UL-EU CERTIFICATE

Certificate No. UL-EU-01277-EN

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Date of Issue 2023-11-14

Certificate Holder fischerwerke GmbH & Co. KG

Klaus-Fischer-Strasse 1

72178 Waldachtal

Germany

Manufacturer fischerwerke GmbH & Co. KG

Otto-Hahn-Straße 15 79211 Denzlingen

Germany

Certified Product Type Fire Stopping and Sealing Product

Product Trade Name fischer FiAM Plus

Trademark N/A

Rating/Classification See Appendix

Harmonised Technical Specifications EAD 350454-00-1104, September 2017 /

EAD 350141-00-1106, September 2017 / EN 13501-2

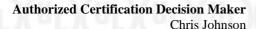
Supporting Documentation Classification Report No. 4790892679.1-01 and

4790892679.1-02

Additional information Additional test evidence is held on file

Expiry date 2033-11-13





This is to certify that representative samples of the Certified Product listed above have been investigated by Underwriters Laboratories to the Standard(s) indicated on this Certificate, in accordance with the UL Global Services Agreement and the UL-EU Mark Service Terms and Conditions ("Agreement"). The Certificate Holder is entitled to use the UL-EU Mark for the Certified Product listed on the certificate and manufactured at the production site(s) listed, in accordance with the terms of the Agreement. Only those products bearing the UL-EU Mark for Europe should be considered as being covered by UL's UL-EU Mark Service. This Certificate shall remain valid through the Expiration date, unless a Standard identified on this Certificate is amended or withdrawn prior to that date or there is a non-compliance with the Agreement.



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This certificate relates to the use of fischer FiAM Plus for fire stopping where there are joints in or between walls & floors and service penetrations through walls & floors. The detailed scope is given in pages 3 to 77 of this Certificate. This shows the thickness and acceptable dimensions, substrates and orientations required to provide fire resistance periods of up to 240 minutes for differing seal configurations and supporting constructions.

The product is certificated on the basis of:

- i) Inspection and surveillance of factory production control by UL
- ii) Fire resistance test data in accordance with EN 1366-3:2021 and EN 1366-4:2021
- iii) Classification in accordance with EN 13501-2
- iv) Durability and Serviceability as defined in EAD 350141-00-1106 / EAD 350454-00-1104

The durability class of fischer FiAM Plus is Type Y_2 - Intended for use in conditions below 0° C (occasionally), but with no exposure to wetness, rain or UV (exception: re-drying short-term condensation). Please refer to installation instructions from manufacturer.

fischer FiAM Plus is a one-part water based acrylic sealant system and is supplied in cartridges and tubular bags which can be applied as a surface-mounted system on a suitable backing material as specified in this Certificate.



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Product-type: Sealant		ded use: Lin ration Seals	ear Joint and Gap Seals
Basic requirement for construction work	Basic Requiren	nent	Basic requirement for construction work
	BWR 2 Safety in case	of fire	
EN 13501-1	Reaction to fin	·e	D-s1, d0
EN 13501-2	Resistance to fire		See pages 5-77
BV	VR 3 Hygiene, health and	environment	VII. VII. VI
Declaration of manufacturer & EN 16516	Content, emission and/dangerous substa		Use categories: IA1 VOC / SVOC: See page 5
EN 1026	Air permeability (mater	ial property)	See page 4
EAD 350141-00-1106, Annex C & EN 12390-8	Water permeability (material property)		No performance determined
Y U1 Y U1 Y U1)	BWR 4 Safety in t	ise	Y U i Y U i Y U
EOTA TR 001:2003	Mechanical resistance and stability		No performance determined
EOTA TR 001:2003	Resistance to impact/movement		No performance determined
EOTA TR 001:2003 ISO 11600 & EAD 350141-00-1106, Clause 2.2.8	Adhesion		7,5P
EAD 350141-00-1106, Clause 2.2.12	Durability	Ji X Ui	Type Y ₂
EAD 350141-00-1106, Clause 2.2.13	Movement capa	ncity	7,5P*
EAD 350141-00-1106, Clause 2.2.14	Cycling of perimeter sea walls	ls for curtain	No performance determined
EAD 350141-00-1106, Clause 2.2.15	Compression	set	No performance determined
EAD 350141-00-1106, Clause 2.2.16	Linear expansion or	n setting	No performance determined
人に人に人にして	BWR 5 Protection again	nst noise	パリパリパ
EN 10140-1,2,4,5/ EN ISO 717-1	Airborne sound ins	sulation	See page 4
BW	R 6 Energy economy and	heat retention	N U I N U I N U
EN 12664, EN 12667, EN 12939, EN ISO 8990, EN ISO 6946, EN ISO 10456	Thermal proper	rties	No performance determined
EN ISO 12572, EN 12086, EN ISO 10456	Water vapour perm	eability	No performance determined

^{*}Fire-resistance classification may exceed this value. 7.5P is evaluated against ISO11600 and not fire resistance.



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Content, emission and/or release of dangerous substances					
The release of semi-volatile organic compounds (SVOC) and volatile organic compounds (VOC) has been determined					
according to EAD 350141-00-1106 / EAD 350454-00-1104 and EN 16516:2017+A1:2020.					
The loading f	actor used for emission testing was 0.007 m	$^{2}/\mathrm{m}^{3}$.			
Total emission of SVOC after 3 days /	Total emission of VOC after 3 days	Total emission of VOC after 28			
28 days [mg/m ³]	$[mg/m^3]$	days [mg/m³]			
None determined	0.036	0.013			

Air Permeability according to EN 1026:2016			
Dimensions of blank specimen fischer FiAM Plus applied on one side of assembly	Airelealean		
4 mm thick (dry film thickness) and backfilled with stone wool insulation (60 kg/m³)	Air leakage		
Ø 300 mm	N		
550 mm x 200 mm	No measurable air flow up to 600 Pa		
100 mm x 1000 mm	000 Fa		

Acoustic performance according to EN ISO 10140-2 / EN ISO 717-1			
Configuration	Rated sound reduction index		
5 mm thick (dry film thickness) fischer FiAM Plus coating applied onto both sides, backed with 40 mm thick compressed stone wool insulation (80 kg/m³), installed flush with both surfaces of 100 mm thick test assembly. Opening size: 1250 mm x 40 mm.	Rw (C; Ctr) = 55 (-2; -5) dB		



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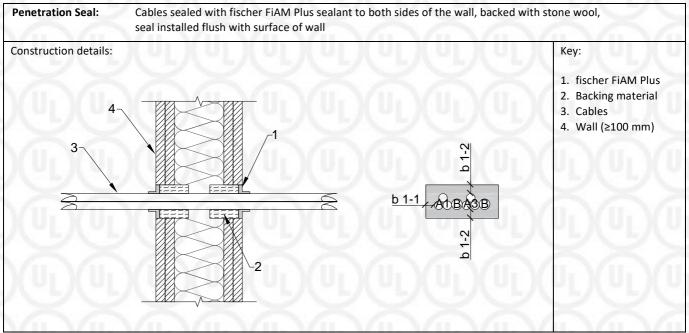
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Flexible wall constructions with minimum wall thickness of 100 mm

Double-sided, double-layer gypsum board (Type F, EN 520, \geq 12.5 mm) wall construction with min. 40 mm mineral wool insulation (\geq 100 kg/m³) and an overall minimum wall thickness of 100 mm.

Double sided penetration seal with cables (service option S)



b 1-1 –side (≥10 mm) b 1-2 – top / bottom (≥10 mm) Cable support ≤250 mm from wall

Type of penetrant	Cable type	Maximum aperture size	Seal thickness	Seal overlap on penetrant	Backing material	Classification
service option S	Sheathed cables / telecommunication cables / optical fibre cables up to a max. outer diameter of 21 mm without cable carrier	112 mm x 46 mm	5 mm	13 mm*	Stone wool p ≥60 kg/m³, ≥40 mm deep from both sides**	E 60 EI 30

overlap with sealant thickness of t ≥3 mm

** ≥10 mm air gap between layers of insulation



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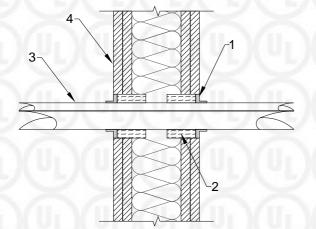
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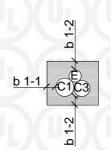
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Double sided penetration seal with cables (service option M)

Penetration Seal: Cables sealed with fischer FiAM Plus sealant to both sides of the wall, backed with stone wool, seal installed flush with surface of wall

Construction details:





Key:

- 1. fischer FiAM Plus
- 2. Backing material
- 3. Cables
- 4. Wall (≥100 mm)

b 1-1 –side (≥10 mm) b 1-2 – top/bottom (≥10 mm) Cable support ≤250 mm from wall

Type of penetrant	Cable type	Maximum aperture size	Seal thickness	Seal overlap on penetrant	Backing material	Classification
Service option M	Sheathed cables / telecommunication cables / optical fibre cables up to a max. outer diameter of 50 mm without cable carrier	105 mm x 81 mm	5 mm	13 mm*	Stone wool p ≥60 kg/m³, ≥40 mm deep from both sides**	E 60 EI 20

overlap with sealant thickness of t ≥3 mm

** ≥10 mm air gap between layers of insulation

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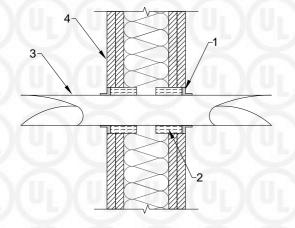
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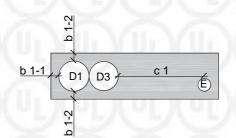
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Double sided penetration seal with cables (service option L)

Penetration Seal: Cables sealed with fischer FiAM Plus sealant to both sides of the wall, backed with stone wool, seal installed flush with surface of wall

Construction details:





Kev

- 1. fischer FiAM Plus
- 2. Backing material
- 3. Cables
- 4. Wall (≥100 mm)

b 1-1 –side (≥10 mm)

b 1-2 – top (≥10 mm)

c 1 – (≥ 0 mm)

Cable support ≤250 mm from top surface of floor

Type of penetrant	Cable type	Maximum aperture size	Seal thickness	Seal overlap on penetrant	Backing material	Classification
Service option L	Sheathed cables / telecommunication cables / optical fibre cables up to a max. outer diameter of 80 mm without cable carrier	310 mm x 78 mm	5 mm	13 mm*	Stone wool p ≥60 kg/m³, ≥40 mm deep from both sides**	E 60 El 20

overlap with sealant thickness of t ≥3 mm

** ≥10 mm air gap between layers of insulation

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Double sided penetration seal with cables (tied bundle of cables)

Penetration Seal:	Cable bundle sealed with fischer FiAM Plus se seal installed flush with surface of wall	ealant to both sides of the wall, back	ed with stone wool,
Construction details:	seal installed flush with surface of wall	b 1-1 F-cable bundle	Key: 1. fischer FiAM Plus 2. Backing material 3. Cable bundle 4. Wall (≥100 mm)

b 1-1 –side (≥10 mm) Cable support ≤250 mm from wall

Type of penetrant	Cable type	Maximum aperture size	Seal thickness	Seal overlap on penetrant	Backing material	Classification
Tied bundle of cables	Tied bundles up to 100 mm overall diameter containing sheathed electrical / telecommunication / optical fibre cables up to a max. outer diameter of 21 mm without cable carrier	Ø120 mm	≥5 mm	≥13 mm**	Stone wool p ≥60 kg/m³, ≥40 mm deep from both sides***	E 60 EI 20

overlap with sealant thickness of t ≥3 mm



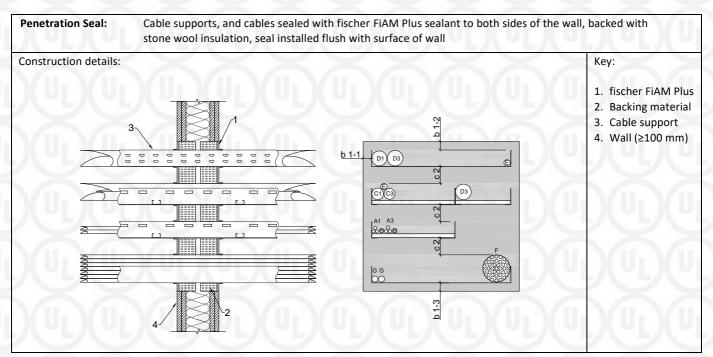
^{** ≥10} mm air gap between layers of insulation

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Double sided penetration seal with cables supports (service option L)



Minimum working clearance: Distance between cable / cable carrier and the aperture edge

- b 1-1 Distance between a cable / the cable carrier and the aperture edge aside (\geq 25 mm)
- b 1-2 Distance between a cable / the cable carrier and the aperture edge above (\ge 25 mm and \le 85 mm)
- b 1-3 − Distance between a cable / the cable carrier and the aperture edge − underneath (≥25 mm)
- c1 (not shown) Distance between a cable carrier and another cable carriers aside (≥0 mm)
- c2 Distance between a cable / the cable carrier and other cables / cable carriers underneath (\geq 50 mm)

Cable support (with cable carrier) \leq 250 mm from both surface of wall

Cable support (without cable carrier) ≤ 150 mm from both surface of wall

Type of penetrant	Cable type***	Maximum aperture size	Seal thickness	Seal overlap on penetrant	Backing material	Classification
Service option L	Sheathed cables / telecommunication cables / optical fibre cables up to a max. outer diameter of 80 mm Tied bundles up to 100 mm overall diameter containing sheathed electrical / telecommunication / optical fibre cables up to a max. outer diameter of 21 mm	550 mm x 500 mm (width x height)	≥5 mm	≥13 mm*	Stone wool ρ ≥60 kg/m³, ≥40 mm deep from both sides**	E 45 El 20
	Non-sheathed cables up to a maximum outer diameter of 24 mm	(0°)	L)(UI	$)(U_L)($	$U_L)(U_1$	$)(U_L)(U_L)(U_L)(U_L)(U_L)(U_L)(U_L)(U_L$

- overlap with sealant thickness of t ≥3 mm
- ** ≥10 mm air gap between layers of insulation
- *** with or without cable carrier

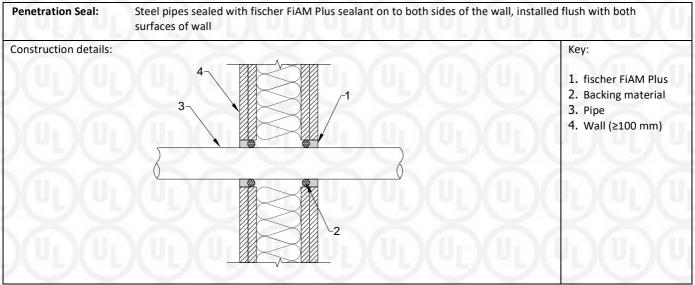


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Double sided penetration seal with steel pipes



Pipe support ≤ 250mm from wall

Type of penetrant	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness)(UL)(U)(U _L)(U _L)(սլ)(սլ)(սլ	EI 60 – C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness			nr / nr / nr	E 60 – C/U, C/C EI 15 – C/U, C/C
Steel pipe, max. Ø114.3 mm, min. 3.6 mm wall thickness	≥10 mm	10 mm	PE backer rod	E 60 – C/U, C/C
Steel pipe, max. Ø355.6 mm, min. 10.0 mm wall thickness)(U _L)(U _l)(n ^r)(n ^r)(U_L) $(U_L)(U_L$	E 60 – C/U, C/C EI 20 – C/U, C/C
Steel pipe, max. Ø355.6 mm, min. 20.0 mm wall thickness			UL) UL) UL	E 60– C/U, C/C EI 30 – C/U, C/C

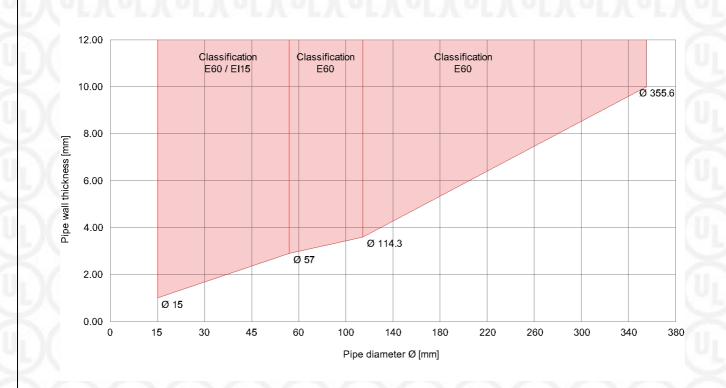
Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below



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Penetration Seal: Pipe diameter and wall thickness interpolation for Double sided penetration seal with steel pipes





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Double sided penetration seal with stone wool insulated steel pipes (CS)

Steel pipes sealed with fischer FiAM Plus sealant to both sides of th surfaces of wall	ne wall, installed flush with both
\times \times \times \times \times	Key:
3	 fischer FiAM Plus Backing material Pipe Pipe insulation Wall (≥100 mm)
2	

Pipe support ≤ 250mm from wall

Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness					E 60 – U/C, C/U, C/C EI 45 – U/C, C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness	Stone wool, ρ ≥42 kg/m³, thickness ≥50 mm*	≥10 mm	10 mm	PE backer rod	E 60 – U/C, C/U, C/C EI 30 – U/C, C/U, C/C
Steel pipe, max. Ø114.3 mm, min. 3.6 mm wall thickness			(I)(II		E 60 – U/C, C/U, C/C EI 45 – U/C, C/U, C/C

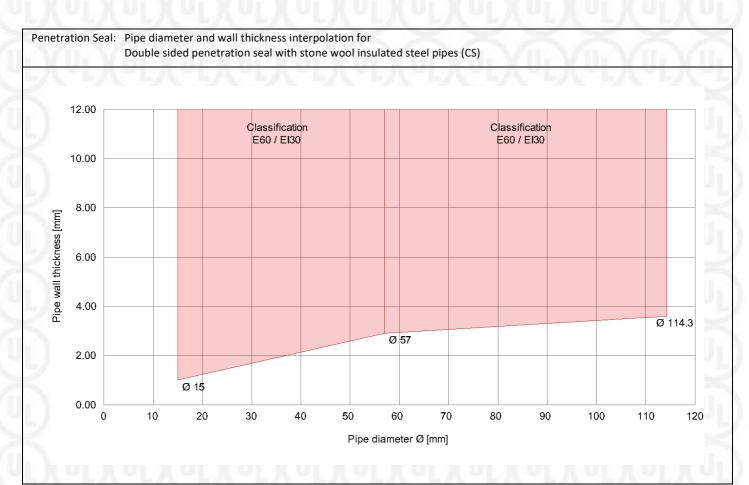
^{*} CS = Continued Sustained

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below



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Double sided penetration seal with stone wool insulated steel pipes (CI)

Penetration Seal:	Steel pipes sealed with fischer FiAM Plus sealant to both sides of the surfaces of wall	wall, installed flush with both
Construction details:	\times	Key:
		 fischer FiAM Plus Backing material Pipe Pipe insulation Wall (≥100 mm)

Pipe support ≤ 250mm from wall

Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness	Stone wool, ρ ≥ 42 kg/m³, thickness ≥ 50 mm*			EI 60 – U/C, C/U, C/C	
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness		57 mm, 9 mm wall $ \begin{array}{ll} \text{Stone wool,} \\ \rho \ge 42 \text{ kg/m}^3, \\ \text{thickness} > 50 \text{ mm}^* \end{array} $	≥10 mm	mm 10 mm	PE backer rod
Steel pipe, max. Ø114.3 mm, min. 3.6 mm wall thickness			4		E 60 – U/C, C/U, C/C EI 30 – U/C, C/U, C/C

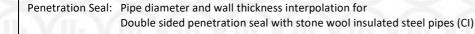
^{*} CI = Continued Interrupted

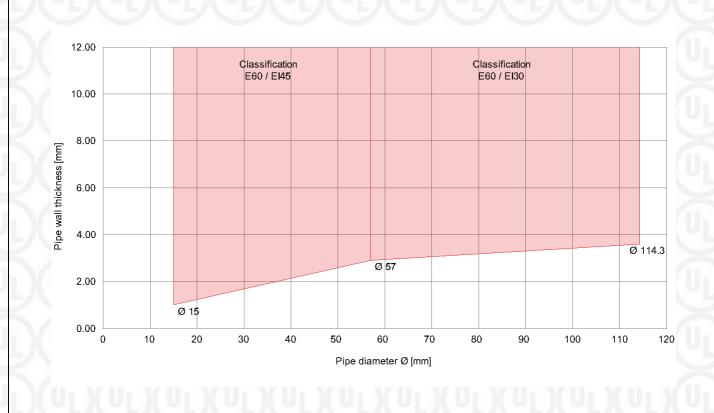
Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below



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Double sided penetration seal with rubber type insulated steel pipes (CS)

Penetration Seal:	Steel pipes sealed with fischer FiAM Plus sealant to both sides of the w surfaces of wall	all, installed flush with both
Construction details:	\times	Key:
	3	 fischer FiAM Plus Backing material Pipe Pipe insulation Wall (≥100 mm)
	2	

Pipe support ≤ 250mm from wall

Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness	AF/ArmaFlex Evo,	1)(1)(100	(I)(I)(EI 60 – C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness	13 mm thickness*	— ≥20 mm	4	4	EI 60 – C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness	AF/ArmaFlex Evo,		20 mm	PE backer rod	E 60 – C/U, C/ EI 45 – C/U, C/C
Steel pipe, max. Ø114.3 mm, min. 3.6 mm wall thickness	25 mm thickness*				E 60 – C/U, C/ EI 45 – C/U, C/C

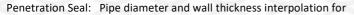
^{*} CS = Continued Sustained

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below

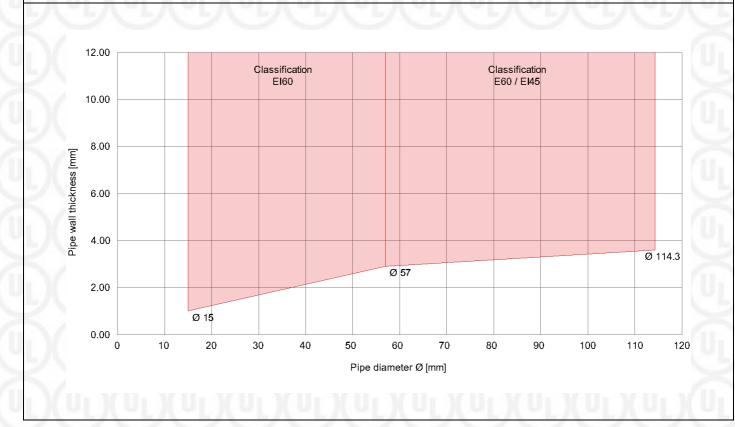


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Double sided penetration seal with rubber type insulated steel pipes (CS)



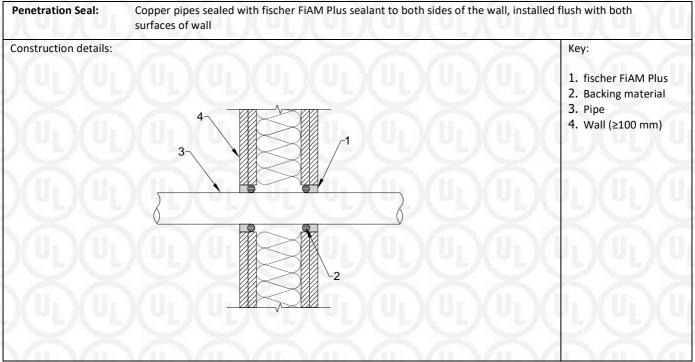


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Double sided penetration seal with copper pipes



Pipe support ≤ 250mm from wall

Type of penetrant	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness	- ≥10 mm	10 mm	PE backer rod	E 60 – C/U, C/C
Copper pipe, max. Ø40 mm, min. 1.5 mm wall thickness			T E Bucket Fou	E 60 – C/U, C/C

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below

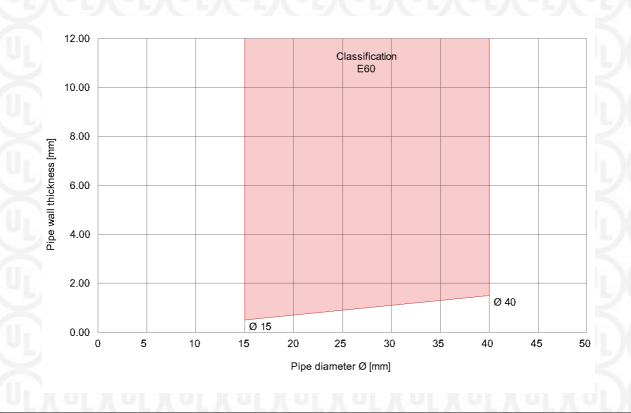


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Penetration Seal: Pipe diameter and wall thickness interpolation for

Double sided penetration seal with copper pipes





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Double sided penetration seal with stone wool insulated copper pipes (CS)

Penetration Seal:	Copper pipes sealed with fischer FiAM Plus sealant to both sides of t surfaces of wall	he wall, installed flush with both
Construction details:	\times	Key:
		 fischer FiAM Plus Backing material Pipe Pipe insulation Wall (≥100 mm)

Pipe support ≤ 250mm from wall

Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness	Mineral stone wool,				EI 60 – U/C, C/U, C/C
Copper pipe, max. Ø40 mm, min. 1.5 mm wall thickness	- ρ ≥ 42 kg/m³, thickness ≥ 50 mm*	≥10 mm	10 mm	PE backer rod	E 60 – U/C, C/U, C/C EI 45 – U/C, C/U, C/C

^{*} CS = Continued Sustained

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below

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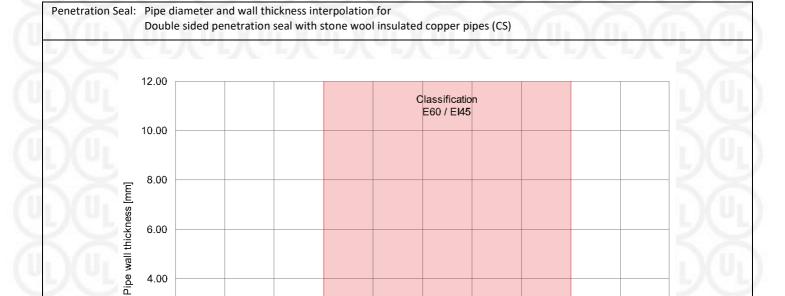
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2.00

0.00

5

10



Ø 15

20

25

Pipe diameter Ø [mm]

30

35

15

Form-ULID-006104 (DCS:27-CP-F0855) 6.0



Ø 40

45

50

40

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Double sided penetration seal with stone wool insulated copper pipes (CI)

Penetration Seal:	Copper pipes sealed with fischer FiAM Plus sealant to both sides of the surfaces of wall	e wall, installed flush with both
Construction details:	\times	Key:
		 fischer FiAM Plus Backing material
	3-\frac{5}{1}	3. Pipe4. Pipe insulation5. Wall (≥100 mm)
		(H)(H)(H)
	2	

Pipe support ≤ 250mm from wall

Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness	Stone wool, $\rho \ge 42 \text{ kg/m}^3,$	≥10 mm	10 mm	PE backer rod	EI 60- – U/C, C/U, C/C
Copper pipe, max. Ø40 mm, min. 1.5 mm wall thickness	thickness ≥50 mm*			TE Backet Tou	EI 60 – U/C, C/U, C/C

^{*} CI = Continued Interrupted

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below

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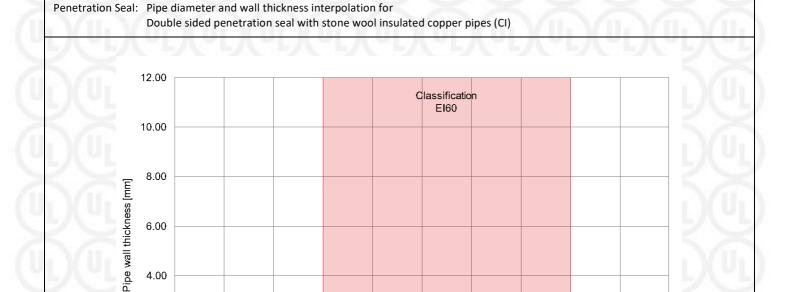
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5

10



Ø 15

20

25

Pipe diameter Ø [mm]

30

35

15

Form-ULID-006104 (DCS:27-CP-F0855) 6.0



Ø 40

45

50

40

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Double sided penetration seal with rubber type insulated copper pipes (CS)

Penetration Seal:	Copper pipes sealed with fischer FiAM Plus sealant to both sides of the wall, installed flush with both surfaces of wall				
Construction details:	\times	Key:			
	5	 fischer FiAM Plus Backing material 			
	3-4-1	3. Pipe4. Pipe insulation5. Wall (≥100 mm)			
		(I) (II) (II) (II)			

Pipe support ≤ 250mm from wall

Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness	AF/ArmaFlex Evo,	≥20 mm	20 mm	PE backer rod	EI 60 – C/U, C/C
Copper pipe, max. Ø40 mm, min. 1.5 mm wall thickness	13 mm thickness*)(v _L)(U _L)(U _L)(E 60 – C/U, C/C EI 45 – C/U, C/C

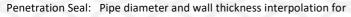
^{*} CS = Continued Sustained

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below

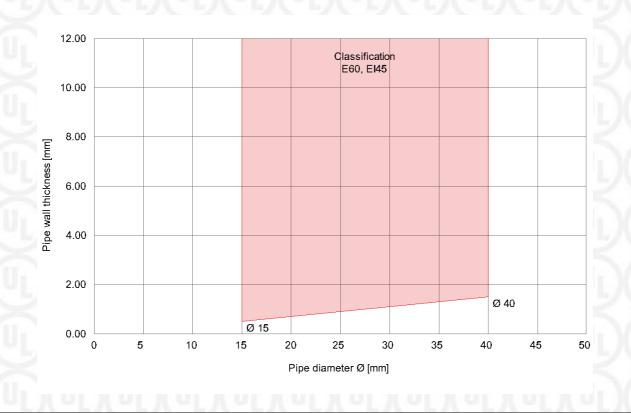
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Double sided penetration seal with rubber type insulated copper pipes (CS)





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Double sided penetration seal with combustible pipes

Penetration Seal:	Combustible pipes sealed with fischer FiAM Plus sealant to both sboth surfaces of wall	sides of the wall, installed flush with
Construction details:	$(\times \times \times \times \times \times)$	Key:
		 fischer FiAM Plus Backing material
	4~	3. Pipe 4. Wall (≥100 mm)

Pipe support ≤ 250mm from wall

Type of penetrant	Seal thickness	Annular space	Backing material	Classification
PP pipe, max. Ø50 mm, 2.7 mm wall thickness				EI 45 – U/C, C/C
PVC pipe, max. Ø50 mm, 3.7 mm wall thickness	≥20 mm	20 mm	PE backer rod	E 60 – U/C, C/C EI 15 – U/C, C/C
PE pipe, max. Ø50 mm, 3.0 mm wall thickness)UL)U		UL)(UL)(UL	EI 60 – U/C, C/C



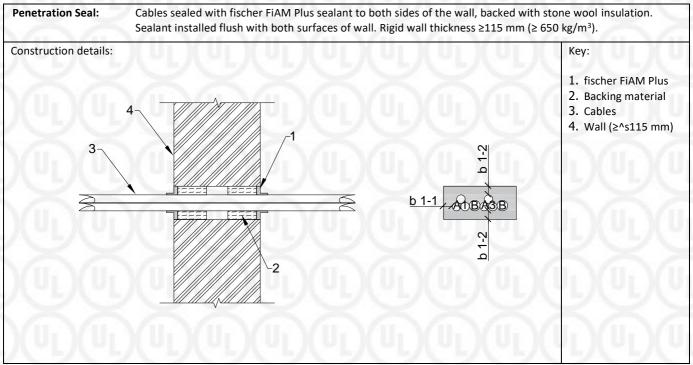
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Rigid wall constructions with minimum wall thickness of 115 mm

Double sided penetration seal with cables (service option S)



b 1-1 –side (≥10 mm)

b 1-2 – top/bottom (≥10 mm)

Cable support ≤250 mm from wall

Type of penetrant	Cable type	Maximum aperture size	Seal thickness	Seal overlap on penetrant	Backing material	Classification
Service option S	Sheathed cables / telecommunication cables / optical fibre cables up to a max. outer diameter of 21 mm without cable carrier	112 mm x 55 mm	≥5 mm	≥13 mm*	Stone wool p ≥60 kg/m³, ≥40 mm deep from both sides**	E 120 EI 45

overlap with sealant thickness of t ≥3 mm

** ≥10 mm air gap between layers of insulation

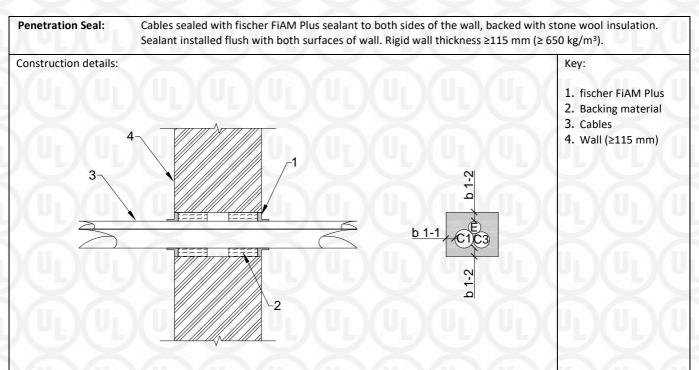


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Double sided penetration seal with cables (service option M)



b 1-1 -side (≥10 mm) b 1-2 - top/bottom (≥10 mm) Cable support ≤250 mm from wall

Type of penetrant	Cable type*	Maximum aperture size	Seal thickness	Seal overlap on penetrant	Backing material	Classification
Service option M	Sheathed cables / telecommunication cables / optical fibre cables up to a max. outer diameter of 50 mm without cable carrier	105 mm x 81 mm	≥5 mm	≥13 mm*	Stone wool p ≥60 kg/m³, ≥40 mm deep from both sides**	E 120 EI 30

overlap with sealant thickness of t ≥3 mm

** ≥10 mm air gap between layers of insulation



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Double sided penetration seal with cables (tied bundle of cables)

Penetration Seal:	Cable bundle sealed with fischer FiAM Plus s Sealant installed flush with both surfaces of		
Construction details:	\times	$\times \times \times$	Кеу:
3-		b 1-1 F-cable bundle	 fischer FiAM Plus Backing material Cable bundle Wall (≥115 mm)

b 1-1 –side (≥ 10 mm) Cable support ≤250 mm from wall

Type of penetrant	Cable type	Maximum aperture size	Seal thickness	Seal overlap on penetrant	Backing material	Classification
Tied bundle of cables	Tied bundles up to 100 mm overall diameter containing sheathed electrical / telecommunication / optical fibre cables up to a max. outer diameter of 21 mm without cable carrier	Ø120 mm	≥5 mm	≥13 mm*	Stone wool ρ ≥60 kg/m³, ≥40 mm deep from both sides**	E 120 EI 45

overlap with sealant thickness of t ≥3 mm



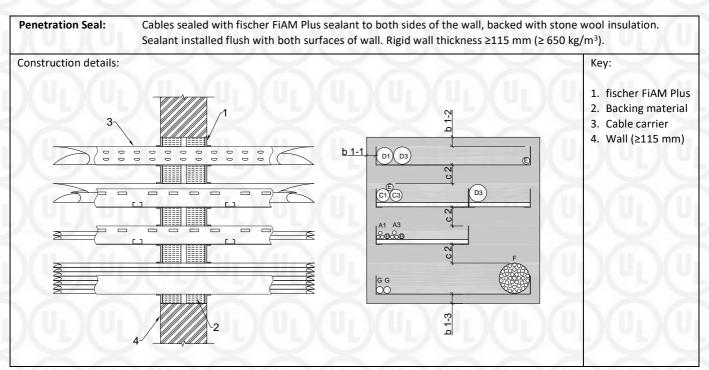
^{** ≥10} mm air gap between layers of insulation

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Double sided penetration seal with cables support (service option 'L')



Minimum working clearance: Distance between cable / cable carrier and the aperture edge

- b 1-1 Distance between a cable / the cable carrier and the aperture edge aside (≥25 mm)
- b 1-2 Distance between a cable / the cable carrier and the aperture edge above (\ge 25 mm and \le 85 mm)
- b 1-3 Distance between a cable / the cable carrier and the aperture edge underneath (\ge 25 mm)
- c1 (not shown) Distance between a cable carrier and another cable carriers aside (≥0 mm)
- c2 Distance between a cable / the cable carrier and other cables / cable carriers underneath (\geq 50 mm)

Cable support (with cable carrier) \leq 250 mm from both surface of wall

Cable support (without cable carrier) ≤150 mm from both surface of wall

Type of penetrant	Cable type***	Maximum aperture size	Seal thickness	Seal overlap on penetrant	Backing material	Classification
)(Ū	Sheathed cables / telecommunication cables / optical fibre cables up to a max. outer diameter of 80 mm)(L)	(1)	(II)	Stone wool	
Service option L	Tied bundles up to 100 mm overall diameter containing sheathed electrical / telecommunication / optical fibre cables up to a max. outer diameter of 21 mm	550 mm x 500 mm	≥5 mm	≥13 mm*	p ≥60 kg/m³, ≥40 mm deep from both sides**	E 120 El 30
	Non-sheathed cables up to a maximum outer diameter of 24 mm	$)(U_L)$	(U_L)	$(U_L)($	$U_L)(U_1$	$)(U_L)(U_I)$

- * overlap with sealant thickness of t ≥3 mm
- ** ≥10 mm air gap between layers of insulation
- *** with or without cable carrier



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Double sided penetration seal with steel pipes

Penetration Seal:	Steel pipes sealed with fischer FiAM Plus sealant to both sides of the v surfaces of wall. Rigid wall thickness ≥ 115 mm (≥ 650 kg/m ³).	wall, installed flush with both
Construction details:	\times	Key:
	3- 1	 fischer FiAM Plus Backing material Pipe Wall (≥115 mm)

Pipe support ≤ 250mm from wall

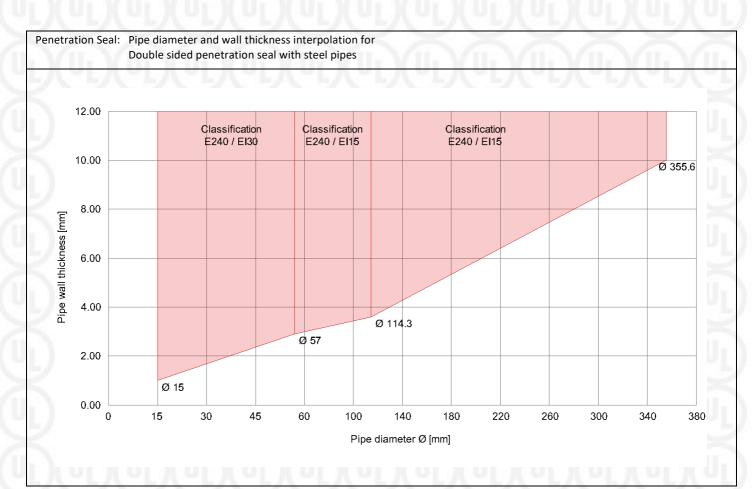
Type of penetrant	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness)(1)(1))(UL)(UL)(U <u>L</u>)(U <u>L</u>)(U <u>L</u>	EI 240 – C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness)(n ^r)(n ^r)(E 240 – C/U, C/C EI 30 – C/U, C/C
Steel pipe, max. Ø114.3 mm, min. 3.6 mm wall thickness	<u> </u>	10 mm	PE backer rod	E 240 – C/U, C/C EI 15 – C/U, C/C
Steel pipe, max. Ø355.6 mm, min. 10.0 mm wall thickness				E 240 – C/U, C/C EI 20 – C/U, C/C

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below



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Double sided penetration seal with stone wool insulated steel pipes (CS)

pipes sealed with fischer FiAM Plus sealant to botl ces of wall. Rigid wall thickness ≥115 mm (≥ 650 kg	
	Key:
4-	 fischer FiAM Plus Backing material Pipe Pipe insulation
	5. Wall (≥115 mm)
2	

Pipe support ≤ 250mm from wall

Type of penetration	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness					E 240 – U/C, C/U, C/C EI 120 – U/C, C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness	Stone wool, ρ≥ 100 kg/m³, thickness ≥ 50 mm*	≥10 mm	10 mm	PE Backer rod	E 240 – U/C, C/U, C/C EI 120 – U/C, C/U, C/C
Steel pipe, max. Ø114.3 mm, min. 3.6 mm wall thickness)(UL)(U)(Ū)	U_U_	(UL)(UL)	E 240 – U/C, C/U, C/C EI 90 – U/C, C/U, C/C

^{*} CS = Continued Sustained

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below

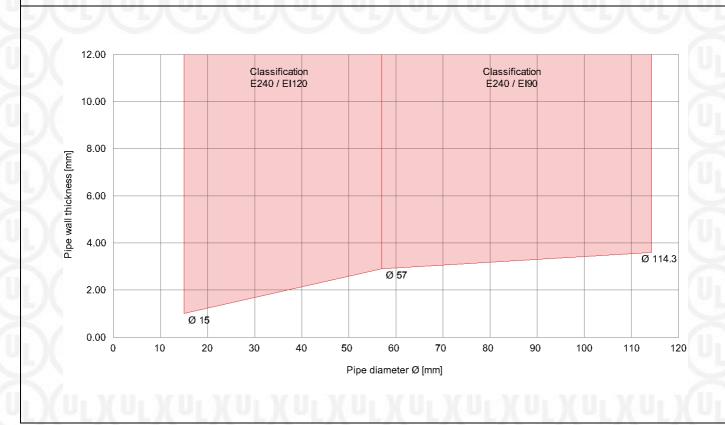


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Penetration Seal: Pipe diameter and wall thickness interpolation for

Double sided penetration seal with stone wool insulated steel pipes (CS)





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Double sided penetration seal with stone wool insulated steel pipes (CI)

Key: 1. fischer FiAM Plus 2. Backing material
2. Backing material
3. Pipe4. Pipe insulation5. Wall (≥115 mm)

Pipe support ≤ 250mm from wall

Type of penetration	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness	Stone wool, ρ≥ 100 kg/m³, thickness≥ 50 mm*	≥10 mm	10 mm	PE Backer rod	EI 240 – U/C, C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness					E 240 – U/C, C/U, C/C EI 180 – U/C, C/U, C/C
Steel pipe, max. Ø114.3 mm, min. 3.6 mm wall thickness					E 240 – U/C, C/U, C/C EI 90 – U/C, C/U, C/C

^{*} CI = Continued Interrupted

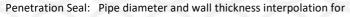
Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below



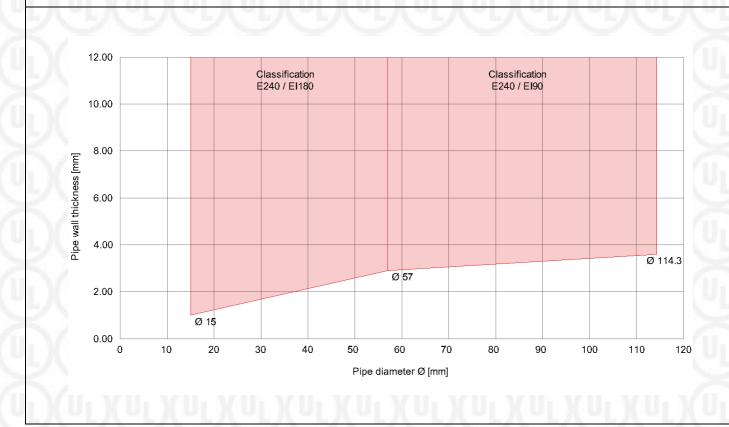
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Double sided penetration seal with stone wool insulated steel pipes (CI)





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Double sided penetration seal with rubber type insulated steel pipes (CS)

Steel pipes sealed with fischer FiAM Plus sealant to both sides of the v surfaces of wall. Rigid wall thickness ≥115 mm (≥ 650 kg/m³).	vall, installed flush with both
\times	Кеу:
3-4-1	 fischer FiAM Plus Backing material Pipe Pipe insulation Wall (≥115 mm)
	3-4-7-1

Pipe support ≤ 250mm from wall

Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness	AF/ArmaFlex Evo,	J.)(J.	UL)(U)(U _L)(U	EI 120 – C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness	13 mm – 25 mm thickness*	Մլ)(Մլ	(UL)(U)(1)(1)	E 120 – C/U, C/C EI 90 – C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness	c. Ø57 mm, . 2.9 mm wall	- ≥20 mm	20 mm	PE backer rod	E 120 – C/U, C/C EI 90 – C/U, C/C
Steel pipe, max. Ø114.3 mm, min. 3.6 mm wall thickness	25 mm thickness*				EI 60 – C/U, C/C

^{*} CS = Continued Sustained

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below



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Penetration Seal: Pipe diameter and wall thickness interpolation for

Double sided penetration seal with rubber type insulated steel pipes (CS)

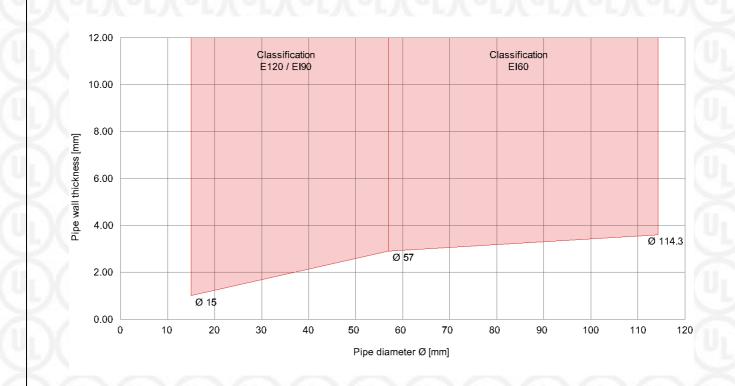
Appendix UL-EU CERTIFICATE

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Double sided penetration seal with rubber type insulated steel pipes (CS)





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Double sided penetration seal with copper pipes

Penetration Seal:	Copper pipes sealed with fischer FiAM Plus sealant to both sides of the wall, installed flush with both surfaces of wall. Rigid wall thickness \geq 115 mm (\geq 650 kg/m³).			
Construction details:	\times	Кеу:		
		 fischer FiAM Plus Backing material 		
	3- 1	3. Pipe 4. Wall (≥115 mm)		
)(U _L		

Pipe support ≤ 250mm from wall

Type of penetrant	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness ≥10 mm	10 mm		E 240 – C/U, C/C EI 15 – C/U, C/C	
Copper pipe, max. Ø42 mm, min. 1.5 mm wall thickness		e, nm,		E 240 – C/U, C/C

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below

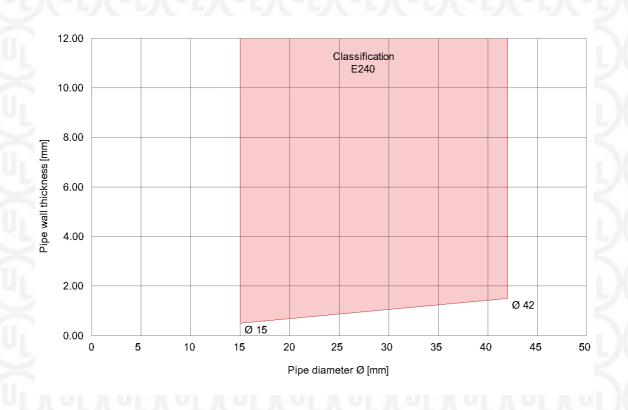


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Penetration Seal: Pipe diameter and wall thickness interpolation for

Double sided penetration seal with copper pipes





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Double sided penetration seal with stone wool insulated copper pipes (CS)

Penetration Seal:	Copper pipes sealed with fischer FiAM Plus sealant to both sides of the wall, installed flush with both surfaces of wall. Rigid wall thickness \geq 115 mm (\geq 650 kg/m ³).				
Construction details:	5	Key: 1. fischer FiAM Plus 2. Backing material 3. Pipe 4. Pipe insulation 5. Wall (≥115 mm)			

Pipe support ≤ 250mm from wall

Type of penetration	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness Copper pipe, max. Ø42 mm, min. 1.5 mm wall thickness	Stone wool, ρ≥ 100 kg/m³, thickness≥ 50 mm*	≥10 mm	10 mm	PE backer rod	E 240 – U/C C/U, C/C EI 180 – U/C, C/U, C/C E 240 – U/C C/U, C/C EI 120 – U/C C/U, C/C

^{*} CS = Continued Sustained

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below

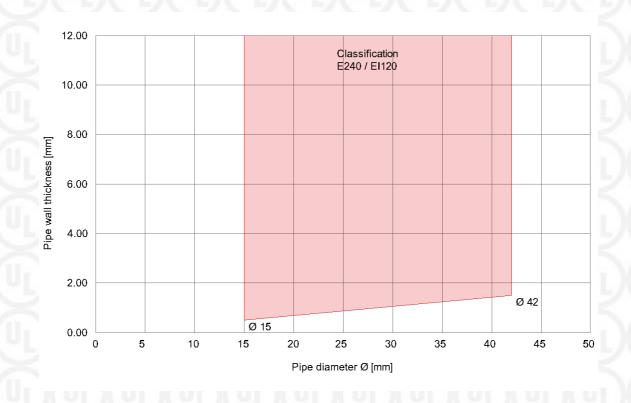
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Penetration Seal: Pipe diameter and wall thickness interpolation for

Double sided penetration seal with stone wool insulated copper pipes (CS)





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Double sided penetration seal with stone wool insulated copper pipes (CI)

Penetration Seal:	Copper pipes sealed with fischer FiAM Plus sealant to both sides of surfaces of wall. Rigid wall thickness \geq 115 mm (\geq 650 kg/m ³).	of the wall, installed flush with both
Construction details:	$\langle \times \times \times \times \times \rangle$	Key:
	3 3 2 2	 fischer FiAM Plus Backing material Pipe Pipe insulation Wall (≥115 mm)

Pipe support ≤ 250mm from wall

Type of penetration	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness Copper pipe, max. Ø42 mm, min. 1.5 mm wall thickness	Mineral stone wool, ρ≥ 100 kg/m³, thickness ≥ 50 mm*	≥10 mm	10 mm	PE backer rod	EI 240 – U/C, C/U, C/C E 240 – U/C, C/U, C/C EI 180 – U/C, C/U, C/C

^{*} CI = Continued Interrupted

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below

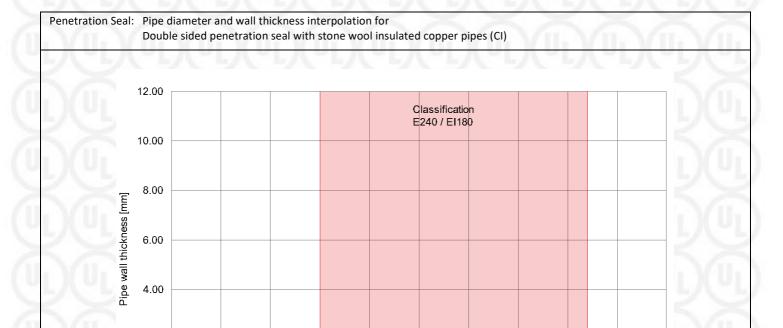
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2.00

0.00



25

Pipe diameter Ø [mm]

Ø 15

15

10

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Ø 42

45

50

40

35

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Double sided penetration seal with rubber type insulated copper pipes (CS)

Penetration Seal:	Copper pipes sealed with fischer FiAM Plus sealant to both sides of the surfaces of wall. Rigid wall thickness \geq 115 mm (\geq 650 kg/m³).	e wall, installed flush with both
Construction details:		Key:
	5	 fischer FiAM Plus Backing material Pipe Pipe insulation Wall (≥115 mm)
	<u>_v.m.m</u> \ <u>v.m.m</u> _	\times

Pipe support ≤ 250mm from wall

Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness	AF/ArmaFlex Evo,	≥20 mm	20 mm	PE backer rod	EI 120 – C/U, C/C
Copper pipe, max. Ø42 mm, min. 1.5 mm wall thickness	13 mm thickness*				E 120 – C/U, C/C EI 60 – C/U, C/C

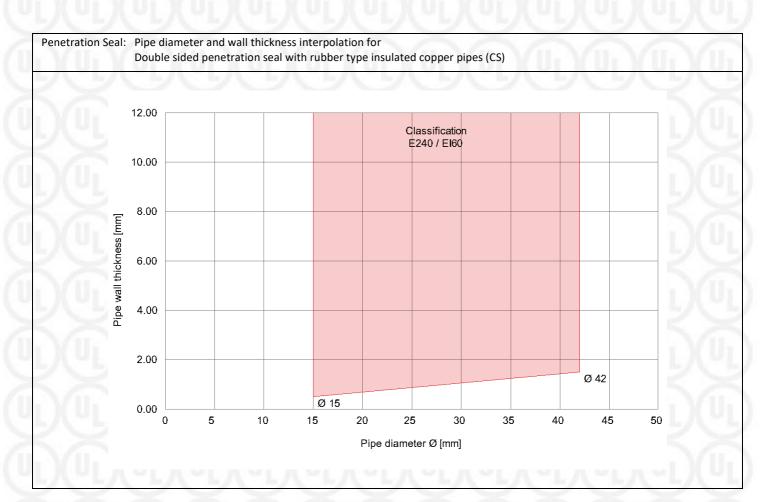
^{*} CS = Continued Sustained

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below

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Double sided penetration seal with combustible pipes

Key: 1. fischer FiAM Plus 2. Backing material 3. Pipe 4. Wall (≥115 mm)

Pipe support ≤ 250mm from wall

Type of penetrant	Sealant thickness	Annular space	Backing material	Classification
PP pipe, max. Ø50 mm, 2.7 mm wall thickness			<u> </u>	EI 60 – U/C, C/C
PVC pipe, max. Ø50 mm, 3.7 mm wall thickness	≥20 mm	≥20 mm 20 mm	PE backer rod	EI 120 – U/C, C/C
PE pipe, max. Ø50 mm, 3.0 mm wall thickness				EI 90 – U/C, C/C



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Rigid floor constructions with minimum floor thickness of 150 mm

One sided penetration seal with steel pipes

Penetration Seal:	Steel pipes sealed with fischer FiAM Plus sealant to top side of the floor, installed flush with surface of floor. Rigid floor thickness \geq 150 mm (\geq 650 kg/m ³).				
Construction details:		Key:			
		 fischer FiAM Plus Backing material Pipe Floor (≥150 mm) 			

Pipe support ≤ 250mm from top surface of floor

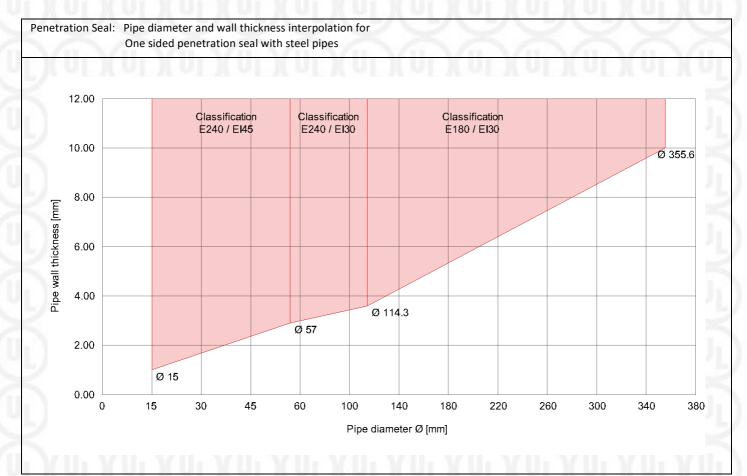
Type of penetrant	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness				E 240 – C/U, C/C EI 180 – C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness				E 240 – C/U, C/C EI 45 – C/U, C/C
Steel pipe, max. Ø114.3 mm, min. 3.6 mm wall thickness	- ≥10 mm	10 mm	PE backer rod	E 240 – C/U, C/C EI 30 – C/U, C/C
Steel pipe, max. Ø355.6 mm,	Mindi			E 180 – C/U, C/C EI 30 – C/U, C/C
min. 10.0 mm wall thickness				E 240 – C/U, C/C EI 30 – C/C

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below Form-ULID-006104 (DCS:27-CP-F0855) 6.0



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One sided penetration seal with stone wool insulated steel pipes (CS)

Penetration Seal:	Steel pipes sealed with fischer FiAM Plus sealant to top side of the floor, installed flush with surface of floor. Rigid floor thickness \geq 150 mm (\geq 650 kg/m ³).				
Construction details:	5 4 1	Key: 1. fischer FiAM Plus 2. Backing material 3. Pipe 4. Pipe insulation			
		5. Floor (≥150 mm)			
	2				

Pipe support ≤ 250mm from top surface of floor

Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification	
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness					E 240 – U/C, C/U, C/C EI 120 – U/C, C/U, C/C	
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness	Stone wool, ρ≥42 kg/m³, thickness ≥50 mm*	$\rho \ge 42 \text{ kg/m}^3$, ≥10 mm	≥10 mm	10 mm	PE backer rod	E 240 – U/C, C/U, C/C EI 60 – U/C, C/U, C/C
Steel pipe, max. Ø114.3 mm, min. 3.6 mm wall thickness)(U)(UL)(UL)	UL) UL	E 240 – U/C, C/U, C/C EI 90 – U/C, C/U, C/C	

^{*} CS = Continued Sustained

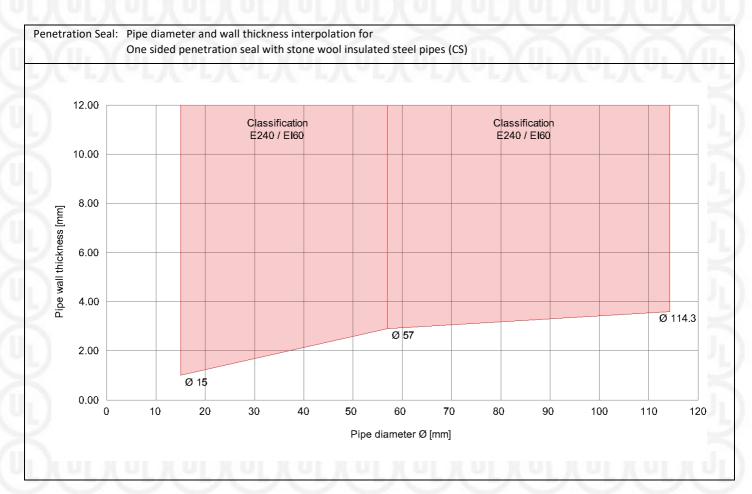
Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below



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One sided penetration seal with rubber type insulated steel pipes (CS)

Penetration Seal:	Steel pipes sealed with fischer FiAM Plus sealant to top side of t of floor. Rigid floor thickness \geq 150 mm (\geq 650 kg/m ³).	he floor, installed flush with surface
Construction details:		Key: 1. fischer FiAM Plus 2. Backing material 3. Pipe 4. Pipe insulation 5. Floor (≥150 mm)

Pipe support ≤ 250mm from top surface of floor

Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness	AF/ArmaFlex Evo, 13 -25 mm thickness*	(4)	1)(1)(ur)(nr)	EI 120 – C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness			1)(4)(U)(U)	E 120 – C/U, C/C EI 90 – C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness	AF/ArmaFlex Evo, 25 mm thickness*	- ≥25 mm	20 mm	PE backer rod	EI 120 – C/U, C/C
Steel pipe, max. Ø114.3 mm, min. 3.6 mm wall thickness					E 120 – C/U, C/C EI 90 – C/U, C/C

^{*} CS = Continued Sustained

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below



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One sided penetration seal with copper pipes

Penetration Seal:	Copper pipes sealed with fischer FiAM Plus sealant to top side of the floor, installed flush with surface of floor. Rigid floor thickness \geq 150 mm (\geq 650 kg/m ³).				
Construction details:		Key: 1. fischer FiAM Plus 2. Backing material 3. Pipe 4. Floor (≥150 mm)			

Pipe support ≤ 250mm from top surface of floor

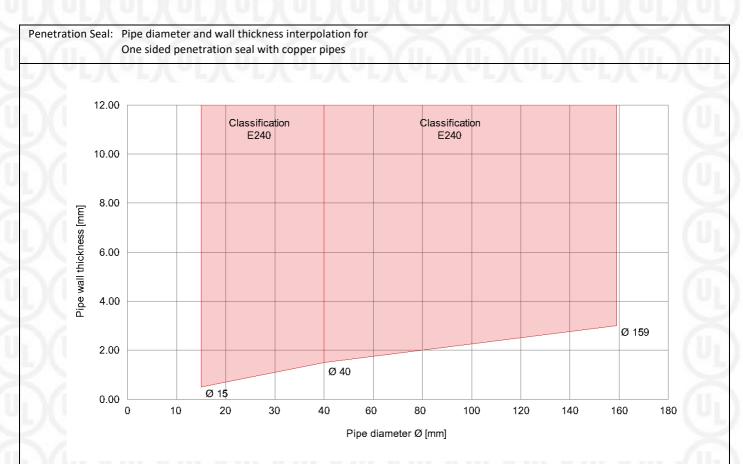
Type of penetrant	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness			սլ)(սլ)(սլ	E 240 – C/U, C/C EI 15 – C/U, C/C
Copper pipe, max. Ø40 mm, min. 1.5 mm wall thickness	≥10 mm	10 mm	PE backer rod	E 240 – C/U, C/C
Copper pipe, max. Ø159 mm, min. 3.0 mm wall thickness		D(nT)(nT)	OF OF	E 240 – C/U, C/C EI 15 – C/U, C/C

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below



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One sided penetration seal with stone wool insulated copper pipes (CS)

Copper pipes sealed with fischer FiAM Plus sealant to top side of floor. Rigid floor thickness ≥150 mm (≥ 650 kg/m³).	e of the floor, installed flush with surface
\times \times \times \times	Key:
	 fischer FiAM Plus Backing material Pipe Pipe insulation Floor (≥150 mm)
	of floor. Rigid floor thickness ≥150 mm (≥ 650 kg/m³).

Pipe support ≤ 250mm from top surface of floor

Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness Copper pipe, max. Ø40 mm, min. 1.5 mm wall thickness	Stonel wool, ρ≥42 kg/m³, thickness≥50 mm*	≥10 mm	20 mm	PE backer rod	E 240 – U/C, C/U, C/C EI 30 – U/C, C/U, C/C EI 240 – U/C, C/U, C/C EI 45 – U/C, C/U, C/C

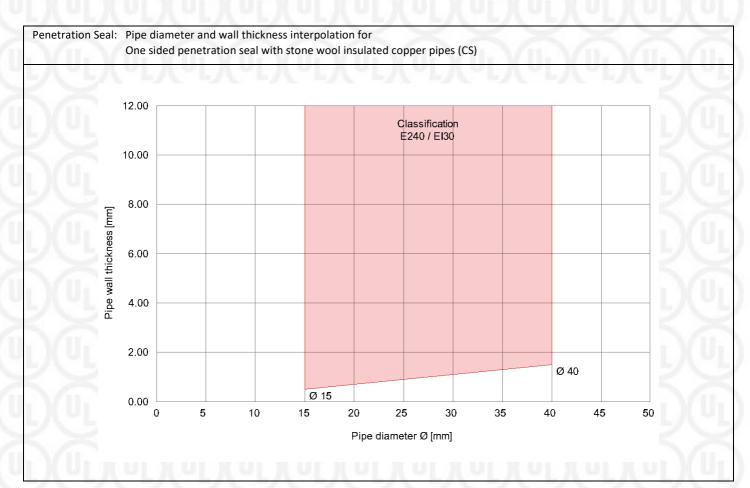
^{*} CS = Continued Sustained

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below

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One sided penetration seal with rubber type insulated copper pipes (CS)

Penetration Seal:	Copper pipes sealed with fischer FiAM Plus sealant to top sign of floor. Rigid floor thickness \geq 150 mm (\geq 650 kg/m ³).	de of the floor, installed flush with surface
Construction details:		Key: 1. fischer FiAM Plus 2. Backing material 3. Pipe 4. Pipe insulation 5. Floor (≥150 mm)

Pipe support \leq 250mm from top surface of floor

Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness	AF/ArmaFlex Evo, 13 mm thickness*	≥25 mm	20 mm	PE backer rod	EI120 – C/U, C/C
Copper pipe, max. Ø40 mm, min. 1.5 mm wall thickness			D)(A)(A	r)(nr)(i	E120 – C/U, C/C EI60 – C/U, C/C

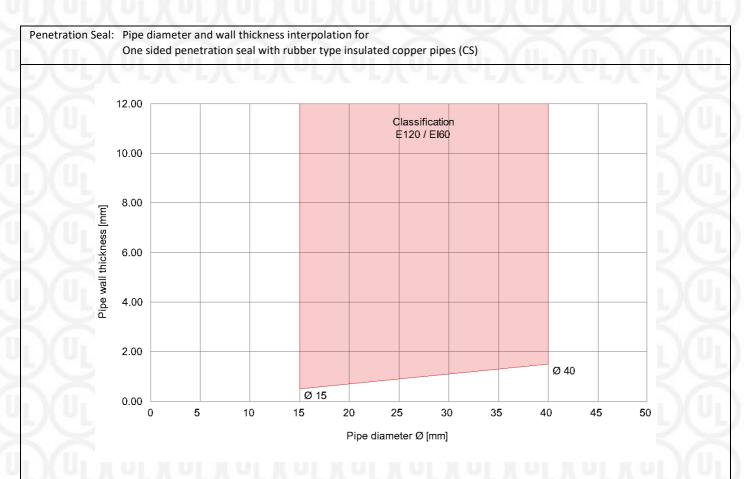
^{*} CS = Continued Sustained

Note: for permitted interpolations between pipe sizes and pipe wall thickness and the corresponding classification diagram below

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One sided penetration seal with combustible pipes

Penetration Seal:	Combustible pipes sealed with fischer FiAM Plus sealant to top sign of floor. Rigid floor thickness \geq 150 mm (\geq 650 kg/m ³).	de of the floor, installed flush with surface
Construction details:	VII. VII. VII. VII. VII. VII.	Key:
	3\	1. fischer FiAM Plus
		2. Backing material
	4~	3. Pipe
		4. Floor (≥150 mm)
		1/2 /2 /2 /2
		i)(Ui)(Bi)(Ui)(
		ayılı yallayıllayı
	_2	レバニレベエレベニレベ
	Vn. Vn. Vn. Vn. Vn. Vn.	Nu. Va. Va.

Pipe support ≤ 250mm from top surface of floor

Type of penetrant	Seal thickness	Annular space	Backing material	Classification
PP pipe, max. Ø50 mm, 1.8 mm wall thickness	— ≥20 mm)(UL)(UL)(nr)(nr)(nr	EI 30 – U/C, C/C
PP pipe, max. Ø50 mm, 2.7 mm wall thickness				EI 90 – U/C, C/C
PVC pipe, max. Ø50 mm, 3.7 mm wall thickness		20 mm	PE backer rod	E 120 – U/C, C/C EI60 – U/C, C/C
PE pipe, max. Ø50 mm, 3.0 mm wall thickness				E 45 – U/C, C/C EI30 – U/C, C/C



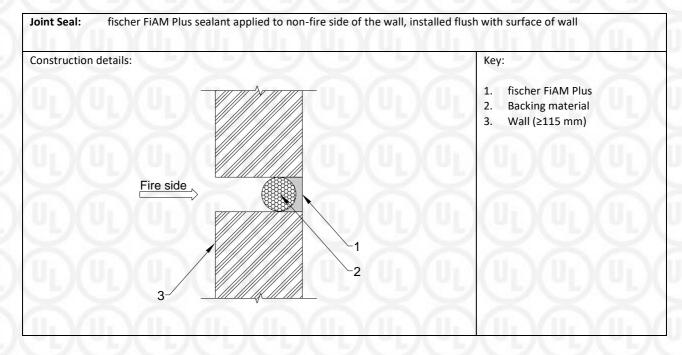
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Rigid wall constructions with wall thickness of minimum 115 mm

Single sided linear joint seal, unexposed side



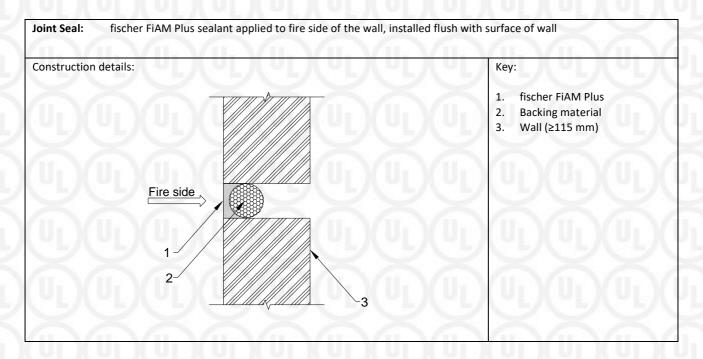
Substrate	Seal thickness	Backing material	Classification
Rigid wall	≥10 mm	PE backer rod	E 240-V-M12.5-F-W 0 to W 20 EI 45-V-M12.5-F-W 0 to W 20
(≥650 kg/m³)	≥20 mm		E 240-V-M12.5-F-W 0 to W 50 EI 60-V-M12.5-F-W 0 to W 50



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Single sided linear joint seal, exposed side



Substrate	Seal thickness	Backing material	Classification
Rigid wall	≥10 mm	PE backer rod	E 240-V-M12.5-F-W 0 to W 20 EI 30-V-M12.5-F-W 0 to W 20
(≥650 kg/m³)	≥20 mm		E 240-V-M12.5-F-W 0 to W 50 EI 45-V-M12.5-F-W 0 to W 50

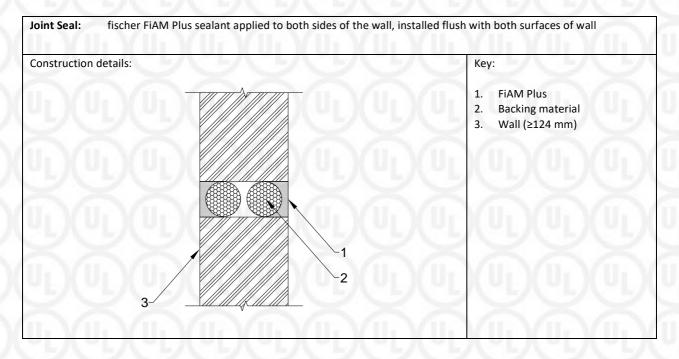


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Rigid wall constructions with wall thickness of minimum 124 mm

Double sided linear joint seal



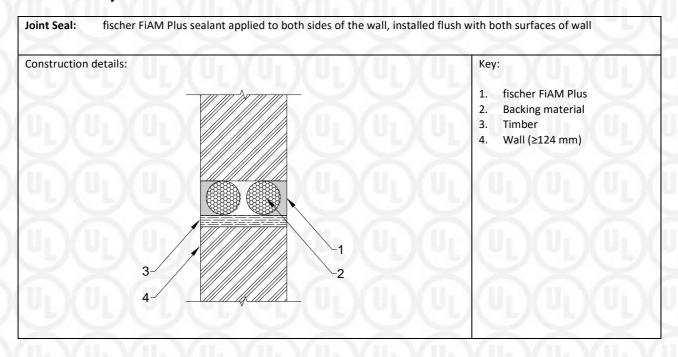
Substrate	Seal thickness	Backing material	Classification
Rigid wall (≥650 kg/m³)	≥10 mm	PE backer rod	E 240-V-M25-F-W 0 to W 60 EI 120-V-M25-F-W 0 to W 60



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Double sided linear joint seal with timber substrate to one face



Substrate	Seal thickness	Backing material	Classification
Rigid wall (≥650 kg/m³) / timber	≥10 mm	PE backer rod	EI 90-V-X-F-W 0 to W 50

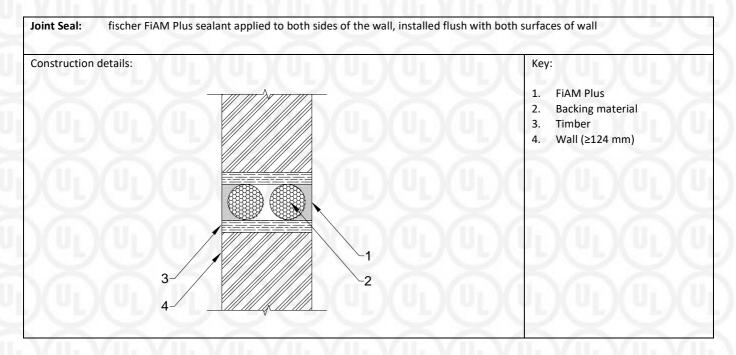


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Double sided linear joint seal with timber substrate to both faces



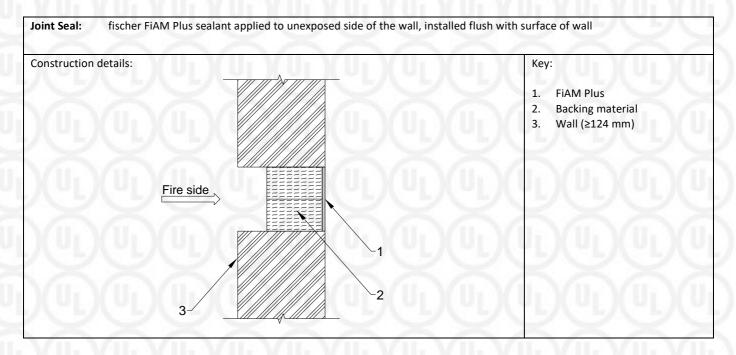
Substrate	Seal thickness	Backing material	Classification
Timber	≥10 mm	PE backer rod	EI 90-V-X-F-W 0 to W 50



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Single sided linear joint seal, unexposed side



Substrate	Seal thickness	Backing material	Classification
Rigid wall (≥650 kg/m³)	≥5 mm	Stone wool, thickness ≥ 100mm ρ ≥60 kg/m³, compressed ≥30 %	E 240-V-M25-F-W 5 to W 60 EI 180-V-M25-F-W 5 to W 60

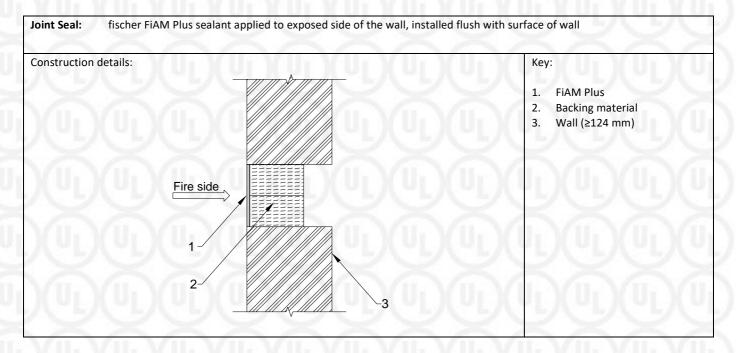


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Single sided linear joint seal, exposed side



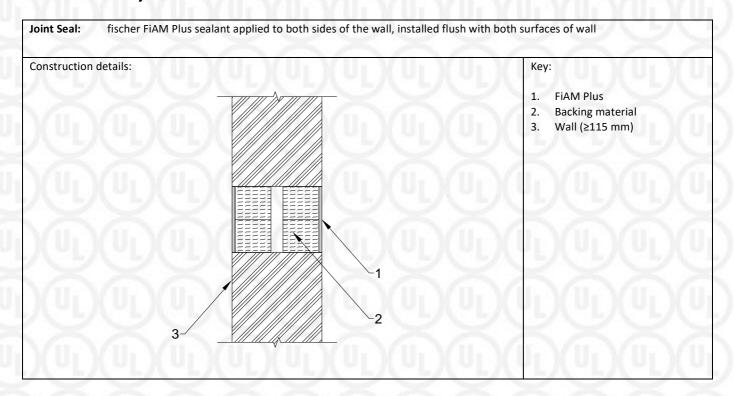
Substrate	Seal thickness	Backing material	Classification
Rigid wall (≥650 kg/m³)	≥5 mm	Stone wool, thickness ≥ 100mm ρ ≥60 kg/m³, compressed ≥30 %	E 240-V-M25-F-W 5 to W 60 EI 120-V-M25-F-W 5 to W 60



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Double sided linear joint seal



Substrate	Seal thickness	Backing material*	Classification
Rigid wall (≥650 kg/m³)	≥5 mm	Stone wool, thickness ≥50 mm on both sides*, p ≥60 kg/m³, compressed ≥30 %	EI 120-V-M12.5-F-W 5 to W 100

^{*} \geq 5 mm air gap between layers of insulation

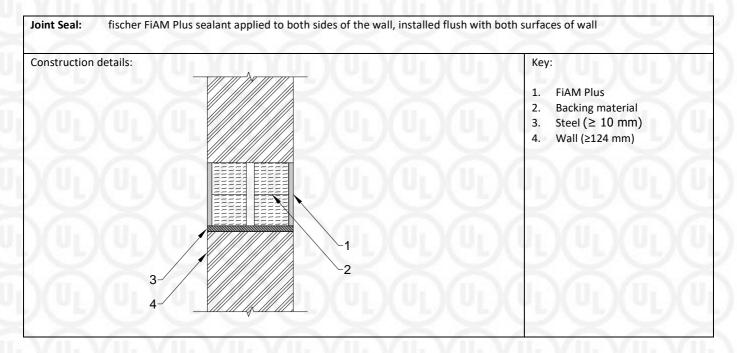


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Double sided linear joint seal with steel substrate to one face



Substrate	Seal thickness	Backing material	Classification
Rigid wall (≥650 kg/m³) / steel	≥10 mm	Stone wool, thickness ≥50 mm on both sides*, ρ ≥60 kg/m³, compressed ≥30 %	E 240–V–X–F–W 5 to W 70 EI 45–V–X–F–W 5 to W 70

^{* ≥4} mm air gap between layers of insulation

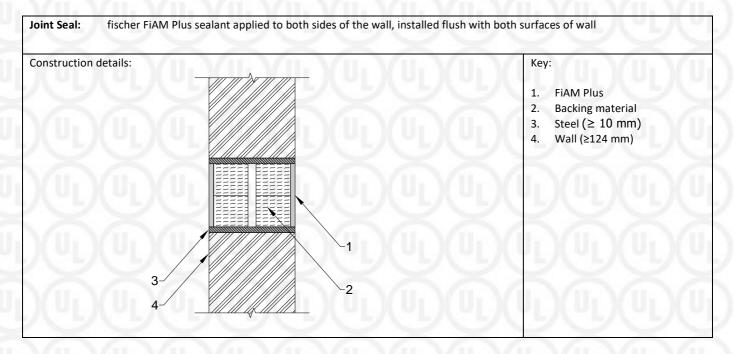
(UL)

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Double sided linear joint seal with steel substrate to both faces



Substrate	Seal thickness	Backing material	Classification
Steel	≥10 mm	Stone wool, thickness ≥50 mm on both sides*, ρ≥60 kg/m³, compressed ≥30 %	E 240–V–X–F–W 5 to W 70 EI 45–V–X–F–W 5 to W 70

^{* ≥4} mm air gap between layers of insulation

(UL)

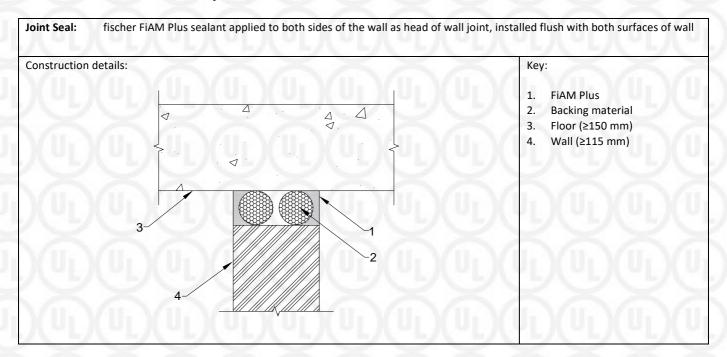
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Head of wall construction with rigid wall and floor, minimum floor thickness 150mm

Double sided head of wall linear joint seal



Substrate	Seal thickness	Backing material	Classification
Rigid floor (≥650 kg/m³) / Rigid wall (≥650 kg/m³)	≥10 mm	PE backer rod	E 240–T–M25–F–W 0 to W 60 EI 180–T–M25–F–W 0 to W 60

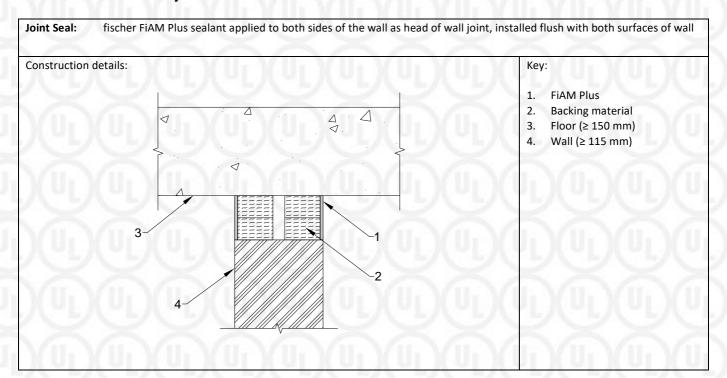


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Double sided head of wall joint seal



Substrate	Seal thickness	Backing material	Classification
Rigid floor (≥650 kg/m³) / Rigid wall (≥650 kg/m³)	≥5 mm	Stone wool, — thickness ≥50 mm on both sides*,	EI 240-T-M25-F-W 5 to W 60
	≥3 mm	p ≥60 kg/m³, compressed ≥30 %	EI 240-T-M25-F-W 5 to W 40

^{* ≥5} mm air gap between layers of insulation



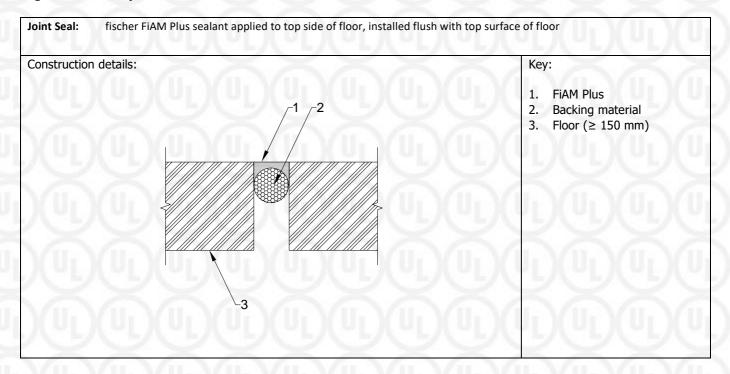
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Rigid floor construction with minimum thickness of 150mm

Single sided linear joint seal



Substrate	Seal thickness	Backing material	Classification
Rigid floor (≥650 kg/m³)	≥15 mm	PE backer rod	E 240-H-M25-F-W 0 to W 40 EI 60-H-M25-F-W 0 to W 40
	≥10 mm		E 180-H-M20-F-W 0 to W 50 EI 20-H-M20-F-W 0 to W 50
	≥8 mm		E 240-H-M20-F-W 0 to W 20 EI 45-H-M20-F-W 0 to W 20

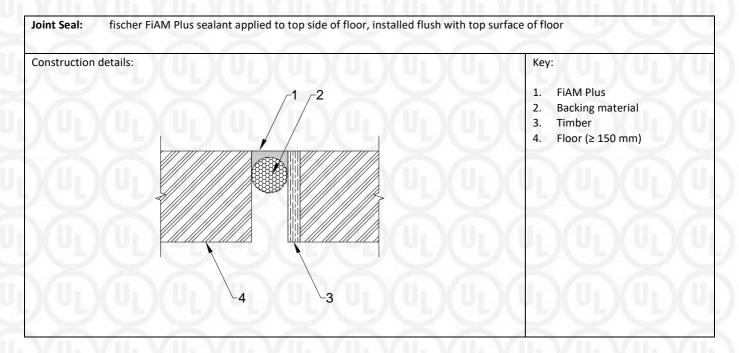


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Single sided linear joint seal with timber substrate to one face



Substrate	Seal thickness	Backing material	Classification
Rigid floor (≥650 kg/m³) / timber	≥12.5 mm	PE backer rod	EI 60-H-X-F-W 0 to W 50



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Single sided linear joint seal with steel substrate to one face

Joint Seal: fischer FiAM Plus sealant applied to top side of floor, installed flush with top surface of floor

Construction details:

Key:

1. FiAM Plus
2. Backing material
3. Steel (≥ 10 mm)
4. Floor (≥ 150 mm)

Substrate	Seal thickness	Backing material	Classification
Rigid floor (≥650 kg/m³) / steel	≥10 mm	PE backer rod	E 240-H-X-F-W 0 to W 20 EI 30-H-X-F-W 0 to W 20

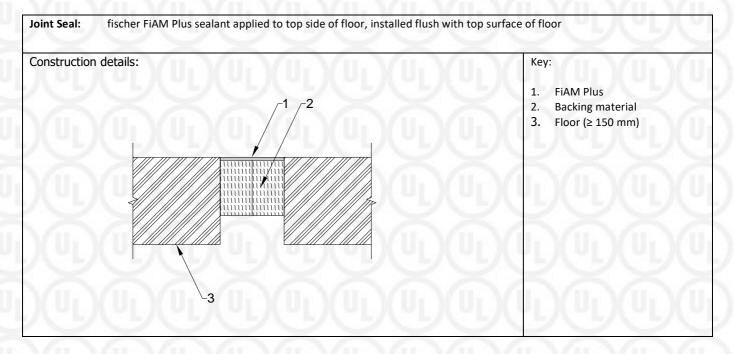


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Single sided linear joint seal



Substrate	Seal thickness	Backing material	Classification
$(U_L)(U_L)(U_L)$	$L)(U_L)(U_L)($	$U_L)(U_L$	EI 240-H-M25-F-W 5 to W 60
Rigid floor (≥650 kg/m³)	≥5 mm	Stone wool, thickness ≥100 mm ρ ≥60 kg/m³, compressed ≥30 %	EI 120-H-M25-F-W 5 to W 100
VII. VII. VII			E 240-H-M12.5-F-W 5 to W 100 EI 120-H-M12.5-F-W 5 to W 100

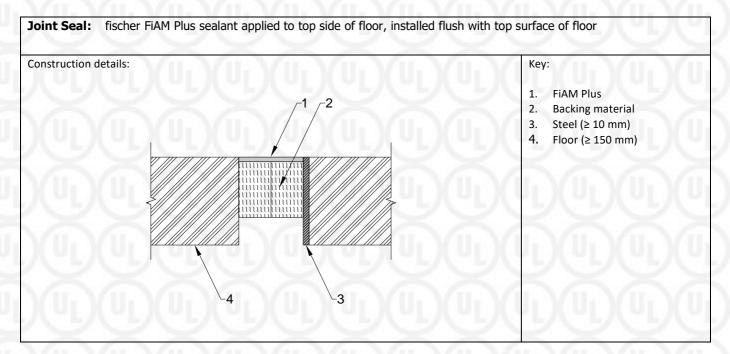


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Single sided linear joint seal with steel substrate to one face



Substrate	Seal thickness	Backing material	Classification
Rigid wall (≥650 kg/m³) / steel	≥10 mm	Stone wool, thickness ≥100 mm ρ ≥60 kg/m³, compressed ≥30 %	E 180–H–X–F–W 5 to W 60 EI 20–H–X–F–W 5 to W 60



Appendix UL-EU Certificate

Certification Mark UL-EU mark

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The UL-EU Mark, as displayed below, shall appear on certified products only. Minimum size is not specified, as long as the Mark is legible. The following is suggested.



The minimum height of the registered trademark symbol ® shall be 1 mm. When the overall diameter of the UL-EU Mark is less than 9.5 mm, the trademark symbol may be omitted if it is not legible to the naked eye.

The UL-EU Mark may appear on a label, nameplate, or may be cast, stamped or molded into the product. When appearing on a label or nameplate, the Manufacturer's name or trademark along with a model number are also required on that same label or nameplate. If cast, stamped or molded, the Manufacturer's name or trademark and model number shall also appear elsewhere on the product.

All content shall be in accordance with the details provided on this UL-EU Certificate.

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