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Authorised and notified according
to Article 29 of the Regulation (EU)
No 305/2011 of the European
Parliament and of the Council of 9
March 2011

MEMBER OF EOTA



European Technical Assessment ETA-22/0341 of 2022/06/24

General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Trade name of the
construction product:

Pacifyre® FPC

Product family to which the
above construction product
belongs:

Fire Stopping and Sealing Product -
Fire Protection Collar.

Manufacturer:

J. van Walraven Holding B.V.
Industrieweg 5
NL-3641 RK Mijdrecht
Tel. + 31 297 23 30 00
Internet www.walraven.com

Manufacturing plant:

Walraven Factory W4

This European Technical
Assessment contains:

29 pages including 24 annexes which form an integral
part of the document

This European Technical
Assessment is issued in
accordance with Regulation
(EU) No 305/2011, on the
basis of:

EAD 350454-00-1104 Fire Stopping and Fire Sealing
Products, Penetration Seals

This version replaces:

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II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical description of the product

This European Technical Assessment refers to the Pacifyre® FPC for use as a pipe penetration seal to temporarily or permanently reinstate the fire resistance performance of flexible wall constructions, rigid wall constructions and rigid floor constructions, where they have been provided with apertures which are penetrated by various pipes.

Pacifyre® FPC consists of a metal casing with tabs for fixations to the wall or floor partition. The metal has a minimum thickness of 1,0 mm and is sufficiently protected against corrosion. The metal casing holds multiple layers “Pacifyre® IM Pro” intumescent of 2 mm thick, 28, 38, 58 or 98 mm wide and a density of approximately $1210 \pm 10 \text{ kg/m}^3$. The layers of Pacifyre® IM Pro are glued into the metal casings. On the most inner layer of the Pacifyre® IM Pro a glued foam piece (according to ANNEX A-1) allows an easier installation on the pipe. The two parts of the Pacifyre® FPC are locked together by a click-mechanism.

The collars have a nominal diameter of 32 mm up to 315 mm, detailed information about the diameter can be found in annexes A-4 to A-9. The Pacifyre® FPC is permitted on flexible and rigid walls with a thickness of at least 100 mm, and a density of $\geq 550 \text{ kg/m}^3$. In rigid- or masonry floors with a thickness of at least 150 mm, and a density of $\geq 550 \text{ kg/m}^3$. The remaining opening between the penetrating pipes – including insulation – and the vertical or horizontal separating element has to be filled completely with mineral wool as specified in ANNEX A-1.

Detailed specifications for identification and performance criteria relevant for fire safety with regard to the construction products are given in the annexes.

2 Specification of the intended use in accordance with the applicable European Assessment Document (hereinafter EAD)

The construction product Pacifyre® FPC is intended to form a penetration seal, which is used to maintain the fire resistance of a separating element (flexible wall, rigid wall or rigid floor), where they have been provided with apertures which are penetrated by various pipes.

For use as components with a fire protection effect in walls or floors made from concrete, aerated concrete, masonry or walls made from light weight partition structures that are subject to requirements related to fire

protection. Their fire-resistant capability prevents heat transmission and fire spreading in the event of fire.

Within the scope of this ETA, the fire resistance was demonstrated for pipes in penetration seals which consisted of the components listed in *Table 1*

Product type	Trade name
Collar	Pacifyre® FPC
Gap filler	Pacifyre® A

Table 1 – components of the verified pipe penetration seal, more information in ANNEX A-1

Pipe penetration seals are used to seal off openings in fire resistant walls, which are penetrated by pipes, and serves to preserve the walls' fire resistance in the area of the penetrations.

The performances given in Section 3 and the annexes exclusively relate to the mentioned penetration seals (e.g., type and/or material of the pipe/dimension of the pipe).

The verification and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of at least 10 years for Pacifyre® FPC.

The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer but are to be regarded only as a means for choosing the right product in relation to the expected economically reasonable working life of the works.

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

Characteristic	Assessment of characteristic
3.2 Safety in case of fire (BWR 2)	
Reaction to fire	The collar housing “ <i>Pacifyre</i> [®] FPC” made of steel is classified as Euroclass A1 , according to EN 13501-1 without the need for testing in accordance with the provision of Decision 96/603/EC. The intumescent material “ <i>Pacifyre</i> [®] IM Pro” is classified as Euroclass E in accordance with EN 13501-1 and Delegated regulation 2016/364.
Resistance to fire	The Pacifyre [®] FPC for pipe penetrations is permitted in lightweight partition walls and rigid walls with a thickness of at least 100 mm and a density of ≥ 550 kg/m ³ . In rigid- or masonry floors with a thickness of at least 150 mm, and a density of ≥ 550 kg/m ³ . The system is classified as described in ANNEX A-1 to C-7 in accordance with EN 13501-2.
3.3 Hygiene, health and the environment (BWR 3)	
Air permeability	No performance assessed
Water permeability	No performance assessed
Content, emission and/or release of dangerous substances	No performance assessed
3.4 Safety and accessibility in use (BWR 4)	
Mechanical resistance and stability	No performance assessed
Resistance to impact/movement	No performance assessed
Adhesion	No performance assessed
Durability	Use conditions: Type Y ₂
3.5 Protection against noise (BWR 5)	
Airborne sound insulation	No performance assessed
3.6 Energy Economy and heat retention (BWR 6)	
Thermal properties	No performance assessed
Water vapour permeability	No performance assessed

3.9 General aspects

Durability and serviceability:

The assessment of durability and serviceability is part of testing the essential characteristics. “*Pacifyre*[®] IM Pro” pipe penetration seal fulfils the requirements according to EAD 350454-00-1104– for use conditions **Type: Y₂**. Intended for use at temperatures below 0°C, but with no exposure to rain or UV.

Although a penetration seal is intended for indoor applications only, the construction process may result in it being subjected to more exposed conditions for a period before the building is closed.

For this case provisions shall be made to protect temporarily exposed penetration seals according to the ETA-holder’s installation instructions.

4 Assessment and verification of constancy of performance (AVCP)

4.1 AVCP system

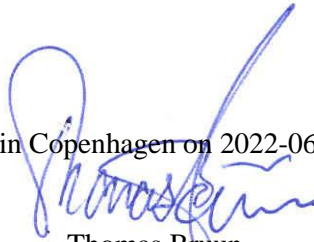
According to the decision 1999/454/EC of the European Commission, as amended by 2001/596/EC, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) is **1**.

In addition, with regard of reaction to fire the applicable European legal act is Decision: 1999/454/EC. The system is **1**.

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

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at ETA-Danmark prior to CE-marking.

Issued in Copenhagen on 2022-06-24 by



Thomas Bruun
Managing Director, ETA Danmark

Pacifyre® FPC – Fire Protection Collar	
Component name	Characteristics
Pacifyre® IM Pro	Flexible intumescent strip (provided with a self-adhesive layer) with a nominal thickness of 2,0 mm and a width of 28, 38, 58 or 98 mm.
Foam	Semi-closed cells EPDM-based foam strip with a nominal thickness of 10,0 mm and a width of 28, 38 or 58 mm.
Metal housing	Galvanized steel part with a nominal thickness of \geq 1,0 mm treated with a powder coating.

Gap Fillers	
Component name	Characteristics
Pacifyre® A	One component fire retardant sealant based on a water based acrylic dispersion with plasto-elastic properties - filled in cartridges.
Loose mineral wool	Loose stone wool with a classification A1 according to EN 13501-1 with a melting point \geq 1.000 °C (e.g. Rockwool Loose Wool)

The Pacifyre® FPC Fire Protection Collar is intended to be used as a pipe penetration seal to temporarily or permanently reinstate the fire resistance performance of flexible wall constructions, rigid wall constructions and rigid floor constructions, where they have been provided with apertures which are penetrated by various pipes.

The Pacifyre® FPC Fire Protection Collar can be installed in the forms of separating elements as specified in the following table:

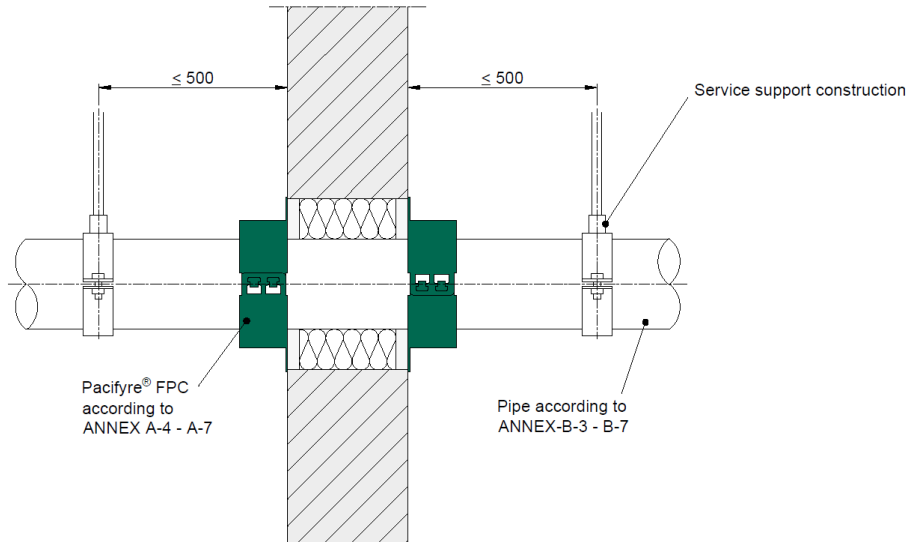
Wall or floor constructions	
Separating element	Construction
Flexible walls	<p>Steel studs or timber studs lined on both faces with minimum 2 layers of boards (minimum thickness of 12,5 mm each) or 1 layer of minimum 25 mm thickness with a classification A2-s1, d0 or A1 according to EN 13501-1.</p> <ul style="list-style-type: none"> • Minimum thickness of 100 mm • Classification according to EN 13501-2 for the required fire resistance period • For timber stud walls, there shall be a minimum distance of 100 mm of the penetration seal to any timber stud, this space has to be filled with min.100 mm of insulation with classification A1 or A2 according to EN 13501 -1
Rigid walls	<ul style="list-style-type: none"> • Aerated concrete or concrete • 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 or concrete • Masonry • Minimum density of 550 kg/m³ • Minimum thickness of 150 mm • Classification according to EN 13501-2: for the required fire resistance period

Service support construction in walls

WALL Application

All plastic pipes – 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.)

For plastic pipes in vertical separating elements (walls), the Pacifyre® FPC has to be installed on both sides of the element.



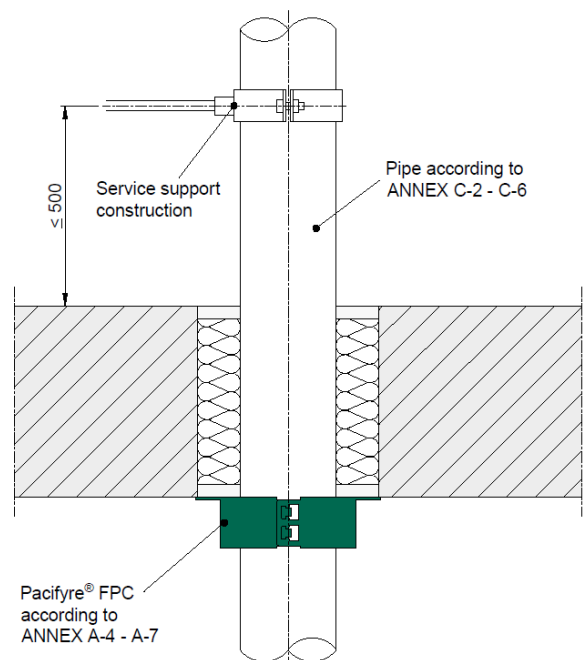
The first support for all types of pipes has to be at a maximum distance of 500 mm (measured from the surface of the wall).

Service support construction in floors

FLOOR Application

All plastic pipes – 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.)

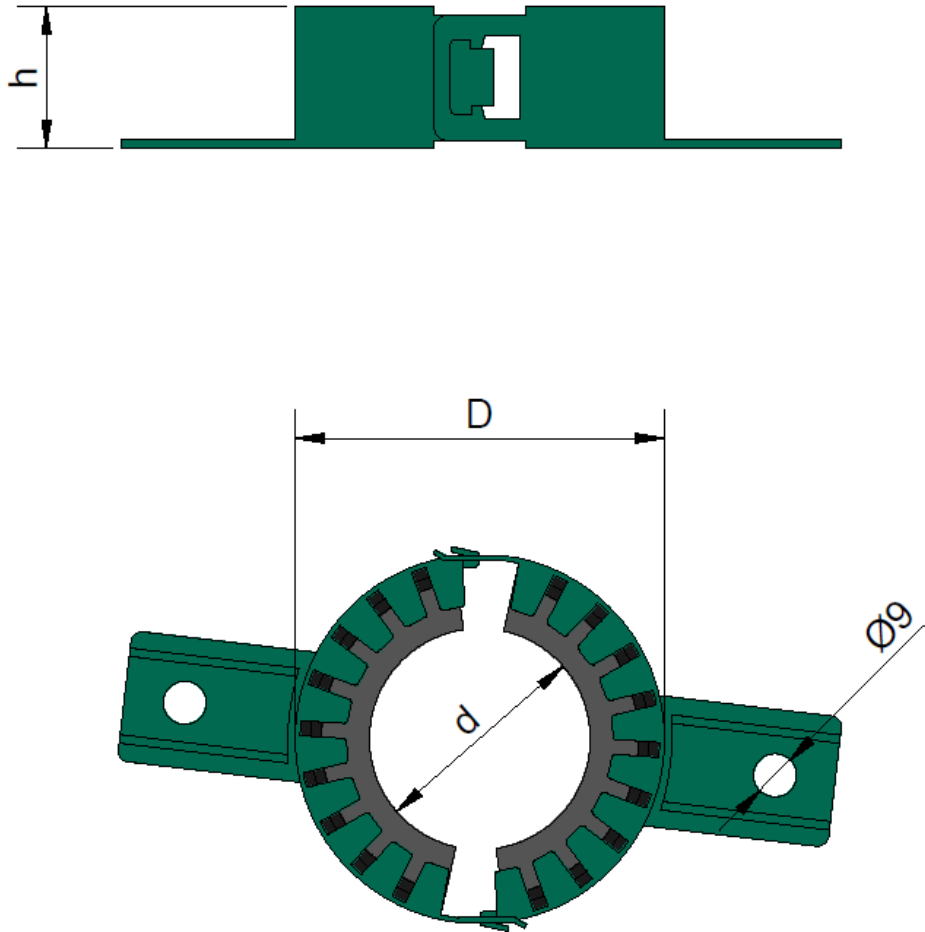
For plastic pipes in horizontal separating elements (floors), the Pacifyre® FPC has to be installed on the bottom side with the surface of the element.



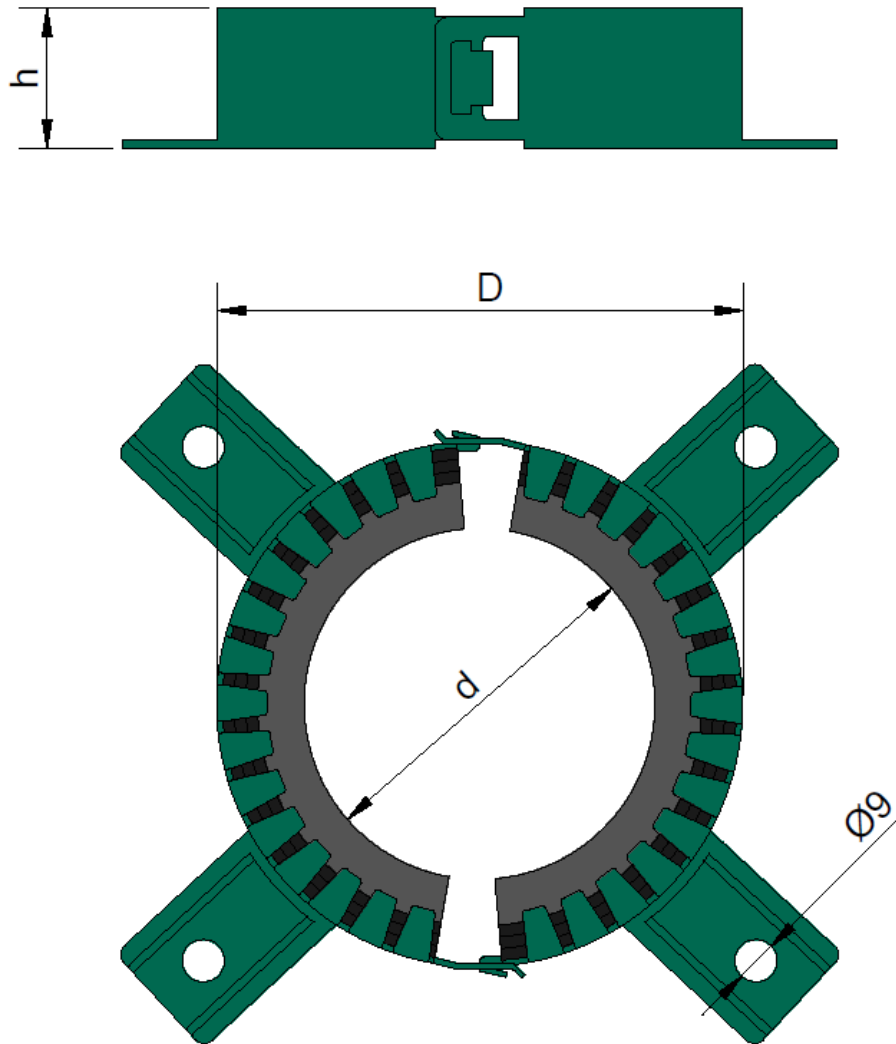
The first support for all types of pipes has to be at a maximum distance of 500 mm (measured from the surface of the floor).

Pacifyre® FPC
- service support constructions -

ANNEX A-3



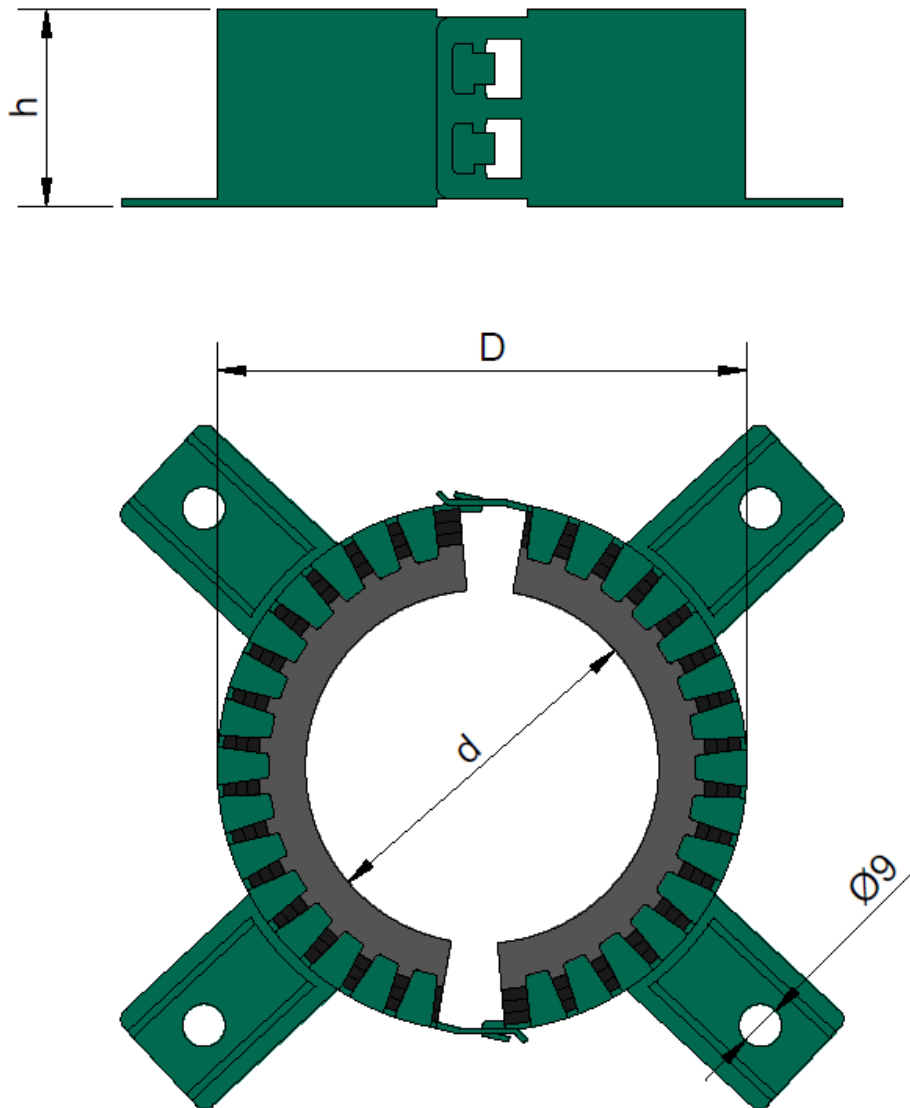
Pacifyre® FPC – Fire Protection Collar dimensions					
Nominal dimension	Inner-Ø [mm]	Outer-Ø [mm]	Height [mm]	No. of fix. tabs	Article code
Ø 32 mm	28,4	59,4	30	2	2122000032
Ø 40 mm	36,4	67,6	30	2	2122000040
Ø 50 mm	46,4	77,6	30	2	2122000050



Pacifyre® FPC – Fire Protection Collar dimensions					
Nominal dimension	Inner-Ø [mm]	Outer-Ø [mm]	Height [mm]	No. of fix. tabs	Article code
Ø 63 mm	59,8	95,6	30	4	2122000063

Pacifyre® FPC
- dimensions -

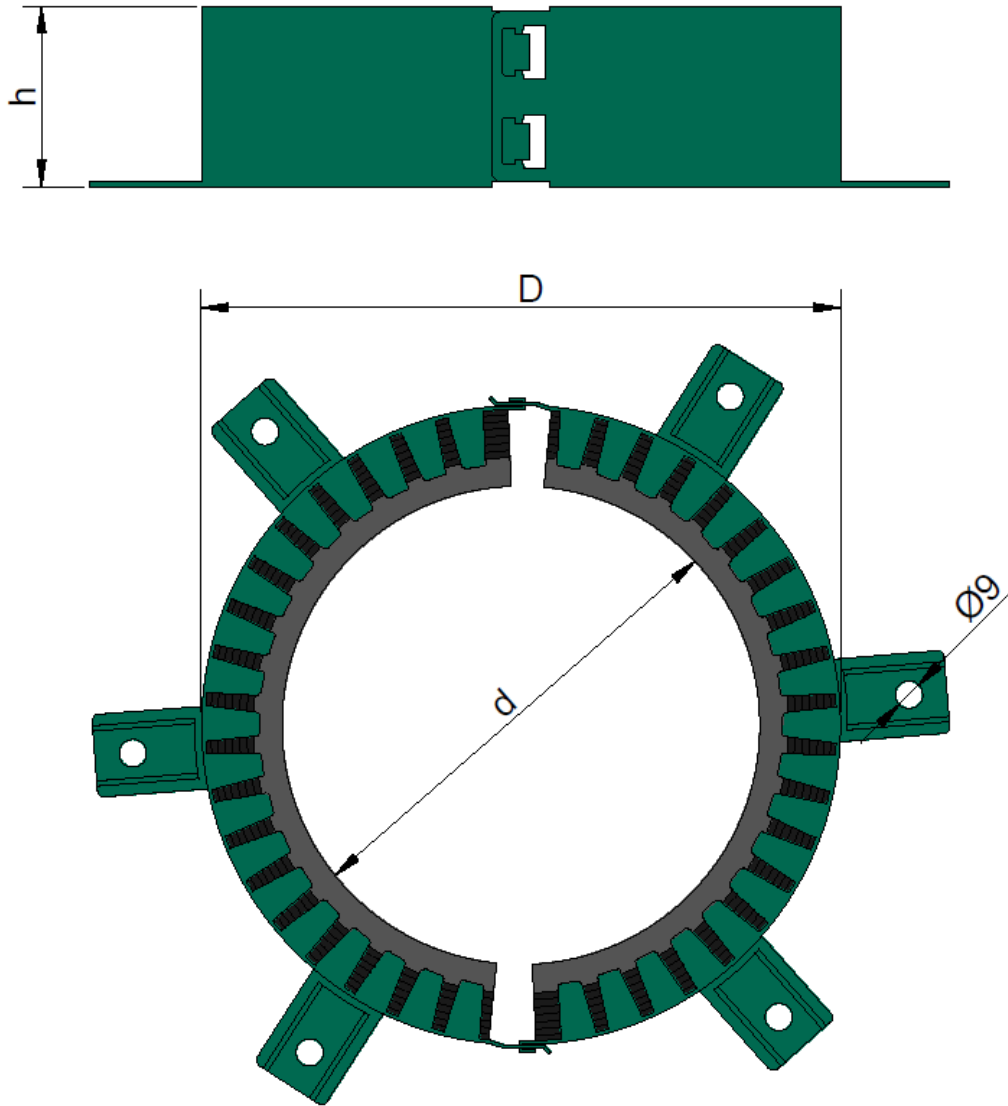
ANNEX A-5



Pacifyre® FPC – Fire Protection Collar dimensions					
Dimension	d [mm]	D [mm]	h [mm]	No. of fix. tabs	Article code
Ø 75 mm	71,8	112,2	40	4	2122000075
Ø 90 mm	87,2	127,6	40	4	2122000090
Ø 110 mm	107,2	147,6	40	4	2122000110
Ø 125 mm	122,6	167,6	60	4	2122000125

Pacifyre® FPC
- dimensions -

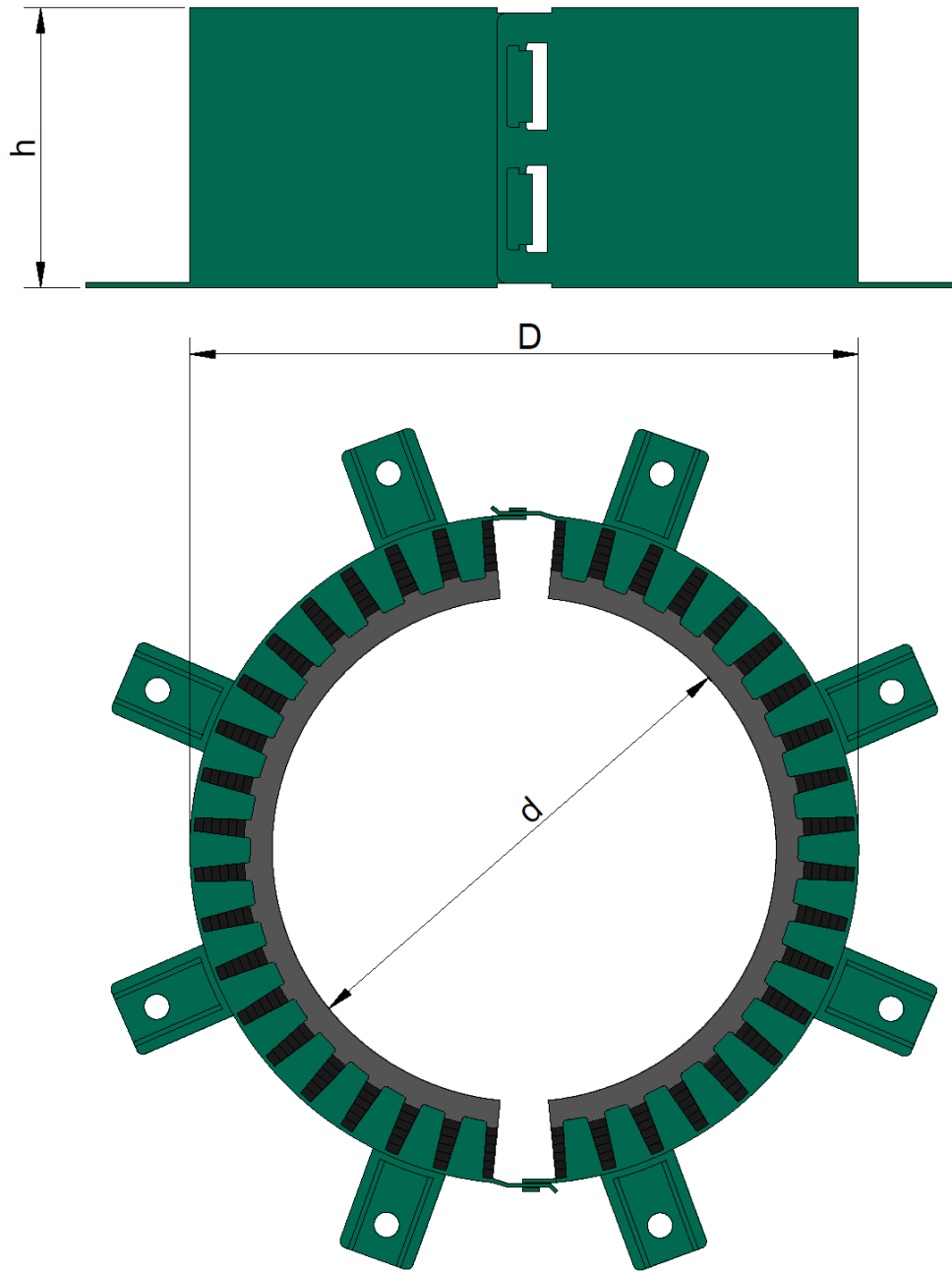
ANNEX A-6



Pacifyre® FPC – Fire Protection Collar dimensions					
Nominal dimension	Inner-Ø [mm]	Outer-Ø [mm]	Height [mm]	No. of fix. tabs	Article code
Ø 140 mm	138,2	192,4	60	6	2122000140
Ø 160 mm	158,8	213	60	6	2122000160

Pacifyre® FPC
- dimensions of the product -

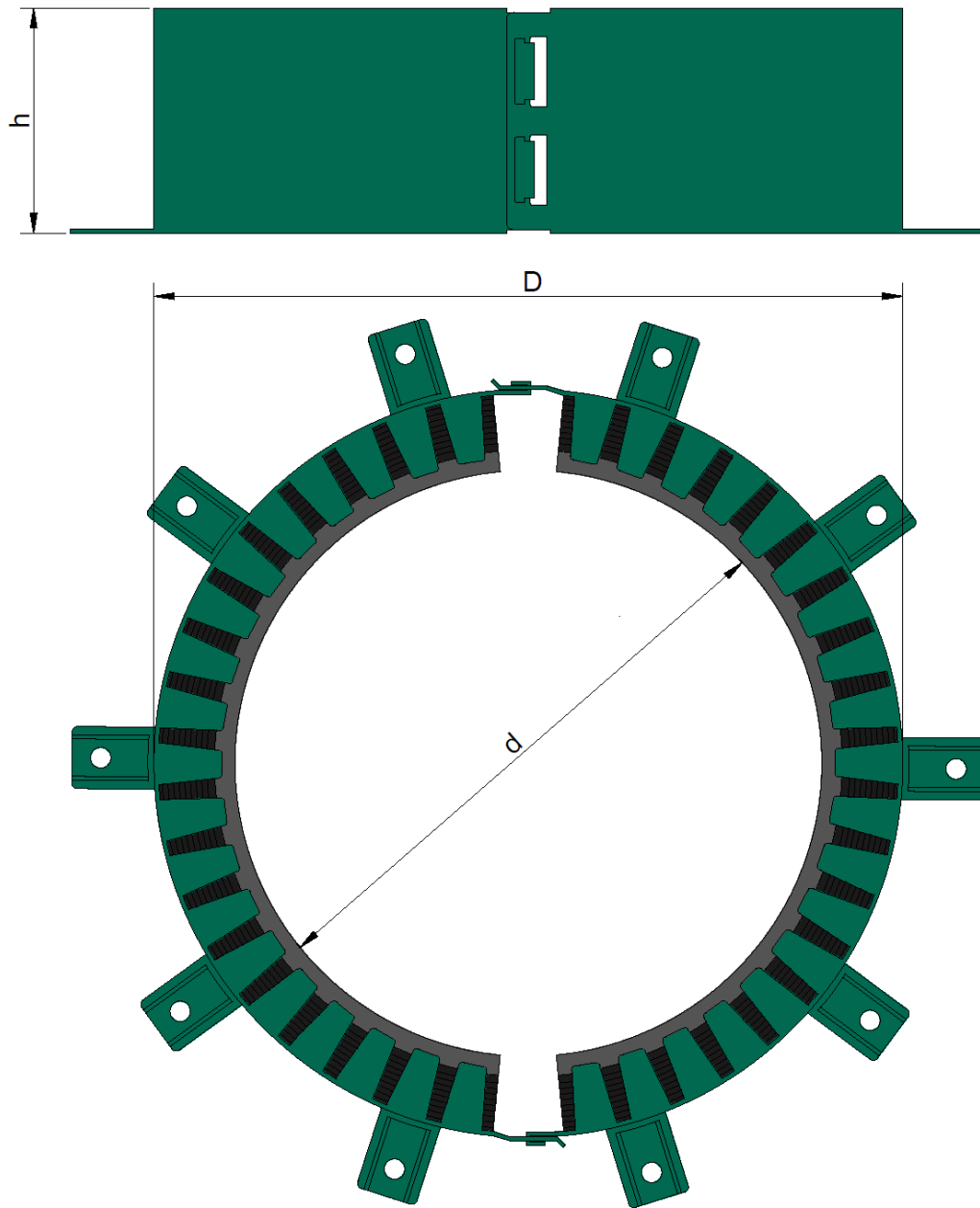
ANNEX A-7



Pacifyre® FPC – Fire Protection Collar dimensions					
Nominal dimension	Inner-Ø [mm]	Outer-Ø [mm]	Height [mm]	No. of fix. tabs	Article code
Ø 180 mm	177,3	227	100	8	2122000180

Pacifyre® FPC
- dimensions of the product -

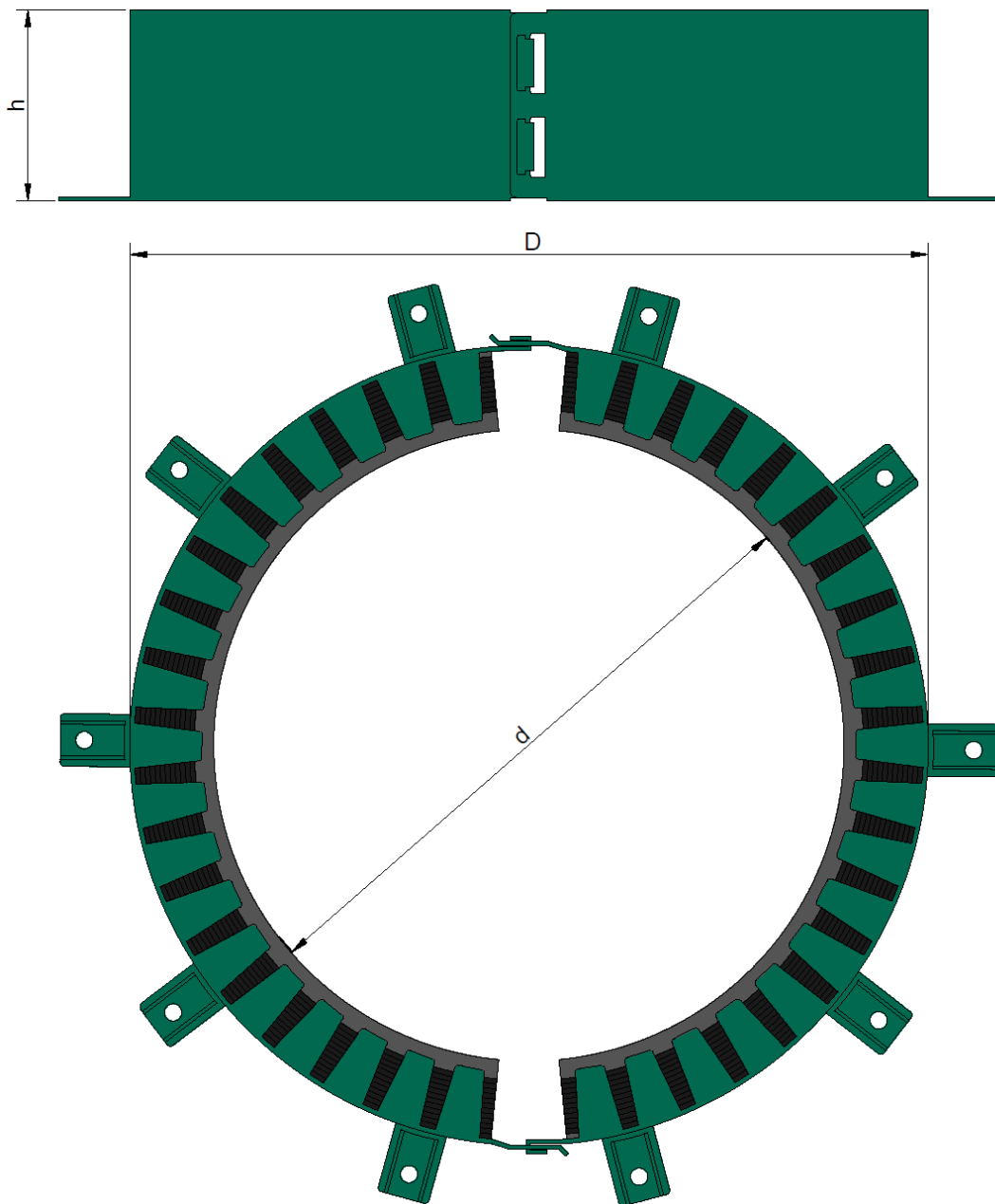
ANNEX A-8



Pacifyre® FPC – Fire Protection Collar dimensions					
Nominal dimension	Inner-Ø [mm]	Outer-Ø [mm]	Height [mm]	No. of fix. tabs	Article code
Ø 200 mm	198,8	266,2	100	10	2122000200
Ø 225 mm	223,8	291,2	100	10	2122000225
Ø 250 mm	248,8	316,2	100	10	2122000250

Pacifyre® FPC
- dimensions of the product -

ANNEX A-9



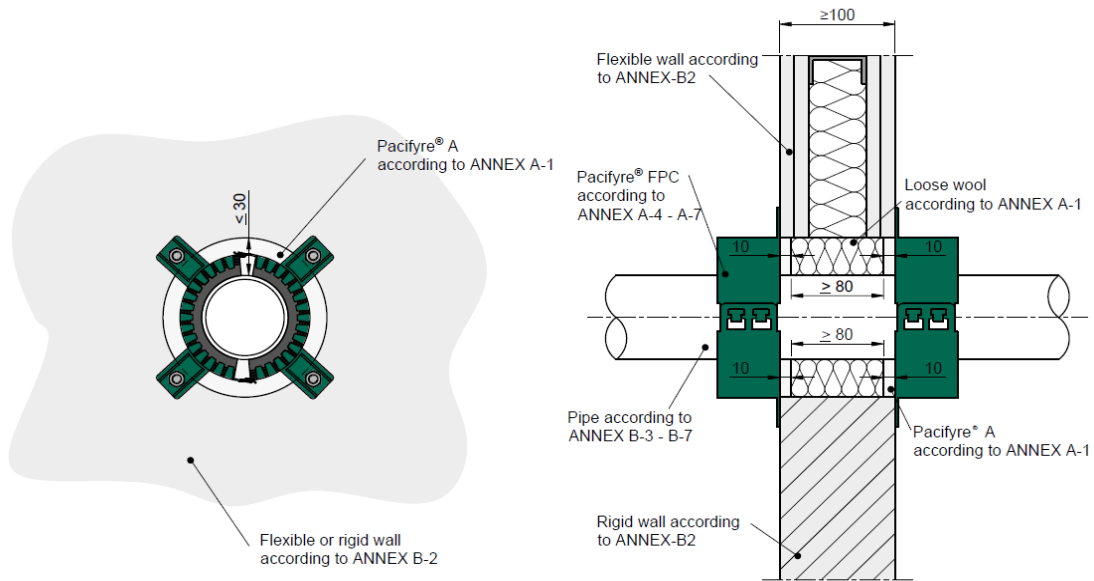
Pacifyre® FPC – Fire Protection Collar dimensions					
Nominal dimension	Inner-Ø [mm]	Outer-Ø [mm]	Height [mm]	No. of fix. tabs	Article code
Ø 280 mm	278,8	358	100	10	2122000280
Ø 300 mm	298,8	378	100	10	2122000300
Ø 315 mm	313,8	393	100	10	2122000315

Pacifyre® FPC
- dimensions of the product -

ANNEX A-10

Sealant type A | Pacifyre® A Acrylic sealant with a backfilling of firmly compressed loose wool

WALL Application



1. The backfilling is made by firmly compressed loose stone wool and fills the entire space between both layers of Pacifyre® A.

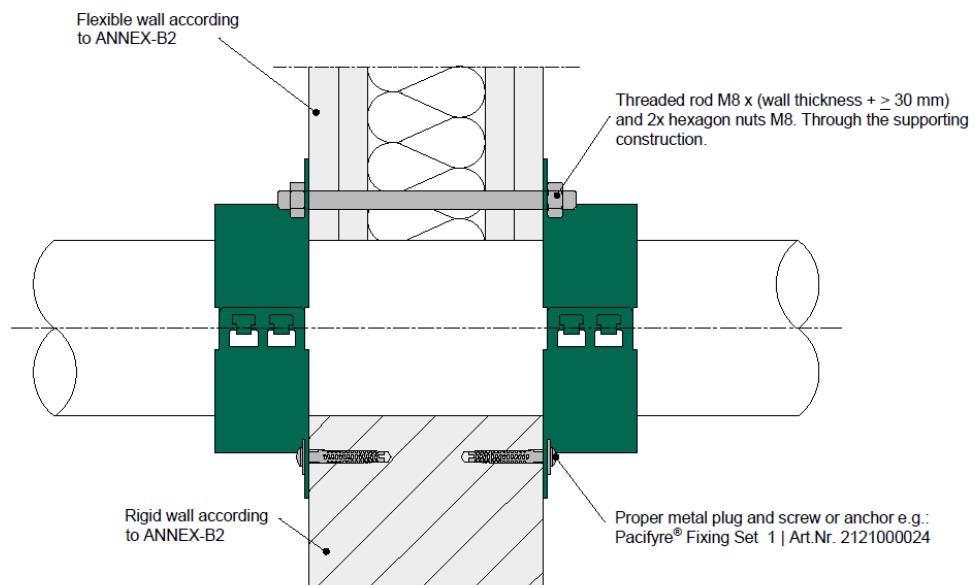
To apply the Acrylic property the backfilling needs to be 10 mm from the surface inside the wall.

2. Filling the entire aperture with Pacifyre® A between the pipe and the aperture edge flush with both sides of the supporting construction (wall).

Fixing of the Pacifyre® FPC Fire Protection Collar

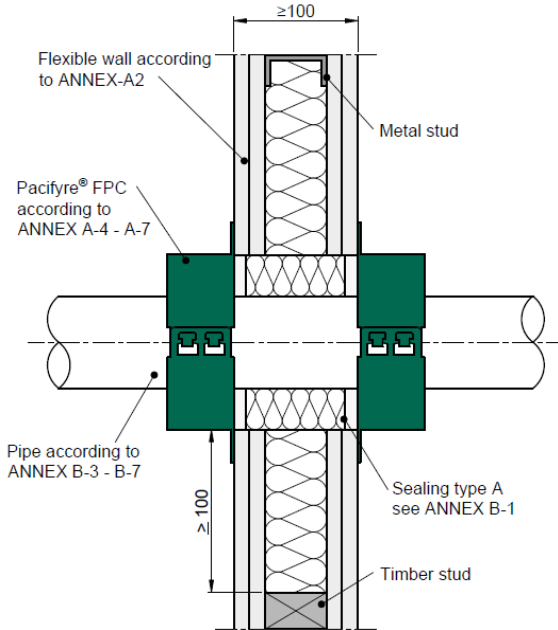
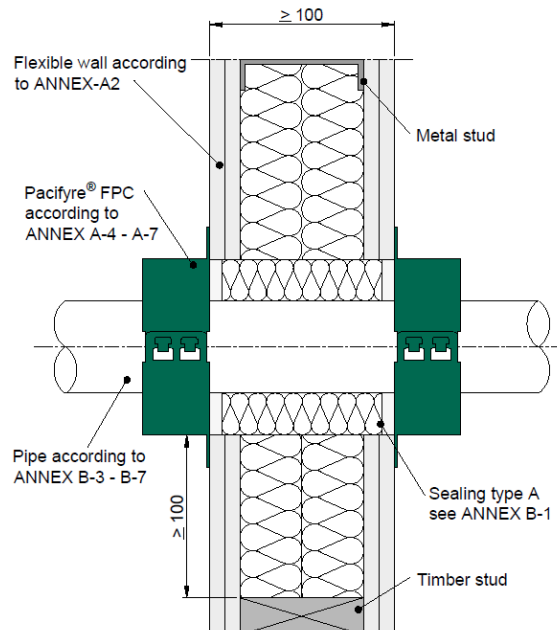
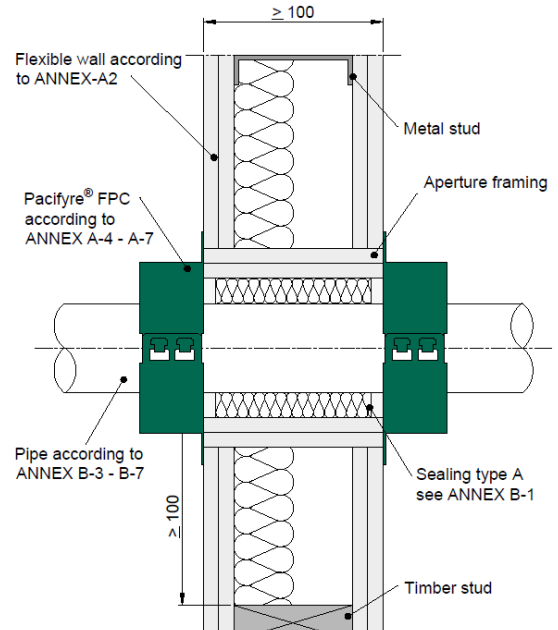
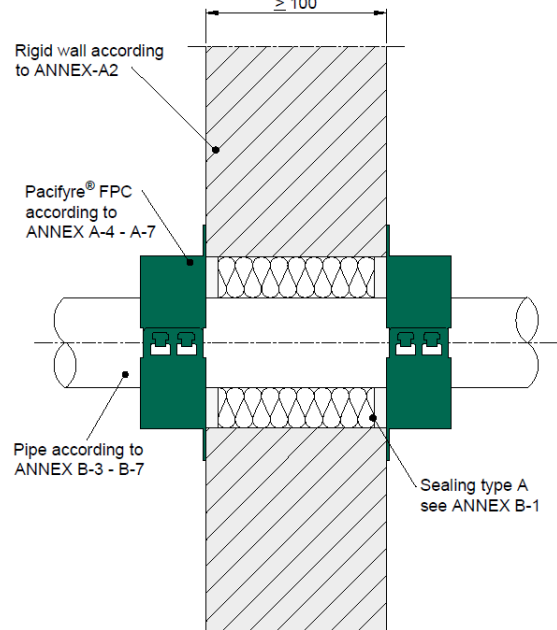
WALL Application

Each tab of the Pacifyre® FPC Collar needs to be fixed to the supporting construction. Depending on the type of the wall (rigid or flexible), the fixing needs to be done equal or better than shown in this drawing.



Pacifyre® FPC
- Sealant and fixing -

ANNEX B-1

<p>Double-sided flexible wall construction type a)</p>	<p>Double-sided flexible wall construction type b)</p>
 <p>Flexible wall according to ANNEX-A2</p> <p>Metal stud</p> <p>Pacifyre® FPC according to ANNEX A-4 - A-7</p> <p>Pipe according to ANNEX B-3 - B-7</p> <p>Sealing type A see ANNEX B-1</p> <p>Timber stud</p> <p>≥100</p> <p>≥100</p> <p>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.</p>	 <p>Flexible wall according to ANNEX-A2</p> <p>Metal stud</p> <p>Pacifyre® FPC according to ANNEX A-4 - A-7</p> <p>Pipe according to ANNEX B-3 - B-7</p> <p>Sealing type A see ANNEX B-1</p> <p>Timber stud</p> <p>≥100</p> <p>≥100</p> <p>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 2x 50 mm with a density of ≥ 100 kg/m³.</p>
<p>Double-sided flexible wall construction type c)</p>  <p>Flexible wall according to ANNEX-A2</p> <p>Metal stud</p> <p>Pacifyre® FPC according to ANNEX A-4 - A-7</p> <p>Aperture framing</p> <p>Pipe according to ANNEX B-3 - B-7</p> <p>Sealing type A see ANNEX B-1</p> <p>Timber stud</p> <p>≥100</p> <p>≥100</p> <p>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.</p> <p>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.</p>	<p>Rigid wall construction type d)</p>  <p>Rigid wall according to ANNEX-A2</p> <p>Pacifyre® FPC according to ANNEX A-4 - A-7</p> <p>Pipe according to ANNEX B-3 - B-7</p> <p>Sealing type A see ANNEX B-1</p> <p>Timber stud</p> <p>≥100</p> <p>≥100</p> <p>Rigid wall construction with a density of ≥ 350 kg/m³.</p>

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:

**WALL
Application**

Pipes made from **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.

Supporting construction	Outer-Ø	t _{pipe}	Sealant*	Classifications	
Flexible and rigid walls according to ANNEX B-2	Ø 32 mm	1,9 – 7,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 40 mm	1,9 – 7,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 50 mm	1,9 – 7,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 63 mm	1,9 – 7,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	1,9 – 5,6 mm	A	EI 120 U/U	E 120 U/U
	Ø 90 mm	2,2 – 8,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	2,2 – 8,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 125 mm	3,7 – 9,2 mm	A	EI 120 U/U	E 120 U/U
	Ø 140 mm	3,2 – 11,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	3,2 – 11,8 mm	A	EI 120 U/U	E 120 U/U

Pipes made from **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.

Supporting construction	Outer-Ø	t _{pipe}	Sealant*	Classifications	
Flexible and rigid walls according to ANNEX B-2	Ø 32 mm	1,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 32 mm	1,8 – 5,8 mm	A	EI 60 U/U	E 60 U/U
	Ø 40 mm	1,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 40 mm	1,8 – 5,8 mm	A	EI 60 U/U	E 60 U/U
	Ø 50 mm	1,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 50 mm	1,8 – 5,8 mm	A	EI 60 U/U	E 60 U/U
	Ø 63 mm	1,8 – 5,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	1,9 – 6,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 90 mm	2,7 – 4,2 mm	A	EI 120 U/U	E 120 U/U
	Ø 90 mm	4,2 – 10,0 mm	A	EI 60 U/U	E 60 U/U
	Ø 110 mm	2,7 – 4,2 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	4,2 – 10,0 mm	A	EI 60 U/U	E 60 U/U
	Ø 125 mm	3,1 – 7,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 140 mm**	4,0 – 9,1 mm	A	EI 60 U/U	E 60 U/U
	Ø 160 mm**	4,0 – 9,1 mm	A	EI 60 U/U	E 60 U/U

**Only in rigid walls with a thickness \geq 150 mm

* explanation of sealant and fixing of the collar see ANNEX B-1

Pacifyre® FPC
- Installation of plastic pipes in different types of flexible and rigid walls -

ANNEX B-3

Plastic pipes with an 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:

**WALL
Application**

Pipes made from PP-H in accordance with DIN 8077/78					
Supporting construction	Outer-Ø	t _{pipe}	Sealant*	Classifications	
Flexible and rigid walls according to ANNEX B-2	Ø 32 mm	1,8 – 5,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 40 mm	1,8 – 5,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 50 mm	1,8 – 5,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 63 mm	1,8 – 5,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	1,9 – 4,3 mm	A	EI 120 U/U	E 120 U/U
	Ø 90 mm	2,7 mm	A	EI 120 U/U	E 120 U/U
	Ø 90 mm	2,7 – 10,0 mm	A	EI 60 U/U	E 60 U/U
	Ø 110 mm	2,7	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	2,7 – 10,0 mm	A	EI 60 U/U	E 60 U/U
	Ø 125 mm	3,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 125 mm	3,1 – 7,1 mm	A	EI 45 U/U	E 45 U/U
	Ø 125 mm**	3,1 – 7,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 140 mm	4,0 mm	A	EI 120 U/U	E 120 U/U
	Ø 140 mm	4,0 – 9,1 mm	A	EI 60 U/U	E 60 U/U
	Ø 160 mm	4,0 mm	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	4,0 – 9,1 mm	A	EI 60 U/U	E 60 U/U

**Only in rigid walls with a thickness \geq 150 mm

Geberit Silent PP pipes in accordance with Z-42.1-432				
Supporting construction	Outer-Ø	Sealant*	Classifications	
Flexible and rigid walls according to ANNEX B-2	Ø 32 mm	A	EI 120 U/U	E 120 U/U
	Ø 40 mm	A	EI 120 U/U	E 120 U/U
	Ø 50 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U
	Ø 125 mm	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	A	EI 90 U/U	E 90 U/U

**Only rigid walls with a thickness \geq 150 mm

*explanation of sealant and fixing of the collar see ANNEX B-1

Pacifyre® FPC
- Installation of plastic pipes in different types of flexible and rigid walls -

ANNEX B-4

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:

WALL Application

Geberit Silent Pro pipes in accordance with Z-42.1-542				
Supporting construction	Outer-Ø	Sealant*	Classifications	
Flexible and rigid walls according to ANNEX B-2	Ø 50 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	A	EI 120 U/U	E 120 U/U
	Ø 90 mm	A	EI 90 U/U	E 90 U/U
	Ø 110 mm	A	EI 90 U/U	E 90 U/U
	Ø 125 mm**	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	A	EI 90 U/U	E 90 U/U

**Only rigid walls with a thickness \geq 150 mm

Wavin AS+ pipes in accordance with Z-42.1-569				
Supporting construction	Outer-Ø	Sealant*	Classifications	
Flexible and rigid walls according to ANNEX B-2	Ø 50 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U
	Ø 125 mm**	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	A	EI 60 U/U	E 60 U/U

**Only rigid walls with a thickness \geq 150 mm

Wavin SiTech+ pipes in accordance with Z-42.1-539				
Supporting construction	Outer-Ø	Sealant*	Classifications	
Flexible and rigid walls according to ANNEX B-2	Ø 50 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U
	Ø 125 mm**	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	A	EI 60 U/U	E 60 U/U

**Only rigid walls with a thickness \geq 150 mm

*explanation of sealant types see ANNEX B-1

Pacifyre® FPC
- Installation of plastic pipes in different types of flexible and rigid walls -

ANNEX B-5

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:

WALL Application

Poloplast POLO-KAL NG pipes in accordance with Z-42.1-241				
Supporting construction	Outer-Ø	Sealant*	Classifications	
Flexible and rigid walls according to ANNEX B-2	Ø 50 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U
	Ø 125 mm	A	EI 90 U/U	E 90 U/U
	Ø 160 mm	A	EI 120 U/U	E 120 U/U

Poloplast POLO-KAL 3S pipes in accordance with Z-42.1-341				
Supporting construction	Outer-Ø	Sealant*	Classifications	
Flexible and rigid walls according to ANNEX B-2	Ø 75 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U
	Ø 125 mm**	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	A	EI 90 U/U	E 90 U/U

**Only rigid walls with a thickness \geq 150 mm

REHAU RAUPIANO plus pipes in accordance with Z-42.1-223				
Supporting construction	Outer-Ø	Sealant*	Classifications	
Flexible and rigid walls according to ANNEX B-2	Ø 40 mm	A	EI 120 U/U	E 120 U/U
	Ø 50 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U
	Ø 125 mm**	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	A	EI 90 U/U	E 90 U/U

**Only rigid walls with a thickness \geq 150 mm

*explanation of sealant types see ANNEX B-1

Pacifyre® FPC
- Installation of plastic pipes in different types of flexible and rigid walls -

ANNEX B-6

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:

**WALL
Application**

Georg Fischer Silenta Premium pipes in accordance with Z-42.1-537				
Supporting construction	Outer-Ø	Sealant*	Classifications	
Flexible and rigid walls according to ANNEX B-2	Ø 58 mm	A	EI 120 U/U	E 120 U/U
	Ø 78 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U
	Ø 135 mm	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	A	EI 120 U/U	E 120 U/U

Conel Drain pipes in accordance with Z-42.1-510				
Supporting construction	Outer-Ø	Sealant*	Classifications	
Flexible and rigid walls according to ANNEX B-2	Ø 40 mm	A	EI 120 U/U	E 120 U/U
	Ø 50 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U

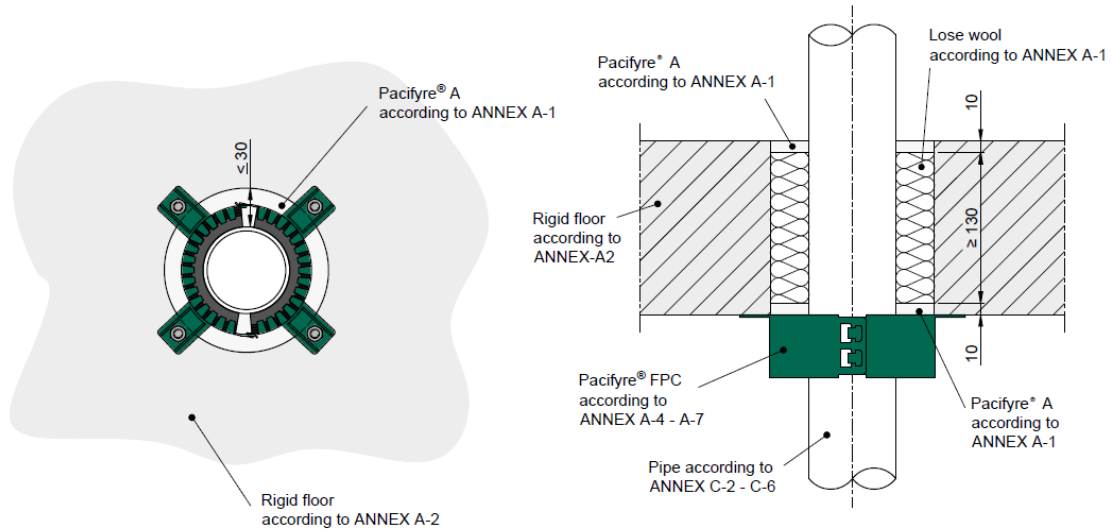
*explanation of sealant types see ANNEX B-1

Pacifyre® FPC
- Installation of plastic pipes in different types of flexible and rigid walls -

ANNEX B-7

Sealant type A | Pacifyre® A Acrylic sealant with a backfilling of firmly compressed loose wool

FLOOR Application



1. The backfilling is made by firmly compressed loose stone wool and fills the entire space between both layers of Pacifyre® A.

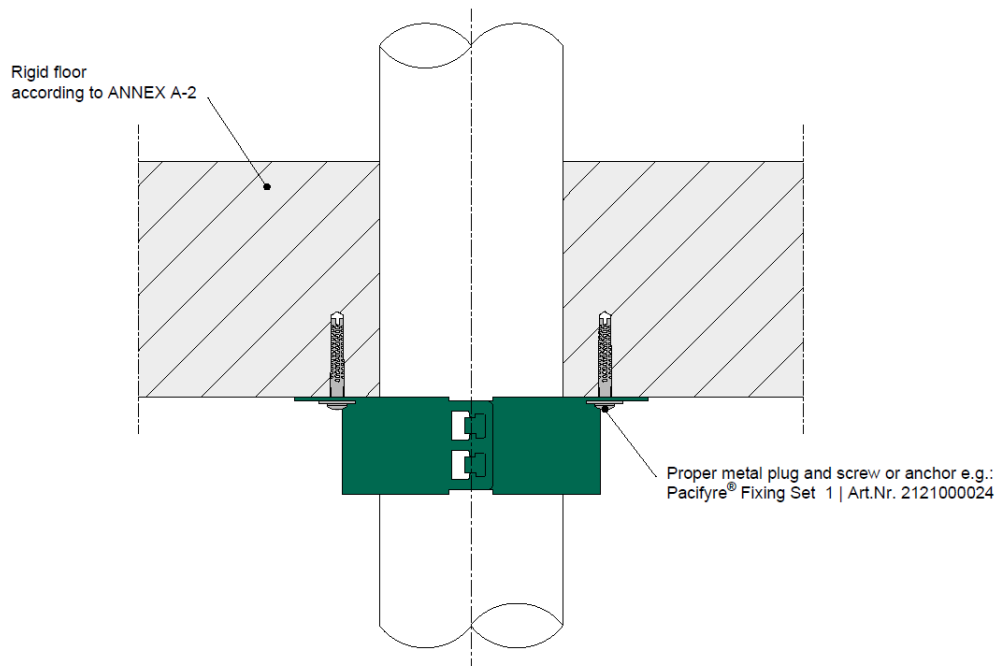
To apply the Acrylic properly the backfilling needs to be 10 mm from the surface inside the floor.

2. Filling the entire aperture with Pacifyre® A between the pipe and the aperture edge flush with both sides of the supporting construction (floor).

Fixing of the Pacifyre® FPC Fire Protection Collar

FLOOR Application

Each tab of the Pacifyre® FPC Collar needs to be fixed to the support construction.



Pacifyre® FPC
- Sealant and fixing -

ANNEX C-1

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:

FLOOR
Application

Pipes made from 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.					
Supporting construction	Outer-Ø	t _{pipe}	Sealant*	Classifications	
Rigid floors according to ANNEX C-1	Ø 32 mm	1,9 – 7,1 mm	A	EI 90 U/U	E 90 U/U
	Ø 32 mm	7,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 40 mm	1,9 – 7,1 mm	A	EI 90 U/U	E 90 U/U
	Ø 40 mm	7,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 50 mm	1,9 – 7,1 mm	A	EI 90 U/U	E 90 U/U
	Ø 50 mm	7,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 63 mm	1,9 – 7,1 mm	A	EI 90 U/U	E 90 U/U
	Ø 63 mm	7,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	1,9 – 4,3 mm	A	EI 120 U/U	E 120 U/U
	Ø 90 mm	2,7 – 10,0 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	2,7 – 10,0 mm	A	EI 120 U/U	E 120 U/U
	Ø 125 mm	3,1 – 7,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 140 mm	4,0 – 9,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	4,0 – 9,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 180 mm	5,3 – 8,6 mm	A	EI 120 U/C	E 120 U/C
	Ø 200 mm	7,3 – 11,9 mm	A	EI 120 U/C	E 120 U/C
	Ø 225 mm	7,3 – 11,9 mm	A	EI 120 U/C	E 120 U/C
	Ø 250 mm	7,3 – 11,9 mm	A	EI 120 U/C	E 120 U/C
	Ø 280 mm	9,2 – 15,0 mm	A	EI 120 U/C	E 120 U/C
	Ø 300 mm	9,2 – 15,0 mm	A	EI 120 U/C	E 120 U/C
Ø 315 mm	9,2 – 15,0 mm	A	EI 120 U/C	E 120 U/C	

* explanation of sealant and fixing of the collar see ANNEX C-1

Pacifyre® FPC
- Installation of plastic pipes in rigid floors -

ANNEX C-2

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:

FLOOR
Application

Pipes made from 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.					
Supporting construction	Outer-Ø	t _{pipe}	Sealant*	Classifications	
Rigid floors according to ANNEX C-1	Ø 32 mm	1,8 – 5,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 40 mm	1,8 – 5,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 50 mm	1,8 – 5,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 63 mm	1,8 – 5,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	1,9 – 6,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 90 mm	2,7 – 4,2 mm	A	EI 120 U/U	E 120 U/U
	Ø 90 mm	4,2 – 10,0 mm	A	EI 60 U/U	E 60 U/U
	Ø 110 mm	2,7 – 4,2 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	4,2 – 10,0 mm	A	EI 60 U/U	E 60 U/U
	Ø 125 mm	3,1 – 7,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 140 mm	4,0 – 14,6 mm	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	4,0 – 14,6 mm	A	EI 120 U/U	E 120 U/U
	Ø 180 mm	4,4 – 16,4 mm	A	EI 120 U/C	E 120 U/C
	Ø 200 mm	7,3 – 11,9 mm	A	EI 120 U/C	E 120 U/C
	Ø 225 mm	7,3 – 11,9 mm	A	EI 120 U/C	E 120 U/C
	Ø 250 mm	7,3 – 11,9 mm	A	EI 120 U/C	E 120 U/C
	Ø 280 mm	7,7 – 28,6 mm	A	EI 90 U/C	E 90 U/C
	Ø 300 mm	7,7 – 28,6 mm	A	EI 90 U/C	E 90 U/C
Ø 315 mm	7,7 – 28,6 mm	A	EI 90 U/C	E 90 U/C	

*explanation of sealant and fixing of the collar see ANNEX C-1

Pacifyre® FPC
- Installation of plastic pipes in rigid floors -

ANNEX C-3

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:

**FLOOR
Application**

Pipes made from PP-H in accordance with DIN 8077/78					
Supporting construction	Outer-Ø	t _{pipe}	Sealant*	Classifications	
Rigid floors according to ANNEX C-1	Ø 32 mm	1,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 32 mm	1,8 – 5,8 mm	A	EI 60 U/U	E 60 U/U
	Ø 40 mm	1,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 40 mm	1,8 – 5,8 mm	A	EI 60 U/U	E 60 U/U
	Ø 50 mm	1,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 50 mm	1,8 – 5,8 mm	A	EI 60 U/U	E 60 U/U
	Ø 63 mm	1,8 mm	A	EI 120 U/U	E 120 U/U
	Ø 63 mm	1,8 – 5,8 mm	A	EI 60 U/U	E 60 U/U
	Ø 75 mm	1,9 – 4,3 mm	A	EI 120 U/U	E 120 U/U
	Ø 90 mm	2,7 mm	A	EI 120 U/U	E 120 U/U
	Ø 90 mm	2,7 – 10,0 mm	A	EI 90 U/U	E 90 U/U
	Ø 110 mm	2,7 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	2,7 – 10,0 mm	A	EI 90 U/U	E 90 U/U
	Ø 125 mm	3,1 – 7,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 140 mm	4,0 – 9,1 mm	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	4,0 – 9,1 mm	A	EI 120 U/U	E 120 U/U

Geberit Silent PP pipes in accordance with Z-42.1-432				
Supporting construction	Outer-Ø	Sealant*	Classifications	
Rigid floors according to ANNEX C-1	Ø 32 mm	A	EI 120 U/U	E 120 U/U
	Ø 40 mm	A	EI 120 U/U	E 120 U/U
	Ø 50 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U
	Ø 125 mm	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	A	EI 120 U/U	E 120 U/U

* explanation of sealant and fixing of the collar see ANNEX C-1

Pacifyre® FPC
- Installation of plastic pipes in rigid floors -

ANNEX C-4

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:

**FLOOR
Application**

Geberit Silent Pro pipes in accordance with Z-42.1-542				
Supporting construction	Outer-Ø	Sealant*	Classifications	
Rigid floors according to ANNEX C-1	Ø 50 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	A	EI 120 U/U	E 120 U/U
	Ø 90 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U
	Ø 125 mm	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	A	EI 120 U/U	E 120 U/U

Wavin AS+ pipes in accordance with Z-42.1-569				
Supporting construction	Outer-Ø	Sealant*	Classifications	
Rigid floors according to ANNEX C-1	Ø 50 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U
	Ø 125 mm	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	A	EI 120 U/U	E 120 U/U

Wavin SiTech+ pipes in accordance with Z-42.1-539				
Supporting construction	Outer-Ø	Sealant*	Classifications	
Rigid floors according to ANNEX C-1	Ø 50 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U
	Ø 125 mm	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	A	EI 120 U/U	E 120 U/U

* explanation of sealant and fixing of the collar see ANNEX C-1

Pacifyre® FPC
- Installation of plastic pipes in rigid floors -

ANNEX C-5

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:

**FLOOR
Application**

Poloplast POLO-KAL NG pipes in accordance with Z-42.1-241

Supporting construction	Outer-Ø	Sealant*	Classifications	
Rigid floors according to ANNEX C-1	Ø 50 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U
	Ø 125 mm	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	A	EI 120 U/U	E 120 U/U

Poloplast POLO-KAL 3S pipes in accordance with Z-42.1-341

Supporting construction	Outer-Ø	Sealant*	Classifications	
Rigid floors according to ANNEX C-1	Ø 75 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U
	Ø 125 mm	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	A	EI 120 U/U	E 120 U/U

REHAU RAUPIANO plus pipes in accordance with Z-42.1-223

Supporting construction	Outer-Ø	Sealant*	Classifications	
Rigid floors according to ANNEX C-1	Ø 40 mm	A	EI 120 U/U	E 120 U/U
	Ø 50 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U
	Ø 125 mm	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	A	EI 120 U/U	E 120 U/U

* explanation of sealant and fixing of the collar see ANNEX C-1

Pacifyre® FPC
- Installation of plastic pipes in rigid floors -

ANNEX C-6

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:

FLOOR
Application

Georg Fischer Silenta Premium pipes in accordance with Z-42.1-537				
Supporting construction	Outer-Ø	Sealant*	Classifications	
Flexible and rigid walls according to ANNEX B-2	Ø 58 mm	A	EI 120 U/U	E 120 U/U
	Ø 78 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U
	Ø 135 mm	A	EI 120 U/U	E 120 U/U
	Ø 160 mm	A	EI 120 U/U	E 120 U/U

Conel Drain pipes in accordance with Z-42.1-510				
Supporting construction	Outer-Ø	Sealant*	Classifications	
Flexible and rigid walls according to ANNEX B-2	Ø 40 mm	A	EI 120 U/U	E 120 U/U
	Ø 50 mm	A	EI 120 U/U	E 120 U/U
	Ø 75 mm	A	EI 120 U/U	E 120 U/U
	Ø 110 mm	A	EI 120 U/U	E 120 U/U

* explanation of sealant and fixing of the collar see ANNEX C-1

Pacifyre® FPC
- Installation of plastic pipes in rigid floors -

ANNEX C-7