

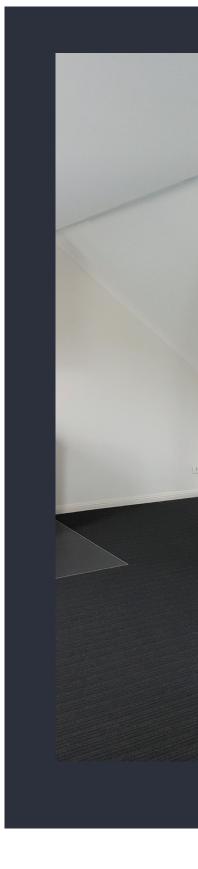
RESCOM® INSTALLATION MANUAL

Internal, Extrenal Cladding, Lining and Flooring Products
ResCom: Edition 6



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RESCOM® BUILDING PRODUCTS ARE A COMPONENT OR ELEMENT WHICH ARE A PART OF A BUILDING. RESCOM® PRODUCTS HAVE BEEN TESTED IN LINE WITH BCA VOLUME 1 AND 2 UNDER CLAUSE A2.3:

The wall frame is to be appropriately designed in accordance with the requirement of the BCA, NZBC or ICC-ES and as required by the projects structural engineer.

Installation of ResCom® products must strictly comply with the CodeMark conformity certification certificate terms and conditions and the over-reaching requirements of the National Construction Code to ensure compliant buildings.

Disclaimer: Magnesium Oxide Board Corporation Pty Ltd does not give any REPRESENTATION or WARRANTY to the consumer as to the completeness, accuracy or fit for purpose suitability or performance of third party materials such as but not limited to substrate framing, finishing products, fixtures and fittings that may be required to be used during installation of the ResCom® products.

Magnesium Oxide Board Corporation Pty Ltd waivers all responsibility regarding third party materials and advised the consumer to seek confirmation from the supplier / manufacture of those materials as to the suitability for use in the proposed applications.

It is the whole responsibility of the manufacture / supplier of third party martials to warrant to the consumer those products they recommend as suitably fit for purpose to be used in conjunction with ResCom® building products.

All consumer protection rights are reserved under the guidelines of the ACCC.



ResCom PAGE 03



Magnesium Oxide Board Corporation Pty Ltd was founded in 2010 and became the first company to gain CodeMark accreditation for the ResCom® internal and external sheathing, flooring and ceiling products under Australia, New Zealand and America building codes.

ResCom® Boards are a machine-made sheet composed of naturally occurring mineral components, alpha cellulose material and water that is mixed to our associated companies patented pending formulation. ResCom products do not contain any organic solvents, oils or toxic substances, nor does it contain any metal salts.

ResCom® products have been tested and meet the requirements LEED v4 Building Design and Construction Addenda with the below test standard at the level of $\leq 0.5 \frac{mg}{m^2}$ or less

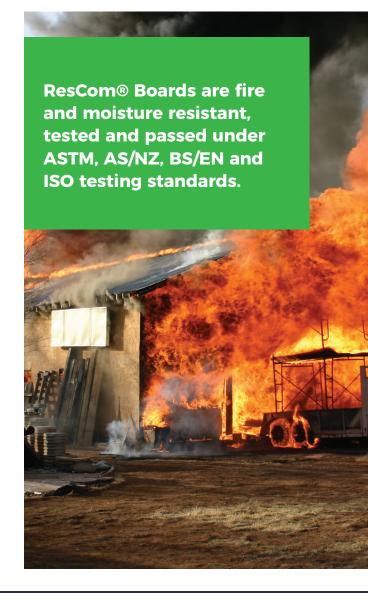
ResCom® Board was tested by Intertek Laboratories under CA 01350 Standards for VOC's assuring our products have no formaldehyde or asbestos contaminates.

ResCom® products also have extensive testing that has been carried out by ALS Global Laboratories as well as passed all tests by Australian, American and UK boarder security agencies.

ResCom® has two listed HPD's (Health Product Declarations) which can deliver LEED Credits to projects.

ResCom® Board is used as an internal lining and external wall board to provide smooth, strong, long lasting walls and ceilings for homes, offices, hospitals, hostels for the ages, schools, shops and factories.

Its durable surface will accept most types of decorative finishing, including paint, wallpaper and texture compounds.



MEETING COMPLIANCE (CODEMARK)

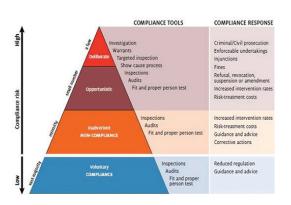
When Installing ResCom® Board into BCA and NZBC code compliant applications ResCom® products must be installed as per the installation guidelines in Section 1 of this manual to assure installation complies with the CodeMark conformity certification certificate terms and conditions and the over-reaching requirements of the National Construction Code (NCC).



DEEMED TO COMPLY APPLICATIONS (DTS)

Over and above the compliant requirements of CodeMark, ResCom® products can be installed into Dts Systems as per traditional requirements for drywall / plasterboard / FC Sheet under the BCA and NZBC. As long as the application and fit for purpose use of the ResCom® product has been assessed and independently signed off to be suitable for the proposed application under the relevant building codes and local statutory authorities building codes guidelines.

Eg: BCA Vol 1: Part 2A



GREEN CREDENTIALS (LEED & HPD)

Although no one product can guarantee a LEED point, the following are opportunities for points based on the use of ResCom® Wall and Floor Boards and submitting the required documentation.

LEED v4 For Building Design & Construction (Updated January 27th 2017)

MR CREDIT: Building products Disclosure and Optimization - Material Ingredients: HPD

ResCom® building products have 2 published HPDs with the HPD Collaborative and is committed to transparency in our materials of which we report no hazardous chemicals in our ResCom® products. EQ CREDIT: Low-Emitting Materials

ResCom building products have been tested and determined compliant in accordance with CDPH Standards Method v1.1-2010, using the private offices exposure scenario. ResCom board has a TVOC concentration of <0.5mg/m3





This guide provides detailed installation information for the installation of ResCom® Products. For additional information or assistance with ResCom® Board installation, please contact Magnesium Oxide Board Corporation's agent in your region.

APPLICATIONS

The ResCom® Board range of products consist of ResCom® Board interior and exterior wall, ceiling, and flooring panels which provide smooth, strong, long lasting walls, ceilings and floors for homes, offices, hospitals, schools, shops, factories, etc.

ResCom® Boards are fire and moisture resistant. When used in 'wet areas', installation is in accordance with the 'wet area installation' section of this guild. When used in fire risk areas, installation is in accordance with the 'general installation' section of this guide.

Features and Advantages

- ResCom® Board significantly reduces installation costs. Depending on the application, ResCom® Board offers savings of up to 67% on materials and labour to that of traditional fire separation and party walls.
- ResCom® Boards provide superior moisture resistance in high humidity areas and combats the growth of mould and mildew.
- ResCom® Board is water resistant. It will not disintegrate when immersed in water or exposed to freeze/thaw cycles for prolonged periods of time.
- ResCom® Board is manufactured from a combination of magnesium oxide and magnesium chloride and includes fibrous reinforcement.
- ResCom® Board is colour coded fit for purpose boards. HMR (High Moisture Resistant) ResCom® Boards are green
 in colour, CHSB (Common High Strength) ResCom® ® Boards are blue in colour, HI (High Impact) ResCom® Boards
 are red in colour and Structural Flooring ResCom® Boards are brown in colour. Standard production material is very
 smooth on one side and sand textured on the other.
- Standard edges are square, recessed, shiplap and tongue and groove.
- ResCom® Board may be cut, trimmed or shaped using ordinary power or hand tools.
- Every ResCom® Board product is clearly labelled with the ResCom®, CodeMark logos and CodeMark Certification number at all times. (Products ordered without the direct consent of Magnesium Oxide Board Corporation Pty Ltd are not certified or approved for use or distribution in Australia or New Zealand. Contact Magnesium Oxide Board Corporation on 1300 721 279.)

Properties and Performance

ResCom® Board is approved for fire resistance wall systems, providing an unprecedented degree of safety and security. When using ResCom® Board a single layer is required which expedites job completion, saving time and money. ResCom® Board has a flame spread and smoke propagation rating of 0 per AS1530.3, ASTM E84 and BS:476.

ResCom® Board in Wet Areas

AS3740 Waterproofing of wet areas within residential buildings.

Delivery and Storage of Materials

All materials shall be delivered and stored in an enclosed shelter providing protection from damage and exposure to the elements. Damaged or deteriorated materials shall be removed from the premises.

FIRE PERFORMANCE

Where the Building Code of Australia (BCA) specifies the need for a fire separation system, a level of fire separation needs to be determined according to the type of structure and the uses on either side of the wall, floor or ceiling structure. The level of fire separation is expressed by three numbers being Structural Adequacy, Integrity and Insulation. Fire Resistance Level (FRL) means the grading periods in minutes determined in accordance with specification A2.3 –

- The first number being Structural adequacy, in relation to an FRL, means the ability to maintain stability and adequate loadbearing capacity as determined by AS1530.4.
- The second number being Integrity, in relation to an FRL, means the ability to resist the passage of flames and hot gases specified in AS1530.4.
- The third number being Insulation, in relation to an FRL, means the ability to maintain a temperature on the surface not exposed to the furnace below the limit specified in AS1530.4.

ResCom® board is approved for use in fire applications as follows:

ResCom® Thickness	Single Panel Either Side of Stud: System Excl Acoustic Requirements						
	Non-loadbearing wall -/60/60						
10mm	Loadbearing wall 60/60/60 (Thermal Insulation Required in Cavity)						
	Non-loadbearing wall -/90/90						
10mm	Loadbearing wall 90/90/90 (Thermal Insulation Required in Cavity)						
42	Non-loadbearing wall -/120/120						
12mm	Loadbearing wall 120/120/120 (Thermal Insulation Required in Cavity)						
	Non-loadbearing wall -/180/180						
14mm	Loadbearing wall 180/180/180 (Thermal Insulation Required in Cavity)						
15 00 00	Non-loadbearing wall -/240/240						
15mm	Loadbearing wall 240/240/240 (Thermal Insulation Required in Cavity)						

All joints and junction in fire rated structures must be filled with appropriate FRL tested caulking or sealant. All installation that occurs must meet the required local authorities building codes.



FRL CONFIGURATION

ResCom Thickness FRL		Timber Wall FRL	Steel Wall FRL	Wall System Single Sheet Each Sid			
10mm	-/60/60	60/60/60	60/60/60	Eso Line			

ResCom Thickness: 10mm

Framing: 75mm Light gage steel joists **Insulation:** 50kg/m3 Rockwool

Stud spacing: 600mm maximum centres

Screws: Class 3 to 5 (Non-Corrosive) min No. 8x40 self-drilling countersunk type fixed at max 300mm centres, and will finish at approximately 0.5mm below the surface. MgQ Corp recommends, in highly corrosive areas, to use min grade 316 stainless steel non-corrosive fixtures.

Screw Spacing: On sheet corners, keep the first screw 50mm from the edge to avoid breakage of the sheet. Fasteners at 12-15mm from sheet perimeter edges.

Jointing: Gaps covered by fire resistant tape and glue

10mm -/9	0/90 90/90/90	90/90/90		
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ResCom Thickness: 10mm

Framing: 75mm Light gage steel joists **Insulation:** 50kg/m3 Rockwool

Stud spacing: 600mm maximum centres

Screws: Class 3 to 5 (Non-Corrosive) min No. 8x40 self-drilling countersunk type fixed at max 300mm centres, and will finish at approximately 0.5mm below the surface. MgQ Corp recommends, in highly corrosive areas, to use min grade 316 stainless steel non-corrosive fixtures.

Screw Spacing: On sheet corners, keep the first screw 50mm from the edge to avoid breakage of the sheet. Fasteners at 12-15mm from sheet perimeter edges.

Jointing: Gaps covered by fire resistant tape and glue

10mm	-120/120	120/120/120	120/120/120			
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ResCom® thickness: 10mm Framing: 18 gage steel joists Insulation: 6lb mineral wool

Stud spacing: 600mm maximum centres

Screws: Class 3 to 5 (Non-Corrosive) min No. 8x40 self-drilling countersunk type fixed at max 300mm centres, and will finish at approximately 0.5mm below the surface. MgO Corp recommends, in highly corrosive areas, to use min grade 316 stainless steel non-corrosive fixtures.

Jointing: Joints placed over the stud. Joints and screws covered by Firestop Caulking compound.

12mm	-/120/120	120/120/120	120/120/120		
				H	

ResCom Thickness: 12mm

Framing: 46mm galvanised steel joist

Insulation: 94kg/m3 Luyangwool 72 mullite crystal fibre blanket insulation

Stud spacing: 610mm maximum centres

Screws: Class 3 to 5 (Non-Corrosive) min No. 8x40 self-drilling countersunk type fixed at max 300mm centres, and will finish at approximately 0.5mm below the surface. MgQ Corp recommends, in highly corrosive areas, to use min grade 316 stainless steel non-corrosive fixtures.

Screw Spacing: On sheet corners, keep the first screw 50mm from the edge to avoid breakage of the sheet. Fasteners at 12-15mm from sheet perimeter edges.

Jointing: Gaps covered by fire resistant tape and glue



Suspended Ceiling Configuration

ResCom Thickness: 12mm

Framing: 50mm x 30xx x 0.6mm thick galvanized steel channels

Stud spacing: 610mm maximum centres

Screws: Class 3 to 5 (Non-Corrosive) min No. 8x40 self-drilling countersunk type fixed at max 300mm centres, and will finish at approximately 0.5mm below the surface. MgQ Corp recommends, in highly corrosive areas, to use min grade 316 stainless steel non-corrosive fixtures.

Screw Spacing: On sheet corners, keep the first screw 50mm from the edge to avoid breakage of the sheet. Fasteners at 12-15mm from sheet perimeter edges.

Jointing: Gaps covered by fire resistant tape and glue



ResCom Thickness: 12mm

Framing: 75mm Light weight steel stud to frame

Insulation: 180kg/m3 Rockwool or similar fire and acoustic bulk insulation

Studs: 2 x 0.75 x 38. Double stud to back of all joints.

Stud spacing: 600mm maximum centres

Screws: Class 3 to 5 (Non-Corrosive) min No. 8x40 self-drilling countersunk type fixed at max 300mm centres, and will finish at approximately 0.5mm below the surface. MgQ Corp recommends, in highly corrosive areas, to use min grade 316 stainless steel non-corrosive fixtures.

Screw spacing: 200mm c/c maximum. 50mm in from the corners. **Jointing:** Joints and Junctions to be caulked with 3M Fire barrier sealant.

14mm	-/180/180	180/180/180	180/180/180		
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ResCom Thickness: 14mm Framing: 2 x 4 Steel Studs Insulation: R13 Insulation

Stud spacing: 406mm maximum centres

Screws: Class 3 to 5 (Non-Corrosive) min No. 8x40 self-drilling countersunk type fixed at max 300mm centres, and will finish at approximately 0.5mm below the surface. MgQ Corp recommends, in highly corrosive areas, to use min grade 316 stainless steel non-corrosive fixtures.

Jointing: Gaps covered by fire resistant tape and glue







ResCom® thickness: 14mm

Framing: 100mm Lightweight steel stud to frame

Insulation: 8pcf Rockwool Stud spacing: 16" o.c. (400mm)

Screws: Class 3 to 5 (Non-Corrosive) min No. 8x40 self-drilling countersunk type fixed at max 300mm centres, and will finish at approximately 0.5mm below the surface. MgQ Corp recommends, in highly corrosive areas, to use min grade 316 stainless steel non-corrosive fixtures.

Jointing: 3M 25+WB fire rated caulk. Both surfaces painted with 12 mils ECO FireFlex intumescent coating



ResCom® thickness: 16mm Framing: 18 gage steel studs Insulation: 6lb mineral wool

Stud spacing:

Screws: Class 3 to 5 (Non-Corrosive) min No. 8x40 self-drilling countersunk type fixed at max 300mm centres, and will finish at approximately 0.5mm below the surface. MgQ Corp recommends, in highly corrosive areas, to use min grade 316 stainless steel non-corrosive fixtures.

Jointing: Joint placed over the stud. Joints and screws covered with FireStop caulking compound.

18mm			
	120/120	420/420/420	420/420/420
	-120/120	120/120/120	120/120/120

Flooring Configuration

ResCom Thickness: 18mm Structural Flooring **Framing:** 18 MSG Galvanized Steel Joists

Insulation: 89mm thick giber glass batt insulation with a flame spread index of 25 or less and smoke development index of 50

or less.

Stud spacing: 600mm maximum centres

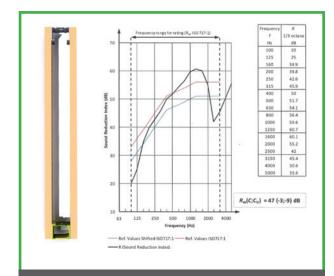
Screws: Class 3 to 5 (Non-Corrosive) min No. 8x40 self-drilling countersunk type fixed at max 300mm centres, and will finish at approximately 0.5mm below the surface. MgO Corp recommends, in highly corrosive areas, to use min grade 316 stainless steel non-corrosive fixtures.

Screw spacing: 304 mm c/c maximum. 50 mm in from the corners.

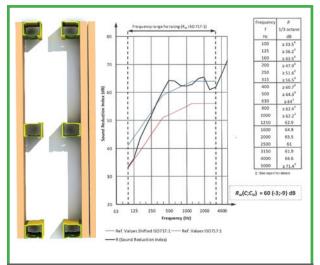
Jointing: Gaps covered by fire resistant tape and glue

THERMAL AND ACOUSTIC INSULATION

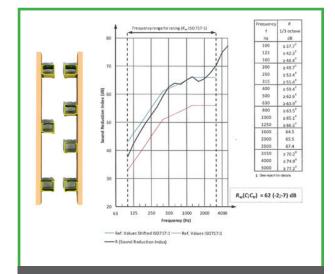
Cavity insulation has no bearing on the fire performance of the individual ResCom® product FRL ratings. Bulk insulation is required in the wall cavity for loadbearing FRL systems as noted above in the ResCom® FRL ratings. Bulk insulation may be required to achieve specified acoustic Rw + Ctr and R values in the building system. For specific performances seek direct advice from the appropriate fire and acoustic engineers.



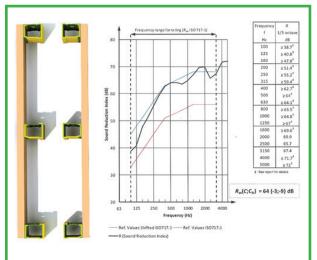
Single stud frame with75mm (1mm thick) steel studs 600mm centres and noggings at 1208.5mm from ground. 12mm ResCom® board - 75mm steel studs filled with 24kg/m3 glasswool insulation - 12mm ResCom® board.



Double stud frame with75mm (1mm thick) steel studs 600mm centres and noggings at 1208.5mm from ground. 12mm ResCom® board - 75mm steel studs filled with 24kg/m3 glasswool insulation - 20mm air gap - 75mm steel studs filled with 24kg/m3 glasswool insulation - 2 layers of 12mm ResCom® board



Double stud frame with75mm (1mm thick) steel studs 600mm centres and noggings at 1208.5mm from ground and 200mm (1.9mm thick) steel studs with 450mm centres.. 12mm ResCom® board – 75mm steel studs filled with 24kg/m3 glasswool insulation – 25mm air gap - 200mm steel studs – 18mm ResCom® board



Double stud frame with75mm (1mm thick) steel studs 600mm centres and noggings at 1208.5mm from ground. 12mm ResCom® board - 75mm steel studs filled with 24kg/m3 glasswool insulation - 20mm air gap

- 75mm steel studs filled with 24kg/m3 glasswool insulation - 12mm ResCom® board

Normally the acoustic performance of the floor requires attention to material choices and method of installation. The floor design must exceed the 'Deemed to Satisfy' requirements of the BCA 'Sound Transmissions and Insulations, Class 2 or 3 Buildings. Floors under this requirement must have a Ln, w no higher than 62. The depth of the floor, type of floor joist, insulation type and thickness and floor finishing materials affect the acoustic performance. It is recommended to design a carpeted floor as per a hard floor, so that the acoustic performance is satisfactory in the future if the carpet is replaced with tiles or timber.

WALL INSTALLATION

Two wall systems will be detailed - timber and steel. Timber frames are normally only suitable to a maximum of 120-minute fire rating. The building designer must ensure that load bearing walls have been designed:

- To resist all applied loads
- To be in accordance with AS4600, AS1684 and AS1720.2, the BCA and all relevant standards.
- To assume no axial strength contribution from wall linings. Some wall systems will have their axial load capacities reduced. For steel, this is due to the steel weakening at temperature. For timber, it is due to the loss of section as the timber chars.

FRAMING

Materials

ResCom® Board may be fixed to timber or metal framing and masonry materials which conform to standards specified by the appropriate government building authorities.

Timber Framing

All timber framing shall be in accordance with AS1684 - residential timber framed construction or AS1720.1 timber structures. Timer used as a substrate for ResCom® Board shall be defined as being in one of the following categories:

Category 'A'

- Timber with a moisture content under 16% at the time of lining. Based on 90% of timber members being within the specified moisture content range with the remainder being within +2% of the specification. (Generally seasoned or kiln dried timbers would be in the category.)
- Timber with a moisture content above 16%, but a tangential shrinkage below 8%. (Examples of these timbers would include; cypress pine, Douglas fir (Oregon), hoop pine, slash pine, radiate pine, western hemlock, jarrah, red narrow-leaved ironbark, rose/flooded hum and spotted gum.

Metal Framing

ResCom® Board may be fixed direct to structural metal. Due to indifferent metals, such as screws and frame work, MgO Corp recommends that a film of silicone, mastic tape or sarking is placed on the metal stud frame before fixing of the ResCom® board to eliminate corrosion & moisture.

Category 'B'

 Includes all timbers with a moisture content above 16% at the time of lining, and which have a tangential shrinkage above 8%. (Examples of these timbers would include; alpine ash, Blackbutt, karri, mountain ash, messmate, river red gum, silver top ash, Sydney blue hum and tallowwood.

Tangential shrinkage at 12% moisture content is defined in AS1720.2. Metal framing shall be in accordance with AS1397, AS1538 or AS3623, as applicable.

Concrete, Brick or Masonry Surfaces

Concrete, brick or masonry surfaces which comply with AS3700 can be sheeted with ResCom® Board. Prior to fixing ResCom® Board to masonry walls, the substrate and back of ResCom® Board must be fully sealed with waterproofing compound to stop moisture absorption. Alternatively, these surfaces may have a furring system applied in accordance with AS1684. When using a furring system, you must also fully seal the back of the ResCom® Board.

GENERAL INSTALLATION REQUIREMENTS

The following installation points are to be observed for every installation being on timber, steel, direct fix or via furring channels.

- The smooth surface is to face outwards
- ResCom® sheets can be laid vertical or horizontal.
- Stagger butt joints in adjacent sheets one stud minimum.
- It is important to install sheets from the corner outwards. Fix the sheet to the open side of the stud first to ensure misalignment of joints does not occur in vertical fixing applications.
- One layer ResCom® Board is to be provided to each side of the wall as per the tested system.
- The stud spacing is to be a maximum 600mm centres, floor joists at 450mm centres. Both systems are to be appropriately designed by a structural engineer or in accordance with relevant design standards listed within the respective building code.
- Sheets can be fixed using a combination of screws and appropriate structural adhesive but not exclusively structural adhesive.
- Due to indifferent metals, such as screws and frame work, MgO Corp recommends that a film of silicone, mastic tape or sarking is placed on the metal stud frame before fixing of the ResCom® board to eliminate corrosion and moisture.
- Control joints are used where specified, where dissimilar materials abut, or at least every 12 metres.
- Where a double wall system is used, the gap between the walls should be from a minimum of 20mm to a maximum of 50mm
- Screws are to be non-corrosive class 3 to 5 No.8 x 40 self-drilling countersunk type, and to finish at approx. 0.5mm below the surface. MgO Corp recommends a minimum grade 304 SPAX or 316 stainless steel noncorrosive fixtures to be used in corrosive areas.
- On sheet corners, keep the first screw 50mm from the edge to avoid breakage of the sheet and 12-15mm from sheet perimeter edges.
- Keep sheet 6mm from floor. Fill gap between floor and ResCom Board as well as all joints with approved fire and acoustic sealant.
- Where horizontal joints are not backed by noggins, stagger all horizontal joints 300mm minimum.
- Sheets can be joined mid span between studs by back blocking using 150mm width ResCom® Board strips screwed.



INSTALLATION OF RESCOM® PRODUCTS TO TIMBER FRAMING

Timber framing to be installed in accordance with AS1684. The maximum timber stud heights for applied loads of 15 kN/m and recommended stud spacing maximum 600mm on fire rated wall systems. Timber frames are normally only suitable to a maximum of 120-minute fire rating.

The building designer must ensure that load bearing walls have been designed:

- To resist all applied loads
- To be in accordance with AS4600, AS1684 and AS1720.1, the BCA and all relevant standards.
- To assume no axial strength contribution from wall linings. Some wall systems will have their axial load capacities reduced. For timber, it is due to the loss of section as the timber chars.
- The following are important points to observe:
- Sheets can be fixed using a combination of screws and appropriate structural adhesive.
- Where a double wall system is used, the gap between the walls should be from a minimum of 20mm to a maximum of 50mm.
- Control joints are to be used where specified, where dissimilar materials abut, or at least every 12 metres.



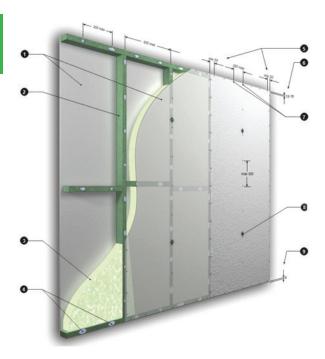


Figure 1.1 - Timber Fire Wall Installation Detail

INSTALLATION OF RESCOM® PRODUCTS TO STEEL FRAMING

Metal framing to be installed in accordance with BCA Volume 2. The size of steel stud should be determined by a professional engineer.

Due to indifferent metals, such as screws and frame work, MgO Corp recommends that a film of silicone, mastic tape or sarking is placed on the metal stud frame before fixing of the ResCom® board to eliminate corrosion & moisture.

The building designer must ensure that load bearing walls have been designed:

- To resist all applied loads
- To be in accordance with As4600, AS1684 and AS1720.1, the BCA and all relevant standards.
- To assume no axial strength contribution form wall linings. Some wall systems will have their axial load capacities reduced. For steel, this is due to the steel weakening at temperature.

See figure 2.1 for installation details

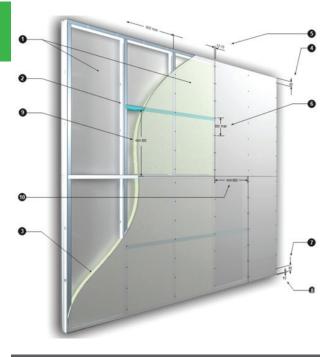


Figure 2.1 - Steel Fire Wall Installation Detail

EXTERNAL AND ZERO LOT BOUNDARY FIRE RATED WALLS -TIMBER AND STEEL.

When ResCom® sheets are attached to the outside of the wall, the wall takes on the fire rating of the sheet.

External cladding of fire rated walls require attention to sealing all gaps, especially at internal and external corners.

- Use an expandable fire sealant strip, and have a cover strip of at least 50 x 10mm
- MgO Corp recommends the use of back blocking to all joints with the same thickness of ResCom® Wall Board. By placing a 150mm width strip of ResCom® board glued with an appropriate fire rated or structural polyurethane adhesive. To be applied in full length minimum 4mm beads to all stud and noggins then screwed into place to allow adhesion. This will help eliminate any thermal breaches and give additional protection to the frame.
- Since all fibre batt insulation loses its effectiveness when wet, ensure drainage is provided to remove condensation from the cavity. It is good practice to install the cladding on battens so the air movement helps to prevent moisture build up. A breathable membrane is required by BCA on the outside of the studs.
- Due to indifferent metals such as screws and framework MgO Corp recommends that a film of silicone, mastic tape or sarking is placed on the metal stud frame before fixing of the ResCom® board to eliminate corrosion & moisture.



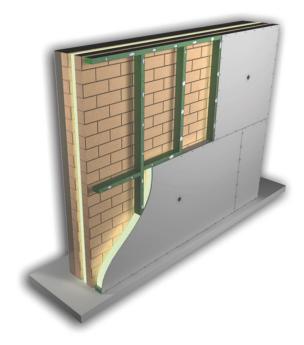


Figure 3.1 - Exterior Timber Wall Installation Details

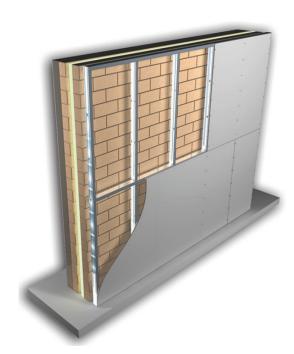


Figure 3.2 - Exterior Steel Wall Installation Details

FLOOR INSTALLATION

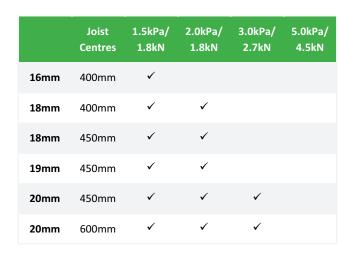
ResCom® flooring sheets have the same impressive fire properties as the wall sheets. When combined with ResCom® ceiling sheets, the floor structure can be protected from the effects of fire. The normal floor sheet thicknesses start at 18mm, and can range up to 50mm for special applications. The floor joist frame is to be appropriately designed and must not be less than that of the tested system. Much like the wall system, the floor system is to include ResCom sheet on either side of the joists. A guide to the compliance is detailed below

FRL Floor Rating	Floor Sheet	FRL Ceiling Rating	Ceiling
90 min	14mm	60 min	10mm
120 min	18mm	90 min	10mm
150 min	20mm	120 min	12mm
180 min	25mm	180 min	14mm

Ensure minimum class 3 to 5 non-corrosive fasteners are used for interior use. Exterior Application and wet areas use minimum SPAK 304 or 316 Stainless Steel fixings. For fire rated flooring systems all joints and junctions must be filled with appropriate FR/FRL rated caulking compounds. Immediately upon installation of the ResCom® Flooring it is a mandatory requirement to protect the flooring board from inclement weather and exposure to rain or water by way of sealing with LOXON® Concrete & Masonry Primer, Interior/Exterior Latex or simular or cover with waterproof tarps until weather clears. Dry with air blower if wet.

Fastener clearance, screw must adhere to the following quidelines:

- 12mm minimum from square edge joints
- 25mm minimum from T & G or shiplap joints
- 50mm minimum from all corners
- 200mm maximum centres along joists and blocking



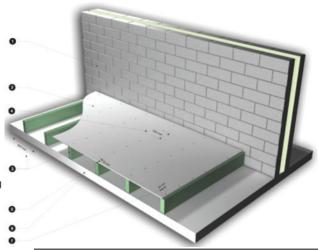


Figure 4

- 1. Solid Wall
- 2. One layer on ResCom® Board
- 3. Floor joists at 600mm max centres
- 4. Screws will be No.8 x 40 self-drilling countersinking type fixed at max 200mm centres, and will not finish at approx. 0.5mm below surface
- 5. Floor concrete slab or on joists
- 6. Screws are 15mm from edge of shiplap joint
- 7. On sheet corners, keep the first screws 50mm from the edge to avoid breakage. Rest of fasteners at 12 to 15mm from sheet edges.
- 8. Support joints of board between spans with noggings
- Assure at all times engineering has allowed for variation of joist spans for point and live loads

SPAN & LOADING GUIDELINES

ResCom® flooring is suitable for Categories A or B Class 5 conditions. Tests undertaken in accordance with clause 8.2 of AS/NZS 2908.2:2000. When tested in accordance with AS/NZS 2908.2:2000 Sections 8.2.1 'Bending Strength' and 8.2.2 'Soak Dry' ResCom® flooring demonstrated no denotable decrease to its strength and performance.

NOTE: It is advised that the elements of flooring design and construction must comply with the requirements of the BCA and or any other applicable local authorities building and construction regulations and standards. The design engineers and certifiers are responsible to ensure that the details in this document are appropriate for the intended application. Flooring should on installation be immediately sealed and protected from the inclement weather. In the event of the threat of storm and rain before sealing. The board must be covered to protect from water. If the board gets wet dry using a blower and allow to thoroughly dry out before covering or tiling.

CEILING INSTALLATION

ResCom® ceiling sheet thicknesses have been tabulated for 60 to 180 minute applications in the "Floors" section above. To minimise joint movement, and reduce the transfer of sound, it is recommended to always fix to metal ceiling battens. When additional acoustic isolation is required, resilient mounts are used to fix the battens.

ResCom® ceiling sheets are installed as per the wall sheets on fire separation walls. Refer to the section on "Walls" above.

Ceilings are often a cause of flanking noise between adjacent dwellings. Separation walls will often continue to the underside of the roof, with full acoustic insulation present to reduce flanking sound. Care should be taken to seal all gaps, especially where walls and ceilings meet. Use an approved fire rated polyurethane sealant.

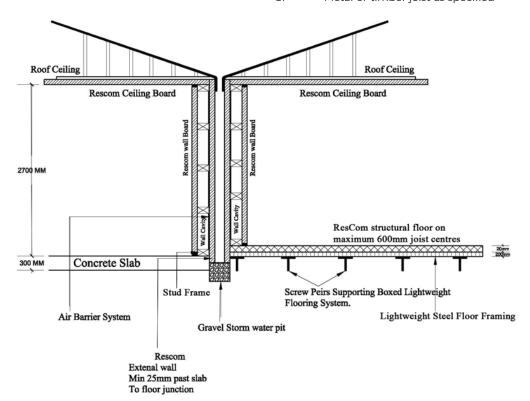


Figure 5-Floor & Ceiling Detail

Example Floor, Ceiling and Wall Configuration

Figure 5 -

- 1. ResCom® Ceiling Board
- 2. ResCom® Floor Board
- 3. Metal or timber joist as specified



Adhesive/Fastener Fixing To Timber Framed Ceilings

ResCom® Board is to be installed at right angles to the joists/main support members.

- Apply minimum 4mm Full length bead of structural polyurethane adhesive to the framing members. Beads are to be spaced at 230mm maximum centres, and a minimum of 200mm from fastener positions. Omit beads at all fastening points, at butt joints on frame members, and at cornice line.
- Apply ResCom® Board and fasten one recessed edge at each framing member.
- Press the sheet firmly against the framing, then fasten along the second recessed edge at each stud.
- Apply intermediate fasteners at each framing member.
- Where butt joints on framing members are permitted, screw at 200mm maximum centres.
- Fasten around service openings with nails at 150mm max. centres or screws at 200mm max. centres.
- Fasten ends of sheets at a maximum 300mm centres for a cornice finish, or at a maximum 150mm centres for a set finish.
- Under slow drying conditions, hold sheets against the framing members with temporary fasteners driven through ResCom® Board blocks as detailed, for at least 48 hours.
- Rockwall or similar insulation in wall, ceiling and floor cavities may be used as needed to achieve required Rw and R-Values. The use of bulk insulation does not affect the minimum FRL standalone performances of ResCom® products.



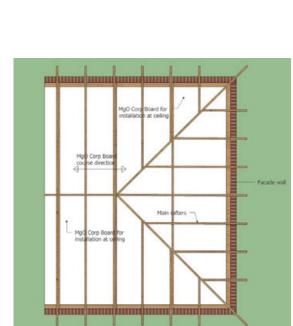
Ceilings in garages are subjected to different environmental conditions to those in habitable rooms. The following conditions may occur:

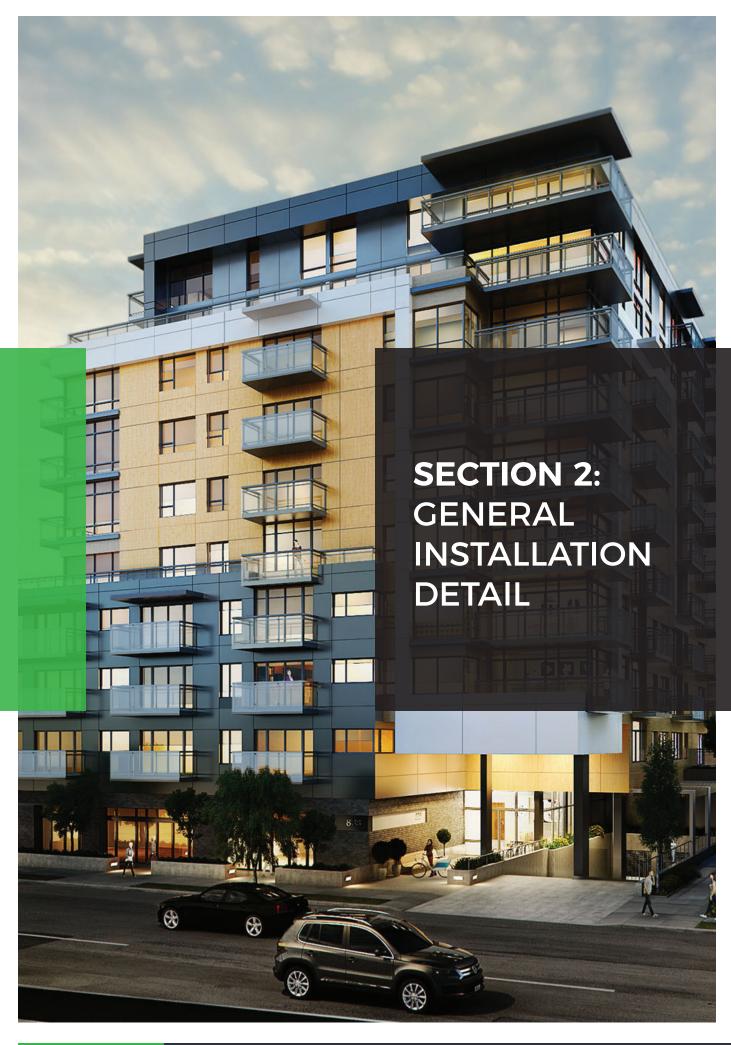
- Wind loads can disrupt uncured adhesive and prevent an effective adhesive bond from ever forming.
- Door operation may induce vibration in ceiling framing, adversely affecting nailed joints and disrupting adhesive bond.
- Framing that changes direction in the garage may result in insufficient perimeter support for the ResCom® Board.
- Moisture and high humidity in the garage can result in poor joint performance.
- The above issues can also result in the poor performance of any installed cornice.

While the performance expectations for garage ceilings remain

the same as for internal ceilings, additional details are required to ensure this performance is achieved.

- Use the 1/3 spacing method of fixing ResCom® Board, as detailed in this manual.
- Use class 3 to 5 Non-Corrosive screws not nails to fix ceilings.
- Use trimmers across the sheet width for support.
- Back-block all joints in garage ceilings.
- Use a good quality wallboard sealer primer and min two coats of paint applied by high quality roller system





BACK BLOCKING JOINTS

Back-blocking is a reinforcing system where pieces of ResCom® Board are fixed to the back of the sheets behind joints. Back-blocking is to be used on all butt joints formed between framing members and on recessed joints. Where mid-span butt or end joints are not required but are used to minimises ResCom® Board wastage, these joints must also be back-blocked. All mid-span joints must be positioned within 50mm of the mid-span point between the framing members. Fix back-blocks with cornice fibre cement applied with a notched spreader to form beads 6mm x 6mm at approximately 20mm centres over the entire face of the back-block.

Back-Blocking of Recessed Joints on Ceilings

Back-blocking is required in Level 4 and 5 Finishes where three or more recessed joints occur in a continuous ceiling area.

- Cut back-blocks of at least 200mm width and long enough to fit loosely between the framing members.
- Fix with nematic nails or joint compound to the backblocks with a notched spreader to form 6mm x 6mm beads at approximately 20mm centres at right angles to the joint, over the entire face of the back- block.
- Apply ResCom® Board sheets with the long edges at right angles to joists or battens. Place back-blocks along the full length of the sheet edge. As soon as all the blocks are in position, install the adjoining sheet.
- Back-blocks must be adhered in position before the joints are finished. Back-blocks may also be applied by working
 above the ceiling after the sheets have been fixed.

Back-Blocking of Butt Joints on Walls

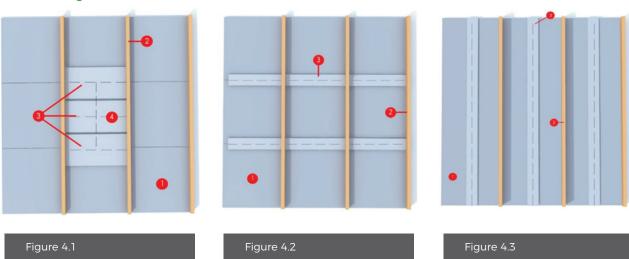
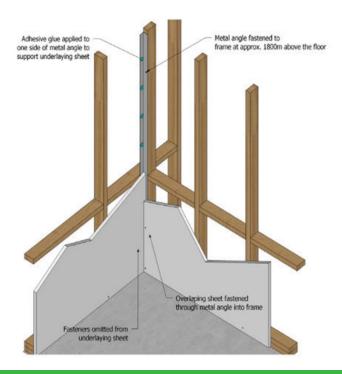
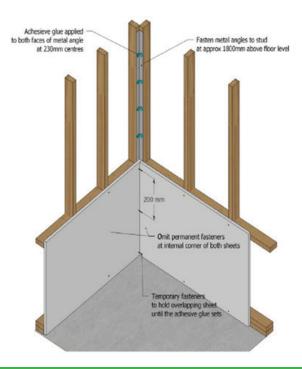


Figure 4.1, 4.2, 4.3: Wall Lining Back Blocking Options

- 1. ResCom® Board
- 2. Framing or batons
- ResCom® Board back blocking at least 150mm width centred over joints
- 4. Butt joint centred between framing member
- All joints and junction in fire rated structures must be filled with appropriate FRL tested caulking or sealant.
 All installation that occurs must meet the required local authorities building codes.
- Sheet ends should be neatly cut and butted together within 50mm of the centre line between the studs.
- Cut back-blocking to fit neatly between the studs and fix by skew or nailing
- Apply structural adhesive to back-blocks as described previously, prior to screwing or nailing.
- Fix ResCom® Board wall sheets in place.
- Allow the adhesive to set for a minimum of 24 hours before removing the temporary screws or nails.





INTERNAL CORNERS

Four alternative methods of forming internal corners may be used. The appropriate method should be fixed as illustrated.

Where category 'B' timber framing is used, sheets are not to be nail/screw fastened both sides. One of the other systems detailed must be used.

Internal Corner Fixed One Side Only (Double Stud)

Where two framing members occur, fasteners can be omitted from the underlying sheet. The overlapping sheet is butted firmly against the underlying sheet and fastened at 300mm centres.

Internal Corner - Fixed One Side Only (Single Stud)

Where only one framing member occurs at a wall junction as illustrated, tack-fix a minimum 35 x 35mm galvanised angle to the stud with a single fastener at approximately 1800mm above floor level. The length of the steel angle should be approximately 200mm less than the corner to be supported.

Apply beads of adhesive to one flange of the angle at 200mm spacing's. Apply the underlying sheet to the prepared flange and fix the remainder of the sheet in the appropriate method.

Omit all fasteners from the sheet edge at the internal corner. Apply abutting corner sheet and fasten through steel angle at 300mm centres.

Internal Corner - Full Floating

Where two framing members occur at a wall junction as illustrated, tack-fix a minimum 35 x 35mm galvanised angle to the stud with a single fastener at approximately 1800mm above floor level. The length of the steel angle should be approximately 200mm less than the corner to be supported. Apply beads of adhesive to both flanges of the angle at 200mm spacing's.

Apply the underlying sheet to the prepared flange and fix the remainder of the sheet in the appropriate method. Omit all fasteners from the sheet edge at the internal corner. Butt the overlapping sheet firmly against the underlying sheet and fix remainder of sheet. Hold edge of overlapping sheet in place with temporary fasteners into stud for a minimum 24 hours.



It is recommended that ResCom® Board surfaces be isolated from structural elements, except the floor, using control joints or other means where:

- A ResCom® Board surface abuts any structural element or dissimilar wall or ceiling assembly.
- The construction changes within the plane of the partition, wall or ceiling lining.

Control joints incovrporated in a building to permit movement in the structure must be carried through all areas lined with ResCom® Board.

The control joint is located between the sheets and set over. When the compound is dry, the filament tape is removed leaving a clean, well-formed joint.

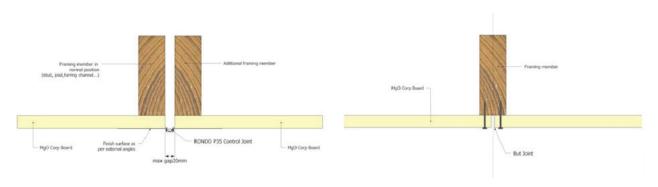
Door frames extending from floor to ceiling constitute control joints. For doors less than ceiling height, control joints extending from both corners of the frame to ceiling may be used.

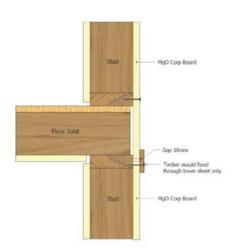
Control joints are to be installed:

In long partition or wall runs, at no more than 12m centres. To coincide with control joints in the supporting frame. The continuity of ResCom® Boa rd and support framework should be broken at control joints. In continuous ceiling areas, spaced at no more than 12m centres in both directions. Control joints may be positioned to intersect light fixtures, heating vents and air diffusers. Between floor levels, e.g. in stairwells.

Installation of Control Joint

- Allow a 15mm maximum gap between ends of ResCom® Board
- Locate control joint, centrally in gap. Fasten flanges and ResCom®
 Board sheets to frame at a maximum of 300mm centres.
- Set over bead as for normal joint application using centre channel ribs as screeding guides.
- · Finish the joint in the normal manner. When the joint is dry, remove the filament tape.

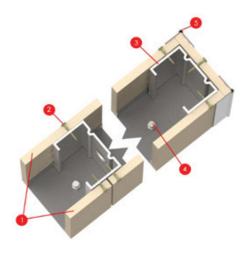




JUNCTIONS

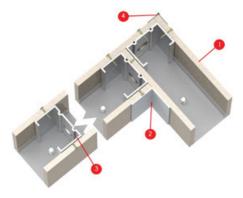
Door/Window Opening End Cap

- 1. ResCom® wall board
- 2. Screws will be non-corrosive class 3 to 5 No.8 x 40 self-drilling countersunk type or minimum grade 316 stainless steel non-corrosive nails.
- 3. Metal studs maximum 600mm centres
- 4. Bottom track fastened to floor
- 5. External angle bead and compound
- Mastic tape or silicone bead is recommended for use on steel beams to prevent moisture build up between substrates.



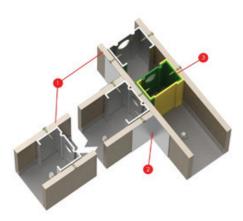
Corner Junction

- 1. ResCom® Wall Board
- 2. Fabric tape and compound to set corner as required
- 3. Metal studs maximum 600mm centres
- 4. External angle bead and compound
- Mastic tape or silicone bead is recommended for use on steel beams to prevent moisture build up between substrates.
- Metal framing as per manufacturers specifications for installation
- 100mm maximum to first track fixing
- Set over bead as for normal joint application using centre channel ribs as screeding guides.
- Finish the joint in the normal manner. When the joint is dry, remove the filament tape.



T-junction

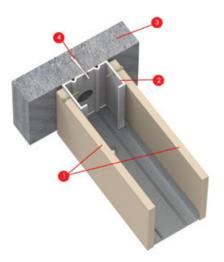
- 1. ResCom® Wall Board
- 2. Fabric tape and compound to set corner as required
- 3. Boxed stud at wall intersection
- Mastic tape or silicone bead is recommended for use on steel beams to prevent moisture build up between substrates.





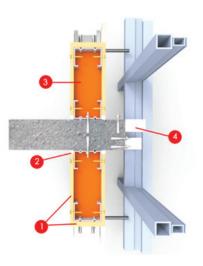
Concrete Wall Connection

- 1. ResCom® Wall Board
- 2. Metal studs maximum 600mm centres
- 3. Concrete wall or slab
- 4. Anchor bolt
- Mastic tape or silicone bead is recommended for use on steel beams to prevent moisture build up between substrates.



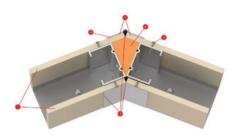
Metal Frame System to Concrete Wall

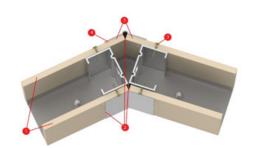
- 1. ResCom® Board
- 2. Metal studs maximum 600mm centres
- 3. Concrete wall or slab
- 4. Anchor bolt
- Mastic tape or silicone bead is recommended for use on steel beams to prevent moisture build up between substrates.

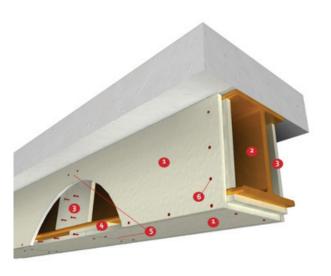


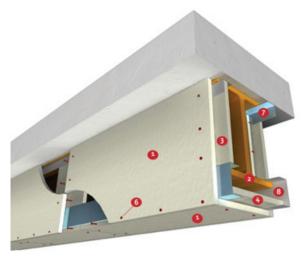
Angle Wall Junction

- 1. ResCom® Board
- 2. Fill corner void with fire and acoustic acrylic sealant. Set corner with internal angle bead tape and compound.
- 3. Screws will be non-corrosive class 3 to 5 No.8 x 40 self-drilling countersunk type or minimum grade 316 stainless steel non-corrosive nails.
- 4. External angle bead and compound
- 5. Allow full height sheer support when wall angle is more than 250
- Mastic tape or silicone bead is recommended for use on steel beams to prevent moisture build up between substrates.





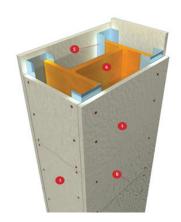


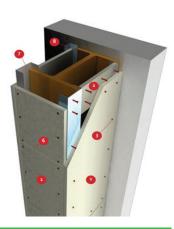


Beam Cladding

- 1. ResCom® Board
- 2. Structural Steel Beam
- 3. ResCom® soldiers the same thickness as board used, 100mm wide wedged into steel at butt joints.
- 4. ResCom® cover strips, 100mm wide laid over joints.
- 5. Staggered joints.
- 6. Non-corrosive class 3 to 5 No.8 x 40 self-drilling countersunk type screws or minimum grade 316 stainless steel non-corrosive nails.
- 7. Non-corrosive steel angle
- 8. Non-corrosive steel channel
- Fire Rated Mastic or silicones are recommended for use on steel beams to prevent moisture build up between substrates.







Column Cladding

- 1. ResCom® Board
- ResCom® soldiers the same thickness as board used,
 100mm wide wedged into steel at butt joints.
- 3. Non-corrosive class 3 to 5 No.8 x 40 self-drilling countersunk type screws or minimum grade 316 stainless steel non-corrosive nails.
- 4. Structural Steel Column.
- 5. Non-corrosive Steel Channel.
- 6. Horizontal Butt Joint

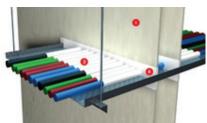
- 7. Non-corrosive steel channel
- 8. Non-corrosive steel angle
- 9. Mastic tape or silicone bead is recommended for use on steel beams to prevent moisture build up between substrates. Use of Rockwool or simular bulk insulation maybe used in the voids of the columns to reduce build-up of thermal heat and add protection to the substructure from thermal transmission.

Penetrations

(Refer to Ignis Report No. 4099.3 I01R00)

ResCom® Board complies with the BCA through Performance Requirement CP6, Clause C3.15 as detailed in the independent fire engineer's evaluation report #4099.3 101R00





Duct and Electrical Wire Installation

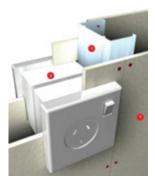
- 1. ResCom® Board
- 2. Ventilation duct
- 3. Electrical cables
- 4. Acrylic sealant
- Fire Rated Mastics or silicones are recommended for use on steel beams to prevent moisture build up between substrates and add additional thermal protection.

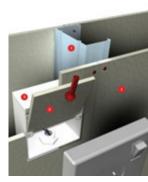


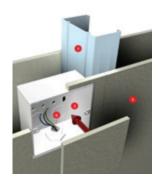


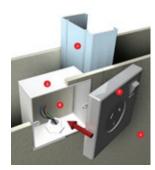
Power Point Installation

- 1. ResCom® Board
- 2. Non-corrosive steel stud
- 3. Fire resistant switch box
- 4. Fire mastic/sealant
- 5. Fire resistant switch box
- 6. Electrical wiring
- 7. Fire Rated Mastics or silicones are recommended for use on steel beams to prevent moisture build up between substrates and add additional thermal protection.









Sheet Layout

The following installation information should be read in conjunction with Table 2, 3 and 4, to determine the requirements applicable to the chosen level of finish. ResCom® Board should be installed after the installation of plumbing and electrical services. Provide adequate ventilation in all structures to minimise air humidity.

Generally, ResCom® Board should be applied to ceilings first and then to walls. Horizontal application of ResCom® Board on walls is recommended because it:

- Reduces joints by up to 25%.
- Provides a stronger wall.
- Reduces the possibility of unacceptable light reflections
- Joints are at a more convenient height for finishing.
- Nogging is not required behind recessed edge joints in horizontal applications.
- Horizontal sheeting is a requirement in all timber and metal frame applications where the intended Level of Finish is 3, 4 or 5, except that a single sheet may be fixed vertically where it covers the whole wall.

Joint Location

Where possible it is recommended that full length sheets are used to minimise butt joints at sheet ends. Sheets should be butted firmly together, but not forced. Where butt joints at sheet ends are unavoidable and where jointing between framing members is not required, as per Table 2, 3 and 4, butt joints may be formed on a framing member, provided that the framing member has a bearing face equal to or greater than 35mm width for nail fixing or 32mm width for screw fixing.

Where butt joints are permitted on framing members, butt sheet ends together centrally over the framing member. Butt joints on walls are not to coincide with the edge of openings (e.g. doorways or windows). Sheets are to be laid so that any vertical butt joint falls a minimum of 200mm from the edge of an opening. Avoid butt joints over single doorways and cavity sliding doors wherever possible.



Where a butt joint in a wall is less than 400mm long and is located

more than 2 metres from the floor, then back-blocking may be omitted. Butt joints in adjacent sheets on the same side of a wall, and in adjacent sheets on opposite sides of the same wall, are to be staggered and located on/between different framing members.

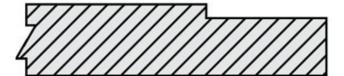
ResCom® Board Cutting

ResCom® Board can be cut by scoring the face with a knife and snapping the ResCom® Board back away from the scored face. The ResCom® Board can then be cut from the back towards the front. Alternatively, a saw may be used from the front face.

Cut edges are to be smoothed as required to permit neat joints. A metal T-square will assist in creating a clean, straight cut. All cut-outs for pipes, electrical installations, fixtures etc, are to be scored on both faces before removal, or are to be cut out with a suitable tool. The use of an impact tool such as a hammer is not an acceptable method of producing cut-outs. If the ResCom® Board adhesive is not properly cured, hold the sheet in place with temporary blocks on adjacent studs or joists while making cut-outs.

ResCom® Board Edges

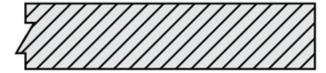
Type 1 Edge



ResCom® Board Recessed Edge

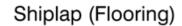
- 1.5mm recess on the long face side allows joint reinforcement
- Provides a smooth even and continuous surface once jointed.

Square Edge



ResCom® Board Square Edge

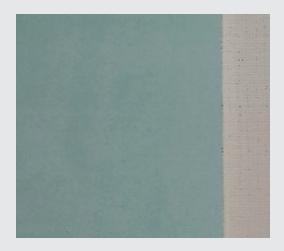
- Square edge finishing
- The square edge allows sheets to be butted together neatly.
- These joints may be covered with aluminium, vinyl or timber mouldings.





ResCom® Board Shiplap Edge







STORAGE AND HANDLING INFORMATION

All materials must be kept dry, preferably by being stored inside the building. Care should be taken to avoid sagging or damage to edges, ends and surfaces. All ResCom® Board should be stacked flat, properly supported on a level platform or on support members which extend the full width of the sheets and which are spaced at maximum 600mm centres. If stored outside, sheets are to be stored off the ground, stacked as previously details and protected from the weather.

INTERNAL MECHANICAL FIXINGS (EXCLUDING WET AREAS)

The fixing systems detailed in this brochure are suitable for all Levels of Finish using timber or steel framing in Australia Regions A and B up to and including wind category N4 as defined in AS4055. These installation methods are based on a differential pressure of 0.5kPa.

Generally, the recommended fixing method is a combination of adhesive and permanent fasteners. The use of fastener only fixing method should be restricted to applications where adhesive cannot be used, such as in fire rated installations, tiled wet areas and over existing linings or vapour barriers.

FASTENERS

The following fasteners are used with timber and steel framing to accommodate most installation applications. When fixing to timber that has been CCA treated, class 3 to 5 non-corrosive screws. MgO Corp require a minimum grade 304 SPAX or 316 stainless steel non-corrosive fixtures when installing in exterior and wet areas or in corrosive air locations.

Drywall / Plasterboard screws are not acceptable for installation of ResCom® Board Products.

Internal Mechanical Fixings (Excluding wet areas)



Nails

NON-CORROSIVE minimum Class 3 to 5

Hardwood 25 x 2.8mm

Softwood 30 x 2.8mm



Self-Counter Sinking Screws

NON-CORROSIVE minimum Class 3 to 5

Minimum 10 Gage self-tapering

For timber framing





N°6 Type 'S' Needle Point

NON-CORROSIVE minimum Class 3 to 5

Minimum 10 Gage self-tapering

For lightweight steel studs

and furring channel up to

0.8mm thickness.





N°6 Type 'S' Drill Point

NON-CORROSIVE minimum Class 3 to 5

Minimum 10 Gage self-tapering

For steel framing 0.8mm

to 1.2mm thickness.

SPAX products available at order from MgO Corp distribution agents.

Exterior and Wet Area Mechanical Fixings

MgO Corp require a minimum grade 304 SPAX or 316 stainless steel non-corrosive fixtures when installing in exterior and wet areas or in corrosive air locations.

External and Wet Area Mechanical Fixing Self-Counter Sinking Screws Nails Stainless Steel 304 SPAX or 316 Stainless Steel minimum 304 SPAX or 316 Minimum 10 Gage self-tapering Hardwood 25 x 2.8mm For timber framing Softwood 30 x 2.8mm N°6 Type 'S' Needle Point N°6 Type 'S' Drill Point Stainless Steel 304 SPAX or 316 Stainless Steel 304 SPAX or 316 Minimum 10 Gage self-tapering Minimum 10 Gage self-tapering For lightweight steel studs For steel framing 0.8mm and furring channel up to to 1.2mm thickness. 0.8mm thickness. SPAX products available at order from MgO Corp distribution agents.

Disclaimer: Magnesium Oxide Board Corporation Pty Ltd waivers all responsibility regarding third party materials and advised the consumer to seek confirmation from the supplier / manufacture of those materials as to the suitability for use in the proposed applications.



JOINTING INSTALLATION METHODS

Jointing and finishing of ResCom® Board installation is to be carried out in accordance with this brochure, and the following details, so as to provide a smooth surface for decorating. Where stopping and external corner beads are required, these are to be applied to all edges subject to damage.

A Level 4 Finish is generally the accepted level of finish for domestic construction (as detailed in AS2859.1:1997 Clause 6.6) and requires a three-coat system, consisting of:

- Tape (or base) coat
- Second coat, and
- Finish (or topping) coat.

Jointing Compounds

MgO Corp recommends elastomeric jointing compounds and coatings that are classified as either setting type or drying type. Setting type compounds produce stronger joints and reduce installation compounds. They are recommended for experienced trades people and have a defined setting time e.g. 40-60 minutes.

Additional coats may be applied over setting type compounds once they have gone hard (set), usually 40 minutes to an hour. A drying type compound must be used as a finish coat and must be completely dry before sanding. This may take up to24 hours.



Drying type compounds will shrink and harden with evaporation of water. The joints must be allowed to set and appear completely dry before re-coating or sanding. Actual drying times will be extended in low temperature and high humidity conditions. Do not use a setting type compound over a drying type compound.

All compounds can be applied by hand or with mechanical jointing tools.





Jointing Tape

Perforated Paper Tape enable the preparation of strong joints and should be used on all butt and recess joints.

Site Mixing of Compounds

The first step to achieving good jointing is proper mixing of the compound.

- Always use clean containers and mixing equipment.
- Always use clean water of drinking quality.
- Never mix different compounds together or mix old batches with new ones.
- Follow mixing instructions printed on each bag.
- Use compounds before the printed 'Best By' date printed on the packaging.



IMPORTANT

When setting type compounds are used during hot, dry conditions, rapid evaporation of water and increased absorption by the lining surface can prevent the compound from setting correctly. This will result in the compound being soft and weak.

If jointing must be carried out under severe drying conditions, only small quantities of compound should be mixed. The compound should then be left standing for approximately 15 minutes to ensure that it sets soon after application to the joints. Additionally, depending on the severity of the drying conditions, the surface of the area to be jointed may require wetting with a brush before applying the compound.

Drying-type compounds should not be used when the interior temperature is less than 10°C.

Jointing System Selection							
Tape Coat	Second Coat	Finish Coat					
Any of the following	Any of the following	Any of the following					
BASE COAT 45	BASE COAT 45	JOI NT MASTER TOPPING COAT					
BASE COAT 60	BASE COAT 60	PRO-II TE TOPPI NG COMPOUND					
WET AREA BASE COAT	WET AREA BASE	TOTAL COAT-II TE TAPE AND TOPPING EASY FINISH					
TOTAL COAT-II TE TAPE & TOPPI NG	TOTAL COAT-II TE TAPE & TOPPI NG						

Approximate Quantities Per 100m2 ResCom Board (Horizontal Sheeting)

Tape & Second Coat	Coat Approximate QTY	Finish Coat	Coat Approximate QTY
BASE COAT 45/60	16kg	JOI NT MASTER TOPPI NG COAT	8kg
WET AREA BASE COAT	15kg	PRO-LI TE TOPPI NG COMPOUND (PREMI XED)	7kg
TOTAL COAT II TE (PREMI XED)	16kg	TOTAL COAT II TE (PREMI XED)	6kg
TOTAL COAT II TE	13kg	TOTAL COAT II TE	5kg
TAPE AND TOPPING	15kg	TAPE AND TOPPING EASY FINISH	10kg/8kg
	* Allow 20% more jointing n	naterial for vertical sheeting	

^{*} Allow 20% more jointing material for vertical sheeting

RECESSED JOINTS

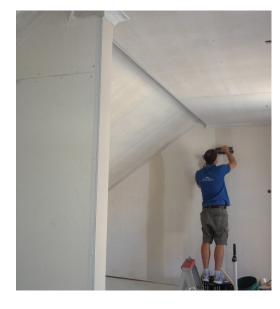
MgO Corp recommends the use of curved trowels when setting recessed joints. Under normal pressure, a curved trowel defects enabling the preparation of a more consistent joint. A 200mm curved trowel is recommended for second coat application, while a 275mm curved trowel is recommended for the finish coat.

Tape Coat

- Fill recess in ResCom® Board evenly and fully with compound using a 150mm broad knife.
- Bed in PAPER TAPE centrally over the joint and cover lightly with compound.
- Cover all fastener heads and fill any surface damage with compound.
- Allow setting-type compounds (BASE COAT) to set for at least one hour, and drying type compounds to harden for 24 hours.

Second Coat

- When the tape coat is dry, apply a second coat, about 180mm
 wide, finishing slightly above the board surface, and feather joint edges.
- Cover fastener heads with a second coat of compound, laid in a different direction, and extending beyond the first coat by about 25mm.
- Allow setting-type compounds to set for at least one hour, and drying type compounds to harden for 24 hours.



Finish Coat

- When the second coat is dry, apply a thin finish coat
 of topping compound centrally over the previous coat,
 about 270mm wide. It may be useful to soften the
 outer edges of the newly trowelled compound with
 a damp water brush or sponge before feathering the
 edges with the trowel.
- Cover previously stopped fastener heads with a third coat of compound, laid in a different direction, extending beyond the previous coat by about 25mm. Ensure that the edges of the compound are neatly feathered and that there are no trowel edge marks left in the final stopping.

Sanding

- Allow the finish coat of compound to dry, for at least 24 hours. Sand smooth with 150 grit paper or cloth, or with 220 grit sanding mesh. Avoid any heavy pressure which might scuff the heads of the fixings and ResCom® Board.
- Caution: If previous coats of drying type compounds are not thoroughly dry before application of subsequent coats, imperfections can result from delayed shrinkage of the compound.

BUTT JOINTS

Tape Coat

- Apply a thin layer of elastomeric compound over the joint, (filling any recess created by back-blocking methods).
- Bed PAPER TAPE and apply a thin coat of compound over the top of the tape. The compound must be spread approximately 150mm each side of the joint.

Second Coat

 When the tape coat is dry, apply a second coat of compound about 200mm wide to each side of the joint. This should have a gradual convex camber over the joint surface.

Finish Coat

When the second coat is dry, apply a finish coat of topping compound centrally over the previous coat to form an even camber over the joint about 250mm each side of the joint. Soften the outer edges of the compound with a damp water brush or sponge before feathering the edges with the trowel.

Sanding

- Allow the finish coat of compound to dry for at least 24 hours. Sand smooth with 150 grit paper or cloth, or with 220 grit sanding mesh.
- Finished joints should have an even and slightly convex camber from edge-to-edge as shown.

INTERNAL CORNERS

- Apply a tape coat to both sides of the corner, and bed in the tape centrally over joint.
- When the tape coat is dry, apply a thin coat of finishing compound over the tape coat ensuring that the edges are well feathered.
- When dry, sand smooth with 150 grit paper or cloth, or with 150/180/220 grit sanding mesh.

EXTERNAL CORNERS AND ARCH BEADS

- Position external angle bead over the corner and sight it to ensure straightness before fastening both flanges at 300mm centres.
- External corners and arch beads are finished with a three-coat compound system applied to the same specifications as for joints.
- When compound is dry, sand smooth with 150 grit paper or cloth, or with 150/180/220 grit sanding mesh.





Jointing with Mechanical Tools

The use of mechanical tools to ResCom® Board is becoming more popular, and used correctly, these tools can significantly increase productivity by cutting the amount of time taken to finish a job.

Premixed compounds should be used directly from the bucket, but can, if necessary, be thinned down with water, used sparingly. Follow the instructions provided on the packaging.

Methods

ResCom® Board may be scored and snapped, cut, trimmed, drilled or shaped using ordinary power or hand tools. ResCom® Board panels may be fastened to supporting joists using self-drilling, self-counter sinking corrosion protected screws. MgO Corp recommends a minimum class 3 to 5 non-corrosive screws/nails for internal wall and ceiling installation (excluding wet areas). For external and wet area installations, it is recommended to use 304 SPAX or 316 stainless steel non-corrosive screws.

Fasteners should be spaced at 12" (305mm) intervals along edges. Spacing may be increased to 18" (475mm) at intermediate joists. The smooth side of the ResCom® Board is suitable for painting or wallpapering with no further preparation and the rough side must apply a prime coat of acrylic-siloxane waterproofing sealer, followed by oil based paint.

Where ResCom® Board is to be used as a mounting surface for ceramic tile, such as in a bathroom or shower enclosure, solvent based tile mastic is recommended.

ResCom® Board recommended assemblies consist of wall, interior wall, shaft wall, steel column, staircase, ceiling, floors and roofing.

Precautions

- Avoid handling ResCom® Board panels when wet.
- Allow to dry before applying joint finishing materials.
- ResCom® Board does not contain any known cancer causing materials.
- Use of a dust mask is recommended during cutting and sanding operations.
- Use of gloves is suggested to reduce the possibility of abrasion injuries.
- Fasteners should not be closer than 2" (51mm) from a corner, with the adjoining screw not less than 4" (102mm) from the same corner.
- Do not install screws on a 45-degree angle at corners.
- Board ends must be supported by joists

- Fasteners must always be installed over supporting structure suitable for application of ceramic tile.
- Do not install surface coverings by driving screw fasteners, except over supporting structure.
- Cantilever overhangs are not recommended.
- Fasteners should not be closer than 3/4" (19.1mm) from any edge.
- Do not fasten coverings directly to ResCom® Board with mechanical fasteners (nails, screws, staples, etc.)

FINISHING

ResCom® Board is a cold form composite product that the surface may, at times, incur superficial pitting to the face. In the event of pitting to the face of the board it is best to apply a skim coat finish to the affected areas, allow to dry, and sand smooth prior to application of the finish coatings. Finished coatings are to be applied:

- 1. Primer sealer, to be roller applied and allowed to dry (Second coat may be required to gain the required level of finish)
- 2. Apply first coat of finishing by roller, allow to dry
- 3. Final coats

Disclaimer: Magnesium Oxide Board Corporation Pty Ltd waivers all responsibility regarding third party materials and advised the consumer to seek confirmation from the supplier / manufacture of those materials as to the suitability for use in the proposed applications.

Selecting a Level of Finish Level 0 Work Level 1 Finish Not Important Level 2 Heavy Texture Build up to Critical and Non-Critical Medium Texture Build up 1mm to 3mm Non-Critical Lighting Coating Light Texture Build up 1/2mm to 1mm Critical Lighting Level 4 Non-Critical Lighting Smooth Texture Build up 1/2mm Non-Critical Lighting Satin/Flat/Low Sheen Critical Lighting Paint Semi-Gloss and Gloss Non-Critical Lighting Paint





Level (

This level may be useful in temporary construction. No stopping, taping, finishing or accessories are required.



Level 1

For use in plenum areas above ceilings, in areas where work would generally be concealed, or in building service corridors and other areas not normally open to public view. Tool marks and ridges are generally acceptable.



Level 2

For use in warehouse, storage or other similar areas where surface finish is not of primary concern. Surfaces should be free of excess joint compound. Some minor tool marks and visible edges are generally acceptable.



Level 3

For use in areas which are to receive heavy or medium texture (spray or hand applied) finishes before final painting, or where heavy grade wall coverings are to be applied as a final decoration. All joint compound is to be finished smooth. (Generally, this is achieved by scraping of nibs and ridges and the like, with the edge of a trowel.)



Level 4

This is generally the accepted level of finish for domestic construction. All joint compound should be sanded to a smooth finish free of tool marks and ridges.



Level 5

This level of finish should be used wherever gloss or semi-gloss paints are to be used, and where critical lighting conditions occur with painted surfaces such as large flat wall and ceiling areas, where severe glancing light will occur from large window openings or skylights, or where artificial silhouette and spot lighting is to be used.

All joint compound should be sanded to a smooth finish free tool of marks and ridges. This should be followed by the application of proprietary surface preparations such as board sealers, and/or in the most critical areas, skim coating to remove differential surface textures and porosity.

Note: skim coating is a term used to describe a thin finish coat, towelled or airless sprayed and then possibly sanded, to achieve a smooth and even finish. It is normally less than 1 mm in thickness and is applied over the entire surface to fill imperfections in the joint work, smooth the paper texture and provide a uniform surface for decorating.

Summary of Level of Finish Dependent on Installation Requirements

It should be noted that domestic application should be prepared to a minimum level 4 finish unless specifically a higher level of finish is agreed by all contracting parties.

ResCom Board Installation Requirements for Category A Timber Frames

Joint between frame and back block									Joint & Finishing					
Length	Max. Frame Horizontal	Ce	ilings	V	Valls	Adhesive	Screw	Approved Internal	Stopping & External	Butt & Recess Joints				
of Finish	Deviation (mm)	Wall Sheet Fixing	Butt	Recess	Butt	Recess	& Fastener Fixing	r Only Fixing				Corner Fixing System	Corner Metal	Internal & External Corners
0	۸	۸	۸	^	۸	^	*	*	۸	۸	NIL			
1	6	۸	۸	^	۸	^	*	*	*	۸	Tape Coat			
2	6	۸	^	^	۸	^	*	*	*	^	Tape Coat & Second Coat			
3	5	*	۸	۸	۸	۸	*	*	*	^	Tape Coat & Second Coat			
4	4	*	*	#	۸	۸	*	*	*	*	Tape Coat, Second Coat & Finish Coat			
5	3	*	*	*	*	۸	*	/	*	*	Tape Coat, Second Coat, Finish Coat & Skim Coat to entire surface			
		ResCon	n Board I	nstallatio	n Requi	rements f	or Category	B Timbe	r Frames					
3	5	*	^	^	^	^	*	/	*	^	Tape Coat & Second Coat			
4	5	*	*	#	^	^	*	/	*	*	Tape Coat, Second Coat & Finish Coat			
5	3	۸	*	*	۸	۸	*	/	*	*	Tape Coat, Second Coat, Finish Coat & Skim Coat to entire surface			
Key to Sy	mbols:	^ Not Applica	able		* Mano	datory		Other S	ymbols see no	otes				

Level 4: # Back blocking required where three or more recessed joints occur in a continuous ceiling area.

Level 5: / Screw only fixing may be used when a fastening to metal furring system is used. Where butt joint in a wall is less than 400mm long and is located more than 2 metres from the floor, there may be no need to provide back blocking.

ResCom Board Installation Requirements for A Category Steel Frames Joint & Joint Between Frame & Back Block **Finishing** Ceilings Walls Butt & Approved Max. Frame Stopping Recess Horizontal Adhesive Screw Internal Length Alignment & External Joints Corner Wall Sheet & Fastener Only of Finish Deviation Corner Internal & Fixing Butt Recess Butt Recess Fixing Fixing Fixing (mm) Metal External System Corners ٨ 0 ٨ ٨ ٨ ٨ ٨ ٨ Λ NIL ٨ * * * 1 6 Λ ٨ ٨ ٨ ٨ Tape Coat Tape Coat & 2 6 ٨ ٨ ٨ ٨ ٨ Second Coat Tape Coat & 3 5 Λ Λ Λ ٨ ٨ **Second Coat** Tape Coat, Second Coat 4 4 # Λ Λ & Finish Coat Tape Coat, Second Coat, Finish ٨ 5 3 Coat & Skim Coat to entire surface **Key to Symbols:** ^ Not Applicable * Mandatory Other Symbols see notes

Level 4: # Back blocking required where three of more recessed joints occur in a continuous ceiling area. Where a butt joint in a wall is less than 400mm long and is located more than 2 metres from the floor there may be no need to provide back blocking.





COATING and FINISHING SYSTEM SELECTION

Any of the Following					
ROCKCOTE					
Step 1	Step 2	Step 3	Step 4		
ROCKCOTE PATCH & PREP & ROCKCOTE MESH (Trowel or Spatula)	ROCKCOTE KEYCOTE (Trowel)	ROCKCOTE ACRYLIC TEXTURE COARSE/MEDIUM/SMOOTH (Trowel)	ROCKCOTE ARMOUR LOW SHEEN X 2 COATS (Roller or as per supplier's specifications)		
ROCKCOTE SMOOTH SET & MESH TO JOINTS (Trowel)	SMOOTH SET X 1 COAT (Trowel)	ROCKCOTE ECOSTYLE SEALER/UNDERCOAT (Brush or roller or as per supplier's specifications)	ECOSTYLE LOW SHEEN X 2 COATS (Brush or roller or as per supplier's specifications)		
ROCKCOTE PATCH & PREP & ROCKCOTE MESH (Trowel or Spatula)	ROCKCOTE KEYCOTE (Trowel)	ROCKCOTE TEXPRIME (Trowel)	ROCKCOTE SANDCOTE (Roller or as per supplier's specifications)		
TAUBMANS – EXTERIOR					
Step 1	Step 2	Step 3	Step 4		
RENDER FINISH – TAUBMANS PREPRIGHT TRADITIONAL UNDERCOAT (D862) (Brush or Roller)	ARMAWALL POLYMER RENDER (D0238) (Brush or Roller)	ARMAWALL ARMASHEILD (D0245) (Brush or Roller)	ARMAWALL ARMASHEILD (D0245) (Brush or Roller)		
PAINT FINISH – TAUBMANS PREPRIGHT TRADITIONAL UNDERCOAT (D862) (Brush or Roller)	ARMAWALL ARMASHEILD (D0245) (Brush or Roller)	ARMAWALL ARMASHEILD (D0245) (Brush or Roller)			
TAUBMANS – INTERIOR					
PAINT FINISH – TAUBMANS PREPRIGHT TRADITIONAL UNDERCOAT (D862) (Brush or Roller)	TAUBMANS ENDURE INTERIOR LOW SHEEN (D172) (Brush or Roller)	TAUBMANS ENDURE INTERIOR LOW SHEEN (D172) (Brush or Roller)			

^{*} DISCLAIMER – ResCom waivers all responsibility regarding their party materials and advises the consumer to seek confirmation from the supplier/manufacturer of those materials as to the suitability for use in the proposed application.

RESCOM PERFORMANCE CHARTS

Screw Pull Out Table: Class 3 to 5 (non-corrosive) self-tapering coarse thread screw. Test Standard to ASTM E386

Screw Diameter (mm)	Area	Co-efficient N/mm	N	lbs	Result
3	7.068583471	76.5	504.7466355	121.3921018	Pass
4	12.56637061	76.5	961.327352	215.8081811	Pass
5	19.63495408	76.5	1502.073987	337.2002829	Pass
6	28.27433388	76.5	2162.986542	485.5684074	Pass
7	38.48451001	76.5	2944.065015	660.9125545	Pass
8	50.26548246	76.5	3845.309408	863.2327242	Pass

GENERAL PHYSICAL CHARACTERISTICS		
Flexural modulus	1.093 × 106psi	
Flexural strength	1295psi	
Compressive strength	3000psi	
Shear strength	391psi	
Flame spread	0	
Smoke developed	0	
Combustibility	0	
Moisture content	<6%	
Impact resistance	1.65 ft/lb-in of notch	
Punch Through	1.75"pin @ 1,133kg	
Thermal Conductivity 12mm (W/mK)	0.44	
Thermal Resistance 12mm (m².K/W)	0.027	
Fungus/mould	Non-nutrient	

WARNING: The above information is ONLY relevant to ResCom® Board CodeMark products. These results are not a reflection of the performances of other common MgO products. ALL ALTERNATE MgO PRODUCTS SHOULD BE INDEPENDANTLY ACCESSED

DESIGN RECOMMENDATIONS						
<u>Panel</u>	<u>L/305</u> (300mm)	<u>L/305</u> (400mm)	<u>L/305</u> (600mm)	<u>L/240</u> (300mm)	<u>L/240</u> (400mm)	<u>L/240</u> (600mm)
12 mm	458.94ksm	195.29ksm	58.59ksm	693.30ksm	292.94ksm	92.76ksm
14mm	1225.49ksm	1517.53ksm	156.24ksm	1845.56ksm	781.19ksm	229.47ksm

LOAD FOR MAXIMUM ALLOWABLE STRESS				
<u>Panel</u>	300mm oc	400mm oc	<u>600mm oc</u>	
12 mm	6669.39ksm	3666.70ksm	1640.49ksm	
14 mm 12738.25ksm 7177.17ksm 3193.11ksm				
Above recommendations based on a maximum allowable flexural stress of 1000 psi.				

PANEL SHEAR	
12 mm panel	140.51/meter
16mm panel	196.90/meter
Above recommendations based on a safety factor of 4	

The use of a T-shaped spline 12.7 mm high with 25.4 mm wings on both sides is recommended for panels 16 mm thick, or heavier, used for subflooring











Magnesium Oxide Corporation Pty Ltd

3 Allen street, Moffat beach, Queensland, 4551

Phone: +61754911688, **America:** +19543789388

Email: admin@mgoboard.com.au **Web**: www.mgoboard.com.au

RESCOM®
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Internal, Extrenal Cladding, Lining and Flooring Products ResCom: Edition 6