ASTROFLAME
MANUFACTURERS OF PASSIVE FIRE STOP PRODUCTS

Technical Data Sheet

Astro Batt

Revision 9 - 7th January 2021

certifire

CE
ETA - 20-1091
CE-2812-CPR-JA5026

UL EU

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General Product Description

Astro Batt is Coated mineral wool board 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.

Astro Batt is supplied coated on both faces. The Board is then cut and friction fit into the aperture, prior to being inserted into the aperture in the wall

Astro Batts are 50mm thick and supplied in overall dimensions 1200mm x 600mm with a density of 140kg/m^3

Astro Intu Mastic is required to seal all joints and junctions during the sealing process. Astro Intu Mastic is subject to a separate ETA referenced ETA 20/1088 & 20/1089

Astro HPE Sealant is required to seal around specific services. Astro HPE Sealant is subject to a separate ETA referenced ETA 20/1090

Internal use - ETAG 026-3 (used as European Assessment Document EAD) Type Z_1

Specification of the intended use in accordance with the relevant EAD

Intended Use

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

The intended use of Astro Batt is Coated mineral wool board used to reinstate the fire resistance performance of wall & floor construction where they have been provided for blank seals

The specific elements of construction that the system Astro Batt may be used to provide a penetration seal in, are as follows:

Rigid walls

TThe wall must have a minimum thickness of 150mm and comprise concrete, aerated concrete or masonry, with a minimum density of 650kg/m^3

Rigid walls

The wall must have a minimum thickness of 100mm and comprise concrete, aerated concrete or masonry, with a minimum density of 650kg/m^3

Rigid floors

The floor must have a minimum thickness of 150mm and comprise concrete, aerated concrete or masonry, with a minimum density of 650kg/m^3

Flexible walls

The wall must have a minimum thickness of 100mm and comprise timber or steel studs lined on both faces with minimum 2 layers of 12.5mm thick, ‘Type F’ Gypsum boards according to EN 520. In timber stud walls, no part of the penetration shall be closer than 100mm to a stud, the cavity must be closed between the penetration seal and the stud and minimum 100mm of insulation of class A1 or A2 according to EN 13501-1, is 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.

The Astro Batt may be used to provide a penetration seal with pipes and cables.

The total amount of cross sections of services (including insulation) should not exceed 60% of penetration area.

The system Astro Coating may be used to seal apertures in the separating element up to 730mm wide by 1200mm high or 600mm x 600mm dependent on the configuration. The minimum permitted separation between adjacent seals/apertures is 200mm.

Pipes must be installed singular, cables require no minimum separation.

Services in walls shall be supported at maximum 250mm form the face of the separating element

The provisions made in the European Technical Assessment are based on an assumed working life of the Astro Batt of 10 years, provided that the conditions laid down in the product data sheet 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

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

The seals may only be penetrated by the services described in this TDS; other parts or support constructions must not penetrate the seal.

The service support construction must be fixed to the building element containing the penetration seal or a suitable adjacent building element, in such a manner that in the case of fire, no additional load is imposed on the seal. Furthermore it is assumed that the unexposed face support is maintained foe the required period of fire resistance

Certain pipe configuration should be insulated with minimum 300mm long, 6mm thick Thermal Defence Wrap

Pipes must be perpendicular to seal surface

It is assumed that compressed air systems are switched off by other means in the case of fire

The function of the pipe seal in case of pneumatic dispatch systems, pressurised air systems etc. Is guaranteed only when the systems are shut off in case of fire.

The assessment does not cover the avoidance of destruction of the seal or of the abutting building element(s) by forces caused by temperature changes in case of fire. This has to be considered when designing the piping system.

The approval does not address any risks associated with leakage of dangerous liquids or gases caused by failure of pipe(s) in case of fire

The durability assessment does not take account of the possible effect of substances permeating through the pipe on the penetration seal

Air permeability

System Astro Batt has been tested in accordance with BS EN 1214--1 to provide the following results:

Product tested	**Astro Batt**			
	Results under positive chamber pressure		Results under negative chamber pressure	
Pressure (Pa)	Leakage (m^3/h)	Leakage ($m^3/ M^2/h$)	Leakage (m^3/h)	Leakage ($m^3/m^2/h$)
50	0.6	0.8	1.1	1.5
100	1.0	1.4	1.3	1.8
150	2.8	3.9	1.5	2.1
200	3.8	5.3	1.9	2.6
250	4.5	6.3	2.0	2.8
300	5.0	6.9	2.4	3.3
450	5.1	7.1	1.9	2.6
600	6.7	9.3	2.2	3.1

Dangerous substances

The applicant is required to submit a written declaration stating whether or not fire stopping and fire sealing product contains dangerous substances according to European and national regulations, when and where relevant in the Member States of destination, and shall list these substances.

Astroflame Fireseal Limited have presented a declaration that all dangerous chemical substances ≥ 1.0% w/w as well as all toxic, carcinogenic, toxic for reproduction and mutagenic chemical substances ≥ 0.1% w/w (Status: 29. adaption - 2004/73/EG - of the EU directive 67/155/EEC - classification, packaging and labelling of dangerous substances) are stated in the Astro Batt and Coating material safety data sheets (according to 91/155/EEC including amendments) and have been considered for the classification of the products according to the directive 1999/45/EG (classification of preparations, including amendments).

All dangerous chemical substances are below the classification limits of 67/548/EEC

Durability and serviceability

Astro Batt has been tested in accordance with EOTA Technical Report - TR024 - Edition November 2006, and the results of the tests have demonstrated suitability for penetration seals intended for use in internal conditions with humidity equal to or higher than 85% RH excluding temperatures below 0oC, without exposure to rain or UV

Assessment and verification of Constancy of Performance (Here in after 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 uses	Level or Class	System
Fire stopping and fire sealing products	For fire compartmentation and / or fire protection or fore performance	Any	System 1

Resistance to Fire Classification of Astro Batt

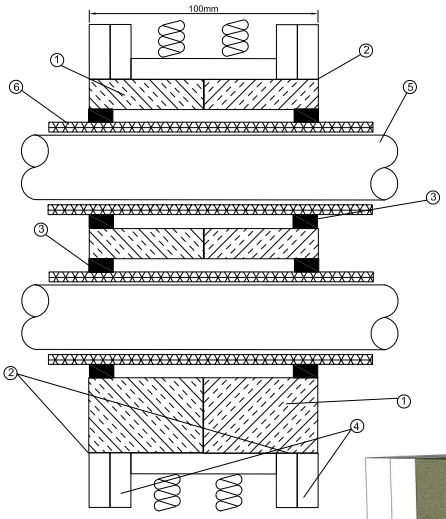
Flexible and Rigid wall constructions according to ETA 20-1091 with wall thickness of minimum 100mm

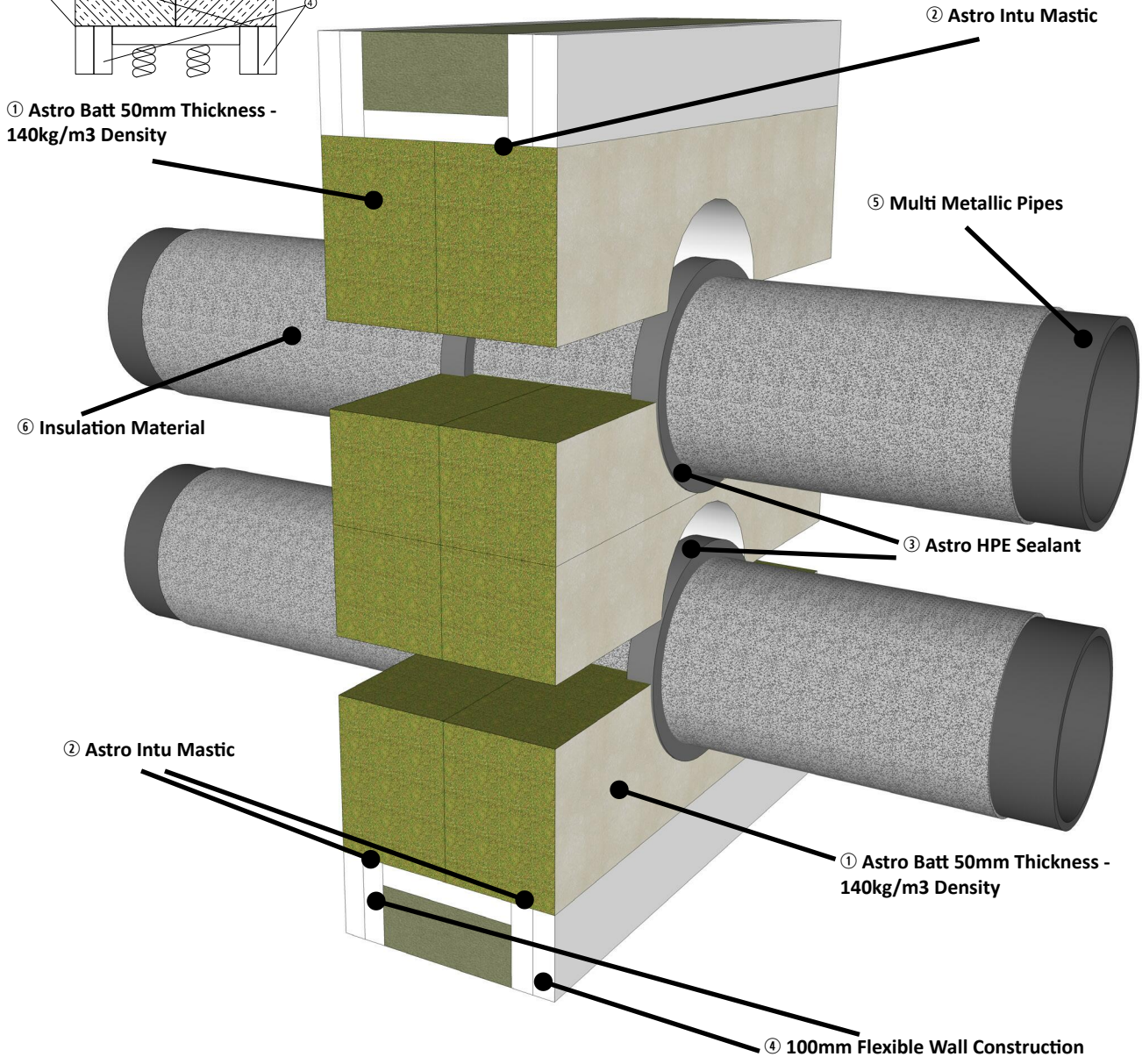
Penetration seal with Astro Batt installed centrally within the wall

Service(s)	Insulation	Seal	Classification
Mild Steel or Copper			
40mm diameter and 1.5 - 14.2mm wall	20mm thick foil faced glass wool insulation (min 80kg/ m3)	15mm deep x 15mm wide annulus Astro graphite HPE Sealant to both faces seal	**E 90 U/C** **EI 60 U/C**
40 - 159mm diameter and 2.3 - 14.2mm wall	30mm thick foil faced glass wool insulation (min 80kg/ m3)		**EI 60 U/C**

Service(s)	Insulation	Seal	Classification
Mild Steel			
40mm diameter and 1.7 - 14.2mm wall	20mm thick foil faced glass wool insulation (min 80kg/ m3)	15mm deep x 15mm wide annulus Astro graphite HPE Sealant to both faces seal	**E 90 U/C** **EI 60 U/C**
40 - 150mm diameter and 2.3 - 14.2mm wall	30mm thick foil faced glass wool insulation (min 80kg/ m3)		**EI 60 U/C**

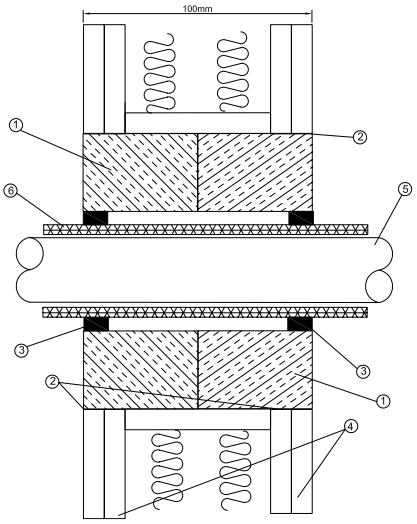
DESIGN TO ETA 20-1091 & CE 2812-CPR-JA5026 ASTRO BATT IN A FIRE RESISTANT MULTI METALLIC PIPE PENETRATION SEAL THROUGH FLEXIBLE WALL

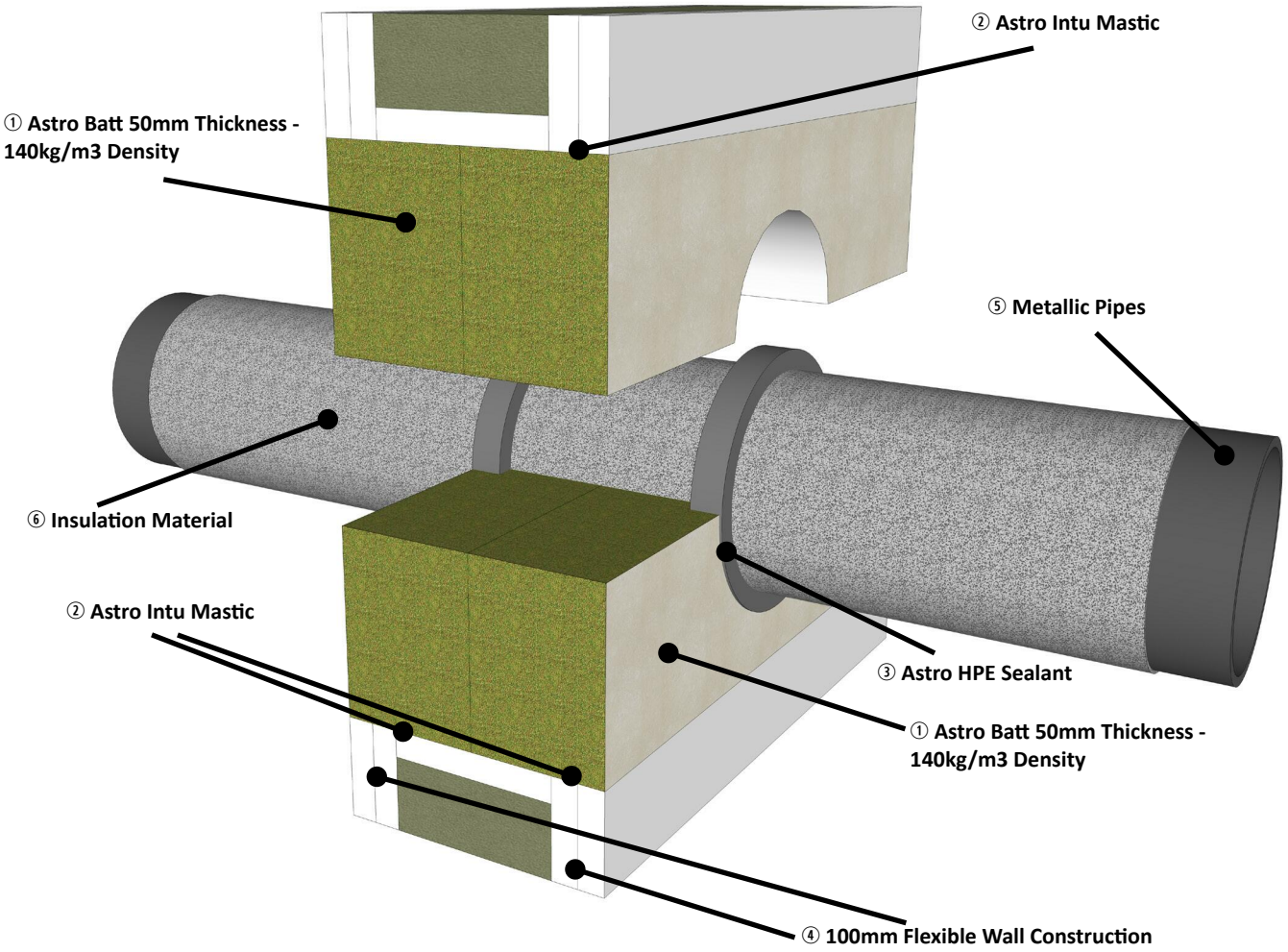




DET 2-0124 Date: 20/05/2014

DESIGN TO ETA 20-1091 & CE 2812-CPR-JA5026 ASTRO BATT IN A FIRE RESISTANT METALLIC PIPE PENETRATION SEAL THROUGH FLEXIBLE WALL

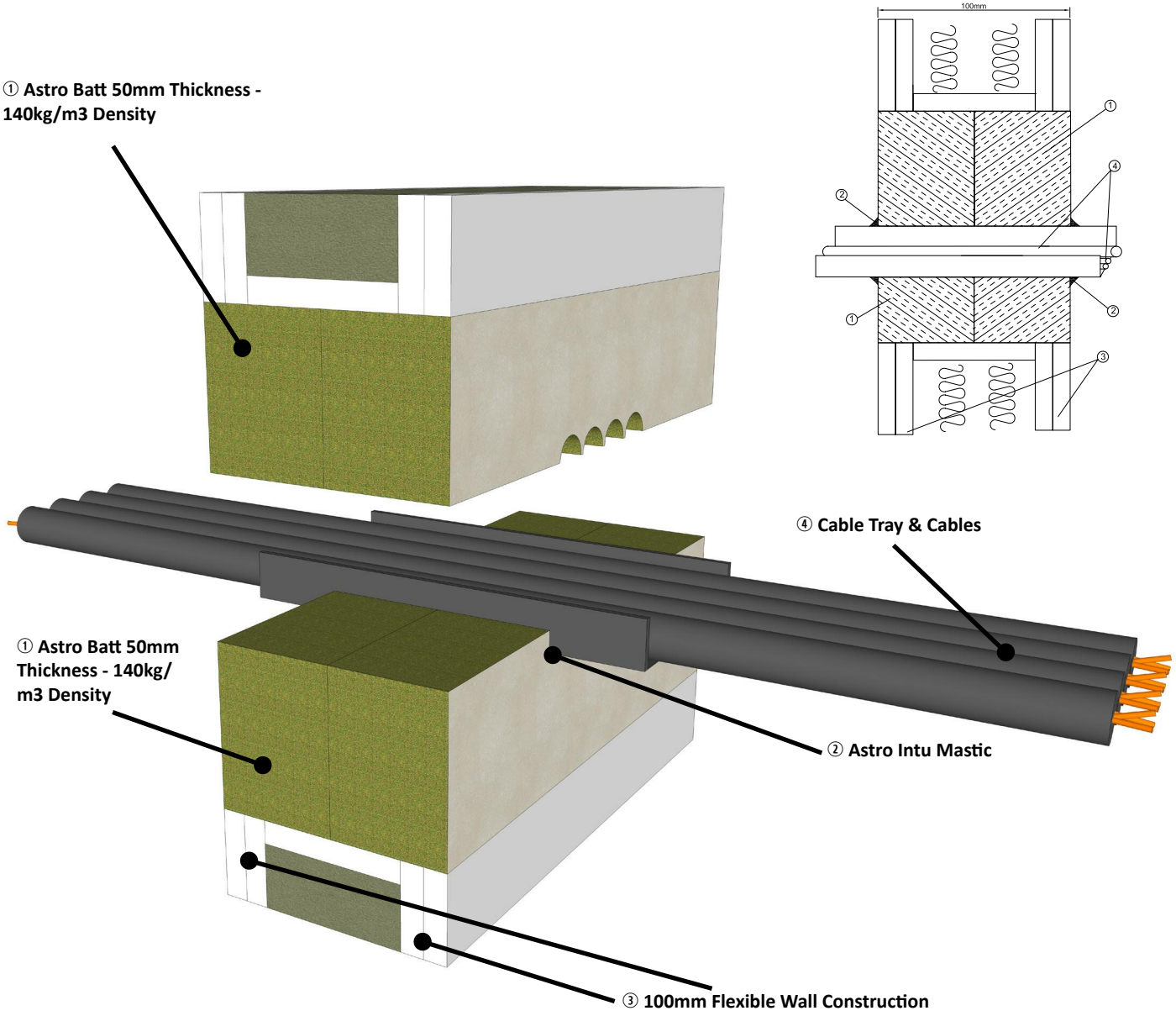




Flexible and Rigid wall constructions according to ETA 20-1091 with wall thickness of minimum 100mm
Penetration seal with Astro Batt installed centrally within the wall

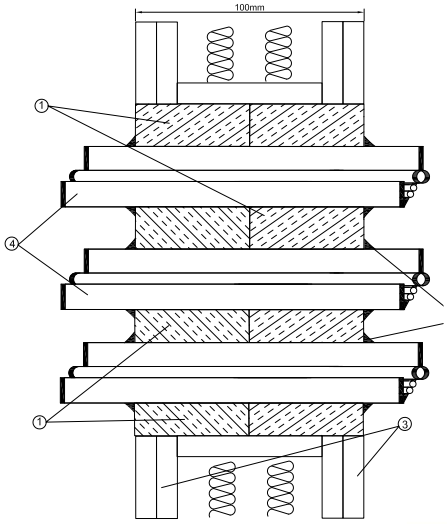
Service(s)	Classification
Electrical cables up to 21mm dia	**EI 60**
Electrical cables 22mm to 80mm dia	**E 60, EI 45**
Cable Trays and Ladders	**EI 60**
100mm diameter bundle telecommunication cable type "F"	**EI 60**
Unsheathed electrical cables up to 17mm dia	**E 60, EI 30**
Unsheathed electrical cables 18 - 24mm dia	**E 60, EI 15**
Steel or Copper Conduits up to 16mm	**E 60, EI 15**
Plastic conduits up to 16mm	**EI 60**

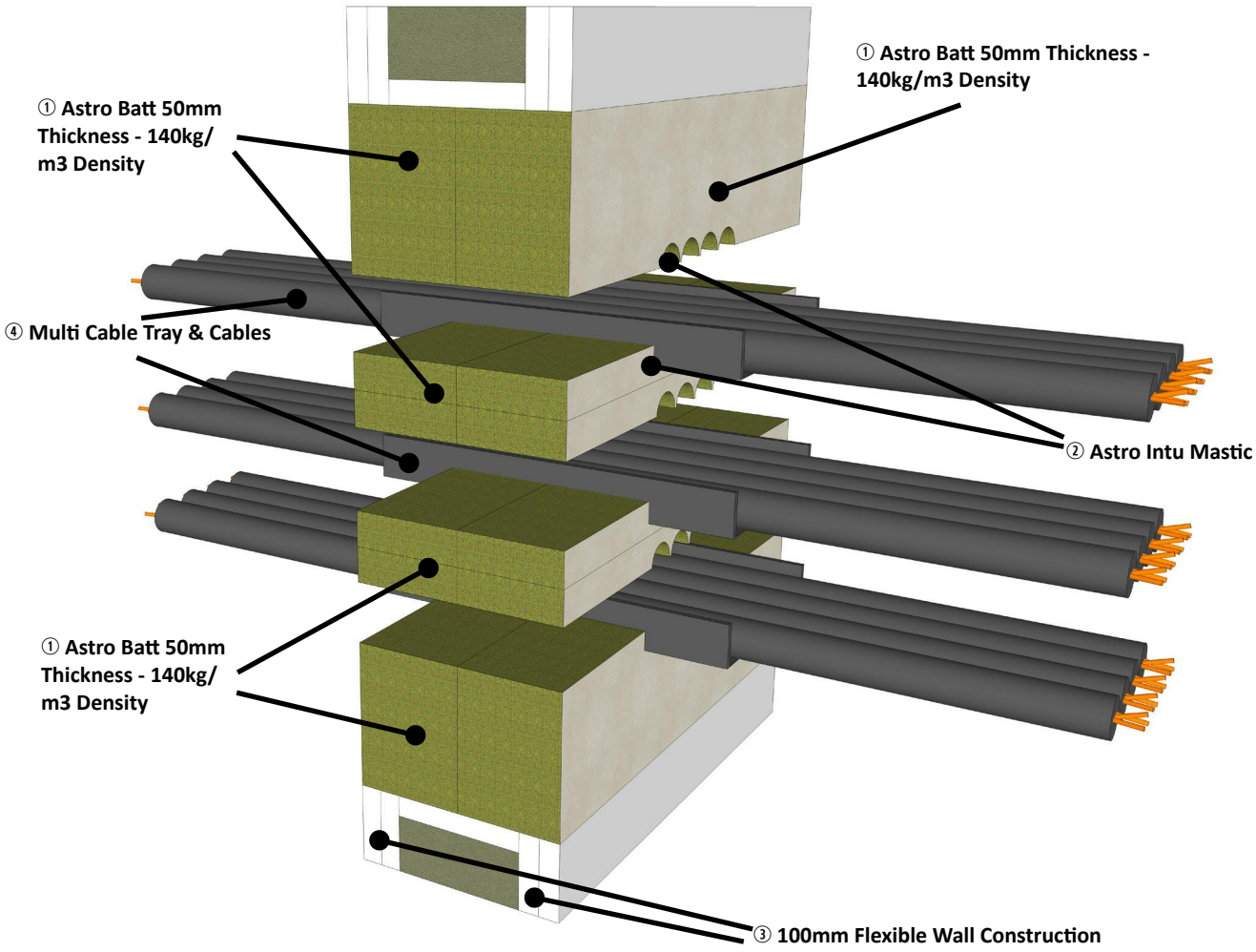
DESIGN TO ETA 20-1091 & CE 2812-CPR-JA5026 ASTRO BATT IN A FIRE RESISTANT CABLE TRAY & CABLE PENETRATION SEAL THROUGH FLEXIBLE WALL



DET 2-0121 Date: 20/05/2014

DESIGN TO ETA 20-1091 & CE 2812-CPR-JA5026 ASTRO BATT IN A FIRE RESISTANT MULTI CABLE TRAY & CABLE PENETRATION SEAL THROUGH FLEXIBLE WALL

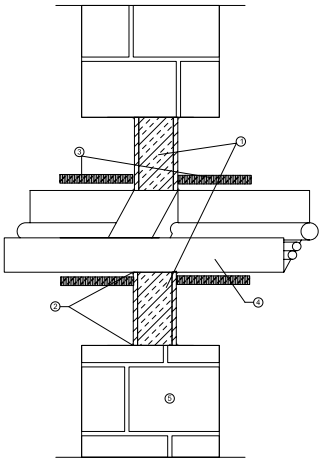


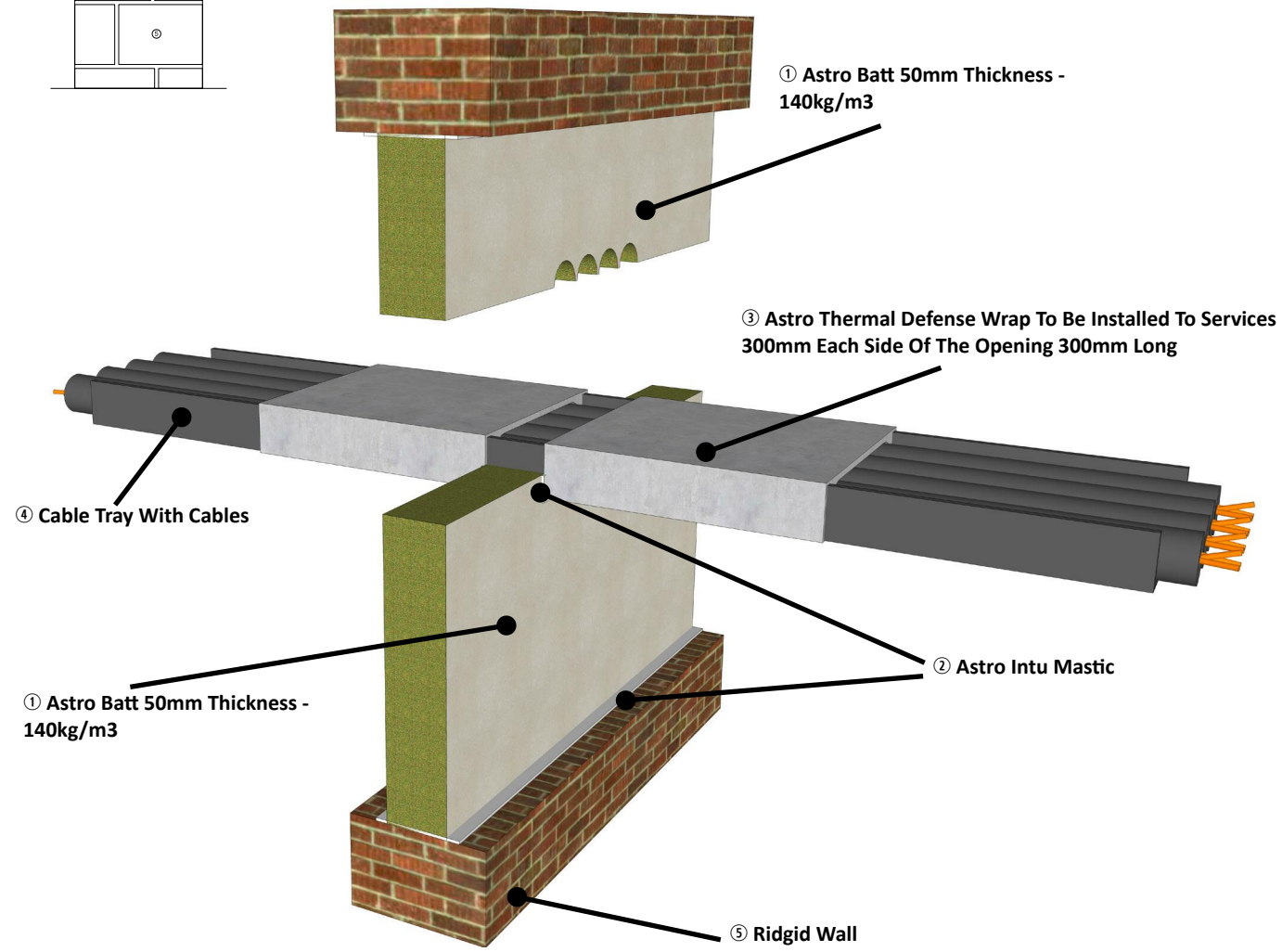


Rigid wall constructions according to ETA 20-1091 with wall thickness of minimum 150mm
Penetration seal with Astro Batt installed centrally within the wall

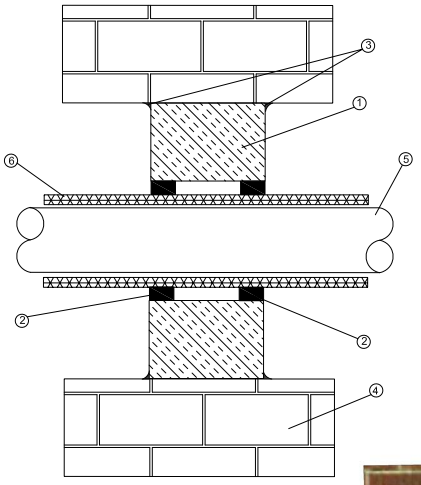
Service(s)	Classification
Electrical cables up to 80mm dia	**EI 60**
Cable Trays and Ladders	**EI 60**
100mm diameter bundle telecommunication cable type "F"	**EI 60**
Unsheathed electrical cables up to 24mm dia	**EI 60**

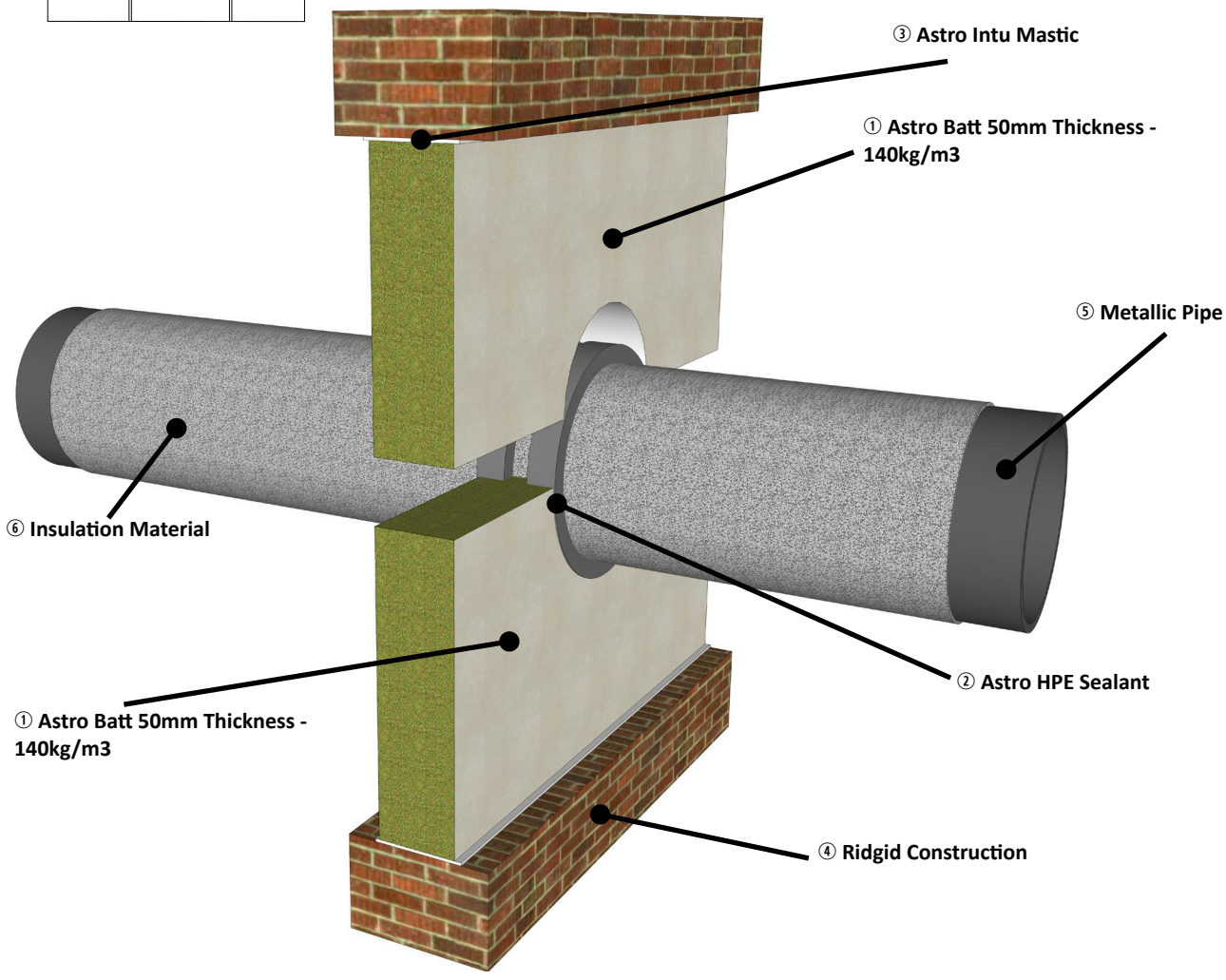
DESIGN TO ETA 20-1091 & CE 2812-CPR-JA5026 ASTRO BATT IN A FIRE RESISTANT CABLE TRAY & CABLE PENETRATION SEAL THROUGH RIGID WALL





DESIGN TO ETA 20-1091 & CE 2812-CPR-JA5026 ASTRO BATT IN A FIRE RESISTANT METALLIC PIPE PENETRATION SEAL THROUGH RIGID WALL

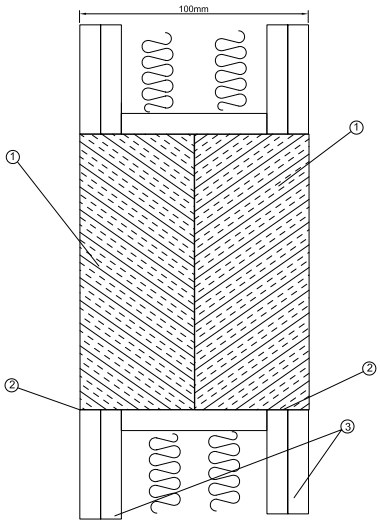


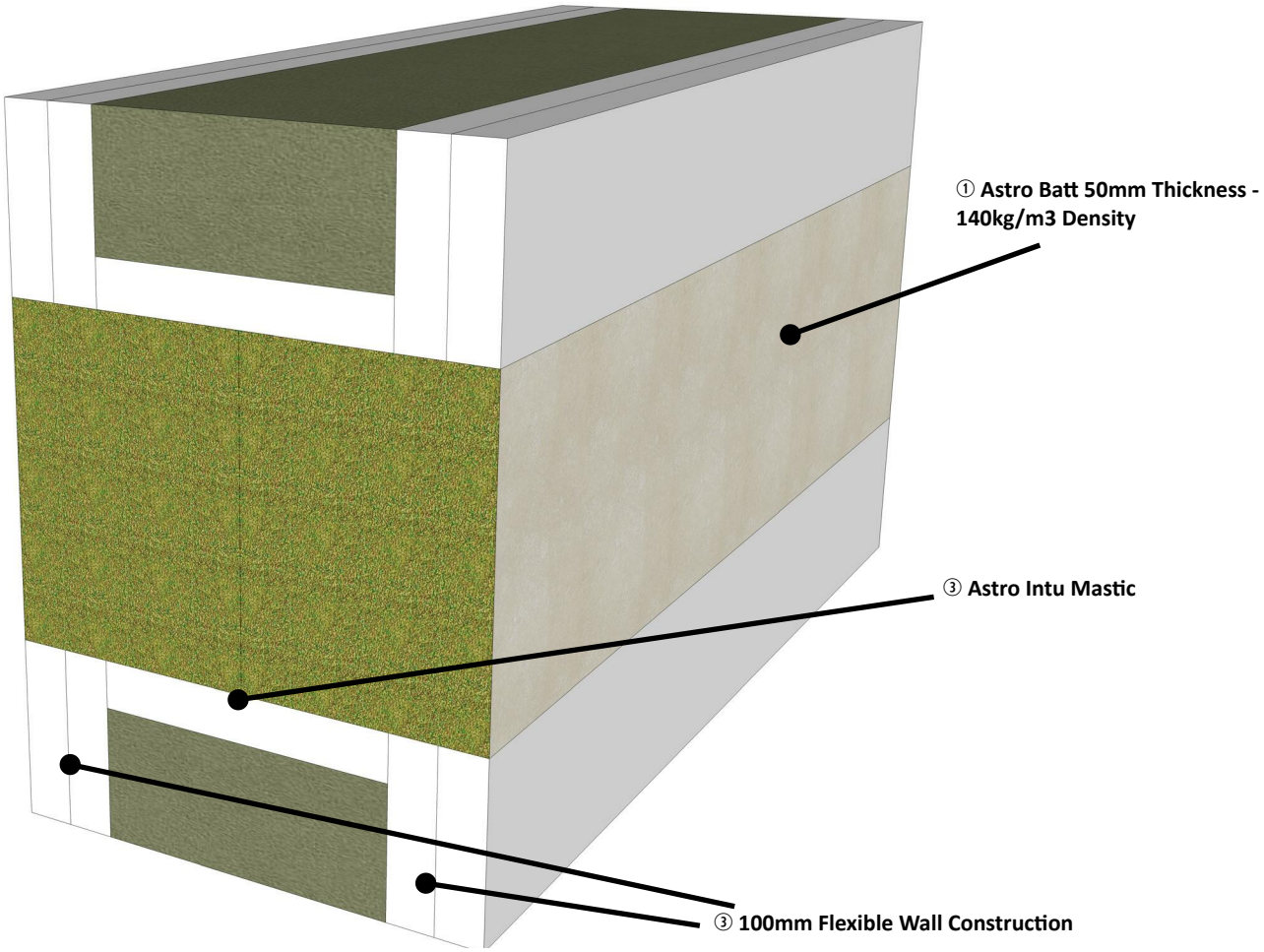


Flexible wall construction according to classification report 335738, penetration seal with Astro Batt installed for blank opening with wall thickness of minimum 100mm

Service(s)	Classification
Integrity Performance	**163 minutes**
Insulation Performance	**161 minutes**

DESIGN TO ETA 20-1091 & CE 2812-CPR-JA5026 ASTRO BATT IN A FIRE RESISTANT BLANK SEAL THROUGH FLEXIBLE WALL



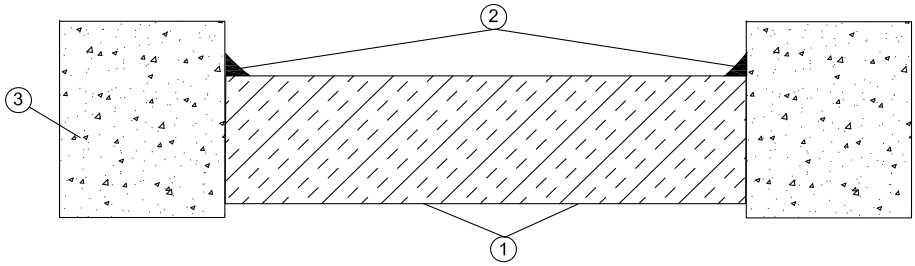


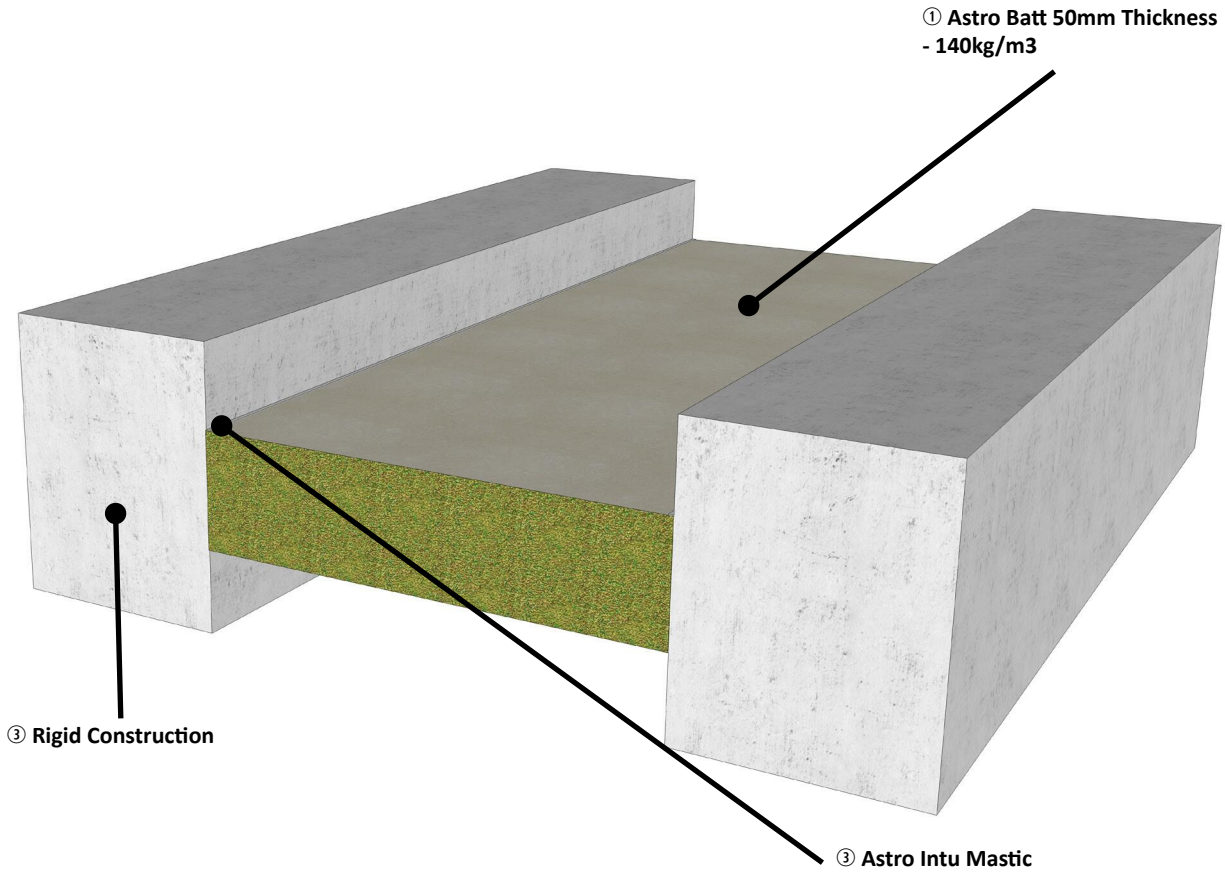
DET 2-0122 Date: 20/05/2014

Rigid floor construction according to classification report 335738, penetration seal with Astro Batt installed for blank opening with floor thickness of minimum 150mm

Specimen	Integrity (minutes)			Insulation (minutes)
A	79	79	79	63

DESIGN TO ETA 20-1091 & CE 2812-CPR-JA5026 ASTRO BATT IN A FIRE RESISTANT BLANK SEAL THROUGH RIGID FLOOR





DET 2-0126 Date: 20/05/2014

Durability and Serviceability

Requirement - The Principle of the durability tests is to select suitable physico-chemical or technological properties of the product and to ETAG No 026 check whether these properties have changed during exposure of the product to defi ned exposure conditions. The product Part 2: Clause shall be tested according to the following procedures:
2.4.12

Property	Test Method
Appearance	EOTA ETAG No 026: Part2: Clause B.12
Flexibility	ASTM D522
LOI	ISO 4589-2: 1996

The following evidence presented in MECH/W00202RL001 has been provided in relation to this requirement:

Appearance

Specimen	Exposure	Before	After
1	Durability Z1	Off -white, smooth surface, maintained shape	No change
4	23oC 50% RH	Off -white, smooth surface, maintained shape	No change

Flexibility

Anvil diameter	Specimen	Control	Z1 Durability
1” 25mm	1	PASS	PASS
5/8” 16mm	2	PASS	PASS
3/8” 9.5mm	3	PASS	PASS
1/4” 6.4mm	4	PASS	PASS
1/8” 3.2mm	5	PASS	PASS

LOI

	Oxygen index
Control	26.7
Z1 Durability	27.5

Conclusions

The data discussed above satisfies the general aspects relaing to fi tness for use: Durability and serviceability: 12 of EOTA ETAG No 026: Part 2, for Type Z1 environmental conditions: Products for penetration seals intended for uses at internal conditions with high humidity, excluding temperatures below 0°C.

Identification of the product

Requirement - The Intertek MSG report No. MECH/W002020RL001 detail the following tests, as detailed in ETAG No 026: Part 2, utilised to ETAG No 026: identify Fire Coating:
Part 2: Clause 5

Product characteristic	Verification Method
TGA	EOTA ETAG No 026: Part 3: Clause B.2
Viscosity of Liquid Materials	ISO 3219
Density of Liquid Materials	ISO 2811-1
LOI	ISO 4589-2: 1996
Flexibility	ASTM D522

element

Notified body No. 2812

Certificate of constancy of performance

2812-CPR-JA5026

In compliance with *Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011* (the Construction Products Regulation or CPR), this certificate applies to the construction product

Astro Batt and Coating

Intended use: Penetration Seals

Essential characteristics	Performance according to	Technical specification
Reaction to fire	ETA 20/1091	EAD 350454-00-1104
Resistance to fire	ETA 20/1091	EAD 350454-00-1104
Dangerous substances	ETA 20/1091	EAD 350454-00-1104

Element Materials Technology Rotterdam B.V.
Zekeringstraat 33, 1014 BV, Amsterdam, Netherlands
Registered in the Netherlands. Registered Office: PO Box 6854, 4802 HW, Breda, Netherlands
Company Reg No. 24170257

element

Certificate of constancy of performance

2812-CPR-JA5026

Placed on the market under the name of

Astroflame (fireseals) Limited
Unit 8 The IO Centre
Stephenson Road
Segensworth
Fareham
Hampshire
PO15 5RU
UK

and produced in the manufacturing plant

E/055
This is coded format and the information is held by the Notified Body

This certificate attests that all provisions concerning the assessment and verification of constancy of performance and the performances described in the:

ETA 20/1091

under System 1 for the performance set out in the ETA are applied and that the factory production control conducted by the manufacturer is assessed to ensure the Constancy of Performance of the Construction Product.

This certificate was first issued on 01/11/2020 and revised on 23/12/2020 and will remain valid as long as neither the ETA, the EAD, the construction product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified product certification body.

Valid to: **24/10/2022**

ERO Project Reference: **ERO 034621 P1021**

Paul Duggan
Certification Manager

CSF406-NL 6.0

Astro Batts & Coating (with Astro Intu Mastic)

This Approval to the use of Astro Batts & Coating (with Astro Intu Mastic) for the fire protection where services are penetrating walls. The detailed scope is given in the Approval Matrix included in this Certifcate. This shows the thickness and acceptable services for Astro Batts & Coating (with Astro Intu Mastic) required fire resistance periods in accordance with BS 476: Part 20: 1987 of up to 240 minutes for differing services and wall constructions and up to 120 minutes for floor constructions. The scope of this certification complies with the guidelines stated in the ASFP Redbook: 3rd Edition for 3rd party certification schemes.

This certification is designed to demonstrate compliance of the product or system specifically with Approved Document B (England and Wales, Section 2 of the Technical standards (Scotland), Technical Booklet E (N. Ireland). If compliance is required to other regulatory or guidance documents there may be additional considerations or conflict to be taken into account.

The product is approved on the basis of:

- Initial type testing
- Audit testing at the frequency specified inTS03
- A design appraisal against TS03
- Inspection and surveillance of factory production control

The stud partition drywalls, masonry or concrete walls shall be at least 130mm thick and have at least the same fire rating as that required for the penetration seal.

The services which may be fitted through the seals are cable ladders, cables, pipes and ducts as detailed within the Approval Matrix included in this Certificate

The approval relates to ongoing production. Product and/or its immediate packaging is identified with the manufacturer’s name, the product name or number, the CERTIFIRE name or name and mark, together with the CERTIFIRE certificate number and application where appropriate.

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Astro Batts & Coating (with Astro Intu Mastic) Approval Matrix - Up To 120 Minute Walls

Product Name:		Astro Batts & Coating (with Intu Mastic)	
Coating/DFT:		Astro Coating/1mm thick	
Density:		140kg/m3 minimum	
Barrier	Service	Integrity	Insulation
Single layer (50 & 60mm)	Cable Ladder (340mm wide by 100mm high max)	120 minutes	60 minutes
	Cables up to 26mm diameter	120 minutes	N/A
	Steel pipes up to 60mm diameter	120 minutes	N/A
	PVC pipes up to 110mm diameter*	60 minutes	N/A
	Steel ducts (445mm wide by 445mm high max)	120 minutes	N/A
Double layer (100 & 120mm)	Cable Ladder (340mm wide by 100m high max)	120 minutes	60 minutes
	Cables up to 26mm diameter	120 minutes	60 minutes
	Steel pipes up to 60mm diameter	120 minutes	30 minutes
	PVC pipes up to 110mm diameter*	60 minutes	N/A
	Steel ducts (445mm wide by 445mm high max)	120 minutes	N/A
* PVC pipes must be used in conjunction with Astroflame Pipe Wraps over sealed with ablative coating			
Maximum aperture	2400 mm high by 1200mm (120 minutes integrity performance) 2880mm high by 1440mm (60 minutes integrity performance) Multiple apertures must be separated by a minimum of 400mm in drywalls and 240mm in concrete/ masonry constructions		
Walls	The walls shall be a minimum of 130mm thick The minimum density for the concrete or brick of the wall is 780kg/m3 and for walls made of concrete blocks is 600kg/m3. Partition drywalls will comprise at least 2 layers of 15mm thick Type 'F' gypsum boards on each side of minimum 70mm by 32mm steel studs All concrete, masonry or drywalls shall have at least the same fire rating as that required for the barrier		
Application Technique	Concrete/masonry walls Boards tightly friction fitted into the aperture at mid-depth of wall. Board joints and the board to aperture junction is sealed with Astro coating or Astro Intu Mastic. Apertures for penetrating items are to be tightly fitti ng and be sealed with Astro Coating or Astro Intu Mastic and must be separated by at least 400mm Drywalls As above and additionally the aperture must be formed from track sections and be lined with two layers of 15mm thick Type 'F' gypsum boards		
Service Coat-Back	Not required	U Value	Not Known
Service Support Requirements	Services should be rigidly supported via steel angles, hangers or channels, not further than 500mm the surface of the sealing system on both faces.		

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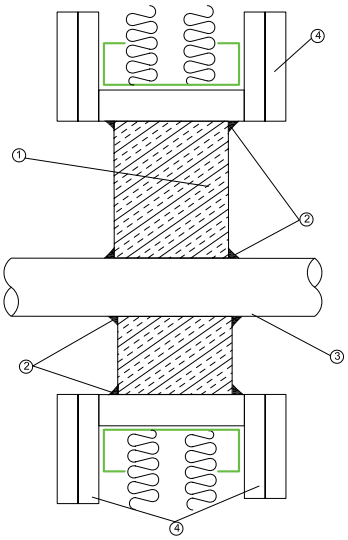
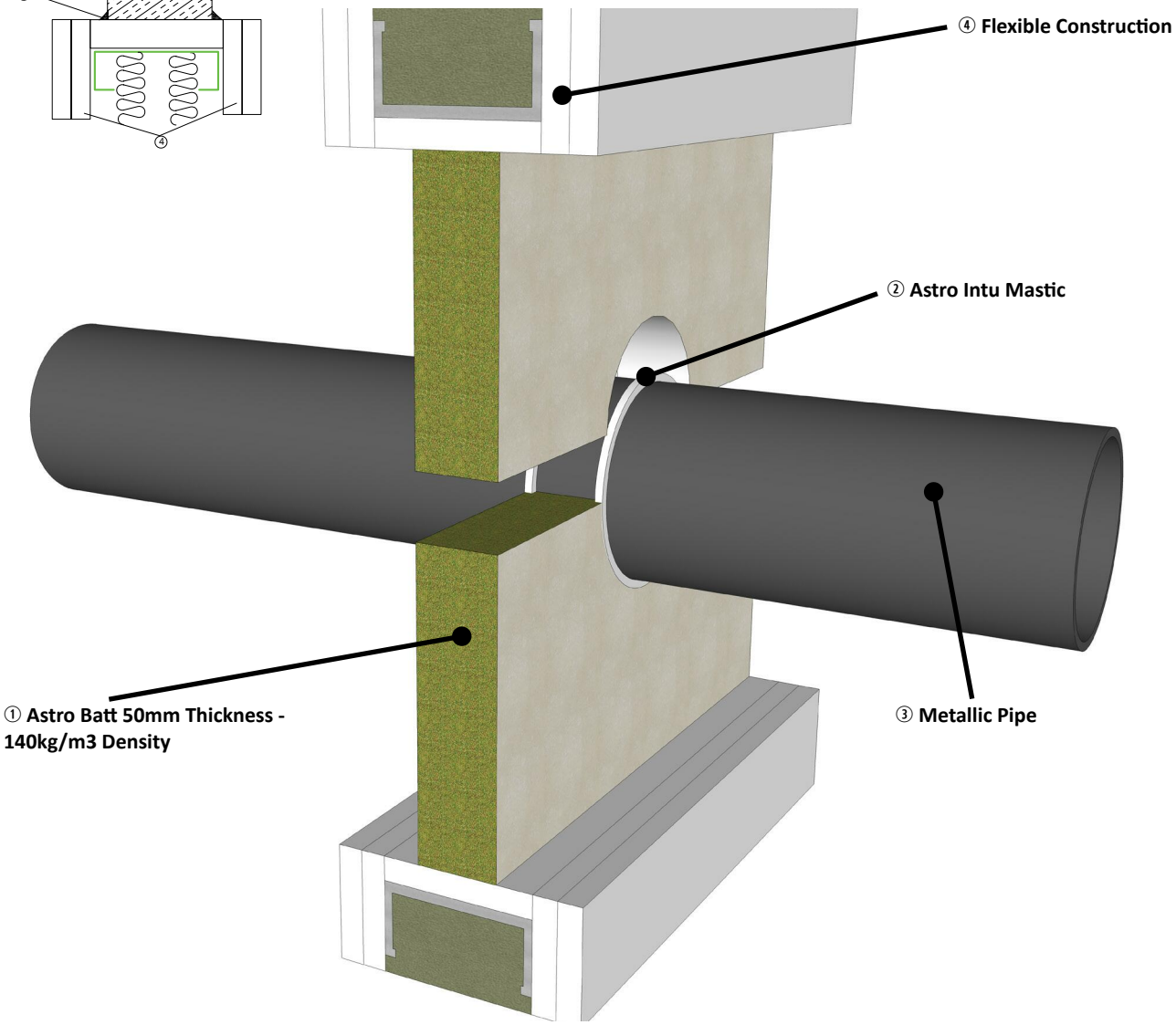
DESIGN TO CERTIFIRE CF 614 ASTRO BATT IN A FIRE RESISTANT METALLIC PIPE PENETRATION SEAL THROUGH FLEXIBLE WALL





DET 2-0103 Date: 20/05/2014

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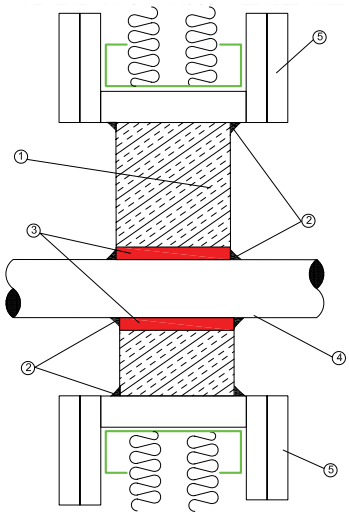
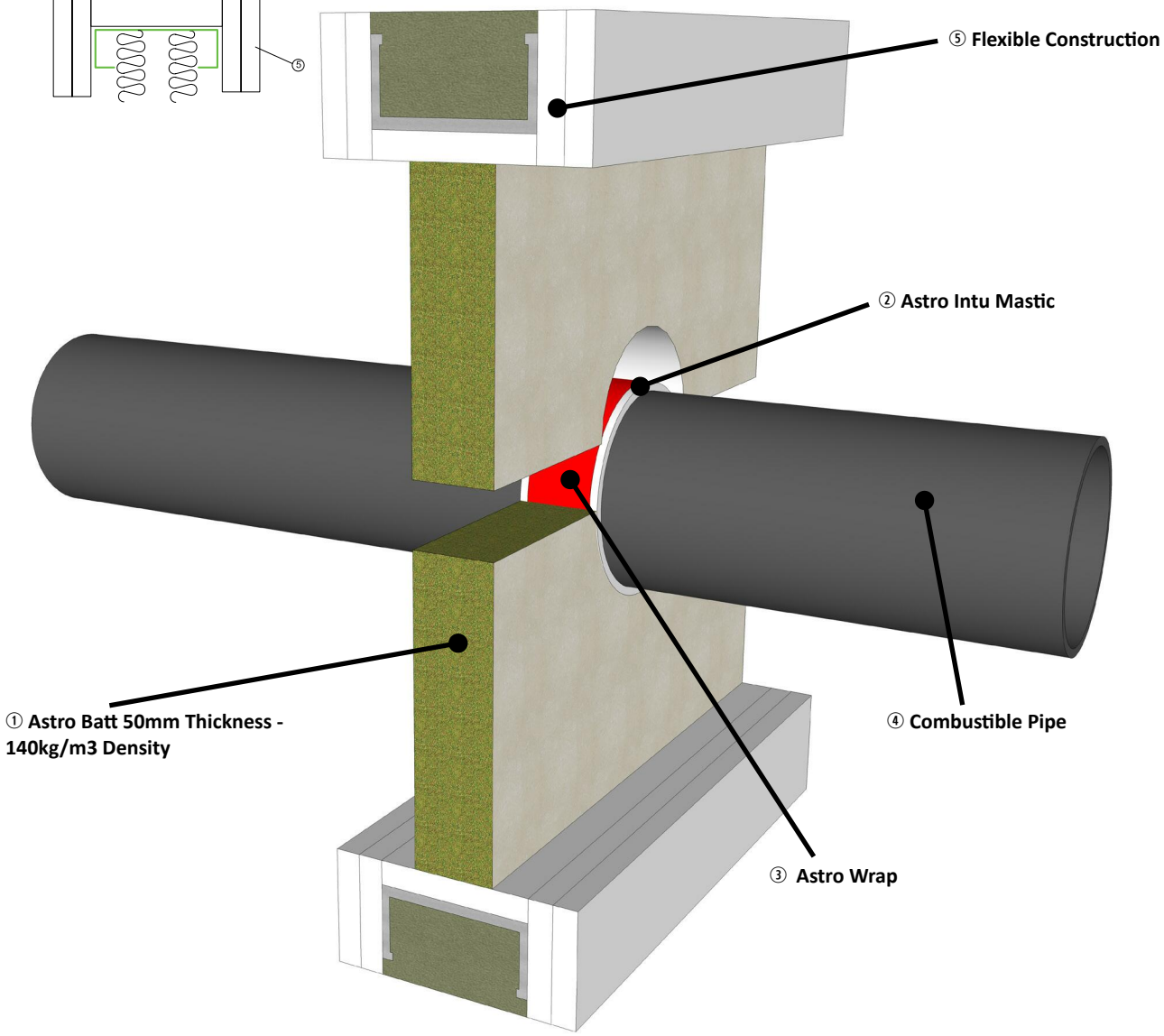
DESIGN TO CERTIFIRE CF 614 ASTRO BATT IN A FIRE RESISTANT SEAL AND ASTRO WRAP WITH A COMBUSTIBLE PIPE PENETRATION THROUGH FLEXIBLE WALL





DET 2-0101 Date: 20/05/2014

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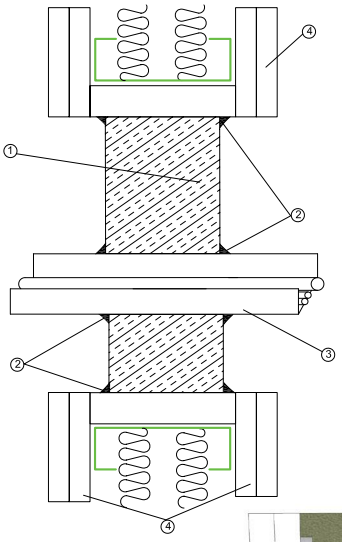
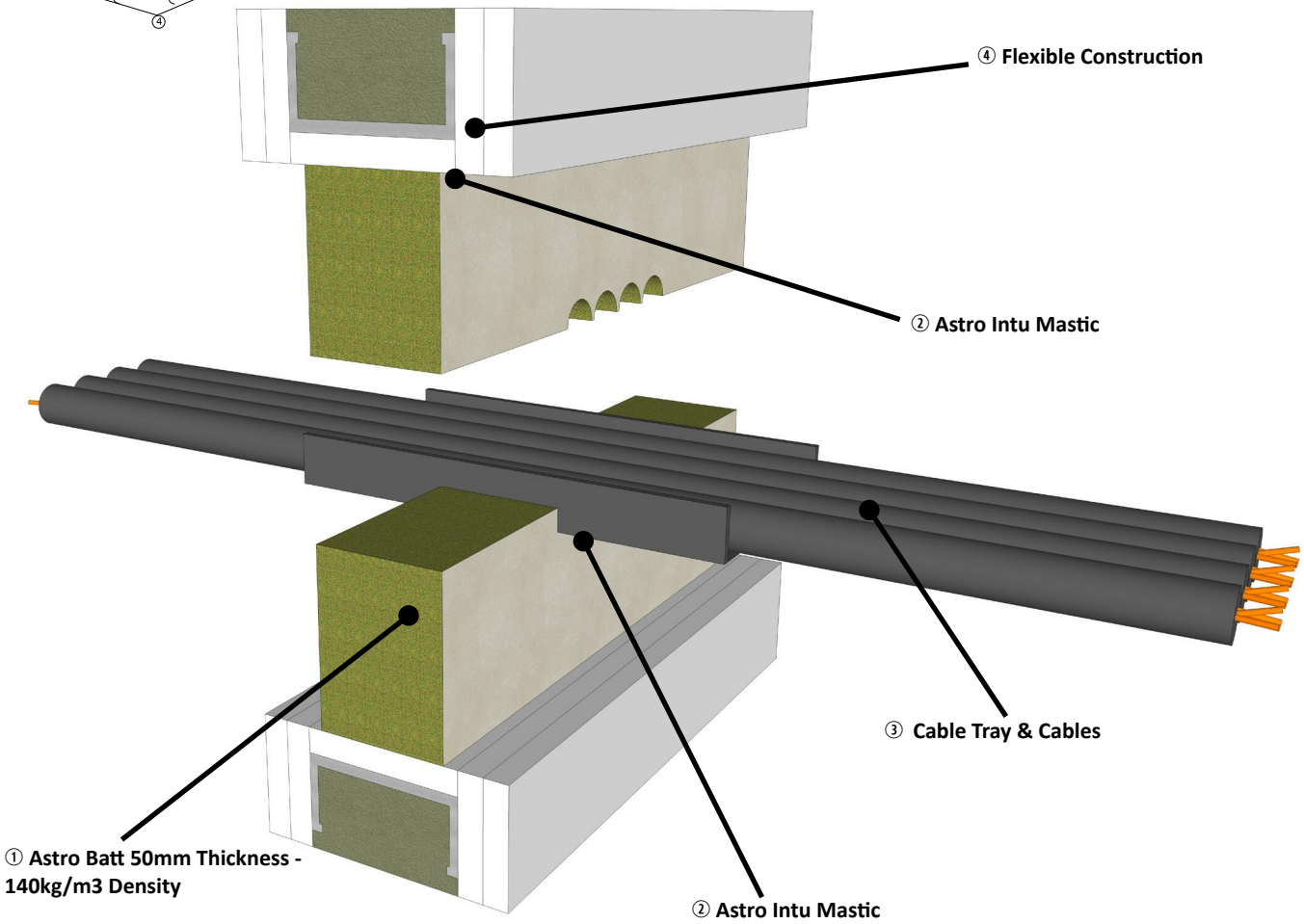
DESIGN TO CERTIFIRE CF 614 ASTRO BATT IN A FIRE RESISTANT CABLE TRAY & CABLES PENETRATION SEAL THROUGH FLEXIBLE WALL





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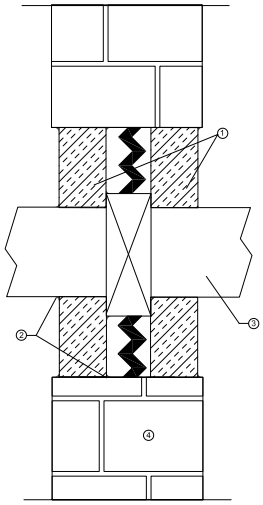
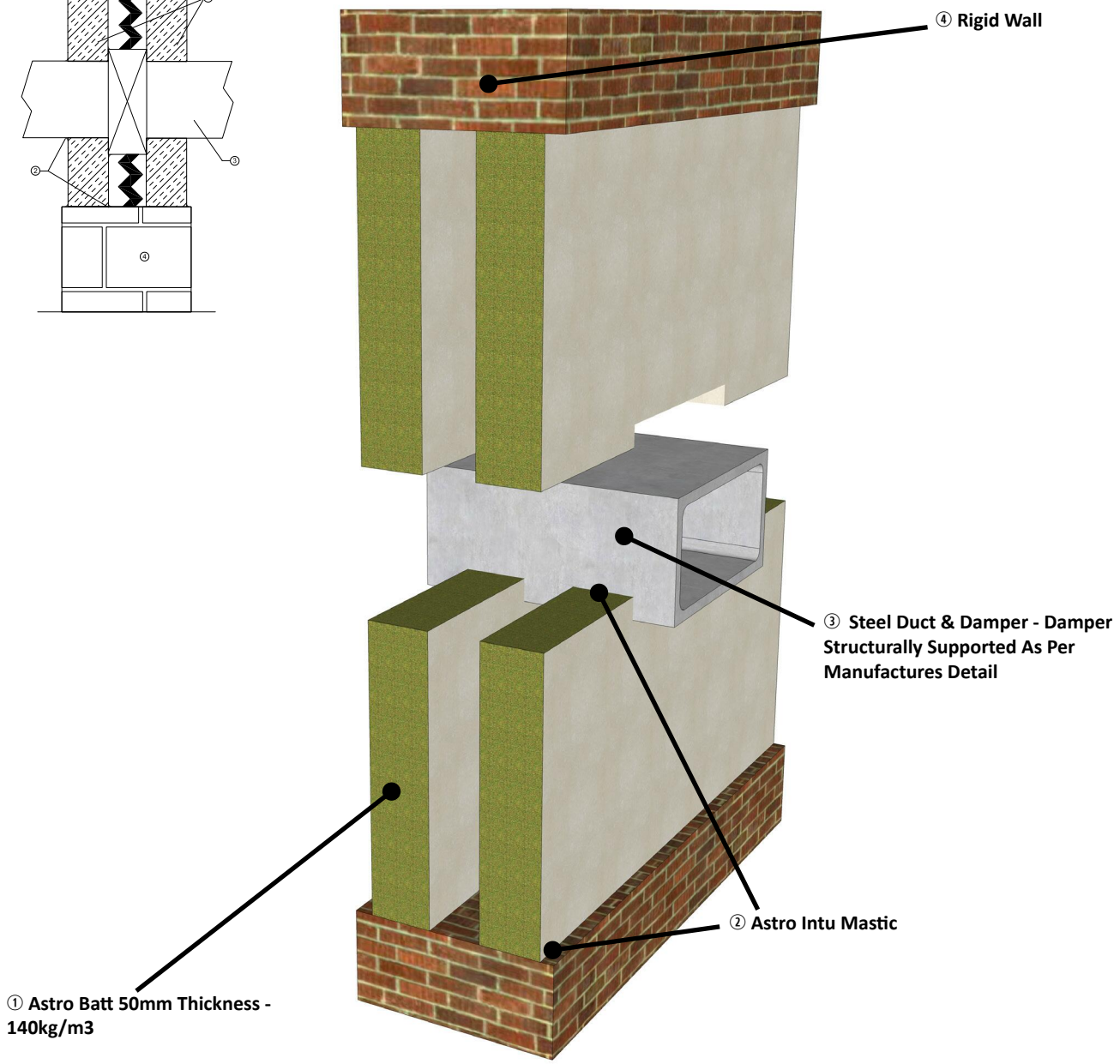
DESIGN TO CERTIFIRE CF 614 ASTRO BATT IN A FIRE RESISTANT STEEL DUCT & DAMPER PENETRATION SEAL THROUGH RIGID WALL





DET 2-0002 Date: 20/05/2014

Astro Batts & Coating (with Astro Intu Mastic) Approval Matrix - Up To 240 Minute Walls

Product Name:		Astro Batts & Coating (with Intu Mastic)	
Coating/DFT:		Astro Coating/1mm thick	
Density:		140kg/m3 minimum	
Barrier	Service	Integrity	Insulation
Single layer (50 & 60mm)	Cable Ladder (340mm wide by 100mm high max)	240 minutes	N/A
	Cables up to 26mm diameter	240 minutes	N/A
	Areas of seal without services	240 minutes	60 minutes
Double layer (100 & 120mm)	Cable Ladder (340mm wide by 100m high max)	240 minutes	60 minutes
	Cables up to 20mm diameter	240 minutes	60 minutes
	Areas of seal without services	240 minutes	240 minutes
Maximum aperture	1000 mm high by 660mm wide subject to a maximum area of 0.6m2 Multiple apertures must be separated by a minimum of 240mm in concrete/masonry constructions		
Walls	The walls shall be a minimum of 140mm thick The minimum density for the concrete or brick of the wall is 780kg/m3 and for walls made of concrete blocks is 600kg/m3. All concrete, masonry walls shall have at least the same fire rating as that required for the barrier		
Application Technique	Concrete/masonry walls Boards tightly friction fitted into the aperture at mid-depth of wall. Board joints and the board to aperture junction is sealed with Astro coating or Intu Mastic. Apertures for penetrating items are to be tightly fitting and be sealed with Astro Coating or Astro Intu Mastic and must be separated by at least 240mm		
Service Coat-Back	Not required	U Value	Not Known
Service Support Requirements	Services should be rigidly supported via steel angles, hangers or channels, not further than 500mm the surface of the sealing system on both faces.		

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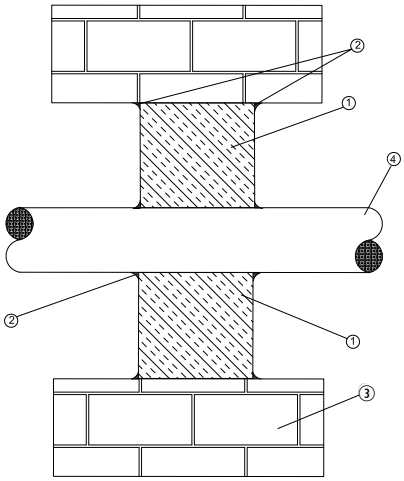
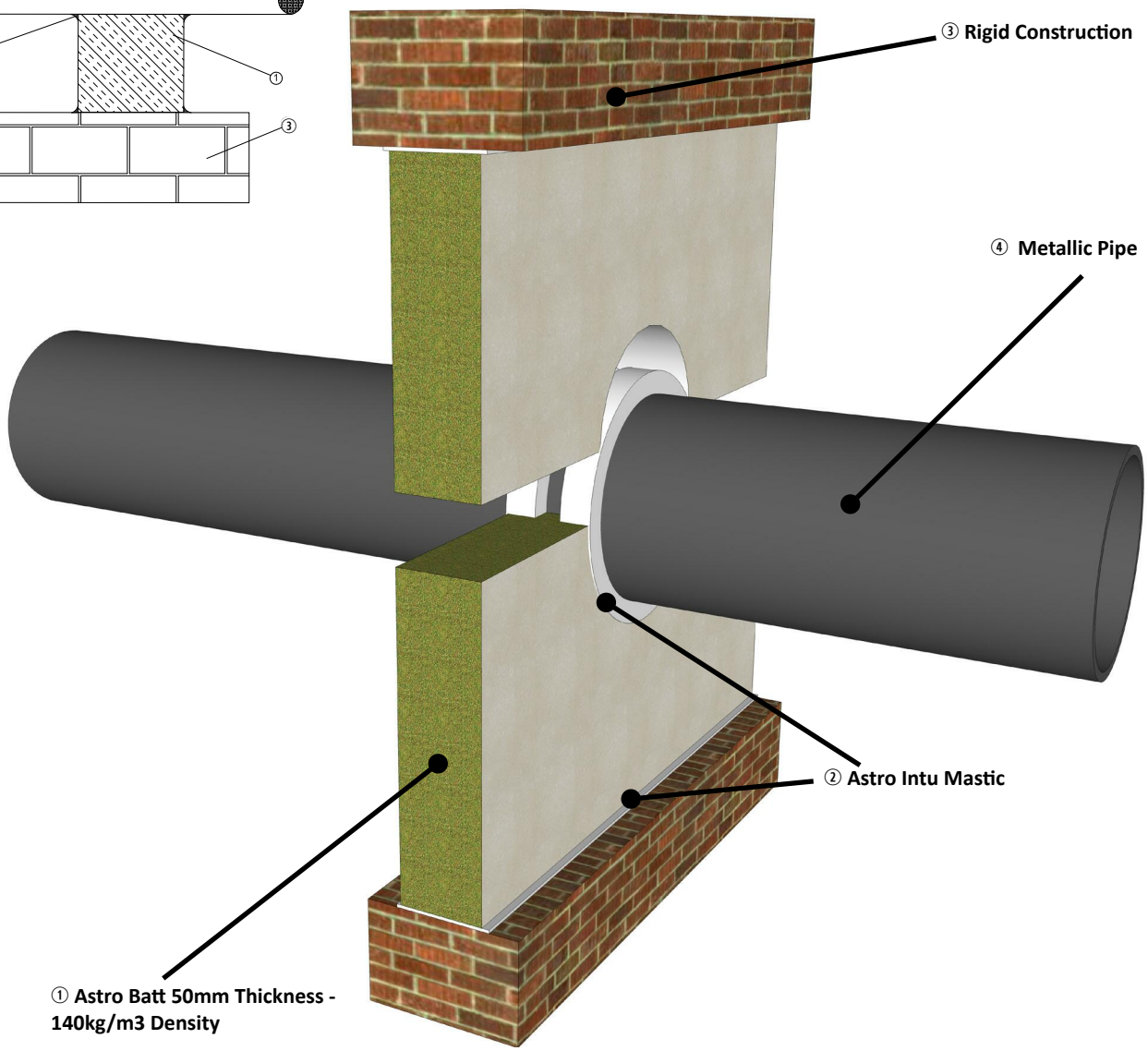
DESIGN TO CERTIFIRE CF 614 ASTRO BATT IN A FIRE RESISTANT METALLIC PIPE PENETRATION SEAL THROUGH RIGID WALL





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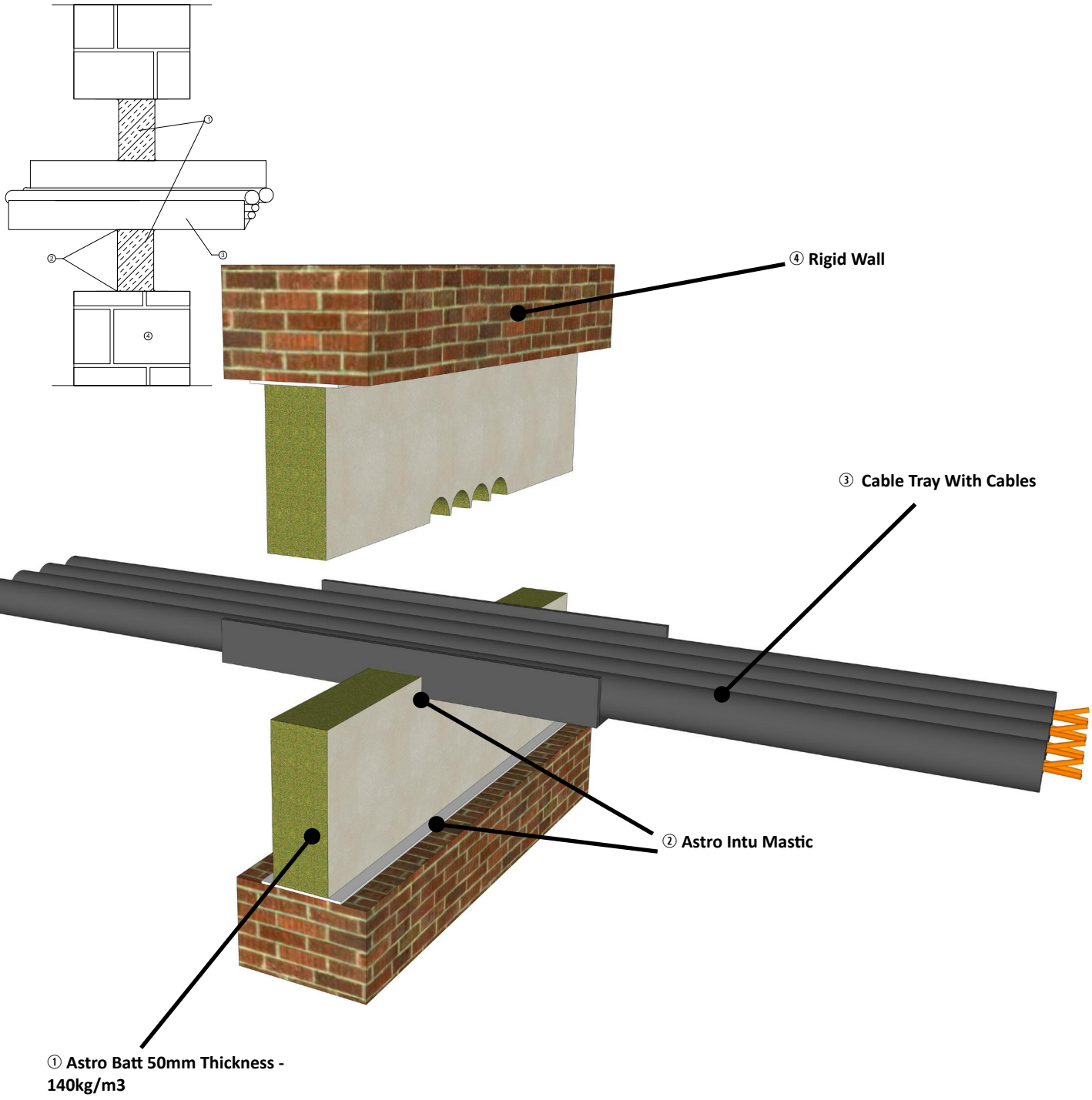
DESIGN TO CERTIFIRE CF 614 ASTRO BATT IN A FIRE RESISTANT CABLE TRAY & CABLE PENETRATION SEAL THROUGH RIGID WALL



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Astro Batts Coating (with Astro Intu Mastic) Approval Matrix - Up To 120 Minute Floors

Product Name:		Astro Batts & Coating (with Intu Mastic)	
Coating/DFT:		Astro Coating/1mm thick	
Density:		140kg/m3 minimum	
Barrier	Service	Integrity	Insulation
Single layer (50 & 60mm)	Cable Ladder (340mm wide by 100m high max)	120 minutes	60 minutes
	Cables up to 20mm diameter	120 minutes	60 minutes
	Areas of seal without services	120 minutes	120 minutes
Maximum aperture	1200 mm high by 600mm wide subject to a maximum area of 0.72m2 Multiple apertures must be separated by a minimum of 240mm in concrete/masonry constructions		
Walls	The walls shall be a minimum of 115mm thick The minimum density for the concrete or brick of the wall is 780kg/m3. All concrete, masonry walls shall have at least the same fire rating as that required for the barrier		
Application Technique	Concrete/masonry walls Boards cut to size (not joined) tightly friction fitted into the aperture at mid-depth of the floor. Board to aperture junction is sealed with Astro Coating or Astro Intu Mastic. Apertures for penetrating items are to be tightly fitting and be sealed with Astro Coating or Astro Intu Mastic and must be separated by at least 240mm		
Service Coat-Back	Not required	U Value	Not Known
Service Support Requirements	Services should be rigidly supported via steel angles, hangers or channels, not further than 500mm the surface of the sealing system on both faces.		

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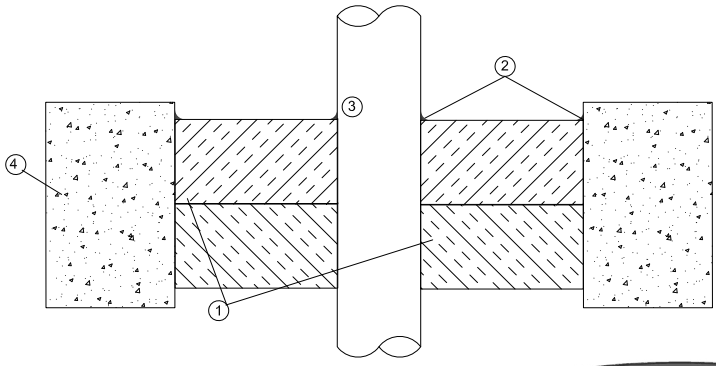
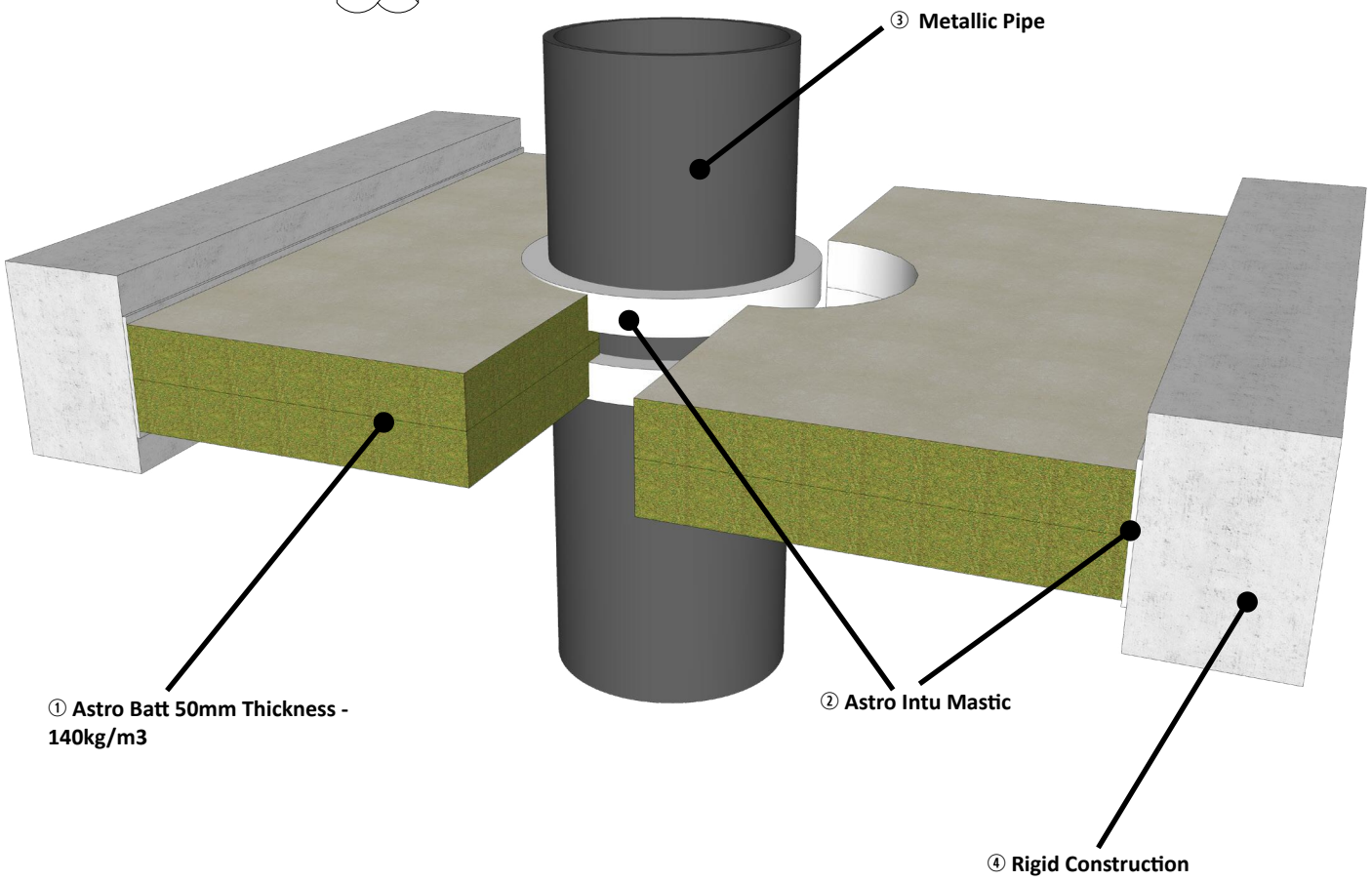
DESIGN TO CERTIFIRE CF 614 ASTRO BATT IN A FIRE RESISTANT METALLIC PIPE PENETRATION SEAL THROUGH RIGID FLOOR





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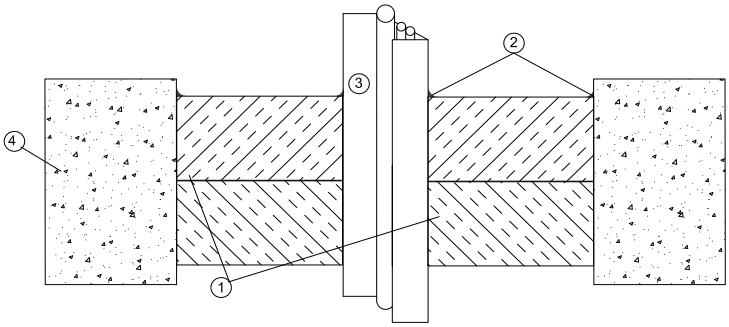
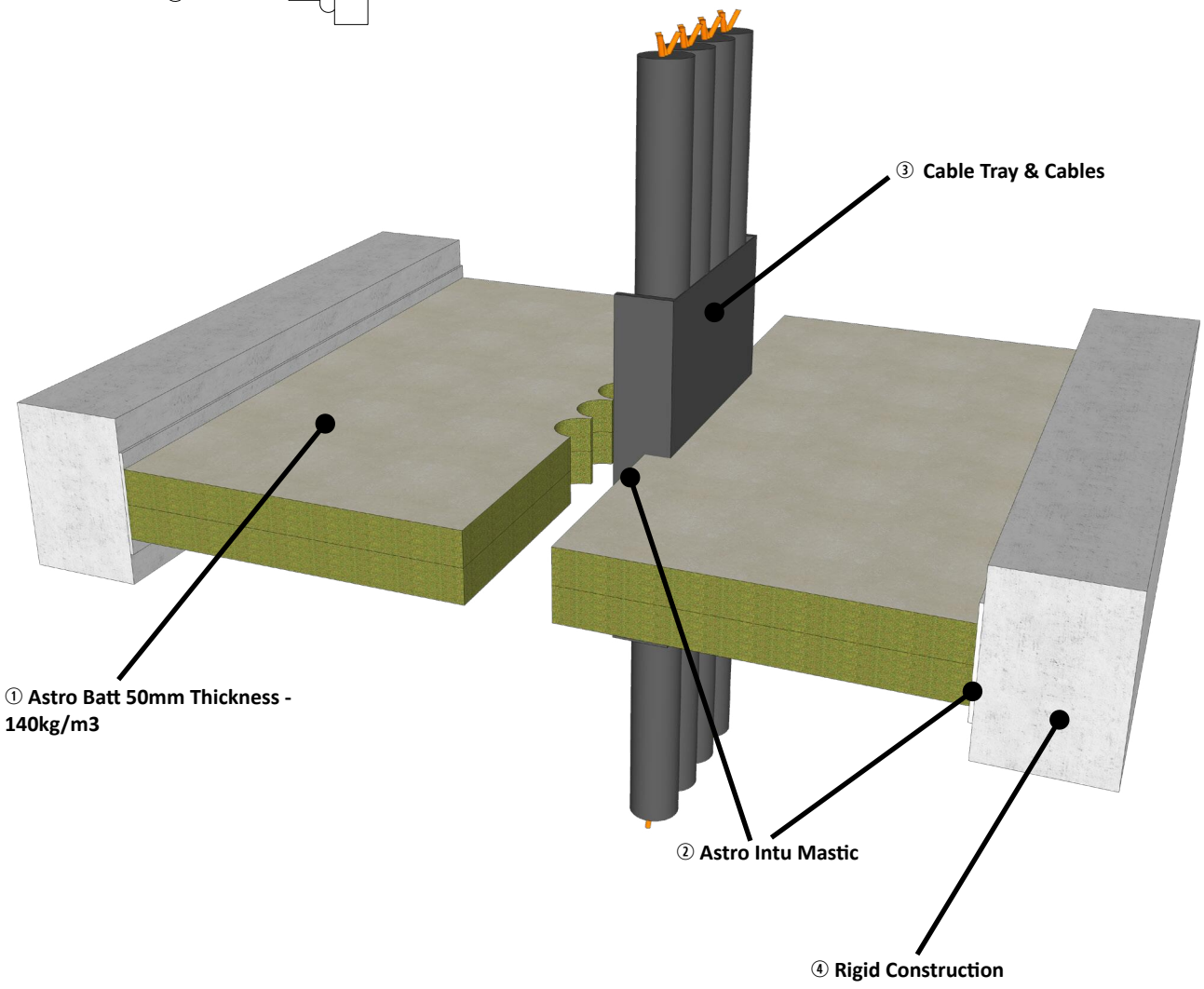
DESIGN TO CERTIFIRE CF 614 ASTRO BATT IN A FIRE RESISTANT CABLE TRAY & CABLES PENETRATION SEAL THROUGH RIGID FLOOR





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Astro Batts & Coating (with Astro Intu Mastic)

Air Permeability EN 1026	**Pressure (Pa)**	Positive pressure (m3/h/ m2)	Negative pressure (m3/h/m2)	Weather Capability	Not evaluated by this approval
	50	0.8	1.5	Weather Capability	Not evaluated by this approval
	100	1.4	1.8		
Acoustic Rating BS EN ISO 10140-2: 2010	1 x 50mm thick			Movement Capability	Not evaluated by this approval
	Rw (C;Ctr)		22 (0;-3) dB		
	Dnew (C;Ctr)		32 (0;3) dB		
	2 x 50mm thick				
	Rw (C;Ctr)		28 (0;-3)dB		
	Dnew (C;Ctr)		38 (0;3)dB		

Further Information

Further information regarding the details contained in this data sheet may be obtained from Astroflame Fireseal Limited (Tel: 013329 844500)

Further information regarding CERTIFRE certification and other approved products can be obtained from CERTIFIRE (Tel: 01925 646777, website: www.warringtonfire.net)

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Acoustic Isolation

BM TRADA

Laboratory measurement to BS EN ISO 10140-2 - Airborne Sound Insulation of Building Elements

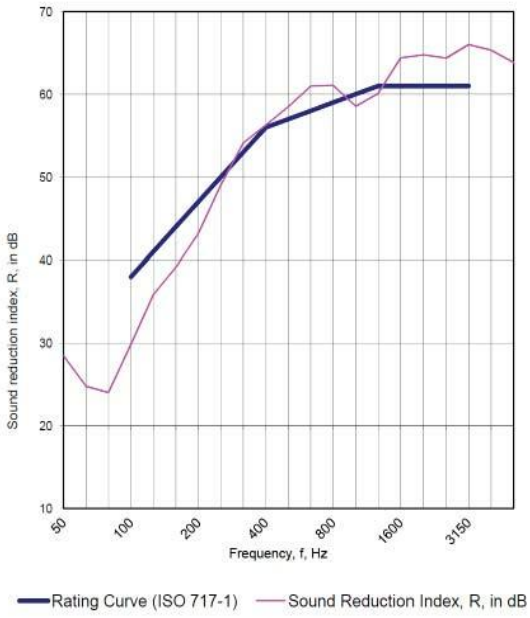
UKAS TESTING No. 1762

Test Specimen Name: Astro Batt
Client: Astroflame (Fireseals) Limited
Test Specimen Installed By: BM TRADA
Area of Specimen (S): 1.00 m^2
Temperature in Test Rooms: 19.2 °C
Static Pressure: 10006.0 Pa
Humidity in Test Rooms: 44.0 %
Test Specimen Description: 500mm x 2000mm aperture filled with single layer Astro Batt with 80kg/m^3. See Appendix 3 for specimen details.

Ref. No.: MTZ/F12009/01/H/Rev1/AR1p020
Date of Test: 04/04/2012
Source Room Volume: 82.00 m^3
Receive Room Volume: 70.00 m^3

f, Hz		R ,dB
50*		28.5
63*		24.8
80*		24.0
100		29.9
125		35.9
160		39.2
200		43.2
250		49.0
315		54.1
400		56.3
500		58.5
600		61.0
800		61.1
1000		58.5
1250		60.1
1600		64.4
2000		64.8
2500		64.4
3150	≥	66.0
4000	≥	65.3
5000	≥	63.8
AAD		-25.2

Frequency range for rating in accordance with ISO 717-1



$D_{n,e,w}$ =	57 dB
$D_{n,e,w}+C$ =	55 dB
$D_{n,e,w}+C_{tr}$ =	48 dB

$C_{(50-3150)}$ =	-5 dB	$C_{tr\,(50-3150)}$ =	-15	dB
$C_{(50-5000)}$ =	-4 dB	$C_{tr\,(50-5000)}$ =	-15	dB
$C_{(100-5000)}$ =	-2 dB	$C_{tr\,(100-5000)}$ =	-9	dB

Martin Durham
Technical Officer

* Indicates that the frequency is outside of our UKAS accreditation and is for information only

The legal validity of this report can only be claimed on presentation of the complete report

Report for: Astroflame (Fireseals) Limited
Report Ref: Chilt/Z: 12009/01/H/Rev1/AR1

Page 11 of 12

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Acoustic Isolation

BMTRADA

Laboratory measurement to BS EN ISO 10140-2 - Airborne Sound Insulation of Building Elements

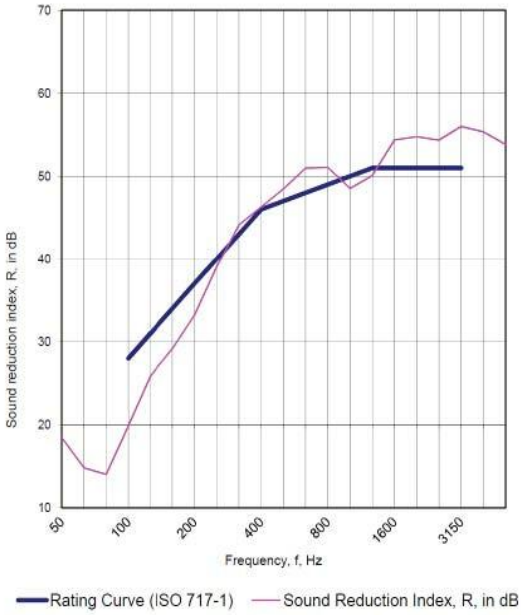
UKAS TESTING No. 1762

Test Specimen Name: Astro Batt
Client: Astroflame (Fireseals) Limited
Test Specimen Installed By: BM TRADA
Area of Specimen (S): 1.00 m^2
Temperature in Test Rooms: 19.2 °C
Static Pressure: 10006.0 Pa
Humidity in Test Rooms: 44.0 %
Test Specimen Description: 500mm x 2000mm aperture filled with single layer Astro Batt with 80kg/m^3. See Appendix 3 for specimen details.

Ref. No.: MTZ/F12009/01/H/Rev1/AR1p020
Date of Test: 04/04/2012
Source Room Volume: 82.00 m^3
Receive Room Volume: 70.00 m^3

f, Hz		R ,dB
50*		18.5
63*		14.8
80*		14.0
100		19.9
125		25.9
160		29.2
200		33.2
250		39.0
315		44.1
400		46.3
500		48.5
600		51.0
800		51.1
1000		48.5
1250		50.1
1600		54.4
2000		54.8
2500		54.4
3150	≥	56.0
4000	≥	55.3
5000	≥	53.8
AAD		-25.2

Frequency range for rating in accordance with ISO 717-1



R_w =	47 dB
R_w+C =	45 dB
R_w+C_{tr} =	38 dB

$C_{(50-3150)}$ =	-5 dB	$C_{tr\,(50-3150)}$ =	-15	dB
$C_{(50-5000)}$ =	-4 dB	$C_{tr\,(50-5000)}$ =	-15	dB
$C_{(100-5000)}$ =	-2 dB	$C_{tr\,(100-5000)}$ =	-9	dB

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Report for: Astroflame (Fireseals) Limited
Report Ref: Chilt/Z: 12009/01/H/Rev1/AR1

Page 9 of 12

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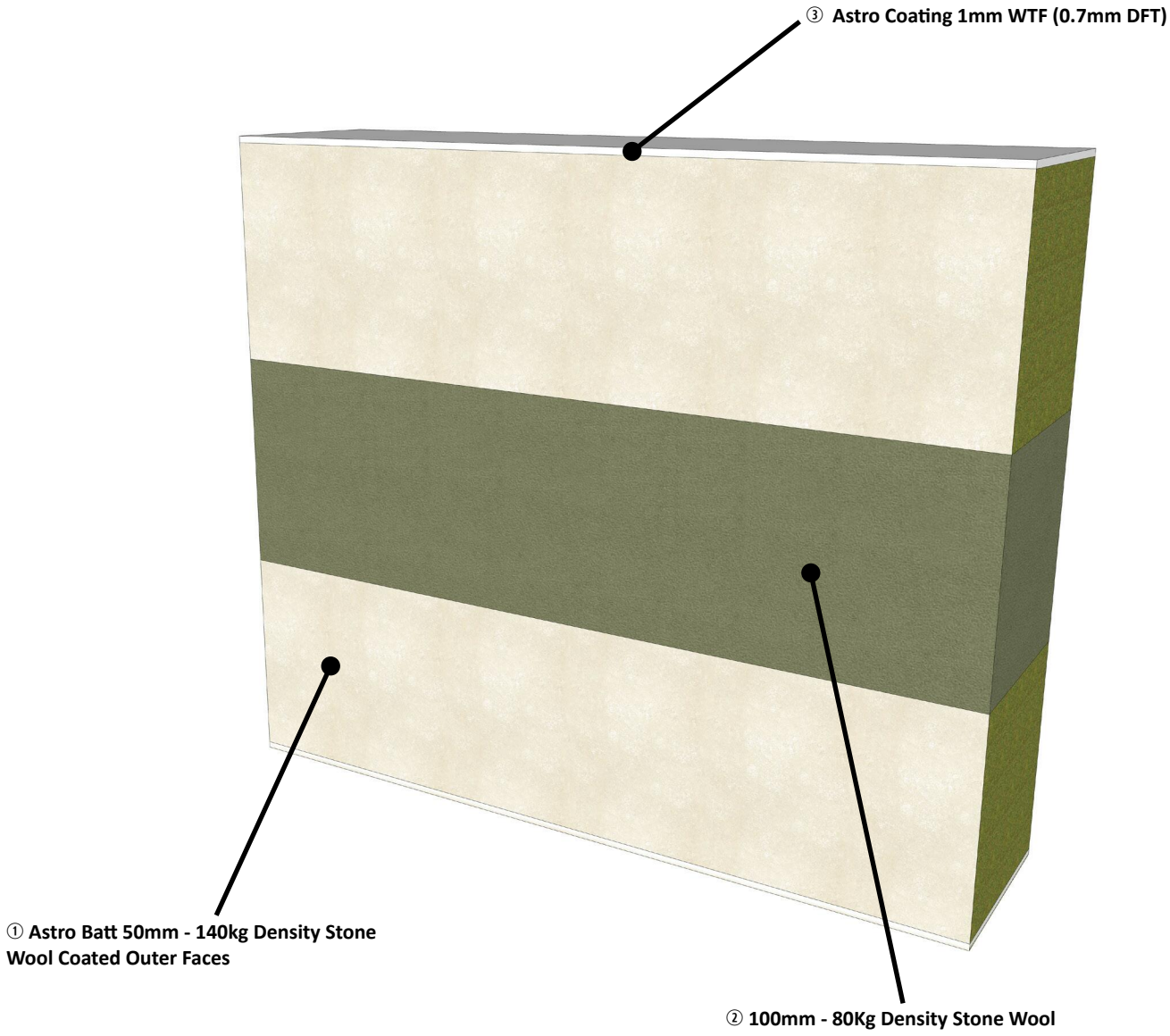
Production Build of Astro Batt 240 FR 57 Dnew (47Rw)



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Acoustic Isolation

BMTRADA

Laboratory measurement to BS EN ISO 10140-2 - Airborne Sound Insulation of Building Elements

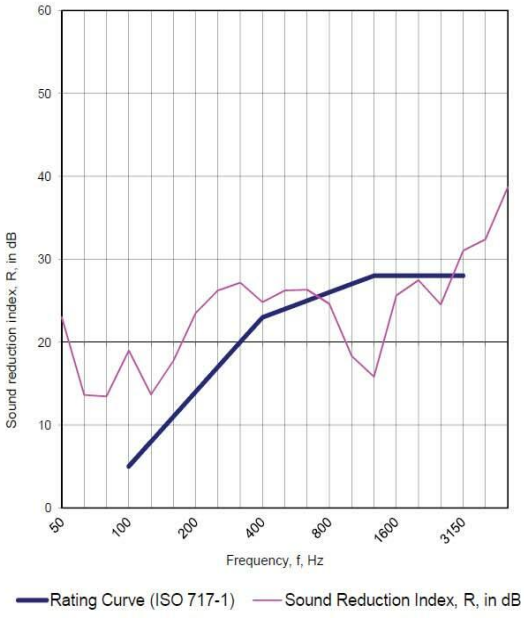
UKAS TESTING No. 1762

Test Specimen Name: Astro Batt
Client: Astroflame (Fireseals) Limited
Test Specimen Installed By: BM TRADA
Area of Specimen (S): 1.00 m^2
Temperature in Test Rooms: 19.2 °C
Static Pressure: 10006.0 Pa
Humidity in Test Rooms: 44.0 %
Test Specimen Description: 500mm x 2000mm aperture filled with single layer Astro Batt. See Appendix 3 for specimen details.

Reference Number: MTZ/F12009/01/G/AR1p019
Date of Test: 04/04/2012
Source Room Volume: 82.00 m^3
Receive Room Volume: 70.00 m^3

f, Hz	R ,dB
50+	23.0
63+	13.6
80+	13.4
100	19.0
125	13.7
160	17.8
200	23.5
250	26.2
315	27.2
400	24.8
500	26.2
600	26.3
800	24.6
1000	18.3
1250	15.8
1600	25.6
2000	27.5
2500	24.5
3150	31.0
4000	32.4
5000	38.7
AAD	-28.6

Frequency range for rating in accordance with ISO 717-1



R_w =	24 dB
R_w+C =	22 dB
R_w+C_{tr} =	21 dB

$C_{(50-3150)}$ =	-2 dB	$C_{tr\,(50-3150)}$ =	-4 dB
$C_{(50-5000)}$ =	-1 dB	$C_{tr\,(50-5000)}$ =	-4 dB
$C_{(100-5000)}$ =	-1 dB	$C_{tr\,(100-5000)}$ =	-3 dB

Martin Durham
Technical Officer

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Report for: Astroflame (Fireseals) Limited
Report Ref: Chilt/Z: 12009/01/G/AR1

Page 9 of 12

certifire

Acoustic Isolation

BMTRADA

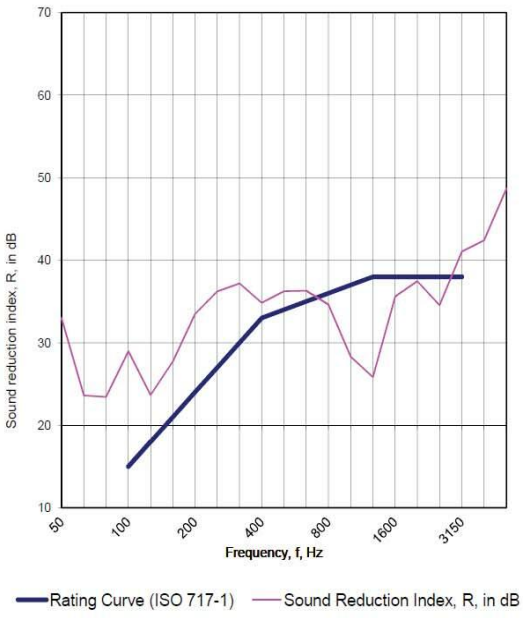
Laboratory measurement to BS EN ISO 10140-2 - Airborne Sound Insulation of Building Elements

UKAS TESTING No. 1762

Test Specimen Name: Astro Batt
Client: Astroflame (Fireseals) Limited
Test Specimen Installed By: BM TRADA
Area of Specimen (S): 1.00 m^2
Temperature in Test Rooms: 19.2 °C
Static Pressure: 10006.0 Pa
Humidity in Test Rooms: 44.0 %
Test Specimen Description: 500mm x 2000mm aperture filled with single layer Astro Batt. See Appendix 3 for specimen details.

Reference Number: MTZ/F12009/01/G/AR1p019
Date of Test: 04/04/2012
Source Room Volume: 82.00 m^3
Receive Room Volume: 70.00 m^3

f, Hz	R ,dB	
50+	33.0	
63+	23.6	
80+	23.4	
100	29.0	Frequency range for rating in accordance with ISO 717-1
125	23.7	
160	27.8	
200	33.5	
250	36.2	
315	37.2	
400	34.8	
500	36.2	
600	36.3	
800	34.6	
1000	28.3	
1250	25.8	
1600	35.6	
2000	37.5	
2500	34.5	
3150	41.0	
4000	42.4	
5000	48.7	
AAD	-28.6	



$D_{n,e,w}$ =	34 dB
$D_{n,e,w}+C$ =	32 dB
$D_{n,e,w}+C_{tr}$ =	31 dB

$C_{(50-3150)}$ =	-2 dB	$C_{tr\ (50-3150)}$ =	-4 dB
$C_{(50-5000)}$ =	-1 dB	$C_{tr\ (50-5000)}$ =	-4 dB
$C_{(100-5000)}$ =	-1 dB	$C_{tr\ (100-5000)}$ =	-3 dB

Martin Durham
Technical Officer

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Report for: Astroflame (Fireseals) Limited
Report Ref: Chilt/Z: 12009/01/G/AR1

Page 11 of 12

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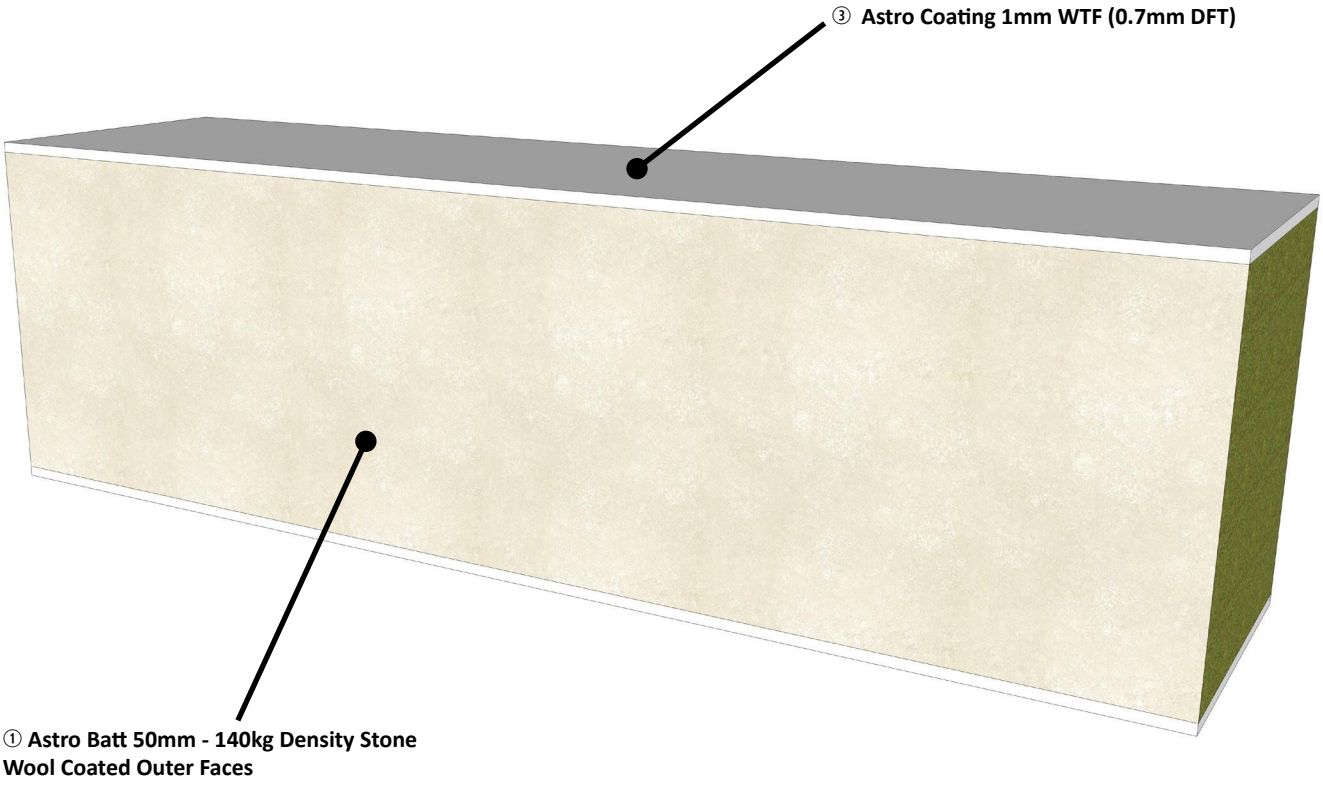
Production Build of Astro Batt 240 FR 57 Dnew (47Rw)



Technical specification document

Air Permeability Test

No: Chilt/P12083/tec2

Performance testing to the principles of BS EN 1026: 2000 windows and doors - Air permeability - Test method was conducted on your panel on 11 September 2012. The technical specification is detailed below. The specimen was delivered to Chiltern Dynamics laboratory on 10 September 2012

Description of construction

The specimen was identified as Astro Batt (50mm). The overall panel dimensions were 600mm wide x 1200mm high x 50mm deep and mounted within a softwood subframe for installation into the test rig

Panel

	Material/type	Dimensions (mm)	Density (kg/m3)
Panel	Astro Batt wool coated both faces	50 thick	140kg
Coating	Astro coating	1 thick (wet thickness)	-

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Air Permeability Test

BMTRADA

Results of Test: Chilt/P12083/02/AR1

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

This document confirms that performance testing was conducted on 11 September 2012. Testing was conducted the principles of the following standard:-

- BS EN 1026: 2000 Windows and doors - Air permeability - Test method.

The following results were achieved

Product tested			Astro Batt (50mm)	
	Results under positive chamber pressure		Results under negative chamber pressure	
Pressure (Pa)	Leakage (m^3/h)	Leakage ($m^3/m^2/h$)	Leakage (m^3/h)	Leakage ($m^3/m^2/h$)
50	0.6	0.8	1.1	1.5
100	1.0	1.4	1.3	1.8
150	2.8	3.9	1.5	2.1
200	3.8	5.3	1.9	2.6
250	4.5	6.3	2.0	2.8
300	5.0	6.9	2.4	3.3
450	5.1	7.1	1.9	2.6
600	6.7	9.3	2.2	3.1

The results relate only to the specimen tested, as detailed in the technical specification Chilt/P12083/tec2/AR1

Paul Andrews – Head of Section

Vincent Kerrigan - Technical Manager
Date: 31 October 2013

BM TRADA
Chiltern House, Stocking Lane, Hughenden Valley, High Wycombe, HP14 4ND, United Kingdom
Tel: 01494 569800 Fax: 01494 564895
Web: www.bmtradagroup.com
Email: testing@bmtrada.com

Page 3 of 5