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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-20/1085 of 2020-12-09

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:

Astro X-Series CE Pipe Collar

Product family to which the above construction product belongs:

Fire Stopping, Fire Sealing & Fire Protective Products.
Fire Retardant Products

Manufacturer:

Astroflame Fireseals Limited
Intumescent House
Unit 8 The IO Centre
Stephenson Road
Segensworth
Fareham
Hampshire
PO15 5RU

Manufacturing plant:

E/122

This European Technical Assessment contains:

17 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 Fire Stopping and Fire Sealing – Penetration Seals : Issue September 2017

This version replaces:

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1 Technical Description of the Product

- 1) Astro X-Series CE Pipe Collar is installed around combustible pipes to form a penetration seal used to reinstate the fire resistance performance of wall and floor constructions, where they have been provided with apertures for the penetration of combustible pipe services.
- 2) Astro X-Series CE Pipe Collar includes an Intumescent component incorporated into a mild steel case to close any gaps and joints and provide a closure of combustible pipes when heated to prevent the passage of fire.
- 3) Astro X-Series CE Pipe Collar are supplied in assembled form, without fixings. The collar wrapped around the pipe at the soffit or both faces of walls, depending on application. Fixing specifications are detailed in Annex A.
- 4) Astro X-Series CE Pipe Collar can be used with Astro Intu mastic Sealant to seal the space between the combustible pipe and the aperture to close gap sizes as specified in Annex A.

2 Specification Of The Intended Use In Accordance With The applicable European Assessment Document (EAD)

- 1) The intended use of Astro X-Series CE Pipe Collar is to reinstate the fire resistance performance of wall and floor constructions, where they are penetrated by various combustible pipe services.

The specific elements of construction that the Astro X-Series CE Pipe Collar may be used is as follows:

- | | |
|-----------------|---|
| Flexible walls: | The wall must have a minimum thickness of 100 mm and comprise timber or steel studs line on both faces with minimum 2 layers of 12.5 mm thick, `Type F' Gypsum boards according to EN 520. In timber stud walls, no part of the penetration seal shall be closer than 100mm to a stud, and minimum 100 mm of insulation of class A1 or A2 according to EN 13501-1, is provided within the cavity between the penetration seal and the stud. |
| Rigid walls: | The wall must have a minimum thickness of 100 mm and comprise of concrete, aerated concrete or masonry, with a minimum density of 650 km/m ³ . |
| Rigid floor: | The floor must have a minimum thickness of 150 mm and comprise of concrete, aerated concrete or masonry, with a minimum density of 650 km/m ³ . |
- 2) The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period.
 - 3) The system Astro X-Series CE Pipe Collar may be used to provide a penetration seal with specific combustible pipes, single only (for details see Annex A).
 - 4) Apertures in the separating element shall be maximum oversize with respect to the pipe diameter according to the tables listed in Annex A. The remaining annular space/gap shall be infilled with Astro X-Series CE Pipe Collar. Apertures for the penetration of pipes shall be separated by a minimum of 200 mm.
 - 5) The provisions made in this European Technical Assessment are based on an assumed working life of the Astro X-Series CE Pipe Collar of 10 years, The indications given on the working life cannot be interpreted as a guarantee given by the producer or by 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.
 - 6) Services in walls shall be supported at maximum 400mm from the face of the separating element for walls, and 400mm above the surface of the floor.

2.1 Use Category

Type X: Intended for use in conditions exposed to weathering.

3 Performance Of The Product And References To The Methods used for Its Assessment

	Characteristic	Assessment of characteristic
BWR 1 Mechanical resistance and stability		
BWR 2 Safety in case of fire		
	Reaction to fire	See clause 1.1
	Resistance to fire	See Clause 1.2
BWR 3 Hygiene, Health and the Environment		
	Release of dangerous substances	See Clause 2.1
BWR 4 Safety in use		
	Durability and serviceability	See Clause 3.1
BWR 5 Protection against noise		
BWR 6 Energy, Economy and Heat Retention		

3.1 Safety in case of fire

3.1.1 Reaction to fire

Astro X-Series CE Pipe Collar is classified **E** in accordance with EN 13501-1

3.1.2 Resistance to fire

See Annex A

3.2 Hygiene, Health and the Environment

3.2.1 Release of dangerous substance

Astroflame (fireseals) Ltd have presented a declaration that Astro X-Series CE Pipe Collar releases no dangerous substances in compliance with Council Directive 67/548/EEC of 1st June 2015 on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations (incl. All amendments and adaptations).

The manufacturer declares that the product contains no dangerous substances according to current European and National regulations.

Astroflame (fireseals) Ltd 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.

The use category of Astro X-Series CE Pipe Collar in relation to BWR 3 (Hygiene, health and environment) is IA1, S/W3.

3.3 Safety in use

3.3.1 Durability and serviceability

Astro X-Series CE Pipe Collar has been tested in accordance with EOTA Technical Report - TR024 – Edition November 2006, EAD 350454-00-1104, Fire Stopping and Fire Sealing Products-Penetration Seals for type X, environmental conditions: Products for penetration seals intended for outdoor use exposed to weathering – rain, UV, high temperatures, frost and frost-thaw in winter.

4 Assessment and Verification Of Constancy Of Performance (Hereinafter AVCP) System Applied, With References To Its Legal base

According to the decision 1999/454/EC of the European Commission the system of assessment and verification of constancy of performance (see Annex V to the Regulation (EU) No 305/2011) given in the following table apply:

Products	Intended use/s	AVCP System
Fire stopping and fire sealing products	For fire compartmentation and / or fire protection or fire performance	System 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 2020-12-09 by



Thomas Bruun
Managing Director, ETA-Danmark

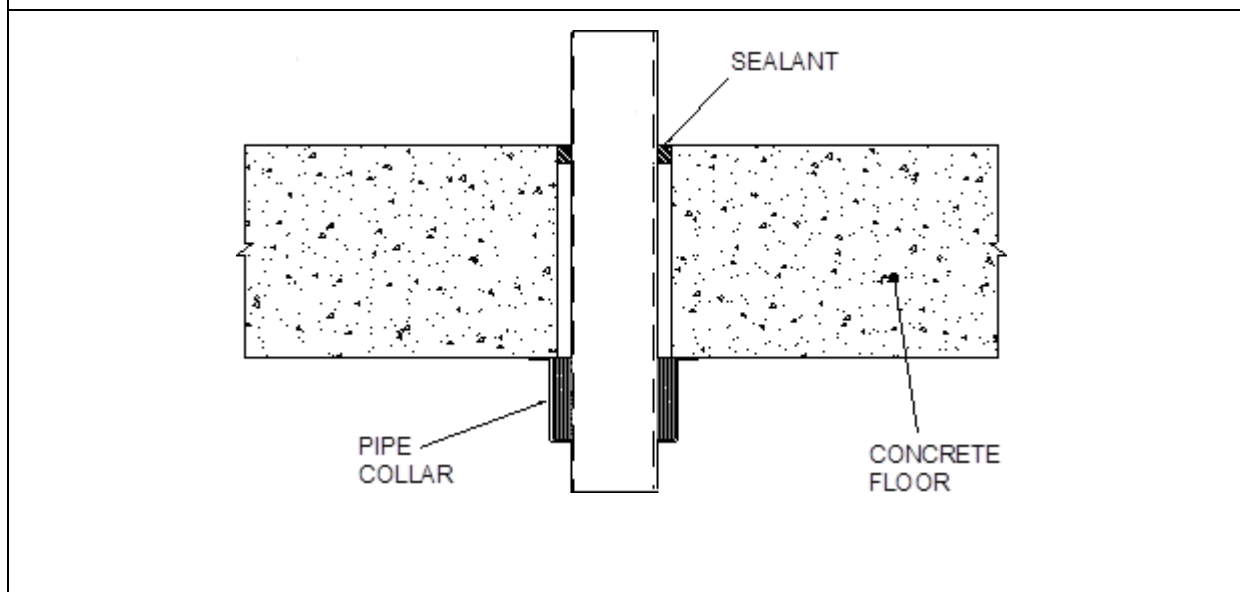
Annex A

Resistance to Fire Classification of ASTRO X-SERIES CE PIPE COLLAR

A.1 Floor construction with thickness of minimum 150 mm

A.1.1 Penetration seal with ASTRO X-SERIES CE PIPE COLLAR installed on the underside of rigid floor

Construction details: Combustible pipes installed with a single ASTRO X-SERIES CE PIPE COLLAR to the underside. Maximum 10 mm annular space filled with ASTRO INTU MASTIC.



A.1.1.1 PVC-U pipes with ASTRO X-SERIES CE PIPE COLLAR installed on the underside of rigid floor

PVC-U pipes according to EN 1452 with ASTRO X-SERIES CE PIPE COLLAR

ASTRO X-SERIES CE PIPE COLLAR, Face Fixed on the Underside of Rigid Floor (min 150 mm thick) PVC-U Pipes					
Penetration Specification	Collar Reference	Intumescent Material	Annulus Space (mm)	Collar Fixing	Classification
PVC Pipe 32 mm \varnothing 1.8 mm wall thickness	32 mm	30 mm (W) x 4 mm (T)	10	Face fixed on the underside of rigid floor with 3No. Fischer FSA \varnothing 8 x 60mm long, with M6 hexagon head bolts	EI 240 U/C
PVC Pipe 40 mm \varnothing 1.8 mm wall thickness	40 mm				
PVC Pipe 50 mm \varnothing 1.8 mm wall thickness	50 mm				
PVC Pipe 55 mm \varnothing 2.3-3.0 mm wall thickness	55 mm	30 mm (W) x 6 mm (T)			
PVC Pipe 63 mm \varnothing 2.3-3.0 mm wall thickness	63 mm				
PVC Pipe 75 mm \varnothing 3.1-4.8 mm wall thickness	75 mm	30 mm (W) x 8 mm (T)			
PVC Pipe 82 mm \varnothing 3.1-4.8 mm wall thickness	82 mm				
PVC Pipe 90 mm \varnothing 4.2-7.4 mm wall thickness	90 mm	30 mm (W) x 10 mm (T)			
PVC Pipe 100 mm \varnothing 4.2-7.4 mm wall thickness	100 mm				
PVC Pipe 110 mm \varnothing 4.2-7.4 mm wall thickness	110 mm				
PVC Pipe 125 mm \varnothing 6.0 mm wall thickness	125 mm	40 mm (W) x 12 mm (T)			
PVC Pipe 140 mm \varnothing 6.1-7.5 mm wall thickness	140 mm	40 mm (W) x 16 mm (T)			
PVC Pipe 160 mm \varnothing 6.2-9.5 mm wall thickness	160 mm	40 mm (W) x 18 mm (T)			

A.1.1.2 PP pipes with ASTRO X-SERIES CE PIPE COLLAR installed on the underside of rigid floor

PP pipes according to EN 1451 with ASTRO X-SERIES CE PIPE COLLAR.

ASTRO X-SERIES CE PIPE COLLAR, Face Fixed on the Underside of Rigid Floor (min 150 mm thick) PP Pipes					
Penetration Specification	Collar Reference	Intumescent Material	Annulus Space (mm)	Collar Fixing	Classification
PP Pipe 32 mm \varnothing 2.9 mm wall thickness	32 mm	30 mm (W) x 4 mm (T)	10	Face fixed on the underside of rigid floor with 3No. Fischer FSA \varnothing 8 x 60mm long, with M6 hexagon head bolts	EI 240 U/C
PP Pipe 40 mm \varnothing 2.9 mm wall thickness	40 mm				
PP Pipe 50 mm \varnothing 2.9 mm wall thickness	50 mm				
PP Pipe 55 mm \varnothing 2.9-4.4 mm wall thickness	55 mm	30 mm (W) x 6 mm (T)			
PP Pipe 63 mm \varnothing 2.9-4.4 mm wall thickness	63 mm				
PP Pipe 75 mm \varnothing 2.8-6.7 mm wall thickness	75 mm	30 mm (W) x 8 mm (T)			
PP Pipe 82 mm \varnothing 2.8-6.7 mm wall thickness	82 mm				
PP Pipe 90 mm \varnothing 2.7-10.0 mm wall thickness	90 mm	30 mm (W) x 10 mm (T)			
PP Pipe 100 mm \varnothing 2.7-10.0 mm wall thickness	100 mm				
PP Pipe 110 mm \varnothing 2.7-10.0 mm wall thickness	110 mm				
PP Pipe 125 mm \varnothing 3.1 mm wall thickness	125 mm	40 mm (W) x 12 mm (T)			
PP Pipe 140 mm \varnothing 3.5-8.0 mm wall thickness	140 mm	40 mm (W) x 16 mm (T)			
PP Pipe 160 mm \varnothing 4.0-14.6 mm wall thickness	160 mm	40 mm (W) x 18 mm (T)			

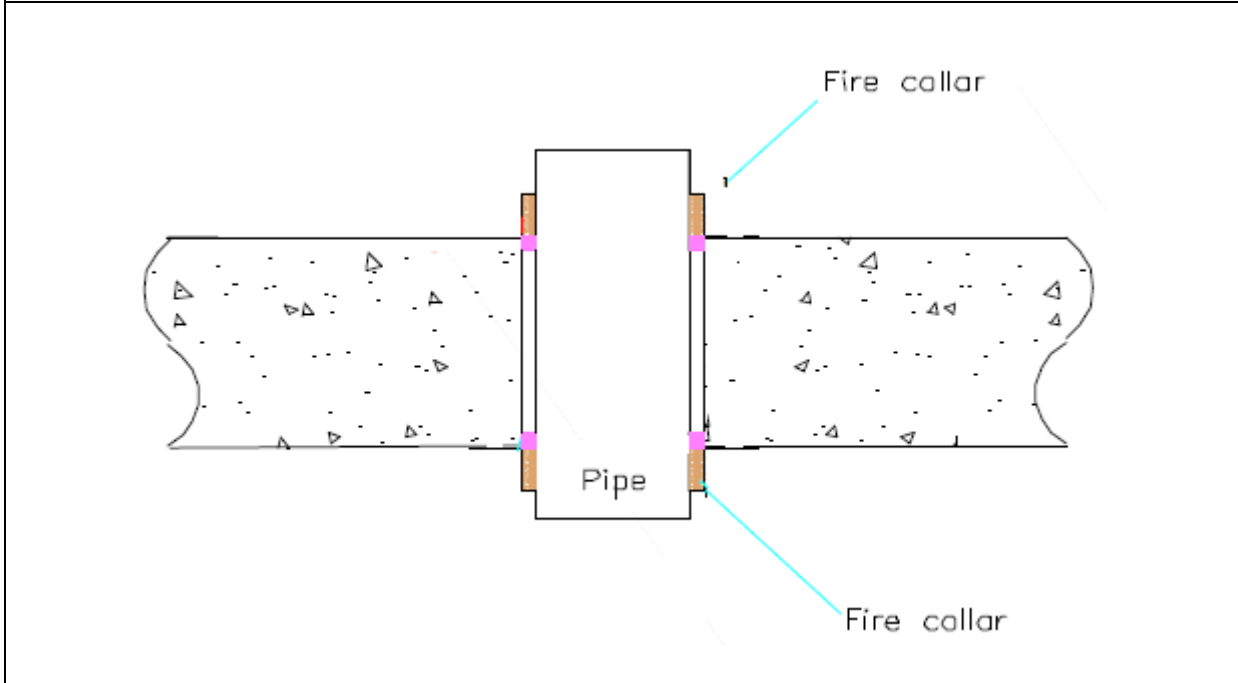
A1.1.3 PE pipes with ASTRO X-SERIES CE PIPE COLLAR installed on the underside of rigid floor

PE pipes according to EN ISO 15494 with ASTRO X-SERIES CE PIPE COLLAR

ASTRO X-SERIES CE PIPE COLLAR, Face Fixed on the Underside of Rigid Floor (min 150 mm thick) PE Pipes					
Penetration Specification	Collar Reference	Intumescent Material	Annulus Space (mm)	Collar Fixing	Classification
PE Pipe 32 mm ϕ 2.9 mm wall thickness	32 mm	30 mm (W) x 4 mm (T)	10	Face fixed on the underside of rigid floor with 3No. Fischer FSA ϕ 8 x 60mm long, with M6 hexagon head bolts	EI 240 U/C
PE Pipe 40 mm ϕ 2.9 mm wall thickness	40 mm				
PE Pipe 50 mm ϕ 2.9 mm wall thickness	50 mm				
PE Pipe 55 mm ϕ 2.9-4.4 mm wall thickness	55 mm	30 mm (W) x 6 mm (T)			
PE Pipe 63 mm ϕ 2.9-4.4 mm wall thickness	63 mm				
PE Pipe 75 mm ϕ 2.8-6.7 mm wall thickness	75 mm	30 mm (W) x 8 mm (T)			
PE Pipe 82 mm ϕ 2.8-6.7 mm wall thickness	82 mm				
PE Pipe 90 mm ϕ 2.7-10.0 mm wall thickness	90 mm	30 mm (W) x 10 mm (T)			
PE Pipe 100 mm ϕ 2.7-10.0 mm wall thickness	100 mm				
PE Pipe 110 mm ϕ 2.7-10.0 mm wall thickness	110 mm				
PE Pipe 125 mm ϕ 3.1 mm wall thickness	125 mm	40 mm (W) x 12 mm (T)			
PE Pipe 140 mm ϕ 3.9-5.8 mm wall thickness	140 mm	40 mm (W) x 16 mm (T)			
PE Pipe 160 mm ϕ 4.9-9.5 mm wall thickness	160 mm	40 mm (W) x 18 mm (T)			

A.1.2 Penetration seal with ASTRO X-SERIES CE PIPE COLLAR installed on both sides of rigid floor

Construction details: Combustible pipes installed with a single ASTRO X-SERIES CE PIPE COLLAR to both sides. Maximum 10 mm annular space filled with ASTRO INTU MASTIC.



A.1.2.1 Penetration seal with ASTRO X-SERIES CE PIPE COLLAR installed on both sides of rigid floor

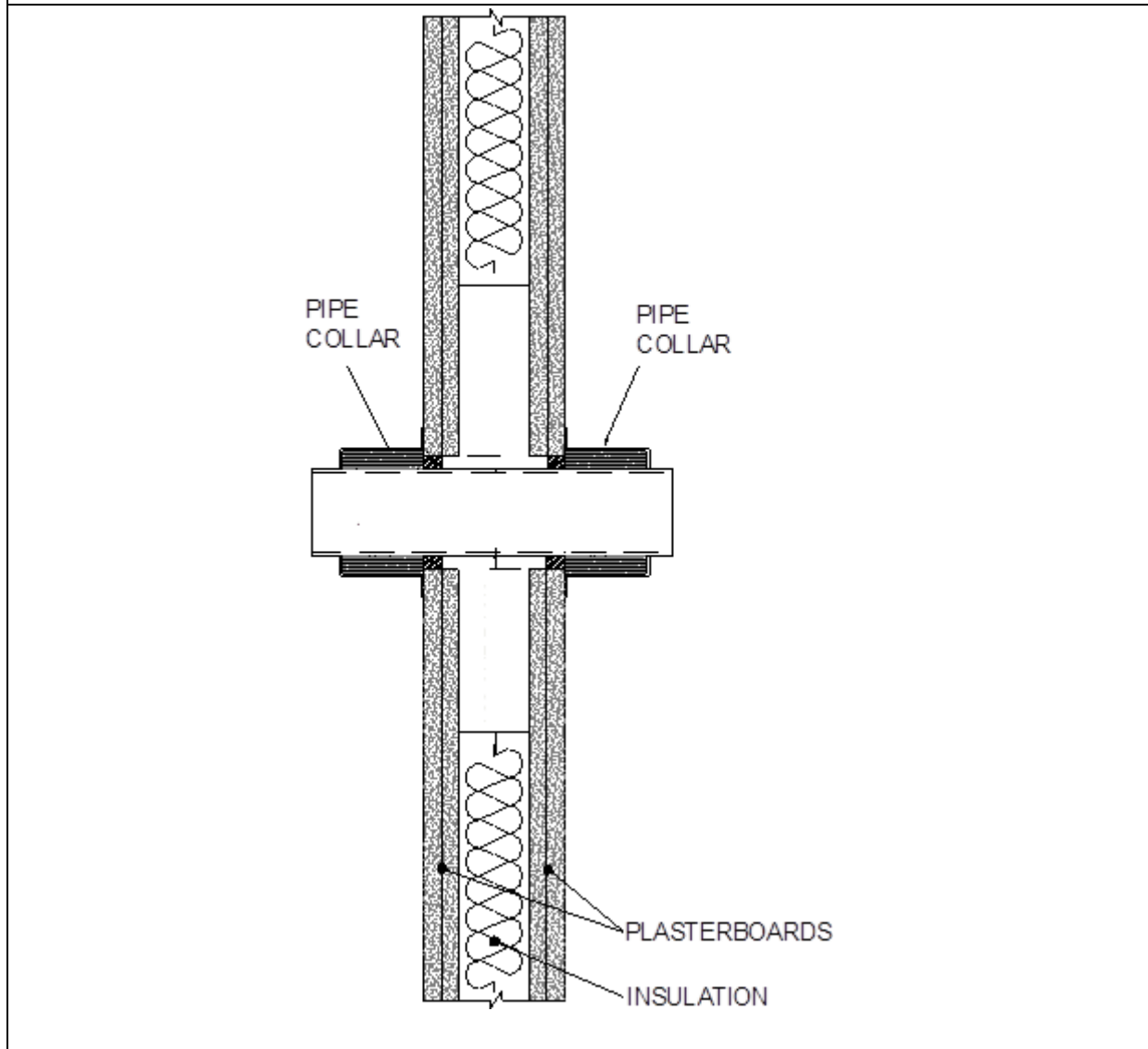
PP pipes according to EN 1451 with ASTRO X-SERIES CE PIPE COLLAR.

ASTRO X-SERIES CE PIPE COLLAR, Face Fixed on Both Sides of Rigid Floor (min 150 mm thick) PP Pipes					
Penetration Specification	Collar Reference	Intumescent Material	Annulus Space (mm)	Collar Fixing	Classification
PP Pipe 110 mm ϕ 2.7 mm wall thickness	110 mm	30 mm (W) x 10 mm (T)	10	Fixed on both faces of rigid floor with 3No. Fischer FSA ϕ 8 x 60mm long, with M6 hexagon head bolts	EI 120 U/U
PP Pipe 160 mm ϕ 4.0 mm wall thickness	160 mm	40 mm (W) x 16 mm (T)			EI 120 C/U

A.1 Wall construction with thickness of minimum 100 mm

A.2.1 Penetration seal with ASTRO X-SERIES CE PIPE COLLAR installed on both sides of flexible or rigid wall

Construction details: Combustible pipes installed with a single ASTRO X-SERIES CE PIPE COLLAR to both sides. Maximum 10 mm annular space filled with ASTRO INTU MASTIC.



A.2.1.1 PVC-U pipes with ASTRO X-SERIES CE PIPE COLLAR installed on both sides of flexible or rigid wall

PVC-U pipes according to EN 1452 with ASTRO X-SERIES CE PIPE COLLAR.

ASTRO X-SERIES CE PIPE COLLAR, Face Fixed on Both Sides of Flexible or Rigid Wall (min 100 mm thick) PVC-U Pipes					
Penetration Specification	Collar Reference	Intumescent Material	Annulus Space (mm)	Collar Fixing	Classification
PVC Pipe 32 mm \varnothing 1.8 mm wall thickness	32 mm	30 mm (W) x 4 mm (T)	10	Fixed on both sides of the wall with a 6mm x 65mm long Fisher HM 6x65 S, steel toggle anchor	EI 120 U/C
PVC Pipe 40 mm \varnothing 1.8 mm wall thickness	40 mm				
PVC Pipe 50 mm \varnothing 1.8 mm wall thickness	50 mm				
PVC Pipe 55 mm \varnothing 2.3-3.0 mm wall thickness	55 mm	30 mm (W) x 6 mm (T)			
PVC Pipe 63 mm \varnothing 2.3-3.0 mm wall thickness	63 mm				
PVC Pipe 75 mm \varnothing 3.1-4.8 mm wall thickness	75 mm	30 mm (W) x 8 mm (T)			
PVC Pipe 82 mm \varnothing 3.1-4.8 mm wall thickness	82 mm				
PVC Pipe 90 mm \varnothing 4.2-7.4 mm wall thickness	90 mm	30 mm (W) x 10 mm (T)			
PVC Pipe 100 mm \varnothing 4.2-7.4 mm wall thickness	100 mm				
PVC Pipe 110 mm \varnothing 4.2-7.4 mm wall thickness	110 mm				
PVC Pipe 125 mm \varnothing 6.0 mm wall thickness	125 mm	40 mm (W) x 12 mm (T)			
PVC Pipe 140 mm \varnothing 6.1-7.5 mm wall thickness	140 mm	40 mm (W) x 16 mm (T)			
PVC Pipe 160 mm \varnothing 6.2-9.5 mm wall thickness	160 mm	40 mm (W) x 18 mm (T)			

A.2.1.2 PP pipes with ASTRO X-SERIES CE PIPE COLLAR installed on both sides of flexible or rigid wall

PP pipes according to EN 1451 with ASTRO X-SERIES CE PIPE COLLAR.

ASTRO X-SERIES CE PIPE COLLAR, Face Fixed on Both Sides of Flexible or Rigid Wall (min 100 mm thick) PP Pipes					
Penetration Specification	Collar Reference	Intumescent Material	Annulus Space (mm)	Collar Fixing	Classification
PP Pipe 32 mm ϕ 2.9 mm wall thickness	32 mm	30 mm (W) x 4 mm (T)	10	Fixed on both sides of the wall with a 6mm x 65mm long Fisher HM 6x65 S, steel toggle anchor	EI 120 U/C
PP Pipe 40 mm ϕ 2.9 mm wall thickness	40 mm				
PP Pipe 50 mm ϕ 2.9 mm wall thickness	50 mm				
PP Pipe 55 mm ϕ 2.9-4.4 mm wall thickness	55 mm	30 mm (W) x 6 mm (T)			
PP Pipe 63 mm ϕ 2.9-4.4 mm wall thickness	63 mm				
PP Pipe 75 mm ϕ 2.8-6.7 mm wall thickness	75 mm	30 mm (W) x 8 mm (T)			
PP Pipe 82 mm ϕ 2.8-6.7 mm wall thickness	82 mm				
PP Pipe 90 mm ϕ 2.7-10.0 mm wall thickness	90 mm	30 mm (W) x 10 mm (T)			
PP Pipe 100 mm ϕ 2.7-10.0 mm wall thickness	100 mm				
PP Pipe 110 mm ϕ 2.7-10.0 mm wall thickness	110 mm				
PP Pipe 125 mm ϕ 3.1 mm wall thickness	125 mm	40 mm (W) x 12 mm (T)			
PP Pipe 140 mm ϕ 3.5-8.0 mm wall thickness	140 mm	40 mm (W) x 16 mm (T)			
PP Pipe 160 mm ϕ 4.0-14.6 mm wall thickness	160 mm	40 mm (W) x 18 mm (T)			

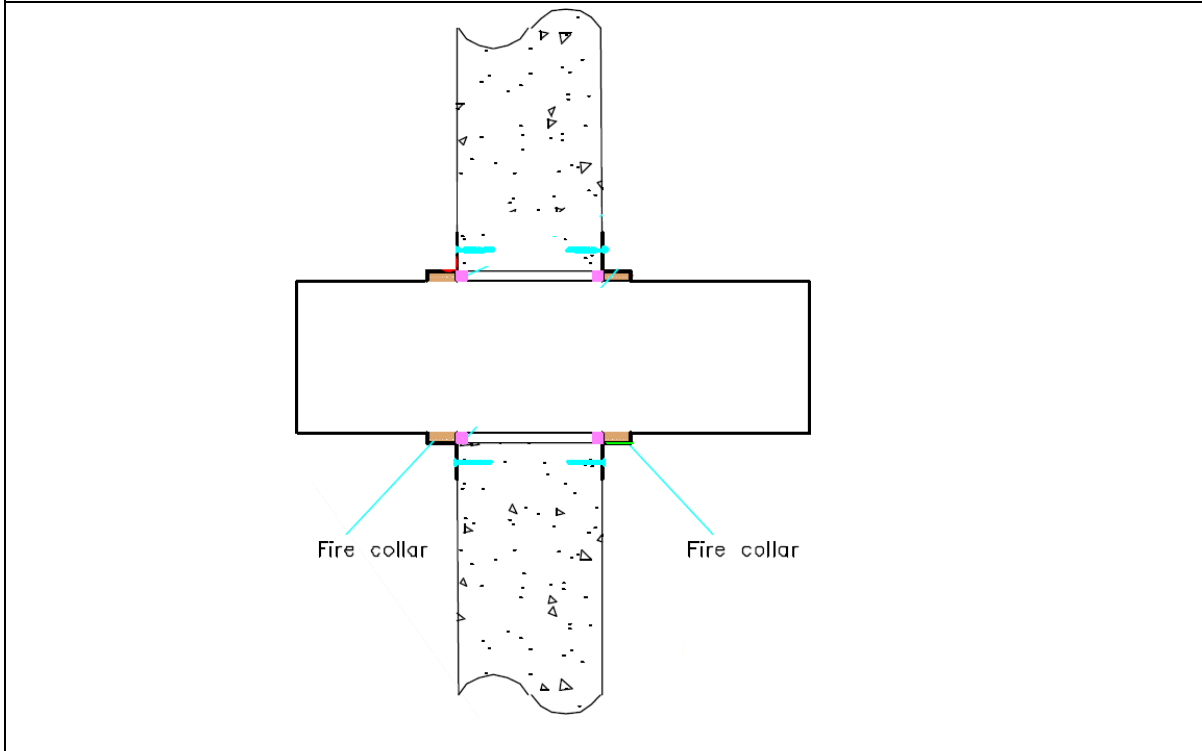
A.2.1.3 PE pipes with ASTRO X-SERIES CE PIPE COLLAR installed on both sides of flexible or rigid wall

PE pipes according to EN ISO 15494 with ASTRO X-SERIES CE PIPE COLLAR.

ASTRO X-SERIES CE PIPE COLLAR, Face Fixed on Both Sides of Flexible or Rigid Wall (min 100 mm thick) PE Pipes					
Penetration Specification	Collar Reference	Intumescent Material	Annulus Space (mm)	Collar Fixing	Classification
PE Pipe 32 mm \varnothing 2.9 mm wall thickness	32 mm	30 mm (W) x 4 mm (T)	10	Fixed on both sides of the wall with a 6mm x 65mm long Fisher HM 6x65 S, steel toggle anchor	EI 120 U/C
PE Pipe 40 mm \varnothing 2.9 mm wall thickness	40 mm				
PE Pipe 50 mm \varnothing 2.9 mm wall thickness	50 mm				
PE Pipe 55 mm \varnothing 2.9-4.4 mm wall thickness	55 mm	30 mm (W) x 6 mm (T)			
PE Pipe 63 mm \varnothing 2.9-4.4 mm wall thickness	63 mm				
PE Pipe 75 mm \varnothing 2.8-6.7 mm wall thickness	75 mm	30 mm (W) x 8 mm (T)			
PE Pipe 82 mm \varnothing 2.8-6.7 mm wall thickness	82 mm				
PE Pipe 90 mm \varnothing 2.7-10.0 mm wall thickness	90 mm	30 mm (W) x 10 mm (T)			
PE Pipe 100 mm \varnothing 2.7-10.0 mm wall thickness	100 mm				
PE Pipe 110 mm \varnothing 2.7-10.0 mm wall thickness	110 mm				
PE Pipe 125 mm \varnothing 3.1 mm wall thickness	125 mm	40 mm (W) x 12 mm (T)			
PE Pipe 140 mm \varnothing 3.9-5.8 mm wall thickness	140 mm	40 mm (W) x 16 mm (T)			
PE Pipe 160 mm \varnothing 4.9-9.5 mm wall thickness	160 mm	40 mm (W) x 18 mm (T)			

A.2.2 Penetration seal with ASTRO X-SERIES CE PIPE COLLAR installed on both sides of rigid wall

Construction details: Combustible pipes installed with a single ASTRO X-SERIES CE PIPE COLLAR to both sides. Maximum 10 mm annular space filled with ASTRO INTU MASTIC.



A.2.2.1 PP pipes with ASTRO X-SERIES CE PIPE COLLAR installed on both sides of rigid wall

PP pipes according to EN 1451 with ASTRO X-SERIES CE PIPE COLLAR

ASTRO X-SERIES CE PIPE COLLAR, Face Fixed on Both Sides of Rigid Wall (min 100 mm thick) PP Pipes					
Penetration Specification	Collar Reference	Intumescent Material	Annulus Space (mm)	Collar Fixing	Classification
PP Pipe 110 mm ϕ 2.7 mm wall thickness	110 mm	30 mm (W) x 10 mm (T)	10	Fixed on both faces of the wall with 3No. 40mm Fischer pins	EI 120 U/U
PP Pipe 160 mm ϕ 4.0 mm wall thickness	160 mm	40 mm (W) x 18 mm (T)		Fixed on both faces of the wall with 3No. ϕ 4 x 70mm wood screws and penny washers	EI 120 U/U
PP Pipe 250 mm ϕ 6.2 mm wall thickness	250 mm	40 mm (W) x 24 mm (T)			EI 120 U/C