

Passive Fire Protection

Guide for Building Maintenance and Fire Upgrades





Foreward

Services in buildings are used for movement of water, electricity, data, air and refrigerant for example. Like any other fire safety sub system, passive fire protection, the requirement to provide fire and smoke compartments, are important and need to be maintained over the life of a building.

Australian Standard AS1851 is often used for inspection and testing and each year a building will need an annual fire safety statement to validate that the building is still fire safe.

This Guide has been prepared to assist fire maintenance companies, strata managers and certifiers to find cost effective and fire tested systems to re-establish an FRL where services are not protected correctly, which may result from additions or changes to services for example.

Trafalgar Fire has been fire testing and developing systems for existing buildings as we understand the need to re-establish FRL's and the important role Fire Maintenance Companies play in maintaining fire safety in existing buildings.

We have tried to capture some of the more common non compliances we encounter day in day out in the Guide. Some upgrades are simpler to identify and rectify than others.

Whether it is a service that has been removed leaving a hole, a missing fire collar on a plastic pipe, an unprotected conduit, a bundle of cables, or a more complicated mixed services mess, we are confident that Trafalgar Fire has a system for your needs.

One of the more common issues we encounter is an oversized opening, where FyreFLEX sealant, or a FyreCOLLAR or a FyreBOX cannot be used without first closing down the opening to the correct gap or annular size for round holes. Please go to the oversized opening section to see the many different ways we can deal with oversized opening. Systems are available for access from one side of the opening only, where required

We have structured this manual, by service or trade type in the early sections and we move into more complicated mixed services in later sections.

This is a guide only, if you are unsure, please ask for more advice by calling **1800 88714** or emailing technical@tgroup.com.au

We intend to add more and more systems to this Guide and are open to improvement suggestions.

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INSPECTION AND
MAINTENANCE

TABLE OF CONTENTS

Click
page title to go to
Page



	Section	Page
PIPE WORK	Active Fire and Plumbing Pipe Work	
	Overview and Pipe Types	4
	Stack Applications: Plastic Pipes for Drain/Waste/Vent	6
	Floor Waste Applications: Plastic Pipes with Water Traps and Floor Drains	7
	PEX-AL-PEX Pipes: Hot and Cold Water, Gas pipes	8
	Plumbing Conduits: AC drain pipes	9
	Plumbing Conduits Close to Head Of Wall: AC drain pipes	10
	Steel and Copper Pipes: Hydrants, Sprinklers, Water mains, Gas mains	11
	Copper and Steel Hydrant Pipe Hangers	12
CABLES AND CONDUITS	Electrical Cables and Conduits	
	Overview and Cable types	13
	Electrical Cables: Single or Small Cable Bundles	15
	Electrical Cables: Large Bundles without Cable Tray	16
	Electrical Cables: Large Bundles with Cable Tray	17
	Electrical Conduits: NBN fibre, Data/Comms/Power,	18
Electrical Conduits Close to Head Of Wall: NBN fibre, Data/Comms/Power	19	
HVAC&R	HVAC&R	
	Overview: HVAC&R and Fire Dampers	20
	Insulated Copper: Lagged pipes and Pair Coil	22
	Fire Dampers : Mechanical and Intumescent Fire Dampers	23
	Oversized Openings	
	Oversized Openings: Mixed and Miscellaneous Services	24

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FIRE

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3

Trafalgar Fire reserves the right to change specifications without notice. Please check with your supplier at the time of order. The information contained in this brochure was correct at the time of publication.



Active Fire and Plumbing Pipe Work



There are many pipes that need to run through fire barriers-

The first important attribute we need to know is, **what are the pipe material types**; that is, are they **plastic** or **metallic pipes**.

Metallic Pipes:

These do not melt, so typically a fire collar is not required. The metal however conducts heat and achieve the required FRL, some form of thermal protection or wrap is often required.



Plastic Pipes:

Plastic pipes melt and need a high-performance intumescent material to close off the opening left when the plastic pipe melts, in fire conditions.



Vertical Barriers (walls and shafts)



Penetrations require a fire collar on both sides of the fire barrier. So called “wall collars” do not work well with all wall types when tested to AS 1530.4-2014

Horizontal Barriers (floor slabs and ceilings)

These typically require fire protection from below only. These can be protected with one fire collar fixed to the underside of the fire barrier.

Concrete Slabs

For Concrete slabs there are **2 VERY DIFFERENT APPLICATIONS**, where different fire testing and product systems are necessary;
Stack Applications and *Floor Waste Applications*

STACK APPLICATIONS		FLOOR WASTE APPLICATIONS	
	Plastic pipe passes from one side of a concrete slab to the other		Plastic pipe terminates inside slab and has a grille at floor level
Example: kitchen sink, basin, laundry sink, bath, toilet (pan)		Example: Shower drains and drains at floor level with grilles	
Inspection Hint: Check on the top of the slab if possible		Inspection Hint: A P-Trap will be typically present	

Oversized Openings:

If the hole or opening is too big, it must be made smaller using fire tested systems. Learn more about this on [Page 24](#)



Plastic Pipes in Stack Applications

Sinks, Basins, Baths, Toilets, Plumbing Stacks



Fyre COLLAR PREMIUM RETROFIT

Trafalgar Advantage:

BLADE RUNNER



If Elbow is too close to slab use a BladeRUNNER

- ✓ Easy to open and clasp shut
- ✓ Various plastic pipe types
- ✓ Sizes from 50mm to 150mm
- ✓ Elbow and fittings can be inside fire collar
- ✓ Oversized openings with Maxilite Board (Learn more about solutions for oversized openings on [page 24](#))





Plastic Pipes with Water Traps and Floor Drains

Shower drains and drains at floor level with grilles



BLADE**RUNNER**



Trafalgar Advantage:

- ✓ Various plastic pipe types
- ✓ 50mm through to 100mm pipes
- ✓ Elbows and sockets inside of fire collar
- ✓ Slimline to fit around water traps
- ✓ Oversized openings and slab upgrades with Maxilite Board (Learn more about solutions for oversized openings on [page 24](#))
- ✓ Australian made





PEX and PEX-AL-PEX Pipes

Used for hot and Cold water, Recycled Water and Gas supply pipes



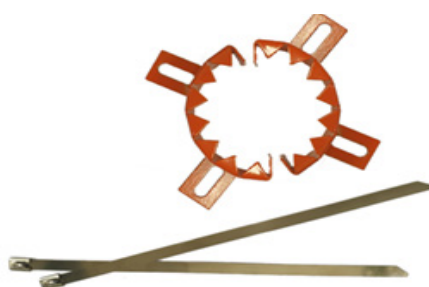
FyreSHEATH



FyrePEX_{HP}

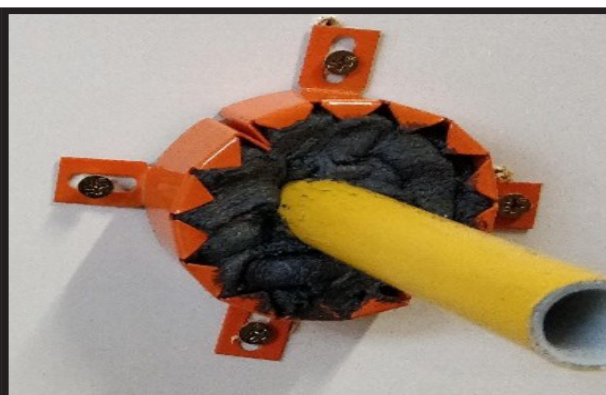


Cable Tie



Trafalgar Advantage:

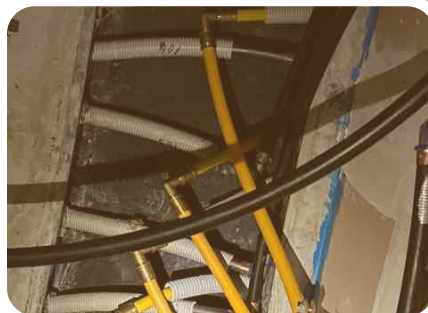
- ✓ No need to patch single layer plasterboard walls
- ✓ Easy upgrade of existing penetrations
- ✓ Range of plastic pipes and sizes
- ✓ Easily inspect-able
- ✓ Controls wastage
- ✓ Australian made
- ✓ Use with FyreBATT and Maxilite Board to upgrade walls from corridor side. (Learn more about solutions for oversized openings on [page 24](#))





Plumbing Conduits

Used for Drain Pipes from Air Conditioning Units

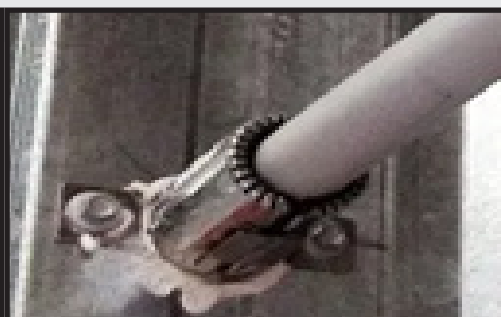
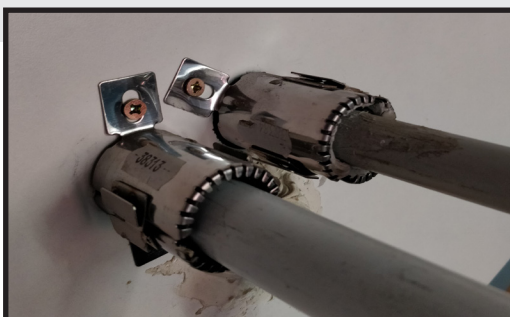


Fyre COLLAR CONDUIT



Trafalgar Advantage:

- ✓ Various plastic pipe and conduit types
- ✓ 16mm through to 40mm pipes
- ✓ Rigid or flexi conduits
- ✓ With or without cables inside
- ✓ Oversized openings with Maxilite Board (Learn more about solutions for oversized openings on [page 24](#))





Plumbing Conduits Close to Head of Wall

Like PEX Plumbing Pipes & Conduits

FyreSTRAP



FyrePEX^{HP}



Trafalgar Head Of Wall Strap Collar

Trafalgar Advantage:

- ✓ Install at head of wall
- ✓ Many types of pipes and conduits
 - ◇ Flexible
 - ◇ Rigid Plastic
 - ◇ Metal
- ✓ Multiple services in one penetration
- ✓ Fold to suit the penetration size
- ✓ Australian made





Steel and Copper Pipes

Used for hydrants, Sprinklers, Water mains, Gas mains



TWRAP



UniGUARD

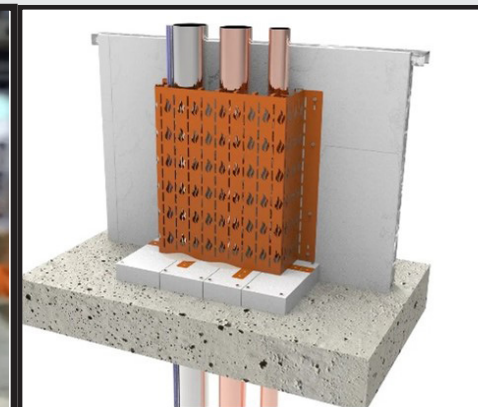
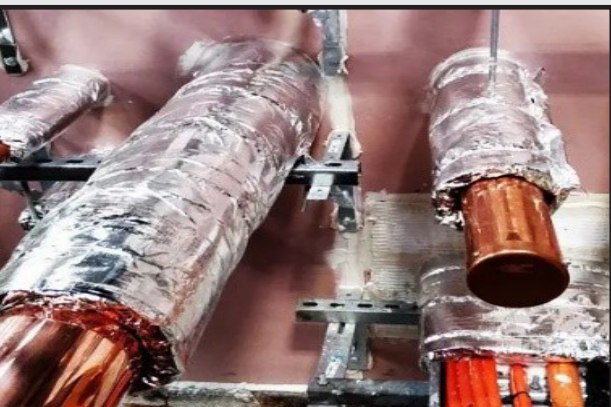


Trafalgar Advantage:

- ✓ Wrap lengths engineered down for small pipes
- ✓ Easy upgrade for batt, board and sealant penetrations (Learn more about solutions for oversized openings on [page 24](#))
- ✓ Wrap around existing pipe brackets

Trafalgar Advantage:

- ✓ Smaller height than wrap systems for large pipes
- ✓ Can be installed around pipes against walls
- ✓ Flat pack for easy transport and storage
- ✓ Australian made



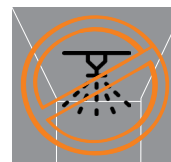


Copper and Steel Hydrant Pipe Hanger

AS 2419 requires fire rated hangers in non-sprinklered compartments.

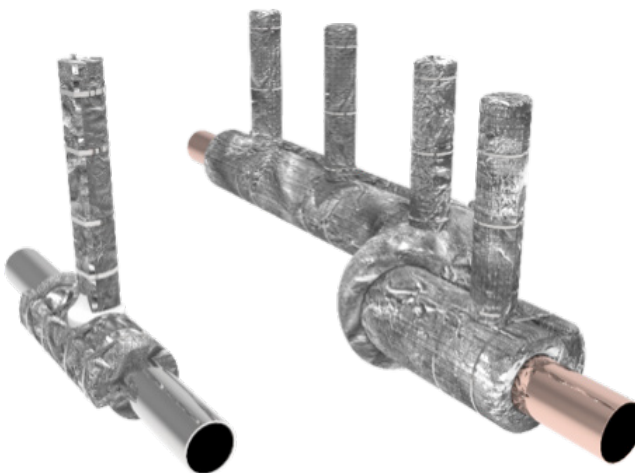
FyreWRAP can be used to upgrade non-rated pipe supports:

- Copper hydrants need 60 minutes of protection
- Steel hydrant supports need 60 minutes of protection



**NON-SPRINKLERED
COMPARTMENTS**

FyreWrap®



Trafalgar Advantage:

- ✓ Fast, clean and easy installation
- ✓ Cost effective
- ✓ Wrap entire length of copper pipes
- ✓ Wrap just pipe supports for steel pipes





Electrical Cables: Single or Small Cable Bundles

**FyreFLEX- Fire Rated Sealant
with Fillet (WRAP Free in some cases only)**



FyreFLEX



TWRAP



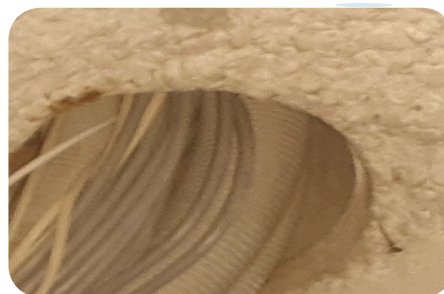
Trafalgar Advantage:

- ✓ No need to patch single layer plasterboard walls
- ✓ Easy upgrade of existing penetrations
- ✓ Range of cable types
- ✓ Easily inspect-able
- ✓ Controls wastage
- ✓ Australian made
- ✓ Learn more about solutions for oversized openings on [page 24](#)





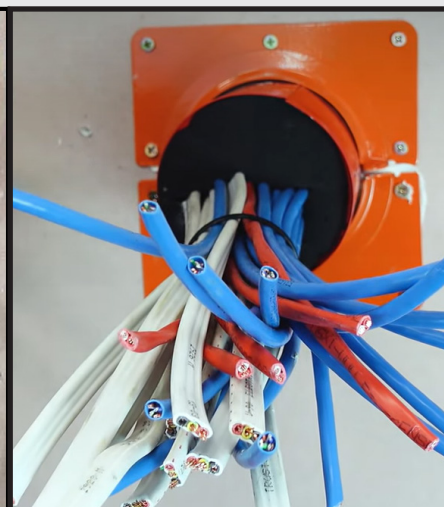
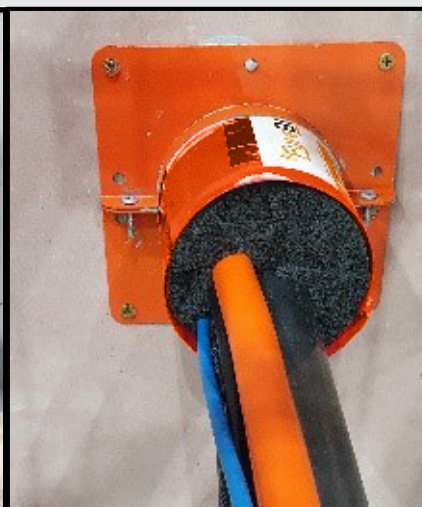
Electrical Cables: Large Bundles Without Cable Tray



CIRCULAR
 **SuperSTOPPER**

Trafalgar Advantage:

- ✓ No need to patch single layer plasterboard walls
- ✓ Easy upgrade of existing penetrations
- ✓ DO NOT require 2 x collars (traditional fire collars require one for each side)
- ✓ Range of cable types
- ✓ Easily inspect-able
- ✓ Fix in place flanges hold device inplace
- ✓ Learn more about solutions for oversized openings on [page 24](#)



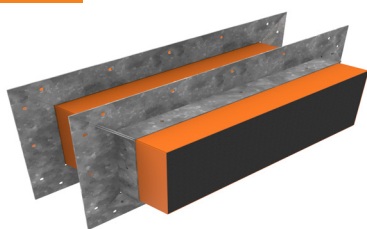


Electrical Cables: Large Bundles with Cable Tray



1) Walls/ Shafts and Ceilings:

FyreBOX MAXI



2) FLOOR SLAB

HINGED FyreBOX CAST-IN



FyreSET



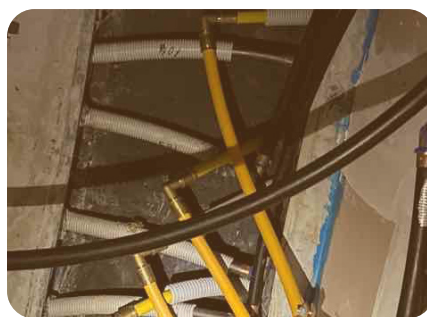
Trafalgar Advantage:

- ✓ No need to patch single layer plasterboard walls
- ✓ Allows for mixed services and various configurations
- ✓ Easy upgrade of existing penetrations
- ✓ Range of cable types
- ✓ Easily inspect-able
- ✓ Fix in place flanges hold device in place
- ✓ Learn more about solutions for oversized openings on [page 24](#)



Electrical Conduits

For NBN fibre, Data/Comms/Power,



COLLAR CONDUIT



- ✓ Various conduit and cable types
- ✓ 16mm through to 40mm conduit width
- ✓ Rigid or flexi conduits
- ✓ With or without cables inside
- ✓ Oversized openings with Maxilite Board (Learn more about solutions for oversized openings on [page 24](#))

Trafalgar Advantage:





Electrical Conduits Close to Head of Wall

For NBN Fibre, Data/Comms/Power Cables



Trafalgar Head Of Wall Strap Collar



Trafalgar Advantage:

- ✓ Install at head of wall
- ✓ Many types of conduits
 - ◇ Flexible
 - ◇ Rigid Plastic
 - ◇ Metal
- ✓ Various Cable Types
- ✓ Multiple services in one penetration
- ✓ Fold to suit the penetration size
- ✓ Australian made




Pipe Insulation

Heating, Ventilation, Air Conditioning and Refrigeration services typically require insulation materials around copper or steel pipe work. This is to maintain a requisite R value to conserve energy when cold, warm air or refrigeration is being conveyed.

Typically these insulation materials will melt in a fire and leave an opening for fire and hot smoke to pass through without a correctly designed, fire tested and installed system.

Just like plastic pipes, a high performance intumescent device will be needed to provide the necessary FRL.

Trafalgar offer many different systems for all types of insulation, different thicknesses of insulation and for single pipes, small clusters and very large clusters. We have tailored our FyreCOLLAR, SuperSTOPPER circular and FyreBOX mini and maxis to be able to be easily retrofit over existing pipes to cater for Fire Maintenance and Fire Safety Upgrades alike.

Common Name	Thermal Insulation Type	Image	Sizes
Pair coil	FR Insulation FR insulation is commonly nitrile rubber like Armaflex®, Eflex etc.		Twin tubes up to ¾ and ⅝ inch diameter, with insulations up to 25mm thickness. Often run with a drain pipe, power and data cable as a bundle.
	Non-FR Insulation Polyethene (PE), also known as non-FR due to its combustible nature.		Not often used anymore as thermal efficiency regulations have become stricter. Regardless, there are various approved penetration systems for use.
Copper or steel insulated pipes	Closed cell EDPM Nitrile Rubber (AKA Armaflex®, Eflex).		Single copper or steel pipes of any size, with pipe insulations ranging up to 30mm thick.



Insulated Copper

Like Pair Coils, Lagged Pipes



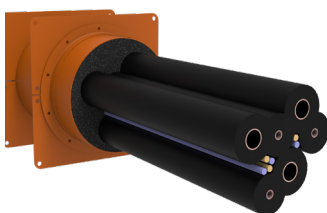
1) Small and Medium Bundles:

A) **FyreCOLLAR** PREMIUM RETROFIT



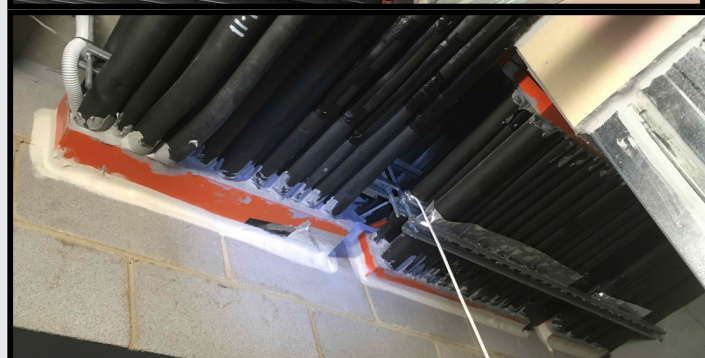
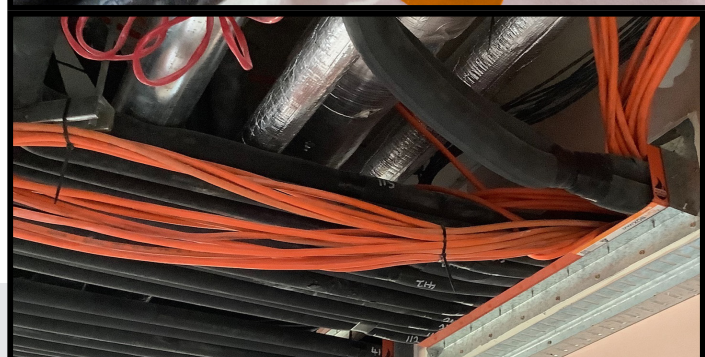
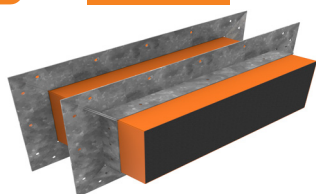
B) CIRCULAR

SuperSTOPPER



2) Large Bundles:

FyreBOX MAXI



Trafalgar Advantage:

- ✓ No need to patch single layer plasterboard walls
- ✓ Easy upgrade of existing penetrations
- ✓ Range of pipes and cable types
- ✓ Easily inspect-able
- ✓ Fix in place flanges holds device in place



Fire Dampers

Mechanical and Intumescent fire dampers for ducts or air transfer grilles



FyreBOARDMAXILITE

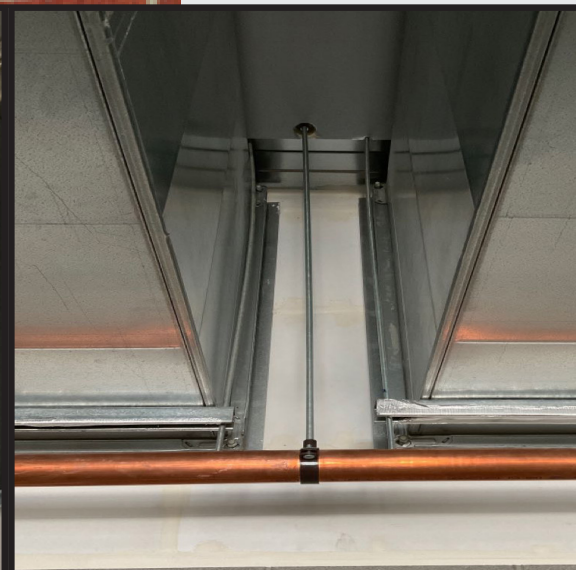
-DAMPER UPGRADES

FyreANGLE



TRAFALGAR ADVANTAGE:

- ✓ Lightweight, single layer boards for 2 hour FRLs
- ✓ Light gauge steel (0.9mm) steel frame at the corners
- ✓ Can box out troublesome penetrations
- ✓ Compatible with fire collars and sealant penetrations
- ✓ Up to 2m wide spans





Oversized Openings

For mixed and miscellaneous where the penetration/ opening in fire barrier is too large

SOLUTION: Reduce Opening Size using Trafalgar Product(s)

1) Fire Rated Pillows:

FyrePLUG



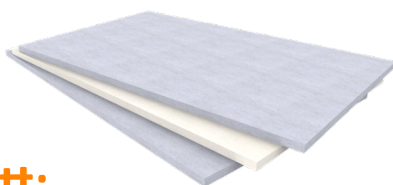
2) Fire Rated Mortar:

FyreSET



3) Fire Rated Board:

FyreBOARDMAXILITE



4) Fire Rated Batt:

FyreBATT

