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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



European Technical Assessment ETA-21/0183 of 2021/01/15

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:

Nullifire FP170 Range Collars

Product family to which the above construction product belongs:

Fire Stopping and Sealing Product:
• Penetration Seals

Manufacturer:

Tremco Illbruck Limited
Coupland Road
Wigan
WN2 4HT

Manufacturing plant:

A/005

This European Technical Assessment contains:

21 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, September 2017

This version replaces:

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I. SPECIFIC PARTS OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical description of the product

- 1) Nullifire FP170 Range Collars comprise FP171, FP172 and FP173 pipe collars, which are pipe closure devices used to form penetration seals where combustible pipes, cables and metal pipes with insulation penetrate walls and floors.
- 2) The Nullifire FP170 Range Collars is supplied with intumescent liner complete within metal steel shell, to be clamped around the service and screw fixed back to the supporting element. The collars can be manufactured using stainless steel or mild steel with either a galvanized or powder coated finish. The body of the collars can be either half shells with slide together fixings; half shells with hinge and toggle latch fixings or a continuous wrap around body with slide through and fold back fixing tabs.
- 3) The applicant has 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.

- 4) The use category of Nullifire FP170 Range Collars in relation to 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): EOTA ETAG 026-2

Detailed information and data is given in Annex A.

The intended use of system Nullifire FP170 Range Collars is to reinstate the fire resistance performance of flexible wall and rigid wall and floor constructions, where they are penetrated by services.

- 1) The specific elements of construction that the system Nullifire FP170 Range Collars may be used to provide a penetration seal in, are as follows:

Flexible walls: The wall must have a minimum thickness of 100 mm and comprise steel studs lined on both faces with minimum 2 layers of 12.5 mm thick boards.

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.

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.

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

- 2) The system Nullifire FP170 Range Collars may be used to provide a penetration seal with specific supporting constructions and substrates (for details see Annex A).
- 3) The provisions made in this European Technical Assessment are based on an assumed working life of the Nullifire FP170 Range Collars of 10 years, provided that the conditions laid down in the manufacturers datasheet and instructions 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.
- 4) Type Y₂: intended for use at temperatures below 0°C, but with no exposure to rain nor UV. Includes lower use categories.

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

Product-type: Pipe Collar		Intended use: Penetration Seal
	Basic Requirement	Performance
BWR 1 Mechanical resistance and stability		
	None	Not relevant
BWR 2 Safety in case of fire		
	Reaction to fire	No performance assessed
	Resistance to fire	Annex A
BWR 3 Hygiene, health and environment		
	Air permeability (material property)	No performance assessed
	Water permeability (material property)	No performance assessed
	Release of dangerous substances	Use categories: IA1, S/W3 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
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
General aspects relating to fitness for use		
	Durability and serviceability	Y ₂
BWR 7 Sustainable use of natural resources		
	-	No performance assessed

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 Commission¹, 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 2021-01-15 by

Thomas Bruun

Managing Director, ETA-Danmark

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

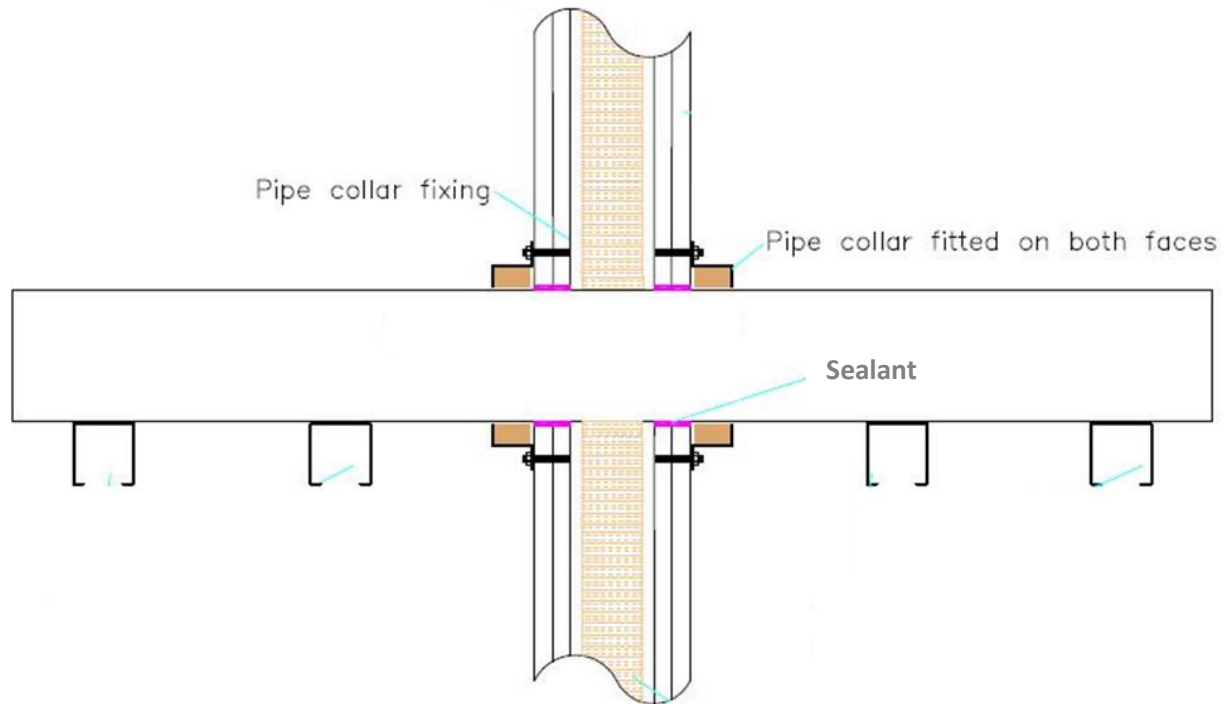
ANNEX A – Resistance to Fire Classification – Nullifire FP170 Range Collars

A.1 Flexible or rigid wall constructions with wall thickness of minimum 100 mm and FP171 pipe collar

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

Penetration Seal: Combustible pipes fitted with FP171 collar to both sides of the wall.

Construction details:



A.1.1.1

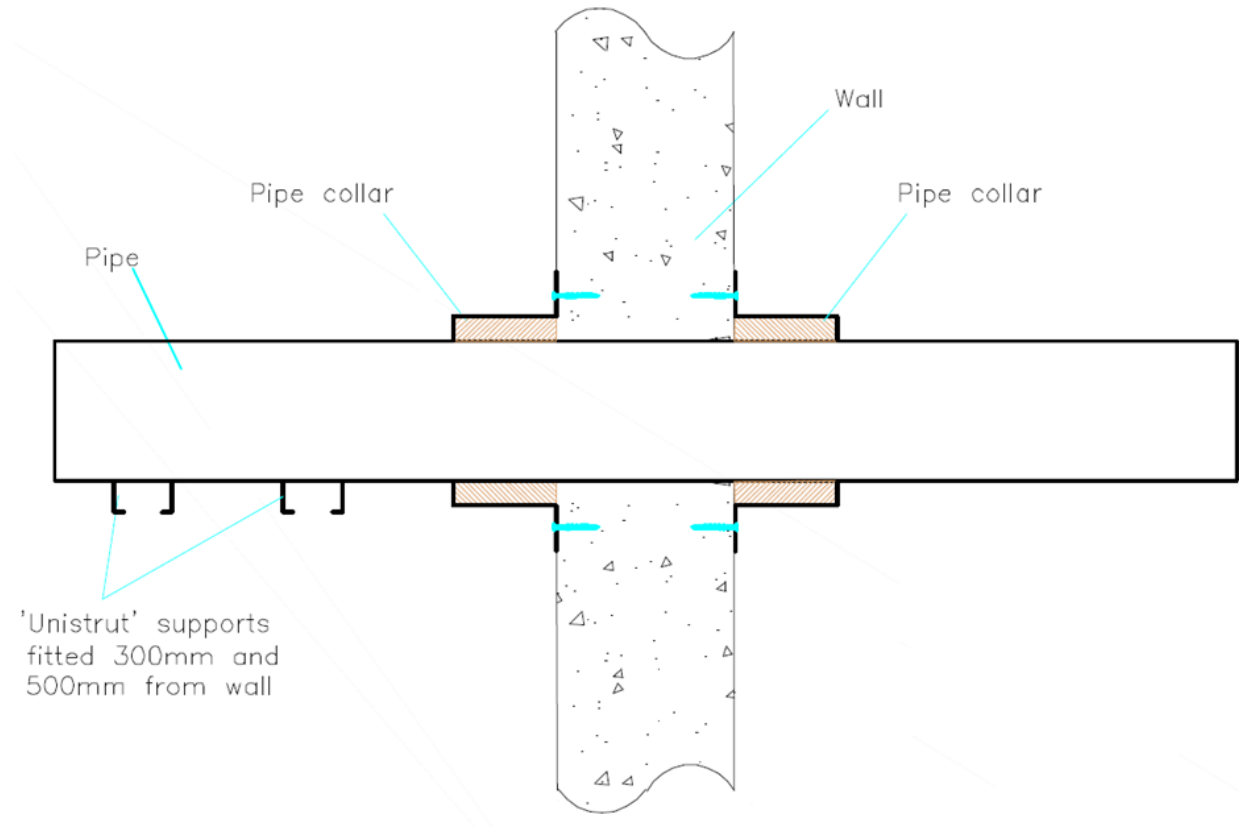
Services	Collar Inlay	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1		
Diameter 40 mm, wall thickness 3 mm	30 x 6 mm	EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter 55 mm, wall thickness 3.2 mm		E 120 U/U, E 120 C/U, E 120 U/C, E 120 C/C
Diameter 82 mm, wall thickness 3.2 mm		EI 60 U/U, EI 60 C/U, EI 60 U/C, EI 60 C/C
Diameter 110 mm, wall thickness 2.7-6.6 mm	30 x 10 mm	E 120 U/U, E 120 C/U, E 120 U/C, E 120 C/C EI 90 U/U, EI 90 C/U, EI 90 U/C, EI 90 C/C
Diameter 110 mm, wall thickness 9.5 mm	30 x 16 mm	EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter 125 mm, wall thickness 9.5 mm		
Diameter 160 mm, wall thickness 9.5 mm		
Diameter 110 mm, wall thickness 4-9.5 mm		E 120 U/U, E 120 C/U, E 120 U/C, E 120 C/C EI 90 U/U, EI 90 C/U, EI 90 U/C, EI 90 C/C
Diameter 125 mm, wall thickness 4-9.5 mm		
Diameter 160 mm, wall thickness 4-9.5 mm		
PE pipe according to EN 1519-1, EN 12201-2 and EN 1266-1, ABS pipe according to EN 1455-1 and SAN+PVC pipe according to EN 1565-1		
Diameter 40 mm, wall thickness 3.8 mm	30 x 6 mm	EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter 50 mm, wall thickness 4.6 mm		EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter 75 mm, wall thickness 6.8 mm		EI 90 U/U, EI 90 C/U, EI 90 U/C, EI 90 C/C
Diameter 90 mm, wall thickness 6.6 mm	30 x 10 mm	E 120 U/U, E 120 C/U, E 120 U/C, E 120 C/C EI 90 U/U, EI 90 C/U, EI 90 U/C, EI 90 C/C
Diameter 110 mm, wall thickness 6.6		
Diameter 125 mm, wall thickness 14.6 mm	30 x 16 mm	EI 60 U/U, EI 60 C/U, EI 60 U/C, EI 60 C/C
Diameter 160 mm, wall thickness 14.6 mm		

A.2 Rigid wall constructions with wall thickness of minimum 100 mm and FP171 pipe collar

A.2.1 Penetration seals, in concrete/masonry walls

Penetration Seal: Insulated metal and combustible pipes fitted with FP171 collar to both sides of the wall.

Construction details:



A.2.1.1

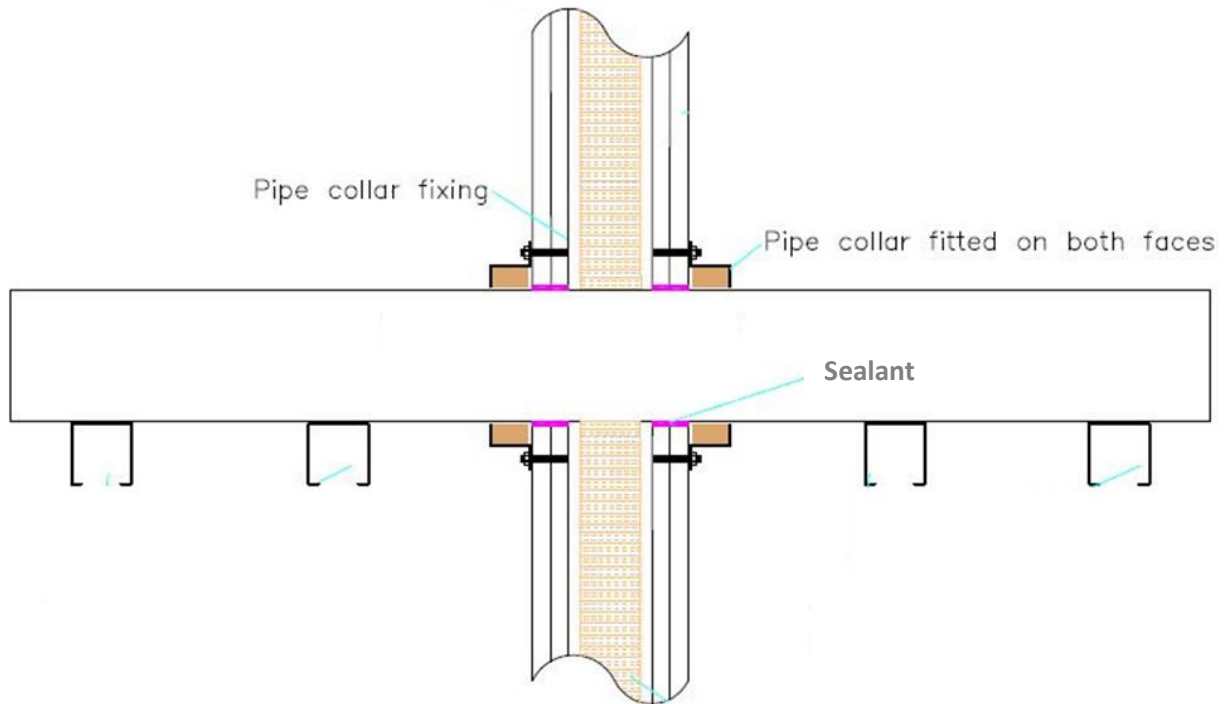
Services	Collar Inlay	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1		
Diameter 110 mm, wall thickness 1.8-4.2 mm	30 x 10 mm	EI 240 U/U, EI 240 C/U, EI 240 U/C, EI 240 C/C
Diameter 125mm, wall thickness 1.8-4.2 mm	45 x 16 mm	EI 240 U/U, EI 240 C/U, EI 240 U/C, EI 240 C/C
Diameter 160 mm, wall thickness 1.8-4.2 mm		
PE pipe according to EN 1519-1, EN 12201-2 and EN 1266-1, ABS pipe according to EN 1455-1 and SAN+PVC pipe according to EN 1565-1		
Diameter 125mm, wall thickness 1.8-4.2 mm	45 x 16 mm	EI 240 U/U, EI 240 C/U, EI 240 U/C, EI 240 C/C
Diameter 160 mm, wall thickness 6.2 mm		
BevEx Drinks Python		
Diameter 80 mm	30 x 6 mm	EI 240 U/U, EI 240 C/U, EI 240 U/C, EI 240 C/C
Steel pipe, with Continuous Sustained (CS) K-Flex ST or Armaflex insulation		
Diameter 47.6 mm, wall thickness 1.5-14.2 mm with 13 mm insulation	30 x 6 mm	E 240 C/C, EI 180 C/C
Diameter 114.3 mm, wall thickness 2-14.2 mm with 19 mm insulation	45 x 16 mm	E 240 C/C, EI 120 C/C

A.3 Flexible or rigid wall constructions with wall thickness of minimum 100 mm and FP172 pipe collar

A.3.1 Penetration seals, in drywalls and concrete/masonry walls

Penetration Seal: Insulated metal and combustible pipes and telecoms cables fitted with FP172 collar to both sides of the wall.

Construction details:



A.3.1.1

Services	Collar Inlay	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1		
Diameter 32 mm, wall thickness 3-3.2 mm	50 x 4 mm	EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter 38 mm, wall thickness 3-3.2 mm		
Diameter 40 mm, wall thickness 3-3.2 mm		
Diameter 42.2 mm, wall thickness 3.2 mm		
Diameter 46 mm, wall thickness 3.2 mm		
Diameter 48.3 mm, wall thickness 3.2 mm		
Diameter 50 mm, wall thickness 3.2 mm		
Diameter 55 mm, wall thickness 3.2 mm		
Diameter 82 mm, wall thickness 3.2 mm		
Diameter 110 mm, wall thickness 6.6 mm	50 x 8 mm	
Diameter 160 mm, wall thickness 9.5 mm	60 x 12 mm	
Diameter 160 mm, wall thickness 3.2-9.5 mm	60 x 18 mm	
Diameter 200 mm, wall thickness 3.9 mm	125 x 20 mm	
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1 with 19 mm Armaflex or K-Flex-ST insulation Continuous Sustained (CS)		
Diameter 55 mm, wall thickness 2 mm	50 x 8 mm	EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
PE pipe according to EN 1519-1, EN 12201-2 and EN 1266-1, ABS pipe according to EN 1455-1 and SAN+PVC pipe according to EN 1565-1		
Diameter 32 mm, wall thickness 3.7-4.6 mm	50 x 4 mm	EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter 38 mm, wall thickness 3.7-4.6 mm		
Diameter 40 mm, wall thickness 3.7-4.6 mm		
Diameter 42.2 mm, wall thickness 4.6 mm		
Diameter 46 mm, wall thickness 4.6 mm		
Diameter 48.3 mm, wall thickness 4.6 mm		
Diameter 50 mm, wall thickness 4.6 mm		
Diameter 75 mm, wall thickness 6.8 mm	50 x 6 mm	EI 60 U/U, EI 60 C/U, EI 60 U/C, EI 60 C/C
Diameter 75 mm, wall thickness 5.1 mm	50 x 8 mm	EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter 90 mm, wall thickness 5.1 mm		
Diameter 110 mm, wall thickness 10 mm	50 x 8 mm	EI 60 U/U, EI 60 C/U, EI 60 U/C, EI 60 C/C
Diameter 110 mm, wall thickness 6.2-6.6	50 x 8 mm	EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter 160 mm, wall thickness 7 mm	60 x 17 mm	EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C

A.3.1.2

Services	Collar Inlay	Classification
PB pipe according to DIN16968/16969 EN ISO15876-2		
Diameter 32 mm, wall thickness 3.7 mm	50 x 4 mm	EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter 38 mm, wall thickness 3.7 mm		
Diameter 40 mm, wall thickness 3.7 mm		
Diameter 50 mm, wall thickness 6.8 mm		
Diameter 75 mm, wall thickness 6.8 mm		
Diameter 90 mm, wall thickness 8.2 mm	50 x 8 mm	EI 45 U/U, EI 45 C/U, EI 45 U/C, EI 45 C/C
Diameter 110 mm, wall thickness 10 mm		E 45 U/U, E 45 C/U, E 45 U/C, E 45 C/C EI 30 U/U, EI 30 C/U, EI 30 U/C, EI 30 C/C
PP pipe according to DIN 8077/8078, EN ISO 15494		
Diameter 32 mm, wall thickness 3.7 mm	50 x 4 mm	E 120 U/U, E 120 C/U, E 120 U/C, E 120 C/C EI 90 U/U, EI 90 C/U, EI 90 U/C, EI 90 C/C
Diameter 38 mm, wall thickness 3.7 mm		
Diameter 40 mm, wall thickness 3.7 mm		
Diameter 50 mm, wall thickness 6.8 mm		
Diameter 75 mm, wall thickness 6.8 mm	50 x 8 mm	EI 30 U/U, EI 30 C/U, EI 30 U/C, EI 30 C/C
Diameter 90 mm, wall thickness 10 mm		
Diameter 110 mm, wall thickness 10 mm		EI 30 U/U, EI 30 C/U, EI 30 U/C, EI 30 C/C
MLCP pipe according to ISO 21003 / DIN16836		
Diameter 16 mm, wall thickness 3 mm	50 x 4 mm	EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter 32 mm, wall thickness 3 mm		E 120 C/U, E 120 U/C, E 120 C/C EI 90 C/U, EI 90 U/C, EI 90 C/C
Diameter 40 mm, wall thickness 4 mm		E 90 C/U, E 90 U/C, E 90 C/C EI 45 C/U, EI 45 U/C, EI 45 C/C
Diameter 50 mm, wall thickness 4.5 mm		E 120 C/U, E 120 U/C, E 120 C/C EI 20 C/U, EI 20 U/C, EI 20 C/C
Copper with 19 mm thick Armaflex insulation or K-Flex-ST insulation Continuous Sustained (CS)		
Diameter 54 mm, wall thickness 0.8-14.2 mm	50 x 8 mm	E 120 U/U, E 120 C/U, E 120 U/C, E 120 C/C
Telecoms cables up to 21 mm diameter in bundles up to 100 mm diameter[^]		
Up to 21 mm diameter in bundles up to 100 mm diameter [^]	50 x 8 mm	E 120, EI 90
Up to 21 mm diameter in bundles up to 100 mm diameter [^] wrapped with FP171 mm long, single layer of Insulwrap material [§]		EI 120

[^] Collar size must be an intimate fit to the cable bundle size

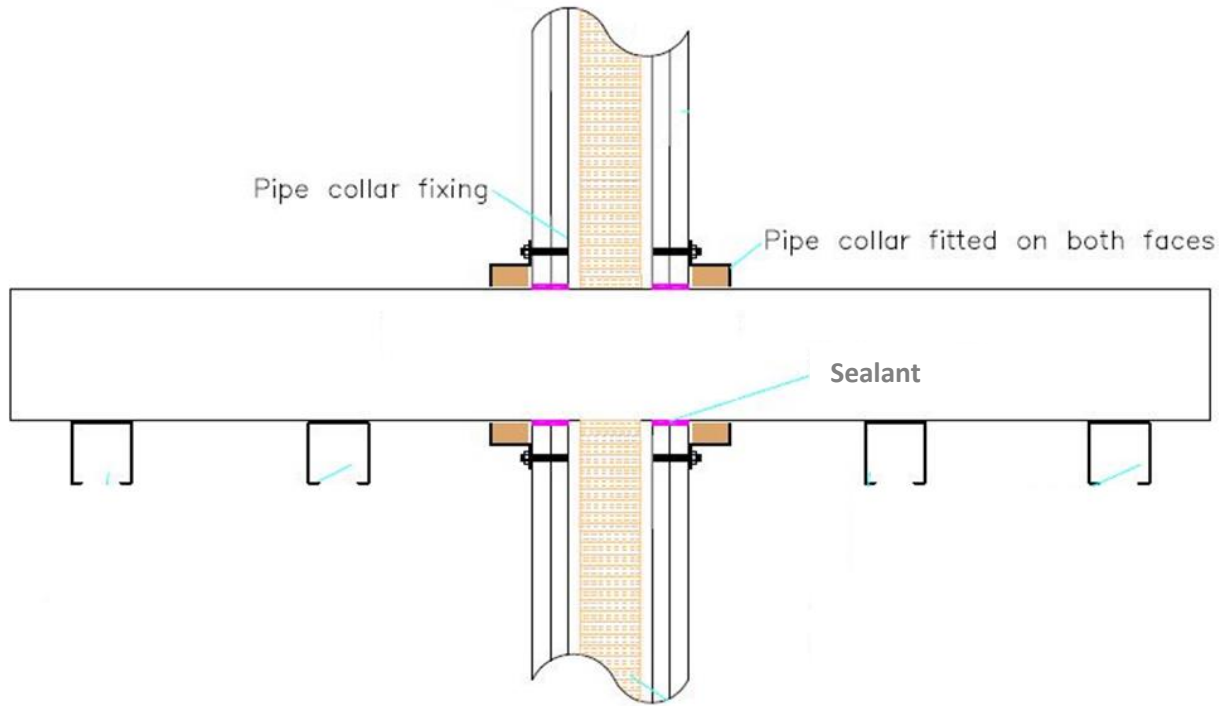
[§] Only required on non-fire risk side or both sides if fire risk side is unknown

A.4 Flexible or rigid wall constructions with wall thickness of minimum 100 mm and FP173 pipe collar

A.4.1 Penetration seals, in drywalls and concrete/masonry walls

Penetration Seal: Combustible pipes fitted with FP173 collar to both sides of the wall.

Construction details:



A.4.1.1

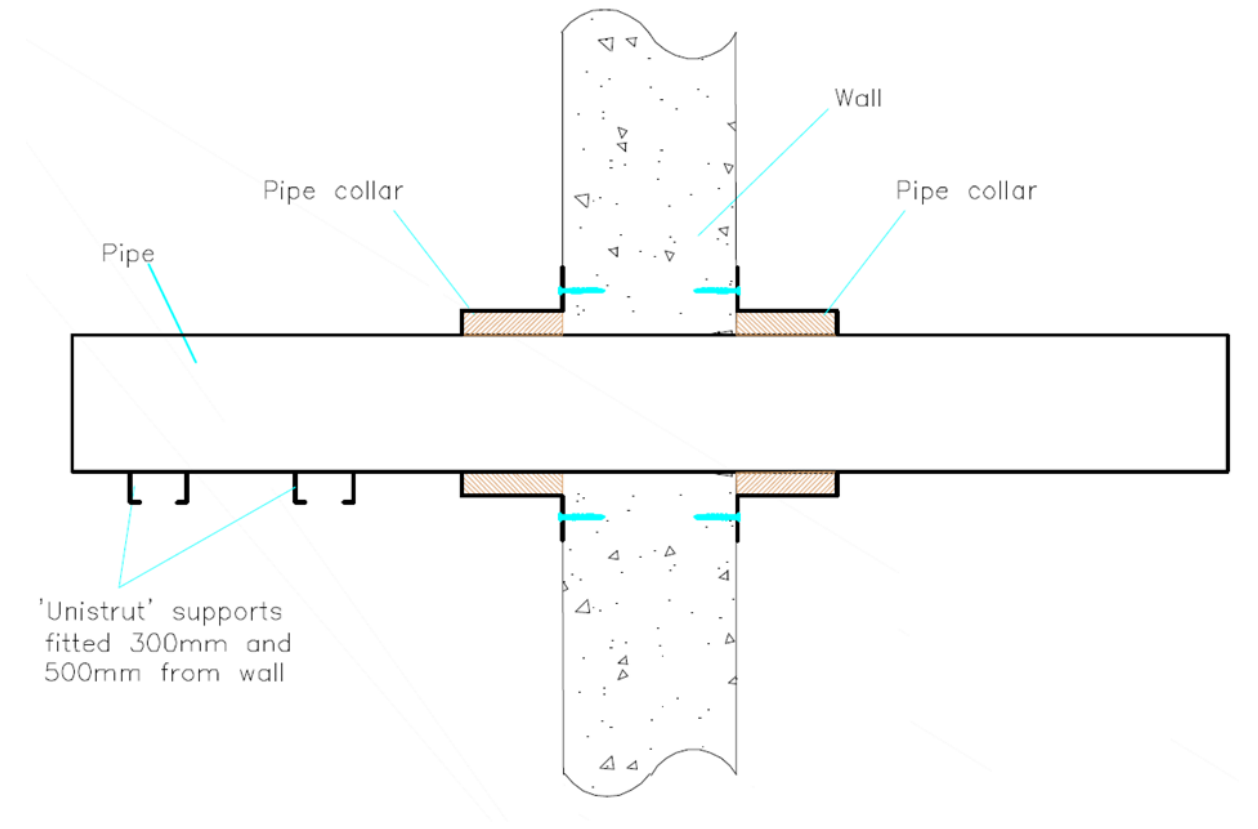
Services	Collar Inlay	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1		
Diameter 200 mm, wall thickness 10.6 mm	60 x 26 mm	EI 90 U/U, EI 90 C/U, EI 90 U/C, EI 90 C/C
Diameter 225 mm, wall thickness 10.6 mm		
Diameter 250 mm, wall thickness 10.6 mm		

A.5 Rigid wall constructions with wall thickness of minimum 100 mm and FP173 pipe collar

A.5.1 Penetration seals, in drywalls and concrete/masonry walls

Penetration Seal: Insulated metal and combustible pipes fitted with FP173 collar to both sides of the wall.

Construction details:



A.5.1.1

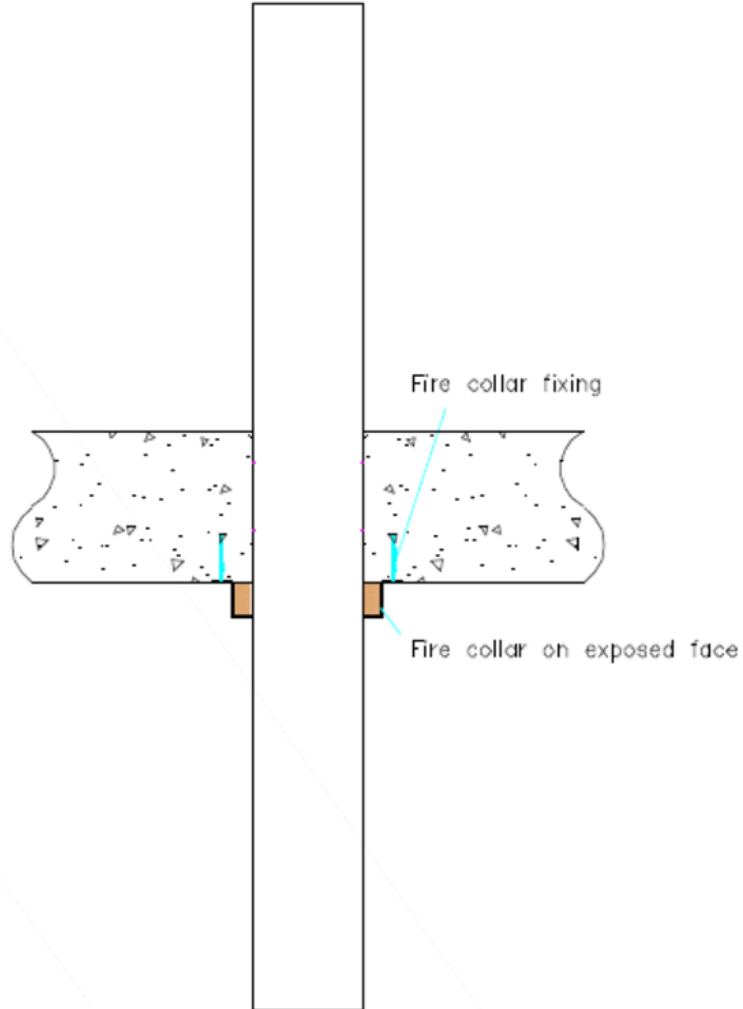
Services	Collar Inlay	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1		
Diameter 200 mm, wall thickness 10.6 mm	130 x 24 mm	EI 240 U/U, EI 240 C/U, EI 240 U/C, EI 240 C/C
Diameter 225 mm, wall thickness 10.6 mm		
Diameter 250 mm, wall thickness 10.6 mm		
Diameter 315 mm, wall thickness 12.1 mm	130 x 32 mm	EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Steel pipe, with Continuous Sustained (CS) K-Flex ST or Armaflex insulation		
Diameter 219.1 mm, wall thickness 6.4-14.2 mm with 25 mm insulation	130 x 32 mm	E 240 C/C, EI 90 C/C

A.6 Rigid floor constructions with floor thickness of minimum 150 mm and FP171 pipe collar

A.6.1 Penetration seals, in concrete floors

Penetration Seal: Insulated metal and combustible pipes fitted with FP171 collar to the soffit of the floor.

Construction details:



A.6.1.1

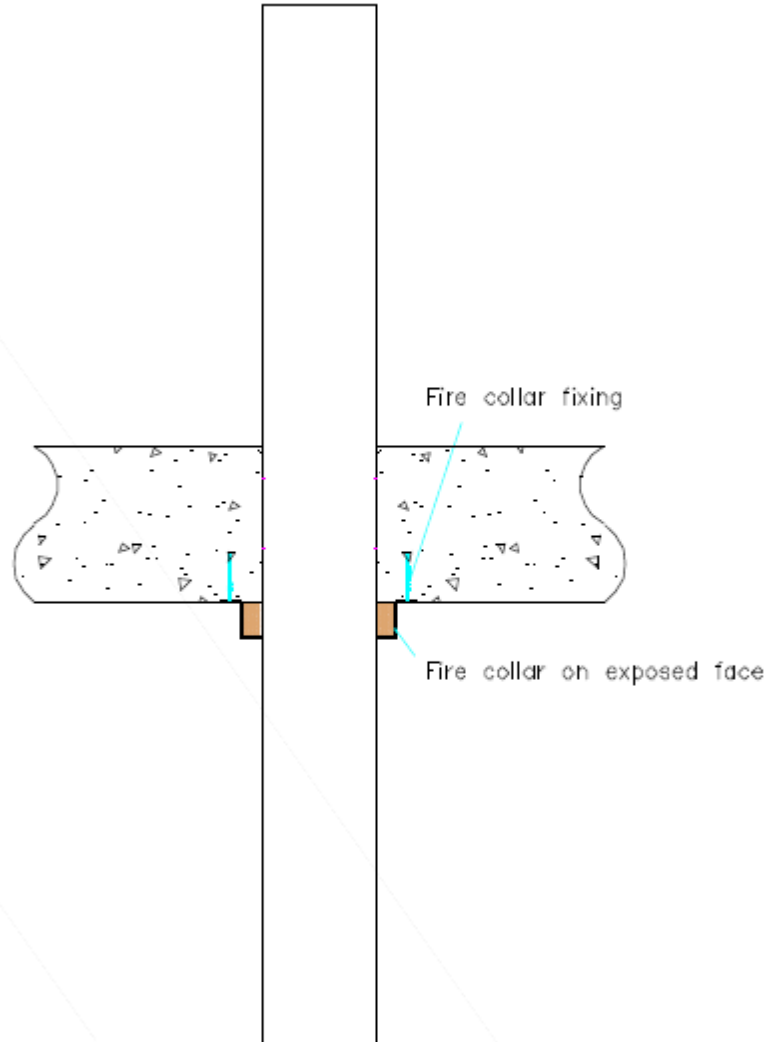
Services	Collar Inlay	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1		
Diameter 40 mm, wall thickness 3 mm	30 x 6 mm	EI 240 U/U, EI 240 C/U, EI 240 U/C, EI 240 C/C
Diameter 55 mm, wall thickness 3.2 mm		EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter 82 mm, wall thickness 3.2 mm		EI 90 U/U, EI 90 C/U, EI 90 U/C, EI 90 C/C
Diameter 55 mm, wall thickness 3.5 mm		
Diameter 82 mm, wall thickness 3.5 mm		
Diameter 110 mm, wall thickness 1.8 mm	30 x 10 mm	EI 180 U/U, EI 180 C/U, EI 180 U/C, EI 180 C/C
Diameter 110 mm, wall thickness 1.8-10 mm		EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter 125 mm, wall thickness 9.5 mm	30 x 16 mm	EI 90 U/U, EI 90 C/U, EI 90 U/C, EI 90 C/C
Diameter 160 mm, wall thickness 9.5 mm		
Diameter 125 mm, wall thickness 2.5 mm	45 x 16 mm	EI 180 U/U, EI 180 C/U, EI 180 U/C, EI 180 C/C
Diameter 160 mm, wall thickness 2.5 mm		
PE pipe according to EN 1519-1, EN 12201-2 and EN 12FX FP1726-1, ABS pipe according to EN 1455-1 and SAN+PVC pipe according to EN 1565-1		
Diameter 40 mm, wall thickness 3.7 mm	30 x 6 mm	EI 180 U/U, EI 180 C/U, EI 180 U/C, EI 180 C/C
Diameter 50 mm, wall thickness 11.6 mm		EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter 90 mm, wall thickness 5.1 mm	30 x 10 mm	EI 180 U/U, EI 180 C/U, EI 180 U/C, EI 180 C/C
Diameter 110 mm, wall thickness 4.2 mm		
Diameter 110 mm, wall thickness 4.2-10 mm		
Diameter 125 mm, wall thickness 6.2 mm	45 x 16 mm	EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter 160 mm, wall thickness 6.2 mm		
BevEx Drinks Python		
Diameter 80 mm	30 x 6 mm	EI 240 U/U, EI 240 C/U, EI 240 U/C, EI 240 C/C
Steel pipe, with Continuous Sustained (CS) K-Flex ST insulation		
Diameter 114.3 mm, wall thickness 2-14.2 mm with 19 mm insulation	45 x 16 mm	EI 60 C/C
Diameter 47.6 mm, wall thickness 1.5-14.2 mm with 13 mm insulation	30 x 6 mm	EI 120 C/C

A.7 Rigid floor constructions with floor thickness of minimum 150 mm and FP172 pipe collar

A.7.1 Penetration seals, in concrete floors

Penetration Seal: Insulated metal and combustible pipes fitted with FP172 collar to the soffit of the floor.

Construction details:



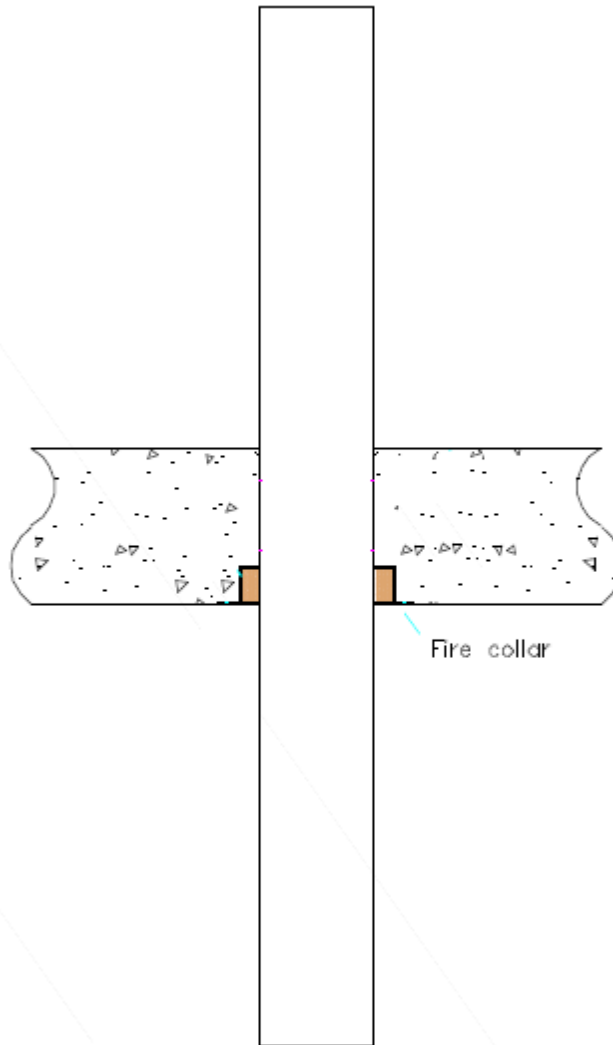
A.7.1.1

Services	Collar Inlay	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1		
Diameter 32 mm, wall thickness 3 mm	50 x 4 mm	EI 240 U/U, EI 240 C/U, EI 240 U/C, EI 240 C/C
Diameter 38 mm, wall thickness 3 mm		
Diameter 40 mm, wall thickness 3 mm		
Diameter 42.2 mm, wall thickness 2 mm	50 x 4 mm	EI 180 U/U, EI 180 C/U, EI 180 U/C, EI 180 C/C
Diameter 46 mm, wall thickness 2 mm		
Diameter 55 mm, wall thickness 2 mm		
Diameter 82 mm, wall thickness 3.2 mm	50 x 6 mm	
Diameter 110 mm, wall thickness 6.6 mm	50 x 8 mm	
Diameter 160 mm, wall thickness 3.2-9.5 mm	60 x 18 mm	E 180 U/C, E 180 C/C EI 60 U/C, EI 180 C/C
Diameter 160 mm, wall thickness 9.5 mm		EI 180 U/U, EI 180 C/U, EI 180 U/C, EI 180 C/C
Diameter 200 mm, wall thickness 9.5 mm	125 x 20 mm	
PE pipe according to EN 1519-1, EN 12201-2 and EN 12FX FP1726-1, ABS pipe according to EN 1455-1 and SAN+PVC pipe according to EN 1565-1		
Diameter 32 mm, wall thickness 3.7 mm	50 x 4 mm	EI 180 U/U, EI 180 C/U, EI 180 U/C, EI 180 C/C
Diameter 38 mm, wall thickness 3.7 mm		
Diameter 40 mm, wall thickness 3.7 mm		
Diameter 75 mm, wall thickness 8.2 mm	50 x 8 mm	EI 240 U/U, EI 240 C/U, EI 240 U/C, EI 240 C/C
Diameter 110 mm, wall thickness 8.2 mm	50 x 8 mm	EI 240 U/U, EI 240 C/U, EI 240 U/C, EI 240 C/C
Diameter 160 mm, wall thickness 6.2 mm	60 x 18 mm	EI 180 U/U, EI 180 C/U, EI 180 U/C, EI 180 C/C
MCLP pipe according to ISO 21003 / DIN16836		
Diameter 16 mm, wall thickness 2 mm	50 x 4 mm	EI 240 C/U, EI 240 U/C, EI 240 C/C
Diameter 40 mm, wall thickness 4 mm		EI 60 C/U, EI 60 U/C, EI 60 C/C

A.7.2 Penetration seals, in concrete floors

Penetration Seal: Combustible pipes fitted with FP172 collar recessed/cast in, within the soffit of the floor.

Construction details:



A.7.2.1

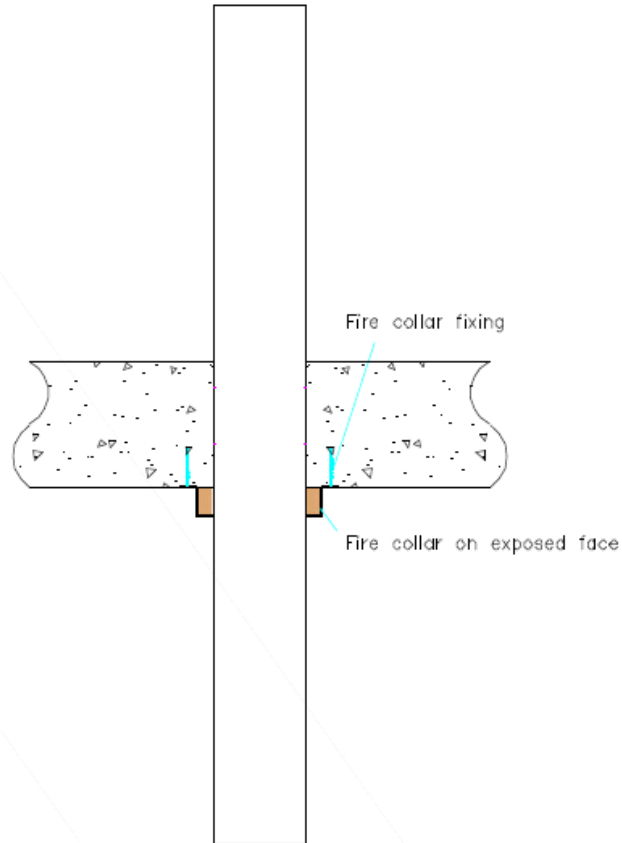
Services	Collar Inlay	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1		
Diameter 110 mm, wall thickness 3.2 mm	50 x 8 mm	EI 90 U/U, EI 90 C/U, EI 90 U/C, EI 90 C/C
Diameter 200 mm, wall thickness 3.9 mm	125 x 20 mm	EI 240 U/U, EI 240 C/U, EI 240 U/C, EI 240 C/C

A.8 Rigid floor constructions with floor thickness of minimum 150 mm and FP173 pipe collar

A.8.1 Penetration seals, in concrete floors

Penetration Seal: Insulated metal and combustible pipes fitted with FP173 collar to the soffit of the floor.

Construction details:



A.8.1.1

Services	Collar Inlay	Classification
PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1	60 x 26 mm	EI 60 U/U, EI 60 C/U, EI 60 U/C, EI 60 C/C
Diameter 200 mm, wall thickness 10.6 mm		
Diameter 225 mm, wall thickness 10.6 mm		
Diameter 250 mm, wall thickness 10.6 mm	130 x 24 mm	EI 120 U/U, EI 120 C/U, EI 120 U/C, EI 120 C/C
Diameter 200 mm, wall thickness 10.6 mm		
Diameter 225 mm, wall thickness 10.6 mm		
Diameter 250 mm, wall thickness 10.6 mm	130 x 32 mm	EI 60 U/U, EI 60 C/U, EI 60 U/C, EI 60 C/C
Steel pipe, with Continuous Sustained (CS) K-Flex ST insulation		
Diameter 219.1 mm, wall thickness 6.4-14.2 mm with 19 mm insulation	130 x 32 mm	EI 120 C/C