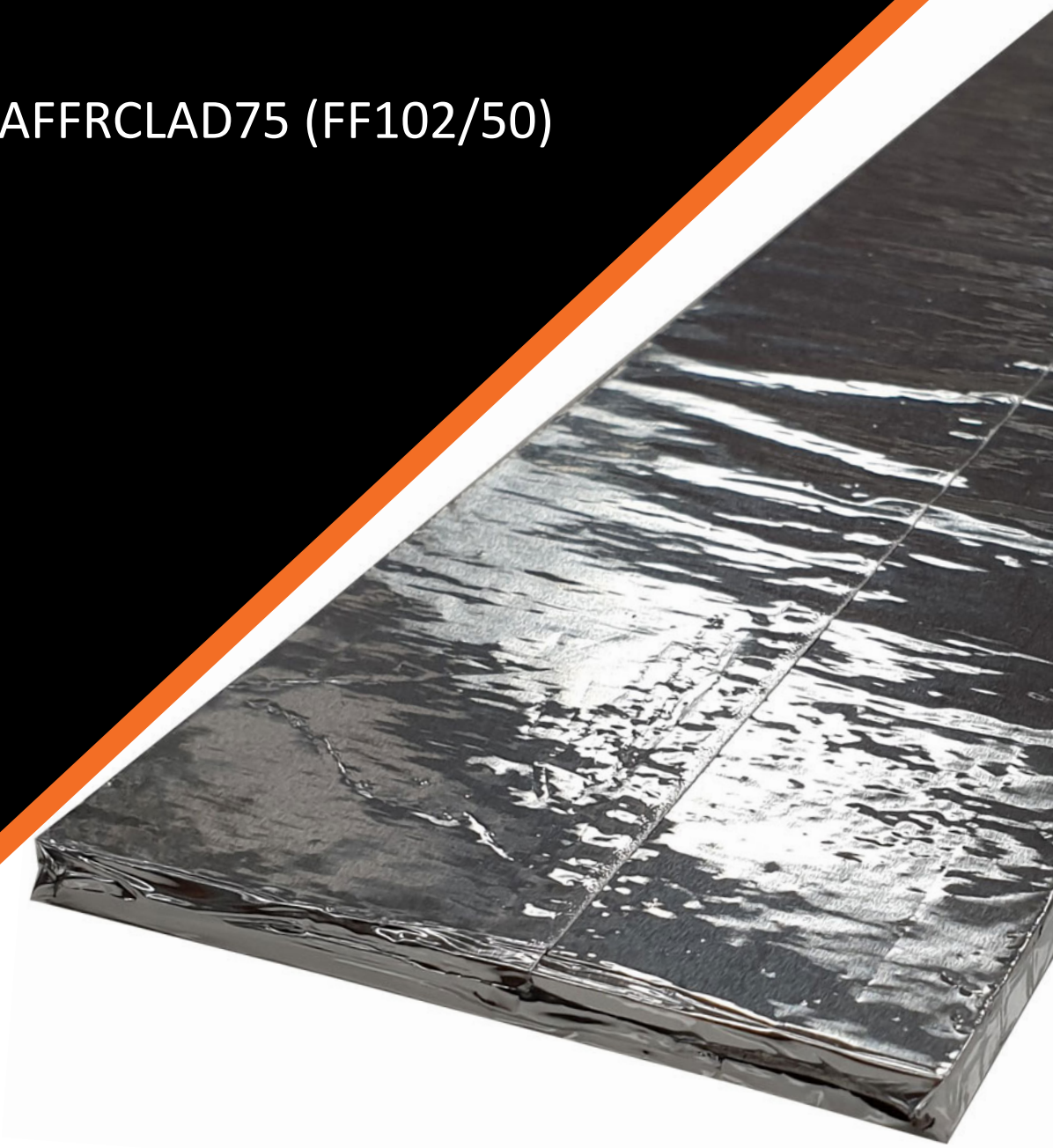
ASTROFLAME
PASSIVE FIRE STOP SYSTEMS

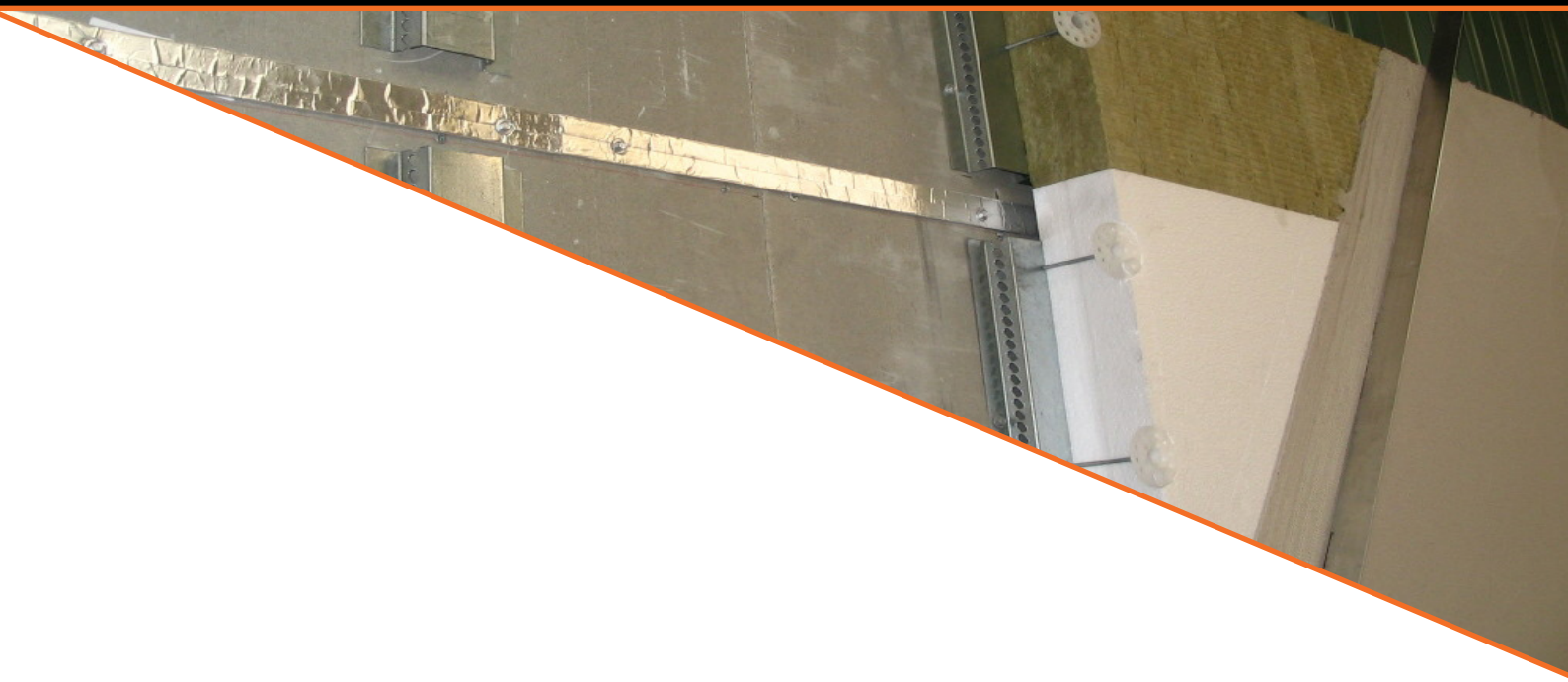
Technical Data Sheet

Astro Clad - AFFRCLAD75 (FF102/50)

Revision 4 - 23rd January 2025



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General Product Description

Astroflame's Astro Clad - AFFRCLAD75 (FF102/50), Ventilated Cavity Fire Barriers, are manufactured from a low smoke zero halogen high expansion intumescent material. They are designed to be installed horizontally to reinstate fire resisting performance to external wall cavities that are required to be ventilated (open-state) in non-fire conditions.

The Astro Clad - AFFRCLAD75 (FF102/50) is manufactured from a rigid intumescent material allowing it to be provided in a strip format, it is also covered with a protective layer of aluminium foil for ease of handling.

In the event of a fire the Astro Clad - AFFRCLAD75 (FF102/50) intumescent material will expand to close the external wall cavity, providing effective fire resistance, for integrity and insulation for up to 120 minutes depending upon the construction of the external walls.

The Astro Clad - AFFRCLAD75 (FF102/50) is designed for use within cavities of up to 50mm and once installed will close the remaining free air gap in front of the 6mm cavity barrier of up to a maximum of 44mm (depending on construction type).

Product Details

- An "open state" cavity fire barrier for use horizontally within uninsulated, ventilated and drained cavities.
- Fire Rated for up to 120 minutes for both integrity and insulation when tested to the general principles of BS EN 1363-1 following ASFP TGD 19 guidance.
- 3rd party certification from IFC (Held by manufacturer).
- Tested for : Timber Frame, SFS, Concrete, Masonry, Render Systems & External Weatherboards.
- Ventilated design – developed to allow maximum ventilation and drainage of cavities reducing the need for cavity trays or weepholes.
- Suitable for "open-state" ventilated cavities up to 50mm wide.
- Provided in strips of 1m long, 75mm wide and 6mm thick.
- Lightweight - designed to be easily and quickly installed.
- No maintenance required after installation.

Approved Applications

Astro Clad - AFFRCLAD75 (FF102/50) "Open State" Cavity Fire Barrier

Tested to the principals of BS EN 1363-1 and in accordance with ASFP TGD19 guidance								
Inner Leaf Substrate Type (facing cavity) with Appropriate minutes (EI) Fire Rating	Outer leaf Substrate Type (facing cavity) With Appropriate Fire Resistance	Orientation	Insulation Type Within Cavity	Maximum Cavity Width (in mm)	Maximum Open State Air Gap (In mm)	Product Dimensions (thickness x height x length in mm)	Product Fire Resistance Rating	
							Integrity	Insulation
OSB on Timber Frame**, Non-combustible board on SFS**** or concrete/ masonry	Masonry	Horizontal	None	50	44	6 x 75 x 1000	120**	120**
Masonry	Hardie® Plank and alternative Weatherboards***	Horizontal	None	25 (+8mm)*	19 (+8mm)*	6 x 75 x 1000	120	120
Masonry	Hardie® Plank and alternative Weatherboards***	Horizontal	None	38 (+8mm)*	32 (+8mm)*	6 x 75 x 1000	120	120
Masonry	Hardie® VL Plank and alternative Weatherboards***	Horizontal	None	38	32	6 x 75 x 1000	120	120
Masonry	Hardie® VL Plank and alternative Weatherboards***	Horizontal	None	50	44	6 x 75 x 1000	120	120
CP Board on SFS	Mineral Fibre External Wall Slab	Horizontal	None - mineral fibre formed outer substrate	15	9	6 x 75 x 1000	120	120
CP Board on SFS	Mineral Fibre External Wall Slab	Horizontal	None - mineral fibre formed outer substrate	25	19	6 x 75 x 1000	120	120

3rd Party Certification
IFC Certification - Certificate No. IFC1753

Fire Test Evidence
Field of Application Report - PAR/22672/04
International Fire Consultants Ltd (IFC) part of KIWA UK Group
Technical Assessment Report - 4790359356-1
UL International

*Hardie® Plank, Hardie® VL Plank and other weatherboards are approved with an overlapping detail resulting in a varying cavity size of up to 8mm greater than the timber batten depth.

** The fire rating required on Timber Frame projects would typically be expected to be 30 minutes only. The fire ratings and information provided in this document and supporting fire test evidence is not intended to be a complete specification for the proposed cavity barrier and it is the responsibility of others (the Principal Designer) to ensure that the product/assembly is suitable for the intended purpose.

*** Approved Weatherboard parameters:

- Material type – Fibre cement board
- Thickness – 8 mm minimum
- Reaction to fire Class - A2, s1-d0 (or better)

See UL Assessment Report 4790359356-1 for full details.

**** Non-combustible board on steel framed system (SFS) with direct and applicable fire test evidence to demonstrate that it can provide the level of fire resistance, as applicable, when tested to EN 1364-1 or EN 1365-2 with the selected facing material.

Timber/Timber Test Evidence

The Astro Clad - AFFRCLAD75 (FF102/50) was a component within a large scale simulation test of a fully developed post flashover fire within a timber frame building with timber cladding. The Astro Clad - AFFRCLAD75 (FF102/50) was fitted between ground and first floor levels within the cavity to prevent the unseen spread of fire.

The report stated:

'The intumescent horizontal cavity barrier at fire floor level prevented extensive fire spread within the structural frame. The barrier met the requirements in relation to a short duration fire resistance period.' Short duration in this context meaning 30 minutes.

For corner details, additional in house (non UKAS) fire test reports are available which relate to non- standard test details - available on request for the consideration of the project's principal designer and or fire engineer.

Technical Information

Property	Astro Clad - AFFRCLAD75 (FF102/50)
Free Expansion	26:1 Ratio
Colour	Silver
Finish	Aluminium Foil
Cuttability	Can be cut to length
Working Life	60 years (see below)
Long Term Storage Conditions	Dry, ambient
Transportation Storage Temperature	-20°C to +70°C
Durability	Type X intended for use in conditions exposed to weather (UV, rain, frost)
Smoke/Halogen Content	Low Smoke / Zero Halogen
Minimum Total Working Life (Years)	Based on typical climatic conditions UK 60 years Australia 45 years France 60 years New Zealand 60 years Germany 60 years Hong Kong 40 years The Netherlands 60 years

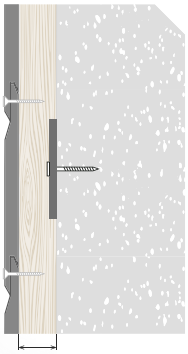
Sizes

6mm (thick) x 75mm (wide) x 1000mm (long).

Technical Drawings

Typical Detail behind Hardie® VL Plank and other generic weatherboards



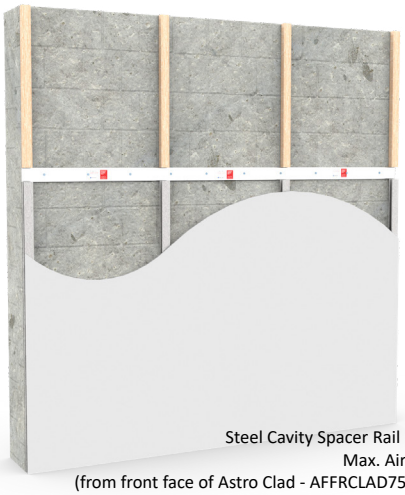


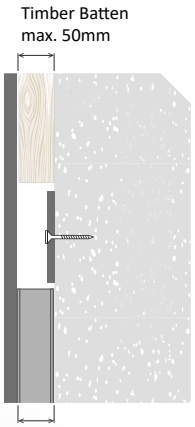
Timber Batten 38/50mm
Max. Air Gap 32/44mm
(from front face of Astro Clad - AFFRCLAD75 (FF102/50)

PLAN VIEW

Astro Clad - AFFRCLAD75 (FF102/50) between battens (stop start)

Typical Detail behind non-combustible external wall substrates





Timber Batten max. 50mm

Steel Cavity Spacer Rail max. 50mm
Max. Air Gap 44mm
(from front face of Astro Clad - AFFRCLAD75 (FF102/50)

Tested detail includes for various non-combustible outer substrates including mineral fibre external wall slab (full details can be provided upon request).

Recommended installation:

PLAN VIEW

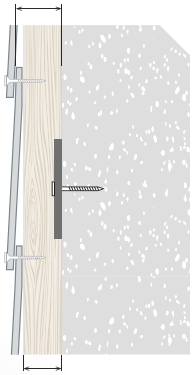
Astro Clad - AFFRCLAD75 (FF102/50) continuous through battens

It is recommended to ensure the cavity barrier is installed continuously without interruption wherever possible.

Typical Detail behind lapped Hardie® Plank and other generic weatherboards (between battens)



Max. distance to the back of the cladding 33/46mm
Max. Air Gap 27/40mm
(from front face of Astro Clad - AFFRCLAD75 (FF102/50)



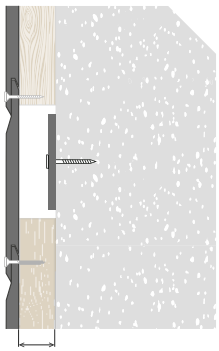
Timber Batten 25/38mm

PLAN VIEW

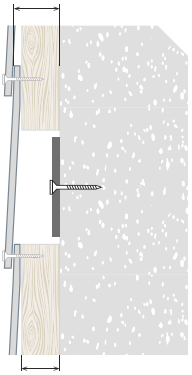
Astro Clad - AFFRCLAD75 (FF102/50) between battens (stop start)

Typical Detail behind Hardie® Plank and other generic weatherboards (continuous through battens)

Max. distance to the back of the cladding 33/46mm
Max. Air Gap 27/40mm
(from front face of Astro Clad - AFFRCLAD75 (FF102/50)



Timber Batten 38/50mm
Max. Air Gap 32/44mm
(from front face of Astro Clad - AFFRCLAD75 (FF102/50)



Timber Batten 25/38mm

Recommended installation:

PLAN VIEW

Astro Clad - AFFRCLAD75 (FF102/50) continuous through battens

It is recommended to ensure the cavity barrier is installed continuously without interruption wherever possible.

Pre Installation

The principal designer must approve the use of any cavity barrier, in conjunction with the products fire test reports, taking full account of the whole construction of the external wall systems and components, including any requirements of National Building Regulations and or NHBC Standards.

General considerations for the principal designer

In most circumstances the cavity barrier should be installed uninterrupted in a continuous line. In certain situations, installation in between vertical battens has been tested (see technical detail drawings).

The principal designer must sanction any interruptions, which may include items such as brackets, rails or battens, that may affect the continuous line of the cavity barrier. The principal designer must consider the combustibility, melting points and the shape of any interruptions, that are likely to prevent the cavity barrier performing as tested or as expected in the projects design.

If there are interruptions/obstructions that prevent the cavity barrier being fitted in a continuous line, and with sanction from the principal designer, the product may be cut with a sharp knife and tightly butted up against any obstructions and then restarted on the opposite side of the obstruction. The obstruction must not create a void which the cavity barrier can not expand into.

Intumescent cavity barriers are tested and designed to expand outwards, from the face of the intumescent material only, additional design details will be required to account for external corners.

The cavity barrier should not be penetrated by anything other than the mechanical fixings which are used to fix the cavity barrier to the building.

The cavity barrier should be installed onto a flat surface, with no gaps behind the cavity barrier, the maximum space in front of the cavity barrier should not be greater than 44mm (or less depending on construction, see cavity size and air gap details in fire test evidence table).

The Astroflame team should be consulted in any instance where the principal designer is uncertain as to any issues which may impede the ability of the cavity barrier to perform as expected.

Ensure the installation area is free from dust, oil and any corrosive material.

Check the mounting substrate is solid and free from cracks and degradation before beginning.

Tools Required

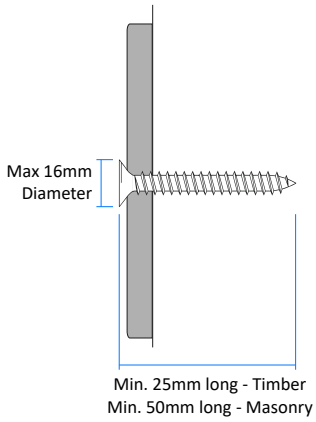
- Sharp Knife
- Measuring Tape
- Stainless Steel screws or nails - Stainless Steel Screws or Nails with a maximum head diameter of 16mm
- Appropriate drill for fixing type if using screws

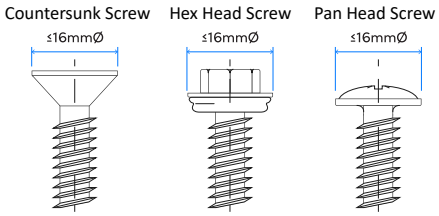
PPE Required

- Hand protection
- Eye protection

Installation Instructions







- Double check for any obstructions, ensure that if there are any that could allow fire to pass vertically, they are firestopped separately using an approved and applicable firestop product.
- Affix the product using stainless steel screws or nails at a maximum spacing of 250mm with a maximum head diameter of 16mm (screws can be countersunk, hex head and with integrated washer as long as the overall diameter is max. 16mm. Integrated washers with rubber gasket seal also tested). Fixing lengths should be suited to the substrate with a recommended minimum fixing depth of 50mm in masonry and 25mm into timber unless otherwise specified by the fixing manufacturer.
- Tighten any fastenings until the head is just touching the product, it should not be overtightened as this may damage the strip. If using nails, then care should be taken to ensure that the nail finishes flush with the front face of the fire barrier and is not recessed or does not pull through. No damage should be caused to the fire barrier when fixing with nails. Nail guns, if used, must have the pressure sufficiently reduced to take this guidance into account.
- When attaching to a solid substrate ensure that the fixings are along the centre line of the fire barrier and the labelled side is facing out into the cavity. (So that you can read the label once the fire barrier is installed).
- Position the first screw fixing at a maximum 125mm from one end, continue to face fix through at maximum 250mm centres (4 screws per linear meter), ensuring that the final fixing is a maximum 125mm from the end of the cavity barrier. This will ensure that face fixings are positioned at 250mm centres across the continuous run of cavity barrier. Where sections of cavity barrier are less than 1 linear meter in length, ensure that face fixings are positioned at a maximum 125mm from each end with additional fixings being positioned at maximum 250mm centres between the end fixings.
- For cut sections of cavity barrier less than or equal to 250mm in length only one fixing is required. If adding additional lengths, ensure they are tightly butted up against each other.

Intended Use

As a cavity barrier, within external wall cavities requiring permanent (open-state) ventilation, to reinstate fire resistance performance of uninsulated cavities of up to 50mm, in fire conditions.

Maintenance

No active maintenance required, where alterations are made around the product it should be checked visually to ensure that the product is still installed as per the approved original design and fitting instructions at the time of original installation.

Storage

- Take care not to exceed safe working loads and heights for storage shelves and racks





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 the relevant 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

Astro Clad - AFFRCLAD75 (FF102/50) Ventilated Fire Barrier 'Open State' Cavity Barriers are designed to prevent fire spread and provide compartmentalisation in the external façade. It is essential that the correct fire barriers are specified and installed, therefore please review the Field of Application Reports seen at the bottom of the product page to ensure the product is suitable for your application.

The manufacturer of this product no longer offers Free of charge technical advice on cavity barriers. If **advance technical advice** is required this can still be provided but at a cost of **£400 payment in advance**. If this service is needed please contact tel: 01329 844 500 or email: sales@astroflame.com

We would always recommend that the client seeks approval for the use of **ALL cavity barriers** from the project's principal designer/building control officer and/or the projects fire engineer before proceeding to purchase the product.

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