UL-EU CERTIFICATE

Certificate No.	UL-EU-01277-EN
Page	1/78
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

UL EU

UKAS PRODUCT CERTIFICATION 4705

Authorized Certification Decision Maker
Chris Johnson

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shall remain valid through the Expiration date, unless a Standard identified on this Certificate is amended or withdrawn prior to that date or there is a non-compliance with the Agreement.

Appendix UL-EU CERTIFICATE

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.

Appendix UL-EU CERTIFICATE

Certificate No. UL-EU-01277-EN
Page 3/78
Date of Issue 2023-11-14

Product-type: Sealant		Intended use: Linear Joint and Gap Seals & Penetration Seals
Basic requirement for construction work	Basic Requirement	Basic requirement for construction work
BWR 2 Safety in case of fire		
EN 13501-1	Reaction to fire	D-s1, d0
EN 13501-2	Resistance to fire	See pages 5-77
BWR 3 Hygiene, health and environment		
Declaration of manufacturer & EN 16516	Content, emission and/or release of dangerous substances	Use categories: IA1 VOC / SVOC: See page 5
EN 1026	Air permeability (material property)	See page 4
EAD 350141-00-1106, Annex C & EN 12390-8	Water permeability (material property)	No performance determined
BWR 4 Safety in use		
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	Type Y_2
EAD 350141-00-1106, Clause 2.2.13	Movement capacity	7,5P*
EAD 350141-00-1106, Clause 2.2.14	Cycling of perimeter seals for curtain walls	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 on setting	No performance determined
BWR 5 Protection against noise		
EN 10140-1,2,4,5/ EN ISO 717-1	Airborne sound insulation	See page 4
BWR 6 Energy economy and heat retention		
EN 12664, EN 12667, EN 12939, EN ISO 8990, EN ISO 6946, EN ISO 10456	Thermal properties	No performance determined
EN ISO 12572, EN 12086, EN ISO 10456	Water vapour permeability	No performance determined

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

Appendix UL-EU CERTIFICATE

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 factor used for emission testing was 0.007 m^2/m^3.

Total emission of SVOC after 3 days / 28 days [mg/m^3]	Total emission of VOC after 3 days [mg/m^3]	Total emission of VOC after 28 days [mg/m^3]
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 4 mm thick (dry film thickness) and backfilled with stone wool insulation (60 kg/m^3)	**Air leakage**
Ø 300 mm	No measurable air flow up to 600 Pa
550 mm x 200 mm	
100 mm x 1000 mm	

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/m^3), 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

Appendix UL-EU CERTIFICATE

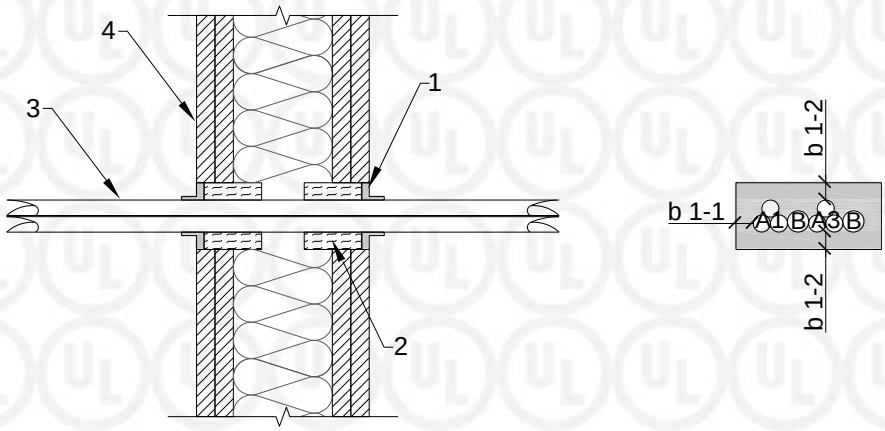
Flexible wall constructions with minimum wall thickness of 100 mm

Double-sided, double-layer gypsum board (Type F, EN 520, ≥ 12.5 mm) wall construction with min. 40 mm mineral wool insulation (≥ 100 kg/m^3) and an overall minimum wall thickness of 100 mm.

Double sided penetration seal with cables (service option S)

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 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 ρ ≥60 kg/m³, ≥40 mm deep from both sides**	E 60 EI 30

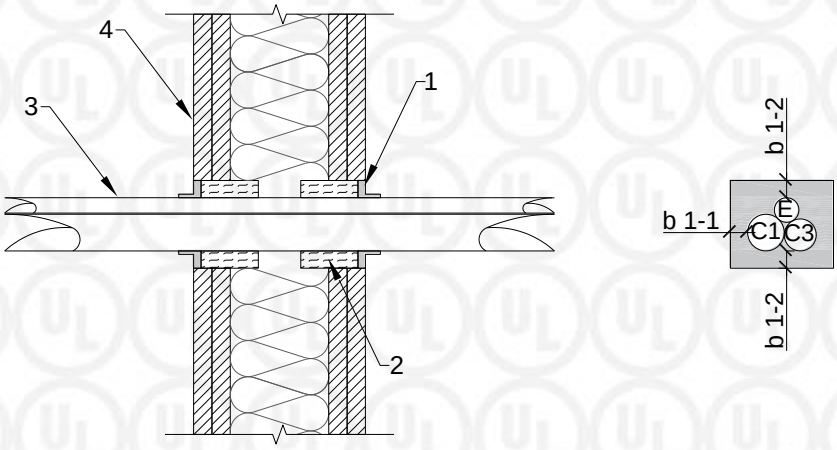
* overlap with sealant thickness of t ≥3 mm
** ≥10 mm air gap between layers of insulation

Appendix UL-EU CERTIFICATE

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 ρ ≥60 kg/m³, ≥40 mm deep from both sides**	E 60 EI 20

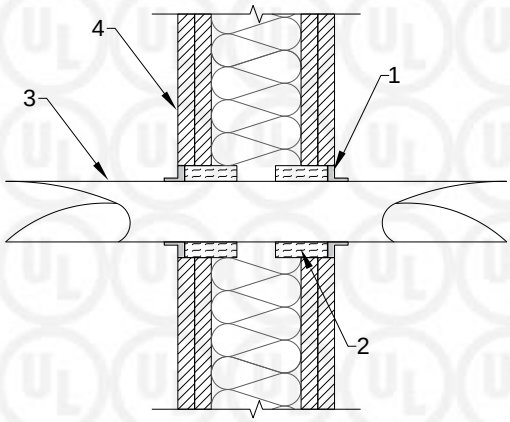
* overlap with sealant thickness of t ≥3 mm
** ≥10 mm air gap between layers of insulation

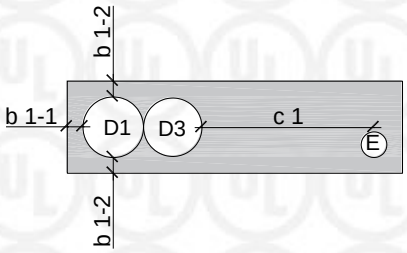
Appendix UL-EU CERTIFICATE

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:





Key:

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 ρ ≥60 kg/m³, ≥40 mm deep from both sides**	E 60 EI 20

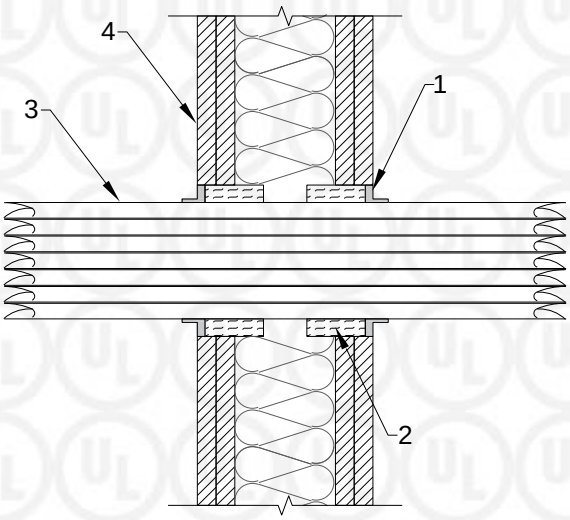
* overlap with sealant thickness of t ≥3 mm
** ≥10 mm air gap between layers of insulation

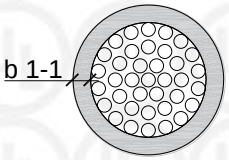
Appendix UL-EU CERTIFICATE

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

Penetration Seal:	Cable bundle 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:





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 ρ ≥60 kg/m³, ≥40 mm deep from both sides***	E 60 EI 20

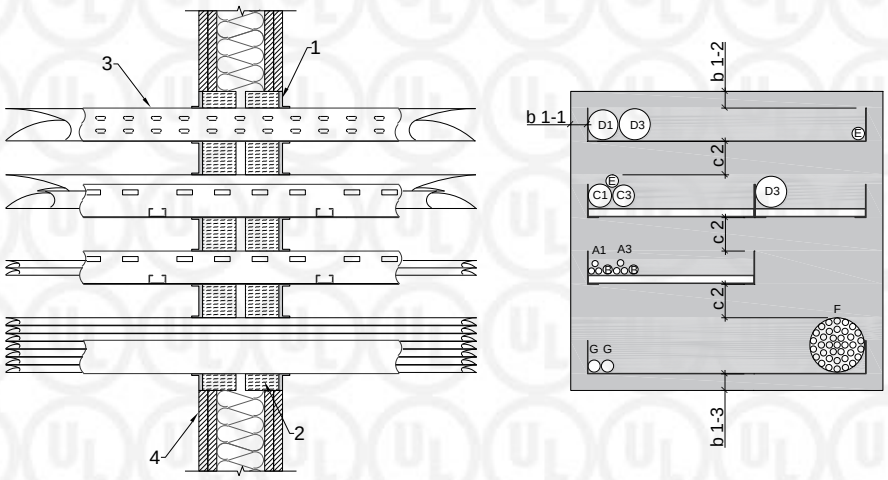
* overlap with sealant thickness of t ≥3 mm
** ≥10 mm air gap between layers of insulation

Appendix UL-EU CERTIFICATE

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

Penetration Seal:	Cable supports, and cables sealed with fischer FiAM Plus sealant to both sides of the wall, backed with stone wool insulation, seal installed flush with surface of wall

Construction details:



Key:

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

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 (≥25 mm and ≤ 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 (≥50 mm)

Cable support (with cable carrier) ≤ 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	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 EI 20
	Tied bundles up to 100 mm overall diameter containing sheathed electrical / telecommunication / optical fibre cables up to a max. outer diameter of 21 mm					
	Non-sheathed cables up to a maximum outer diameter of 24 mm					

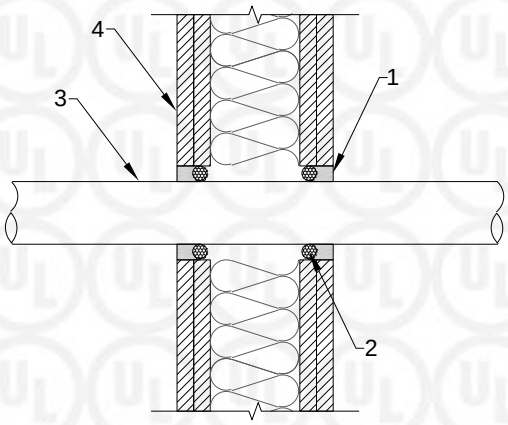
* overlap with sealant thickness of t ≥3 mm
** ≥10 mm air gap between layers of insulation
*** with or without cable carrier

Appendix UL-EU CERTIFICATE

Double sided penetration seal with steel pipes

Penetration Seal:	Steel pipes sealed with fischer FiAM Plus sealant on to both sides of the wall, installed flush with both surfaces of wall

Construction details:



Key:

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

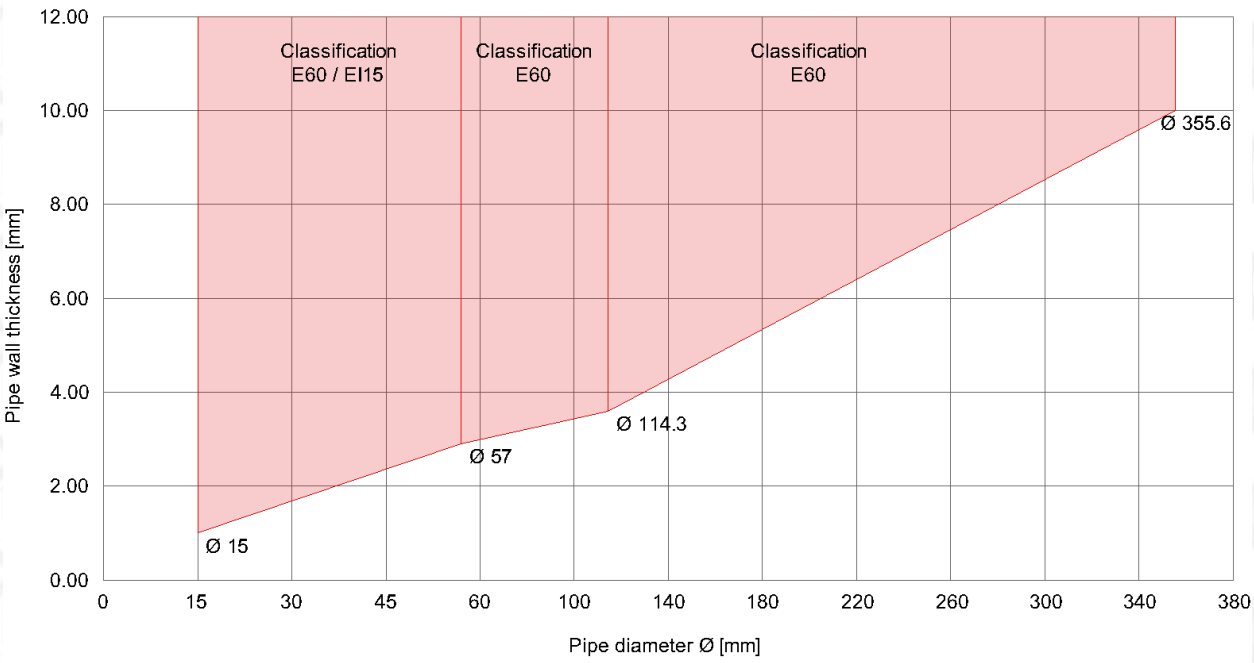
Pipe support ≤ 250mm from wall

Type of penetrant	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness	≥10 mm	10 mm	PE backer rod	EI 60 – C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness				E 60 – C/U, C/C EI 15 – C/U, C/C
Steel pipe, max. Ø114.3 mm, min. 3.6 mm wall thickness				E 60 – C/U, C/C
Steel pipe, max. Ø355.6 mm, min. 10.0 mm wall thickness				E 60 – C/U, C/C EI 20 – C/U, C/C
Steel pipe, max. Ø355.6 mm, min. 20.0 mm wall thickness				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

Appendix UL-EU CERTIFICATE

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

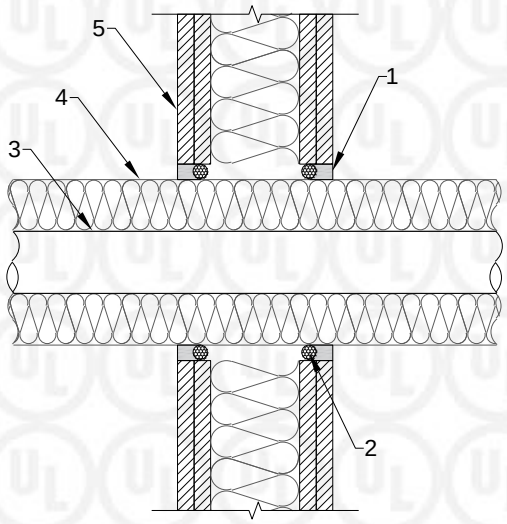


Appendix UL-EU CERTIFICATE

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

Penetration Seal:	Steel pipes sealed with fischer FiAM Plus sealant to both sides of the wall, installed flush with both surfaces of wall

Construction details:



Key:

1. fischer FiAM Plus
2. Backing material
3. Pipe
4. Pipe insulation
5. Wall (≥100 mm)

Pipe support ≤ 250mm from wall

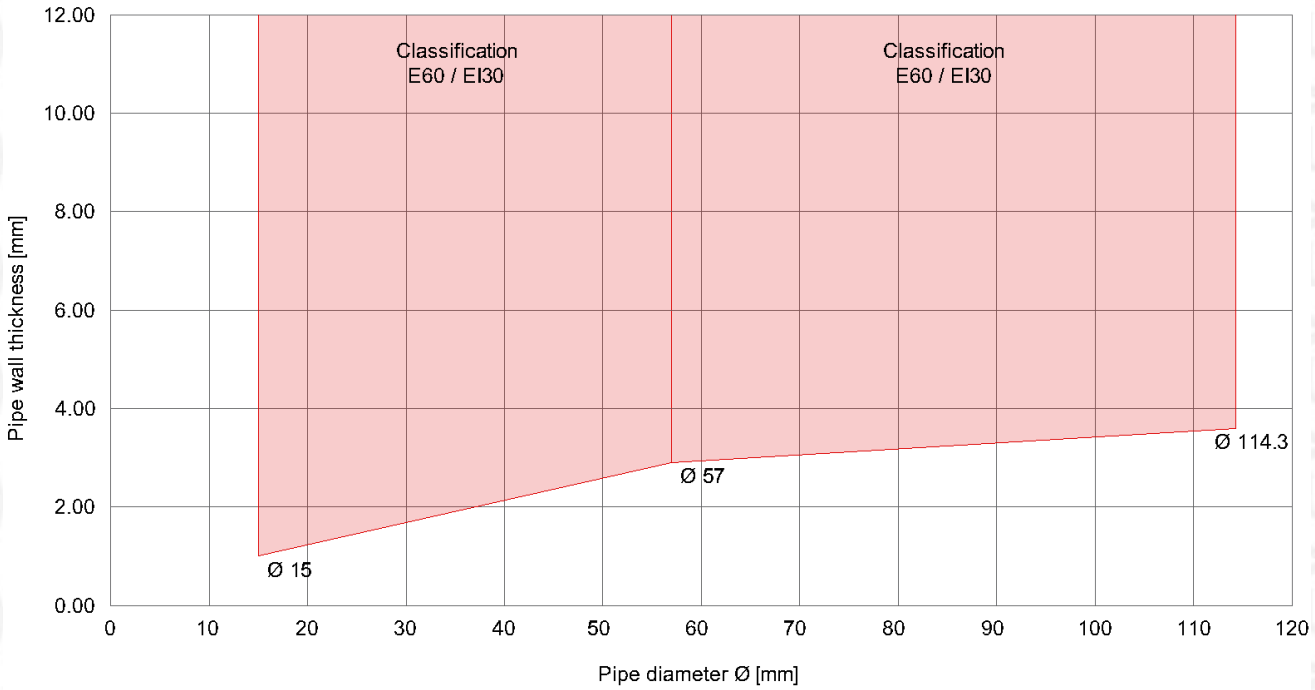
Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness	Stone wool, ρ ≥42 kg/m³, thickness ≥50 mm*	≥10 mm	10 mm	PE backer rod	E 60 – U/C, C/U, C/C EI 45 – U/C, C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9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

Appendix UL-EU CERTIFICATE

Penetration Seal: Pipe diameter and wall thickness interpolation for
Double sided penetration seal with stone wool insulated steel pipes (CS)

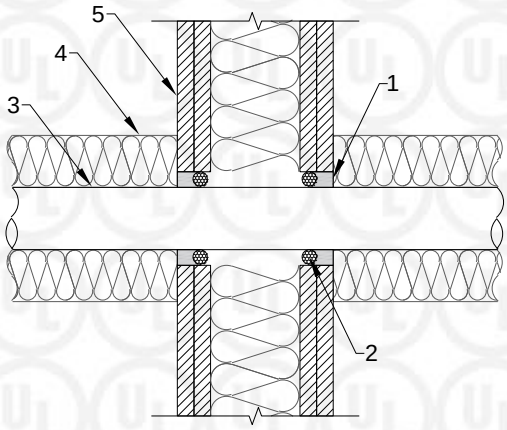


Appendix UL-EU CERTIFICATE

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 wall, installed flush with both surfaces of wall

Construction details:



Key:

1. fischer FiAM Plus
2. Backing material
3. Pipe
4. Pipe insulation
5. Wall (≥100 mm)

Pipe support ≤ 250mm from wall

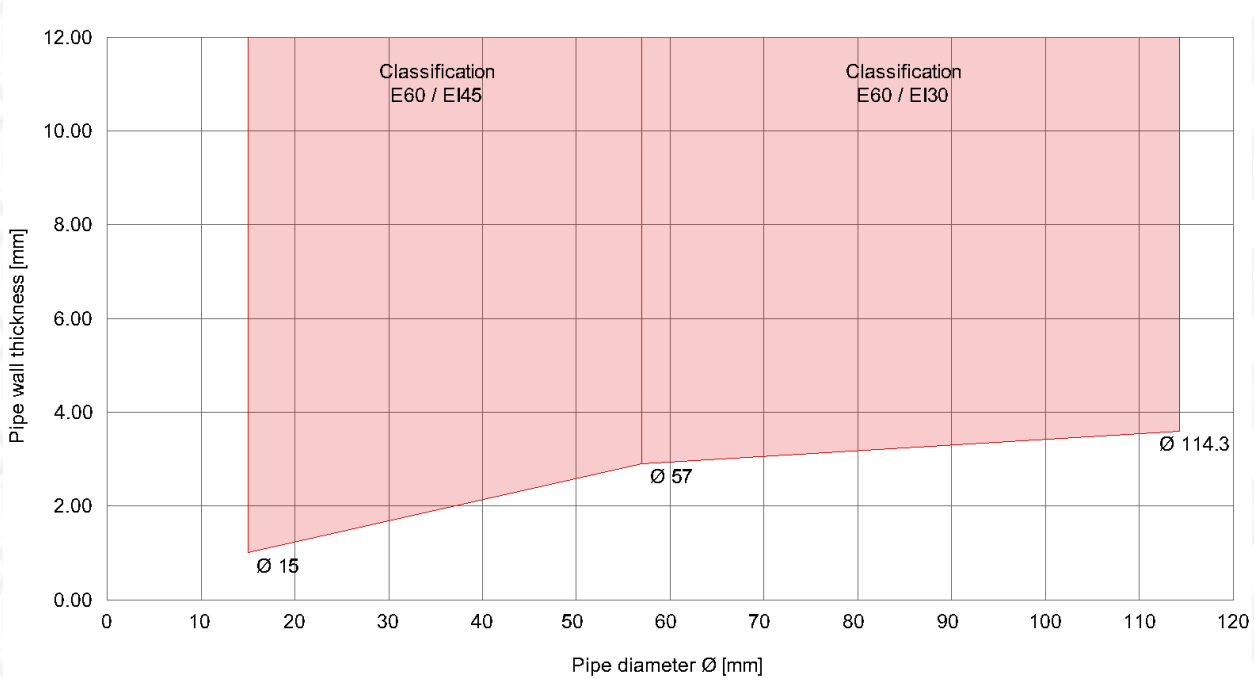
Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness	Stone wool, ρ ≥ 42 kg/m³, thickness ≥ 50 mm*	≥10 mm	10 mm	PE backer rod	EI 60 – U/C, C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness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

Appendix UL-EU CERTIFICATE

Penetration Seal: Pipe diameter and wall thickness interpolation for
Double sided penetration seal with stone wool insulated steel pipes (CI)

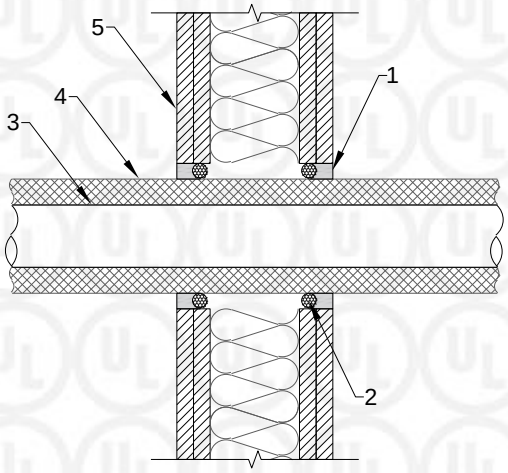


Appendix UL-EU CERTIFICATE

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 wall, installed flush with both surfaces of wall

Construction details:



Key:

1. fischer FiAM Plus
2. Backing material
3. Pipe
4. Pipe insulation
5. Wall (≥100 mm)

Pipe support ≤ 250mm from wall

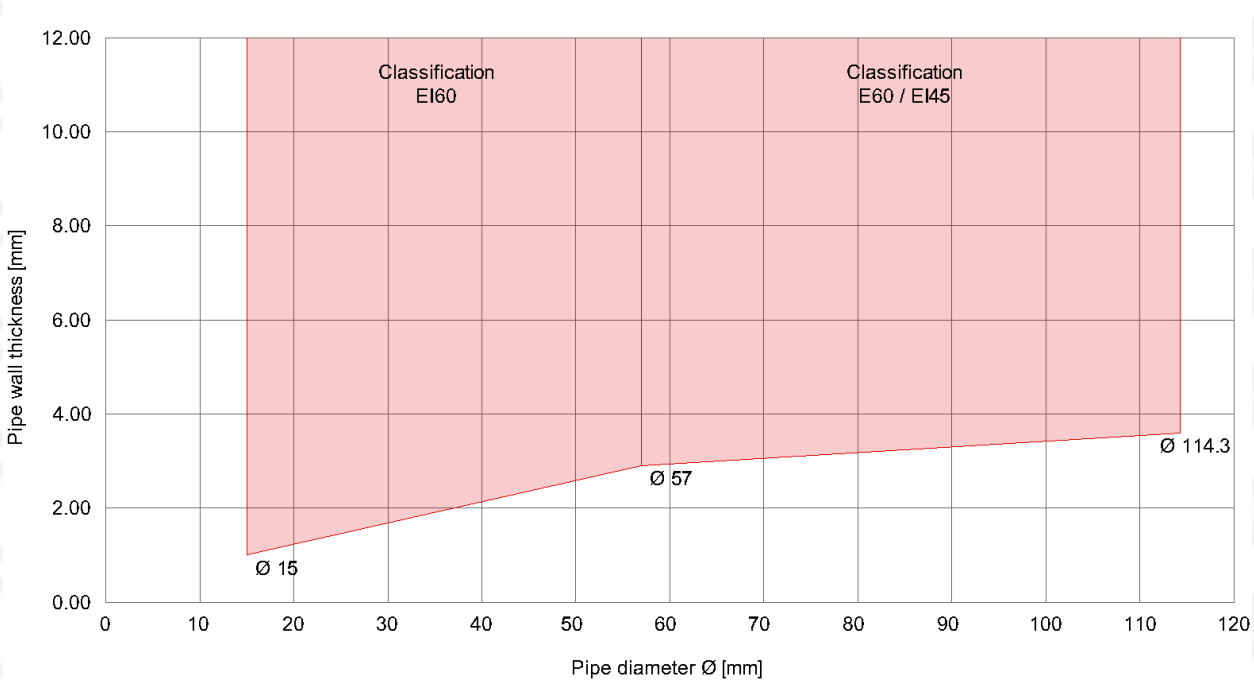
Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness	AF/ArmaFlex Evo, 13 mm thickness*	≥20 mm	20 mm	PE backer rod	EI 60 – C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness					EI 60 – C/U,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

Appendix UL-EU CERTIFICATE

Penetration Seal: Pipe diameter and wall thickness interpolation for
Double sided penetration seal with rubber type insulated steel pipes (CS)

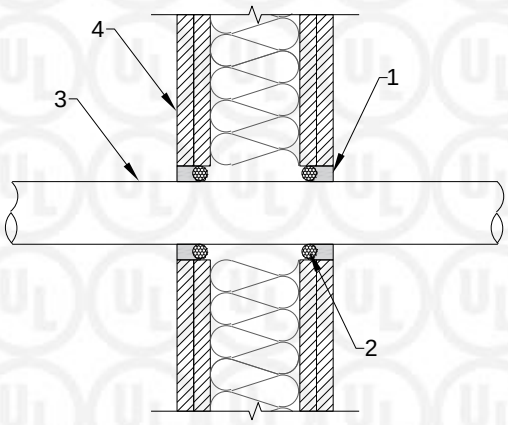


Appendix UL-EU CERTIFICATE

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

Construction details:



Key:

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

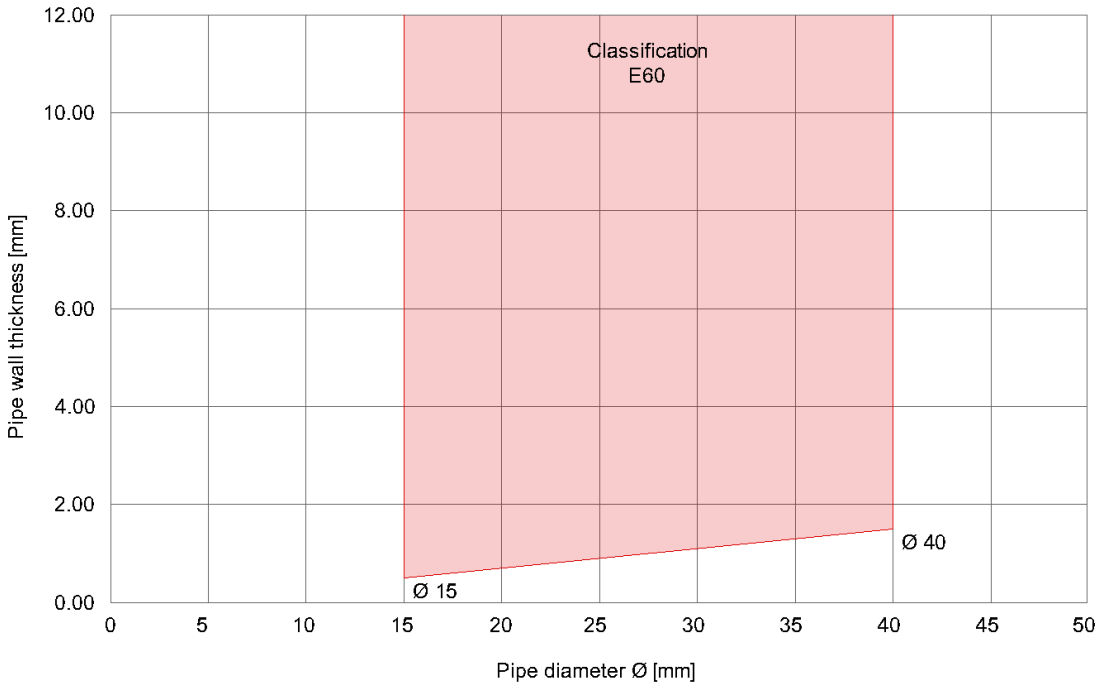
Pipe support ≤ 250mm from wall

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				E 60 – C/U, C/C

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

Appendix UL-EU CERTIFICATE

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

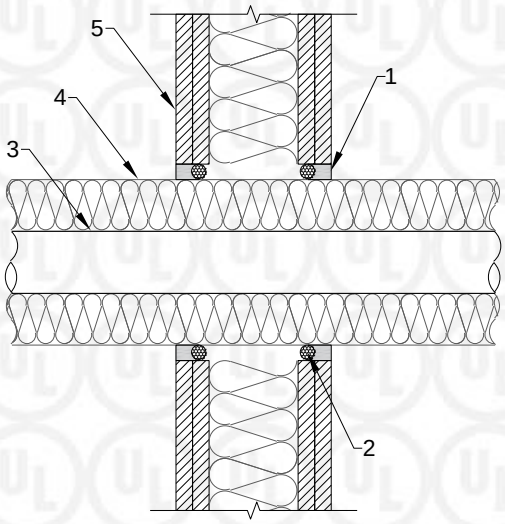


Appendix UL-EU CERTIFICATE

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

Construction details:



Key:

1. fischer FiAM Plus
2. Backing material
3. Pipe
4. Pipe insulation
5. Wall (≥100 mm)

Pipe support ≤ 250mm from wall

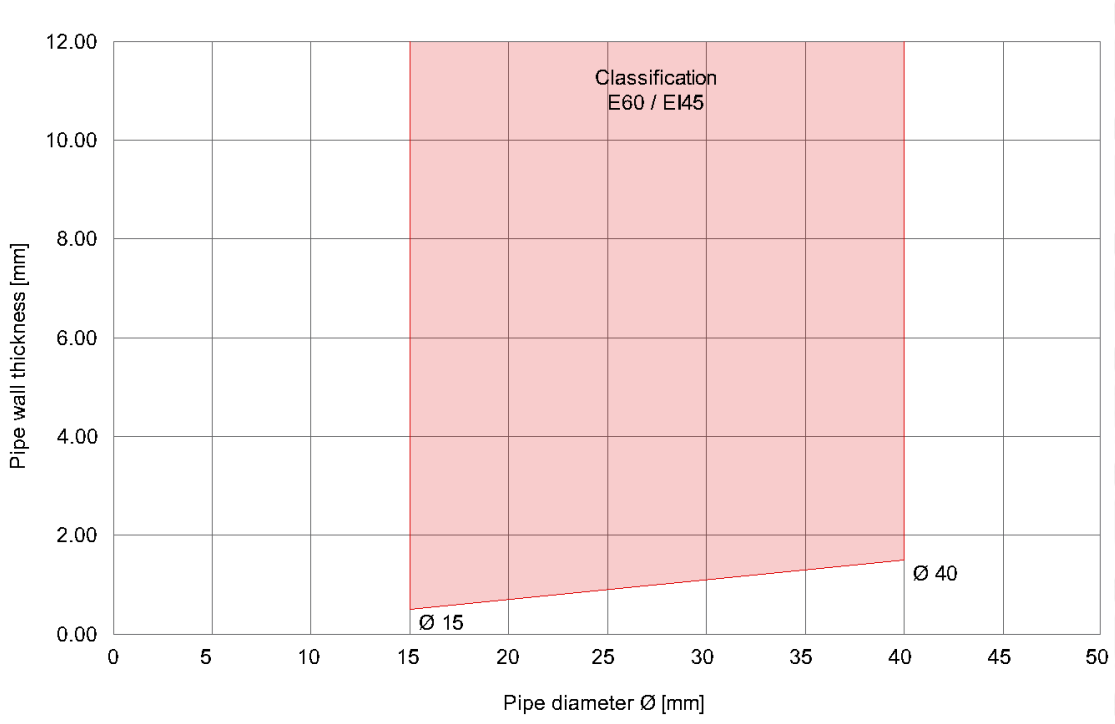
Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness	Mineral stone wool, ρ ≥ 42 kg/m³, thickness ≥ 50 mm*	≥10 mm	10 mm	PE backer rod	EI 60 – U/C, C/U, C/C
Copper pipe, max. Ø40 mm, min. 1.5 mm wall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

Appendix UL-EU CERTIFICATE

Penetration Seal: Pipe diameter and wall thickness interpolation for
Double sided penetration seal with stone wool insulated copper pipes (CS)

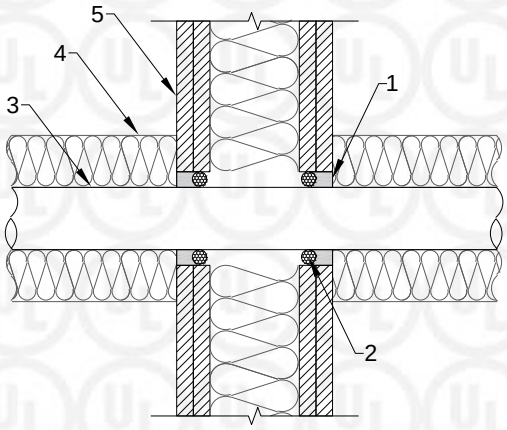


Appendix UL-EU CERTIFICATE

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 wall, installed flush with both surfaces of wall

Construction details:



Key:

1. fischer FiAM Plus
2. Backing material
3. Pipe
4. Pipe insulation
5. Wall (≥100 mm)

Pipe support ≤ 250mm from wall

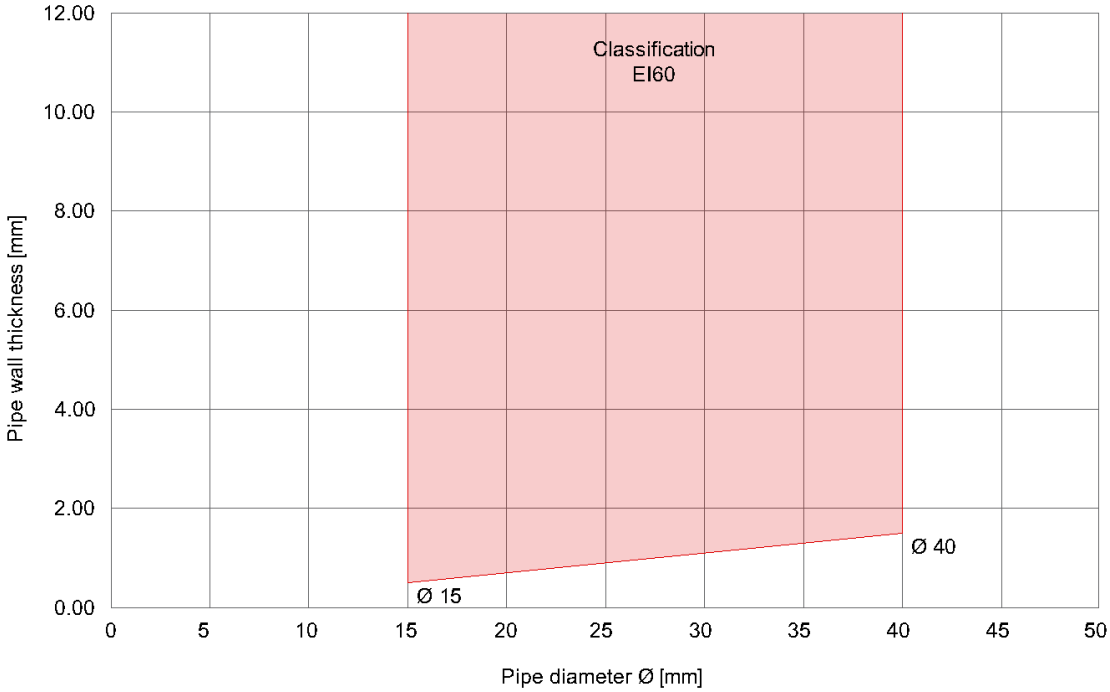
Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness	Stone wool, ρ ≥ 42 kg/m³, thickness ≥50 mm*	≥10 mm	10 mm	PE backer rod	EI 60- – U/C, C/U, C/C
Copper pipe, max. Ø40 mm, min. 1.5 mm wall thickness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

Appendix UL-EU CERTIFICATE

Penetration Seal: Pipe diameter and wall thickness interpolation for
Double sided penetration seal with stone wool insulated copper pipes (CI)

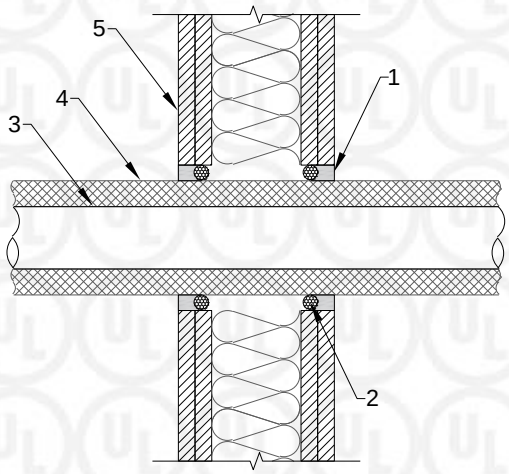


Appendix UL-EU CERTIFICATE

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:



Key:

1. fischer FiAM Plus
2. Backing material
3. Pipe
4. Pipe insulation
5. Wall (≥100 mm)

Pipe support ≤ 250mm from wall

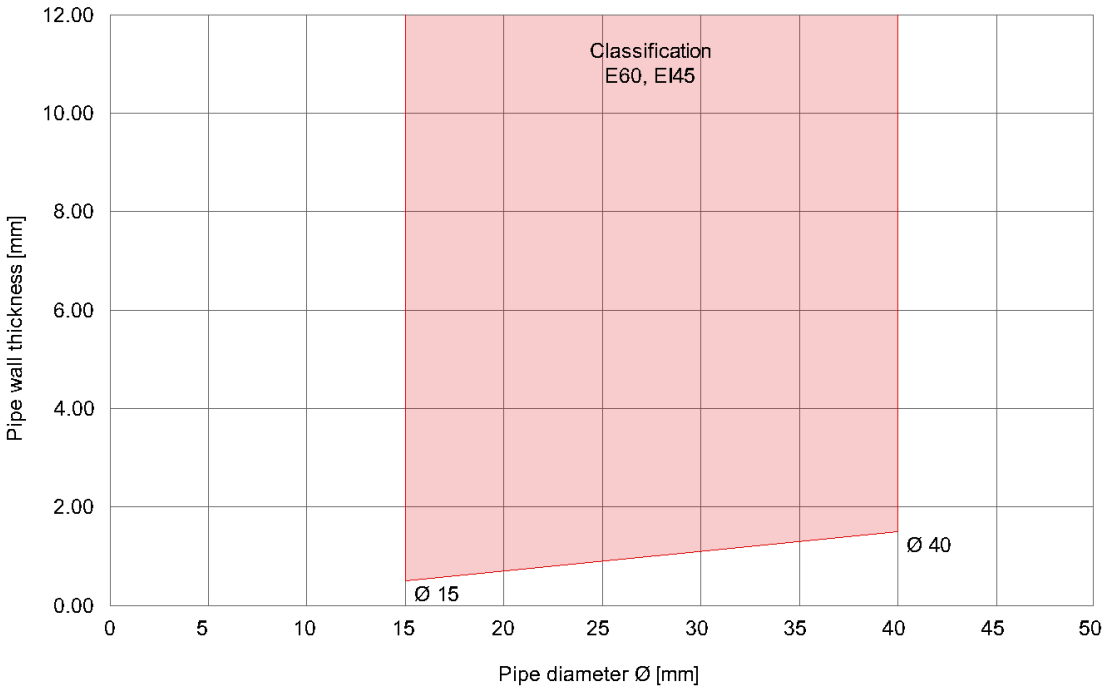
Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness	AF/ArmaFlex Evo, 13 mm thickness*	≥20 mm	20 mm	PE backer rod	EI 60 – C/U, C/C
Copper pipe, max. Ø40 mm, min. 1.5 mm wall thickness					E 60 – C/U,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

Appendix UL-EU CERTIFICATE

Penetration Seal: Pipe diameter and wall thickness interpolation for
Double sided penetration seal with rubber type insulated copper pipes (CS)

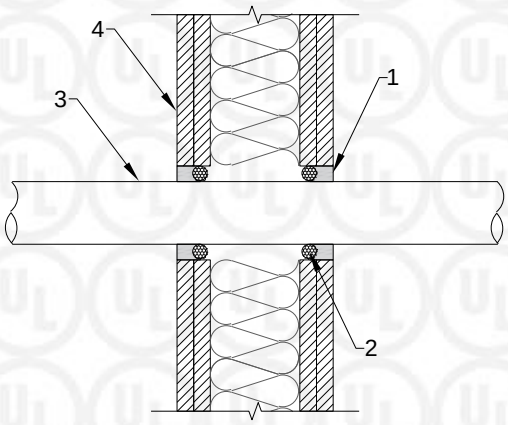


Appendix UL-EU CERTIFICATE

Double sided penetration seal with combustible pipes

Penetration Seal:	Combustible pipes sealed with fischer FiAM Plus sealant to both sides of the wall, installed flush with both surfaces of wall

Construction details:



Key:

1. fischer FiAM Plus
2. Backing material
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	≥20 mm	20 mm	PE backer rod	EI 45 – U/C, C/C
PVC pipe, max. Ø50 mm, 3.7 mm wall thickness				E 60 – U/C, C/C EI 15 – U/C, C/C
PE pipe, max. Ø50 mm, 3.0 mm wall thickness				EI 60 – U/C, C/C

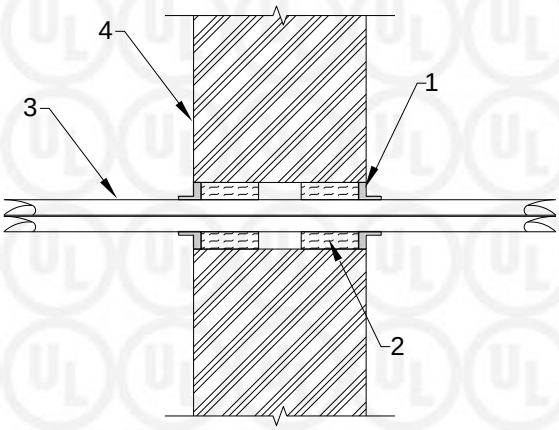
Appendix UL-EU CERTIFICATE

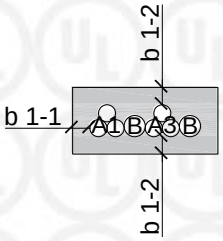
Rigid wall constructions with minimum wall thickness of 115 mm

Double sided penetration seal with cables (service option S)

Penetration Seal:	Cables sealed with fischer FiAM Plus sealant to both sides of the wall, backed with stone wool insulation. Sealant installed flush with both surfaces of wall. Rigid wall thickness ≥115 mm (≥ 650 kg/m³).

Construction details:





Key:

1. fischer FiAM Plus
2. Backing material
3. Cables
4. Wall (≥^s115 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 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 ρ ≥60 kg/m³, ≥40 mm deep from both sides**	E 120 EI 45

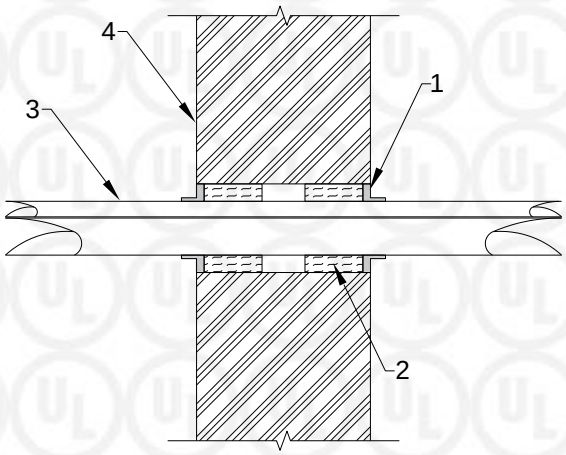
• overlap with sealant thickness of t ≥3 mm
** ≥10 mm air gap between layers of insulation

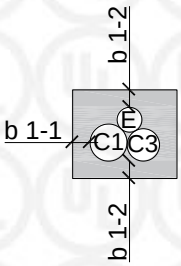
Appendix UL-EU CERTIFICATE

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 insulation. Sealant installed flush with both surfaces of wall. Rigid wall thickness ≥115 mm (≥ 650 kg/m³).

Construction details:





Key:

1. fischer FiAM Plus
2. Backing material
3. Cables
4. Wall (≥115 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 ρ ≥60 kg/m³, ≥40 mm deep from both sides**	E 120 EI 30

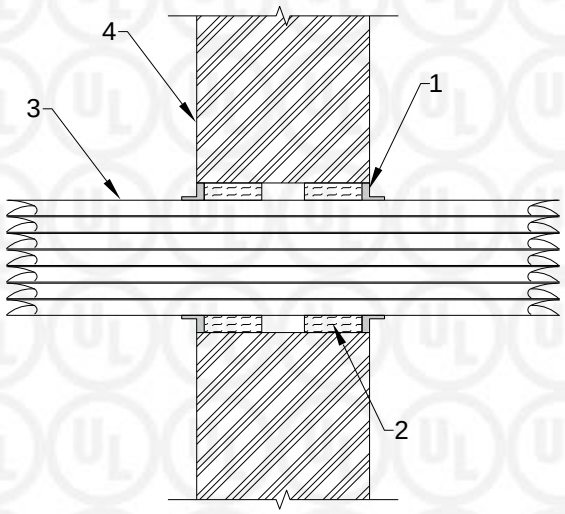
* overlap with sealant thickness of t ≥3 mm
** ≥10 mm air gap between layers of insulation

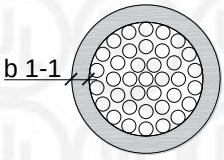
Appendix UL-EU CERTIFICATE

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

Penetration Seal:	Cable bundle sealed with fischer FiAM Plus sealant to both sides of the wall, backed with stone wool insulation. Sealant installed flush with both surfaces of wall. Rigid wall thickness ≥115 mm (≥ 650 kg/m³).

Construction details:





F-cable bundle

Key:

1. fischer FiAM Plus
2. Backing material
3. Cable bundle
4. 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

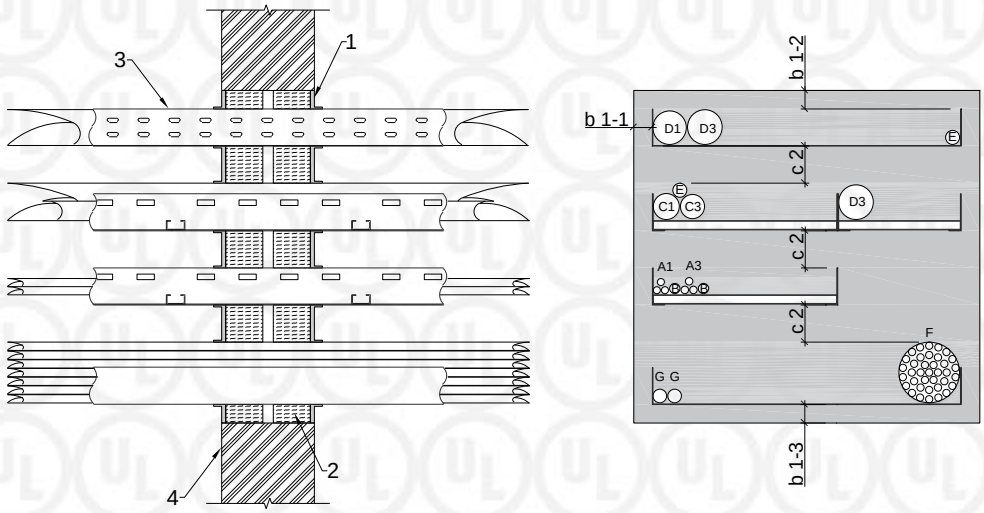
* overlap with sealant thickness of t ≥3 mm
** ≥10 mm air gap between layers of insulation

Appendix UL-EU CERTIFICATE

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

Penetration Seal:	Cables sealed with fischer FiAM Plus sealant to both sides of the wall, backed with stone wool insulation. Sealant installed flush with both surfaces of wall. Rigid wall thickness ≥115 mm (≥ 650 kg/m³).

Construction details:



Key:

1. fischer FiAM Plus
2. Backing material
3. Cable carrier
4. Wall (≥115 mm)

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 (≥25 mm and ≤ 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 (≥50 mm)

Cable support (with cable carrier) ≤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	550 mm x 500 mm	≥5 mm	≥13 mm*	Stone wool ρ ≥60 kg/m³, ≥40 mm deep from both sides**	E 120 EI 30
	Tied bundles up to 100 mm overall diameter containing sheathed electrical / telecommunication / optical fibre cables up to a max. outer diameter of 21 mm					
	Non-sheathed cables up to a maximum outer diameter of 24 mm					

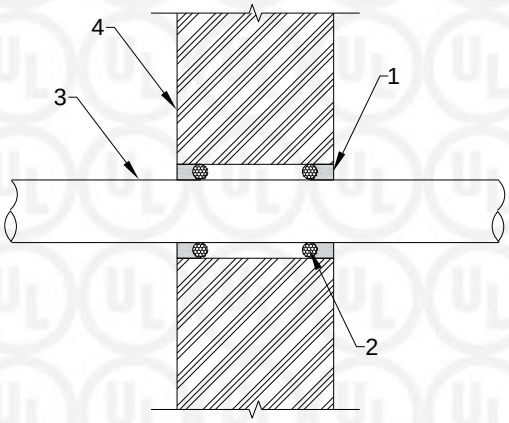
* overlap with sealant thickness of t ≥3 mm
** ≥10 mm air gap between layers of insulation
*** with or without cable carrier

Appendix UL-EU CERTIFICATE

Double sided penetration seal with steel pipes

Penetration Seal:	Steel pipes sealed with fischer FiAM Plus sealant to both sides of the wall, installed flush with both surfaces of wall. Rigid wall thickness ≥115 mm (≥ 650 kg/m³).

Construction details:



Key:

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

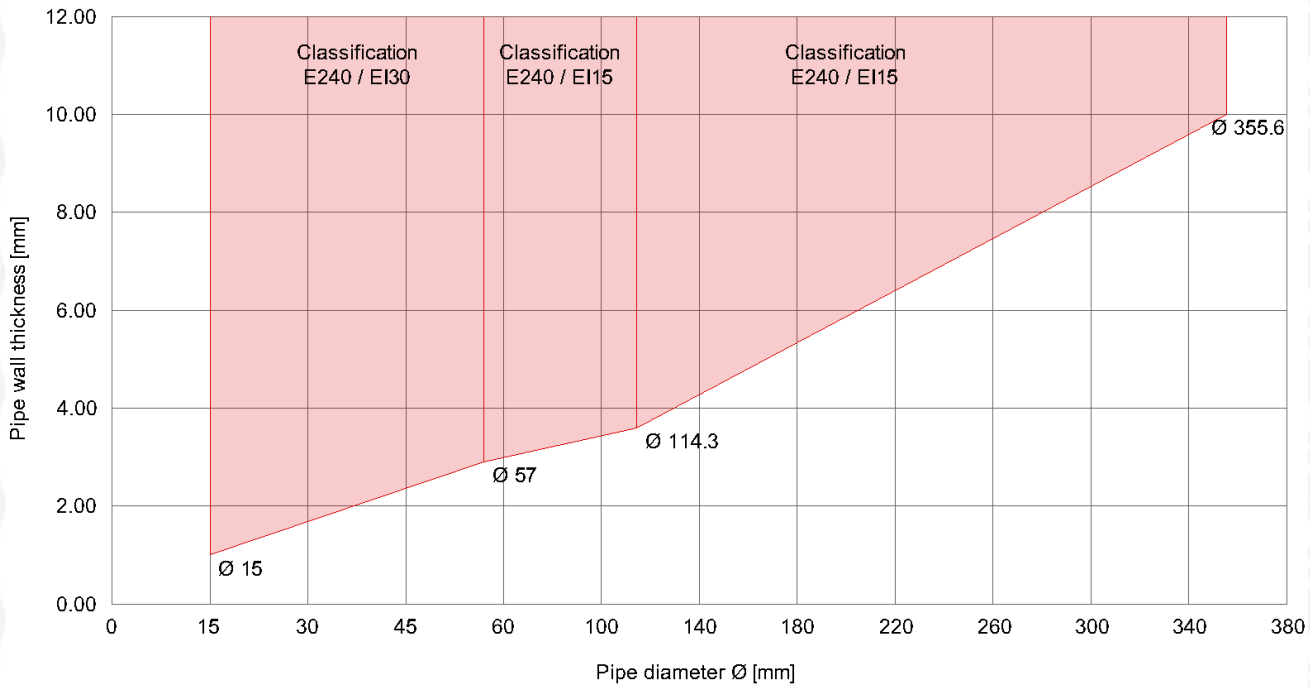
Pipe support ≤ 250mm from wall

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

Appendix UL-EU CERTIFICATE

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

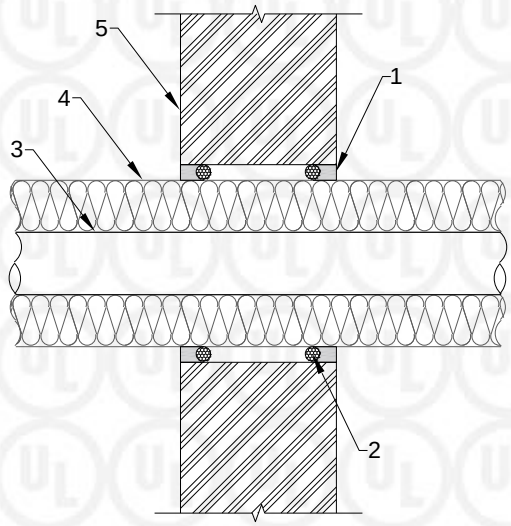


Appendix UL-EU CERTIFICATE

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

Penetration Seal:	Steel pipes sealed with fischer FiAM Plus sealant to both sides of the wall, installed flush with both surfaces of wall. Rigid wall thickness ≥115 mm (≥ 650 kg/m³).

Construction details:



Key:

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

Pipe support ≤ 250mm from wall

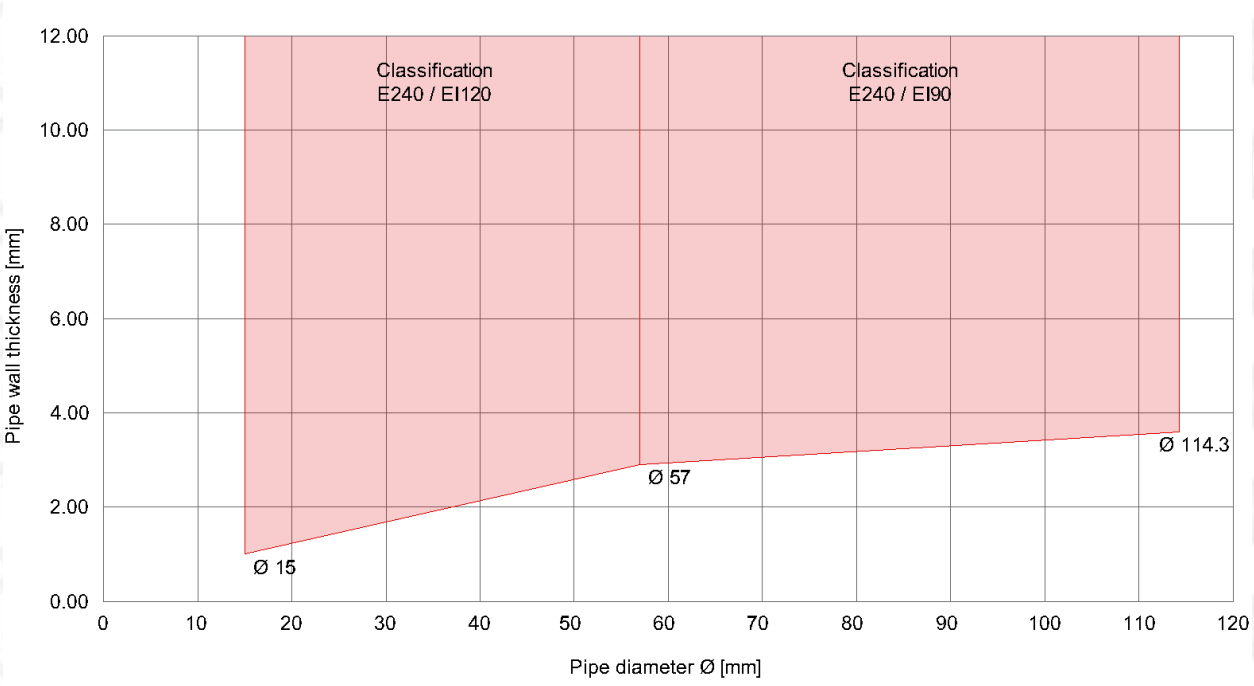
Type of penetration	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness	Stone wool, ρ ≥ 100 kg/m³, thickness ≥ 50 mm*	≥10 mm	10 mm	PE Backer rod	E 240 – U/C, C/U, C/C EI 120 – U/C, C/U, C/C
Steel pipe, max. Ø57 mm, min.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

Appendix UL-EU CERTIFICATE

Penetration Seal: Pipe diameter and wall thickness interpolation for
Double sided penetration seal with stone wool insulated steel pipes (CS)

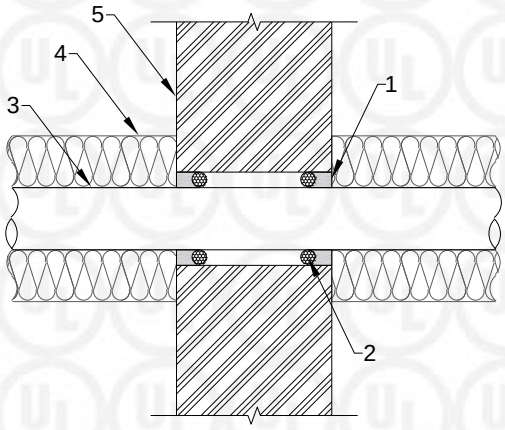


Appendix UL-EU CERTIFICATE

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 wall, installed flush with both surfaces of wall. Rigid wall thickness ≥115 mm (≥ 650 kg/m³).

Construction details:



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
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

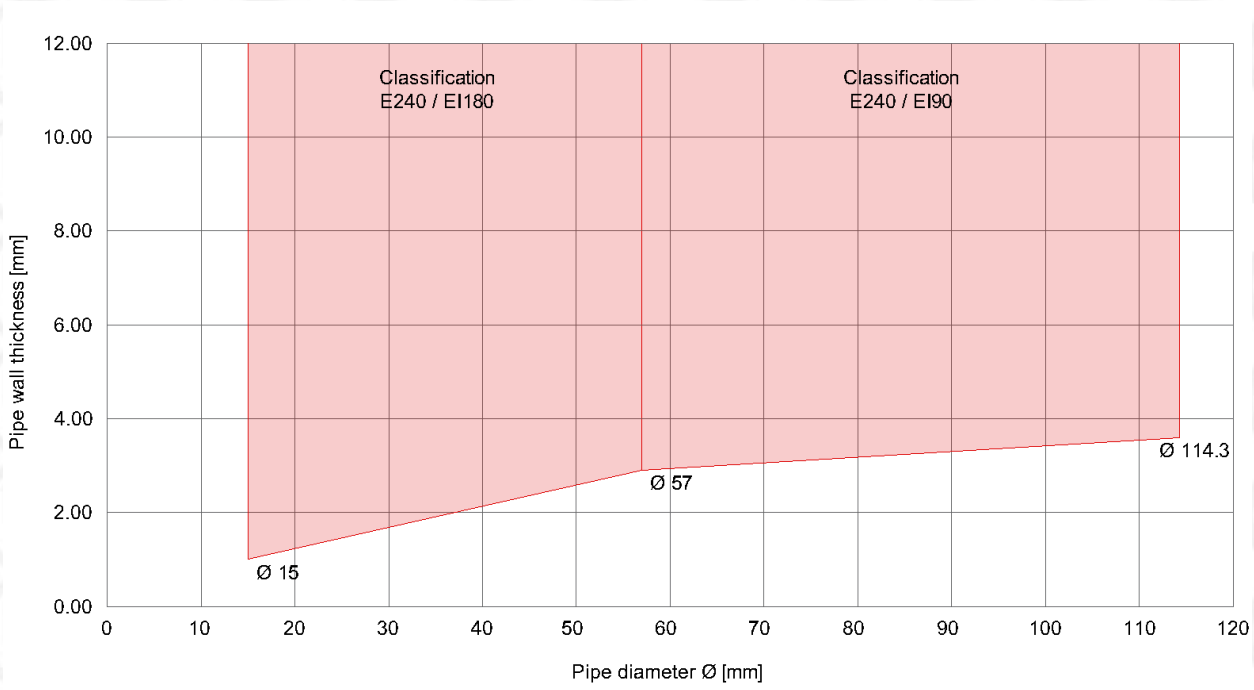
* CI = Continued Interrupted

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

Appendix UL-EU CERTIFICATE

Certificate No. UL-EU-01277-EN
Page 36/78
Date of Issue 2023-11-14

Penetration Seal: Pipe diameter and wall thickness interpolation for
Double sided penetration seal with stone wool insulated steel pipes (CI)

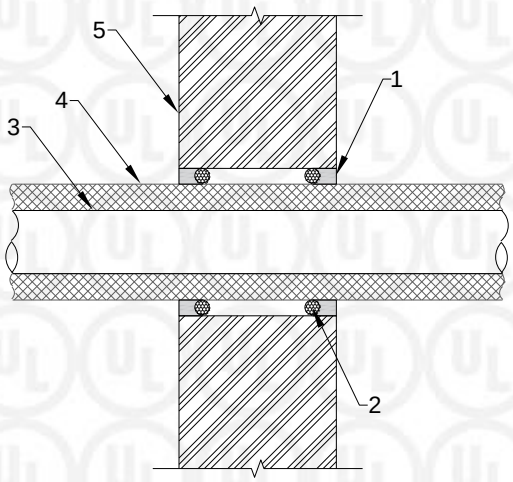


Appendix UL-EU CERTIFICATE

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 wall, installed flush with both surfaces of wall. Rigid wall thickness ≥115 mm (≥ 650 kg/m³).

Construction details:



Key:

1. fischer FiAM Plus
2. Backing material
3. Pipe
4. Pipe insulation
5. Wall (≥115 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	AF/ArmaFlex Evo, 13 mm – 25 mm thickness*	≥20 mm	20 mm	PE backer rod	EI 120 – C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness					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*				E 120 – C/U, C/C EI 90 – C/U, C/C
Steel pipe, max. Ø114.3 mm, min. 3.6 mm wall 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

Appendix UL-EU CERTIFICATE

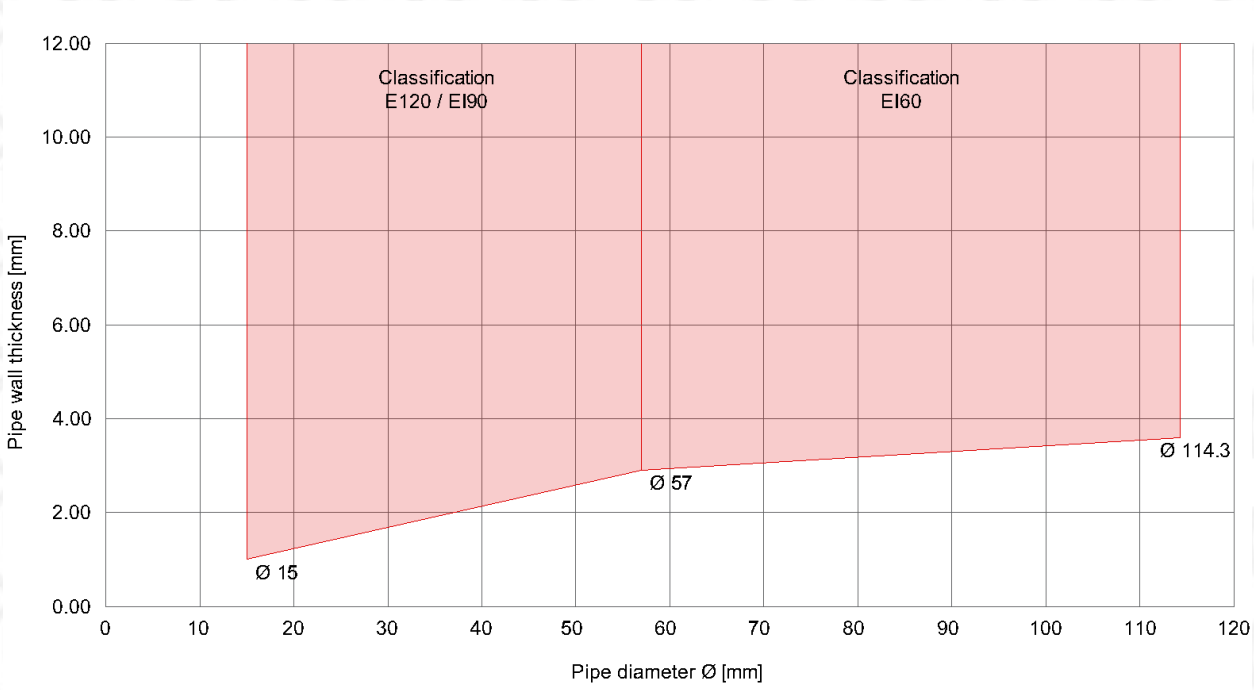
Certificate No. UL-EU-01277-EN
Page 38/78
Date of Issue 2023-11-14

Penetration Seal: Pipe diameter and wall thickness interpolation for
Double sided penetration seal with rubber type insulated steel pipes (CS)

Appendix UL-EU CERTIFICATE

Certificate No. UL-EU-01277-EN
Page 37/78
Date of Issue 2023-11-14

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

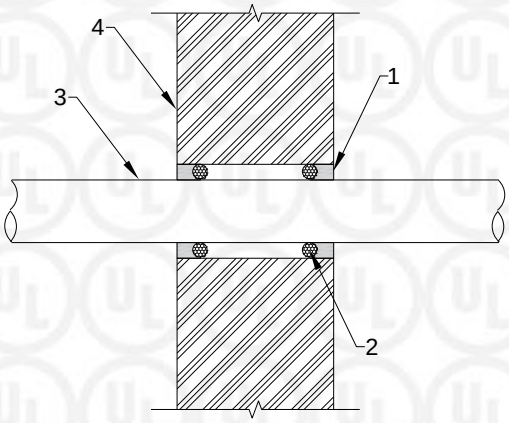


Appendix UL-EU CERTIFICATE

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 ≥115 mm (≥ 650 kg/m³).

Construction details:



Key:

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

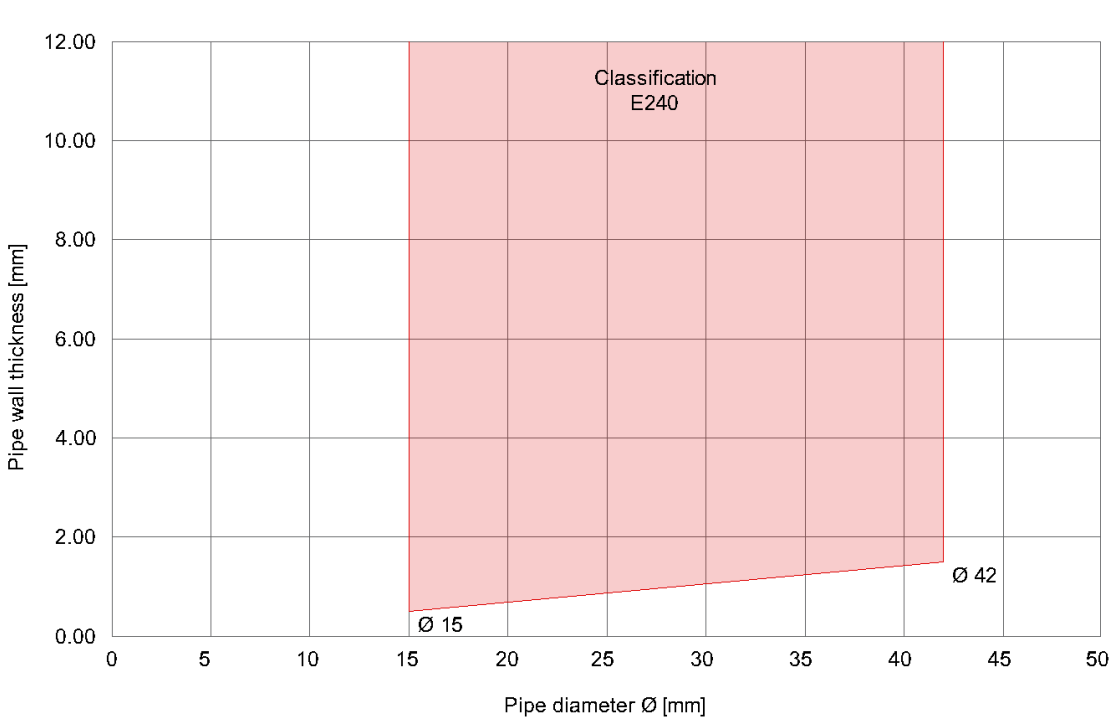
Pipe support ≤ 250mm from wall

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 240 – C/U, C/C EI 15 – C/U, C/C
Copper pipe, max. Ø42 mm, min. 1.5 mm wall thickness				E 240 – C/U, C/C

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

Appendix UL-EU CERTIFICATE

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

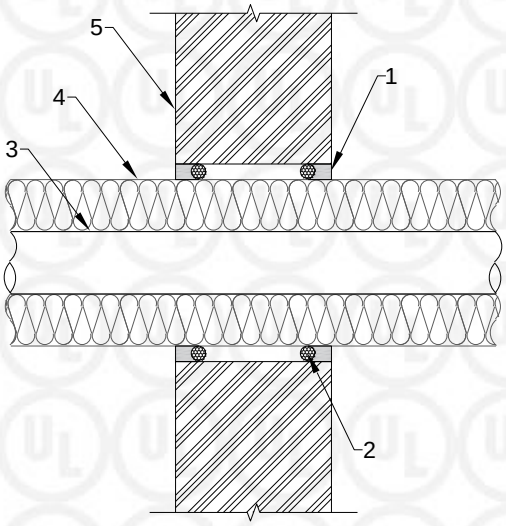


Appendix UL-EU CERTIFICATE

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 ≥115 mm (≥ 650 kg/m³).

Construction details:



Key:

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

Pipe support ≤ 250mm from wall

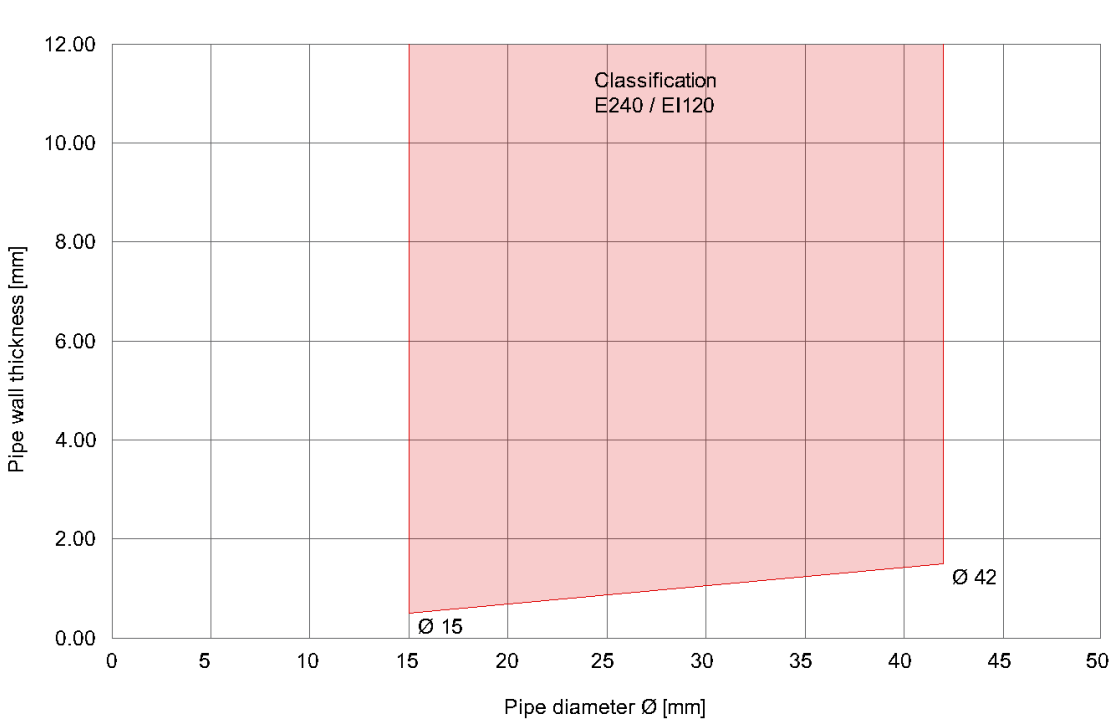
Type of penetration	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness	Stone wool, ρ ≥ 100 kg/m³, thickness ≥ 50 mm*	≥10 mm	10 mm	PE backer rod	E 240 – U/C C/U, C/C EI 180 – U/C, C/U, C/C
Copper pipe, max. Ø42 mm,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

Appendix UL-EU CERTIFICATE

Penetration Seal: Pipe diameter and wall thickness interpolation for
Double sided penetration seal with stone wool insulated copper pipes (CS)

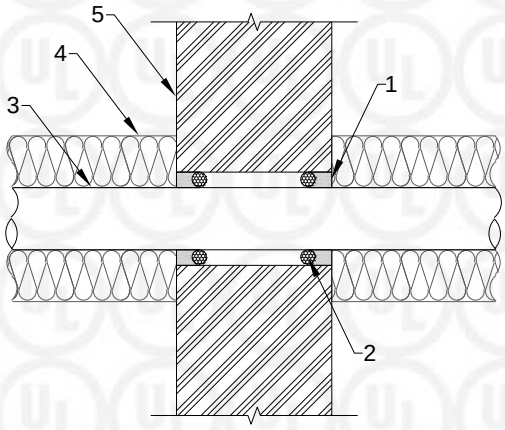


Appendix UL-EU CERTIFICATE

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 wall, installed flush with both surfaces of wall. Rigid wall thickness ≥115 mm (≥ 650 kg/m³).

Construction details:



Key:

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

Pipe support ≤ 250mm from wall

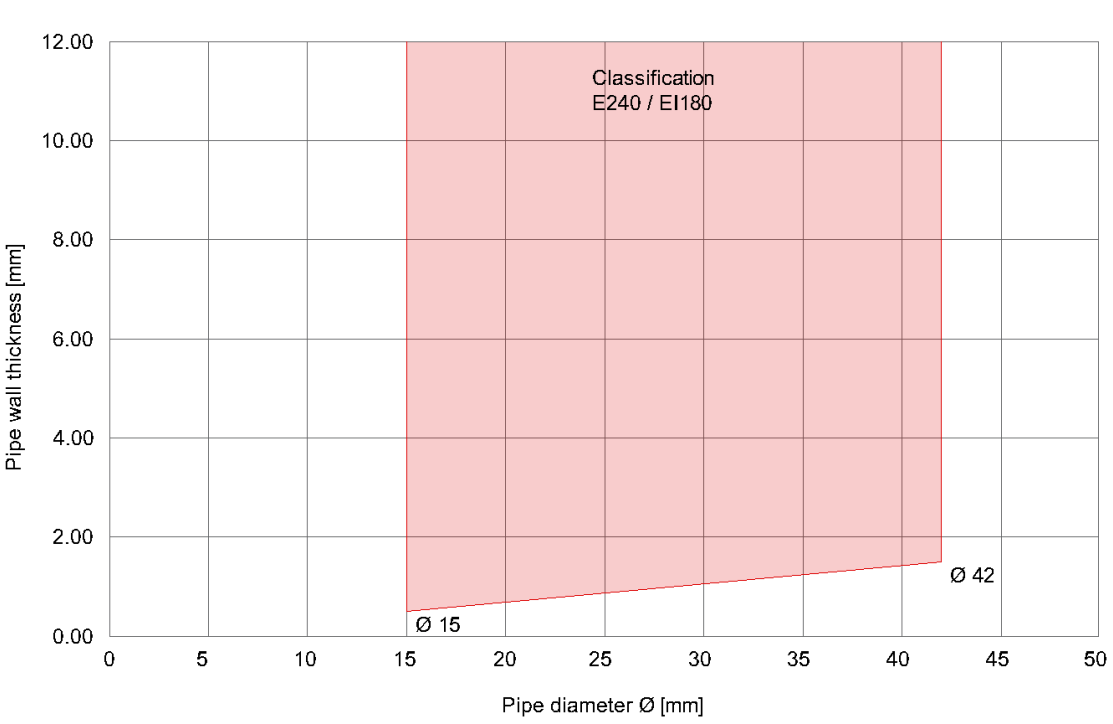
Type of penetration	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness	Mineral stone wool, ρ ≥ 100 kg/m³, thickness ≥ 50 mm*	≥10 mm	10 mm	PE backer rod	EI 240 – U/C, C/U, C/C
Copper pipe, max. Ø42 mm, min. 1.5 mm wall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

Appendix UL-EU CERTIFICATE

Penetration Seal: Pipe diameter and wall thickness interpolation for
Double sided penetration seal with stone wool insulated copper pipes (CI)

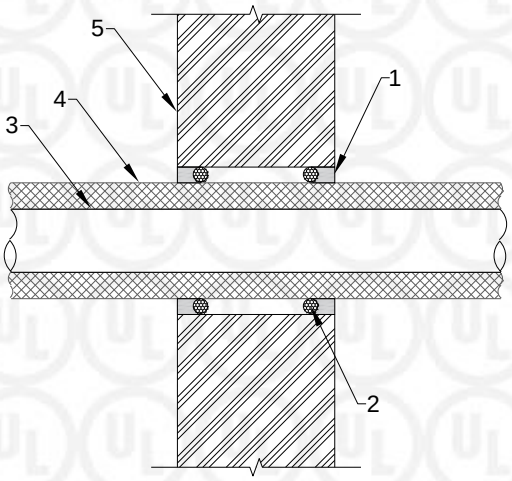


Appendix UL-EU CERTIFICATE

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. Rigid wall thickness ≥115 mm (≥ 650 kg/m³).

Construction details:



Key:

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

Pipe support ≤ 250mm from wall

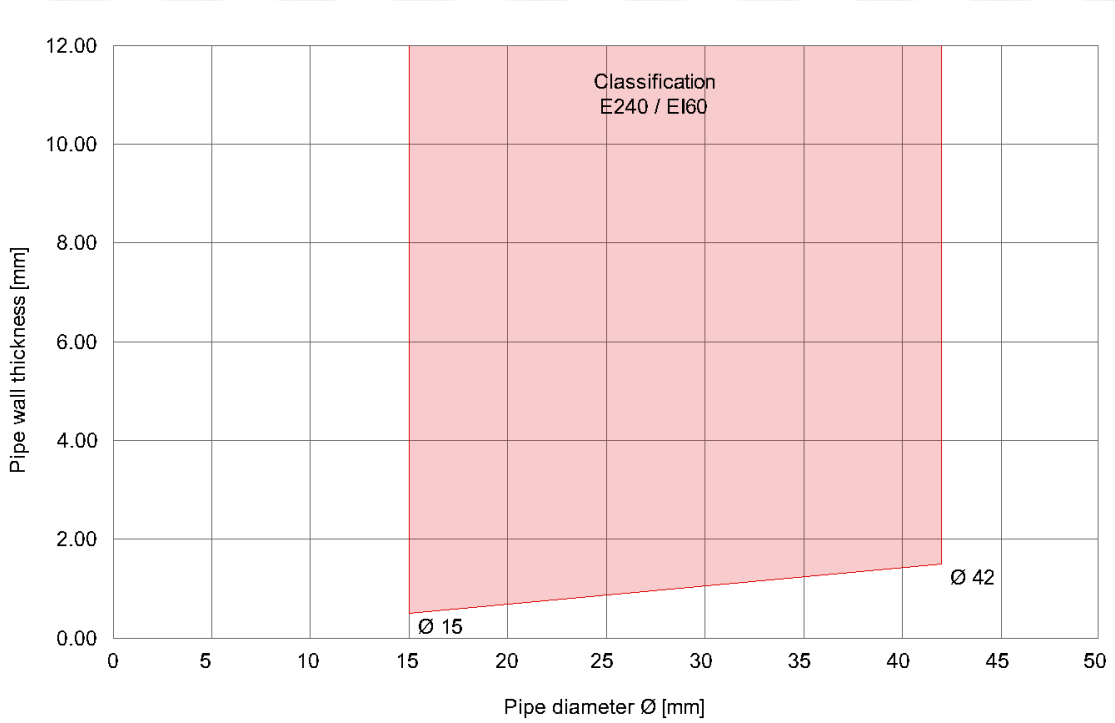
Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness	AF/ArmaFlex Evo, 13 mm thickness*	≥20 mm	20 mm	PE backer rod	EI 120 – C/U, C/C
Copper pipe, max. Ø42 mm, min. 1.5 mm wall thickness					E 120 – C/U,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

Appendix UL-EU CERTIFICATE

Penetration Seal: Pipe diameter and wall thickness interpolation for
Double sided penetration seal with rubber type insulated copper pipes (CS)

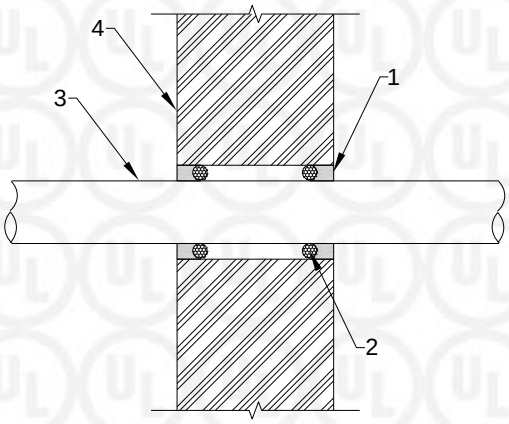


Appendix UL-EU CERTIFICATE

Double sided penetration seal with combustible pipes

Penetration Seal:	Combustible pipes sealed with fischer FiAM Plus sealant to both sides of the wall, installed flush with both surfaces of wall. Rigid wall thickness ≥115 mm (≥ 650 kg/m³).

Construction details:



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	≥20 mm	20 mm	PE backer rod	EI 60 – U/C, C/C
PVC pipe, max. Ø50 mm, 3.7 mm wall thickness				EI 120 – U/C, C/C
PE pipe, max. Ø50 mm, 3.0 mm wall thickness				EI 90 – U/C, C/C

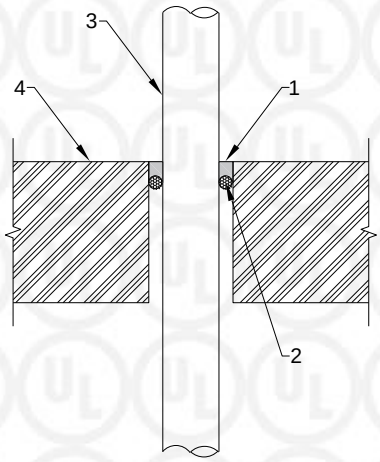
Appendix UL-EU CERTIFICATE

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 ≥150 mm (≥ 650 kg/m³).

Construction details:



Key:

1. fischer FiAM Plus
2. Backing material
3. Pipe
4. Floor (≥150 mm)

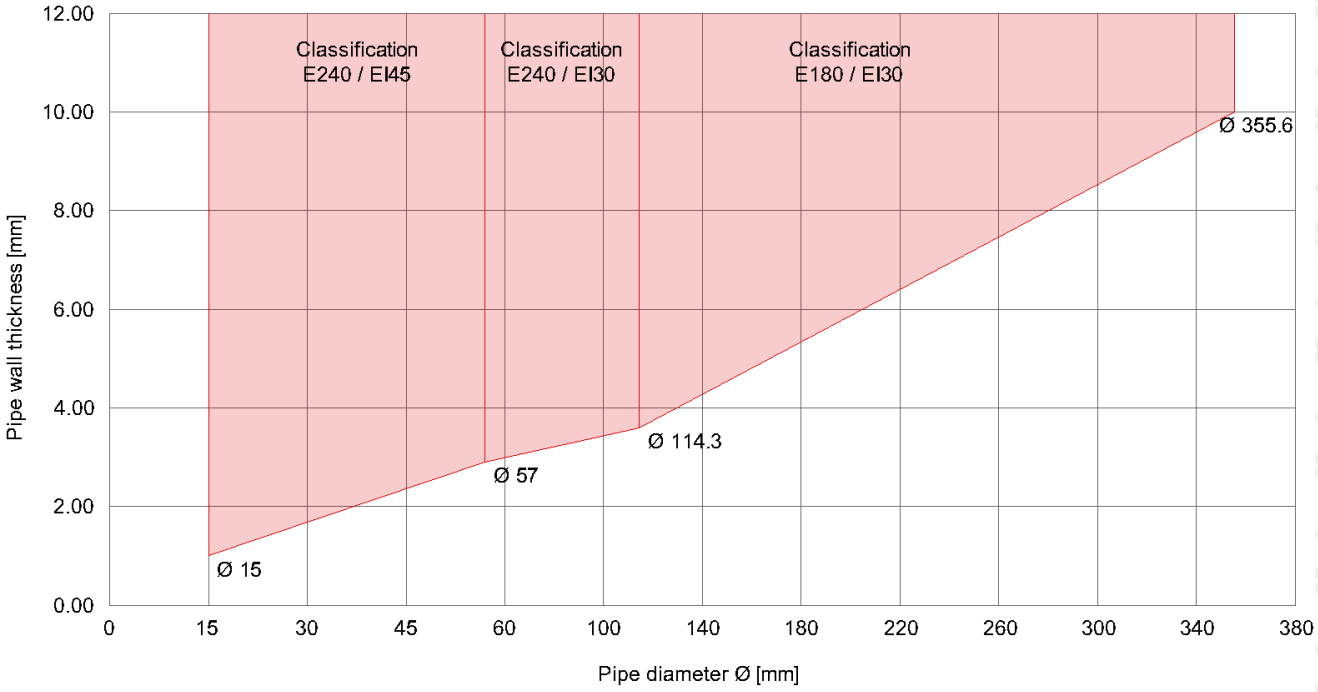
Pipe support ≤ 250mm from top surface of floor

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

Appendix UL-EU CERTIFICATE

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

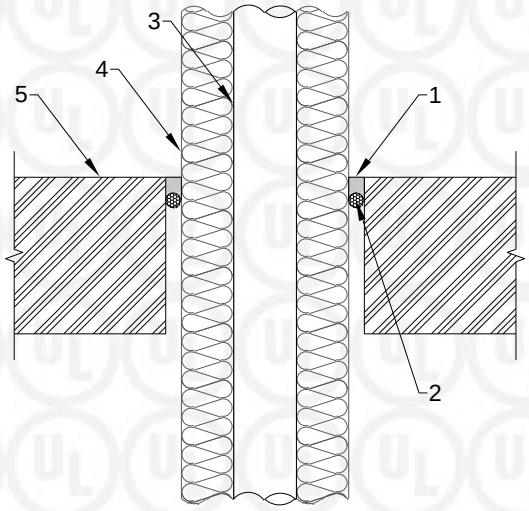


Appendix UL-EU CERTIFICATE

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 ≥150 mm (≥ 650 kg/m³).

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

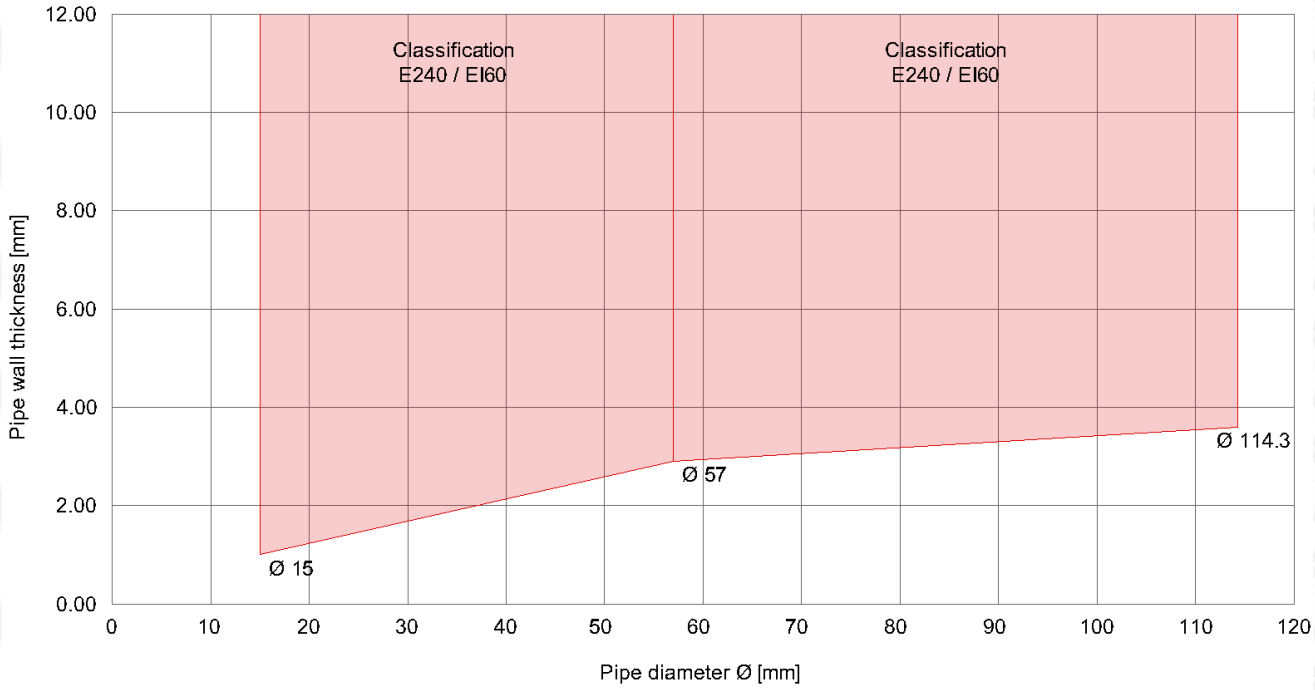
Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness	Stone wool, ρ ≥42 kg/m³, thickness ≥50 mm*	≥10 mm	10 mm	PE backer rod	E 240 – U/C, C/U, C/C EI 120 – U/C, C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness					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					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

Appendix UL-EU CERTIFICATE

Penetration Seal: Pipe diameter and wall thickness interpolation for
One sided penetration seal with stone wool insulated steel pipes (CS)

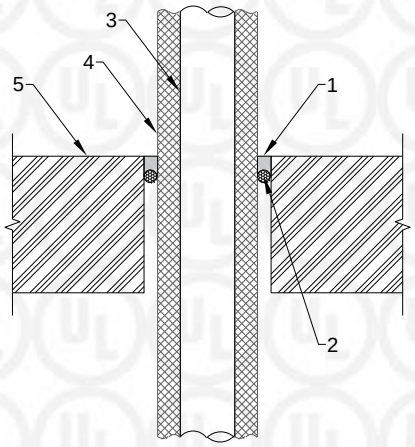


Appendix UL-EU CERTIFICATE

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 the floor, installed flush with surface of floor. Rigid floor thickness ≥150 mm (≥ 650 kg/m³).

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

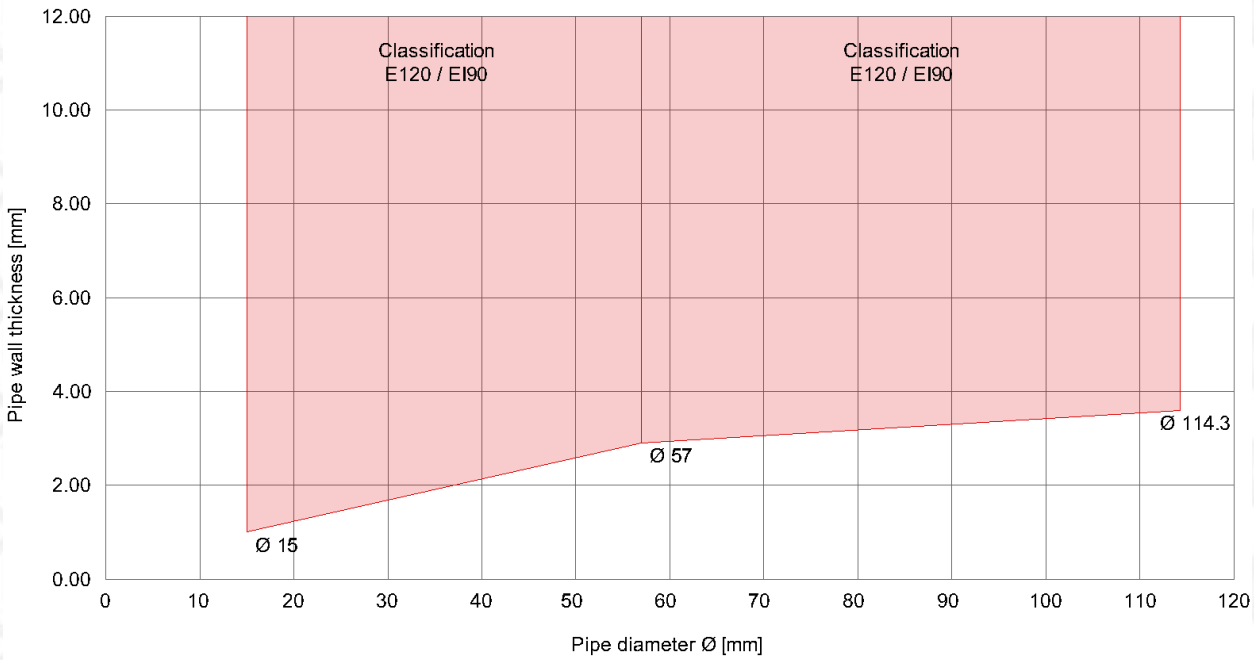
Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Steel pipe, max. Ø15 mm, min. 1.0 mm wall thickness	AF/ArmaFlex Evo, 13 -25 mm thickness*	≥25 mm	20 mm	PE backer rod	EI 120 – C/U, C/C
Steel pipe, max. Ø57 mm, min. 2.9 mm wall thickness					E 120 –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

Appendix UL-EU CERTIFICATE

Penetration Seal: Pipe diameter and wall thickness interpolation for
One sided penetration seal with rubber type insulated steel pipes (CS)

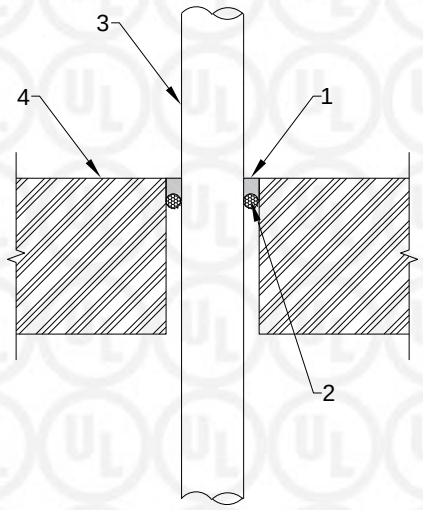


Appendix UL-EU CERTIFICATE

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 ≥150 mm (≥ 650 kg/m³).

Construction details:



Key:

1. fischer FiAM Plus
2. Backing material
3. Pipe
4. Floor (≥150 mm)

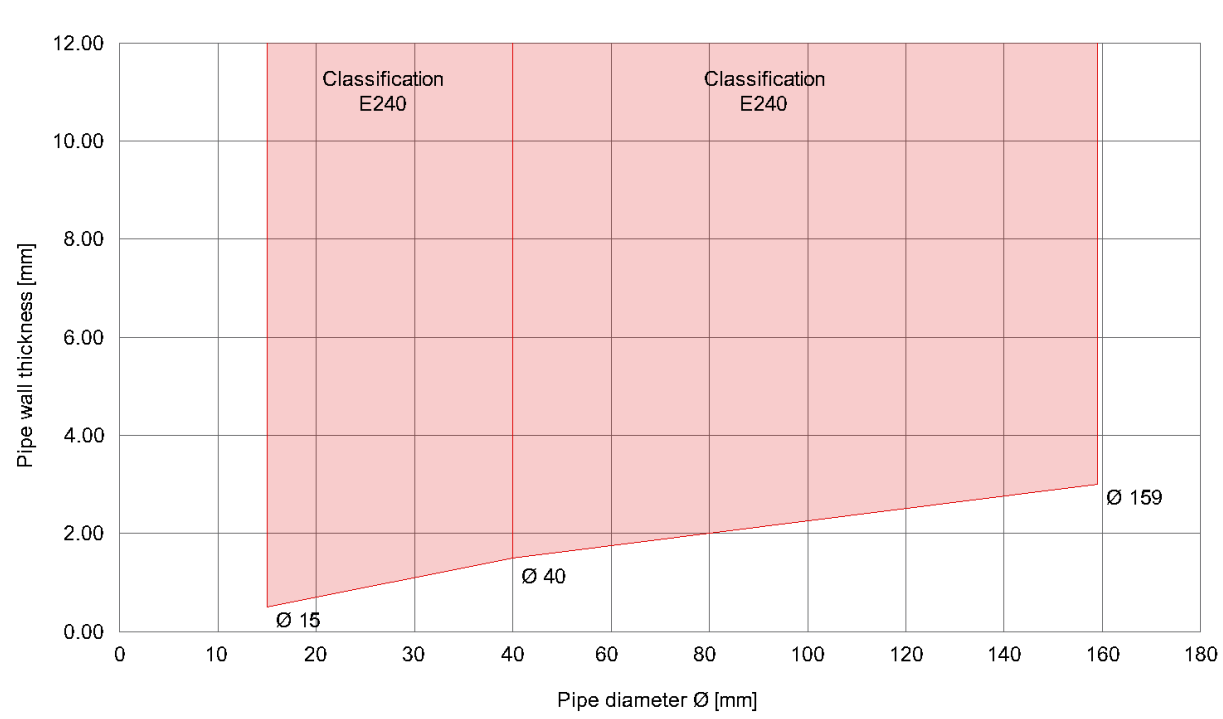
Pipe support ≤ 250mm from top surface of floor

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

Appendix UL-EU CERTIFICATE

Penetration Seal: Pipe diameter and wall thickness interpolation for
One sided penetration seal with copper pipes

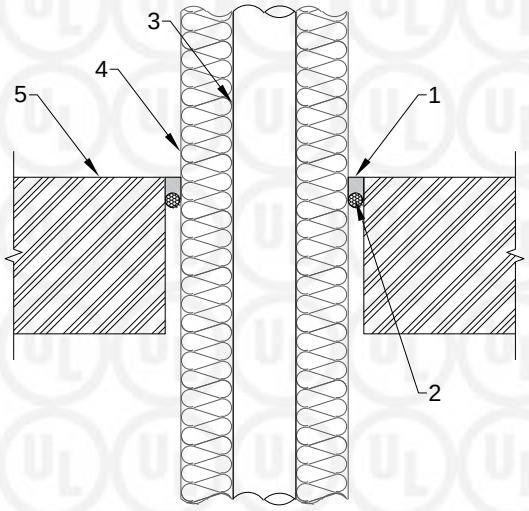


Appendix UL-EU CERTIFICATE

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

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 ≥150 mm (≥ 650 kg/m³).

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

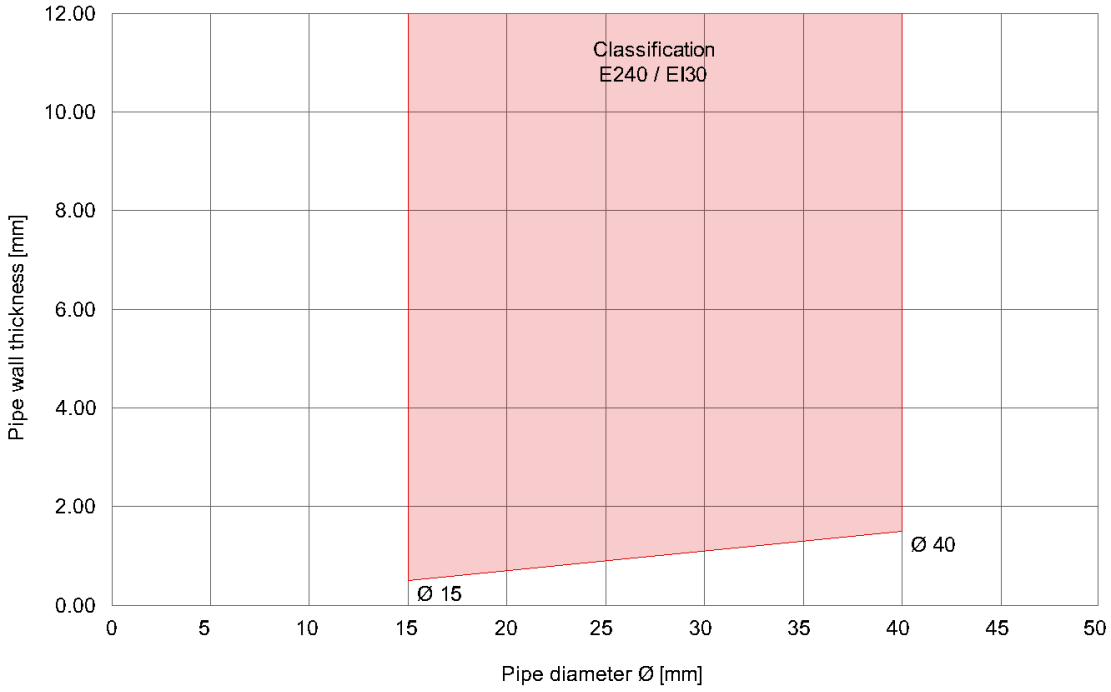
Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness	Stonel wool, ρ ≥ 42 kg/m³, thickness ≥ 50 mm*	≥10 mm	20 mm	PE backer rod	E 240 – U/C, C/U, C/C EI 30 – U/C, C/U, C/C
Copper pipe, max. Ø40 mm, min.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

Appendix UL-EU CERTIFICATE

Penetration Seal: Pipe diameter and wall thickness interpolation for
One sided penetration seal with stone wool insulated copper pipes (CS)

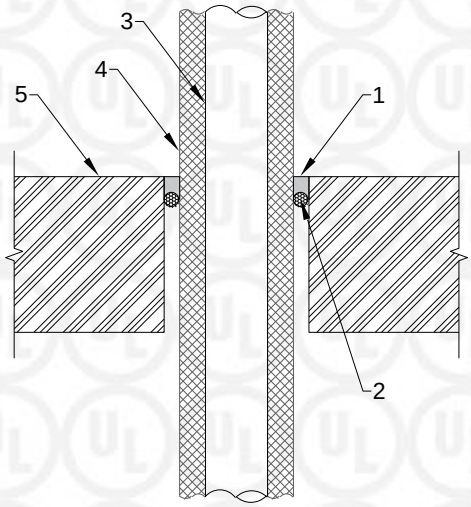


Appendix UL-EU CERTIFICATE

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

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 ≥150 mm (≥ 650 kg/m³).

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

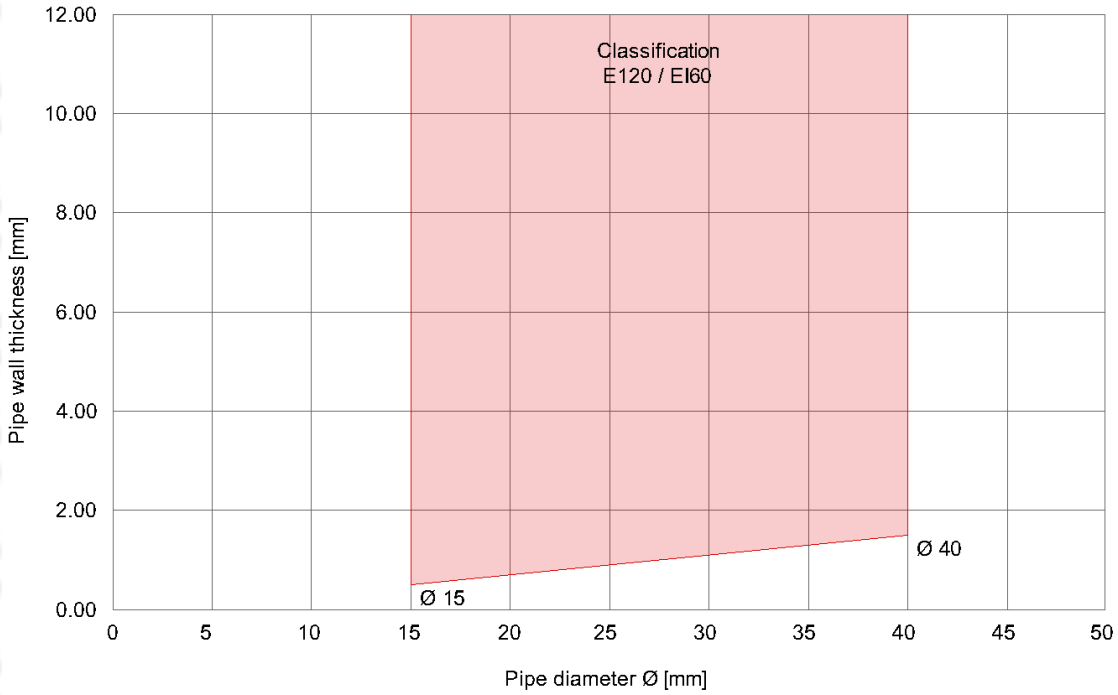
Type of penetrant	Type of pipe insulation	Seal thickness	Annular space	Backing material	Classification
Copper pipe, max. Ø15 mm, min. 0.5 mm wall thickness	AF/ArmaFlex Evo, 13 mm thickness*	≥25 mm	20 mm	PE backer rod	EI120 – C/U, C/C
Copper pipe, max. Ø40 mm, min. 1.5 mm wall thickness					E120 – C/U,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

Appendix UL-EU CERTIFICATE

Penetration Seal: Pipe diameter and wall thickness interpolation for
One sided penetration seal with rubber type insulated copper pipes (CS)

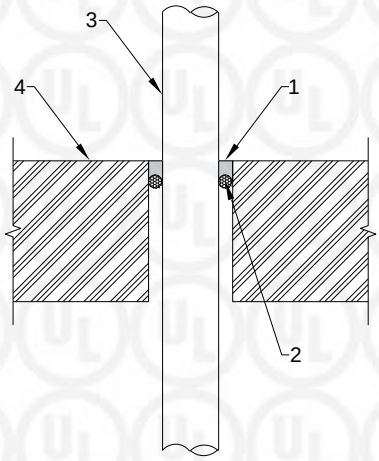


Appendix UL-EU CERTIFICATE

One sided penetration seal with combustible pipes

Penetration Seal:	Combustible pipes sealed with fischer FiAM Plus sealant to top side of the floor, installed flush with surface of floor. Rigid floor thickness ≥150 mm (≥ 650 kg/m³).

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
PP pipe, max. Ø50 mm, 1.8 mm wall thickness	≥20 mm	20 mm	PE backer rod	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				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

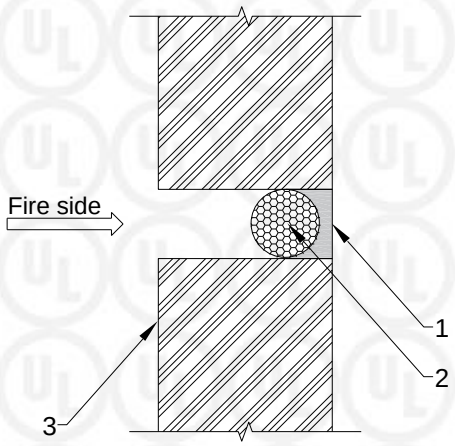
Appendix UL-EU CERTIFICATE

Rigid wall constructions with wall thickness of minimum 115 mm

Single sided linear joint seal, unexposed side

Joint Seal: fischer FiAM Plus sealant applied to non-fire side of the wall, installed flush with surface of wall

Construction details:



Key:

1. fischer FiAM Plus
2. Backing material
3. Wall (≥115 mm)

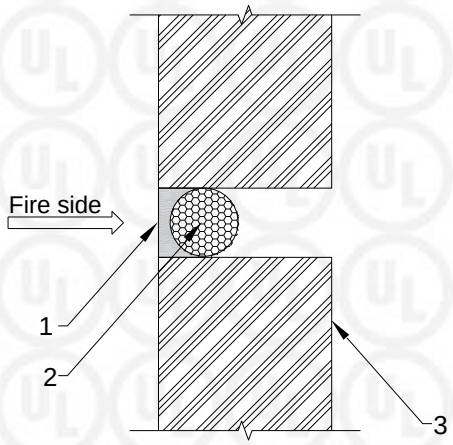
Substrate	Seal thickness	Backing material	Classification
Rigid wall (≥650 kg/m³)	≥10 mm	PE backer rod	E 240–V–M12.5-F–W 0 to W 20 EI 45–V–M12.5–F–W 0 to W 20
	≥20 mm		E 240–V–M12.5-F–W 0 to W 50 EI 60–V–M12.5–F–W 0 to W 50

Appendix UL-EU CERTIFICATE

Single sided linear joint seal, exposed side

Joint Seal: fischer FiAM Plus sealant applied to fire side of the wall, installed flush with surface of wall

Construction details:



Key:

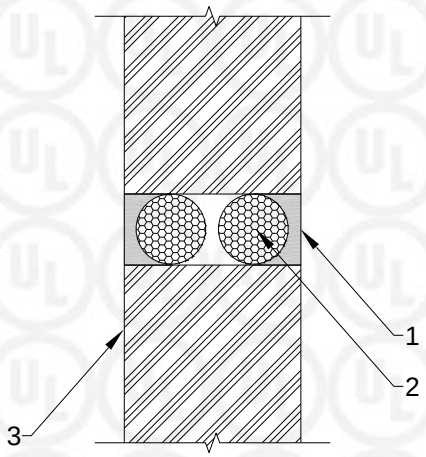
1. fischer FiAM Plus
2. Backing material
3. Wall (≥115 mm)

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

Appendix UL-EU CERTIFICATE

Rigid wall constructions with wall thickness of minimum 124 mm

Double sided linear joint seal

Joint Seal: fischer FiAM Plus sealant applied to both sides of the wall, installed flush with both surfaces of wall	
Construction details:  	Key: 1. FiAM Plus 2. Backing material 3. Wall (≥124 mm)

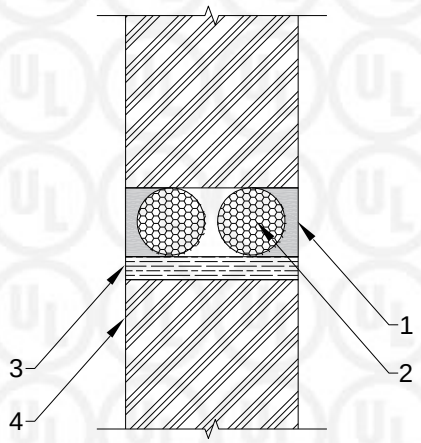
Substrate	Seal thickness	Backing material	Classification
Rigid wall (≥650 kg/m³)	≥10 mm	PE backer rod	E 240–V–M25-F–W 0 to W 60 EI 120–V–M25–F–W 0 to W 60

Appendix UL-EU CERTIFICATE

Double sided linear joint seal with timber substrate to one face

Joint Seal: fischer FiAM Plus sealant applied to both sides of the wall, installed flush with both surfaces of wall

Construction details:



Key:

1. fischer FiAM Plus
2. Backing material
3. Timber
4. Wall (≥124 mm)

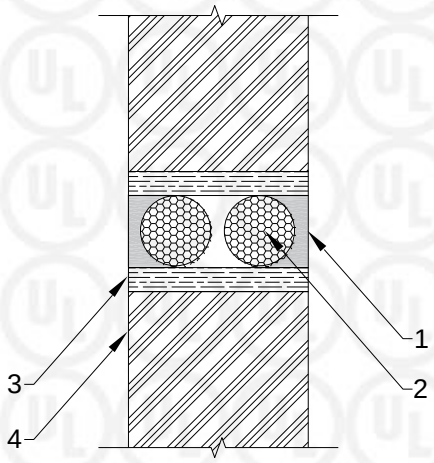
Substrate	Seal thickness	Backing material	Classification
Rigid wall (≥650 kg/m³) / timber	≥10 mm	PE backer rod	EI 90–V–X–F–W 0 to W 50

Appendix UL-EU CERTIFICATE

Double sided linear joint seal with timber substrate to both faces

Joint Seal: fischer FiAM Plus sealant applied to both sides of the wall, installed flush with both surfaces of wall

Construction details:



Key:

1. FiAM Plus
2. Backing material
3. Timber
4. Wall (≥124 mm)

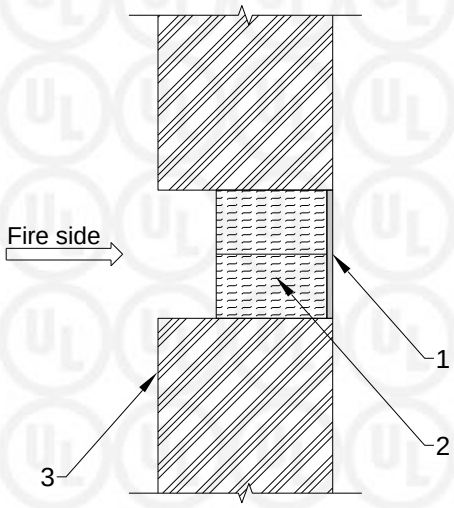
Substrate	Seal thickness	Backing material	Classification
Timber	≥10 mm	PE backer rod	EI 90–V–X–F–W 0 to W 50

Appendix UL-EU CERTIFICATE

Single sided linear joint seal, unexposed side

Joint Seal: fischer FiAM Plus sealant applied to unexposed side of the wall, installed flush with surface of wall

Construction details:



Key:

1. FiAM Plus
2. Backing material
3. Wall (≥124 mm)

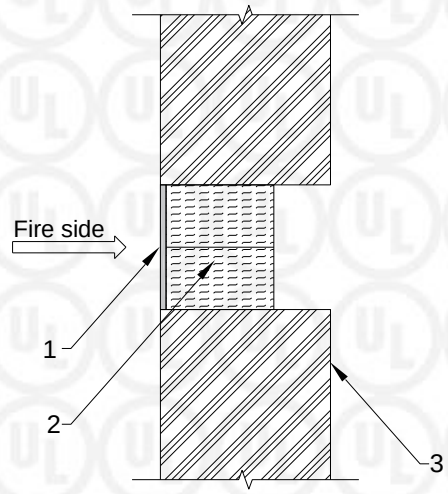
Substrate	Seal thickness	Backing material	Classification
Rigid wall (≥650 kg/m³)	≥5 mm	Stone wool, thickness ≥ 100mm ρ ≥60 kg/m³, compressed ≥30 %	E 240–V–M25–F–W 5 to W 60 EI 180–V–M25–F–W 5 to W 60

Appendix UL-EU CERTIFICATE

Single sided linear joint seal, exposed side

Joint Seal: fischer FiAM Plus sealant applied to exposed side of the wall, installed flush with surface of wall

Construction details:



Key:

1. FiAM Plus
2. Backing material
3. Wall (≥124 mm)

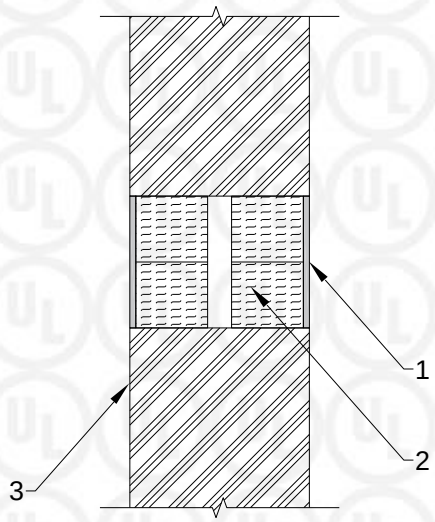
Substrate	Seal thickness	Backing material	Classification
Rigid wall (≥650 kg/m³)	≥5 mm	Stone wool, thickness ≥ 100mm ρ ≥60 kg/m³, compressed ≥30 %	E 240–V–M25–F–W 5 to W 60 EI 120–V–M25–F–W 5 to W 60

Appendix UL-EU CERTIFICATE

Double sided linear joint seal

Joint Seal: fischer FiAM Plus sealant applied to both sides of the wall, installed flush with both surfaces of wall

Construction details:



Key:

1. FiAM Plus
2. Backing material
3. Wall (≥115 mm)

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

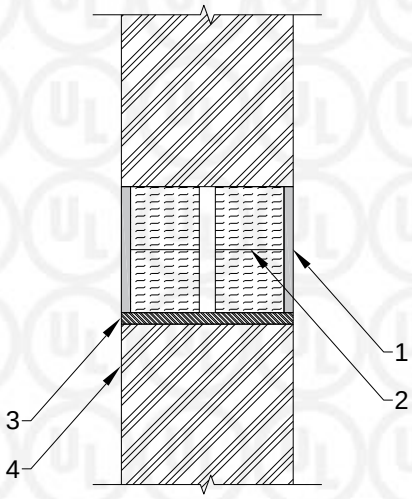
* ≥5 mm air gap between layers of insulation

Appendix UL-EU CERTIFICATE

Double sided linear joint seal with steel substrate to one face

Joint Seal: fischer FiAM Plus sealant applied to both sides of the wall, installed flush with both surfaces of wall

Construction details:



Key:

1. FiAM Plus
2. Backing material
3. Steel (≥ 10 mm)
4. Wall (≥124 mm)

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

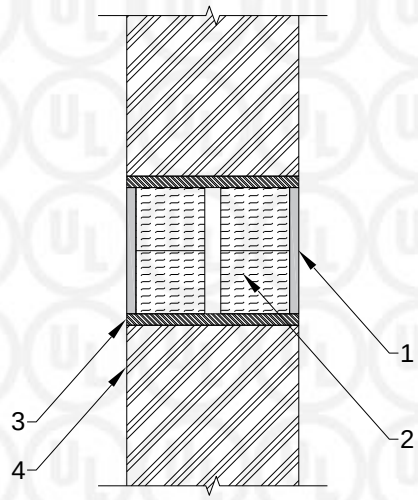
* ≥4 mm air gap between layers of insulation

Appendix UL-EU CERTIFICATE

Double sided linear joint seal with steel substrate to both faces

Joint Seal: fischer FiAM Plus sealant applied to both sides of the wall, installed flush with both surfaces of wall

Construction details:



Key:

1. FiAM Plus
2. Backing material
3. Steel (≥ 10 mm)
4. Wall (≥124 mm)

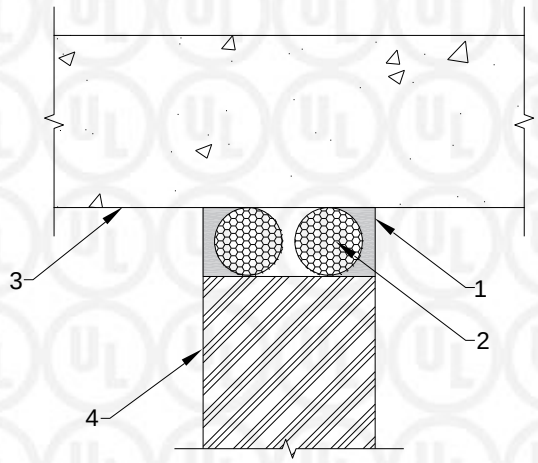
Substrate	Seal thickness	Backing material	Classification
Steel	≥10 mm	Stone wool, thickness ≥50 mm on both sides*, ρ ≥60 kg/m³, compressed ≥30 %	E 240–V–X–F–W 5 to W 70 EI 45–V–X–F–W 5 to W 70

* ≥4 mm air gap between layers of insulation

Appendix UL-EU CERTIFICATE

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

Double sided head of wall linear joint seal

Joint Seal: fischer FiAM Plus sealant applied to both sides of the wall as head of wall joint, installed flush with both surfaces of wall	
Construction details: 	Key: 1. FiAM Plus 2. Backing material 3. Floor (≥150 mm) 4. Wall (≥115 mm)

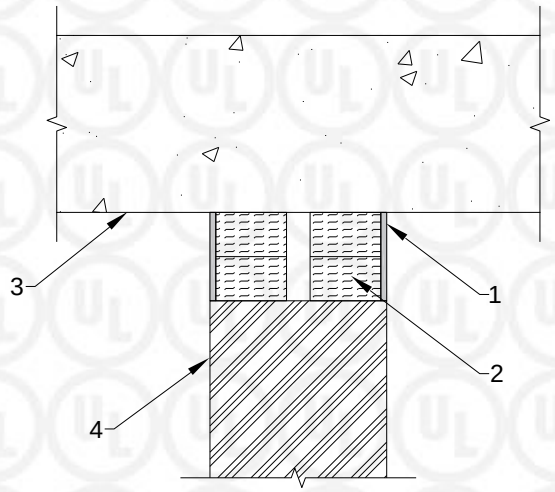
Substrate	Seal thickness	Backing material	Classification
Rigid floor (≥650 kg/m³) / Rigid wall (≥650 kg/m³)	≥10 mm	PE backer rod	E 240–T–M25–F–W 0 to W 60 EI 180–T–M25–F–W 0 to W 60

Appendix UL-EU CERTIFICATE

Double sided head of wall joint seal

Joint Seal: fischer FiAM Plus sealant applied to both sides of the wall as head of wall joint, installed flush with both surfaces of wall

Construction details:



Key:

1. FiAM Plus
2. Backing material
3. Floor (≥ 150 mm)
4. Wall (≥ 115 mm)

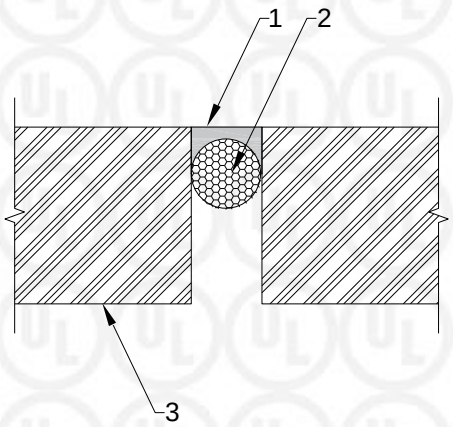
Substrate	Seal thickness	Backing material	Classification
Rigid floor (≥650 kg/m³) / Rigid wall (≥650 kg/m³)	≥5 mm	Stone wool, thickness ≥50 mm on both sides*, ρ ≥60 kg/m³, compressed ≥30 %	EI 240–T–M25–F–W 5 to W 60
	≥3 mm		EI 240–T–M25–F–W 5 to W 40

* ≥5 mm air gap between layers of insulation

Appendix UL-EU CERTIFICATE

Rigid floor construction with minimum thickness of 150mm

Single sided linear joint seal

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. Floor (≥ 150 mm)

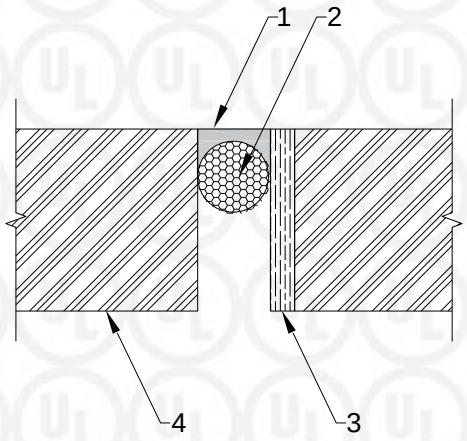
Substrate	Seal thickness	Backing material	Classification
Rigid floor (≥650 kg/m³)	≥15 mm	PE backer rod	E 240–H–M25–F–W 0 to W 40 EI 60–H–M25–F–W 0 to W 40
	≥10 mm		E 180–H–M20–F–W 0 to W 50 EI 20–H–M20–F–W 0 to W 50
	≥8 mm		E 240–H–M20–F–W 0 to W 20 EI 45–H–M20–F–W 0 to W 20

Appendix UL-EU CERTIFICATE

Single sided linear joint seal with timber 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. Timber
4. Floor (≥ 150 mm)

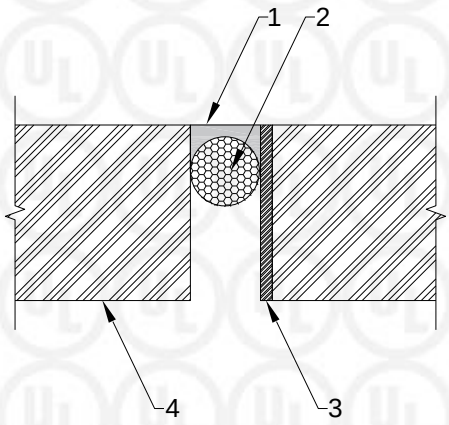
Substrate	Seal thickness	Backing material	Classification
Rigid floor (≥650 kg/m³) / timber	≥12.5 mm	PE backer rod	EI 60–H–X–F–W 0 to W 50

Appendix UL-EU CERTIFICATE

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)

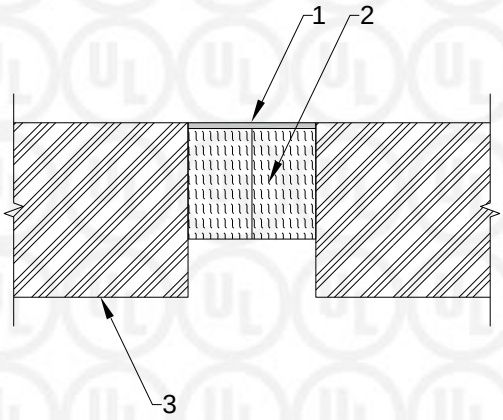
Substrate	Seal thickness	Backing material	Classification
Rigid floor (≥650 kg/m³) / steel	≥10 mm	PE backer rod	E 240–H–X–F–W 0 to W 20 EI 30–H–X–F–W 0 to W 20

Appendix UL-EU CERTIFICATE

Single sided linear joint seal

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. Floor (≥ 150 mm)

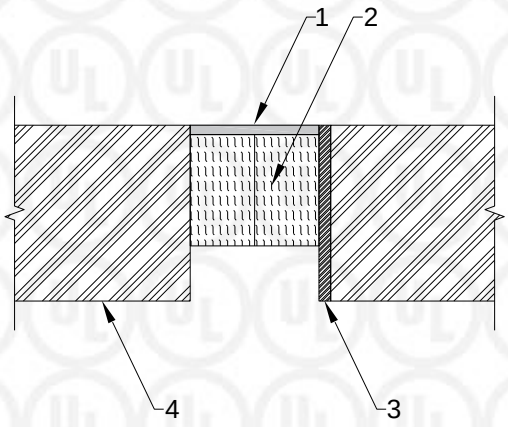
Substrate	Seal thickness	Backing material	Classification
Rigid floor (≥650 kg/m³)	≥5 mm	Stone wool, thickness ≥100 mm ρ ≥60 kg/m³, compressed ≥30 %	EI 240–H–M25–F–W 5 to W 60
			EI 120–H–M25–F–W 5 to W 100
			E 240–H–M12.5–F–W 5 to W 100 EI 120–H–M12.5–F–W 5 to W 100

Appendix UL-EU CERTIFICATE

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 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**
Certificate No.	UL-EU-01277-EN
Page	78/78
Date of Issue	2023-11-14

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.

PROCUREMENT

The Production site may reproduce the Mark or obtain it from a UL authorized supplier. The list of UL authorized suppliers can be found on UL's online directory at www.ul.com.