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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-24/0037 of 30/09/2024
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Technical Assessment Body Issuing the UKTA:	UL International (UK) Ltd
Trade name of the construction product	Astro Intu Mastic
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	29 pages including 3 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

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* 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

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I. SPECIFIC PARTS OF THE UK TECHNICAL ASSESSMENT

1 Technical description of the product

- 1) Astro Intu Mastic Sealant is an acrylic based sealant used to form a penetration seal around insulated or uninsulated metallic pipes and electrical cables, to reinstate the fire resistance performance of wall and floor constructions where they have been provided with apertures for the penetration of services.
- 2) Astro Intu Mastic Sealant is supplied in liquid form contained within 310 ml & 380 ml cartridges, 600 ml foils or in 5, 10, 20 or 25 litre tubs. The sealant is gunned or trowelled into the aperture in or between the separating element/elements to a specified depth using various backing materials.
- 3) Certain seals require Astro Thermal Defense Wrap in addition, used to insulate the service. The Astro Thermal Defense Wrap is a 6 mm thick foil faced ceramic based insulation material, installed externally to the Astro Intu Mastic Sealant as detailed in Annex A.
- 4) Applicant has submitted a written declaration that the product are compliant with the Directive 2011/65/EC (RoHS 2) of the European Parliament on the restriction of the use of certain hazardous substances in electrical and electronics equipment, and with the Directive 2015/863/EC (RoHS 3, adding phthalate compounds as restricted substances in annex II) & UK RoHS Regulations - The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulation 2012.

In addition to the specific clauses relating to dangerous substances contained in this UK Technical Assessment, there may be other requirements applicable to the products falling within its scope (e.g. transposed UK 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.

- 5) The use category of Astro Intu Mastic Sealant in relation to BWR 3 (Hygiene, health and environment) is IA2

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

Detailed information and data is given in Annex A.

- 1) The intended use of system Astro Intu Mastic Sealant is to reinstate the fire resistance performance of flexible and rigid wall constructions and rigid floor constructions where they are penetrated by insulated or uninsulated metallic pipes and electrical cables.
- 2) The specific elements of construction that the system Astro Intu Mastic Sealant may be used to provide a penetration seal in, are as follows:
 - a. Flexible walls: The wall must have a minimum thickness of 75 mm and comprise steel studs or timber studs* lined on both faces with minimum 1 layer of 12.5 mm thick boards.
 - b. Rigid walls: The wall must have a minimum thickness of 75 mm and comprise concrete, aerated concrete or masonry with a minimum density of 650 kg/m³.
 - c. 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.

*no part of the penetration seal may be closer than 100 mm to a stud, the cavity must be closed between the penetration seal and the stud, and minimum 100 mm of insulation of class A1 or A2

according to EN 13501-1 must be provided within the cavity between the penetration seal and the stud.

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

- 3) The System Astro Intu Mastic Sealant may be used to provide a penetration seal with specific single insulated metal pipes, uninsulated metal pipes and with specific electrical cables, single or in a bundle (for details see Annex A).
- 4) Apertures in the separating element shall be maximum \varnothing 350 mm or 300 x 300 mm. The annular space/gap around the services shall be infilled with Astro Intu Mastic Sealant and in some cases utilising various backing materials. For full details, see Annex A.
- 5) The provisions made in this UK Technical Assessment are based on an assumed working life of the Astro Intu Mastic Sealant of 25 years, provided that the conditions laid down in the product datasheet 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, 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) Type X: Intended for use in conditions exposed to weathering and all lower classes.

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

Product-type: Sealant		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	Use categories: IA2 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 X
BWR 5 Protection against noise		
EN 10140-1,2,4,5/ EN ISO 717-1	Airborne sound insulation	Annex C
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

4 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

5 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-24/0037 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

6 Issued on:

30th September 2024

Report by:



P. Foster
Project Engineer Associate
Built Environment

Reviewed by:



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

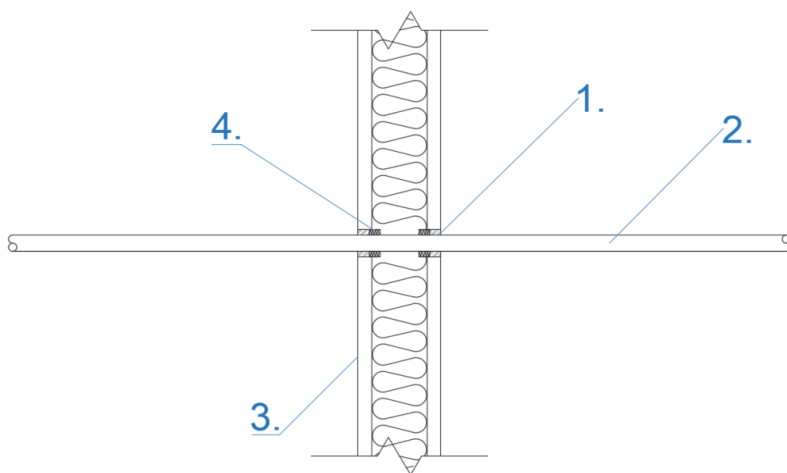
ANNEX A – Resistance to Fire Classification – Astro Intu Mastic Sealant

A.1 Flexible and rigid wall constructions with wall thickness of minimum 75 mm

A.1.1 Double sided penetration seal with cables

Penetration Seal: Cables (single) fitted centrally within the aperture, sealed with Astro Intu Mastic Sealant to both sides of the wall, backed with various backing materials. Minimum separation between penetration seals 200 mm (a2).

Construction details:



Key:

1. Astro Intu Mastic Sealant
2. Single Cable
3. Flexible Wall
4. Backing Material

A.1.1.1

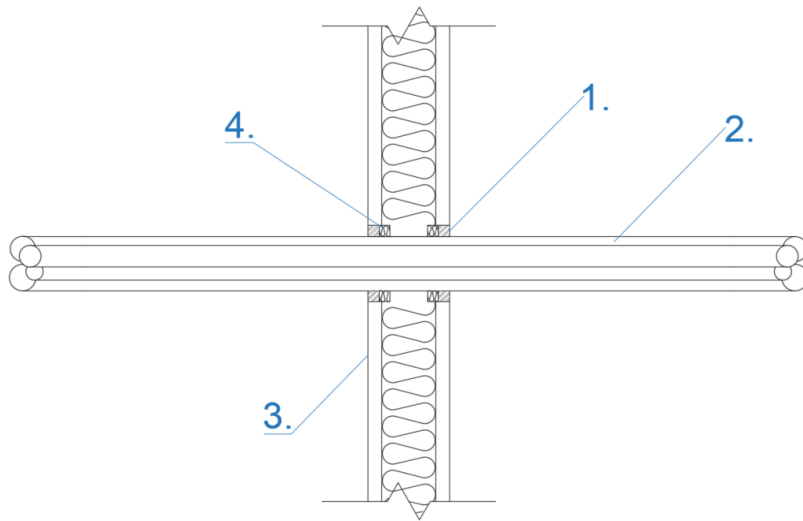
Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Classification
D1 cable*	10	100 Ø	PE backing rod, glass wool, stone wool or ceramic wool	E 60, EI 45
B cable*	12	25 Ø	Stone wool or ceramic wool (10 mm 45kg/m ³)	E 90, EI 60

* As defined in EN 1366-3: 2009, Annex A

A.1.2 Double sided penetration seal with cables bunches

Penetration Seal: Cables bunches fitted centrally within the aperture, sealed with Astro Intu Mastic Sealant to both sides of the wall, backed with various backing materials. Minimum separation between penetration seals 200 mm (a2).

Construction details:



Key:

1. Astro Intu Mastic Sealant
2. Single Bunch
3. Flexible Wall
4. Backing Material

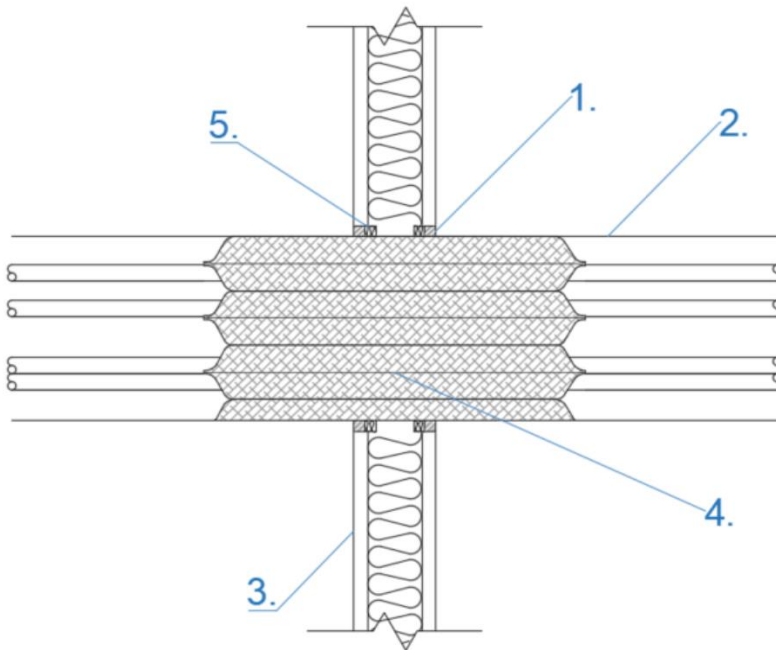
A.1.2.1

Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Classification
Telecoms cables ≤ 21 mm \varnothing in cable bunch ≤ 100 mm \varnothing	10	120 \varnothing	PE backing rod, glass wool, stone wool or ceramic wool	E 60, EI 45

A.1.3 Double sided penetration seal with cable trunking

Penetration Seal: Cables trunkings filled with cables penetrating through an aperture through a flexible or rigid wall construction. The aperture is filled with Astro X Series Pillow and sealed with Astro Intu Mastic Sealant to both sides of the wall, backed with various backing materials. Minimum separation between penetration seals 200 mm (a2).

Construction details:



Key:

1. Astro Intu Mastic Sealant
2. Metal Trunking filled with cables
3. Flexible Wall
4. Astro X Series Pillow
5. Backing Material

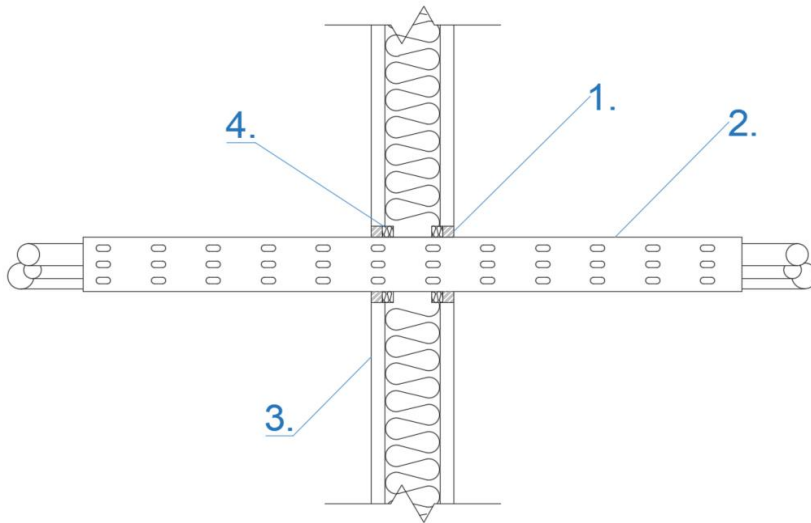
A.1.3.1

Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Steel trunking up to 150 mm x 150 mm	10	170 x 170	PE backing rod, glass wool, stone wool or ceramic wool	0	E 60, EI 20
Steel trunking up to 50 mm x 50 mm	10	70 x 70	PE backing rod, glass wool, stone wool or ceramic wool	0	E 60, EI 45

A.1.4 Double sided penetration seal with cable trays

Penetration Seal: Cables trays with cables penetrating through a flexible or rigid wall construction and sealed with Astro Intu Mastic Sealant to both sides of the wall, backed with various backing materials. Minimum separation between penetration seals 200 mm (a2).

Construction details:



Key:

1. Astro Intu Mastic Sealant
2. Cable Tray
3. Flexible Wall
4. Backing Material

A.1.4.1

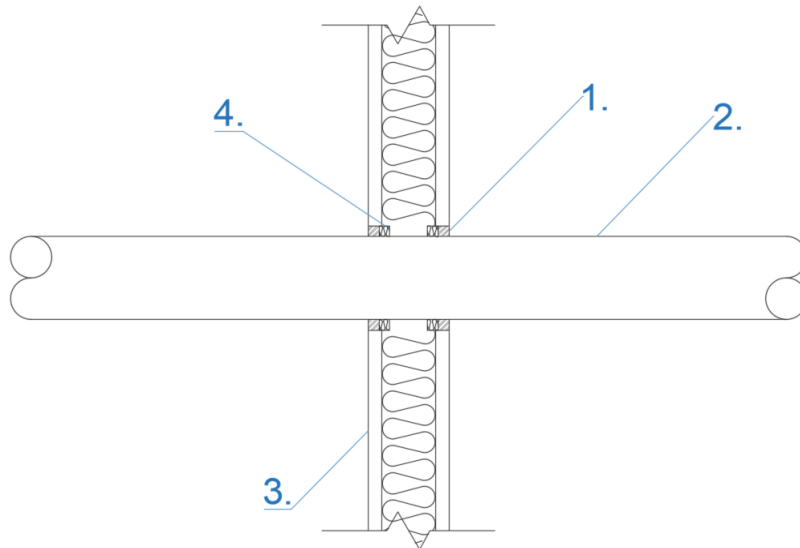
Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Steel cable tray ≤450 mm wide loaded with cables ≤21 mm Ø + C1, C2, C3 cables*	10	470 x 100	PE backing rod, glass wool, stone wool or ceramic wool	0	E 60, EI 20
Steel cable tray ≤450 mm wide loaded with cables ≤21 mm Ø + C1, C2, C3 cables* with insulation ≤40 mm thick ≤45kg/m ³ , ≤400 mm either side of the wall (L/I)	10	470 x 100	PE backing rod, glass wool, stone wool or ceramic wool	0	EI 45

* As defined in EN 1366-3: 2009, Annex A

A.1.5 Double side penetration seal with metallic pipes

Penetration Seal: Metallic pipes (single) fitted centrally within the aperture, sealed with Astro Intu Mastic Sealant to both sides of the wall, backed with various backing materials. Minimum separation between penetration seals 200 mm (a2).

Construction details:



Key:

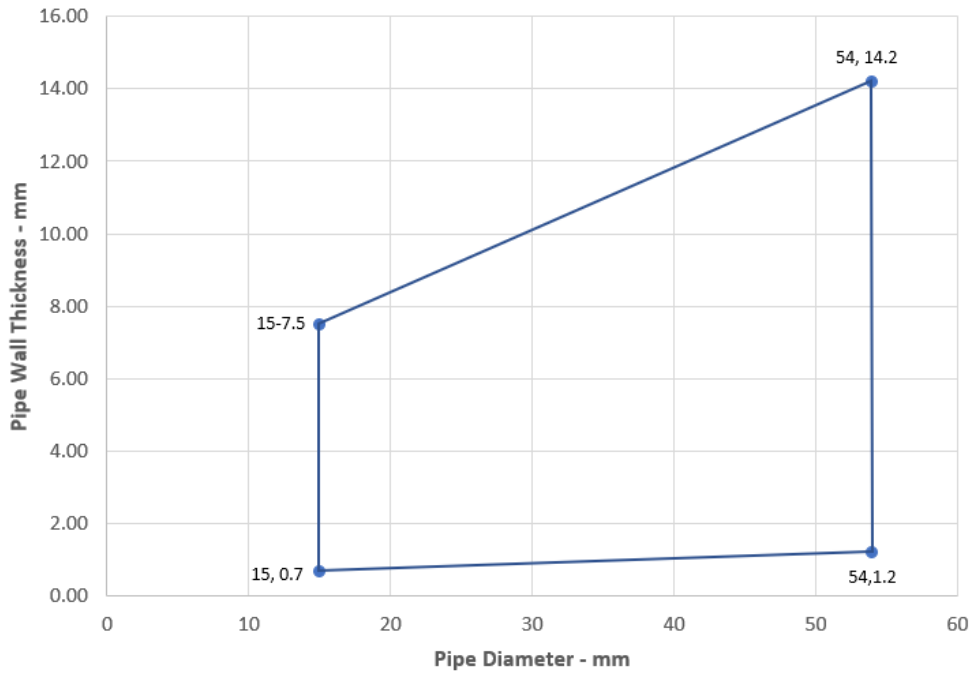
1. Astro Intu Mastic Sealant
2. Metal Pipe
3. Flexible Wall
4. Backing Material

A.1.5.1

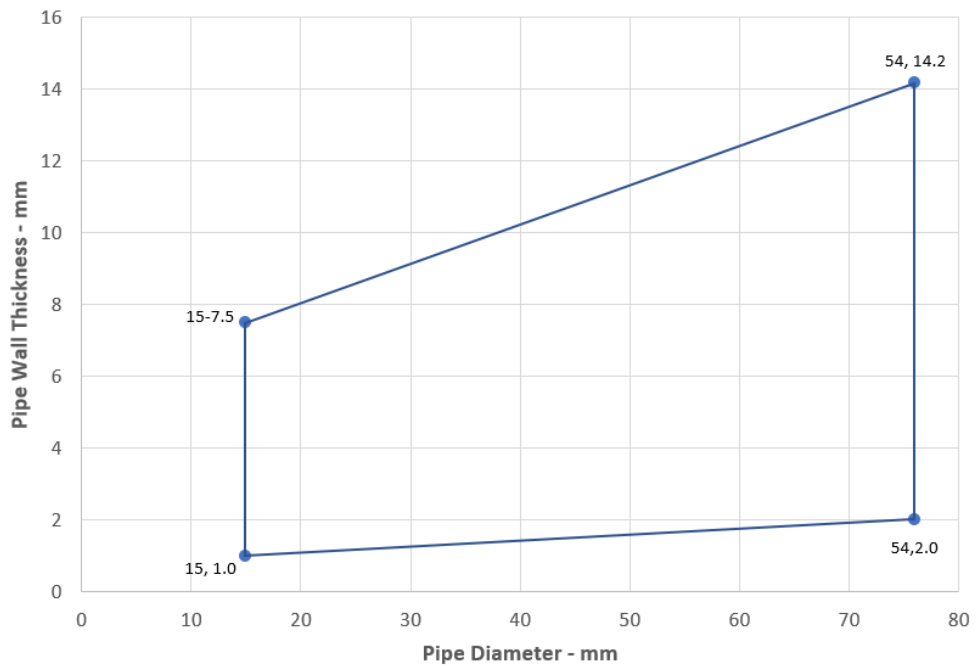
Penetration Service	Depth (mm)	Annular (mm)	Backing Material	Classification
Copper pipe ≤15 mm diameter/ 0.7-14.2 mm wall thickness	12	5-10	Stone wool or ceramic wool (≥10mm ≥45kg/m ³)	E 90 C/U, C/C, EI 60 C/U, C/C
Copper or Steel pipe 15-54 mm diameter/ 1.2-14.2 mm wall thickness*				E 90 C/U, C/C
Steel pipe 15 mm diameter/ 1-14.2 mm wall thickness				EI 90 C/U, C/C
Steel pipe 15-76 mm diameter/ 2-14.2 mm wall thickness*				E 90 C/U, C/C, EI 20 C/U, C/C
Steel pipe 325 mm diameter/ 17.5 mm wall thickness, insulated with stone wool ≥40 mm thick, ≥45kg/m ³ (LI) min. 400 mm length to both faces	10	25 (0 distance from aperture edge)	PE backing rod, glass wool, stone wool or ceramic wool	E 60 C/U, C/C, EI 30 C/U, C/C

* See below graphs for interpolated pipe sizes and permitted wall thicknesses

Copper or Steel Pipes - C/U



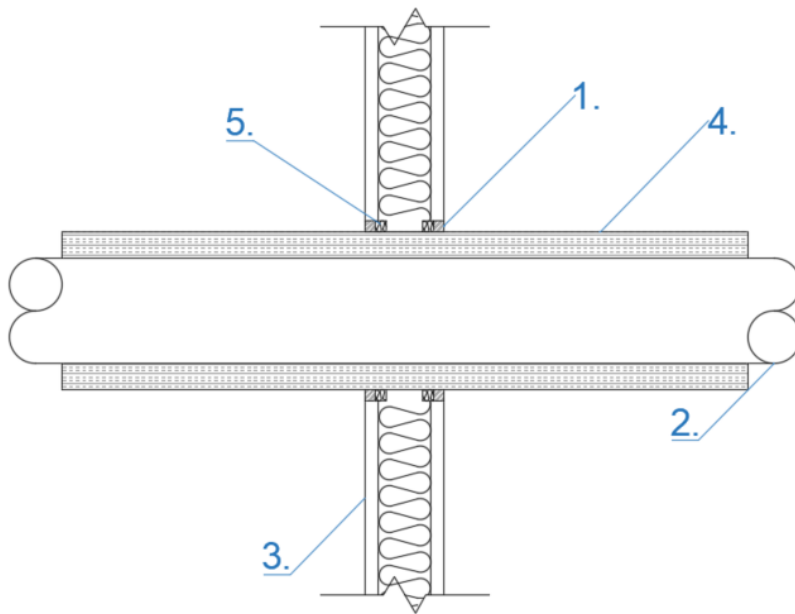
Steel Pipes - C/U



A.1.6 Double side penetration seal with insulated metallic pipes

Penetration Seal: Insulated metallic pipes (single) fitted at any position within the aperture, sealed with Astro Intu Mastic Sealant to both sides of the wall, backed with various backing materials. Minimum separation between penetration seals 200 mm (a2).

Construction details:



Key:

1. Astro Intu Mastic Sealant
2. Metal Pipe
3. Flexible Wall
4. Stone Wool Insulation
5. Backing Material

A.1.6.1

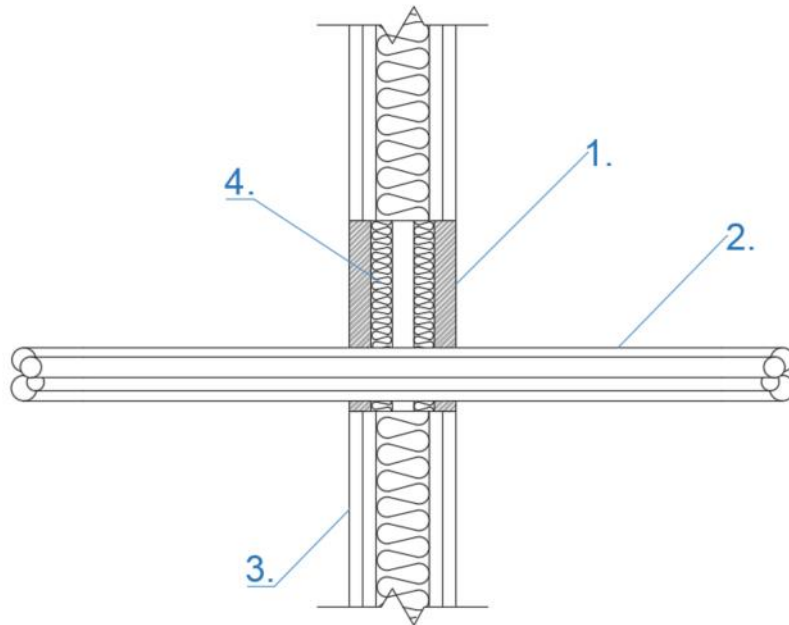
Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Copper or steel pipe 159 mm diameter/ 2- 14.2 mm wall thickness insulated with stone wool ≥50 mm thick, ≥90kg/m ³ (C/S)	10	10	PE backing rod, glass wool, stone wool or ceramic wool	0	E 60 C/U, C/C, EI 45 C/U, C/C

A.2 Flexible and rigid wall constructions with wall thickness of minimum 100 mm

A.2.1 Double sided penetration seal with cables and conduits

Penetration Seal: Cables and conduits fitted within the aperture, sealed with Astro Intu Mastic Sealant to both sides of the wall, backed with Stone wool or ceramic wool (20 mm 45kg/m³). Minimum separation between penetration seals 200 mm (a2).

Construction details:



Key:

1. Astro Intu Mastic Sealant
2. Cables
3. Flexible Wall
4. Backing Material

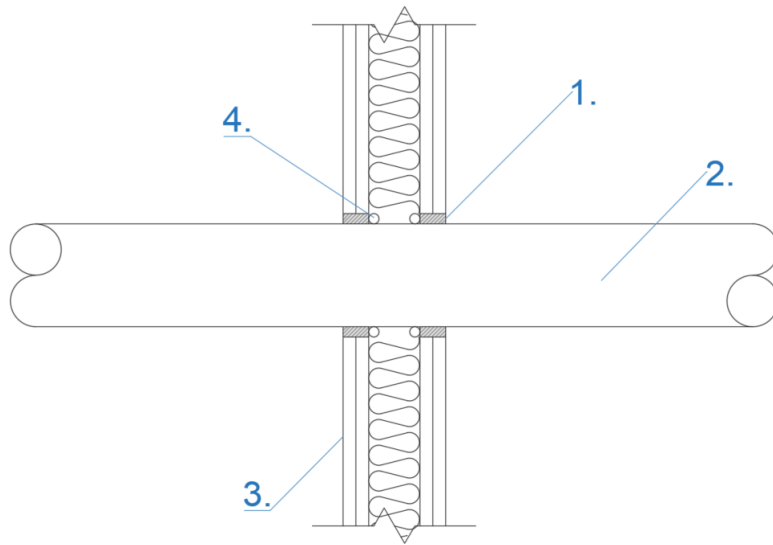
A.2.1.1

Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Cable bunch ≤100 mm Ø	20	180 x 180	Stone wool or ceramic wool (20 mm 45kg/m ³)	10	EI 120
PVC conduits ≤16 mm Ø					EI 120
Steel/Copper conduits ≤16 mm Ø					E 120, EI 20
Cables ≤50 mm Ø					E 90, EI 60
Cables ≤21 mm Ø					EI 120

A.2.2 Double sided penetration seal with metallic pipes

Penetration Seal: Metallic pipes (single) fitted centrally within the aperture, sealed with Astro Intu Mastic Sealant to both sides of the wall, backed with various backing materials. Minimum separation between penetration seals 200 mm (a2).

Construction details:



Key:

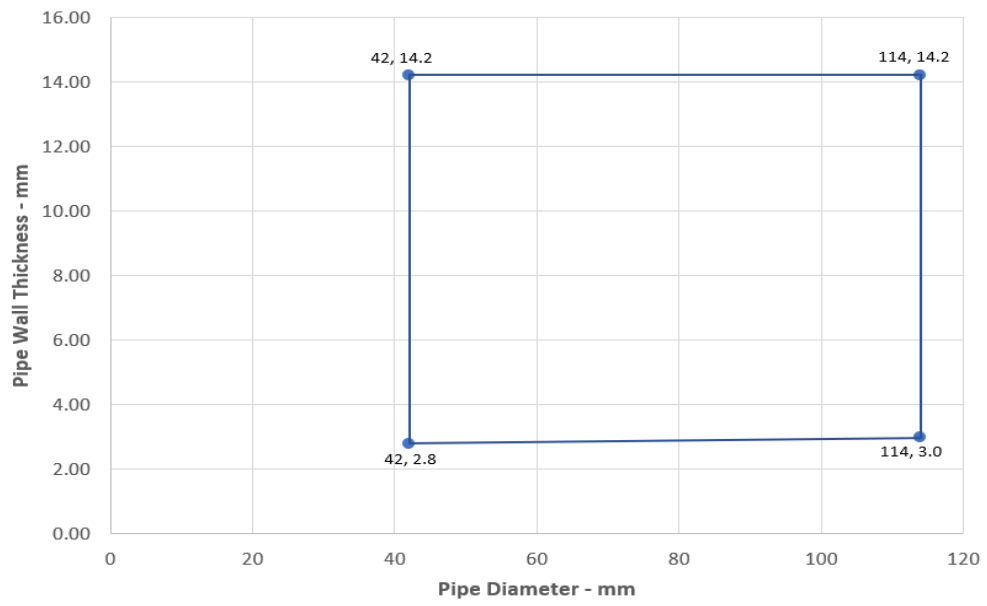
1. Astro Intu Mastic Sealant
2. Metal Pipe
3. Flexible Wall
4. Backing Material

A.2.2.1

Penetration Service	Depth (mm)	Annular (mm)	Backing Material	Classification
Steel pipe 42 mm diameter/ 2.8-14.2 mm wall thickness	25	10	PE backing rod, glass wool, stone wool or ceramic wool	E 120 C/U, C/C, EI 45 C/U, C/C
Steel pipe 42-114mm diameter/ 3-14.2mm wall thickness*				E 120 C/U, C/C, EI 20 C/U, C/C

* See below graphs for interpolated pipe sizes and permitted wall thicknesses

Steel Pipes - C/U

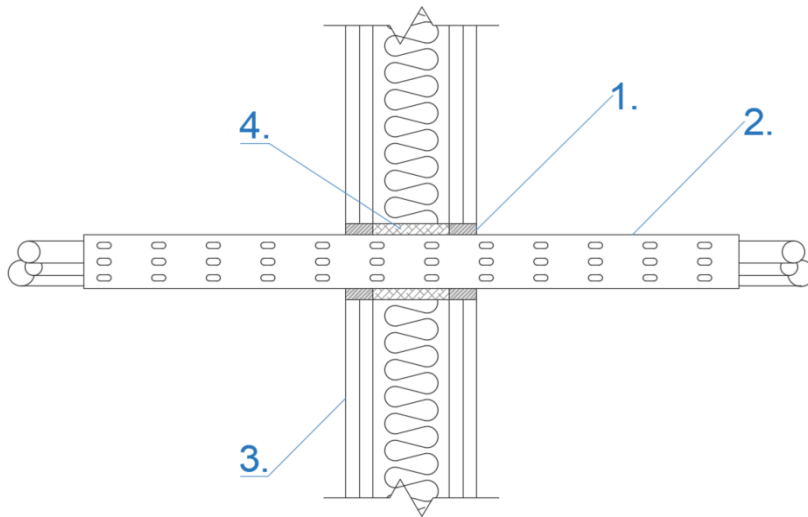


A.3 Flexible and rigid wall constructions with wall thickness of minimum 120 mm

A.3.1 Double sided penetration seal with cable trays

Penetration Seal: Cables trays with cables penetrating through a flexible or rigid wall construction and sealed with Astro Intu Mastic Sealant to both sides of the wall, backed with various backing materials. Minimum separation between penetration seals 200 mm (a2).

Construction details:



Key:

1. Astro Intu Mastic Sealant
2. Cable Tray/Cables
3. Flexible Wall
4. Backing Material

A.3.1.1

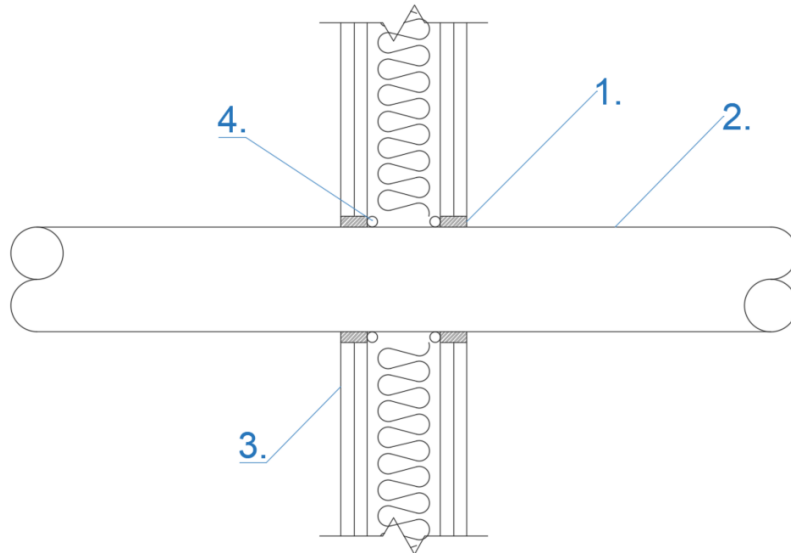
Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Steel cable tray ≤ 450 mm wide loaded with cables ≤ 21 mm \varnothing	25	490 x 100	Stone wool or ceramic wool (≥ 35 mm ≥ 80 kg/m ³)	20	E 120, EI 90
C1, C2, D1 and D2 Cables*	25	200 x 100	PE backing rod, glass wool, stone wool or ceramic wool	20	E 90, EI 60

* As defined in EN 1366-3: 2009, Annex A

A.3.2 Double sided penetration seal with metallic pipes

Penetration Seal: Metallic pipes (single) fitted centrally within the aperture, sealed with Astro Intu Mastic Sealant to both sides of the wall, backed with various backing materials. Minimum separation between penetration seals 200 mm (a2).

Construction details:



Key:

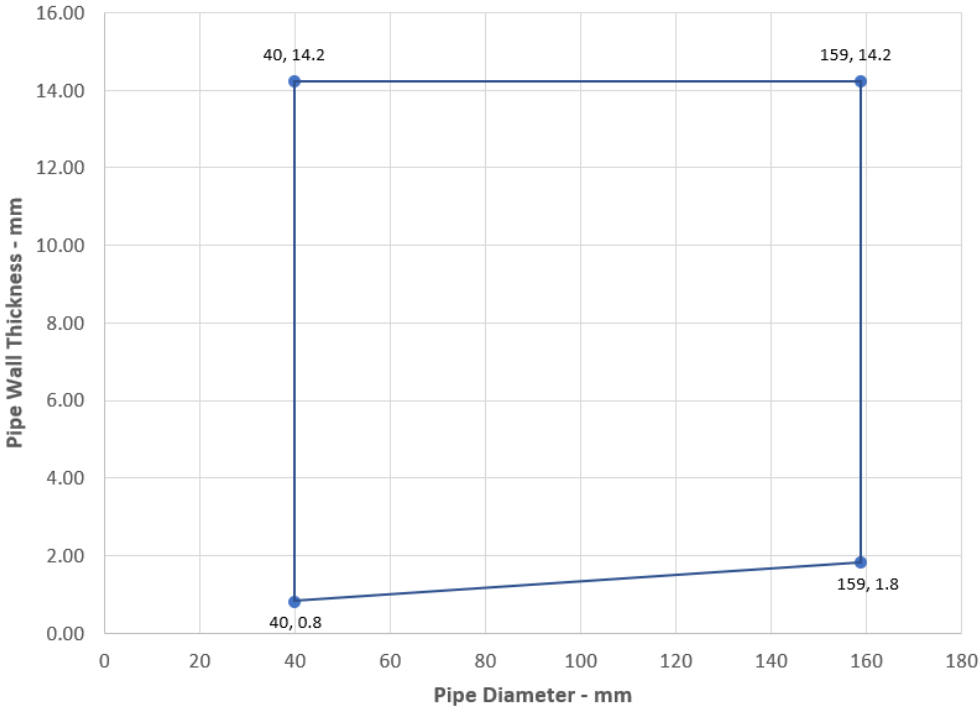
1. Astro Intu Mastic Sealant
2. Metal Pipe
3. Flexible Wall
4. Backing Material

A.3.2.1

Penetration Service	Depth (mm)	Annular (mm)	Backing Material	Classification
Copper or steel pipe 15-40 mm diameter/ 0.8-14.2 mm wall thickness	25	10	PE backing rod, glass wool, stone wool or ceramic wool	E 120 C/U, C/C, EI 15 C/U, C/C
Copper or steel pipe 40-159 mm diameter/ 1.8-14.2 mm wall thickness*				E 120 C/U, C/C,
Copper or steel pipe 40 mm diameter/ 0.8-14.2mm wall thickness insulated with TDW to both sides of the wall at 300 mm (L/I)				E 120 C/U, C/C, EI 90 C/U, C/C
Copper or steel pipe 40-159 mm diameter/ 1.8-14.2 mm wall thickness insulated with TDW to both sides of the wall at 300 mm (L/I)*				E 120 C/U, C/C, EI 20 C/U, C/C

* See below graphs for interpolated pipe sizes and permitted wall thicknesses

Copper or Steel Pipes - C/U

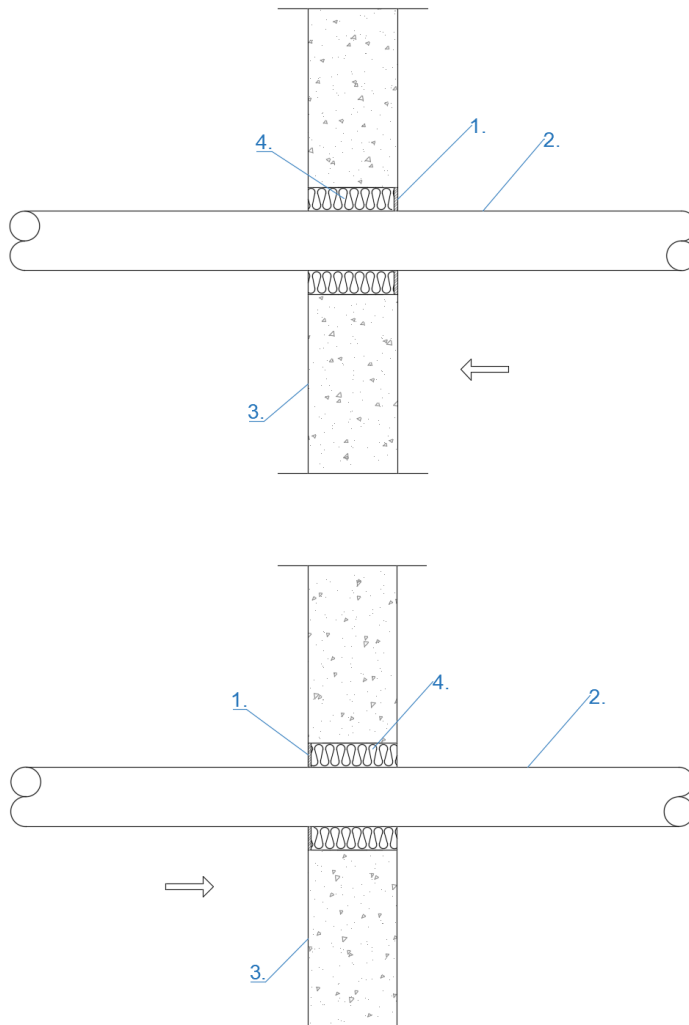


A.4 Rigid wall constructions with wall thickness of minimum 150 mm

A.4.1 Double side penetration seal with metallic pipes

Penetration Seal: Metallic pipes (single) fitted at any position within the aperture, sealed with Astro Intu Mastic Sealant to either side of the wall, backed with Stone wool or ceramic wool ($\geq 144 \text{ mm } \geq 80\text{kg/m}^3$). Minimum separation between penetration seals 200 mm (a2).

Construction details:



Key:

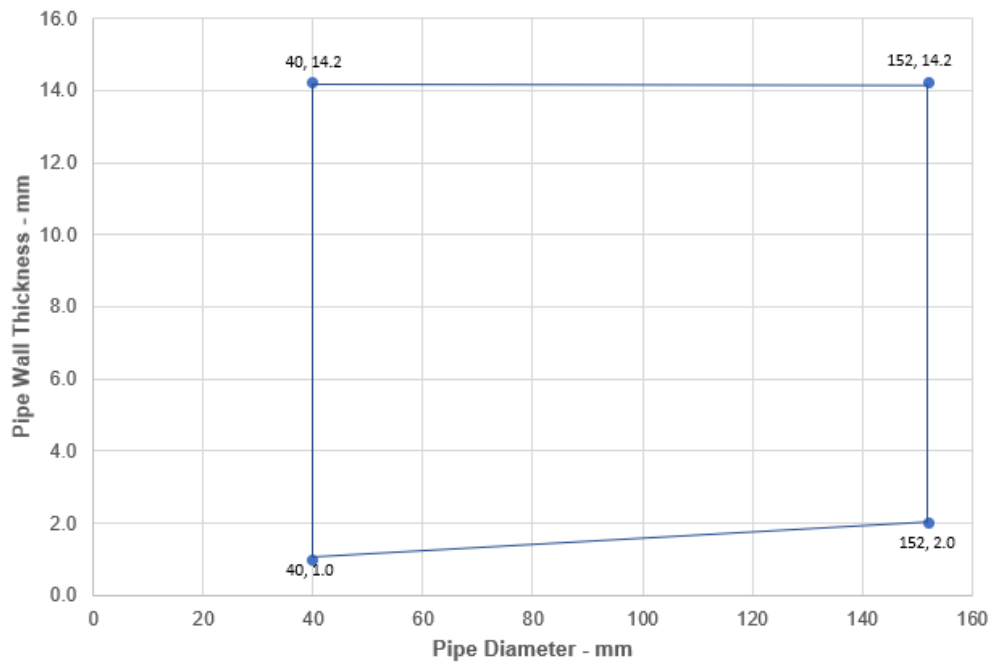
1. Astro Intu Mastic Sealant
2. Metal Pipe
3. Rigid Wall
4. Backing Material

A.4.1.1

Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Steel pipe 40-152 mm diameter/ 2.5-14.2mm wall thickness*	6	Pipe $\varnothing + 50$ mm	Stone wool or ceramic wool ($\geq 144 \text{ mm } \geq 80\text{kg/m}^3$)	0	E 240 C/C
Steel pipe 40 mm diameter/ 1.5-14.2 mm wall thickness	6	Pipe $\varnothing + 50$ mm	Stone wool or ceramic wool ($\geq 144 \text{ mm } \geq 80\text{kg/m}^3$)	0	E 240 C/C, EI 120 C/C

* See below graphs for interpolated pipe sizes and permitted wall thicknesses

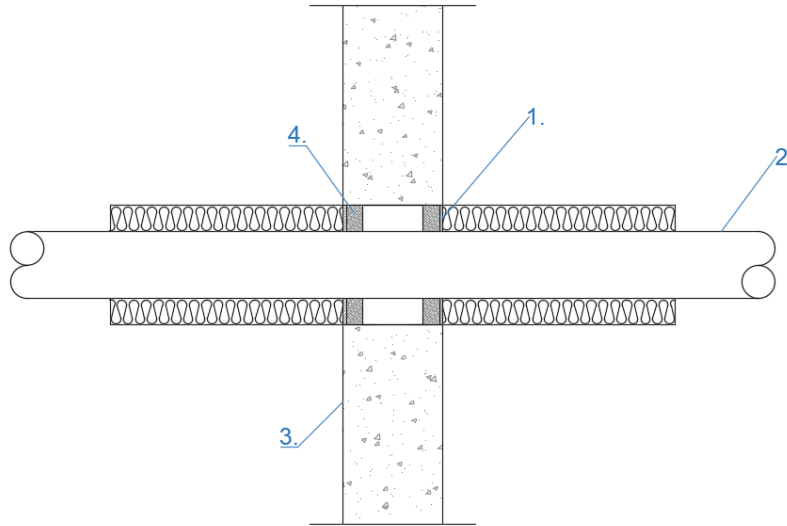
Steel Pipes - C/C



A.4.2 Double side penetration seal with insulated metallic pipes

Penetration Seal: Insulated metallic pipes (single) fitted at any position within the aperture, sealed with Astro Intu Mastic Sealant to both sides of the wall, backed with various backing materials. Minimum separation between penetration seals 200 mm (a2).

Construction details:



Key:

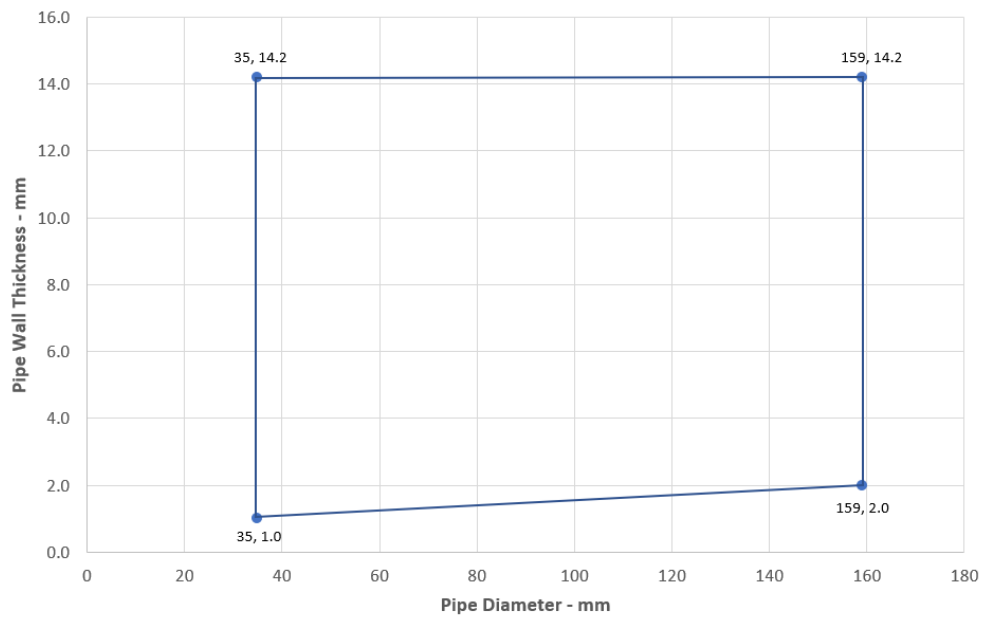
1. Astro Intu Mastic Sealant
2. Metal Pipe
3. Rigid Wall
4. Backing Material

A.4.2.1

Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Copper or steel pipe 35-159mm diameter/ 2-14.2 mm wall thickness insulated with stone wool 50 mm thick 100kg/m ³ (C/I)*	5	Pipe \varnothing + 55 mm	PE backing rod, glass wool, stone wool or ceramic wool	0	EI 240 C/U, C/C

* See below graphs for interpolated pipe sizes and permitted wall thicknesses

Copper or Steel Pipes - C/U

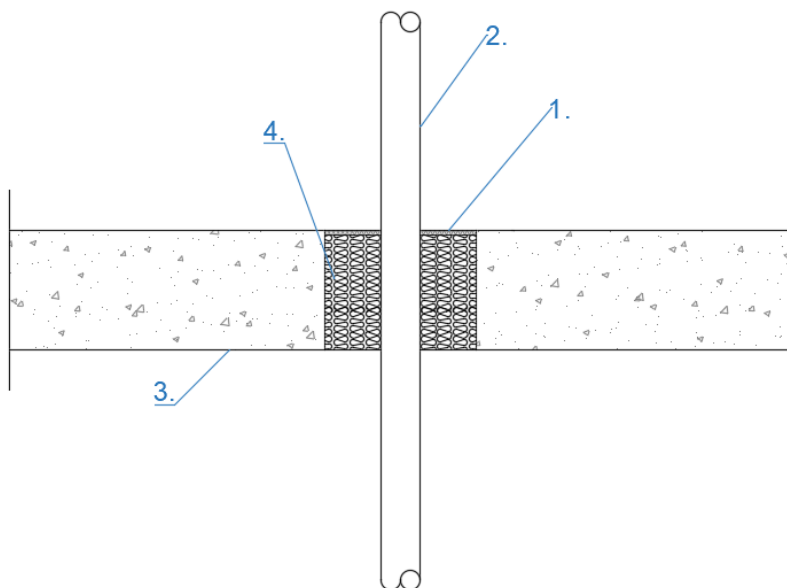


A.5 Rigid floor constructions with floor depth of minimum 150 mm

A.5.1 Penetration seal with metallic pipes

Penetration Seal: Metallic pipes (single) fitted within the aperture, sealed with Astro Intu Mastic Sealant on the top side of the floor, backed with Stone wool or ceramic wool ($\geq 145 \text{ mm } \geq 45 \text{ kg/m}^3$). Minimum separation between penetration seals 200 mm (a2).

Construction details:



Key:

1. Astro Intu Mastic Sealant
2. Metal Pipe
3. Rigid Floor
4. Backing Material

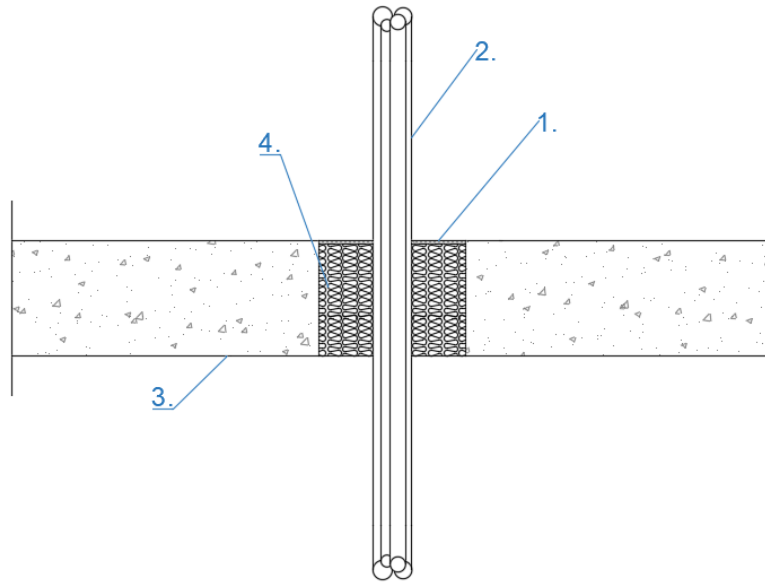
A.5.1.1

Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Copper or steel pipe 42-159 mm diameter/ 1-14.2 mm wall thickness	5	200 x 200	Stone wool or ceramic wool (≥ 145 mm $\geq 45 \text{ kg/m}^3$)	20	E 180 C/U, C/C
Copper or steel pipe 42 mm diameter/ 1- 14.2 mm wall thickness					E 240 C/U, C/C

A.5.2 Penetration seal with cables

Penetration Seal: Cables and conduits fitted at any position within the aperture, sealed with Astro Intu Mastic Sealant to the top side of the floor, backed with Stone wool or ceramic wool ($\geq 145 \text{ mm } \geq 45 \text{ kg/m}^3$). Minimum separation between penetration seals 200 mm (a2).

Construction details:



Key:

1. Astro Intu Mastic Sealant
2. Cables
3. Rigid Floor
4. Backing Material

A.5.2.1

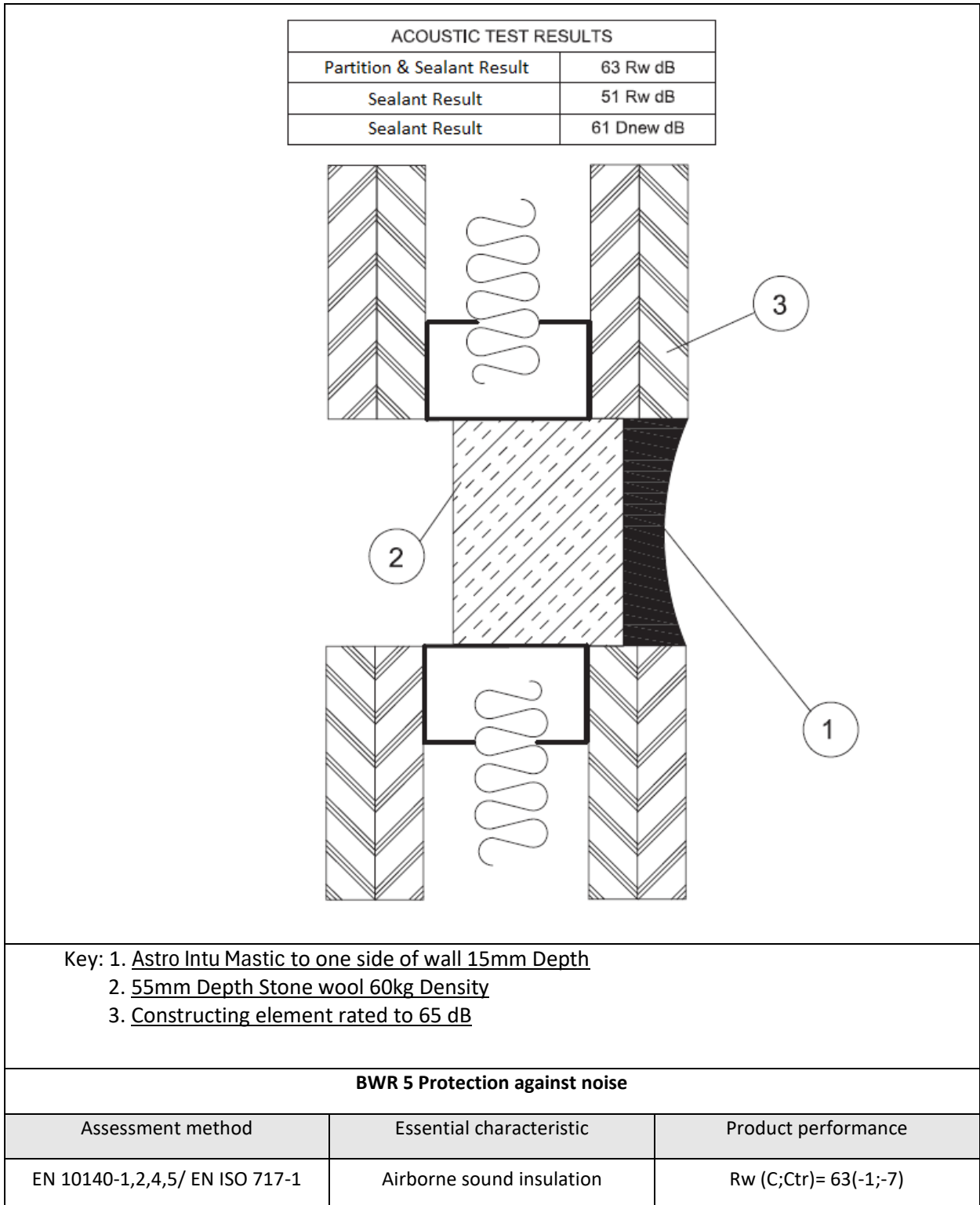
Penetration Service	Depth (mm)	Maximum Aperture Size (mm)	Backing Material	Minimum Distance to Edge of Aperture (mm)	Classification
Telecoms cables ≤ 21 mm diameter in cable bunch ≤ 100 mm diameter	5	200 x 200	Stone wool or ceramic wool ($\geq 145 \text{ mm } \geq 45 \text{ kg/m}^3$)	0	E 45, EI 15
PVC conduits ≤ 16 mm diameter					E 45, EI 15
Steel or copper conduits ≤ 16 mm diameter					E 45, EI 15
Cables ≤ 80 mm diameter					E 90, EI 45
Cables ≤ 50 mm diameter					E 90, EI 45
Cables ≤ 21 mm diameter					E 240, EI 90

ANNEX B – Air Permeability - Astro Intu Mastic Sealant

Product tested	25 mm thick x 30 mm wide Astro Intu Mastic Sealant intumescent sealant		
	Summary of testing procedure		Result
	Pressure (Pa)	Leakage (m ³ /h)	Leakage (m ³ /m ² /h)
Results under negative chamber pressure	50	0.0	0.0
	100	0.0	0.0
	150	0.1	2.8
	200	0.1	2.8
	250	0.1	2.8
	300	0.0	0.0
	450	0.1	2.8
	600	0.1	2.8
Results under positive chamber pressure	50	0.0	0.0
	100	0.0	0.0
	150	0.0	0.0
	200	0.0	0.0
	250	0.0	0.0
	300	0.0	0.0
	450	0.1	2.8
	600	0.1	2.8

ANNEX C – Airborne Sound Insulation - Astro Intu Mastic Sealant

C.1 Astro Intu Mastic Sealant at 15 mm deep in the following configuration



C.2 Astro Intu Mastic Sealant at 25 mm deep in the following configuration

ACOUSTIC TEST RESULTS		
Partition & Sealant Result	63 Rw dB	
Sealant Result	51 Rw dB	
Sealant Result	61 Dnew dB	

Key: 1. Astro Intu Mastic to one side of wall 25mm Depth
 2. 55mm Depth Stone wool 60kg Density
 3. Constructing element rated to 65 dB

BWR 5 Protection against noise		
Assessment method	Essential characteristic	Product performance
EN 10140-1,2,4,5/ EN ISO 717-1	Airborne sound insulation	Rw (C;Ctr)= 63(-1;-7)