

## ACTIVE FIRE PROFESSIONALS

This manual focuses specifically on fire-stopping for Active Fire service penetrations using the wide range of Trafalgar Fire systems that have been tested and approved to AS1530.4:2014. These systems cover a wide range of common pipe and cable service types and fire rated barriers, to suit common applications on all sites.



### SERVICES COVERED

- Fire Cables
- Sprinkler Pipes
- Hydrant Pipe Hanger Protection

### BARRIERS COVERED

- Plasterboard
- AAC (Hebel®/Walsc)
- Speedpanel®
- Concrete/Masonry Walls
- Concrete Floor Slabs
- Plasterboard Ceilings
- COREX walls and ceilings

### SYSTEMS - CLICKABLE LOGOS

 [\*\*FyreBATT\*\*](#)

 [\*\*FyreBOARD\*\*MAXILITE](#)

 [\*\*FyreBOX\*\*](#)

 [\*\*FyreFLEX\*\*](#)

 [\*\*FyrePLUG\*\*](#)

 [\*\*FyreSET\*\*](#)

 [\*\*FyreWrap\*\*](#)

 [\*\*TWRAP\*\*](#)

 [\*\*UniGUARD\*\*](#)

 [\*\*TRAFALGAR corex\*\*](#)





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# COMPLIANCE



## COMPLIANCE WITH THE NATIONAL CONSTRUCTION CODE (NCC)

Formerly known as BCA

Under the building code, a Deemed to Satisfy (DTS) solution is one that satisfies the performance requirements set out in section C of volume one. Section C specifically deals with the fire protection of openings in fire barriers (i.e. service penetrations in fire rated walls and floors).

### SECTION C3.15 – OPENINGS FOR SERVICE INSTALLATIONS

Where any service penetrates a fire barrier that has a Fire Resistance Level (FRL) with respect to integrity and insulation, the installation should comply with the following tested systems:

- A Fire Tested System – An identical prototype, installed in the same wall or floor system that has been tested/ approved to the fire testing standard AS1530.4 and AS4072.1 which has achieved an FRL of equal to or greater than that required by the fire barrier.

For example, if the site has a-/120/120 plasterboard wall system with a Firesense cable penetration, the product used to seal the cable must have been fire tested at an approved laboratory **with** the same size cable **in** the same wall type **and** tested for at least 120 minutes without failing the integrity or insulation criteria.

### TEST AND ASSESSMENT REPORTS

Fire testing is a timely and expensive process, and it is impossible to test every single possible service configuration ‘identically’ in a practical sense.

- Under the building code C3.15 a accredited testing laboratory is permitted to write a formal assessment confirming the likely fire performance (FRL) of the penetration in accordance with AS4072.1

For example, if a sprinkler pipe was tested in a small opening and a large opening with the same sealing system and achieved the same FRL, an assessment might be able to justify a range of approved aperture sizes.



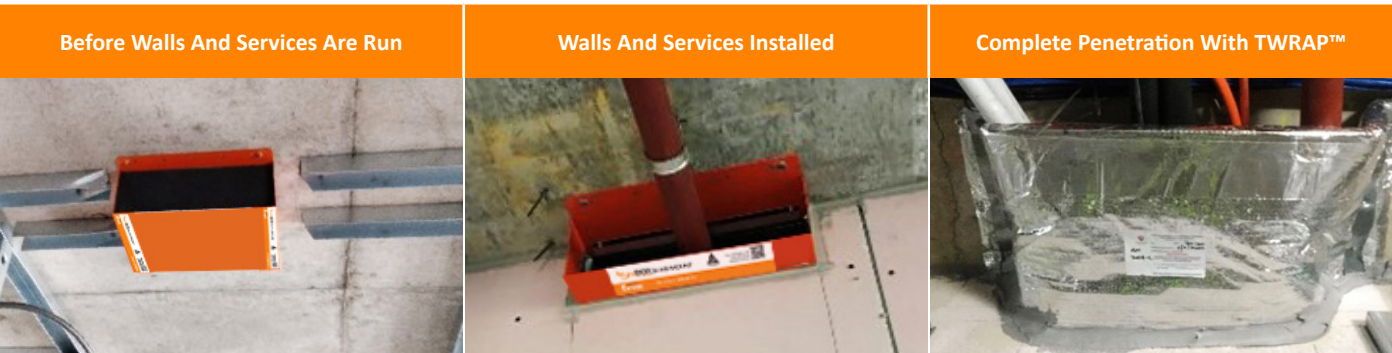
Image of an AS1530.4 [fire test](#) of various fire-stopping systems being used for a range of services.

# UNIQUE CHALLENGES OF ACTIVE FIRE PENETRATIONS



## PLANNING AHEAD WITH SPRINKLER PIPE SYSTEMS

Sprinkler pipes are often put up before the walls in new builds. This sometimes leads to a waste of labour and logistical issues of someone installing the pipe and having to come back at a later date to complete the fire-stopping. As a solution to this issue, it is important to find a fire-stopping system that can go in before or as the walls are installed. A good example of this is the [FyreBOX™ Slab-Mount](#). This can be installed to the underside of the slab before, during, or after the walls go up. [FyreBOX™ Slab-Mount BAMBINO](#) are also available, providing a smaller footprint shown above. Slab-Mounted Fire Box's are available in stocked sizes from 160mm to 1100mm wide.



## APPROPRIATE ANNULAR GAPS

Issues can arise on site when core holes or similar are over-filled with cables. Fire-stopping systems typically require an annular gap to apply a sealant or similar, and always have a limit to the quantity of cables that can be treated at a time. Because of this it is important to check the fire-stopping approvals ahead of time to determine if a single large cable penetration needs to be split into two. Refer to the fire-stopping system's technical manuals on the [Trafalgar Fire website](#), or contact [technical@tgroup.com.au](mailto:technical@tgroup.com.au) for assistance.

## FINDING WRAP FREE SYSTEMS FOR CABLES

It is common for passive fire manufacturers test a 'maximum cable bundle', or 'worst case scenario'. This allows results to be applied to a wider range of penetrations. The consequence of this however, is a very conservative fire-stopping system with large fillets of sealant and long lengths of wrap is sometimes required for even the smallest cable penetrations. As a solution to this, Trafalgar Fire have specific testing relevant to small cable bundles, with a much more manageable application of sealant and no wrap required.

## PROTECTION OF HYDRANT PIPE SUPPORTS

AS2419 specifies that some un-sprinklered buildings need the hydrant supports (typically threaded rod and/or Unistrut) need to be protected from premature collapse in a fire event. Trafalgar Fire have a system approved for this application. For more info refer to [page 14](#) of this manual.

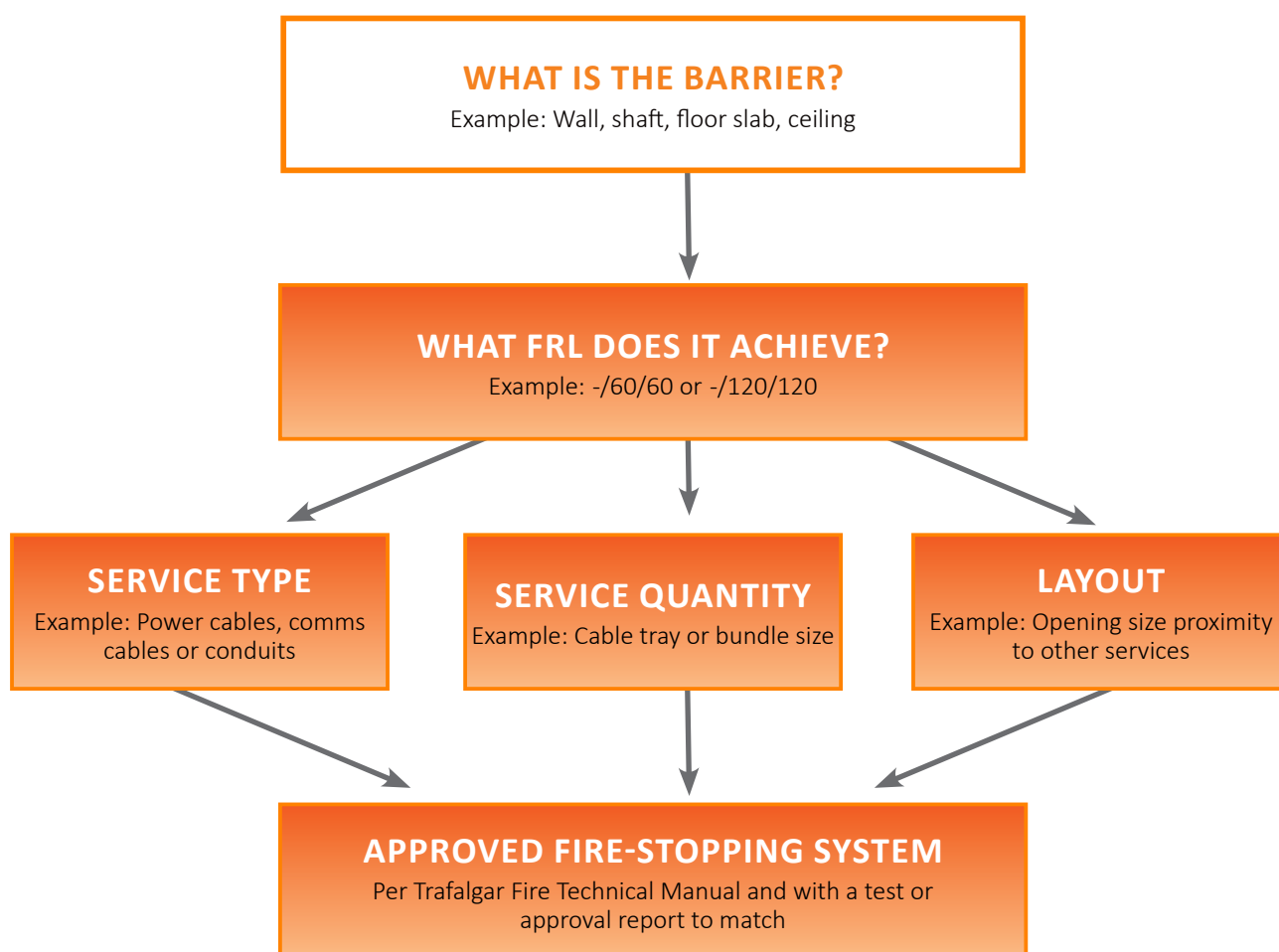






# WHAT TO CONSIDER WHEN LOOKING FOR PASSIVE FIRE SYSTEMS






There are a few steps to selecting the correct fire-stopping system. It is important to consider all elements of the system (wall, shaft, floor slab, ceiling). The below guide should assist with this process.



# SERVICE TYPES

## ACTIVE FIRE SERVICES AND CONSTRUCTION

Fire testing approvals for different types of services can be confusing, and it’s often hard to know what is actually approved for use or what sizes are covered. Test results can be specific to a pipe size, insulation brand and thickness, etc, which is often difficult to match on site, so the below information is written to clarify what our approvals can cover as a quick reference guide.

Common name	Common Application (example only)	Image	Common Sizes
Fire Cables	Fire Alarm TPS		From 0.75mm² to 1.5mm²
	Fire Rated Control		1.5mm²
	Fire Rated Power		From 6mm² to 500mm²
Copper And Steel Pipes	Sprinkler and Hydrant Pipes		32mm up to 150mm
cPVC	Sprinkler Pipes		20, 25, 32, 40, 50, 65, 80mm

# SYSTEM SELECTOR

## FIRE CABLES Small Bundles



The products specified on this page require the correct sized opening, and it is common on site for openings to be to large. In this instance refer to the products on [page 12](#) and [13](#) which can be used to bring down the size of the opening.

The following information relates to approved penetration systems for fire cables. Refer to the product manuals for specific FRLs and installation details.

		<div> </div>	<div> </div>	<div> </div>	<div> </div>
		FyreFLEX® Sealant	FyreBOX™ Slab-Mount	FyreBOX™ Mini	SuperSTOPPER
Barrier	Plasterboard Walls	✓	✓	✓	✓
	AAC (Hebel®/WALSC)	✓	✓	✓	✓
	Speedpanel®	✓	✓	✓	✓
	Concrete/Masonry Walls	✓	✓	✓	✓
	Concrete Floor Slabs	✓	✗	✓	✓
	Plasterboard Ceilings	✓	✗	✓	✓
	COREX Walls	✓	✓	✓	✓
Services	Small Cable Bundles	✓	✓	✓	✓
	Wrap Free	✓ (barrier and bundle size)	✓ (barrier dependent)	✗	✗
					
					





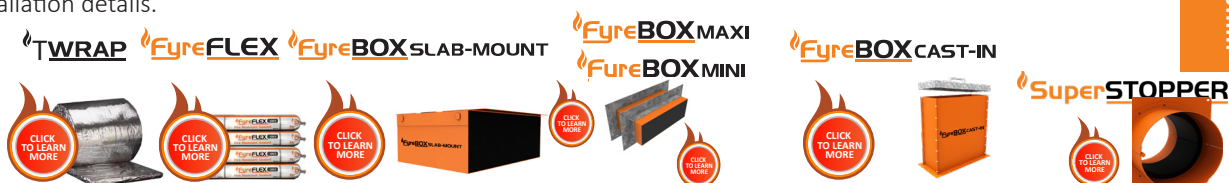
# SYSTEM SELECTOR

## METAL SPRINKLER PIPES < 100mm

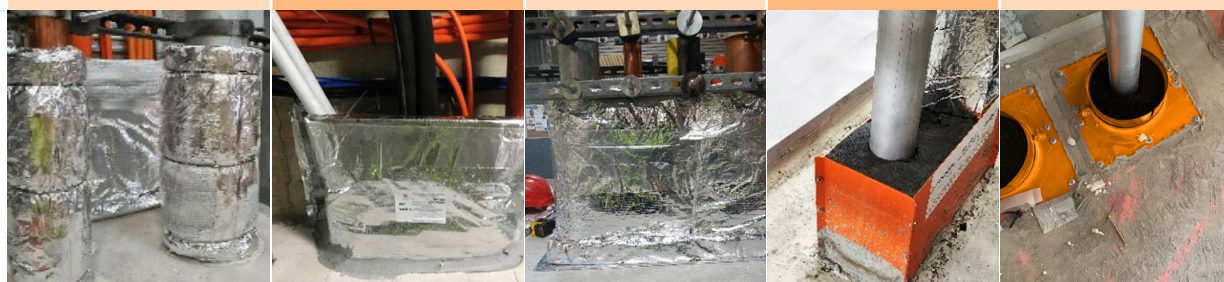


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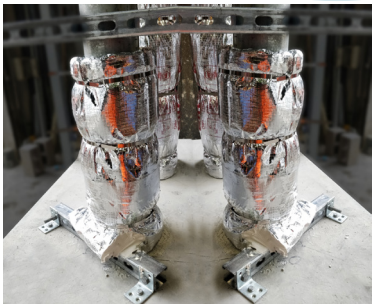


		FyreFLEX® Sealant and TWRAP™	FyreBOX™ Slab-Mount	FyreBOX™ Maxi and FyreBOX™ Mini	FyreBOX™ Cast-in	SuperSTOPPER
Barrier	Plasterboard Walls	✓	✓	✓	✗	✓
	AAC (Hebel®/WALSC)	✓	✓	✓	✗	✓
	Speedpanel®	✓	✓	✓	✗	✓
	Concrete/Masonry Walls	✓	✓	✓	✗	✓
	Concrete Floor Slabs	✓	✗	✓	✓	✓
	Plasterboard Ceilings	✗	✗	✗	✗	✗
	COREX Walls	✓	✓	✓	✗	✓
	COREX Ceilings	✗	✗	✓	✗	✓
Services	Max Pipes Size	150mm	50mm	Walls- 50mm Floors- 100mm	100mm	Walls- 50mm Floors- 100mm
	Copper	✓	✓	✓	✓	✓
	Steel	✓	✓	✓	✓	✓









# SYSTEM SELECTOR

## METAL SPRINKLER PIPES > 100mm



The products specified on this page require the correct sized opening, and it is common on site for openings to be to large. In this instance refer to the products on [page 12](#) and [13](#) which can be used to bring down the size of the opening.

The following information relates to approved penetration systems for copper and steel sprinkler pipes. Refer to the product manuals for specific FRLs and installation details.

		<div><div>TWRAP</div><div></div></div>	<div><div>FyreFLEX</div><div></div></div>	<div><div>UniGUARD</div><div></div></div>	<div><div>FyreFLEX</div><div></div></div>
		FyreFLEX® Sealant and TWRAP™	FyreFLEX® Sealant and UniGUARD™		
Barrier	Plasterboard Walls	✓	✗		
	AAC (Hebel®/WALSC)	✓	✗		
	Speedpanel®	✓	✗		
	Concrete/Masonry Walls	✓	✗		
	Concrete Floor Slabs	✓	✓		
Services	Plasterboard Ceilings	✗	✗		
	Copper	✓	✓		
	Steel	✓	✓		
Max Size		150mm	150mm		
		<div><div><div>FyreFLEX</div><div>TWRAP</div></div></div>	<div><div><div>FyreFLEX</div><div>UniGUARD</div></div></div>		





## OVERSIZED OPENINGS

In instances where one or multiple services run through a larger opening, most of the above fire-stopping systems do not directly apply anymore (refer to the system selector on [page 6](#)). However, Trafalgar Fire have a few products that can be used to bring down the size of an opening and make it appropriate for some of the above fire-stopping systems.

### **MAXILITE**

Maxilite is Trafalgar Fire's calcium silicate board that can be used to bring down the size of an opening in a wall or floor, to install a local fire-stopping system. Refer to the following link for more information: [FyreBOARD-Maxilite®](#).

FyreBOARD Maxilite® can also be used to construct fire rated bulkheads which can solve complex problems like riser shafts with no access, or services installed into fire escapes. Contact Trafalgar Fire for more info.



### **SET**



FyreSET® Mortar is a special cement-based mixture formulated specifically for fire rating applications. It is perfect to be backfilled into a concrete floor slab, forming the correct sized open for your local fire-stopping like a [FyreBOX™](#), leaving a neat and tidy finish on site. Refer to the following link for more information: [FyreSET® Mortar](#).



For assistance with any oversized openings, contact the Trafalgar Fire Technical Team [technical@tgroup.com.au](mailto:technical@tgroup.com.au) for assistance.



# OVERSIZED OPENINGS



Trafalgar FyrePLUG® pillows are a tried and tested passive fire penetration system that have been used across the industry for over forty years. Made in Australia, FyrePLUG® pillows consist of a high temperature resistant and granulated fire-stopping material enclosed in a durable and fire-resistant covering which can be tightly hand packed into an opening around service penetrations to provide a high level of fire separation. Refer to the following link for more information: [FyrePLUG Pillows](#).



Trafalgar FyreBATTs are a coated mineral fibre product, designed for use as a fire seal for service penetrations. Consisting of a high-density fibrous lamella core, sealed on both sides with a flexible fire rated ablative coating, FyreBATTs offer a high fire protection, along with an effective smoke and acoustic seal. Refer to the following link for more information: [FyreBATT](#).



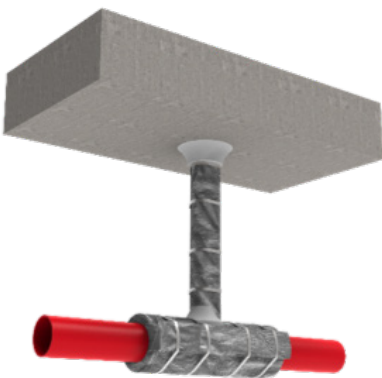
For assistance with any oversized openings, contact the Trafalgar Fire Technical Team [technical@tgroup.com.au](mailto:technical@tgroup.com.au) for assistance.

# HYDRANT PIPE HANGER PROTECTION

AS2419.1:2017 has requirements for protection both copper and steel hydrant systems in non-sprinklered buildings. For copper pipes this involves wrapping the whole pipe and its hangers with a fire tested protection material, and for steel pipes it is just the pipe hanger systems that needs protection. Trafalgar Fire has specific approvals for these applications utilizing our [FyreWrap®](#) System.

## STEEL PIPE SUPPORTS

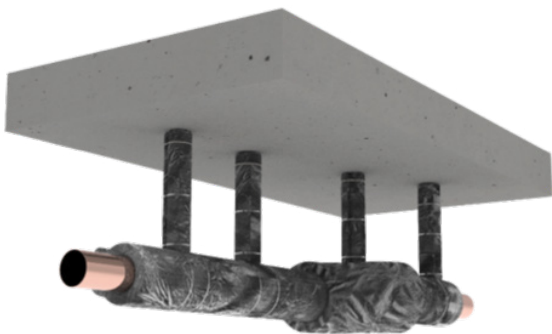
### Hanger Size and Spacing Requirements



Hanger Size	Maximum distance between hangers supports for various sized hangers			
	NB 100 Medium Steel Pipe	NB 100 Heavy Steel Pipe	NB 150 Medium Steel Pipe	NB 150 Heavy Steel Pipe
M10	2.7m	2.4m	1.4m	1.4m
M12 or larger	3.9m	3.6m	2.1m	2.0m

## COPPER HYDRANT PIPE PROTECTION

Per FRT 190004



Service	Hanger and Support Specification	Protection Method	Operational Protection
Up to DN100 Copper Pipes	Per AS2419.1	FyreWrap Elite 1.5	Up to 90min.

For Copper hydrant pipe protection, the full length of the pipe must be wrapped. For steel pipe and hanger protection, simply as shown above with a single width of [FyreWrap®](#) around the service centered around the hanger. Specific drawings for Copper hydrant pipes in appendix.

## FIRE RATED ACCESS PANELS



It is common on construction sites to come across service shaft penetrations that only have one sided access. This can be an issue as most fire-stopping systems are required to be symmetrical and as such need access to both sides for installation. Further to this, access to both sides is often required for inspection and maintenance throughout the life of the building.

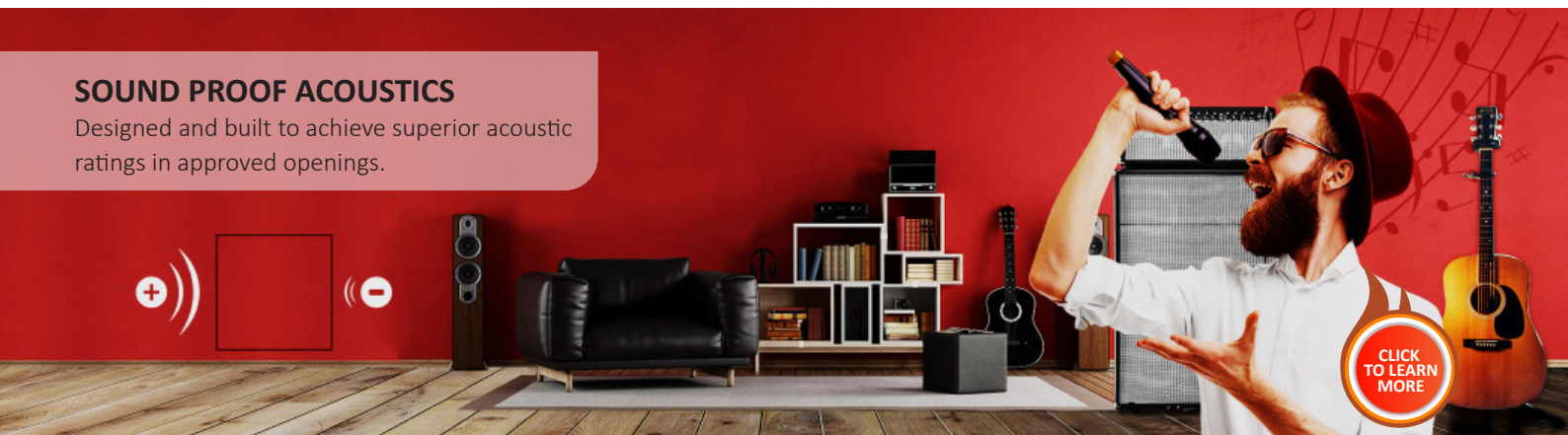
A simple solution to this is to install an Access Panel. The main consideration is that much like service penetrating in the wall, the access panel must also be fire rated to maintain the FRL of the barrier.

The NCC requirements for an Access Panel in a service shaft, is -/xx/30. For example, an Access Panel installed into a 90min plasterboard shaft wall must achieve -/90/30. Trafalgar have a range of Access Panels designed to achieve this, none more prominent than the [FyreSHIELD™](#).

FyreSHIELD™ is a proudly Australian made Access Panel system which has been designed and tested to be built into partition walls and riser shafts. With improved fire and acoustic performance while maintaining the signature Trafalgar Australian-made quality, the FyreSHIELD™ is the only Access Panel worth specifying and installing!

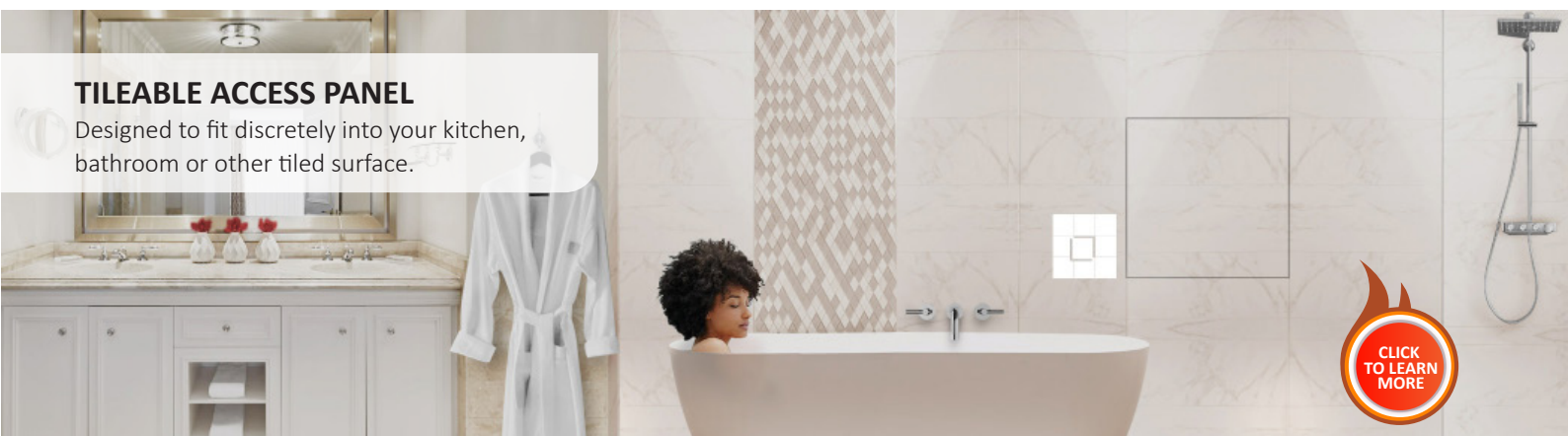
### SOUND PROOF ACOUSTICS

Designed and built to achieve superior acoustic ratings in approved openings.



### TILEABLE ACCESS PANEL

Designed to fit discretely into your kitchen, bathroom or other tiled surface.



For more information on the FyreSHIELD™ range or any other Access Panels, go to [taccess.com.au](https://taccess.com.au), or call 1800 888 714. In some instances, non-fire rated Access Panels will be required, for example a wall penetration within a non fire-rated ceiling space. In this instance, a non fire rated access panel could be installed in the ceiling to gain access to the service penetration for maintenance and inspection purposes. For our range of non fire-rated access panels head to [taccess.com.au](https://taccess.com.au). The range includes metal, wood, acoustic, and more Access Panels for every application.





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here to go back to  
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# RELATED SYSTEMS

**FyreBOX** CAST-IN

AUSTRALIAN MADE AND OWNED

NCC 2022 READY

CLICK TO LEARN MORE

**FyreBOX** MAXI

AUSTRALIAN MADE AND OWNED

NCC 2022 READY

CLICK TO LEARN MORE

**FyreBOX** MINI

NCC 2022 READY

CLICK TO LEARN MORE

**FyreBOX** SLAB-MOUNT

AUSTRALIAN MADE AND OWNED

NCC 2022 READY

CLICK TO LEARN MORE

**FyreBATT**

NCC 2022 READY

CLICK TO LEARN MORE

**FyreBOARD** MAXILITE

NCC 2022 READY

CLICK TO LEARN MORE

**FyreWrap**

NCC 2022 READY

CLICK TO LEARN MORE

**FyreFLEX**

AUSTRALIAN MADE AND OWNED

NCC 2022 READY

CLICK TO LEARN MORE





## RELATED SYSTEMS

### FyrePLUG



### FyreSET



### FyreSHIELD



### FyreSHIELDPLUS



### TWRAP



### UniGUARD



### SuperSTOPPER



### TRAFALGAR coreX

