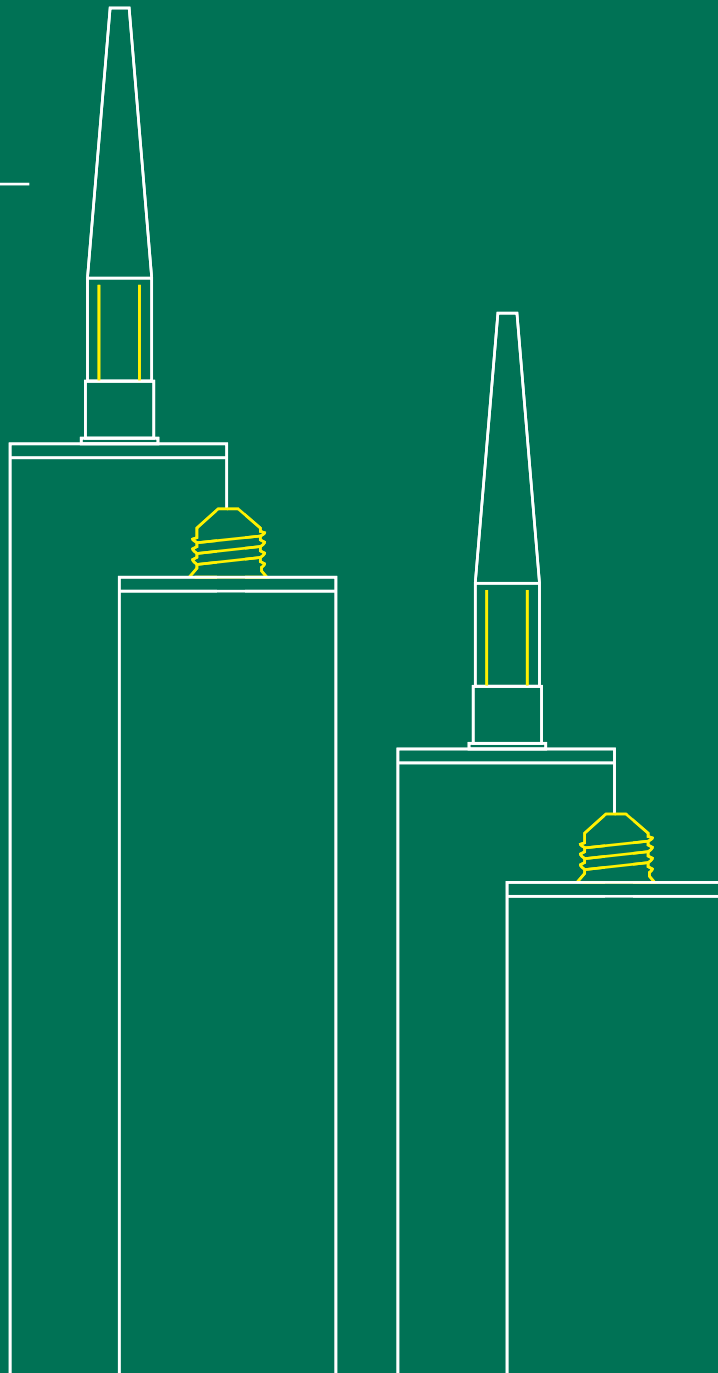


Information and
assembly instruction



Technical Data sheet Pacifyre® G (EN) - 01/2022 - PDF - Subject to modifications

Technical Data Sheet Pacifyre® G

Pacifyre® G Graphite Fire Sealant

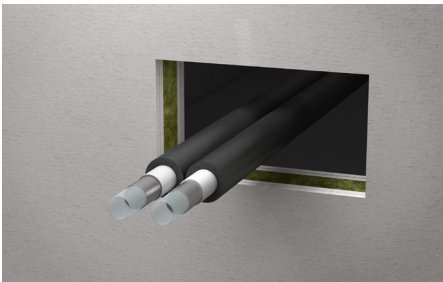
Installation instruction

Easy to install

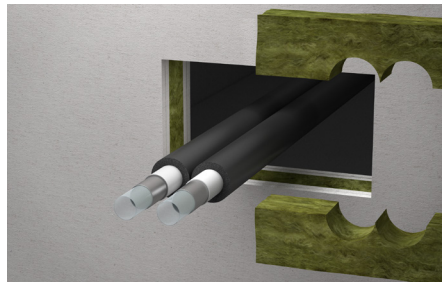
The Pacifyre® G Graphite Fire Sealant is an acrylic based intumescenting paste that will heavily expand in case of fire.

After closing the opening by placing a mineral wool board as a backfilling, the Pacifyre® G can be easily applied with a standard cartridge gun.

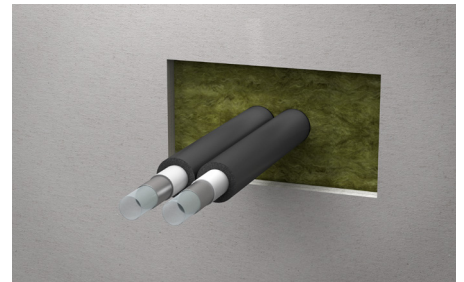
To receive a nice surface the material can be moistened and flattened by a jointing knife or a trowel. Fill out the Pacifyre® ID-Card and place it next to the penetration and the job is done.



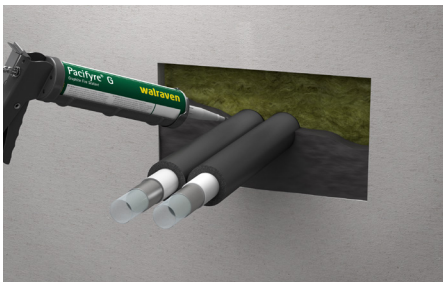
1. Clean the opening and check the dimensions.



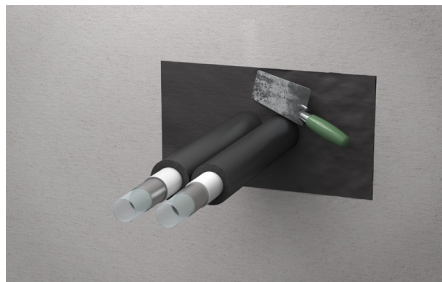
2. Place the pre-cutted mineral wool boards.



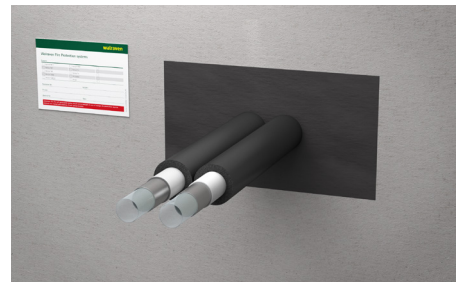
3. Check that the distance from the surface of the wall to the board is 25 mm.



4. Apply the Pacifyre® G.

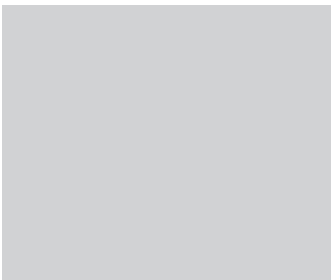


5. Flatten the Pacifyre® G with a jointing knife or trowel.

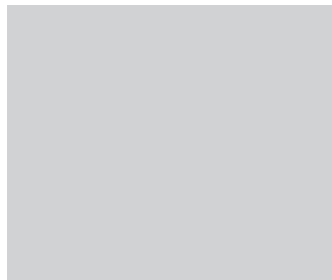


6. XXXXXX

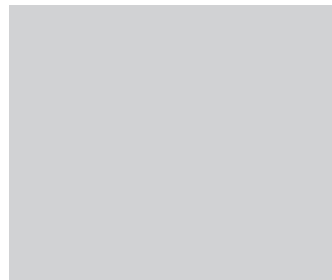
Installation options



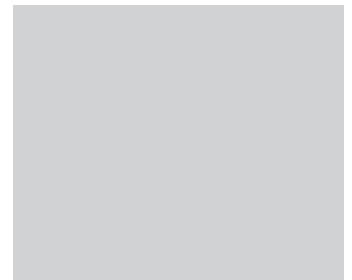
XXXXX



XXXXX



XXXXX



XXXXX

1. General description of Pacifyre® G

Pacifyre® G Graphite Fire Sealant can be installed as a penetration seal around various technical installations. Combustible pipes, multi-layer pipes with and without insulation, metal pipes with insulation and also small cable bundles are certified to be sealed with the Pacifyre(R) G.

Detailed specifications for identification and performance criteria relevant for fire safety with regard to the construction products can be found in the DoP-0749 CPR 22-023 and the ETA-22/0023.



The verification and assessment methods on which the ETA of the Pacifyre® G is based lead to the assumption of a working life of at least 10 years.



Technical Data

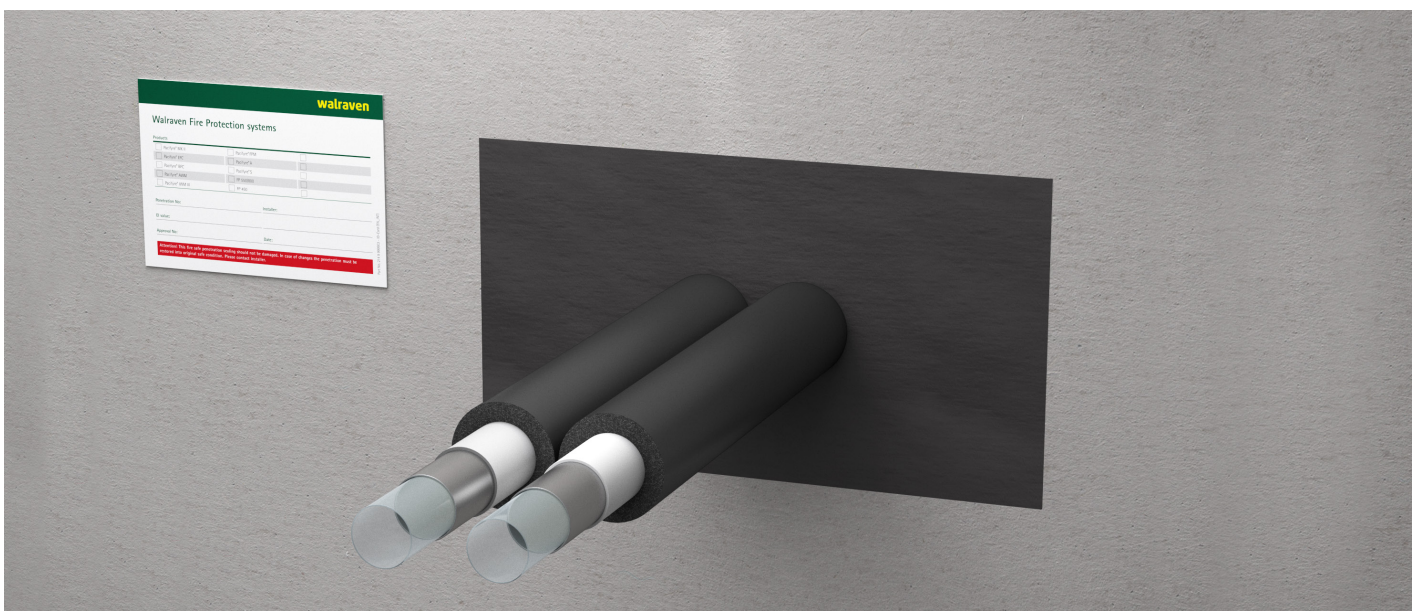
Article number: 2180100040

Content: 300 ml

Colour: Grey

Features and benefits

- for various combustible pipe materials such as PP-H, PVC and PE up to EI 120 U/U
- suitable for insulated metal pipes up to EI 120 U/C
- suitable for insulated and non-insulated multi-layer pipes up to EI 120 U/C
- small cable bundles up to Ø 50 mm EI 120
- shelf life of 12 months
- tested according to EN 1366-3



2. Components & separating elements

Pacifyre® G – Fire Protection Graphite Sealant

Component name	Characteristics
Pacifyre® G	A one component fire retardant sealant based on water based acrylic dispersion with plasto-elastic properties.

Backing

Component name	Characteristics
Stone wool board	Stone wool with a reaction to fire class according to EN 13501-1: A1 and a density $\geq 150 \text{ kg/m}^3$ with a thickness of $\geq 50 \text{ mm}$.

Insulations

Component name	Characteristics
AF/Armaflex	Closed cell, flexible elastomeric foam (FEF) insulation in form of (slotted) tubes which can be provided with a self-adhesive layer. Manufactured by "Armocell GmbH".

Wall or floor constructions

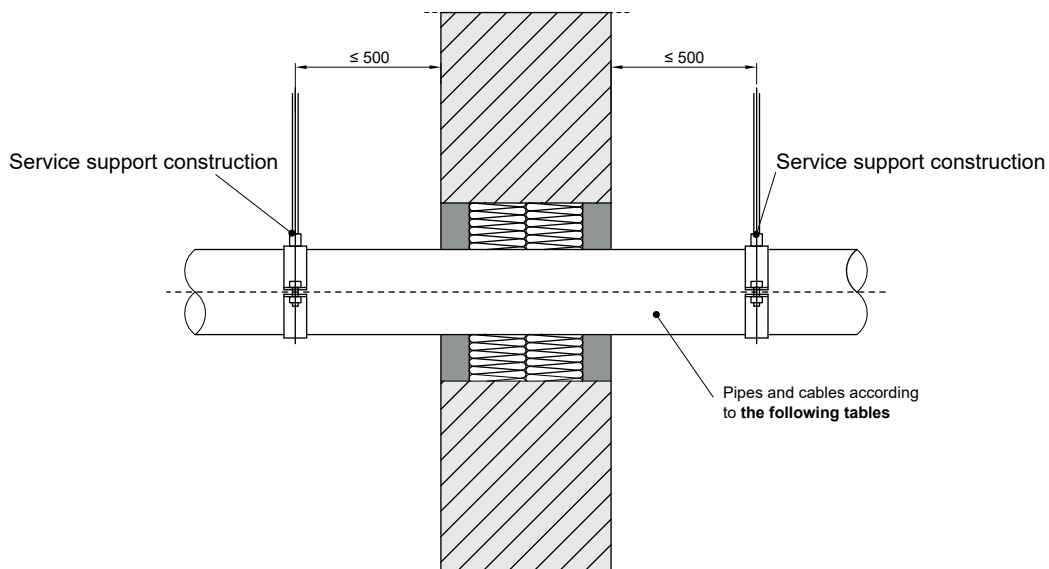
Separating element	Construction
	Steel studs or timber studs lined on both faces with minimum 2 layers of boards (minimum thickness of 12,5 mm each) or 1 layer of minimum 25 mm thickness with a classification A2-s1, d0 or A1 according to EN 13501-1.
Flexible walls	<ul style="list-style-type: none"> ■ For timber stud walls, there shall be a minimum distance of 100 mm of the penetration seal to any timber stud has to be closed with min.100 mm of insulation with classification A1 or A2 according to EN 13501 -1 ■ Minimum thickness of 100 mm ■ Classification according to EN 13501-2: > EI90
Rigid walls	<ul style="list-style-type: none"> ■ Aerated concrete, concrete or masonry ■ Minimum thickness of 100 mm ■ Classification according to EN 13501-2: for the required fire resistance period.
Rigid floors	<ul style="list-style-type: none"> ■ Aerated concrete, concrete or masonry ■ Minimum density of 550 kg/m^3 ■ Minimum thickness of 150 mm ■ Classification according to EN 13501-2: for the required fire resistance period

3. Service support construction

Service support construction in walls

Wall Application

All installations – in both flexible and rigid walls – have to be supported on both sides of the separating element by service support constructions. This construction can be made by pipe clamps, profiles, studs, bolts etc. made of metal with a melting or decomposition point greater than 1049°C (for instance stainless steel or zinc-plated steel).

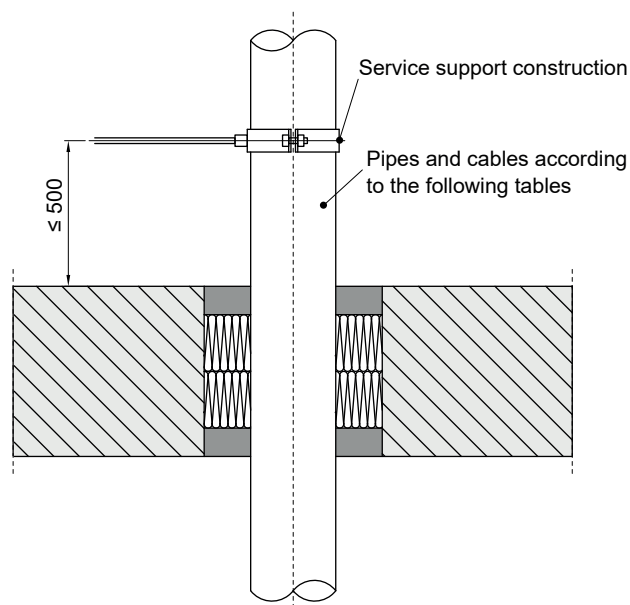


The first support for all types of installations has to be at a maximum distance of 500 mm (measured from the surface of the wall).

Service support construction in floors

Floor Application

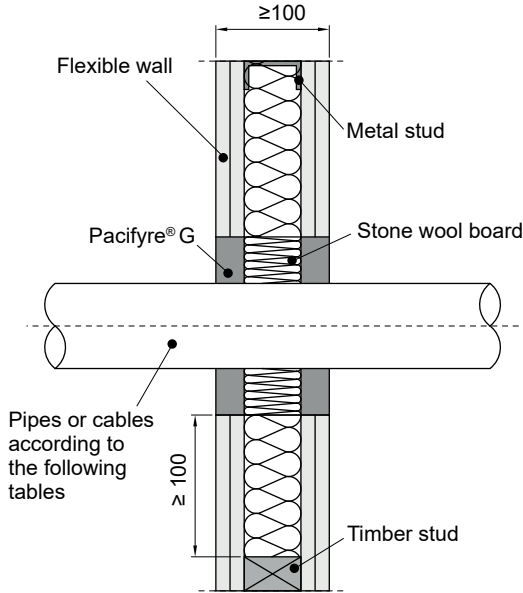
All installations – in rigid floors – have to be supported on the unexposed (top) side of the separating element by service support constructions. This construction can be made by pipe clamps, profiles, studs, bolts etc. made of metal with a melting or decomposition point greater than 1049°C (for instance stainless steel or zinc-plated steel.)



The first support for all types of installations has to be at a maximum distance of 500 mm (measured from the surface of the floor).

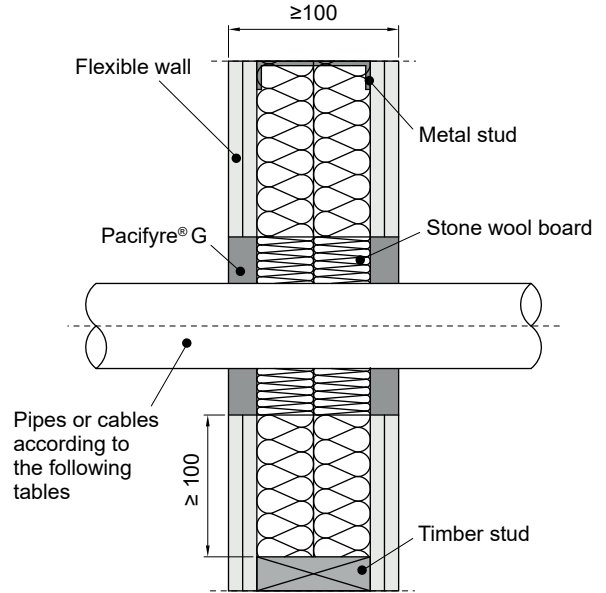
4. Wall application – types of walls

Double-sided flexible wall construction type a)



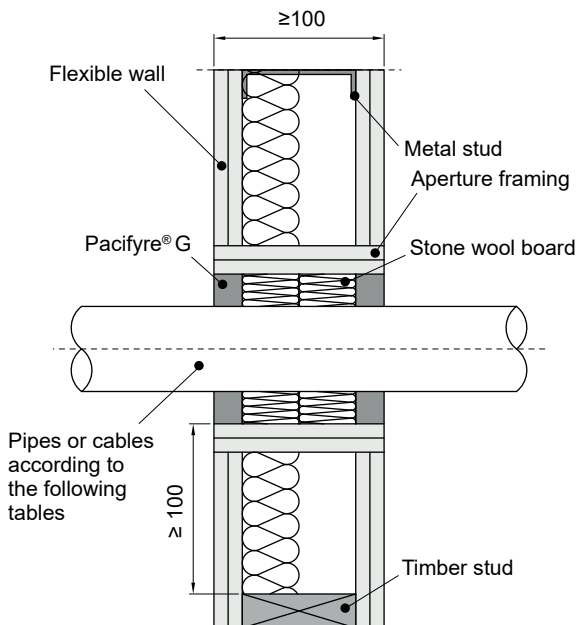
Flexible wall constructions with ≥ 2 board layers with an overall lining thickness of ≥ 25 mm (2x12,5 mm) on each side of the wall and an stone wool insulation of 50 mm with a density of ≥ 100 kg/m³.

Double-sided flexible wall construction type b)



Flexible wall constructions with ≥ 2 board layers with an overall lining thickness of ≥ 25 mm (2x12,5 mm) on each side of the wall and an stone wool insulation of 50 mm with a density of ≥ 100 kg/m³.

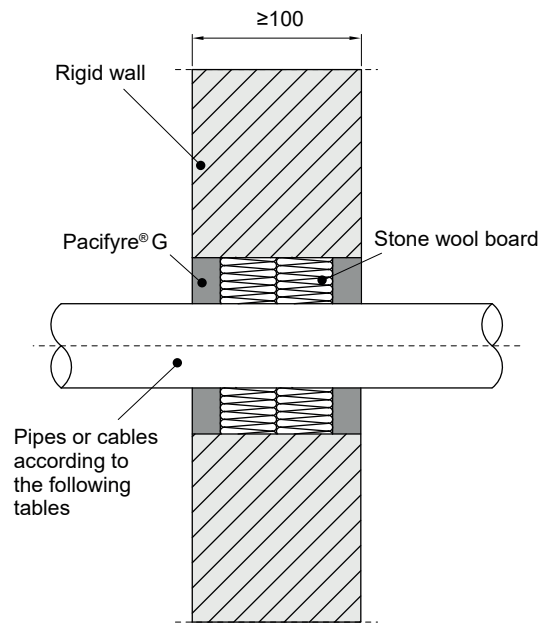
Double-sided flexible wall construction type c)



Flexible wall constructions with ≥ 2 board layers with an overall lining thickness of ≥ 25 mm (2x12,5 mm) on each side of the wall and any type of insulation.

With an aperture framing with at least 1 layer with an overall thickness of ≥ 25 mm or in case of circular apertures a dimensionally stable sleeve of materials of class A1 or A2.

Rigid wall construction type d)

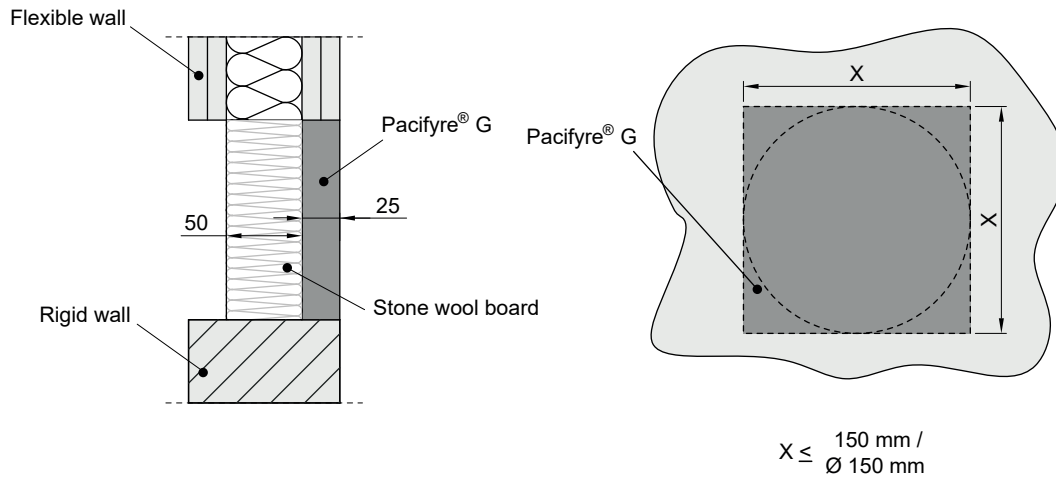


Rigid wall construction with a density of ≥ 350 kg/m³.

5. Wall application – type of wall

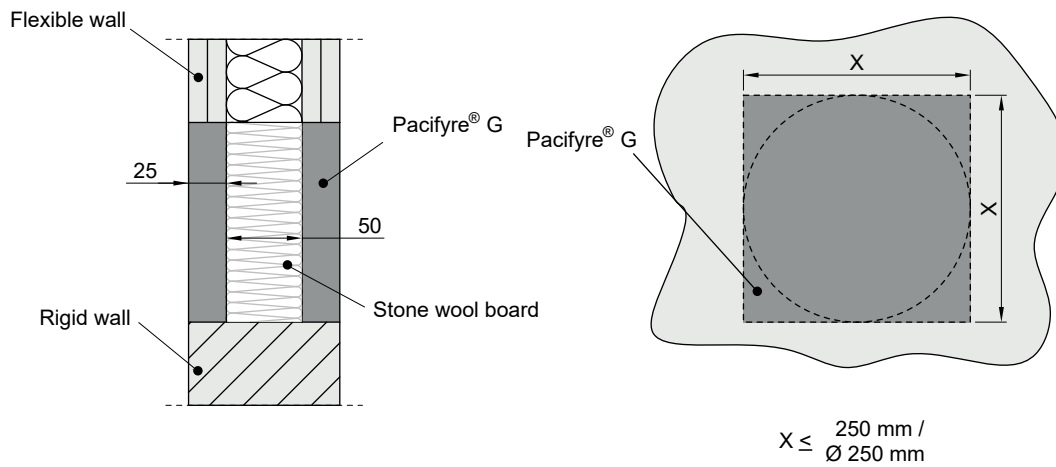
Blank penetration seal | single sided

E190 / E120

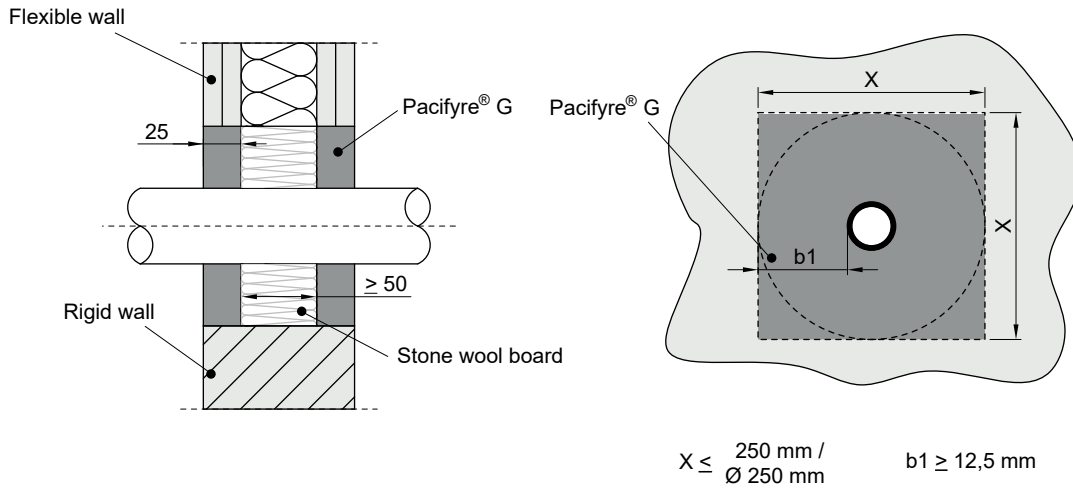


Blank penetration seal | double sided

E1120



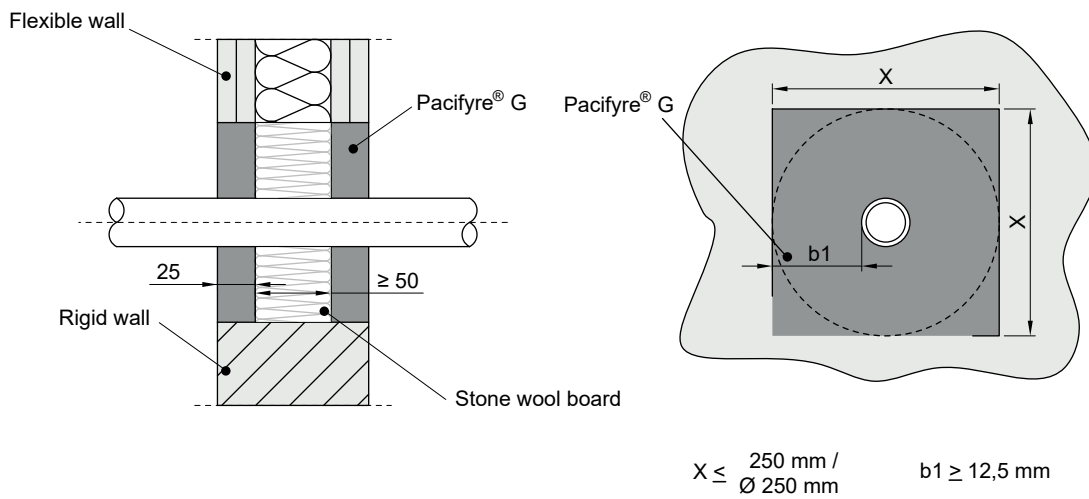
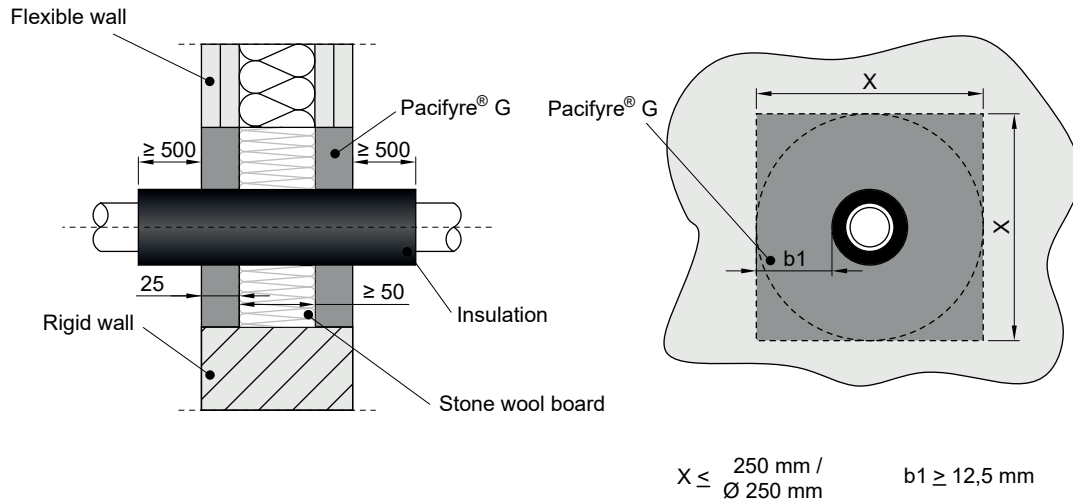
Single plastic pipes with intended use as rainwater pipe, sewage pipe (ventilated = U/U and unventilated = U/C) and gas, drinking water and heating pipe made out of the below material and dimension:



Single plastic pipes in flexible and rigid walls according to 4. Wall application – types of walls

Pipe material	Outer-Ø	t _{pipe}	Classifications	
PP-H in accordance with DIN 8077/78. Flexible and rigid walls.	≤ 50 mm	2.0 – 4.6 mm	EI 120 U/U	E 120 U/U
PE in accordance with EN-1519-1, EN 12666-1, EN 12201-2 and EN ISO 15494 and PE-X pipes in accordance with EN ISO 15785-2, ABS pipes in accordance with EN 1455-1 and EN ISO 15493 as well as SAN+PVC pipes in accordance with ISO 19220.	≤ 50 mm	1.8 – 4.6 mm	EI 120 U/U	E 120 U/U
PVC-U in accordance with EN-1329-1, EN 1453-1, EN ISO 15493 and EN ISO 1452-2 and PVC-C pipes in accordance with EN 1566-1, EN ISO 15493 and EN ISO 15877-2.	≤ 50 mm	1.8 – 5.6 mm	EI 120 U/C	EI 120 U/U

Single Multi-Layer pipes with intended use as gas, drinking water and heating pipe (insulated and non-insulated) made out of the below material and dimension:



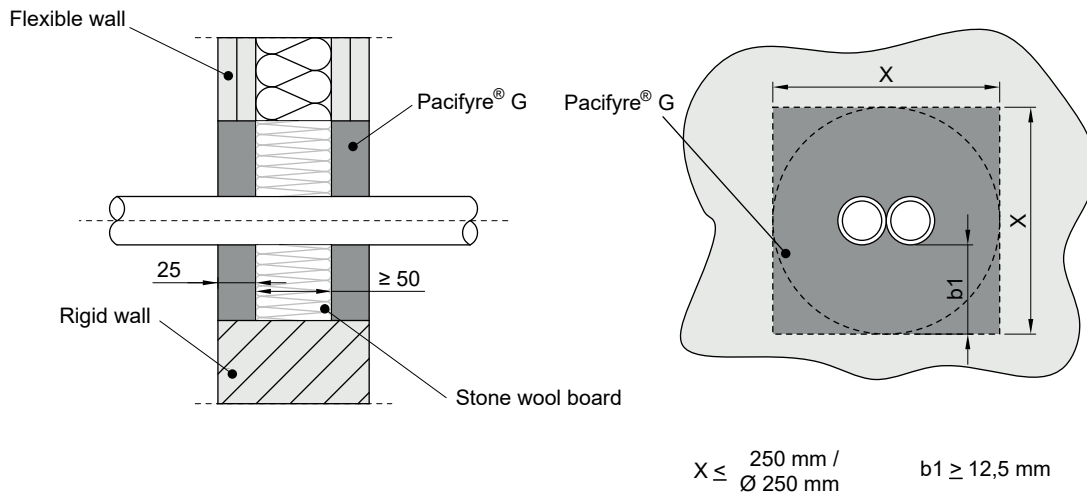
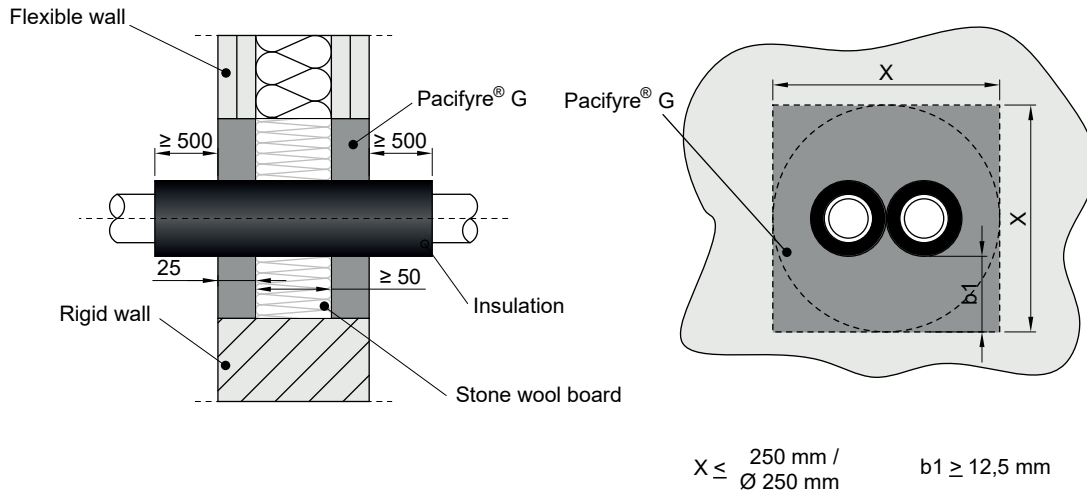
Single Multi-Layer pipes in flexible and rigid walls according to 4. Wall application - types of walls

Pipe material	Outer-Ø	t _{pipe}	t _{insul}	Classifications	
Fränkische Alpex F50 PROFI or L Pipes (PE-Xb / AL / PE-HD)	≤ Ø 32 mm	3.0 mm	-	EI 120 U/C	EI 120 U/C
			9 - 19.5 mm	EI 120 U/C	EI 120 U/C
Uponor Unipipe MLCP pipes (PE-Xb / AL / PE-HD)	≤ Ø 32 mm	4.5 mm	-	EI 120 U/C	EI 120 U/C
			9 - 19.5 mm	EI 120 U/C	EI 120 U/C

Service support construction in wall

Wall Application

Double (zero distance) Multi-Layer pipes with intended use as gas, drinking water and heating pipe (insulated and non-insulated) made out of the below material and dimension:



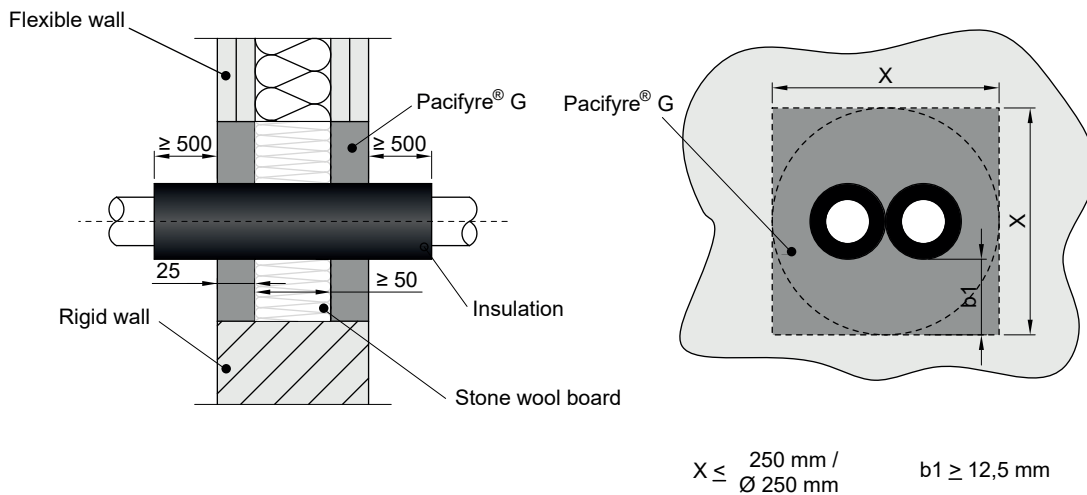
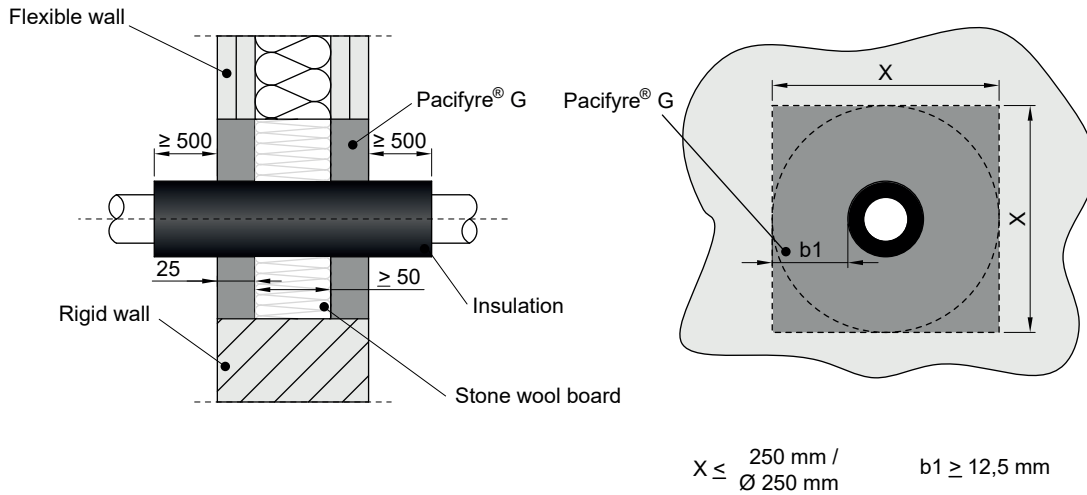
Double (zero distance) Multi-Layer pipes In flexible and rigid walls according to 4. Wall application - types of walls

Pipe material	Outer-Ø	t _{pipe}	t _{insul}	Classifications	
Fränkische Alpex F50 PROFi or L Pipes (PE-Xb / AL / PE-HD)	≤ Ø 32 mm	3.0 mm	-	EI 120 U/C	E 120 U/C
			9 - 19.5 mm	EI 120 U/C	E 120 U/C
Uponor Unipipe MLCP pipes (PE-Xb / AL / PE-HD)	≤ Ø 32 mm	4.5 mm	-	EI 120 U/C	E 120 U/C
			9 - 19.5 mm	EI 120 U/C	E 120 U/C

Service support construction in wall

Wall Application

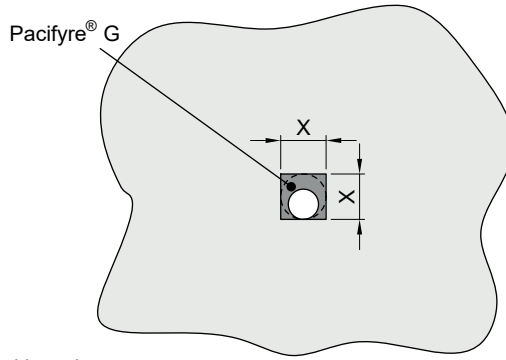
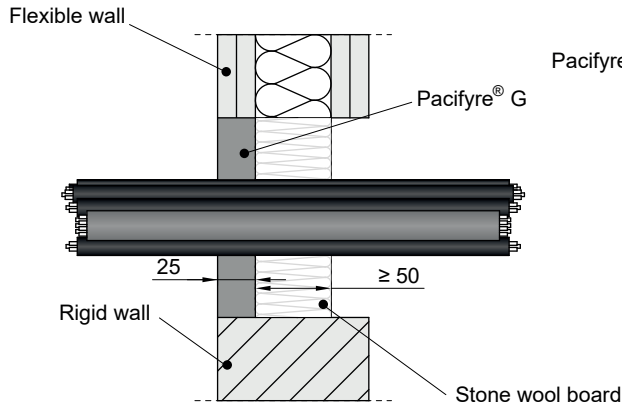
Single and double (zero distance) metal pipes with intended use as gas, drinking water and heating pipe insulated made out of the below material and dimension:



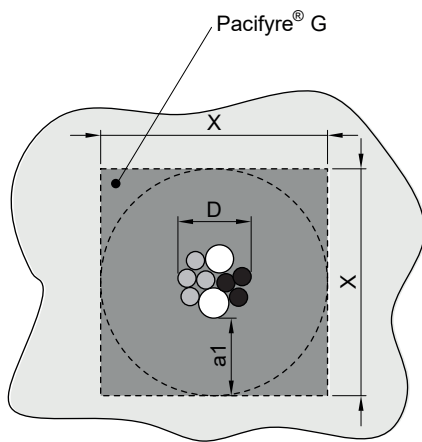
Single and double (zero distance) metal pipes In flexible and rigid walls according to 4. Wall application – types of walls

Pipe material	Outer-Ø	t _{pipe}	t _{insul}	Classifications	
Copper / steel / stainless steel	≤ 18 mm	1.0 – 14.2 mm	7.5 – 33.5 mm	EI 120 U/C	E 120 U/C
	≤ 22 mm	1.0 – 14.2 mm	8.5 – 33.5 mm	EI 120 U/C	E 120 U/C
	≤ 35 mm	1.2 – 14.2 mm	9.0 – 35 mm	EI 120 U/C	E 120 U/C

Single and bundled cable penetration of sheathed cables up to $\varnothing 21$ mm | EI 30 / E 120



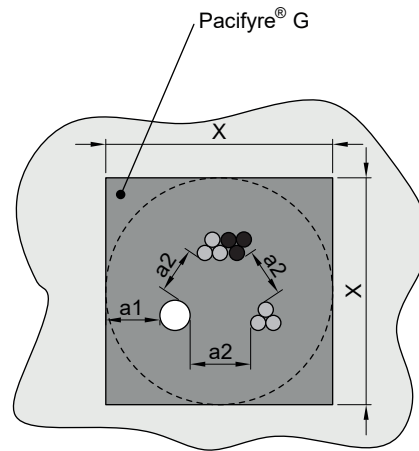
The total amount of cross sections of the cables does not exceed **60 %** of the penetration.



$$D \leq 50 \text{ mm}$$

$$a1 \geq 0 \text{ mm}$$

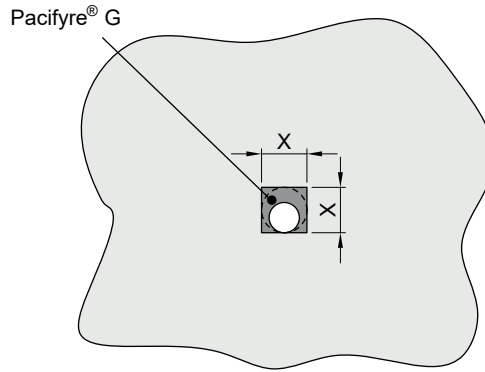
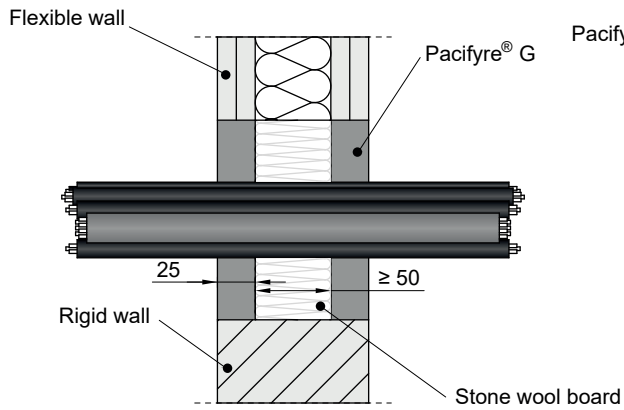
$$a2 \geq 0 \text{ mm}$$



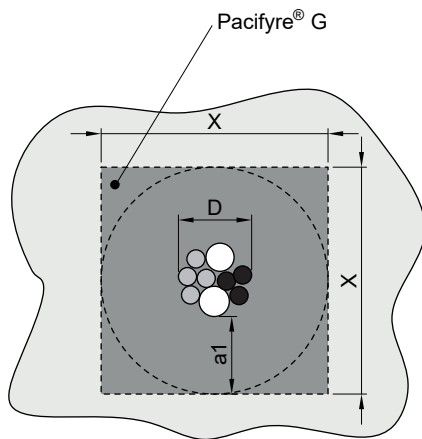
$$X_{\min.} \geq 150 \text{ mm} / \varnothing 150 \text{ mm}$$

$$X_{\max.} \leq$$

Single and bundled cable penetration of sheathed cables up to $\varnothing 21$ mm | EI 90 / E120



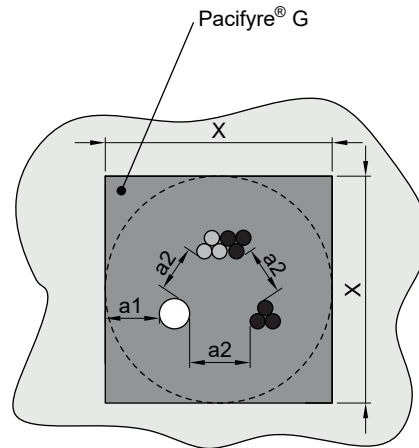
The total amount of cross sections of the cables does not exceed **60 %** of the penetration.



$$D \leq 50 \text{ mm}$$

$$a1 \geq 0 \text{ mm}$$

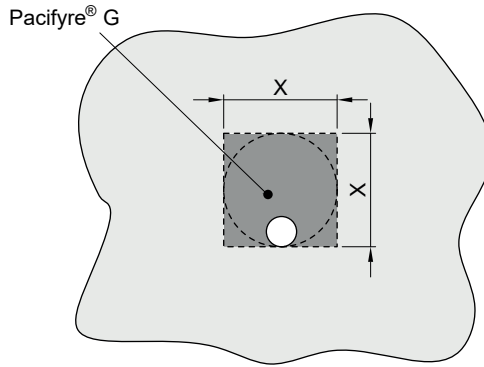
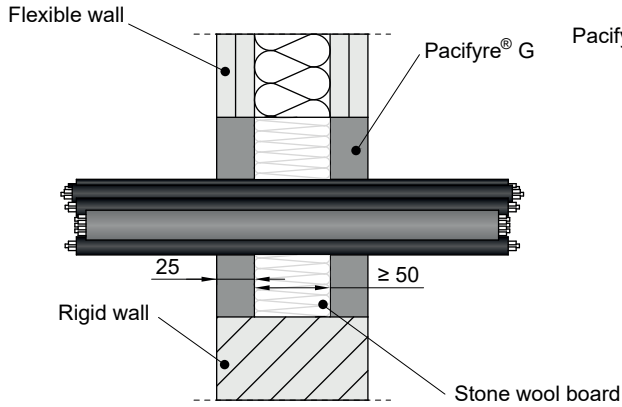
$$a2 \geq 0 \text{ mm}$$



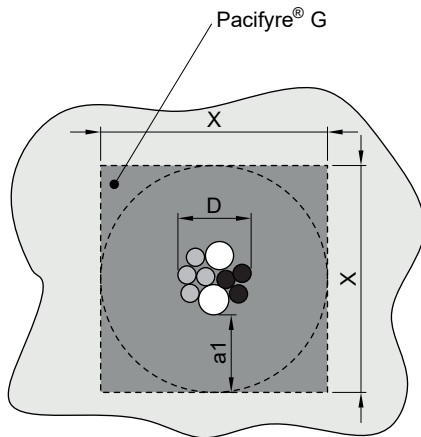
$$X_{\text{max.}} \leq \begin{matrix} 250 \text{ mm} / \\ \varnothing 250 \text{ mm} \end{matrix}$$

$$X_{\text{min.}} \leq \begin{matrix} 30 \text{ mm} / \\ \varnothing 30 \text{ mm} \end{matrix}$$

Single and bundled cable penetration of sheathed cables up to $\varnothing 21$ mm | EI 120



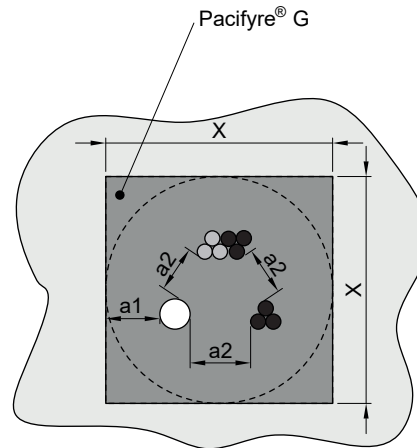
The total amount of cross sections of the cables does not exceed **60 %** of the penetration.



$$D \leq 50 \text{ mm}$$

$$a1 \geq 0 \text{ mm}$$

$$a2 \geq 0 \text{ mm}$$



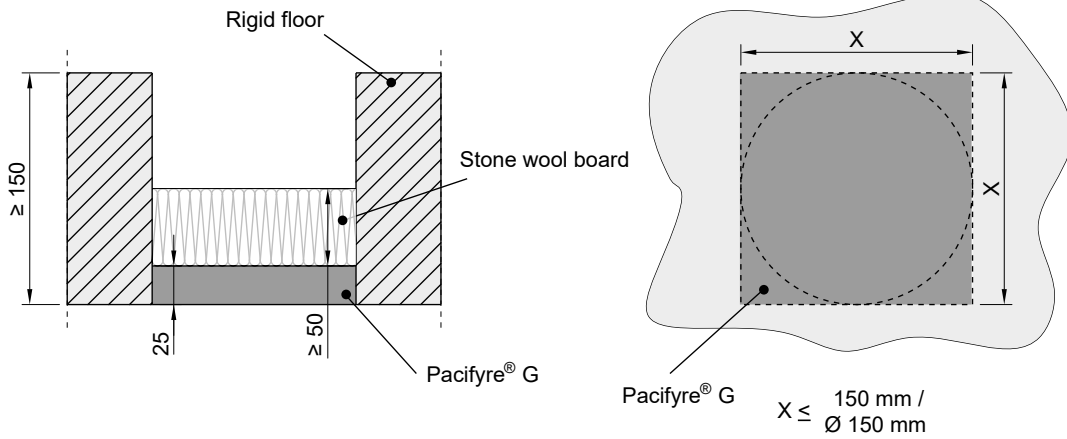
$$X_{\text{max.}} \leq \frac{250 \text{ mm}}{\varnothing 250 \text{ mm}}$$

$$X_{\text{min.}} \leq \frac{75 \text{ mm}}{\varnothing 75 \text{ mm}}$$

Service support construction in floor

EI90 / EI20

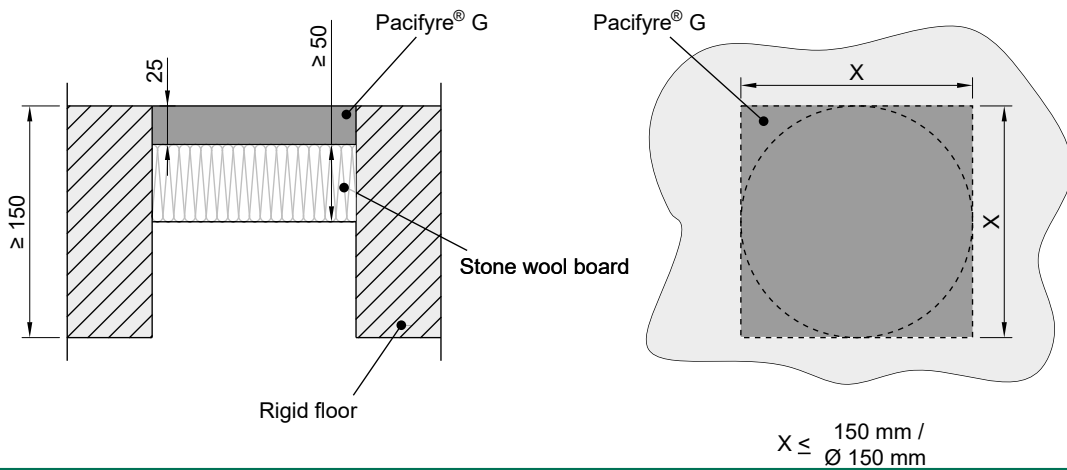
Blank penetration seal | single sided bottom



Service support construction in floor

EI120

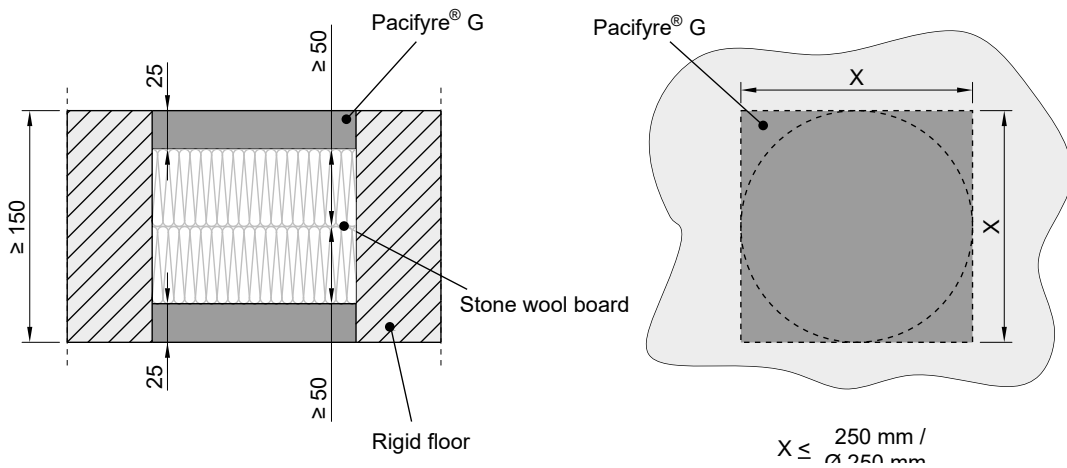
Blank penetration seal | single sided top



Service support construction in floor

EI120

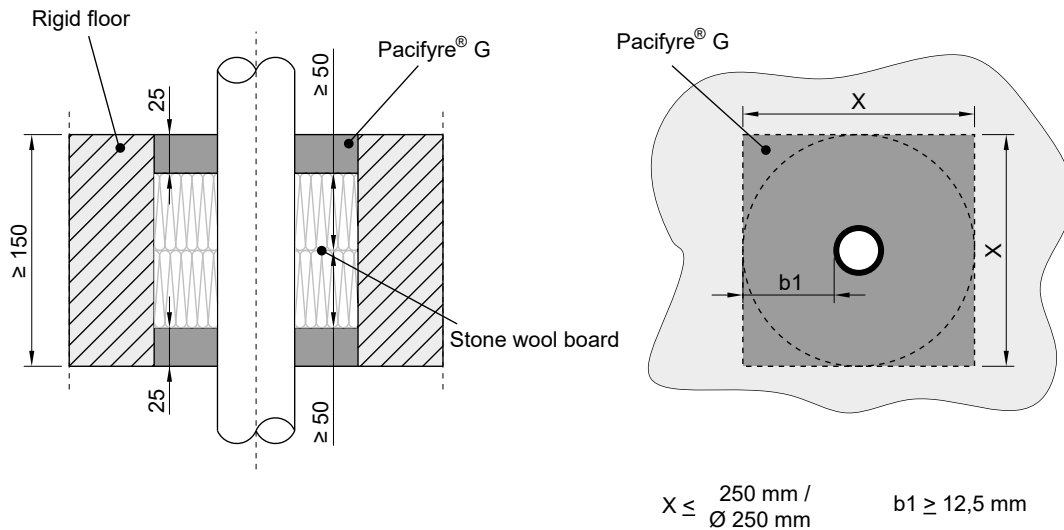
Blank penetration seal | double sided



Service support construction in floor

Floor Application

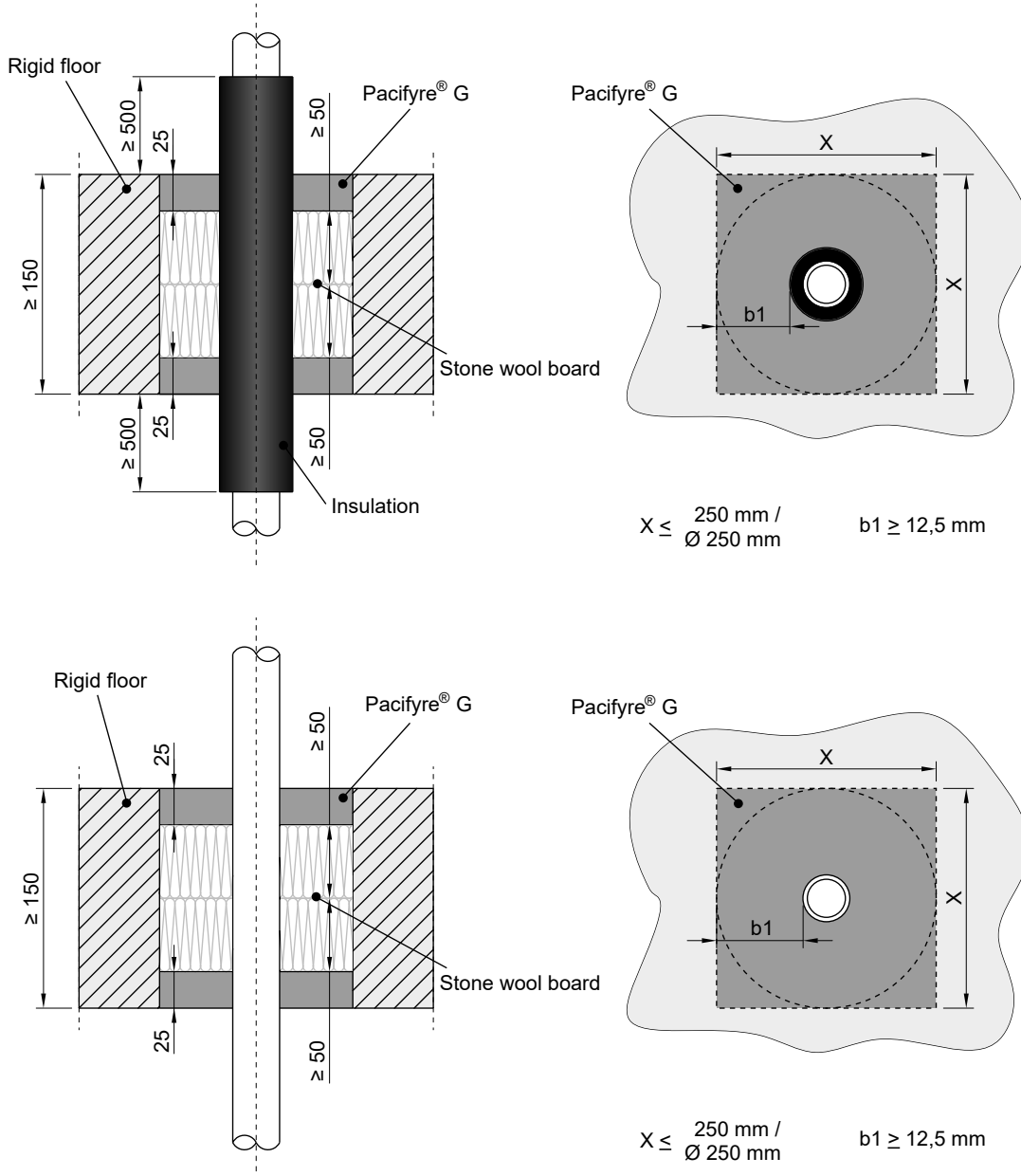
Single plastic pipes with intended use as rainwater pipe, sewage pipe (ventilated = U/U and unventilated = U/C) and gas, drinking water and heating pipe made out of the below material and dimension:



Single Multi-Layer pipes in rigid floors according to ANNEX A-2

Pipe material	Outer-Ø	t _{pipe}	Classifications	
PP-H in accordance with DIN 8077/78	≥ 50 mm	2.0 – 4.6 mm	EI 120 U/U	E 120 U/U
PE in accordance with EN-1519-1, EN 12666-1, EN 12201-2 and EN ISO 15494 and PE-X pipes in accordance with EN ISO 15785-2, ABS pipes in accordance with EN 1455-1 and EN ISO 15493 as well as SAN+PVC pipes in accordance with ISO 19220.	≥ 50 mm	1.8 – 4.6 mm	EI 120 U/U	E 120 U/U
PVC-U in accordance with EN-1329-1, EN 1453-1, EN ISO 15493 and EN ISO 1452-2 and PVC-C pipes in accordance with EN 1566-1, EN ISO 15493 and EN ISO 15877-2.	≥ 50 mm	1.8 – 5.6 mm	EI 120 U/C	E 120 U/C

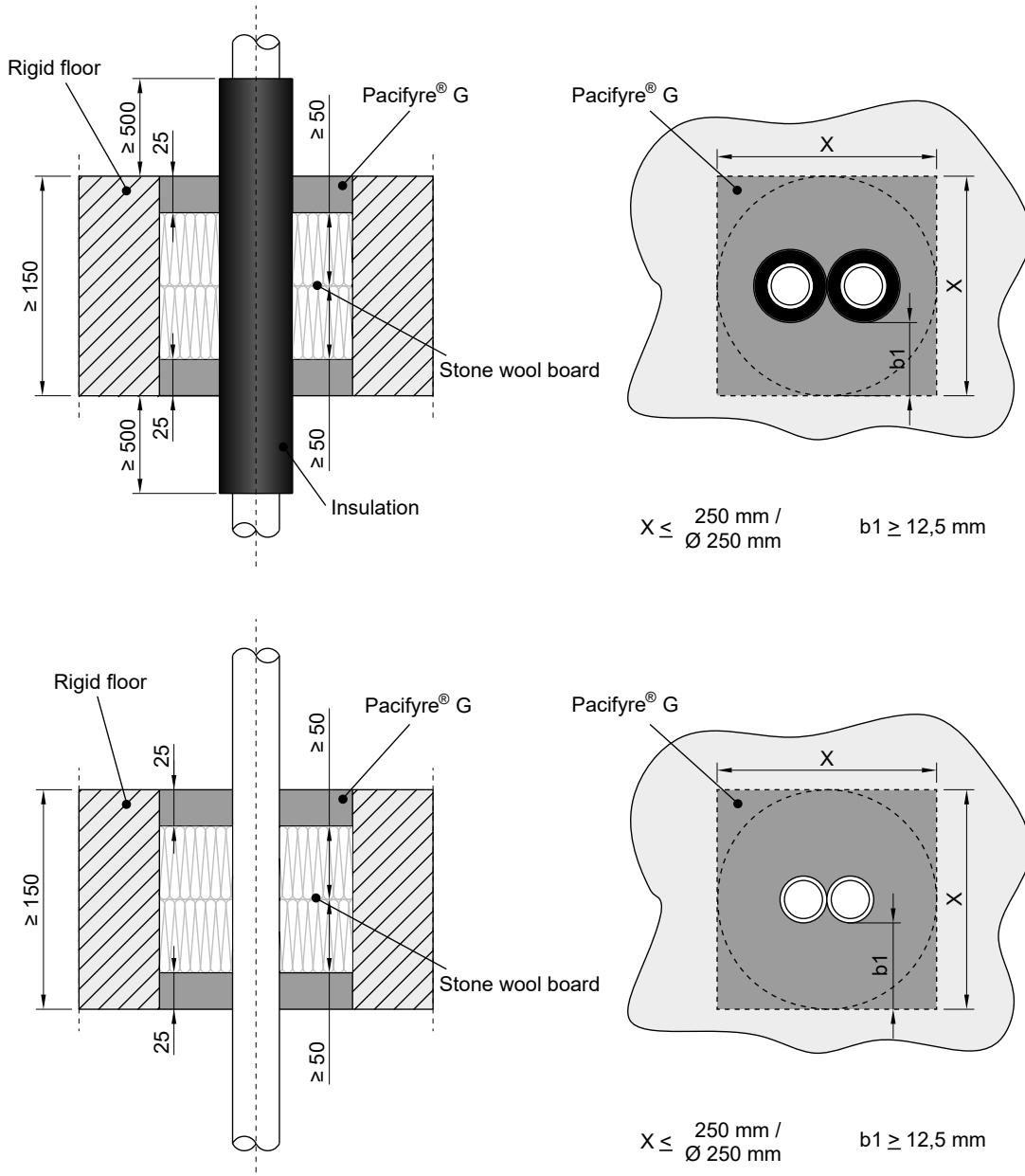
Single Multi-Layer pipes with intended use as gas, drinking water and heating pipe (insulated and non-insulated) made out of the below material and dimension:



Single Multi-Layer pipes in rigid floors according to ANNEX A-2

Pipe material	Outer-Ø	t _{pipe}	t _{insul}	Classifications	
Fränkische Alpex F50 PROFI or L Pipes (PE-Xb / AL / PE-HD)	≤ Ø 32 mm	3.0 mm	-	EI 120 U/C	E 120 U/C
			9 - 19.5 mm	EI 120 U/C	E 120 U/C
Uponor Unipipe MLCP pipes (PE-Xb / AL / PE-HD)	≤ Ø 32 mm	4.5 mm	-	EI 120 U/C	E 120 U/C
			9 - 19.5 mm	EI 120 U/C	E 120 U/C

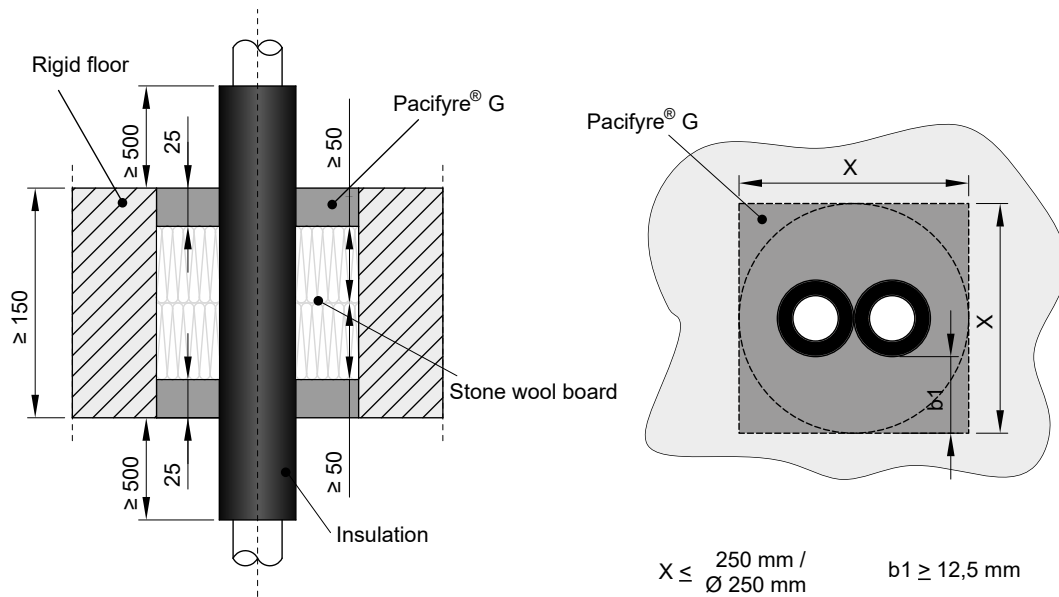
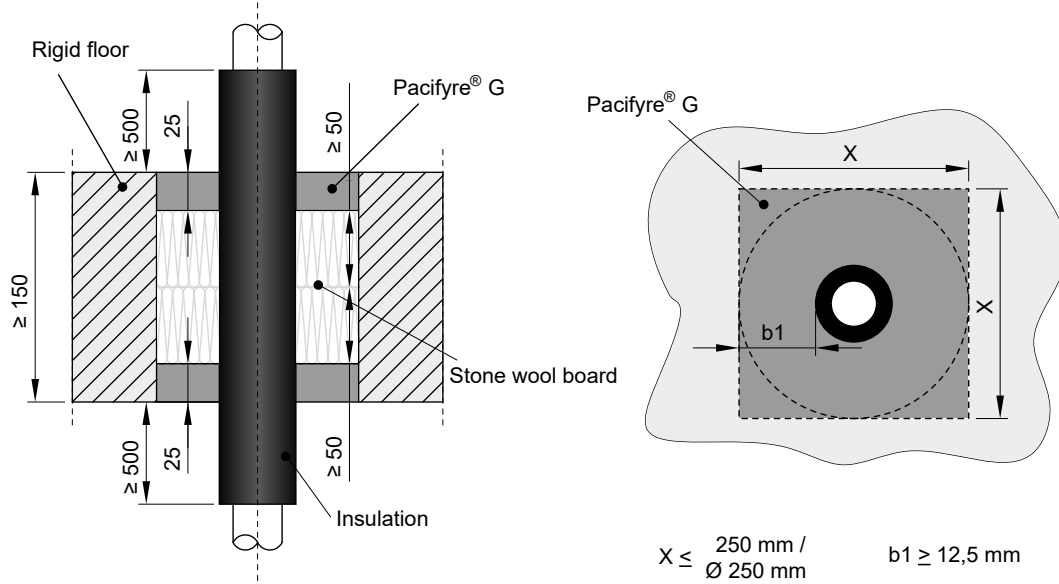
Double (zero distance) Multi-Layer pipes with intended use as gas, drinking water and heating pipe (insulated and non-insulated) made out of the below material and dimension:



Double (zero distance) Multi-Layer pipes in rigid floors according to ANNEX A-2

Pipe material	Outer-Ø	t _{pipe}	t _{insul}	Classifications	
Fränkische Alpex F50 PROFIL or L Pipes (PE-Xb / AL / PE-HD)	≤ Ø 32 mm	3.0 mm	-	EI 120 U/C	E 120 U/C
			9 - 19.5 mm	EI 120 U/C	E 120 U/C
Uponor Unipipe MLCP pipes (PE-Xb / AL / PE-HD)	≤ Ø 32 mm	4.5 mm	-	EI 120 U/C	E 120 U/C
			9 - 19.5 mm	EI 120 U/C	E 120 U/C

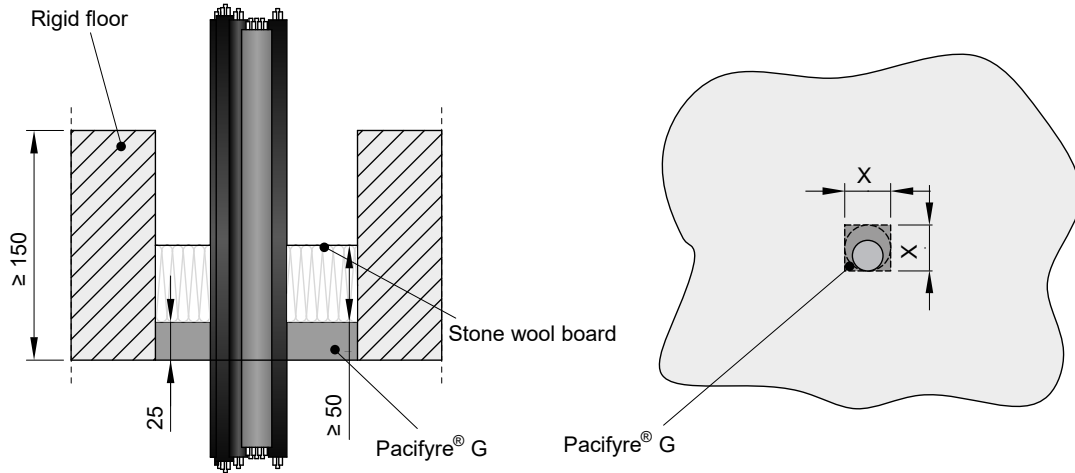
Single and double (zero distance) metal pipes with intended use as gas, drinking water and heating pipe (insulated and non-insulated) made out of the below material and dimension:



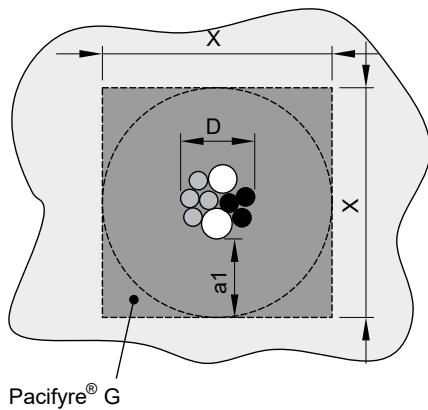
Single and double (zero distance) metal pipes In flexible and rigid walls according to ANNEX B-1

Pipe material	Outer-Ø	t_{pipe}	t_{insul}	Classifications	
Copper / steel / stainless steel	$\leq 18 \text{ mm}$	1.0 – 14.2 mm	7.5 – 33.5 mm	EI 120 U/C	E 120 U/C
	$\leq 22 \text{ mm}$	1.0 – 14.2 mm	8.5 – 33.5 mm	EI 120 U/C	E 120 U/C
	$\leq 35 \text{ mm}$	1.2 – 14.2 mm	9.0 – 35 mm	EI 120 U/C	E 120 U/C

Single and bundled cable penetration of sheathed cables up to $\varnothing 21$ mm | EI 30 / E120



The total amount of cross sections of the cables does not exceed 60 % of the penetration.

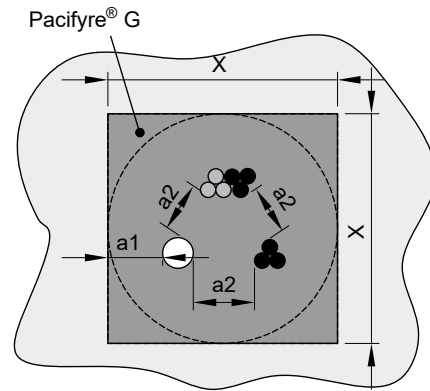


Pacifyre® G

$$D \leq 50 \text{ mm}$$

$$a1 \geq 0 \text{ mm}$$

$$a2 \geq 0 \text{ mm}$$

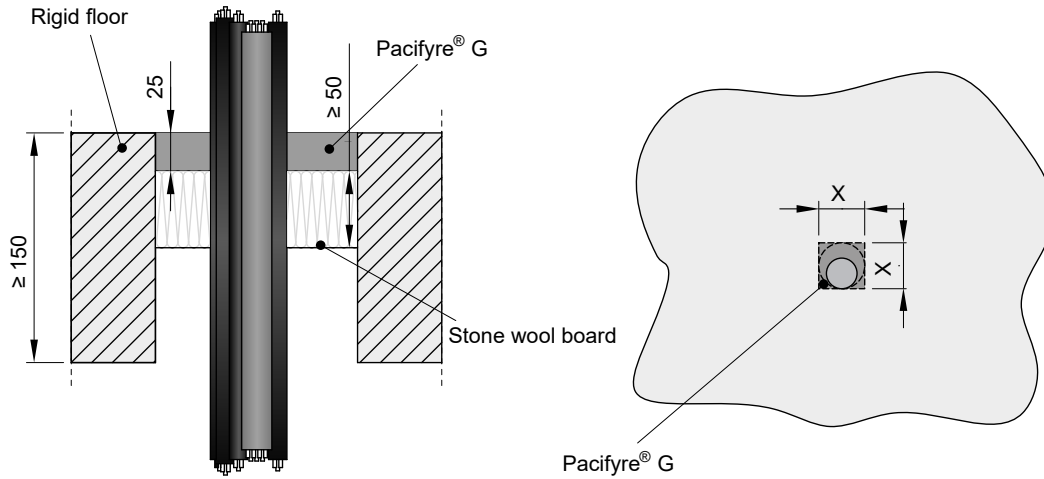


Pacifyre® G

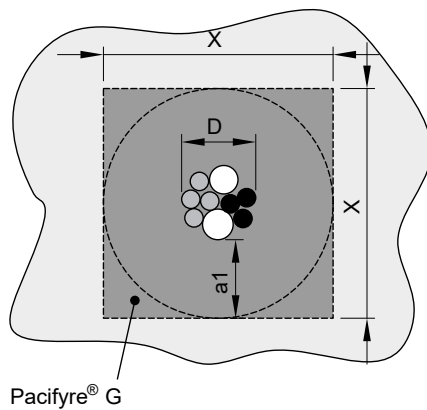
$$X_{\text{max.}} \leq 150 \text{ mm} / \varnothing 150 \text{ mm}$$

$$X_{\text{min.}} \leq 30 \text{ mm} / \varnothing 30 \text{ mm}$$

Single and bundled cable penetration of sheathed cables up to $\varnothing 21$ mm | EI 30 / E120



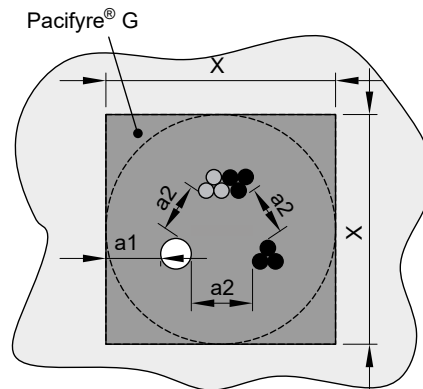
The total amount of cross sections of the cables does not exceed 60 % of the penetration.



$D \leq 50$ mm

$a1 \geq 0$ mm

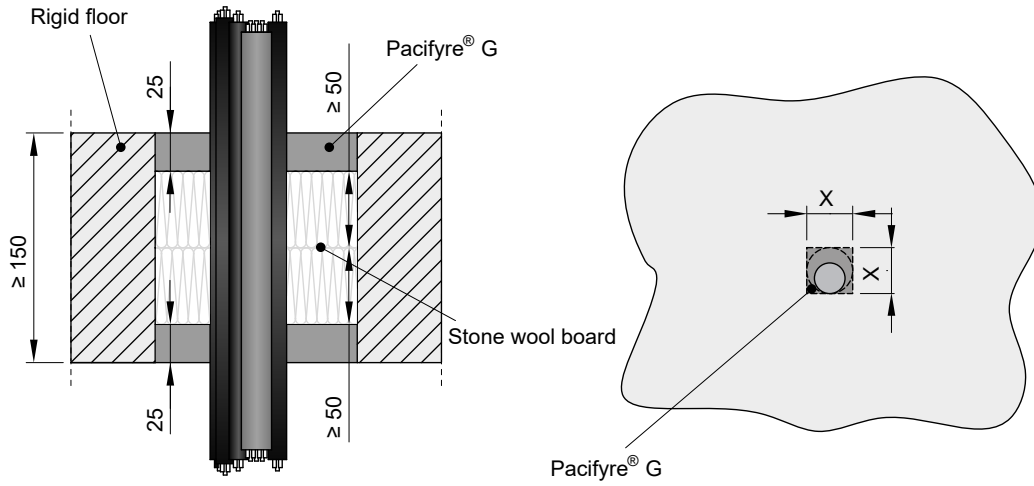
$a2 \geq 0$ mm



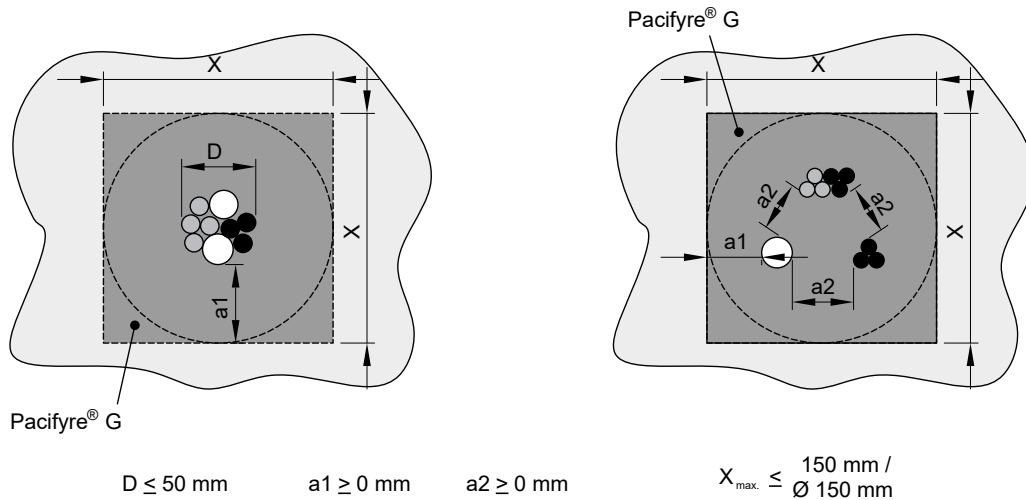
$X_{max.} \leq 150$ mm / $\varnothing 150$ mm

$X_{min.} \leq 30$ mm / $\varnothing 30$ mm

Single and bundled cable penetration of sheathed cables up to $\varnothing 21$ mm | EI 120



The total amount of cross sections of the cables does not exceed 60 % of the penetration.



$D \leq 50$ mm $a1 \geq 0$ mm $a2 \geq 0$ mm

$X_{max.} \leq 150$ mm / $\varnothing 150$ mm

$X_{min.} \leq 30$ mm / $\varnothing 30$ mm