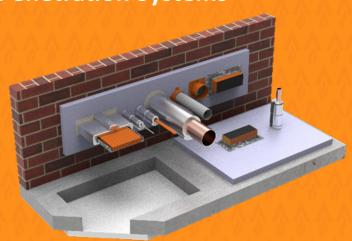




FyreBOARD MAXILITE

Penetration Systems



Maxilite is a 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



lectricians	Power	
	Data cables	
	Conduits	
	Cable tray	

Plumbers	PVC pipes
Piulibeis	PEX pipes
	PEX-AL-PEX pipes

Steel and Copper pipes

HVAC&R Insulated Pipes
Fire Damper Upgrades

Active Fire Sprinkler Pipes Fire Cables



TRADES

















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FyreBOARD 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>
 Systems Technical Manual
- 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.







PRODUCT SPECIFICATIONS



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 to	o AS1530.1
Maximum service temp	1000 deg C		
Permeability to gasses	1.0 nPm		
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	v+Ctr 28)
		60mm: Rw33 (Rv	v+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:



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.





Maxilite Blank Penetrations

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	Test report: FCO2586
AAC 75mm walls (Hebel/Walsc)	200mm centers	approvals with aperture framed if needed)	60mm -/90/90
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





Maxilite Blank Penetrations

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.





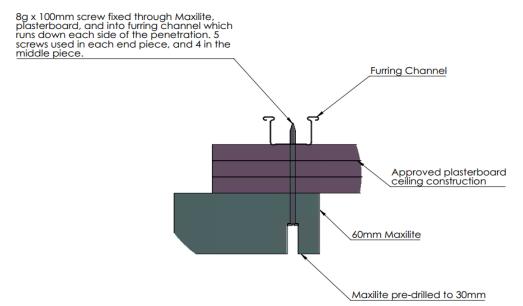




CEILING PENETRATIONS



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 29-30.



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



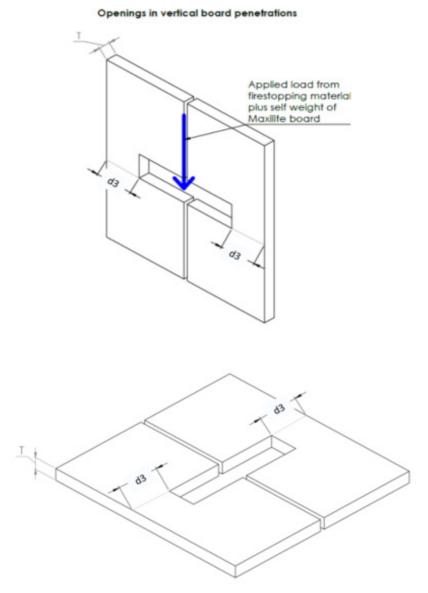




FYREBOX PENETRATIONS



When installing the Fyr<u>B</u>OX 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.



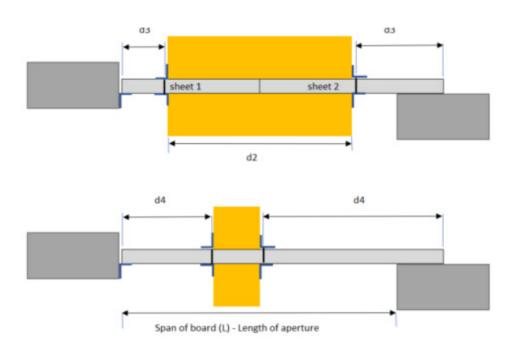
Openings in minimum 60mm thick Maxilite board with an opening for FyreBOX. Two sheets only





FYREBOX PENETRATIONS





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 at 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

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







Wall Penetrations



Service	Specification	Fire Stopping Specifica- tion	TWrap	Max. FRL and Maxilite Thickness
Cable bundles	AS1530.4-2014 Appendix D1 copper core	The maximum annular gaps between the cables and the Maxilite is 20mm.		60mm -/180/120
Cable trays up to 300mm	-TPS cables -Fire cables -Single core -3c+E cables etc	Fill FyreFLEX Sealant to full depth of board (60mm) and finish with 50x50mm fillet on both sides of the wall.	300mm*	Test report: FCO2586
Data cables	Up to 20x CAT6 cables	FyreFLEX Sealant and TWrap The maximum annular gaps between the cables and the Maxilite is 5mm. Fill FyreFLEX Sealant to full depth of board (60mm) and finish with 50x50mm fillet on both sides of the wall.		60mm -/120/120 Test report: FCO2586
TPS cables	Up to 12x TPS cables		300mm	
Large bundles and/or mixed	All copper core cables (AS1530.4 appendix D1 and D2 cable sets) with cable trays up to 1000mm wide,		600mm* for D1	
services	PVC conduits, Fibre conduits, other pipe services etc.	FyreBOX Mini/Maxi and TWrap Annular gaps from 5-20mm.	450mm* for D2	60mm FRL-/120/120
	Up to 3x 240mm² 28mm OD	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	
Data califor	Up to 3x RG6 cables			
Data 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







Floor Penetrations



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*	FyreFLEX Sealant and TWrap The maximum annular gaps between the cables and the Maxilite is 30mm.	450mm	60mm -/120/120 Test report: FCO2586
300mm [*]	-TPS cables -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
TPS cables	Up to 12x TPS cables	FyreBOX Mini/Maxi and TWrap Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.		60mm -/120/120
3C + E power cables	Up to 2x 19mm 3C + E cables		300mm	Test report: FC10266- 01-4
Data/	up to 10x CAT6 cableses	FyreFLEX Sealant and TWrap The maximum annular gaps between the cables and the Maxilite is 30mm. Fill FyreFLEX Sealant to full depth of board and finish with 50x50mm fillet on the top side only.	300111111	60mm -/120/120
	Up to 24 bundles Telecom cables, maximum 15mm diameter with PVC sheathing and insulation	FyreFLEX Sealant and TWrap Max annular gap 5mm. Fill to full depth of board. Finish with 50x50mm fillet top side only.	600mm	Test report: FCO2586
Data cables	Up to 20x CAT6		of board. Finish with 50x50mm fillet top side only.	300mm
TPS Cables	TPS Cables Up to 20x Firesense-TPS 1.5mm²	300111111	Test report: FCO2586	

^{*} 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.





Ceiling Penetrations



Service	Specification	Ceiling construction	System	TWrap	Max. FRL, RISF and Maxilite thickness
Cable trays upto 300mm	20 x CAT6, 10 x TPS, 7 x 3C&E Cable (19mm OD)	2 layer 13mm & 16mm FR Plasterboard	FyreFLEX Sealant and TWrap The maximum annular gaps between the cables and the Maxilite is 25mm. 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	FyreFLEX Sealant Cut a 32mm hole in the Maxilite. Fill FyreFLEX Sealant to full depth of board.	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	FyreFLEX Sealant and TWrap 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	FyreBOX Mini/Maxi and TWrap 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
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 services etc.	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 minute RISF Test report: FC10266-01-4



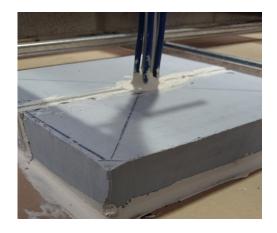


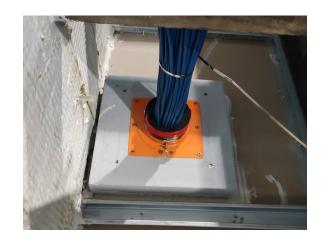


Ceiling Penetrations



Service	Specification	Ceiling construction	System	TWrap	Max. FRL, RISF and Maxilite thick-ness
Aluminium cables	Up to 4 x 240mm² single core + optional 120mm² earth cable	3 layer	FyreBOX Mini/Maxi and TWrap	200,000	
	Up to 4 x 16mm ² 4C + E				60mm -/120/120 60 minute RISF
NBN Fibre optic cable		16mm FR Plasterboard	Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.	300mm	Test report: FC10266- 01-4







FRLs - Metal Pipes

Walls Penetrations



Service	Size (up to)	System	TWrap	Max. FRL and Maxilite Thickness	
	DN50	The annular gaps between the pipe and Maxilite is 5-20mm. Fill FyreFLEX Sealant to full depth of board (60mm) and finish with	450mm	60mm -/180/120 Test report: FCO2586	
Copper pipe	DN100			600mm	60mm + 30mm patch -/180/120
	DN150		1100mm + 300mm	Test report: FCO2586	
c. In:	NB100		450mm	60mm -/180/120 Test report: FCO2586	
Steel Pipe NB150	NB150		600mm	60mm + 30mm patch -/180/120 Test report: FCO2586	
	DN32				
Copper pipe Steel Pipe	DN50	FyreBOX Mini/Maxi and TWrap Annular gaps from 5-20mm Fill to	FyreBOX Mini/Maxi and TWrap Annular gaps from 5-20mm. Fill to 300mm	60mm -/120/120	
	NB60	full depth of board with FyreFLEX sealant.	355	Test report: FC10266-01-4	



FRLs - Metal Pipes

Floor Penetrations



Service	Size (up to)	System	TWrap	Max. FRL and Maxilite thickness
	DN50		600mm	60mm -/120/120
	DN100		800 + 300mm	Test report: FCO2586
Copper Pipe	DN150	FyreFLEX Sealant and TWrap Annular gaps form 5-20mm. Fill to full depth of board with	1500mm + 300mm	60mm + 30mm patch -/120/120 Test report: FCO2586
	NB50	FyreFLEX sealant. Finish with 50x50mm fillet	450mm	60mm -/120/120
Steel Pipe	NB100	on the top side of the Maxilite only.	450mm	Test report: FCO2586
	NB150		900mm + 300mm	60mm + 30mm patch -/120/120 Test report: FCO2586
	42mm OD	FyreBOX Mini/Maxi and	450mm	
Copper Pipe	100mm OD	TWrap Annular gaps form	600mm	60mm -/120/120
Steel Pipe	60mm OD	5-20mm. Fill to full depth of board with	450mm	Test report: FC10266- 01-4
	100mm OD	FyreFLEX sealant.	600mm	



FRLs - Metal Pipes

Ceiling Penetrations



Service	Size (up to)	Ceiling construction	System	TWrap	Max. FRL, RISF and Maxilite thickness
Copper pipe	DN50	3 layer 16mm FR	FyreFLEX Sealant and TWrap Cut a 76mm hole. Fill to full depth of board with FyreFLEX sealant. Finish with 30x30mm fillet on bottom of the Maxilite.	450mm	60mm -/120/120 60 minute RISF Test report: RTL FT1553.01
Steel Pipe	NB100	16mm FR Plasterboard	FyreFLEX Sealant and TWrap Cut a 120mm hole. Fill to full depth of board with FyreFLEX sealant. Finish with 30x30mm fillet on bottom of the Maxilite.	450mm	F11333.U1
Connor nino	DN42			300mm	
Copper pipe	DN100	DN100 3 layer 16mm FR Plasterboard	FyreBOX Mini/Maxi and TWrap Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.	600mm	60mm -/120/120
Steel Pipe	NB50			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
PEX-Al-PEX	20mm	FyreSHEATH & FyrePEX HP sealant 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 60mm -/120/30 Test report: FCO2586
Mixed PEX-a	20mm	FyreBOX Mini/Maxi and TWrap	300mm	60mm -/120/120
PEX-b and PEX-ÂL- PEX pipes	20-32mm	Annular gaps from 5-20mm. Fill to full depth of board with FyreFLEX sealant.	450mm	Test report: FC10266- 01-4





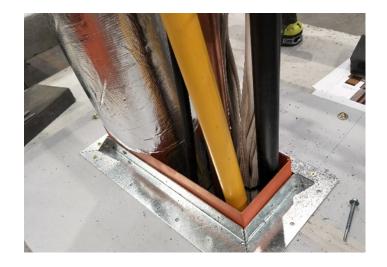


FRLs - PEX Pipes

Floor Penetrations



Service	Size (up to)	System	TWrap	Max. FRL and Maxilite thickness
PEX-b	16mm	FyrePEX HP and TWrap	Wrap Free	60mm -/120/60
PEX-AL-PEX	16mm	50-60mm opening, filled to full depth of Maxilite from one side of the wall.	wiap гiee	Test report: FAR4849
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	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







FRLs - PVC Conduits

Wall Penetrations



Service	Size (up to)	System	TWrap	Max. FRL and Maxilite thickness
PVC conduit	Up to 25mm PVC conduit*	FyrePEX HP and TWrap 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

Floor Penetrations



Service	Size (up to)	System	TWrap	Max. FRL and Maxilite thickness
PVC conduit	Up to 25mm PVC conduit*	FyrePEX HP and TWrap 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	Widpired	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.





FRLs - PVC Conduits

Ceiling Penetrations



Service	Size	Ceiling construction	System	TWrap	Max. FRL, RISF and Maxilite thickness
	25mm PVC conduit	2 layer 13mm & 16mm FR Plasterboard	FyreCOLLAR and FyreFLEX Sealant 32mm 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 45 minute RISF Test report: RTL TR-47.01
PVC conduit	25mm PVC conduit	2 layer 13mm & 16mm FR Plasterboard	EyreCOLLAR and FyreFLEX Sealant 25mm opening, filled with FyreFLEX sealant to the full depth of board and collars fixed on both sides of the board.		60mm -/60/60 60 minute RISF Test report: RTL FT1552.01
	25mm PVC conduit	3 layer 16mm FR Plasterboard	FyreCOLLAR and FyreFLEX Sealant 32mm 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 conduit	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





FRLs - PVC Pipes

Wall Penetrations



Service	Size (up to)	System	TWrap	Max. FRL and Maxilite thickness
PVC Pipes	80mm	FyreCOLLAR and FyreFLEX		60mm -/120/120 Test report: FC11190
	100mm	Sealant Max annular gap 5mm, filled with FyreFLEX sealant to the full depth of board and collars fixed on both	Wrap Free	60mm + 30mm patch -/120/120 Test report: FC11190
	100mm	sides of the board.		60mm -/90/90 Test report: FP6251

FRLs - PVC Pipes

Floor Penetrations



Service	Size (up to)	System	TWrap	Max. FRL and Maxilite thickness
PVC Pipes	80mm	FyreCOLLAR and FyreFLEX Sealant Max annular gap 5mm, filled with	Wrap Free	60mm -/120/120 Test report: FC11190
	100mm	FyreFLEX sealant to the full depth of board and collars fixed on both sides of the board.		60mm + 30mm patch -/120/120 Test report: FC11190
	80mm	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







FRLs - PVC Pipes

Ceiling Penetrations



Service	Size (up to)	Ceiling construction	Ceiling System		Max. FRL, RISF and Maxilite thickness
PVC Pipes	100	2 layer 13mm & 16mm FR Plasterboard	FyreCOLLAR and FyreFLEX Sealant 111mm opening, filled with	Wrap Free	60mm -/60/60 60 minute RISF Test report: RTL FT1552.01
	100mm	3 layer 16mm FR Plasterboard	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	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





FRLs - HVAC&R

Wall Penetrations



Service	Size (up to)	System	TWrap	Max. FRL and Maxilite Thickness
	Single pair coil bundle* with	FyrePEX HP and TWrap 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 both sides of the wall.		60mm -/120/120 Test report: FAR 4849
rail coil bullules	Up to 3x pair coil bundles with FR insulation up to 25mm thick, and 2x cables per pair coil (power/data)	FyreCOLLAR and FyreFLEX Sealant 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, other CHW pipe and mixed services	Pair coil bundle* with PE insulation up to 13mm	FyreBOX Mini/Maxi and TWrap		60mm
	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.		.cst.cporti.cstozod of 4
	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.







FRLs - HVAC&R

Floor Penetrations



Service	Size (up to)	System	TWrap	Max. FRL and Maxilite Thickness
	Single pair coil bundle* with	FyrePEX HP and TWrap 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)	FyreCOLLAR and FyreFLEX Sealant 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 bundle* with FR insulation up to 20mm			
Pair coil, other CHW pipe and mixed services	Pair coil bundle* with PE insulation up to 13mm	FyreBOX Mini/Maxi and TWrap Annular gaps from 5-20mm.	300mm	60mm -/120/120
	DN50 Stainless steel pipe with EPS or PE insulation and rockwool up to 20mm thick	Fill to full depth of board with FyreFLEX sealant.		Test report: FC10266- 01-4
	DN50 copper with PE insulation 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	FyreCOLLAR and FyreFLEX Sealant 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	FyreCOLLAR and FyreFLEX Sealant 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	FyreBOX Mini/Maxi and TWrap 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







FRLs - Steel Threaded Rod

Floor Penetrations



Service	Size	Fire Stopping	TWRAP	Max FRL
Steel Threaded Rod	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	300mm	60mm (White/blue) -/180/180 Test Report: FRT190292







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.



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.

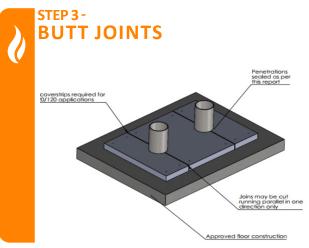
For AAC panel walls, these may require additional steel framing as per wall manufactures recommendations.



STEP 2 PREPARE THE BOARD



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).



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).



STEP 4 - CUT THE BOARD



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





INSTALLATION

Maxilite for Penetrations



STEP 5-FIXINGS



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 6-7.



STEP 6



Seal any butt joints with FyreFLEX sealant, and apply FyreFLEX sealant to the perimeter of the board with a 10x10mm 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.



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

CLICKABLE				
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
Maxilite Half White 30	Maxilite board 1018x1220x30 mm (white)	1x	39	11.5kg
Maxilite Half White 40	Maxilite board 1018x1220x40 mm (white)	1x	10	15kg
Maxilite Half White 60	Maxilite board 1018x1220x60 mm (white)	1x	29	22.5kg
Maxilite Half Blue 30	Maxilite board 1018x1220x30 mm (blue)	1x	61	11.5kg
Maxilite Half Blue 40	Maxilite board 1018x1220x40 mm (blue)	1x	74	15kg
Maxilite Half Blue 60	Maxilite board 1018x1220x60 mm (blue)	1x	34	22.5kg
Maxilite Quarter White 40	Maxilite board 790 x497x 40mm (white)	1x	20	5kg
Maxilite Quarter White 60	Maxilite board 790 x497x60mm (white)	1x	20	7.5kg
Maxilite Quarter Blue 40	Maxilite board 790 x497x 40mm (blue)	1x	20	5kg
Maxilite Quarter Blue 60	Maxilite board 790 x497x 60mm (blue)	1x	20	7.5kg

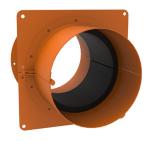






SYSTEM RANGERELATED SERVICES









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
	FYREBOX-MR-50	50 x 250mm	
Round	FYREBOX-MR-100	100 x 250mm	
	FYREBOX-MR-150	150 x 250mm	50-150mm model dependent





PRODUCT RANGE RELATED SERVICES

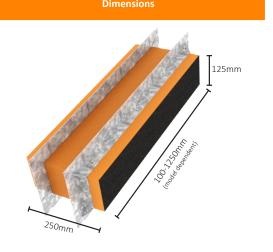








Description
350 x 125 x 250mm
550 x 125 x 250mm
650 x 125 x 250mm
750 x 125 x 250mm
1100 x 125 x 250mm
Any depth X 125 X Any length up to 1250mm







SYSTEM RANGE RELATED SERVICES





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



CLICKABLE CODES 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



SYSTEM RANGERELATED SERVICES







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	1x	64		





CLICKABLE	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 $^{\otimes}$ can be substituted for TWRAP $^{\text{\tiny{M}}}$







SYSTEM RANGE RELATED SERVICES

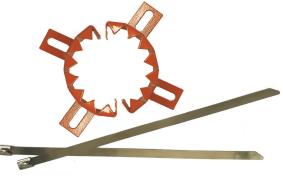






CLICKABLE CODES Item number	Description	Min Order Qty	Pallet Qty
FyrePEX HP310	FyrePEX HP Intumescent	25	1600





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



FAQ?

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 10.

Q Can I build bulkheads or box-outs?

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



SOCIAL MEDIA

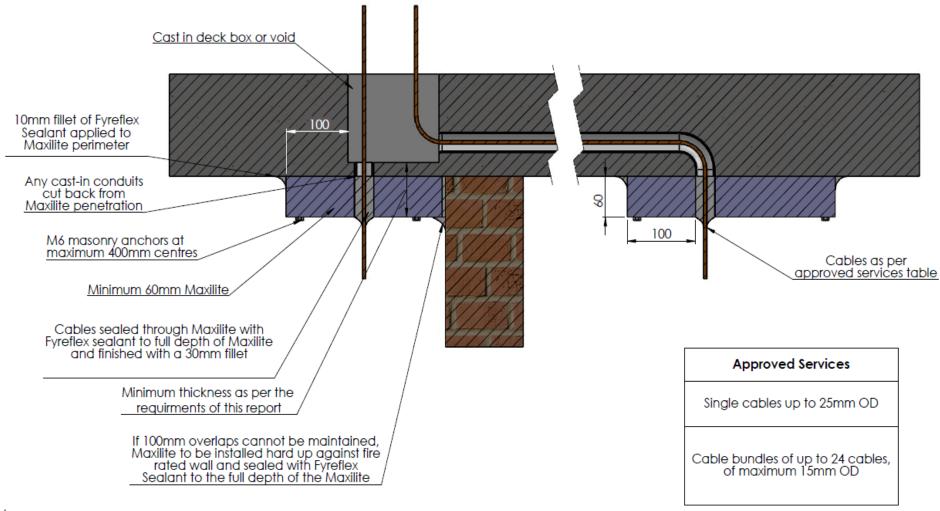








-/120/120



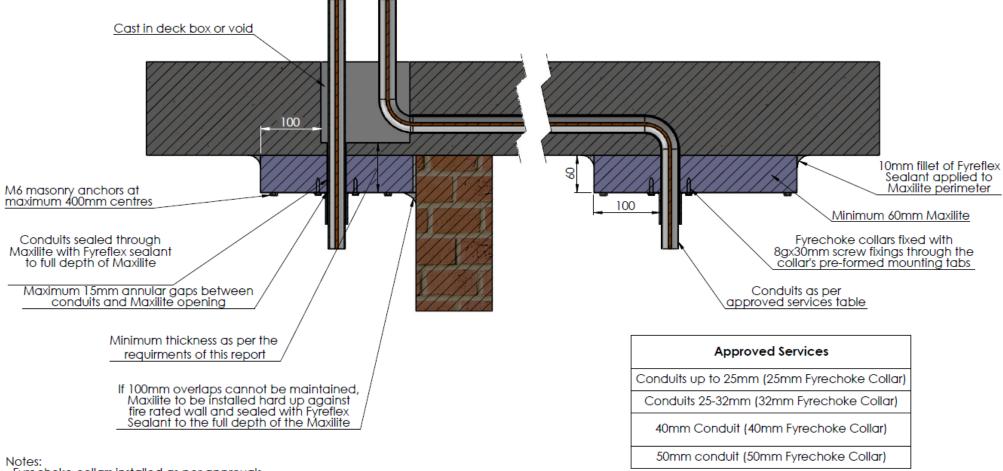
Notes:

- 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





-/120/120



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





