

DINCEL & AFS STYLE CONCRETE WALLS



This manual provides tested Passive Fire Penetration Systems currently available to maintain the fire resistance level (FRL) of service penetrations through concrete-filled walls such as Dintel, AFS and Logicwall with permanent formwork.



SYSTEMS

FyreBOX MINI
FyreBOX MAXI
FyreBOX SLAB-MOUNT BAMBINO
FyreBOX SLAB-MOUNT
Fyre COLLAR MIXED SERVICES
Fyre COLLAR CONDUIT
Fyre COLLAR PREMIUM RETROFIT
FyreBOARD MAXILITE
TWRAP
FyreBATT
FyreFLEX
FyrePLUG
FyrePEX HP
FyreSHEATH
FyreSHIELD
FyreSHIELD PLUS



APPLICATIONS

Wall types :

- AFS
- Dintel
- Ritek
- Fast Form
- Rise Wall
- Other permanent formwork type walls

TRADES



TABLE OF CONTENTS



	Section	Page
	Overview	1
	Compliance With The NCC	3
	With Formwork Left in Place	
	Solutions for Correct Annular Gap Size	4
	Solutions for Oversized Openings: Copper/Steel Pipes	5
	Solutions for Oversized Openings: Plastic Pipes	5
	Solutions for Oversized Openings: HVAC&R	6
	Solutions for Oversized Openings: PVC Conduits	6
	Solutions for Oversized Openings: Electrical/Data Cables	7
	Formwork Locally Removed Around Penetration	
	Copper/Steel Pipes	8
	Plastic Pipes	9
	HVAC&R	10
	PVC Conduits	11
	Electrical/Data Cables	12
	Access Panels	13
	System Range	14

COMPLIANCE (NCC)



INTRO

Concrete walls that use modular and permanent formwork to form the shape and placement of structural and non-loadbearing walls are becoming popular in the Australian building industry due to the reduction in construction time and fire-resistant properties.

From a fire perspective, these types of walls complicate the fire stopping penetration systems as there are multiple different facing materials at varying thicknesses, which can have an impact on fire stopping when tested as a full system.

COMPLIANCE WITH THE NATIONAL CONSTRUCTION CODE (NCC)

Formerly known as BCA

For a penetration system to comply with the NCC clause C3.15 (now C4D15), it must be installed on site IDENTICALLY using the same fire stopping SYSTEM that has been fire tested or assessed AS1530.4-2014 and AS4072.1. The fire wall tested is an important part of the this SYSTEM testing, and tells us that each individual wall type should be evaluated separately with each different penetration system.

Under the permissible variations of AS1530.4 Section 10.12, results obtained from testing in 2 hour plasterboard walls can be applied to concrete walls of equal or greater thickness. This is convenient for pre cast concrete walls without any formwork. However, compliance for concrete walls with permanent formwork (such as Dintel or AFS) is more complicated.

Many fire stopping systems require an interface with the vertical face of a concrete wall (eg. A cone of sealant applied directly to the concrete and the service, or fire rated board such as Maxilite that overlaps an opening in a concrete wall).

As the formwork is generally made of a non fire rated material such as plastic, the interface between the fire stopping system and the formwork could be compromised. For this reason, passive fire material manufacturers generally recommend locally removing the formwork around the penetration unless the system has been tested or assessed specifically with the facing material left in place.











This manual lists the systems that are approved for these walls and which systems can be applied with and without having to strip back facing material.

FRL TABLES

WITH FORMWORK LEFT IN PLACE

The following services may be installed without having to remove any formwork off the wall:

RETROFIT SOLUTIONS FOR CORRECT ANNULAR GAP SIZE

Applications	Trade	System + Report Reference	Details	FRL
PEX Pipes up to 25mm		FyrePEX HP FAR 4849 Table 13	For specific system and FRL details refer to the: FyrePEX Plumbers Technical Manual	-/120/120
Pair coil with FR insulation		FyrePEX HP FAR 4849 Table 13		-/120/120
PVC Conduits up to 40mm		FyrePEX HP FAR 4849 Table 13		-/120/120
Mixed Services: <ul style="list-style-type: none"> Insulated/Bare Copper or Steel Pipes Insulated Pair Coil cPVC Pipes Cable Trays Electrical and Data Cables (Including AL, RG6 and Fibre Optic) PVC Conduits PEX Pipes Gas PEX-Al-PEX Pipe 	      	FyreBOX Maxi/Mini OR FyreBOX Slab-Mount + TWrap FC 10266 Table 16	For specific system and FRL details refer to the: FyreBOX Maxi and Mini Technical Manual OR FyreBOX Slab-Mount	-/120/120





FRL TABLES


WITH FORMWORK LEFT IN PLACE

RETROFIT SOLUTIONS FOR OVERSIZED OPENINGS COPPER/STEEL PIPES

The following services may be installed without having to remove any formwork off the wall:

Applications	Trade	System + Report Reference	Details	FRL
Copper/Steel Pipes up to 150mm		FyreBATT + FyreFLEX Sealant + TWrap FAS 210023 Table 4	Batts installed 2x layers friction fit inside of the opening. For specific system and FRL details refer to the: FyreBATT Technical Manual	Up to -/240/240
Copper/Steel Pipes up to 150mm		FyrePLUG Pillows + FyreFLEX Sealant + TWrap FAS 200048 Table 1	For specific system and FRL details refer to the: FyrePLUG Pillows Technical Manual	-/180/180

PLASTIC PIPES

Applications	Trade	System + Report Reference	Details	FRL
20mm PEX-A or PEX-B		FyreBATT + FyrePEX HP FAS 210023 Table 4	Batts installed 2x layers friction fit inside of the opening. For specific system and FRL details refer to the: FyreBATT Technical Manual	-/120/120 (Wrap Free System)
20mm PEX-AL-PEX		FyreBATT + FyrePEX HP + TWrap FAS 210023 Table 4		-/120/120




FRL TABLES

WITH FORMWORK LEFT IN PLACE




HVAC&R

The following services may be installed without having to remove any formwork off the wall:

Applications	Trade	System + Report Reference	Details	FRL
1/4" & 1/2" paircoil with 13mm FR insulation (with 1x CAT 6 and 1x electrical cable)		FyreBATT + FyrePEX HP FAS 210023 Table 4	Batts installed 2x layers friction fit inside of the opening. For specific system and FRL details refer to the: FyreBATT Technical Manual	-/120/120 (Wrap Free Solution)
3/8" & 3/4" paircoil with 19mm FR insulation (with 1x CAT 6 and 1x electrical cable)		FyreBATT + FyreBOX Mini-Round 150mm + TWrap FAS 210023 Table 4		-/240/120
Up to 3x 3/8" & 5/8" size pipes with 19mm FR insulation, including up to 3 x CAT6, 3 x electrical cables, 1 x Ø25mm PVC drain pipe		FyreBATT + FyrePEX HP FAS 210023 Table 4		-/240/120 (Wrap Free Solution)
32mm Copper with 25mm FR Insulation				

PVC CONDUITS

Applications	Trade	System + Report Reference	Details	FRL
25mm PVC Conduit		FyreBATT + FyrePEX HP FAS 210023 Table 4	Batts installed 2x layers friction fit inside of the opening. For specific system and FRL details refer to the: FyreBATT Technical Manual	-/120/120
40mm PVC Conduit		FyreBATT + FyreCOLLAR FAS 210023 Table 4		-/240/120




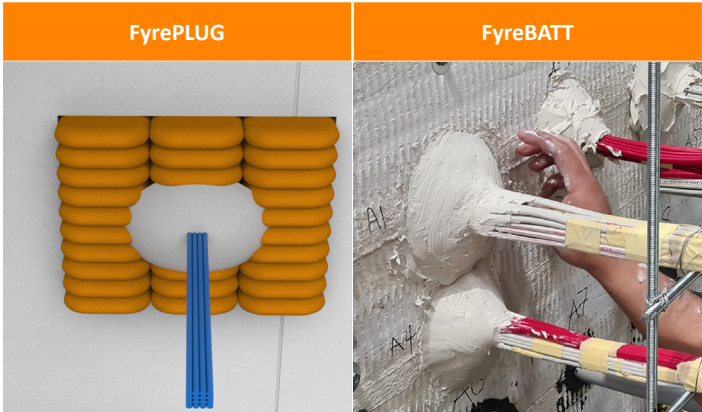
FRL TABLES

WITH FORMWORK LEFT IN PLACE

ELECTRICAL/DATA CABLES

The following services may be installed without having to remove any formwork off the wall:

Applications	Trade	System + Report Reference	Details	FRL
Appendix D1 Power Cables and Appendix D2 Comms cables		FyreBATT + FyreFLEX Sealant + TWrap FAS 210023 Table 4	Batts installed 2x layers friction fit inside of the opening For specific system and FRL details refer to the: FyreBATT Technical Manual	-/120/120
Small cable bundles: Up to 5x TPS OR 15x Fire Alarm Cables OR 15x CAT6 Cables		FyreBATT + FyreFLEX Sealant FAS 210023 Table 4		-/120/120 (Wrap Free System)
Appendix D1 Power Cables		FyrePLUG Pillows + FyreFLEX Sealant + TWrap FAS 200048 Table 1	For specific system and FRL details refer to the: FyrePLUG Pillows Technical Manual	-/120/120





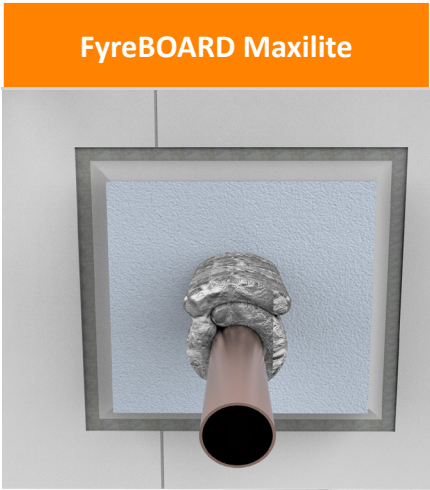
FRL TABLES

FORMWORK REMOVED AROUND PENETRATION

The following services may be installed, so long as the formwork is removed locally to the penetration **at least 25mm** away from any part of the fire stopping system. (For example, 25mm away from the edge of a fillet of FyreFLEX Sealant). Any of the above systems can also be applied in this application.

COPPER/STEEL PIPES


Applications	Trade	System + Report Reference	Details	FRL
Copper/Steel Pipes up to 150mm		FyreFLEX Sealant + TWrap FCO 1579 Tables 7-8	For specific system and FRL details refer to the: FyreFLEX Sealant for Plumbers Technical Manual	Up to -/240/240
Copper/Steel pipes up to 150mm		FyreBOARD Maxilite + FyreFLEX Sealant + TWrap FCO 2586	For specific system and FRL details refer to the: FyreBOARD Maxilite Technical Manual	-/180/120

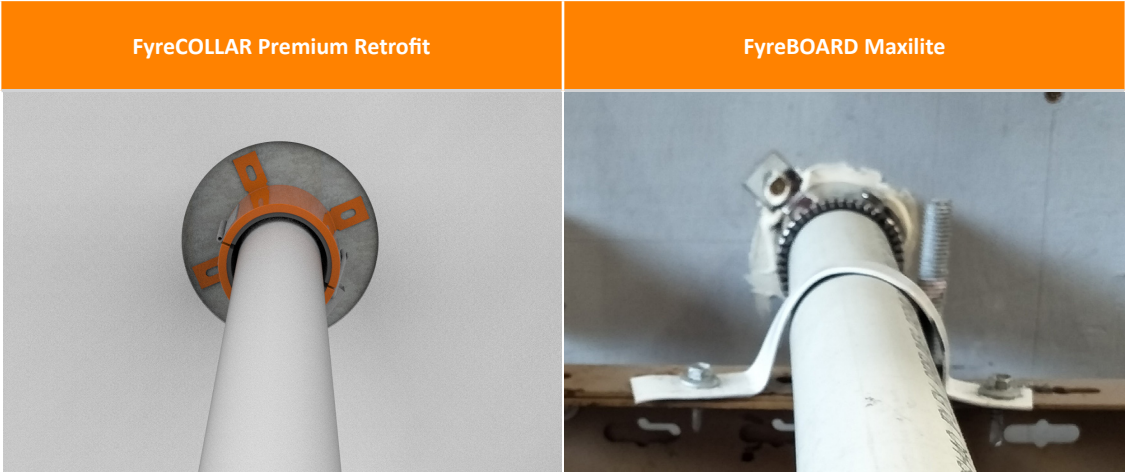


FRL TABLES

FORMWORK REMOVED AROUND PENETRATION

PLASTIC PIPES


Applications	Trade	System + Report Reference	Details	FRL
PEX Pipes up to 25mm		FyreCOLLAR Premium Retrofit + FyreFLEX Sealant FC 11190 Page 3	For specific system and FRL details refer to the: FyreCOLLAR Premium Retrofit Technical Manual	-/120/120
PVC Pipes up to 100mm				
PEX Pipes Up to 20mm		FyreBOARD Maxilite + FyrePEX HP FCO 2586	For specific system and FRL details refer to the: FyreBOARD Maxilite Technical Manual	-/120/120 (Wrap Free System)
PEX pipes up to 32mm		FyreBOARD Maxilite + FyreBOX MAXI/MINI + TWrap FC 10266 Table 14		-/120/120
PVC Pipes up to 100mm		FyreBOARD Maxilite + FyreCOLLAR Premium Retrofit + FyreFLEX Sealant FC 11190 Page 2		-/120/120

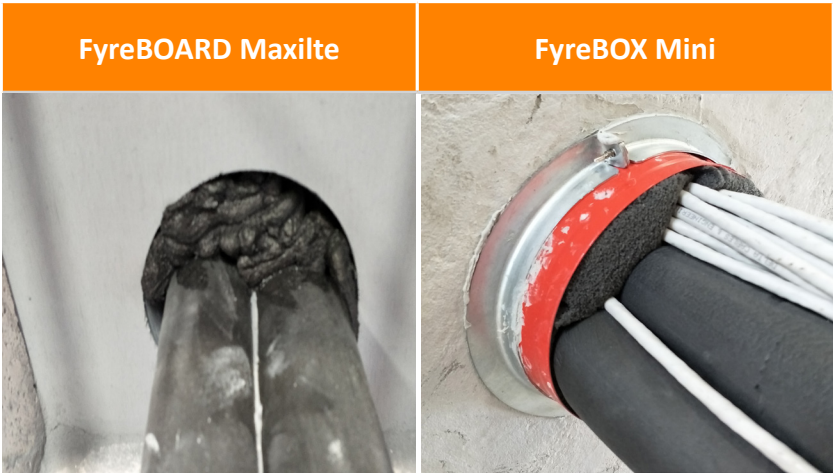


FRL TABLES

FORMWORK REMOVED AROUND PENETRATION

HVAC&R


Applications	Trade	System + Report Reference	Details	FRL
Up to 3x Pair coil bundles		FyreCOLLAR Mixed Services + FyreFLEX Sealant + TWrap FC 11190 Page 3	For specific system and FRL details refer to the: FyreCOLLAR Premium Retrofit Technical Manual	-/120/120
1x paircoil bundle with FR insulation		FyreBOARD Maxilite + FyrePEX HP + TWrap FAR 4849 Table 11	For specific system and FRL details refer to the: FyreBOARD Maxilite Technical Manual	-/120/120
Up to 3x paircoil bundles with FR insulation		FyreBOARD Maxilite + FyreCOLLAR Premium Retrofit + TWrap FC 11190 Page 2		-/120/120
Copper up to 50mm with FR Insulation OR up to 20mm PE Insulation		FyreBOARD Maxilite + FyreBOX MAXI/MINI + TWrap FC 10266 Table 14		-/120/120
Copper up to 20mm with Rock- wool-type insulation				-/120/120

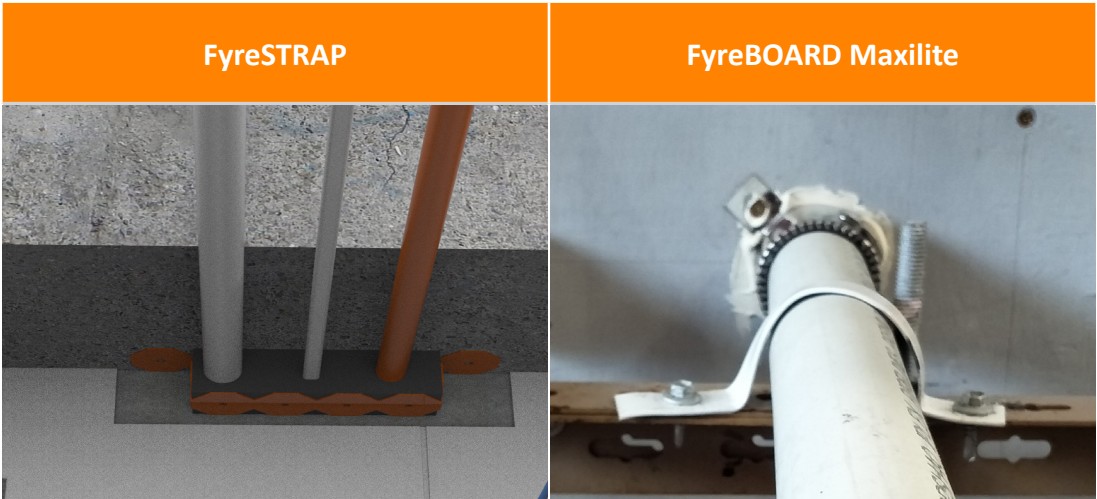


FRL TABLES

FORMWORK REMOVED AROUND PENETRATION

PVC CONDUITS


Applications	Trade	System + Report Reference	Details	FRL
PVC Conduits up to 50mm		FyreCOLLAR Conduit + FyreFLEX Sealant FC 11190 Page 3	For specific system and FRL details refer to the: FyreCOLLAR Premium Retrofit Technical Manual	-/120/120
25mm PVC Conduit		FyreSTRAP + FyrePEX HP (Head of Wall Penetration) FSV 2163 Specimen 14	For specific system and FRL details refer to the: FyreSTRAP Technical Manual	-/120/120
PVC Conduit up to 25mm		FyreBOARD Maxilite + FyrePEX HP FAR 4849 Table 11	For specific system and FRL details refer to the: FyreBOARD Maxilite Technical Manual	-/240/240
PVC Conduit up to 32mm		FyreBOARD Maxilite + FyreBOX MAXI/MINI + TWrap FC 10266 Table 14		-/120/120
PVC Conduit up to 80mm		FyreBOARD Maxilite + FyreCOLLAR FC 11190 Page 2		-/120/120

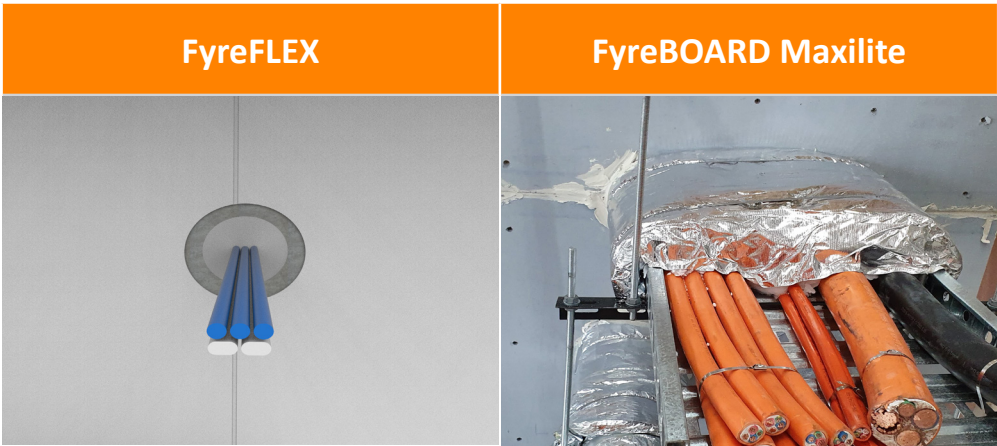


FRL TABLES

FORMWORK REMOVED AROUND PENETRATION

CABLES

Applications	Trade	System + Report Reference	Details	FRL
Appendix D1 Power Cables		FyreFLEX Sealant + TWrap FCO 1579 Table 15	For specific system and FRL details refer to the: FyreFLEX Sealant for Electricians Manual	-/180/120
Up to 10x TPS Cables				-/120/120
Up to 10x CAT 6 Cables				-/120/120
Up to 4 x 6mm OD RG-6 Quad shield co-axial cables		-/120/120 (Wrap Free System)		
Up to 5x TPS/CAT 6 Cables		FyreFLEX Sealant FAS 190382 Table 7	-/120/120 (Wrap Free System)	
TPS Cable		FyreSTRAP + FyrePEX HP (Head of Wall Penetration) FSV 2163 Specimen 14	For specific system and FRL details refer to the: FyreSTRAP Manual	-/120/120 (Wrap Free System)
16mm^2 3C+E Power Cable				
Appendix D1 Power Cables		FyreBOARD Maxilite + TWrap FCO 2586	For specific system and FRL details refer to the: FyreBOARD Maxilite Technical Manual	-/180/120
Up to 20x CAT6 cables				-/120/120
Appendix D1 Power Cables and Appendix D2 Comms cables				FyreBOARD Maxilite + FyreBOX MAXI/MINI + TWrap FC 10266 Table 14




FRL TABLES

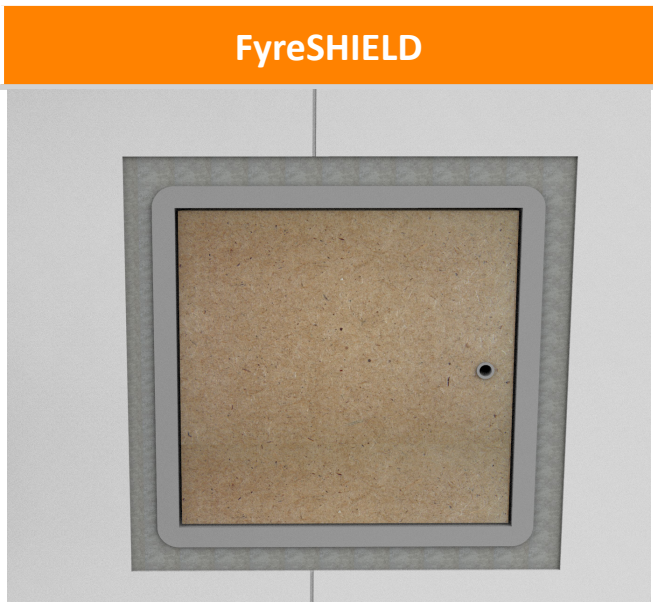
FORMWORK REMOVED AROUND PENETRATION

ACCESS PANELS

Where provision of access is required into shaft walls, Trafalgar's range of hinged FyreSHIELD access panels will meet the requirements of NCC C3.13 (now NCC-C4D14) which gives an FRL concession for-/120/30 similar to fire doors.

For other walls, the screw fixed FyreSHIELD will acheive the full FRL eg-/120/120.

Applications	Trade	System + Report Reference	Details	FRL
Access Panel Up to 600x600mm		FyreSHIELD + FyreFLEX Sealant FAS 200221 Table 1	For specific system and FRL details refer to the: FyreSHIELD Technical Manual	-/120/30
		FyreSHIELD PLUS + FyreFLEX Sealant FAS 200221 Table 1		-/120/60
Access Panel Up to 740x740mm		FyreSHIELD Screw Fixed + FyreFLEX Sealant FAS 200221 Table 1		-/120/120



SYSTEM RANGE

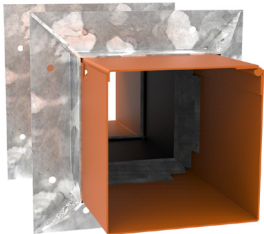
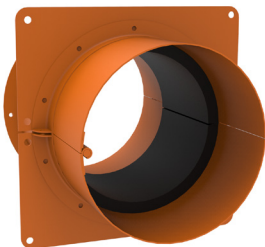
FyreBOX SLAB-MOUNT



Item Number	Description	Dimensions
FYREBOX-SM-BAMBINO	160 x125 x 250mm	
FYREBOX-SM-350	350 x 125 x 250mm	
FYREBOX-SM-550	550 x 125 x 250mm	
FYREBOX-SM-650	650 x 125 x 250mm	
FYREBOX-SM-Custom	Any size from 100 up to 1250 x 125 x 250mm	

RELATED SYSTEMS

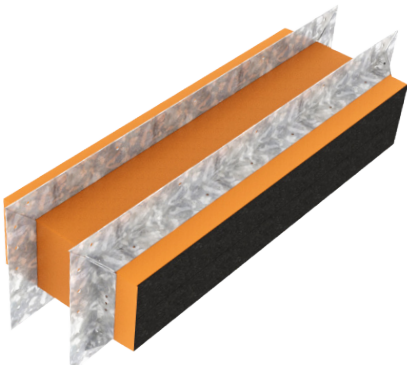
FyreBOX MINI
& FyreFLANGE



Type	Item Number	Dimensions W x H x D or Diam	Dimensions
Square	FYREBOX-MS-65	65 x 65 x 250mm	
	FYREBOX-MS-100	100 x 100 x 250mm	
Round	FYREBOX-MR-50	50 x 250mm	
	FYREBOX-MR-100	100 x 250mm	
	FYREBOX-MR-150	150 x 250mm	

RELATED SYSTEMS

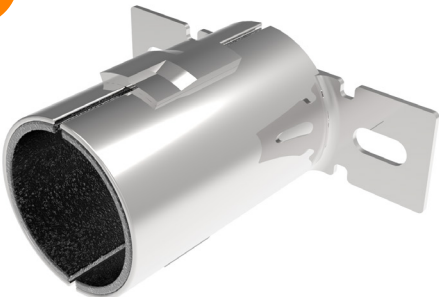
FyreBOX MAXI
& FyreFLANGE



Item Number	Description	Dimensions
FYREBOX-MAXI-350	350 x 125 x 250mm	
FYREBOX-MAXI-550	550 x 125 x 250mm	
FYREBOX-MAXI-650	650 x 125 x 250mm	
FYREBOX-MAXI-750	750 x 125 x 250mm	
FYREBOX-MAXI-1100	1100 x 125 x 250mm	
FYREBOX-MAXI-Custom	Any depth X 125 X Any length up to 1250mm	

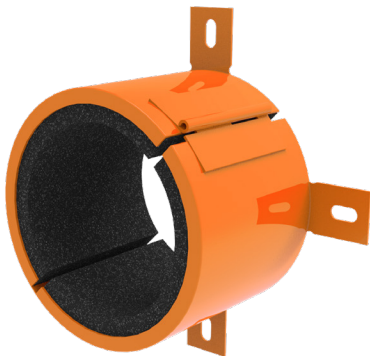
RELATED SYSTEMS

FyreCOLLAR CONDUIT



Item Number	Collar Size	To Suit Nominal Service Size	Inner Diameter	Outer Diameter	Height	Min Order Qty
FYRECOLLAR-CC-25	25mm	25mm	26mm	36mm	50mm	1
FYRECOLLAR-CC-32	32mm	32mm	33mm	44mm	50mm	1
FYRECOLLAR-CC-40	40mm	40mm	43mm	48mm	50mm	1

FyreCOLLAR PREMIUM RETROFIT



Item Number	Collar Size	To Suit Nominal Service Size	Inner Diameter	Outer Diameter	Height	Min Order Qty
FYRECOLLAR-PHRC-50	50mm	50mm	58mm	72mm	62mm	1
FYRECOLLAR-PHRC-65	65mm	65mm	72mm	90mm	62mm	1
FYRECOLLAR-PHRC-80	80mm	80mm	85mm	102mm	62mm	1
FYRECOLLAR-PHRC-100	100mm	100mm	115mm	133mm	62mm	1
FYRECOLLAR-PHRC-130	130mm	100mm Elbow/socket	130mm	155mm	62mm	1
FYRECOLLAR-PHRC-150	150mm	150mm	160mm	200mm	62mm	1

RELATED SYSTEMS

FyreFLEX



Item number	Description	Min Order Qty	Pallet Qty
FYREFLEX 300W FYREFLEX 300G	FyreFLEX® Sealant Cartridge 300ml White or Grey	1	1920
FYREFLEX 600W FYREFLEX 600G	FyreFLEX® Sealant Sausage 600ml White or Grey	1	1040
FYREFLEX 10W FYREFLEX 10G	FyreFLEX® Sealant Pail 10L Grey	1	64

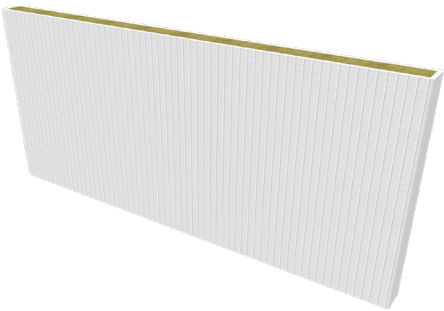
TWRAP



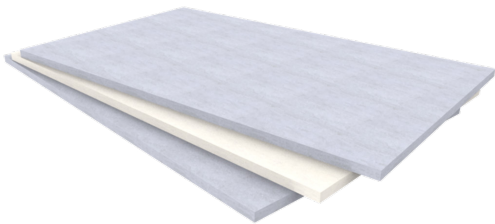
Item Number	Description	Min Order Qty	Pallet QTY
TWRAP 300*	300mm wide, 25mm thick blanket	7620mm long roll	24
TWRAP 450*	450mm wide, 25mm thick blanket	7620mm long roll	12
TWRAP 600*	600mm wide, 25mm thick blanket	7620mm long roll	12
Tape	Foil tape, 95mm wide, 50m roll	1	N/A
Cable Tie SS 12 x 521	4.6mm wide x 521mm long	25	N/A
Cable Tie SS 12 x 910	4.6mm wide x 910mm long	25	N/A

* FyreWrap® can be substituted for TWRAP™

RELATED SYSTEMS



Item Number	Description	Min Order Qty	Pallet QTY
FYREBATT 60MM	Coated mineral fibre Batt 60x600x1200	1	50
Pigtail Screw-50mm	Pigtail Screw for single layer FyreBATT systems	1	N/A
Pigtail Screw-90mm	Pigtail Screw for double layer FyreBATT systems	1	N/A



Item number	Description	Min Order Qty	Pallet Qty	Weight Per Board
Maxilite White 30	Maxilite board 1525x1000x30 mm (white)	1x	30	16kg
Maxilite White 40	Maxilite board 1525x1000x40 mm (white)	1x	22	22kg
Maxilite White 60	Maxilite board 1525x1000x60 mm (white)	1x	12	32kg
Maxilite Blue 30	Maxilite board 2040x1220x30 mm (blue)	1x	35	23kg
Maxilite Blue 40	Maxilite board 2040x1220x40 mm (blue)	1x	23	30kg
Maxilite Blue 60	Maxilite board 2040x1220x60 mm (blue)	1x	17	45kg

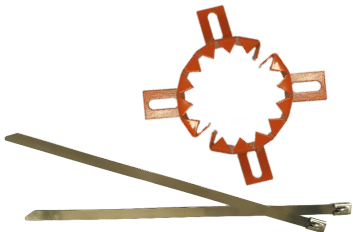
RELATED SYSTEMS



Item Number	Description	Min Order Qty	Pallet QTY
FYREPLUG - S	FYREPLUG® Pillow Small 100 x 250mm	30	1200
FYREPLUG - M	FYREPLUG® Pillow Medium 200 x 250mm	20	800
FYREPLUG - L	FYREPLUG® Pillow Large 300 x 250mm	15	600



Item Number	Size	Colour	Box Qty
FYREPEX HP310	310ml Cartridge	Black/Dark Grey	25



Item Number	Size	Kit	Qty
FYREPEX Sheath 50mm Set	50mm	2 Sheaths (4 halves) 2 x SS cable ties	1
FYREPEX Sheath 65mm Set	65mm	2 Sheaths (4 halves) 2 x SS cable ties	1

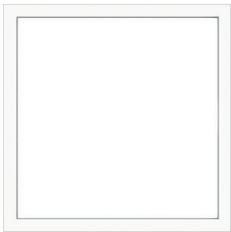
RELATED SYSTEMS



Frame Type
**FLANGED EDGE
(FEATHERED EDGE)**
Picture Frame



Frame detail



Panel installed
(TLM Shown)



STANDARD STOCK				
Model	Panel FE (MDF Panel + picture frame primed white)	Lock Option	Item Number	Dimensions
<div><div></div><div></div></div>	<div><div></div><div></div></div>	<div>Hinged Door- Budget Lock (as standard) </div>	FYRESHIELD-300-FE	300 x 300mm
			FYRESHIELD-PLUS-300-FE	
			FYRESHIELD-400-FE	400 x 400mm
			FYRESHIELD-PLUS-400-FE	
		<div>Hinged Door Kaba Nightlatch (optional) </div>	FYRESHIELD-450-FE	450 x 450mm
			FYRESHIELD-PLUS-450-FE	
		<div>Screw Fixed </div>	FYRESHIELD-600-FE	600 x 600mm
			FYRESHIELD-PLUS-600-FE	
			FYRESHIELD-CUSTOM -FE	Any size up to 740 x 740mm and/or screw fixed. Kaba Nightlatch also available for hinged panels
			FYRESHIELD-PLUS-CUSTOM -FE	Any size up to 600 x 600mm and Kaba Nightlatch also available

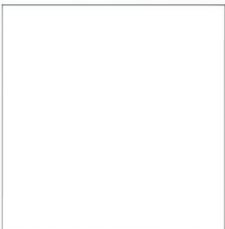
RELATED SYSTEMS



Frame Type
WET WALL
(SET BEAD)
Concealed Frame



Frame detail



Panel installed
(TLM Shown)



STANDARD STOCK

Model	Panel WW (MDF Panel + picture frame primed white)	Lock Option	Item Number	Dimensions
<div><div>FyreSHIELD</div><div></div></div> <div><div>FyreSHIELD PLUS</div><div></div></div>		Hinged Door- Budget Lock (as standard)	FYRESHIELD-300-WW	300 x 300mm
			FYRESHIELD-PLUS-300-WW	
			FYRESHIELD-400-WW	400 x 400mm
			FYRESHIELD-PLUS-400-WW	
		Hinged Door Kaba Nightlatch (optional)	FYRESHIELD-450-WW	450 x 450mm
			FYRESHIELD-PLUS-450-WW	
			FYRESHIELD-600-WW	600 x 600mm
			FYRESHIELD-PLUS-600-WW	
		Screw Fixed	FYRESHIELD-CUSTOM -WW	Any size up to 740 x 740mm and/or screw fixed. Kaba Nightlatch also available for hinged panels
			FYRESHIELD-PLUS-CUSTOM -WW	Any size up to 600 x 600mm and Kaba Nightlatch also available