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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-21/0646 of 2021/07/05

I 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:	Tytan Professional B1 Fire Sealant Also placed on the market under the name Quilosa Professional B1 Fire Sealant
Product family to which the above construction product belongs:	Fire Stopping and Sealing Product: • Penetration Seals
Manufacturer:	Selena FM S.A. Strzegomska 2-4 PL-53-611 Wroclaw
Manufacturing plant:	A/003
This European Technical Assessment contains:	15 pages including 1 annex 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
This version replaces:	-

Table of Contents

I. SPECIFIC PARTS OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical description of the product

1) Tytan Professional B1 Fire Sealant is a sealant used to form a penetration seal around metallic pipes and plastic pipes to reinstate the fire resistance performance of wall and floor constructions, where they have been provided with apertures for the penetration of services.

2) The Tytan Professional B1 Fire Sealant is supplied in liquid form contained within 200 ml, 300 ml, 380 mm and 600 ml containers. The sealant is gunned into the aperture in the separating element/elements and around the service or services, to a specified depth utilising a backing material.

3) Tytan Professional B1 Fire Sealant contains no carcinogenic substances or mutagenic substances, flame retardants or antimicrobiological agents.

4) The applicant submitted a written declaration that the product and/or constituents of the product contains no substances which have been classified as dangerous according to Directive 67/548/EEC and Regulation (EC) No. 1272/2008 and listed in the 'indicative list on dangerous substances' of the EGDS – taking into account the installation conditions of the construction product and the release scenarios resulting from there.

   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 Construction Products Regulation, these requirements need also to be complied with, when and where they apply.

5) The use category of Tytan Professional B1 Fire Sealant in relation BWR 4 (safety in use) is IA1, S/W3

2 Specification of the intended uses of the product in accordance with the applicable European Assessment Document (Hereinafter EAD): EAD 350454-00-1104

Detailed information and data is given in Annex A.

1) The intended use of system Tytan Professional B1 Fire Sealant is to reinstate the fire resistance performance of flexible wall constructions, rigid wall constructions and rigid floor constructions where they are penetrated by various metal pipe services without combustible insulation, and plastic pipes.

2) The specific elements of construction that the system Tytan Professional B1 Fire Sealant may be used to provide a penetration seal in, are as follows:

   a. Flexible walls: The wall must have a minimum thickness of 100 mm and comprise steel studs or timber studs* lined on both faces with minimum 2 layers of 12.5 mm thick boards.
   b. Rigid walls: The wall must have a minimum thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a minimum density of 650 kg/m3.
   c. Rigid floors: The floor must have a minimum thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650 kg/m3

   * no part of the penetration seal may be closer than 100 mm to a stud, the cavity must be closed between the penetration seal and the stud, and minimum 100 mm of insulation of class A1 or A2 according to EN 13501-1 must be provided within the cavity between the penetration seal and the stud.

   The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period.

3) The system Tytan Professional B1 Fire Sealant may be used to provide a penetration seal with specific, single uninsulated metal pipes and plastic pipes (for details see Annex A).

4) The annular ring width should be minimum 10 mm and maximum 30 mm. The annular space/gap around the services shall be infilled with Tytan Professional B1 Fire Sealant. For full details, see Annex A.

5) Pipes shall be supported at maximum 250 mm away from both faces of the wall constructions and 450 mm from the upper face of floor constructions.

6) The provisions made in this European Technical Assessment are based on an assumed working life of the Tytan Professional B1 Fire Sealant of 25 years, provided that the conditions laid down in sections 4.2/5.1/5.2 for the packaging/transport/ storage/installation/use/repair are met. The indications given on the working life cannot be interpreted as a guarantee given by the producer or the Technical Assessment Body but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

7) Type X: intended for use at conditions exposed to weathering and all lower classes.

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

Product-type: Sealant		Intended use: Penetration Seal
	Essential characteristic	Performance
BWR 2 Safety in case of fire		
	Reaction to fire	Class D-s2, d0
	Resistance to fire	Annex A
BWR 3 Hygiene, health and environment		
	Air permeability	No performance assessed
	Water permeability	No performance assessed
	Content, emission and/or release of dangerous substances	Declaration of manufacturer
BWR 4 Safety in use		
	Mechanical resistance and stability	No performance assessed
	Resistance to impact/movement	No performance assessed
	Adhesion	No performance assessed
	Durability	X
BWR 5 Protection against noise		
	Airborne sound insulation	No performance assessed
BWR 6 Energy economy and heat retention		
	Thermal properties	No performance assessed
	Water vapour permeability	No performance assessed

* At minimum 12 mm depth

4 ASSESSMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE (HEREINAFTER AVCP) SYSTEM APPLIED, WITH REFERENCE TO ITS LEGAL BASE

According to the decision 1999/454/EC – Commission Decision of date 22nd June 1999 on the procedure for attesting the conformity of construction products pursuant to Article 20(2) of Council Directive 89/106/EEC as regards fire stopping, fire sealing and fire protective products, published in the Official Journal of the European Union (OJEU) L178/52 of 14/07/1999, see http://eur-lex.europa.eu/JOIndex.do) of the European Commission[1], as amended, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) given in the following table(s) applies (apply).

Product(s)	Intended use(s)	Level(s) or class(es)	System(s)
Fire stopping and Fire Sealing Products	For fire compartmentation and/or fire protection or fire performance	Any	1

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 ETA-Danmark A/S prior to CE marking

Issued in Copenhagen on 2021-07-05 by

Thomas Bruun

Managing Director, ETA-Danmark

[1] Official Journal of the European Communities L178/52 of 14/7/1999

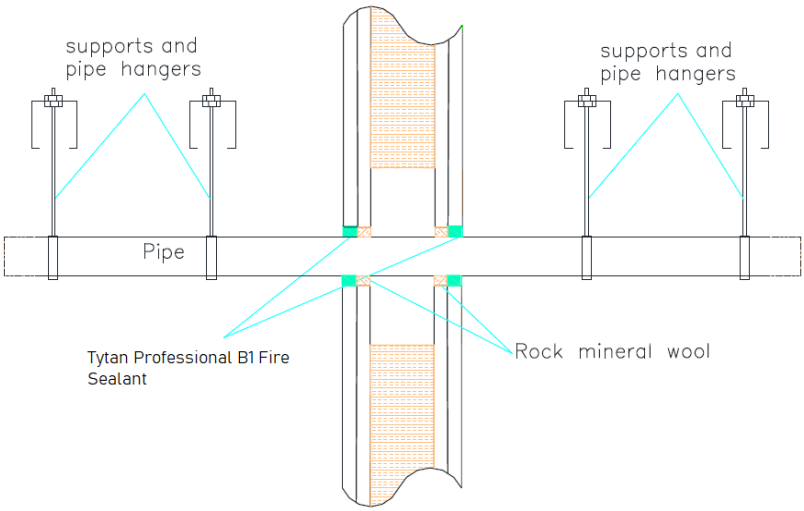
ANNEX A – Resistance to Fire Classification – Tytan Professional B1 Fire Sealant

A.1 Flexible and rigid wall constructions according to 1.2.1 with wall thickness of minimum 100 mm

A.1.1 Double side penetration seal with metallic (and composite) pipes

Penetration Seal: Pipe (single) fitted at any position within the aperture, with 12.5 mm deep Tytan Professional B1 Fire Sealant to both sides of the wall, backed with 12.5 mm deep stone wool insulation minimum 33kg/m^3. Minimum annular space 10 mm (A1) and minimum separation between penetration seals 30 mm (A2).

Construction details:



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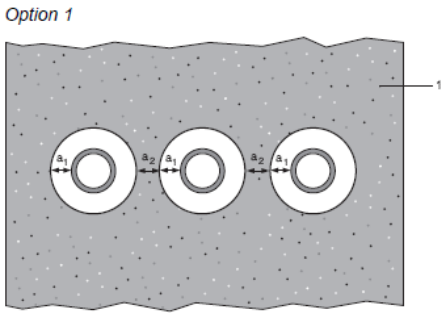
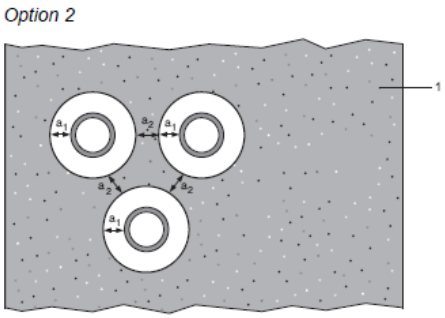
	

Key

1 Supporting construction

a1 Pipe / top edge of seal separation

a2 Pipe / side edge of seal separation

a3 Pipe / pipe separation

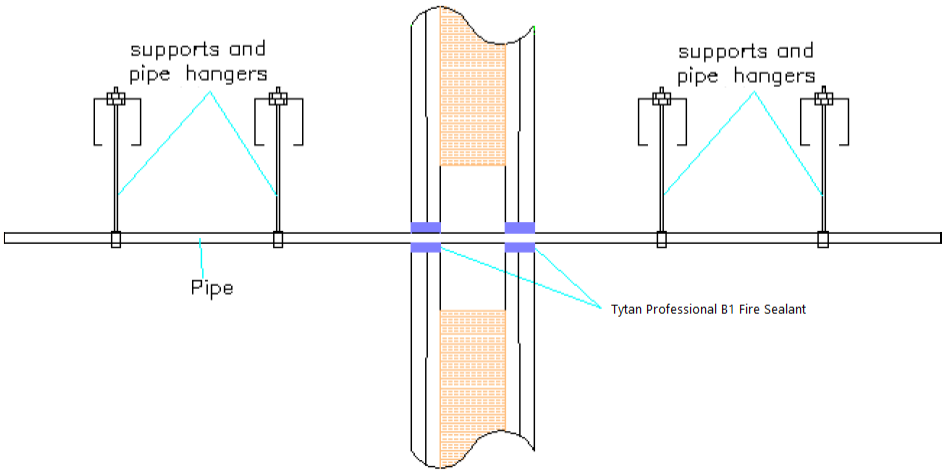
A.1.1.1

Services	Sealant depth	Backing	Aperture Ø	Classification
Alupex composite pipe 16-20 mm diameter/2.0 mm wall	12.5 mm	Stone wool 12.5 mm deep min. 33 kg/m^3	Maximum annular ring width 30 mm	**EI 120 C/C**
Steel pipe 4-22 mm diameter/1.0-11.0 mm wall				**EI 120 C/U**
Copper or steel pipe 6-12 mm diameter/0.8-6.0 mm wall				**E 120, EI 60 C/C**

A.1.2 Double side penetration seal with plastic pipes

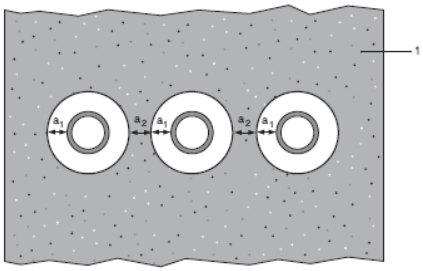
Penetration Seal: Plastic pipes (single) fitted at any position within the aperture, with 25 mm Tytan Professional B1 Fire Sealant to both sides of the wall. Minimum annular space 10 mm (A1) and minimum separation between penetration seals 30 mm (A2).

Construction details:



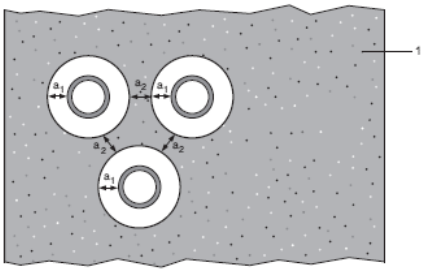
Configuration 1

Option 1



Configuration 2

Option 2



Key

1 Supporting construction

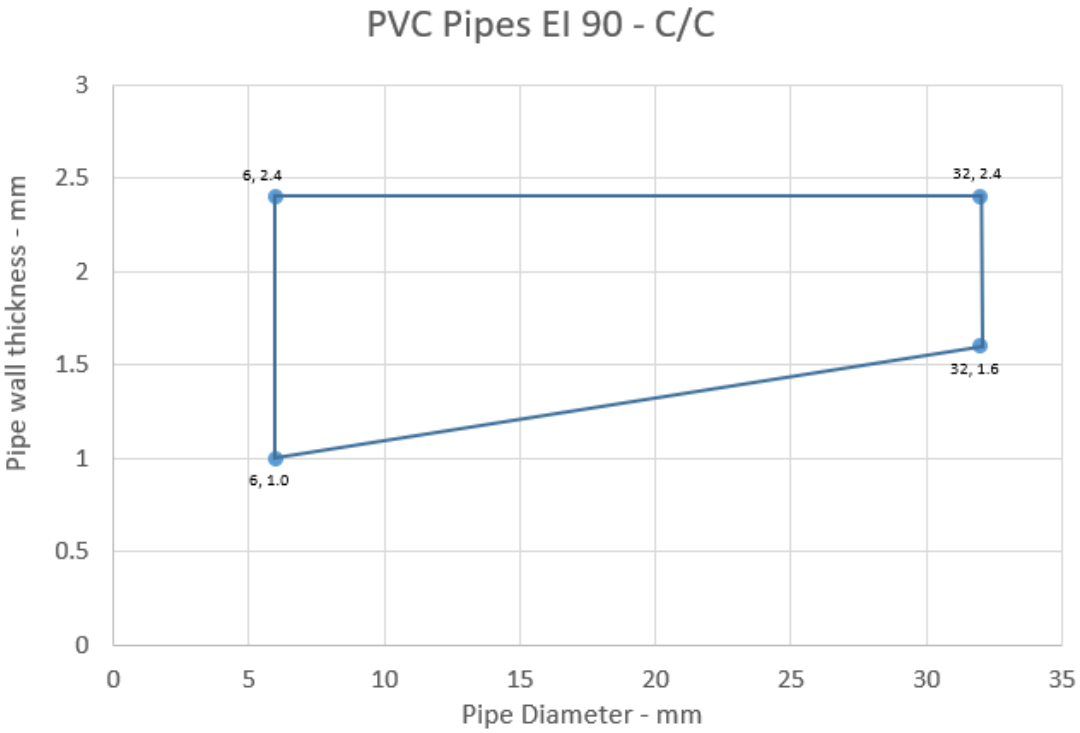
a1 Pipe / top edge of seal separation

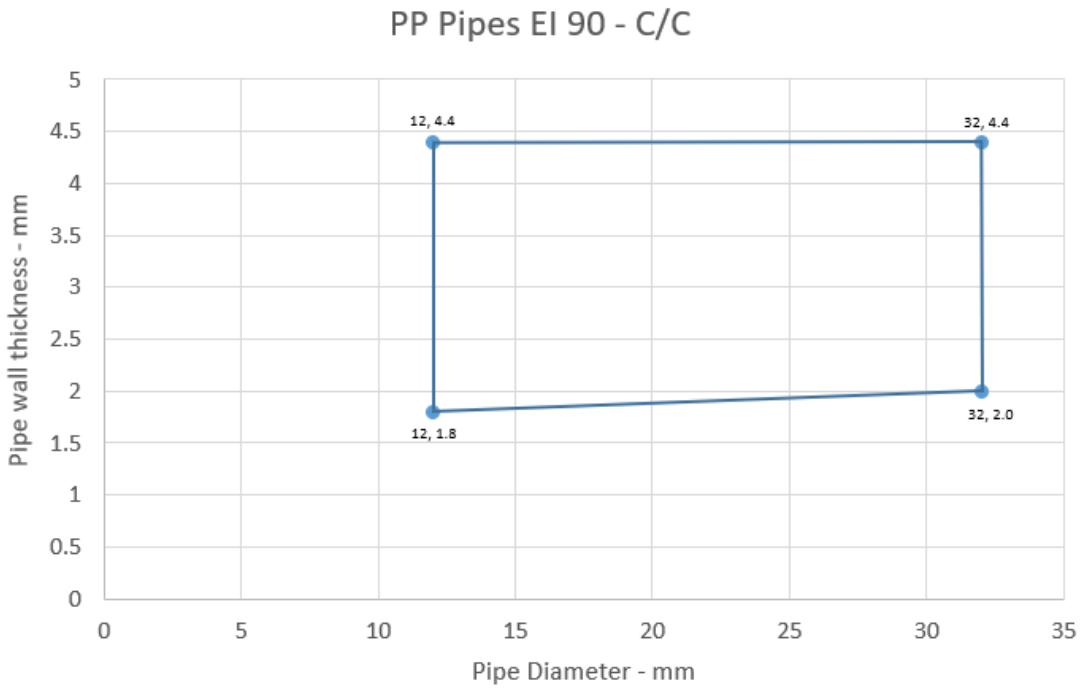
a2 Pipe / side edge of seal separation

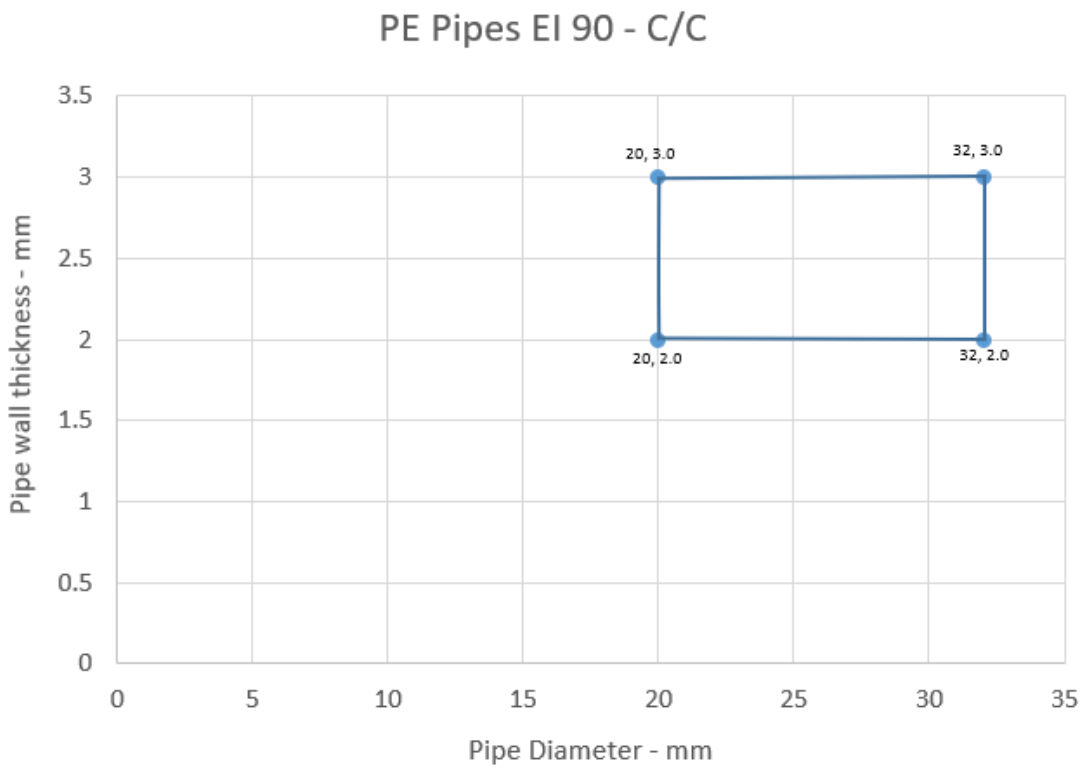
A.1.2.1

Services	Sealant depth	Classification
PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1, PVC-C according to EN 1566-1		
6-32 mm Ø/1.0-2.4 mm wall*	25 mm	**EI 90 C/C**
PP pipe according to EN 1451-1		
12-32 mm Ø/1.8-4.4 mm wall*	25 mm	**EI 90 C/C**
PE pipe according to EN 1519-1, EN 12201-2 and EN 12666-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1		
20-32 mm Ø/2.0-3.0 mm wall*	25 mm	**EI 90 C/C**

*See below graphs for interpolated pipe sizes and permitted pipe wall thicknesses


PVC Pipes EI 90 - C/C
Pipe wall thickness - mm
Pipe Diameter - mm
6, 2.4
32, 2.4
32, 1.6
6, 1.0
0
0.5
1
1.5
2
2.5
3
0
5
10
15
20
25
30
35


PP Pipes EI 90 - C/C
Pipe wall thickness - mm
Pipe Diameter - mm
12, 4.4
32, 4.4
32, 2.0
12, 1.8
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
0
5
10
15
20
25
30
35

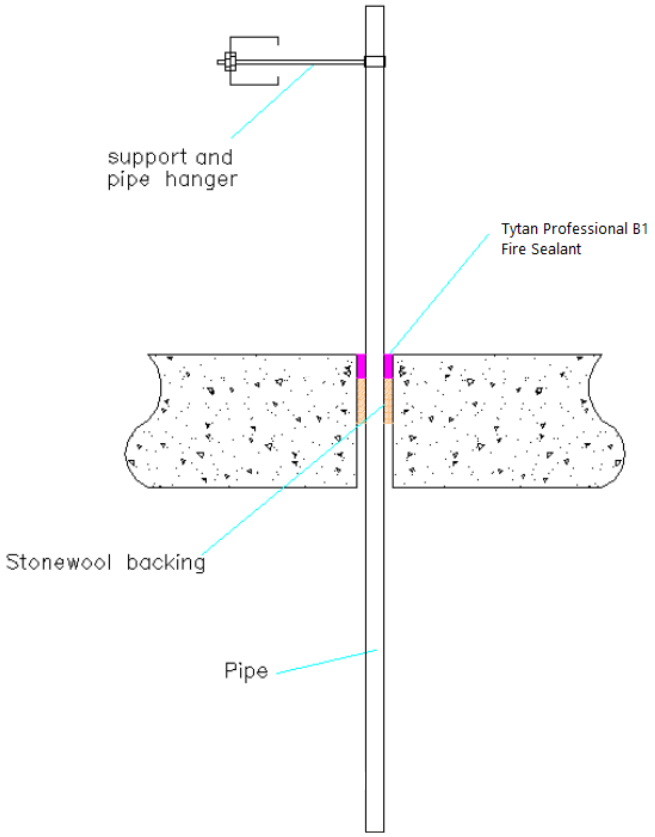

PE Pipes EI 90 - C/C
Pipe wall thickness - mm
Pipe Diameter - mm
3.5
3
2.5
2
1.5
1
0.5
0
0
5
10
15
20
25
30
35
20, 3.0
32, 3.0
20, 2.0
32, 2.0

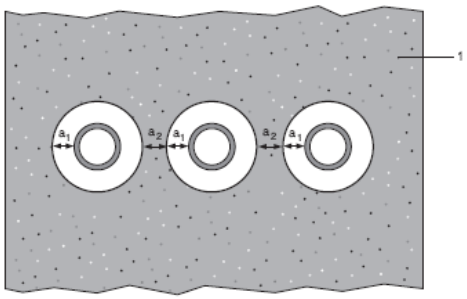
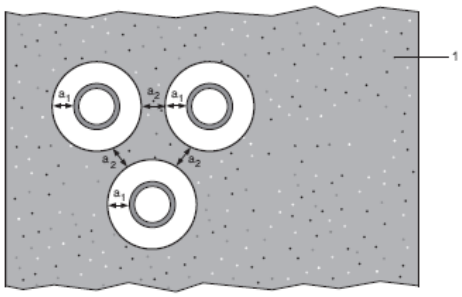
A.2 Rigid floor constructions according to 1.2.1 with floor thickness of minimum 150 mm

A.2.1 Single side penetration seal with pipes

Penetration Seal: Pipes fitted at any position within the aperture, with Tytan Professional B1 Fire Sealant to the top face of the floor, backed with 48 mm stone wool minimum 35kg/m^3. Minimum annular space 10 mm (A1) and minimum separation between penetration seals 30 mm (A2).

Construction details:



Configuration 1	Configuration 2
Option 1 	*Option 2* 

Key

1 Supporting construction

a1 Pipe / top edge of seal separation

a2 Pipe / side edge of seal separation

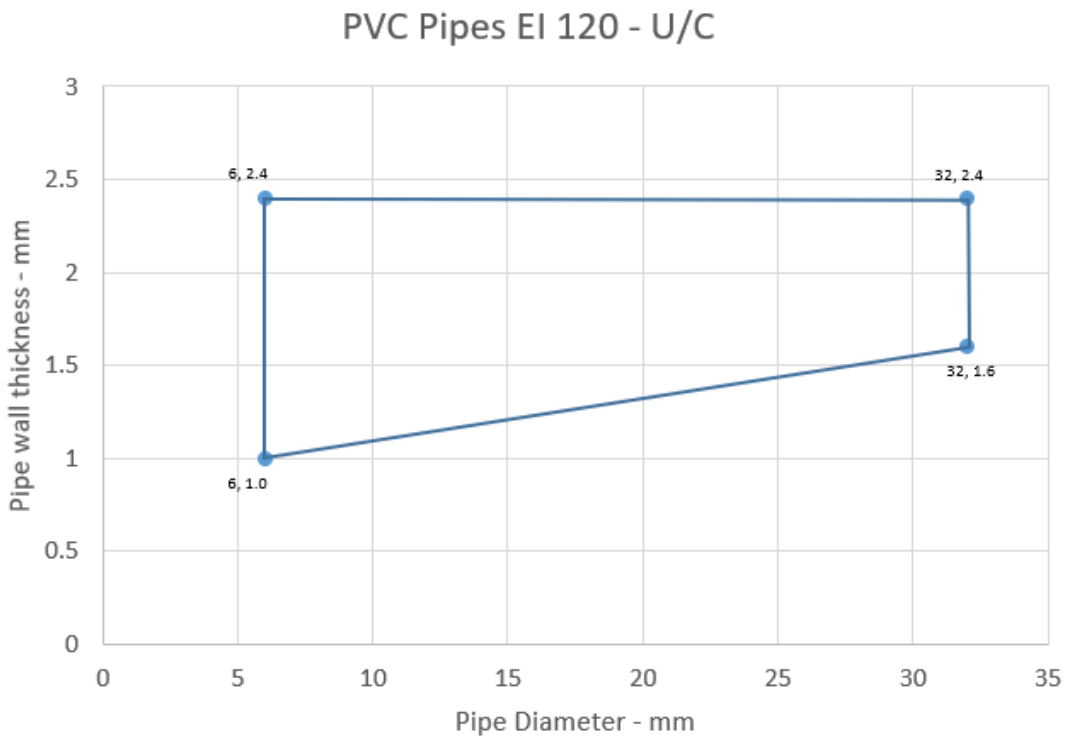
A.2.1.1

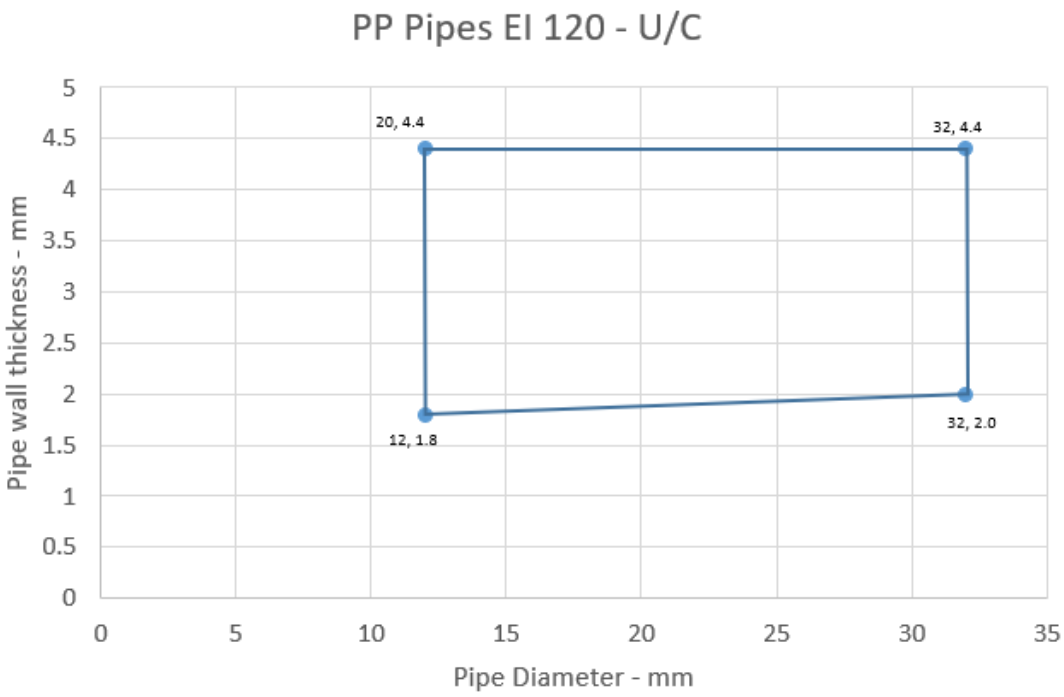
Services	Sealant depth	Backing (minimum)	Aperture (maximum)	Classification
Mild or stainless steel pipe				
4-16 mm diameter/1.0-8.0 mm wall	25 mm	48 mm stone wool	Maximum annular ring width 30 mm	**EI 120 C/U**
Copper or steel pipe				
Up to 10 mm diameter/0.7-5.0 mm wall	25 mm	48 mm stone wool	Maximum annular ring width 30 mm	**EI 120 C/C**
11-15 mm diameter/0.7 -7.5 mm wall	25 mm	48 mm stone wool	Maximum annular ring width 30 mm	**E 120, EI 45 C/C**
Alupex composite pipe				
16-20 mm diameter/2.0 mm wall	25 mm	48 mm stone wool	Maximum annular ring width 30 mm	**EI 120 C/C**

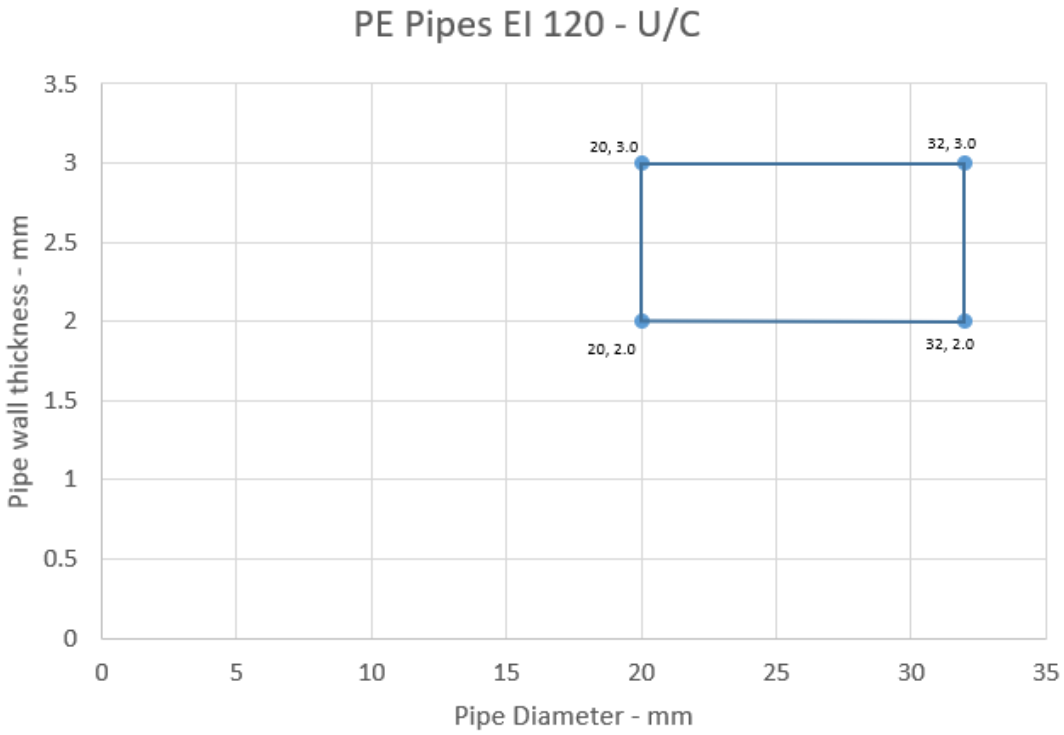
A.2.1.2

Services	Sealant depth	Backing (minimum)	Classification
PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1, PVC-C according to EN 1566-1			
6-32 mm diameter/1.0-2.4 mm wall*	25 mm	48 mm stone wool	**EI 120 U/C**
PP pipe according to EN 1451-1			
12-32 mm diameter/1.8-4.4 mm wall*	25 mm	48 mm stone wool	**EI 120 U/C**
PE pipe according to EN 1519-1, EN 12201-2 and EN 12666-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1			
20-32 mm diameter/2.0-3.0 mm wall*	25 mm	48 mm stone wool	**EI 120 U/C**

*See below graphs for interpolated pipe sizes and permitted pipe wall thicknesses




PP Pipes EI 120 - U/C
Pipe wall thickness - mm
Pipe Diameter - mm
20, 4.4
32, 4.4
12, 1.8
32, 2.0
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
0
5
10
15
20
25
30
35


PE Pipes EI 120 - U/C
Pipe wall thickness - mm
Pipe Diameter - mm
20, 3.0
32, 3.0
20, 2.0
32, 2.0
0
0.5
1
1.5
2
2.5
3
3.5
0
5
10
15
20
25
30
35