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SuperSTOPPER CAST-IN

The SuperSTOPPER[®] Cast-In is a simple multiservice passive fire penetration system that can be cast directly into the floor slabs of a building that will prevent the spread of fire through service penetrations whilst reducing the footprint needed for riser shafts and cupboards.

The SuperSTOPPER[®] Range has been tested to AS1530.4-2014 for a range of mixed services and is one of the most fire tested products in the world with industry leading FRL's of up to -/240/240 (system specific).

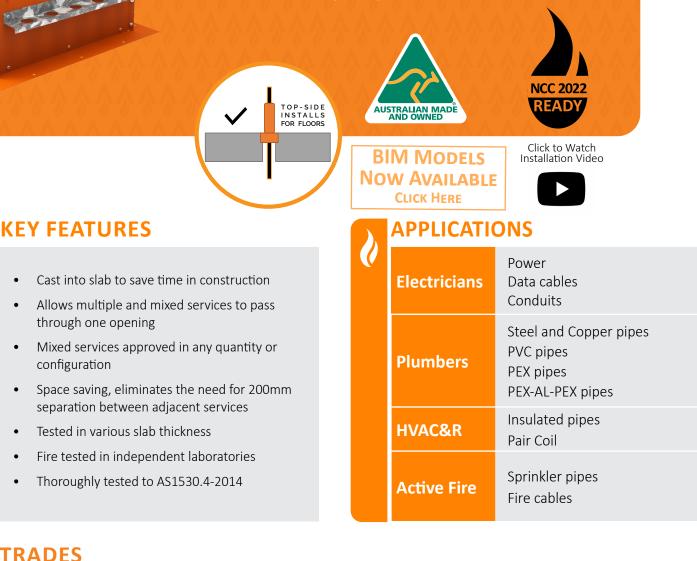








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SupeRSTOPPER[®] Cast-In

WHAT IS SuperSTOPPER®

Trafalgar Fire's SuperSTOPPER® Cast-In is an intumescent lined product designed to prevent the spread of fire through service penetrations. Think of SuperSTOPPER® Cast-In as a fire rated hole, and as a fire takes hold the intumescent material expands to close off the penetration, forming a tight seal around the services and crushing off plastic pipes and pipe insulation. Intumescent foam plugs are also fitted, giving the SuperSTOPPER® superior reliability and acoustic properties, and the ability to allow for adds, moves and changes.

SuperSTOPPER[®] Cast-In is tested for multiple and mixed service types, which removes the need to separate service penetrations. All contractors can run their services through the one penetration.

The proudly Australian Made SuperSTOPPER[®] Cast-In systems come in various stock sizes to suit floor slabs up to 350mm thick and can be ordered in custom sizes to suit any application or slab thickness.

APPLICATIONS

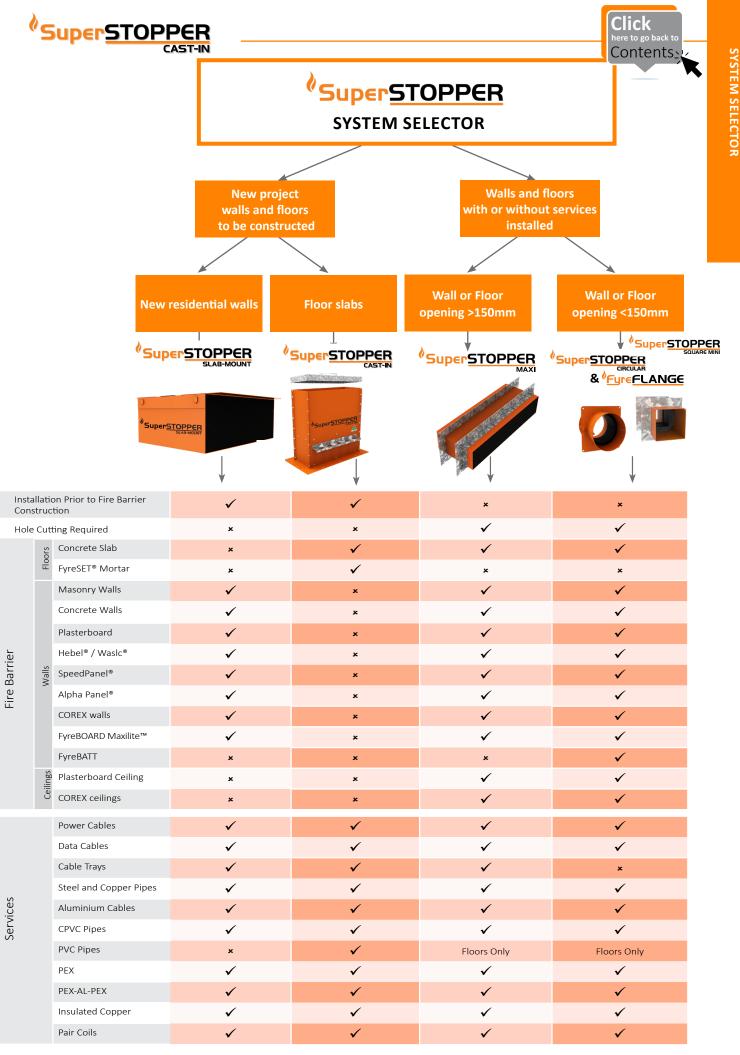
SuperSTOPPER[®] Cast-In systems are suitable for use in any new building where penetrations are required through concrete floors. They have been tested and approved for the following services:

- Electrical, data and communication cables and trays
- Steel and copper pipes
- Insulated copper pipes
- CPVC sprinkler pipes
- PVC conduits
- PVC (Drain, Waste, Vent) pipes
- PEX and Gas PEX-AL-PEX pipes





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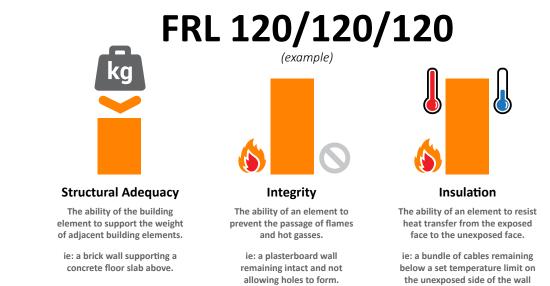


FIRE RESISTANCE LEVEL

SuperSTOPPER® Cast-In

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:



Note: Penetrations are not required to have a Structural Adequacy rating and is usually expressed as a dash. For example, a penetration through a 2-hour load bearing wall would be written as -/120/120

INTEGRITY

The SuperSTOPPER® Cast-In system will 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 being used and 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. To limit the heat-rise through the SuperSTOPPER® Cast-In penetration systems, our 25mm thick TWRAP foil encased blanket can be wrapped around the services and metal casing of the SuperSTOPPER® to achieve up to 4 hours of insulation performance. There are some applications that won't require any TWRAP to achieve the full FRL, please refer to the tables below for specific details.



penetration system.

FRL Approvals Tables

Click here to go back to Contents

Concrete Floors

90 MINUTE FRL SLABS MINIMUM THICKNESS 120MM

Service Type	Ser	FRL – Wrap Free	FRL – With TWrap	TWrap Length (mm)			
Blank (No Services)		eflex Sealant applied to perimeter of (not required when TWrap applied)	-/90/90	Wrap Free	N/a		
	PEX pipes	up to 32mm OD	-/90/-	-/90/90	450		
Plastic Pipes	PEX-Al-PEX pipes	up to 32mm OD		-/90/90	450		
	PVC pipes	up to 80mm OD	-/90/-	-/90/90	300		
		up to 40mm DN	-/90/-	-/90/90	450		
	Copper pipes	up to 100mm DN	-/90//90/90		600 1 st Layer + 450 2 nd Layer^		
Bare Metal Pipes		up to 50mm NB	-/90/-	-/90/90	450		
	Steel pipes	up to 90mm NB	-/90/-	-/90/90	600 1 st Layer + 450 2 nd Layer^		
	Copper pipes	up to 50mm OD with FR insulation	-/90/60	-/90/90	300		
Metal Pipes Insulated*	Stainless Steel pipes	Up to 50mm OD with EPS or PE insulation and rockwool	-/90/60	-/90/90	300		
insulated	Pair Coils	Up to 9.5 & 19mm with up to 20mm FR insulation (OR 13mm PE) with 10mm OD cable	-/90/60	-/90/90	450		
	Single core AL cables	Up to 4 x 240mm ² single core + optional 120mm ² earth cable	-/90/30	-/90/90	300		
Power Cables - Aluminium Core***	0	Up to 1x 400mm ²	-/90/30	-/90/90	450****		
	4x Core AL cables	Up to 4 x 16mm ² 4C+E cables	-/90/30	-/90/90	300		
	TPS cables	Up to 10x per bundle	-/90/60	-/90/90	300		
	3x Core cables	19mm diam 3C + E cables	-/90/60	-/90/90	300		
Power Cables	AS1530.4 Appendix D cable set (no cable tray)	Applies to all copper core power cables	-/90/30	-/90/90	450 (190mm + thick floors)		
	AS1530.4 Appendix D cable sets on cable trays	Applies to all copper core power cables and cable trays up to 1000mm wide	-/90/30	-/90/90	600 1 st Layer + 300 2 nd Layer^		
	AS1530.4 Appendix D cable sets on cable trays	Copper core comms cables and cable trays up to 1000mm wide	-/90/60	-/90/90	300		
Comms Cables	Fibre Optic cables	NBN grade cable	-/90/30	-/90/90	300		
	CAT6	Up to 150x per bundle	-/90/60	-/90/90	300		
Conduits	uPVC Conduits Rigid or Flexible	Up to 32mm OD (with or without cables)	-/90/60	-/90/90	300		

^Large metal pipes require 2 layers of TWrap. Refer to page page 22

*With or without heat trace cable

**With 300mm of loose TWrap infill (foil removed) packed around the services within the wrap if cable tray is used

***Aluminium cable bundles spaced 50mm apart when installed on cable tray

****SuperSTOPPER foam installed top and bottom



FRL Approvals Tables

Concrete Floors

2 HOUR FRL SLABS MINIMUM THICKNESS 120MM

Sorvice Turne	Sorvice Tune Corvice Specification			FRL – With	TWrap Length
Service Type	Service Type Service Specification		FRL – Wrap Free	TWrap	(mm)
Blank (No Services)	20x20mm Fillet of Fyreflex Sealant applied to perimeter of SuperSTOPPER Cast In (not required when TWrap applied)			Wrap Free	N/a
	PEX pipes	up to 32mm OD	-/120/-	-/120/120	450
Plastic Pipes	PEX-Al-PEX pipes	up to 32mm OD	-/120/-	-/120/120	450
	PVC pipes	up to 80mm OD	-/120/-	-/120/120	300
		up to 40mm DN	-/120/-	-/120/120	450
5 M + 10	Copper pipes	up to 100mm DN	-/120/-	-/120/120	600 1 st Layer + 450 2 nd Layer^
Bare Metal Pipes		up to 50mm NB	-/120/-	-/120/120	450
	Steel pipes	up to 90mm NB	-/120/-	-/120/120	600 1 st Layer + 450 2 nd Layer^
	Copper pipes	up to 50mm OD with FR insulation	-/120/60	-/120/120	300
Metal Pipes Insulated*	Stainless Steel pipes	Up to 50mm OD with EPS or PE insulation and rockwool	-/120/60	-/120/120	300
insulated	Pair Coils	Up to 9.5 & 19mm with up to 20mm FR insulation (OR 13mm PE) with 10mm OD cable	-/120/60	-/120/120	450
Dower Coblee	Single core AL cables	Up to 4 x 240mm ² single core + optional 120mm ² earth cable	-/120/30	/120/30 -/120/120	
Power Cables- Aluminium Core***	0	Up to 1x 400mm ²	-/120/30	-/120/120	450****
	4x Core AL cables	Up to 4 x 16mm ² 4C+E cables	-/120/30	-/120/120	450****
	TPS cables	Up to 10x per bundle	-/120/60	-/120/120	300
	3x Core cables	19mm diam 3C + E cables	-/120/60	-/120/120	300
Power Cables	AS1530.4 Appendix D cable set (no cable tray)	Applies to all copper core power cables	-/120/30	-/120/120	600 (min. 190mm slab)
	AS1530.4 Appendix D cable sets on cable trays	Applies to all copper core power cables and cable trays up to 1000mm wide	-/120/30	-/120/120	600 1 st Layer + 300 2 nd Layer^
Comms Cables	AS1530.4 Appendix D cable sets on cable trays	Copper core comms cables and cable trays up to 1000mm wide	-/120/60	-/120/120	450 (Min.190mm slab) Or 600mm**
	Fibre Optic cables	NBN grade cable	-/120/30	-/120/120	300
	CAT6	Up to 150x per bundle	-/120/60	-/120/120	300
Conduits	uPVC Conduits Rigid or Flexible	Up to 32mm OD (with or without cables)	-/120/60	-/120/120	300

^Large metal pipes require 2 layers of TWrap. Refer to page 22

*With or without heat trace cable

**With 300mm of loose TWrap infill (foil removed) packed around the services within the wrap if cable tray is used

***Aluminium cable bundles spaced 50mm apart when installed on cable tray

****SuperSTOPPER foam installed top and bottom



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FRL Approvals Tables

Concrete Floors

3-4 HOUR FRL SLABS MINIMUM THICKNESS 175MM

Service Type	Service Sp	FRL – Wrap Free	FRL – With TWrap	TWrap Length (mm)	
Metal Pipes	Steel Pipes	Up to 50mm	-/120/-	-/240/120	450
Insulated Metal Pipes	Stainless Steel Pipes	Up to 50mm OD with EPS or PE insulation and rockwool	-/240/60	-/240/240	300
Power Cables	Power Cables 3x Core Up to 2x 19mm 3C + E per bundle		-/240/60	-/240/120	300
Comms Cables	CAT6	Up to 5x per bundle	-/240/60	-/240/120	300
		Up to 1x 400mm ²		-/180/180*	300
		Up to 1x 400mm ²		-/180/120**	
Power Cables- Aluminium Core***	Single core AL cables	Up to 4 x 240mm ² single core + optional 120mm ² earth cable	N/A		450****
	4x Core AL cables	Up to 4 x 16mm ² 4C+E cables			

*Contract Trafalgar before use.

** Minimum 190mm thick slab

***Aluminium cable bundles spaced 50mm apart when installed on cable tray

****SuperSTOPPER foam installed top and bottom

THE CHALLENGE WITH 3-4 HOUR FRL'S

After two hours of the AS1530.4 fire test, the temperatures inside the furnace will increase from 1050 to 1200 degree's C which is above the melting points of some metals like copper. Therefore, most copper based building services (cables and copper pipes) are practically very difficult to remain under the insulation (heat rise) criteria past 2 hours.

In this case, please refer to our specific **3-4 hour FRL Applications Manual** for specific advice on how fire engineering can deal with these penetrations as an alternate solution to address the building code's performance requirements.



3-4 Hour Penetrations Applications Manual

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INSTALLATION

CONCRETE FLOOR SLABS



Position the SuperSTOPPER® Cast-In in the desired penetration position and then nail/ screw to the timber formwork through the flanges.

POUR SLAB



Ensure the galvanized steel lid is on the SuperSTOPPER[®], and pour the concrete to the specified depth and allow to cure.

Steel lid is provided for added safety, so tools and materials can't be dropped from one floor of a building to another. Lids can be disposed after use.



PREPARE



After the concrete has cured, remove the timber formwork from the other side of the slab. Remove the steal lid and dispose of it. Remove the foam plug and put in a safe location for subsequent use.

RUN SERVICES

e 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.



Install services through the SuperSTOPPER[®] Cast-In as required, ensuring the services are approved for use. Refer to the FRL details section on pages 6 & 7 of this manual for details.

Click to Watch Installation Video







INSTALLATION

Retrieve the foam end plugs and cut a horizontal slit allowing you to open the foam. Cut out a rough profile of the services so that the foam can be fit snugly around them. Slide the foam over/ around the services and into the SuperSTOPPER[®].

CONCRETE FLOOR SLABS



The foam fit should be snug, such that no daylight can be seen through the SuperSTOPPER[®]. Small gaps can be plugged with offcuts of foam and/ or FyreFLEX[®] (or FyrePEX HP) sealant.

Tip: Use a hacksaw blade to cut the foam quickly and accurately.



WRAP



Where required, wrap the services with the appropriate length of TWRAP (per FRL tables above). Depending on the FRL, some cable trays require TWRAP infill material to pack out gaps before wrapping.

The TWRAP should overlap itself around the pipe by 50mm, if two strips are required to meet the appropriate length, then where the second length meets the first, a 50mm overlap is required. TWRAP is secured to the service used steel cable ties, 50mm from each end and 150mm centres inbetween. TWRAP is applied to the top side of the floor slab only.

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Document the penetration. It is general good practice to take photographs and label all completed penetration works to add to the site's documentation for future inspections.

AS4072 includes some recommendations and templates for penetration register stickers.

Click here to learn more or get your Penetration Seal Stickers now!







INSTALLATION

INSTALLATION SuperSTOPPER[®] Cast-In 350 x 125

(max)



Position the SuperSTOPPER® Cast-In in the desired penetration position and then nail/ screw to the timber formwork through the flanges.

FyreSET[®] Mortar



Install 50 x 90 x 50mm steel z-clips to assist the mortar key into the slab. Fix them to the slab using M6 x 50mm Anchors. Pour FyreSET[®] Mortar to a minimum depth of 120mm.

Refer to FyreSET® Mortar Technical Manual for more installation details



Seal the SuperSTOPPER[®] to the FyreSET[®] Mortar with a 25mm fillet of FyreFLEX[®] Sealant (this step not required for concrete slabs).

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Install services through the SuperSTOPPER® Cast-In as required, ensuring the services are approved for use. Refer to the FRL details section on pages 6 & 7 of this manual for details.

Click to Watch Installation Video





SYSTEM RANGE

SuperSTOPPER® Cast-In SYSTEMS







Description	Dimensions
175 x 125 x 380mm	17 T ZHE WAY for the wind accommon
350 x 125 x 380mm	
550 x 125 x 380mm	380mm
650 x 125 x 380mm	235mm 175-1100mm
1100 x 125 x 380mm	respin + 175-1100min (model dependent)
Any width up to 1250 x 125 x (Slab Depth + 50mm)	
	175 x 125 x 380mm 350 x 125 x 380mm 550 x 125 x 380mm 650 x 125 x 380mm 1100 x 125 x 380mm Any width up to

SuperSTOPPER[®] Cast-In SYSTEM COMPONENTS

CLICKABLE CODES	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				



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Where services have been run but the slab is yet to be poured, the SuperSTOPPER Cast-In is now offered in a hinged variant. It can be opened a full 90 degrees to fit around services, and is secured using bolts. This removes the need to frame out an opening in the slab to treat services later, saving time and taking advantage of the benefits of the SuperSTOPPER Slab Mount system.



Super<u>STOPPER</u>







[®]Super<u>STOPPER</u>

CAST-IN RETROFIT











SuperSTOPPER® Cast-In



COMPLIANCE WITH THE NATIONAL CONSTRUCTION CODE (NCC)

Formerly known as BCA

Under the NCC requirements, a multiple service transit system for service penetrations should be fire tested in every configuration that it is intended for use in, both completely empty (blank seal), partially full and completely full of services so that the product many be installed with as many or as little services as required on site. It is important to fire test in all the different walls types and with different configurations, quantities and types of services which is a time consuming (and expensive) exercise.

Trafalgar SuperSTOPPER[®] systems have been fire tested extensively to AS1530.4-2014 and approved in accordance with Section 4 AS4072.1 as required by Schedule 5 of the NCC. This includes over 200 hours of accredited furnace time and 30 plus individual test reports to cover the full range of service and wall configurations that allow us to comfortably stand behind our multiple SYSTEM approvals.

These configurations include but are not limited to:

- Service fill ratio: Empty (blank seal), half full and completely full of services
- Barrier types: Various types of plasterboard, concrete, Blockwork, Hebel, Walsc, Speedpanel, Pronto panel, FyreBOARD Maxilite board, concrete floors etc
- Services: Bare and insulated metal pipes, cable trays and cable bundles, PVC pipes & conduits, PEX and PEX-AL-PEX pipes, CPVC pipes etc
- Configurations: Blank seal (empty), full of services, double stacked, side by side etc
- Insulation performance: Tested both wrapped and unwrapped with TWRAP to ensure the system works in both configurations
- Penetration sizes: 150 x 125, 350x125, 550x125, 1100x125
- SuperSTOPPER[®] Variants: Slab Mount, Slab Mount Bambino, Cast-in, Maxi & Mini (retrofit)

When choosing a multiple service transit penetration system like SuperSTOPPER[®], it is important to check that all aspects of your system have been fire tested and are fit for purpose.

Compliance will only be achieved when the installation on site mirrors the tested system. Please refer to the 'parent' fire stopping system product manuals for specific installation instructions.

TEST AND ASSESSMENT REPORTS

The above-mentioned fire testing reports have all been conveniently summarised into **BRANZ assessment report FC10266 (available on www.tfire.com.au)** which neatly tabulates the approved services in a range of fire barriers, for all SuperSTOPPER[®] variants and applications, and covers only minor variations to the tested systems, thereby providing trouble free certification according to NCC.

Importantly, every aspect of the assessment report are backed up by the fire test data and the individual fire test reports are available on request for certification purposes.





FAQ

${\bm Q}$ Is the SuperSTOPPER® Cast-In suitable for my refrigeration lines?

A Yes, the SuperSTOPPER[®] Cast-In has been tested with both fire resistant (FR) and non-FR insulation and can be filled with as many lines as will reasonably fit in the box.

 ${f Q}$ My certifier told me I need 2-hour insulation rating on my copper pipe penetrations – does the SuperSTOPPER® Cast-In achieve this?

A TWRAP (or FyreWrap[®]) will need to be wrapped around the SuperSTOPPER[®] to achieve an insulation rating. Contact Trafalgar Fire for installation details and refer to our YouTube channel for installation videos (<u>https://youtu.be/qo48SIxeLwc</u>).

Q Is the SuperSTOPPER[®] Cast-In approved for Bondek Floor slabs?

A Yes, Refer to our How to Install a SuperSTOPPER[®] Cast-In video or contact Trafalgar Fire Technical Team for further assistance.

Q Will an empty SuperSTOPPER[®] Cast In get 2 hours?

A An empty SuperSTOPPER[®] can achieve-/120/120 when a 20x20mm fillet of Fyreflex sealant is applied along the perimeter of the SuperSTOPPER[®].













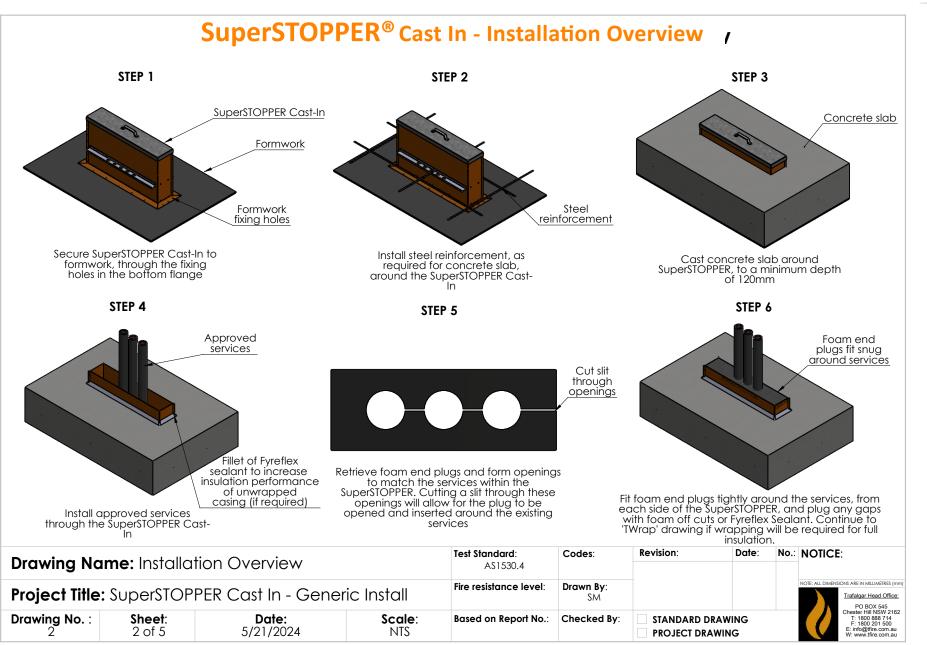
TECHNICAL DRAWINGS - SupeRSTOPPER® Cast-











TECHNICAL DRAWINGS - SupeRSTOPPER® Cast-

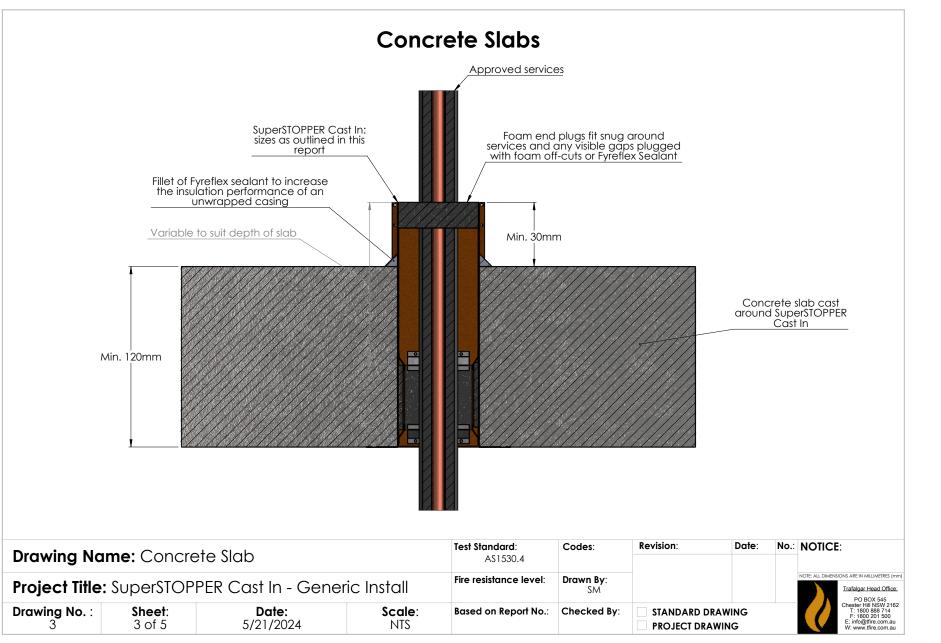
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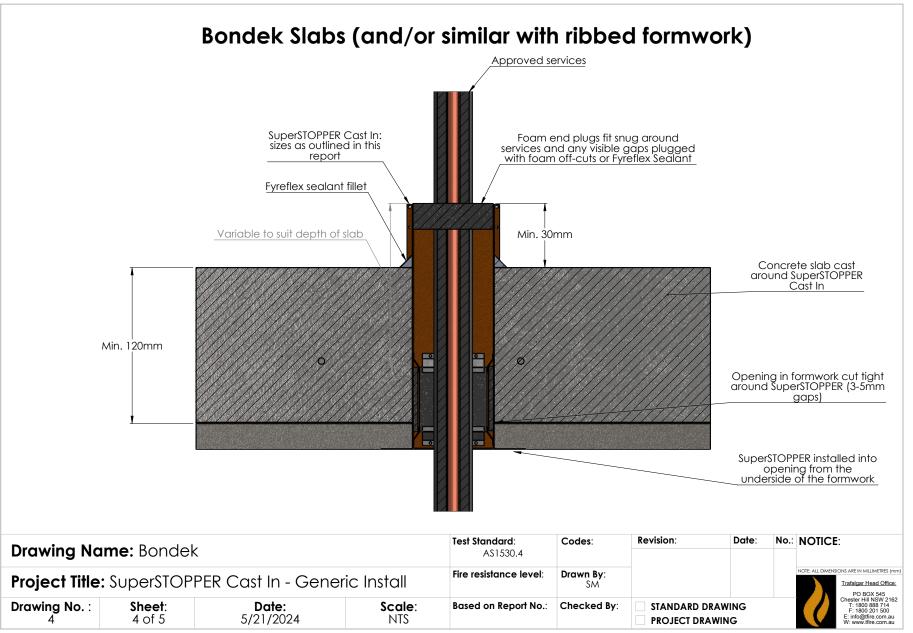
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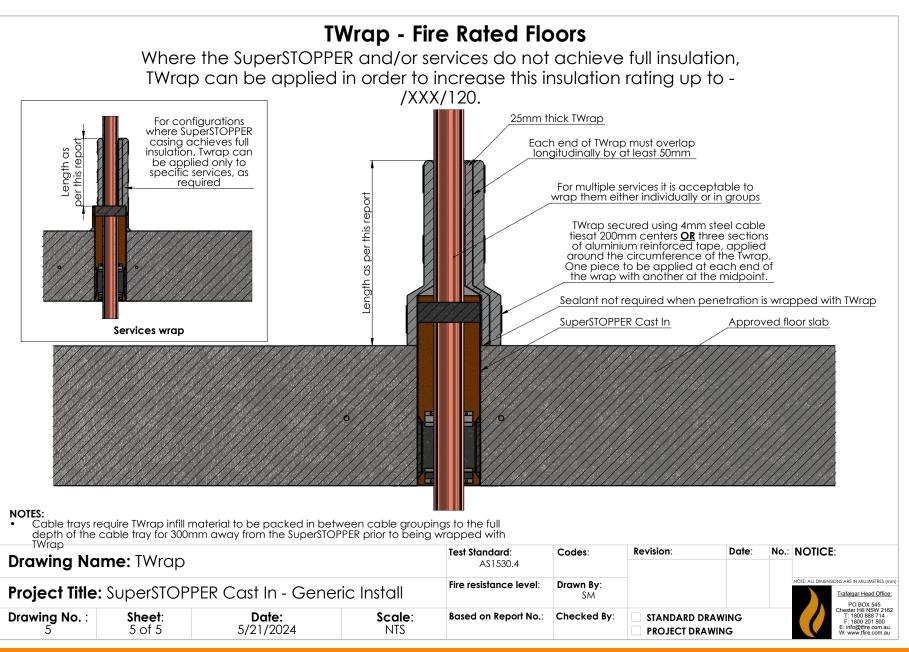
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TECHNICAL DRAWINGS - SupeRSTOPPER® Cast-

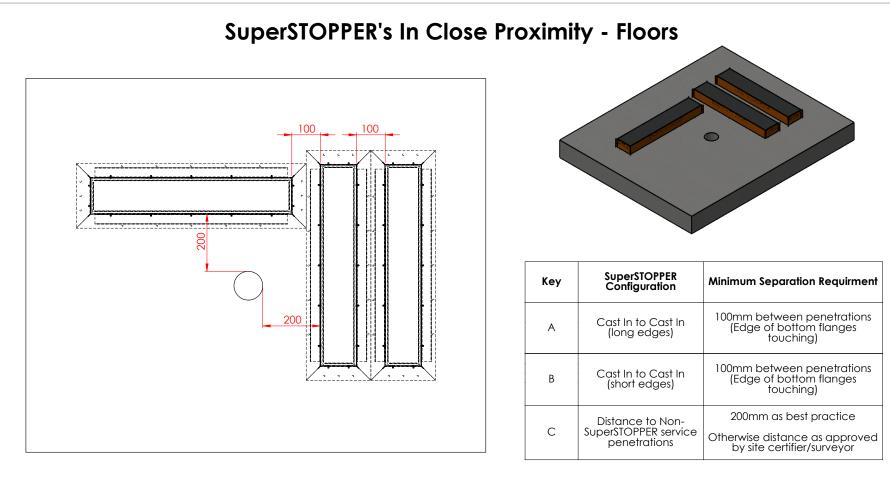






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NOTES: Barrier must be designed or approved for the openings/spacing required

Drawing Name: Penetration Separation - Floor				Test Standard:	Codes:	Revision:	Date:	No.:	NOTICE:
				A\$1530.4					
Project Title: SuperSTOPPER Install Variations				Fire resistance level:	Drawn By: TC				NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm) Trafalgar Head Office: PO BOX 545 Chester Hill NSW 2162
Drawing No. : 2	Sheet : 2 of 9	Date: 27/09/2024	Scale: NTS	Based on Report No.:	Checked By: SM	STANDARD DRA PROJECT DRAW			Chester Hill NSW 2162 T: 1800 888 714 F: 1800 201 500 E: info@tfire.com.au W: www.tfire.com.au



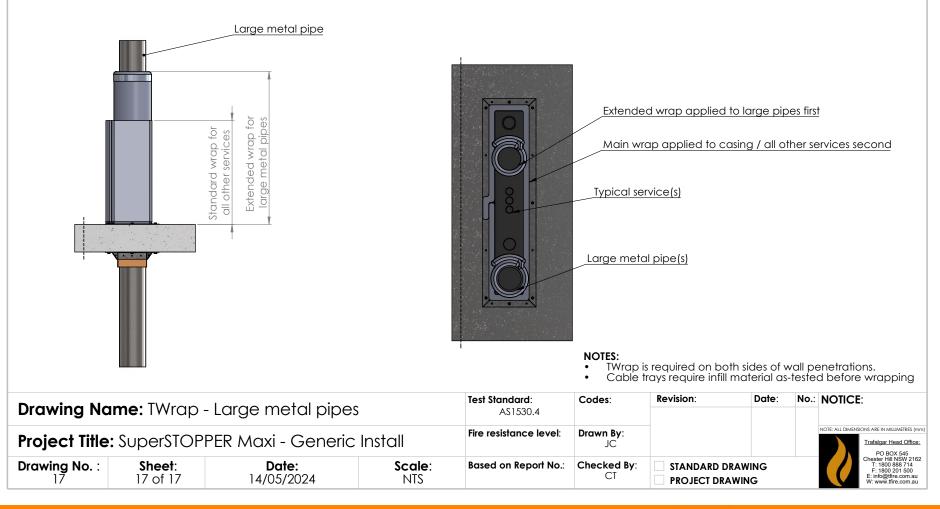
TECHNICAL DRAWINGS - SupeRSTOPPER® Cast-





Applying TWrap to metal pipes above NB50

- Twrap applied around pipes first for large pipes, specific lengths as detailed in this report for pipes greater than NB50.
- Each section of TWrap secured using 4mm wide steel cable ties at 200mm centers **OR** three sections of aluminium reinforced tape, ٠ applied around the circumference of the Twrap. One piece to be applied at each end of the wrap with another at the midpoint.
- Secondary wrap applied around casing / all other services (as needed) for standard lengths as per this report ٠





TECHNICAL DRAWINGS - SupeRSTOPPER® Cast-