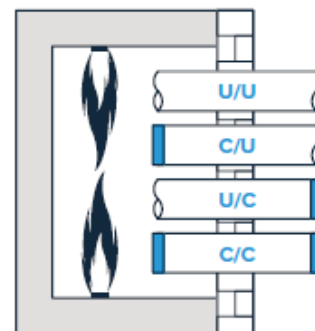


Table 1 - Test configuration for plastic pipes						
Test setup	Pipe end		Permitted use			
	In oven	Outside of oven	U/U	C/U	U/C	C/C
U/U	Uncapped	Uncapped	✓	✓	✓	✓
C/U	Capped	Uncapped	X	✓	✓	✓
U/C	Uncapped	Capped	X	X	✓	✓
C/C	Capped	Capped	X	X	X	✓
* U/U tested, covers all pipe ends.						

Table 2 - Test configuration for metal pipes					
Test setup	Pipe end		Permitted use		
	In oven	Outside of oven	U/C	C/U	C/C
U/C *	Uncapped	Capped	✓	✓	✓
C/U	Capped	Uncapped	X	✓	✓
C/C	Capped	Capped	X	X	✓
* U/C tested, also covers U/U.					

Plastic pipes

Table H.1 displays some examples of pipes and intended uses where the end of the pipe is capped or not. The table cannot take all possible usage options into account. When deciding whether to cap the end of the pipe or to let it remain uncapped, several factors must be considered: is the system under pressure, and is the system ventilated? Consider the service type of the pipe to determine whether it should be capped. If national regulations provide other requirements than those given in table H1, then these regulations shall apply.

17. Testing of plastic pipe configurations adapted for the type of service

Table H.1. Plastic pipes

Pipe type, type of service	Pipe end		Test setup
	In oven	Outside of oven	
Rainwater drainage	Uncapped	Uncapped	U/U
Sewage, ventilated	Uncapped	Uncapped	U/U
Sewage, non-ventilated	Uncapped	Capped	U/C
Gas pipes, drinking water pipes, hot water pipes	Uncapped	Capped	U/C
Capped pipe systems with permanent water pressure, water supply	Capped	Capped	C/C

Pipe ends C/U or U/C apply to wastewater pipes with a water trap in accordance with table H.1 in EN 1366-3.

Pipe ends C/C apply to pipes with permanent water pressure, e.g., pipes for hot and cold water supply following table H.1 in EN 1366-3.

Non-flammable metal pipes

Metal pipes are usually capped in the testing oven. As the metal will not melt away, it is assumed that there will not be an open end on the pipes in the event of a fire. It is therefore assumed that the suspension system will remain in place. If the pipes are supported by a suspension system that does not have a fire resistance, or if there are waste chutes, the metal pipes will not be capped in the testing oven, as shown in table H.2.

Table H.2. Metal pipes or non-flammable pipes

Pipe type, type of service	Pipe end		Test setup
	In oven	Outside of oven	
Service support – fire rated suspension system ^a	Capped	Uncapped	C/U
Service support – suspension system without fire resistance	Uncapped	Capped	U/C
Chute for waste disposal	Uncapped	Capped	U/C

^a must be documented via fire testing or calculations (e.g. Euro codes)

18. Requirements for the properties of structural components

Flexible plaster walls

The minimum thickness for walls must be 100 mm, and the wall must consist of steel or wood studs* with at least 2 layers of plaster cladding on each side, thickness 12.5 mm.

Masonry – cast walls

The minimum thickness for walls is 75 mm and the wall must consist of concrete, aerated concrete, or masonry with a density of at least 350 kg/m³ or timber (CLT) with a density of at least 400 kg /m³.

Masonry – cast floors or CLT

The minimum thickness for floors is 150 mm and the wall must consist of concrete, aerated concrete, or masonry with a density of at least 400 kg/m³ or cross-laminated timber (CLT) with a minimum thickness of 140 mm and a density of at least 400 kg /m³.

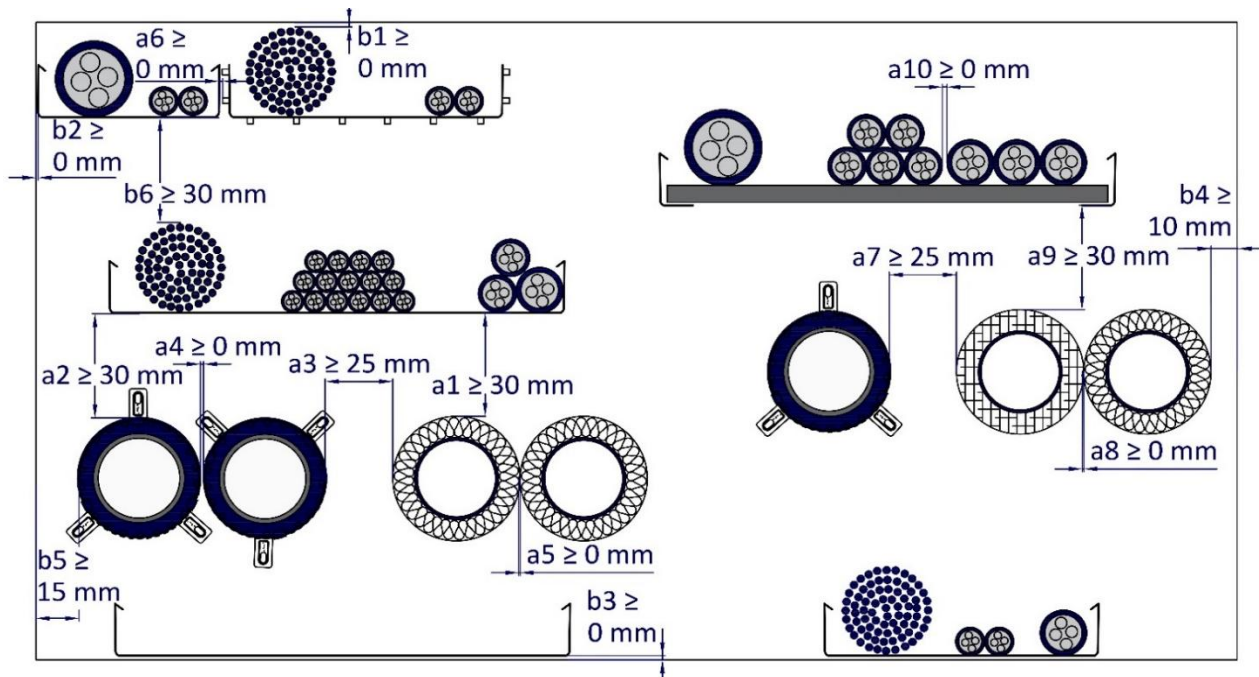
* There must be a distance of at least 100 mm from each part of the penetration joint to the tree studs, and the aperture between the penetration joint and the studs must be covered. The gap between the penetration joint and the timber studs must be fitted with at least 100 mm of insulation with fire classification A1 or A2 (in accordance with EN 13501-1). The construction must be classified in accordance with EN 13501-2 for the specified fire rating.

19. Distances

Mixed penetration seals, mutual distances and distances to recess edges.

Alternatively, distances between single penetrations and distances to recess edges. See table and figure.

Figure no.	Type of installation	Distance [mm]
a1	Distance between cables / cable trays and metal pipes.	≥ 30
a2	Distance between cables / cable trays and plastic pipes.	≥ 30
a3	Distance between metal pipes and plastic pipes.	≥ 25
a4	Distance between plastic pipes.	≥ 0
a5	Distance between metal pipes with non-flammable insulation.	≥ 0
a6	Horizontal distance between cable trays.	≥ 0
a7	Distance between plastic pipes and pipes with flammable insulation.	≥ 25
a8	Distance between pipes with non-flammable insulation and pipes with flammable insulation.	≥ 0
a9	Distance between cables / cable trays and pipes with flammable insulation.	≥ 30
a10	Distance between pipes stacked together or assembled in rows.	≥ 0
b1	Distance between cables / cable trays and upper seal edge.	≥ 0
b2	Distance between cables / cable trays and side seal edge.	≥ 0
b3	Distance between cables / cable trays and bottom seal edge.	≥ 0
b4	Distance between metal pipes and all seal edges.	≥ 10
b5	Distance between plastic pipes and all seal edges.	≥ 15
b6	Vertical distance between cable trays and other installations.	≥ 30



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20. Available documents and approvals for FIRESAFE / FSB

Technical documents
✓ Product data sheet (PDS)
✓ Technical data sheet (TDS)
✓ Safety data sheet (SDS)
✓ CE marking
✓ Emissions reports
✓ Acoustics report

Approvals
✓ Tested in accordance with EN 1366-3
✓ Classification in accordance with EN 13501-1/2
✓ Certified in accordance with EAD 350454-00-1104
✓ ETA: 25/0231. Penetration Seals
✓ Declaration of Performance (DoP)

The documents listed above can be obtained from your Firesafe contact person, via QR code (Digital Pass), or on the Firesafe website: www.firesafe.no.