ASTROFLAME
PASSIVE FIRE STOP SYSTEMS

Technical Data Sheet

Astro PS Coat

UIC of product-type: AFPSC

Revision 8 - 14th November 2024



UK CA
0843-UKTA-24/0046
0843-CPR-1393

CE
CE-ETA - 20-1087
CE-2531-CPR-CXO10293

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ETA - 20-1087		
> Technical Data	General Product Description	> Page 1
> Technical Data	Intended Use	> Page 1
> Technical Data	Rigid Walls & Flexible walls	> Page 1
> Technical Data	Use Category, Reaction to Fire, Resistance to Fire & Dangerous substances	> Page 2
> Technical Data	Durability and serviceability	> Page 3
> Technical Data	Astro PS Coating in a fire resistant metallic pipe penetration seal through flexible wall	> Page 4
> Technical Data	Astro PS Coating in a fire resistant multi metallic pipe penetration seal through flexible wall	> Page 5
> Technical Data	Astro PS Coating in a fire resistant multi metallic pipe penetration seal through rigid wall	> Page 6
> Technical Data	Astro PS Coating in a fire resistant metallic pipe penetration seal through rigid wall	> Page 7
> Technical Data	Astro PS Coating in a fire resistant cable tray & cable penetration seal through flexible wall	> Page 8
> Technical Data	Astro PS Coating in a fire resistant multi cable tray & cable penetration seal through flexible wall	> Page 9
> Technical Data	Astro PS Coating in a fire resistant cable tray & cable penetration seal through rigid wall	> Page 10
> Technical Data	Astro PS Coating in a fire resistant multi cable tray & cable penetration seal through rigid wall	> Page 11
> Technical Data	Astro PS Coating in a fire resistant blank seal penetration seal through flexible wall	> Page 12
> Technical Data	Astro PS Coating in a fire resistant blank seal penetration seal through rigid wall	> Page 13
> Technical Data	Durability and serviceability	> Page 14-15
> Technical Data	Airborne Sound Insulation of Building Elements	> Page 16-17
> Technical Data	Production build Astro PS Coating. Fire resistance EI 60. Acoustic isolation Dne,w 51db - Rw 41 dB	> Page 18
> Technical Data	Technical specification document	> Page 19
> Technical Data	Results of test: Chilt/P12083/02/AR3	> Page 20
> Technical Data	Production build Astro PS Coating. Fire resistance EI 60. Air Permeability tested pressure 600Pa	> Page 21

General Product Description

Astroflame PS Coating is an ablative coating applied to mineral wool board used to reinstate the fire resistance performance of wall construction where they have been provided with apertures for the penetration of single or multiple services.

The mineral wool board is then cut and friction fit into the aperture, prior to being inserted into the aperture in the wall. The Astroflame PS Coating is then applied over the surface of the board material to provide a dry film thickness of 0.7mm.

Astroflame PS Coating is supplied in 2.5, 5. 10, 20, 25kg and 205 liter pails

Mineral fibre boards 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.

Astroflame HPE Graphite sealant is required to seal around specific services. Astroflame HPE Graphite sealant is subject to a separate ETA referenced 20/1087

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

Intended Use

The intended use of System Astroflame PS Coating is to reinstate the fi re resistance performance of rigid and flexible wall constructions where they are penetrated by various cables and metallic pipes

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

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

Flexible walls:

The wall must have a minimum thickness of 100mm and comprise timber or steel stubs 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 System Astroflame PS Coating 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 the penetration area

The system Astroflame PS Coating may be used to seal apertures in the separating element up to 730mm wide by 1200mm high. 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 from the face of the separating element

The provisions made in this European Technical Assessment are based on an assumed working life of the Astroflame PS Coating 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 rights 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 0oC, without to rain or UV

The assessment of fitness for use has been made in accordance with EOTA ETAG 026 Part 2: 2011-08-08 (used as European Assessment Document, EAD)

Reaction to Fire

System Astroflame PS Coating is classified 'F' in accordance with EN 13501-1.

Resistance to Fire

System Astroflame PS Coating has been tested in accordance with BS EN 1366-3: 2009 based upon the test results and the field of direct application specified within EN 1366-3: 2009, the system Astroflame PS Coating has been classified in accordance with EN 13501-2,

The seals may only be penetrated by the services described in this document; other parts or support constructions must be 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 seal. Furthermore it is assumed that the unexposed face support is maintained for the required period of fire resistance.

Pipes must be perpendicular to the seal surface.

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

The function of the pipe seal in case of pneumatic dispatch system, pressurised air systems et. 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 force 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 the 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.

Dangerous substances

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

Astroflame Fireseals Ltd declare that product Astroflame PS Coating is in compliance with Council Directive 76/769/EEC of 27th July 1976 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)

Confirmation has further been declared 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 67/548/EEC - classification, packaging and labelling of dangerous substances) are stated in the Astroflame PS 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 chemicals substances are below the classification limits 67/548/EEC

Durability and serviceability

Astroflame PS Coating has been tested in accordance with EOTA Technial Report - TR024 - Edition November 2006, for the type Z1 use category specified in ETAG 026-3 (used as European Assessment Document, EAD), 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 (Hereinafter AVCP) System applied, with references to its legal base.

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

Products	Intended uses	Level of class	System
Fire stopping and fire sealing products	For fire compartmentation and / or fire protection or fire performance	Any	System 1

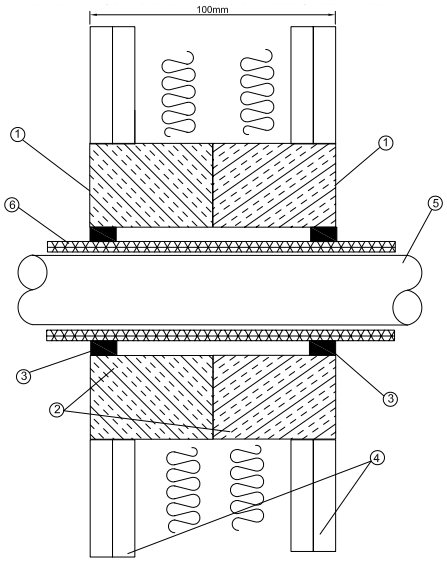
Flexible and Rigid wall construction according to 1.2.1 with wall thickness of minimum 100mm

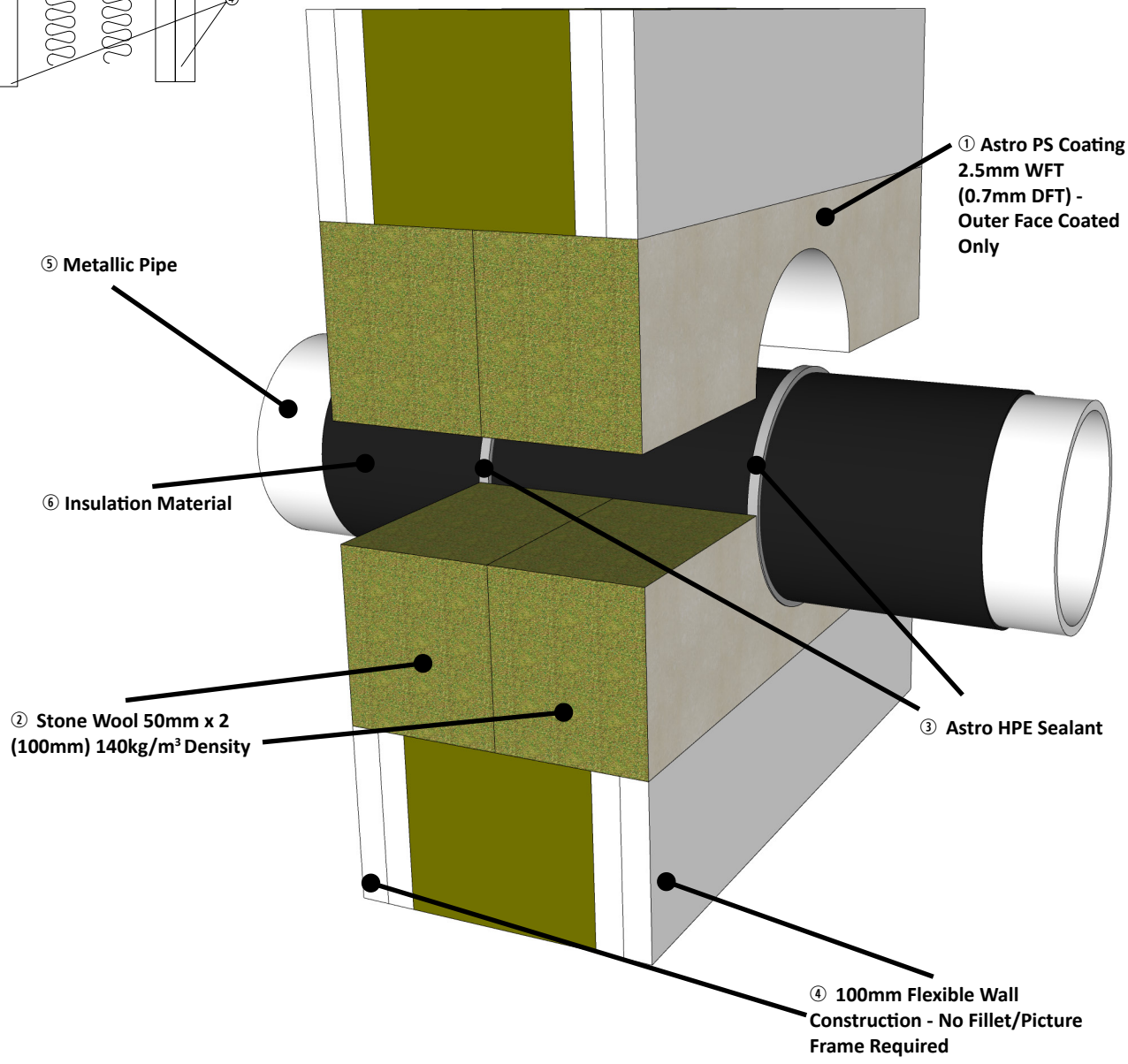
Penetration seal with Astroflame PS Coating installed centrally within the wall

Service(s) **Mild Steel or Copper**	**Insulation**	**Seal**	**Classification**
40mm diameter and 1.5 - 14.2mm wall	20mm thick foil faced glass wool insulation (min 80kg/m^3)	15mm deep x 15mm wide annulus Astroflame HPE Graphite Sealant to both faces seal	**EI 60 U/C**
40 - 159mm diameter and 2.3 - 14.2mm wall	30mm thick foil faced glass wool insulation (min 80kg/m^3)		**E 60 U/C EI 45 U/C**

Service(s) **Mild Steel or Copper**	**Insulation**	**Seal**	**Classification**
40mm diameter and 1.7 - 14.2mm wall	220mm thick foil faced glass wool insulation (min 80kg/m^3)	15mm deep x 15mm wide annulus Astroflame HPE Graphite Sealant to both faces seal	**EI60 U/C**
40 - 150mm diameter and 2.3 - 14.2mm wall	30mm thick foil faced glass wool insulation (min 80kg/m^3)		

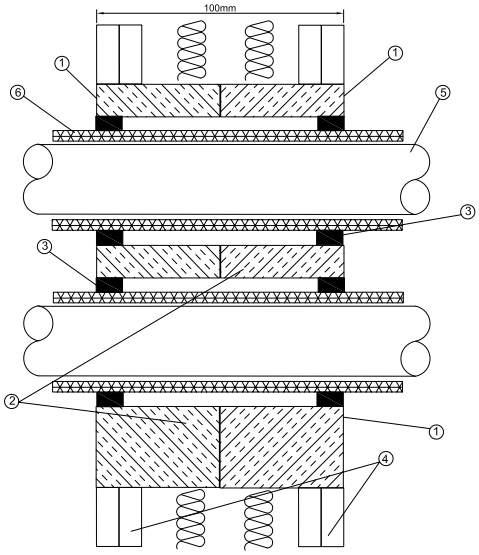
DESIGN TO ETA 20-1087 & CE-2531-CPR-CXO10293
ASTRO PS COATING IN A FIRE RESISTANT METALLIC PIPE PENETRATION SEAL THROUGH FLEXIBLE WALL

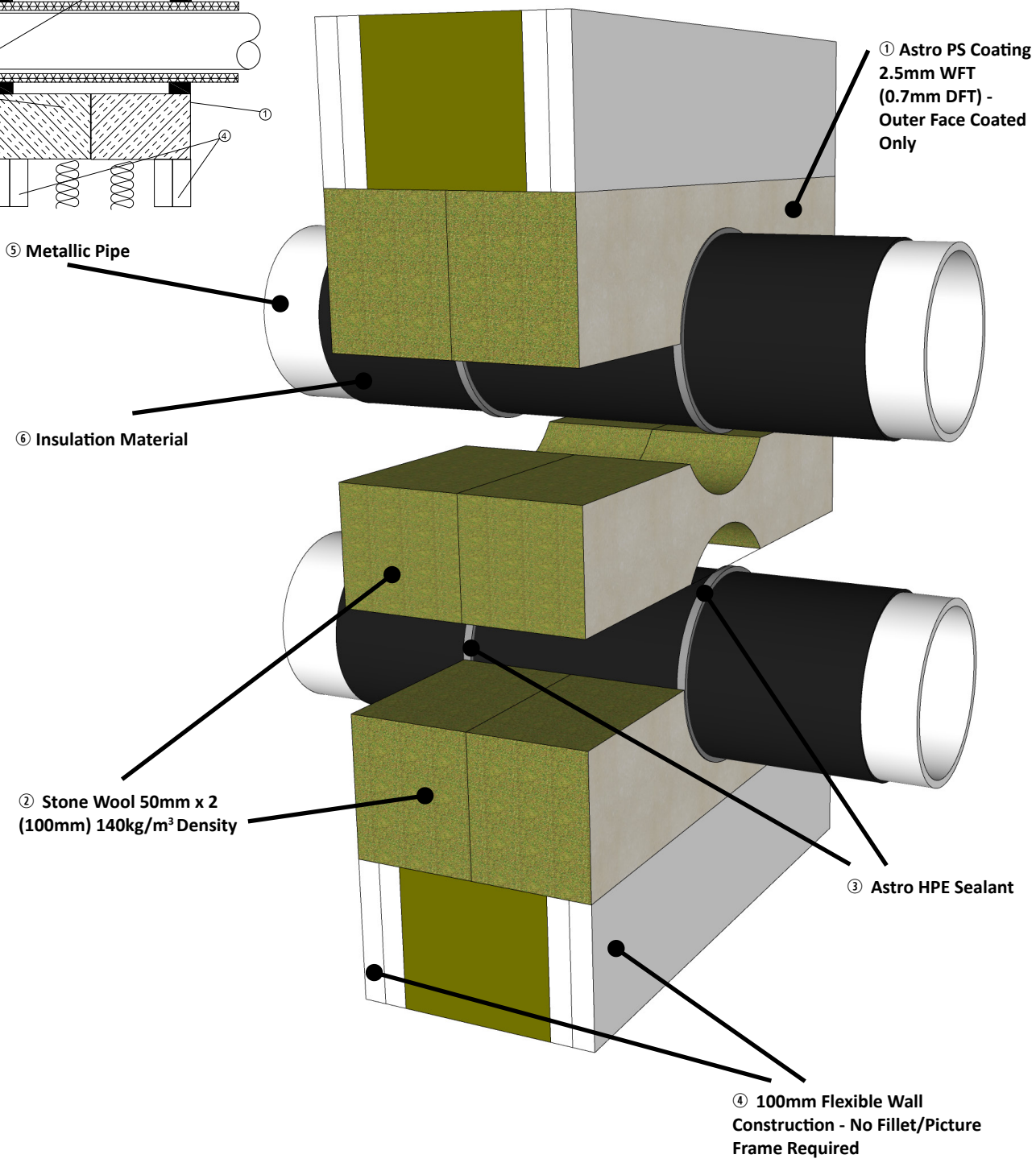




DET 41-0011 Date: 20/05/2014

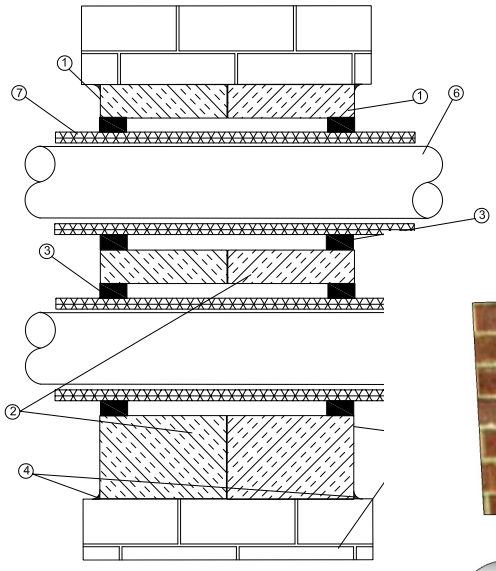
DESIGN TO ETA 20-1087 & CE-2531-CPR-CXO10293
ASTRO PS COATING IN A FIRE RESISTANT MULTI METALLIC PIPE PENETRATION SEAL THROUGH FLEXIBLE WALL

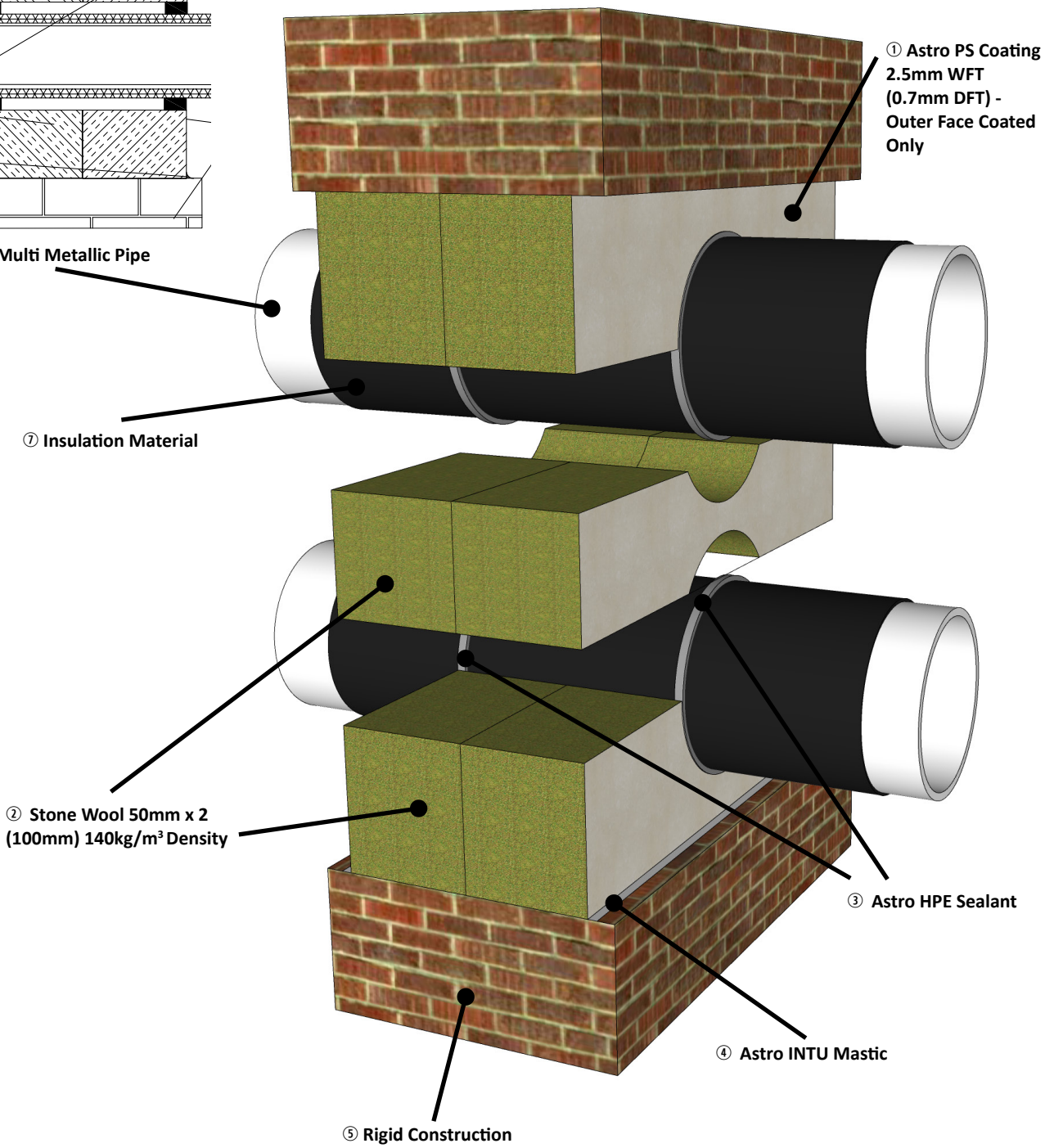




DET 41-0012 Date: 20/05/2014

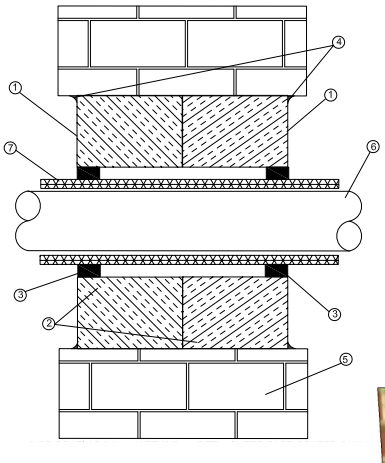
DESIGN TO ETA 20-1087 & CE-2531-CPR-CXO10293
ASTRO PS COATING IN A FIRE RESISTANT MULTI METALLIC PIPE PENETRATION SEAL THROUGH RIGID WALL

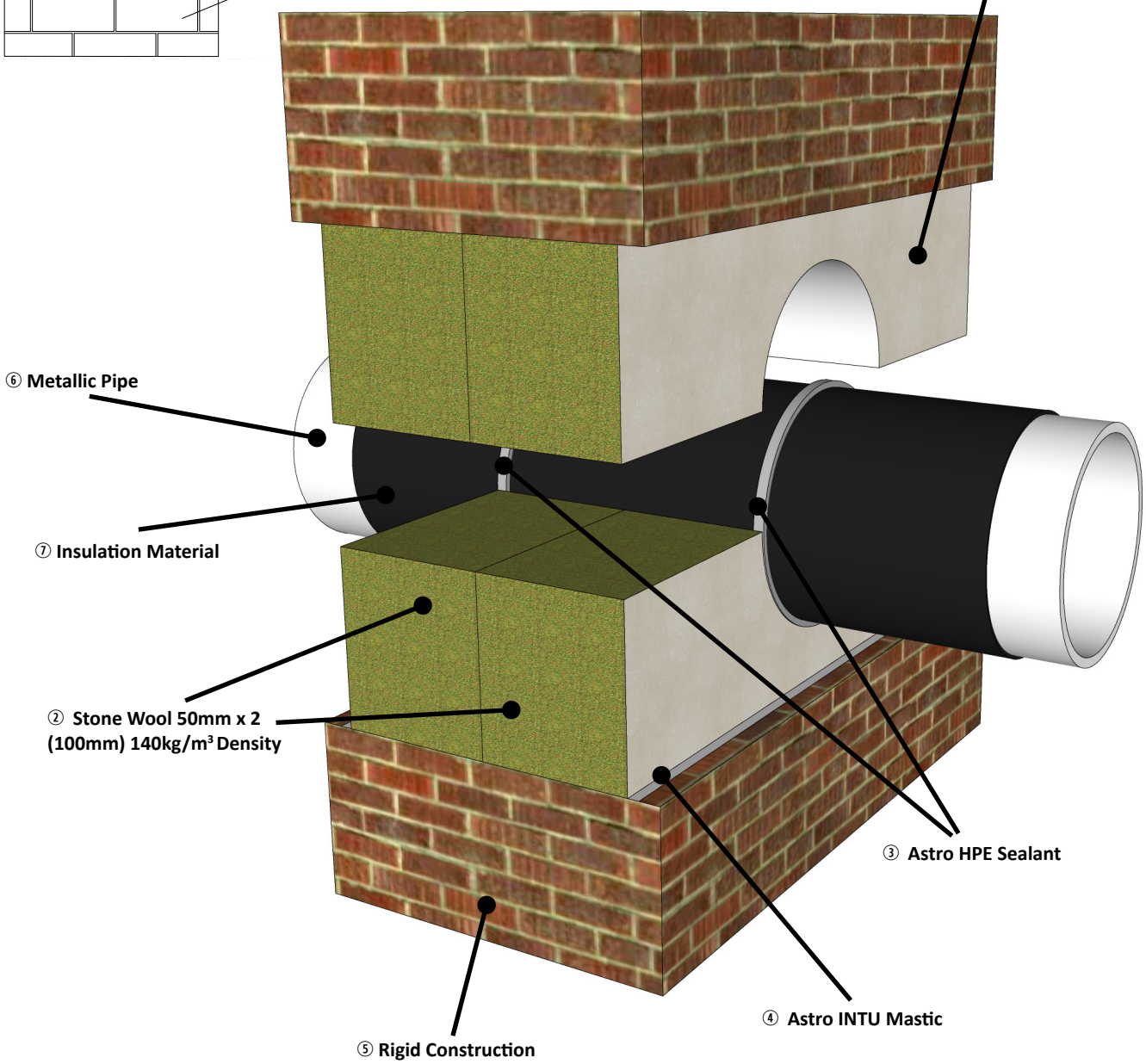




DET 41-0013 Date: 20/05/2014

DESIGN TO ETA 20-1087 & CE-2531-CPR-CXO10293
ASTRO PS COATING IN A FIRE RESISTANT METALLIC PIPE PENETRATION SEAL THROUGH RIGID WALL





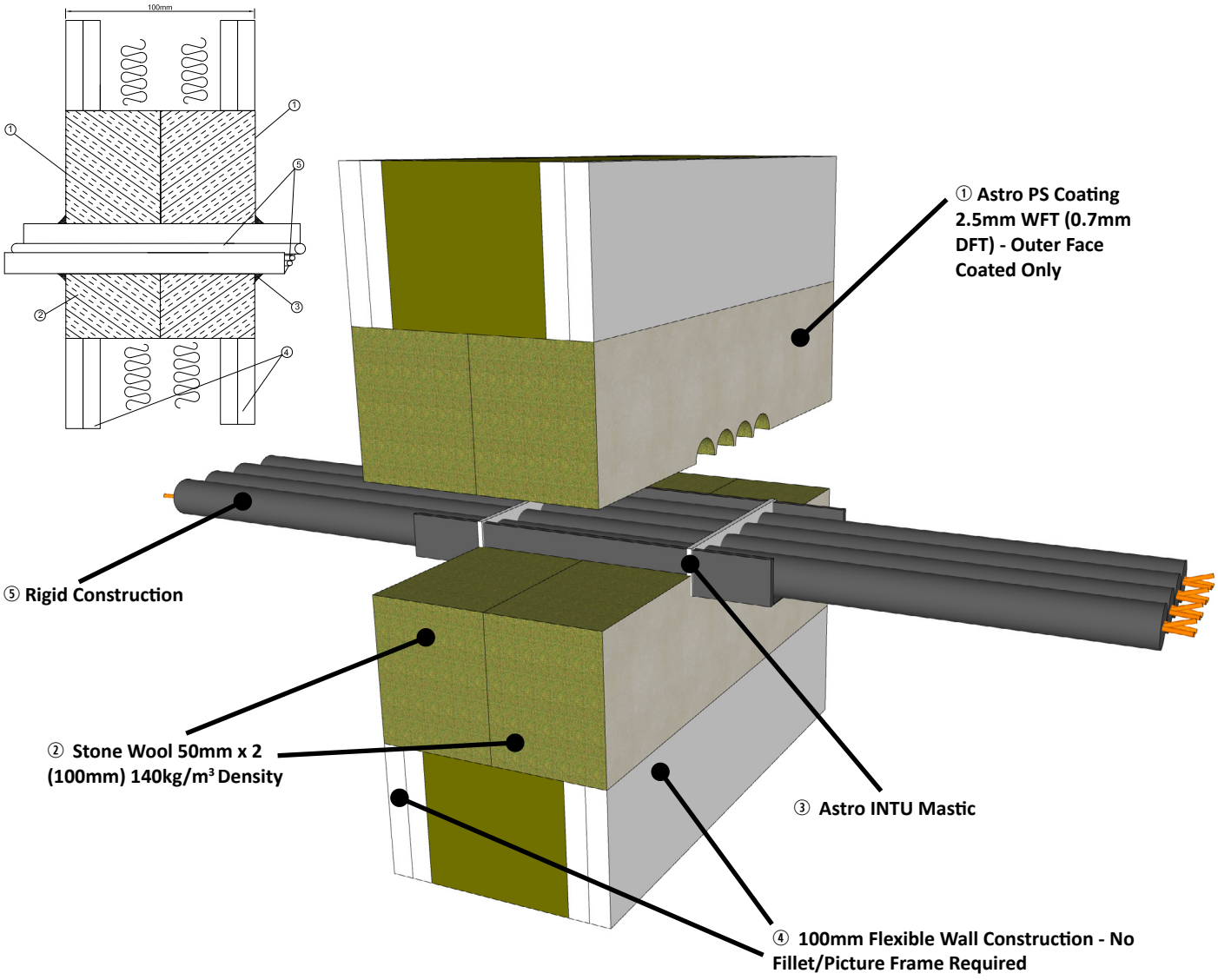
DET 41-0014 Date: 20/05/2014

Flexible and Rigid wall constructions according to 1.2.1 with wall thickness of minimum 100mm

Penetration seal with System Astroflame PS Coating installed centrally within the wall

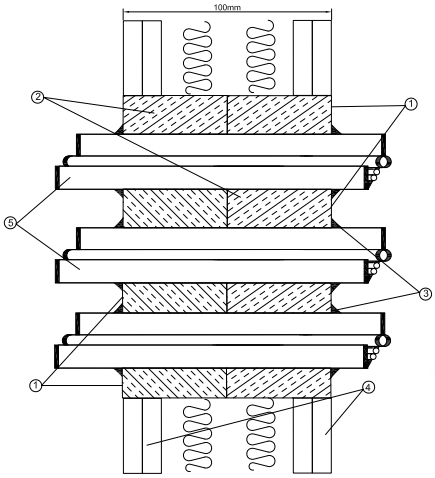
Service(s)	Classification
Electrical cables up to 21mm dia	EI 60
Electrical cables 22mm to 80mm dia	E 60, EI 30
Cable Trays and Ladders	EI 60
100mm diameter bundle telecommunication cable type "F"	EI 60
Unsheathed electrical cables up to 17mm dia	E 60, EI 15
Unsheathed electrical cables 18 - 24mm dia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

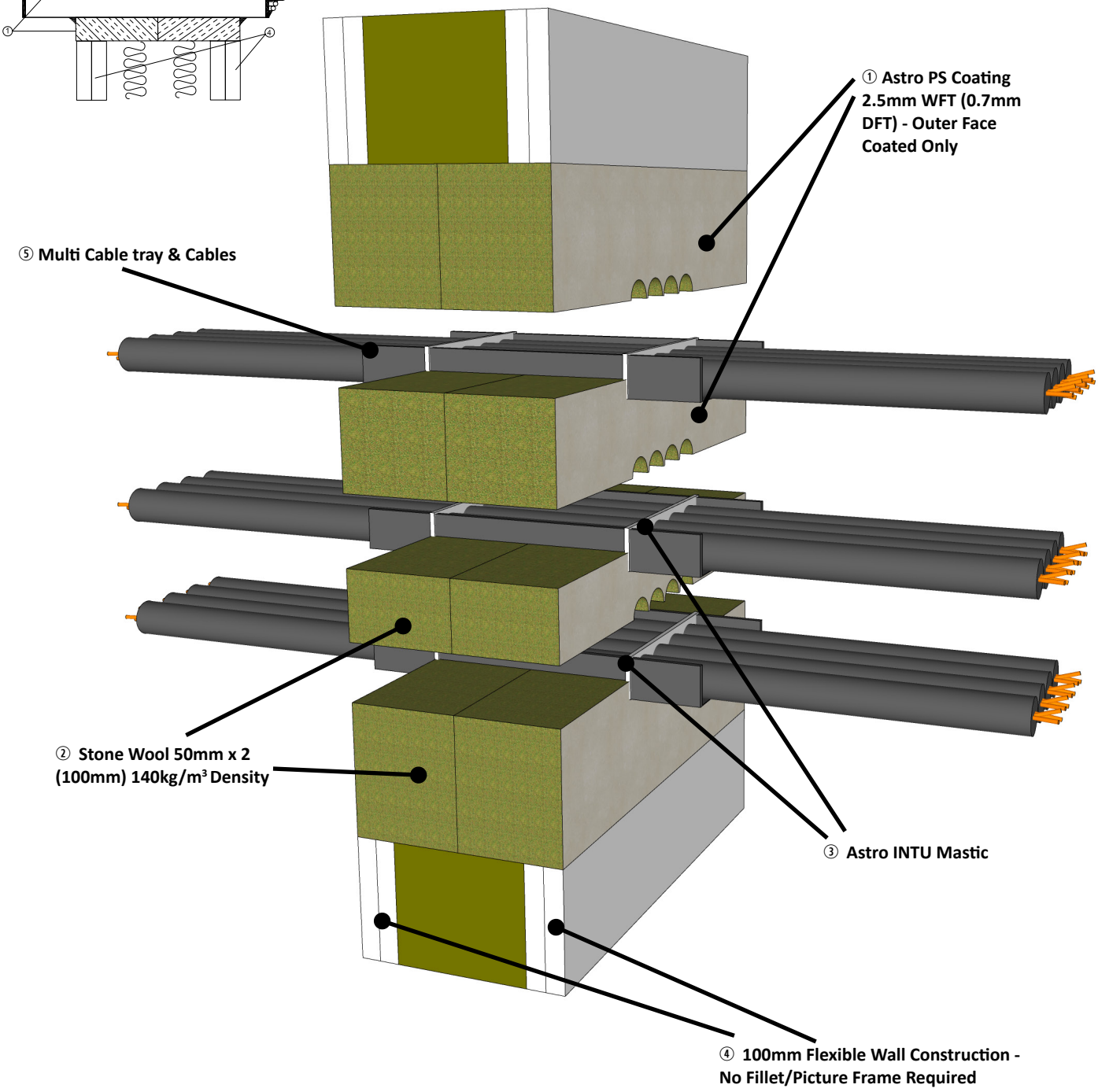
DESIGN TO ETA 20-1087 & CE-2531-CPR-CXO10293
ASTRO PS COATING IN A FIRE RESISTANT CABLE TRAY & CABLE PENETRATION SEAL THROUGH FLEXIBLE WALL



DET 41-0008 Date: 20/05/2014

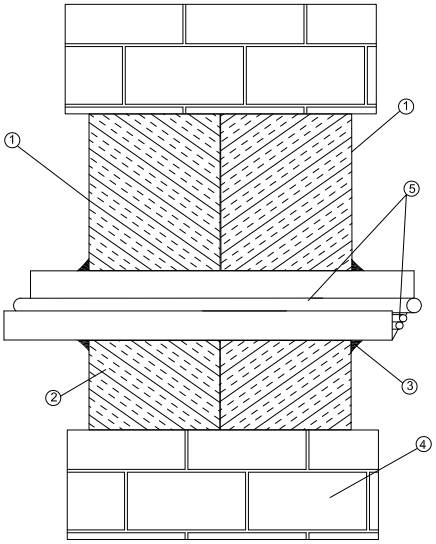
DESIGN TO ETA 20-1087 & CE-2531-CPR-CXO10293
ASTRO PS COATING IN A FIRE RESISTANT MULTI CABLE TRAY & CABLE PENETRATION SEAL THROUGH FLEXIBLE WALL

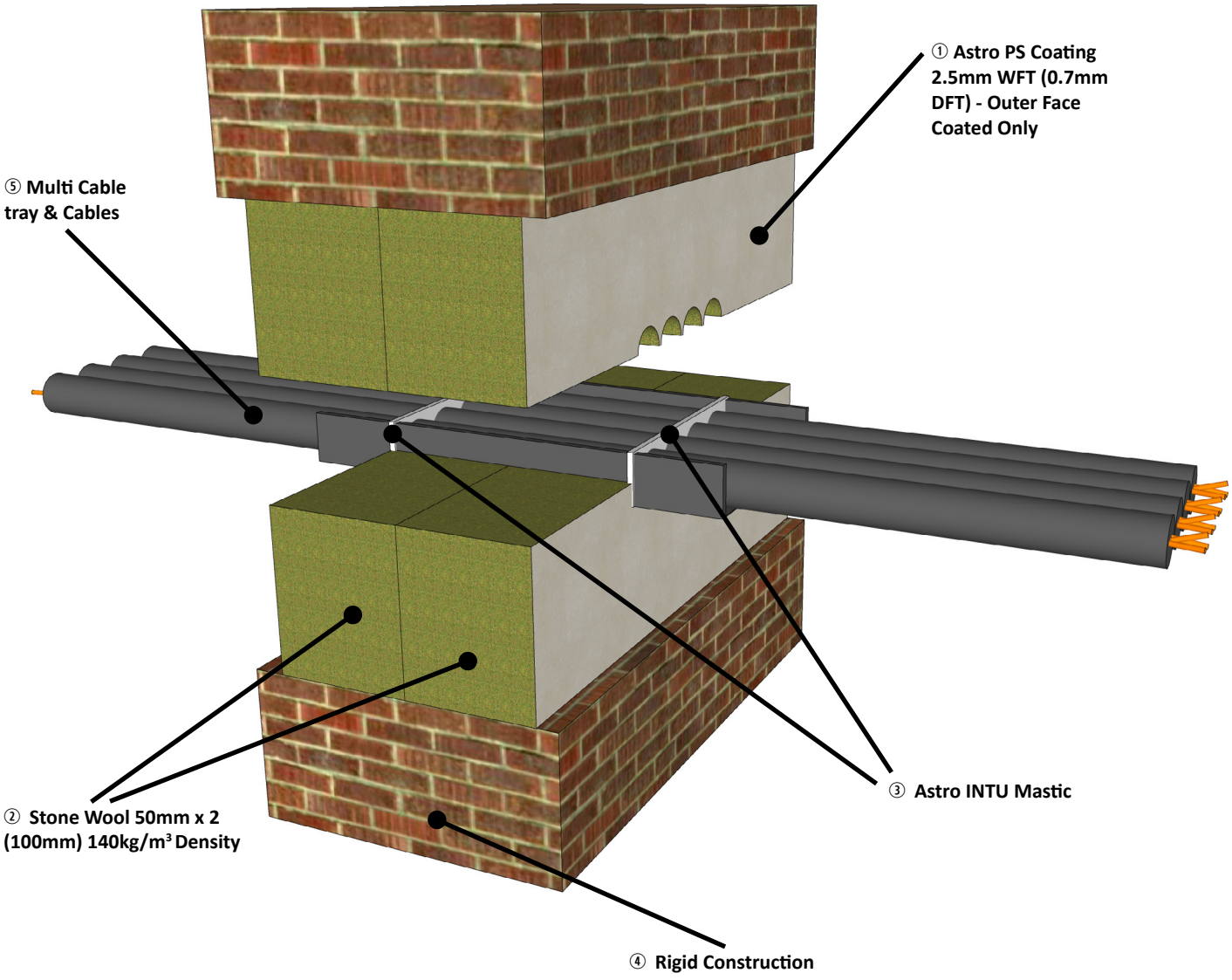




DET 41-0010 Date: 20/05/2014

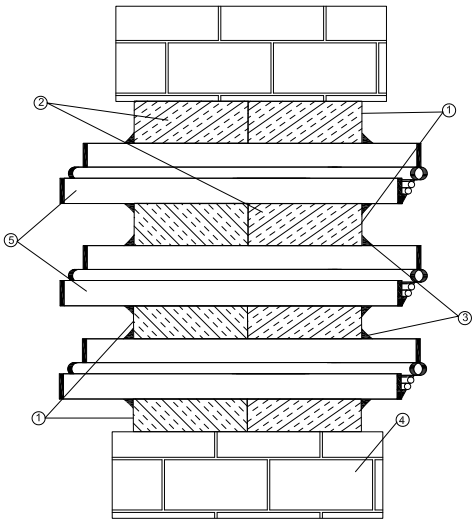
DESIGN TO ETA 20-1087 & CE-2531-CPR-CXO10293
ASTRO PS COATING IN A FIRE RESISTANT CABLE TRAY & CABLE PENETRATION SEAL THROUGH RIGID WALL

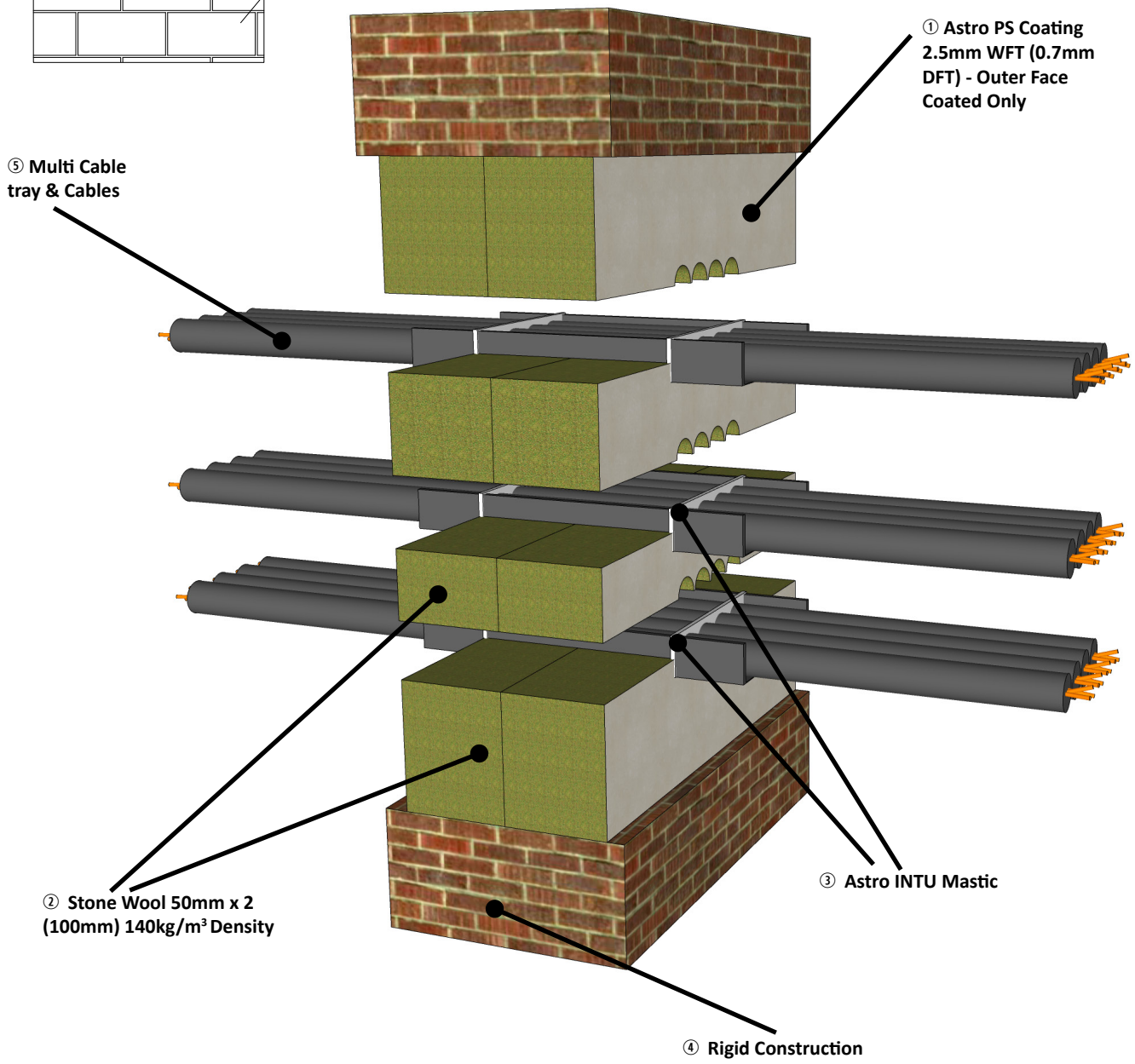




DET 41-0017 Date: 20/05/2014

DESIGN TO ETA 20-1087 & CE-2531-CPR-CXO10293
ASTRO PS COATING IN A FIRE RESISTANT MULTI CABLE TRAY & CABLE PENETRATION SEAL THROUGH RIGID WALL

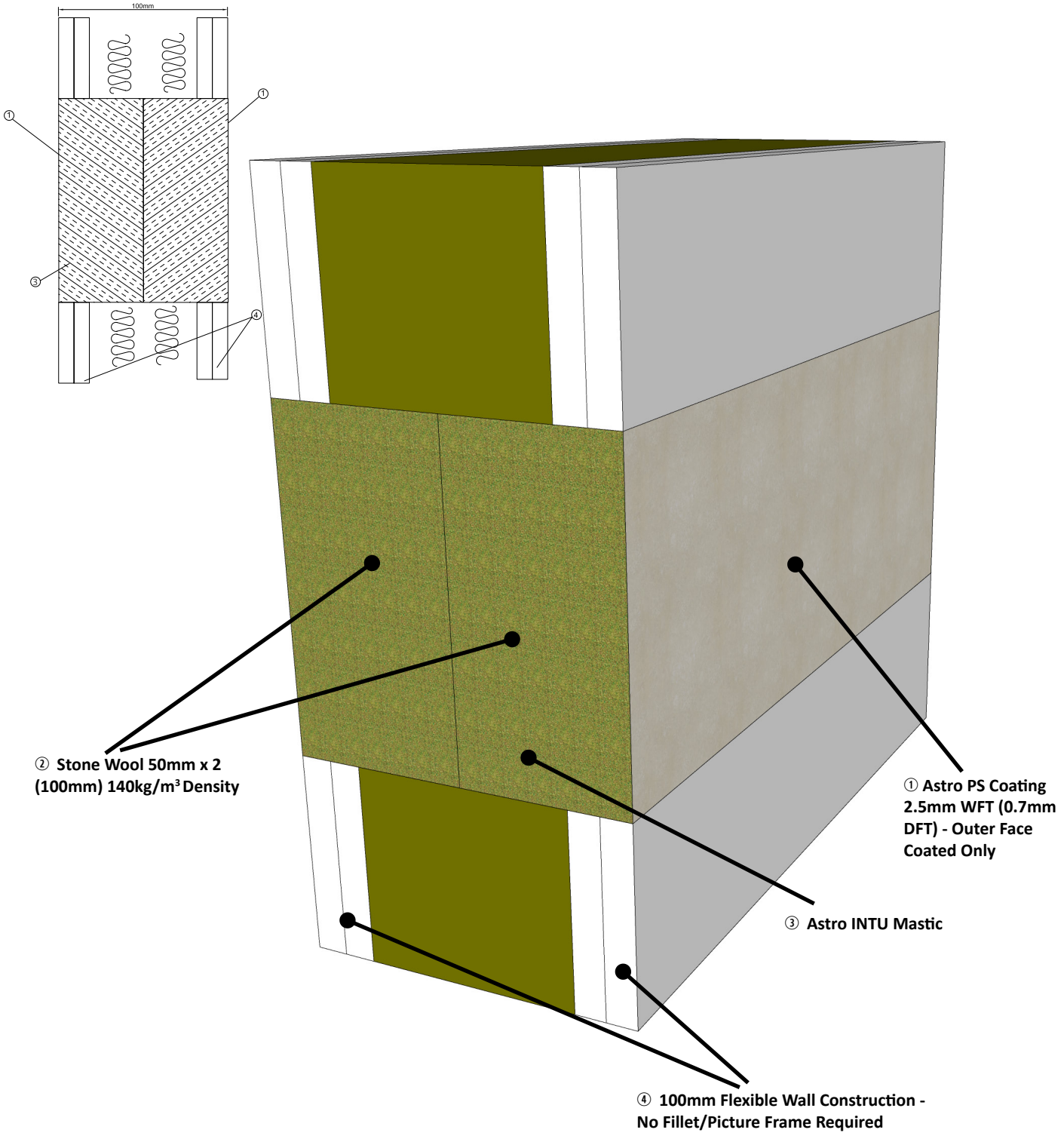




DET 41-0016 Date: 20/05/2014

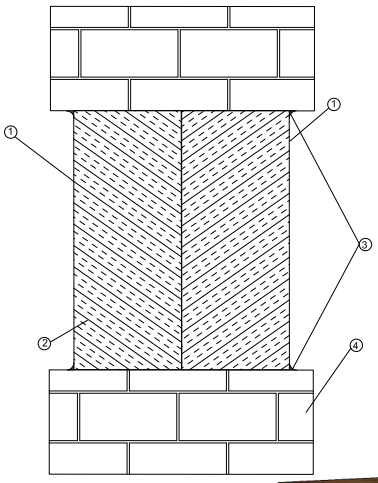
Test Results		Specimen B
Integrity Performance	Sustained flaming	163 minutes
	Gap gauge	162 minutes
	Cotton Pad	161 minutes
Insulation Performance		161 minutes

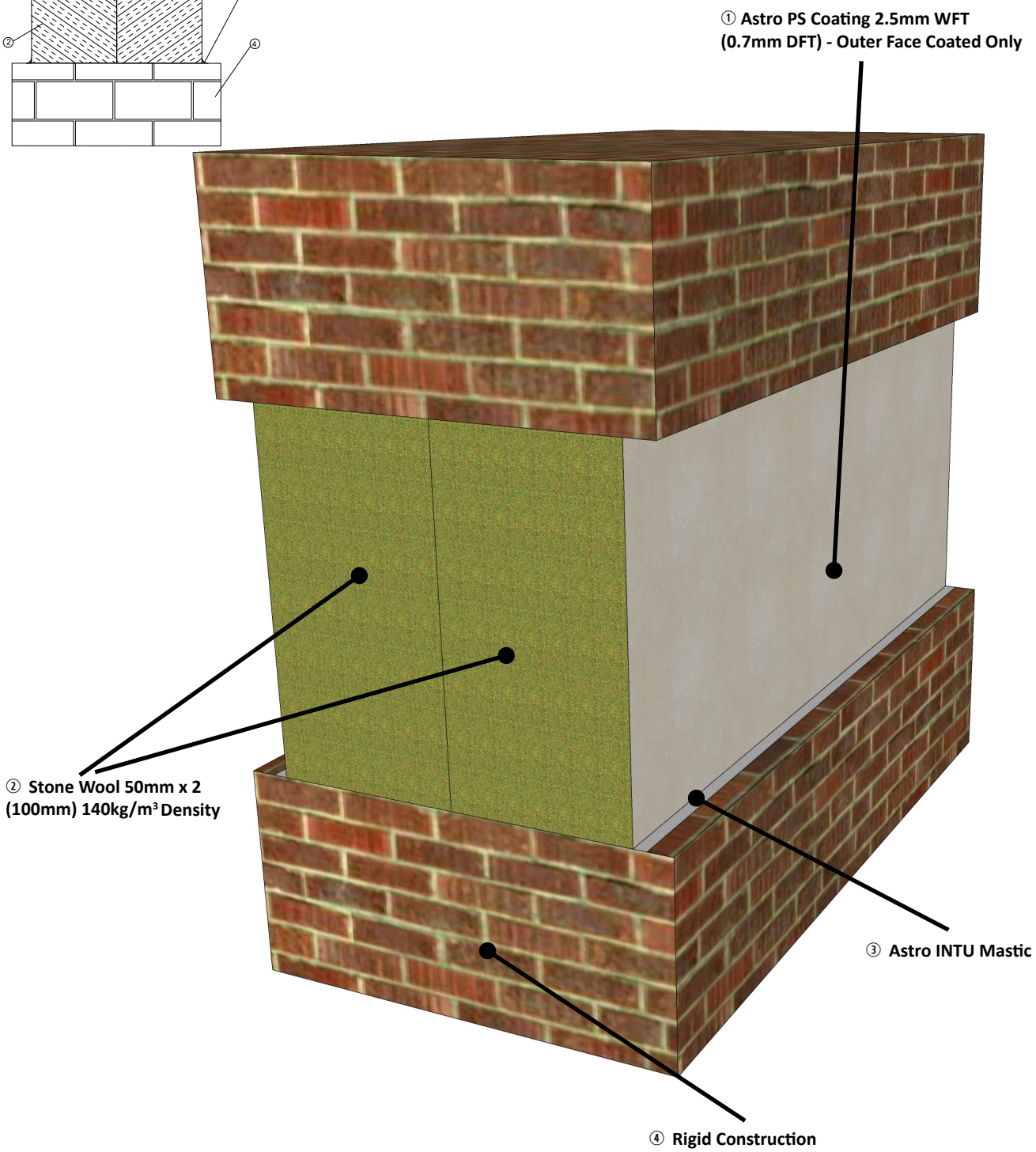
DESIGN TO ETA 20-1087 & CE-2531-CPR-CXO10293
ASTRO PS COATING IN A FIRE RESISTANT BLANK SEAL PENETRATION SEAL THROUGH FLEXIBLE WALL



DET 41-0009 Date: 20/05/2014

DESIGN TO ETA 20-1087 & CE-2531-CPR-CXO10293
ASTRO PS COATING IN A FIRE RESISTANT BLANK SEAL PENETRATION SEAL THROUGH RIGID WALL





DET 41-0015 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 check ETAG No 026 Whether these properties have changed during exposure of the product to defined exposure conditions. The product shall be Part 2: Clause Tested according to the following procedures:
2.4.12

Property	Classification
Appearance	EOTA ETAG No 026: Part 2: Clause B.12
Flexibility	EOTA ETAG No 026: Part 2: Clause B.5.5
LOI	EOTA TR 024, clause 3.1.14
Hardness After Curing	EOTA ETAG No 026; Part 2: Clause B.5.3

Appearance

Specimen	Exposure	Before	After
1	Durability Z1	Off-white, smooth surface, maintained shape but bulk thickness reduced during cure	No change
4	23oC 50% RH	Off-white, smooth surface, maintained shape but bulk thickness reduced during cure	No change

Flexibility

Anvil diameter	Specimen	Control	Z1 Durability
1”25m	1	PASS	PASS
3/8” 9.5mm	3	PASS	PASS
1/4” 6.4mm	4	PASS	PASS

LOI

	Oxygen Index
Control	30.0
Z1 Durability	35.1

Comparison
Durability exposure must not alter performance by more than -15%. Z1 conditioned material gave an average Shore ‘A’ hardness of +17% of the control average

Hardness After Curing

Shore ‘A’ hardness reading	
Control	Durability Z_1
5.0	5.5
5.2	6.0

Density if Liquid Materials

A test in accordance with ISO 2811-1 was used to determine the density of liquid materials. The results are detailed below:

Density
1.24g/cm^3

EN14303:2009

The mineral wool board is identified via compliance with EN 14303:2009

Astro Intu Mastic

The identification of the Astro Intu Mastic element to the system Astroflame PS Coating is covered in ETA 20-1088 & 20-1089

Astroflame HPE

The identification of the Astroflame HPE Graphite sealant element to the system Astroflame PS Coating is covered in ETA DRAFT

Initial type testing

The initial type tests were conduction upon samples selected from the Astroflame Fireseals Ltd manufacturing facility referenced EO55 by representatives of Warrington Certification Limited on 15/01/2013. The tested products may there be considered to be representative of current production and no further corroborative evaluation tests are therefore deemed to be necessary.

Airborne Sound Insulation of Building Elements

BMTRADA

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

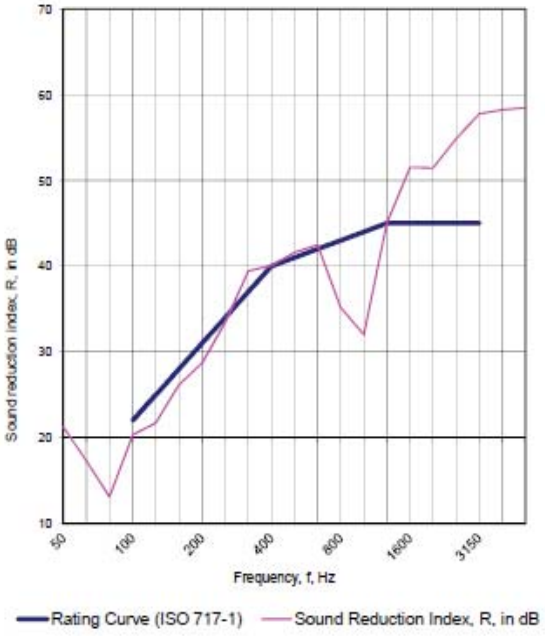
UKAS TESTING No. 1787

Test Specimen Name: Astro PS Coating
Client: Astroflame Fireseals Limited
Test Specimen Installed By: BM TRADA
Area of Specimen (S): 1.00
Temperature in Test Rooms: 19.2 °C
Static Pressure: 10006.1 Pa
Humidity in Test Rooms: 44.0 %
Test Specimen Description: 500mm x 2000mm aperture filled with 2 layers of stone wool with PS Coating Barrier See Appendix 3 for specimen details.

Ref. No.: MTL/Z12009/01/C/Rev1/AR3/P005
Date of Test: 04/04/2012
Source Room Volume: 82.00 m³
Receive Room Volume: 70.00 m³

f, Hz	R ,dB
50*	21.3
63*	17.3
80*	13.1
100	20.3
125	21.7
160	26.2
200	28.7
250	33.4
315	39.4
400	40.1
500	41.6
600	42.5
800	35.2
1000	32.0
1250	45.0
1600	51.5
2000	51.4
2500	54.8
3150	57.8
4000	≥ 58.2
5000	≥ 58.5
AAD	-29.5

Frequency range for rating in accordance with ISO 717-1



R_w =	41 dB
R_w+C =	38 dB
R_w+C_{tr} =	34 dB

$C_{(50-3150)}$ =	-3 dB	$C_{tr\,(50-3150)}$ =	-11 dB
$C_{(50-5000)}$ =	-2 dB	$C_{tr\,(50-5000)}$ =	-11 dB
$C_{(100-5000)}$ =	-2 dB	$C_{tr\,(100-5000)}$ =	-7 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: FSi Limited
Report Ref: Chilt/Z12009/01/C/Rev1/AR3

Page 9 of 12

Airborne Sound Insulation of Building Elements

BMTRADA

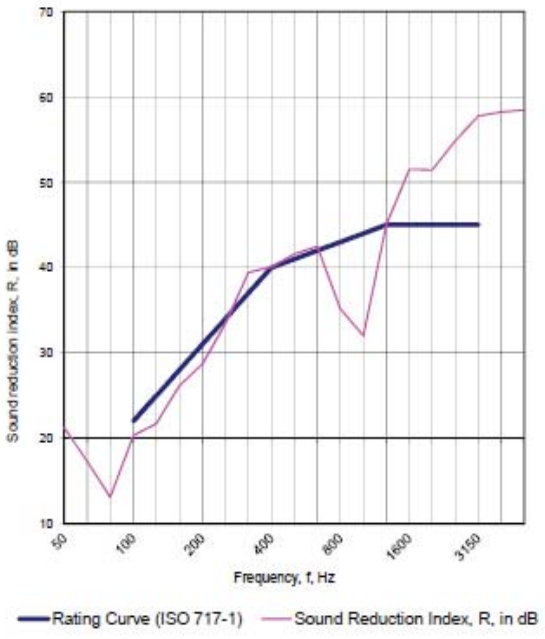
Laboratory measurement to BS EN ISO 10140-2 - Airborne Sound Insulation of Building Elements

Test Specimen Name: Astro PS Coating
Client: Astroflame Fireseals Limited
Test Specimen Installed By: BM TRADA
Area of Specimen (S): 1.00
Temperature in Test Rooms: 19.2 °C
Static Pressure: 10006.1 Pa
Humidity in Test Rooms: 44.0 %
Test Specimen Description: 500mm x 2000mm aperture filled with 2 layers of stone wool with PS Coating Barrier See Appendix 3 for specimen details.

Ref. No.: MTL/Z12009/01/C/Rev1/AR3/P005
Date of Test: 04/04/2012
Source Room Volume: 82.00 m³
Receive Room Volume: 70.00 m³

f, Hz	R ,dB
50*	21.3
63*	17.3
80*	13.1
100	20.3
125	21.7
160	26.2
200	28.7
250	33.4
315	39.4
400	40.1
500	41.6
600	42.5
800	35.2
1000	32.0
1250	45.0
1600	51.5
2000	51.4
2500	54.8
3150	57.8
4000	≥ 58.2
5000	≥ 58.5
AAD	-29.5

Frequency range for rating in accordance with ISO 717-1



R_w =	41 dB
R_w+C =	38 dB
R_w+C_{tr} =	34 dB

$C_{(50-3150)}$ =	-3 dB	$C_{tr\,(50-3150)}$ =	-11 dB
$C_{(50-5000)}$ =	-2 dB	$C_{tr\,(50-5000)}$ =	-11 dB
$C_{(100-5000)}$ =	-2 dB	$C_{tr\,(100-5000)}$ =	-7 dB

Martin Durham
Technical Officer

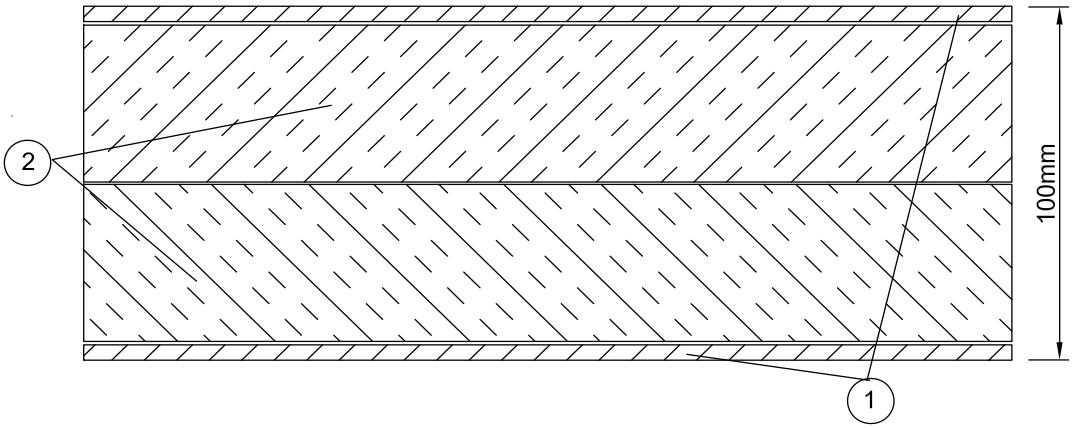
* indicates that the frequency is outside of our UKAS accreditation and is for information only

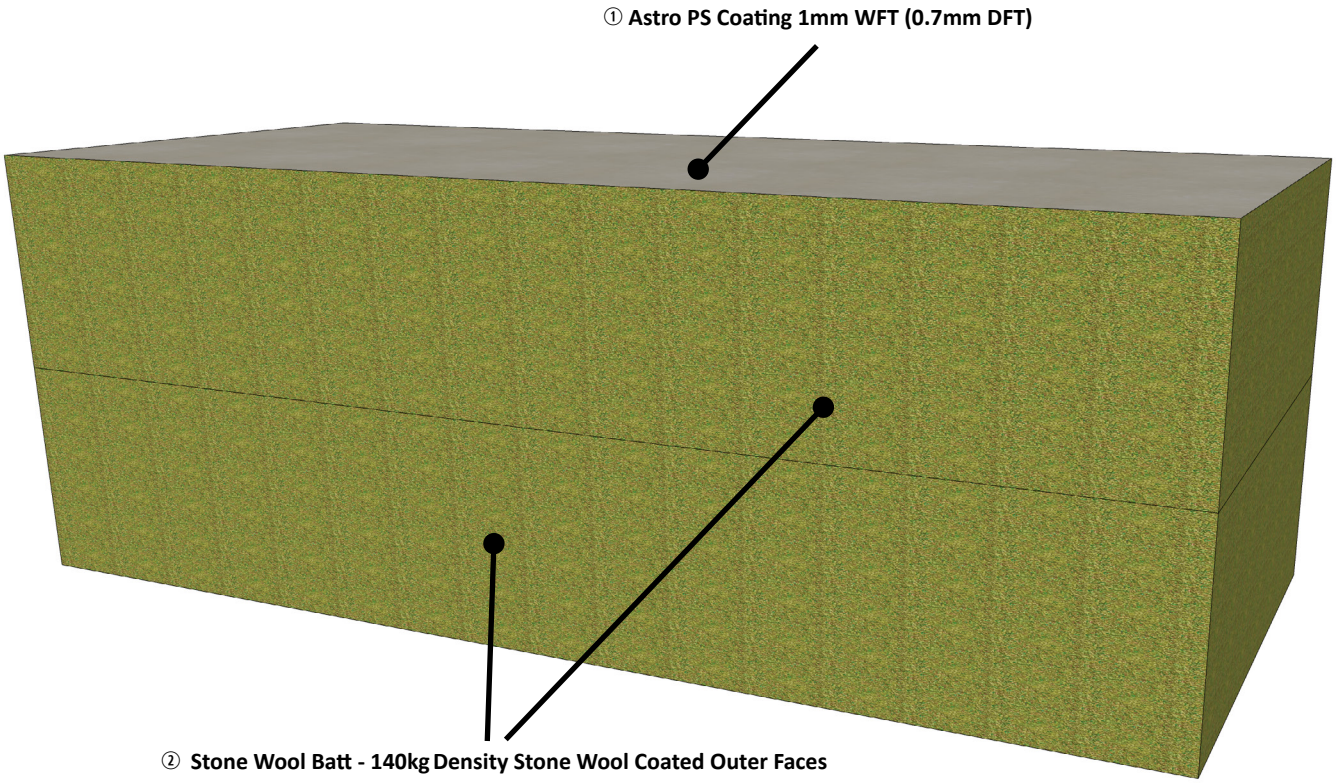
The legal validity of this report can only be claimed on presentation of the complete report

Report for: FSi Limited
Report Ref: Chilt/Z12009/01/C/Rev1/AR3

Page 9 of 12

PRODUCTION BUILD ASTRO PS COATING
Fire Resistance EI 60
Acoustic Isolation Dne,w 51dB - Rw 41 dB





Technical specification document
Chilt/P12083/tec2/AR3

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 BM TRADA's laboratory on 10 September 2012.

Description of construction

The specimen was identified as Astroflame PS Coating Barrier (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	Astroflame PS Coating Barrier coated both faces	50 thick	140kg*
Coating	Astroflame PS Coating	1 thick (wet thickness)	-

Results of test: Chilt/P12083/02/AR3

BMTRADA

Results of Test: Chilt/P12083/02/AR3

Astroflame Fireseals Ltd
Unit 8, The I O Centre
Stephenson Road
Segensworth, Fareham
Hampshire, 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			PS Coating Barrier (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/AR3

Paul Andrews – Head of Section

Vincent Kerrigan - Technical Manager
Date: 22 January 2014

BM TRADA

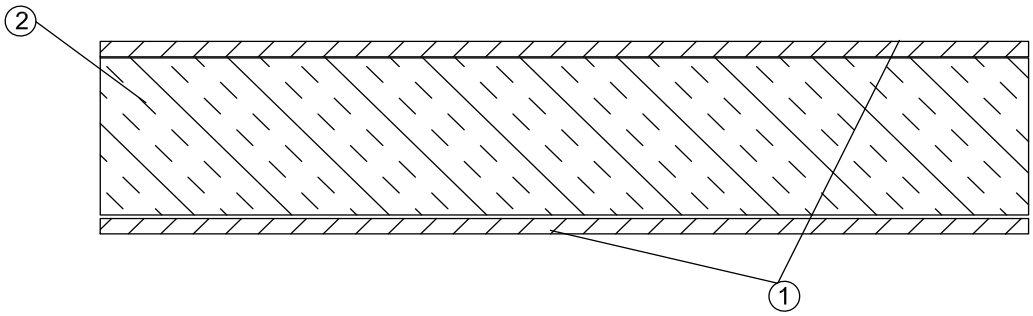
Chiltern House, Stocking Lane, Hughenden Valley, High Wycombe, HP14 4ND, United Kingdom

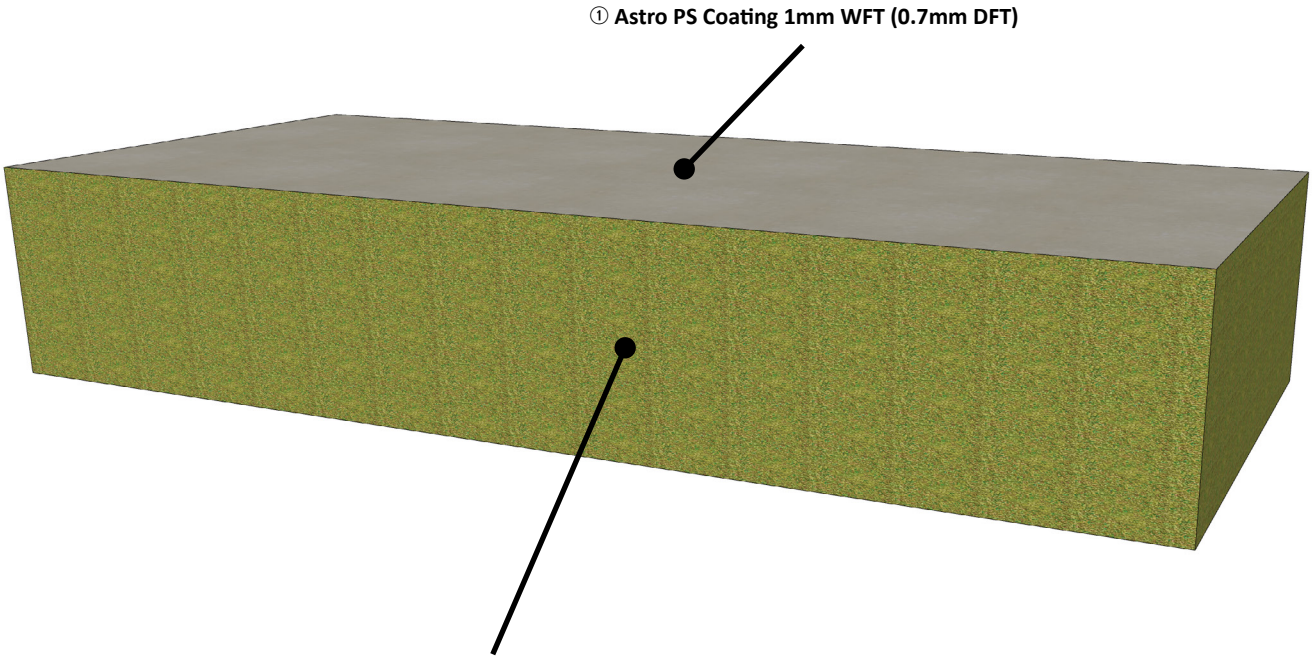
Tel: 01494 569800 Fax: 01494 564895

Web: www.bmtradagroup.com
Email: testing@bmtrada.com

This document is confidential and remains the property of Chiltern International Fire Ltd, trading as BM TRADA

PRODUCTION BUILD ASTRO PS COATING
Fire Resistance 60 EI
Air Permeability tested pressure 600Pa





Installation

We have technical representatives who provide assistance in the selection and specification of the products on this site and should be consulted for exact installation and product suitability. Ensure an early engagement with ourselves, designers, main contractor and specialist installers before any installation. Other trades and/or manufacturers may need to be consulted. For in-depth information, specification and technical advice please call our Head Office on tel 01329 844 500 or email sales@astroflame.com

Maintenance

All interested parties, designer, specifier, main contractor and specialist installers should provide access to allow the fire stopping seals to be regularly inspected and maintained, as well as records kept of such maintenance at minimum periods of 12 months, as required by the Regulatory Reform Order, and repaired if necessary. Reference should be made to ASFP TGD 17 – Code of Practice for the Installation and Inspection of Fire Stopping.

Competency

It is vital that those entrusted to design or install a fire stopping product have the necessary levels of competence to undertake the task professionally and thoroughly. The level of competency required will be commensurate with the expected complexity of the building. All designers must eliminate, reduce or control foreseeable risks that may arise during installation, construction or maintenance when preparing or modifying designs. Clients should ensure that the principal designer and principal contractor carry out their duties under CDM regulations. The ASFP foundation course in passive fire protection provides essential knowledge as part of demonstrating competency and understanding in this key fire protection specialism.

Additional Notes

Please refer to the ETA/UKCA sheet for fields of application for this product. For further information on installation requirements please refer to the manufacturer of the services and the wall/floor specification to ensure the compatibility of this product, if in doubt please contact the technical team with services and wall/floor specification on: tel 01329 844 500 or email sales@astroflame.com

As part of our policy of ongoing improvements, we reserve the right to modify, alter or change product specifications without giving notice. Product illustrations are representations only. All information contained in this document is provided for guidance only, and as ASTROFLAME (FIRE SEALS) LTD has no control over the specific application or installation methods of the products, or of the prevailing site conditions, no warranties expressed or implied are intended to be given as to the actual performance of the products mentioned or referred to, and no liability whatsoever will be accepted for any loss, damage or injury arising from the use of the information given of products mentioned or referred to herein.

The above information to the best of our knowledge is true and accurate and based upon current test data and is supplied for your guidance only. Customers should satisfy themselves to the suitability of the product based on the products limitation of applications and that the product is fit for purpose for their intended use and no guarantee is given or implied since the conditions of actual use are beyond our control. ASTROFLAME (FIRE SEALS) LTD, disclaim any liability for loss, damage or other expense arising from the use of information, data or products mentioned or referred to and reserve the right to change any details or specifications without notice. If you are in any doubt as to the suitability of this product for your intended application please contact our technical team on 01329 844500 or email sales@astroflame.com and we will contact you.