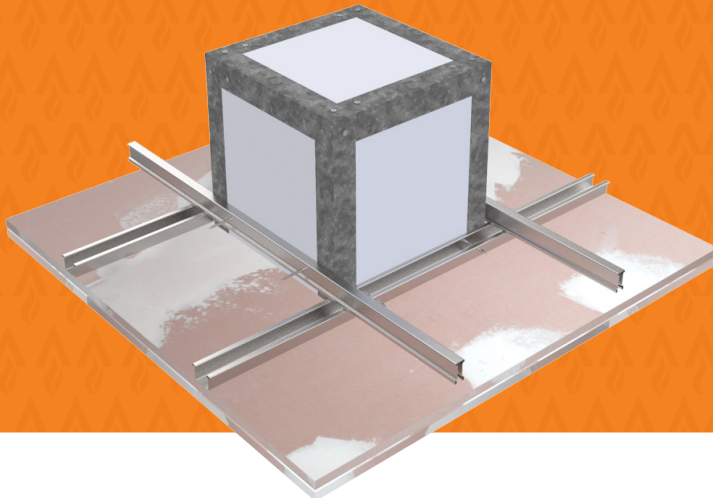


DOWNLIGHT BOX

For fire rated ceilings



The Trafalgar Downlight Box (DLB) is a factory made enclosure using Maxilite Board that is installed over any holes cut into in a fire rated plasterboard ceiling for downlights, speakers and other fittings to maintain the Fire Resistance Level (FRL) and Resistance to Incipient Spread of fire (RISF) to prevent fire spreading into the ceiling cavity.



KEY FEATURES

- Australian Made
- Custom sizes
- Tested to AS1530.4-2014
- For use with 2x and 3x layer plasterboard ceilings
- Tested with cable penetrations

APPLICATIONS

- Downlights
- Light fittings/sockets
- Speakers
- Ceiling fixtures
- 2 & 3x layer plasterboard ceilings
- Timber or steel framed ceilings

TRADES





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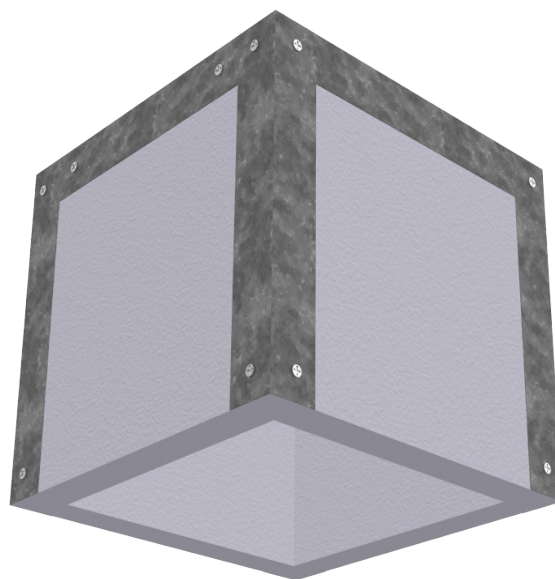
DOWNLIGHT BOX

For Fire Rated Ceilings

About the Downlight Box

The Trafalgar Downlight Box is a lightweight enclosure constructed with 40mm thick Maxilite board that is designed to fit over the top of electrical and other fittings that are cut into fire rated plasterboard ceilings.

The Downlight Box is custom made to suit the site requirements and requires access from above the ceiling to fit over the top of downlights of any type or size, ceiling mounted speakers and other penetrations to maintain the FRL and RISF ratings of the ceiling.



The Trafalgar Downlight Box is tested to AS1530.4-2014 and suitable for use with:

- 2x layer plasterboard ceilings (60/60/60 + 60 RISF)
- 3x layer plasterboard ceilings (120/120/120 + 60 RISF)

The Downlight Box is also tested with power and/or data cables penetrating through the side wall of the product using FyreFLEX Sealant:

Applications

- Downlights of any size both LED and Incandescent
- Other light fittings and sockets
- Speakers mounted into the ceiling
- Exhaust and Air Transfer Grilles (with fire damper fitted to the wall of the enclosure, refer to the [FyreDAMPER box configurations](#))

DOWNLIGHT BOX

For Fire Rated Ceilings

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:

FRL 120/120/120

(example)



Structural Adequacy

The ability of the building element to support the weight of adjacent building elements.

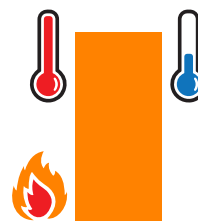
ie: a brick wall supporting a concrete floor slab above.



Integrity

The ability of an element to prevent the passage of flames and hot gasses.

ie: a plasterboard wall remaining intact and not allowing holes to form.



Insulation

The ability of an element to resist heat transfer from the exposed face to the unexposed face.

ie: a bundle of cables remaining below a set temperature limit on the unexposed side of the wall penetration system.

Note: Service penetrations such as ceiling mounted enclosures are not required to have a Structural Adequacy rating and is therefore usually expressed as a dash. For example, a ceiling mounted damper installed in a 2-hour fire rated ceiling would be written as -/120/120

Integrity

The ceiling mounted Downlight and Damper boxes can achieve integrity performance of up to 2 hours, physically stopping the direct spread of fire depending on the ceiling system.

Insulation (Temperature Rise)

To prevent the spread of fire via heat transfer, the unexposed face of the floor-ceiling system must remain under a maximum temperature rise of 180°C, and under an average temperature rise of 140°C.

Resistance to the Incipient Spread of Fire (RISF)

To measure performance inside the floor-ceiling cavity space, the test method in AS1530.4 specifies thermocouples to be placed within the ceiling cavity. The temperatures of the ceiling mounted DLB and cavity must remain below 250°C.

FRL TABLES

DOWNLIGHT BOX (DLB)

Ceiling construction	Max. DLB sizes (mm)	Applications	FRL
Min. 1x layer of 16mm fire grade plasterboard, with timber or steel framing system	Max internal dimensions: 1200 long x 600 wide Max external height: 600mm high	Downlights Light Fittings Power points Sockets Speakers Exhaust and air transfer applications**	-/30/30 + 30 RISF
Min. 1x layer of 13mm and 1x layer 16mm fire grade plasterboard, with timber or steel framing system			-/60/60 + 60 RISF
Min. 2x layers of 16mm fire grade plasterboard, with timber or steel framing system*			-/90/90 + 60 RISF
Min. 3x layers of 16mm fire grade plasterboard, with timber or steel framing system*			-/120/120 + 60 RISF

*Timber framing must be lined with 13mm FR Plasterboard for 90 and 120 minute applications

**Fire damper cells must be fitted for these applications. Refer to the [FyreDAMPER configurations](#)



INSTALLATION DOWNLIGHT BOX (DLB)

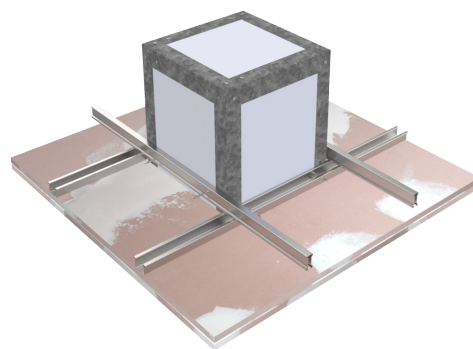
STEP 1 OPENING AND ACCESS



Cut and fit the downlight, speaker or other fixture to the ceiling. Do not connect the power cables yet.

Access is needed to the top side of the ceiling, refer to the [FyreSHIELD PLUS access panels](#) technical manual if fire rated hatches are required.

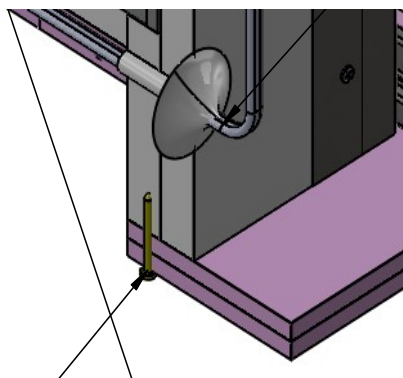
STEP 2 FRAMING



Install additional ceiling furring channel or timber rails on the top side of the ceiling along all 4x sides of the damper box, tied back to the existing ceiling support frame (so that the weight of the assembly is not loading the plasterboard)

If the framing doesn't line up with the damper box, additional maxilite board can be placed where screw fixings are to be installed.

STEP 3 CABLING



Drill a small hole in the side wall of the DLB (Max 32mm diameter) and feed the cables through. Seal with FyreFLEX sealant to the full depth and finish on the outside with a 30x30mm fillet.

Note: Penetrations are not approved in the top of the box. They must be in the side wall

STEP 4 SEAL

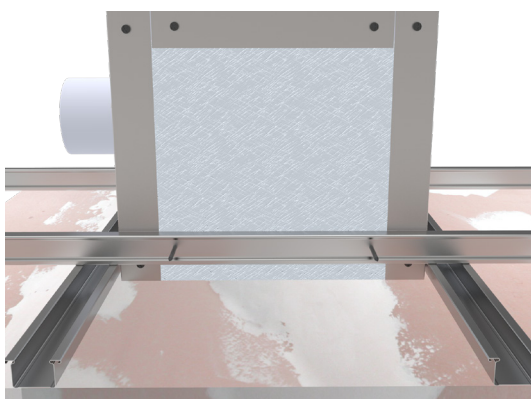


Bed the base of the DLB or top of ceiling with a gasket of FyreFLEX sealant, and place the DLB box on top of the ceiling

INSTALLATION

DOWNLIGHT BOX (DLB)

STEP 5 FIXING

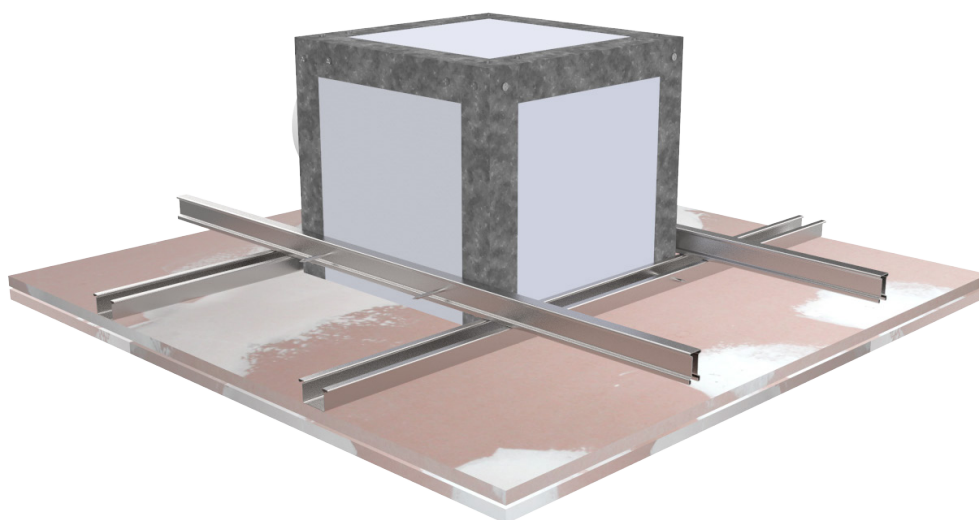


Fix DLB box to the supports with min. 10g x 100mm plasterboard screws at each corner with max. 150mm centers between. Also screw fix through the plasterboard from below into the walls of the DLB at 200mm centers.

STEP 6 LABEL+ DOCUMENTATION



It is best practice to take completed (and progress) installation photos and to add a penetration label to the side of the DLB for ease of future inspections. Trafalgar now supply AS4072.1 [penetration labels](#) for easy compliance and inspection.



SYSTEM RANGE



Item Number	Description	Min Order Qty
DLB	Downlight Box, L120 x W120 x H120mm internal dimensions	1
DLB-Custom	Downlight Box custom sized up to 1200L x 600W x 600H (mm)	1

SYSTEM RANGE RELATED SERVICES



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 White	1	64

FAQ?

Q Can the ceiling be constructed with 2 or 3 layers of 13mm fire rated plasterboard?

A Yes, the DLB systems can be installed in ceilings constructed to achieve the required FRL and RISF ratings.

Q Do I need access into the ceiling to install this product?

A Yes, access is required to fit the DLB from above the ceiling. Refer to the Trafalgar [FyreSHIELD PLUS access panel](#) range.

Q Can I get a custom size made for my application?

A Yes, we can manufacture boxes to suit your needs.

Q Can I cut out parts of the ceiling box to fit over ceiling frame?

A No, the DLB must not be cut or altered on site. Ceiling framing should be installed around the perimeter of the product.

Q Do I need to install ceiling framing around the Downlight Box?

A Yes, the weight of the DLB must be taken off the plasterboard sheets using timber or steel studs along 4x sides. These ceiling supports should be compatible with the existing ceiling construction.

Q How do you seal the power cables?

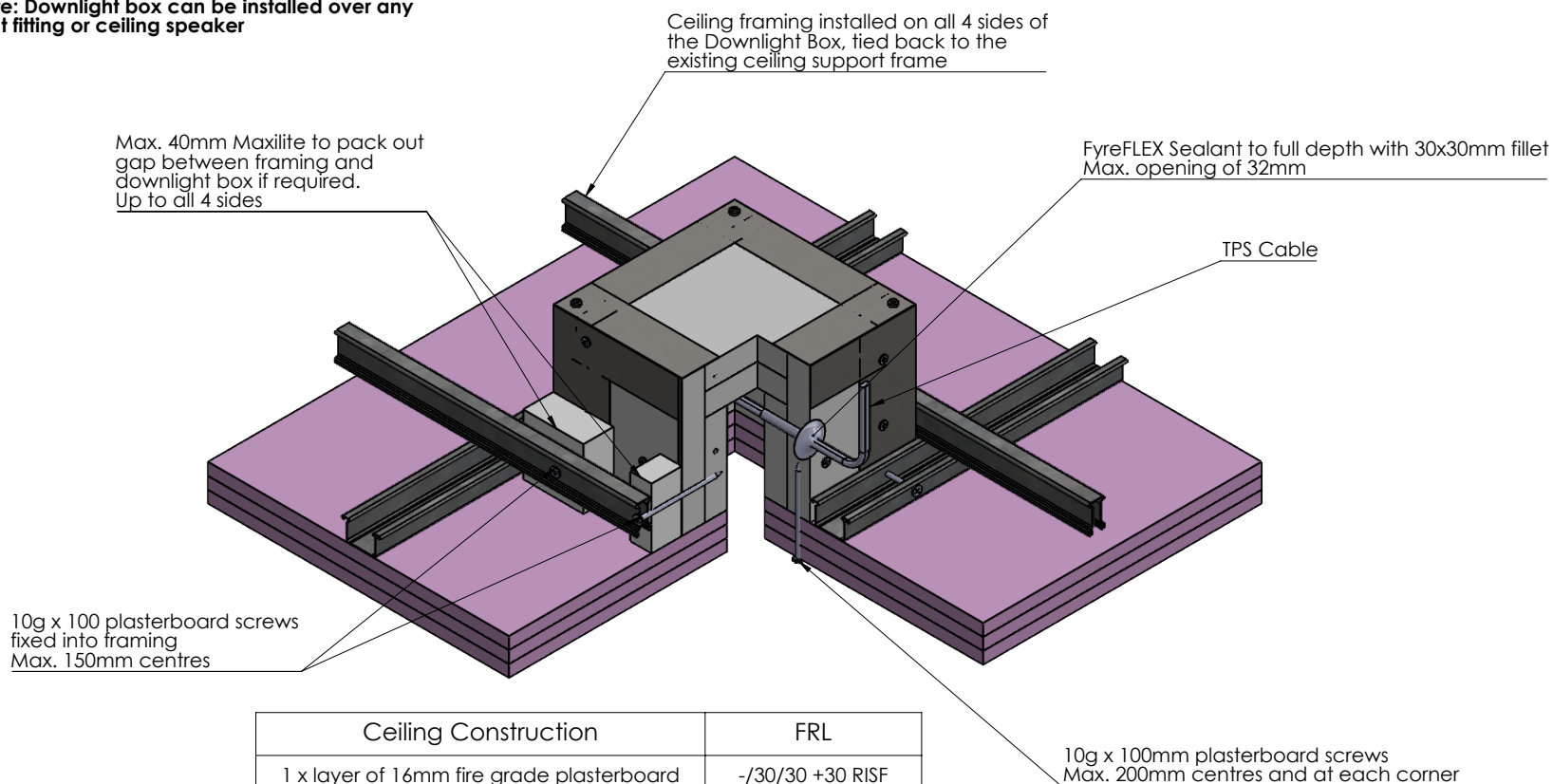
A Drill a small hole in the side wall of the DLB and apply FyreFLEX sealant.

SOCIAL MEDIA

Linked in

YouTube

Note: Downlight box can be installed over any light fitting or ceiling speaker



Ceiling Construction	FRL
1 x layer of 16mm fire grade plasterboard	-/30/30 +30 RISF
1 x layer of 13mm and 1 x layer of 16mm fire grade plasterboard	-/60/60 +60 RISF
2 x layers of 16mm fire grade plasterboard	-/90/90 +60 RISF
3 x layers of 16mm fire grade plasterboard	-/120/120 +60 RISF

Drawing Name: Downlight Box

Project Title: DB drawing

Drawing No. :
DB1

Sheet:
1 of 1

Date:
7/02/2024

Scale:
NTS

Test Standard:
AS1530.4

Fire resistance level:

Based on Report No.:
FAS 210294

Codes:

Drawn By:
MZ

Checked By:
JH

Revision:

Date:

No.:

NOTICE:

NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm).



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