eurofins | Expert Services

Kivimiehentie 4
FI-02150 Espoo
FINLAND
www.eurofins.fi/expertservices

Designated according to Article 29 of Regulation (EU) No 305/2011

Member of
www.eota.eu

European Technical Assessment

ETA 24/0670
of 3.6.2026

I. General Part

Technical Assessment Body issuing the European Technical Assessment	Eurofins Expert Services Oy
Trade name of the construction product	**Sewatek Fire Collars** **Sewatek Special Fire Collars** **Sewatek Multi Penetration** **Sewatek Fire Wrap**
Product family to which the construction product belongs	Fire stopping and Fire Sealing Products
Manufacturer	**Sewatek Oy** Sepäntie 4 FI-07230 Askola Finland
Manufacturing plant(s)	**Sewatek Oy** Sepäntie 4, Askola Finland
This European Technical Assessment contains	41 pages including 3 Annex(es) which form an integral part of this assessment Annex(es) 3 contain(s) confidential information and is/are not included in the European Technical Assessment when that assessment is publicly disseminated
This European Technical Assessment is issued in accordance with Article 95(4) of Regulation (EU) 2024/3110, on the basis of	EAD 350454-00-1104 Fire stopping and Fire Sealing Products
This version replaces	ETA 24/0670, issued on 26.8.2024

Table of Contents

II. Specific parts

1. Technical description of the products

1.1 Sewatek Fire Collars

Fire collars are fire-stopping steel collars incorporating an intumescent band.

1.2 Sewatek Special Fire Collars

Special fire collars are fire-stopping steel collars incorporating an intumescent band. These products are intended for use where pipe materials change from metal to plastic.

1.3 Sewatek Multi Penetrations

Multi penetrations are fire penetration seals comprising a plastic cover incorporating an intumescent band and sealing components.

1.4 Sewatek Fire Wrap

Fire wraps are fire-stopping products consisting of an intumescent band enclosed in a plastic cover.

1.5 Installation

The products may be installed either as single penetration seals or as groups of penetration seals (clusters). Penetrations are classified as either a single penetration seal or a group of penetration seals (cluster). The fire resistance class of a cluster may be extended to an equivalent single penetration seal, but not vice versa. Minimum distances between penetration devices are specified in Annex 1.

2. Specification of the intended uses in accordance with the applicable European Assessment Document, EAD

2.1 Intended uses

The penetration seals are intended to be used to temporarily or permanently reinstate the fire resistance performance of rigid concrete walls or floors, CLT/LVL constructions (cross-laminated timber / laminated veneer lumber), or flexible walls provided with apertures penetrated by various cables or metallic or plastic pipes.

The minimum thickness for unprotected CLT/LVL wooden constructions is 100 mm. The thickness of the wood may be lower if the wooden construction has a non-combustible surface (e.g. gypsum board), provided that the total thickness of the construction is at least 100 mm.

Penetrations may be installed in the following constructions:

- min 95 mm, 100 mm or 150 mm thick low density rigid wall (≥ 650 ± 200 kg/m^3)
- min 95 mm thick standardized flexible wall
- min 150 mm, 200 mm or 240 mm thick high-density rigid floor (≥ 850 kg/m^3)
- min 100 mm thick CLT/LVL wall or floor (density min. 450 kg/m^3).

The provisions of this European Technical Assessment are based on an assumed intended working life of 25 years, provided that the product is subject to appropriate use and maintenance[1].

[1] *This means that it is expected that when this working life has elapsed, the real working life may be, in normal use conditions, considerably longer without major degradation affecting the essential requirements of the works. The indications given as to the working life of Sewatek penetration system cannot be interpreted as a guarantee given by the producer or the assessment body. They should only be regarded as a means for the specifiers to choose the appropriate criteria for penetration seals in relation to the expected, economically reasonable working life of the works.*

2.2 Use category

The penetration seal is intended for internal use, including use at temperatures below 0 °C, and may therefore, in accordance with Clause 1.2 of EAD 350454-00-1104, be categorized as Type Y2. The product also meets the requirements of Types Z1 and Z2.

This European Technical Assessment is based on the assumption that all necessary design and execution works have been carried out correctly in accordance with the regulations applicable at the construction site.

2.3 Execution of construction works

It is the responsibility of the manufacturer to ensure that the information necessary for the correct use of the Sewatek penetration seal is provided with each delivery. This information shall include general guidance based on this European Technical Assessment, as well as detailed installation instructions and construction details.

With regard to the assumed working life of the product, regular maintenance is required. The manufacturer shall provide written documentation specifying the type and frequency of the required maintenance.

The completed building (the works) shall comply with the applicable building regulations of the Member States in which the building is to be constructed. The procedures laid down in the Member States for demonstrating compliance with the building regulations shall be followed by the entity responsible for the execution of the works. An ETA for the Sewatek penetration seal does not amend this process in any way.

3. Performance of the product and references to the methods used for its assessment

Table 1. Basic requirements for construction works and essential characteristics

Basic requirement and essential characteristics	Performance
BWR 1. Mechanical resistance and stability	
Not relevant	
BWR 2. Safety in case of fire	
Reaction to fire of materials and components, EN 13501-1	No performance assessed
Resistance to fire, EN 13501-2	EI 30 - EI 120, E 30 - E 120 (Annex 1)
BWR 3. Hygiene, health and the environment	
Air permeability	No performance assessed
Water permeability	No performance assessed
Content, emission and/or release of dangerous substances	No performance assessed
BWR 4. Safety and accessibility in use	
Mechanical resistance and stability	No performance assessed
Resistance to impact / movement	No performance assessed
Adhesion	No performance assessed
Durability	Clause 3.4.1
BWR 5. Protection against noise	
Airborne sound insulation	Multi: Clause 3.3.1. Other products: No performance assessed
BWR 6. Energy economy and heat retention	No performance assessed
Thermal properties	No performance assessed
Water vapour permeability	No performance assessed
General aspects	
Aspects of durability	Clause 3.4.1

3.1 Safety in case of fire, BWR 2

3.1.1 Reaction to fire

The reaction to fire has not been assessed.

3.1.2 Resistance to fire

For floors and walls, classification with regard to resistance to fire is based on full scale testing as specified in EN 13501-2. Fire resistance classes are presented in Annex 1.

3.2 Hygiene, health and environment, BWR 3

3.2.1 Dangerous substances

In addition to the specific clauses relating to dangerous substances contained in this European Technical Assessment, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the EU Construction Products Directive, these requirements need also to be complied with when and where they apply.

3.3 Protection against noise, BWR 5

3.3.1 Airborne sound insulation of walls and floors

Multi Penetration: Influence of single penetration seal on R_W highest is 0-2 dB, when concrete thickness ≥ 200 mm.

- R: EN ISO 10140-1:2016, EN ISO 10140-2:2010
- R_W: EN ISO 717-1:2013

3.4 General aspects

3.4.1 Aspects of durability

Durability has been assessed according to document EOTA TR 24 Clause 4.2.5.
According to EAD 350454-00-1104 clause 1.2 penetration seal is categorized as Type Y2.

3.4.2 Identification

The components and materials are identified as being of a generic type or giving a brand name, as described in Annex 1 and specified in the manufacturer's Contents of delivery list. The component under a given brand name may be changed by the manufacturer to another with corresponding performance.

4. Assessment and verification of constancy of performance (hereinafter AVCP) system applied, with reference to its legal base

EC Decision for AVCP is System 1. 1999/0454/EC

5. Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD.

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at Eurofins Expert Services Oy.

Issued in Espoo on June 3, 2026
by Eurofins Expert Services Oy

Pekka Aittala
Business Development Manager

Heli Välimäki
Senior Expert

ANNEX 1. – Products

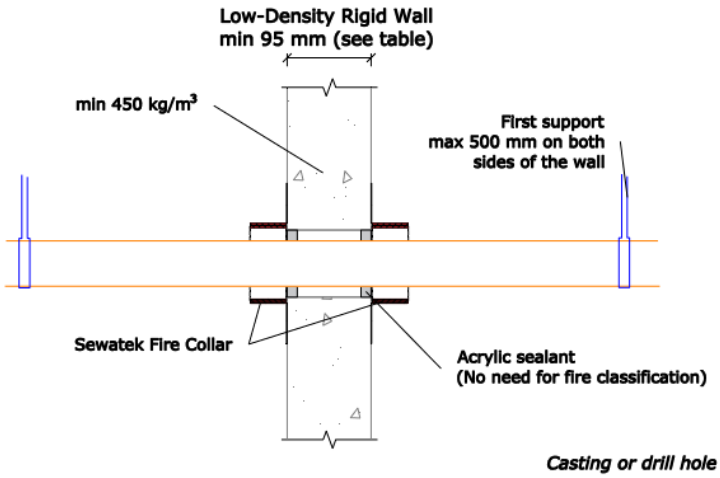
Low-Density Rigid Wall

1a - Sewatek Fire Collars

Table 1a	**Sewatek Fire Collars mounted in** 95 mm or 100 mm or 150 mm thick low-density rigid wall	
Insulation markings (See Annex 2)		**Markings (See Annex 3)**
LI – Local and Interrupted CI – Continuous and Interrupted CS – Continuous and Sustained sw – Stone wool insulation cr – Cellular rubber insulation	Stone wool - density min 60 kg/m^3 - class A1/A2 - thickness and length, see the table below Cellular rubber - see the table below	e_n – Pipe wall thickness a_1 – Thickness of the pipe closure device a_2 – Distance between pipe closure devices When tested as a single, a_2 – distance is 100 mm ("-" in the table)
******** **The assessment covers the following multilayer pipe types:** **PP-pipes** (EN 1451-1), **Geberit:** Silent (dB20, Pro, PP), **Pipelife**: Master 3+, **Polo-Kal**: NG/XS, 3S, **Rehau**: Raupiano Plus, **Uponor**: HTP, Decibel, **Valsir**: Triplus, **Wavin**: AS+, SiTech+		

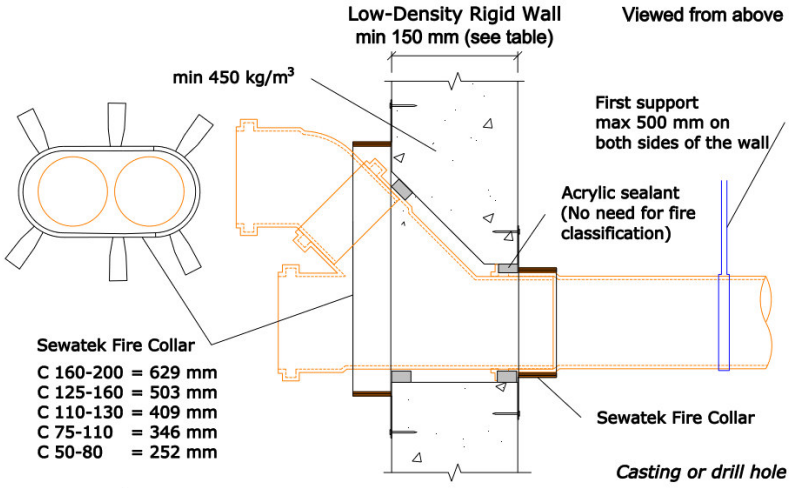
Fire Collar	**C 16-32**	**C 25-50**	**C 50-80**	**C 75-110**	**C 110-130**	**C 125-160**	**C 160-200**
a_1 (mm)	5	5	7	7	7	11	13
Height	23	23	45	45	45	45	45

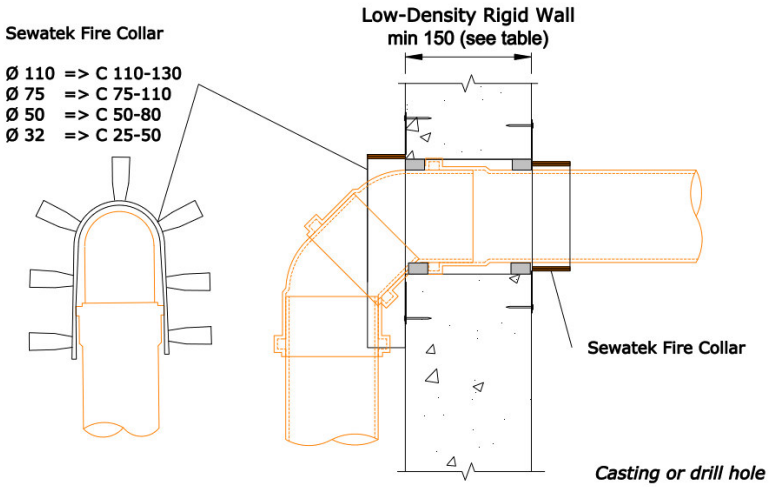
Installation way 1a-1



Type of the pipe e_n = pipe wall thickness	**Penetration seal (tested size)**	**Insulation (thickness / length)**	**a_2 [mm]**	**Fire resis-tance class**
Composite pipes				
Low-density rigid wall (min 95 mm) – surface mounted or installed within wall				
Ø ≤ 75 mm, e_n ≤ 8,0 mm	C 50-80	CI (sw 30 mm / -)	-	EI 60 - U/C
Low-density rigid wall (min 100 mm) – surface mounted or installed within wall				
Ø ≤ 25 mm, e_n ≤ 3,0 mm	C 16-32	Not required	58	EI 120 - U/C
Ø ≤ 40 mm, e_n ≤ 4,0 mm	C 25-50	Not required	50	EI 90 - U/C

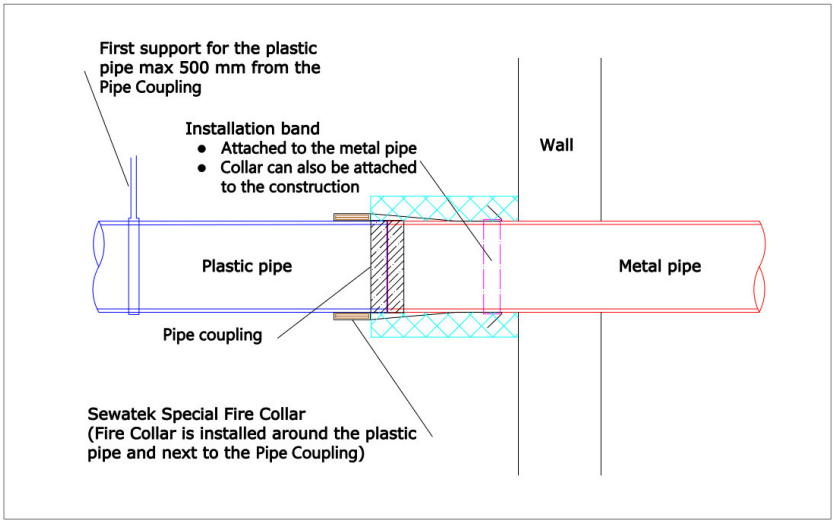
Type of the pipe e_n = pipe wall thickness	Penetration seal (tested size)	Insulation (thickness / length)	a_2 [mm]	Fire resis-tance class
Pex-pipes				
Low-density rigid wall (min 100 mm) – surface mounted or installed within wall				
PEX Ø ≤ 22/34 mm, e_n ≤ 3,0 mm	C 25-50	Not required	38	EI 120 - U/C
PEX Ø ≤ 28/54 mm, e_n ≤ 3,0/1,0 mm	C 50-80	Not required	57	EI 60 - U/C
PEX Ø ≤ 40 mm, e_n ≤ 4,0 mm	C 25-50	Not required	60	EI 90 - U/C
PEX bundle Ø ≤ 45 mm - singular PEX / cover pipe Ø ≤ 40 mm	C 25-50	Not required	60	EI 90 - U/C
PVC-U pipes (EN 1329-1, EN 1453-1, EN ISO 15493, EN ISO 1452-2)				
PVC-C pipes (EN 1566-1, EN ISO 15493, EN ISO 15877-2) The PVC-based plastic group includes PVC-U, PVC-C, ABS and SAN+PVC pipes. These materials exhibit comparable or more favourable fire behaviour in terms of softening and collapse when exposed to fire and are therefore covered by the test results obtained with PVC-U pipes in accordance with EN 1366-3:2022, Annex E				
PE-pipes (EN 12201-2, EN 1519-1, EN ISO 15494, EN 12666-1) The polyethylene (PE) group includes PE, PE-HD, PE-MD (e.g. PEM pipes) and cross-linked polyethylene (PE-X), provided that the pipes are single-layer plastic pipes without metallic layers.				
PP-pipes (EN 1451-1, EN ISO 15874, EN ISO 15494) The polypropylene (PP) group includes single-layer PP pipes manufactured according to EN 1451-1, EN ISO 15874 and EN ISO 15494. These standards cover comparable PP materials (PP-H, PP-B, PP-R, PP-RCT) exhibiting similar fire behaviour in terms of softening and collapse. Multilayer pipes or pipes with reinforcement layers are not covered by this assessment unless separately tested.				
ABS-pipes (EN 1455-1, EN ISO 15493)				
SAN+PVC-pipes (ISO 19220)				
Low-density rigid wall (min 150 mm) – surface mounted				
PP Ø32-160 mm, e_n 1,8 - 7,5 mm	C 50-80…C 125-160	Not required	-	EI 120 - U/C
PE Ø32-160 mm, e_n 1,8 - 10,0 mm	C 50-80…C 125-160	Not required	-	EI 120 - U/C
PVC-U / PVC-C Ø 32-160 mm, e_n 1,8 - 8,1 mm	C 50-80…C 125-160	Not required	-	EI 120 - U/C
PP (EN 1451-1), PVC (EN 13476)				
Low-density rigid wall (min 100 mm) – surface mounted or installed within wall				
PP Ø ≤ 110 mm, e_n ≤ 6,5 mm	C 75-110	Not required	-	EI 60 - U/C
PP Ø ≤ 110 mm, e_n ≤ 4,2 mm	C 75-110	Not required	60	EI 60 - U/C
PP Ø ≤ 110 mm, e_n ≤ 8,0 (tested on muff 4,0 + 4,0 mm)	C 110-130	Not required	-	EI 90 - U/C
PVC Ø ≤ 110 mm, e_n ≤ 3,4 mm	C 75-110	Not required	30	EI 90 - U/C
Low-density rigid wall (min 150 mm) – surface mounted				
PP Ø ≤ 200 mm, e_n ≤ 8,0	C 160-200	Not required	-	EI 90 - U/C
PP-pipes (EN 1451-1) and Multilayer sewer pipes				
Low-density rigid wall (min 150 mm) – surface mounted or installed within wall				
Ø ≤ 160 mm, e_n ≤ 7,5 mm **** See the list of multilayer pipes	C 125-160	Not required	30	EI 90 - U/C
Ø ≤ 110 mm, e_n ≤ 5,3 mm **** See the list of multilayer pipes	C 110-130	CS CR13	-	EI 120 - U/C

Type of the pipe e_n = pipe wall thickness	Penetration seal (tested size)	Insulation (thickness / length)	a_2 [mm]	Fire resis-tance class
Sewer pipes with lining				
Low-density rigid wall (min 95 mm) – surface mounted				
PVC Ø ≤ 110 mm, e_n ≤ 3,4 mm + lining (Boldan, Brawoliner, Trelleborg)	C 75-110	Not required	30	EI 90 – U/C
PP Ø ≤ 110 mm, e_n ≤ 3,4 mm + lining (Boldan, Brawoliner, Trelleborg)	C 75-110	Not required	30	EI 90 – U/C
Pre-insulated plastic pipes				
Low-density rigid wall (min 150 mm) – surface mounted				
CoolFit 2.0, Ø 110/160, e_n ≤ 10 mm	C 125-160	Not required	-	EI 120 - U/C
Ecoflex Aqua Twin, PEX 40+28 + HDPE Ø 175 mm + PE-insulation	C 160-200	Not required	-	EI 60 - U/C
Cables				
Low-density rigid wall (min 100 mm) – surface mounted or installed within wall				
Cable conduit Ø ≤ 25,0 mm e_n ≤ 1,5 mm, - cable bundle Ø ≤ 22 mm - singular cable Ø ≤ 13 mm	C 16-32	Not required	58	EI 120
Cable conduit Ø ≤ 40,0 mm e_n ≤ 1,5 mm - cable bundle Ø ≤ 37 mm - singular cable Ø ≤ 17 mm	C 25-50	Not required	38	EI 120
Cable bundle Ø ≤ 66 mm - singular cable Ø ≤ 25 mm	C 50-80	Not required	30	EI 90
Y-joint or several pipes together in the collar Installation way 1a-2				
				
PP-pipes (EN 1451-1) and Multilayer sewer pipes				
Low-density rigid wall (min 150 mm) – surface mounted				
Ø ≤ 110 mm, e_n ≤ 5,3 mm **** See the list of multilayer pipes	C 50-80…C160-200 Minimum length for two Ø110 pipes is 598 mm. Collars can be connected if needed.	Not required	-	EI 120 - U/C

Type of the pipe e_n = pipe wall thickness	Penetration seal (tested size)	Insulation (thickness / length)	a_2 [mm]	Fire resis-tance class
Collar installed as a "horseshoe" Installation way 1a-3				
				
PP-pipes (EN 1451-1) and Multilayer sewer pipes				
Low-density rigid wall (min 150 mm) – surface mounted				
Ø ≤ 110 mm, e_n ≤ 5,3 mm **** See the list of multilayer pipes	C 50-80…C110-130 Select the size according to the table above	Not required	-	EI 120 - U/C

Low-Density Rigid Wall installations

1b - Sewatek Special Fire Collars



Special Fire Collar	a_1 (mm)	Height
C 50x	7	45
C 75x	7	45
C 90x	7	45
C 110x	7	45
C 130x	7	45
C 160x	11	45
C 200x	13	45

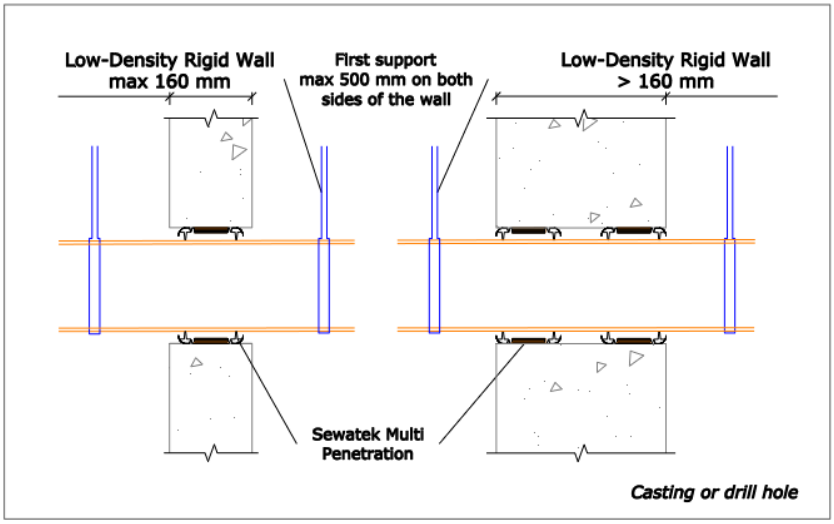
Table 1b Sewatek Special Fire Collars
tested with 150 mm thick low-density rigid wall

Insulation markings (**See Annex 2**)		**Markings (See Annex 3)**
LI – Local and Interrupted CI – Continuous and Interrupted CS – Continuous and Sustained sw – Stone wool insulation	Stone wool - density min 100 kg/m^3 - class A1/A2 - thickness and length, see the table below	e_n – Pipe wall thickness a_1 – Thickness of the pipe closure device a_2 – Distance between pipe closure devices When tested as a single, a_2 – distance is 100 mm ("-" in the table)

Type of the pipe e_n = pipe wall thickness	Penetration seal (tested size)	Insulation (thickness / length)	a_2 [mm]	Fire resistance class
Sewer pipes, material changes to plastic				
Tested with low-density rigid wall of 150 mm				
Ø ≤ Cast iron 110 (DN100), e_n 4,0 mm Ø ≤ Plastic 110, e_n ≤ 3,8 mm	C 110x	Cast iron: CI (sw 30 mm / -) Plastic: Not required	-	EI 90 - U/U
Ø ≤ Cast iron 110 (DN100), e_n 4,0 mm Ø ≤ Plastic 110, e_n ≤ 5,3 mm + Fernco tolerance coupling	C 130x	Cast iron: LI (sw 40/200 mm) Plastic: Not required	-	EI 30 / E 120 - U/C
Ø ≤ Stainless steel 110, e_n 1,0 mm Ø ≤ Plastic 110, e_n ≤ 10,6 (tested on muff 5,3 + 5,3) mm	C 130x	Cast iron: LI (sw 30/200 mm) Plastic: Not required	-	EI 30 / E 120 - U/C
Ø ≤ Cast iron 160 (DN150), e_n 4,0 mm Ø ≤ Plastic 160, e_n ≤ 7,5 mm	C 160x	Cast iron: LI (sw 40/200 mm) Plastic: Not required	-	EI 60 - U/C
Ø ≤ Stainless steel 200, e_n 1,5 mm Ø ≤ Plastic 200, e_n ≤ 8,0 mm	C 200x	Stainless steel: LI (sw 40/200 mm) Plastic: Not required	-	EI 90 - U/C
Tested plastic and multilayer pipes: **PP** (EN 1451-1) max Ø160 e_n ≤ 7,5 mm, **PE** (EN 1519-1) max Ø 160 e_n ≤ 10,0 mm, **PVC-U** (EN 1329-1) max Ø 160 e_n ≤ 8,1 mm, **Geberit**: Silent (dB20, Pro, PP), **Pipelife**: Master 3+, **Polo-Kal**: NG/XS, 3S, **Rehau**: Raupiano Plus, **Uponor**: HTP, Decibel, **Valsir:** Triplus, **Wavin**: AS+, SiTech+				

Low-Density Rigid Wall

1c - Sewatek Multi Penetration



Multi	Max penetrating pipe / bundle	a_1 (mm)
D80	50	15
D105	75	15
D140	110	15

Table 1c Sewatek Multi Penetration seals D80, D105, D140
mounted in 100 mm or 150 mm thick low density rigid wall

Insulation markings (See Annex 2)		**Markings (See Annex 3)**
LI – Local and Interrupted CI – Continuous and Interrupted CS – Continuous and Sustained sw – Stone wool insulation	Stone wool - density min 60 kg/m^3 - class A1/A2 - thickness and length, see the table below	e_n – Pipe wall thickness a_1 – Thickness of the pipe closure device a_2 – Distance between pipe closure devices When tested as a single, a_2 – distance is 100 mm ("-" in the table)

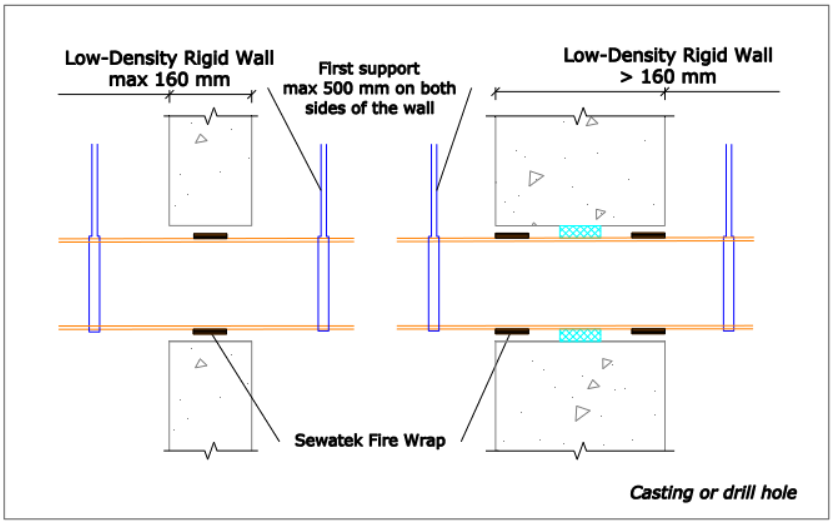
**** **The assessment covers the following multilayer pipe types:**
PP-pipes (EN 1451-1), **Geberit:** Silent (dB20, Pro, PP), **Pipelife**: Master 3+, **Polo-Kal**: NG/XS, 3S, **Rehau**: Raupiano Plus, **Uponor**: HTP, Decibel, **Valsir**: Triplus, **Wavin**: AS+, SiTech+

Type of the pipe e_n = pipe wall thickness	Insulation (thickness / length)	a_2 [mm]	Fire resis-tance class
Steel and cast-iron pipes			
Low-density rigid wall (min 100 mm) – installed within wall			
Ø < 110 mm, e_n 4,0 mm	CI (sw 30 mm / -)	-	EI 120 - U/C
PP (Polypropylene) and multilayer sewer pipes			
Low-density rigid wall (min 100 mm) – installed within wall			
Ø ≤ 110, e_n ≤ 6,5 mm **** See the list of multilayer pipes	Not required	-	EI 120 - U/C
Ø ≤ 110, e_n ≤ 6,0 mm **** See the list of multilayer pipes	Not required	30	EI 60 - U/C
Low-density rigid wall (min 150 mm) – installed within wall			
Ø ≤ PP 110 (EN 1451-1), e_n ≤ 3,6 mm	Not required	60	EI 120 - U/C

Type of the pipe e_n = pipe wall thickness	Insulation (thickness / length)	a_2 [mm]	Fire resis- tance class
PP and multilayer sewer pipes			
Low-density rigid wall (min 100 mm) – installed within wall			
Mounted on muff			
Ø ≤ 110, e_n ≤ 13 mm (on muff 6,5 + 6,5) **** See the list of multilayer pipes	Not required	30	EI 90 - U/C
Mounted without plastic cover and / or gaskets			
Ø ≤ 110, e_n ≤ 6,5 mm **** See the list of multilayer pipes	Not required	30	EI 90 - U/C
Pex pipes			
Low-density rigid wall (min 100 mm) – installed within wall			
Pex bundle Ø ≤ 100 mm - singular pipe Ø ≤ 40/54 mm, e_n ≤ 2,5 - 4,2 mm	Not required	-	EI 90 - U/C
Cables			
Low-density rigid wall (min 100 mm) – installed within wall			
Cable conduit Ø ≤ 110 mm (plastic, e_n ≤ 3,4) - cable bundle Ø ≤ 100 mm - singular cable Ø ≤ 25 mm	Not required	-	EI 60 - C/C

Low Density Rigid Wall

1d - Sewatek Fire Wrap



Fire Wrap	a_1 (mm)
W 32	4
W 50	7
W 75	7
W 110	7
W 160	10

Table 1d Sewatek Fire Wrap
mounted in 100 mm or 150 mm thick low density rigid wall

Insulation markings (See Annex 2)		**Markings (See Annex 3)**
LI – Local and Interrupted CI – Continuous and Interrupted CS – Continuous and Sustained sw – Stone wool insulation	Stone wool - density min 60 kg/m^3 - class A1/A2 - thickness and length, see the table below	e_n – Pipe wall thickness a_1 – Thickness of the pipe closure device a_2 – Distance between pipe closure devices When tested as a single, a_2 – distance is 100 mm (”-” in the table)

**** **The assessment covers the following multilayer pipe types:**
PP-pipes (EN 1451-1), **Geberit:** Silent (dB20, Pro, PP), **Pipelife**: Master 3+, **Polo-Kal**: NG/XS, 3S, **Rehau**: Raupiano Plus, **Uponor**: HTP, Decibel, **Valsir**: Triplus, **Wavin**: AS+, SiTech+

** Sewatek fire wrap on both sides of the wall

Type of the pipe e_n = pipe wall thickness	Insulation (thickness / length)	a_2 [mm]	Fire resis-tance class
Steel and cast-iron pipes			
Low-density rigid wall (min 100 mm) – installed within wall			
Ø < 110 mm, e_n 4,0 mm	CI (sw 30 mm / -)	-	EI 120 - U/C
PP (Polypropylene) and multilayer sewer pipes			
Low-density rigid wall (min 100 mm) – installed within wall			
Ø ≤ 110, e_n ≤ 10,6 mm (tested on muff 5,3 + 5,3 mm) ** **** See the list of multilayer pipes	Not required	-	EI 120 - U/C
Ø ≤ 110, e_n ≤ 6,5 mm **** See the list of multilayer pipes	Not required	30	EI 90 - U/C
Low-density rigid wall (min 150 mm) – installed within wall			
Ø ≤ 160, e_n ≤ 7,5 mm **** See the list of multilayer pipes	Not required	-	EI 90 - U/C
PP (EN 1451-1) Ø ≤ 110, en ≤ 3,6 mm	Not required	60	EI 120 - U/C

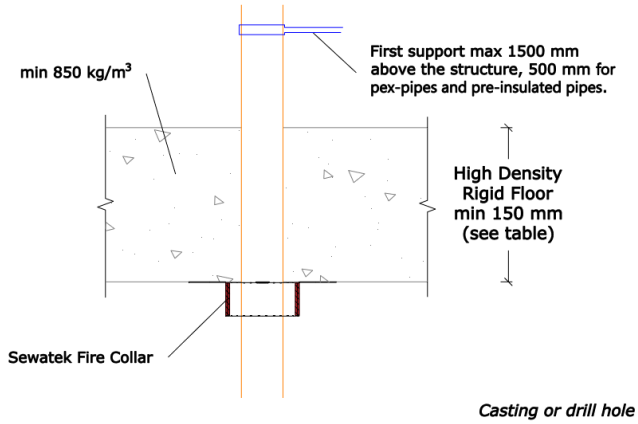
Type of the pipe e_n = pipe wall thickness	Insulation (thickness / length)	a_2 [mm]	Fire resis- tance class
Pex pipes			
Low-density rigid wall (min 100 mm) – installed within wall			
Pex bundle Ø ≤ 100 mm - singular pipe Ø ≤ 40/54, e_n ≤ 2,5 - 4,2 mm	Not required	-	EI 90 - U/C
Cables			
Low-density rigid wall (min 100 mm) – installed within wall			
Cable conduit Ø ≤ 110 mm (plastic, e_n ≤ 3,4) - cable bundle Ø ≤ 100 mm - singular cable Ø ≤ 25 mm	Not required	-	EI 60 - C/C

High-Density Rigid Floor

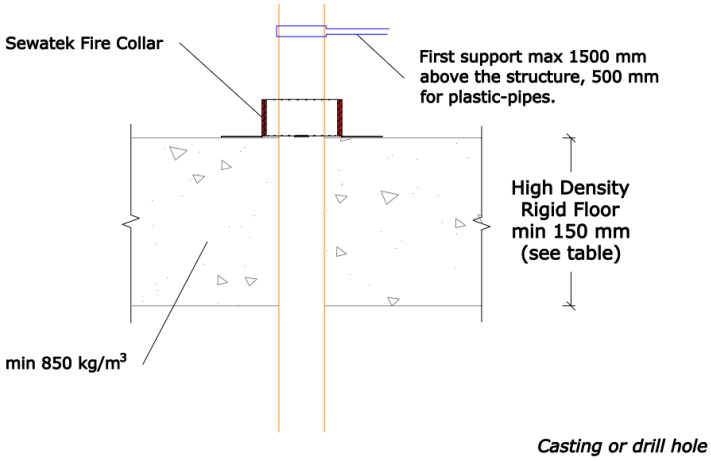
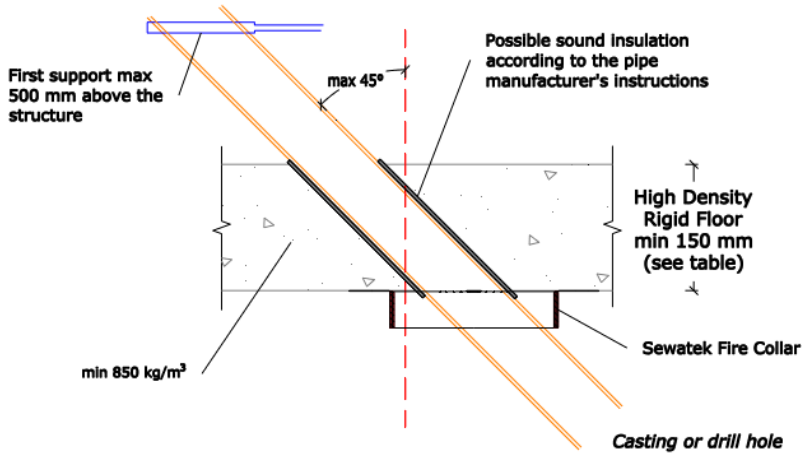
2a - Sewatek Fire Collars

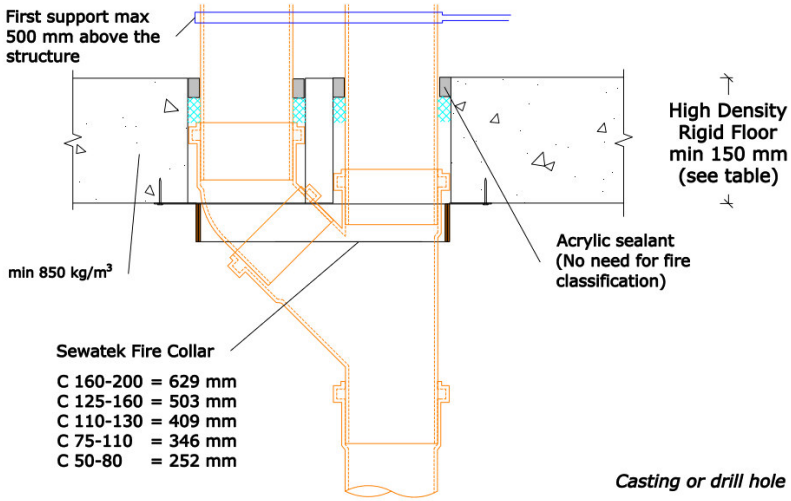
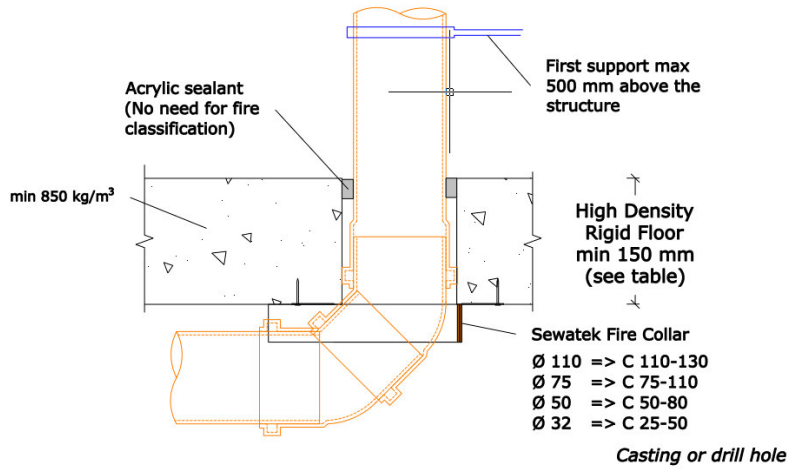
Table 2a	**Sewatek Fire Collars** mounted in 150 mm or 200 mm thick high-density rigid floor	
Insulation markings (See Annex 2)		**Markings (See Annex 3)** e_n – Pipe wall thickness a_1 – Thickness of the pipe closure device a_2 – Distance between pipe closure devices When tested as a single, a_2 – distance is 100 mm ("-" in the table)
LI – Local and Interrupted CI – Continuous and Interrupted CS – Continuous and Sustained sw – Stone wool insulation cr – Cellular rubber insulation	Stone wool - density min 60 kg/m^3 - class A1/A2 - thickness and length, see the table below Cellular rubber - see the table below	
******** **The assessment covers the following multilayer pipe types:** **PP-pipes** (EN 1451-1), **Geberit:** Silent (dB20, Pro, PP), **Pipelife**: Master 3+, **Polo-Kal**: NG/XS, 3S, **Rehau**: Raupiano Plus, **Uponor**: HTP, Decibel, **Valsir**: Triplus, **Wavin**: AS+, SiTech+		

Fire Collar	C 16-32	C 25-50	C 50-80	C 75-110	C 110-130	C 125-160	C 160-200
a_1 (mm)	5	5	7	7	7	11	13
Height	23	23	45	45	45	45	45

Type of the pipe e_n = pipe wall thickness	Penetration seal (tested size)	Insulation (thickness / length)	a_2 [mm]	Fire resis-tance class
Installation below the construction ***Installation way 2a-1***				
				
Composite pipes				
High-density rigid floor (min 150 mm) – Surface Mounted				
Ø ≤ 90 mm, e_n ≤ 8,5 mm	C 75-110	CI (sw 30 / -)	-	EI 120 - U/C
2x LK PAL PiP Extra Ø ≤ 32 mm, e_n ≤ 3,0 mm	C 75-110	CS (pir 10 / -)	-	EI 120 - U/C
High-density rigid floor (min 200 mm) – surface mounted or installed within construction				
Ø ≤ 16 mm, e_n ≤ 2,5 mm	C 16-32	Not required	78	EI 120 - U/C
Ø ≤ 40 mm, e_n ≤ 4,5 mm	C 25-50	Not required	58	EI 120 - U/C
PEX-pipes				
High-density rigid floor (min 150 mm) - surface mounted				
PEX-bundle Ø ≤ 130 mm, singular pipe Ø ≤ 28/54 mm, e_n ≤ 4,0 mm	C 110-130	Not required	-	EI 120 - U/C
PEX Ø ≤ 28/54 mm, e_n ≤ 4,0 / 3,0 mm	C 50-80	Not required	-	EI 120 - U/C

Type of the pipe e_n = pipe wall thickness	Penetration seal (tested size)	Insulation (thickness / length)	a_2 [mm]	Fire resis-tance class
Pre-insulated plastic pipes				
High-density rigid floor (min 150 mm) - surface mounted				
CoolFit 2.0 Ø ≤ 110/160 mm, e_n ≤ 10 mm, PUR 25 mm	C 125-160	Not required	-	EI 90 - U/C
Ecoflex Aqua Twin Ø ≤ PEX 40+28 + HDPE Ø 175 mm + PE-insulation, e_n ≤ 5,5 and 4,0 mm	C 160-200	Not required	-	EI 60 - U/C
PVC-U pipes (EN 1329-1, EN 1453-1, EN ISO 15493, EN ISO 1452-2)				
PVC-C pipes (EN 1566-1, EN ISO 15493, EN ISO 15877-2) The PVC-based plastic group includes PVC-U, PVC-C, ABS and SAN+PVC pipes. These materials exhibit comparable or more favorable fire behavior in terms of softening and collapse when exposed to fire and are therefore covered by the test results obtained with PVC-U pipes in accordance with EN 1366-3:2022, Annex E				
PE-pipes (EN 12201-2, EN 1519-1, EN ISO 15494, EN 12666-1) The polyethylene (PE) group includes PE, PE-HD, PE-MD (e.g. PEM pipes) and cross-linked polyethylene (PE-X), provided that the pipes are single-layer plastic pipes without metallic layers.				
PP-pipes (EN 1451-1, EN ISO 15874, EN ISO 15494) The polypropylene (PP) group includes single-layer PP pipes manufactured according to EN 1451-1, EN ISO 15874 and EN ISO 15494. These standards cover comparable PP materials (PP-H, PP-B, PP-R, PP-RCT) exhibiting similar fire behaviour in terms of softening and collapse. Multilayer pipes or pipes with reinforcement layers are not covered by this assessment unless separately tested.				
ABS-pipes (EN 1455-1, EN ISO 15493)				
SAN+PVC-pipes (ISO 19220)				
High-density rigid floor (min 150 mm) - surface mounted				
PP Ø 32-110 mm, e_n 1,8 - 3,4 mm	C 50-80…C 75-110	Not required	-	EI 120 - U/C
PE Ø 32-160 mm, e_n 1,8 - 10,0 mm	C 50-80…C 75-110	Not required	-	EI 120 - U/C
PVC-U / PVC-C Ø 32-160 mm, e_n 1,8 - 8,1 mm	C 50-80…C 75-110	Not required	-	EI 120 - U/C
PVC-pipes (EN 13476)				
High-density rigid floor (min 150 mm) - surface mounted				
PVC ≤ Ø 110, e_n ≤ 3,4 mm	C 75-110	CI (sw 30 mm / -)	-	EI 120 - U/U
PP-pipes (EN 1451-1) and Multilayer sewer pipes				
High-density rigid floor (min 150 mm) - surface mounted				
PP ≤ Ø 110, e_n ≤ 3,4 mm	C 125-160	CS (cr 19 mm / -)	-	EI 120 - U/U
Ø ≤ 160 mm, e_n ≤ 6,0 mm **** See the list of multilayer pipes	C 125-160	Not required	-	EI 120 - U/U
Ø ≤ 110 mm, e_n ≤ 5,3 mm **** See the list of multilayer pipes	C 75-110	Not required *Sound insulation (PE ≤ 3,5 mm) can penetrate the collar*	30	EI 90 - U/U
Ø ≤ 110 mm, e_n ≤ 10,6 mm (tested on muff 5,3 + 5,3) **** See the list of multilayer pipes	C 110-130	CI (sw 30 mm / -) *Sound insulation (PE 9,0 mm) can penetrate the collar*	-	EI 60 - U/U
High-density rigid floor (min 200 mm) - surface mounted or within construction				
PP Ø ≤ 110 mm, (1451-1) e_n ≤ 8,0 (tested on muff 4,0 +4,0)	C 110-125	Not required	-	EI 120 - U/C

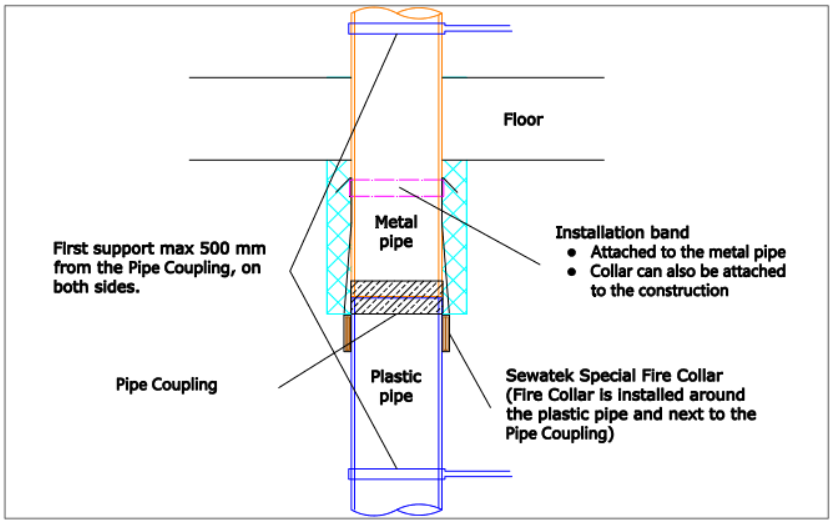
Type of the pipe e_n = pipe wall thickness	Penetration seal (tested size)	Insulation (thickness / length)	a_2 [mm]	Fire resis-tance class
Sewer pipes with lining				
High-density rigid floor (min 150 mm) - surface mounted				
PVC, PP Ø ≤ 110 mm, e_n ≤ 3,4 mm + lining (Boldan, Brawoliner, Trelleborg)	C 75-110	CI (sw 30 mm / -)	-	EI 120 - U/U
PP Ø ≤ 110 mm, e_n ≤ 3,4 mm + lining (Boldan, Brawoliner, Trelleborg)	C 75-110	Not required	-	EI 120 - U/C
Installation on top of the construction Installation way 2a-2				
				
PP and multilayer sewer pipes				
High-density rigid floor (min 150 mm) - surface mounted				
Ø ≤ 110 mm, e_n ≤ 5,3 mm **** See the list of multilayer pipes	C 75-110	Not required	30	EI 60 - U/C
Installation at an angle between 90° and 45° - Installation way 2a-3				
				
PP and multilayer sewer pipes				
High-density rigid floor (min 150 mm) - surface mounted				
Ø ≤ 110 mm, e_n ≤ 4,5 mm **** See the list of multilayer pipes	C 125-160	Not required	-	EI 120 - U/C

Type of the pipe e_n = pipe wall thickness	Penetration seal (tested size)	Insulation (thickness / length)	a_2 [mm]	Fire resis-tance class
Y-joint or several pipes together in the collar / collars Installation way 2a-4				
				
PP and multilayer sewer pipes				
High-density rigid floor (min 150 mm) - surface mounted				
Ø ≤ 110 mm, e_n ≤ 5,3 mm **** See the list of multilayer pipes	C 50-80…C160-200 Minimum length for two Ø 110 pipes is 598 mm. Collars can be connected if needed.	Not required	-	EI 120 - U/C
Collar installed as a "horseshoe" Installation way 2a-5				
				

Type of the pipe e_n = pipe wall thickness	Penetration seal (tested size)	Insulation (thickness / length)	a_2 [mm]	Fire resis-tance class
PP and multilayer sewer pipes				
High-density rigid floor (min 150 mm) - surface mounted				
Ø ≤ 110 mm, e_n ≤ 5,3 mm **** See the list of multilayer pipes	C 50-80…C110-130 Select the size according to the table above	Not required	-	EI 120 - U/C
Tested as a part of customized product				
High-density rigid floor (min 150 mm) - within construction				
PP (EN 1451-1) Ø ≤ 110 mm, e_n ≤ 3,8 mm, Uponor Decibel	C+ 80-110	Not required	20	EI 120 - U/U
Composite Ø ≤ 32 mm, e_n ≤ 3,0 mm	C+ 80-110	CS (cr 13 mm / -)	20	EI 120 - U/C
Composite Ø ≤ 16 mm, e_n ≤ 2,0 mm and Ø ≤ 25 mm, e_n ≤ 2,5 mm inside Ø 90 mm plastic pipe filled with PU foam	C+ 80-110	Not required	100	EI 120 - U/C

High-Density Rigid Floor

2b - Sewatek Special Fire Collars



Special Fire Collar	a_1 (mm)	Height
C 50x	7	45
C 75x	7	45
C 90x	7	45
C 110x	7	45
C 130x	7	45
C 160x	11	45
C 200x	13	45

Table 2b Sewatek Special Fire Collars
tested with 150 mm thick high-density rigid floor

Insulation markings (See Annex 2)		**Markings (See Annex 3)**
LI – Local and Interrupted CI – Continuous and Interrupted CS – Continuous and Sustained sw – Stone wool insulation	Stone wool - density min 100 kg/m^3 - class A1/A2 - thickness and length, see the table below	e_n – Pipe wall thickness a_1 – Thickness of the pipe closure device a_2 – Distance between pipe closure devices When tested as a single, a_2 – distance is 100 mm ("-" in the table)

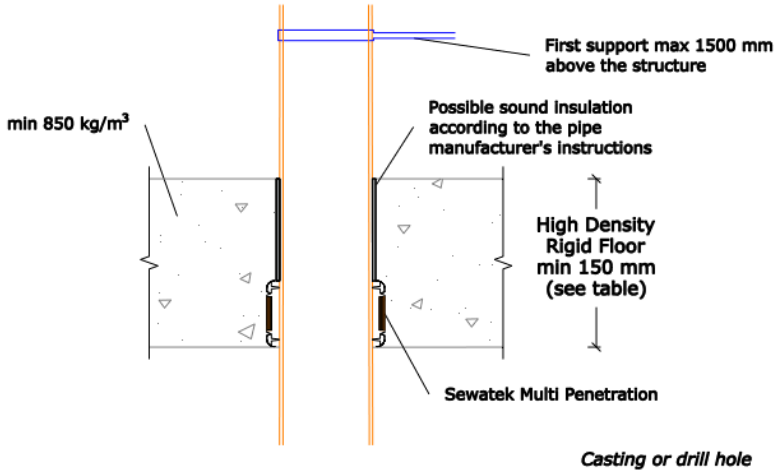
Type of the pipe e_n = pipe wall thickness	Penetration seal (tested with)	Insulation (thickness / length)	a2 [mm]	Fire resis-tance class
Sewer pipes, material changes from metal to plastic				
Cast iron Ø ≤ 110 mm (DN100), e_n ≤ 4,0 mm Plastic Ø ≤ 110, e_n ≤ 3,8 mm	C 110x	Cast iron: CI (sw 30 mm / -) Plastic: Not required	-	EI 120 - U/U
Stainless steel Ø ≤ 110 mm, e_n ≤ 1,2 mm Plastic Ø ≤ 110, e_n ≤ 3,8 mm	C 110x	Stainless steel: LI (sw 30 / 350 mm) Plastic: Not required	-	EI 120 - U/U
Cast iron Ø ≤ 110 mm (DN100), e_n ≤ 4,2 mm Plastic Ø ≤ 110, e_n ≤ 5,3 mm + Fernco tolerance coupling	C 130x	Cast iron: LI (sw 60 / 200 mm) Plastic: Not required	-	EI 120 - U/C
Cast iron Ø ≤ 160 mm (DN150), e_n ≤ 5,0 mm Plastic Ø ≤ 160, e_n ≤ 5,4 mm	C 160x	Cast iron: LI (sw 30 / 500 mm) Plastic: Not required	-	EI 90 - U/C
Stainless steel Ø ≤ 200 mm, e_n ≤ 1,5 mm Plastic Ø ≤ 200, e_n ≤ 7,5 mm	C 200x	Stainless steel: LI (sw 50 / 200 mm) Plastic: Not required	-	EI 45 / E 120 - U/C
Tested plastic and multilayer pipes: **PP** (EN 1451-1) max Ø 200 e_n ≤ 7,5 mm, **PE** (EN 1519-1) max Ø 110 e_n ≤ 10,0 mm, **PVC-U** (EN 1329-1) max Ø 110 e_n ≤ 8,1 mm, **Geberit**: Silent (dB20, Pro, PP), **Pipelife**: Master 3+, **Polo-Kal**: NG/XS, 3S, **Rehau**: Raupiano Plus, **Uponor**: HTP, Decibel, **Valsir:** Triplus, **Wavin**: AS+, SiTech+				

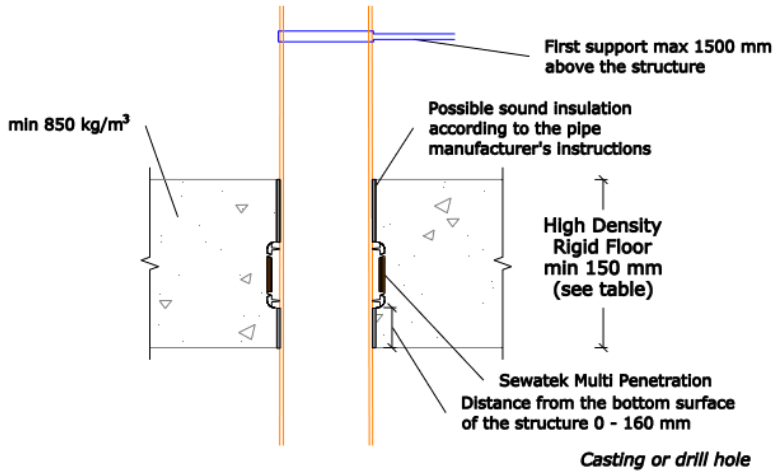
High-Density Rigid Floor

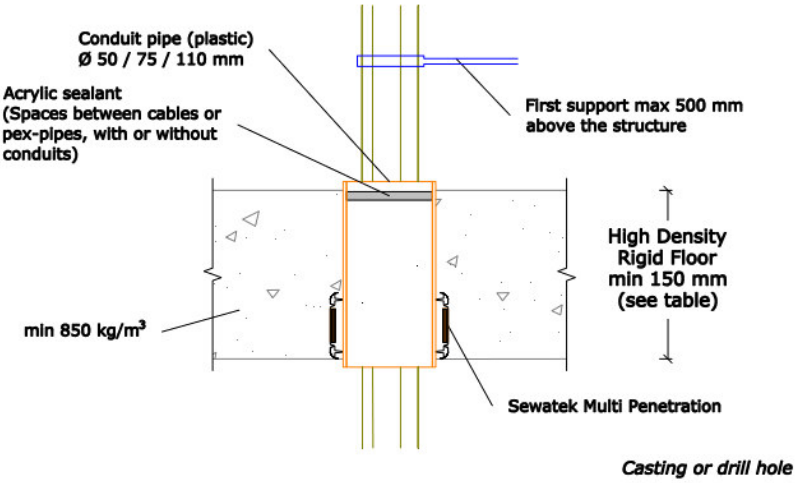
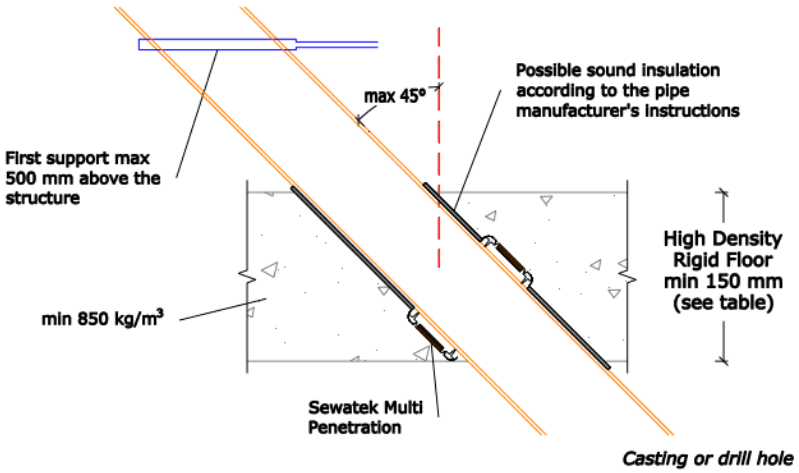
2c - Sewatek Multi Penetration

Table 2c	**Sewatek Multi Penetration seals D80, D105, and D140** mounted in 150, 200 mm or 240 mm thick High-Density Rigid Floor	
Insulation markings (See Annex 2)		**Markings (See Annex 3)**
LI – Local and Interrupted CI – Continuous and Interrupted CS – Continuous and Sustained sw – Stone wool insulation	Stone wool - density min 60 kg/m^3 - class A1/A2 - thickness and length, see the table below	e_n – Pipe wall thickness a_1 – Thickness of the pipe closure device a_2 – Distance between pipe closure devices When tested as a single, a_2 – distance is 100 mm ("-" in the table)
******** **The assessment covers the following pipe types:** **PP-pipes** (EN 1451-1), **Geberit:** Silent (dB20, Pro, PP), **Pipelife**: Master 3+, **Polo-Kal**: NG/XS, 3S, **Rehau**: Raupiano Plus, **Uponor**: HTP, Decibel, **Valsir**: Triplus, **Wavin**: AS+, SiTech+		

Multi Penetration	**D80**	**D105**	**D140**
Max penetrating pipe / bundle Ø (mm)	50	75	110
a_1 (mm)	15	15	15

Type of the pipe e_n = pipe wall thickness	**Insulation (thickness / length)**	**a2 [mm]**	**Fire resis-tance class**
Installation in the lower part of the construction – Installation way 2c-1			
			
PP and multilayer sewer pipes			
High-density rigid floor (min 150 mm) - within construction			
Ø ≤ 110 mm, e_n ≤ 6,5 mm ******** See the list of multilayer pipes	Not required	28	EI 120 – U/C
Ø ≤ 110 mm, e_n ≤ 6,5 mm ******** See the list of multilayer pipes	CI (sw 30 mm / -)	28	EI 120 – U/U
Ø ≤ 110 mm, e_n ≤ 5,3 mm ******** See the list of multilayer pipes	Not required	30	EI 90 – U/U
Mounted on muff			
Ø ≤ 110 mm, e_n ≤ 13 mm (6,5 + 6,5 mm on muff) ******** See the list of multilayer pipes	Not required	30	EI 90 – U/U
Ø ≤ 110 mm, e_n ≤ 13 mm (tested on muff 6,5 +6,5 mm) ******** See the list of multilayer pipes	Not required	30	EI 90 – U/U

Type of the pipe e_n = pipe wall thickness	Insulation (thickness / length)	a2 [mm]	Fire resis- tance class
Cast iron			
Mounted into the high-density rigid floor of 200 mm			
Ø ≤ 110 mm, e_n ≤ 3,5 mm	LI (sw 30 mm / 350 mm)	-	EI 120 - U/C
Steel pipes			
Mounted into the high-density rigid floor of 240 mm			
Ø ≤ 110 mm, e_n ≤ 4,5 mm	CI (sw 30 mm / -)	-	EI 120 - U/C
Composite pipes			
Mounted into the high-density rigid floor of 150 mm			
Ø ≤ 75 mm, e_n ≤ 8,0 mm	CI (sw 30 mm / -)	-	EI 120 - U/C
2x LK PAL Ø 32 (/52) Universal A32	Pre-insulated 10 mm PE	-	EI 120 – U/C
Installation at a maximum height of 160 mm from the bottom surface Installation way 2c-2			
			
PP and multilayer sewer pipes			
Mounted into the high-density rigid floor of 150 mm			
Ø ≤ 110 mm, e_n ≤ 5,3 mm **** See the list of multilayer pipes	Not required	30	EI 120 - U/C

Type of the pipe e_n = pipe wall thickness	Insulation (thickness / length)	a2 [mm]	Fire resis- tance class
Installation in the lower part of the construction with or without plastic conduit / conduit sleeve ($e_n \leq 3,4$ mm) - Installation way 2c-3			
			
PEX-pipes			
Mounted into the high-density rigid floor of 150 mm			
PEX-bundle Ø ≤ 102 mm - singular PEX Ø ≤ 22/34 mm, $e_n \leq 3,0$ mm	Not required	30	EI 120 - U/C
PEX-bundle Ø ≤ 110 mm - singular PEX Ø ≤ 28/54 mm, $e_n \leq 4,0$ mm	Not required	-	EI 120 - U/C
Cables			
Mounted into high-density rigid floor of 150 mm			
Cable Ø ≤ 25 mm	Not required	-	EI 90
Cable Ø ≤ 22 mm	Not required	30	EI 90
Cable bundle Ø ≤ 100 mm - singular cable Ø ≤ 22 mm	Not required	30	EI 90
Cable conduit Ø 110 mm (plastic) - cable bundle Ø ≤ 100 mm - singular cable Ø ≤ 25 mm	Not required	-	EI 90 - C/C
Installation at an angle between 90° and 45° Installation way 2c-4			
			
PP and multilayer sewer pipes			
Mounted into the high-density rigid floor of 150 mm			

Type of the pipe e_n = pipe wall thickness	Insulation (thickness / length)	a2 [mm]	Fire resis- tance class
Ø ≤ 110 mm, e_n ≤ 4,5 mm **** See the list of multilayer pipes	Not required	-	EI 120 - U/C

High-Density Rigid Floor

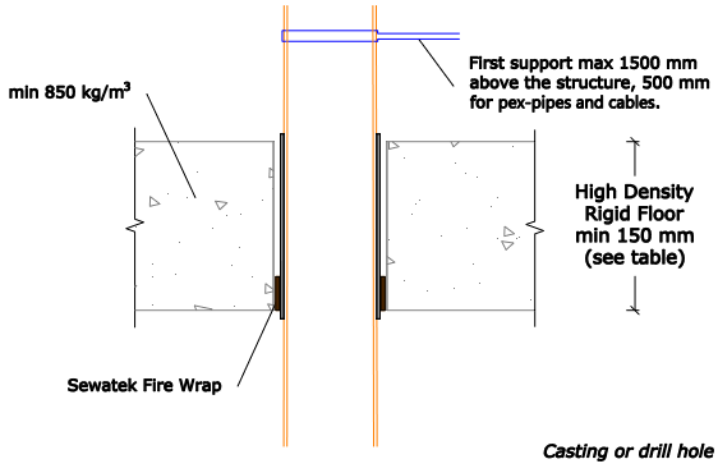
2d - Sewatek Fire Wrap

Table 2d Sewatek Fire Wrap
mounted in 150, 200 mm or 240 mm thick High-Density Rigid Floor

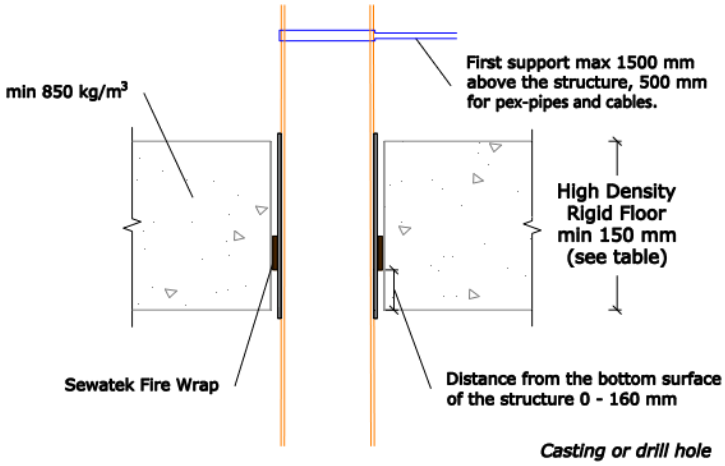
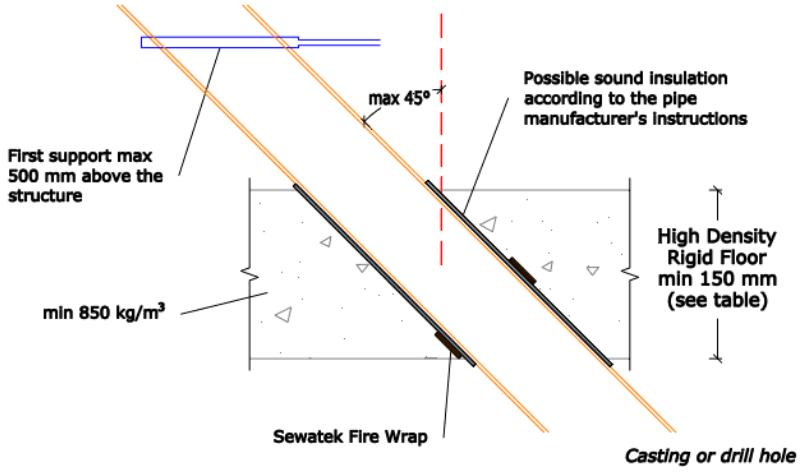
Insulation markings (See Annex 2)		Markings (See Annex 3)
LI – Local and Interrupted CI – Continuous and Interrupted CS – Continuous and Sustained sw – Stone wool insulation	Stone wool - density min 60 kg/m³ - class A1/A2 - thickness and length, see the table below	e_n – Pipe wall thickness a_1 – Thickness of the pipe closure device a_2 – Distance between pipe closure devices When tested as a single, a_2 – distance is 100 mm ("-" in the table)

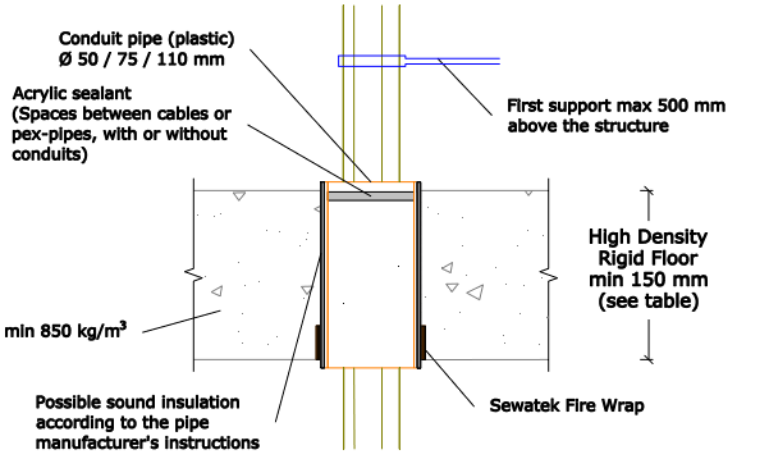
**** **The assessment covers the following multilayer pipe types:**
PP-pipes (EN 1451-1), **Geberit:** Silent (dB20, Pro, PP), **Pipelife**: Master 3+, **Polo-Kal**: NG/XS, 3S, **Rehau**: Raupiano Plus, **Uponor**: HTP, Decibel, **Valsir**: Triplus, **Wavin**: AS+, SiTech+

Fire Wrap	W 32	W 50	W 75	W 110	W 160
a_1 (mm)	4	7	7	7	10

Type of the pipe e_n = pipe wall thickness	Insulation (thickness / length)	a2 [mm]	Fire resistance class
Installation in the lower part of the construction Installation way 2d-1			
			
PP and multilayer sewer pipes			
Mounted into the high-density rigid floor of 150 mm			
Ø ≤ 160 mm, e_n ≤ 7,5 mm **** See the list of multilayer pipes	CI (sw 40 mm / -)	-	EI 60 – U/U
Ø ≤ 110 mm, e_n ≤ 6,5 mm **** See the list of multilayer pipes	Not required	28	EI 120 – U/C
Ø ≤ 110 mm, e_n ≤ 6,5 mm **** See the list of multilayer pipes	CI (sw 30 mm / -)	28	EI 120 – U/U
Ø ≤ 110 mm, e_n ≤ 13 mm (tested on muff 6,5 + 6,5 mm) **** See the list of multilayer pipes	Not required	30	EI 90 – U/U

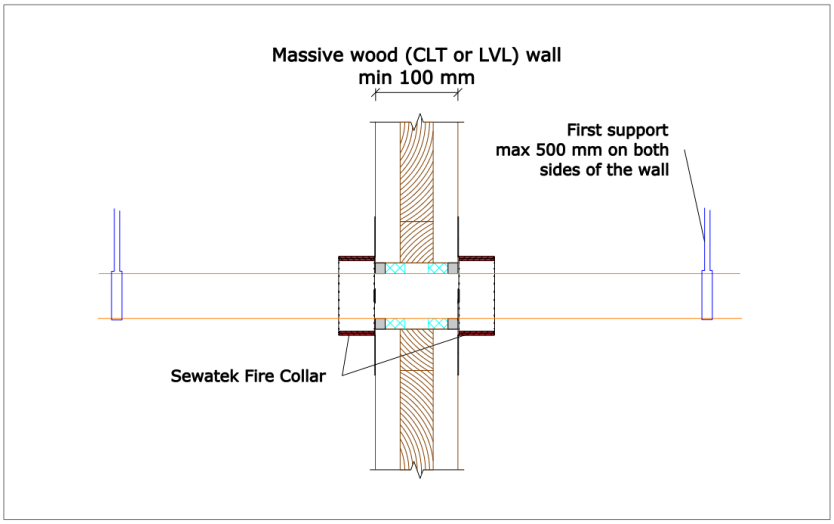
Type of the pipe e_n = pipe wall thickness	Insulation (thickness / length)	a2 [mm]	Fire resistance class
Cast iron			
Mounted into the high-density rigid floor of 200 mm			
Ø ≤ 110 mm, e_n ≤ 3,5 mm	LI (sw 30 mm / 350 mm)	-	EI 120 - U/C
Steel pipes			
Mounted into the high-density rigid floor of 240 mm			
Ø ≤ 110 mm, e_n ≤ 4,5 mm	CI (sw 30 mm / -)	-	EI 120 - U/C

Type of the pipe e_n = pipe wall thickness	Insulation (thickness / length)	a2 [mm]	Fire resistance class
Composite pipes			
Mounted into the high-density rigid floor of 150 mm			
Ø ≤ 75 mm, e_n ≤ 8,0 mm	CI (sw 30 mm / -)	-	EI 120 - U/C
2x LK PAL Ø32 (/52) Universal A32	Pre-insulated 10 mm PE	-	EI 120 – U/C
Installation at a maximum height of 160 mm from the bottom surface Installation way 2d-2			
			
Ø ≤ 110 mm, e_n ≤ 5,3 mm **** See the list of multilayer pipes	Not required	15 / 30	EI 120 - U/C
Installation at an angle between 90° and 45° Installation way 2d-4			
			
Ø ≤ 110 mm, e_n ≤ 4,5 mm **** See the list of multilayer pipes	Not required	-	EI 120 - U/C

Type of the pipe e_n = pipe wall thickness	Insulation (thickness / length)	a2 [mm]	Fire resistance class
Installation in the lower part of the structure with or without plastic conduit / conduit sleeve ***($e_n \leq 3,4$ mm)*** ***Installation way 2c-3***			
			
PEX-pipes			
Mounted into the high-density rigid floor of 150 mm			
PEX bundle Ø ≤ 102 mm - singular PEX Ø ≤ 22/34 mm, $e_n \leq 3,0$ mm	Not required	30	EI 120 - U/C
PEX bundle Ø ≤ 110 mm - singular PEX Ø ≤ 28/54 mm, $e_n \leq 4,0$ mm	Not required	-	EI 120 - U/C
Cables			
Mounted into high-density rigid floor of 150 mm			
Cable Ø ≤ 25 mm	Not required	-	EI 90
Cable Ø ≤ 22 mm	Not required	30	EI 90
Cable bundle Ø ≤ 100 mm - singular cable Ø ≤ 22 mm	Not required	30	EI 90
Cable conduit Ø 110 mm (plastic) - cable bundle Ø ≤ 100 mm - singular cable Ø ≤ 25 mm	Not required	-	EI 90 - C/C

Massive Wood (CLT or LVL) Wall

3a - Sewatek Fire Collars



Fire Collar	a_1 (mm)	Height
C 16-32	5	23
C 25-50	5	23
C 50-80	7	45
C 75-110	7	45
C 110-130	7	45

Table 3a Sewatek Fire Collars
mounted in 100 mm massive wood (CLT or LVL) wall

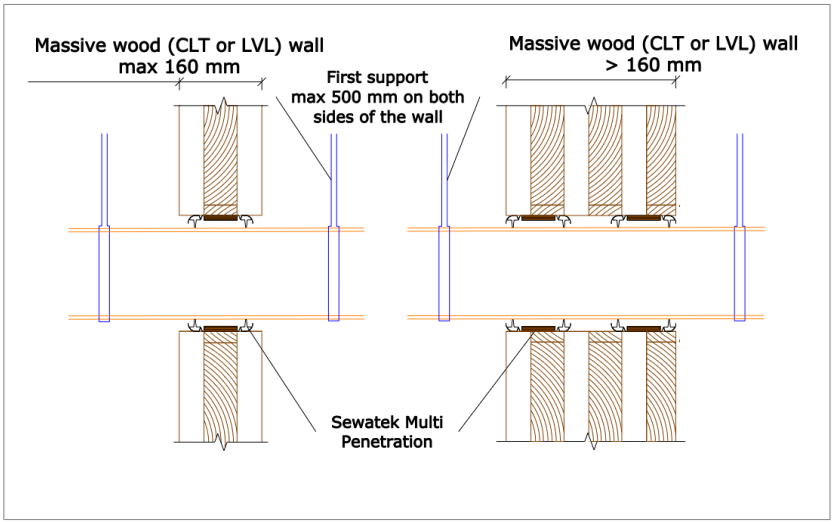
Insulation markings (See Annex 2)		**Markings (See Annex 3)**
LI – Local and Interrupted CI – Continuous and Interrupted CS – Continuous and Sustained sw – Stone wool insulation	Stone wool - density min 60 kg/m^3 - class A1/A2 - thickness and length, see the table below	e_n – Pipe wall thickness a_1 – Thickness of the pipe closure device a_2 – Distance between pipe closure devices When tested as a single, a_2 – distance is 100 mm ("-" in the table)

**** **The assessment covers the following multilayer pipe types:**
PP-pipes (EN 1451-1), **Geberit:** Silent (dB20, Pro, PP), **Pipelife**: Master 3+, **Polo-Kal**: NG/XS, 3S, **Rehau**: Raupiano Plus, **Uponor**: HTP, Decibel, **Wavin**: AS+, SiTech+

Type of the pipe e_n = pipe wall thickness	Penetration seal (tested size)	Insulation (thickness / length)	a2 [mm]	Fire resistance class
Composite pipes				
Ø ≤ 75 mm, e_n ≤ 8 mm	C 50-80	CI (sw 30 mm / -)	-	EI 60 - U/C
PP, PVC and multilayer sewer pipes				
Ø ≤ 110, e_n ≤ 6,5 mm **** See the list of multilayer pipes	C 75-110	Not required	-	EI 60 - U/C
Ø ≤ 110 mm, e_n ≤ 4,2 mm **** See the list of multilayer pipes	C 75-110	Not required	60	EI 60 - U/C
PVC (EN 13476) Ø ≤ 110 mm, e_n ≤ 3,4 mm	C 75-110	Not required	30	EI 90 U/C
Sewer pipes with lining				
PVC Ø ≤ 110 mm, e_n ≤ 3,4 mm + lining (Boldan, Brawoliner, Trelleborg)	C 75-110	Not required	30	EI 90 – U/C
PP Ø ≤ 110 mm, e_n ≤ 3,4 mm + lining (Boldan, Brawoliner, Trelleborg)	C 75-110	Not required	30	EI 90 – U/C

Massive Wood (CLT, LVL) Wall

3b - Sewatek Multi Penetration



Multi	Max penetrating pipe / bundle	a_1 (mm)
D80	50	15
D105	75	15
D140	110	15

Table 3b **Sewatek Multi Penetration seals D80, D105, D140** mounted in 100 mm thick massive wood (CLT or LVL) wall

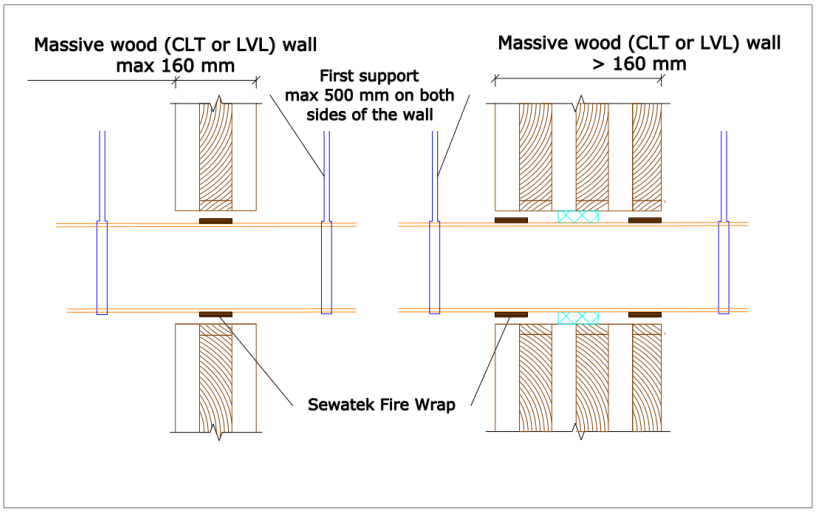
Insulation markings (See Annex 2)		**Markings (See Annex 3)**
LI – Local and Interrupted CI – Continuous and Interrupted CS – Continuous and Sustained sw – Stone wool insulation	Stone wool - density min 60 kg/m^3 - class A1/A2 - thickness and length, see the table below	e_n – Pipe wall thickness a_1 – Thickness of the pipe closure device a_2 – Distance between pipe closure devices When tested as a single, a_2 – distance is 100 mm ("-" in the table)

**** **The assessment covers the following pipe types:**
PP-pipes (EN 1451-1), **Geberit:** Silent (dB20, Pro, PP), **Pipelife**: Master 3+, **Polo-Kal**: NG/XS, 3S, **Rehau**: Raupiano Plus, **Uponor**: HTP, Decibel, **Wavin**: AS+, SiTech+

Type of the pipe e_n = pipe wall thickness	Insulation	a2 [mm]	Fire resistance class
PP and multilayer sewer pipes			
Ø ≤ 110 mm, e_n ≤ 6,0 mm **** See the list of multilayer pipes	Not required	30	EI 60 - U/C
PEX-pipes			
Pex bundle Ø ≤ 100 mm - singular pipe Ø ≤ 40/54 mm, e_n ≤ 2,5 - 4,2 mm	Not required	-	EI 90 - U/C
Cables			
Singular cable Ø ≤ 22 mm	Not required	-	EI 60
Cable bundle Ø ≤ 100 mm - singular cable Ø ≤ 22 mm	Not required	-	EI 60

Massive Wood (CLT, LVL) Wall

3c - Sewatek Fire Wrap



Fire Wrap	a_1 (mm)
W 32	4
W 50	7
W 75	7
W 110	7

Table 3c Sewatek Fire Wrap
mounted in 100 mm massive wood (CLT or LVL) wall

Insulation markings (See Annex 2)		Markings (See Annex 3)
LI – Local and Interrupted CI – Continuous and Interrupted CS – Continuous and Sustained sw – Stone wool insulation	Stone wool - density min 60 kg/m^3 - class A1/A2 - thickness and length, see the table below	e_n – Pipe wall thickness a_1 – Thickness of the pipe closure device a_2 – Distance between pipe closure devices When tested as a single, a_2 – distance is 100 mm ("-" in the table)

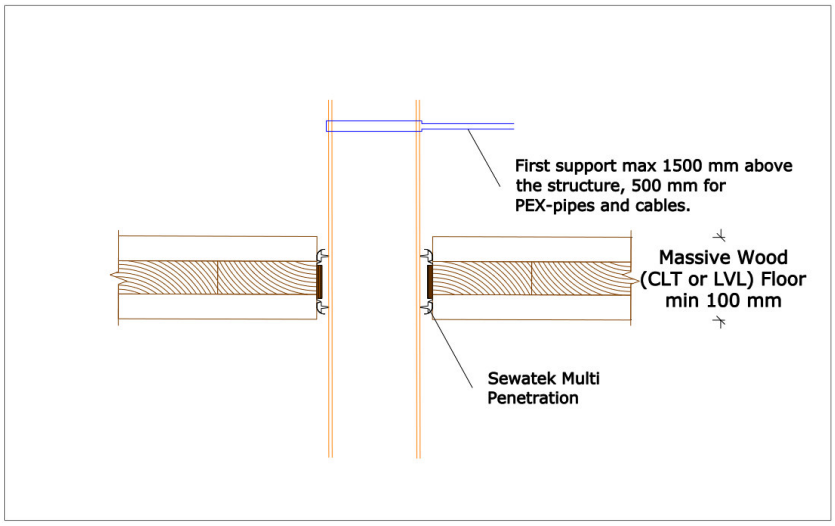
**** **The assessment covers the following multilayer pipe types:**
PP-pipes (EN 1451-1), **Geberit:** Silent (dB20, Pro, PP), **Pipelife**: Master 3+, **Polo-Kal**: NG/XS, 3S, **Rehau**: Raupiano Plus, **Uponor**: HTP, Decibel, **Wavin**: AS+, SiTech+

** Sewatek fire wrap on both sides of the wall

Type of the pipe e_n = pipe wall thickness	Insulation	a2 [mm]	Fire resistance class
PP and multilayer sewer pipes			
Mounted into the massive wood wall (CLT or LVL) of 100 mm			
Ø ≤ 110 mm, e_n ≤ 10,6 mm (tested on muff 5,3 + 5,3 mm) ** **** See the list of multilayer pipes	Not required	-	EI 90 - U/C
Ø ≤ 110, e_n ≤ 6,0 mm **** See the list of multilayer pipes	Not required	30	EI 60 - U/C
PEX-pipes			
Pex bundle Ø ≤ 100 mm - singular pipe Ø ≤ 40/54 mm, e_n ≤ 2,5 - 4,2 mm	Not required	-	EI 90 - U/C
Cables			
Singular cable Ø ≤ 22 mm	Not required	-	EI 60
Cable bundle Ø ≤ 100 mm - singular cable Ø ≤ 22 mm	Not required	-	EI 60

Massive Wood Floor

4a - Sewatek Multi Penetration



Multi	Max penetrating pipe / bundle	a_1 (mm)
D80	50	15
D105	75	15
D140	110	15

Table 4a **Sewatek Multi Penetration seals D80, D105, D140** mounted in 100 mm thick massive wood (CLT or LVL) floor

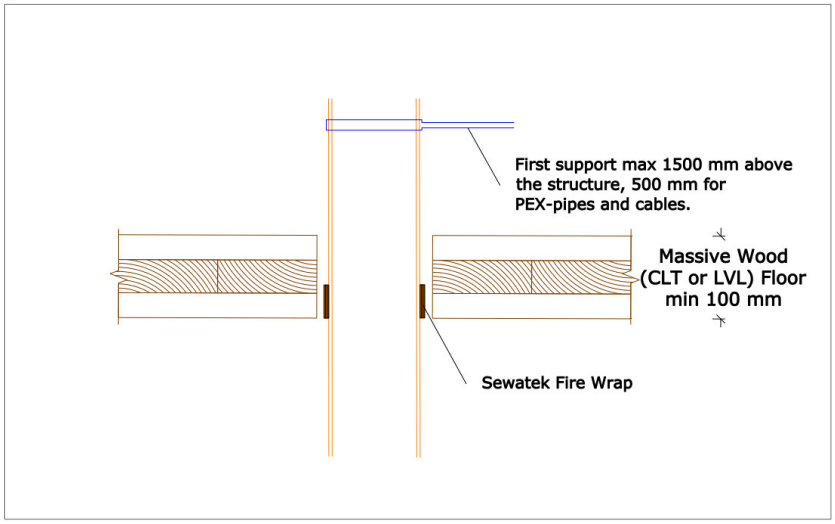
Insulation markings (See Annex 2)		**Markings (See Annex 3)**
LI – Local and Interrupted CI – Continuous and Interrupted CS – Continuous and Sustained sw – Stone wool insulation	Stone wool - density min 60 kg/m^3 - class A1/A2 - thickness and length, see the table below	e_n – Pipe wall thickness a_1 – Thickness of the pipe closure device a_2 – Distance between pipe closure devices When tested as a single, a_2 – distance is 100 mm ("-" in the table)

******** **The assessment covers the following multilayer pipe types:**
PP-pipes (EN 1451-1), **Geberit:** Silent (dB20, Pro, PP), **Pipelife**: Master 3+, **Polo-Kal**: NG/XS, 3S, **Rehau**: Raupiano Plus, **Uponor**: HTP, Decibel, **Wavin**: AS+, SiTech+

Type of the pipe e_n = pipe wall thickness	Insulation	a2 [mm]	Fire resistance class
PP and multilayer sewer pipes			
Ø ≤ 110 mm, e_n ≤ 6,5 mm ******** See the list of multilayer pipes	Not required	30	EI 90 - U/C
Cables			
Cable Ø ≤ 22 mm	Not required	30	EI 60
Cable conduit Ø ≤ 75 mm (plastic e_n ≤ 2,3 mm) - cable bundle Ø ≤ 66 mm - singular cable Ø ≤ 22 mm	Not required	30	EI 60 - C/C

Massive Wood Floor

4b - Sewatek Fire Wrap



Fire Wrap	a_1 (mm)
W 32	4
W 50	7
W 75	7
W 110	7

Table 4b Sewatek Fire Wrap
mounted in 100 mm thick massive wood (CLT or LVL) floor

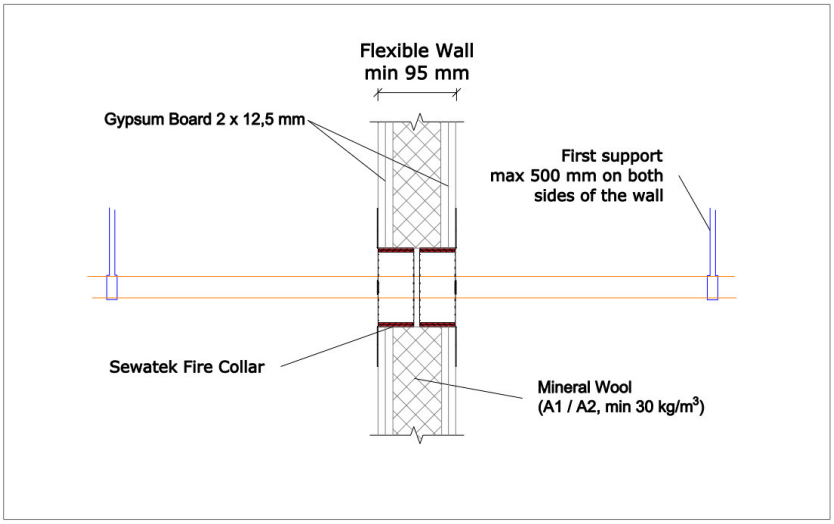
Insulation markings (See Annex 2)		**Markings (See Annex 3)**
LI – Local and Interrupted CI – Continuous and Interrupted CS – Continuous and Sustained sw – Stone wool insulation	Stone wool - density min 60 kg/m^3 - class A1/A2 - thickness and length, see the table below	e_n – Pipe wall thickness a_1 – Thickness of the pipe closure device a_2 – Distance between pipe closure devices When tested as a single, a_2 – distance is 100 mm ("-" in the table)

**** **The assessment covers the following multilayer pipe types:**
PP-pipes (EN 1451-1), **Geberit:** Silent (dB20, Pro, PP), **Pipelife**: Master 3+, **Polo-Kal**: NG/XS, 3S, **Rehau**: Raupiano Plus, **Uponor**: HTP, Decibel, **Wavin**: AS+, SiTech+

Type of the pipe e_n = pipe wall thickness	Insulation	a2 [mm]	Fire resistance class
PP and multilayer sewer pipes			
Ø ≤ 110 mm, e_n ≤ 6,5 mm **** See the list of multilayer pipes	Not required	30	EI 90 - U/C
Cables			
Cable Ø ≤ 22 mm	Not required	30	EI 60
Cable conduit Ø ≤ 75 mm (plastic e_n ≤ 2,3 mm) - cable bundle Ø ≤ 66 mm - singular cable Ø ≤ 22 mm	Not required	30	EI 60 - C/C

Flexible Wall

5a - Sewatek Fire Collars



Fire Collar	a_1 (mm)	Height
C 16-32	5	23
C 25-50	5	23
C 50-80	7	45
C 75-110	7	45
C 110-130	7	45

Table 5a Sewatek Fire Collars
mounted in 95 mm thick flexible wall

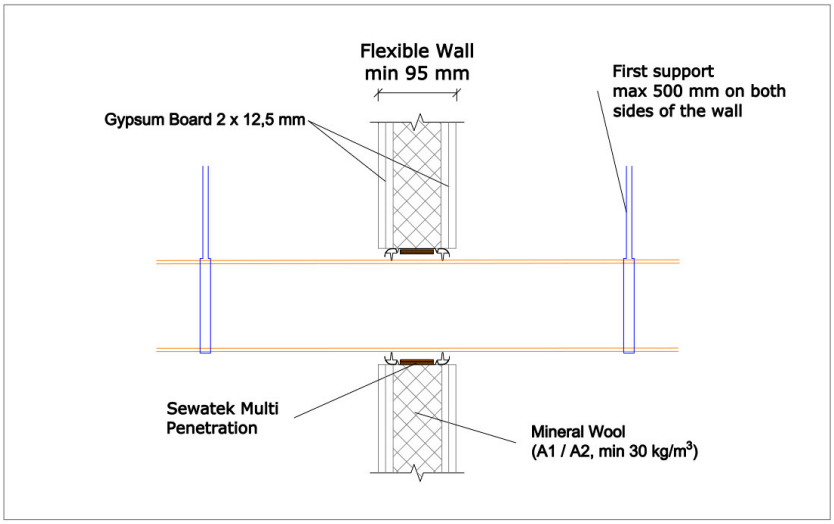
Insulation markings (See Annex 2)		**Markings (See Annex 3)**
LI – Local and Interrupted CI – Continuous and Interrupted CS – Continuous and Sustained sw – Stone wool insulation	Stone wool - density min 60 kg/m^3 - class A1/A2 - thickness and length, see the table below	e_n – Pipe wall thickness a_1 – Thickness of the pipe closure device a_2 – Distance between pipe closure devices When tested as a single, a_2 – distance is 100 mm ("-" in the table)

**** **The assessment covers the following multilayer pipe types:**
PP-pipes (EN 1451-1), **Geberit:** Silent (dB20, Pro, PP), **Pipelife**: Master 3+, **Polo-Kal**: NG/XS, 3S, **Rehau**: Raupiano Plus, **Uponor**: HTP, Decibel, **Wavin**: AS+, SiTech+

Type of the pipe e_n = pipe wall thickness	Penetration seal (tested size)	Insulation (thickness / length)	a2 [mm]	Fire resis-tance class
Composite pipes				
Ø ≤ 75 mm, e_n ≤ 8 mm	C 50-80	CI (sw 30 mm / -)	-	EI 60 - U/C
PP, PVC and multilayer sewer pipes				
Ø ≤ 110 mm, e_n ≤ 6,5 mm **** See the list of multilayer pipes	C 75-110	Not required	-	EI 60 - U/C
PP (EN 1451-1) Ø ≤ 110 mm, e_n ≤ 3,4 mm	C 75-110	Not required	30	EI 90 - U/C
PVC (EN 13476) Ø ≤ 110 mm e_n ≤ 3,4 mm	C 75-110	Not required	30	EI 90 - U/C
Sewer pipes with lining				
PVC (EN 13476) Ø ≤ 110 mm, e_n ≤ 3,4 mm + lining (Boldan, Brawoliner, Trelleborg)	C 75-110	Not required	30	EI 90 – U/C
PP (EN 1451-1) Ø ≤ 110 mm, e_n ≤ 3,4 mm + lining (Boldan, Brawoliner, Trelleborg)	C 75-110	Not required	30	EI 90 – U/C

Flexible Wall

5b - Sewatek Multi Penetration seals



Multi	Max penetrating pipe / bundle	a_1 (mm)
D80	50	15
D105	75	15
D140	110	15

Table 5b Sewatek Multi Penetration seals D80, D105, D140
mounted in 95 mm thick flexible wall

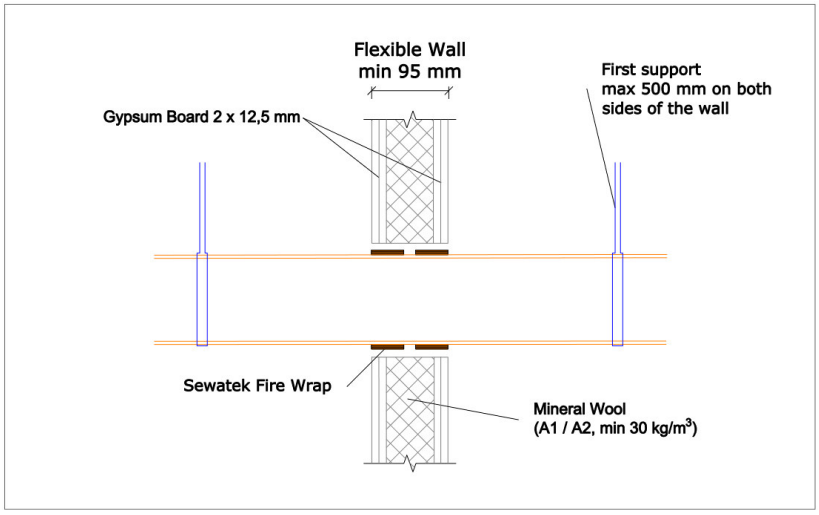
Insulation markings (See Annex 2)		**Markings (See Annex 3)**
LI – Local and Interrupted CI – Continuous and Interrupted CS – Continuous and Sustained sw – Stone wool insulation	Stone wool - density min 60 kg/m^3 - class A1/A2 - thickness and length, see the table below	e_n – Pipe wall thickness a_1 – Thickness of the pipe closure device a_2 – Distance between pipe closure devices When tested as a single, a_2 – distance is 100 mm ("-" in the table)

**** **The assessment covers the following multilayer pipe types:**
PP-pipes (EN 1451-1), **Geberit:** Silent (dB20, Pro, PP), **Pipelife**: Master 3+, **Polo-Kal**: NG/XS, 3S, **Rehau**: Raupiano Plus, **Uponor**: HTP, Decibel, **Wavin**: AS+, SiTech+

Type of the pipe e_n = pipe wall thickness	Insulation	a2 [mm]	Fire resistance class
PP pipes			
Ø ≤ 110 mm, e_n ≤ 6,0 mm ****See the list of multilayer pipes	Not required	30	EI 60 - U/C
PEX-pipes			
Pex bundle Ø ≤ 100 mm - singular pipe Ø ≤ 40/54 mm, e_n ≤ 2,5 - 4,2 mm	Not required	-	EI 90 - U/C
Cables			
Singular cable Ø ≤ 22 mm	Not required	-	EI 60
Cable bundle Ø ≤ 100 mm - singular cable Ø ≤ 22 mm	Not required	-	EI 60

Flexible Wall

5c - Sewatek Fire Wrap



Fire Wrap	a_1 (mm)
W 32	4
W 50	7
W 75	7
W 110	7

Table 5c Sewatek Fire Wrap
mounted in 95 mm flexible wall

Insulation markings (See Annex 2)		Markings (See Annex 3)
LI – Local and Interrupted CI – Continuous and Interrupted CS – Continuous and Sustained sw – Stone wool insulation	Stone wool - density min 60 kg/m^3 - class A1/A2 - thickness and length, see the table below	e_n – Pipe wall thickness a_1 – Thickness of the pipe closure device a_2 – Distance between pipe closure devices When tested as a single, a_2 – distance is 100 mm ("-" in the table)

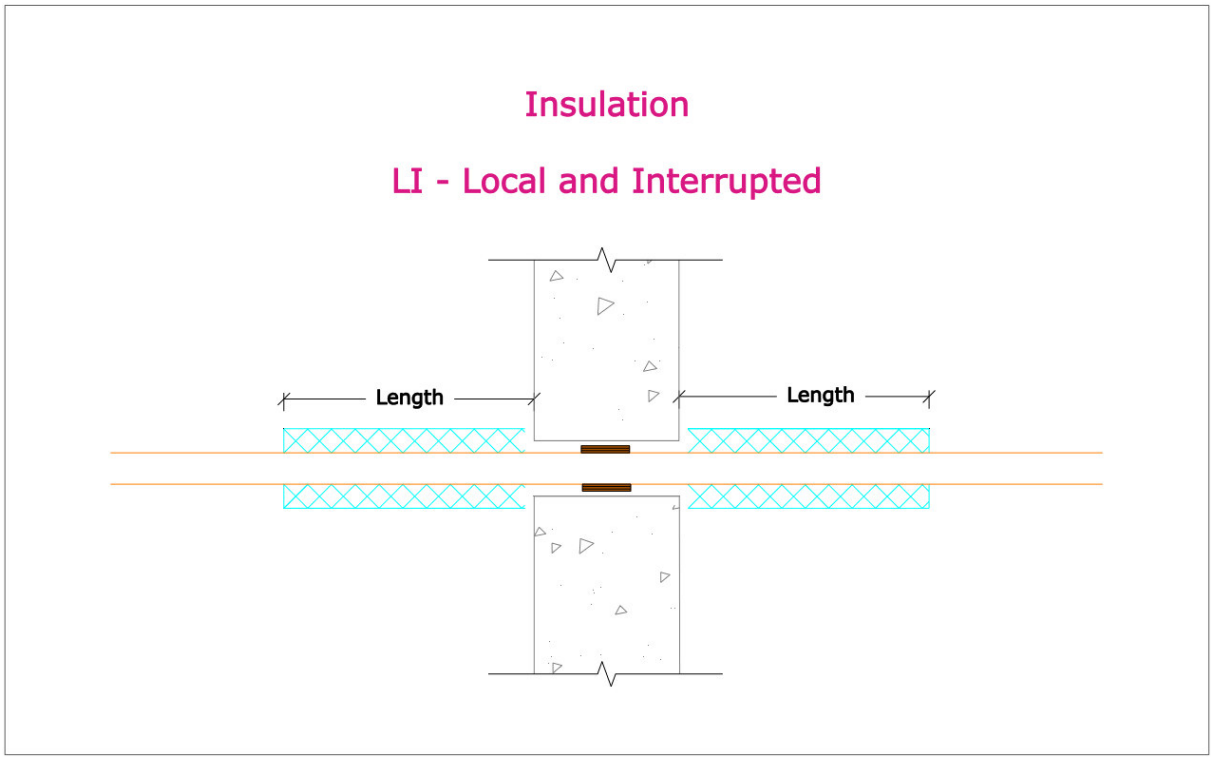
**** **The assessment covers the following multilayer pipe types:**
PP-pipes (EN 1451-1), **Geberit:** Silent (dB20, Pro, PP), **Pipelife**: Master 3+, **Polo-Kal**: NG/XS, 3S, **Rehau**: Raupiano Plus, **Uponor**: HTP, Decibel, **Wavin**: AS+, SiTech+

Type of the pipe e_n = pipe wall thickness	Insulation	a_2 [mm]	Fire resis-tance class
PP and multilayer sewer pipes			
Ø ≤ 110, e_n ≤ 10,6 mm (tested on muff 5,3 + 5,3 mm) **** See the list of multilayer pipes	Not required	-	EI 120 - U/C
Ø ≤ 110, e_n ≤ 6,0 mm **** See the list of multilayer pipes	Not required	30	EI 60 - U/C
PEX-pipes			
Pex bundle Ø ≤ 100 mm - singular pipe Ø ≤ 40/54 mm, e_n ≤ 2,5 - 4,2 mm	Not required	-	EI 90 - U/C
Cables			
Singular cable Ø ≤ 22 mm	Not required	-	EI 60
Cable bundle Ø ≤ 100 mm - singular cable Ø ≤ 22 mm	Not required	-	EI 60

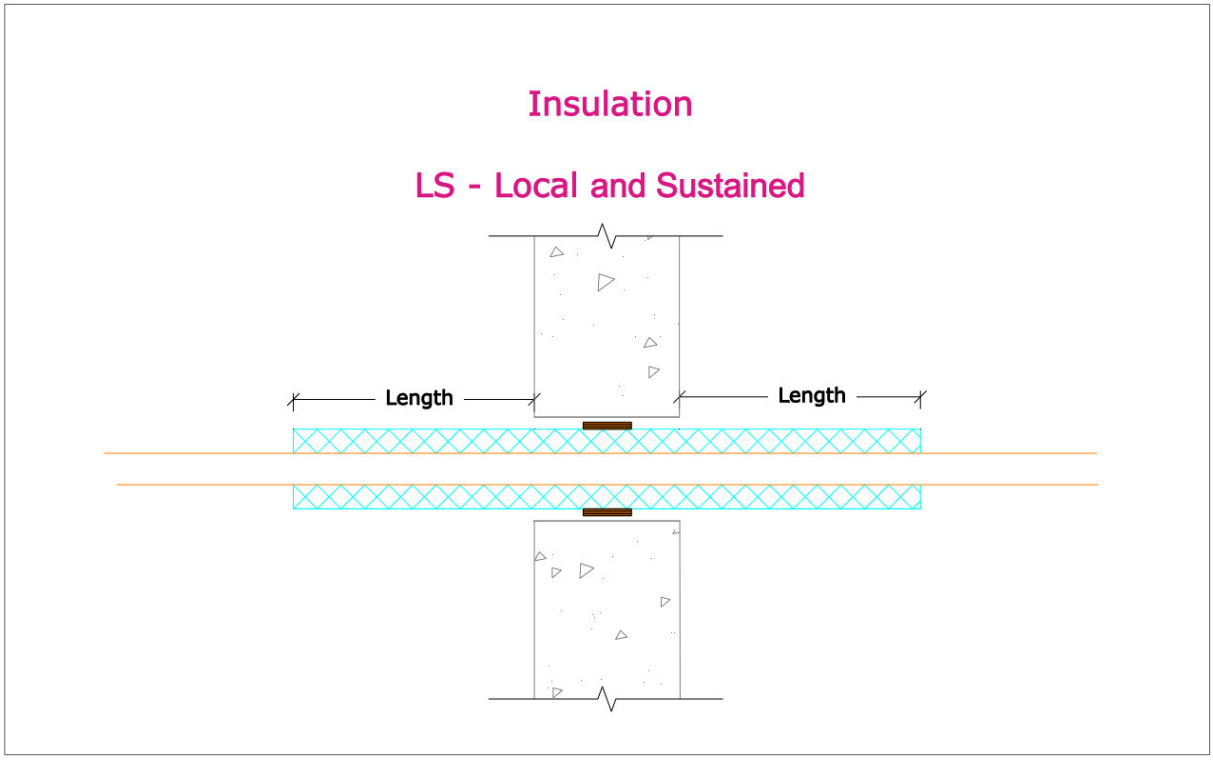
ANNEX 2. – Insulation

Wall structure

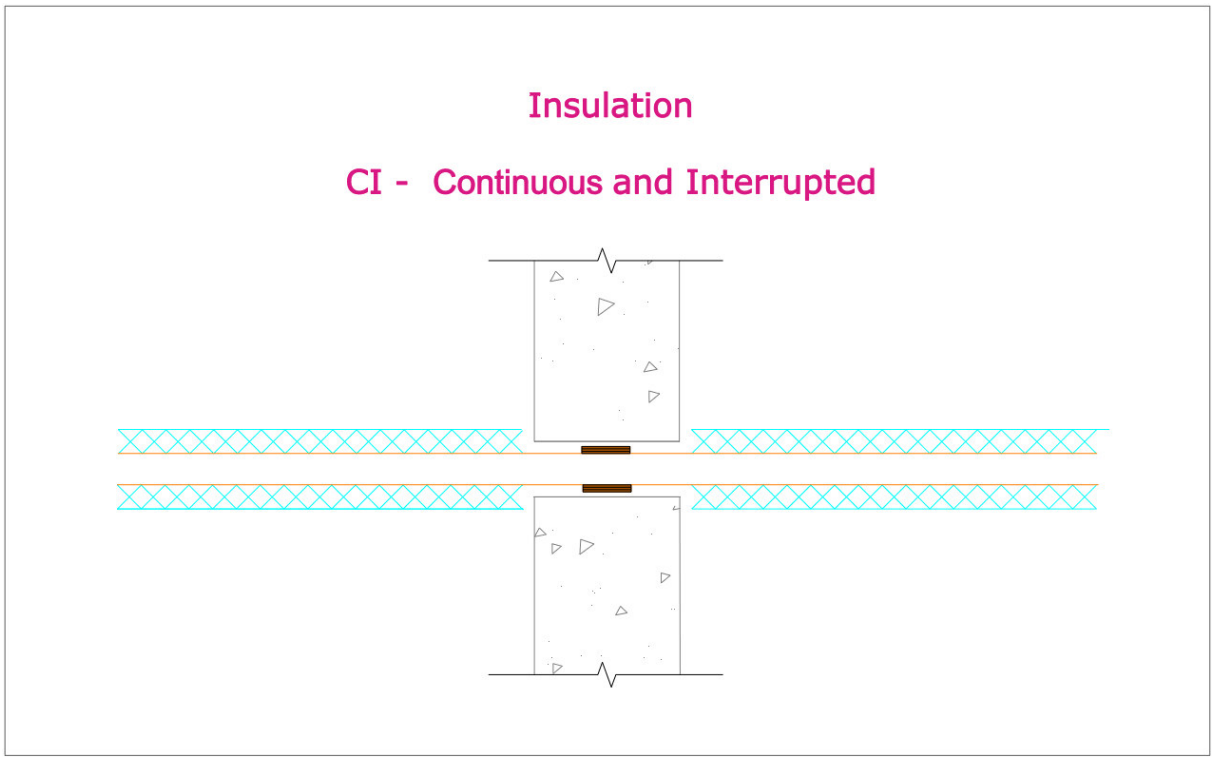
LI – Local and Interrupted



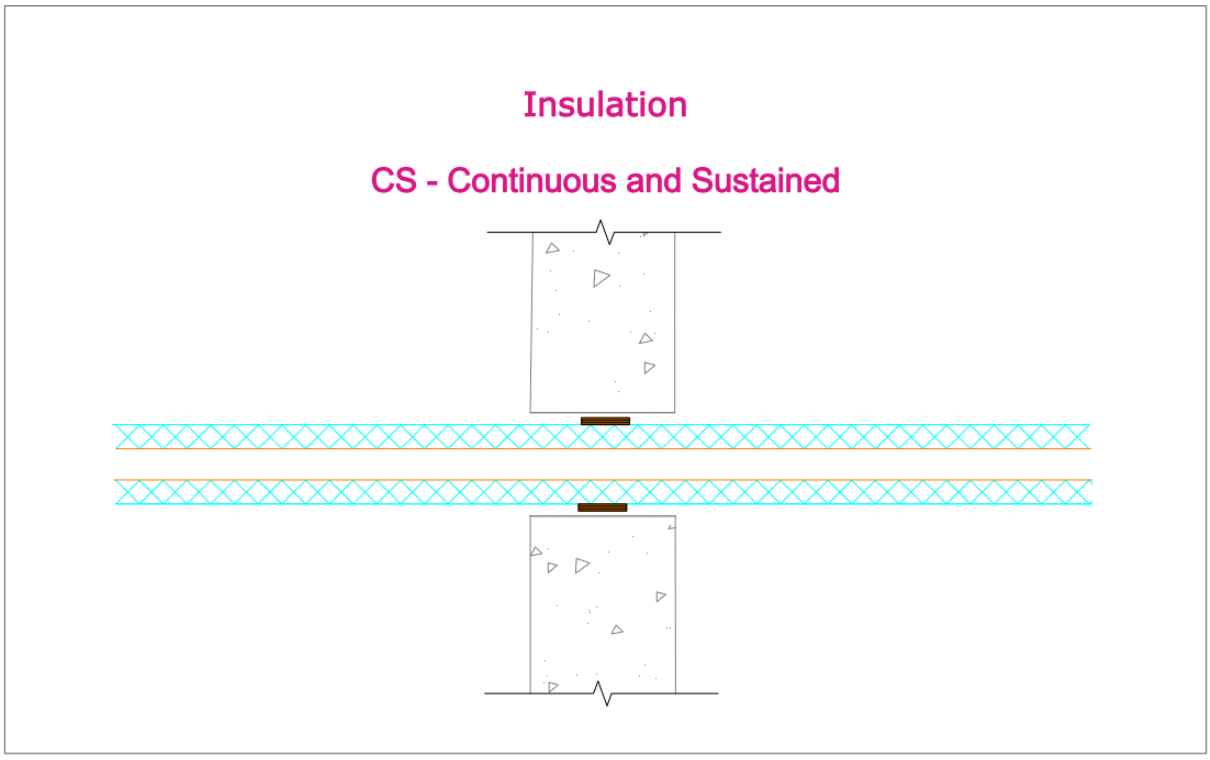
LS – Local and Sustained



CI – Continuous and Interrupted



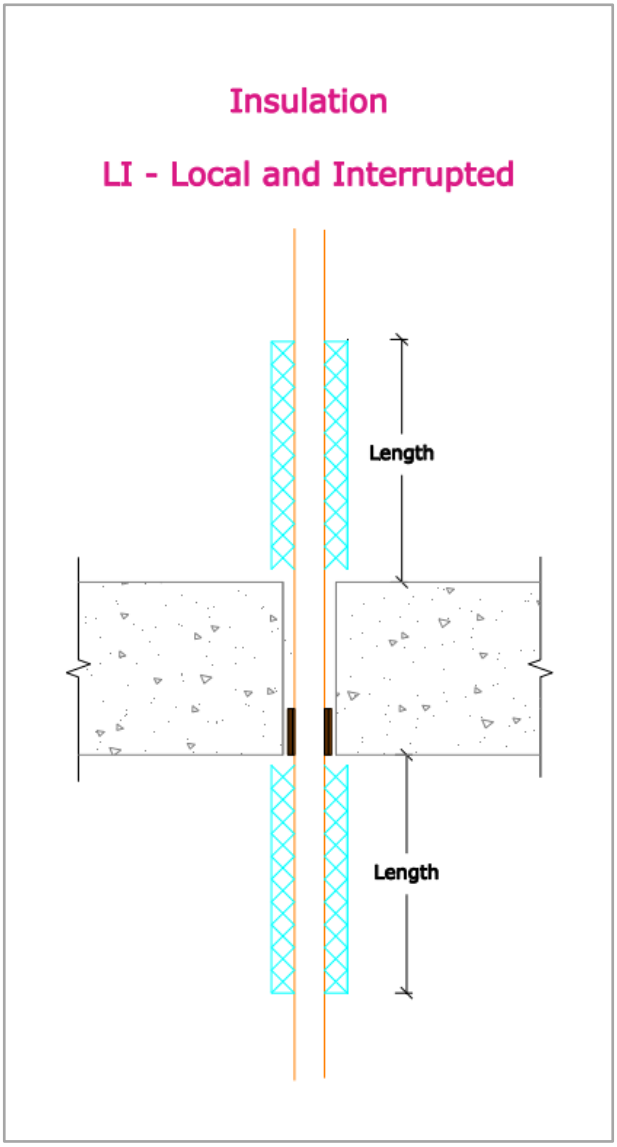
CS – Continuous and Sustained

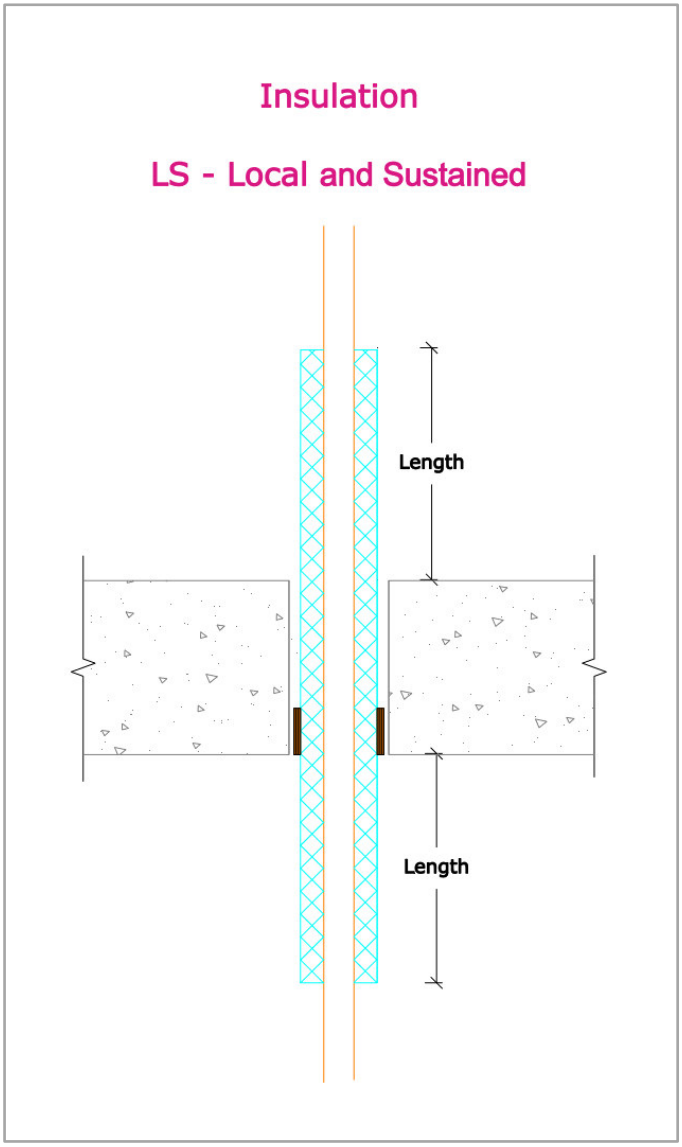


Floor structure

LI – Local and Interrupted

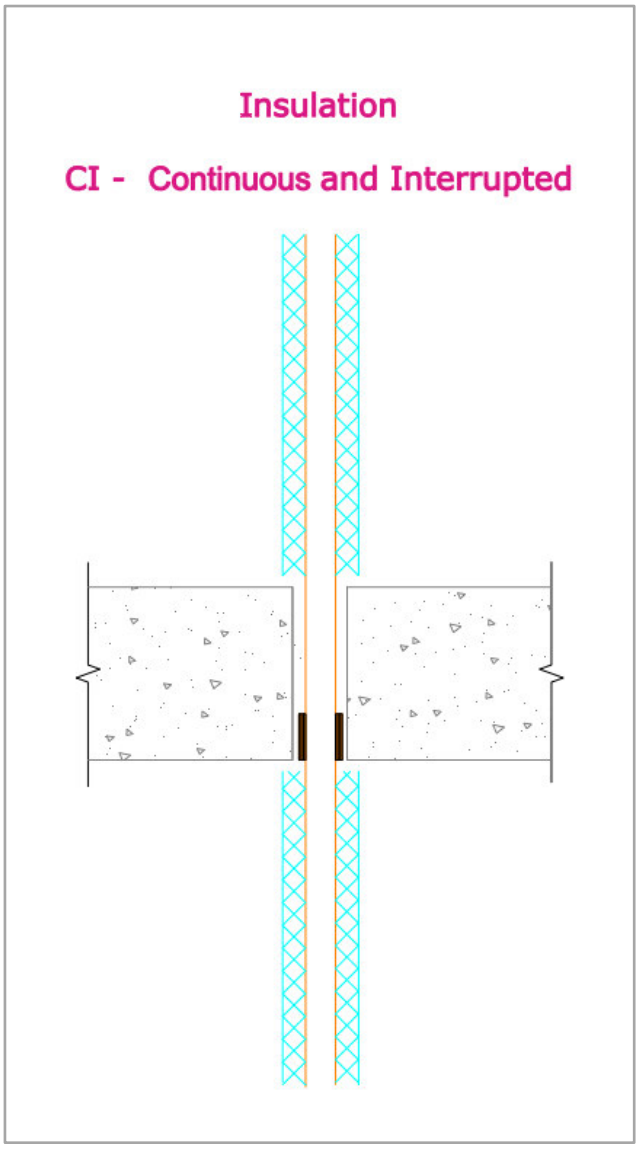
LS – Local and Sustained

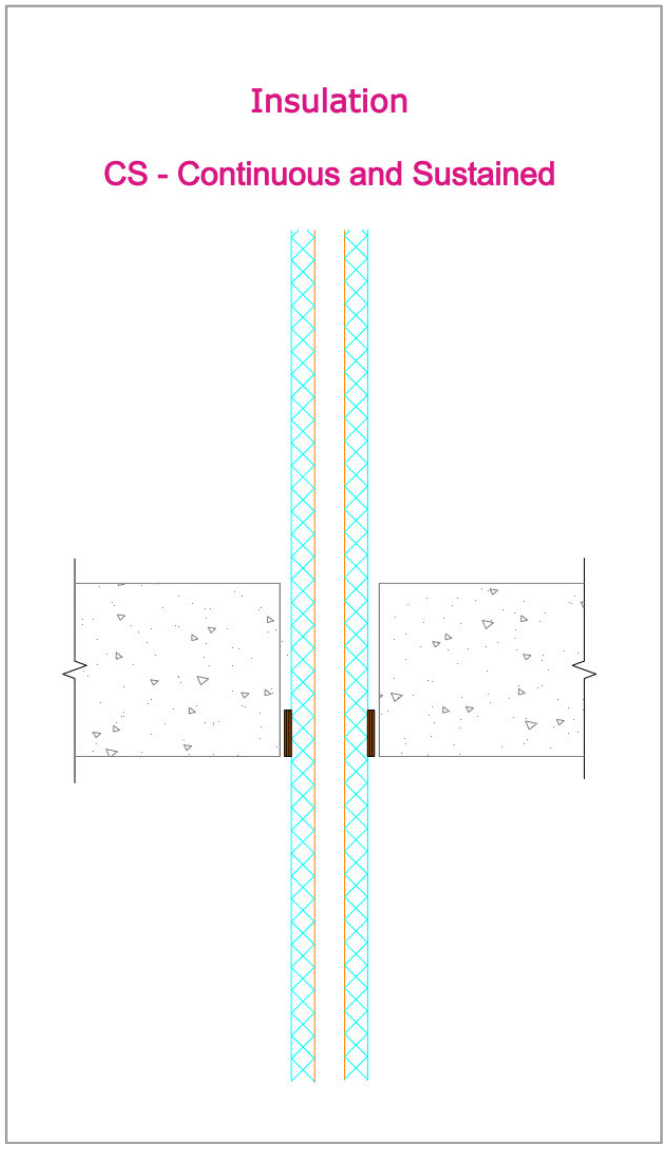




CI – Continuous and Interrupted

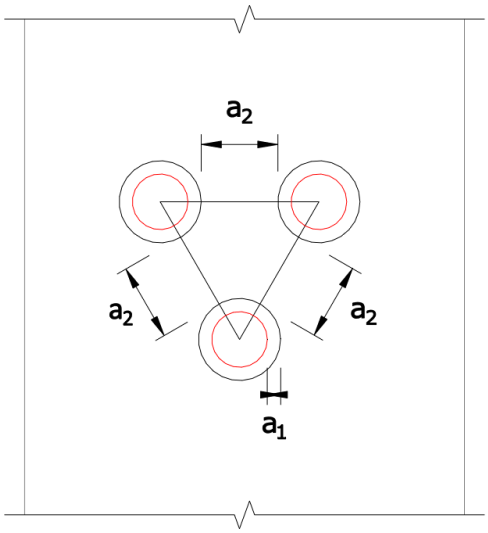
CS – Continuous and Sustained





ANNEX 3. – The principle of measurement

Cluster Layout



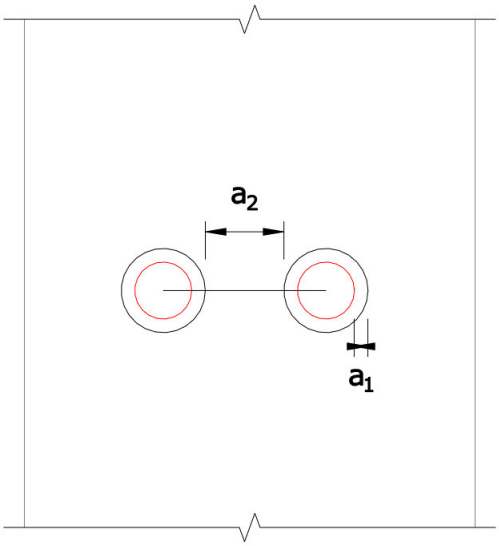
a_1 Thickness of the pipe closure device

a_2 Distance between pipe closure devices

Service pipe / cable

Sewatek pipe closure device

In-Line Layout



a_1 Thickness of the pipe closure device

a_2 Distance between pipe closure devices

Service pipe / cable

Pipe closure device