



UL INTERNATIONAL (UK) LTD
Kingsland Business Park,
Unit 1-3 Horizon,
Wade Rd,
Basingstoke RG24 8AH,
United Kingdom

appointed according to Article 29 of Construction Products Regulation 2011 as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020

UK Technical Assessment

0843-UKTA-24/0044
of 30/09/2024

Technical Assessment Body Issuing the UKTA:

UL International (UK) Ltd

Trade name of the construction product

Astro X Series Pillow

Product family to which the construction product belongs

Fire Stopping and Fire Sealing Products - Penetration Seals

Manufacturer

Astroflame Fireseals Ltd
Unit 8, The I.O. Centre
Stephenson Road
Segensworth
Fareham
Hampshire
PO15 5RU

Manufacturing plant(s)

A/008

This UK Technical Assessment contains

12 pages including 2 Annexes which form an integral part of this assessment.

This UK Technical Assessment* is issued, on the basis of

EAD 350454-00-1104, September 2017

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

Communication of this UK Technical Assessment, including transmission by electronic means, shall be in full. However, partial reproduction may be made, with the written consent of the issuing Technical Assessment Body. Any partial reproduction shall be identified as such.

* in accordance with Construction Products Regulation 2011 as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020

Table of Contents

I. SPECIFIC PARTS OF THE UK TECHNICAL ASSESSMENT.....3

1 Technical description of the product3

2 Specification of the intended uses of the product in accordance with the applicable UK Assessment Document (Pre-Exit European Assessment Document): EAD 350454-00-1104: 20173

3 Performance of the product and references to the methods used for its assessment4

4 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD5

5 Issued on:.....6

ANNEX A – Resistance to Fire Classification – Astro X Series Pillow7

A.1 Rigid wall constructions according to I.2.1 with wall thickness of minimum 150 mm7

ANNEX B – Air Permeability – Astro X Series Pillow12

I. SPECIFIC PARTS OF THE UK TECHNICAL ASSESSMENT

1 Technical description of the product

- 1) Astro X Series Pillows are a compressible combination of reactive and non-reactive components, encased in a thin woven glass fibre casing used to reinstate the fire resistance performance of wall constructions where they have been provided with apertures for the penetration of single or multiple services.
- 2) Astro X Series Pillow is a dry system and does not require the use of any sealant or sealing products
- 3) The Astro X Series Pillows are supplied in three different sizes referenced Large (330mm x 200mm x 45mm), Medium (330mm x 200mm x 25mm) and Small (330mm x 50mm x 20mm), a mixture of which may be utilized to obtain a tight compression

2 Specification of the intended uses of the product in accordance with the applicable UK Assessment Document (Pre-Exit European Assessment Document): EAD 350454-00-1104: 2017

The intended use of Astro X Series Pillow is to reinstate the fire resistance performance of rigid wall constructions where they are penetrated by various cables and metallic pipes.

- 4) The specific elements of construction that the system Astro X Series Pillow may be used to provide a penetration seal in, are as follows:

Rigid walls: The wall must have a minimum thickness of 150 mm and comprise concrete, aerated concrete or masonry, 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.

- 5) The Astro X Series Pillow may be used to provide a penetration seal with pipes and cables (for details see Annex A).
- 6) The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.
- 7) The system Astro X Series Pillow may be used to seal apertures in the separating element up to 1100mm wide by 1100mm high dependent on the configuration. The minimum permitted separation between adjacent seals/apertures is 200mm.
- 8) Pipes must be installed singular, cables require no minimum separation.
- 9) Services in walls shall be supported at maximum 250mm from the face of the separating element.
- 10) The provisions made in this UK Technical Assessment are based on an assumed working life of the Astro X Series Pillow of 10 years, provided that the conditions laid down in section 5 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.
- 11) Use Category: Type Z1: Intended for use in internal conditions with humidity equal to or higher than 85% RH excluding temperatures below 0°C, without exposure to rain or UV.

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

Product-type: Pillow		Intended use: Penetration Seal
Assessment method	Essential characteristic	Product performance
BWR 2 Safety in case of fire		
EN 13501-1	Reaction to fire	No performance determined
EN 13501-2	Resistance to fire	Annex A
BWR 3 Hygiene, health and environment		
EN 1026	Air permeability	Annex B
EAD 350454-00-1104, Annex C	Water permeability	No performance determined
Declaration of manufacturer & EN 16516	Content, emission and/or release of dangerous substances	Declaration of manufacturer
BWR 4 Safety in use		
EOTA TR 001:2003	Mechanical resistance and stability	No performance determined
EOTA TR 001:2003	Resistance to impact/movement	No performance determined
EOTA TR 001:2003	Adhesion	No performance determined
EAD 350454-00-1104, Clause 2.2.9	Durability	Type Z ₁
BWR 5 Protection against noise		
EN 10140-1,2,4,5/ EN ISO 717-1	Airborne sound insulation	R _w (C;Ctr)= 33(0;-2)
BWR 6 Energy economy and heat retention		
EN 12664, EN 12667, EN 12939, EN ISO 8990, EN ISO 6946, EN ISO 14683, EN ISO 10211, EN ISO 10456	Thermal properties	No performance determined
EN ISO 12572, EN 12086, EN ISO 10456	Water vapour permeability	No performance determined

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

According to the Statutory Instrument 2019 No. 465 – made 5th March 2019 and cited as the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and coming into force on exit day and Statutory Instrument 2020 No. 1359 – made 26th November 2020 and cited as the Construction Products (Amendment etc.) (EU Exit) Regulations 2020 and coming into force immediately before the 2019 Regulations come into force, on the procedure for attesting the conformity of construction products as regards fire stopping, fire sealing and fire protective products, published as ‘Pre-Exit’ European Assessment Documents, (see <https://www.gov.uk/guidance/pre-exit-european-assessment-documents-construction-products>), the system of assessment and verification of constancy of performance (see Annex V to Construction Products Regulation 2011 as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020) given in the following table(s) 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

4 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Tasks of the manufacturer:

Factory production control

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed. This production control system shall ensure that the product is in conformity with this UK Technical Assessment.

The manufacturer may only use initial / raw / constituent materials stated in the technical documentation of this UK Technical Assessment.

The factory production control shall be in accordance with the Control Plan of 18/10/2022 relating to the UK Technical Assessment 0843-UKTA-24/0044 issued on 30/09/2024 which is part of the technical documentation of this UK technical Assessment. The "Control Plan" is laid down in the context of the factory production control system operated by the manufacturer and deposited at UL International (UK) Ltd.

The results of factory production control shall be recorded and evaluated in accordance with the provisions of the Control Plan.

Other tasks of the manufacturer

Additional information

The manufacturer shall provide a technical data sheet and an installation instruction with the following minimum information:

(a) Technical data sheet:

- Field of application:
- Building elements for which the penetration seal is suitable, type and properties of the building elements like minimum thickness, density, and - in case of lightweight constructions – the construction requirements.
- Limits in size, minimum thickness etc. of the penetration seal
- Construction of the penetration seal including the necessary components and additional products (e.g. backfilling material) with clear indication whether they are generic or specific.
- Services which the penetration seal is suitable, type and properties of the services like material, diameter, thickness etc. in case of pipes including insulation materials; necessary/allowed supports/fixings (e.g. pipe trays)

(b) Installation instruction:

- Steps to be followed
- Procedure in case of retrofitting
- Stipulations on maintenance, repair and replacement

5 Issued on:

30th September 2024

Report by:



P. Foster
Project Engineer Associate
Built Environment

Reviewed by:



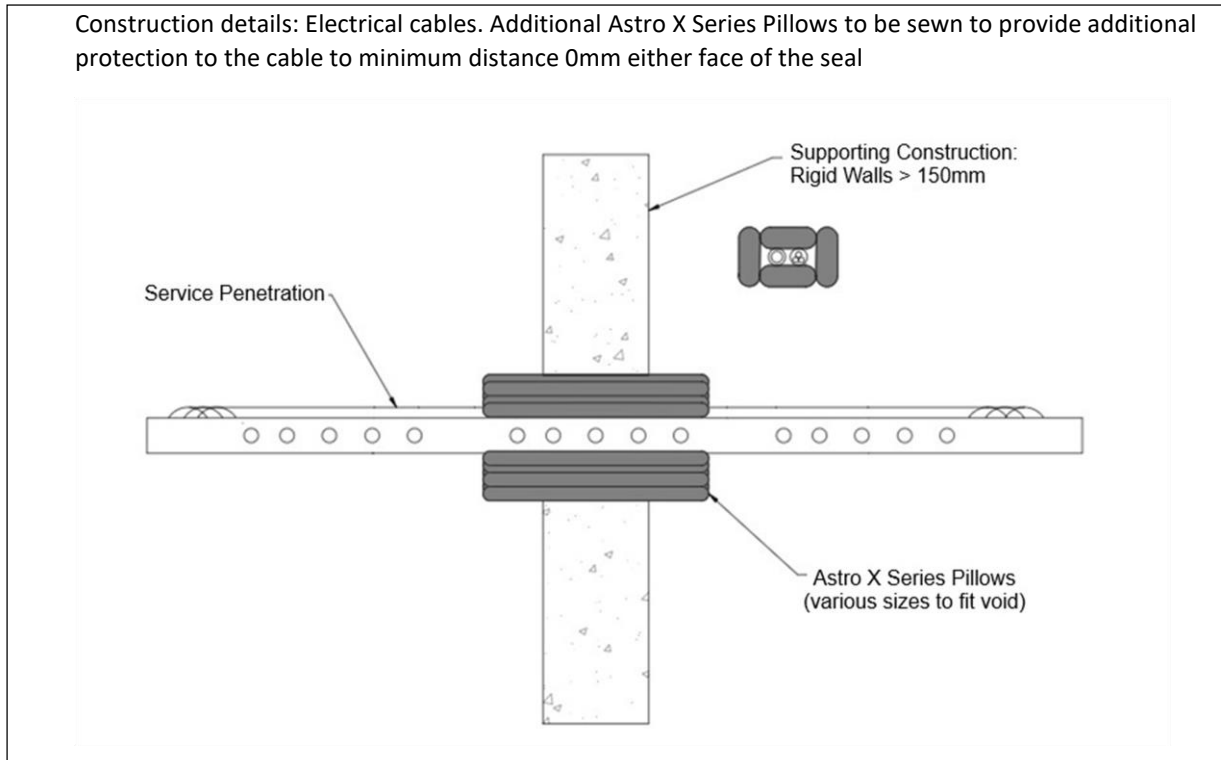
C. Johnson
Senior Staff Engineer
Built Environment

For and on behalf of UL International (UK) Ltd.

ANNEX A – Resistance to Fire Classification – Astro X Series Pillow

A.1 Rigid wall constructions according to I.2.1 with wall thickness of minimum 150 mm

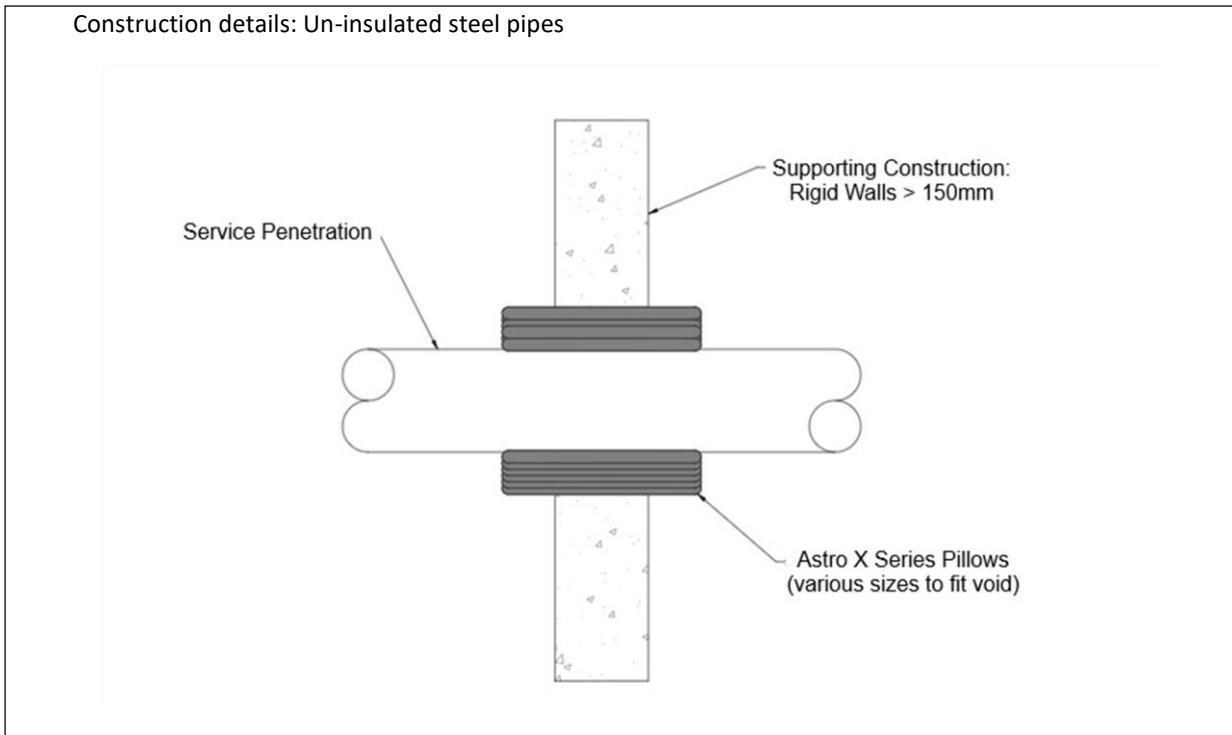
A.1.1 Penetration seal with Astro X Series Pillow installed 75mm projection from each face of the wall



A.1.1.1

Astro X Series Pillow Penetration Seals 300 mm deep, in Rigid Walls 150 mm thick (min.)	
Services	Classification
Telecom cables up to 21mm \varnothing (single or bundles up 100 mm \varnothing)	EI 120
Electrical cables up to 21 mm \varnothing	EI 120
Electrical cables up to 50 mm \varnothing	E 120, EI90
Electrical cables up to 80 mm \varnothing	E120, EI 90
Unsheathed wires up to 24 mm \varnothing	EI 120
Steel or Copper conduits and tubes up to 16 mm \varnothing	EI 120
Plastic (any) conduits and tubes up to 16 mm \varnothing	EI 120
Cable trays or ladders up to 300 mm wide	E 120, EI 60
Cable trays up to 500mm wide	E 120, EI 90

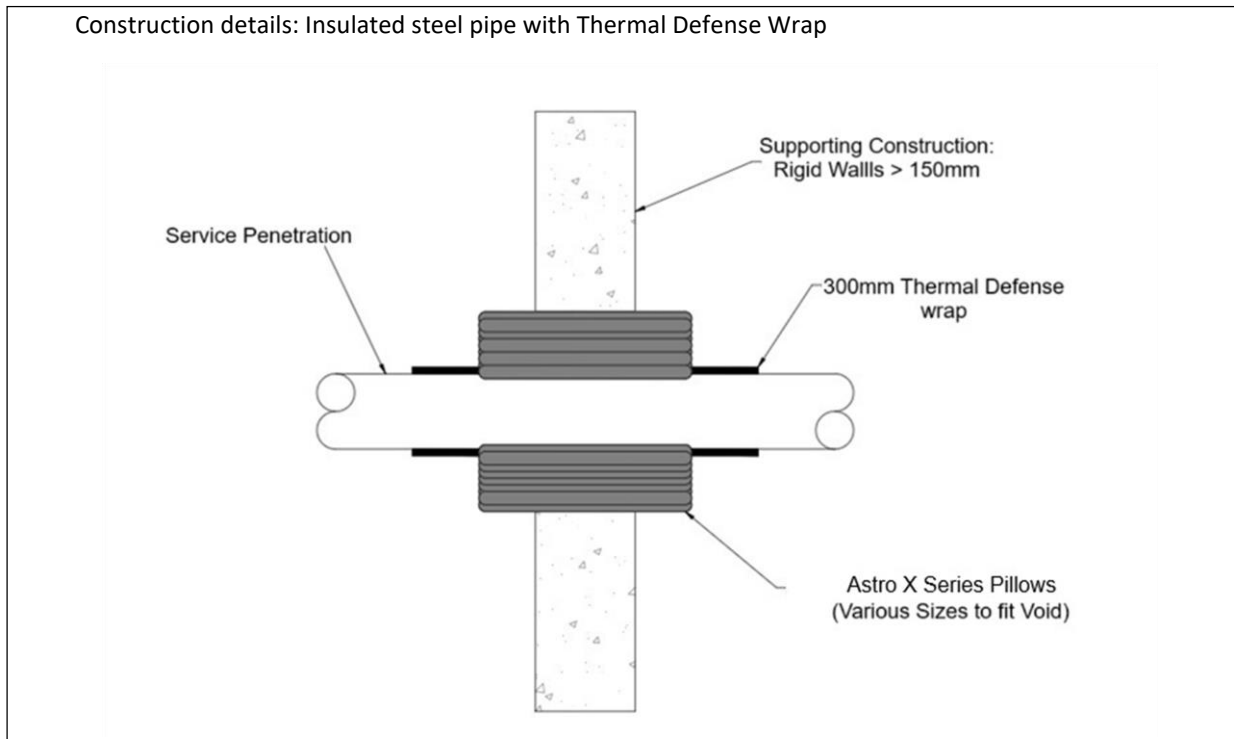
A.1.2 Penetration seal with Astro X Series Pillow installed 75mm projection from each face of the wall



A.1.2.1

Astro X Series Pillow Penetration Seals 300 mm deep, in Rigid Walls 150 mm thick (min.)	
Services	Classification
165 mm Ø x 5.6-14.2 mm thick mild steel pipe	E 120 C/U

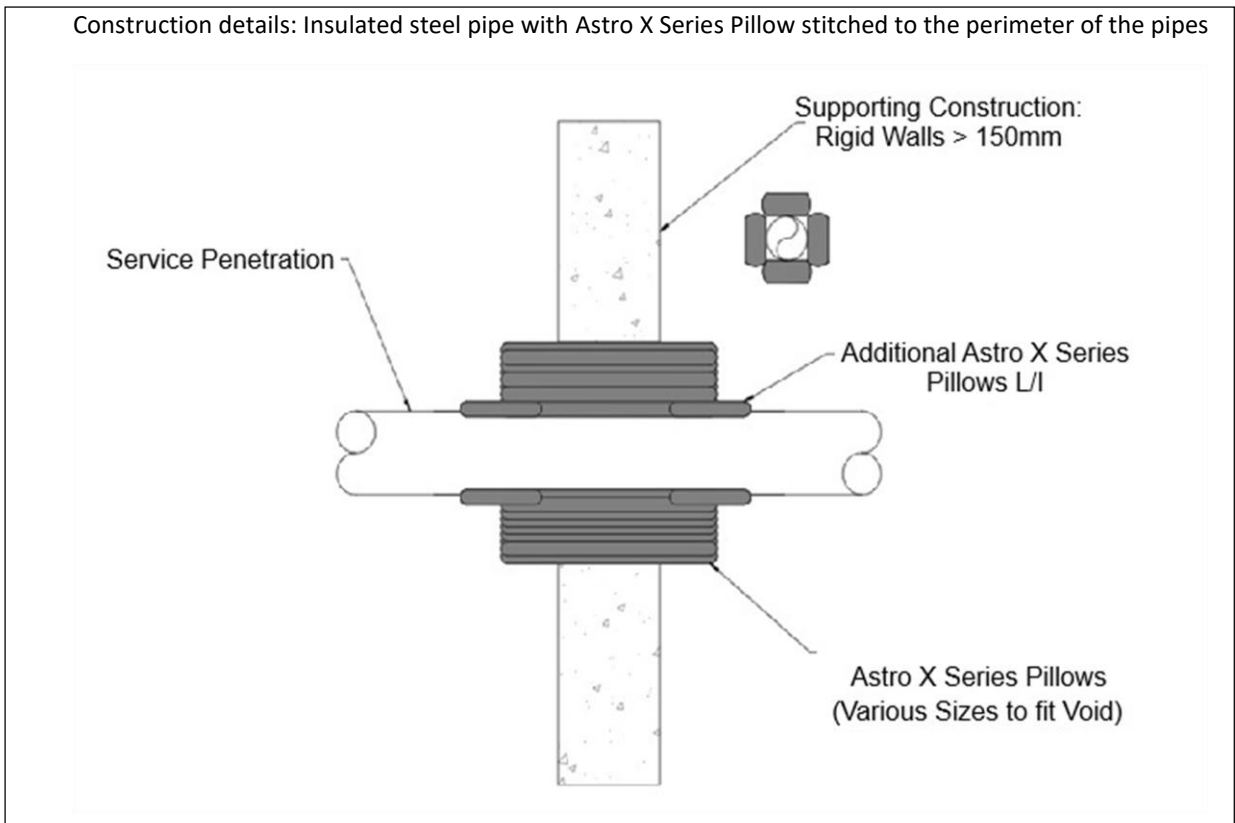
A.1.3 Penetration seal with Astro X Series Pillow installed 75mm projection from each face of the wall



A.1.3.1

Astro X Series Pillow Penetration Seals 300 mm deep, in Rigid Walls 150 mm thick (min.)	
Services	Classification
48mm \varnothing x 3.5-14.2mm thick steel pipe with 300 mm Local Interrupted (LI) Thermal Defense Wrap 7mm thick	EI 120 C/U
113mm \varnothing x 4.5-14.2mm thick steel pipe with 300 mm Local Interrupted (LI) Thermal Defense Wrap 10mm thick	EI 120 C/U

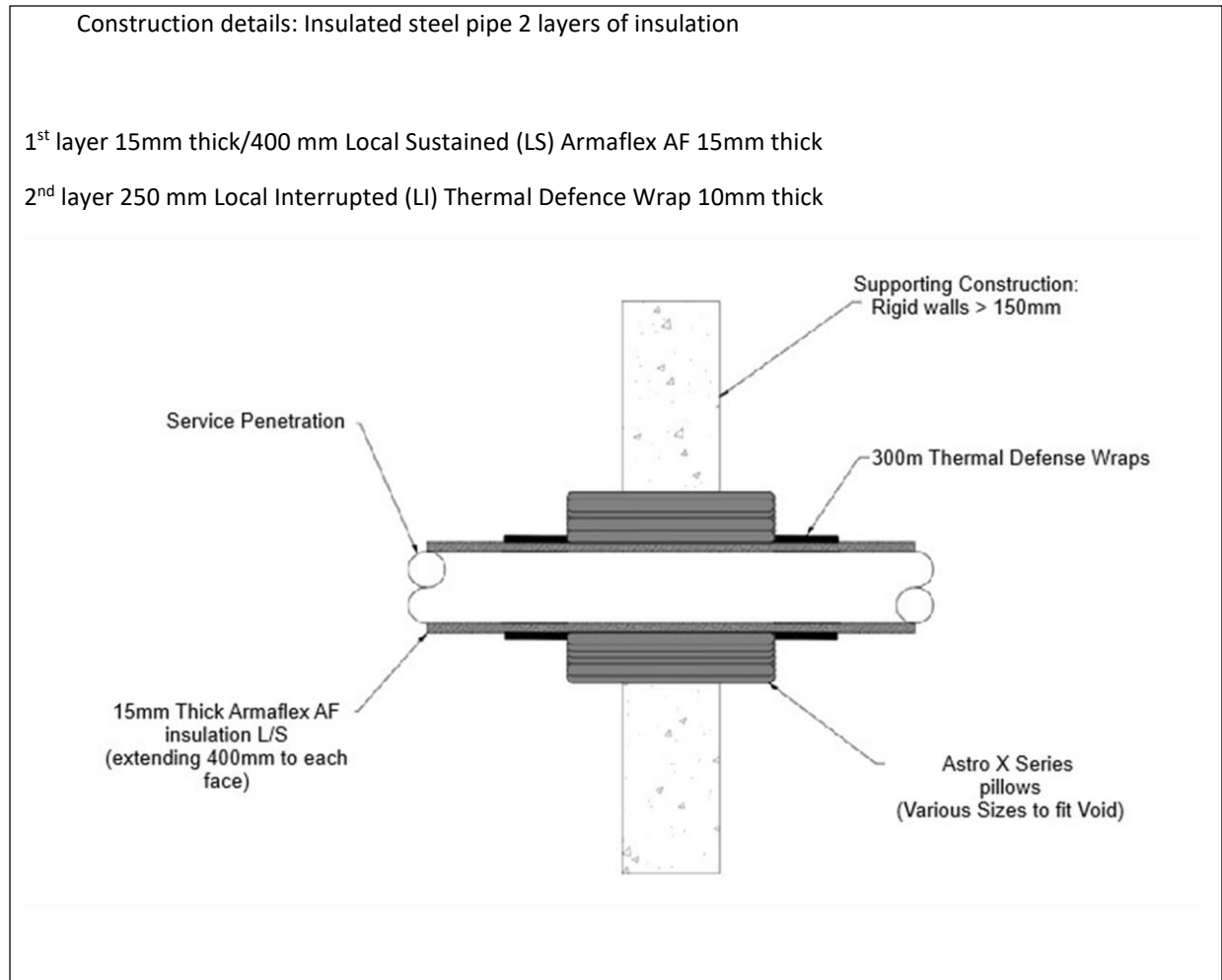
A.1.4 Penetration seal with Astro X Series Pillow installed 75mm projection from each face of the wall



A.1.4.1

Astro X Series Pillow Penetration Seals 300 mm deep, in Rigid Walls 150 mm thick (min.)	
Services	Classification
108 mm \varnothing x 1.5-14.2 mm thick copper pipe	E 120 C/U, EI 90 C/U

A.1.5 Penetration seal with Astro X Series Pillow installed 75mm projection from each face of the wall



A.1.5.1

Astro X Series Pillow Penetration Seals 300 mm deep, in Rigid Walls 150 mm thick (min.)	
Services	Classification
54mmØ x 1.0-14.2mm thick copper pipe with 2 layers of insulation	EI 120

ANNEX B – Air Permeability – Astro X Series Pillow

Pressure (Pa)	Results under positive chamber pressure		Results under negative chamber pressure	
	Leakage (m ³ /h)	Leakage (m ³ /m ² /h)	Leakage (m ³ /h)	Leakage (m ³ /m ² /h)
50	2.5	13.9	3.1	17.2
100	4.1	22.8	5.6	31.1
150	5.8	32.2	7.4	41.1
200	7.2	40.0	8.9	49.4
250	8.7	48.3	10.3	57.2
300	9.8	54.4	11.1	61.7
450	13.4	74.4	15.3	85.0
600	17.5	97.2	18.6	103.3