TRAFALGAR FIRE

2 HOUR DOUBLE LAYER
Plasterboard Walls

2 Hour double layer fire rated plasterboard walls are commonly used in residential and commercial buildings. All services passing through these wall types require specific fire tests to AS1530.4 with the correct number of plasterboard layers, and Trafalgar has the most comprehensive range of tested systems to offer for all commonly used building services.

NCC 2022 READY

SYSTEMS

CLICK TO LEARN MORE

- Fyre**BOX** MAXI
- Fyre**BOX** MINI
- Fyre**BOX** SLAB-MOUNT
- Fyre**PEX** HP
- Fyre**SHEATH**
- Fyre**COLLAR** CONDUIT
- Fyre **COLLAR** MIXED SERVICES
- Fyre **COLLAR** PREMIUM RETROFIT

- Fyre**FLEX**
- Fyre**SHIELD**
- Fyre**SHIELD** PLUS
- T**WRAP**
- Fyre**BATT**
- Fyre**PLUG**
- Fyre**BOARD** MAXILITE

APPLICATIONS

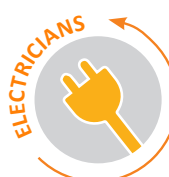|	
Electricians	Power cables Data cables PVC Conduits
HVAC&R	Insulated pipes Pair Coils Pair Coils Bundles
Plumbers	Copper and Steel pipes PVC pipes PEX pipes PEX-AL-PEX pipes
Active Fire Professionals	Steel Sprinkler pipes Fire cables

TRADES

ARCHITECTS   BUILDERS   ELECTRICIANS   HVAC&R   ACTIVE FIRE   PASSIVE FIRE   PLUMBERS

TRAFALGAR FIRE

TABLE OF CONTENTS

Click
page title to go to
Page

FRL Tables

FRL Tables

COMPLIANCE (NCC)

NCC 2022 READY

COMPLIANCE WITH THE NATIONAL CONSTRUCTION CODE (NCC)

Formerly known as BCA

A double layer plasterboard wall construction is simply a stud with 2 layers of plasterboard mounted on either side to form a wall. Their simple construction and ability to provide a -/120/120 Fire Resistance Level (FRL) makes them popular for commercial applications (e.g. offices, data centres, etc.).

Trafalgar Fire is committed to innovation within the passive fire industry developing new products and existing technologies, specifically designed to maintain the fire resistance level (FRL) of service penetrations through double layer plasterboard wall systems. As a result, Trafalgar are proud to provide options for where an oversized opening has been made in anticipation for services, or where an opening has not yet been made.
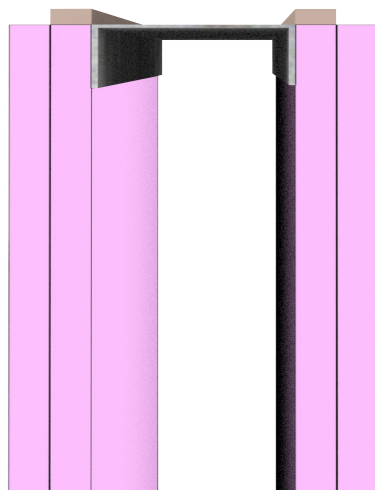
In accordance with AS1530.4, test results obtained from systems with other plasterboard wall construction or non-plasterboard wall types (e.g. masonry) cannot be applied to double layered plasterboard wall construction. Therefore, the Trafalgar products in this datasheet have been tested specifically in double layer wall systems and are fully compliant under the National Construction Code (NCC).

Note that it is common for double layer plasterboard walls to be used for -/90/90 FRL applications as well, in which case the below systems can also be used.

APPROVED WALL CONSTRUCTIONS

The penetration systems documented in this manual have been tested in walls that have a minimum specification of 64mm studs, with 2 layers of 13mm fire rated plasterboard on either side.

Note that under AS1530.4 permissible variations (section 10.12) these wall penetration systems are applicable to wall constructions with thicker layers of plasterboard or larger studs, but NOT thinner walls.

Framing Requirements Around Penetrations

Fire rated plasterboard walls consist of layers of plasterboard on both sides of a steel stud, which forms a cavity. The cavity size may vary depending on the acoustic and thermal requirements of the wall, however all of the Trafalgar tested systems in this manual have been tested in walls without any cavity insulation (which is the more onerous test case).

Protecting The Wall Cavity

If one side of the plasterboard wall is compromised, fire will spread into the wall cavity and cause early failure, therefore care should be taken to ensure that penetration systems can stop fire spreading into the cavity of plasterboard walls.

For smaller openings it is common for penetration systems to be sealed on both sides of the wall with fire sealants or fire collars and no additional framing or protection is required.

For larger openings, additional stud framing should be installed around the perimeter of the penetration as shown below. Once the perimeter of the penetration is framed, it also needs to be lined with the same number of layers of FR plasterboard as on the face of the wall. For example, if the wall has 2x13mm layers of plasterboard on both sides, line the inside of the penetration with 2x layers of 13mm plasterboard as shown below.

SECTION 1 – PLANNING AHEAD

RELATED SYSTEMS

Fire stopping of simple cable and pipe penetrations can be done very easily if they are planned for, so that the right size hole can be cut into the wall to suit the penetration. For instances where the holes are cut oversized to accommodate a penetration(s) please refer to page 13 (Oversized Openings).

For instances where a hole has not been cut in the wall yet, the following may apply:

FyreBOX MINI

CLICK TO LEARN MORE

FyreBOX MAXI

CLICK TO LEARN MORE

FyreBOX SLAB-MOUNT

CLICK TO LEARN MORE

FyreSHIELD

CLICK TO LEARN MORE

FyreSHIELD PLUS

CLICK TO LEARN MORE

SECTION 1 – PLANNING AHEAD

RELATED SYSTEMS

FyreFLEX

AUSTRALIAN MADE AND OWNED · NCC 2022 READY · CLICK TO LEARN MORE

FyrePEX HP

NCC 2022 READY · CLICK TO LEARN MORE

FyreSHEATH

AUSTRALIAN MADE AND OWNED · NCC 2022 READY · CLICK TO LEARN MORE

FyreCOLLAR CONDUIT

NCC 2022 READY · CLICK TO LEARN MORE

FyreCOLLAR MIXED SERVICES

NCC 2022 READY · CLICK TO LEARN MORE

FyreCOLLAR PREMIUM RETROFIT

NCC 2022 READY · CLICK TO LEARN MORE

T WRAP

NCC 2022 READY · CLICK TO LEARN MORE

2hr Double Layer Plasterboard Walls

Fyre SEALANT RANGE

FyreFLEX® SEALANT

For cables and metal pipes, the most economical method of fire stopping is to use a simple sealant and wrap system like FyreFLEX and TWrap. Before you start, make sure that you check the specific product manuals (linked below) to cut the right size hole and apply the correct amount of sealant and wrap.

Applications	Trade Icons	System	Details	FRL	Report Reference
Small Cable bundles	ELECTRICIANS	FyreFLEX	For specific system and FRL details refer to the: FyreFLEX® Electricians Technical Manual TWRAP™ Technical Manual Available from the Trafalgar Fire Knowledge Centre Technical Manuals page on the website.	-/120/120 **Wrap Free system**	FAS190382
				-/120/120* **Wrap Free system**	FAS220102
Larger Cable bundles		FyreFLEX® and TWRAP™		-/120/120**	
Steel Pipes up tp NB150	PLUMBERS	FyreFLEX® and TWRAP™	For specific system and FRL details refer to the: FyreFLEX® Plumbers Technical Manual TWRAP™ Technical Manual Available from the Trafalgar Fire Knowledge Centre Technical Manuals	-/120/120**	FCO 1579
Copper Pipes up to DN 150	ACTIVE FIRE			-/120/120**	

* Half wall system - Service entering and exiting the same side of the wall
** For insulation rating, TWRAP™ must be installed around the system for varying length on either side of the wall depending on service.

Small Cable Bundles	Copper Pipe with TWRAP	Half Wall System inclduing Small Cable Bundles

Fyre SEALANT RANGE

FyrePEX™ HP INTUMESCENT SEALANT

FyrePEX HP

FyreSHEATH

For small sets of air conditioning pipes or PEX plumbing pipes, the most economical method of fire stopping is to use a simple sealant and wrap system like FyrePEX HP and in some cases TWrap. Before you start, make sure that you check the specific product manuals (linked below) to cut the right size hole and apply the correct amount of sealant and wrap where required.

Applications	Trade Icons	System	Details	FRL	Report Reference
PEX water and PEX-AL-PEX gas pipes up to 25mm	PLUMBERS	FyrePEX™ HP	For specific system and FRL details refer to the: FyrePEX™ HP Technical Manual TWRAP™ Technical Manual Available from the Trafalgar Fire Knowledge Centre Technical Manuals page on the website.	-/120/120 **Wrap Free system**	FAR 4849
PEX water and gas Pipes up to 20mm		FyrePEX™ HP or FyreSHEATH		/120/120 **Wrap Free system**	
Air-conditioning bundle (FR or PE insulation)	HVAC&R	FyrePEX™ HP		-/120/120 **Wrap Free system**	
Insulated Copper or Steel (Up to 32mm pipe with 25mm FR insulation)		FyrePEX™ HP and TWRAP™		-/120/120**	
PVC Conduit up to 40mm with cable services***	ELECTRICIANS	FyrePEX™ HP		-/120/120 **Wrap Free system**	

**For insulation rating, TWRAP™ must be installed around the system for varying length on either side of the wall depending on service.

***Conduit may be empty or contain combinations of power cables up to 20 mm OD, 6 mm OD fibre optic (NBN) or 5mm OD CAT5 or CAT6 data cables.

PEX Water and Gas Pipes Up 25mm	Air-conditioning Bundle (FR or PE Insulation)	PEX Water and Gas Pipes Up 20mm
FyrePEX HP	**FyrePEX** HP	**FyreSHEATH**

FyreBOX™ RANGE

FyreBOX™ Slab-Mount MIXED SERVICE PENETRATION

FyreBOX SLAB-MOUNT

The Slab Mounted FyreBOX can be installed before the walls are constructed to allow service trades to plan ahead and install, test and commission their services without having to wait for the wall contractors. BIM models are available for designers to specify the FyreBOX range ahead of time.

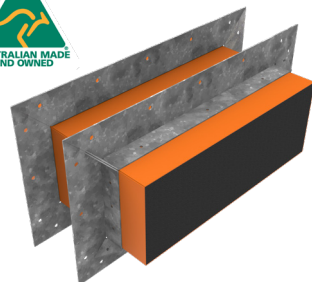| Applications	Trade Icons	System	Details	FRL	Report Reference
Any quantity of typical riser shaft or other services: • Electrical and Data Cables • PVC Conduit • PEX water • Gas PEX- Al- PEX Pipes • Insulated Pair Coil • Sprinkler Pipes • Etc	ARCHITECTS BUILDERS ELECTRICIANS HVAC&R ACTIVE FIRE PASSIVE FIRE PLUMBERS	FyreBOX™ Slab-Mount sizes: • 160 x 125mm • 350 x 125mm • 550 x 125mm • 650 x 125mm • Custom up to 1100 x 125mm	Installed to the slab soffit before the walls are constructed. Allows service trades to run their pipes and cables quicker/sooner, speeding up build time and reducing risk of defects on site. Rw50 acoustic rating. For specific system and FRL details refer to the: FyreBOX™ Slab-Mount Technical Manual	-/120/120**	FC10266-001
Aluminium cables	ELECTRICIANS		Available from the Trafalgar Fire Knowledge Centre Technical Manuals on the website.		FSV 2163

**For insulation rating, TWRAP™ must be installed around the system for varying length on either side of the wall depending on service
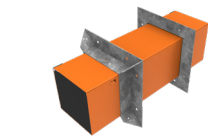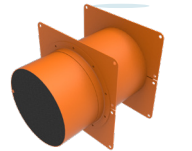
Mixed Services	Slabmount installed before wall

FyreBOX SLAB-MOUNT

2hr Double Layer Plasterboard Walls

FyreBOX™ RANGE

FyreBOX™ Maxi & Mini MIXED SERVICE PENETRATION

FyreBOX MAXI
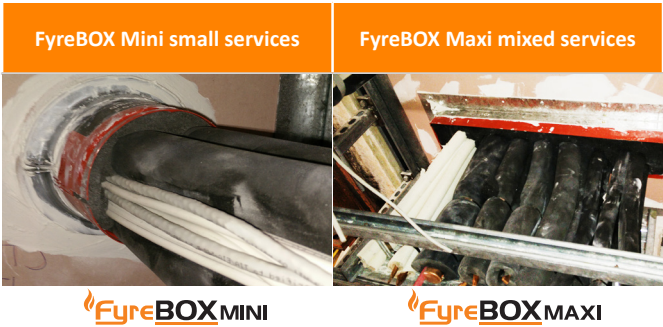
FyreBOX MINI

FyreBOX Maxi and Mini are the perfect solution for large amounts of mixed services and are designed to be retro-fit around existing installations, but can also be used to plan ahead and allow for provision of future services.

Applications	Trade Icons	System	Details	FRL	Report Reference
Small services including: • Electrical and Data Cables • PVC Conduit • PEX • Gas PEX-Al-PEX Pipes • Insulated Pair Coil • Aluminium cables	ELECTRICIANS HVAC&R ACTIVE FIRE PASSIVE FIRE PLUMBERS	FyreBOX™ Mini Range: • 100mm diameter • 150 mm diameter • 65x65mm square • 100x100mm square	Mounted anywhere in the wall with steel mounting flanges (FyreFLANGE™), hinged for easy retrofit. For specific system and FRL details refer to the: FyreBOX™ Maxi and Mini Technical Manual Available from the Trafalgar Fire Knowledge Centre Technical Manuals page on the website	-/120/120**	FC10266-001 FSV 2163 (for AL cables)
Large services bundles mixed services including: • Insulated/Bare Copper or Steel Pipes • Cable Trays and Conduits • Electrical and Data Cables • PVC Conduit • PEX • Gas PEX-Al-PEX Pipes • Insulated Pair Coil		FyreBOX™ Maxi Range: • 350x125mm • 550x125mm • 650x125mm • 750x125mm • 1100x125mm			

**For insulation rating, TWRAP™ must be installed around the system for varying length on either side of the wall depending on service

FyreBOX Mini small services

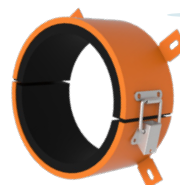**FyreBOX Maxi mixed services**

2hr Double Layer Plasterboard Walls

FyreCOLLAR RANGE

CONDUIT, PREMIUM RETROFIT & MIXED SERVICES

FyreCOLLAR CONDUIT

FyreCOLLAR PREMIUM RETROFIT

FyreCOLLAR MIXED SERVICES

Click here to go back to Contents

The FyreCOLLAR range are to be used for plastic pipe, pair coil and PVC conduits, where the collars will expand and close off the penetrations during fire conditions. Before you start, make sure that you check the specific product manuals (linked below) to select the right size collar and cut the right size hole.

Applications	Trade Icons	System	Details	FRL	Report Reference
PVC Conduits up to 50mm	ELECTRICIANS	FyreCOLLAR Conduit	For specific system and FRL details refer to the: FyreCOLLAR Technical Manual FyreCOLLAR Mixed Services Technical Manual Available from the Trafalgar Fire Knowledge Centre Technical Manuals page on the websit	-/120/120 **Wrap Free system**	FC11190
PVC Pipes up to 100mm	PLUMBERS	FyreCOLLAR Premium Retrofit			
PEX water and Gas PEX-Al-PEX pipes up to 25mm		FyreCOLLAR Conduit			
Pair Coil Bundles up to 3x	HVAC&R	FyreCOLLAR Premium Retrofit		-/120/120**	
Air Conditioning or refrigeration bundle up to 20mm- copper (e.g. 3/4 & 3/8 inch), with PE or FR insulation: • FR Pipe insulation up to 25mm thickness • Includes the power/data cables					

**For insulation rating, TWRAP™ must be installed around the system for varying length on either side of the wall depending on service

PVC pipe up to 150mm	PVC Conduits up to 50mm	FyreCOLLAR Mixed Services Collar

FyreCOLLAR PREMIUM RETROFIT

FyreCOLLAR CONDUIT

FyreCOLLAR MIXED SERVICES

2hr Double Layer Plasterboard Walls

FIRE RATED ACCESS PANEL

FyreSHIELD™

AUSTRALIAN MADE AND OWNED

FyreSHIELD

Where access is required into shaft walls for reading meters, maintenance and repairs the FyreSHIELD access panel range is the best choice, with Australian Made certification and fire testing to the most recent fire test method AS1530.4-2014.

Applications	Trade Icons	System	Details	FRL	Report Reference
Access Panel Plasterboard Wall	ARCHITECTS, BUILDERS, ELECTRICIANS, HVAC&R, ACTIVE FIRE, PASSIVE FIRE, PLUMBERS	FyreSHIELD™ access panel up to 600x600mm	For specific system and FRL details refer to the: FyreSHIELD™ Technical Manual Available from the Trafalgar Fire Knowledge Centre Technical Manuals page on the website	-/120/30 (shafts and walls)	FAS200221
		FyreSHIELD™ PLUS Access Panel up to 600x600mm		-/120/60	

Access Panel Plasterboard Wall

FyreSHIELD

Click here to go back to Contents

SECTION 2 – OVERSIZED OPENINGS

RELATED SYSTEMS

For oversized penetrations where the holes have been cut too large to use a simple sealant, collar or FyreBOX system, the following products can be used to close down the larger opening:

FyreBATT

NCC 2022 READY

CLICK TO LEARN MORE

FyreBOARDMAXILITE

NCC 2022 READY

CLICK TO LEARN MORE

FyrePLUG

AUSTRALIAN MADE AND OWNED

NCC 2022 READY
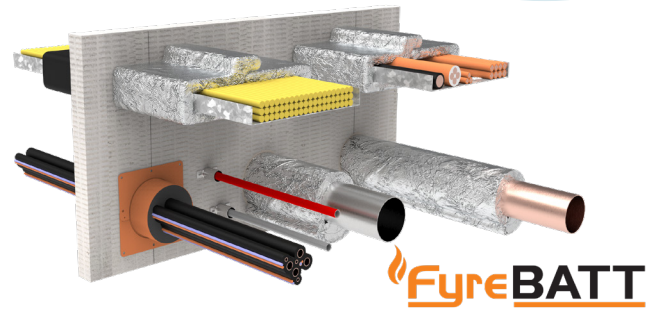
CLICK TO LEARN MORE

2hr Double Layer Plasterboard Walls

OVERSIZED OPENINGS

FyreBATT

Trafalgar's FyreBATT are a 60mm thick lightweight solution to closing down large openings around a multitude of service types. Simple cut to size and friction fit in two layers around the services and use the local fire stopping systems as listed below, depending on the service type.

Applications	Trade Icons	System	Details	FRL	Report Reference
Cable bundles	ELECTRICIANS / PASSIVE FIRE	FyreBATT +FyreFLEX +TWrap	Maximum opening size 1200x600mm 2x layers of FyreBATT should be friction fit around the services, sealed with FyreFLEX sealant and wrapped with TWrap	-/120/120**	
Cable trays****	ELECTRICIANS			-/120/120**	
Copper and steel pipes	PLUMBERS / ACTIVE FIRE			-/120/120**	
PVC conduits	ELECTRICIANS	FyreBATT +FyreFLEX +FyreCOLLAR	For specific system and FRL details refer to the:	-/120/120 **Wrap Free system**	FAS 210023
PVC pipes	PLUMBERS	FyreBATT +FyreFLEX +FyreCOLLAR	FyreBATT™ Technical Manual	-/120/120 **Wrap Free system**	
PEX pipes	PLUMBERS	FyreBATT + FyrePEX HP	Available from the Trafalgar Fire Knowledge Centre Technical Manuals page on the website	-/120/120 **Wrap Free system**	
Mixed Services	PASSIVE FIRE	FyreBATT +FyreFLEX +FyreBOX Mini		-/120/120 **Wrap Free system**	

**For insulation rating, TWRAP™ must be installed around the system for varying length on either side of the wall depending on service

**** Based on AS1530.4-2014 Appendix D cable tray testing.

FyreBATT in plasterboard wall

2hr Double Layer Plasterboard Walls

OVERSIZED OPENINGS

FyrePLUG

Trafalgar's FyrePLUG pillows have been used for many years and have recently been re-tested to AS1530.4-2014 with a range of modern services and fire rated walls including plasterboard systems. The pillows are an ideal low-cost option and easily allow for addition of future services.

Applications	Trade Icons	System	Details	FRL	Report Reference
Small Cable Bundles (any mix of cables of up to 20x CAT6 data or TPS fire or TPS power or fibre cables)	ELECTRICIANS / ACTIVE FIRE	FyreBATT +FyreFLEX +TWrap	Maximum opening size 600x600mm opening size and TWrap required for most applications	-/120/120**	
Power cables on cable trays 350mm wide*	ELECTRICIANS	FyrePLUG +FyreFLEX +TWrap	For specific system and FRL details refer to the: FyrePLUG™ Technical Manual Available from the Trafalgar Fire Knowledge Centre Technical Manuals page on the website	-/120/120**	FAS 200048
Comms/data cables on 350mm wide trays*					
Copper and Steel Pipe up to 100mm	PLUMBERS / ACTIVE FIRE				
25mm PVC Conduit	ELECTRICIANS / PASSIVE FIRE	FyrePLUG+ FyrePEX HP***		-/120/120 **Wrap Free system**	

* Based on AS1530.4-2014 Appendix D cable tray testing.

** TWrap will be required on both sides of the wall to reach the insulation rating.

***Any PVC conduit installed through FyrePLUG pillows must be done using a pipe former and FyrePEX HP sealant. Refer to the FyrePLUG manual for specific installation drawings

FyrePLUG Pillow in plasterboard wall

2hr Double Layer Plasterboard Walls

FIRE RATED BOARD

FyreBOARD Maxilite

Maxilite oversized opening in plasterboard

FyreBOARDMAXILITE

FyreBOARD Maxilite is a light weight 60mm thick high performance calcium silicate board that can be used to close down large openings around service penetrations. Simply cut to size and face fix the board with one layer over the top of penetration with 100mm overlap on all four sides, and use the local fire stopping systems as listed below, depending on the service type.

Applications	Trade Icons	System	Details	FRL	Report Reference
Power and Data Cables, Bundles or trays	ELECTRICIANS	FyreBOARD + FyreFLEX + TWrap	60mm thick board must be used for all penetrations. For specific system and FRL details refer to the: FyreBOARD™ Technical Manual Available from the Trafalgar Fire Knowledge Centre Technical Manuals page on the website.	-/120/120*	FCO 2586
PVC Conduits		FyreBOARD + FyrePEX or FyreBOARD + FyreCOLLAR Conduit			
Insulated Pipes & Pair Coils and Bundles	HVAC&R	FyreBOARD + FyrePEX + TWrap or FyreBOARD + FyreCOLLAR Mixed Services + TWrap Or FyreBOARD + FyreBOX Maxi and Mini + TWrap			
PVC Pipes up to 100mm**	PLUMBERS	FyreBOARD + FyreCOLLAR Premium Retrofit			
Steel/Copper Pipes		FyreBOARD + FyreFLEX+ TWrap			
PEX water and gas PEX-AL-PEX pipes up to 25mm		FyreBOARD + FyreCOLLAR Conduit			
Mixed Services	ELECTRICIANS HVAC&R PASSIVE FIRE ACTIVE FIRE PLUMBERS	FyreBOARD +FyreBOX Maxi/Mini + TWrap			

* TWrap may be required on both sides of the wall to reach the insulation rating.
**Additional layers of FyreBOARD Maxilite are required for 100mm PVC pipes