

FyreBOARDMAXILITE

FyreBOARD MAXILITE

Penetration Systems

Maxilite а lightweight highperformance fire rated board which is highly adaptable to provide tested solutions in challenging scenarios. Stable under high temperatures whilst being crack free provides confidence when applying 60mm Maxilite for sealing penetration systems in walls, floor and ceilings.



KEY FEATURES

- Lightweight
- FRL up to 4 hours
- Tested to AS1530.4-2014
- High resistance to heat
- **Retrofit application**
- Fully tested and approved with Trafalgar penetration products
- Environmentally friendly
- Various methods of installation
- Easy to cut and handle

APPLICATIONS

Electricians	Power Data cables Conduits Cable tray
Plumbers	Steel and Copper pipes PVC pipes PEX pipes PEX-AL-PEX pipes
HVAC&R	Insulated Pipes <u>Fire Damper Upgrades</u>
Active Fire	Sprinkler Pipes Fire Cables





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Fyre BOARD MAXILITE

Fire Rated Board

What is **MAXILITE**

Maxilite is a lightweight, high performance fire rated board. It is calcium-silicate based product, bonded together with non-organic binders, no asbestos, and low volatile organic compounds (VOC's). It is a versatile product, providing numerous potential solutions in even the most difficult situations.

Maxilite boards are able to withstand high temperatures while remaining stable and crack free, making it an ideal product for fire protection. Particularly suited to closing-down oversize penetrations, Maxilite has been tested to current AS1530.4 – 2014 with many of our products, presenting various solutions to the industry.

Whilst this technical manual will focus on penetrations, Maxilite can also be used other applications including steel protection and bulkheads.

- <u>FyreBoard Maxilite Structural Steel Fire Proofing</u> <u>Systems Technical Manual</u>
- FyreBOARD Maxilite Bulkheads Technical Manual
- Damper Upgrades Technical Manual

Applications

Maxilite systems are suitable for penetrations in a building through various fire rated substrates including plasterboard and Hebel walls, concrete/masonry walls and floors and plasterboard ceilings. Maxilite has been tested and approved with the use of Trafalgar products for certain services which will be detailed in this technical guide.



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PRODUCT SPECIFICATIONS



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Spec	Detail		
Thickness	30, 40 & 60mm		
Sheet size (half sheets available)	1520x1000mm (white) 2020x1220mm (blue)		
Density (avg, dry)		330Kg/m	2
	30mm	1520x1000: 16Kg	2040x1220: 23Kg
Board weight	40mm	1520x1000: 22Kg	2040x1220: 30Kg
	60mm	1520x1000: 32Kg	2040x1220: 45Kg
Material	С	alcium Silicate with nor	n-organic binders
Combustible		Non-combustible t	o AS1530.1
Maximum service temp		1000 deg	C
Permeability to gasses		1.0 nPm	1
Specific heat	0.84 KJ/(KgK)		
Thermal conductivity	0.09 W/(mK) at 200 deg C		
R-value	0.7 m2K/W		
	30mm: Rw30 (Rw+Ctr 28)		
Acoustic ratings		40mm: Rw31 (Rv	w+Ctr 28)
		60mm: Rw33 (Rv	w+Ctr 30)
Flexural strength	1.27MPa		
Test for asbestos content	0%		
Storage	Store in a cool, dry environment		
Handling	Transport on pallets to avoid breakage		





FRL DETAILS

Fire Rating – How is fire performance measured?

An FRL (fire resistance level) is a handy way of summarising the performance of a building element. It consists of 3 numbers, all given in minutes:

FRL 240/240/240 (example) Structural Adequacy Integrity Insulation The ability of the building The ability of an element to The ability of an element to resist element to support the weight prevent the passage of flames heat transfer from the exposed of adjacent building elements. and hot gasses. face to the unexposed face. ie: a brick wall supporting a ie: a plasterboard wall ie: a bundle of cables remaining concrete floor slab above. remaining intact and not below a set temperature limit on allowing holes to form. the unexposed side of the wall penetration system.

Integrity

The Maxilite system can achieve the integrity performance for up to 4 hours physically stopping the direct spread of fire, however the insulation performance of the penetration will be limited to the type of wall, floor or ceiling being used, and thermal conductivity of the services in the penetration.

Insulation (Temperature Rise)

Heat transfer via conduction (or heat rise) will occur through the conductive parts of any penetration system. Maxilite boards are able to withstand high temperatures and achieve 4-hour insulation in the case of blank penetrations which is limited to the FRL of the substrate. Where services penetrate Maxilite board, often TWrap is needed to insulate the conductive materials (cables, metal pipes etc) as shown the FRL tables below.

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MAXILITE PENETRATION CHECKLIST

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1. Am I fixing into an approved barrier type, and is the size of my blank opening covered by a report?

Check pages 7 and 8 for the approved barriers and their respective approved opening sizes

2. Are there enough edges for me to overlap with Maxilite?

You need at least 3 sides to overlap the opening in the barrier. The 4th side can be hard against a fire rated barrier.

The side hard against the wall is required to have a 75x75x0.9 steel angle in lengths of 1200mm. Leave 10-20mm gaps between angles for expansion.

3. Am I installing a FyreBOX?

FyreBoxes have slightly different installation requirements compared to other Trafalgar systems.

FyreBoxes must be at least 100mm apart, and there needs to be enough Maxilite board to CruceBOX support the weight of the installed FyreBox.

See pages 10 and 11 for the dimensions around the pentration necessary to support the FyreBox

4. Where am I allowed to penetrate the board?

Penetrations for services must be at least 50mm apart.

Penetrations must fall within the Penetration Zone shown on page 49

5. What fixings do I need to use to install the board into the barrier?

Check pages 7 and 8 for the approved fixings for each barrier type

6. Are my services approved in this board configuration (wall, floor, ceiling, bulkhead)?

See the FRL tables on the following pages of this technical manual and refer to FCO2586 Table 19 and 20.









FRL TABLES - BLANK SEALS

Blank Seals in Walls (no services)



Approved walls	Fixing specification	Max Aperture Size	Install Type
Plasterboard stud walls (single and double layer)		1.8m²	60mm -/120/120
Plasterboard shaft walls (CH-stud type only)	10g plaster screws into studs at max	(or max size supported by the wall manufacturer's	Test report: FCO2586
AAC 75mm walls (Hebel/Walsc)	200mm centers	approvals with aperture framed if needed)	60mm -/90/90 Test report: FCO2586
Masonry / Concrete walls	M6 Masonry anchors at max 200mm centers	1.8m² (aperture designed as per AS3600/3700 design using lintels where required)	60mm -/180/180 Test report: FCO2586



FRL TABLES - BLANK SEALS

Blank seals in Floors & Ceilings (no services)



Approved walls	Fixing specification	Max Aperture Size	FRL & Maxilite Thickness
Concrete floors	M6 Masonry anchors at max 200mm centres	1.8m² (aperture designed as per AS3600 design)	40mm -/120/120 Test report: FCO2586 60mm -/240/240 Test report: FCO2586
Plasterboard Ceilings – 2x layer	10gx100mm plasterboard screws at 200mm centers (with additional ceiling framing	500x200mm	60mm -/60/60 with 60 mins RISF Test report: RTL FT1552.01
Plasterboard Ceilings – 3x layer	10gx100mm plasterboard screws at 200mm centers (with additional ceiling framing	500x200mm	60mm -/120/120 with 60 mins RISF Test report: RTL FT1553.01

Refer to the drawings at the end of the manual for installation specifications, as well as the installation section.



SERVICE PENETRATIONS



Maxilite systems are suitable for penetrations in a building through various fire rated substrates including plasterboard and Hebel walls, concrete/masonry walls and floors and plasterboard ceilings. Maxilite has been tested and approved for the following services and products. Note that Maxilite will 'close down' the larger penetration, and each separate service type will need to be sealed appropriately with the following 'local' penetration systems:

Services	Trafalgar fire stopping systems in Maxilite board
Electrical, Data and Communications Cables	FyreFLEX sealant & TWrap FyreBOX range – Maxi & mini & TWrap
Steel and Copper Pipes	FyreFLEX sealant & TWrap FyreBOX range – Maxi & mini & TWrap
Insulated Copper Pipes	FyrePEX HP Sealant & TWrap FyreCOLLAR range & TWrap FyreBOX range – Maxi & mini & TWrap
PVC Pipe and Conduits	FyrePEX HP FyreCOLLAR range FyreBOX range – Maxi & mini & TWrap
PEX & PEX-al-PEX	FyrePEX HP & FyreSHEATH FyreBOX range – Maxi & mini & TWrap
Steel Threaded Rod	FyreFLEX & TWrap
Intumescent Dampers	Upgrade existing damper installations in oversized penetrations — refer to our Damper Upgrades technical manual.



Service Separation

Services can be as close as 50mm apart when using Maxilite board as per the systems in this manual shown on the following pages.

Note that cable trays can be installed hard up against the edges of a penetration system if required.

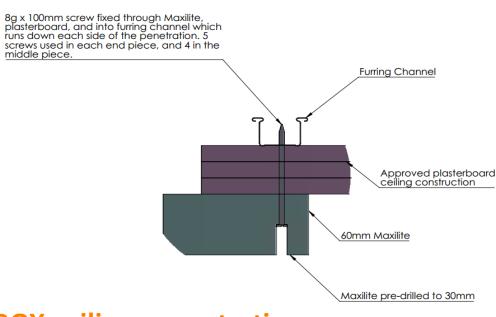




CEILING PENETRATIONS



Maxilite systems are suitable for penetrations in a building through various fire rated substrates including plasterboard ceilings. When applying the Maxilite board to the ceiling, ensure that the board extends past the furring channel and is secured into it as shown in the image below. For further installation instructions, please refer to pages 32-33.



FyreBOX ceiling pennetrations

Referring to FyreBOX systems for ceiling penetrations (test report: **FC10266-01-4)**, the FRL tables in the proceeding section, it states suitable for 3x 16mm FR plasterboard ceilings for -/120/120 & 60 minutes RISF. It should be noted that FyreBOX systems incorperating the same details including TWrap length are also suitable for additional ceiling constructions for the following FRL & RISF values.

Ceiling construction	FRL	RISF
Minimum thickness of 16mm rated at (30)/30/30	-/30/30	30 minutes
Minimum thickness of 29mm rated at (60)/60/60	-/60/60	60 minutes
Minimum thickness of 32mm rated at (90)/90/90	-/90/90	60 minutes
Minimum thickness of 48mm rated at (120)/120/120	-/120/120	60 minutes

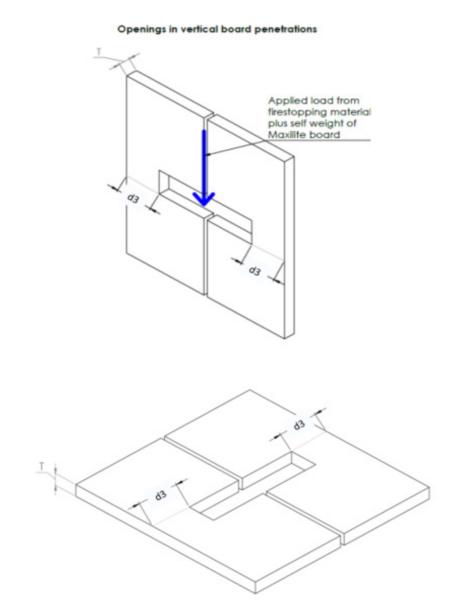




FYREBOX PENETRATIONS



When installing the Fyr<u>BOX</u> Maxi systems with maxilite, care must be taken to ensure the correct Maxilite board length is selected to ensure the system can handle the load placed on the board. The proceeding figures and tables dsiaply the required Maxilite sizes corresponding to the size of the FyreBOX Maxi.



Openings in minimum 60mm thick Maxilite board with an opening for FyreBOX. Two sheets only

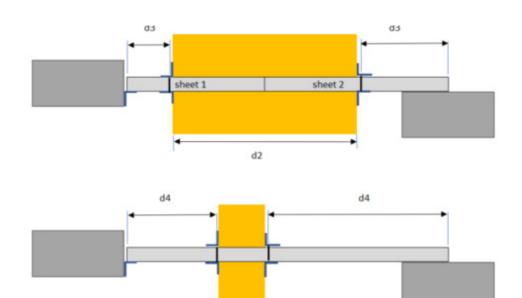


FYREBOX PENETRATIONS



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Item	Description
Span	Separation of support for sheet
d2	Width of the box (eg 350, 450750) etc
d3	Sheet width between the short edge of the box and the edge of the sheet. It shall be at least 150mm for spans up to 850mm. For larger spans refer to Table
d4	Sheet width between the long edge of the box and the edge of the sheet. It shall be a least 150mm for spans up to 850mm. For larger spans refer to Table
Clearance around box	Shall be a maximum of 10mm
Even cut in each sheet	The cutout for the Fyrebox in each sheet shall be equal +/- 20mm

Span of board (L) - Length of aperture

Openings in minimum 60mm thick Maxilite board with an opening for FyreBOX

Residual Section d3 (m) for varions spans and various Fyrebox desings								
Span L (m)	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8
Fyrebox Maxi 350	0.15	0.15	0.15	0.15	0.15	0.15	0.16	0.18
Fyrebox Maxi 550	0.15	0.15	0.15	0.17	0.19	0.21	0.23	0.26
Fyrebox Maxi 650	0.15	0.15	0.17	0.19	0.22	0.24	0.27	0.3
Fyrebox Maxi 750	0.15	0.17	0.2	0.22	0.25	0.28	0.31	0.35
Fyrebox Maxi 1100	0.21	0.24	0.27	0.31	0.34	0.39	0.43	0.49



FRLs - Electrical, data and communications cables

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Wall Penetrations



Service	Specification	Fire Stopping Specification	TWrap	Max. FRL and Maxilite Thickness
Cable bundles Cable trays up to 300mm	AS1530.4-2014 Ap- pendix D1 copper core power cables* -TPS cables -Fire cables -Single core -3c+E cables etc	FyreFLEX Sealant and TWrap Max. 20mm annular gap Fill FyreFLEX Sealant to full depth of board (60mm) and finish with 50x50mm fillet on both sides of the wall.	300mm*	60mm -/180/120 Test report: FCO2586
Data cables VRF Cables	Up to 20x CAT6 cables Up to 8x 7mm Eltech VRF cables, 1.5mm diameter conductors	FyreFLEX Sealant and TWrap Max. 5mm annular gap Fill FyreFLEX Sealant to full depth of board (60mm) and finish with 50x50mm fillet on both sides of the wall.	300mm	60mm -/120/120 Test report: FCO2586
TPS cables	Up to 12x TPS cables	300mm 600mm* for D1 FyreBOX Mini/Maxi and TWrap 450mm* for D2	300mm	
Large bundles and/or mixed services	All copper core cables (AS1530.4 appendix D1 and D2 cable sets) with cable trays up to 1000mm wide, PVC conduits, Fibre conduits, other pipe		D1	60mm FRL-/120/120
	services etc. Up to 3x 240mm ² 28mm OD	Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.		Test report: FC10266-01-4
Aluminium cables	Up to 4x 120mm ²			
	Up to 9x 70mm ² 17mm OD		300mm	
	Up to 3x RG6 cables			
Data cables	NBN Fibre optic cable			

* Loose TWRAP™/FyreWrap® infill material to be packed under the TWRAP™ for at least 300mm off the penetration



FRLs - Electrical, data and communications cables

Floor Penetrations



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Contents:

Service	Specification	System	TWrap	Max. FRL and Maxilite thick-ness
Cable bundles and Cable trays up to	AS1530.4-2014 Appendix D1 copper core power cables* - TPS cables	<u>FyreFLEX Sealant and TWrap</u> Max annular gap 30mm.	450mm	60mm -/240/120 Test report: FCO2586
300mm	-Fire cables -Single core -3C+E cables etc	Fill FyreFLEX Sealant to full depth of board and finish with 50x50mm fillet on the top side only.	600mm	60mm + 30mm patch -/240/240 Test report: FAS200048
Data	Up to 24 bundles Telecom cables, maximum 15mm diameter with PVC sheathing and insulation	FyreFLEX Sealant and TWrap	600mm	<u> </u>
CAT6 cables	Up to 20x CAT6 cables	Max annular gap 5mm.		60mm -/120/120
TPS cables	Up to 20x Firesense-TPS 1.5mm ²	Fill FyreFLEX Sealant to full depth of board and finish with 50x50mm fillet on the top side only.	300mm	Test report: FCO2586
VRF Cables	Up to 8x 7mm Eltech VRF cables, 1.5mm diameter conductors			
Large bundles and/ or mixed services	All copper core cables (AS1530.4 appendix D1 and D2 cable sets) with cable trays up to 1000mm wide, PVC conduits, Fiber conduits, other pipe services etc.	<u>FyreBOX Mini/Maxi and TWrap</u> Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.	600mm	60mm -/120/120
TPS cables	Up to 12x TPS cables		depth of board with FyreFLEX sealant.	
3C + E power cables	Up to 2x 19mm 3C + E cables		300mm	

* Loose TWRAP[™]/FyreWrap[®] infill material to be packed under the TWRAP[™] for at least 300mm off the penetration.

Note that TWrap is required on the top side of the penetration only.



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FRLs - Electrical, data and communications cables

Ceiling Penetrations



Service	Specification	Ceiling construction	System	TWrap	Max. FRL, RISF and Maxilite thickness
Cable trays upto 300mm	20x CAT6 and/or 10x TPS and/or 7x 3C&E Cable (19mm OD)	2 layer 13mm & 16mm FR Plasterboard	<u>FyreFLEX Sealant and TWrap</u> Cable tray: Max 25mm annular gap Cable bundle: Max 5mm annular gap Fill FyreFLEX Sealant to full depth of board and finish with 30x30mm fillet on bottom and top side of the Maxilite.	300mm	60mm -/60/60 60 minute RISF Test report: RTL FT1552.01
	3x CAT6 & 2 x TPS	2 layer 13mm & 16mm FR Plasterboard	<u>FyreFLEX Sealant</u> Cut a 32mm hole in the Maxilite. Fill FyreFLEX Sealant to full depth of board. No fillet needed	Wrap Free	60mm -/60/60 45 minute RISF Test report: RTL F47.01
Telecommunications Cable Bundles	8 x CAT6 & 5 x TPS	3 layer 16mm FR Plasterboard	<u>FyreFLEX Sealant and TWrap</u> Cut a 54mm hole in the Maxilite. Fill FyreFLEX Sealant to full depth of board and finish with 30x30mm fillet on bottom side of the Maxilite.	300mm	60mm -/120/120 60 minute RISF Test report: RTL FT1553.01
	Up to 150 x CAT6 data	3 layer 16mm FR Plasterboard		300mm	60mm -/120/120 60 minute RISF Test report: FC10266-01-4
Large bundles and/ or mixed services	All copper core cables (AS1530.4 appendix D1 and D2 cable sets) with cable trays up to 1000mm wide, PVC con- duits, Fibre con- duits, other pipe services etc.	3 layer 16mm FR Plasterboard	<u>FyreBOX Mini/Maxi and TWrap</u> Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.	300mm	60mm -/120/120 60 minute RISF Test report: FC10266-01-4

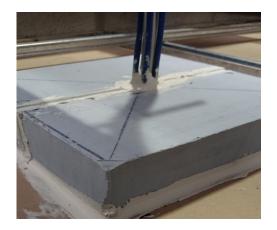


FRLs - Electrical, data and communications cables

Ceiling Penetrations



Service	Specification	Ceiling construction	System	TWrap	Max. FRL, RISF and Maxilite thick-ness
Aluminium coblos	Up to 4 x 240mm ² single core + optional 120mm ² earth cable				
Aluminium cables	Up to 4 x 16mm ² 4C + E	3 layer 16mm FR Plasterboard	FyreBOX Mini/Maxi and TWrap Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX	300mm	60mm -/120/120 60 minute RISF Test report: FC10266-
NBN Fibre optic cable			sealant.		01-4







FRL TABLES - Metal Pipes Walls

Walls Penetrations



Service	Size (up to)	System	TWrap	Max. FRL and Maxilite Thickness
	DN50		300mm	60mm -/90/90 Test report: FCO2586
Copper pipe	DNSO	FyreFLEX Sealant and TWrap	450mm	60mm -/180/120 Test report: FCO2586
сорры ріре	DN100	The annular gaps between the pipe and Maxilite is 5-20mm.	600mm	60mm + 30mm patch -/180/120
	DN150	Fill FyreFLEX Sealant to full depth of board (60mm) and finish with 50x50mm fillet on both sides of	1100mm + 300mm	Test report: FCO2586
	NB100	the wall.	450mm	60mm -/180/120 Test report: FCO2586
Steel Pipe	NB150		600mm	60mm + 30mm patch -/180/120 Test report: FCO2586
	DN32			
Copper pipe Steel Pipe	DN50	<u>FyreBOX Mini/Maxi and TWrap</u> Annular gaps from 5-20mm. Fill to	300mm	60mm -/120/120
	NB60	full depth of board with FyreFLEX sealant.		Test report: FC10266-01-4



FRL TABLES - Metal Pipes Floors

FRLs - Metal Pipes

Floor Penetrations



Service	Size (up to)	System	TWrap	Max. FRL and Maxilite thickness
	DN50		450mm	60mm -/90/90 Test report: FCO2586
	DNSU		600mm	60mm -/120/120 Test report: FCO2586
Copper Pipe			600mm	60mm -/90/90 Test report: FCO2586
	DN100	FyreFLEX Sealant and	800 + 300mm	60mm -/120/120 Test report: FCO2586
	DN150	<u>TWrap</u> Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant. Finish with 50x50mm fillet	1500mm + 300mm	60mm + 30mm patch -/120/120 Test report: FCO2586
	NB50	on the top side of the Maxilite only.	300mm	60mm -/90/90 Test report: FCO2586
Steel Pipe	NB100		450mm	60mm -/120/120 Test report: FCO2586
	NB150		900mm + 300mm	60mm + 30mm patch -/120/120 Test report: FCO2586

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FRLs - Metal Pipes

Ceiling Penetrations



Service	Size (up to)	Ceiling construction	System	TWrap	Max. FRL, RISF and Maxilite thickness				
Copper pipe	DN50	gap Fill to full depth of board	TWrap Maximum 5mm annular gap Fill to full depth of board with FyreFLEX sealant. Finish with 30x30mm fillet on bottom of the Maxilite.	450mm	60mm				
Steel Pipe	NB50			300mm	-/120/120 60 minute RISF Test report: RTL				
Steerripe	NB100	21		450mm	FT1553.01				
Copper pipe	DN42	16mm FR Plasterboard	16mm FR Plasterboard <u>Fyre</u>	16mm FR Plasterboard <u>FyreBOX Mini/Maxi and</u> <u>TWrap</u>	100000			300mm	
copper pipe	DN100				TWrap	600mm	60mm -/120/120		
Steel Pipe	NB50		Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.	300mm	Test report: FC10266- 01-4				
	NB100			600mm					



FRLs - PEX Pipes

Wall Penetrations



Service	Size (up to)	System	TWrap	Max. FRL and Maxilite thickness
PEX-a or PEX-b	20mm			60mm -/120/120 Test report: FCO2586
	20	<u>FyreSHEATH & FyrePEX HP sealant</u> 30mm opening with FyreSHEATH in-stalled to both sides of the penetration, backfilled with FyrePEX HP sealant.	Wrap Free	120mm -/120/120 Test report: FAR4849
PEX-Al-PEX 20mm	20mm			60mm -/120/30 Test report: FCO2586
Mixed PEX-a ,	20mm	FyreBOX Mini/Maxi and TWrap	300mm	60mm -/120/120
PEX-b and PEX-ÁL- PEX pipes	20-32mm	Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.	450mm	Test report: FC10266- 01-4

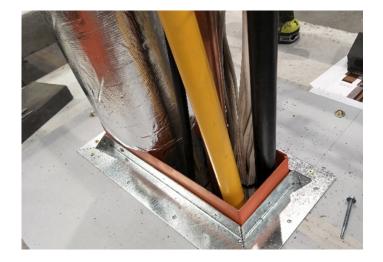


FRLs - PEX Pipes

Floor Penetrations



Service	Size (up to)	System	TWrap	Max. FRL and Maxilite thickness
PEX-b	16mm	FyrePEX HP	Wrap Free	60mm -/120/60
PEX-AL-PEX	TOULU	50-60mm opening, filled to full depth of Maxilite	Wiapirice	Test report: FAR4849
PEX	25mm	<u>FyrePEX HP and TWrap</u> Annular gap must be 20mm	450mm	60mm + 30mm patch -/120/120
PEX-AL-PEX	25000	Filled to full depth of Maxilite	Tos	Test report: FCO2586
Mixed PEX-a, PEX-b and PEX-AL-PEX pipes	32mm	FyreBOX Mini/Maxi and TWrap Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.	450mm	60mm -/120/120 Test report: FC10266-01-4



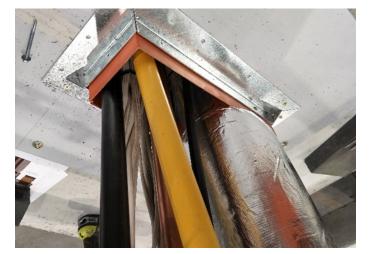


FRLs - PEX Pipes

Ceiling Penetrations



Service	Size (up to)	System	TWrap	Max. FRL and Maxilite thickness
Mixed PEX-a, PEX-b and PEX-AL-PEX pipes	32mm	<u>FyreBOX Mini/Maxi and</u> <u>TWrap</u> Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.	300mm	60mm -/120/120 60 minutes RISF Test report: FC10266-01-4







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FRL TABLES
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PVC Conduits
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Service	Size (up to)	System	TWrap	Max. FRL and Maxilite thickness
PVC conduit	Up to 25mm PVC conduit*	<u>FyrePEX HP and TWrap</u> 50-60mm opening and fill to full depth of board on both sides of the wall.		60mm -/180/180 Test report: FAR4849
	Up to 80mm PVC conduit*	FyreCOLLAR and FyreFLEX Sealant Max annular gap 5mm, filled with FyreFLEX sealant to the full depth of board and collars fixed on both sides of the board.	Wrap Free	60mm -/120/120 Test report: FC11190
	Up to 32mm PVC conduit and other mixed services*	FyreBOX Mini/Maxi and TWrap Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.	300mm	60mm -/120/120 Test report: FC10266

* The conduits may contain any combination of the following up to the maximum that can be accommodated; 2C & E 2.5mm² TPS cable, CAT5/CAT6 data cables, 3C & E PVC sheathed power cables up to 19 mm diameter or fiber optic cables.



FRLs - PVC Conduits

Size (up to)

Floor Penetrations

Service



Click

Contents>

			Floors
stem	TWrap	Max. FRL and Maxilite thickness	
<u>P and TWrap</u> ning and fill to full of board	Wrap Free	60mm -/240/240 Test report: FAR4849	
	wiapitee		

Service	512e (up (0)	System	ιννιαρ	Maxilite thickness
PVC conduit	Up to 25mm PVC conduit*	<u>FyrePEX HP and TWrap</u> 50-60mm opening and fill to full depth of board	Wrap Free	60mm -/240/240 Test report: FAR4849
	Up to 80mm PVC conduit*	FyreCOLLAR and FyreFLEX Sealant		60mm -/120/120 Test report: FC11190
	Up to 32mm PVC conduit and other mixed services*	FyreBOX Mini/Maxi and TWrap Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.	300mm	60mm -/120/120 Test report: FC10266-01-4

* The conduits may contain any combination of the following up to the maximum that can be accommodated; 2C & E 2.5mm² TPS cable, CAT5/CAT6 data cables, 3C & E PVC sheathed power cables up to 19 mm diameter or fiber optic cables.



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FRLs - PVC Conduits

Ceiling Penetrations

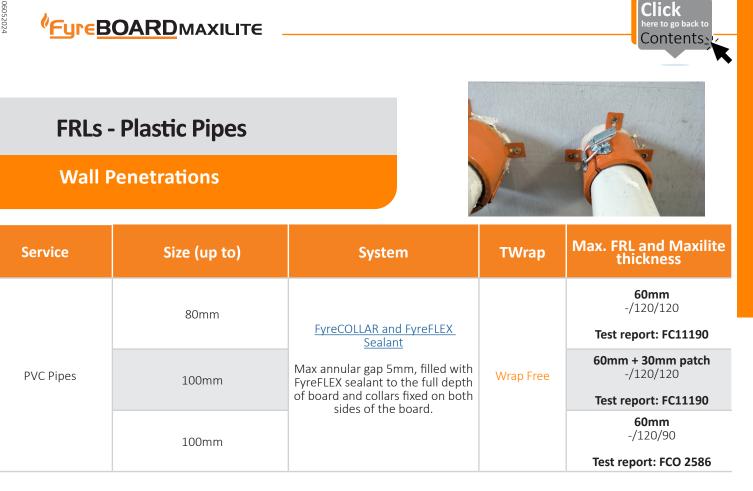




Service	Size	Ceiling construction	System	TWrap	Max. FRL, RISF and Maxilite thickness
PVC conduit	25mm PVC conduit	2 layer 13mm & 16mm FR Plasterboard	FyreCOLLAR and FyreFLEX Sealant32mm opening, filled with FyreFLEX sealant to the full depth of board and collars fixed on both sides of the board.		60mm -/60/60 45 minute RISF Test report: RTL TR-47.01
	25mm PVC conduit	2 layer 13mm & 16mm FR Plasterboard	<u>FyreCOLLAR and FyreFLEX</u> <u>Sealant</u> 25mm opening, filled with FyreFLEX sealant to the full depth of board and collars fixed on both sides of the board.	Wrap Free	60mm -/60/60 60 minute RISF Test report: RTL FT1552.01
	25mm PVC conduit	3 layer 16mm FR Plasterboard	FyreCOLLAR and FyreFLEX Sealant32mm opening, filled with FyreFLEX sealant to the full depth of board and collars fixed on both sides of the board.		60mm -/120/120 60 minute RISF Test report: RTL FT1553.01
	32mm PVC conduit	3 layer 16mm FR Plasterboard	EyreBOX Mini/Maxi and TWrap Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.	300mm	60mm -/120/120 60 minutes RISF Test report: FC10266-01-4



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FRLs - Plastic Pipes



Floor Penetrations

Service	Size	System	TWrap	Max. FRL and Maxilite thickness
PVC Pipes	Up to 80mm	FyreCOLLAR and FyreFLEX Sealant	Wrap Free	60mm -/120/120 Test report: FC11190
	100mm	Max annular gap 5mm, filled with FyreFLEX sealant to the full depth		60mm + 30mm patch -/120/120 Test report: FC11190
	150mm	of board and collars fixed on both sides of the board.		60mm + 30mm patch -/120/120 Test report: 145797 FTR01.1
		FyreBOX Mini/Maxi and TWrap		60mm -/120/120
	Up to 80mm	Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.	300mm	Test report: FC10266-01-4

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FRLs - Plastic Pipes

Ceiling Penetrations



Service	Size (up to)	Ceiling construction	System	TWrap	Max. FRL, RISF and Maxilite thickness
PVC Pipes	100mm	2 layer 13mm & 16mm FR Plasterboard	<u>FyreCOLLAR and FyreFLEX</u> <u>Sealant</u> 111mm opening, filled with	Wrap Free	60mm -/60/60 60 minute RISF Test report: RTL FT1552.01
		Fyre	FyreFLEX sealant to the full depth of board and collars fixed on the underside of the board.		60mm -/120/120 60 minute RISF Test report: RTL FT1553.01
	80mm	3 layer 16mm FR Plasterboard	FyreBOX Mini/Maxi and TWrap Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.	300mm	60mm -/120/120 60 minutes RISF Test report: FC10266-01-4



FRL TABLES - HVAC&R Walls

FRLs - HVAC&R

Wall Penetrations



Service	Size (up to)	System	TWrap	Max. FRL and Maxilite Thickness
	Single pair coil bundle* with	<u>FyrePEX HP and TWrap</u> 110mm opening filled to full depth of Maxilite board. Apply	Wrap Free	60mm -/120/60 Test report: FAR 4849
Pair coil bundles	FR insulation up to 20mm	30x30mm fillet on both sides of the wall.		60mm -/120/120 Test report: FAR 4849
	Up to 3x pair coil bundles with FR insulation up to 25mm thick, and 2x cables per pair coil (power/data)	<u>FyreCOLLAR and FyreFLEX</u> <u>Sealant</u> Max annular gap 5mm, filled with FyreFLEX sealant to the full depth of board on both sides of the wall.	300mm	90mm -/120/120 Test report: FC11190
	Pair coil bundle* with FR insulation up to 20mm			
Pair coil,	Pair coil bundle* with PE insulation up to 13mm	FyreBOX Mini/Maxi and TWrap		60mm
other CHW pipe and mixed services	DN50 copper with PE insulation up to 20mm thick	Annular gaps from 5-20mm. Fill to full depth of board with		-/120/120 Test report: FC10266-01-4
	DN50 copper with FR insulation	FyreFLEX sealant.		
	DN20 copper with rockwool- type insulation up to 38mm			

*A/C bundle to consist of two insulated copper pipes (pair coil) with or without: power cables up to 12mm OD, data cables up to 6mm OD and one flexible or rigid PVC drain up to 20mm OD.



FRL TABLES - HVAC&R Walls

FRLs - HVAC&R

Floor Penetrations



Service	Size (up to)	System	TWrap	Max. FRL and Maxilite Thickness
	Single pair coil bundle* with	<u>FyrePEX HP and TWrap</u> 110mm opening filled to full	Wrap Free	60mm -/120/60 Test report: FAR 4849
Pair coil bundles	FR insulation up to 20mm	depth of Maxilite board. Apply 30x30mm fillet on top side of the floor.	300mm	120mm -/120/120 Test report: FAR 4849
	Up to 3x pair coil bundles with FR insulation up to 25mm thick, and 2x cables per pair coil (power/data)	<u>FyreCOLLAR and FyreFLEX</u> <u>Sealant</u> Max annular gap 5mm, filled with FyreFLEX sealant to the full depth of board on top side of the floor.	300mm	60mm + 30mm patch -/120/120 Test report: FC11190
Pair coil, other CHW pipe and mixed services	Pair coil bundle* with FR in- sulation up to 20mm Pair coil bundle* with PE in- sulation up to 13mm	FyreBOX Mini/Maxi and TWrap Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.	300mm	60mm -/120/120
	DN50 Stainless steel pipe with EPS or PE insulation and rockwool up to 20mm thick			Test report: FC10266- 01-4
	DN50 copper with PE insula- tion up to 20mm thick			

*A/C bundle to consist of two insulated copper pipes (pair coil) with or without: power cables up to 12mm OD, data cables up to 6mm OD and one flexible or rigid PVC drain up to 20mm OD





FRLs - HVAC&R

Ceiling Penetrations

Service	Size (up to)	Ceiling construction	System	TWrap	Max. FRL and Maxilite Thickness
Pair coil bundles	Single pair coil bundle with 20mm FR insulation*	2 layer 13mm & 16mm FR Plasterboard	<u>FyreCOLLAR and FyreFLEX</u> <u>Sealant</u> 90mm opening filled to full depth of Maxilite board.	300mm	60mm (White/ blue) -/60/60 60 minute RISF Test report: RTL FT1552.01
	Single pair coil bundle*	3 layer 16mm FR Plasterboard	<u>FyreCOLLAR and FyreFLEX</u> <u>Sealant</u> 54mm opening filled to a 10mm depth of Maxilite board.	300mm	60mm (White/ blue) -/120/120 60 minute RISF Test report: RTL FT1553.01
	Pair coil bundle* with FR in-sulation up to 20mm Pair coil bundle* with PE in-sulation up to 13mm DN50 Stainless steel pipe with EPS or PE insulation and rockwool DN50 copper with FR insulation	3 layer 16mm FR Plasterboard	<u>FyreBOX Mini/Maxi and</u> <u>TWrap</u> Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.	300mm	60mm (White/ blue) -/120/120 Test report: FC10266- 01-4

*A/C bundle to consist of two insulated copper pipes (pair coil) with or without: power cables up to 12mm OD, data cables up to 6mm OD and one flexible or rigid PVC drain up to 20mm OD

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FRL TABLES - STEEL THREADED EOD

FRLs - Steel Threaded Rod

Floor and Wall Penetrations



Service	Barrier	Size	Fire Stopping	TWRAP	Max FRL
Steel Threaded Rod	Floor	10mm	FyreFLEX Sealant and TWrap Max annular gap 5mm. Fill FyreFLEX sealant to the full depth of board with 30 x 30mm fillet on the top side. TWrap on top side only		60mm (White/blue) -/180/180 Test Report: FRT190292
	Wall	1011111	FyreFLEX Sealant and TWrap Max annular gap 5mm. Fill FyreFLEX sealant to the full depth of board with 30 x 30mm fillet on the top side. TWrap on both sides of Maxilite	300mm	60mm (White/blue) -/120/120 Test Report: FCO 2586

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INSTALLATION Maxilite for Penetrations

Maxilite penetration systems will only be compliant if they are installed exactly how they have been tested, otherwise the FRL performance can't be confirmed. It is important that the following installation instructions are followed closely.

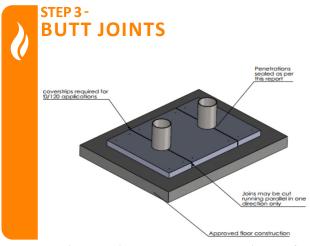
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STEP 1 PREPARE THE OPENING



For plasterboard walls, the opening (or aperture) is required to be lined with stud framing and strips of plasterboard inside the opening.

For AAC panel walls, these may require additional steel framing as per wall manufactures recommendations.



Maxilite can be cut into pieces and retro-fitted around existing services. For multiple layers of Maxilite, joints in each layer should all run in the same direction (parallel).



Measure the existing opening and check that it is within the approved Maxilite range. Include the required 100mm overlap onto at least 3x sides of the penetration (4th side may be installed hard against a wall). The side hard against the wall is required to have a 75x75x0.9 steel angle in lengths of 1200mm. Leave 10-20mm gaps between angles for expansion.



Using a hand saw, jig saw or reciprocating saw, cut the Maxilite board to the required size. It can be installed in various sections around existing services. Leave an annular gap around each service (refer to FRL tables above for maximum annular gaps).

Cover strips are not required for butt joints in the Maxilite board

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INSTALLATION Maxilite for Penetrations



Fix the Maxilite to the wall or floor. These are to be installed 50mm from the edges of the Maxilite board and located at 400mm centers for concrete/ masonry walls, or 200mm centers for other walls.

Refer to fixings listed on page 7-8.



Seal any butt joints with FyreFLEX sealant, and apply FyreFLEX sealant to the perimeter of the board with a 15x15mm fillet.

Note that there is no need to seal screw heads

There is a wide range of fire stopping systems approved in Maxilite for all service types, refer to the approvals tables for details.

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STEP 7 FIRE STOP SYSTEM



Install fire stopping product required for the service as listed in the FRL tables above.

(e.g. for metal pipes, seal with FyreFLEX sealant and wrap with TWrap, for plastic pipes install a FyreCOLLAR, or FyrePEX HP sealant etc.)

WRAP (SYSTEM SPECIFIC)



Where required, wrap the services with TWrap with a 50mm overlap, and strap in place with 4.6mm steel cable ties 50mm from each end, and 150mm centers in-between.

Refer to FRL tables above for the correct length of TWrap required for your service penetration.

PRODUCT RANGE FyreBOARD MAXILITE

Description	Min Order Qty	Pallet Qty	Weight Per Board
Maxilite board 1525x1000x30 mm (white)	1x	30	16kg
Maxilite board 1525x1000x40 mm (white)	1x	22	22kg
Maxilite board 1525x1000x60 mm (white)	1x	12	32kg
Maxilite board 2040x1220x30 mm (blue)	1x	35	23kg
Maxilite board 2040x1220x40 mm (blue)	1x	23	30kg
Maxilite board 2040x1220x60 mm (blue)	1x	17	45kg
Maxilite board 1018x1220x30 mm (white)	1x	39	11.5kg
Maxilite board 1018x1220x40 mm (white)	1x	10	15kg
Maxilite board 1018x1220x60 mm (white)	1x	29	22.5kg
Maxilite board 1018x1220x30 mm (blue)	1x	61	11.5kg
Maxilite board 1018x1220x40 mm (blue)	1x	74	15kg
Maxilite board 1018x1220x60 mm (blue)	1x	34	22.5kg
	Maxilite board 1525x1000x30 mm (white) Maxilite board 1525x1000x40 mm (white) Maxilite board 1525x1000x60 mm (white) Maxilite board 2040x1220x30 mm (blue) Maxilite board 2040x1220x40 mm (blue) Maxilite board 2040x1220x60 mm (blue) Maxilite board 1018x1220x30 mm (white) Maxilite board 1018x1220x40 mm (white) Maxilite board 1018x1220x40 mm (white) Maxilite board 1018x1220x30 mm (blue) Maxilite board 1018x1220x30 mm (blue)	QtyMaxilite board 1525x1000x30 mm (white)1xMaxilite board 1525x1000x40 mm (white)1xMaxilite board 1525x1000x60 mm (white)1xMaxilite board 2040x1220x30 mm (blue)1xMaxilite board 2040x1220x40 mm (blue)1xMaxilite board 2040x1220x60 mm (blue)1xMaxilite board 1018x1220x30 mm (white)1xMaxilite board 1018x1220x40 mm (blue)1xMaxilite board 1018x1220x40 mm (blue)1xMaxilite board 1018x1220x40 mm (blue)1xMaxilite board 1018x1220x40 mm (blue)1xMaxilite board 1018x1220x40 mm (blue)1x	QtyQtyMaxilite board 1525x1000x30 mm (white)1x30Maxilite board 1525x1000x40 mm (white)1x22Maxilite board 1525x1000x60 mm (white)1x12Maxilite board 2040x1220x30 mm (blue)1x35Maxilite board 2040x1220x40 mm (blue)1x23Maxilite board 2040x1220x60 mm (blue)1x17Maxilite board 1018x1220x60 mm (white)1x39Maxilite board 1018x1220x40 mm (white)1x29Maxilite board 1018x1220x30 mm (blue)1x61Maxilite board 1018x1220x40 mm (blue)1x74







SYSTEM RANGE: RELATED SERVICES

SYSTEM RANGE RELATED SERVICES







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



PRODUCT RANGE RELATED SERVICES







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CLICKABLE CODES Item Number	Description	Dimensions
FYREBOX-MAXI-350	350 x 125 x 250mm	
FYREBOX-MAXI-550	550 x 125 x 250mm	T125mm
FYREBOX-MAXI-650	650 x 125 x 250mm	
FYREBOX-MAXI-750	750 x 125 x 250mm	
FYREBOX-MAXI-1100	1100 x 125 x 250mm	1000 100 100 100 100 100 100 100 100 10
FYREBOX-MAXI-Custom	Any depth X 125 X Any length up to 1250mm	TO T



250mm

SYSTEM RANGE: RELATED SERVICES

SYSTEM RANGE RELATED SERVICES



Fure <u>COLLAR</u> CONDUIT

CLICKABLE	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



Fure COLLAR PREMIUM

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CLICKABLE	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



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SYSTEM RANGE: RELATED SERVICES

SYSTEM RANGE RELATED SERVICES







(CLICKABLE CODES) 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 10G	FyreFLEX [®] Sealant Pail 10L Grey	1	64			





CLICKABLE	ltem

KABLE	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
	Таре	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™



SYSTEM RANGE: RELATED SERVICES

SYSTEM RANGE RELATED SERVICES

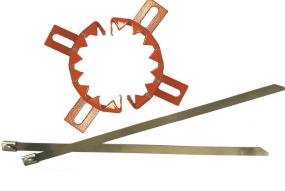




CLICKABLE CODES Item number	Description	Min Order Qty	Pallet Qty			
FyrePEX HP310	FyrePEX HP Intumescent	25	1600			

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CLICKABLE CODES

Ensures visable compliance | Reduces FyrePEX[™] HP wastage

Item number	Size	Kit	Min Order Qty
FyrePEX Sheath 50mm Set	50mm	2 Sheaths (4 Halves) 2 x SS Cable Ties	1
FyrePEX Sheath 50mm Set	65mm	2 Sheaths (4 Halves) 2 x SS Cable Ties	1

READY







FAQ?

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Q Can I use thinner Maxilite boards for penetrations?

A The minimum Maxilite thickness for penetrations is 60mm, however you can make up this thickness with 2x30mm boards for example.

Q Can I paint over Maxilite?

A Yes, it is possible to paint over the board. Maxilite is porous so multiple coats are recommended.

Q Can I install a FyreSHIELD access panel into a 60mm Maxilite?

A We do not have a tested system containing a FyreSHIELD access panel in Maxilite.

Q I have a 2-hour rated wall, can I use a 60mm Maxilite to achieve a 4-hour rating?

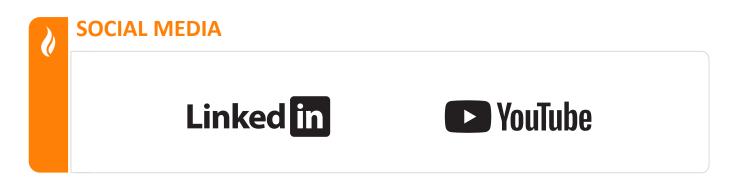
A The FRL will be limited to the system and therefore would only achieve-/120/120 in this instance.

Q I require a large FyreBOX Maxi installed into an oversize opening. Can I install this into the Maxilite?

A When using Maxilite board, the largest approved FyreBOX is one 1100x125mm as long as the board is designed as per this manual to handle the weight of the FyreBOX Maxi. Refer to page 11.

Q Can I build bulkheads or box-outs?

A Yes, refer to FyreBOARD Maxilite Bulkheads and Ceilings Technical Manual.

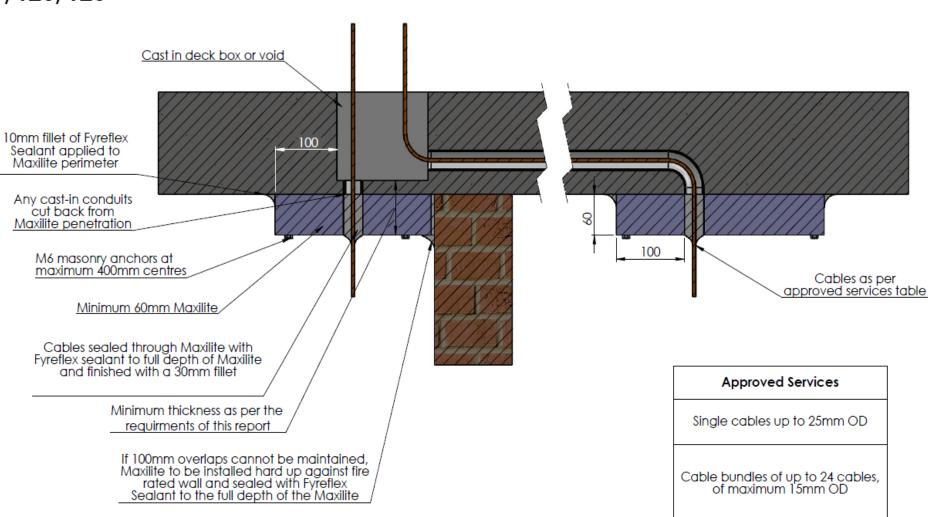




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TECHNICAL DRAWINGS

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Notes:

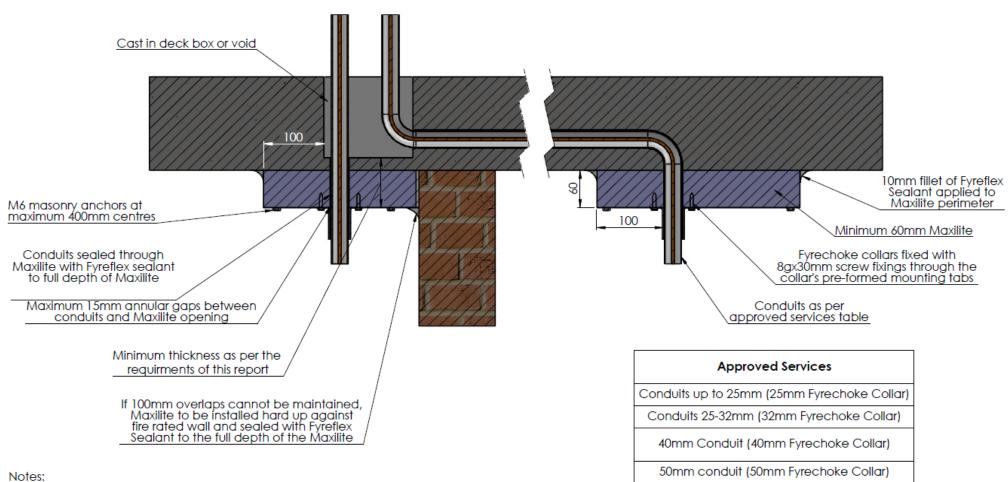
- Maximum annular gaps around cable services 20mm (ie. 20mm cable will require a max. 60mm opening) - Sealant installed to full depth of Maxilite

- FRL of floor slab is maintained in regards to insulation performance only, structural adequacy to be confirmed by others



TECHNICAL DRAWINGS

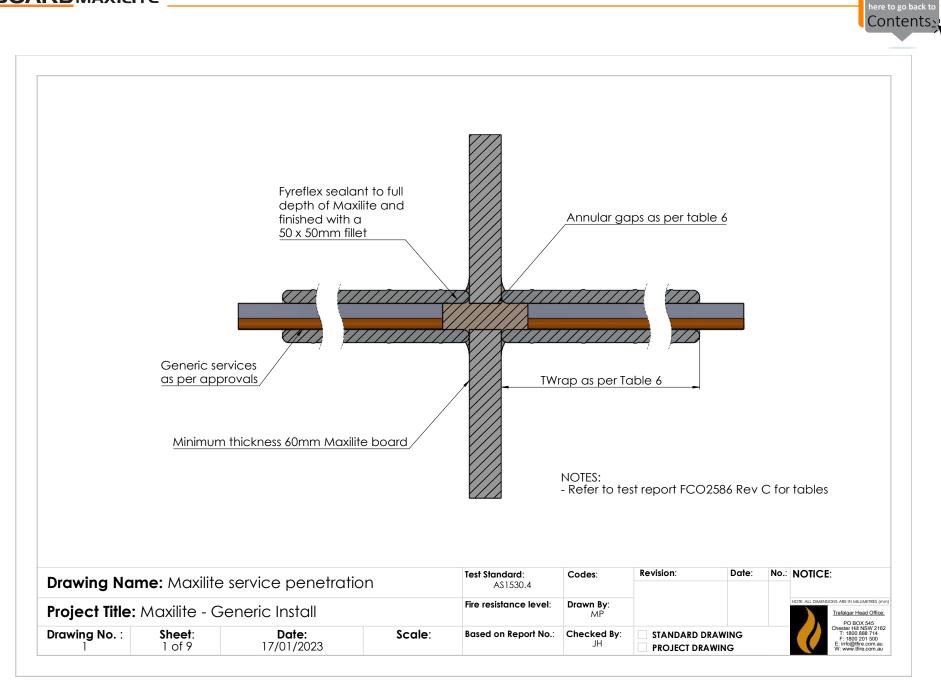
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- Fyrechoke collars installed as per approvals
 Conduits installed empty or with cables (inlcuding NBN fiber)
 FRL of floor slab is maintained in regards to insulation performance only, structural adequacy to be confirmed by others



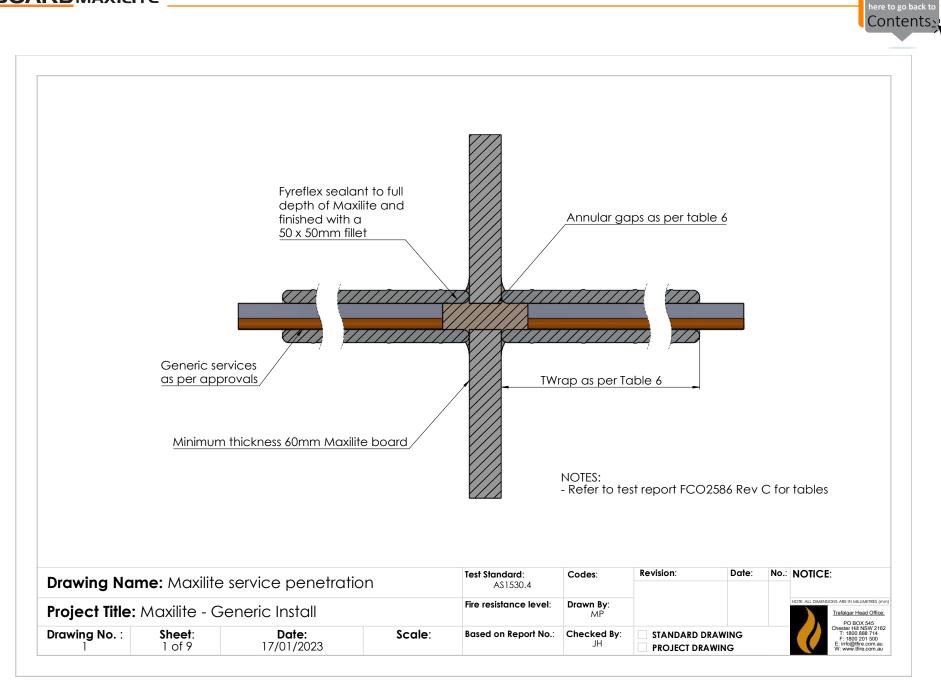
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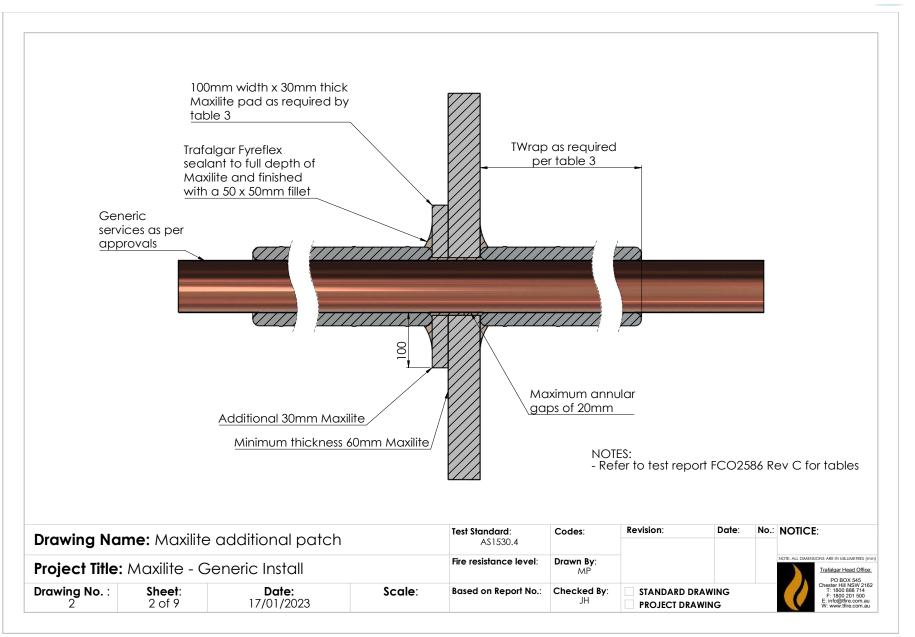




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TECHNICAL DRAWINGS

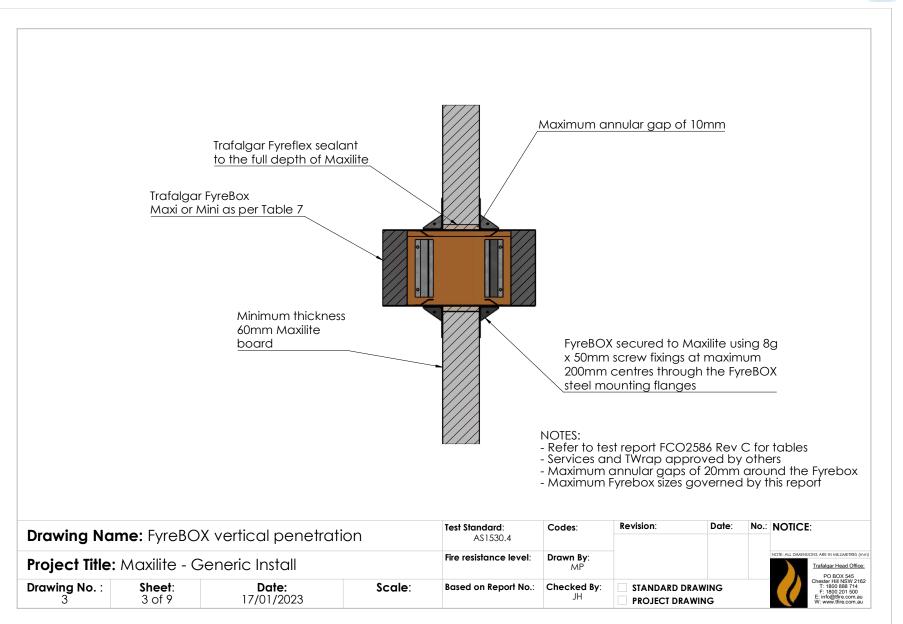




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TECHNICAL DRAWINGS

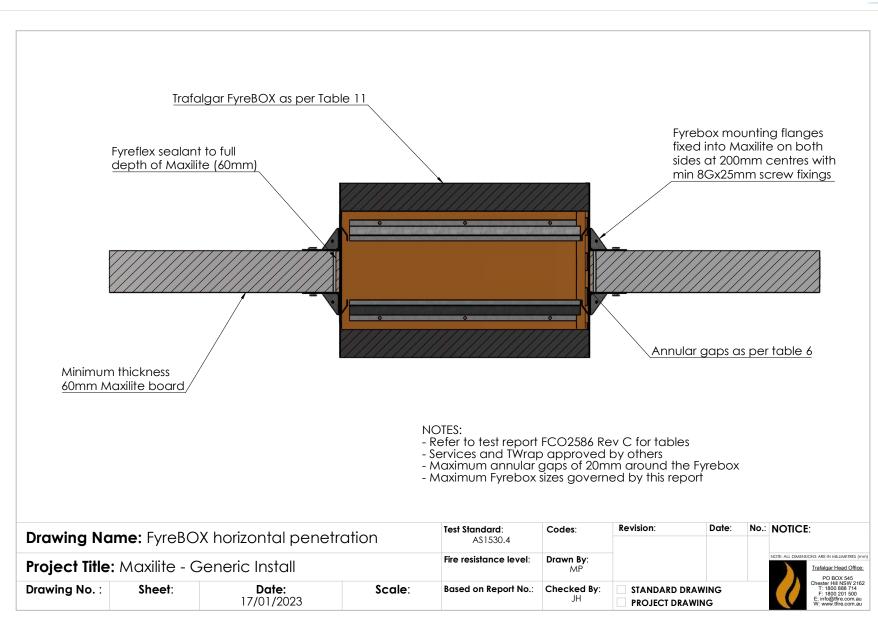




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TECHNICAL DRAWINGS

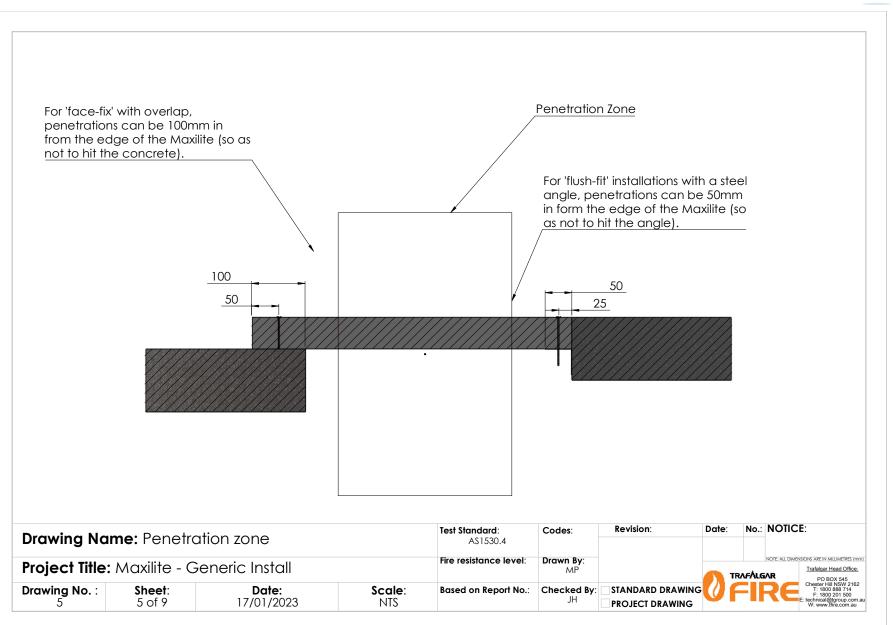




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TECHNICAL DRAWINGS

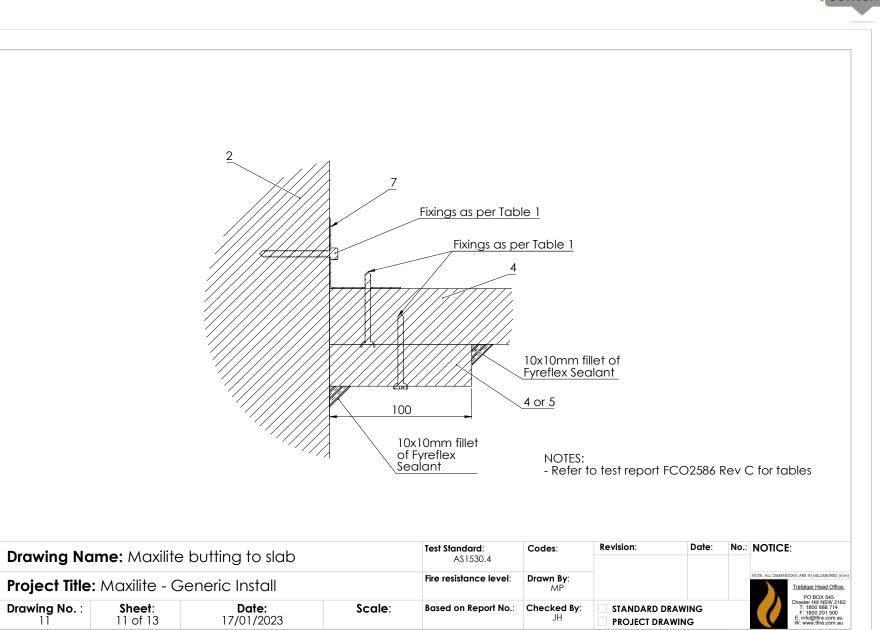




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TECHNICAL DRAWINGS

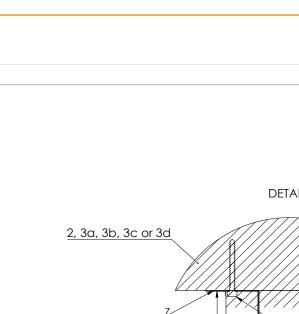


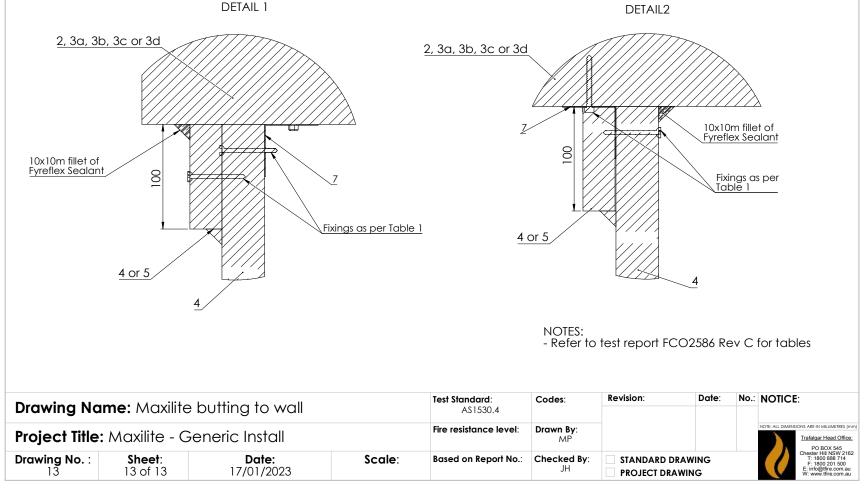


⁰Fure<u>BOARD</u>MAXILITE

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TECHNICAL DRAWINGS

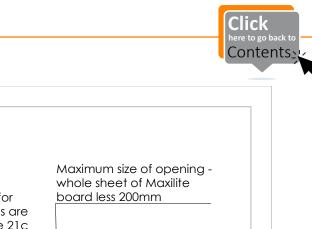




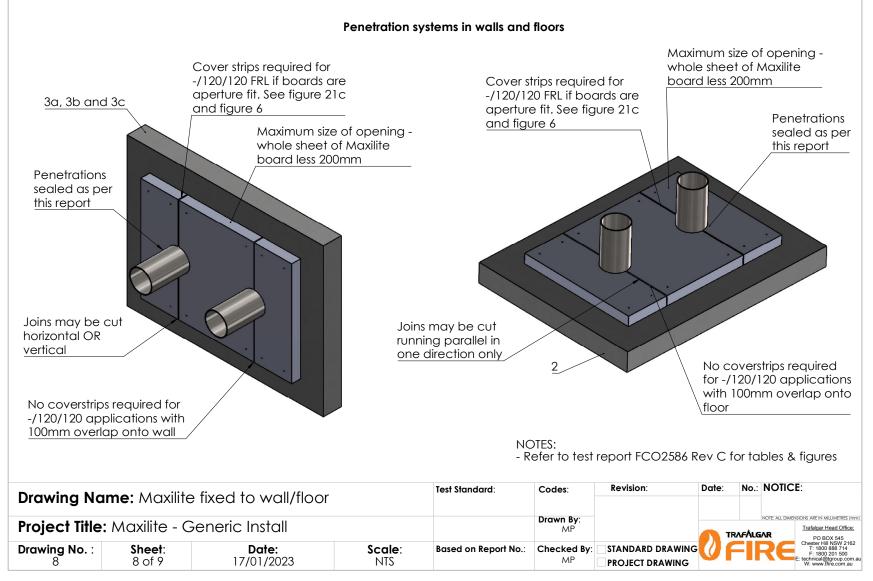


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TECHNICAL DRAWINGS





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TECHNICAL DRAWINGS

