Fireproof Cladding Facades

UltraMgO™-Partition

Installation Guide

Fireproof Cladding Facades UltraMgO™-Partition 20 Installation Guide

Product overview

UltraMgO™-Partition is a BCA-compliant Partywall system, which is fire and acoustically rated, thermally insulated, mould-proof, rot-resistant and will not degrade when wet. It is a single-wall partitioning product, which does not require additional plasterboard panels within the wall cavity, or inside the tenancy.

UltraMgO™-Partition is designed to meet, or exceed, the requirements of the BCA (Building Code of Australia) for both fire resistance and acoustic performance (sound insulation).

Specifications

Sheet Size	Thickness	Stud Size	Stud Centres	Total Wall Width	Fire Rating [1]	Acoustic Rating [2]
2700mm x 610mm 3000mm x 610mm	20mm	90mm	450mm	266mm	FRL 120/90/90	RW + Ctr = 53

1 Fire resistance FRL of 120/90/90. Tested against AS1530.4-2014 by BRANZ

2 Acoustic performance: RW + Ctr = 53.
Acoustic Opinion MC285-02F02 by Renzo Tonin & Associates Acoustic Consultants, based on CSIRO testing against AS1191-2002

Fig 1. Overview of the UltraMgO™-Partition installation

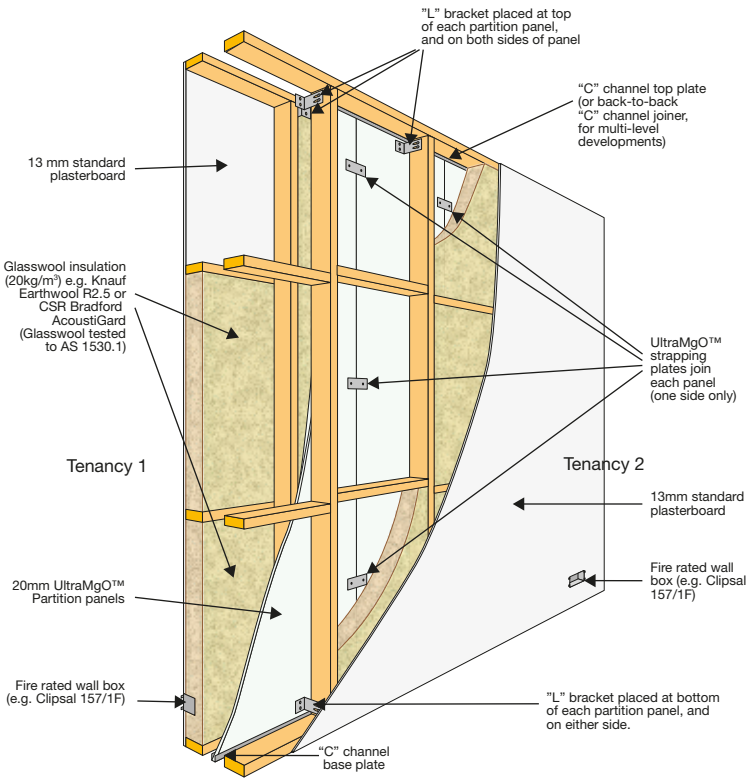
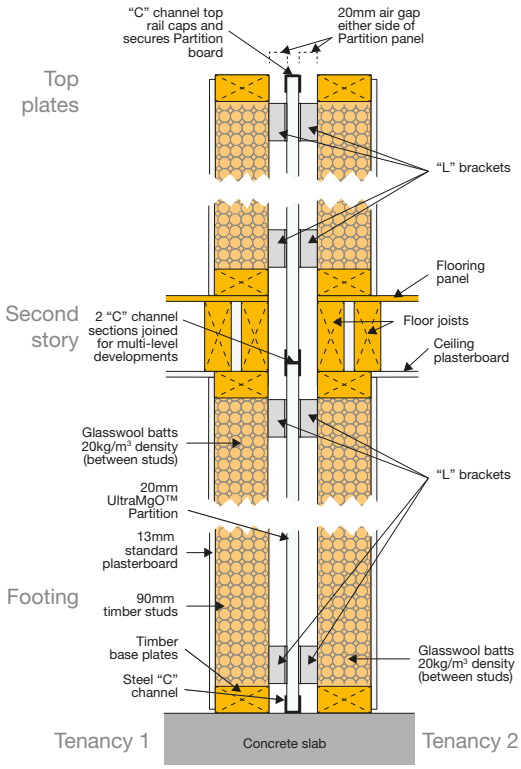


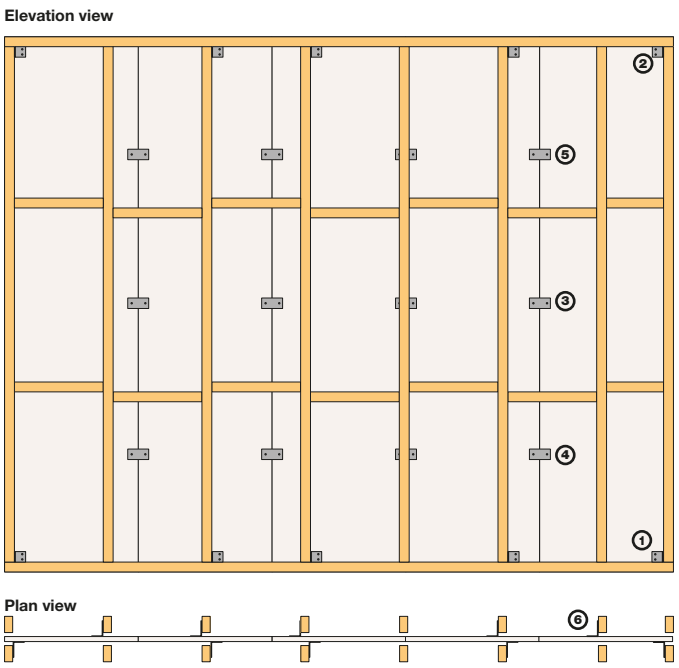
Fig 2. Elements of the UltraMgO™-Partition system



Planning for Braketing and Strapping of Panels

UltraMgO™-Partition panel widths and installation may need to be planned so that a timber stud is available for each L bracket to panel connection. A typical staggered L bracket fitment, along with placement of strapping plates to join panels, is shown here:

Fig 3. Positioning “L” brackets and strapping plates



1. “L” bracket placed at bottom of panel against wall stud.
2. “L” bracket placed at top of panel against wall stud.
3. Strapping plate placed over joint between two panels and at centre line.
4. Strapping plate placed over joint half way between centre plate and bottom of panel.
5. Strapping plate placed over panel joint half way between centre plate and top of panel.
   NOTE: Panel secured by one “L” bracket, top and bottom, per panel only.
6. On the other side of partition wall, the placement of “L” brackets is staggered in relation to the first side.
   NOTE: As with the first side, the panel is secured by one “L” bracket, top and bottom, per panel only.

Fig 4. Placement of “L” brackets to stud

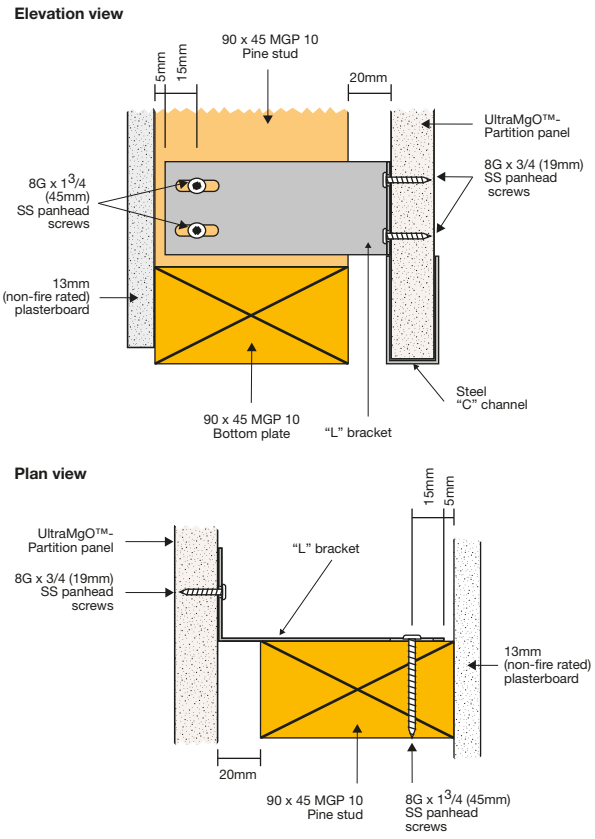
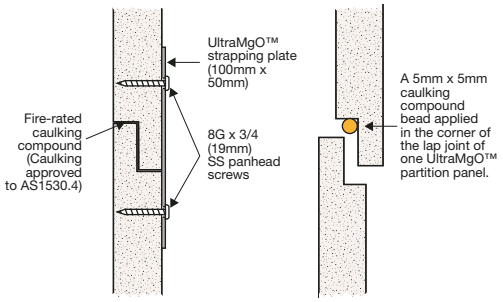


Fig 5. Shiplap joint detail

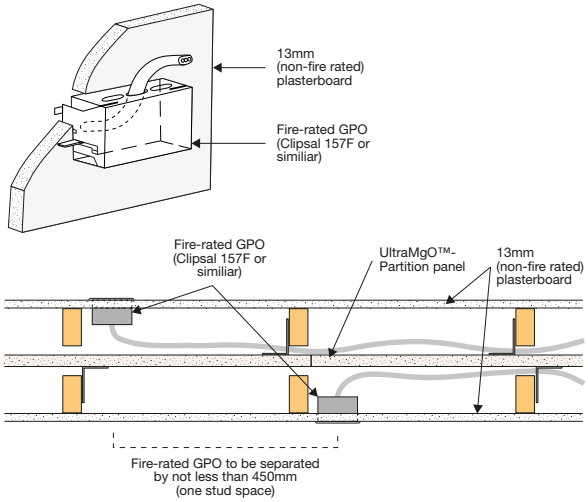


Fire rated GPO wall boxes

Fire rated GPO wall boxes are specifically designed to maintain the fire rating of walls where penetrations are required for power. Typically, these boxes are made from galvanised steel and feature a heat reactive and fire rated intumescent layer that swells on exposure to heat, completely sealing both the box itself, and any gaps around it.

UltraMgO™-Partition has been tested with fire rated GPO wall boxes in place (Clipsal 157/1F or equivalent). Please refer to the BRANZ report on Fire Resistance of a Load Bearing Wall with a Central Fire Barrier (FR 6327-002) on the FCF website.

Fig 6. Fire-rated GPO



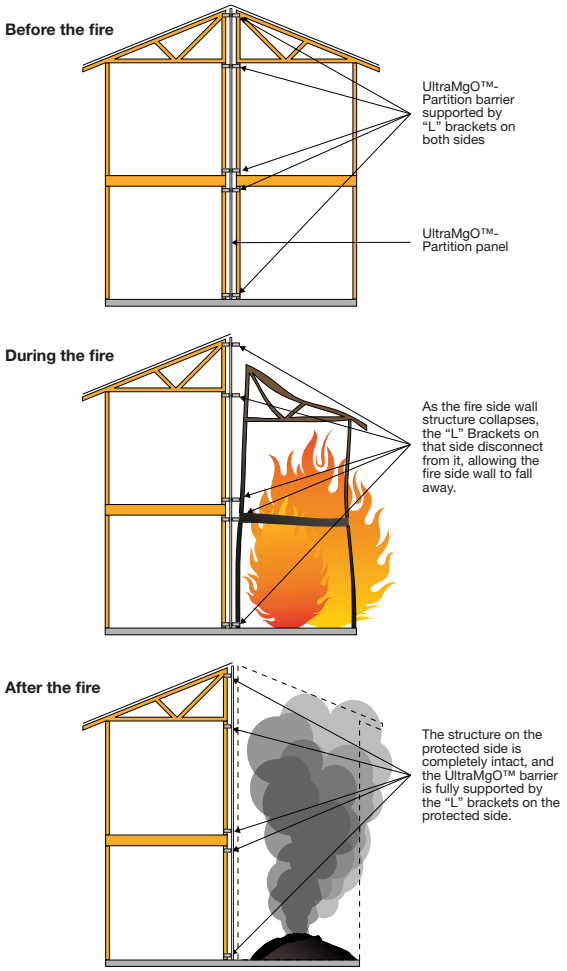
Safe Fall-away

The UltraMgO™-Partition system places the main fire barrier within the wall cavity between tenancies so that it more effectively protects the structure on the side opposite to the fire. Additionally, the UltraMgO™-Partition makes use of this structure for support as the structure on the fire side destabilises or collapses. This collapse is also called fall-away.

To ensure that the UltraMgO™-Partition barrier is not damaged or weakened by the wall structure on the fire side as it destabilises or falls away, UMgO “L” Brackets are used to attach the barrier to wall structures on both sides. As the fire side wall structure collapses, the “L” Brackets on that side are designed to disconnect from it, permitting the fire side wall to fall away without damaging or weakening the UltraMgO™-Partition barrier, maintaining the structure on the protected side for the specified fire rating period.

Safe fall-away was confirmed during fire testing at BRANZ.

Fig 7. Safe Fall-away



Parts list

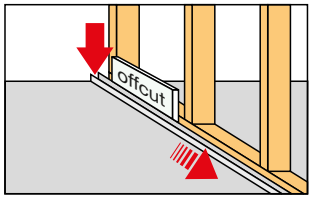
Part	Specification	Detail
UltraMgO-Partition 20	2700/3000 x 610 x 20mm	Magnesium Oxide Wallboard
Timber Wall Frames	450mm stud spacings	90 x 45mm MGP 10
Gypsum Board	13mm non-fire rated	8.5kg /m2
Glasswool[1]	1200 x 410 x 90mm (20kg/m3 density)	Glasswool Batts
C Channel	2900 x 50 x 26mm	Galvanised
L Bracket	15 x 50 x 50mm	Galvanised
Strapping Plate	100 x 50mm	Galvanised
Firemastic Caulking[2]	Tested to AS 1530.4	MgO and gypsum board joints

1. Knauf Earthwool R2.5 20kg/m3 or Bradford AcoustiGard 20kg/m3 (Glasswool 20kg/m3 tested to AS1530.1).
2. BOSS Firemastic 360 or HB Fuller FireSound.

Installation Steps for UltraMgO™-Partition

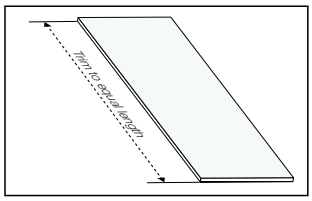
Prior to installing UltraMgO™-Partition panels, the framing of one tenancy wall must be completed. This is required so the UltraMgO™ core can be bracketed for support. are secured to the completed side. The sequence of construction should be planned to accommodate the progressive erection of UltraMgO™-Partition panels. The recommended framing configuration is 90mm x 45mm MGP10 Pine studs and noggings, with studs to be set at 450mm centres.

Assembly Steps



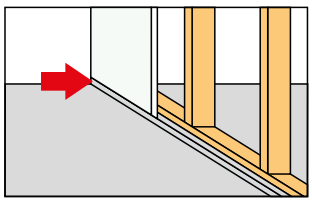
Step 1: Fixing bottom UltraMgO™ "C" channel

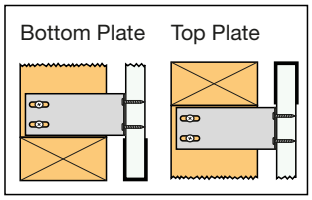
- Position the "C" channel at the base level centred in the wall cavity, between the tenancy walls, and secure to foundation with small masonry nails or 6x34mm anchor screws at both ends. If using anchor screws, they MUST be the flathead type.
- Use full lengths spaced 20mm from the tenancy wall frames (BCA requirement). Use an offcut from an UltraMgO™ panel to set the distance accurately.
- Start and end the "C" channel runs level with inside face of external cladding material.



Step 2: Cut UltraMgO™-Partition panels to the desired length.

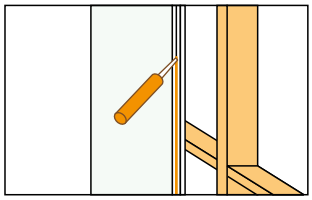
- **NOTE**: UltraMgO™-Partition panels are supplied in either 2700mm or 3000mm lengths, and are 610mm wide (overall). Each panel has a shiplap edge on each long side, and the effective coverage of each panel is 590mm.

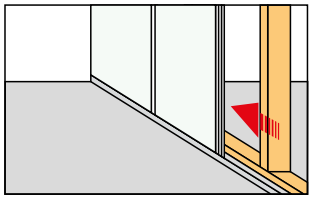


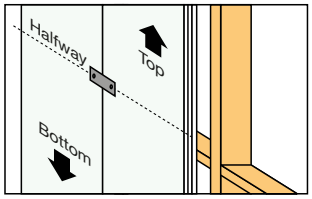


Step 3: First UltraMgO™-Partition panel fitted into base "C" channel track

- A square edge abutment is required to start the UltraMgO™ partition wall. Therefore, trim the shiplap joint from one side of the "starter", and position that side against the external wall framing or cladding material, and in line with the end of the "C" channel.
- Secure the panel at the bottom and top rails using a pair of "L" brackets. Secure each bracket to the first stud, and immediately above the bottom plate/below the top plate, as per the illustration.
- **NOTE:** The UltraMgO™ partition wall achieves discontinuous construction as specified in the BCA by only requiring L brackets at the base and top of the wall (no brackets are required on any nogging lines, or at any point through the height of the wall - to a maximum height of 3000mm).

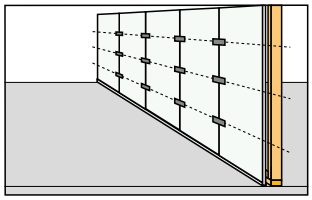






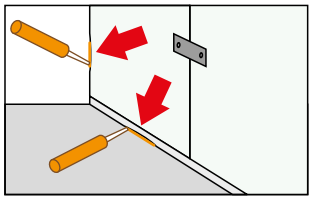
Step 4: Fitting the second UltraMgO™-Partition panel

- Run a 5mm bead of fire-rated mastic to the inner corner of the shiplap joint on the first panel.
- Fit a second panel into the "C" channel and push into place against the first panel, ensuring that shiplap joint is engaged.
- Secure the two panels with a strapping plate over the joint, at the vertical centre of the panels, and on the side away from the framing. Strapping plates are only applied to one side of the panels.



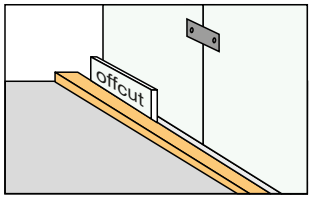
Step 5: Continue fitting UltraMgO™-Partition panels

- Continue fitting, glueing, strapping and securing UltraMgO™-Partition panels along the entire run.
- Only one pair of “L” brackets (top and bottom) per panel are required. Plan the placement of brackets on studs to ensure this.
- It may be necessary to trim the last panel to fit the space at the end of the panel run.
- Secure the last panel with “L” brackets at top and bottom of the last stud.
- Secure two more strapping plates over each panel joint half way between the centre strapping plate secured in Step 4, and the top/bottom of the panel.



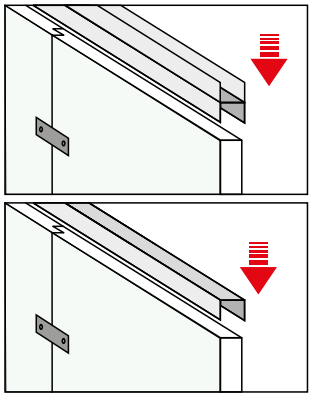
Step 6: Seal for acoustics

- Seal any gaps between the foundation and “C” channel, or between the partition panels and external cladding, with an approved fire-rated sealant, such as BOSS Firemastic 300 or HB Fuller FireSound.



Step 7: Completing the barrier - single floor or top of multi-floor (to 9m max)

- Erect the second tenancy framing wall on the other side of the UltraMgO™-Partition barrier.
- Set the bottom plate 20mm from the “C” channel. Use an offcut from an UltraMgO™ panel to set the distance accurately.
- Secure each panel at top and bottom with “L” brackets to the studs of the new tenancy wall frame. It may be necessary to plan the placement of “L” brackets on this second wall frame to ensure that they are not directly in line with the brackets on the other side of the partition (directly opposed screws will foul and create a weakness in the board).

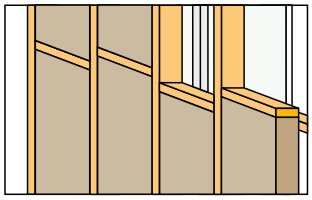


Step 8: Capping the barrier - single floor or top of multi-floor (to 9m max)

- Cap the UltraMgO™-Partition panels with “C” channel sections placed back-to-back along the full length of the panel run to provide a base track for second floor partition panels. Secure the channel runs with countersunk screws.
- In single level aplications, cap the partition panels with a single run of “C” channel. Secure the channel run with countersunk screws.

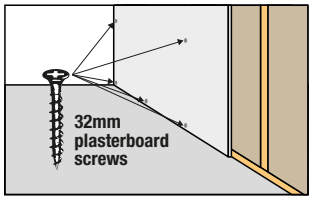
Step 9: Extending the barrier - multi-floor (to 9m max)

- Fit, glue and secure UltraMgO™-Partition panels into the “H” channel track as per Steps 3, 4 and 5.
- Only one pair of “L” brackets (top and bottom) per panel are required. Plan the placement of brackets on studs to ensure this.
- Finish the UltraMgO™-Partition barrier as per Step 6.
- Cap the barrier as per Step 7.



Step 10: Installation of batts

- Fit glasswool batts into timber framing walls on both sides of the Partition panels. The batts must NOT be loose within the frames.
- If the glasswool batts have to be trimmed to fit, ensure that the trimmed size is NO LESS THAN than 40mm OVERALL (both horizontally or vertically) larger than the space into which they must fit.



Step 11: Attach plasterboard

- Attach **13mm** plasterboard to the timber wall frame using **32mm** plasterboard screws

Important points to remember:

- Studs on timber frame walls either side of the UltraMgO™-Partition panels be set at 450mm centres.
- UltraMgO™-Partition panel widths and installation may need to be planned so that a timber stud is available for each L bracket to panel connection. A typical staggered L bracket fitment is shown in Fig. 3 at the start of this document.
- Strapping plates are attached to the side of UltraMgO™-Partition panel joins opposite to the first “L” brackets.
- Where the construction schedule requires erection of UltraMgO™-Partition panels before construction of the tenancy stud walls, we strongly recommend that exposed UltraMgO™-Partition panels be adequately braced as they may be subjected to high wind forces.

Technical Enquiries 1300 38 38 84

FCF provides technical advice to builders, architects, contractors, engineers, and regulators throughout Australia. Our team can offer both practical and design input for all UltraMgO™ applications. Start your UltraMgO™ project off on the right track by contacting FCF between 8.30am - 4.30pm AEST weekdays on 1300 38 38 84.

Safety instructions - UltraMgO™-Partition Board

Download product SDS documents from our website for correct handling, usage and disposal advice.