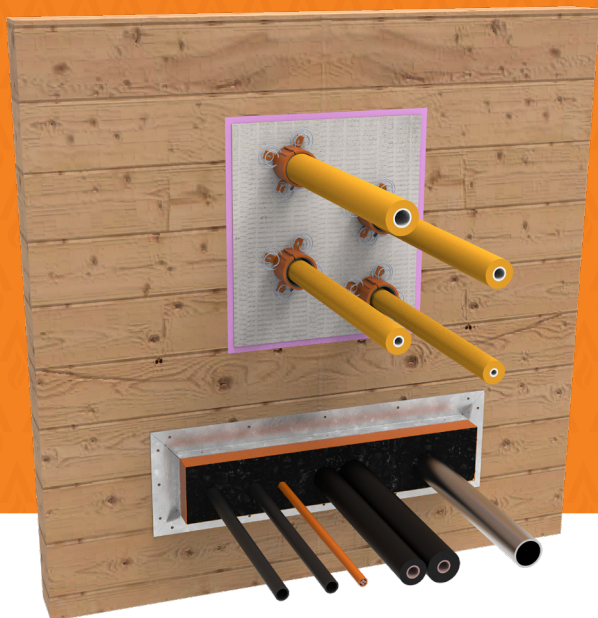# TRAFALGAR FIRE

CROSS LAMINATED TIMBER (CLT) WALLS
Service Penetrations

Cross laminate timber walls are becoming a popular choice for sustainable building projects, however pose new challenges for passive fire protection. Trafalgar are proud to release this manual that covers our range of passive fire penetration systems tested to AS1530.4.

NCC 2022 READY

SYSTEMS

- FyreBATT
- FyreBOX MAXI
- FyreBOX MINI
- FyreCOLLAR PREMIUM RETROFIT

APPLICATIONS

Plumbers	• Insulated Kelox Plus Pipes • PEX Pipes • Copper & Steel
Electricians	• Power cables
Active Fire Professionals	• Steel Sprinkler Pipes
HVAC&R	• Insulated Copper

TRADES

ELECTRICIANS · PLUMBERS · ACTIVE FIRE · HVAC&R

160124

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COMPLIANCE

NCC 2022 READY

COMPLIANCE WITH THE NATIONAL CONSTRUCTION CODE (NCC)

Formerly known as BCA

Cross Laminated Timber (CLT) wall systems are becoming more and more popular in the building industry due to their environmental sustainability, however these walls need to be fire rated in some instances, the same as any other fire walls.

Ordinary wall testing does not apply to these barriers, they must be specifically tested. Trafalgar Fire is committed to innovation within the passive fire industry and as such have been developing new products and re-testing existing technologies, specifically designed to maintain the fire resistance level (FRL) of service penetrations through CLT systems. CLT can come in various thickness' and are sometimes lined with plasterboard to increase their fire resistance properties. Tested CLT systems are only applicable to the exact CLT panel type that was tested. This manual refers to *Red Stag Wood Solutions – CLT 3/104 CLT panels*.

Fire testing to AS1530.4 is required to determine the FRL of the specific service penetration. The Trafalgar Fire systems in this document have been fire tested and approved specifically for use in CLT systems, providing full compliance with the NCC. Refer to www.tfire.com.au for a full list of test reports and product technical manuals.

For fire rated systems in CLT floors, refer to the Cross Laminated Timber (CLT) Floors Technical Manual.

AS1530.4 Test – Un-exposed side
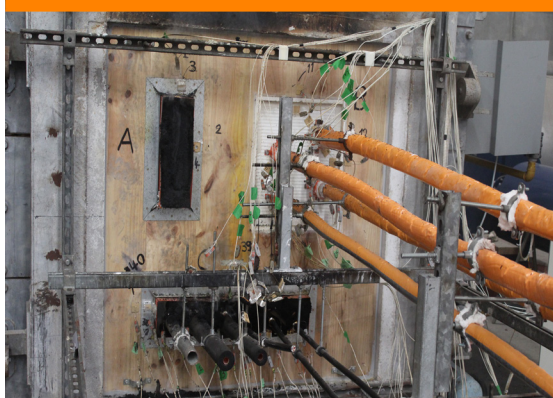
AS1530.4 Test – Exposed Side (mid-test)

**AS1530.4 Test – Exposed Side (After Test)**

PLUMBING PENETRATIONS

105MM THICK CLT WALL PANEL

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Application	Specification	System*	FRL	Test Report
Metal Pipes	DN50 Steel Pipe	FyreBOX Maxi & Mini	-/60/-	
Plastic Pipes	32mm Kelox Plus Pipes with 13mm PE insulation	FyreBATT * FyreCOLLAR Premium Retrofit	-/60/60	PF 22067
	25mm Kelox Plus Pipes with 13mm PE insulation		-/60/30	
	20mm Kelox Plus Pipes with 13mm PE insulation		-/60/60	
	16mm Kelox Plus Pipes with 13mm PE insulation		-/60/60	
	20mm PEX Pipe	FyreBOX Maxi & Mini	-/60/-	

*Drawings and technical specifications at end of manual

This testing was completed without insulation wraps to gain baseline performance. For fully insulated FRL systems please contact technical@tgroup.com.au

FyreBATT & FyreCOLLAR	FyreBOX Maxi

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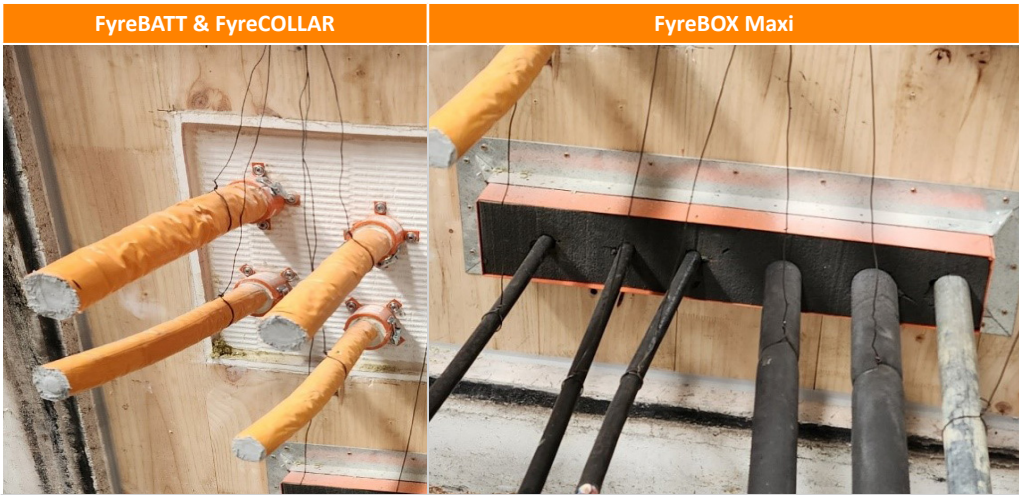
ELECTRICAL PENETRATIONS

105MM THICK CLT WALL PANEL

ELECTRICIANS

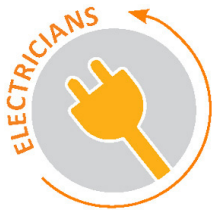| Application	Specification	System*	FRL	Test Report
Electrical Cables	16mm^2 3C+E Power cables, spaced 50mm apart	FyreBOX Maxi & Mini	-/60/-	PF 22067

*Drawings and technical specifications at end of manual

This testing was completed without insulation wraps to gain baseline performance. For fully insulated FRL systems please contact technical@tgroup.com.au

FyreBOX Maxi

ACTIVE FIRE PENETRATIONS

105MM THICK CLT WALL PANEL

ACTIVE FIRE

Application	Specification	System*	FRL	Test Report
Sprinkler Pipes	Steel pipes up to 50mm	FyreBOX Maxi & Mini	-/60/-	PF 22067

*Drawings and technical specifications at end of manual

This testing was completed without insulation wraps to gain baseline performance. For fully insulated FRL systems please contact technical@tgroup.com.au

FyreBOX Maxi

HVAC&R PENETRATIONS

105MM THICK CLT WALL PANEL

Application	Specification	System*	FRL	Test Report
Insulated Pipes	DN20 Copper Pipes with up to 19mm FR Insulation	FyreBOX Maxi & Mini	-/60/-	PF 22067

*Drawings and technical specifications at end of manual

This testing was completed without insulation wraps to gain baseline performance. For fully insulated FRL systems please contact technical@tgroup.com.au

FyreBOX Maxi

SIDERISE CAVITY BARRIERS

NCC 2022 READY

SIDERISE® *integrity in all we do*

Siderise® CWFS is a foiled stone wool cavity barrier system engineered specifically to handle building movement whilst maintaining the fire, smoke and acoustic seals. Siderise® CWFS systems utilise a unique method of manufacture that provides a well identifiable, ready to use product that is resilient in lateral compression. The factory-manufactured material facilitates fast, clean and easy installation, ensuring a requisite tight fit and enhances fire, smoke and sound integrity. Systems have been fire tested and approved to AS1530 Part 4 as well as European fire test method for an FRL of-/120/120 and can accommodate void widths up to 600mm wide. Additional AS1530.4 fire testing has been conducted for CLT construction achieving an FRL of-/60/60.

The primary function of Siderise® CWFS system is to maintain continuity of fire and smoke resistance by sealing the void between compartment floors and walls and the external curtain wall. The systems have been subjected to independent movement testing conducted prior to fire testing to ensure they can cater for thermal expansion and structural movement , and are fully compliant to section C1.13 of the NCC. The systems also have independent acoustic testing to provide an Rw25 rating, assisting with sound containment requirements.

Application	CWFS Specification	FRL	Test Report
Friction Fit (With brackets at 600mm centers. No continous angle/ flashing required)	120mm thick	-/60/60	438106/R

Refer to the Siderise® CWFS technical Manual for additional information and installation, otherwise contact technical@tgroup.com.au for assistance.
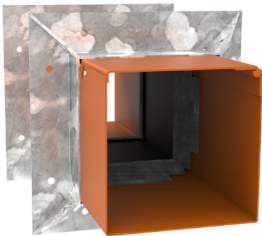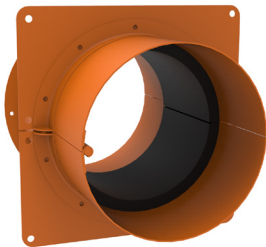

Siderise® CWFS is made via a uniqe manufacturing process from pre-compressed stone wool lamella strips and foil facings

CWFS is supplied as pre-cut strips that suit the measured void size or a single sheet for cutting on site.

RELATED SYSTEMS

FyreBOX MINI & FyreFLANGE

NCC 2022 READY

CLICKABLE CODES

Type	Item Number	Dimensions W x H x D or Diam	Dimensions
Square	FYREBOX-MS-65	65 x 65 x 250mm	65-100mm model dependent / 65-100mm
	FYREBOX-MS-100	100 x 100 x 250mm	
Round	FYREBOX-MR-50	50 x 250mm	50-150mm model dependent / 250mm
	FYREBOX-MR-100	100 x 250mm	
	FYREBOX-MR-150	150 x 250mm	

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RELATED SYSTEMS

FyreBOX MAXI

& FyreFLANGE

AUSTRALIAN MADE AND OWNED

NCC 2022 READY
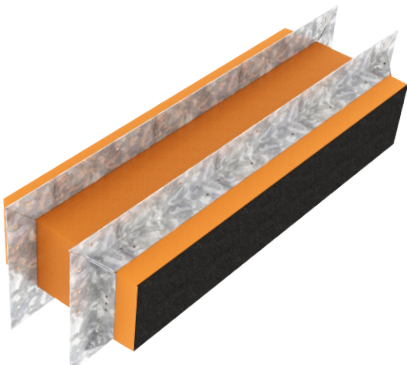
Item Number	Description	Dimensions
FYREBOX-MAXI-350	350 x 125 x 250mm	
FYREBOX-MAXI-550	550 x 125 x 250mm	
FYREBOX-MAXI-650	650 x 125 x 250mm	
FYREBOX-MAXI-750	750 x 125 x 250mm	
FYREBOX-MAXI-1100	1100 x 125 x 250mm	
FYREBOX-MAXI-Custom	Any depth X 125 X Any length up to 1250mm	

CLICKABLE CODES

125mm

100-1250mm (model dependent)

250mm

RELATED SYSTEMS

FyreCOLLAR PREMIUM RETROFIT

NCC 2022 READY
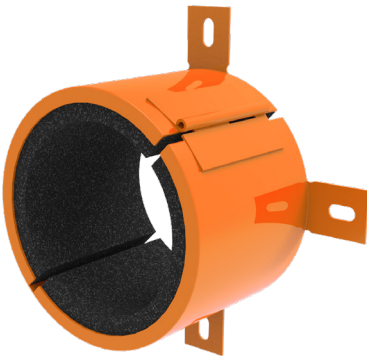
Item Number	Collar Size	To Suit Nominal Service Size	Inner Diameter	Outer Diameter	Height	Min Order Qty
FyreCOLLAR-PHRC-50	50mm	50mm	58mm	72mm	62mm	1
FyreCOLLAR-PHRC-65	65mm	65mm	72mm	90mm	62mm	1
FyreCOLLAR-PHRC-80	80mm	80mm	85mm	102mm	62mm	1
FyreCOLLAR-PHRC-100	100mm	100mm	115mm	133mm	62mm	1
FyreCOLLAR-PHRC-130	130mm	100mm Elbow/socket	130mm	155mm	62mm	1
FyreCOLLAR-PHRC-150	150mm	150mm	160mm	200mm	62mm	1

FyreBATT

NCC 2022 READY
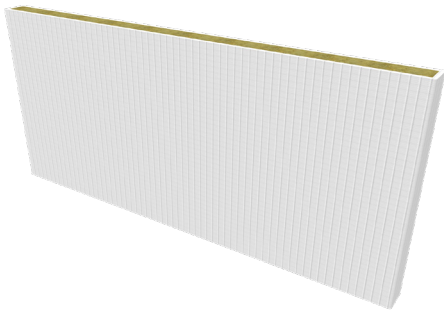
Item Number	Description	Min Order Qty	Pallet QTY
FyreBATT 60mm	Coated mineral fibre Batt 60x600x1200	1	50
Pigtail Screw-50mm	Pigtail Screw for single layer FyreBATT systems	1	N/A
Pigtail Screw-90mm	Pigtail Screw for double layer FyreBATT systems	1	N/A

RELATED SYSTEMS

Item number	Description	Min Order Qty	Pallet Qty
FyreFLEX 300W FyreFLEX 300G	FyreFLEX® Sealant Cartridge 300ml White or Grey	1	1920
FyreFLEX 600W FyreFLEX 600G	FyreFLEX® Sealant Sausage 600ml White or Grey	1	1040
FyreFLEX 10W FyreFLEX 10G	FyreFLEX® Sealant Pail 10L Grey	1	64

Cross Laminated Timber (CLT) Walls

cut-out in CLT barrier lined with FR Plasterboard to form 400 x 450mm opening

FyreCOLLAR Premium retrofit installed to both sides of the batt, using pigtail screws through the fixing tabs of the collars

Service extending 500mm into furnace, and 2000mm out from the furnace

50mm pigtail screw

FyreCOLLAR backfilled with FyreFLEX Sealant

60mm FyreBATT friction fit into opening

a
b
c
d

Approved Services	Opening	Fire stopping
Kelox Plus KM133 - d32 - with 13mm PE insulation	58mm Diam. Hole	400 x 450 x 50mm FyreBATT, FyreCOLLAR Premium Retrofit 50mm
Kelox Plus KM133 - d25 - with 13mm PE insulation	51mm Diam. Hole	400 x 450 x 50mm FyreBATT, FyreCOLLAR Premium Retrofit 50mm
Kelox Plus KM133 - d20 - with 13mm PE insulation	46mm Diam. Holes	400 x 450 x 50mm FyreBATT, FyreCOLLAR Premium Retrofit 50mm
Kelox Plus KM133 - d16 - with 13mm PE insulation	42mm Diam. Hole	400 x 450 x 50mm FyreBATT, FyreCOLLAR Premium Retrofit 50mm

Drawing Name: Kelox Pipe Penetration

Project Title: CLT Wall Penetrations

Drawing No. :	Sheet:	Date:	Scale:
1	1 of 2	1/16/2023	NTS

Test Standard:	Codes:	Revision:	Date:	No.:	NOTICE:
AS1530.4					
Fire resistance level:	**Drawn By:** SM				NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)
Based on Report No.:	**Checked By:** JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING			

Trafalgar Head Office:
PO BOX 545
Chester Hill NSW 2162
T: 1800 888 714
F: 1800 201 500
E: technical@tgroup.com.au
W: www.tfire.com.au

Cross Laminated Timber (CLT) Walls

foam end plugs not shown

Approved services

FyreBOX Mounting Flange secured to seperating element using 8g x 50mm screws, friction fit to the FyreBOX casing with no fixings used into the FyreBOX itself

FyreBOX Maxi - 125 x 650mm

Penetrating approved services

FyreFLEX Sealant applied to annular gap filled to a 40mm depth

670 x 145mm opening

Drawing Name: FyreBOX Maxi Penetration				Test Standard: AS1530.4	Codes:	Revision:	Date:	No.:	NOTICE:
Project Title: CLT Wall Penetrations				Fire resistance level:	Drawn By: SM				NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)
Drawing No. : 2	Sheet: 2 of 2	Date: 1/16/2023	Scale: NTS	Based on Report No.:	Checked By: JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING			Trafalgar Head Office: PO BOX 545 Chester Hill NSW 2162 T: 1800 888 714 F: 1800 201 500 E: technical@tgroup.com.au W: www.tfire.com.au