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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 2023/11/23

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:

20 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 Firestopping and fire sealing products, Penetration Seals

This version replaces:

The ETA with the same number issued on 2020-12-09

Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full [except the confidential Annex(es) referred to above]. However, partial reproduction may be made with the written consent of the issuing Technical Assessment Body. Any partial reproduction has to be identified as such.

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 Astro Intu Mastic 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(s) in accordance with the applicable European Assessment Document (hereinafter EAD)

The intended use of ASTRO X-SERIES CE PIPE WRAP is to reinstate the fire performance of wall constructions, where they 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/m ³ . |
| Rigid floor: | The floor 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 . |
- 1) The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period.
 - 2) The ASTRO X-SERIES CE PIPE WRAP may be used to provide a penetration seal with specific combustible pipes (for details see Annex A).
 - 3) 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 Intu Mastic. Apertures for the penetration of pipes shall be separated by a minimum of 200 mm.
 - 4) 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, 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.
 - 5) 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.

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 3.1.1
Resistance to fire	See clause 3.1.2
BWR 3 Hygiene, Health and the Environment	
Release of dangerous substances	See clause 3.2.1
BWR 4 Safety in use	
Durability and serviceability	See Clause 3.3.1

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 Content and release of Dangerous Substances

Category IA1, S/W3 Declaration of manufacturer

The applicant has 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.

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.

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 and accessibility in use

3.3.1 Durability

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 reference 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 2023-11-23 by



Thomas Bruun

Managing Director, ETA-Danmark

Annex A

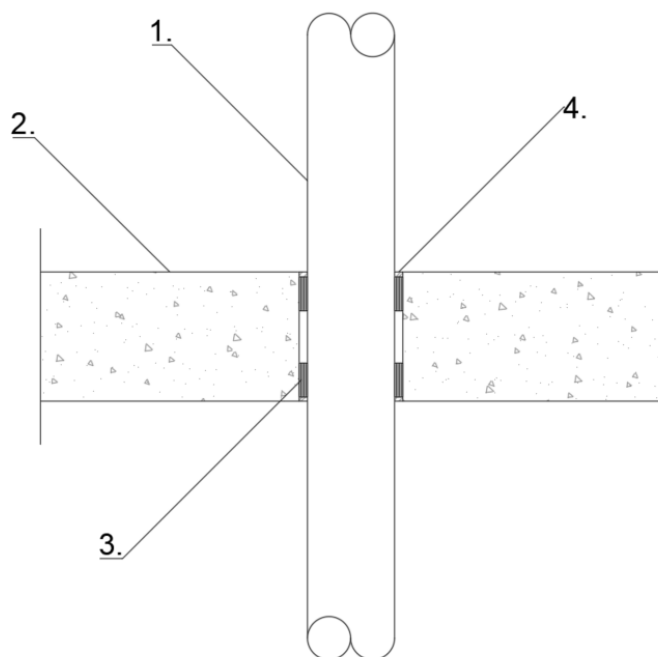
Resistance to Fire Classification of ASTRO X-SERIES CE PIPE WRAP

Intumescent Thickness

The required number of layers of the intumescent material for various ranges of pipe diameters:

ASTRO X-SERIES CE PIPE WRAP Applied both sides of wall/floor	
<i>For use with plastic pipes</i>	
Pipe Ø (mm)	Layers of ASTRO X-SERIES CE PIPE WRAP
40	2
55	2
63	2
75	2
82	2
90	3
110	3
125	4
140	4
160	4
200	5

Single ASTRO X-SERIES CE PIPE WRAP Applied in floor	
<i>For use with plastic pipes</i>	
Pipe Ø (mm)	Layers of ASTRO X-SERIES CE PIPE WRAP
40	4
55	4
63	4
75	4
82	4
90	6
110	6
125	8
140	8
160	8
200	10

A.1. Floors**A.1.1 Rigid floors Minimum Thickness 150 mm****A.1.1.1 Plastic pipes**Rigid Floors ≥ 150 mm**Key**

1. Plastic Pipe
2. Rigid floor
3. ASTRO X-SERIES CE PIPE WRAP
4. Astro Intu Mastic

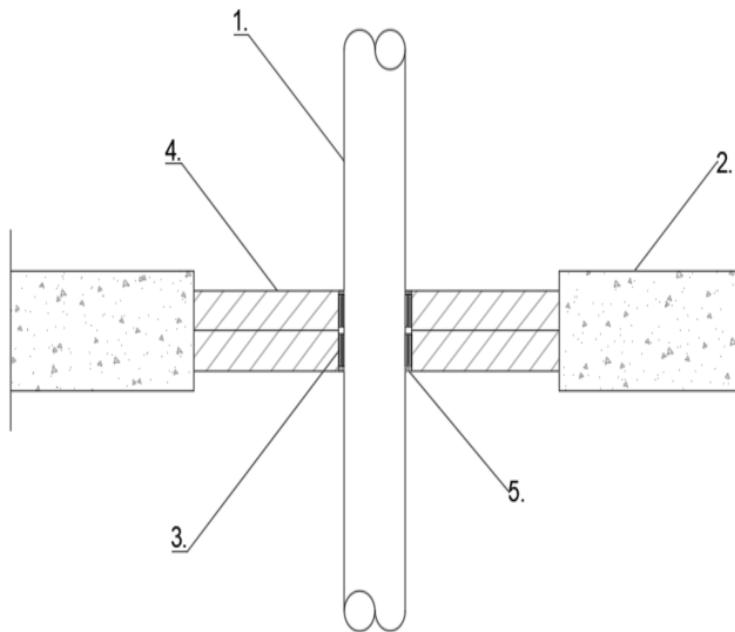
Penetration Service	Annular Space (mm)	Distances (mm)	Installation	Classification
PVC-U, PVC-C ⁽¹⁾ – See 3.1.1, Graph 1 for scope	≤ 10 depending on product size	Edge – 10 Penetration Service ≥ 100	ASTRO X-SERIES CE PIPE WRAP fit into topside and underside of the floor recessed by 5mm. Astro Intu Mastic applied to topside and underside of the floor sealing in the wrap	EI 120 U/C, C/C
PVC-U, PVC-C ⁽¹⁾ – See 3.1.2, Graph 2 for scope				EI 60 U/C, C/C
PE, ABS, SAN-PVC ⁽²⁾ – See 3.1.5, Graph 5 for scope				EI 120 – U/C, C/C
PE, ABS, SAN-PVC ⁽²⁾ – See 3.1.6, Graph 6 for scope				EI 120– U/C, C/C
PP ⁽³⁾ – See 3.1.3, Graph 3 for scope				EI 120 U/C, C/C
PP ⁽³⁾ – See 3.1.4, Graph 4 for scope				EI 15 – U/C, C/C

All services supported with pipe supports at 400 mm from the upper face of the floor.

⁽¹⁾ PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1 and PVC-C according to EN 1566-1

⁽²⁾ PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1

⁽³⁾ PP pipe according to EN 1852-1: 2009

A.1.1.2 Plastic pipes in Astro Batt and CoatingRigid Floors ≥ 150 mmKey

1. Plastic Pipe
2. Rigid floor
3. ASTRO X-SERIES CE PIPE WRAP
4. Astro Batt and Coating
5. Astro Intu Mastic

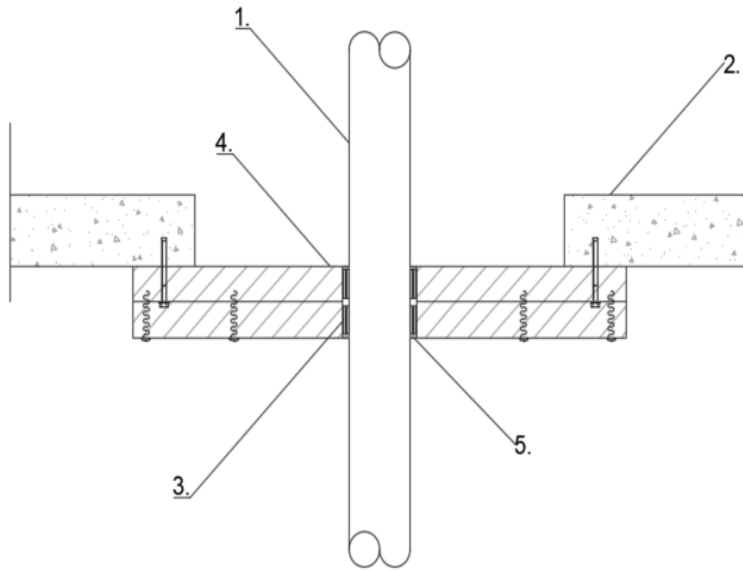
Penetration Service	Opening Size (mm)	Distances (mm)	Installation	Classification
PVC-U, PVC-C ⁽¹⁾ – See 3.1.1, Graph 1 for scope	$\leq 1500 \times 1100$	Edge – ≥ 0 Penetration Service ≥ 0	ASTRO X-SERIES CE PIPE WRAP fit into topside and underside of the floor recessed by 5mm. Friction fit Astro Batt and Coating into aperture around ASTRO X-SERIES CE PIPE WRAP. Astro Intu Mastic applied to topside and underside of the floor sealing in the wrap	EI 60 U/C, C/C
PE, ABS, SAN-PVC ⁽²⁾ – See 3.1.5, Graph 5 for scope				
PP ⁽³⁾ – See 3.1.3, Graph 3 for scope				

All services supported with pipe supports at 400 mm from the upper face of the floor.

⁽¹⁾ PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1 and PVC-C according to EN 1566-1

⁽²⁾ PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1

⁽³⁾ PP pipe according to EN 1852-1: 2009

A.1.2 Rigid floors Minimum Thickness 100 mm**A.1.2.1 Plastic pipes in Astro Batt and Coating**Rigid Floors ≥ 100 mm**Key**

1. Plastic Pipe
2. Rigid floor
3. ASTRO X-SERIES CE PIPE WRAP
4. Astro Batt and Coating
5. Astro Intu Mastic

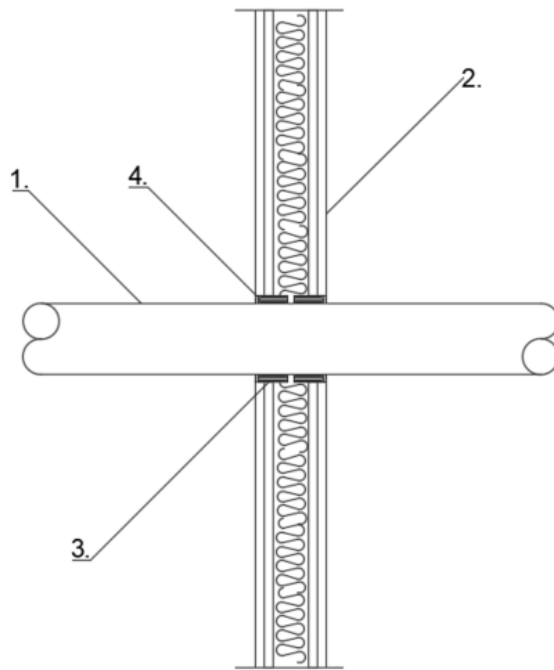
Penetration Service	Opening Size (mm)	Distances (mm)	Installation	Classification
PVC-U, PVC-C ⁽¹⁾ – See 3.1.1, Graph 1 for scope	$\leq 1300 \times 1000$	Edge – ≥ 0 Penetration Service ≥ 0	ASTRO X-SERIES CE PIPE WRAP fit into topside and underside of the floor recessed by 5mm. Pattress fit Astro Batt and Coating on to aperture around ASTRO X-SERIES CE PIPE WRAP. Astro Intu Mastic applied to topside and underside of the floor sealing in the wrap	EI 60 U/C, C/C
PE, ABS, SAN-PVC ⁽²⁾ – See 3.1.5, Graph 5 for scope				
PP ⁽³⁾ – See 3.1.3, Graph 3 for scope				

All services supported with pipe supports at 400 mm from the upper face of the floor.

⁽¹⁾ PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1 and PVC-C according to EN 1566-1

⁽²⁾ PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1

⁽³⁾ PP pipe according to EN 1852-1: 2009

A.2. Walls**A.2.1 Flexible or Rigid Walls Minimum Thickness 100 mm****A.2.1.1 Plastic pipes**Flexible or Rigid Walls ≥ 100 mmKey

1. Plastic Pipe
2. Flexible Wall
3. ASTRO X-SERIES CE PIPE WRAP
4. Astro Intu Mastic

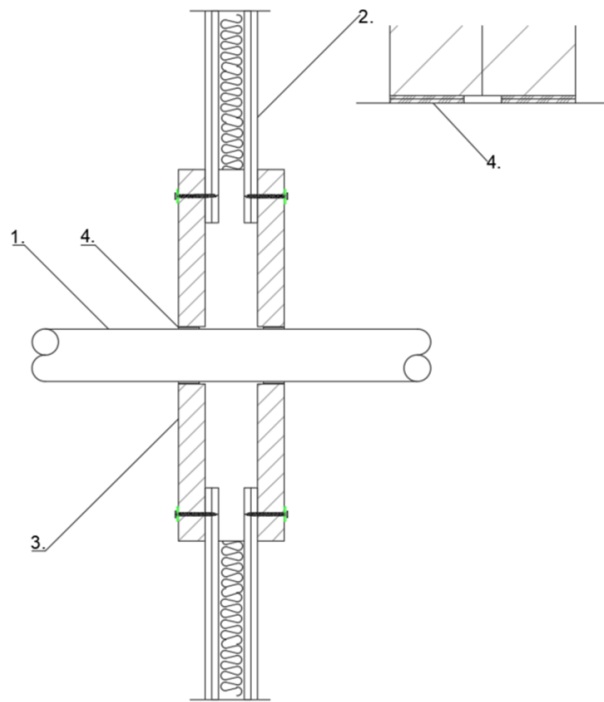
Penetration Service	Annular Space (mm)	Distances (mm)	Installation	Classification
PVC-U, PVC-C ⁽¹⁾ – See 3.2.1, Graph 7 for scope	As required by dimensions of ASTRO X-SERIES CE PIPE WRAP	Penetration Service ≥ 100	ASTRO X-SERIES CE PIPE WRAP fit into both sides of the wall recessed by 5 mm. Astro Intu Mastic applied to each face of the wall sealing in the wrap.	EI 90 U/C, C/C
PP ⁽³⁾ – See 3.2.2, Graph 8 for scope				EI 120 U/C, C/C
PP ⁽³⁾ – See 3.2.3, Graph 9 for scope				EI 90 U/C, C/C
PE, ABS, SAN-PVC ⁽²⁾ – See 3.2.4, Graph 10 for scope				E 120, EI 90 – U/C, C/C
PE, ABS, SAN-PVC ⁽²⁾ – See 3.2.5, Graph 11 for scope				EI 90 – U/C, C/C

All services supported with pipe supports at at 400 mm from both faces of the wall.

⁽¹⁾ PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1 and PVC-C according to EN 1566-1

⁽²⁾ PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1

⁽³⁾ PP pipe according to EN 1852-1: 2009

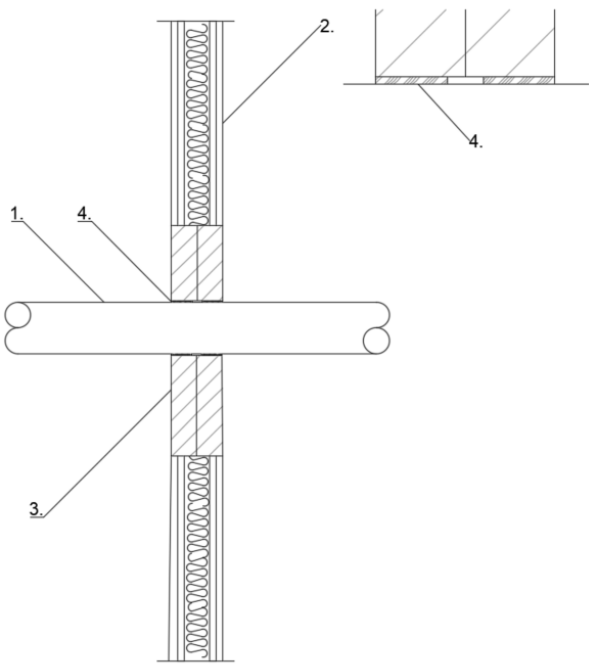
A.2.1.2 Plastic pipes in Astro Batt and CoatingFlexible or Rigid Walls ≥ 100 mm Insulated or uninsulated, lined, or unlinedKey

1. Plastic Pipe
2. Flexible Wall
3. Astro Batt and Coating
4. ASTRO X-SERIES CE PIPE WRAP

Penetration Service	Opening Size (mm)	Distances (mm)	Installation	Classification
PVC-U, PVC-C ⁽¹⁾ – See 3.2.1, Graph 7 for scope	$\leq 1200 \times 750$	Edge – ≥ 50 Penetration Service ≥ 0	ASTRO X-SERIES CE PIPE WRAP fit into both sides of the wall recessed by 5mm. Astro Batt and Coating pattress fit using Astro Intu Mastic between joints. Fixed to the substrate using 6 x 80 steel screws and steel washers, 100 mm overlap onto substrate.	EI 60 U/C, C/C
PE, ABS, SAN-PVC ⁽²⁾ – See 3.2.5, Graph 11 for scope				
PP ⁽³⁾ – See 3.2.3, Graph 9 for scope				

All services supported with pipe supports at at 400 mm from both faces of the wall.

⁽¹⁾ PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1 and PVC-C according to EN 1566-1⁽²⁾ PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1⁽³⁾ PP pipe according to EN 1852-1: 2009

Flexible or Rigid Walls ≥100 mm Insulated, unlined, or lined				
				<p><u>Key</u></p> <p>1. Plastic Pipe 2. Flexible Wall 3. Astro Batt and Coating 4. ASTRO X-SERIES CE PIPE WRAP</p>
Penetration Service	Opening Size (mm)	Distances (mm)	Installation	Classification
PVC-U, PVC-C ⁽¹⁾ – See 3.2.6, Graph 12 for scope	≤ 1200 x 730	Edge – 100 Penetration Service ≥ 0	ASTRO X-SERIES CE PIPE WRAP fit into both sides of the wall recessed by 5mm. Two 50 mm back-to-back Astro Batt and Coating friction fit using Astro Intu Mastic between joints.	EI 90 U/C, C/C
PE, ABS, SAN-PVC ⁽²⁾ – See 3.2.4, Graph 10 for scope				
PP ⁽³⁾ – See 3.2.2, Graph 8 for scope				
PVC-U, PVC-C ⁽¹⁾ – See 3.2.6, Graph 8 for scope	≤ 2600 x 2600			EI 60 U/C, C/C
PE, ABS, SAN-PVC ⁽²⁾ – See 3.2.4, Graph 10 for scope				
PP ⁽³⁾ – See 3.2.2, Graph 8 for scope				

All services supported with pipe supports at at 400 mm from both faces of the wall.

⁽¹⁾ PVC-U pipe according to EN 1329-1, EN 1452-1 and EN 1453-1 and PVC-C according to EN 1566-1

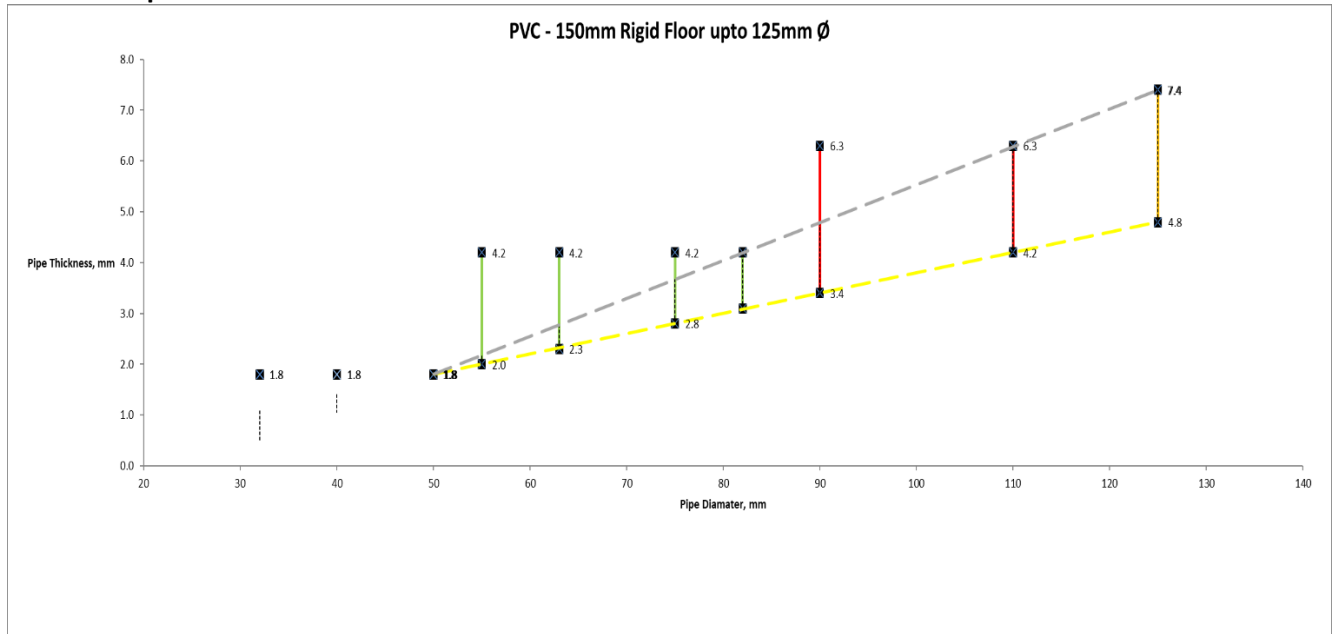
⁽²⁾ PE pipe according to EN 1519-1, EN 12201-2 and EN 12006-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1

⁽³⁾ PP pipe according to EN 1852-1: 2009

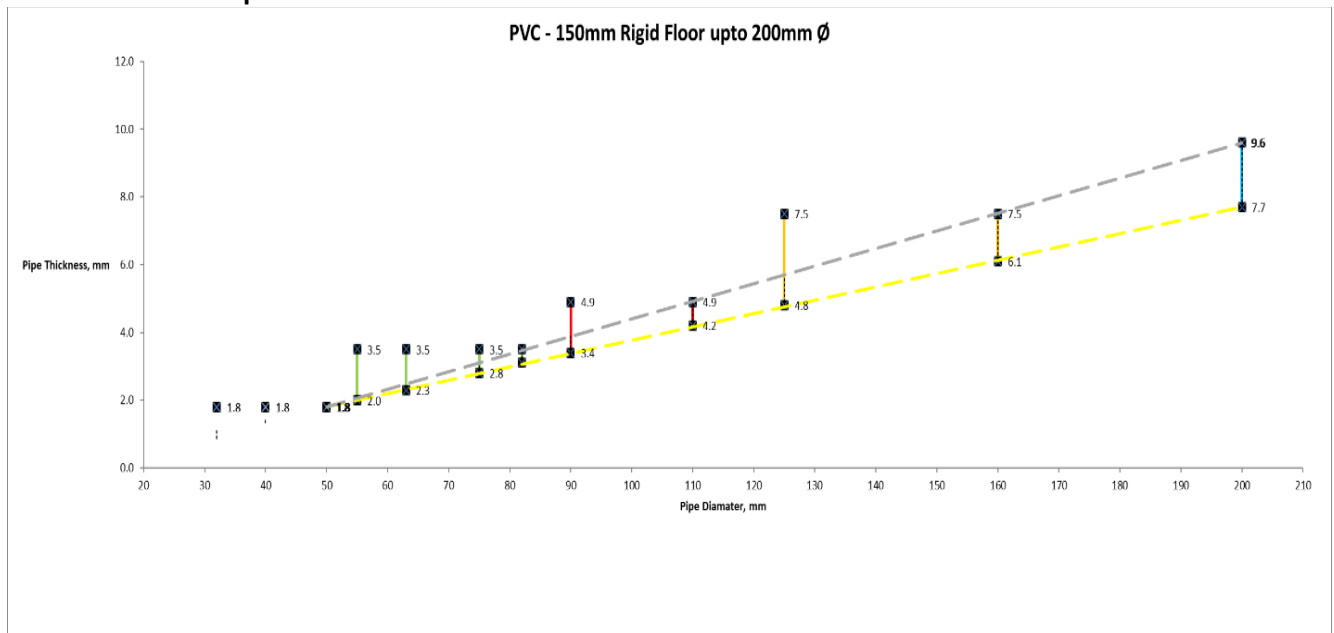
A.3. Scope and Usage

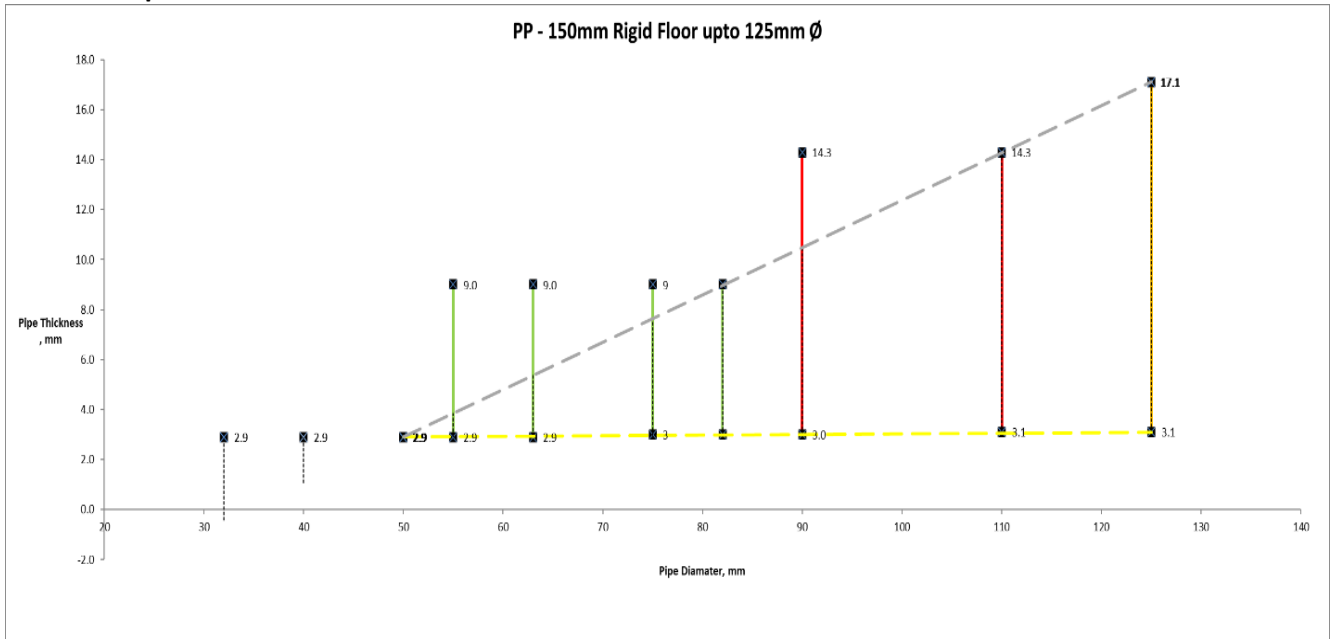
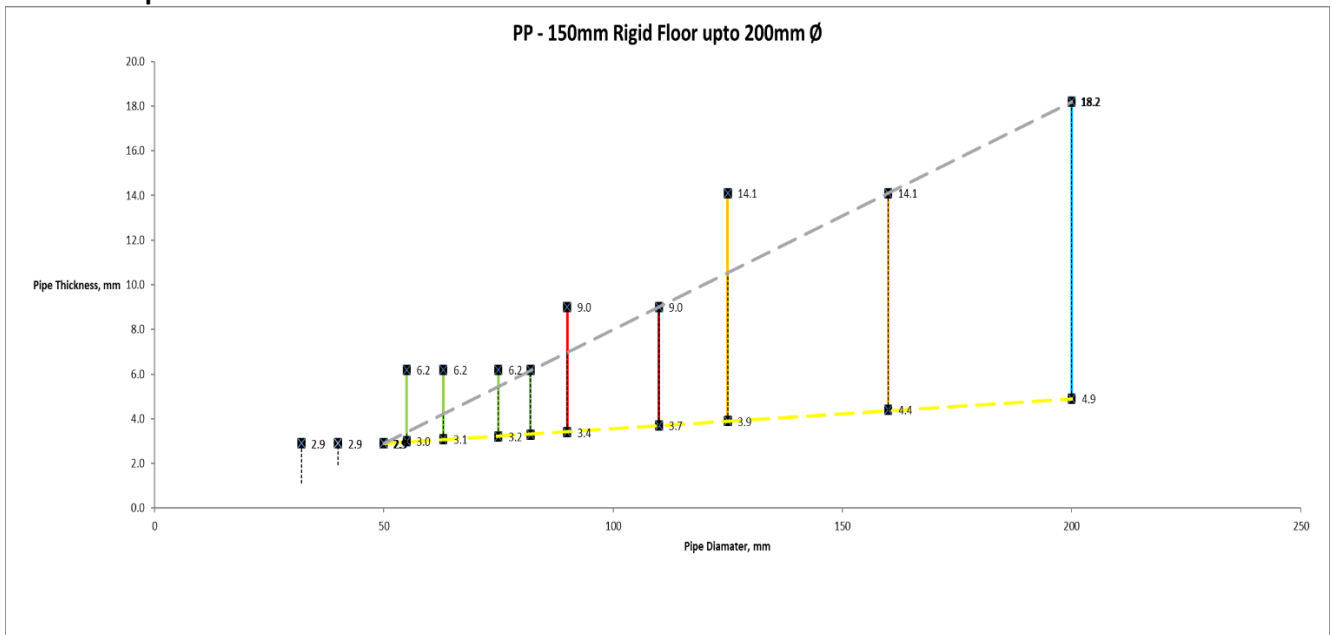
A.3.1 Floor

A.3.1.1 Graph 1

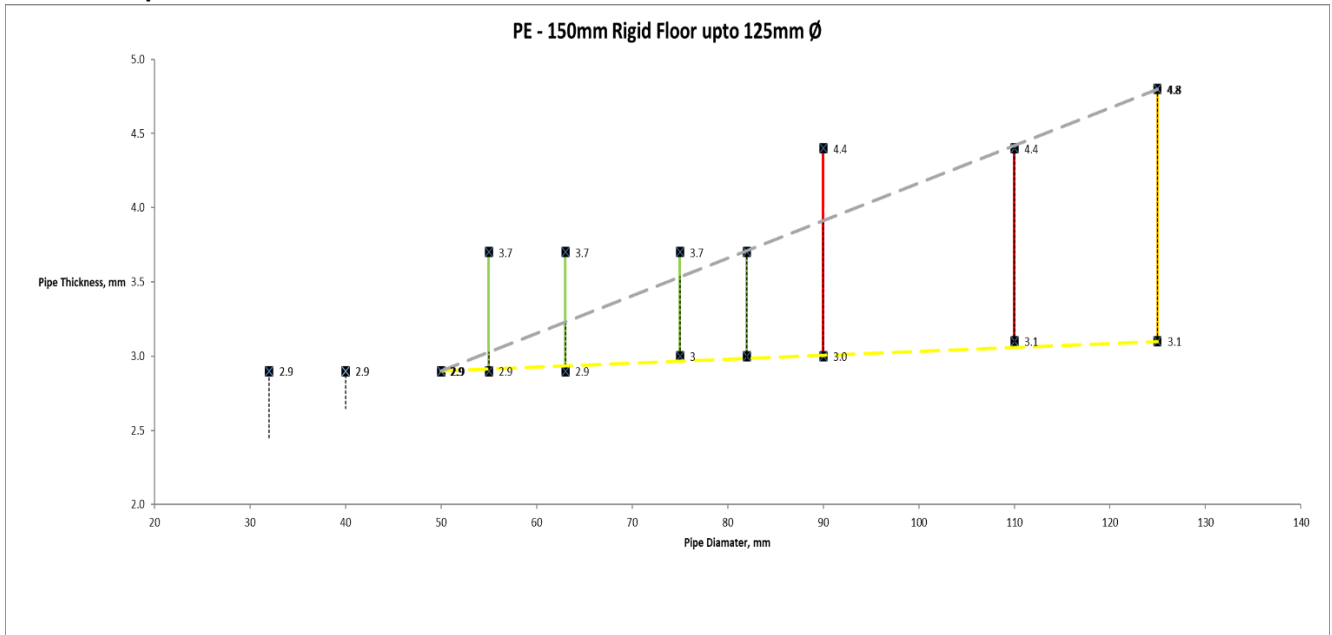


A.3.1.2 Graph 2

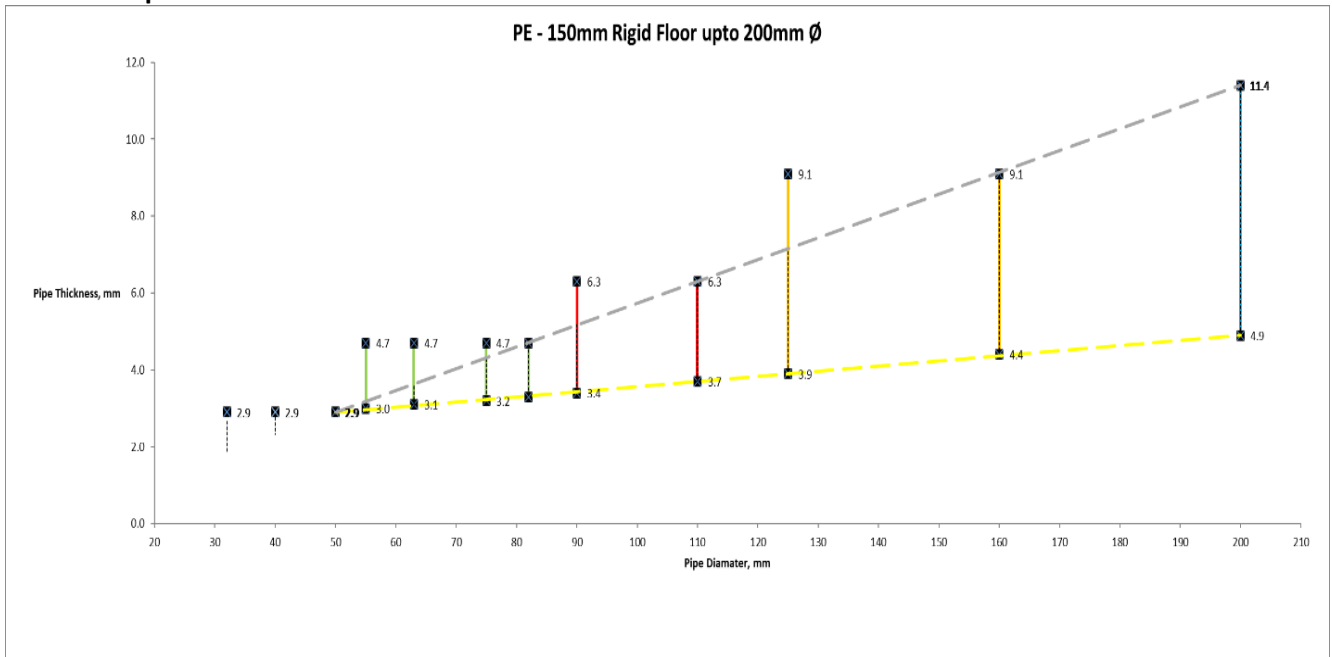


A.3.1.3 Graph 3**A.3.1.4 Graph 4**

A.3.1.5 Graph 5

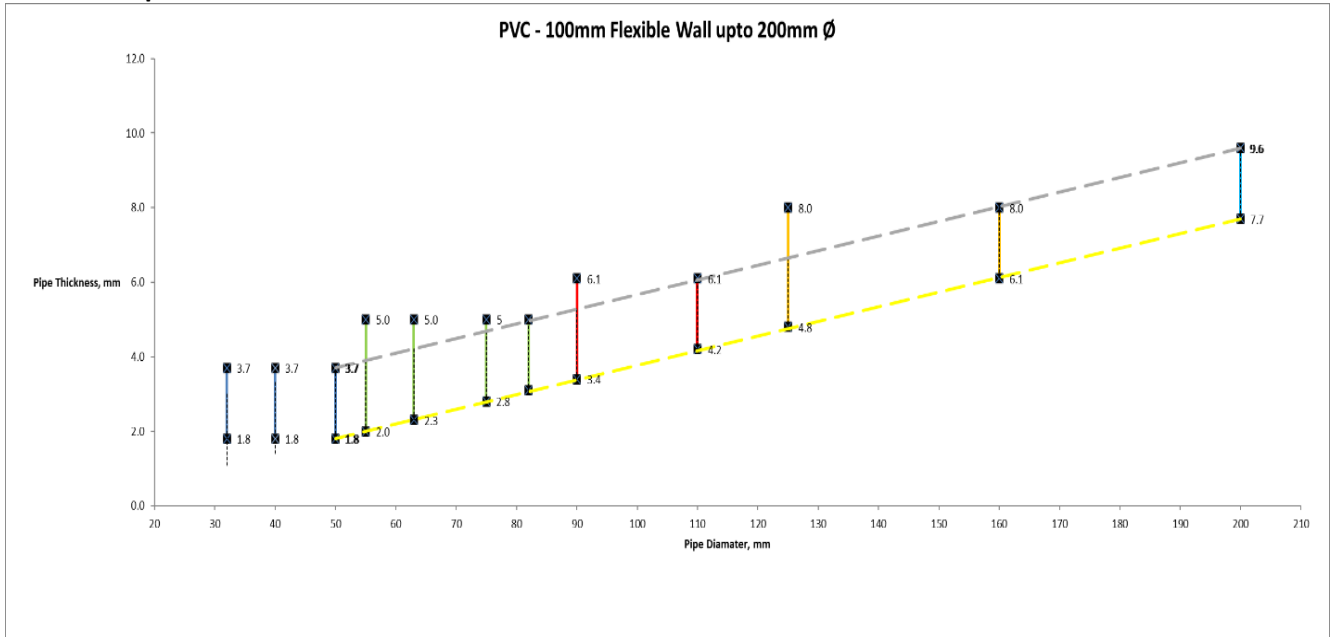


A.3.1.6 Graph 6

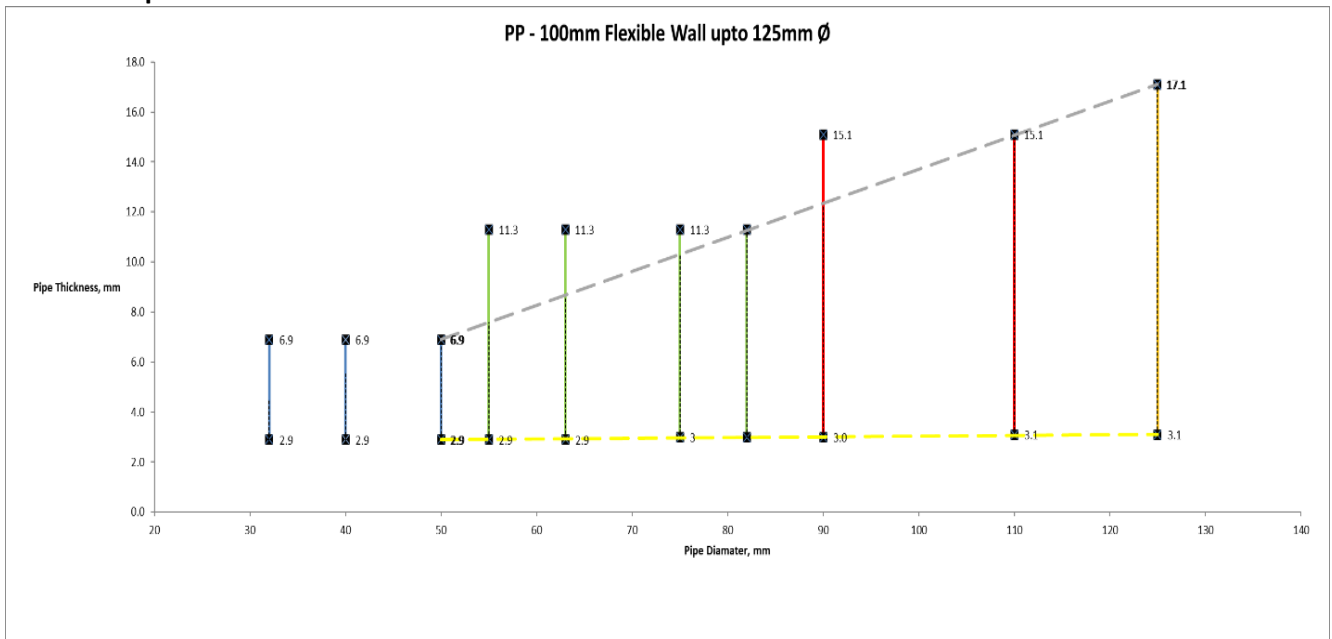


A.3.2 Wall

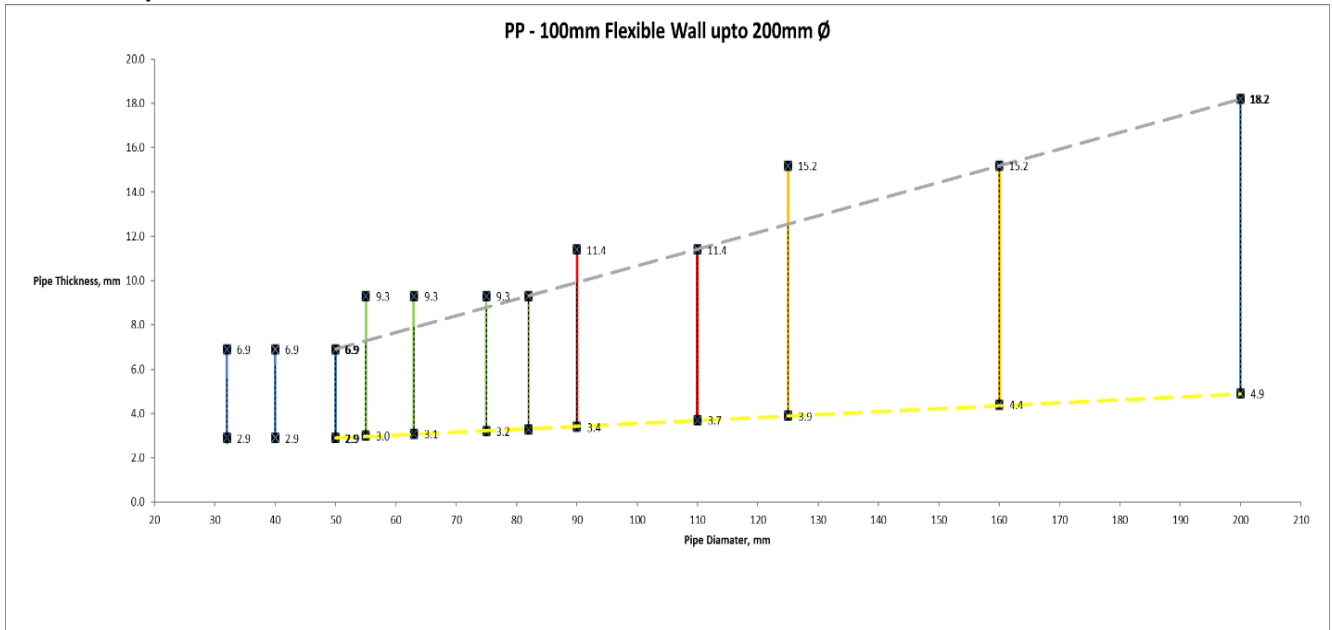
A.3.2.1 Graph 7



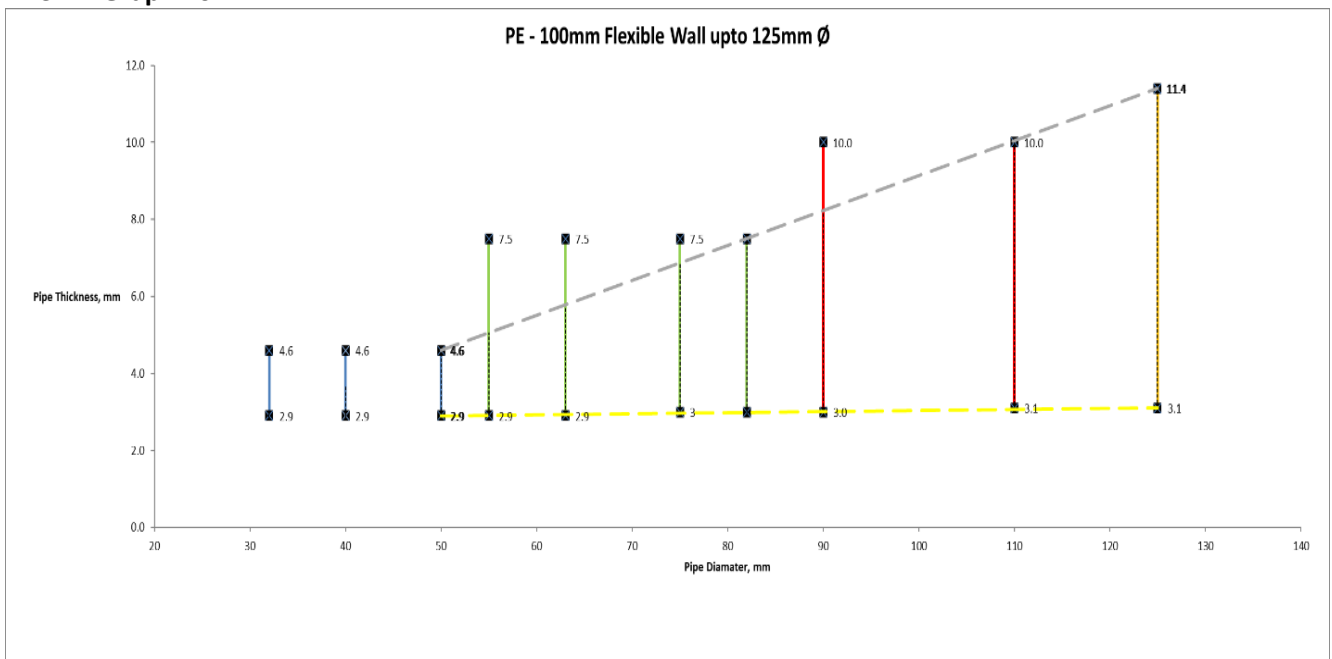
A.3.2.2 Graph 8



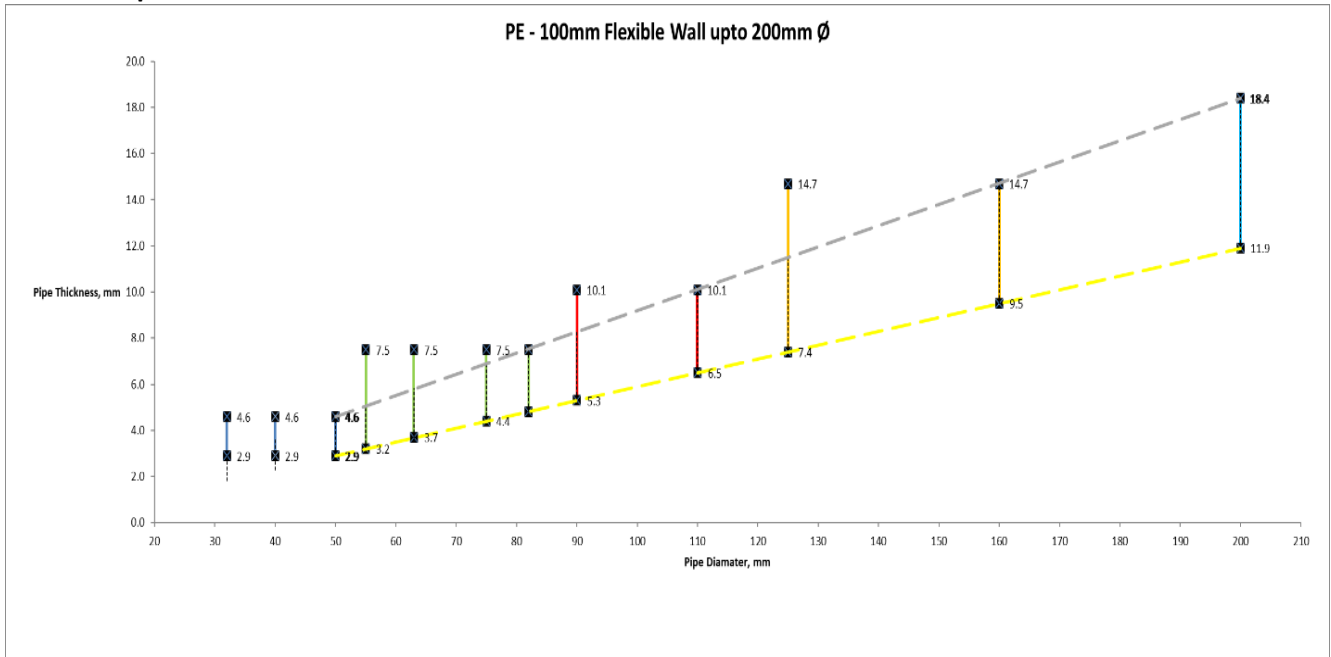
A.3.2.3 Graph 9



A.3.2.4 Graph 10



A.3.2.5 Graph 11



A.3.2.6 Graph 12

