BUILDING TRUST

SikaSeal-623 Fire+

DECLARATION OF PERFORMANCE
No. 54864880

1	**UNIQUE IDENTIFICATION CODE OF THE PRODUCT-TYPE:**	54864880
2	**INTENDED USE/S**	EAD 350454-00-1104:2017 Fire Stopping and Sealing Product: Penetration Seals
3	**MANUFACTURER:**	Sika Services AG Tüffenwies 16-22 8064 Zürich
4	**AUTHORISED REPRESENTATIVE:**	-
5	**SYSTEM/S OF AVCP:**	System 1
6b	**EUROPEAN ASSESSMENT DOCUMENT:**	EAD 350454-00-1104:2017
	European Technical Assessment:	ETA-21/1030 of 2021/11/25
	Technical Assessment Body:	ETA-DANMARK A/S
	Notified body/ies:	2531

7 DECLARED PERFORMANCE/S

Essential Characteristics	Performance	AVCP	Harmonised Technical Specification
Reaction to fire	B - s1, d0	System 1	EAD 350454-00-1104:2017
Resistance to fire	Annex A	System 1	
Air permeability	Annex B	System 1	
Water permeability	NPD	System 1	
Content, emission and/or release of dangerous substances	NPD	System 1	
Mechanical resistance and stability	NPD	System 1	
Resistance to impact/movement	NPD	System 1	
Adhesion	NPD	System 1	
Durability	Z_2	System 1	
Airborne sound insulation at 25 mm depth	53 (0;-1) dB	System 1	
Thermal properties	NPD	System 1	
Water vapour permeability	NPD	System 1	

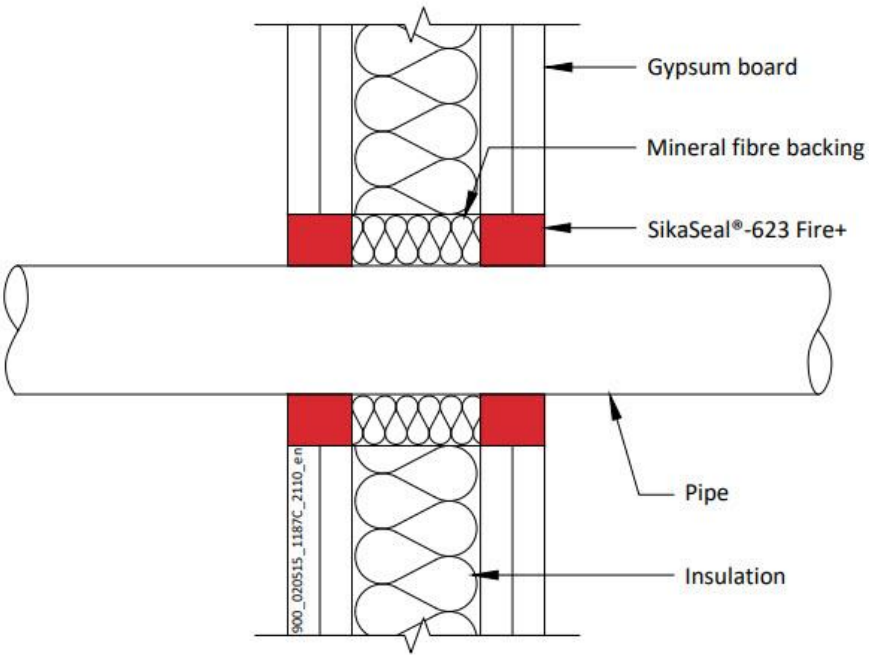
ANNEX A – RESISTANCE TO FIRE CLASSIFICATION – SIKASEAL-623 FIRE+

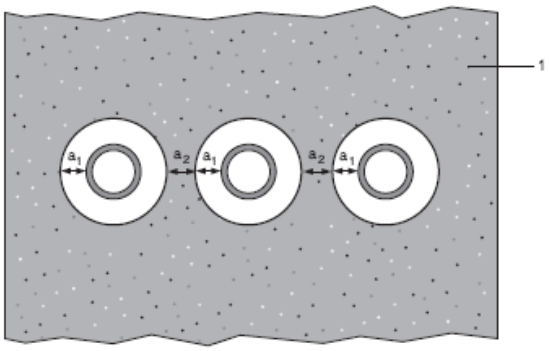
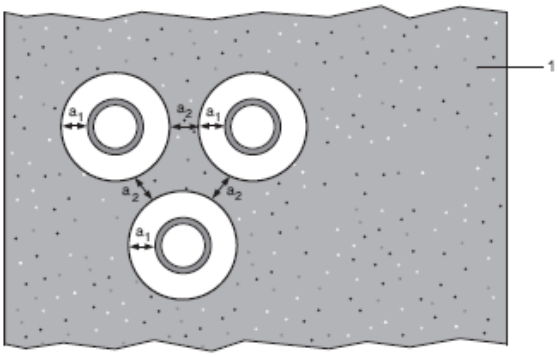
A.1 Flexible or Rigid wall constructions with wall thickness of minimum 100 mm

A.1.1 Penetration seals, in drywalls* and concrete/masonry walls

Penetration Seal: Combustible pipes sealed with SikaSeal-623 Fire+, minimum 25 mm deep to both sides of the wall backed with Stonewool (minimum 35kg/m^3 density), minimum 25 mm deep. Minimum separation between penetration seals of 30 mm (a2).

Construction details:



Configuration 1	Configuration 2
	

Key
1 Supporting construction
a_1 Pipe / edge of seal separation (annular space)
a_2 Separation between penetration seals

* Partition wall must incorporate a core insulation as support for the backing material.

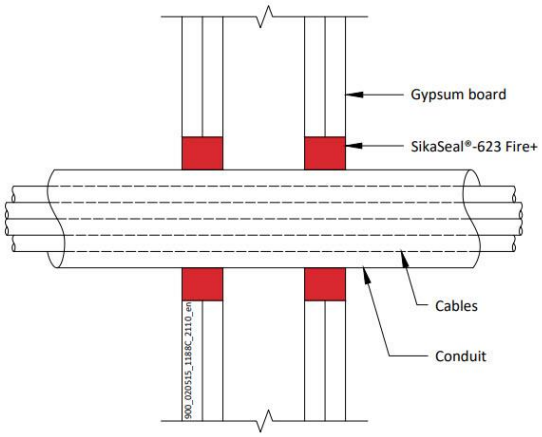
A.1.1.1

Services	Seal & Backing width (a1)	Permitted configuration for seal separation	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1, PVC-C according to EN 1566-1			
Diameter 40 mm, wall thickness 1.9 – 3.7 mm to diameter 110 mm, wall thickness 2.7-6.6 mm	10-30 mm	1 & 2	**EI 120 U/C, EI 120 C/C**
Diameter 40, wall thickness 1.9 – 3.7 mm		1 & 2	
Diameter 40 mm, wall thickness 1.9 – 3.7 mm to diameter 110 mm, wall thickness 2.7-6.6 mm		1 & 2	**EI 60 U/C, EI 60 C/C**
Diameter 40 mm, wall thickness 1.9 – 3.7 mm to diameter 110 mm, wall thickness 2.7-6.6 mm		1 & 2	**EI 120 U/C, EI 120 C/C**
PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1			
Diameter 40 mm, wall thickness 2.4-3.7 mm	10-30 mm	1 & 2	**EI 120 U/C, EI 120 C/C**
Diameter 40, wall thickness 2.4-3.7 mm to diameter 110 mm, wall thickness 4.3-10 mm		1 & 2	**EI 60 U/C, EI 60 C/C**
Diameter 110 mm, wall thickness 4.3-10 mm		1	**E 120 U/C, E 120 C/C** **EI 90 U/C, EI 90 C/C**
PP pipe according to EN 1852-1: 2009 or DIN8077/8078			
Diameter 110 mm, wall thickness 6.6 mm	30 mm	1 & 2	**EI 120 U/C, EI 120 C/C**
Diameter 40 mm, wall thickness 1.8 - 5.5 mm	10 mm	1 & 2	**EI 90 U/C**

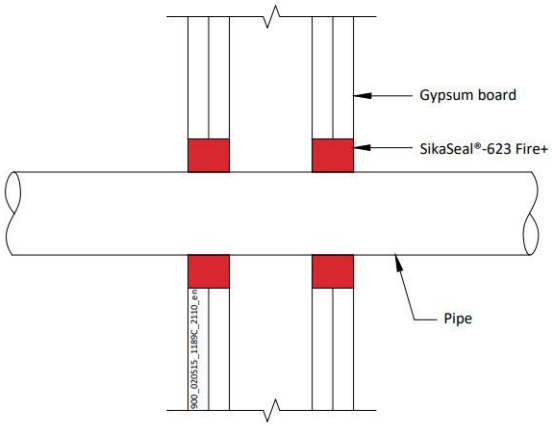
A.1.2 Penetration seals with no backing material, in drywalls and concrete/masonry walls

Penetration Seal: Combustible cable conduit or combustible pipes sealed with SikaSeal-623 Fire+, minimum 25 mm deep to both sides of the wall without backing material. Minimum separation between penetration seals of 30 mm (a2).

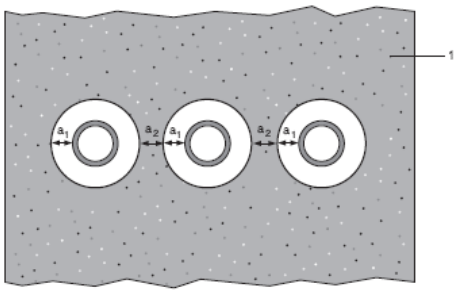
Construction details:



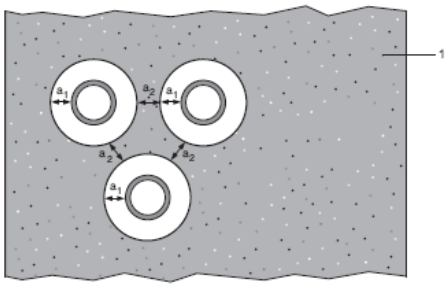
Construction details:



Configuration 1



Configuration 2

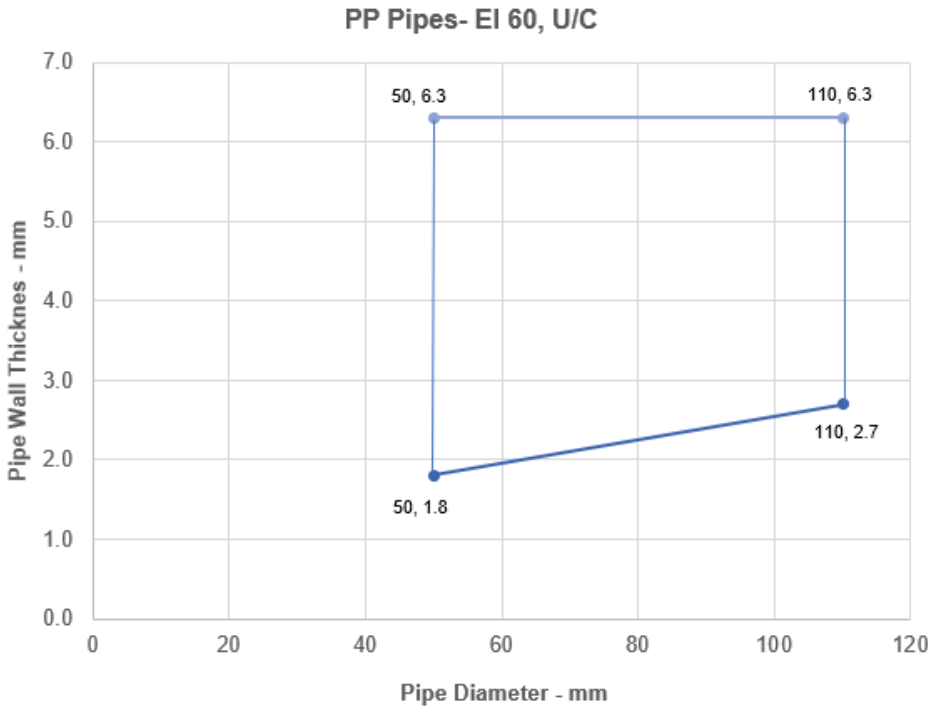


Key
1 Supporting construction
a_1 Pipe / edge of seal separation (annular space)
a_2 Separation between penetration seals

A.1.2.1

Services	Seal width (a1)	Permitted configuration for seal separation	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1, PVC-C according to EN 1566-1 or PP pipe according to EN 1852-1: 2009 or DIN8077/8078			
Maximum diameter 110 mm, wall thickness 1.9-6.6 mm for PVC pipes, fully or partially filled conduits with cables up to 20mm diameter	10-30 mm	1 & 2	**EI 90 U/C**
Maximum diameter 110 mm, wall thickness 2.7-6.6 mm for PP pipes, fully or partially filled conduits with cables up to 20mm diameter	10-30 mm	1 & 2	**EI 90 U/C**
PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1			
Maximum diameter 110 mm, wall thickness 2.4-10 mm, fully or partially filled conduits with cables up to 20 mm conduit	10-30 mm	1 & 2	**EI 60 U/C**
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1, PVC-C according to EN 1566-1			
Maximum 160 mm diameter, wall thickness 3.2-9.5 mm	10-30 mm	1 & 2	**EI 30 U/C**
Maximum 160 mm diameter, wall thickness 9.5 mm	10-30 mm	1 & 2	**EI 90 U/C**
PP pipe according to EN 1852-1: 2009 or DIN8077/8078			
Maximum 110 mm, wall thickness 2.7 mm	10–30 mm	1 & 2	**EI 60 C/C**
Maximum 110 mm*	10-30 mm	1 & 2	**EI 60 U/C**

*See below graph for interpolation pipe sizes

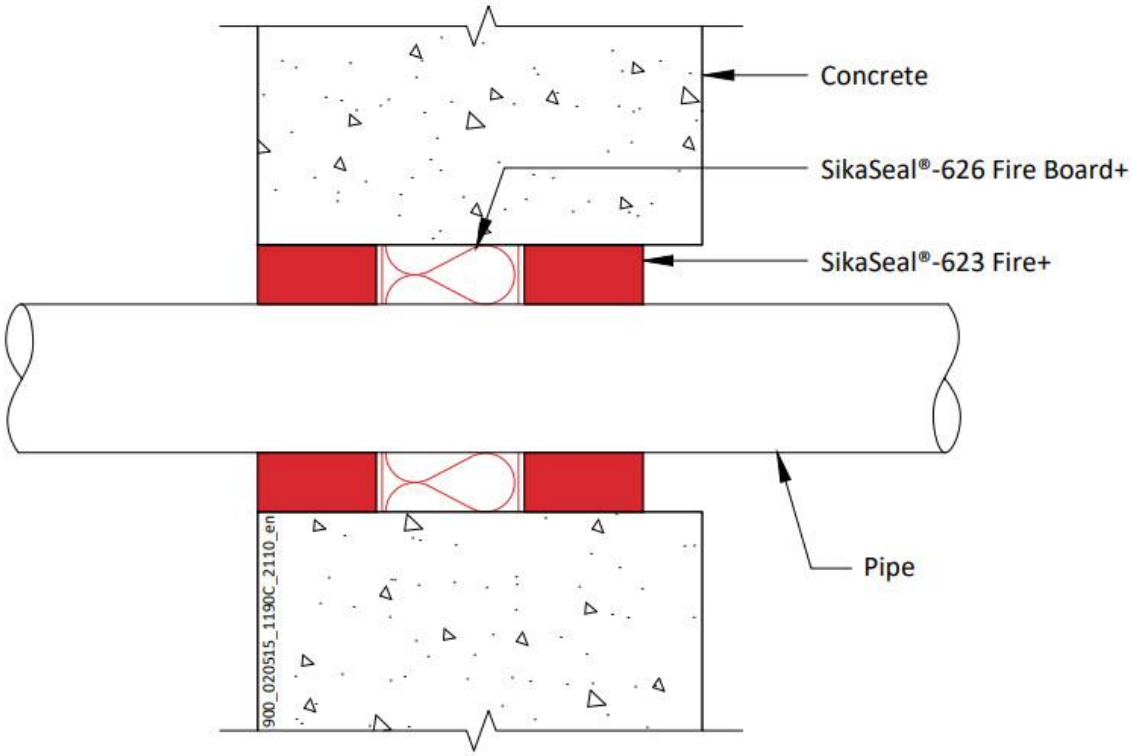


A.2 Rigid walls constructions with wall thickness of minimum 150 mm

A.2.1 Penetration seals for pipes, in concrete/masonry walls

Penetration Seal: Combustible pipes sealed with minimum 40 mm deep SikaSeal-623 Fire+, to both sides of the wall backed with SikaSeal-626 Fire Board+ 2S, 50 mm thick. Minimum separation between penetration seals of 30 mm.

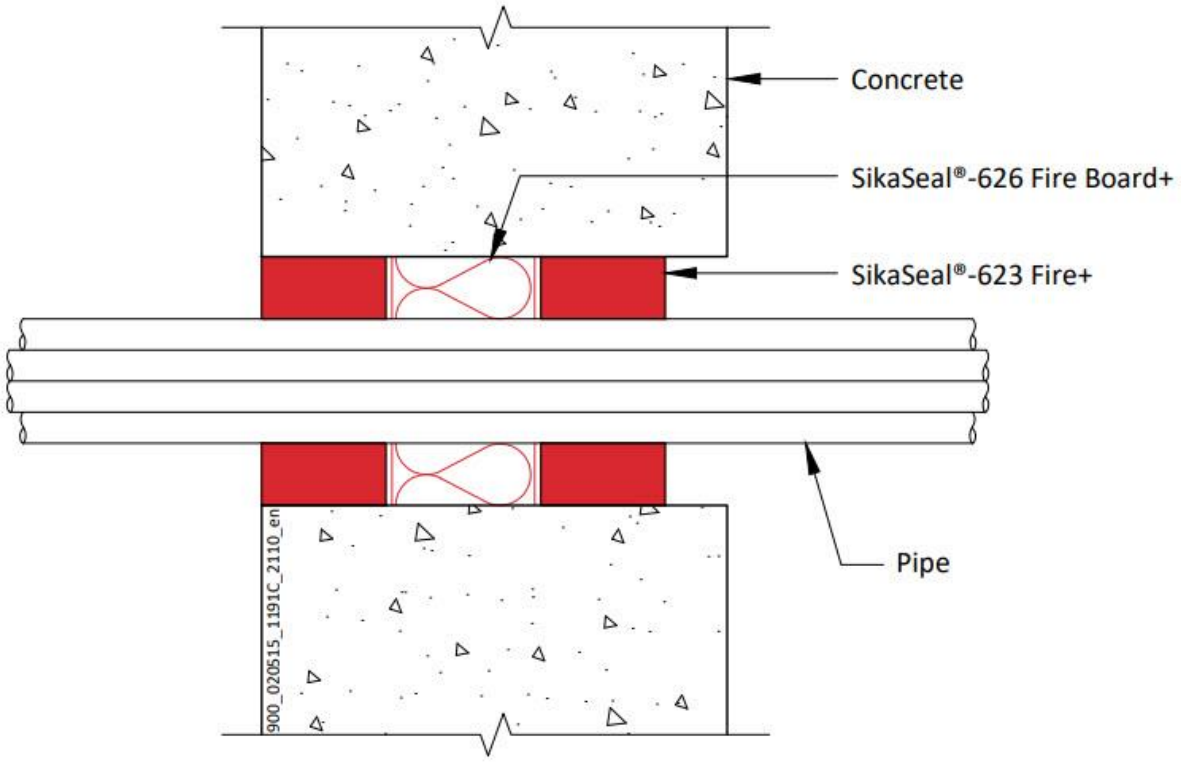
Construction details:



A.2.1.1

Services	Seal & Backing width	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1, PVC-C according to EN 1566-1		
Diameter 48 mm, wall thickness 3.2 mm	17 mm	**EI 240 U/C, EI 240 C/C**
Diameter 68 mm, wall thickness 2 mm	41 mm	
Diameter 110 mm, wall thickness 3.5 mm	22 mm	
PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1		
Diameter 32 mm, wall thickness 3.2 mm	25 mm	**EI 240 U/C, EI 240 C/C**
ABS pipe according to EN 1455-1		
Diameter 36 mm, wall thickness 2.3 mm	23 mm	**EI 240 U/C, EI 240 C/C**
Diameter 110 mm, wall thickness 3.5 mm	26 mm	

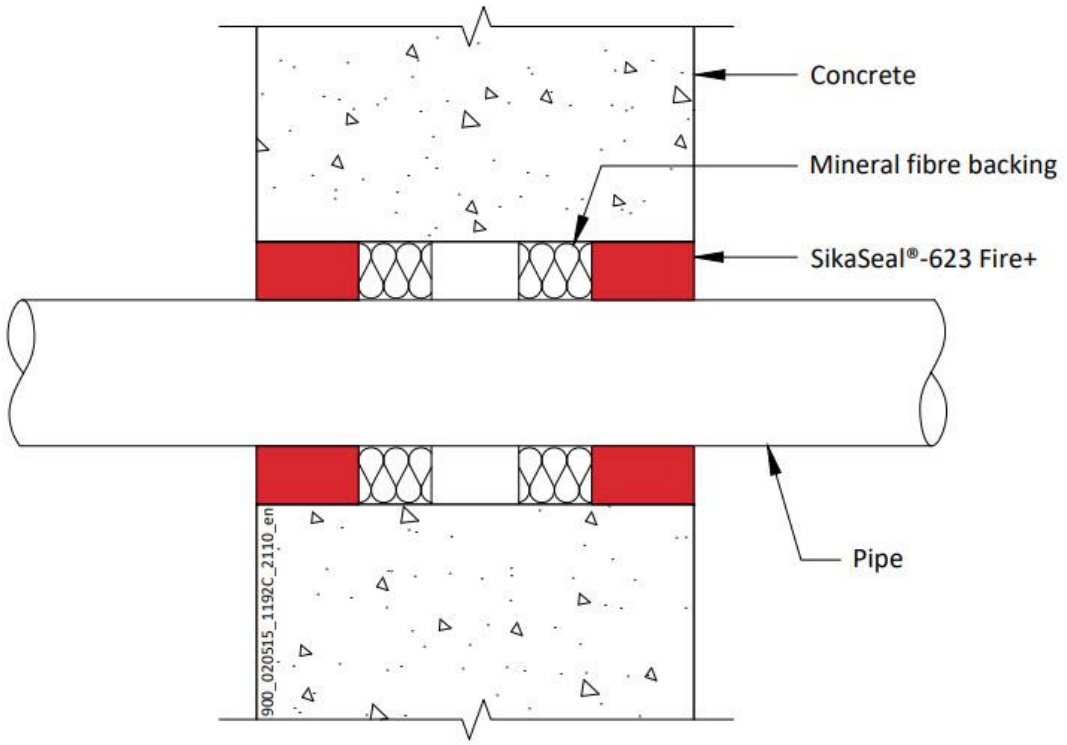
A.2.2 Penetration seals for cables, in concrete/masonry walls

Penetration Seal: Cables sealed with minimum 40 mm deep SikaSeal-623 Fire+, to both sides of the wall backed with SikaSeal-626 Fire Board+ 2S, 50 mm thick. Minimum separation between penetration seals of 30 mm.
Construction details: 

A.2.2.1

Services	Seal size (WxH or diameter)	Classification
150 x 25 mm perforated steel cable tray	Maximum 200 x 100 mm	**E 240, EI 180**
20 mm diameter, single copper core armoured cable		
Twin/earth cable		
Ø 100 mm bundle of up to 4 no. 20mm diameter, single copper core armoured cable and 12 no. twin/earth cables	Maximum 150 mm Ø	**E240, EI 60**

A.2.3 Penetration seals for pipes, in concrete/masonry walls

Penetration Seal: Combustible pipes sealed with minimum 35 mm deep SikaSeal-623 Fire+, to both sides of the wall backed with Mineral Bio backing material, minimum 25 mm thick. Minimum separation between penetration seals of 30 mm.
Construction details: 

A.2.3.1

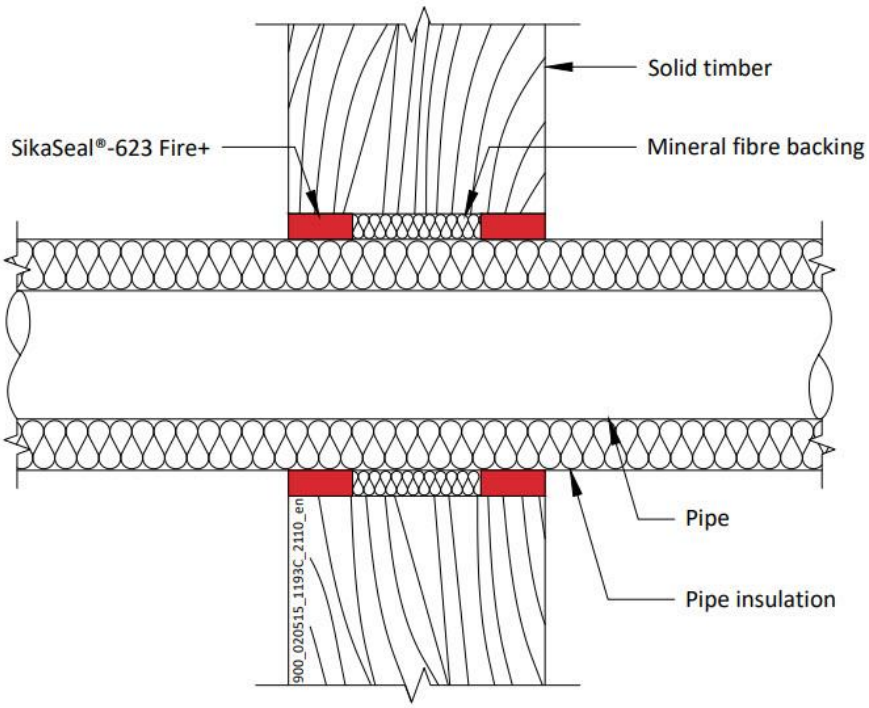
Services	Seal & Backing width (a1)	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1, PVC-C according to EN 1566-1		
Maximum 160 mm diameter, wall thickness 4.0-9.5 mm	10-30 mm	**EI 90 U/C**
Maximum 160 mm diameter, wall thickness 9.5 mm	10-30 mm	**E 240, EI 180 U/C**
PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1		
Maximum 160 mm diameter, wall thickness 4.9-9.5mm	10-30 mm	**EI 30 U/C**
PP pipe according to EN 1852-1: 2009 or DIN8077/8078		
Maximum 160 mm diameter, wall thickness 6.2-9.1 mm	10 mm	**EI 30 U/C**

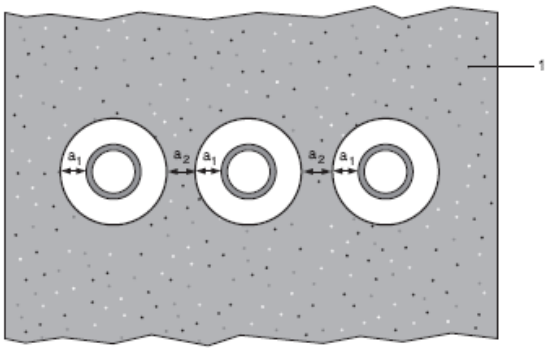
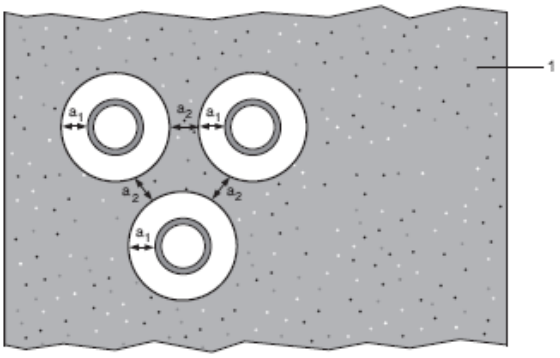
A.3 Timber wall constructions with wall thickness of minimum 100 mm

A.3.1 Pipe penetration seals, in timber walls

Penetration Seal: Metallic pipes insulated with Elastomeric insulation minimum class D-s3,d0, Continuous Sustained (CS), sealed with SikaSeal-623 Fire+, minimum 25 mm deep to both sides of the wall and backed with Stonewool (minimum 33kg/m^3 density), minimum 25 mm deep. Minimum separation between penetration seals of 30 mm (a2).

Construction details:



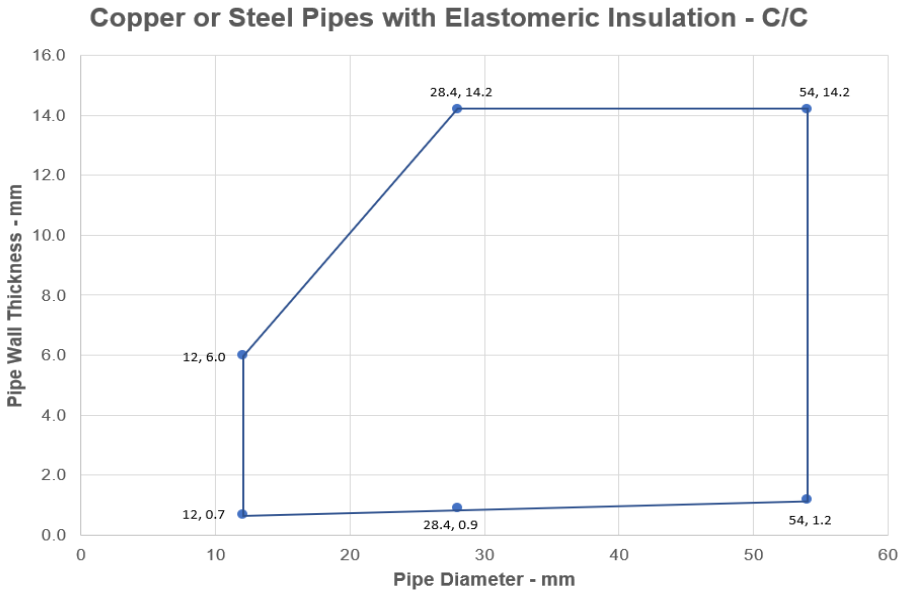
Configuration 1	Configuration 2
	

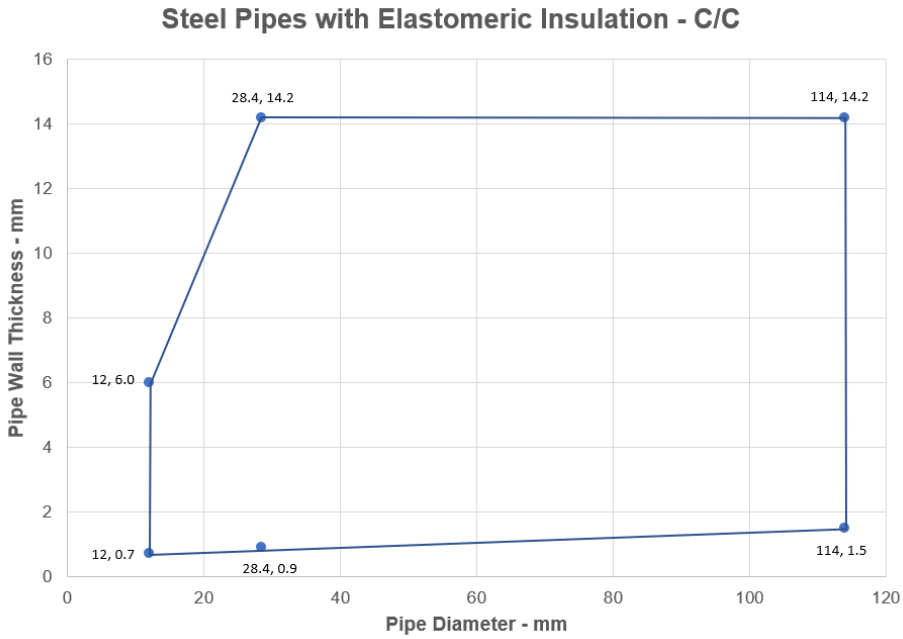
Key
1 Supporting construction
a_1 Pipe / edge of seal separation (annular space)
a_2 Separation between penetration seals

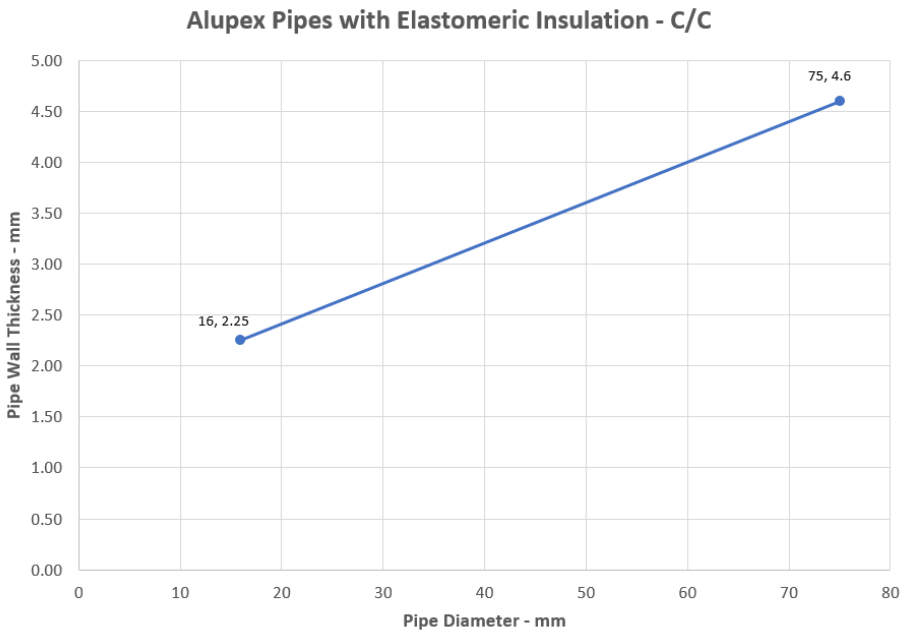
A.3.1.1

Services	Seal & backing material width (a1)	Permitted configuration for seal separation	Insulation CS	Classification
Copper, mild or stainless steel pipe				
Diameter 12 mm, wall thickness 0.7	10 mm	1	13 mm Elastomeric insulation minimum class D-s3, d0	**EI 120 C/C**
Diameter 12-54 mm, wall thickness*				**E 120 C/C, EI 90 C/C**
Diameter 12-54 mm, wall thickness*			14-25 mm Elastomeric insulation minimum class D -s3, d0	**E 120 C/C, EI 30 C/C**
Mild or stainless steel pipe, with Elastomeric insulation minimum class D-s3, d0				
Diameter 12-114 mm, wall thickness*	10 mm	1	13 mm Elastomeric insulation minimum class D -s3, d0	**EI 90 C/C**
Diameter 12-114 mm, wall thickness*			14-25 mm Elastomeric insulation minimum class D-s3, d0	**E 90 C/C, EI 45 C/C**
Diameter 114 mm, wall thickness 1.5-14.2			13 mm Elastomeric insulation minimum class D-s3, d0	**EI 90 C/U**
Diameter 114 mm, wall thickness 1.5-14.2			13-25 mm Elastomeric insulation minimum class D-s3, d0	**E 90 C/U, EI 45 C/U**
Alupex pipe, with Elastomeric insulation minimum class D-s3, d0				
Diameter 16 mm, wall thickness 2.25	10 mm	1	13 mm Elastomeric insulation minimum class D-s3, d0	**EI 120 C/C**
Diameter 16-75 mm, wall thickness*				**E 120 C/C, EI 45 C/C**
Diameter 16-75 mm, wall thickness*			14-24 mm Elastomeric insulation minimum class D-s3, d0	**E 90 C/C, EI 45 C/C**
Diameter 16-75 mm, wall thickness*			25 mm Elastomeric insulation minimum class D -s3, d0	**EI 90 C/C**

See below graph for interpolation pipe sizes


Copper or Steel Pipes with Elastomeric Insulation - C/C
Pipe Wall Thickness - mm
Pipe Diameter - mm
28.4, 14.2
54, 14.2
12, 6.0
12, 0.7
28.4, 0.9
54, 1.2


Steel Pipes with Elastomeric Insulation - C/C
Pipe Wall Thickness - mm
Pipe Diameter - mm
28.4, 14.2
114, 14.2
12, 6.0
12, 0.7
28.4, 0.9
114, 1.5

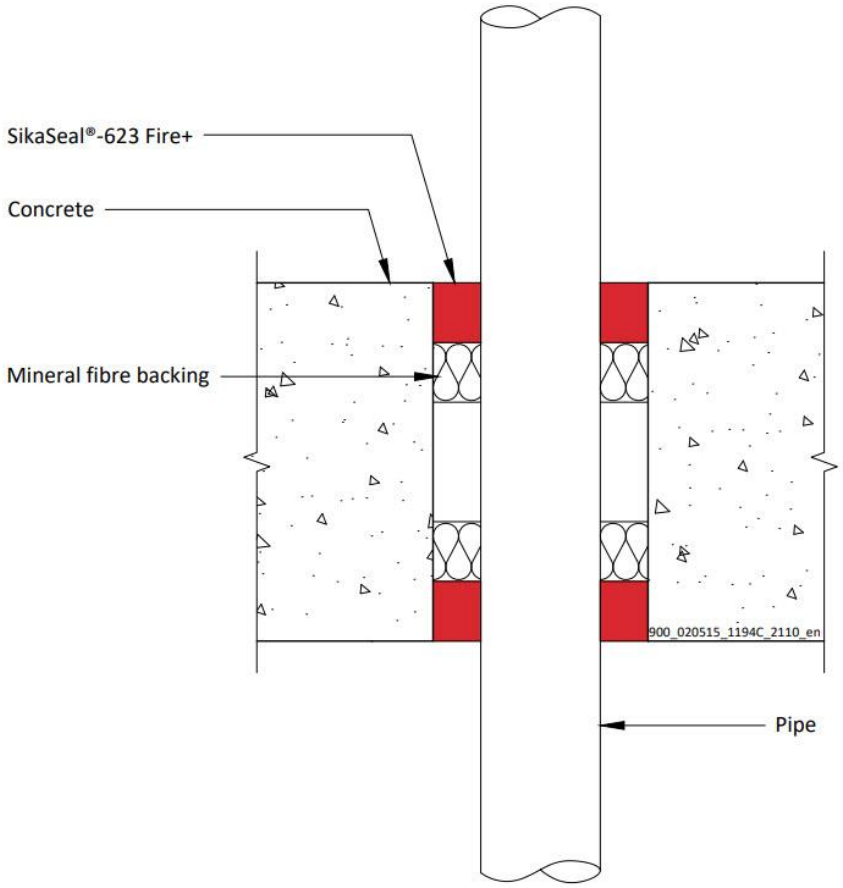

Alupex Pipes with Elastomeric Insulation - C/C
Pipe Wall Thickness - mm
Pipe Diameter - mm
16, 2.25
75, 4.6
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0
10
20
30
40
50
60
70
80

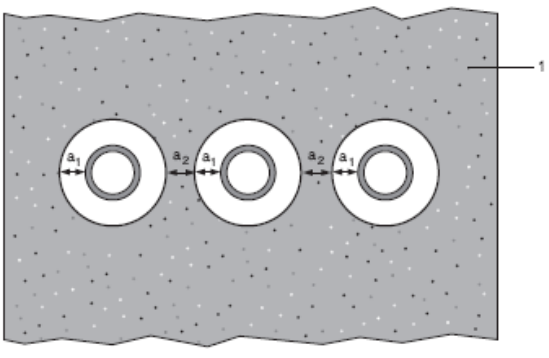
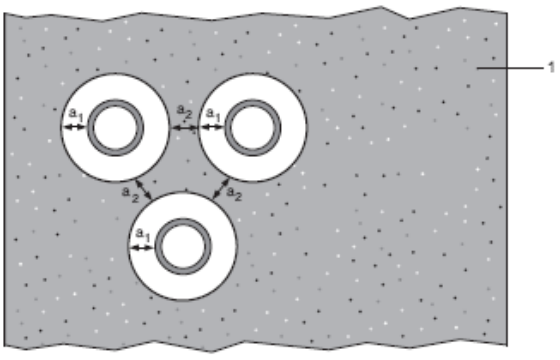
A.4 Rigid floor constructions with floor thickness of minimum 150 mm

A.4.1 Penetration seals, surface mounted in concrete floors

Penetration Seal: Combustible pipes sealed with SikaSeal-623 Fire+, to both sides of the floor backed with Stonewool (minimum 35kg/m^3 density), minimum 25 mm deep. Minimum separation between penetration seals of 30 mm.

Construction details:



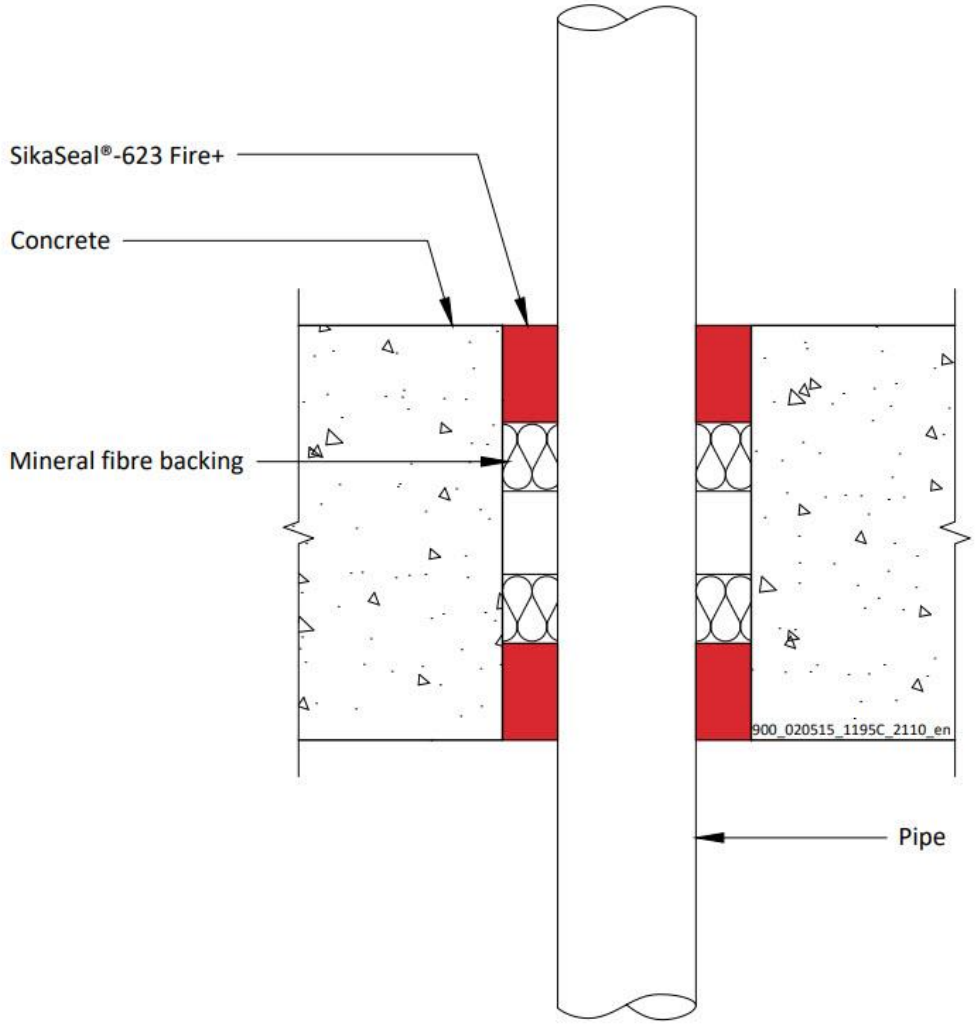
Configuration 1	Configuration 2
	

Key
1 Supporting construction
a_1 Pipe / edge of seal separation (annular space)
a_2 Separation between penetration seals

A.4.1.1

Services	Seal & Backing width	Permitted configuration for seal separation	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1, PVC-C according to EN 1566-1			
Diameter 40 mm, wall thickness 1.8 – 3.7 mm	10-30 mm	1 & 2	**EI 240 U/U, EI 240 C/U, EI 240 U/C, EI 240 C/C**
Diameter 40 mm, wall thickness 1.8 – 3.7 mm to diameter 110 mm, wall thickness 2.7-6.6 mm		1 & 2	**EI 90 C/U, EI 90 C/C**
PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1			
Diameter 40 mm, wall thickness 2.4-3.7 mm	10-30 mm	1 & 2	**EI 60 U/U, EI 60 C/U, EI 60 U/C, EI 60 C/C**
			EI 240 U/C, EI 240 C/C
Diameter 40, wall thickness 2.4-3.7 mm to diameter 110 mm, wall thickness 4.3-10 mm		1 & 2	**EI 60 U/C, EI 60 C/C**
Diameter 110 mm, wall thickness 4.3-10 mm		1 & 2	**EI 90 U/C, EI 90 C/C**
Diameter 110 mm, wall thickness 10 mm			**EI 60 U/U, EI 60 C/U, EI 60 U/C, EI 60 C/C**

A.4.2 Penetration seals, surface mounted in concrete floors

Penetration Seal: Combustible pipes sealed with SikaSeal-623 Fire+, minimum 35 mm deep to both sides of the floor backed with Mineral Bio Wool (128kg/m^3 density), minimum 25 mm deep. Minimum separation between penetration seals of 30 mm.
Construction details: 

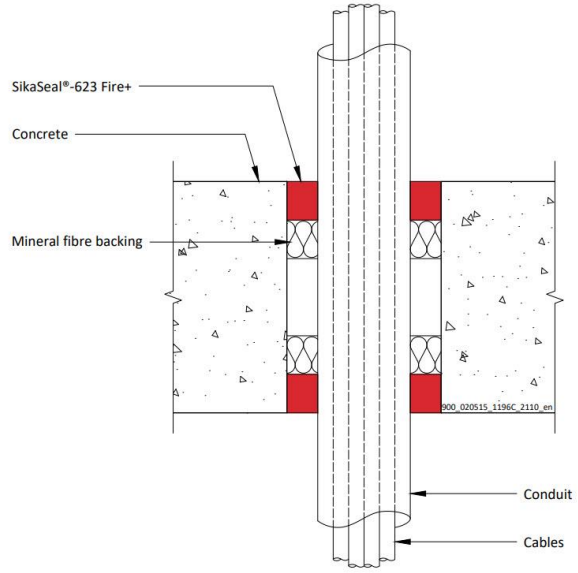
A.4.2.1

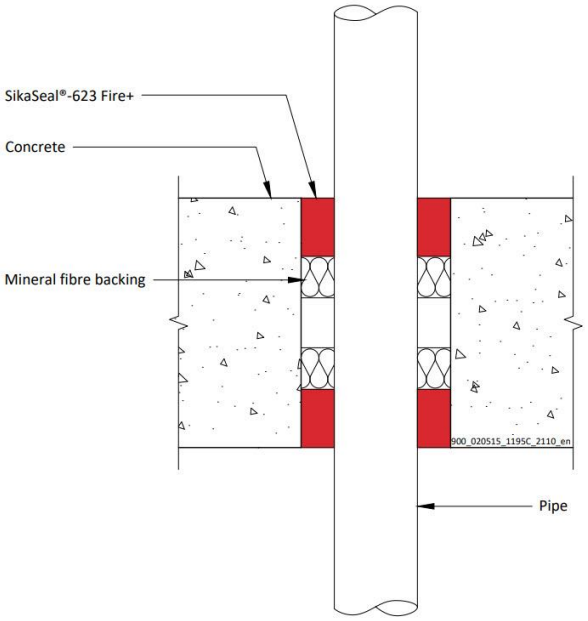
Services	Seal & Backing width (a1)	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1, PVC-C according to EN 1566-1		
Maximum 160 mm diameter, wall thickness 4.0-9.5mm	10-30 mm	**EI 60 U/C**
PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1		
Maximum 160 mm diameter, wall thickness 4.9-14.6 mm	10-30 mm	**EI 30 U/C**
Maximum 160 mm diameter, wall thickness 14.6 mm	10-30 mm	**EI 60 U/C**

A.4.3 Penetration seals, surfaces mounted in concrete floors

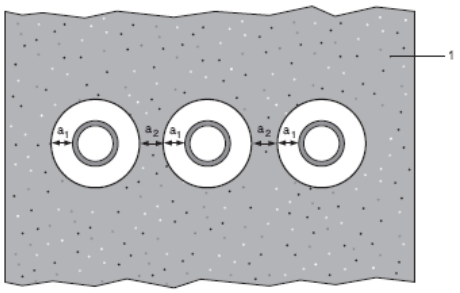
Penetration Seal: Combustible pipes sealed with SikaSeal-623 Fire+, minimum 25 mm deep to both sides of the floor backed with Rock mineral wool (minimum 33kg/m^3 density), minimum 25 mm deep. Minimum separation between penetration seals of 30 mm (a2).

Construction details:

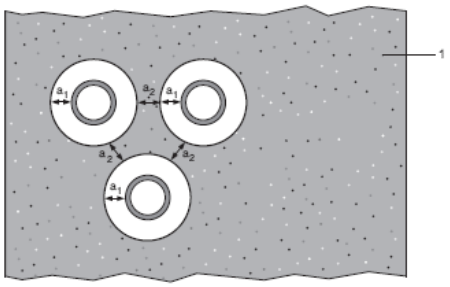




Configuration 1



Configuration 2



Key
1 Supporting construction
a_1 Pipe / edge of seal separation (annular space)
a_2 Separation between penetration seals

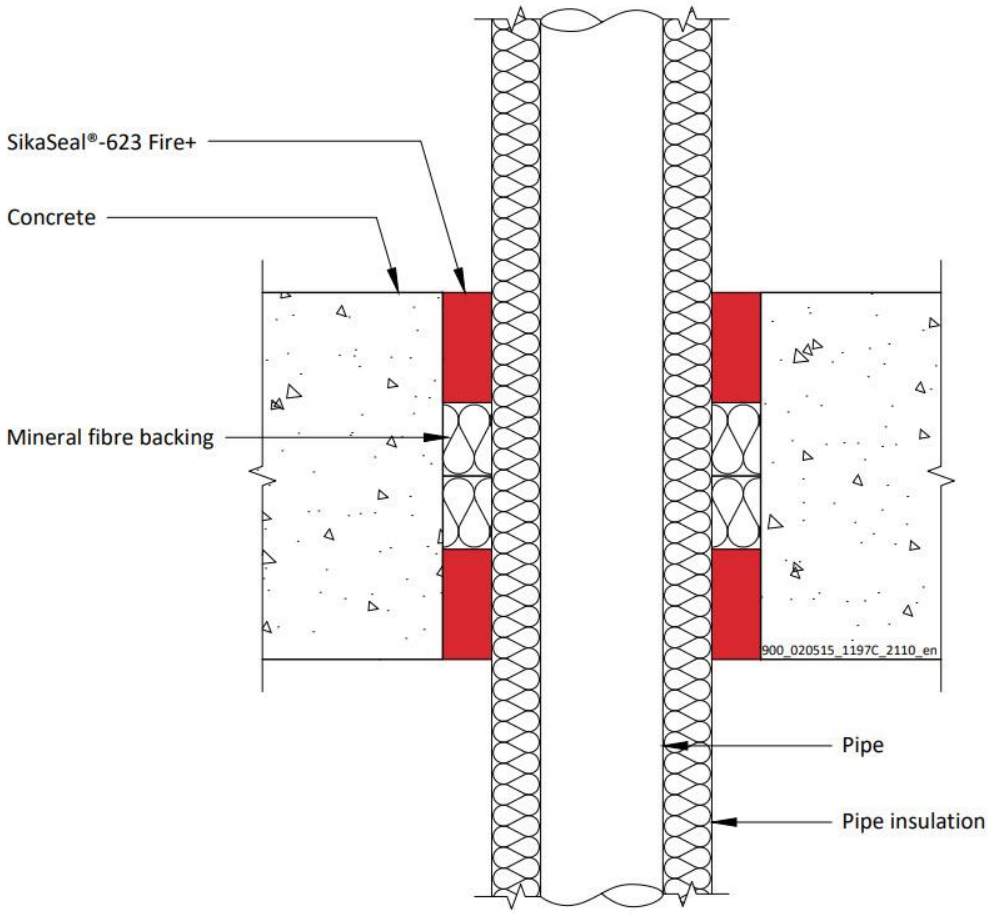
A.4.3.1

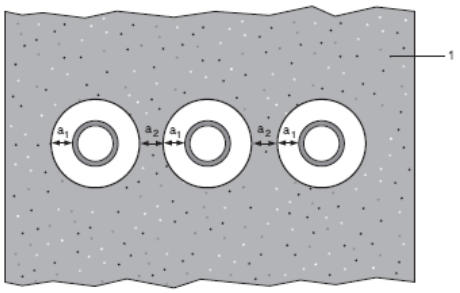
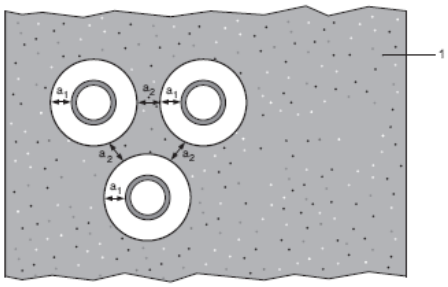
Services	Seal width (a1)	Permitted configuration for seal separation	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1, PVC-C according to EN 1566-1 or PP pipe according to EN 1852-1: 2009 or DIN8077/8078			
Maximum diameter 110 mm, wall thickness 1.8-6.6 mm for PVC pipes, fully or partially filled conduits with cables up to 20 mm diameter	10-30 mm	1 & 2	**EI 90 U/C**
Maximum diameter 110 mm, wall thickness 2.7 mm for PP pipes, fully or partially filled conduits with cables up to 20 mm diameter	10-30 mm	1 & 2	**EI 90 U/C**
Maximum diameter 110 mm, wall thickness 1.8-6.3 mm for PP pipes, fully or partially filled conduits with cables up to 20 mm diameter	10-30 mm	1 & 2	**EI 30 U/C**
PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1			
Maximum diameter 110 mm, wall thickness 2.4-10 mm, fully or partially filled conduits with cables up to 20 mm diameter	10-30 mm	1 & 2	**EI 60 U/C**
PP pipe according to EN 1852-1: 2009 or DIN8077/8078			
Maximum 40 mm diameter, wall thickness 1.8 mm	10-30 mm	1 & 2	**EI 120 C/C**
Maximum 110 mm diameter, wall thickness 1.8-6.3 mm	10-30 mm	1 & 2	**EI 30 U/C**

A.4.4 Penetration seals, surface mounted in concrete floors

Penetration Seal: Metallic pipes insulated with Elastomeric insulation minimum class B-s3, d0, Continuous Sustained (CS), sealed with SikaSeal-623 Fire+, minimum 45 mm deep to both sides of the floor and backed with Mineral Bio Wool (128kg/m^3 density), minimum 30 mm deep. Minimum separation between penetration seals of 30 mm mm (a2).

Construction details:



Configuration 1	Configuration 2
	

Key
1 Supporting construction
a_1 Pipe / edge of seal separation (annular space)
a_2 Separation between penetration seals

A.4.4.1

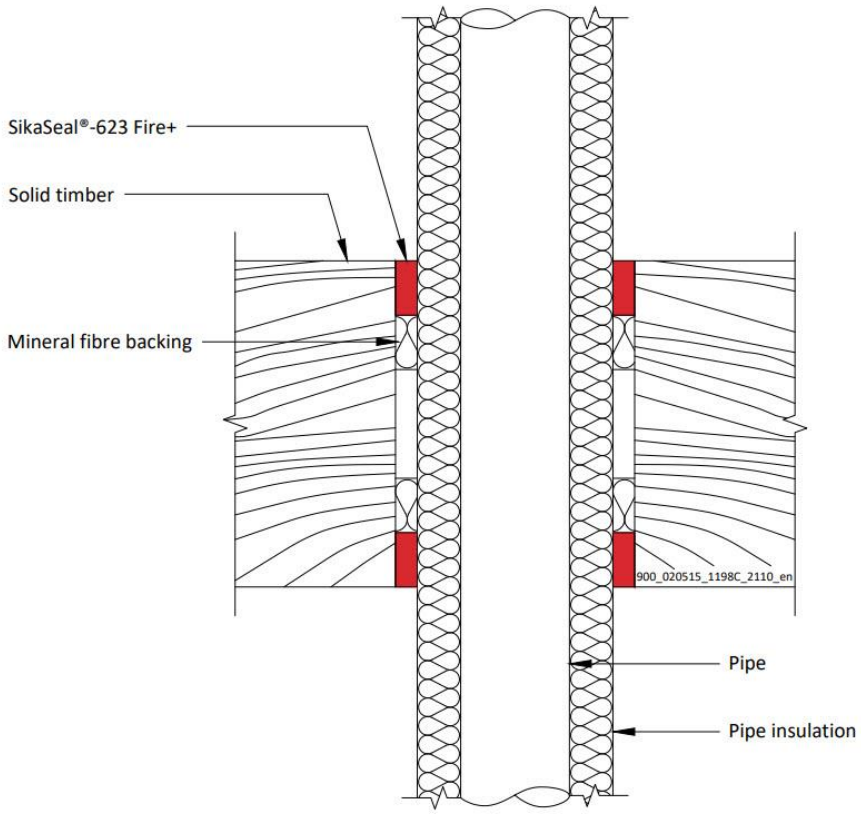
Services	Seal & backing material width (a1)	Permitted configuration for seal separation	Insulation CS	Classification
Mild or stainless steel pipe, with Elastomeric insulation minimum class B-s3, d0				
Maximum 324 mm diameter, wall thickness 1.0-14.2 mm	10-30 mm	1 & 2	25-50 mm Elastomeric insulation minimum class B-s3, d0	**EI 60 C/U**
Maximum 324 mm diameter, wall thickness 6.35-14.2 mm	10-30 mm	1 & 2	50 mm Elastomeric insulation minimum class B-s3, d0	**EI 120 C/U**

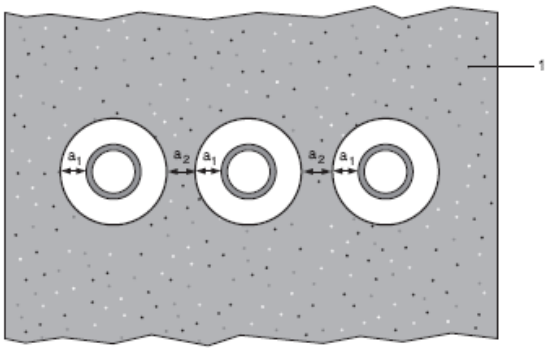
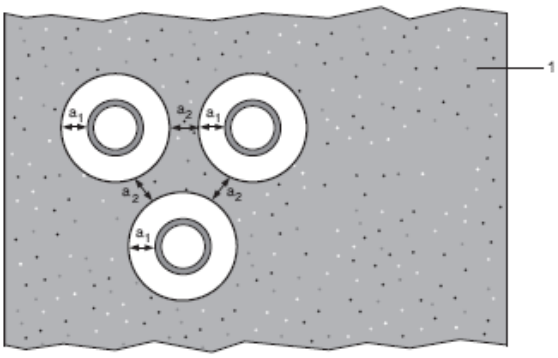
A.5 Timber floor constructions with floor thickness of minimum 150 mm

A.5.1 Pipe penetration seals, in timber floors

Penetration Seal: Metallic pipes insulated with Elastomeric insulation minimum class D-s3,d0, Continuous Sustained (CS), sealed with SikaSeal-623 Fire+, minimum 25 mm deep to both sides of the floor and backed with Stonewool (minimum 33kg/m^3 density), minimum 25 mm deep. Minimum separation between penetration seals of 0 mm (a2).

Construction details:



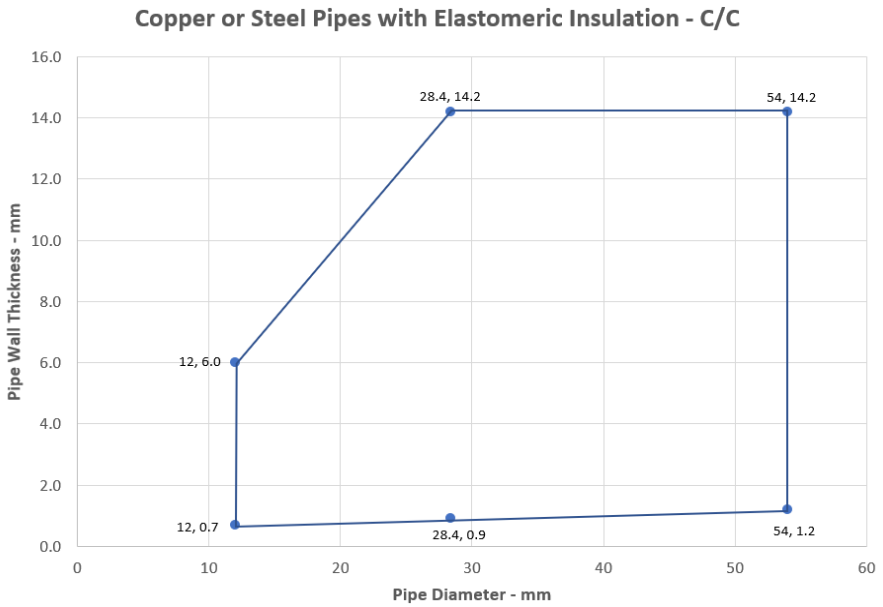
Configuration 1	Configuration 2
	

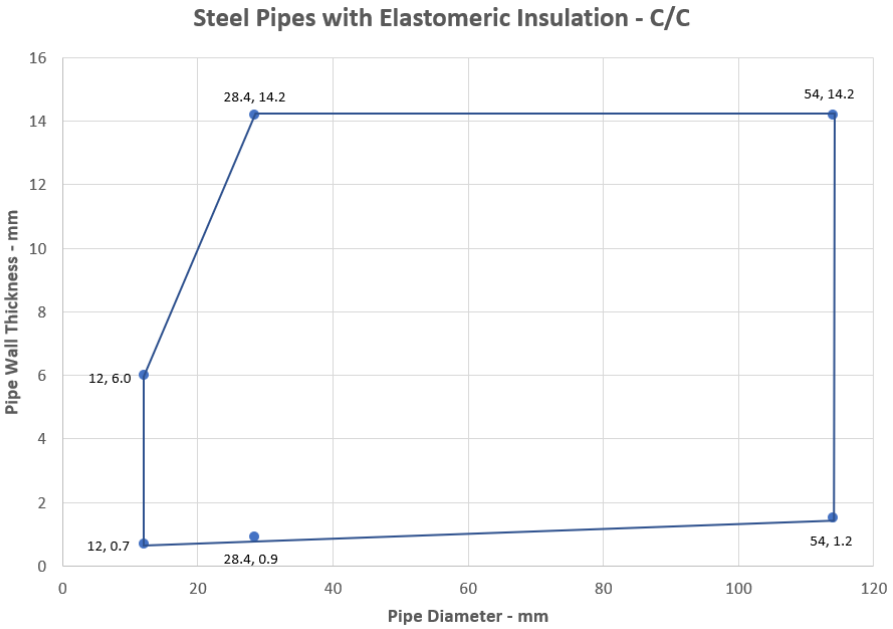
Key
1 Supporting construction
a_1 Pipe / edge of seal separation (annular space)
a_2 Separation between penetration seals

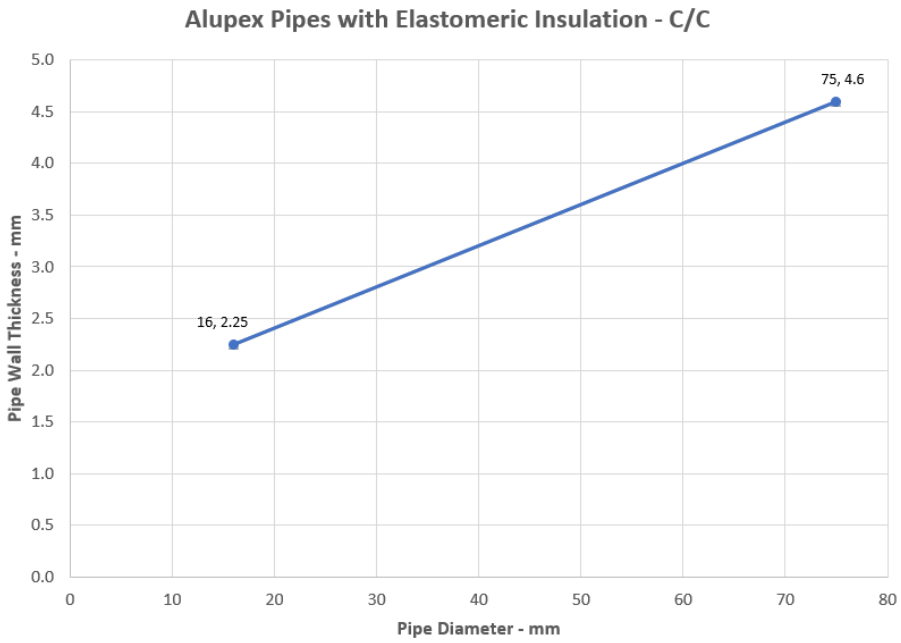
A.5.1.1

Services	Seal & backing material width (a1)	Permitted configuration for seal separation	Insulation CS	Classification
Copper, mild or stainless steel pipe				
Diameter 12 mm, wall thickness 0.7	10 mm	1	9 mm Elastomeric insulation minimum class D-s3, d0	**EI 120 C/C**
Diameter 12-54 mm, wall thickness*				**E 120 C/C, EI 45 C/C**
Diameter 12-54 mm, wall thickness*			10-25 mm Elastomeric insulation minimum class D-s3, d0	**E 120 C/C, EI 30 C/C**
Mild or stainless steel pipe, with Elastomeric insulation minimum class D-s3, d0				
Diameter 12-114 mm, wall thickness*	10 mm	1	9-24 mm Elastomeric insulation minimum class D-s3, d0	**E 120 C/C, EI 45 C/C**
Diameter 12-114 mm, wall thickness*			25 mm Elastomeric insulation minimum class D-s3, d0	**E 120 C/C, EI 60 C/C**
Diameter 114 mm, wall thickness 1.5-14.2			9-25 mm Elastomeric insulation minimum class D-s3, d0	**E 120 C/U, EI 45 C/U**
Diameter 114 mm, wall thickness 1.5-14.2			25 mm Elastomeric insulation minimum class D-s3, d0	**E 120 C/U, EI 60 C/U**
Alupex pipe, with Elastomeric insulation minimum class D-s3, d0				
Diameter 16 mm, wall thickness 2.25	10 mm	1	9 mm Elastomeric insulation minimum class D-s3, d0	**EI 120 C/C**
Diameter 16-75 mm, wall thickness*			9-24 mm Elastomeric insulation minimum class D-s3, d0	**E 120 C/C, EI 60 C/C**
Diameter 16-75 mm, wall thickness*			25 mm Elastomeric insulation minimum class D-s3, d0	**E 120 C/C, EI 90 C/C**

*See below graph for interpolation pipe sizes

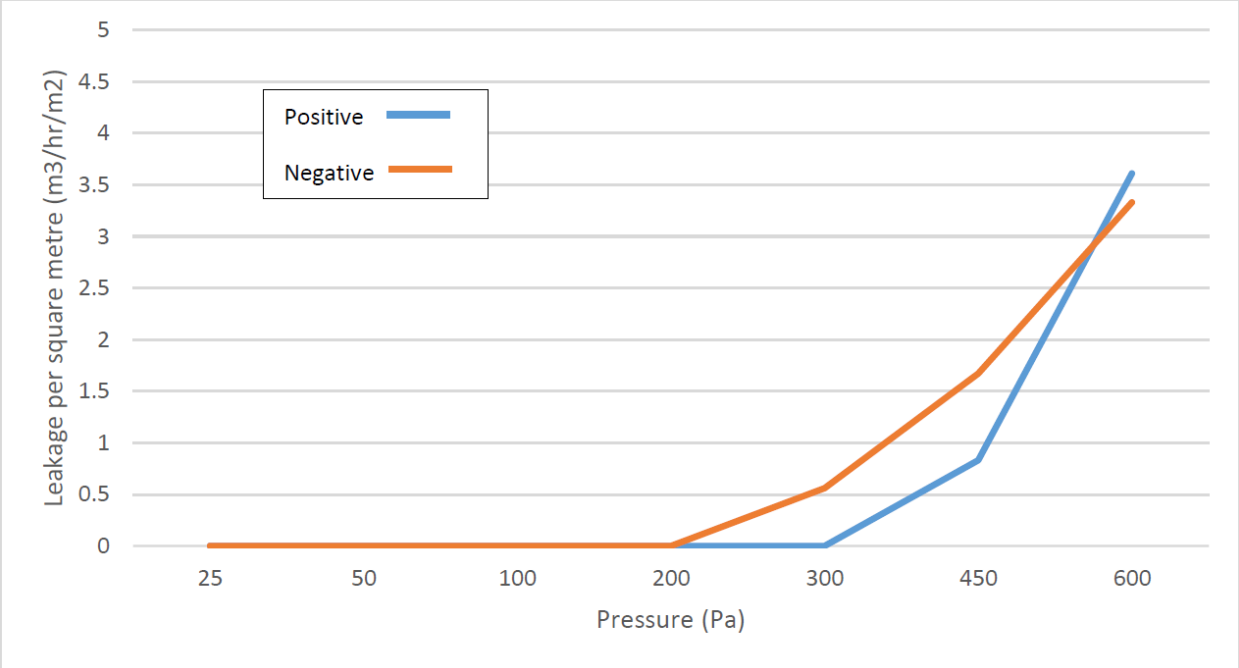

Copper or Steel Pipes with Elastomeric Insulation - C/C
Pipe Wall Thickness - mm
Pipe Diameter - mm
28.4, 14.2
54, 14.2
12, 6.0
12, 0.7
28.4, 0.9
54, 1.2


Steel Pipes with Elastomeric Insulation - C/C
Pipe Wall Thickness - mm
Pipe Diameter - mm
28.4, 14.2
54, 14.2
12, 6.0
12, 0.7
28.4, 0.9
54, 1.2


Alupex Pipes with Elastomeric Insulation - C/C
Pipe Wall Thickness - mm
Pipe Diameter - mm
16, 2.25
75, 4.6
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
10
20
30
40
50
60
70
80

ANNEX B – AIR PERMEABILITY – SIKASEAL-623 FIRE+

Product tested	25mm deep x 30mm wide SikaSeal-623 Fire+		
Summary of testing procedure			Result
	Pressure (Pa)	Leakage (m^3/h)	Leakage ($m^3/m^2/h$)
Results under negative chamber pressure	25	0.00	0.00
	50	0.00	0.00
	100	0.00	0.00
	200	0.00	0.00
	300	0.02	0.56
	450	0.06	1.67
	600	0.12	3.33
Results under positive chamber pressure	25	0.00	0.00
	50	0.00	0.00
	100	0.00	0.00
	200	0.00	0.00
	300	0.00	0.00
	450	0.03	0.83
	600	0.13	3.61



8 APPROPRIATE TECHNICAL DOCUMENTATION AND/OR - SPECIFIC TECHNICAL DOCUMENTATION

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

Name : Tomasz Gutowski
Function: Corporate Standardization and Approvals
At Warsaw on 08 December 2021

. . . . . .

Name : Maciej Michalewski
Function: Standardization and Approvals
At Warsaw on 08 December 2021

. . . . . .

End of information as required by Regulation (EU) No 305/2011

FULL CE MARK

CE 21
Sika Services AG, Zurich, Switzerland
54864880
Reaction to fire - B - s1, d0
Resistance to fire - Annex A
Air permeability – Annex B
Durability Z_2
Airborne sound insulation at 25 mm depth 53 (0;-1) dB

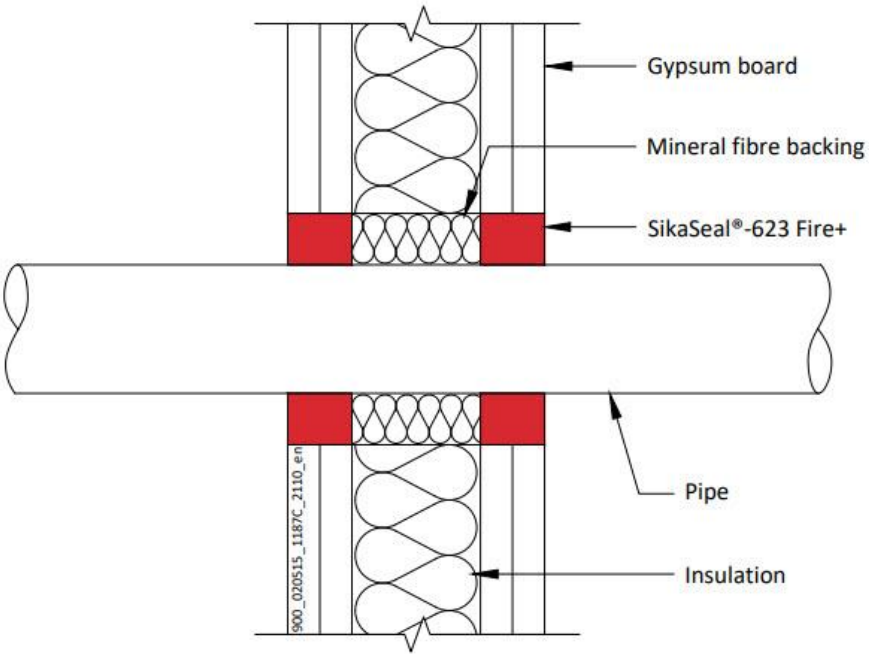
ANNEX A – RESISTANCE TO FIRE CLASSIFICATION – SIKASEAL-623 FIRE+

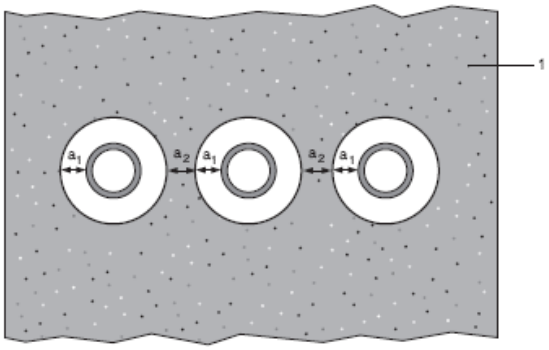
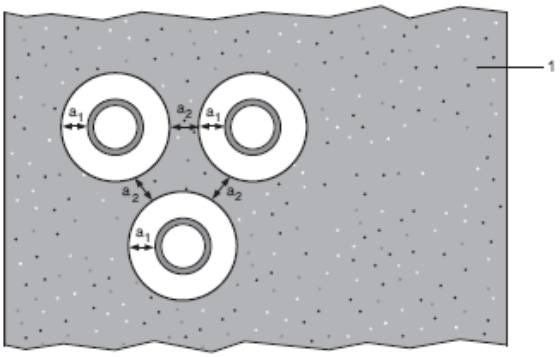
A.1 Flexible or Rigid wall constructions with wall thickness of minimum 100 mm

A.1.1 Penetration seals, in drywalls* and concrete/masonry walls

Penetration Seal: Combustible pipes sealed with SikaSeal-623 Fire+, minimum 25 mm deep to both sides of the wall backed with Stonewool (minimum 35kg/m^3 density), minimum 25 mm deep. Minimum separation between penetration seals of 30 mm (a2).

Construction details:



Configuration 1	Configuration 2
	

Key
1 Supporting construction
a_1 Pipe / edge of seal separation (annular space)
a_2 Separation between penetration seals

* Partition wall must incorporate a core insulation as support for the backing material.

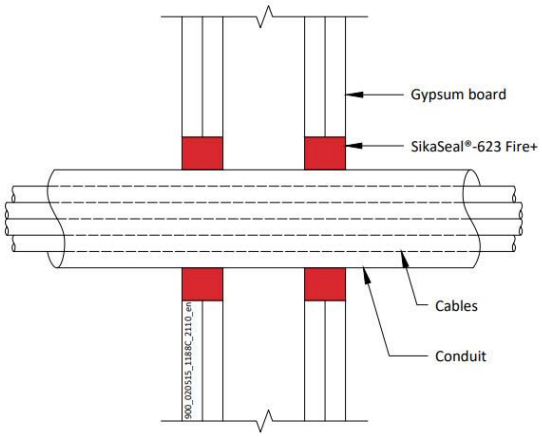
A.1.1.1

Services	Seal & Backing width (a1)	Permitted configuration for seal separation	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1, PVC-C according to EN 1566-1			
Diameter 40 mm, wall thickness 1.9 – 3.7 mm to diameter 110 mm, wall thickness 2.7-6.6 mm	10-30 mm	1 & 2	**EI 120 U/C, EI 120 C/C**
Diameter 40, wall thickness 1.9 – 3.7 mm		1 & 2	
Diameter 40 mm, wall thickness 1.9 – 3.7 mm to diameter 110 mm, wall thickness 2.7-6.6 mm		1 & 2	**EI 60 U/C, EI 60 C/C**
Diameter 40 mm, wall thickness 1.9 – 3.7 mm to diameter 110 mm, wall thickness 2.7-6.6 mm		1 & 2	**EI 120 U/C, EI 120 C/C**
PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1			
Diameter 40 mm, wall thickness 2.4-3.7 mm	10-30 mm	1 & 2	**EI 120 U/C, EI 120 C/C**
Diameter 40, wall thickness 2.4-3.7 mm to diameter 110 mm, wall thickness 4.3-10 mm		1 & 2	**EI 60 U/C, EI 60 C/C**
Diameter 110 mm, wall thickness 4.3-10 mm		1	**E 120 U/C, E 120 C/C** **EI 90 U/C, EI 90 C/C**
PP pipe according to EN 1852-1: 2009 or DIN8077/8078			
Diameter 110 mm, wall thickness 6.6 mm	30 mm	1 & 2	**EI 120 U/C, EI 120 C/C**
Diameter 40 mm, wall thickness 1.8 - 5.5 mm	10 mm	1 & 2	**EI 90 U/C**

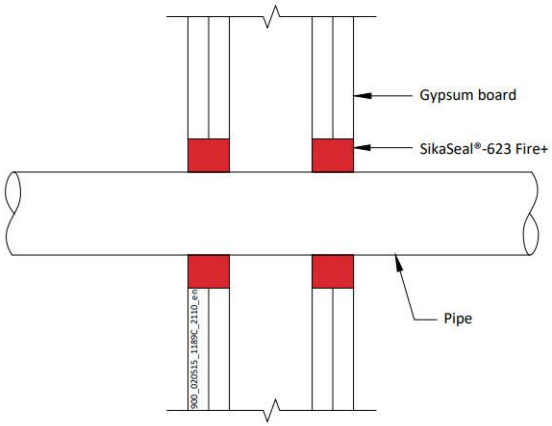
A.1.2 Penetration seals with no backing material, in drywalls and concrete/masonry walls

Penetration Seal: Combustible cable conduit or combustible pipes sealed with SikaSeal-623 Fire+, minimum 25 mm deep to both sides of the wall without backing material. Minimum separation between penetration seals of 30 mm (a2).

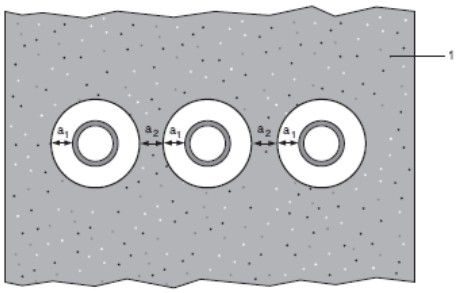
Construction details:



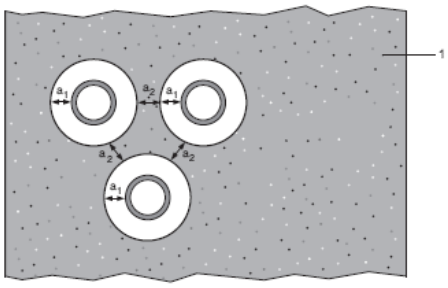
Construction details:



Configuration 1



Configuration 2

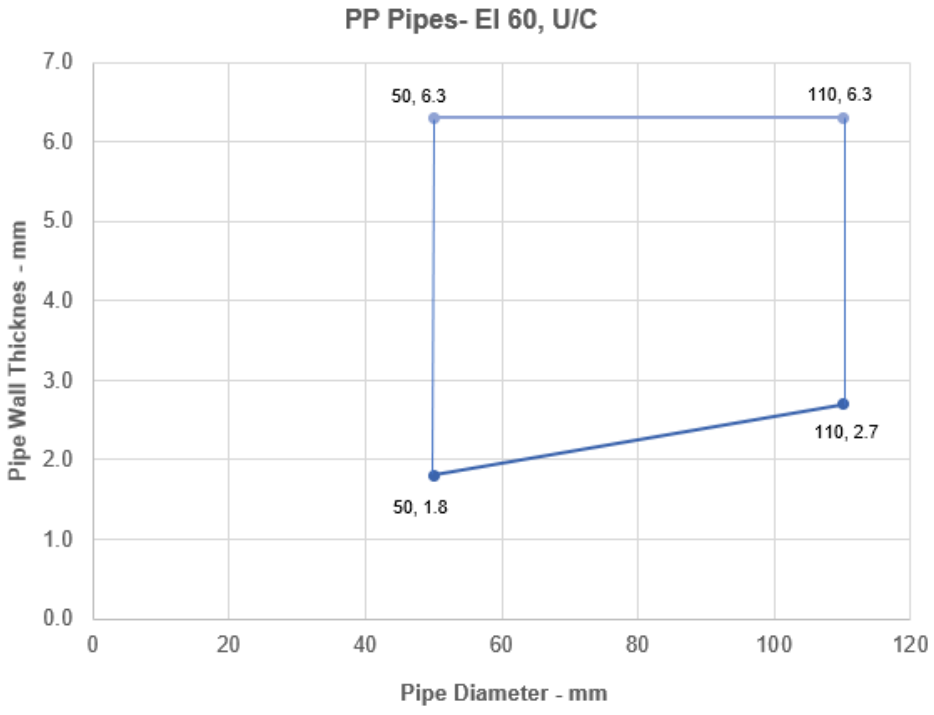


Key
1 Supporting construction
a_1 Pipe / edge of seal separation (annular space)
a_2 Separation between penetration seals

A.1.2.1

Services	Seal width (a1)	Permitted configuration for seal separation	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1, PVC-C according to EN 1566-1 or PP pipe according to EN 1852-1: 2009 or DIN8077/8078			
Maximum diameter 110 mm, wall thickness 1.9-6.6 mm for PVC pipes, fully or partially filled conduits with cables up to 20mm diameter	10-30 mm	1 & 2	**EI 90 U/C**
Maximum diameter 110 mm, wall thickness 2.7-6.6 mm for PP pipes, fully or partially filled conduits with cables up to 20mm diameter	10-30 mm	1 & 2	**EI 90 U/C**
PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1			
Maximum diameter 110 mm, wall thickness 2.4-10 mm, fully or partially filled conduits with cables up to 20 mm conduit	10-30 mm	1 & 2	**EI 60 U/C**
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1, PVC-C according to EN 1566-1			
Maximum 160 mm diameter, wall thickness 3.2-9.5 mm	10-30 mm	1 & 2	**EI 30 U/C**
Maximum 160 mm diameter, wall thickness 9.5 mm	10-30 mm	1 & 2	**EI 90 U/C**
PP pipe according to EN 1852-1: 2009 or DIN8077/8078			
Maximum 110 mm, wall thickness 2.7 mm	10–30 mm	1 & 2	**EI 60 C/C**
Maximum 110 mm*	10-30 mm	1 & 2	**EI 60 U/C**

*See below graph for interpolation pipe sizes

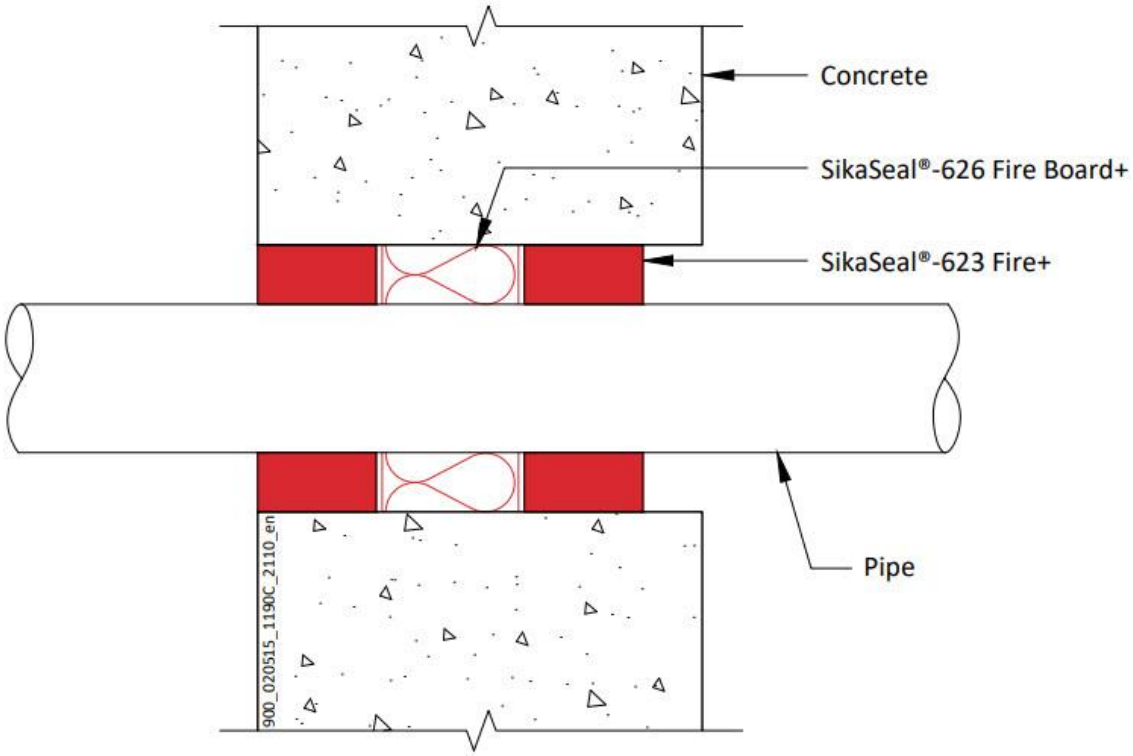


A.2 Rigid walls constructions with wall thickness of minimum 150 mm

A.2.1 Penetration seals for pipes, in concrete/masonry walls

Penetration Seal: Combustible pipes sealed with minimum 40 mm deep SikaSeal-623 Fire+, to both sides of the wall backed with SikaSeal-626 Fire Board+ 2S, 50 mm thick. Minimum separation between penetration seals of 30 mm.

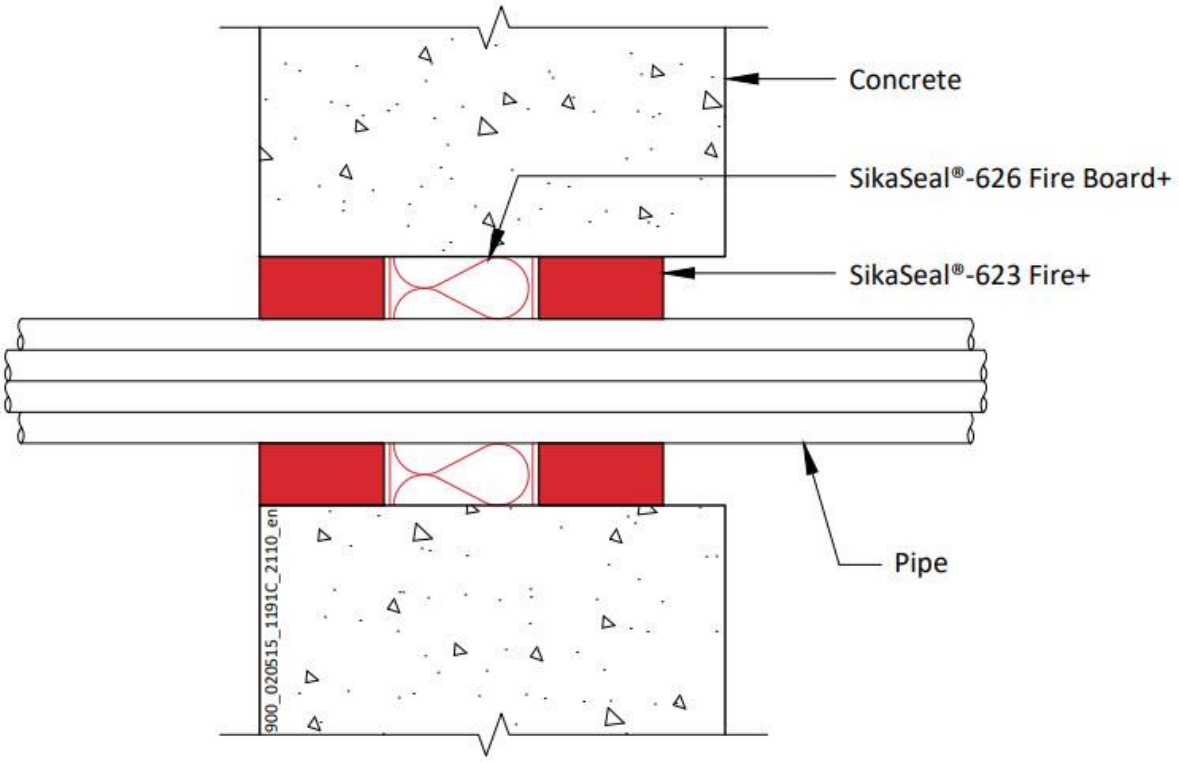
Construction details:



A.2.1.1

Services	Seal & Backing width	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1, PVC-C according to EN 1566-1		
Diameter 48 mm, wall thickness 3.2 mm	17 mm	**EI 240 U/C, EI 240 C/C**
Diameter 68 mm, wall thickness 2 mm	41 mm	
Diameter 110 mm, wall thickness 3.5 mm	22 mm	
PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1		
Diameter 32 mm, wall thickness 3.2 mm	25 mm	**EI 240 U/C, EI 240 C/C**
ABS pipe according to EN 1455-1		
Diameter 36 mm, wall thickness 2.3 mm	23 mm	**EI 240 U/C, EI 240 C/C**
Diameter 110 mm, wall thickness 3.5 mm	26 mm	

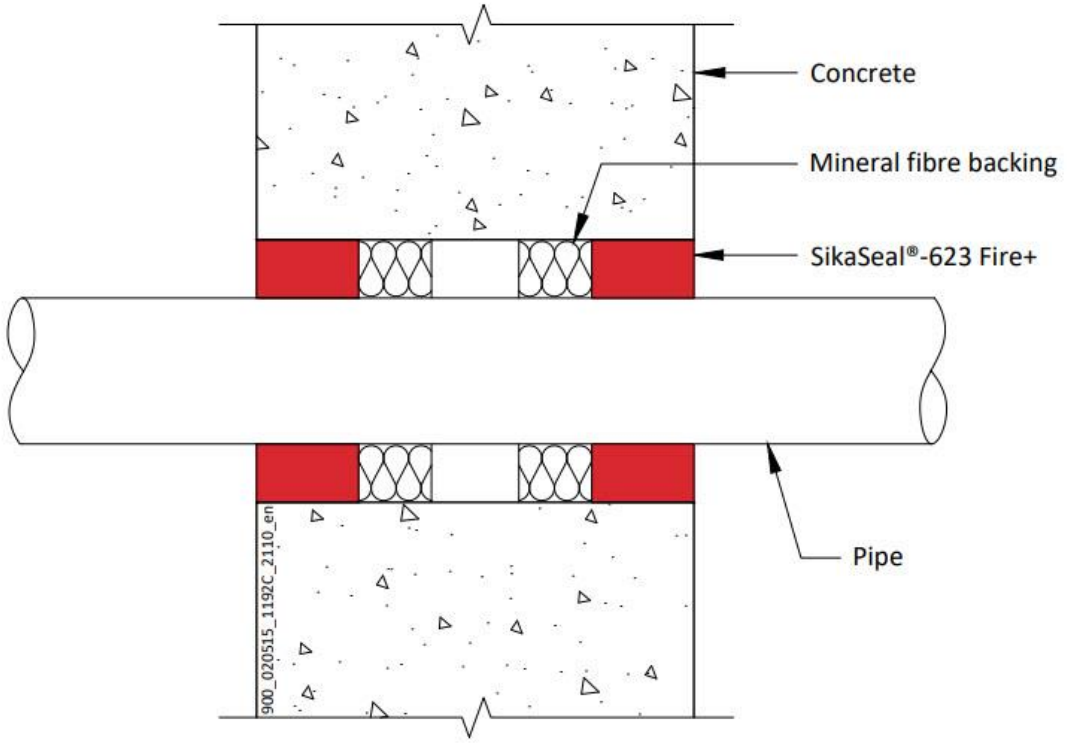
A.2.2 Penetration seals for cables, in concrete/masonry walls

Penetration Seal: Cables sealed with minimum 40 mm deep SikaSeal-623 Fire+, to both sides of the wall backed with SikaSeal-626 Fire Board+ 2S, 50 mm thick. Minimum separation between penetration seals of 30 mm.
Construction details: 

A.2.2.1

Services	Seal size (WxH or diameter)	Classification
150 x 25 mm perforated steel cable tray	Maximum 200 x 100 mm	**E 240, EI 180**
20 mm diameter, single copper core armoured cable		
Twin/earth cable		
Ø 100 mm bundle of up to 4 no. 20mm diameter, single copper core armoured cable and 12 no. twin/earth cables	Maximum 150 mm Ø	**E240, EI 60**

A.2.3 Penetration seals for pipes, in concrete/masonry walls

Penetration Seal: Combustible pipes sealed with minimum 35 mm deep SikaSeal-623 Fire+, to both sides of the wall backed with Mineral Bio backing material, minimum 25 mm thick. Minimum separation between penetration seals of 30 mm.
Construction details: 

A.2.3.1

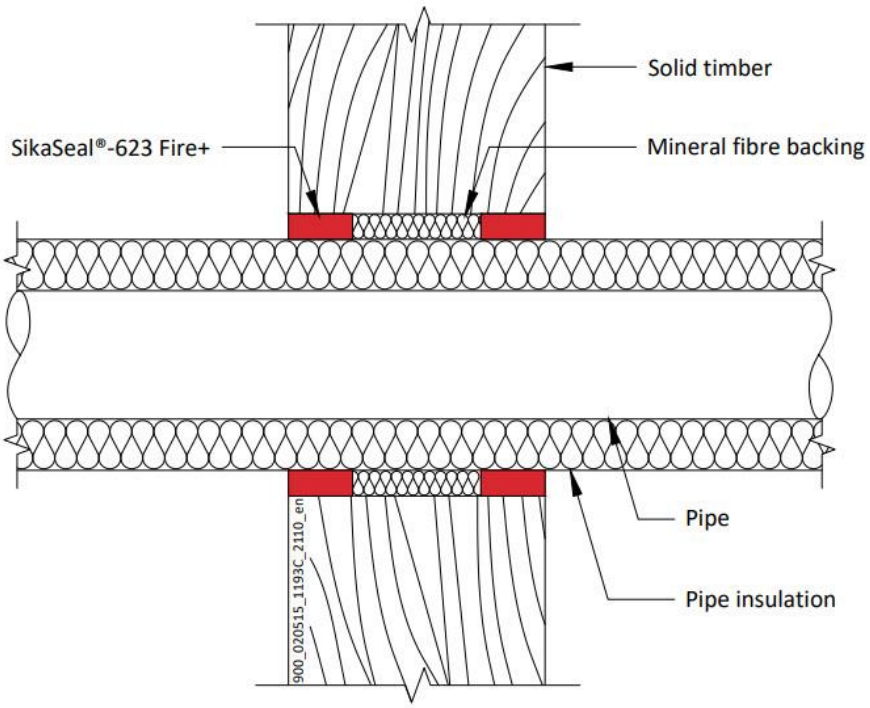
Services	Seal & Backing width (a1)	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1, PVC-C according to EN 1566-1		
Maximum 160 mm diameter, wall thickness 4.0-9.5 mm	10-30 mm	**EI 90 U/C**
Maximum 160 mm diameter, wall thickness 9.5 mm	10-30 mm	**E 240, EI 180 U/C**
PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1		
Maximum 160 mm diameter, wall thickness 4.9-9.5mm	10-30 mm	**EI 30 U/C**
PP pipe according to EN 1852-1: 2009 or DIN8077/8078		
Maximum 160 mm diameter, wall thickness 6.2-9.1 mm	10 mm	**EI 30 U/C**

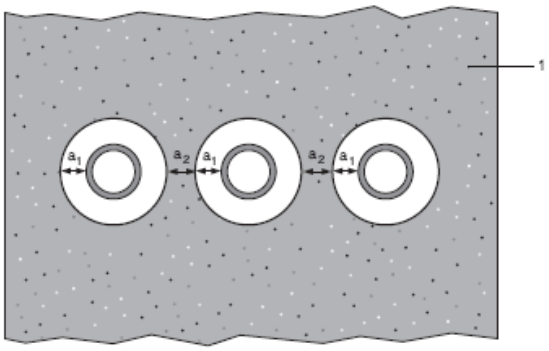
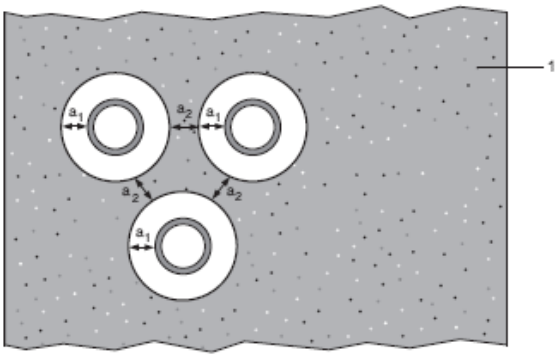
A.3 Timber wall constructions with wall thickness of minimum 100 mm

A.3.1 Pipe penetration seals, in timber walls

Penetration Seal: Metallic pipes insulated with Elastomeric insulation minimum class D-s3,d0, Continuous Sustained (CS), sealed with SikaSeal-623 Fire+, minimum 25 mm deep to both sides of the wall and backed with Stonewool (minimum 33kg/m^3 density), minimum 25 mm deep. Minimum separation between penetration seals of 30 mm (a2).

Construction details:



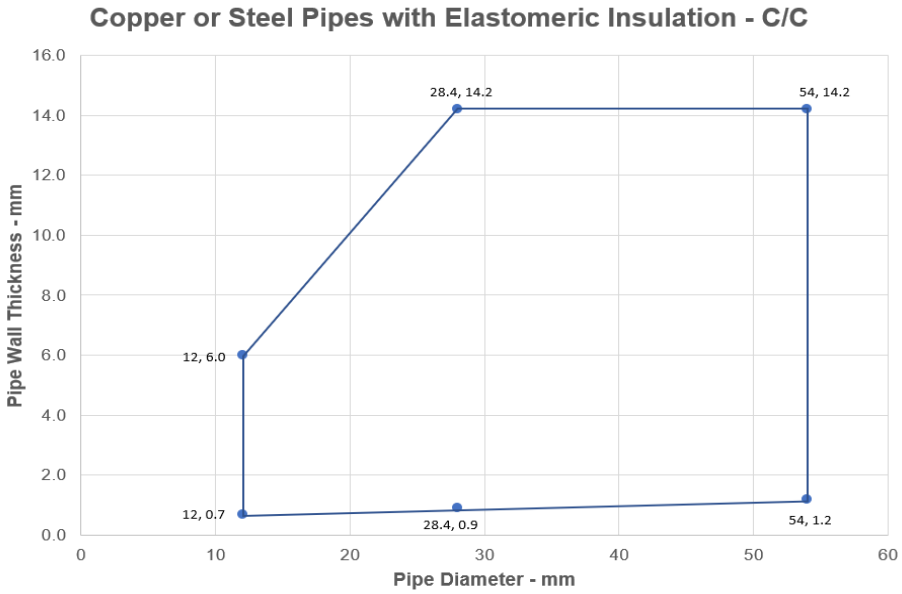
Configuration 1	Configuration 2
	

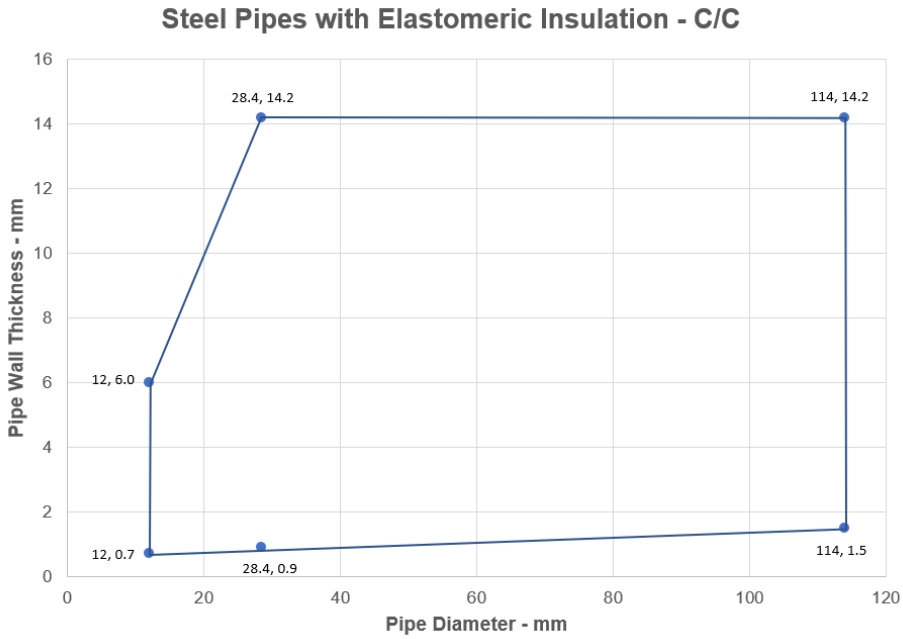
Key
1 Supporting construction
a_1 Pipe / edge of seal separation (annular space)
a_2 Separation between penetration seals

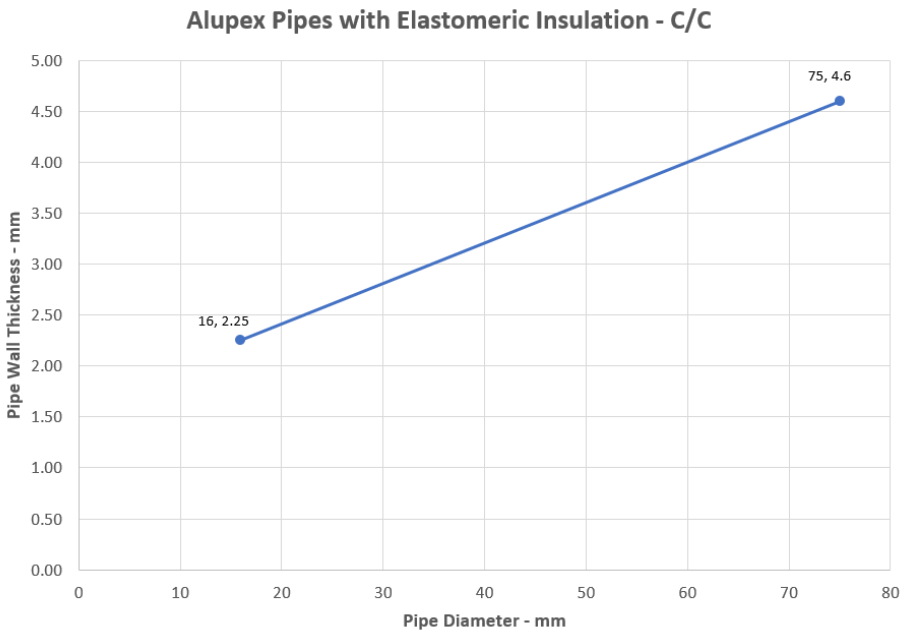
A.3.1.1

Services	Seal & backing material width (a1)	Permitted configuration for seal separation	Insulation CS	Classification
Copper, mild or stainless steel pipe				
Diameter 12 mm, wall thickness 0.7	10 mm	1	13 mm Elastomeric insulation minimum class D-s3, d0	**EI 120 C/C**
Diameter 12-54 mm, wall thickness*				**E 120 C/C, EI 90 C/C**
Diameter 12-54 mm, wall thickness*			14-25 mm Elastomeric insulation minimum class D -s3, d0	**E 120 C/C, EI 30 C/C**
Mild or stainless steel pipe, with Elastomeric insulation minimum class D-s3, d0				
Diameter 12-114 mm, wall thickness*	10 mm	1	13 mm Elastomeric insulation minimum class D -s3, d0	**EI 90 C/C**
Diameter 12-114 mm, wall thickness*			14-25 mm Elastomeric insulation minimum class D-s3, d0	**E 90 C/C, EI 45 C/C**
Diameter 114 mm, wall thickness 1.5-14.2			13 mm Elastomeric insulation minimum class D-s3, d0	**EI 90 C/U**
Diameter 114 mm, wall thickness 1.5-14.2			13-25 mm Elastomeric insulation minimum class D-s3, d0	**E 90 C/U, EI 45 C/U**
Alupex pipe, with Elastomeric insulation minimum class D-s3, d0				
Diameter 16 mm, wall thickness 2.25	10 mm	1	13 mm Elastomeric insulation minimum class D-s3, d0	**EI 120 C/C**
Diameter 16-75 mm, wall thickness*				**E 120 C/C, EI 45 C/C**
Diameter 16-75 mm, wall thickness*			14-24 mm Elastomeric insulation minimum class D-s3, d0	**E 90 C/C, EI 45 C/C**
Diameter 16-75 mm, wall thickness*			25 mm Elastomeric insulation minimum class D -s3, d0	**EI 90 C/C**

See below graph for interpolation pipe sizes


Copper or Steel Pipes with Elastomeric Insulation - C/C
Pipe Wall Thickness - mm
Pipe Diameter - mm
28.4, 14.2
54, 14.2
12, 6.0
12, 0.7
28.4, 0.9
54, 1.2


Steel Pipes with Elastomeric Insulation - C/C
Pipe Wall Thickness - mm
Pipe Diameter - mm
28.4, 14.2
114, 14.2
12, 6.0
12, 0.7
28.4, 0.9
114, 1.5

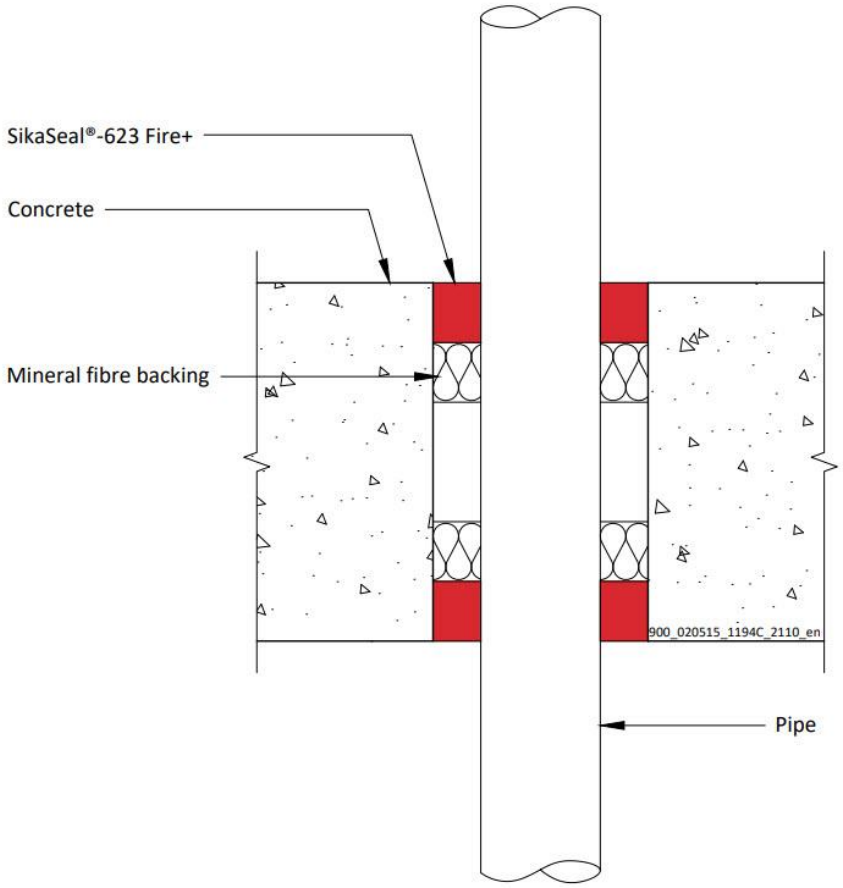

Alupex Pipes with Elastomeric Insulation - C/C
Pipe Wall Thickness - mm
Pipe Diameter - mm
16, 2.25
75, 4.6
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0
10
20
30
40
50
60
70
80

A.4 Rigid floor constructions with floor thickness of minimum 150 mm

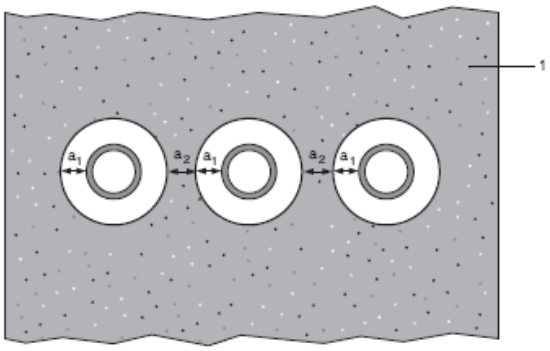
A.4.1 Penetration seals, surface mounted in concrete floors

Penetration Seal: Combustible pipes sealed with SikaSeal-623 Fire+, to both sides of the floor backed with Stonewool (minimum 35kg/m^3 density), minimum 25 mm deep. Minimum separation between penetration seals of 30 mm.

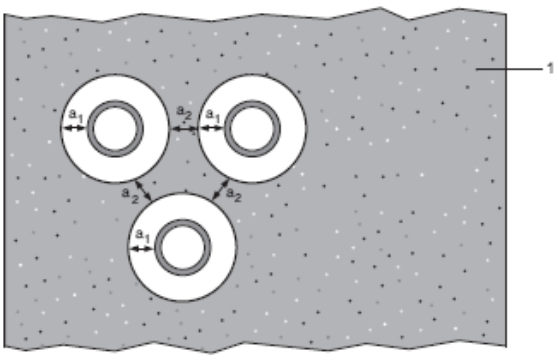
Construction details:



Configuration 1



Configuration 2



Key
1 Supporting construction
a_1 Pipe / edge of seal separation (annular space)
a_2 Separation between penetration seals

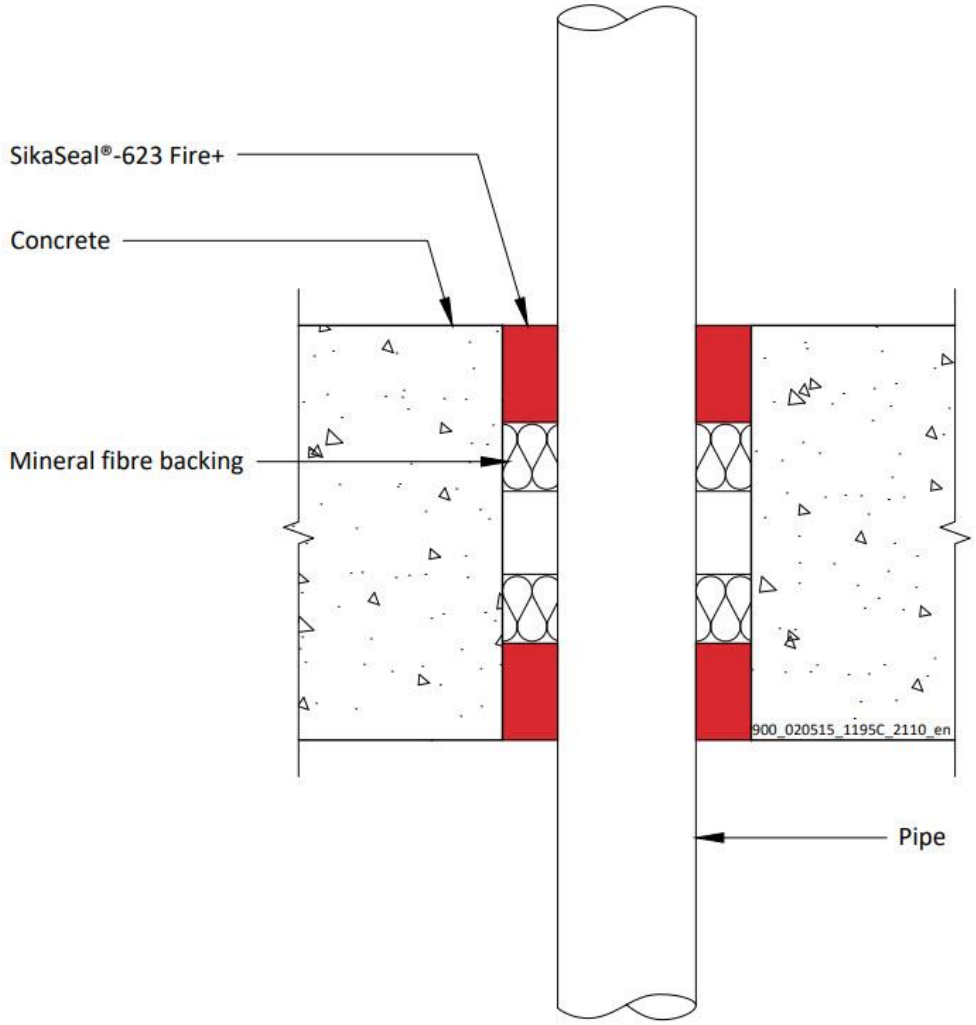
A.4.1.1

Services	Seal & Backing width	Permitted configuration for seal separation	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1, PVC-C according to EN 1566-1			
Diameter 40 mm, wall thickness 1.8 – 3.7 mm	10-30 mm	1 & 2	**EI 240 U/U, EI 240 C/U, EI 240 U/C, EI 240 C/C**
Diameter 40 mm, wall thickness 1.8 – 3.7 mm to diameter 110 mm, wall thickness 2.7-6.6 mm		1 & 2	**EI 90 C/U, EI 90 C/C**
PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1			
Diameter 40 mm, wall thickness 2.4-3.7 mm	10-30 mm	1 & 2	**EI 60 U/U, EI 60 C/U, EI 60 U/C, EI 60 C/C**
			EI 240 U/C, EI 240 C/C
Diameter 40, wall thickness 2.4-3.7 mm to diameter 110 mm, wall thickness 4.3-10 mm		1 & 2	**EI 60 U/C, EI 60 C/C**
Diameter 110 mm, wall thickness 4.3-10 mm		1 & 2	**EI 90 U/C, EI 90 C/C**
Diameter 110 mm, wall thickness 10 mm			**EI 60 U/U, EI 60 C/U, EI 60 U/C, EI 60 C/C**

A.4.2 Penetration seals, surface mounted in concrete floors

Penetration Seal: Combustible pipes sealed with SikaSeal-623 Fire+, minimum 35 mm deep to both sides of the floor backed with Mineral Bio Wool (128kg/m^3 density), minimum 25 mm deep. Minimum separation between penetration seals of 30 mm.

Construction details:



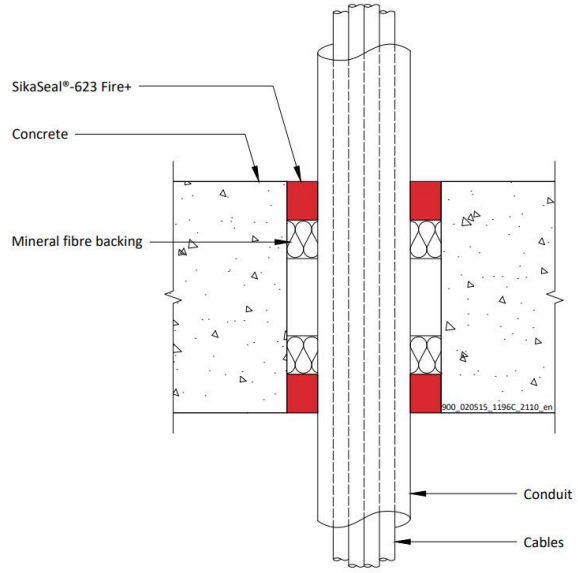
A.4.2.1

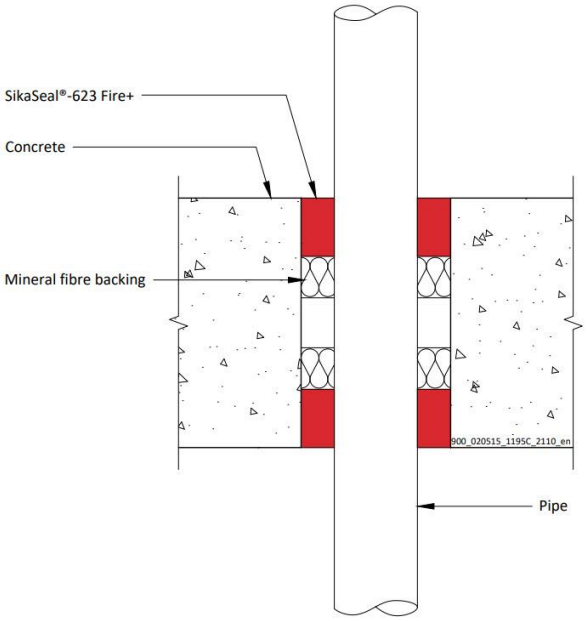
Services	Seal & Backing width (a1)	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1, PVC-C according to EN 1566-1		
Maximum 160 mm diameter, wall thickness 4.0-9.5mm	10-30 mm	**EI 60 U/C**
PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1		
Maximum 160 mm diameter, wall thickness 4.9-14.6 mm	10-30 mm	**EI 30 U/C**
Maximum 160 mm diameter, wall thickness 14.6 mm	10-30 mm	**EI 60 U/C**

A.4.3 Penetration seals, surfaces mounted in concrete floors

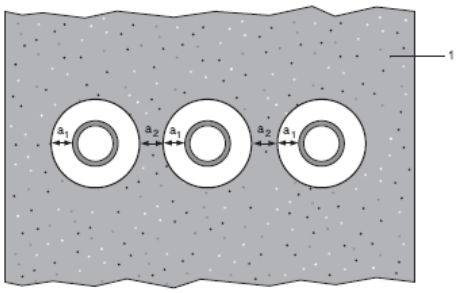
Penetration Seal: Combustible pipes sealed with SikaSeal-623 Fire+, minimum 25 mm deep to both sides of the floor backed with Rock mineral wool (minimum 33kg/m^3 density), minimum 25 mm deep. Minimum separation between penetration seals of 30 mm (a2).

Construction details:

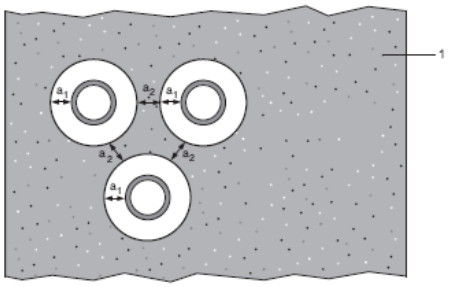




Configuration 1



Configuration 2



Key
1 Supporting construction
a_1 Pipe / edge of seal separation (annular space)
a_2 Separation between penetration seals

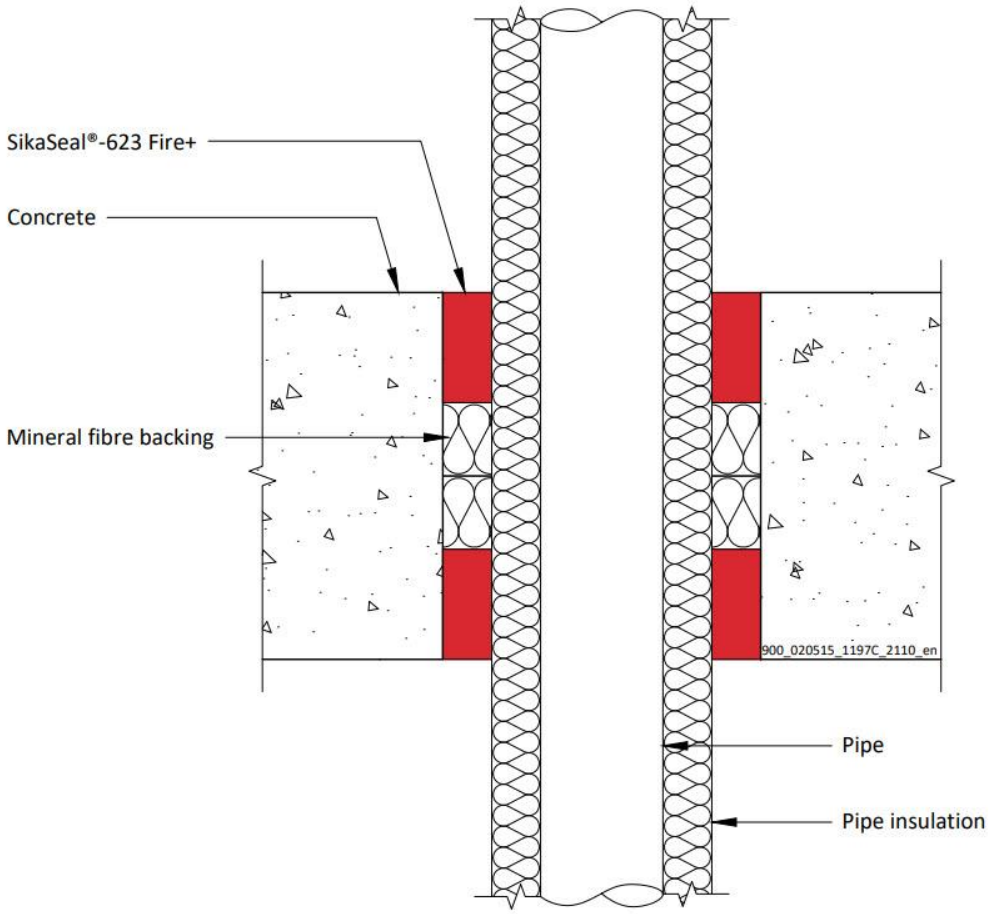
A.4.3.1

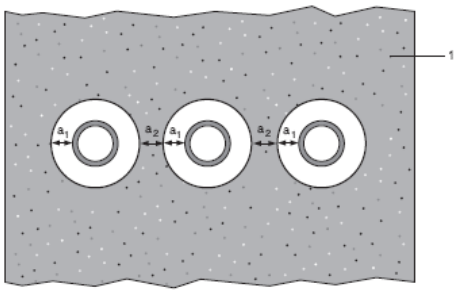
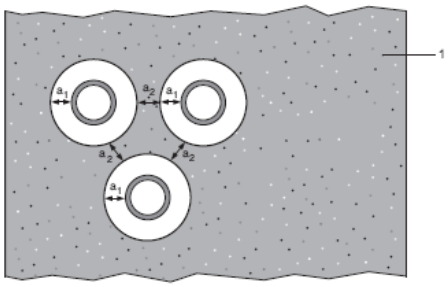
Services	Seal width (a1)	Permitted configuration for seal separation	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1, PVC-C according to EN 1566-1 or PP pipe according to EN 1852-1: 2009 or DIN8077/8078			
Maximum diameter 110 mm, wall thickness 1.8-6.6 mm for PVC pipes, fully or partially filled conduits with cables up to 20 mm diameter	10-30 mm	1 & 2	**EI 90 U/C**
Maximum diameter 110 mm, wall thickness 2.7 mm for PP pipes, fully or partially filled conduits with cables up to 20 mm diameter	10-30 mm	1 & 2	**EI 90 U/C**
Maximum diameter 110 mm, wall thickness 1.8-6.3 mm for PP pipes, fully or partially filled conduits with cables up to 20 mm diameter	10-30 mm	1 & 2	**EI 30 U/C**
PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1			
Maximum diameter 110 mm, wall thickness 2.4-10 mm, fully or partially filled conduits with cables up to 20 mm diameter	10-30 mm	1 & 2	**EI 60 U/C**
PP pipe according to EN 1852-1: 2009 or DIN8077/8078			
Maximum 40 mm diameter, wall thickness 1.8 mm	10-30 mm	1 & 2	**EI 120 C/C**
Maximum 110 mm diameter, wall thickness 1.8-6.3 mm	10-30 mm	1 & 2	**EI 30 U/C**

A.4.4 Penetration seals, surface mounted in concrete floors

Penetration Seal: Metallic pipes insulated with Elastomeric insulation minimum class B-s3, d0, Continuous Sustained (CS), sealed with SikaSeal-623 Fire+, minimum 45 mm deep to both sides of the floor and backed with Mineral Bio Wool (128kg/m^3 density), minimum 30 mm deep. Minimum separation between penetration seals of 30 mm mm (a2).

Construction details:



Configuration 1	Configuration 2
	

Key
1 Supporting construction
a_1 Pipe / edge of seal separation (annular space)
a_2 Separation between penetration seals

A.4.4.1

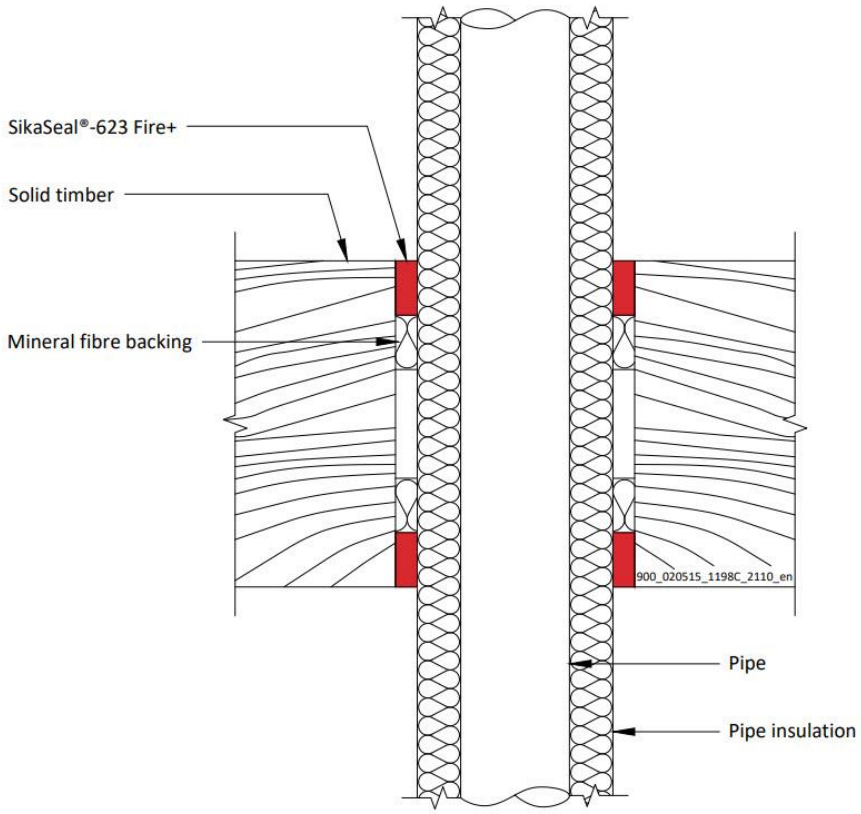
Services	Seal & backing material width (a1)	Permitted configuration for seal separation	Insulation CS	Classification
Mild or stainless steel pipe, with Elastomeric insulation minimum class B-s3, d0				
Maximum 324 mm diameter, wall thickness 1.0-14.2 mm	10-30 mm	1 & 2	25-50 mm Elastomeric insulation minimum class B-s3, d0	**EI 60 C/U**
Maximum 324 mm diameter, wall thickness 6.35-14.2 mm	10-30 mm	1 & 2	50 mm Elastomeric insulation minimum class B-s3, d0	**EI 120 C/U**

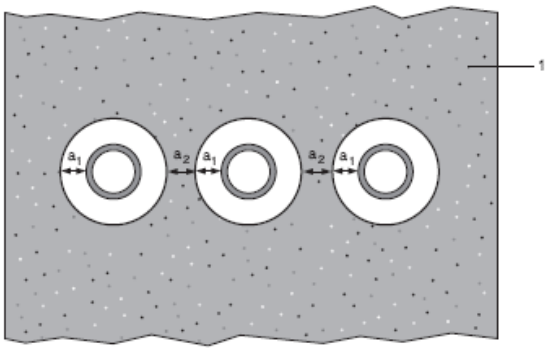
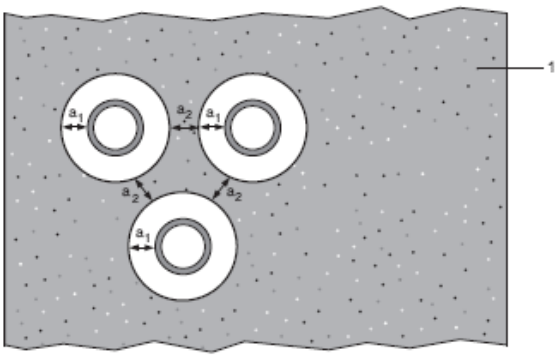
A.5 Timber floor constructions with floor thickness of minimum 150 mm

A.5.1 Pipe penetration seals, in timber floors

Penetration Seal: Metallic pipes insulated with Elastomeric insulation minimum class D-s3,d0, Continuous Sustained (CS), sealed with SikaSeal-623 Fire+, minimum 25 mm deep to both sides of the floor and backed with Stonewool (minimum 33kg/m^3 density), minimum 25 mm deep. Minimum separation between penetration seals of 0 mm (a2).

Construction details:



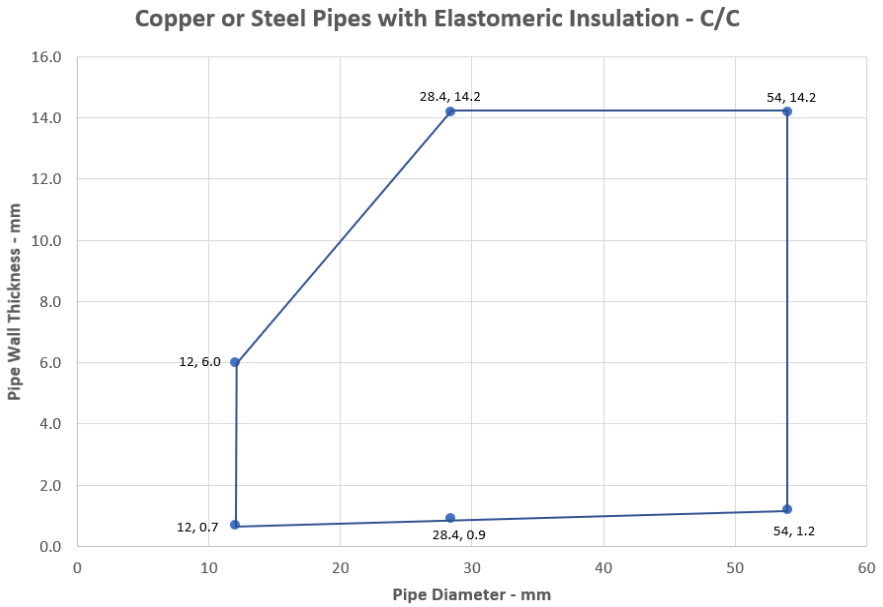
Configuration 1	Configuration 2
	

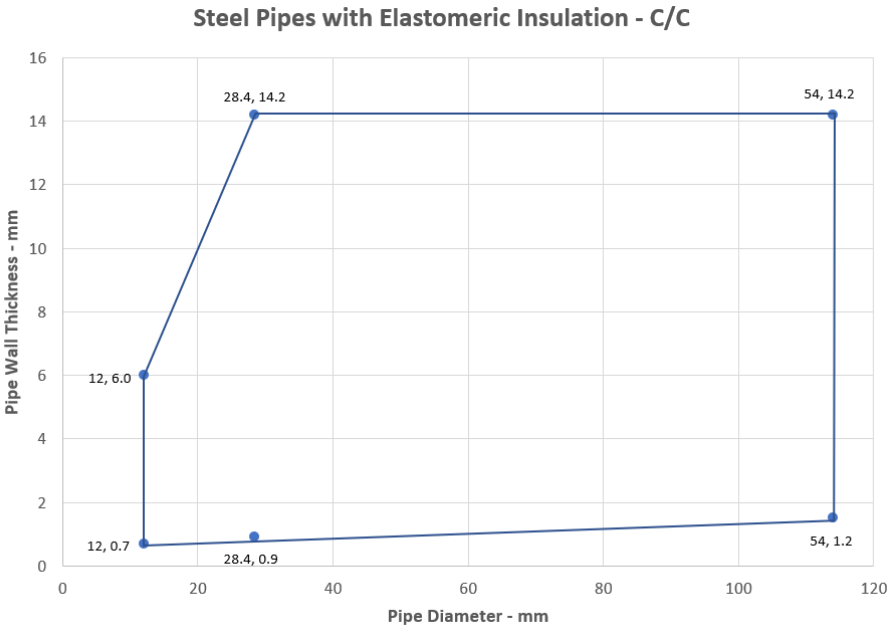
Key
1 Supporting construction
a_1 Pipe / edge of seal separation (annular space)
a_2 Separation between penetration seals

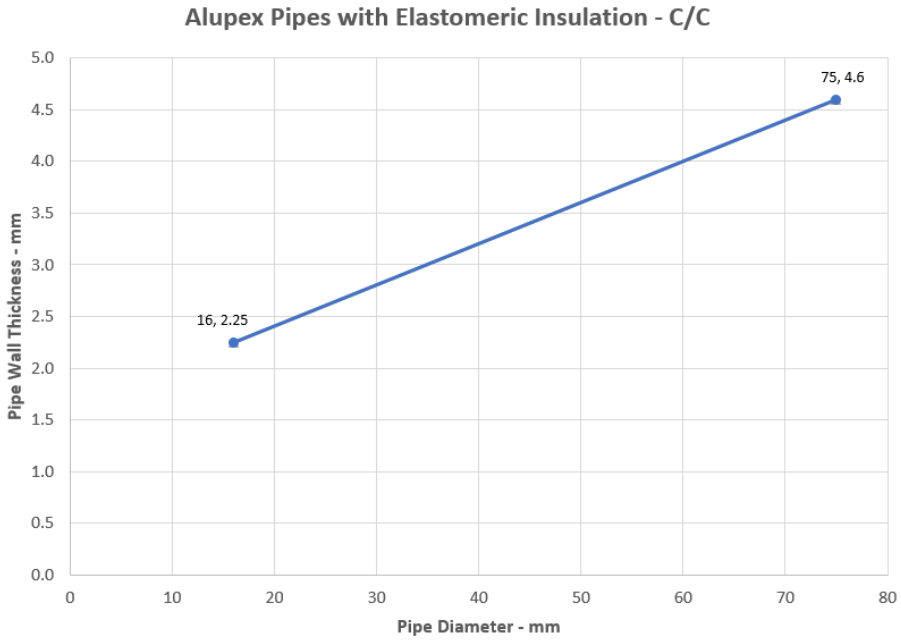
A.5.1.1

Services	Seal & backing material width (a1)	Permitted configuration for seal separation	Insulation CS	Classification
Copper, mild or stainless steel pipe				
Diameter 12 mm, wall thickness 0.7	10 mm	1	9 mm Elastomeric insulation minimum class D-s3, d0	**EI 120 C/C**
Diameter 12-54 mm, wall thickness*				**E 120 C/C, EI 45 C/C**
Diameter 12-54 mm, wall thickness*			10-25 mm Elastomeric insulation minimum class D-s3, d0	**E 120 C/C, EI 30 C/C**
Mild or stainless steel pipe, with Elastomeric insulation minimum class D-s3, d0				
Diameter 12-114 mm, wall thickness*	10 mm	1	9-24 mm Elastomeric insulation minimum class D-s3, d0	**E 120 C/C, EI 45 C/C**
Diameter 12-114 mm, wall thickness*			25 mm Elastomeric insulation minimum class D-s3, d0	**E 120 C/C, EI 60 C/C**
Diameter 114 mm, wall thickness 1.5-14.2			9-25 mm Elastomeric insulation minimum class D-s3, d0	**E 120 C/U, EI 45 C/U**
Diameter 114 mm, wall thickness 1.5-14.2			25 mm Elastomeric insulation minimum class D-s3, d0	**E 120 C/U, EI 60 C/U**
Alupex pipe, with Elastomeric insulation minimum class D-s3, d0				
Diameter 16 mm, wall thickness 2.25	10 mm	1	9 mm Elastomeric insulation minimum class D-s3, d0	**EI 120 C/C**
Diameter 16-75 mm, wall thickness*			9-24 mm Elastomeric insulation minimum class D-s3, d0	**E 120 C/C, EI 60 C/C**
Diameter 16-75 mm, wall thickness*			25 mm Elastomeric insulation minimum class D-s3, d0	**E 120 C/C, EI 90 C/C**

*See below graph for interpolation pipe sizes

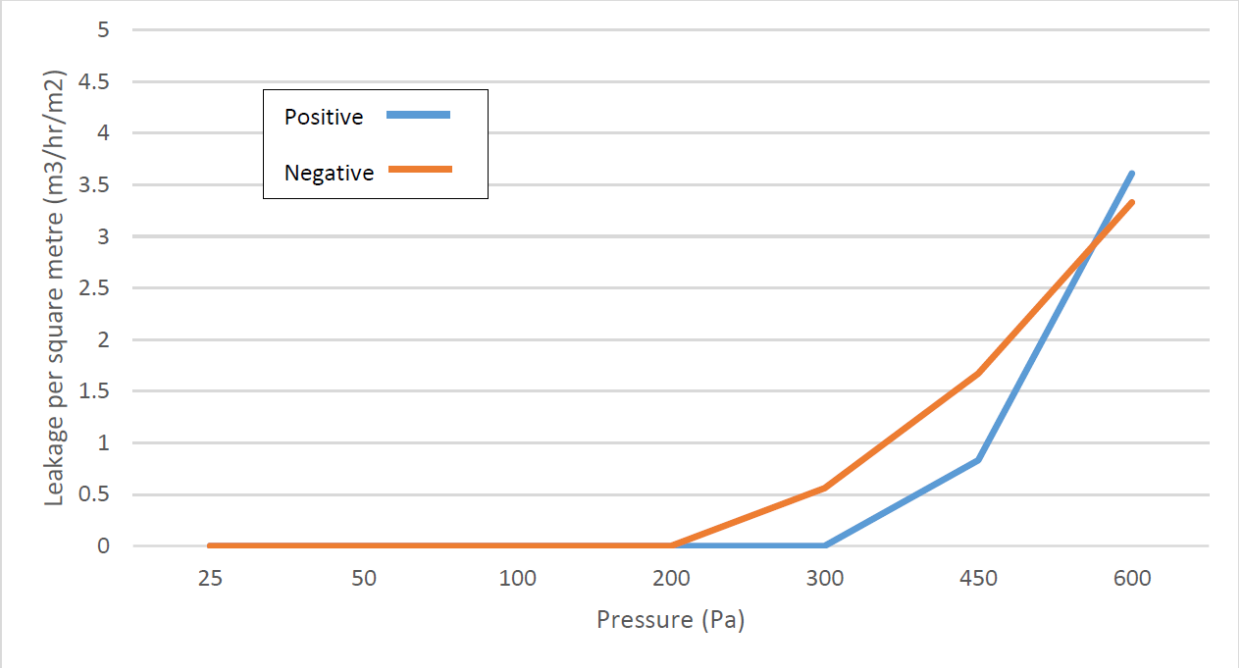

Copper or Steel Pipes with Elastomeric Insulation - C/C
Pipe Wall Thickness - mm
Pipe Diameter - mm
28.4, 14.2
54, 14.2
12, 6.0
12, 0.7
28.4, 0.9
54, 1.2


Steel Pipes with Elastomeric Insulation - C/C
Pipe Wall Thickness - mm
Pipe Diameter - mm
28.4, 14.2
54, 14.2
12, 6.0
12, 0.7
28.4, 0.9
54, 1.2


Alupex Pipes with Elastomeric Insulation - C/C
Pipe Wall Thickness - mm
Pipe Diameter - mm
16, 2.25
75, 4.6
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
10
20
30
40
50
60
70
80

ANNEX B – AIR PERMEABILITY – SIKASEAL-623 FIRE+

Product tested	25mm deep x 30mm wide SikaSeal-623 Fire+		
Summary of testing procedure			Result
	Pressure (Pa)	Leakage (m^3/h)	Leakage ($m^3/m^2/h$)
Results under negative chamber pressure	25	0.00	0.00
	50	0.00	0.00
	100	0.00	0.00
	200	0.00	0.00
	300	0.02	0.56
	450	0.06	1.67
	600	0.12	3.33
Results under positive chamber pressure	25	0.00	0.00
	50	0.00	0.00
	100	0.00	0.00
	200	0.00	0.00
	300	0.00	0.00
	450	0.03	0.83
	600	0.13	3.61



EAD 350454-00-1104:2017
Notified Body 2531
Fire Stopping and Sealing Product: Penetration Seals

http://dop.sika.com

CE MARK TO BE PLACED ON THE LABEL

CE 21
Sika Services AG, Zurich, Switzerland
54864880
For details see accompanying documents
EAD 350454-00-1104:2017
Notified Body 2531
Fire Stopping and Sealing Product: Penetration Seals

http://dop.sika.com

ECOLOGY, HEALTH AND SAFETY INFORMATION (REACH)

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety related data.

LEGAL NOTE

Sika Services AG
Tüffenwies 16-22
8064 Zürich
Switzerland
www.sika.com