ASTROFLAME
PASSIVE FIRE STOP SYSTEMS

Technical Data Sheet

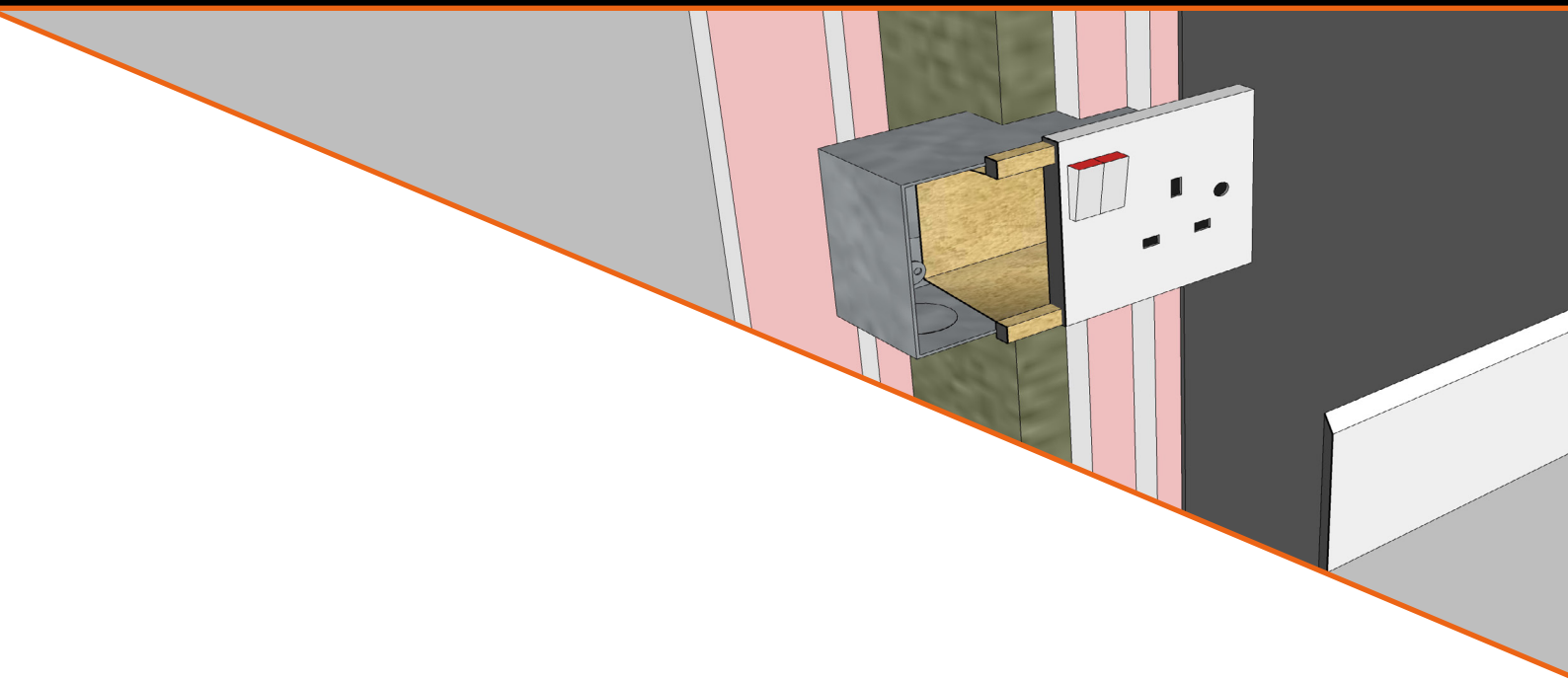
Astro FRA Socket Box Insert

Revision 3 - 29th April 2025



UK CA
0843-UKTA-24/0047
0843-CPR-1397

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General Product Description

Astroflame's Socket Box Inserts, are manufactured from halogen free, low smoke, fire resistant, mineral fibre material and are designed to maintain the fire performance of partition (stud) wall constructions when penetrated by steel or plastic electrical back boxes. The insert will also provide resistance to the passage of sound and air movement.

In the event of a fire the Socket Box Inserts mineral fibre material will prevent the fire passing through the electrical back box aperture, providing effective fire resistance, for integrity (E) and insulation (I) from 30 to 120 minutes (EI30 to EI120) depending upon the wall construction.

Key Features Technical

- BS EN 1366-3 Fire Tested
- Fire Ratings of EI30, EI60, EI90 and EI120
- Tested in Single Layer & Double Layer Partition Systems
- Tested in 75mm thick walls and greater
- Tested in "Twin Wall" Fire & Acoustic Partitions
- Acoustically Tested / Limits Air Leakage
- Back to Back tested in many applications
- Suitable and tested for both plastic pattress boxes and metal back boxes
- Available for single and double boxes (35mm and 47mm Depths available)
- Tested with multiple cable penetrations

Installation and maintenance

- Pre-formed for easy installation – can be installed in seconds without assembly or adhesives
- No maintenance required
- Mess free installation – no need for adhesives, screws or drilling
- Can be retrofitted

Approved Applications

Astro FRA Socket Box Insert / Fire Test Evidence

European Fire Performance tested in accordance with BSEN 1366-3										
Socket Box Type	Socket Box Size	Socket Box Depths (mm)	Partition Minimum Overall Thickness (mm)	Minimum Plasterboard Requirements either side of wall	Cavity Insulation Required	Minimum Offset (mm)	Back Box Position in Wall (See notes below table)	Integrity (E)	Insulation (I)	Classification (EI)
Plastic	Single / Double	35/47	100	2 x 12.5mm*	Yes***	150	Flush	120	120	120
Plastic	Single	35/47	100	2 x 12.5mm*	No	150	Flush	120	120	120
Plastic	Single / Double	35	100	2 x 12.5mm*	Yes***	0 (Back to Back)	Flush	120	90	90
Plastic	Double	47	100	2 x 12.5mm*	No	150	Flush	90	90	90
Metal	Single / Double	35/47	100	2 x 12.5mm*	No	0 (Back to Back)	Flush	120	90	90
Metal	Single / Double	35/47	100	2 x 12.5mm*	No	150	12.5mm Recessed	90	90	90
Metal	Single / Double	35/47	75	1 x 12.5mm*	No	150	Flush	30	30	30
Plastic	Single / Double	35/47	75	1 x 12.5mm*	No	150	Flush	30	30	30

European Fire Performance tested in accordance with BSEN 1364-1 with guidelines from BS EN 1366-3										
Socket Box Type	Socket Box Size	Socket Box Depths (mm)	Partition Minimum Overall Thickness (mm)	Minimum Plasterboard Requirements either side of wall	Cavity Insulation Required	Minimum Offset (mm)	Back Box Position in Wall (See notes below table)	Integrity (E)	Insulation (I)	Classification (EI)
Metal	Single / Double	35/47	190	2 x 12.5mm**	No****	150	Flush	60	60	60
Metal	Single	35/47	190	2 x 12.5mm**	No****	150	Nom. 20mm Recessed	60	60	60

Test evidence available upon request.

- Minimum Offset relates to position of socket boxes either side of the wall, e.g. 150mm means the sockets on one side of the wall must be horizontally offset by minimum 150mm compared to the socket on the other side of the wall.
- Minimum Offset of 0mm means that the socket boxes may be installed directly back to back either side of the partition or horizontally offset by any spacing >0mm.
- Plastic Pattress Boxes must be fitted flush with front face of outer plasterboard layer.
- Metal Back Boxes can be fitted flush or recessed to the maximum stated in the above tables.
- Where Metal Back Boxes are recessed, the Socket Box Insert may be fitted at any position from the front face of plasterboard or recessed to the back of the back box.
- Cable Entry tested with either pre-made tight fitting hole or pre-slitting of Socket Box Insert to allow retrofitting around existing cables.
- Testing in min. 100mm thick walls allows for up to 3No. 2.5mm Twin & Earth cables per socket.
- Testing in min. 190mm thick walls allows for up to 7No. 2.5mm Twin & Earth or up to 2No. 6mm Twin & Earth cables per socket.

*Partition must be of the same or higher fire resistance classification in accordance with EN 13501-2 with 2x12.5mm thick Gypsum boards in accordance with EN 520
**Plasterboard tested was Siniat GTEC dB Board, Type D board in accordance to EN 520. Partition must be of the same or higher fire resistance classification in accordance with EN 13501-2 with minimum 2x12.5mm thick Gypsum boards in accordance with EN 520
***Cavity insulation must be min. 50mm thick / min. 100kg/m3 / stone wool
****Testing was carried out both with and without cavity insulation in place behind the sockets. Fire Resistance of EI60 was achieved in either scenario. Therefore, Insulation is not required to achieve the fire rating. For info, the specification of insulation tested was 160mm thick / min. 9kg/m3 glass wool.

Acoustic Test Data

Tested for airborne sound insulation in accordance with BS EN ISO 140-3 and BS EN ISO 717-1.
Testing was carried out on a partition both with and without sockets installed.
The testing showed no relative/significant reduction in airborne sound insulation when sockets were protected by FF130 Socket Box Inserts.
Airborne sound insulation rating of the partition achieved:
Rw (C;Ctr)= 67 dB

Sizes

Available for both single or double electrical back boxes, to suit the following dimensions:

- Single (35mm) Insert - Width 70mm x Height 70mm x Depth 35mm
- Single (47mm) Insert - Width 70mm x Height 70mm x Depth 47mm
- Double (35mm) Insert - Width 140mm x Height 70mm x Depth 35mm
- Double (47mm) Insert - Width 140mm x Height 70mm x Depth 47mm

Socket Box Insert nominal thickness 4mm

Tools / Fittings

Screwdriver, sharp knife, tape measure.

Intended use

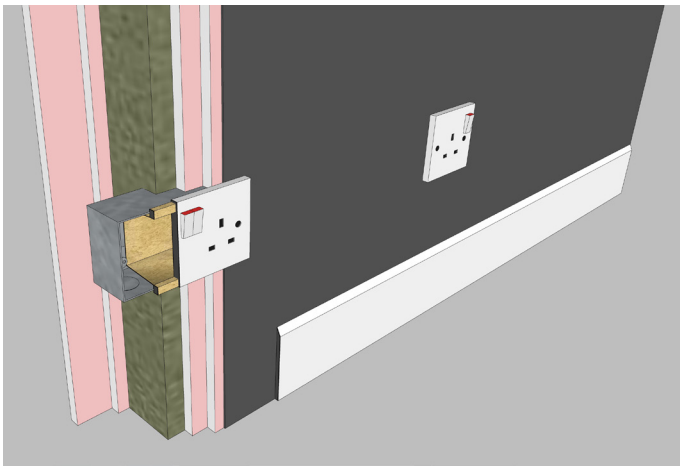
Internally used within partition (stud) wall voids, fitted within recessed back boxes to maintain fire resistance performance.

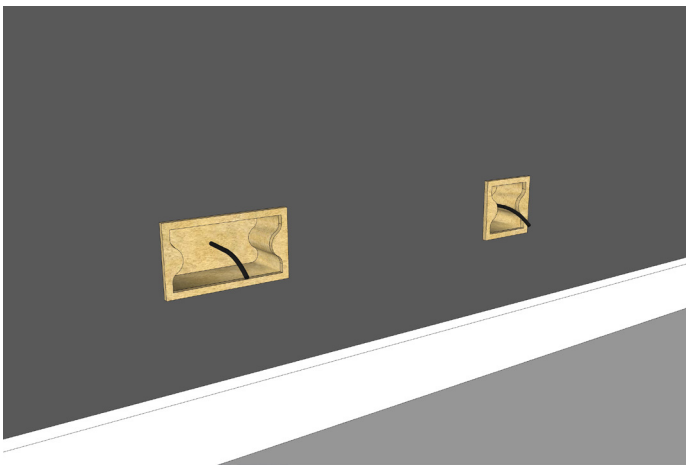
Storage & Durability

Storage	Dry, ambient
Transportation storage temperature	-20°C to +70°C
Working Life	48 years
Smoke/Halogen Content	Low Smoke / Zero Halogen

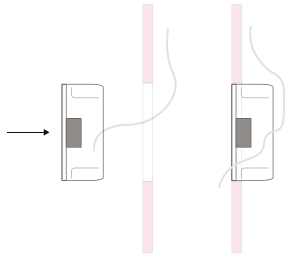
Transportation

- Store in a cool dry place
- Take care not to exceed safe working loads and heights for storage shelves and racks





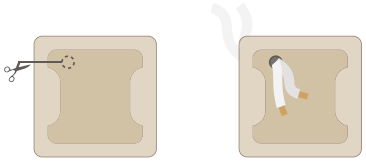
Fitting Instructions



STEP 1

Fit the electrical back box into the aperture in the wall following the manufacturer's instructions, ensuring the back box is fitted tightly, gaps between the sides of the back box and the hole cut through the plasterboard must be as small as practicable.

Plastic pattress boxes must sit flush to the face of the wall. Metal back boxes can be flush or recessed (see fire test data table for max. recess depth).



STEP 2

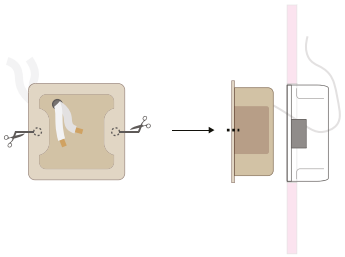
Cable Install Options:

Option 1) Pierce a hole, as small as possible, through the Socket Box Insert to allow cable to pass through.

Or

Option 2) Make a small slit in the Socket Box Insert to allow retro fitting around cables. Slit must be as small as possible and should close back up once cables installed. (As long as the slit is closed back up, it does not need to be sealed).

Max 3No. Cables per Socket in min. 100mm thick EI30/60/90/120 partitions.
Max 7No. Cables per Socket in min. 190mm thick EI60 partitions.

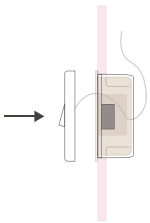


STEP 3

Fit the Socket Box Insert into the back box and pierce two small holes through the face of the insert in the position required for the face plate fixing screws. Alternatively, the Socket Box Insert can be slit at the screw location point to aid installation around fixing screws.

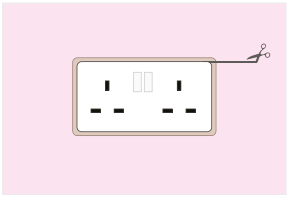
The flange of the Socket Box Insert should sit in front of outer plasterboard layer in all cases except in Metal Back Boxes in up to 60 Minute Rated Partitions where the Socket Box Insert may be recessed by up to 20mm. The width of the flange of the Socket Box Insert may be trimmed to allow recessed fitting, however the depth of the Socket Box Insert must not be reduced.

Fitting Instructions



STEP 4

Make the electrical connections as required to the switch/socket cover plate and fit the face plate in the normal manner.



STEP 5

Any excess insert material visible around the sides of the fitted switch/ socket cover plate may be trimmed off.

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