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

14

1121-CPR-JA5015

ETA-14/0049
ETA-14/0050
ETAG 026-Part 1
ETAG 026-Part 2
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ASTRO INTU MASTIC
"see ETA-14/0049 & ETA-14/0050 for relevant characteristics"



FILL, VOID OR CAVITY MATERIAL FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS AND/OR JOINT SYSTEMS AND/OR PERIMETER FIRE CONTAINMENT SYSTEMS
SEE UL FIRE RESISTANCE DIRECTORY <R27645>

CAN/UL-115-11
UL 2079
ASTM-E 1966

LEED 2009-EQ
ASTM D2369-10



APPROVED
CF640

EN13501-2
EN1026:2000
EN10140-2:2010
ISO 11600
ISO 7619-1:2011

EN1366-3:2009
EN1366-4:2009
BS476 part 20&22
ISO 8339:2005
ISO 9046:2005

Technical Data Sheet

Astro Intu Mastic®

UIC of product-type: INTUM

Issue: 1
Feb 2014

ASTRO INTU MASTIC®

ETA 14 -0049

ETA 14-0050

CE-1121-GRP-A5015



Unique identification code of product-type: INTUM

Astro Intu Mastic® is an acrylic based sealant used to reinstate the fire resistance performance of wall and floor constructions where they have been provided with apertures for the penetrations of multiple services and to form linear gap seals where gaps are present in wall and floor constructions and linear joints where wall and floor constructions abut.

Astro Intu Mastic® has slight intumescent properties that cause it to swell on heating.

The Astro Intu Mastic® is supplied in liquid form contained within 310ml & 380ml cartridges, 600ml foils or in 5, 10, 20 or 25 kg tubs. The sealant is gunned or trowelled into the aperture in or between the separating elements/elements to a specific depth utilising various backing materials.

A polyethylene backing rod can be utilised as a depth gauge.

Reaction to Fire classification 'F'

The Intended use of system Astro Intu Mastic® is to reinstate the fire resistance performance of gaps in and joints between rigid and flexible wall constructions, gaps in and joints between rigid floor constructions.

The specific elements of construction that the system Astro Intu Mastic® may be used to provide a gap or joints seal in, are as follow:

Rigid Floors:

The floor must have a minimum thickness of 150mm and comprise concrete, aerated concrete or masonry, with a minimum density of 650kg/m³.

Rigid walls:

The wall must have a minimum thickness of 100mm and comprise concrete, aerated or masonry, with a minimum density of 650kg/m³.

Flexible walls:

The wall must have a minimum thickness of 120mm 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 insulation of class A1 or A2 according to EN 13501-1, is provided within the cavity between the penetration seal and the stud.

Astro Intu Mastic® is required to seal all joints and junctions during the sealing process of Astro® Batt. Astro® Coated Batt are 50mm thick and supplied in overall dimensions 1200mm x 600mm with a density 140kg/m³ and is subject to a separate ETA referenced 14-????.

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

The system Astro Intu Mastic® may be used to provide a linear joint or gap seal with specific supporting constructions and substrates and as a penetration seal.

The maximum permitted joint/gap width for system Astro Intu Mastic® is 50mm. The maximum movement capability of system Astro Intu Mastic® is ≤ 7.5%

Astro Intu Mastic® has been tested in accordance with EOTA Technical Report - TR024 - Edition November 2006, for the type Z₁, use category specific in ETAG 026-3 (used as European Assessment Document, EAD). The results of the tests have demonstrated suitability for Penetration Seals and Linear Gap Joints.

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.



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ASTRO INTU
MASTIC®

Unique identification code of product-type: INTUM

Air Permeability

System Astro Intu Mastic® has been tested in accordance with BS EN 1314-1 to provide the following results:

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Product tested		Astro Intu Mastic® intumescent sealant		
	Results under positive chamber pressure		Results under negative chamber pressure	
Pressure (Pa)	Leakage (m³/h)	Leakage (m³/M²/h)	Leakage (m³/h)	Leakage (m³/m²/h)
50	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0
150	0.0	0.0	0.1	2.8
200	0.0	0.0	0.1	2.8
250	0.0	0.0	0.1	2.8
300	0.0	0.0	0.0	0.0
450	0.1	2.8	0.1	2.8
600	0.1	2.8	0.1	2.8

Airbourne Sound Insulation

Acoustic Rating BS EN ISO 10140-3:1995	$R_w(C;C_{tr}) : 38(-2;-7)$ dB
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Dangerous Substances Deceleration

Astroflame Fireseals Limited has presented a declaration that Astro Intu Mastic® does not contain any substance of high concern with regards to REACH Regulations and are compliant with the requirements reference to <http://ec.europa.eu/enterprise/construction/cpd-ds/index.cfm>

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 Astro Intu Mastic® 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.

In addition to the specific clauses relating to dangerous substances contained in this European technical approval, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Regulation, these requirements need also to be complied with, when and where they apply.

The provisions made in the European Technical Assessment are based on an assumed working life of the Astro Intu Mastic® of 10 years, provided that the conditions laid down in sections 4.2/5.1/5.2 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.

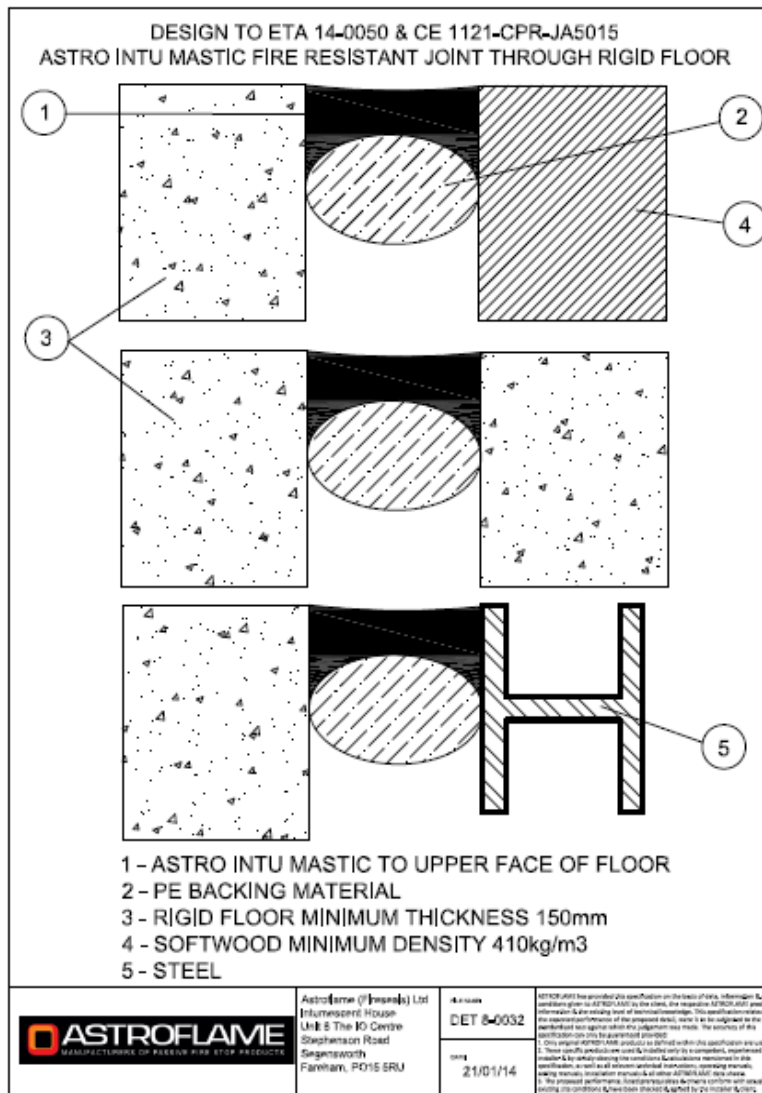


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Astro Intu Mastic® Linear Joint Seals. Min 150mm thick Rigid Floor, Horizontally orientated to one side of the floor			
Substrate	Depth (mm)	Backing material	Classification
Concrete-Concrete	10(Single side)	PE backing rod	E240 EI45-H-X-F-W 00 to 20
Concrete-Concrete	25(Single Side)	PE backing rod	E240 EI90-H-X-F-W 00 to 50
Concrete-Steel	10(Single Side)	PE backing rod	E120 EI20-H-X-F-W 00 to 20
Concrete-Steel	50(Single Side)	PE backing rod	E240 EI90-H-X-F-W 00 to 50
Concrete-Softwood	10(Single Side)	PE backing rod	EI30-H-X-F-W 00 to 20
Concrete-Softwood	50(Single Side)	PE backing rod	EI45-H-X-F-W 00 to 50



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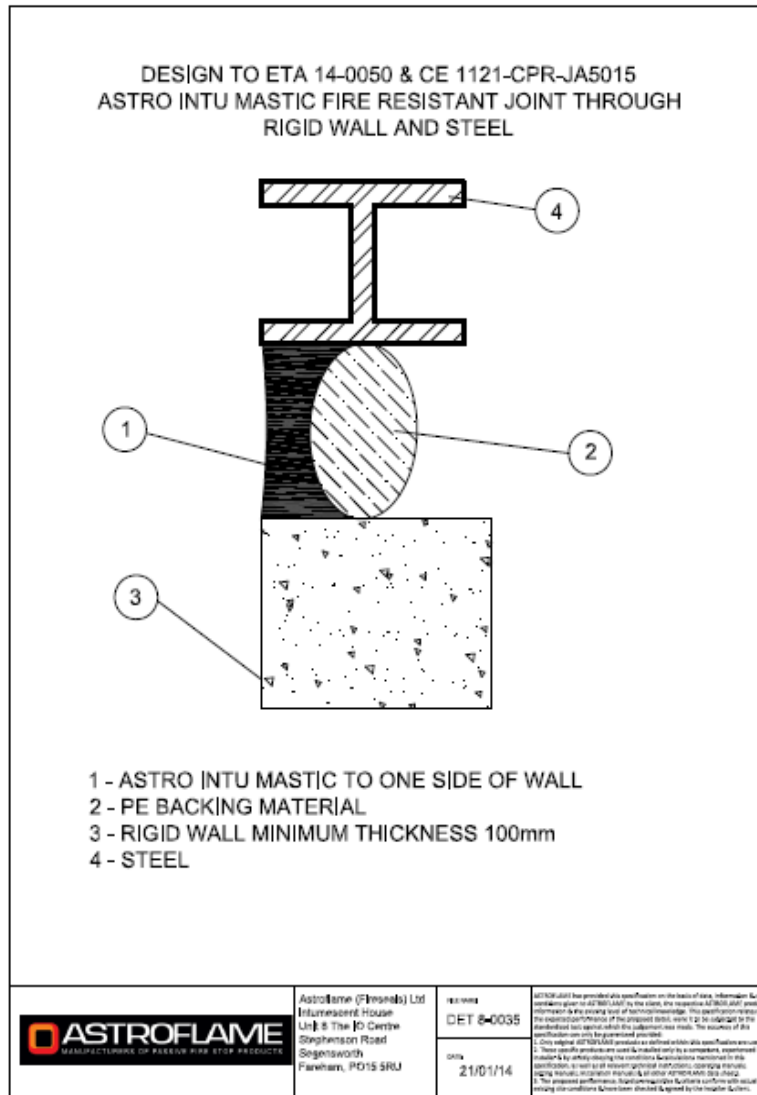
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Astro Intu Mastic® Linear Joint Seals. Min 100mm Thick Rigid Floor, Vertically orientated Sealant to one side of the wall

Substrate	Depth (mm)	Backing material	Classification
Concrete-Concrete	10(Single side)	PE backing rod	E120 EI45-V-X-F-W 00 to 20
Concrete-Concrete	25(Single Side)	PE backing rod	E120 EI60-V-X-F-W 00 to 50
Concrete-Steel	10(Single Side)	PE backing rod	E120 EI20-V-X-F-W 00 to 20
Concrete-Steel	50(Single Side)	PE backing rod	E45 EI30-V-X-F-W 00 to 50
Concrete-Softwood	10(Single Side)	PE backing rod	E30 EI20-V-X-F-W 00 to 20
Concrete-Softwood	50(Single Side)	PE backing rod	EI45-V-X-F-W 00 to 50



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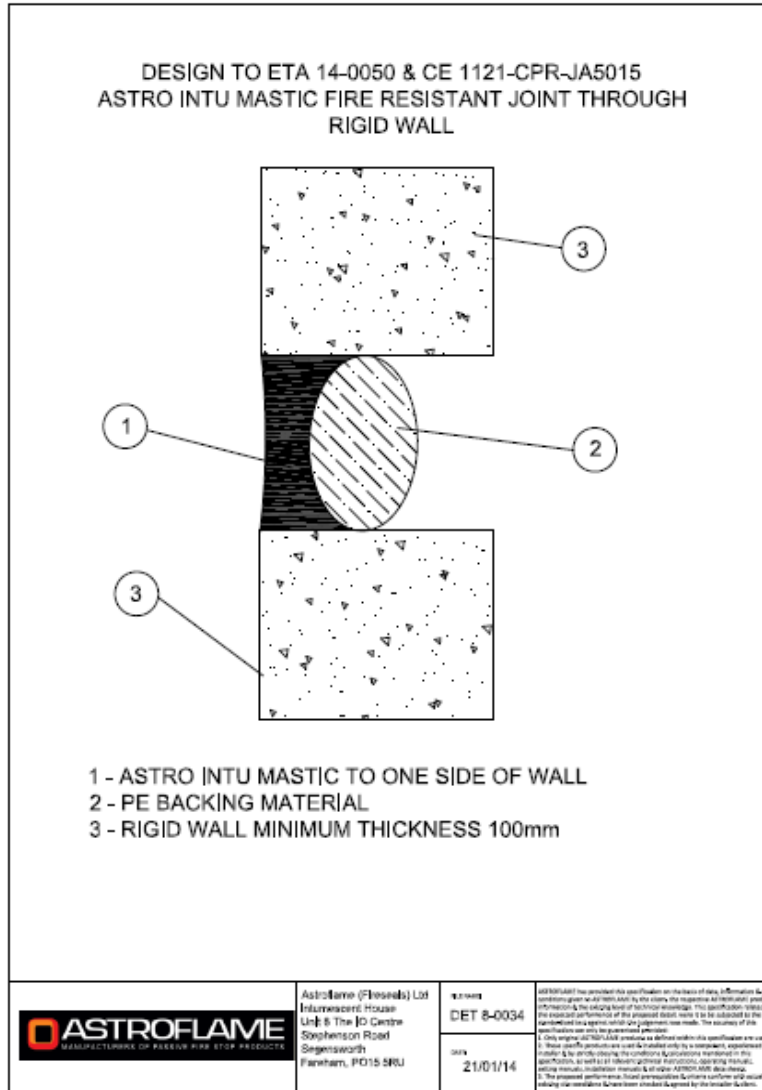
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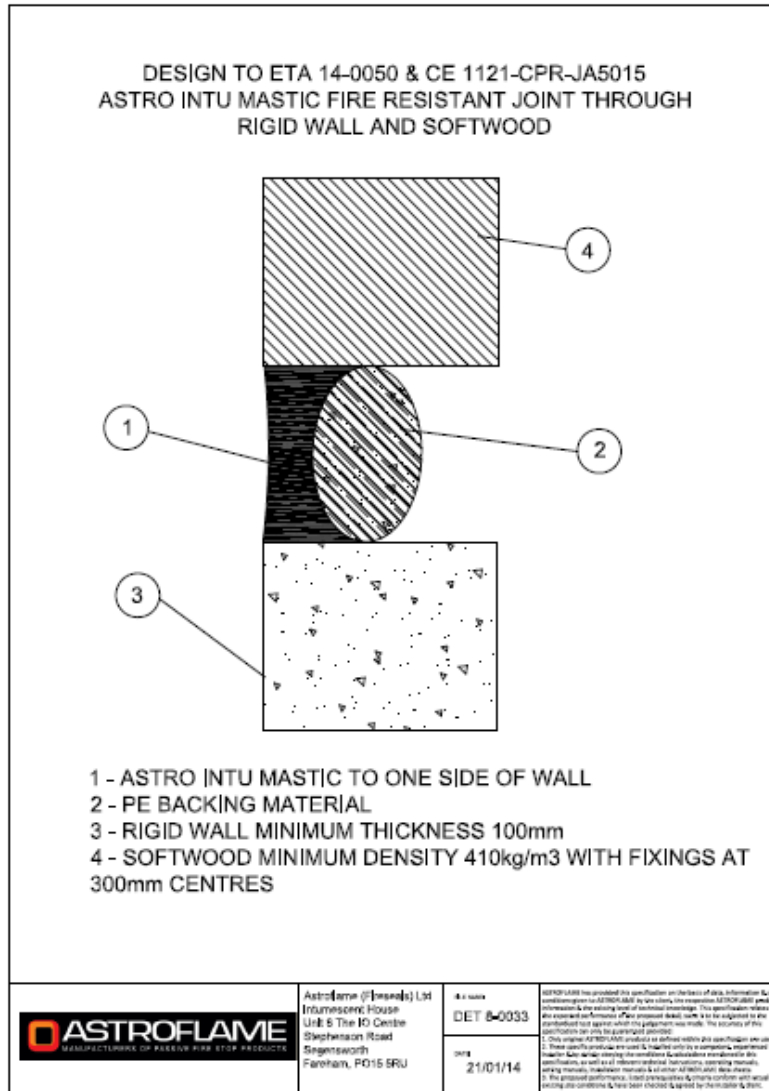
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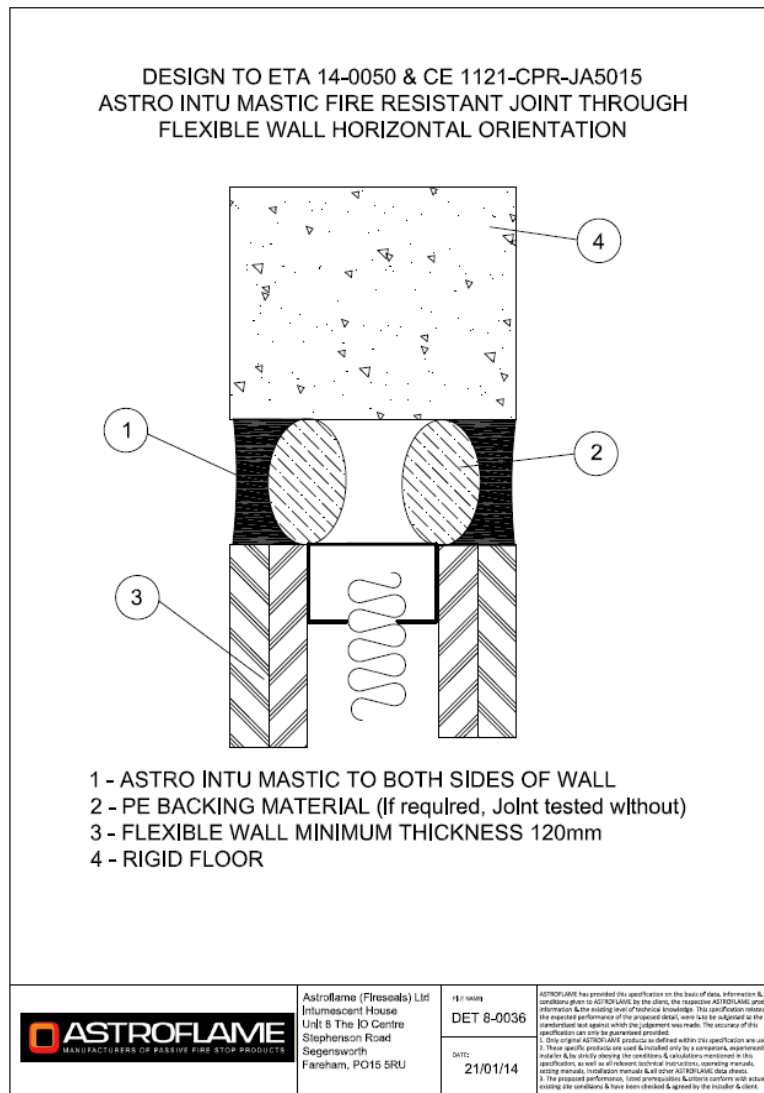
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Astro Intu Mastic® Linear Joint Seals. Min 120mm thick - Sealing of Drywall Head Track - Sealant Flush To Both Faces of The Wall. Horizontally Orientated Sealant To Both Sides of The Wall

Substrate	Depth (mm)	Classification
Gypsum board/Steel head track	25mm (both side)	EI120-T-X-F-W 00 to 20
Gypsum board/Steel head track	25mm (both Side)	EI120-V-X-F-W 00 to 50

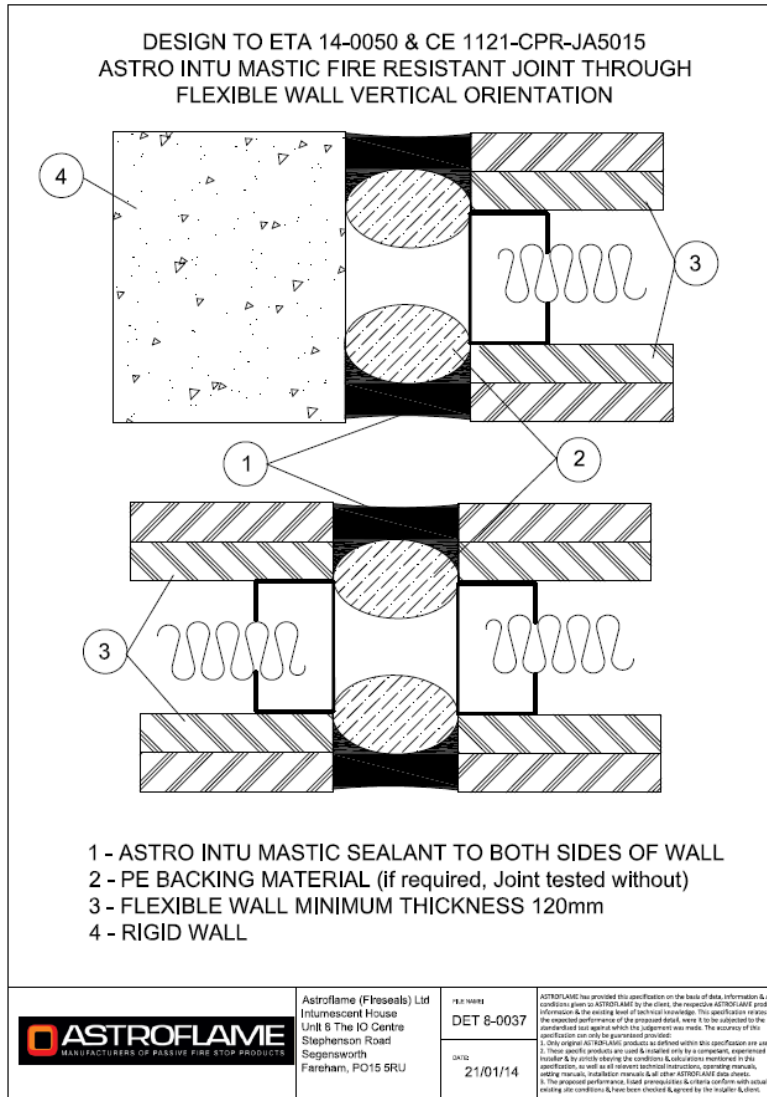


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Astro Intu Mastic® Linear Joint Seals. Min 120mm Thick Flexible or Rigid Wall. Sealant Flush to Both Faces of The Wall		
Depth (mm)	Backing material	Classification
12.5(Both side)	PE backing rod	EI120-V-X-F-W 00 to 20



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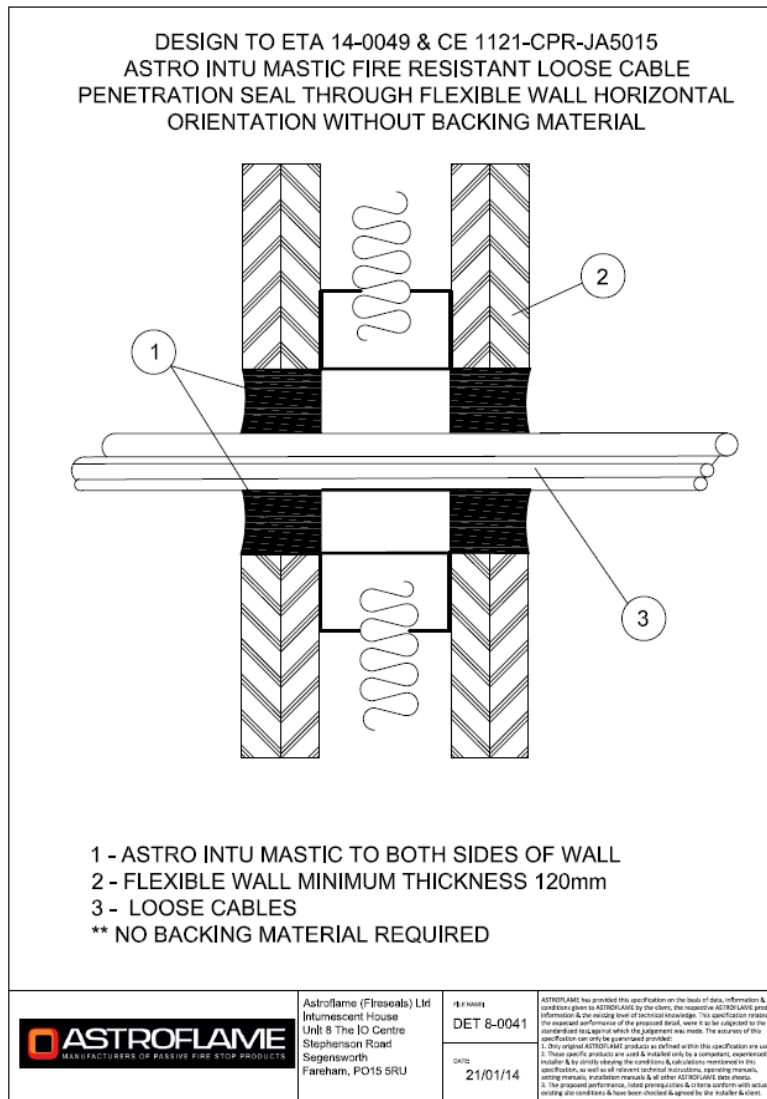
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Astro Intu Mastic® Linear Joint Seals. Min 150mm thick Rigid Floor, Horizontally orientated to one side of the floor. Sealant to both sides of the wall

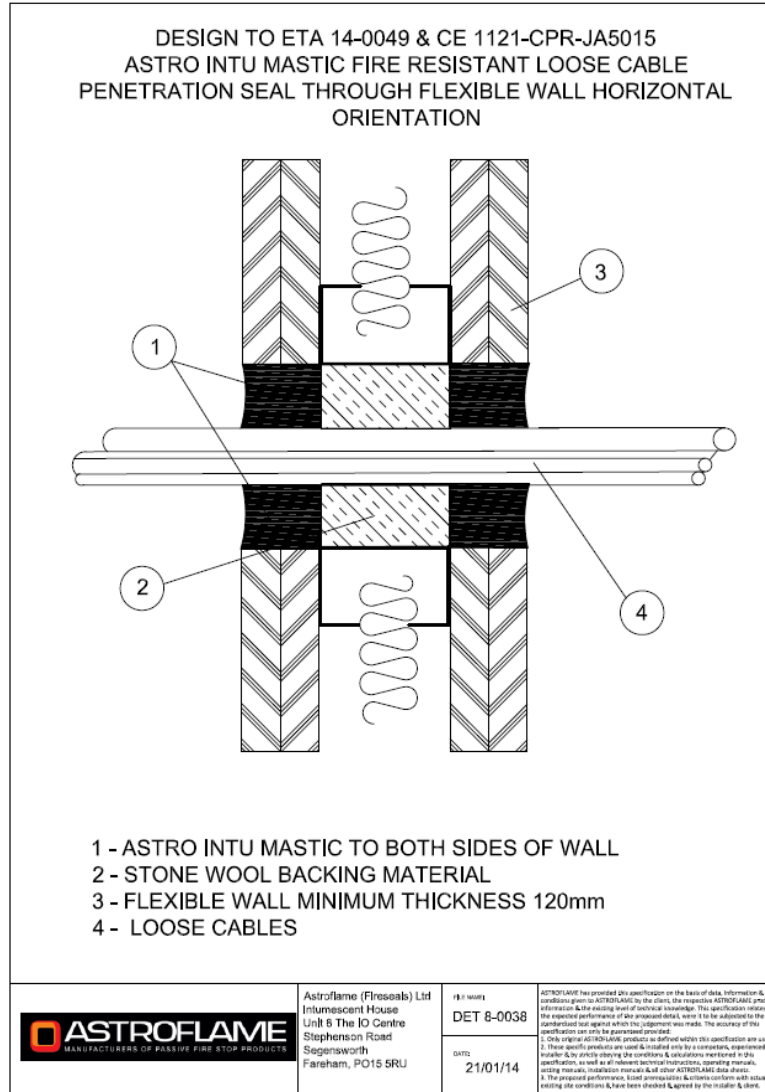
Penetration Specification	Astro Intu Mastic® (installed Both Faces)	Backing material	Classification
Cables up to 21mm	490mm long x 100mm high x 25mm deep	70mm thick, 80kg/m ³	E120 EI90
Perforated Cable Tray 450mm x 50mm			
Cables up to 21-50mm	200mm long x 100mm high x 25mm deep	N/A	E90 EI60



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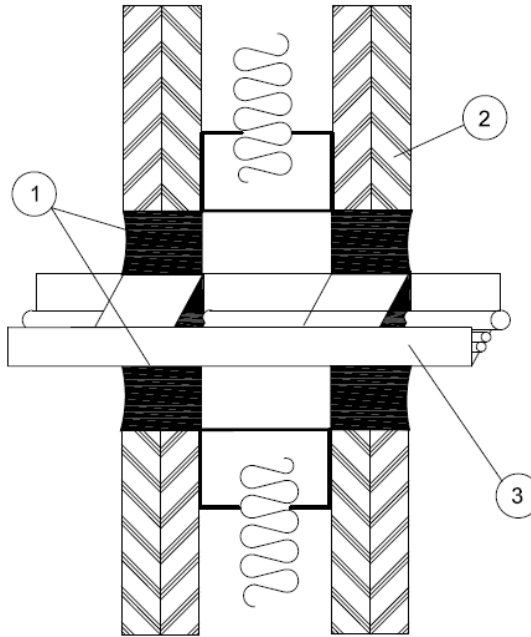


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**DESIGN TO ETA 14-0049 & CE 1121-CPR-JA5009
ASTRO INTU MASTIC FIRE RESISTANT CABLE TRAY & CABLE
PENETRATION SEAL THROUGH FLEXIBLE WALL HORIZONTAL
ORIENTATION WITHOUT BACKING MATERIAL**



- 1 - ASTRO INTU MASTIC TO BOTH SIDES OF WALL
 - 2 - FLEXIBLE WALL MINIMUM THICKNESS 120mm
 - 3 - CABLE TRAY WITH CABLES
- ** NO BACKING MATERIAL REQUIRED**

	Astroflame (Fireseals) Ltd Intumescent House Unit 8 The IO Centre Stephenson Road Segensworth Fareham, PO15 5RU	P.E.N. NUMBER DET 8-0040	ASTROFLAME has provided this specification on the basis of data, information & the certificate given to ASTROFLAME by the client, the respective ASTRO INTU MASTIC product information & the existing level of technical knowledge. This specification relates to the expected performance of the proposed detail, where it is not subject to the manufacturer's test approval which the judgement was made. The accuracy of this specification cannot be guaranteed.
		DATE 21/01/14	1. Only original ASTROFLAME products as defined within this specification are used. 2. These specific products are used & installed only by a competent, experienced installer, & by strictly following the conditions & observations mentioned in this specification, as well as all relevant technical instructions, operating manuals, safety manuals, installation manuals & all other ASTROFLAME data sheets. 3. The proposed performance, tested parameters & criteria conform with actual testing conditions & have been checked & agreed by the relevant client.



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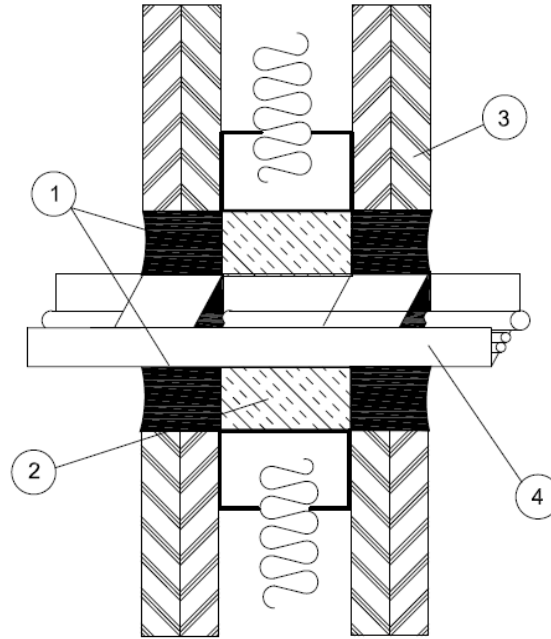


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DESIGN TO ETA 14-0049 & CE 1121-CPR-JA5015
ASTRO INTU MASTIC FIRE RESISTANT CABLE TRAY & CABLE
PENETRATION SEAL THROUGH FLEXIBLE WALL HORIZONTAL
ORIENTATION



- 1 - ASTRO INTU MASTIC TO BOTH SIDES OF WALL
- 2 - STONE WOOL BACKING MATERIAL
- 3 - FLEXIBLE WALL MINIMUM THICKNESS 120mm
- 4 - CABLE TRAY WITH CABLES

 <p>ASTROFLAME MANUFACTURERS OF PASSIVE FIRE STOP PRODUCTS</p>	Astroflame (Fireseals) Ltd Intumescent House Unit 8 The IO Centre Stephenson Road Segensworth Fareham, PO15 5RU	FILE NO: DET 8-0039	Astroflame has provided this specification on the basis of data, information & the conditions given to ASTROFLAME Ltd by the client, the respective ASTROFLAME graded information & the existing state of technical knowledge. This specification relates to the expected performance of the proposed detail, where it is to be judged on the basis of the information and specifications which the judgement was made. The accuracy of this specification can only be guaranteed by the client. 1. Only original ASTROFLAME products as defined within this specification are used 2. These specific products are used & installed only by a competent, experienced tradesman & they comply with the conditions & instructions mentioned in this specification, as well as all relevant technical instructions, operating manuals, setting manuals, installation manuals & all other ASTROFLAME data sheets. 3. The proposed performance, listed parameters & criteria conform with actual existing site conditions & have been checked & agreed by the installer & client.
		DATE: 21/01/14	



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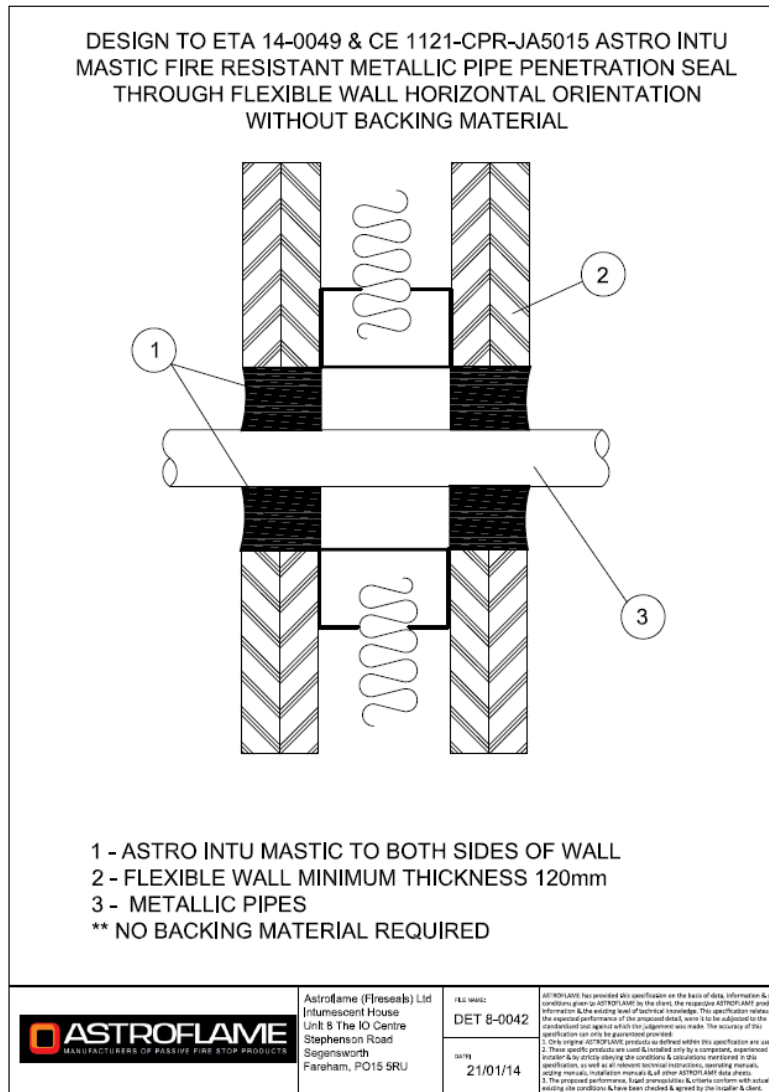
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Astro Intu Mastic® Linear Joint Seals. Min 120mm Thick Flexible or Rigid Wall. Sealant to Both Sides of The Wall.			
Penetrations Specification	Depth (mm)	Backing material	Classification
Copper/Steel Pipe 15mm Ø, 0.8mm - 7.4 wall thickness	10mm annulus x 25mm deep	N/A	E120 C/U E120 C/U
Copper/Steel Pipe 40mm Ø, 0.8mm - 14.2mm wall thickness	10mm annulus x 25mm deep	N/A	E120 C/U E115 C/U
Copper/Steel Pipe 40-159mm Ø, 1.8mm - 14.2mm wall thickness	10mm annulus x 25mm deep	N/A	E120 C/U
Copper/Steel Pipe 40mm Ø, 0.8mm - 14.2mm wall thickness*	10mm annulus x 25mm deep	N/A	E120 C/U EI90 C/U
Copper/Steel Pipe 40-159mm Ø, 1.8mm - 14.2mm wall thickness*	10mm annulus x 25mm deep	N/A	E120 C/U E120 C/U

* Astro Thermal defense wrap to the unexposed face long 300m long



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**DESIGN TO ETA 14-0049 & CE 1121-CPR-JA5015
ASTRO INTU MASTIC FIRE RESISTANT METALLIC PIPE
PENETRATION SEAL WITH TDW THROUGH FLEXIBLE WALL
HORIZONTAL ORIENTATION WITHOUT BACKING MATERIAL**

1 - ASTRO INTU MASTIC TO BOTH SIDES OF WALL
2 - FLEXIBLE WALL MINIMUM THICKNESS 120mm
3 - METALLIC PIPES
4 - ASTRO THERMAL DEFENSE WRAP - TDW 300mm
**** NO BACKING MATERIAL REQUIRED**

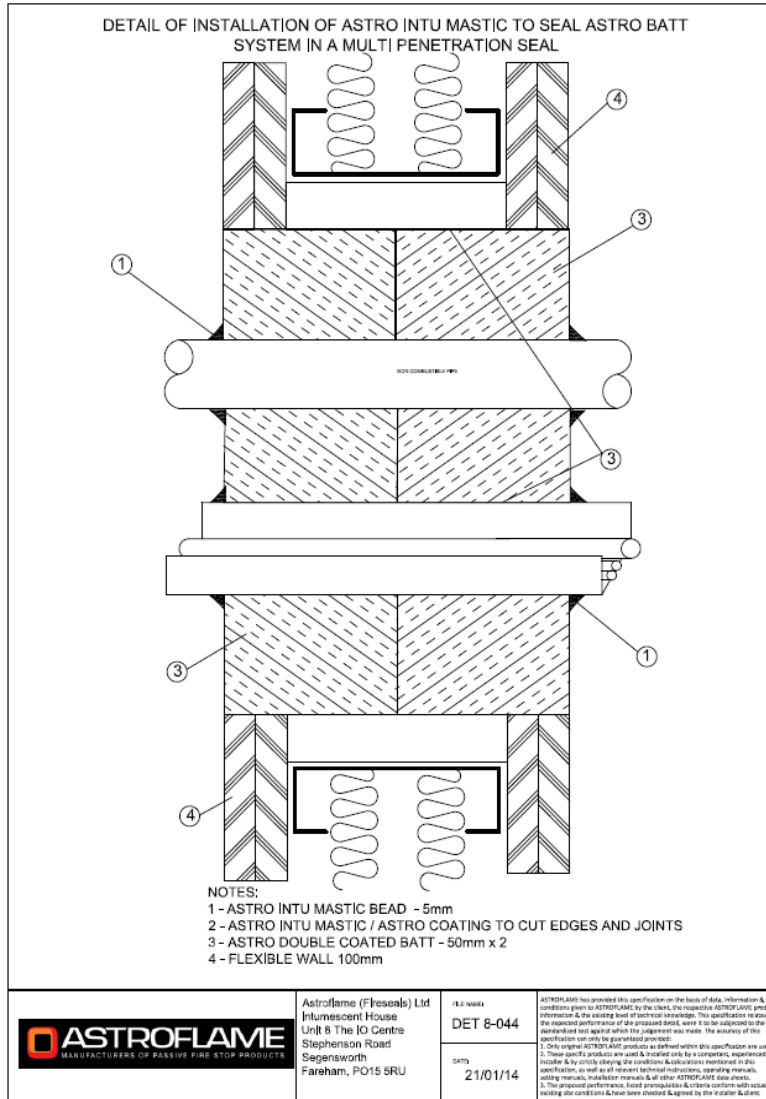
	Astroflame (Fireseals) Ltd Intumescent House Unit 8 The I O Centre Stephenson Road Segensworth Fareham, PO15 5RU	DET 8-0043	ASTROFLAME has provided this specification on the basis of data, information & its conditions given by ASTROFLAME for the client, the respective ASTROFLAME product information & the existing level of technical knowledge. This specification relates to the expected performance of the proposed detail, which is to be subjected to the standardised test regime which the judgement was made. The accuracy of this specification can only be guaranteed provided:
	DATE: 21/01/14	1. Only original ASTROFLAME products as defined within this specification are used 2. These specific products are used & installed only by a competent, experienced installer & by strictly adhering the conditions & calculations mentioned in this specification, as well as all relevant technical instructions, operating manuals, assembly manuals, installation manuals & other ASTROFLAME data sheets 3. The proposed performance, listed preconditions & criteria conform with actual existing site conditions & have been checked & agreed by the installer & client	

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**ASTRO INTU
MASTIC®**

XHHW & XHHW7.R27645

UL Certification Fill or Cavity Materials Certified for US & Canada



Unique identification code of product-type: INTUM

XHHW & XHHW7.R27645

UL Certification Fill or Cavity Materials Certified for US & Canada

Astro Intu Mastic® covers the fire exposure and hose stream tests conducted under UL Project No. 13CA05419. The fire exposure and hose stream tests were conducted in accordance with the Fourth edition of the Standard, December 12, 2012 and the Fourth Edition of the Standard, Fire Tests of Firestop Systems, CAN/ULC-S115-11, June 2011.

Test Assembly:

The test assembly consisted of a concrete floor and a steel stud/gypsum board wall assembly. The test assembly consisted of one head-of-wall joint system and two wall-to-wall joint system. The construction details of each joint system are described below:

Head of Wall

Nominal 25mm depth of sealant in 50mm wide joint, finished flush to each of the wall. Sealant backed with 80mm deep mineral wool 60kg/m³. Faces of the joint finished with steel studs but unlined.

Wall to Wall

Nominal 25mm depth of sealant in 10mm wide joints, finished flush to each face of the wall. Sealant backed with 120mm deep mineral wool 60kg/m³. Faces of the joint finished with steel studs but unlined.

Wall to Wall

Nominal 25mm depth of sealant in 50mm wide joint, finished flush to each face of the wall. Sealant backed with 80mm deep mineral wool 60kg/m³. Faces of the joint finished with steel studs but unlined.

Astro Intu Mastic® for use in joint system described in Vol.2 of the UL Fire Resistance Directory. The specific system Nos. and the applicable rating information are as follows:

System No.	Rating, Hr			
	F	FT	FH	FTH
HW-S-0102	2	2	2	2
HW-S-0103	2	2	2	2

Astro Intu Mastic® for use in Joints Systems described in the product Certified for Canada Directory. The specific System No. and the applicable rating information are as follows:

System No.	Rating, Hr			
	F	FT	FH	FTH
HW-S-0065	2	2	0	0
HW-S-0066	2	2	0	0



FILL, VOID OR CAVITY MATERIAL FOR USE IN
THROUGH-PENETRATION FIRESTOP SYSTEMS
AND/OR JOINT SYSTEMS AND/OR PERIMETER
FIRE CONTAINMENT SYSTEMS
SEE UL FIRE RESISTANCE DIRECTORY

<R27645>



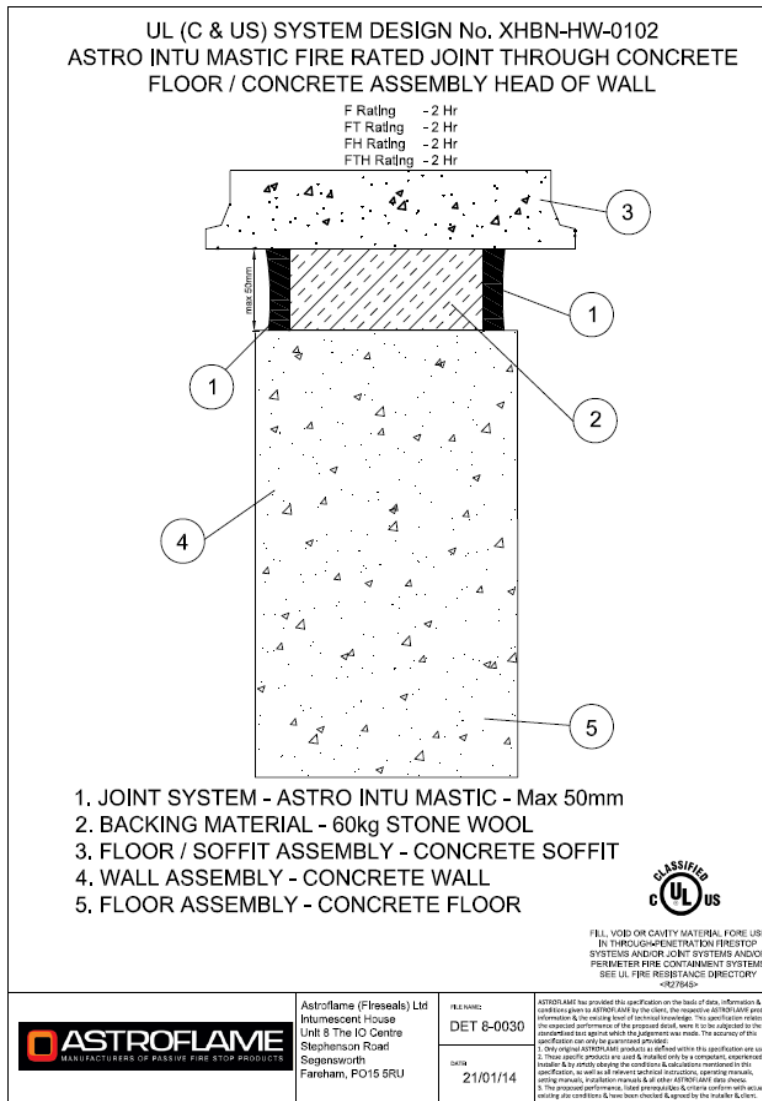
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Maximum Joint Width, mm (in)	Min Sealant Thickness, mm (in)	Min packing Material Thickness, mm (in)
10 (3/8)	5 (1/4)	120 (4-3/4)
20 (7/8)	10 (3/8)	110 (4-3/8)
30 (1-1/4)	15 (5/8)	100 (4)
40 (1-5/8)	20 (3/4)	90 (3-1/2)
50 (2)	25 (1)	80 (3-1/8)



FILL, VOID OR CAVITY MATERIAL FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS AND/OR JOINT SYSTEMS AND/OR PERIMETER FIRE CONTAINMENT SYSTEMS. SEE UL FIRE RESISTANCE DIRECTORY <R27645>



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Unique identification code of product-type: INTUM

UL SYSTEM DESIGN No. XHBN-WW-0066
ASTRO INTU MASTIC FIRE RATED JOINT THROUGH LIGHTWEIGHT PARTITION

F Rating - 2 Hr
FT Rating - 2 Hr
FH Rating - 0 Hr
FTH Rating - 0 Hr

1. JOINT SYSTEM - ASTRO INTU MASTIC - Max 50mm
2. BACKING MATERIAL - 60kg STONE WOOL
3. WALL ASSEMBLY - PLASTERBOARD WALL
4. PARTITION - METAL STUD

FILL, VOID OR CAVITY MATERIAL FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS AND/OR JOINT SYSTEMS AND/OR PERIMETER FIRE CONTAINMENT SYSTEMS SEE UL FIRE RESISTANCE DIRECTORY <R27645>

	Astroflame (Fireseals) Ltd Intumescent House Unit 8 The IO Centre Stephenson Road Segensworth Fareham, PO15 5RU	H & N DET 6-0020	ASTROFLAME has provided this specification on the basis of data, information & the conditions given to ASTROFLAME by the client. The respective ASTROFLAME product information & the existing level of technical knowledge. This specification relates to the expected performance of the proposed detail, save to the judgement of the client and/or the authority to which the judgement was made. The accuracy of this specification can only be guaranteed by the client. 1. Only original ASTROFLAME products as defined within this specification are used. 2. These specific products are used & installed only by competent, experienced installers & by strictly obeying the conditions & instructions mentioned in this specification, as well as all relevant technical instructions, operating manuals, setting manuals, installation manuals & all other ASTROFLAME data sheets. 3. The proposed performance, tested principles & systems conform with actual existing site conditions & have been checked & agreed by the installer & client.
	DATE: 21/01/14		



FILL, VOID OR CAVITY MATERIAL FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS AND/OR JOINT SYSTEMS AND/OR PERIMETER FIRE CONTAINMENT SYSTEMS
 SEE UL FIRE RESISTANCE DIRECTORY
 <R27645>



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Unique identification code of product-type: INTUM


UL SYSTEM DESIGN No. XHBN-WW-0065
ASTRO INTU MASTIC FIRE RATED JOINT THROUGH CONCRETE WALL / CONCRETE WALL ASSEMBLY

F Rating - 2 Hr
FT Rating - 2 Hr
FH Rating - 0 Hr
FTH Rating - 0 Hr

1. JOINT SYSTEM - ASTRO INTU MASTIC - Max 50mm
2. BACKING MATERIAL - 60kg STONE WOOL
3. FLOOR ASSEMBLY - CONCRETE FLOOR



FILL VOID OR CAVITY MATERIAL FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS AND/OR JOINT SYSTEMS AND/OR PERIMETER FIRE CONTAINMENT SYSTEMS
SEE UL FIRE RESISTANCE DIRECTORY <R27645>

	<p>Astroflame (Fireseals) Ltd Influmescant House Unit 8 The IO Centre Stephenson Road Segensworth Fareham, PO15 5RU</p>	<p>ASTROFLAME DET 6-0025</p> <p>DATE: 21/01/14</p>	<p>ASTROFLAME has provided this specification on the basis of data, information & site conditions given to ASTROFLAME by the client, the respective ASTROFLAME product information & the existing level of technical knowledge. This specification relates to the expected performance of the proposed detail, which is to be subjected to the appropriate test regime which the judgement was made. The accuracy of this specification can only be guaranteed by the client.</p> <p>1. Only original ASTROFLAME products as defined within the specification are used 2. These products are used in accordance with the manufacturer's instructions, operating manuals, drawings, technical data sheets & other ASTROFLAME data sheets. 3. The proposed performance, listed pre-conditions & criteria conform with actual existing site conditions & have been checked & agreed by the installer & client.</p>
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FILL, VOID OR CAVITY MATERIAL FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS AND/OR JOINT SYSTEMS AND/OR PERIMETER FIRE CONTAINMENT SYSTEMS
SEE UL FIRE RESISTANCE DIRECTORY
<R27645>



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UL (C & US) SYSTEM DESIGN No. XHBN-HW-0103
ASTRO INTU MASTIC FIRE RATED JOINT THROUGH CONCRETE FLOOR / LIGHTWEIGHT PARTITION ASSEMBLY HEAD OF WALL

F Rating - 2 Hr
 FT Rating - 2 Hr
 FH Rating - 2 Hr
 FTH Rating - 2 Hr

1. JOINT SYSTEM - ASTRO INTU MASTIC - Max 50mm
2. BACKING MATERIAL - 60kg STONE WOOL
3. FLOOR / SOFFIT ASSEMBLY - CONCRETE SOFFIT
4. WALL ASSEMBLY - PLASTERBOARD WALL
5. FLOOR ASSEMBLY - CONCRETE FLOOR
6. PARTITION - METAL STUD

FILL, VOID OR CAVITY MATERIAL FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS AND/OR JOINT SYSTEMS AND/OR PERIMETER FIRE CONTAINMENT SYSTEMS SEE UL FIRE RESISTANCE DIRECTORY <R27645>

	Astroflame (Fireseals) Ltd Intumescent House Unit 8 The IO Centre Stephenson Road Segensworth Fareham, PO15 5RU	UL NUMBER DET 8-0019	ASTROFLAME has provided this specification on the basis of data, information & test conditions given to ASTROFLAME by the client, the respective ASTROFLAME product information & the existing level of technical knowledge. This specification relies on the expected performance of the proposed details, which it is not intended to be a standard test against which the judgement was made. The accuracy of this specification can only be guaranteed provided: 1. Only original ASTROFLAME products as defined within this specification are used 2. These specific products are used & installed only by a competent, experienced installer & by strictly obeying the conditions & calculations mentioned in this specification, as well as all relevant technical instructions, operating manuals, setting manuals, installation manuals & all other ASTROFLAME data sheets. 3. The proposed performance, load requirements & volume conform with actual existing site conditions & have been checked & agreed by the installer & client.
		DATE 21/01/14	



FILL, VOID OR CAVITY MATERIAL FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS AND/OR JOINT SYSTEMS AND/OR PERIMETER FIRE CONTAINMENT SYSTEMS
 SEE UL FIRE RESISTANCE DIRECTORY <R27645>



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Unique identification code of product-type: INTUM

Durability and Serviceability

Type Z₁: Intended for use internal conditions with humidity equal to or higher than 85% RH excluding temperatures below 0°C, without exposure to rain or UV. The Durability conditions specified for this material was Type Z₁ (23°C, 40°C). this is and 8 and 16 hours cycled program with extremities of 23°C and 40°C lasting for 21 days.

ISO7619-1(2010) Hardness after Curing using Ceast Shore 'A' bench-top durometer (T13) Readings taken after 15s Conditions: 23°C 50% RH

ISO8339:2005 Tensile Properties using instron 6025 test frame, 1kN load cell, environmental chamber, pneumatic grips Conditions: Test rate 5.5mm/s. Temperature as indicate.

Note: Three specimens prepared as controls and for durability using M2 mortar and 12mm spacers as indicate in ISO 8339.

ISO9046;2005 Adhesion properties using instron 5500 test frame, pneumatic grips, 1kN load cell

Conditions: 23°C 50%RH

Notes: Three specimens prepared as controls and for durability using M2 mortar and 12mm spacers as indicated in ISO 9046

LEED 2009 EQ c4.1, SCAQMD rule 1168 (2005) - VOC

Sample identification	Astro Intu Mastic®
Product type	Sealant - Other (Fire Resistance)
Product Data	Density: 1.6g/ml at 20°C Water content: 32.5 g/l Exempt Compounds: none ***

Method	Principle	Parameter	Detection Limit	Uncertainty Um (%)
LEED 2009 EQ c4.1	Gravimetric	Total Volatiles, SCAQMD rule 204	1 g/l	10%
Volatile content of the sample was determined gravimetrically by heating up to 110°C during 60 minutes. The result is the average of double testing. The result was calculated as: ([g all volatiles] - [g exempt compounds]) / ([l material] - [l water] - [l exempt compounds])				

Solid content	Water content, % mass	Exempt compounds, % mass	VOC less water less exempt compounds, g/l	VOC limit g/l
76.8	2	0***	350	750*

* VOC limit for "other sealants"

*** No information about exempt compounds. Set to zero



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ASTRO INTU
MASTIC®

TECHNICAL SCHEDULE
No. CF640



Unique identification code of product-type: INTUM



This relates to the use of Astro Intu Mastic® through 3rd party certification with Certifire for the fire protection of movement joints within walls and floors. The detailed scope is given in the Approval Matrix. This shows the thickness and acceptable services for Astro Intu Mastic® required to provide fire resistance periods in accordance with BS 476: part 20: 1987 of up to 240 minutes for wall/floor constructions. The scope of certification complies with the guidelines stated in the AAFP Red Book: 3rd Edition for 3rd party certification schemes.

This level of certification is designed to demonstrate compliance of the products or system specifically with Approved Document B (England and Wales). If compliance is required to regulatory or guidance documents there may be additional constructions or conflict to be taken into account.

The product is approved on the basis of:

- I. Initial type testing
- II. Audit testing at the frequency specified in TS03
- III. A design appraisal against TS03
- IV. Inspection and surveillance of factory production control

The concrete walls shall be at least 150mm thick and the floors at least 230mm thick and have at least the same fire rating as that required for the penetration seal.

Masonry and concrete gap faces will be within the density range of 450 to 2300kg/m³, and gap faces will be free loose or flaking materials

Backing or support materials may be polyethylene or polyurethane foam, material or ceramic fibre insulation.

The approval relates to ongoing production. Product and/or its immediate packaging is identified with the manufacture's name, the product name or number, the CERTIFIRE name or name and mark, together with the CERTIFIRE certificate number CF640 and application where appropriate.



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Unique identification code of product-type: INTUM

Astro Intu Mastic® EN 1366-4 Approval Matrix

Wall and Floor Installations :- Double Sided Seals						
Product Name		Astro Intu Mastic®				
Configuration		Max. Joint Width (mm)	Minimum Seal Depth (mm)	Backing Material	Integrity (mins)	Insulation (mins)
Wall Constructions (min 250mm thick)	Autoclaved aerated concrete to autoclaved aerated concrete	20	10	Polyethylene 30mm diameter	300	300
	Autoclaved aerated concrete to autoclaved aerated concrete	30	15	Polyethylene 40mm diameter	300	210
	Autoclaved aerated concrete to autoclaved aerated concrete	40	20	Polyethylene 50mm diameter	300	210
	Autoclaved aerated concrete to autoclaved aerated concrete	50	25	Polyethylene 60mm diameter	300	210
	Brick to Autoclaved aerated concrete	15	10	Polyethylene 20mm diameter	240	0
	Brick to Autoclaved aerated concrete	25	10	Polyethylene 30mm diameter	240	30
	Steel to aerated blockwork	30	15	Polyethylene 40mm diameter	300	90
	Steel to aerated blockwork	50	25	Ethafoam 50mm diameter	60	30
	Hardwood to aerated blockwork	50	25	Ethafoam 50mm diameter	60	60
	Softwood to aerated blockwork	25	12	Ethafoam 30mm diameter	30	30
Floor Constructions (min 250mm thick)	Aerated concrete to aerated concrete	20	10	Polyethylene 30mm diameter	300	120
	Aerated concrete to aerated concrete	30	15	Polyethylene 40mm diameter	300	60
	Aerated concrete to aerated concrete	40	20	Polyethylene 50mm diameter	300	60
	Aerated concrete to aerated concrete	50	25	Polyethylene 60mm diameter	300	210
	Softwood to aerated concrete	25	12	Ethafoam 30mm diameter	30	30
	Hardwood to aerated concrete	50	25	Ethafoam 50mm diameter	30	30
	Steel to aerated concrete	50	25	Ethafoam 50mm diameter	60	60
Application Technique		On good clean, virgin blockwork, no priming required.				



Unique identification code of product-type: INTUM

Astro Intu Mastic® EN 1366-4 Approval Matrix

Wall and Floor Installations :- Single Sided Seals						
Product Name		Astro Intu Mastic®				
Configuration		Max. Joint Width (mm)	Minimum Seal Depth (mm)	Backing Material	Integrity (mins)	Insulation (mins)
Wall Constructions (min 100mm thick)	Autoclaved aerated concrete to autoclaved aerated concrete	50	25	Polyethylene 50mm diameter	120	60
	Autoclaved aerated concrete to autoclaved aerated concrete	40	20	Polyethylene 40mm diameter	120	30
	Autoclaved aerated concrete to autoclaved aerated concrete	30	15	Polyethylene 30mm diameter	120	30
	Autoclaved aerated concrete to autoclaved aerated concrete	20	10	Polyethylene 20mm diameter	120	30
	Autoclaved aerated concrete to softwood	50	25	Polyethylene 50mm diameter	45	30
	Autoclaved aerated concrete to softwood	40	20	Polyethylene 40mm diameter	30	15
	Autoclaved aerated concrete to softwood	30	15	Polyethylene 30mm diameter	30	15
	Autoclaved aerated concrete to softwood	20	10	Polyethylene 20mm diameter	30	15
	Autoclaved aerated concrete to steel	50	25	Polyethylene 50mm diameter	45	30
	Autoclaved aerated concrete to steel	40	20	Polyethylene 40mm diameter	45	30
	Autoclaved aerated concrete to steel	30	15	Polyethylene 30mm diameter	45	30
	Autoclaved aerated concrete to steel	20	10	Polyethylene 20mm diameter	120	15
	Application Technique		On good clean, virgin blockwork, no priming required.			


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Astro Intu Mastic® EN 1366-4 Approval Matrix

Wall and Floor Installations :- Single Sided Seals						
Product Name		Astro Intu Mastic®				
Configuration		Max. Joint Width (mm)	Minimum Seal Depth (mm)	Backing Material	Integrity (mins)	Insulation (mins)
Floor Constructions (min 150mm thick)	Autoclaved aerated concrete to autoclaved aerated concrete	50	25	Polyethylene 50mm diameter	120	60
	Autoclaved aerated concrete to autoclaved aerated concrete	40	20	Polyethylene 40mm diameter	120	30
	Autoclaved aerated concrete to autoclaved aerated concrete	30	15	Polyethylene 30mm diameter	120	30
	Autoclaved aerated concrete to autoclaved aerated concrete	20	10	Polyethylene 20mm diameter	120	30
	Autoclaved aerated concrete to softwood	50	25	Polyethylene 50mm diameter	45	30
	Autoclaved aerated concrete to softwood	40	20	Polyethylene 40mm diameter	30	15
	Autoclaved aerated concrete to softwood	30	15	Polyethylene 30mm diameter	30	15
	Autoclaved aerated concrete to softwood	20	10	Polyethylene 20mm diameter	30	15
	Autoclaved aerated concrete to steel	50	25	Polyethylene 50mm diameter	45	30
	Autoclaved aerated concrete to steel	40	20	Polyethylene 40mm diameter	45	30
	Autoclaved aerated concrete to steel	30	15	Polyethylene 30mm diameter	45	30
	Autoclaved aerated concrete to steel	20	10	Polyethylene 20mm diameter	120	15
	Application Technique		On good clean, virgin blockwork, no priming required.			



Unique identification code of product-type: INTUM

Astro Intu Mastic® EN 1366-4 Approval Matrix

Wall Installations :- Double Sided Seals						
Product Name		Astro Intu Mastic®				
Configuration		Max. Joint Width (mm)	Minimum Seal Depth (mm)	Backing Material	Integrity (mins)	Insulation (mins)
Wall Constructions (min 120mm thick)	Autoclaved aerated concrete to autoclaved aerated concrete	20	12.5	Polyethylene 20mm diameter	120	120
	Drywall to autoclaved aerated concrete					
Wall Constructions (min 100mm thick)	Autoclaved aerated concrete to autoclaved aerated concrete	20	12.5	Polyethylene 20mm diameter	120	120
Application Technique		On good clean, virgin blockwork, no priming required.				


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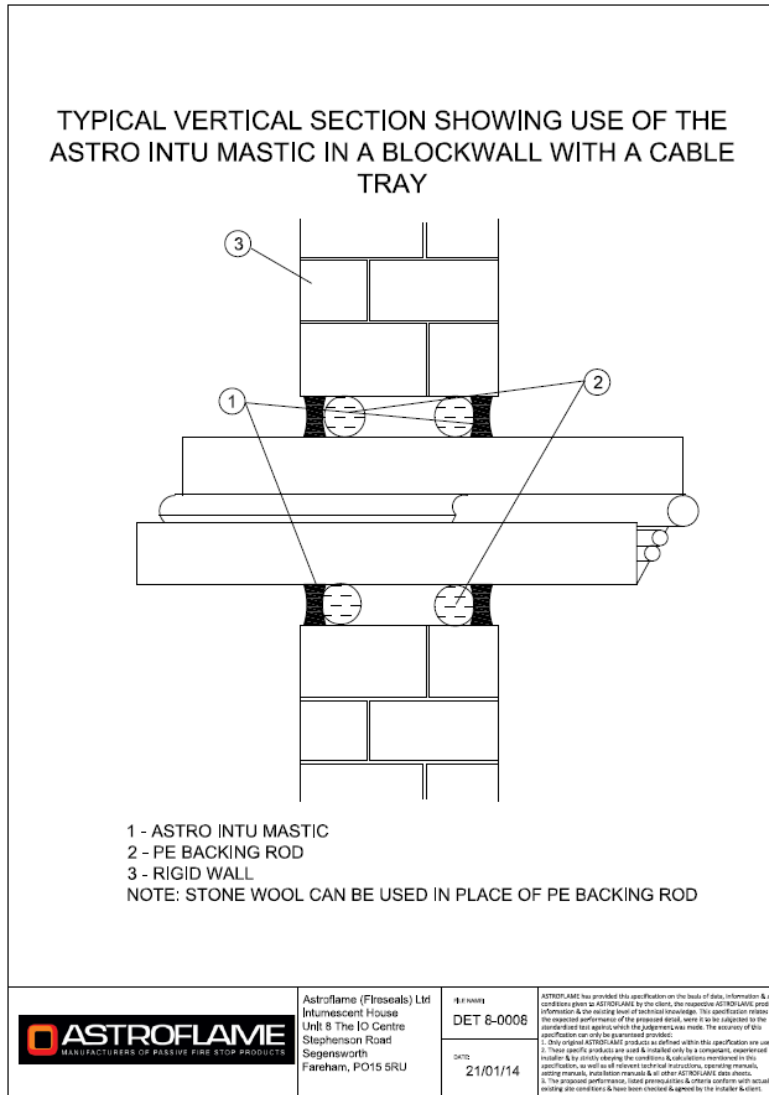

Unique identification code of product-type: INTUM

TYPICAL DETAIL OF FLEXIBLE WALL GAP USING ASTRO INTU MASTIC WITH PE BACKER ROD

1 - ASTRO INTU MASTIC
2 - PE BACKER ROD
3 - FLEXIBLE WALL
NOTE: OTHER BACKING MATERIALS CAN BE USED

	Astroflame (Fireseals) Ltd Fluorescent House Unit 8 The IO Centre Stephenson Road Segensworth Fareham, PO15 5RU	FILE NAME: DET 8-0007	ASTROFLAME has provided this specification on the basis of data, information & the conditions given to ASTROFLAME by the client, the respective ASTROFLAME product information & the existing level of technical knowledge. This specification refers to the expected performance of the proposed detail, users & to be subjected to the normal test apparatus which the agreement was made. The accuracy of this specification can only be guaranteed as stated. 1. Only original ASTROFLAME products as defined within this specification are used 2. These specific products are used & installed only by a competent, experienced installer & by strictly adhering to the conditions & sub-sections mentioned in the specification, as well as all relevant technical instructions, operating manuals, setting manuals, installation manuals & all other ASTROFLAME data sheets. 3. The proposed performance, load, penetration & criteria conform with actual testing per conditions & have been checked & agreed by the installer & client.
		DATE: 21/01/14	

Unique identification code of product-type: INTUM



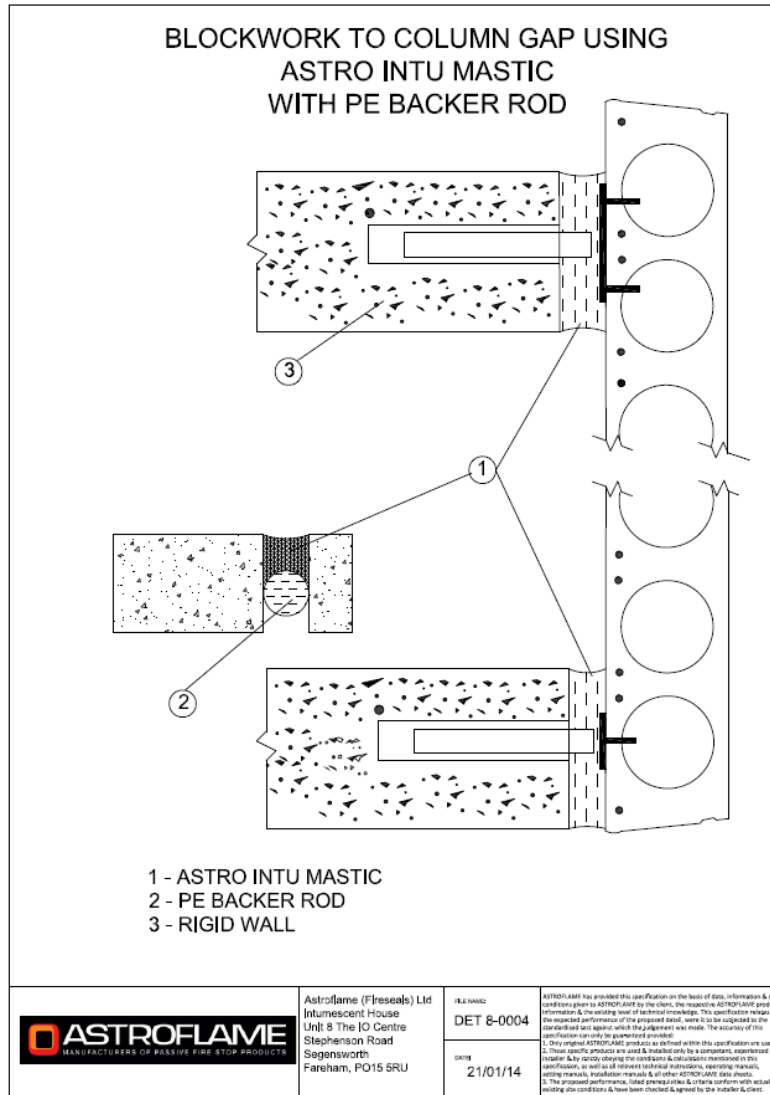
Unique identification code of product-type: INTUM

BLOCKWORK TO COLUMN GAP USING ASTRO INTU MASTIC WITH PE BACKER ROD

1 - ASTRO INTU MASTIC
2 - PE BACKER ROD (UNDER SEALANT) SEE INSERT
3 - RIGID WALL / FLOOR

	Astroflame (Fireseals) Ltd Intumescent House Unit 8 The IO Centre Stephenson Road Segensworth Fareham, PO15 5RU	FIRE NUMBER DET 8-0002	ASTROFLAME has provided this specification on the basis of data, information & the conditions given to ASTROFLAME by the client, the respective ASTROFLAME product information & the existing level of technical knowledge. This specification relates to the expected performance of the proposed detail, where it is to be subjected to the identified gap opening which the judgement was made. The accuracy of this specification can only be guaranteed provided: 1. Only original ASTROFLAME products as defined within this specification are used 2. These specific products are used & installed only by a competent, experienced installer, by strictly observing the conditions & applications mentioned in this specification, as well as all relevant technical instructions, operating manuals, cutting manuals, installation manuals & all other ASTROFLAME data sheets. 3. The proposed performance, listed prerequisites & criteria conform with actual testing site conditions & have been checked & agreed by the regular customer.
	DATE: 21/01/14		

Unique identification code of product-type: INTUM



Unique identification code of product-type: INTUM

**TYPICAL VERTICAL SECTION SHOWING USE OF THE
ASTRO INTU MASTIC IN A BLOCKWALL WITH A PIPE**

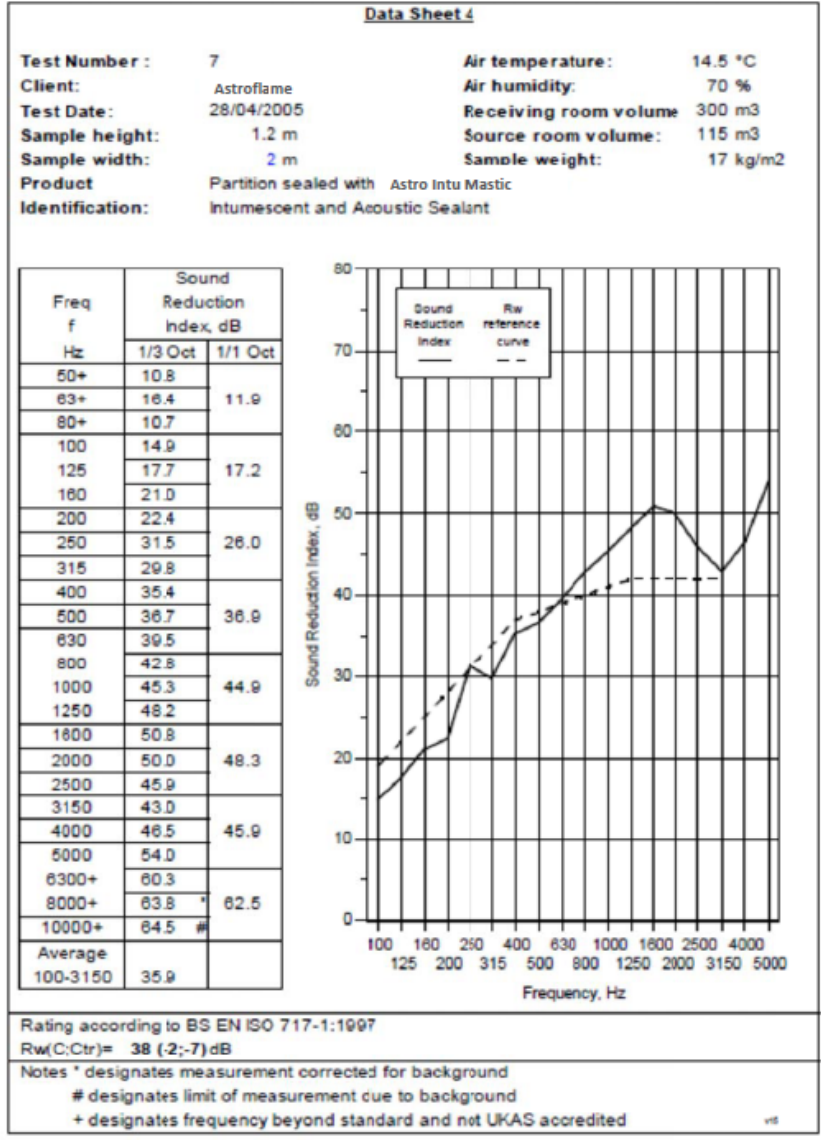
1 - ASTRO INTU MASTIC
2 - PE BACKING ROD
3 - RIGID WALL
4 - METALLIC PIPE

NOTE: STONE WOOL CAN BE USED IN PLACE OF PE BACKING ROD

	Astroflame (Fireseals) Ltd Intumescent House Unit 8 The IO Centre Stephenson Road Segensworth Fareham, PO15 5RU	REF NUMBER DET 8-0006	ASTROFLAME has provided this specification on the basis of data, information & the conditions given to ASTROFLAME by the client, the respective ASTROFLAME product information & the existing level of technical knowledge. This specification relates to the expected performance of the proposed detail, users it is not subjected to the normal and test approval with the judgement we make. The accuracy of this specification can only be guaranteed provided: 1. The original ASTROFLAME products as defined within this specification are used 2. These specific products are used & installed only by a competent, experienced installer & by strictly observing the conditions & instructions mentioned in this specification, as well as all relevant technical instructions, operating manuals, storage manuals, installation manuals & all other ASTROFLAME data sheets. 3. The proposed performance, load penetration & criteria conform with actual existing site conditions & have been checked & agreed by the installer & client.
		DATE 21/01/14	

Unique identification code of product-type: INTUM

S R L



Air Permeability EN1026	Pressure (Pa)	Positive pressure (m³/h/m²)	Negative pressure (m³/h/m²)
	50	0	0
	10	0	0
Acoustic Rating BS EN ISO 10140-3:1995	R _w (C;C _{tr}) :38(-2;-7) dB		

