

# FIREPRO FYREBOX

## FYREBOX

MAXI AND MINI

## TECHNICAL MANUAL



**Changing the way we build to improve fire safety.**

NZ Stockist  
**Firepro Centabuild Ltd**  
8 Botha Road, Penrose, Auckland.  
Ph 09 579 0367.

23 Byron Street, Sydenham,  
Christchurch.  
Ph 03 379 9380.

email [sales@firepro.co.nz](mailto:sales@firepro.co.nz)  
[www.firepro.co.nz](http://www.firepro.co.nz)

### The FYREBOX range includes:

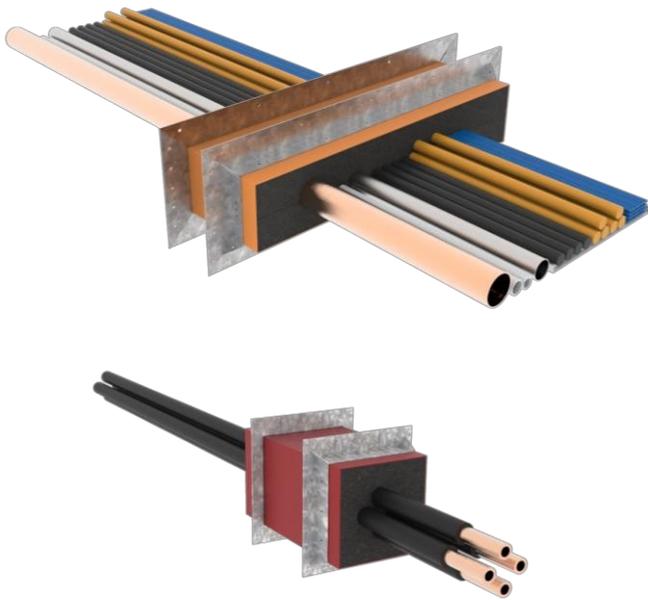
- FYREBOX Slab-Mounted
- FYREBOX Cast-In
- FYREBOX Maxi
- FYREBOX Mini

# FYREBOX

## MAXI/MINI

# Product Overview

Fyrebox Maxi are an intumescent type product designed to prevent the spread of fire through service penetrations. Think of Fyrebox Maxi's as fire rated holes. The Fyrebox Maxi has been tested rigorously with a multitude of service types, service configurations, and wall and floor types and is one of the most fire tested products in the world.



The Fyrebox Maxi system allows building designers and service consultants to identify the required location for services and specify the required Fyrebox Maxi configuration, of course, with our assistance and advice.

Construction documentation can then identify these as the only approved path for services in the building for each specific trade. This ensures that all services are adequately fire stopped. The best part is that the system is a permanent system and will not require fire stopping again for the life of the building!

### APPLICATION:

Fyrebox Maxi and Mini's are multiple service transits. They remove the need to separate service penetrations such that all contractors can run their services through the one penetration.

The Fyrebox Maxi comes in various sizes to suit most applications and can be used in conjunction with the Maxilite bulkhead systems.

### SUITABLE FOR:

The Fyrebox Maxi is suitable for use in any building where penetrations are made through plasterboard, Hebel and masonry walls and floors for services. They have been tested and approved for the following services:

- Electrical, data and communication cables
- Steel and copper pipes
- Insulated copper pipes
- Typical air-conditioning services
- Small conduits
- Pex and gas pex.

## Pre-Installation: Approved services

Fyrebox Maxi and Mini installed in <b>2 layer plasterboard walls</b>			
Trade	Service Type	Service Specifications	FRL achieved*
Sprinklers	Sprinkler Pipe	Steel pipes up to 54mm	-/120/60
Air Conditioning	Air-conditioning pipes	Pair coil	-/120/60
	Refrigeration	Insulated copper pipes up to 54mm (plus insulation)	-/120/60
Electrical	Power cables	All types of power cables	-/120/30
	Data/comms cables	Telecom cables, CAT5/6, fire cable, shielded data, CAT5, CAT6, RG6	-/120/60
	Conduits	Up to 25mm PVC Conduit	-/120/-
Plumbing	Copper pipes	Copper pipes up to 54mm	-/120/60

Fyrebox Maxi and Mini installed in <b>1 layer (1x16mm) plasterboard walls</b>			
Trade	Service Type	Service Specifications	FRL achieved*
Air Conditioning	Air-conditioning pipes	Pair coil (Fyrebox Square mini)	-/90/30
Electrical	Power cables	TPS cables	-/90/30
	Data/comms cables	CAT5/6 cables	-/90/30

Fyrebox Maxi installed in <b>1 layer (1x13mm) plasterboard walls</b>			
Trade	Service Type	Service Specifications	FRL achieved*
Air-conditioning	Air-conditioning pipes	Pair coil	-/90/30
	Air-conditioning cables	CAT6 Data cables and 10mm OD Power Cables	-/90/30
	Refrigeration	Insulated copper pipes up to 50mm OD (plus insulation)	-/90/30
Sprinklers	Sprinkler Pipe	Steel pipes up to 50mm OD	-/90/30
Plumbing	Pex Pipes	PEX water and PEX gas up to 25mm OD	-/90/30
Electrical	Conduits	PVC Conduit 32mm OD	-/90/30

Fyrebox Maxi and Mini installed in <b>masonry (brick, block and concrete) walls</b>			
Trade	Service Type	Service Specifications	FRL achieved*
Sprinklers	Sprinkler Pipe	Steel pipes up to 54mm	-/240/30
Air Conditioning	Air-conditioning pipes	Pair coil	-/240/30
	Refrigeration	Insulated copper pipes up to 54mm (plus insulation)	-/240/30
Electrical	Power cables	All power cables	-/240/120*
	Data/comms cables	Telecom cables, CAT5/6, fire cable, shielded data, CAT5, CAT6, RG6	-/240/120*
	Conduits	Up to 25mm PVC Conduit	-/120/-
Plumbing	Copper pipes	Copper pipes up to 54mm	-/240/30

\*FyreWrap can be used to achieve insulation of 120 minutes (-/XXX/120) - see page 3 for details

Fyrebox Maxi and Mini installed in <b>Hebel walls</b>			FRL Achieved*		
Trade	Service Type	Service Specifications	75mm wall	100mm wall	125mm wall
Sprinklers	Sprinkler Pipe	Steel pipes up to 54mm	-/60/-	-/90/-	-/120/-
Air Conditioning	Air-conditioning pipes	Pair coil	-/60/30	-/90/30	-/120/30
	Refrigeration	Insulated copper pipes up to 54mm (plus insulation)	-/60/30	-/90/30	-/120/30
Electrical	Power cables	All power cables	-/60/-	-/90/-	-/120/30
	Data/comms cables	Telecom cables, CAT5/6, fire cable, shielded data, CAT5, CAT6, RG6	-/60/30	-/90/30	-/120/60
Plumbing	Copper pipes	Copper pipes up to 54mm	-/60/-	-/90/-	-/120/-

Fyrebox Maxi and Mini installed in <b>Shaft walls</b>			
Trade	Service Type	Service Specifications	FRL achieved*
Electrical	Power cables	All power cables	-/120/-
	Data/comms cables	Telecom cables, CAT5/6, fire cable, shielded data, CAT5, CAT6, RG6	-/120/-

Fyrebox Maxi and Mini installed in <b>floor slabs</b>			
Trade	Service Type	Service Specifications	FRL achieved*
Sprinklers	Sprinkler Pipe	Steel pipes up to 54mm	-/120/-
Air Conditioning	Air-conditioning pipes	Pair coil	-/120/90
	Refrigeration	Insulated copper pipes up to 54mm (plus insulation)	-/120/90
Electrical	Power cables	All power cables	-/240/-
	Data/comms cables	Telecom cables, CAT5/6, fire cable, shielded data, CAT5, CAT6, RG6	-/240/120
	Conduits	25mm rigid PVC	-/120/-
Plumbing	Copper pipes	Copper pipes up to 54mm	-/120/-

## Installation Overview – FyreWrap for Insulation

Heat transfer via conduction, is one of the common ways in which a fire may spread through openings in fire rated barriers. It is a requirement to stop this heat conduction, just like we stop direct flame transfer and radiant heat transfer by which a fire can spread through an opening in a fire barrier.

\***FyreWrap** can be applied to all Fyrebox installations to achieve up to 120 minutes of insulation for all the above services and installations. For example, if a steel pipe was installed through a Fyrebox in a 2 hour fire wall, the addition of FyreWrap will **increase the FRL to -/120/120**.

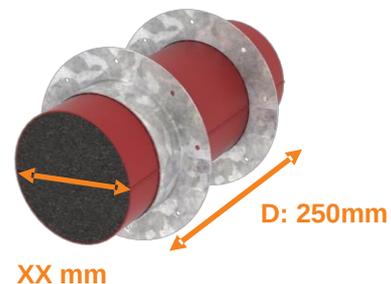
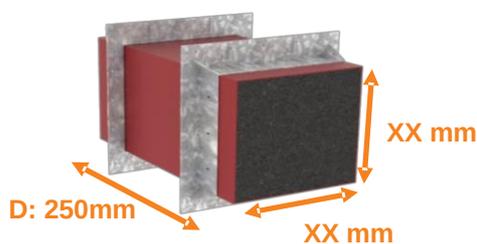
Please refer to the FyreWrap technical manual for further details or contact Firepro for more information.

## Pre-installation: Sizing

Select the correct size Fyrebox for your application. The Fyrebox can be retro fit around already installed services and are supplied with the necessary mounting flanges for installation.

FYREBOX MINI				
Type	Configuration	Available Sizes (internal openings)	Product Code	Maximum opening size (cut out size)
Square	Wall or Floor	65 x 65mm	FYREBOX-MS-65	90x90mm
	Wall or Floor	100 x 100mm	FYREBOX-MS-100	130x130mm
Round	Wall or Floor	50mm internal Diameter	FYREBOX-MR-50	80mm diameter
	Wall or Floor	100mm internal Diameter	FYREBOX-MR-100	130mm diameter
	Wall or Floor	150mm internal Diameter	FYREBOX-MR-150	180mm diameter

FYREBOX MAXI				
Product	Configuration	Available Sizes (internal openings)	Product Code	Maximum opening size (cut out size)
Fyrebox Maxi (Rectangle)	Wall or Floor	350 x 125	FYREBOX-MAXI-350	380x155mm
	Wall or Floor	550 x 125	FYREBOX-MAXI-550	580x155mm
	Wall or Floor	650 x 125	FYREBOX-MAXI-650	680x155mm
	Wall or Floor	750 x 125	FYREBOX-MAXI-750	780x155mm
	Wall or Floor	1100 x 125	FYREBOX-MAXI-1100	1130x155mm
	Wall or Floor	Custom length x 125 x Custom depth (Any length up to 1100)	FYREBOX-MAXI-CUSTOM	15mm Annular gaps



# FYREBOX

MAXI/MINI

## Installation

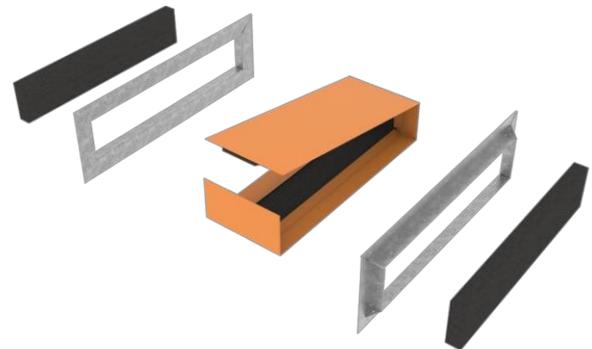
### Installation:

1. Cut out an opening size to suit the Fyrebox as detailed in the above table, ensuring no more than 15mm annular gaps around the Fyrebox. NB the **Fyrebox can be retro-fitted around existing services** provided that the opening sizes are correct\*
2. Remove the foam end plugs and place aside for later use.
3. Place the Fyrebox nominally into position centrally in the opening, and use foam backing rod to pack out the annular gaps on both sides of the wall to ensure the correct depth of sealant (20mm deep). The backing rod will help hold the Fyrebox in place whilst the sealant is applied.
4. Apply Fyreflex sealant to the annular gaps to least 20mm depth on both sides of the penetration.
5. Slide the provided friction fit mounting flanges around the Fyrebox, hard up against the wall/floor and use steel rivets or screws to secure the last corners of the flanges together.

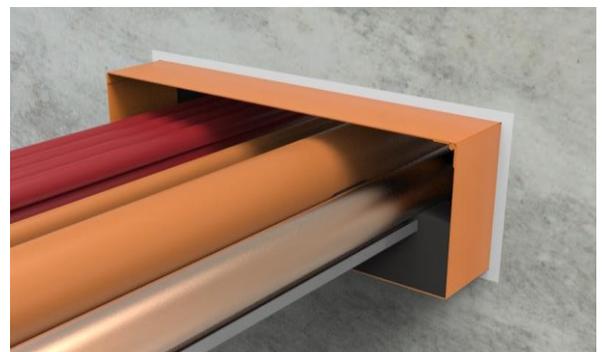
\*For oversized openings, Fyrebox can be mounted in Maxilite fire-rated board. See page 8 for details.



15mm annular gaps all around the Fyrebox



Fyrebox components - exploded view



Sealant to all annular gaps around the Fyrebox

# FYREBOX

MAXI/MINI

## Installation

### Installation: Continued

6. Using M6 masonry anchors at 400mm centres (or for gyprock 8g screws at 200mm centres) fix the flanges to the wall/floor through the preformed Holes.

7. Cut and fit the black foam end plugs to fit snugly around the penetrating services on both sides of the Fyrebox. This must be done so that there are no visible air gaps through the Fyrebox. If you can see light through any gaps in the foam plugs, Fyreflex sealant or offcuts of the foam can be used to plug them. The install will not be compliant if this is not done. If there are no services installed the full foam plug should still be installed.

8. If required, FyreWrap can be wrapped around the Fyrebox/services to increase the insulation rating to 120 minutes. A detailed installation drawing is included on the next page.



Fit the flange over around the Fyrebox



Fyrebox Maxi with foam end plugs installed flush around services

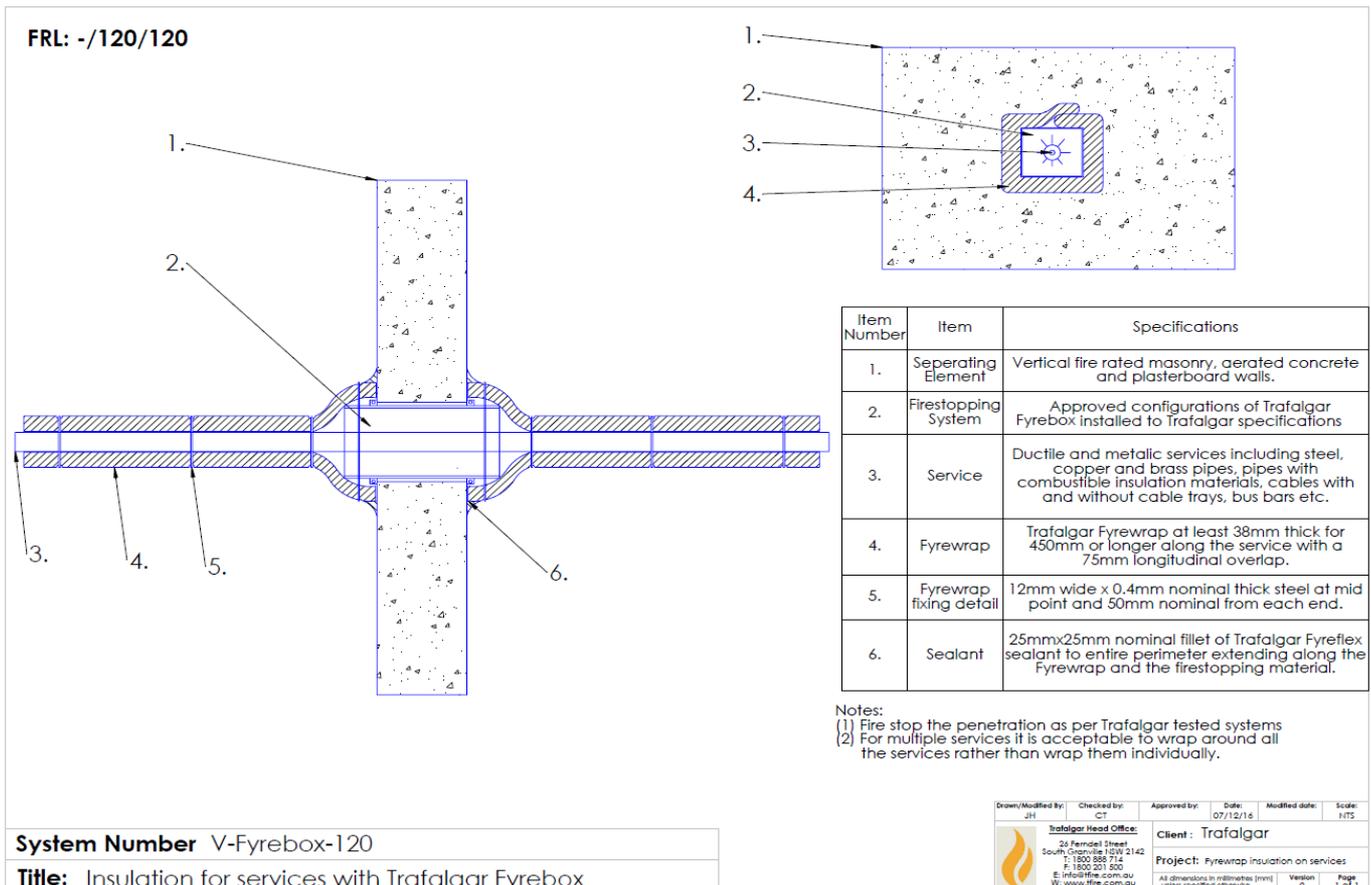
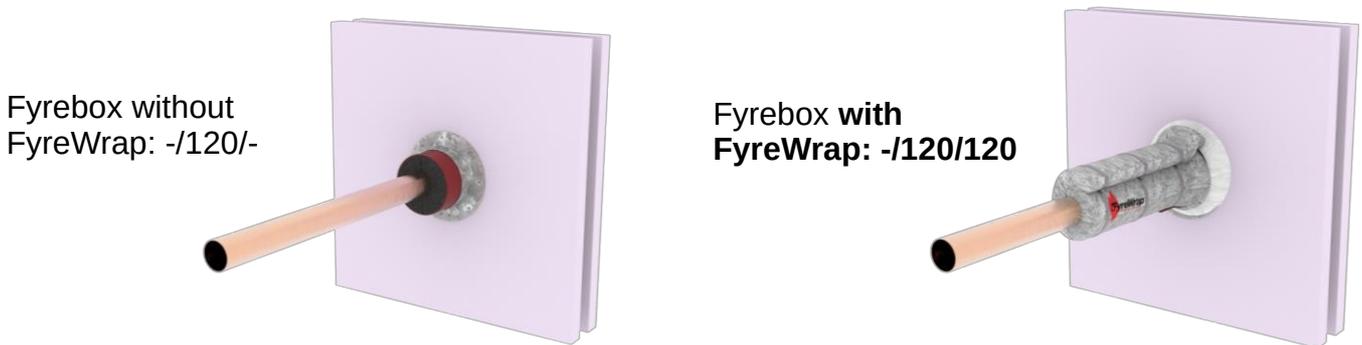


Fyrewrap installed to provide 2 hour insulation requirement

## Fyrebox - FyreWrap installation for services insulation

**Fyrewrap** can be applied to all Fyrebox installations to achieve up to 120 minutes of insulation for all the above services and installations. For example, if a steel pipe was installed through a Fyrebox in a 2 hour fire wall, the addition of FyreWrap will increase the FRL from **-/120/-** to **-/120/120**.

FyreWrap must be installed to 450mm from the wall on both sides, and on the top side only of a floor installation, fixed around services with 12mm steel strapping in three locations. See the below drawing for installation requirements, and contact Firepro for further details.



# FYREBOX

MAXI/MINI

# Installation with Maxilite

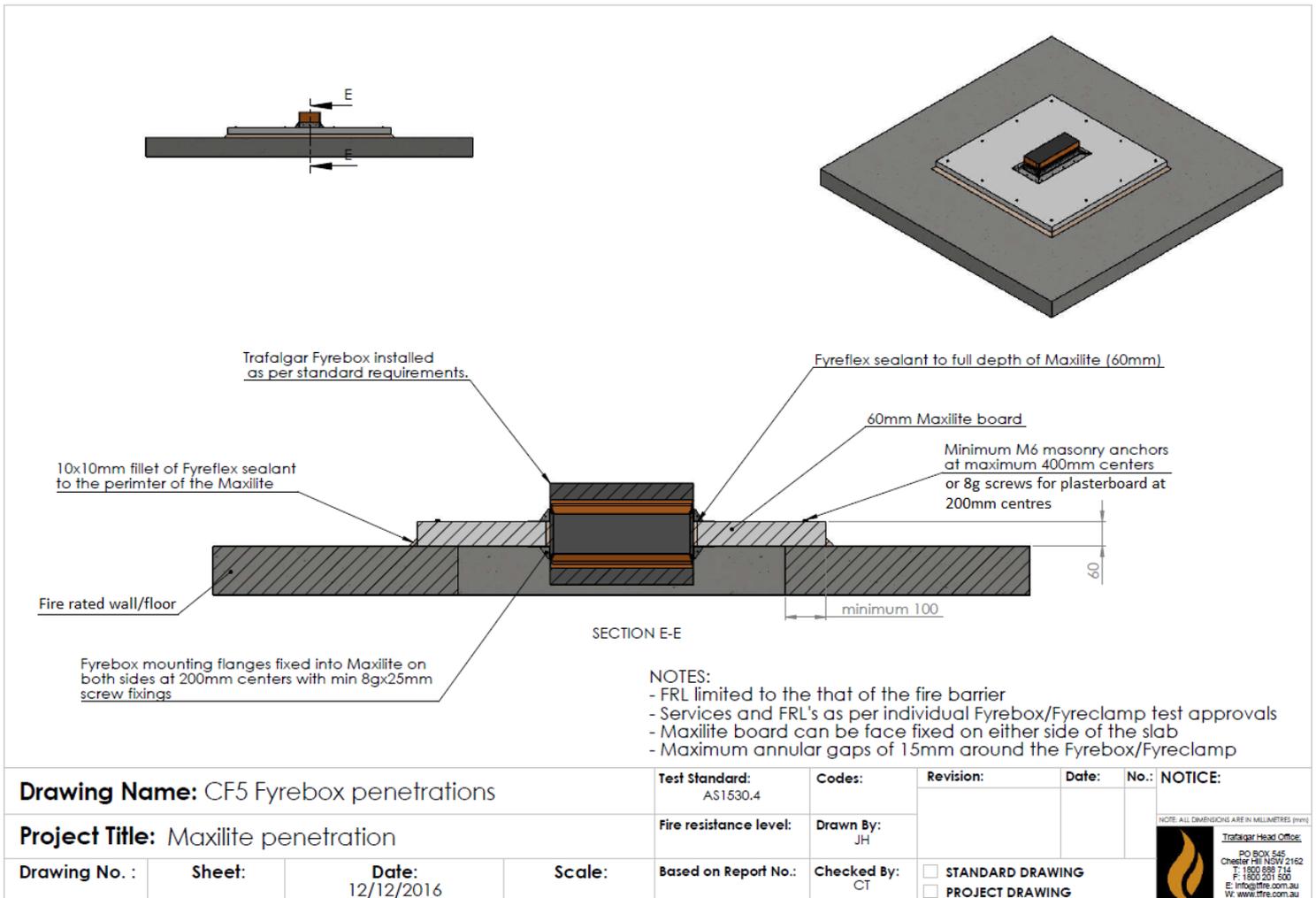
## Fyrebox Installation – Oversized Openings

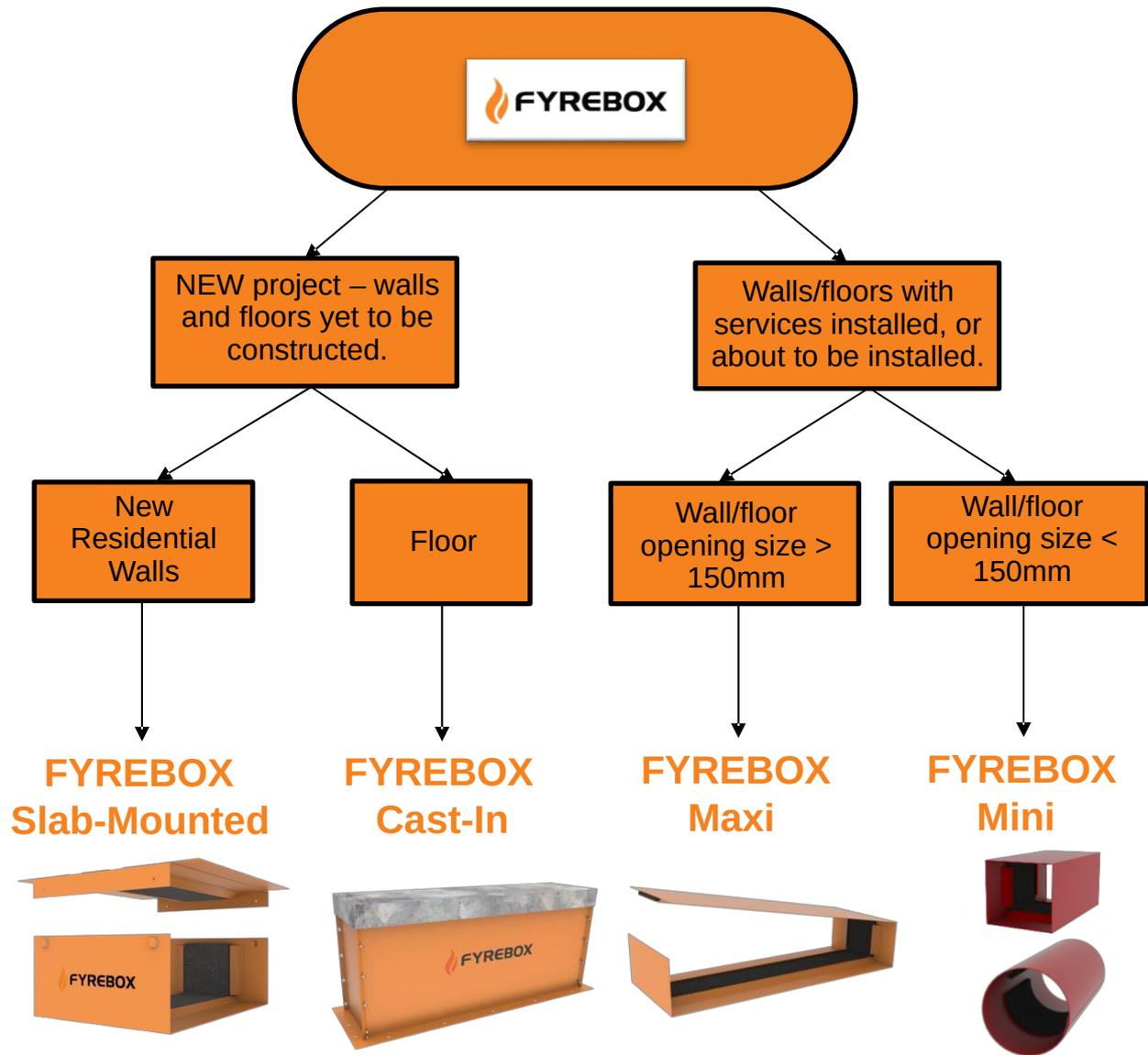
If installing the Fyrebox Maxi or Mini into an opening size that is too large to meet the 15mm annular gap requirements, then the Fyrebox can be installed into a 60mm thickness of the Maxilite board.

The Maxilite board is face fixed to one side of the fire barrier with minimum 100mm overlaps to the wall/floor and fixings as detailed in the below table.

Contact Firepro for further details.

Fire barrier	Maxilite Minimum Fixing size	Fixing spacing
Masonry floors and walls	M6 Masonry anchors	400mm centres
Plasterboard walls	8G screw fixings into studwork	200mm centres
Fyrebox Flange to Maxilite	8gx25mm screw fixings	200mm centres





	Fyrebox Slab-Mounted	Fyrebox Cast-In	Fyrebox Maxi	Fyrebox Mini
Fire Barrier	Hebel/Plasterboard Walls	Concrete Slabs	Plaster/Masonry/Hebel/Concrete Walls and Floors	Plaster/Masonry/Hebel/Concrete Walls and Floors
Retrofit	<input type="checkbox"/>	In FyreSet Mortar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cutting required	During wall construction	None	Pre-formed holes	Pre-formed holes
Power Cables	Residential power	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Cables	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cable Trays	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Metal Pipes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Insulated copper pipes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PEX pipes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

For full FRL details please contact Firepro Centabuild Ltd