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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-20/1116 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 WRAP

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

Manufacturing plant:

E/122

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

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 WRAP 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 WRAP are supplied in assembled form. The intumescent in the wrap is contained within a lightweight PVC carrier bag and is installed around the pipe at the soffit and upper face of floors, and both faces of walls, depending on application. Fixing specifications are provided in Annex A.
- 3) ASTRO X-SERIES CE PIPE WRAP can be used with Pyrocoustic 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 WRAP 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 WRAP 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/m³.
- 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/m³.

- 2) The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period.
- 3) The ASTRO X-SERIES CE PIPE WRAP 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 Pyrocoustic Sealant. 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 WRAP of 10 years, 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.
- 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

3.1 Safety in case of fire

3.1.1 Reaction to fire

ASTRO X-SERIES CE PIPE WRAP 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

Category IA1, S/W3 Declaration of manufacturer

Astroflame Fireseals Ltd have presented a declaration that ASTRO X-SERIES CE PIPE WRAP 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.

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 WRAP 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 WRAP has been tested in accordance with EOTA Technical Report - TR024 – Edition November 2006, for the 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

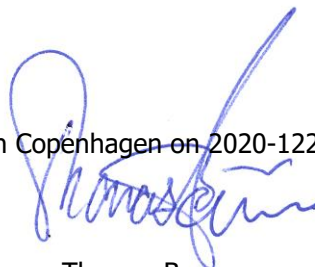
According to the decision 1999/454/EC of the European Commission the system of assessment and verification of constancy of performance (see Annex V to the Regulation (EU) No 305/2011) given in the following table apply:

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 WRAP

A.1 Intumescent Thickness

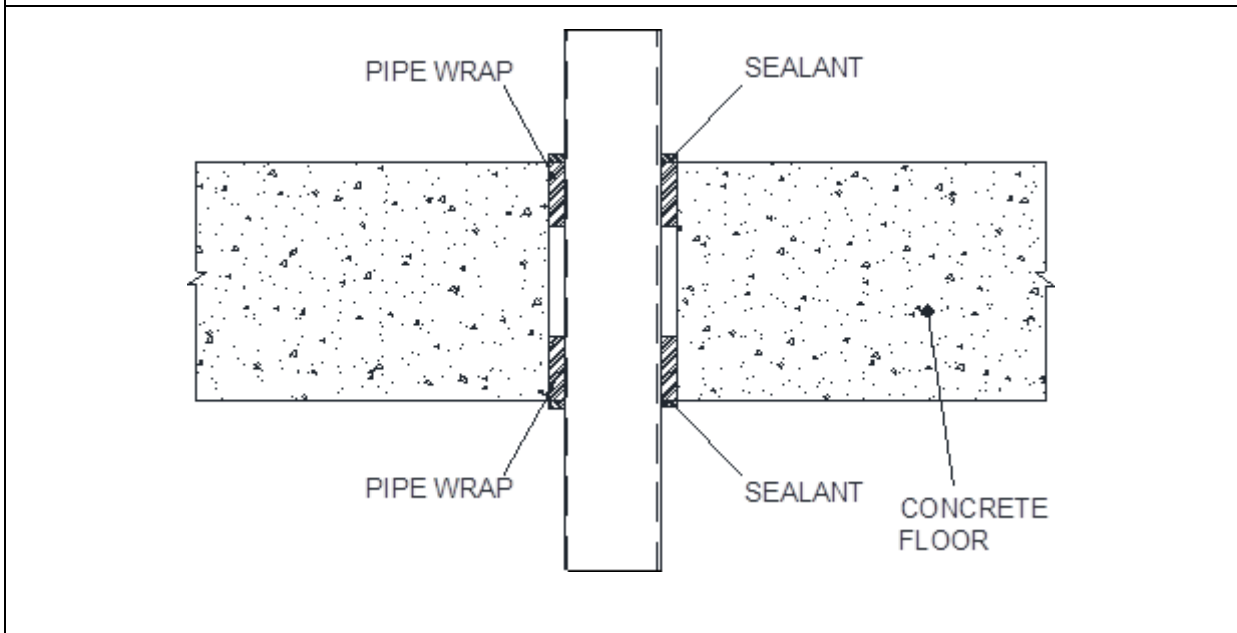
The permitted thickness of the intumescent material for various ranges of pipe diameters:

Intumescent Thickness	
Pipe Diameter	Intumescent Material
\varnothing 32 mm - \varnothing 50 mm	40 mm (W) x 2 mm (T)
\varnothing 51 mm - \varnothing 82 mm	40 mm (W) x 4 mm (T)
\varnothing 83 mm - \varnothing 115 mm	40 mm (W) x 6 mm (T)
\varnothing 116 mm - \varnothing 160 mm	40 mm (W) x 8 mm (T)
\varnothing 161 mm - \varnothing 200 mm	40 mm (W) x 10 mm (T)
\varnothing 201 mm - \varnothing 250 mm	40 mm (W) x 12 mm (T)

A.2 Floor construction with thickness of minimum 150 mm

A.2.1 Penetration seal with ASTRO X-SERIES CE PIPE WRAP installed within both sides of rigid floor

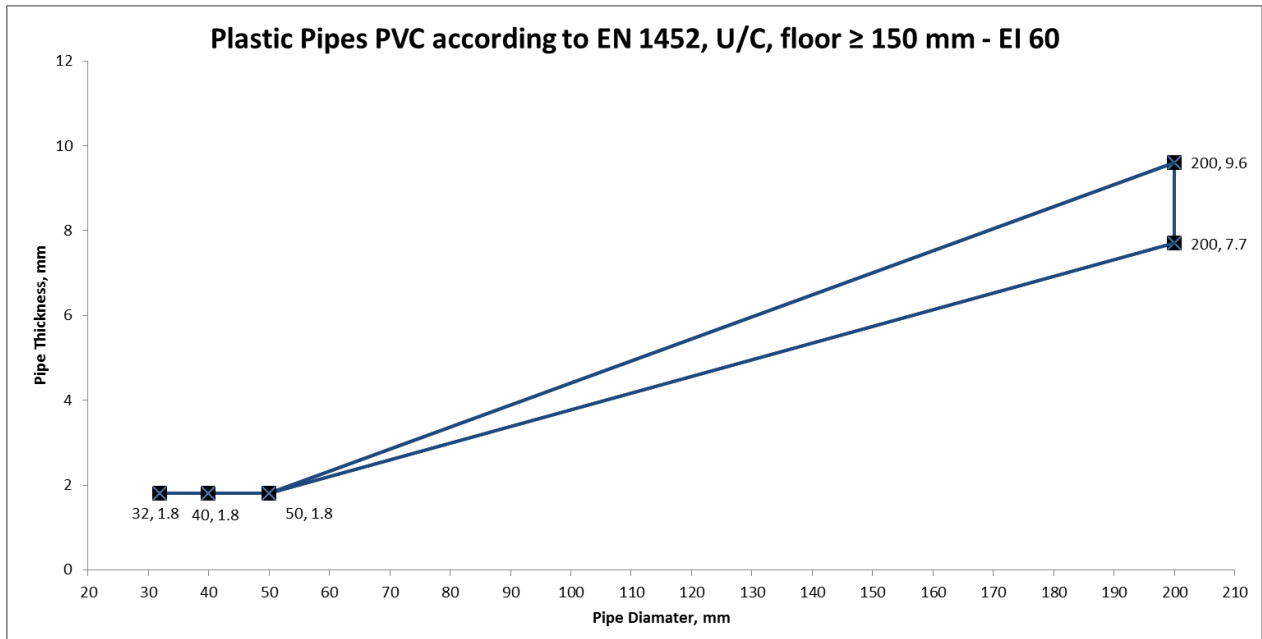
Construction details: Combustible pipes installed with a single ASTRO X-SERIES CE PIPE WRAP within both sides. Maximum annular space according to the tables listed in A.2.1.1 to A.2.1.3 filled with Pyrocoustic sealant.

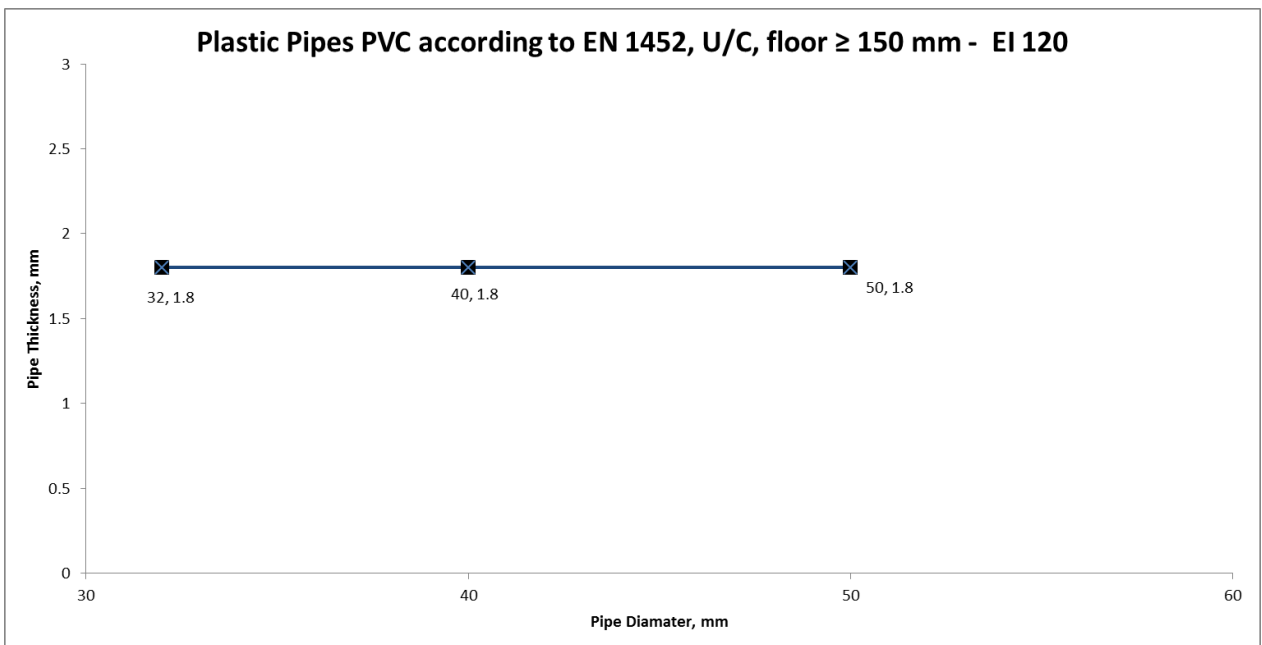
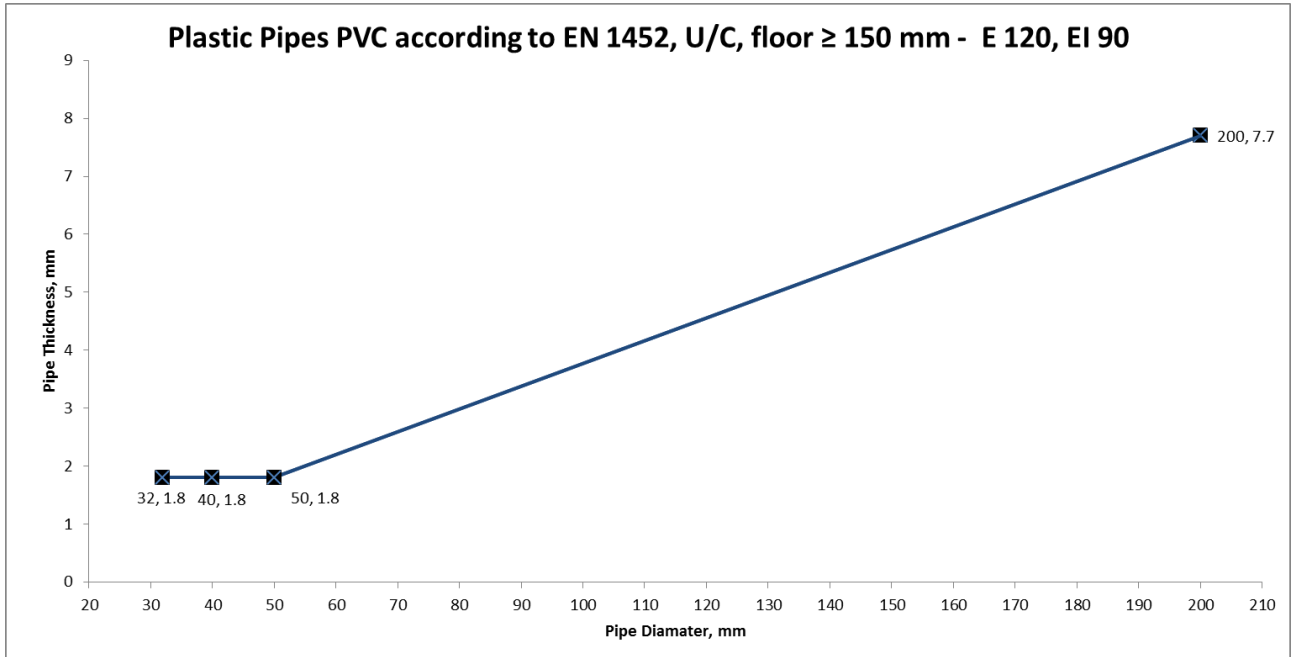


A.2.1.1 PVC-U pipes with ASTRO X-SERIES CE PIPE WRAP installed within both sides of rigid floor

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

ASTRO X-SERIES CE PIPE WRAP, Friction Fitted Flush to Both Sides of Rigid Floor (min 150 mm thick) PVC Pipes				
Penetration Specification	Wrap Reference	Intumescent Material	Annulus Space (mm)	Classification
PVC Pipe 32 mm ϕ 1.8 mm wall thickness	32 mm	40 mm (W) x 2 mm (T)	4	EI 120 U/C
PVC Pipe 40 mm ϕ 1.8 mm wall thickness	40 mm			
PVC Pipe 50 mm ϕ 1.8 mm wall thickness	50 mm			
PVC Pipe 200 mm ϕ 7.7 mm wall thickness	200 mm	40 mm (W) x 10 mm (T)	12	E 120 U/C EI 90 U/C
PVC Pipe 200 mm ϕ 9.6 mm wall thickness	200 mm			EI 60 U/C

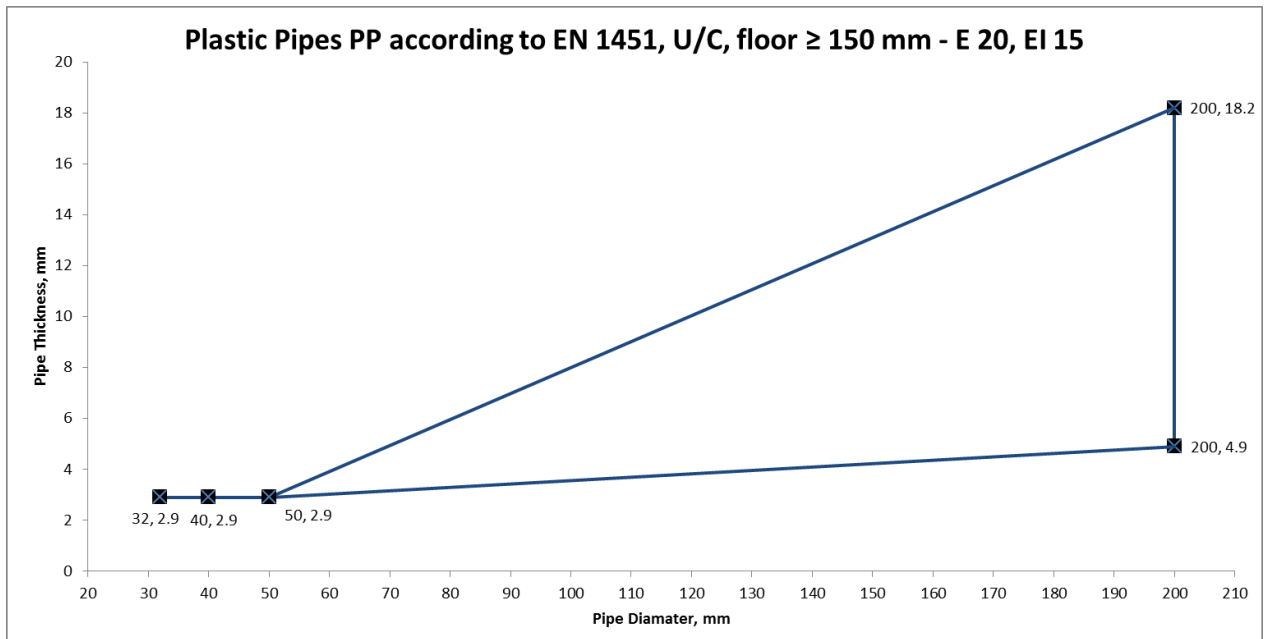


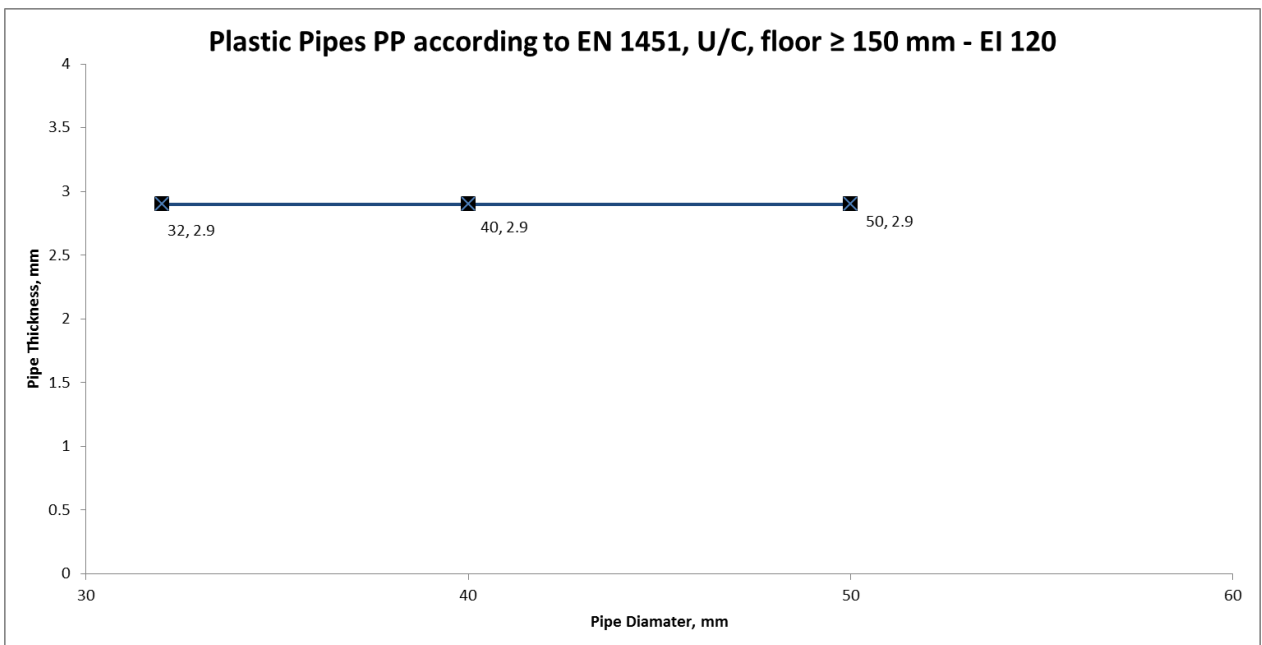
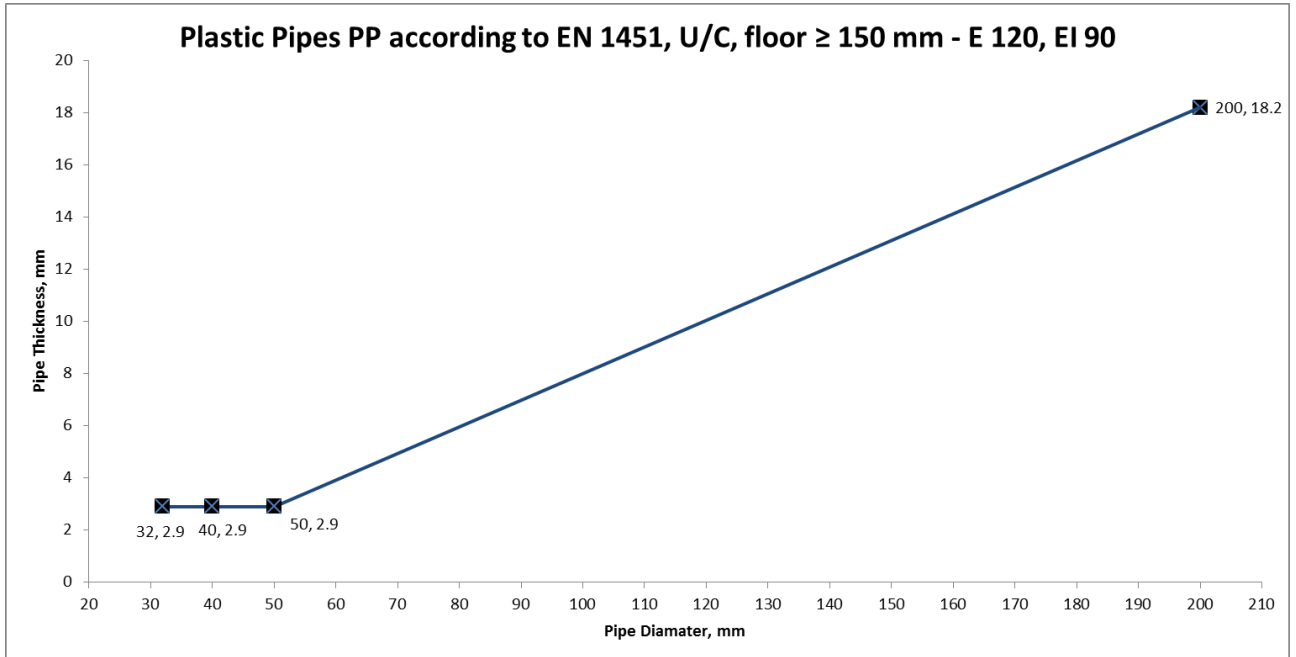


A.2.1.2 PP pipes with ASTRO X-SERIES CE PIPE WRAP installed within both sides of rigid floor

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

ASTRO X-SERIES CE PIPE WRAP, Friction Fitted Flush to Both Sides of Rigid Floor (min 150 mm thick) PP Pipes				
Penetration Specification	Wrap Reference	Intumescent Material	Annulus Space (mm)	Classification
PP Pipe 32 mm ϕ 2.9 mm wall thickness	32 mm	40 mm (W) x 2 mm (T)	4	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 200 mm ϕ 4.9 mm wall thickness	200 mm	40 mm (W) x 10 mm (T)	12	E 20 U/C EI 15 U/C
PP Pipe 200 mm ϕ 18.2 mm wall thickness	200 mm			E 120 U/C EI 90 U/C

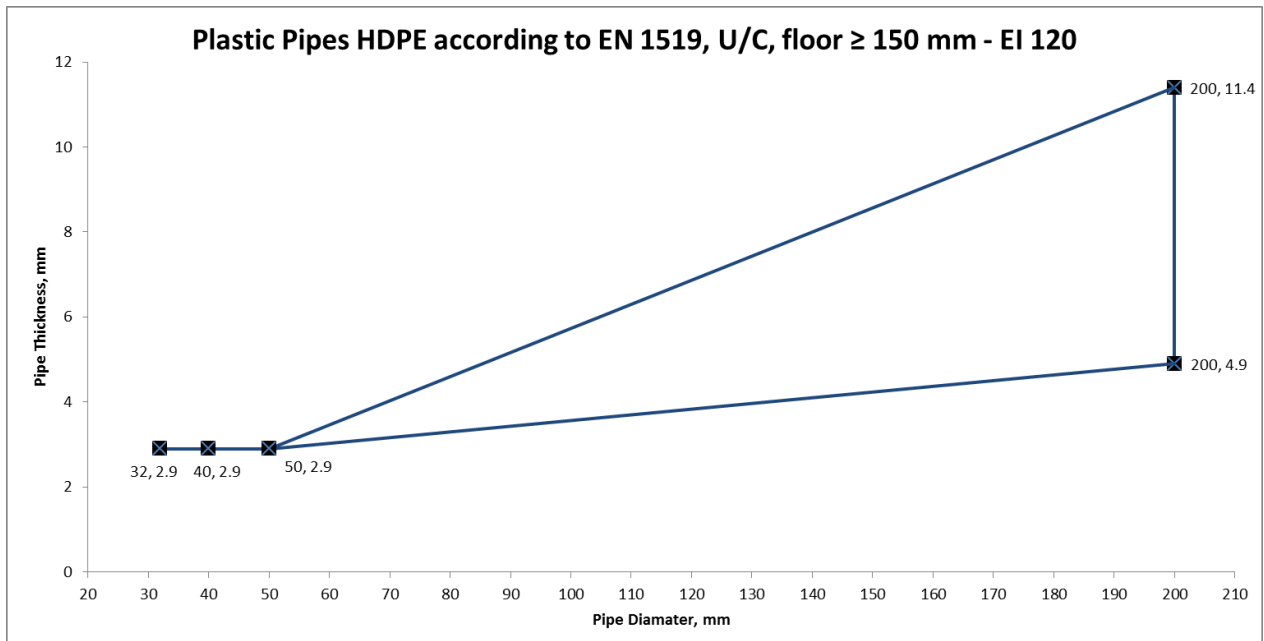




A.2.1.3 HDPE pipes with ASTRO X-SERIES CE PIPE WRAP installed within both sides of rigid floor

HDPE pipes according to EN 1519 with ASTRO X-SERIES CE PIPE WRAP.

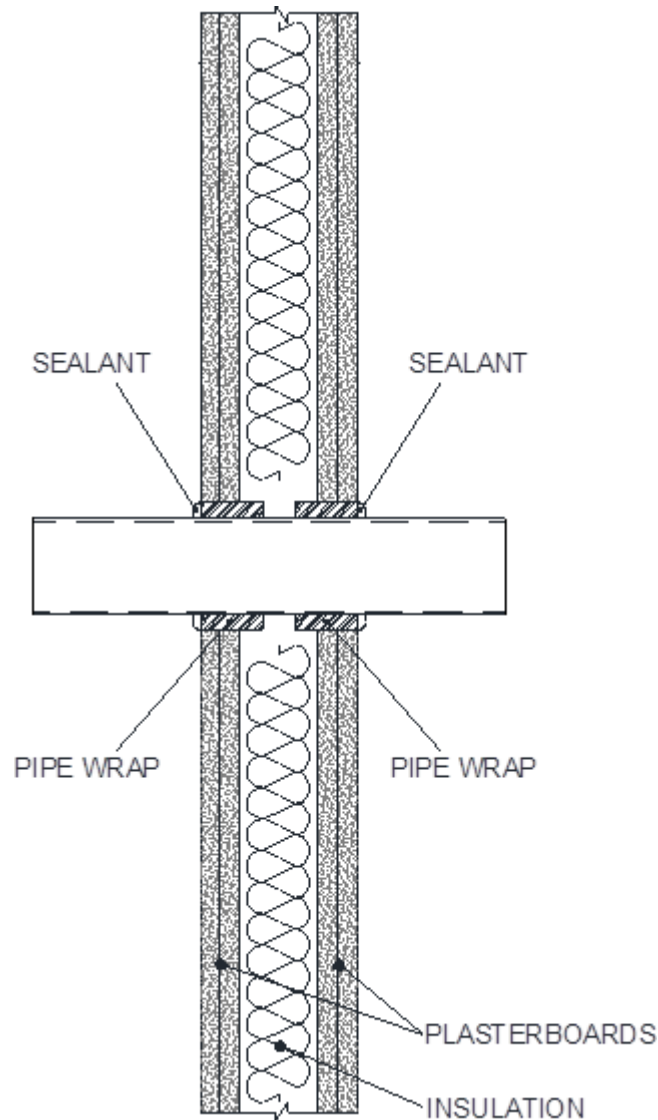
ASTRO X-SERIES CE PIPE WRAP, Friction Fitted Flush to Both Sides of Rigid Floor (min 150 mm thick) HDPE Pipes				
Penetration Specification	Wrap Reference	Intumescent Material	Annulus Space (mm)	Classification
HDPE Pipe 32 mm ϕ 2.9 mm wall thickness	32 mm	40 mm (W) x 2 mm (T)	4	EI 120 U/C
HDPE Pipe 40 mm ϕ 2.9 mm wall thickness	40 mm			
HDPE Pipe 50 mm ϕ 2.9 mm wall thickness	50 mm			
HDPE Pipe 200 mm ϕ 4.9 mm wall thickness	200 mm	40 mm (W) x 10 mm (T)	12	
HDPE Pipe 200 mm ϕ 11.4 mm wall thickness	200 mm			



A.3 Wall construction with thickness of minimum 100 mm

A.3.1 Penetration seal with ASTRO X-SERIES CE PIPE WRAP installed within both sides of flexible or rigid wall

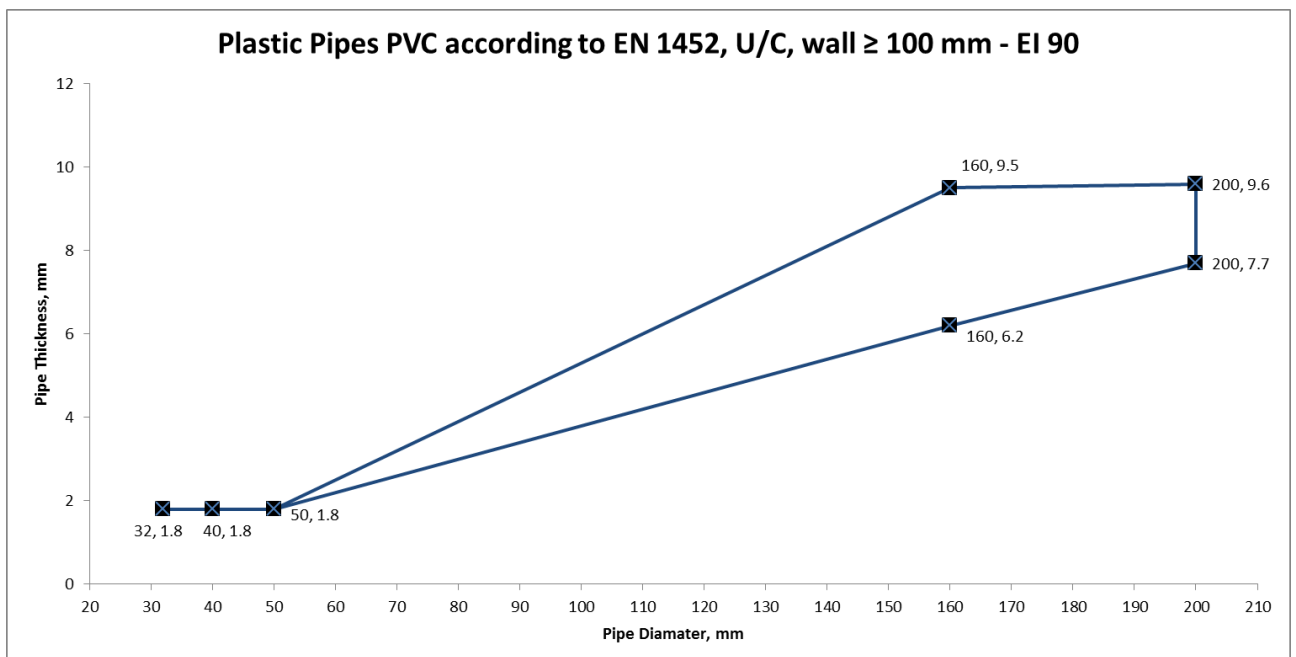
Construction details: Combustible pipes installed with a single ASTRO X-SERIES CE PIPE WRAP within both sides. Maximum annular space according to the tables listed in A.3.1.1 to A.3.1.3 filled with ASTRO INTU MASTIC.

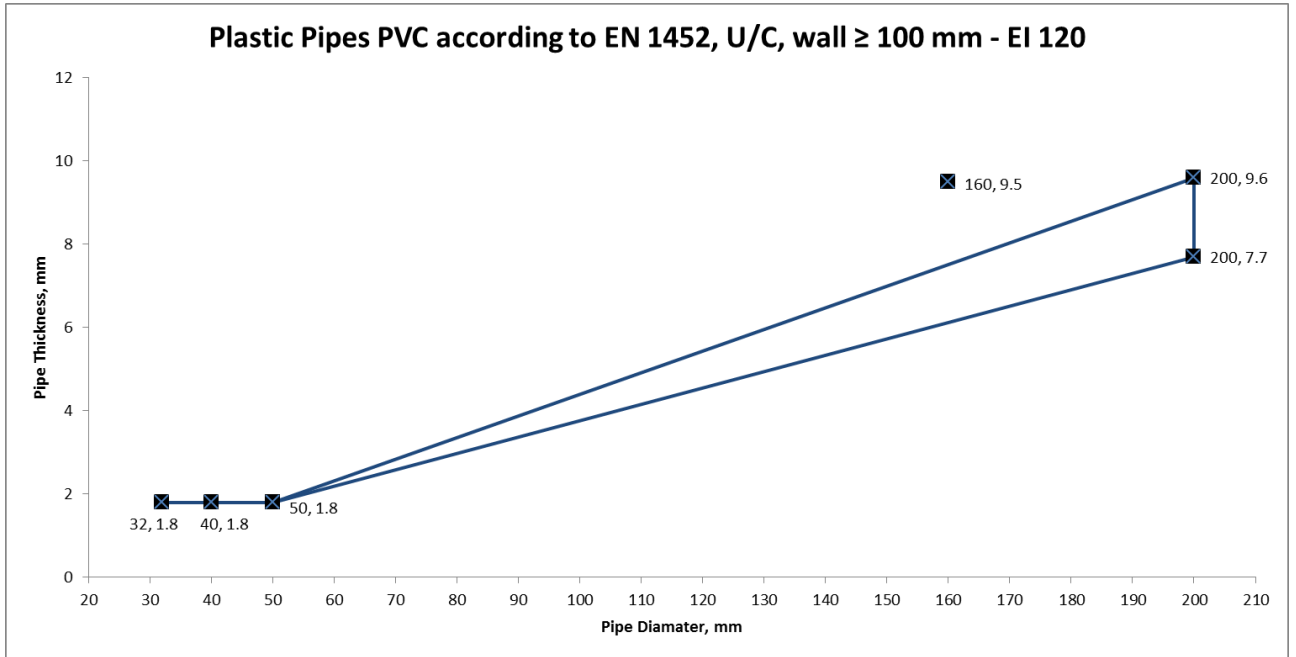


A.3.1.1 PVC-U pipes with ASTRO INTU MASTIC installed within both sides of flexible or rigid wall

PVC pipes according to EN 1452 with ASTRO INTU MASTIC.

ASTRO X-SERIES CE PIPE WRAP, Friction Fitted Flush to Both Sides of Flexible Wall or Rigid (min 100 mm thick) PVC Pipes				
Penetration Specification	Wrap Reference	Intumescent Material	Annulus Space (mm)	Classification
PVC Pipe 32 mm ϕ 1.8 mm wall thickness	32 mm	40 mm (W) x 2 mm (T)	4	EI 120 U/C
PVC Pipe 40 mm ϕ 1.8 mm wall thickness	40 mm			
PVC Pipe 50 mm ϕ 1.8 mm wall thickness	50 mm			
PVC Pipe 160 mm ϕ 6.2 mm wall thickness	160 mm	40 mm (W) x 8 mm (T)	10	EI 90 U/C
PVC Pipe 160 mm ϕ 9.5 mm wall thickness	160 mm			
PVC Pipe 200 mm ϕ 7.7 mm wall thickness	200 mm	40 mm (W) x 10 mm (T)	12	EI 120 U/C
PVC Pipe 200 mm ϕ 9.6 mm wall thickness	200 mm			

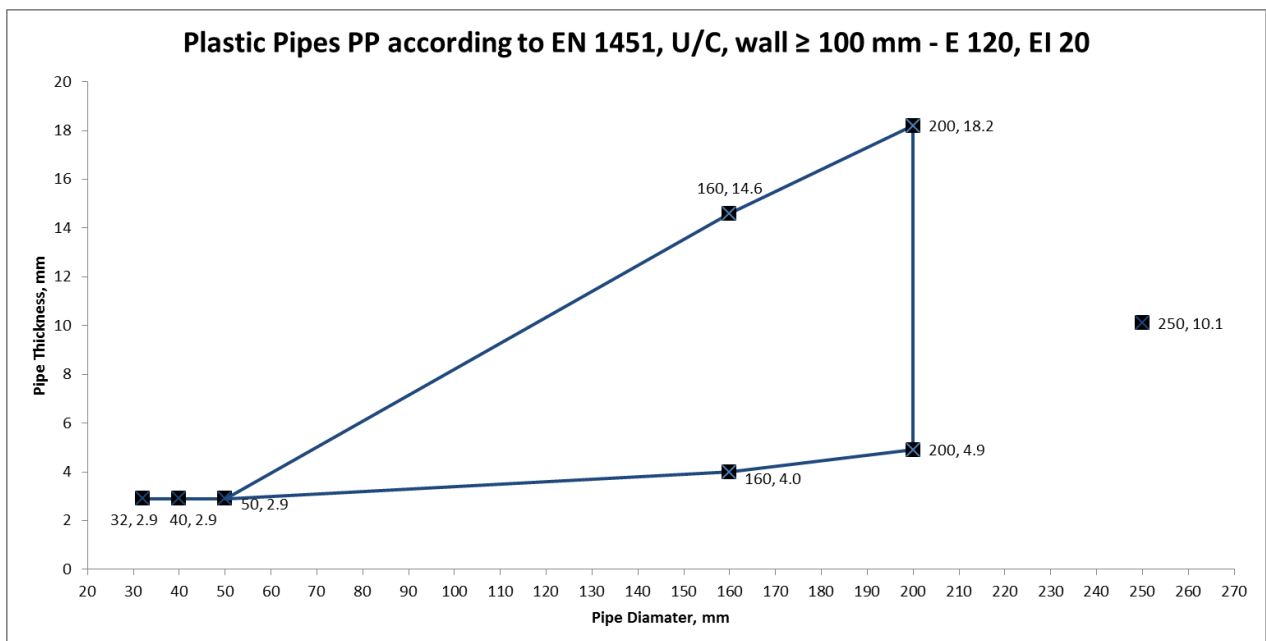


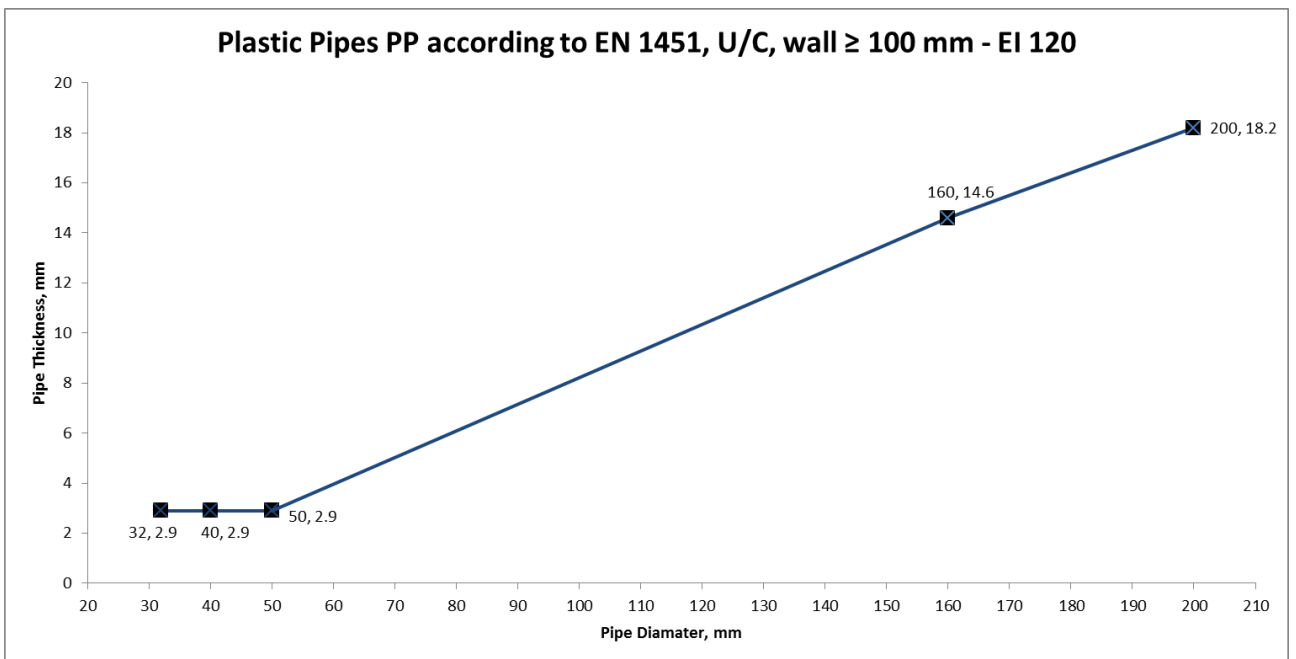
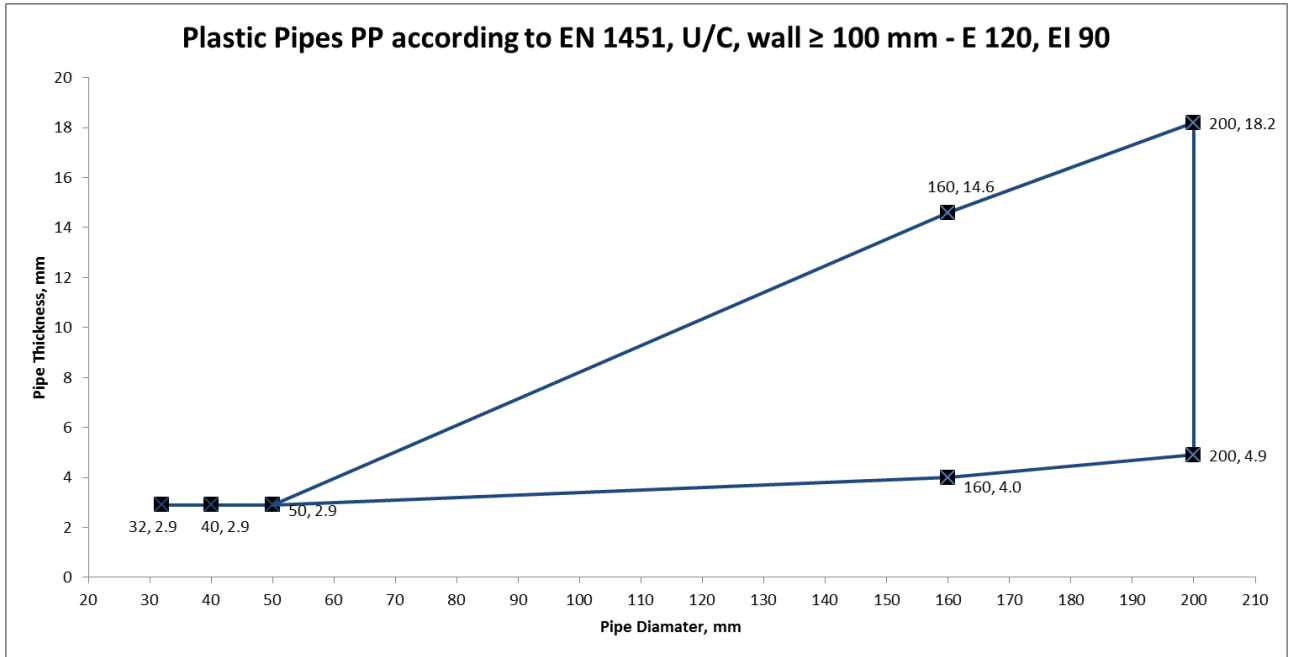


A.3.1.2 PP pipes with ASTRO X-SERIES CE PIPE WRAP installed within both sides of flexible or rigid wall

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

ASTRO X-SERIES CE PIPE WRAP, Friction Fitted Flush to Both Sides of Flexible Wall or Rigid (min 100 mm thick) PP Pipes				
Penetration Specification	Wrap Reference	Intumescent Material	Annulus Space (mm)	Classification
PP Pipe 32 mm ϕ 2.9 mm wall thickness	32 mm	40 mm (W) x 2 mm (T)	4	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 160 mm ϕ 4.0 mm wall thickness	160 mm	40 mm (W) x 8 mm (T)	10	E 120 U/C EI 90 U/C
PP Pipe 160 mm ϕ 14.6 mm wall thickness	160 mm			EI 120 U/C
PP Pipe 200 mm ϕ 4.9 mm wall thickness	200 mm	40 mm (W) x 10 mm (T)	12	E 120 U/C EI 90 U/C
PP Pipe 200 mm ϕ 18.2 mm wall thickness	200 mm			EI 120 U/C
PP Pipe 250 mm ϕ 10.1 mm wall thickness	250 mm	40 mm (W) x 12 mm (T)	14	E 120 U/C EI 20 U/C





A.3.1.3 PE pipes with ASTRO X-SERIES CE PIPE WRAP installed within both sides of flexible or rigid wall

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

ASTRO X-SERIES CE PIPE WRAP, Friction Fitted Flush to Both Sides of Flexible Wall or Rigid (min 100 mm thick) PE Pipes				
Penetration Specification	Wrap Reference	Intumescent Material	Annulus Space (mm)	Classification
PE Pipe 32 mm ϕ 2.9 mm wall thickness	32 mm	40 mm (W) x 2 mm (T)	4	EI 120 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 160 mm ϕ 4.9 mm wall thickness	160 mm	40 mm (W) x 8 mm (T)	10	EI 15 U/C
PE Pipe 160 mm ϕ 9.5 mm wall thickness	160 mm			EI 90 U/C
PE Pipe 200 mm ϕ 4.9 mm wall thickness	200 mm	40 mm (W) x 10 mm (T)	12	EI 15 U/C
PE Pipe 200 mm ϕ 18.4 mm wall thickness	200 mm			EI 120 U/C

