



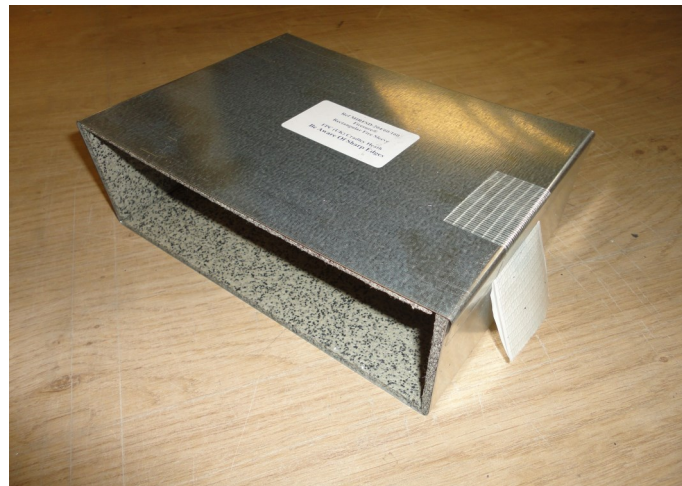
FPC(UK) Ltd Manufacturers and suppliers of quality Firesure™ Fire Protection Products.

Firesure™ Metal Intumescent Rectangular Fire Sleeves for Ducting

Description

The Firesure™ metal intumescent duct sleeve is designed for and suitable for use with thin wall rectangular plastic ducting in plasterboard stud partitioning and masonry walls.

- Features and Benefits**
- Tested to BSEN 1363-3:2009 – Latest Test Data Date June 2020
 - Tested with Uncapped/Uncapped (U/U) duct configurations required for ventilation ducts
 - Tested on more onerous 100mm stud partition
 - Tested through unlined openings through infill and pattrass Slab/
Batt
 - Tested on 1.5mm thin wall ducting
 - In excess of 2 hours fire rating achieved in differing lengths from 110mm to 180mm
 - Suitable for insulated and non-insulated partitions
 - No mechanical fixings required – Can also be retrofitted
 - Unaffected by water/moisture.
 - Cost effective, Easy to install, Maintenance free, Available in range of sizes



*** Manufactured in various lengths ***
 *** Now tested up to 220mm long ***

Can be made in longer lengths.

Firesure™ Metal Intumescent Rectangular Fire Sleeves for Flat Ducting are manufactured to suit 110x54mm, 204x60mm and 220x90mm in various lengths.

Firesure™ Metal Intumescent Rectangular Fire Sleeves for Flat Ducting consists of a graphite based intumescent encased within a glavanised steel sleeve.

Duct Sizes and Lengths Available

Product Code	Duct Size (mm)	Recommended Aper- ture (mm)	Firesure™ MIRFSD length (mm)	Fire Rating
MIRFSD-220/90/160	220 x 90	232 x 102	160 to 220	≥ 2 hours
MIRFSD-204/60/180	204 x 60	216 x 72	180 to 220	≥ 2 hours
MIRFSD-204/60/160	204 x 60	216 x 72	160 to 220	≥ 2 hours
MIRFSD-204/60/110	204 x 60	216 x 72	110 to 220	≥ 2 hours
MIRFSD-110/54/160	110 x 54	122 x 66	160 to 220	≥ 2 hours
MIRFSD-110/54/110	110 x 54	122 x 66	110 to 220	≥ 2 hours



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Caution—Product may have sharp edges—It is advised to wear gloves when handling

Application - Installation Instructions

The Firesure™ metal intumescent duct sleeve must be positioned centrally to bridge the cavity within stud partitioning, so that as a minimum it is flush with both faces of the wall, or protrudes from each face.

The plasterboard should be cut to be as tight a fit as possible around the Firesure™ metal intumescent fire sleeve. Any gaps should be sealed with Firesure™ Intumescent Mastic.

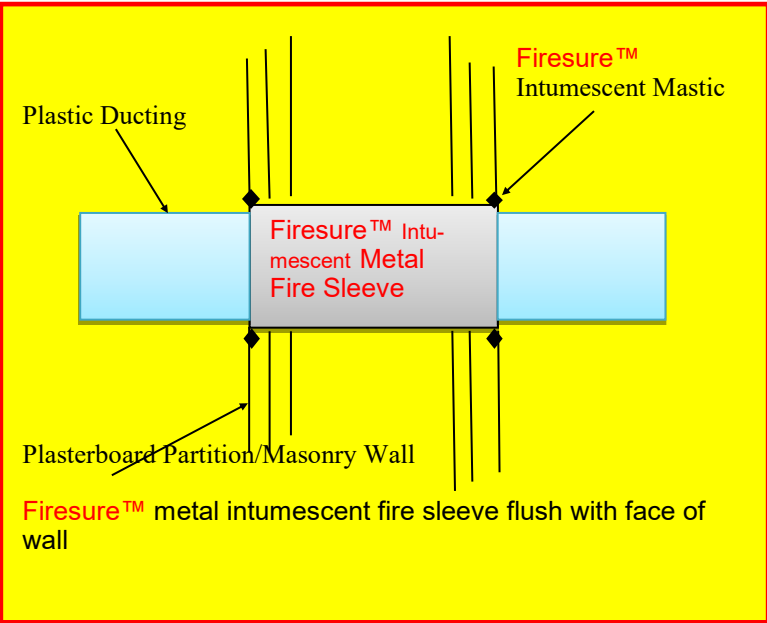
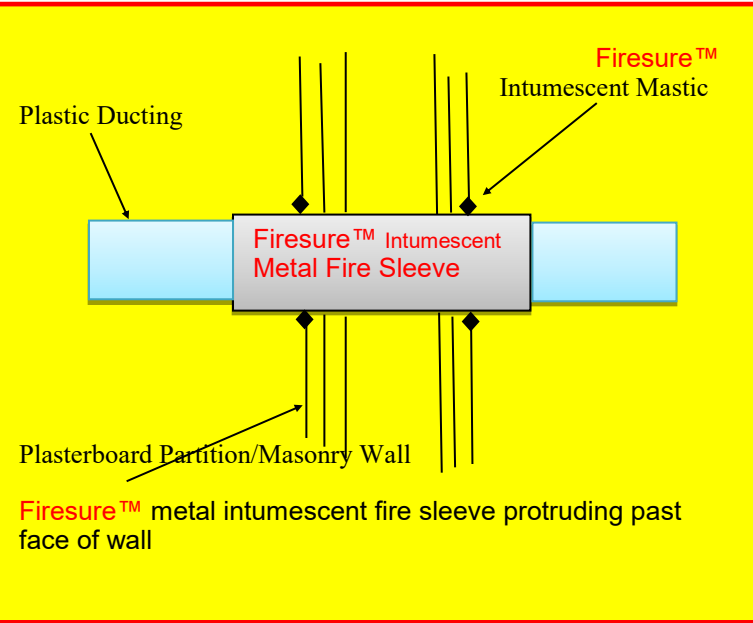
In a fire the intumescent expands and being contained within the metal sleeve it expands and closes the hole left by the collapsing ducting retaining the structures integrity.

The Firesure™ metal intumescent duct sleeve is made to suit the size of the ducting and the length required.

To ease installation of the Firesure™ metal intumescent duct sleeve a self adhesive tab is attached to secure the sleeve whilst positioning through the wall/partition.



Metal intumescent fire sleeve in situ ready for boarding.



This product should be fitted as above. ** This product is a guaranteed product and is covered by our £10,000,000.00 product efficacy insurance cover. ** The I.P. proprietor reserves the right to alter or amend the design specifications of this product at any time without notice.



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Firesure™ Metal Intumescent Rectangular Fire Sleeves for Ducting

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Test in 120 minute partition, through 2 No. layers 12.5mm plasterboard each side.

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Duct E

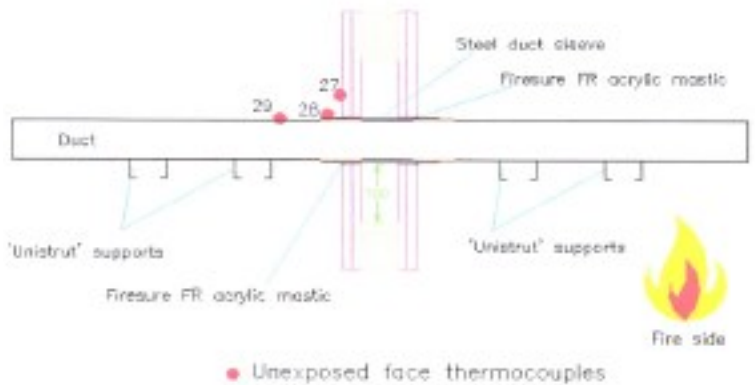
Service detail

Test reference	Duct material	Duct size (nominal)	Duct wall thickness (nominal)	Opening size (nominal)
E	Verplas UPVC	220mm x 90mm	1.5mm	238mm x 104mm

Penetration seal detail

Test reference	Duct seal	Intumescent size
E	Firesure™ Metal Intumescent Duct Sleeve 160mm long x 238mm x 104mm	2No. 50mm wide x 4mm thick 1No. fitted flush at each end of the duct sleeve
	Firesure FR Acrylic Sealant	Sealing duct sleeve to plasterboard

Cross section through penetration



Overall performance

Specimen reference	Integrity			Insulation
	Cotton pad	Gap gauge	Continuous flaming	
E	132 (one hundred and thirty two) minutes*	132 (one hundred and thirty two) minutes*	132 (one hundred and thirty two) minutes*	39 (thirty nine) minutes

* No failure at termination of the test at 132 minutes

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Duct N

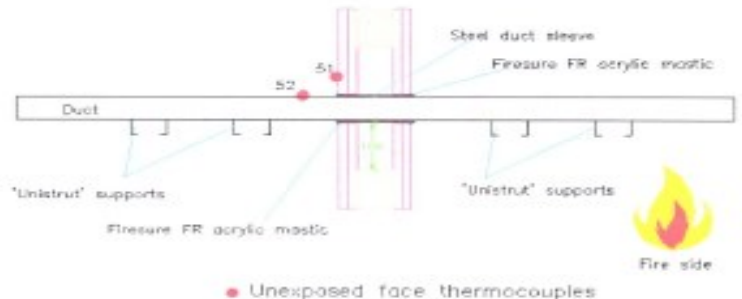
Service detail

Test reference	Duct material	Duct size (nominal)	Duct wall thickness (nominal)	Opening size (nominal)
N	Verplas UPVC	204mm x 60mm	1.5mm	224mm x 78mm

Penetration seal detail

Test reference	Duct seal	Intumescent size
N	Firesure™ Metal Intumescent Duct Sleeve 110mm long x 224mm x 78mm	2No. 50mm wide x 4mm thick 1No. fitted flush at each end of the duct sleeve
	Firesure FR Acrylic Sealant	Sealing duct sleeve to plasterboard

Cross section through penetration



Overall performance

Specimen reference	Integrity			Insulation
	Cotton pad	Gap gauge	Continuous flaming	
N	121 (one hundred and twenty one) minutes	-	121 (one hundred and twenty one) minutes	80 (eighty) minutes



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Firesure™ Metal Intumescent Rectangular Fire Sleeves for Ducting

Caution—Product may have sharp edges—It is advised to wear gloves when handling

Test in 30 minute partition, through Single layer 12.5mm plasterboard each side.
Multiple Ducts through Pattress fitted and Inserted Slab/Batt in unlined openings.

*** Manufactured in various lengths and Now tested up to 220mm long ***

Can be made in longer lengths.

Now tested in 30minute (April 2020) and 1 hour partition walls (June 2020)
 Through Plasterboard through Slab/Batt inserted through unlined aperture,
 and Pattress fitted Slab/Batt over unlined aperture

Tested as above through Slab/Batt stacked 3 high on top of each other.

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Multiple duct penetration E

Service detail

Test reference	Duct manufacturer and material	Duct size	Duct wall thickness	Overall aperture size	Duct insulation	Duct capping
Ducts E1-3	Verplas UPVC	220mm x 90mm	1.5mm	300mm x 400mm	None fitted	U/U

Note: duct penetration E consisted of 3No. ducts with details as described above, applied stacked on top of each other

Penetration sealing system

Test reference	Fire sealing	Intumescent size
Ducts E1-3	2No. 50mm thick Firesure® Slab/Batt ISB 50/1	Pattress fitted on each face – screwed and sealed to plasterboard with 100mm long screws, washers and Firesure® FR acrylic sealant
	Firesure® MIRFSD-220/90/220 fitted around each duct	2No. 4mm thick x 50 wide – protruding 10mm from each face of the wall. Sealed flush between ducts and to the batt with Firesure® FR acrylic sealant.

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Multiple duct penetration G

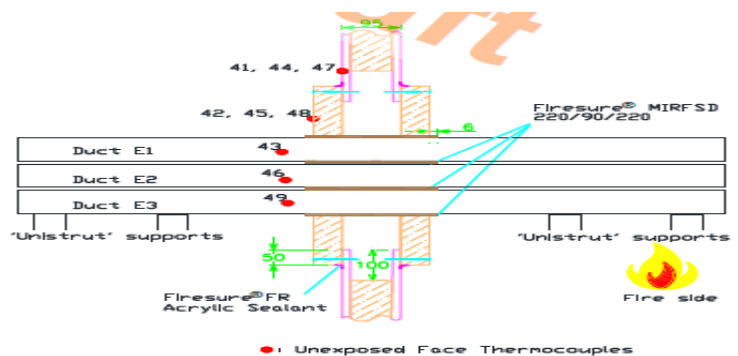
Service detail

Test reference	Duct manufacturer and material	Duct size	Duct wall thickness	Overall aperture size	Duct insulation	Duct capping
Ducts G1-3	Verplas UPVC	220mm x 90mm	1.5mm	300mm x 400mm	None fitted	U/U

Note: duct penetration G consisted of 3No. ducts with details as described above, applied stacked on top of each other

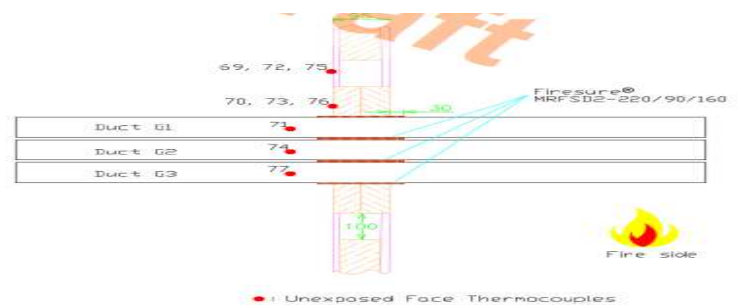
Penetration sealing system

Test reference	Fire sealing	Intumescent size
Ducts G1-3	2No. 50mm thick Firesure® Slab/Batt ISB 50/1	Friction fitted within the aperture and sealed to plasterboard Firesure® FR acrylic sealant
	Firesure® MIRFSD2-220/90/160 fitted around each duct	No.4mm thick x 50mm deep positioned 2-3mm in from both edges of the metal sleeve Metal sleeve 160 wide – protruding 30mm from each face of the wall sealed flush to the batt with Firesure® FR acrylic



Overall performance

Specimen reference	Integrity			Insulation
	Cotton pad	Gap gauge	Continuous flaming	
Ducts E1-3	40 minutes	-	-	1 minute



Overall performance

Specimen reference	Integrity			Insulation
	Cotton pad	Gap gauge	Continuous flaming	
Ducts G1-3	-	-	38 minutes	2 minutes



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Firesure™ Metal Intumescent Rectangular Fire Sleeves for Ducting

Caution—Product may have sharp edges—It is advised to wear gloves when handling

Test in 60 minute partition, through 2 No. layers 12.5mm plasterboard each side.
Multiple Ducts through Pattress fitted and Inserted Slab/Batt in unlined openings.

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Multiple duct penetration D

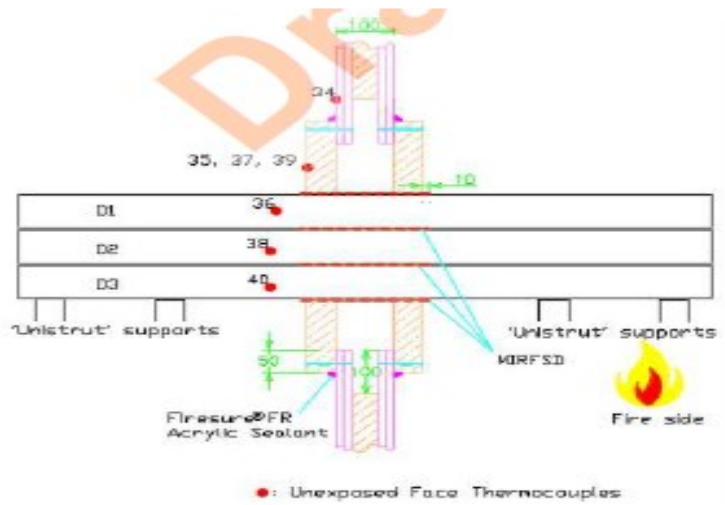
Service detail

Test reference	Duct manufacturer and material	Duct size	Duct wall thickness	Overall aperture size	Duct insulation	Duct capping
Ducts D1-3	Verplas PVC ?	220mm x 90mm	1.5mm	300mm x 400mm	None fitted	U/U

Note: duct penetration E consisted of 3No. ducts with details as described above, applied stacked on top of each other

Penetration sealing system

Test reference	Fire sealing	Intumescent size
Ducts D1-3	2No. 50mm thick Firesure® Slab/Batt ISB 50SS/1	Pattress fitted on each face – screwed and sealed to plasterboard with 100mm long screws, washers and Firesure® FR acrylic sealant.
	Firesure® MIRFSD-220/90/220 fitted around each duct	5mm thick x 220 wide – protruding 10mm from each face of the wall. Sealed to the batt with Firesure® FR acrylic sealant.



Overall performance

Specimen reference	Integrity			Insulation
	Cotton pad	Gap gauge	Continuous flaming	
Ducts D1-3	60 minutes	-	-	17 minutes

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Multiple duct penetration F

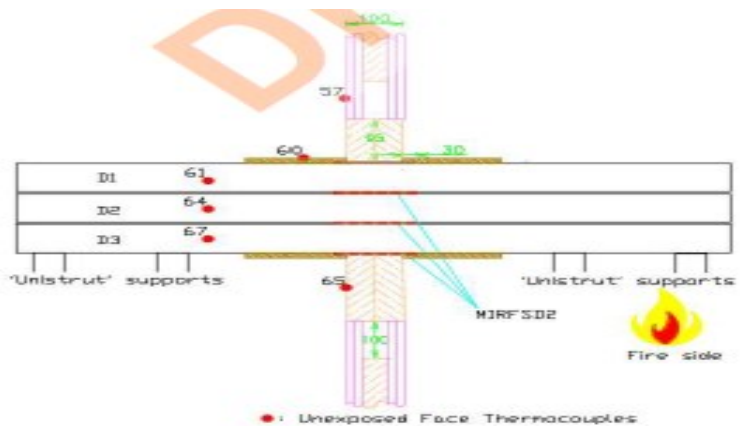
Service detail

Test reference	Duct manufacturer and material	Duct size	Duct wall thickness	Overall aperture size	Duct insulation	Duct capping
Ducts F1-3	Verplas PVC ?	220mm x 90mm	1.5mm	300mm x 400mm	Manufacturer?? ref?? ??mm thick x ??mm wide insulation?? local interrupted	U/U

Note: duct penetration G consisted of 3No. ducts with details as described above, applied stacked on top of each other with insulation wrapped around outer perimeter of duct stack

Penetration sealing system

Test reference	Fire sealing	Intumescent size
Ducts F1-3	2No. 50mm thick Firesure® Slab/Batt ISB 50SS/1	Friction fitted within the aperture and sealed to plasterboard with Firesure® FR acrylic sealant.
	Firesure® MIRFSD2-220/90/160 fitted around each duct	5mm thick?? x 160 wide – protruding 30mm from each face of the wall



Overall performance

Specimen reference	Integrity			Insulation
	Cotton pad	Gap gauge	Continuous flaming	
Ducts F1-3			67 minutes *	3 minutes**

* Integrity failure agreed by test sponsor
 ** Duct F1