Plasterers and Dryliners

Passive Fire Protection Guide

Foreword

Passive fire protection is an important part of building design. Lightweight construction can and is widely used to provide fire compartment barriers or to protect steel structures from fires. Trafalgar has been involved with passive fire protection for nearly 80 years and has a full range of lightweight systems that provide the necessary fire ratings or FRL's to comply with the NCC/BCA. This Guide showcases the large range of system we offer for in use in construction of Building in Australia and New Zealand; all fire tested to AS1530 Part 4- 2014 and compliant with other Australian Design Standards where they apply.

Table of Contents

Steel Fire Protection

Using Trafalgar Corex

Trafalgar has stepped in with the recent changes to the NCC or BCA whereby pink plasterboard does not offer the correct AS4100 and AS1530 Part 4 – 2014 fire test approvals.

Trafalgar Corex FyreBOARD is the BEST new option.

Ideal for columns in high traffic areas due to it's ***high impact resistance***. Corners and joints can be finished with standard plasterboard tapes and materials.

The glass reinforced construction, without paper facings, ***allow for quick score and snap***. Installation ***DOES NOT require any steel angles*** or structure; simply fix the Trafalgar Corex FyreBOARD around the steelwork as per Trafalgar's detailed installation instructions.

We recommend the use of ***staples for fixings*** which offer a much faster installation time.

Trafalgar offer ***full technical support*** you or your client needs; both off site and on-site as required.

We help with thickness calculations for Trafalgar Corex FyreBOARD to suit the ***steelwork schedules*** or you can easily look them up in our detailed technical manuals.

We have ***interface details*** with fire test approvals for where the Trafalgar Corex FyreBOARD needs to interface with intumescent paints or fire spray materials.

Very thin square hollow sections can be protected with Trafalgar Corex FyreBOARD.

IMPACT RESISTANT

FIRE RATED

KEY POINTS

- Up to 3 hour FRL rating on steel structures
- NCC / BCA & AS4100 compliance
- Impact resistant
- Easy to cut – Score & snap option possible
- Quick installation with staples
- Available in 12.5, 15, 20 & 25mm thicknesses

Click here to read the full Trafalgar Corex Steel Protection Technical Manual for FRL's and other specfications

Solid Fire Walls

A solid fire wall is built like a riser shaft incorporating stud and track framing but with two layers of Trafalgar Corex FyreBOARD ***fixed to one side only.***

They provide a very thin fire wall and are ideal where fire separation of two spaces is required and access from one side only is ideal.

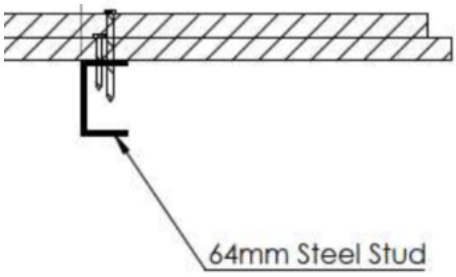
The ***high impact resistance of Trafalgar Corex FyreBOARD*** makes it widely specified and used.

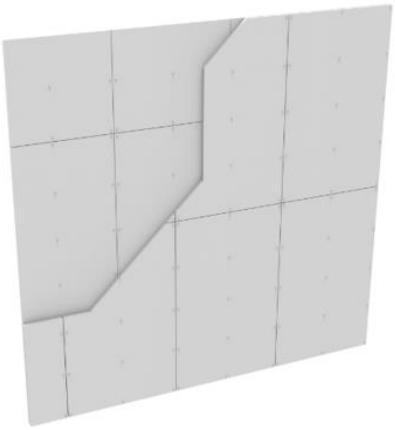
Trafalgar offer fire tested systems for 30, 45, 60, 90 & 120 minute fire ratings complete with both integrity and insulation fire criteria.

There is fire test data for service penetrations using Trafalgar's FyreSTOPPING systems.

IMPACT RESISTANT

FIRE RATED





KEY POINTS

- Solid fire walls allow for thin and quick erection
- Utilising a lightweight steel stud frame & have 2 layers of Trafalgar Corex board fixed to one side only
- Fire tested with fire in both directions
- Systems are available for 60, 90 & 120 minutes
- Trafalgar have a full range of service penetrations approved

Click here to read the full Trafalgar Corex Steel Protection Technical Manual for FRL's and other specfications

High Impact Partitions

The ***high impact resistance of Trafalgar Corex FyreBOARD*** makes it perfect to build impact resistant and fire rated partitions or fire walls.

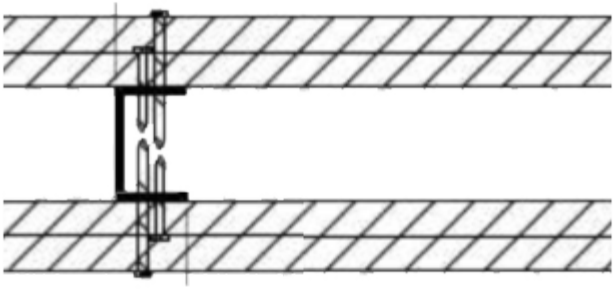
Trafalgar offer fire tested systems for ***30, 60, 90 & 120 minute fire ratings*** complete with both integrity and insulation fire criteria.

There is fire test data for access panels, fire dampers and most types of service penetrations using Trafalgar's FyreSTOPPING systems.

Trafalgar can offer structural engineering support to design very tall fire walls up to and including 10 meters in height.

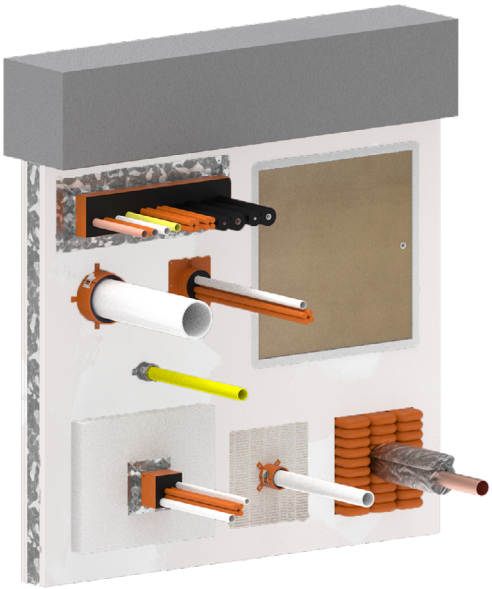
IMPACT RESISTANT

FIRE RATED



KEY POINTS

- Trafalgar Corex partitions offer an impact resistant fire rated wall or partitions
- Utilising a lightweight steel stud frame & have Trafalgar Corex board fixed to both sides
- Fire tested with fire in both directions
- Systems are available for 60, 90 & 120 minutes
- Very tall partitions up to 10 meters are available
- Trafalgar have a full range of service penetrations approved



Shaft Wall and Riser Shafts

Trafalgar have simplified riser shaft construction and developed some market leading fire rated shaft systems.

When using Trafalgar Corex, there is no need to source and use special J tracks to over complicate the construction. Only one type of stud and track and board thickness is required.

Trafalgar can utilise conventional stud and track. Trafalgar Corex FyreBOARD can be fixed directly to this ***from the outside of the riser shaft.***

The high impact resistance and water resistance characteristics of Trafalgar Corex FyreBOARD makes it a great alternative to standard construction methods for riser shafts.

Two way fire ratings apply; that is fire from inside and outside the riser shaft, even with the exposed track and stud work, ***which is an Australian first!***

The integration of ***Trafalgar FyreBOX systems,*** makes service penetrations quick and most importantly takes away the compliance issues we see with conventional fire stopping in riser shafts.

Click here to watch and see why the **FyreBOX Cast-In** is the future of fire stopping

IMPACT RESISTANT

FIRE RATED

WATER RESISTANT

2 WAY FIRE PROTECTION

NO J TRACKS NEEDED

KEY POINTS

- Trafalgar Corex can be used for fire rated shafts & risers
- They utilise a lightweight steel stud frame & have Trafalgar Corex board fixed to one side only
- Fire tested with fire in both directions
- Systems are available for 60, 90 & 120 minutes
- Trafalgar have a full range of service penetrations approved

Corex - Shaft Walls

Ceilings

Trafalgar's fire rated ceiling systems ***are the most fire tested systems available on the market.***

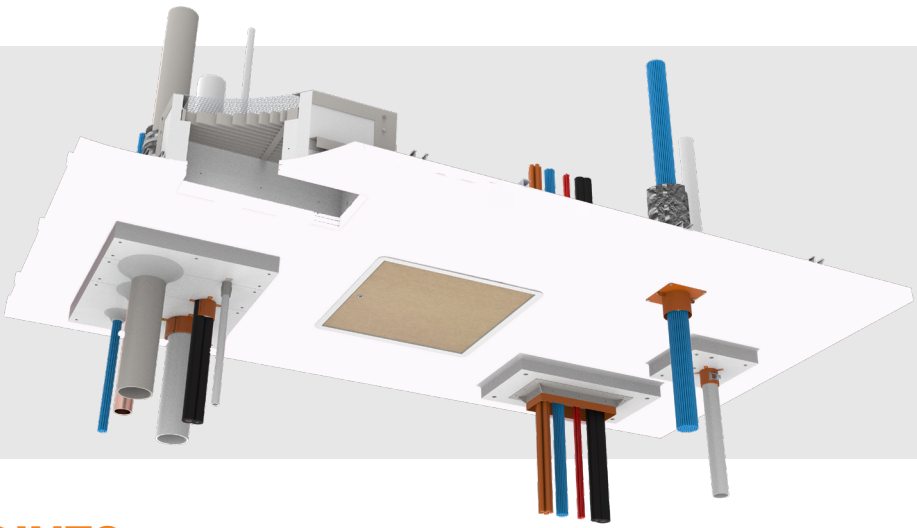
We offer fire tests for a FRL of -/120/120 with the additional required RISF or incipient fire rating with only 2x layers of board, saving time on site.

We understand there is possibly some compliance issues with existing 2 hour plasterboard ceilings.

Most importantly we have a full suite of Trafalgar tested fire stopping systems & fire rated access panels for use in our Trafalgar Corex fire rated systems.

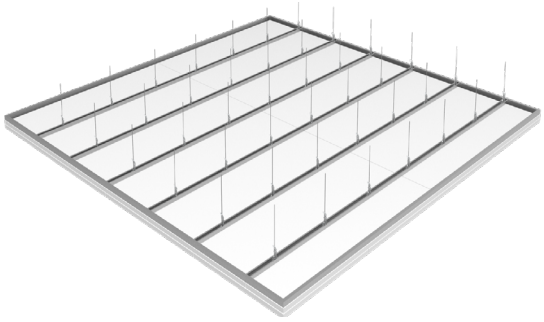
IMPACT RESISTANT

FIRE RATED



KEY POINTS

- Trafalgar Corex can be used for fire rated ceilings
- 2x layers for 2-hour FRL's
- Utilising a lightweight steel stud frame & have Trafalgar Corex board fixed to the underside
- Fire tested for fire from below as required by NCC/BCA
- Systems are available for 60, 90 & 120 minutes with required RISF ratings
- Trafalgar have a full range of service penetrations approved



Vertical Bulkheads

The ***high impact resistance of Trafalgar Corex FyreBOARD*** makes it perfect to build impact resistant and fire rated vertical bulkheads.

Trafalgar offer fire tested systems for ***60, 90 & 120 minute fire ratings*** complete with both integrity and insulation fire criteria.

When using Trafalgar Corex for vertical bulkheads, ***no sealant is required is for the fixings.***

Painting over Traflagar Corex is also possible, just like any other plasterboard wall.

Trafalgar has penetration testing complete - please see the technical manual for more information.

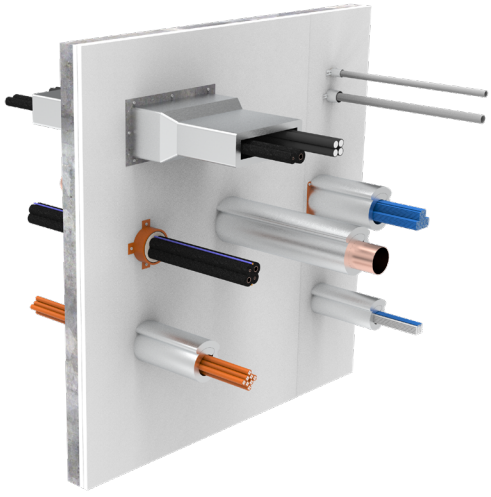
IMPACT RESISTANT

FIRE RATED

Click here to read the full Trafalgar Corex Vertical Bulkheads Technical Manual for FRL's and other specfications.

KEY POINTS

- Lightweight boards
- Thin partition footprint
- Install from one side
- Impact resistant
- FRL up to 2 hours
- Compliance with AS1530.4-2014 and AS4072.1
- Easy to cut and handle
- Low thermal conductivity
- Non-combustible
- Environmentally friendly/sustainable



FyreFLOOR - Lightweight Load Bearing Floor Systems (Using Trafalgar Corex)

Trafalgar developed FyreFLOOR, a ***lightweight and load bearing fire rated floor construction*** for the modular construction and off-site prefab markets.

It is perfect for use, built on site in commercial projects.

Where lightweight & load bearing construction like FyreFLOOR is used; a ***two way fire rating*** is necessary; that is fire from below provided by Trafalgar Corex FyreBOARD and fire from above provided by Trafalgar Inex FyreBOARD. Many different internal framing options can be used giving total design flexibility.

Ideal for data centres where services run under the floor, for mezzanine floors, for upgrade of existing buildings and many more applications.

IMPACT RESISTANT

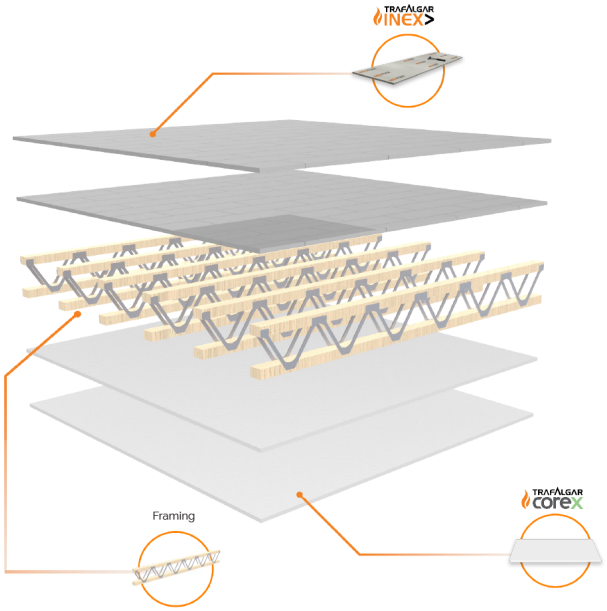
ACOUSTIC RATED

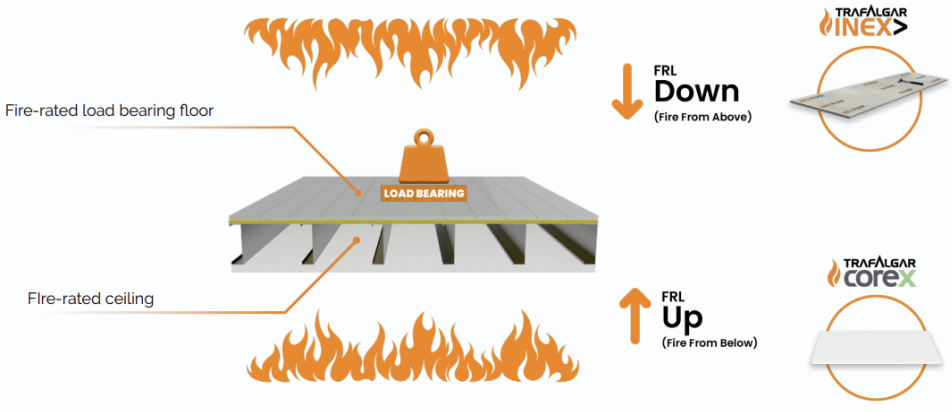
2 WAY FIRE PROTECTION

NCC 2022 READY

KEY POINTS

- Lightweight load bearing floor system
- 2 way FRL – fire from above & below
- Ideal for existing building upgrades
- Raised floors in data centres
- Mezzanines
- Range of service penetrations, **click here** for more information

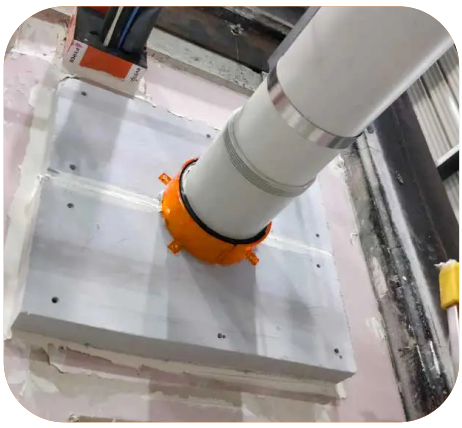




Penetration Systems
Using FyreBOARD Maxilite

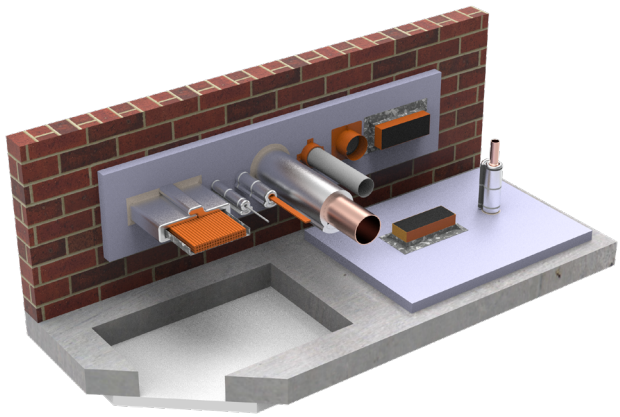
Maxilite is a ***lightweight high-performance fire-rated board*** that is highly adaptable to provide tested solutions in challenging scenarios. Stable under high temperatures whilst being crack free, provides confidence when applying 60mm Maxilite for sealing penetration systems in walls, floors, and ceilings.

FyreBOARD Maxilite® offers a comprehensive board solution for closing down large openings around service penetrations for electrical, mechanical, and plumbing services and has been approved for fire ratings of up to 240mins (service dependent) to AS1530.4-2014. Maxilite is used as a full system with a combination of FyreFLEX Sealant, TWrap, the retrofit FyreCOLLAR range, and certain size FyreBOXES. Please review the **technical manual** for a full list of specific system FRLs and installation requirements.



KEY POINTS

- 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



Click here to read the full Maxilite Penetrations Technical Manual for FRL's and other specfications

1 & 2-Way FRL Ceilings
Using FyreBOARD Maxilite

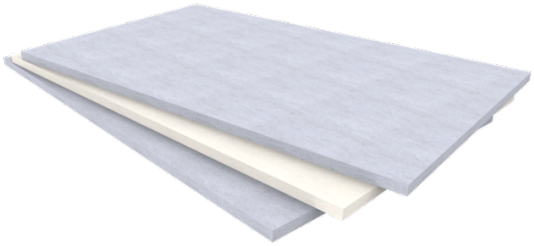
Due to its proeprties, FyreBOARD Maxilite® is the perfect solution for constructing fire-rated bulkheads, ceilings, and enclosures and provides fire compartmentation around building services and is approved to AS1530.4-2014. Maxilite is stable under high temperatures and remains strong and free of cracks, even when exposed to fully developed fires.

Please review the technical manual for a full list of specific system FRL's and installation requirements. Maxilite is a calcium silicate-based product and is bonded together with non-organic binders. It is completely free from asbestos, volatile organic compounds (VOC's), and ozone-depleting potential (ODP). Maxilite is an extremely effective insulating refractory board.

Due to the lightweight construction of the board, Maxilite is easy to handle and work with, ensuring quick onsite installation, whilst retaining suitable fire performance. Maxilite's high fire performance ensures minimal thicknesses are required, hence less material usage and cost.

KEY POINTS

- Lightweight
- FRL up to 4 hours
- Tested to AS1530.4-2014
- High resistance to heat
- Environmentally friendly
- Various methods of installation
- Approved for 1 & 2-way FRL's
- Approved penetration systems
- Easy to cut and handle
- Range of service penetrations



Contact Us for more information on using FyreBOARD Maxilite for 1 & 2-way FRL Ceilings.

Click here to visit our 1&2-Way FRL Ceilings webpage on our website tfire.com.au

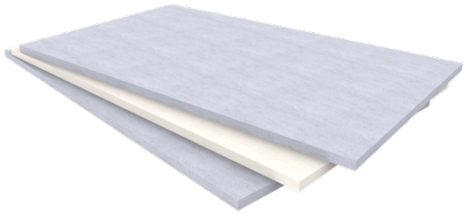
Steel Fire Protection

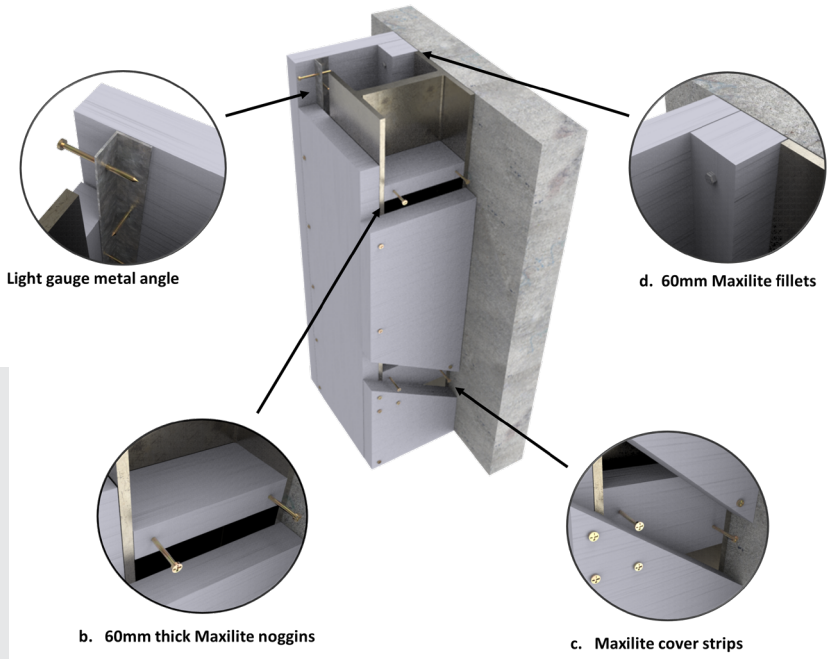
Using FyreBOARD Maxilite

Maxilite is a lightweight, high performance fire rated board. It is a calcium silicate based product, bonded together with non-organic binders, that meets all requirements for asbestos, volatile organic compounds (VOC's) and ozone depleting potential (ODP) Compounds. Maxilite boards are available in a number of discrete thicknesses for use in the fire protection of structural steel. Maxilite has been tested to various local and international test standards and is suitable for a large range of steel sizes and types.

How does it work?

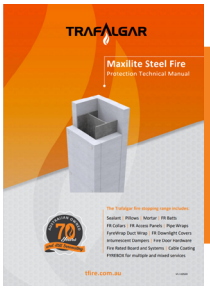
Maxilite is an extremely effective insulating refractory board. The Maxilite board is stable under high temperature stress and remains strong and crack free, even when exposed to fully developed fires. The Maxilite board provides a thermal insulation as well as a heat sinking capacity for steel.





KEY POINTS

- Lightweight
- FRL up to 4 hours
- Tested to AS1530.4-2014
- High resistance to heat
- Environmentally friendly
- Various methods of installation
- Approved for 1 & 2-way FRL's
- Approved penetration systems
- Easy to cut and handle



Click here to read the full Maxilite Steel Protection Technical Manual for FRL's and other specfications

Bushfire Systems

BAL-FZ Systems Using Trafalgar FyreROOF

Trafalgar is proud to introduce FyreROOF- Boardex BAL- FZ Bushfire Flame Zone systems as the premium lightweight solution for BAL-FZ wall and BAL-FZ roof construction in bushfire-prone areas; offering FLAME ZONE or BAL FZ-approved systems.

FyreROOF- Boardex BAL- FZ Bushfire systems provide multi-faceted performance attributes using one building board material. Boardex is vapor permeable, impact resistant, easy & safe to work with, can be exposed to the weather until construction is complete, and offers excellent fire resistance.

Roof and Eave Assemblies
Full AS 1530.8.2 fire-tested and approved systems available for:

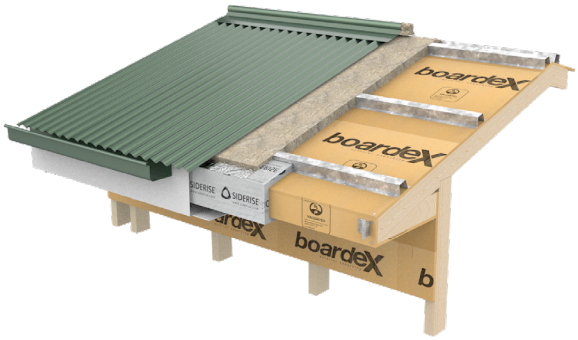
- Timber Framing with Metal Roofing
- Timber Framing with Tile Roofing
- Steel Framing with Metal Roofing

Wall Assemblies
Full AS 1530.4-2014 fire tested and approved systems with an FRL -/30/30 (suitable for most BAL-FZ requirements) from Outside/IN:

- Timber Framing with 0.42mm BMT (minimum thickness) steel sheeting (all profiles)
- Steel Framing with 0.42mm BMT (minimum thickness) steel sheeting (all profiles)

KEY POINTS

- Vapour permeable
- Excellent Fire Resistance
- Impact resistant
- Easy & Safe to Work with
- BAL-FZ Bushfire Systems
- Mould Resistant water barrier
- Weather Resistant for 12 months when exposed



Click here to read the full FyreROOF Technical Manual for FRL's and other specfications

Access Panels

Trafalgar FyreSHIELD Range

FyreSHIELD

Key Features:

- Fully fire tested in accordance with AS1530.4:2014
- Two way fire protection Fire tested in a range of common wall types and shafts
- No calcium silicate blocks required
- Australian made quality
- Fully concealed hinges

FyreSHIELD PLUS

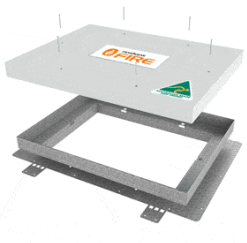
Key Features:

- Fully fire tested -/120/120 FRL's plus 60min RISF in accordance with AS1530.4:2014
- Range of stock sizes with custom sizes available
- No additional fire stopping needed, just sealant for installation
- Australian made quality
- Fully concealed hinges

FyreSHIELD Screw Fixed

Key Features:

- Fully fire tested in accordance with AS1530.4:2014
- Two-way fire protection Fire tested in a range of common wall types and shafts
- No calcium silicate blocks required
- Australian made quality
- Screw-Fixed



FyreWrap Access Panel

Key Features:

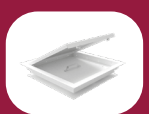
- FRL up to 180/180/180
- Available in custom sizes
- Australia Made
- Provides fast clean and easy access

Service Shaft Access Panel

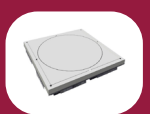
Key Features:

- Fire rating: 2-Hour -/120/30, 4-Hour –/240/30 protected ducts
- Custom sizes up to 2100 x 900mm

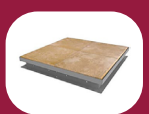
Your One-Stop-Shop for All Your Access Panel Needs! Check Out taccess.com.au


Airtight


Acoustic


Round


Security


Tileable


Wood and MDF


Metal

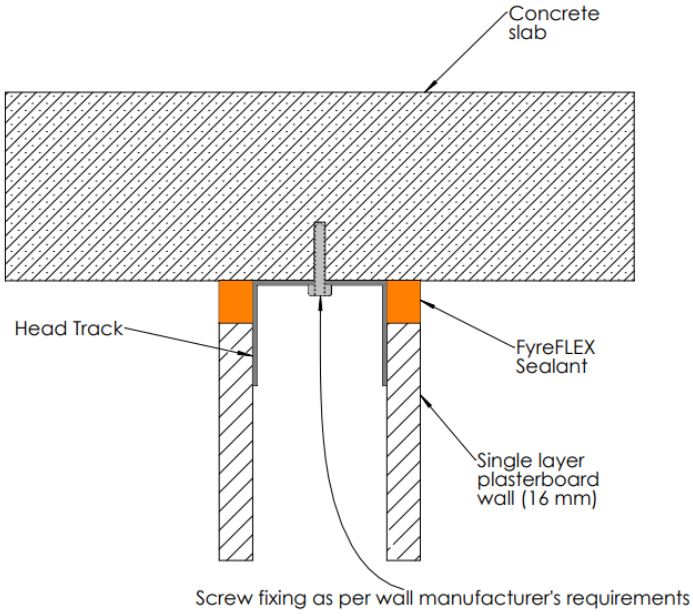
Head of Wall & Control Joints

Trafalgar's FyreFLEX® Sealant is a water-based, low VOC, environmentally friendly intumescent acrylic fire-rated sealant which makes it perfect for fire stopping cable and metal pipe penetrations through fire rated barriers and protecting control joints.

FyreFLEX® is one of the most fire-tested penetration seals in the market with more than 40 fire tests.

KEY POINTS

- Tested to AS1530.4-2014
- Australian made
- FRL's up to -/240/240
- 10% movement capability
- Acoustic properties
- Various joint configurations tested
- Water based for easy cleanup
- White or grey
- Cartridges, sausages or pails
- Made with recycled materials
- Low VOC

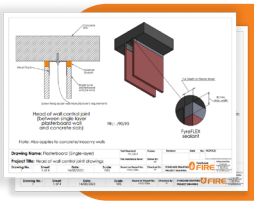


The drawing above showcases head of wall control joint (between single layer plasterboard wall and concrete slab) protected using FyreFLEX Intumescent Sealant. Other approvals include:

- between double layer plasterboard wall and concrete slab
- between concrete/masonry wall and concrete slab
- T-joint (between single and double layer plasterboard walls)
- And lots more!

AUSTRALIAN MADE AND OWNED

NCC 2022 READY



Click here for all technical drawings using FyreFLEX to protect control joints.

Trafalgar Corex Specifications

PROPERTY	12.5mm THICK	15mm THICK	20mm THICK	25mm THICK
Length	2000mm			
Width	1200mm			
Average Weight	11.5kg/m²	13.5kg/m²	17.6kg/m²	21.9kg/m²
Weight per sheet	27.6kg	32.4kg	42.24kg	52.6kg
Flexural Strength (Vertical)		≥870N	≥1160N	≥1450N
Flexural Strength (Horizontal)	≥300N	≥360N	≥450N	≥600N
R Value (Thermal Conductivity)	0.05m²K/W	0.06m²K/W	0.08m²K/W	0.1m²K/W

TRAFALGAR COREX CONSTRUCTION SPEC

Boards	2x15mm	2x20mm	2x25mm
FRL	-/60/60	-/90/90	-/120/120
Flexural strength (Perpendicular)	≥ 870 N	≥ 1160 N	≥ 1450 N
Flexural strength (Parallel)	≥ 360 N	≥ 480 N	≥ 600 N
Acoustics	Up to Rw 56 (2-layer Trafalgar Corex systems with 50mm mineral wool)		
Studs	64mm x 0.6BMT		
Stud centres	400mm		
Stud fixings	6g x 45mm screws at 500mm centres		
First layer fixings	8 gx 45mm at 400mm centres		
Second layer fixings	8g x 75mm at 300mm centres		
Joint sealant	Trafalgar FyreFLEX acrylic sealant		
Joint tape	Fiberglass joint tape		

Trafalgar Corex Specifications

Item Number	Thickness	Board Size	Pallet QTY	Weight per Board
COREX-12.5	12.5mm	2000mm x 1200mm	40	27.6kg
COREX-15	15mm	2000mm x 1200mm	32	32.4kg
COREX-20	20mm	2000mm x 1200mm	24	42.24kg
COREX-25	25mm	2000mm x 1200mm	18	52.6kg

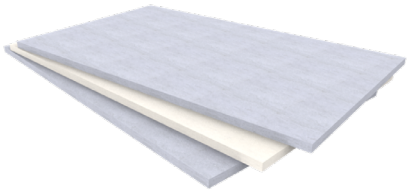
Product Range Accessories

Item Number	Gauge	Size
COREX Staples 40	16g	40
COREX Staples 50	16g	50

FyreBOARD Maxilite Specifications

Spec	Detail		
Thickness	30, 40 & 60mm		
Sheet size (half and quarter sheets available)	1500x1000mm (white) 2000x1220mm (blue)		
Density (avg, dry)	330Kg/m^3		
Board weight	30mm	1520x1000: 16Kg	2040x1220: 23Kg
	40mm	1520x1000: 22Kg	2040x1220: 30Kg
	60mm	1520x1000: 32Kg	2040x1220: 45Kg
Material	Calcium Silicate		
Combustible	Non-combustible (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	30mm	0.33m^2K/w	
	40mm	0.44m^2K/w	
	60mm	0.67m^2K/w	
Acoustic ratings	30mm: Rw30 (Rw+Ctr 28) 40mm: Rw31 (Rw+Ctr 28) 60mm: Rw33 (Rw+Ctr 30)		
Flexural strength	1.27MPa		
Asbestos content	0%		
Crystalline Silica conten	0%		
Storage	Store in a cool, dry environment Transport on pallets to avoid breakage		
Handling	Cuts easily with hand tools or power saws. Ensure the board is supported appropriately whilst cutting to avoid breakage		

FyreBOARD Maxilite Specifications



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

FyreFLEX Intumescent Sealant Specifications

Item number	Description	Min Order Qty	Pallet Qty
FyreFLEX 300W FyreFLEX 300G	FyreFLEX® Sealant Cartridge 300ml White or Grey	20x	1920
FyreFLEX 600W FyreFLEX 600G	FyreFLEX® Sealant Sausage 600ml White or Grey	18x	1040
FyreFLEX 10W FyreFLEX 10G	FyreFLEX® Sealant Pail 10L White or Grey	1x	64

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