

# Technical Data Sheet

# Astro DS Low Profile Duct Sleeve

Revision 3 - 5th December 2023



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> Technical Data	<b>General Product Description &amp; Product Advantages</b>	> Page 1
> Technical Data	<b>Installation Variations</b>	> Page 2-3
> Technical Data	<b>Physical Properties, Tested Duct Sizes, Dimensions, Tools / Fixings &amp; Maintenance</b>	> Page 4
> Technical Data	<b>Fitting Instructions</b>	> Page 5



### General Product Description

The Astro DS Duct Sleeve Low Profile are a family of CE Marked fire penetration seals designed to firestop PVC ventilation ducts/pipes when installed through fire rated constructions.

The unique vacuum formed intumescent material design ensures that the expansion direction of the material crushes and seals the ducting in a fire situation without the need for any additional support or metal sleeving.

The lack of metal sleeving, not only makes installation easy, it also limits the risk of heat transfer through the structure as well as allowing compression to ensure a tight seal against fire and smoke or tight fitting against the ceiling soffit where needed.

The Fire Sleeves provide fire resistance ratings for Integrity (E) and Insulation (I) for up to EI120 minutes depending on the construction.

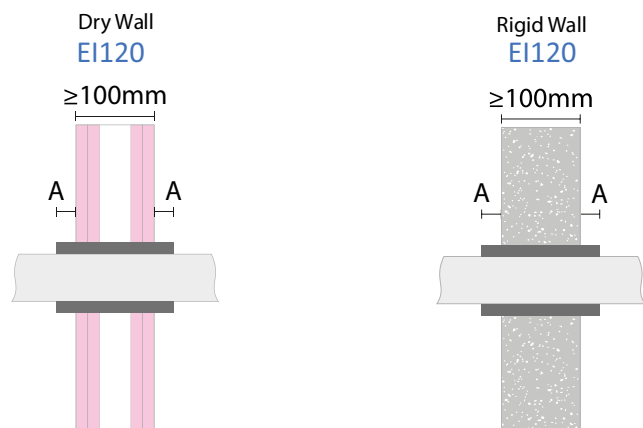
Fire Tested for both internal and external wall constructions. The Astro DS Duct Sleeve Low Profile are CE Marked with a European Technical Approval (ETA) based on extensive fire testing to BS EN 1366-3.

### Product Advantages

#### Technical

- Fire rated product up to EI 120 minutes
- Tested for masonry, concrete and plasterboard walls
- Tested in external wall / SFS constructions
- CE Marked
- U/U - Uncapped/Uncapped tested as required for ventilated systems
- Can be retro fitted
- Low profile design
- Available preformed and ready to install in both circular or rectangular shapes
- Compressible material, offers accommodation for deflection
- No metal sleeving or boxing out required

### Installation Variations

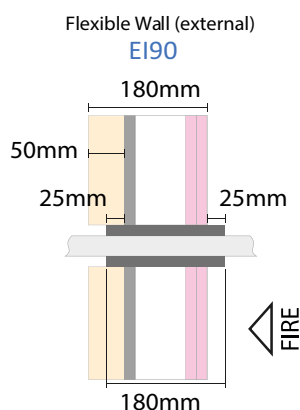


Test Standard	Duct Size Ref.	Duct Size (mm)	Duct Wall Thickness (mm)	Material	Min. Sleeve Length (mm)	Min. Protrusion (A) (mm)	Fire Rating	End Cap Configuration	Report No.
EN 1366-3	100	103	1.5	PVC	150	25	EI120	U/U	ETA 20-1337
EN 1366-3	125	127	1.8	PVC	250	75	EI120	U/U	ETA 20-1337
EN 1366-3	150	155	2.0	PVC	250	75	EI120	U/U	ETA 20-1337
EN 1366-3	110x54	110x54	1.5-1.8	PVC	150	25	EI120	U/U	ETA 20-1337
EN 1366-3	204x60	204x60	1.5-1.8	PVC	150	25	EI120	U/U	ETA 20-1337
EN 1366-3	220x90	220x90	1.5-1.8	PVC	150	25	EI120	U/U	ETA 20-1337

Service Support must be max. 300mm from the surface of the wall

Seals must be minimum 200mm apart

Rigid Walls must comprise concrete, aerated concrete or masonry with a minimum density of 650 kg/m<sup>3</sup> (wall type A, see ETA) or concrete or masonry with a minimum density of 1100 kg/m<sup>3</sup> (wall type B).



#### Construction Build-Up

Celotex PIR Foil Faced Insulation 50mm thick / 31kg/m<sup>3</sup>

Siniat GTEC Weather Defence Board SE 1x12.5mm

Rockwool ProRox SL920 Rock Fibre Insulation 100mm thick / 45kg/m<sup>3</sup>

Metsec Steel Stud 90mm wide

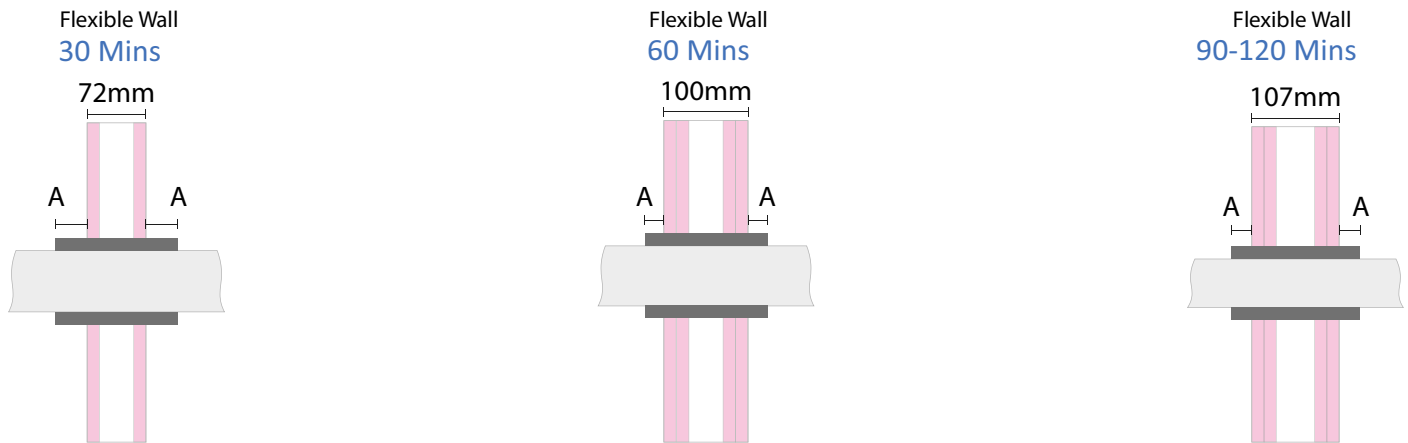
Siniat GTEC Fire Board SE Plasterboard 2x12.5mm

Test Standard	Duct Size Ref.	Duct Size (mm)	Duct Wall Thickness (mm)	Material	Min. Sleeve Length (mm)	Min. Protrusion (A) (mm)	Fire Rating	End Cap Configuration	Report No.
EN 1366-3	100	103	1.8	PVC	180	25	EI90	U/U	WF 422551
EN 1366-3	125	127	1.8	PVC	180	25	EI90	U/U	WF 422551
EN 1366-3	110x54	110x54	1.5 (+/-0.15)	PVC	180	25	EI90	U/U	WF 422551
EN 1366-3	204x60	204x60	2.25 (+/-15mm)	PVC	180	25	EI90	U/U	WF 422551
EN 1366-3	220x90	220x90	2.25 (+/-15mm)	PVC	180	25	EI90	U/U	WF 422551

Service Support must be max. 300mm from the surface of the wall

Seals must be minimum 200mm apart

### Installation Variations



Test Standard	Duct Size Ref.	Duct Size (mm)	Duct Wall Thickness (mm)	Material	Std. Sleeve Length (mm)	Min. Protrusion in 72-99mm thick walls (mm)	Min. Protrusion in ≥100mm thick walls (mm)	Soffit Fix Allowed	Side by Side Installation	Fire Rating	End Cap Configuration	Report No.
BS 476 Pt. 22	100	103	1.5	PVC	180	39	25	N	N	30 ,60, 90, 120	U/U	PAR/14600/01
BS 476 Pt. 22	125	127	1.8	PVC	280	89	75	N	N	30 ,60, 90, 120	U/U	PAR/14600/01
BS 476 Pt. 22	150	155	2.0	PVC	280	89	75	N	N	30 ,60, 90, 120	U/U	PAR/14600/01
BS 476 Pt. 22	110x54	110x54	1.5	PVC	180	39	25	Y	Y	30 ,60, 90, 120	U/U	PAR/14600/01
BS 476 Pt. 22	204x60	204x60	1.5-1.8	PVC	180	39	25	Y	Y	30 ,60, 90, 120	U/U	PAR/14600/01
BS 476 Pt. 22	220x90	220x90	1.8	PVC	180	39	25	Y	Y	30 ,60, 90, 120	U/U	PAR/14600/01

When rectangular ducts fixed underside the soffit, top edge of Fire Sleeve must be tight to the soffit, max. 5mm gaps allowable if sealed with intumescent acrylic sealant

When rectangular ducts fixed side by side, limited to maximum 3No., adjacent Fire Sleeves must be in close and constant contact

When rectangular ducts fixed side by side, ducts must be of the same size

Please refer to PAR/14600/01 for more limitations on multiple duct installations

Service Supports must be max. 300mm from the surface of the wall

Individual seal openings must be minimum 200mm apart



### Physical Properties

Property	Units	Value
Free expansion	Ratio:1	FF109 Sleeve = 6:1 / FF107 Pad = 30:1

Properties	
Colour	Red
Finish	Glossy label on reinforced aluminium foil
Cuttability	Can be cut lengthways to retrofit
Compressability	Does compress
Working Life	48 years
Storage	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

### Tested Duct Sizes

Rectangular all in mm	Circular Ø all in mm
110 x 54	100 (103)
204 x 60	125 (127)
220 x 90	150 (155)

### Dimensions

Duct Size	Nominal Thickness	Nominal External Width / Diameter	Nominal External Height	Length
110x54mm	10-15mm	134mm	83mm	180mm
204x60mm	10-15mm	228mm	89mm	180mm
204x60mm	10-15mm	228mm	89mm	360mm
220x90mm	10-15mm	244mm	124mm	180mm
220x90mm	10-15mm	244mm	124mm	360mm
100mm (103mm)	15mm	244mm	-	180mm
125mm (127mm)	15mm	160mm	-	280mm
150mm (155mm)	20mm	200mm	-	280mm

### Tools / Fixings

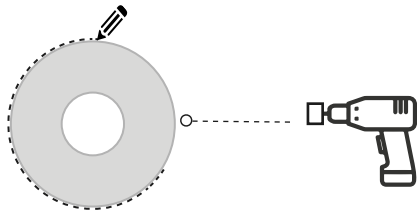
- Knife
- Aluminium foil repair tape
- Hole cutting tools as required for substrate

### 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 fitting instructions and tested systems.

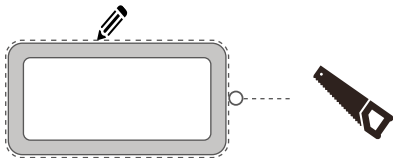


## Fitting Instructions



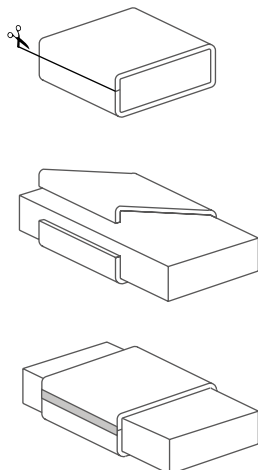
### Step 1a

If using a hole cutter for circular holes, ensure that the correct fire sleeve wall thickness (15mm + 15mm) 30mm total is added to the diameter of the pipe, this equals the aperture size. Cut the hole through the substrate using the correct blade, in the required location.



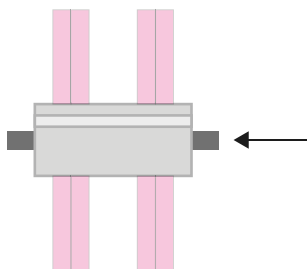
### Step 1b

If cutting without a hole cutter, using a pencil, draw around the fire sleeve at the required position of the aperture, ensure a tightly marked line. Use this line to cut the aperture through the substrate, using the required equipment as appropriate.



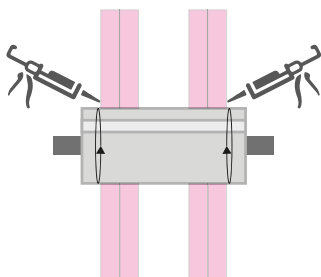
### Step 2

Unless the sleeve can be slid down the length of pipe/vent/duct to the aperture, carefully cut along the length of the fire sleeve, using a sharp knife or scissors, on a rectangular duct/vent cut centrally to one of the sides, place the sleeve around the pipe/duct/vent close to the aperture, and apply foil tape over the joint, where the sleeve was cut.



### Step 3

Push gently on the sleeve to pass it through the wall, if the sleeve covering starts to tear or if excessive resistance is felt, pull the sleeve back and trim the aperture. The sleeve should be pushed into the required position, ensuring that the required length of sleeve protrudes on either side of the wall.



### Step 4 (If required)

If required for the purpose of smoke and draft stop, air or water tightness and airborne sound insulation, the gap between opening edge and fire sleeve may be sealed off by a suitable acrylic intumescent mastic construction sealant approved for penetration sealing applications.

### 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](tel:01329844500) or email [sales@astroflame.com](mailto: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 sheet for fields of application for this product. For further information on installation requirements please refer to the duct manufacturer data and wall specification to ensure the compatibility of this product, if in doubt please contact the technical team with services and wall specification on tel [01329 844 500](tel:01329844500) or email [sales@astroflame.com](mailto:sales@astroflame.com)

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