# magnesiumoxide boardcorporation



# **REFERENCE MANUAL**

Internal, External Cladding, Lining and Flooring Products





# magnesiumoxide board corporation

### Contents

BCA Codes	3
General	4
Fire Performances	
Thermal and Acoustic Insulation	
Wall Installation	4
Timber Frame Separation Walls	5
Steel Frame Separation Walls	6
External Fire Rated Walls	7
Floor Installation	8
Ceiling Installation	9

Timber framing to be installed in accordance with AS:1684 Metal framing to be installed in accordance with BCA Volume: 2

Extract of ResCom Testing to the BCA:

- BCA Volume One 2013:
- Part C1.8 Light Weight Construction,
- C1.10 Fire Hazard including NSW State Variation,
- C1.12 Non-Combustible materials
- Load bearing Timber Frame 60/60/60 utilising 10mm ResCom<sup>(R)</sup>
- Load bearing Metal Frame 90/90/90 utilising 10mm ResCom<sup>(R)</sup>
- Non-load bearing walls FRL (Single board performance)
   5mm -/20/20
   10mm -/60/60
   10mm -/90/90
   12mm -/120/120
   14mm /180/180
   15mm -/240/240
   18mm Structural Flooring
   120/120/120
- BCA Volume One 2013: Part F5 Sound Insulation to Rw 60+ctr

• BCA Volume Two 2013: Part 3.5.3.3, Fibre cement planks and weatherboard cladding.

ResCom

- BCA Volume Two 2013: Part 3.5.3.4, Fibre cement sheet wall cladding.
- BCA Volume Two 2013: Part 3.5.3.5, Eaves and soffit linings.
- BCA Volume Two 2013: Part 3.7.1, Fire separation for FRL to (load bearing timber frame 60/60/60, load bearing metal frame 90/90/90, non-load bearing FRL -/120/120) – including SA state variation.
- BCA Volume Two 2013: Part 3.7.4, Bushfire areas including all state variations to Part 3.7.4.0 and 3.7.4.1, as tested under AS1530 Part 8.1 2007 and AS1530 Part 8.2 2007 including NSW state variation, SA state variation. TAS state variation.
- BCA Volume Two 2013: Part 3.8.6, Sound insulation to RW 64+ctr



#### General

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. For example, 60/60/60 represents –

- The first number indicates that for 60 minutes the wall must continue to carry the design loads. A dash here indicates a nonloadbearing wall
- The second 60 minutes is the time before the wall's integrity is affected to allow the penetration of hot gases or flames
- The third 60 minutes indicates an insulation failure for allowing too much heat to pass through the wall

Refer to the BCA to determine the fire and acoustic levels required for each application. Fire applications as follows:

ResCom <sup>®</sup> Thickness	Single Panel Performance	Single Panel on Stud	Panel Either Side of Stud
10~~~	60 minutes	Loadbearing wall 60/60/60	Loadbearing wall 60/60/60
TOWIN		Non-loadbearing wall -/120/120	Non-loadbearing wall -/120/120
10mm	90 minutes	Loadbearing wall 90/90/90	Loadbearing wall 90/90/90
		Non-loadbearing wall -/180/180	Non-loadbearing wall -/180/180
12mm	120 minutes	Loadbearing wall 120/120/120	Loadbearing wall 120/120/120
		Non-loadbearing wall -/240/240	Non-loadbearing wall -/240/240
14mm	180 minutes	Loadbearing wall 180/180/180	Loadbearing wall 180/180/180
		Non-loadbearing wall -/360/360	Non-loadbearing wall -/360/360
15mm	240 minutes	Loadbearing wall 240/240/240	Loadbearing wall 240/240/240
		Non-loadbearing wall -/480/480	Non-loadbearing wall -/480/480
18mm Flooring	120 minutes	Loadbearing 120/120/120	Loadbearing 120/120/120

When more than one board is used, such as on each side of a wall or two linings on one side of a wall, the total minutes of fire resistance is additive. This means that two 10mm boards will give at least 120 minutes of fire resistance. All gaps in fire rated structures must be filled with a recommended sealant.

#### Thermal and Acoustic Insulation

Cavity insulation has no bearing on the fire performance of the individual ResCom<sup>R</sup> panel 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.

#### Wall Installation

Two wall systems will be detailed – timber and steel. Timber frames are normally only suitable to a maximum of 120 minutes 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 steel, this is due to the steel weakening at temperature. For timber, it is due to the loss of section as the timber chars.

#### The min stud depth and thickness for the 1 hr, 1-1/2 hr, 2 hr and 3 hr ratings are as follows:

Rating, Hr	Min Stud Depth	Min Stud Thickness
<u>1 to 2 Hr</u>	Timber 75mm or greater	Timber 45mm or greater
<u>1 to 3 Hr</u>	Metal 64mm or greater	0.75mm Metal Stud or greater

#### 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	Ν	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

#### Fire Performance Detail

Wall Type	ResCom <sup>R</sup> Thickness	FRL
	10mm	-/60/60
	10mm	-/90/90
	12mm	-/120/120
	14mm	-/180/180
Single Stud One Side	15mm	-/240/240
Single Stud Both Sides	10mm	60/60/60
	10mm	90/90/90
	12mm	120/120/120
	14mm	180/180/180
	15mm	240/240/240
	10mm	-/60/60
	10mm	-/90/90
	12mm	-/120/120
	14mm	-/180/180
Single Sheet to Concrete Wall	15mm	-/240/240

#### Acoustic Detail



Single stud frame with75mm (1mm thick) steel studs 600mm centres and noggings at 1208.5mm from ground. 12mm ResCom<sup>R</sup> board - 75mm steel studs filled with 24kg/m<sup>3</sup> glasswool insulation - 12mm ResCom<sup>R</sup> board. Double stud frame with75mm (1mm thick) steel studs 600mm centres and noggings at 1208.5mm from ground. 12mm ResCom<sup>R</sup> board – 75mm steel studs filled with 24kg/m<sup>3</sup> glasswool insulation – 20mm air gap - 75mm steel studs filled with 24kg/m<sup>3</sup> glasswool insulation – 2



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<sup>R</sup> board – 75mm steel studs filled with 24kg/m<sup>3</sup> glasswool insulation – 25mm air gap -200mm steel studs – 18mm ResCom<sup>R</sup> board Double stud frame with75mm (1mm thick) steel studs 600mm centres and noggings at 1208.5mm from ground. 12mm ResCom<sup>R</sup> board – 75mm steel studs filled with 24kg/m<sup>3</sup> glasswool insulation – 20mm air gap - 75mm steel studs filled with 24kg/m<sup>3</sup> glasswool insulation – 12mm ResCom<sup>R</sup> board **Timber Frame Separation Walls.** The maximum timber stud heights for applied loads of 15 kN/m and recommended stud spacing maximum 600mm on fire rated wall systems.

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.
- Screws will be non-corrosive class 3 to 5 No.8 x 40 selfdrilling countersunk type, and will finish at approx.
   0.5mm below the surface. MgO Corp recommends a minimum grade 316 stainless steel non-corrosive fixtures to be used in corrosive areas.
- On sheet corners, keep the first screw 50mm from the edge to avoid breakage of the sheet.
- Control joints are to be used where specified, where dissimilar materials abut, or at least every 12 metres.

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 ASI720.1, 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 timber, it is due to the loss of section as the timber chars.

See figure 1.1 and 1.2 for installation details:

- 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.
- 1. One layer ResCom<sup>®</sup> Board to each side of the wall.
- 2. Recommended stud spacing maximum 600mm on fire rated wall systems.
- 3. Apply minimum 4mm Full length bead of structural polyurethane adhesive to studs and noggings.
- 4. On sheet corners, keep the first screw 50mm from the edge to avoid breakage of the sheet.
- 5. Fasteners at 12-15mm from sheet perimeter edges.
- Screws will be 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.
- 7. Temporary fasteners through.
- 8. Keep sheet 6mm from floor. Fill gap with approved fire and acoustic sealant.
- 9. Where horizontal joints are not backed by noggings, stagger all horizontal joints 300mm minimum.
- 10. Stagger butt joints in adjacent sheets one stud minimum.

11. ResCom<sup>®</sup> sheets can be laid vertical or horizontal. Sheets can be joined mid span between studs by back blocking using 150mm width ResCom<sup>®</sup> Board strips screwed.



Figure 1.1 - Timber Fire Wall Installation Detail (Vertical)

Figure 1.2 - Timber Fire Wall Installation Detail (Horizontal)

#### Steel Frame Separation Walls. The size of steel stud should be determined by a professional engineer.

The following are important points to observe

- 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 will be non-corrosive class 3 to 5 No.8 x 40 selfdrilling countersunk type, and will finish at approx.
   0.5mm below the surface. MgO Corp recommends a minimum grade 316 stainless steel non-corrosive fixtures to be used in corrosive areas.
- On sheet corners, keep the first screw 50mm from the edge to avoid breakage of the sheet.
- Do not fix the sheet to the bottom or top plates of the frame. Screws must be 60mm from the top and bottom of the wall, one at each stud.
- 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.
- Control joints are to be used where specified.

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 and 2.2 on the following page for installation details:

 Sheets are screw fixed and a full length 4mm beads of structural polyurethane adhesive can be used to the face all of studs and noggings. MgO Corp does not recommend dabs of adhesives in installation. first to ensure misalignment of joints does not occur in vertical fixing applications.

- 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 used where specified, where dissimilar materials abut, or at least every 12 metres.
- 1. One layer ResCom<sup>®</sup> Board to each side of the wall.
- 2. Recommended stud spacing maximum 600mm on fire rated wall systems.
- 3. On a firewall system do not fix the sheet to the bottom or top plates of the frame. As can be seen in figure 2.1 and 2.2, the screws are 60mm from the top and bottom of the wall, one at each stud.
- 4. On sheet corners, keep the first screw 50mm from the edge to avoid breakage of the sheet.
- 5. Fasteners at 12-15mm from sheet perimeter edges.
- Screws will be class 3 to 5 (non-corrosive) Minimum No. 8x40 self-drilling countersunk type fixed at maximum 300mm centres, and will finish at approximately 0.5mm below the surface. MgO Corp recommends in highly corrosive areas min grade 316 stainless steel noncorrosive fixtures.
- 7. Temporary fasteners through.
- 8. Keep the sheet 6mm from floor. Fill gap with approved fire sealant.
- 9. Where horizontal joints are not backed by noggings, stagger all horizontal joints 300mm minimum.
- 10. Stagger butt joints in adjacent sheets one stud minimum.
- 11. ResCom<sup>®</sup> sheets can be laid vertical or horizontal.
- Sheets can be joined mid span between studs by back blocking using 150mm width ResCom<sup>®</sup> Board strips screwed without loss of structural integrity.
- 13. Allow for appropriate expansion joints where and when needed.





Figure 2.1 - Steel Fire Wall Installation Detail (Vertical)

Figure 2.2 - Steel Fire Wall Installation Detail (Vertical)



External Fire Rated Walls – Timber and Steel.

When ResCom<sup>®</sup> sheets are attached to the outside of the wall, the wall takes on the fire rating of the sheet. A 10mm single external sheet would give up to 90 minute fire rating, a 12mm single external sheet would give 120 minute fire rating, 14mm single external sheet would give 180 minute fire rating, and a 15mm single external sheet would give 240 minute fire rating.

- Follow the fixing details described above for timber and steel walls
- External cladding of fire rated walls require particular 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<sup>®</sup> Wall Board. By placing a 150mm width strip of ResCom<sup>®</sup> board glued with an appropriate fire rated or structural polyurethane adhesive. To be applied in full length minimum 4mm beads to all stud and noggings then screwed into place to allow adhesion. This will help eliminate any thermal breaches and give additional protection to the frame.
- Place back blocks over the face of studs/beams/noggings by gluing and screwing in place prior to installation of the wall boards.
- 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.





Figure 3.1 - Exterior Timber Wall Installation Details





Figure 4.1

Figure 4.2

Figure 4.3

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

- 1. MgO Corp ResCom<sup>R</sup> Board
- 2. Framing or batons
- 3. MgO Corp ResCom<sup>R</sup> Board back blocking at least 200mm width centred over joints
- 4. Butt joint centred between framing member



#### **Floor Installation**

ResCom<sup>®</sup> flooring sheets have the same impressive fire properties as the wall sheets. When combined with ResCom<sup>®</sup> 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. See the flooring technical data sheet for assistance to select the correct floor for your application.

The level of fire protection (up to 180 minutes) is set by the ceiling material, since the flooring sheets already exceed the minimum requirements for 120 minute rating.

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

Normally the acoustic performance of the floor requires particular attention to material choices and method of installation. The floor design must exceed the 'Deemed to Satisfy' requirements of the BCA Part 5 '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.

Ensure minimum class 3 to 5 non-corrosive fasteners suitable to the application are used. Other products needed for installing ResCom® flooring include construction adhesive for bonding floor sheets to the joists, and a fire grade polyurethane sealant for waterproof joints.

Fastener clearance, screw must adhere to the following guidelines, see figure 4:

- 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<sup>®</sup> Board
- 3. Floor joists at 600mm max centres

**SPAN & LOADING GUIDELINES** 

- 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

6. Screws are 25mm from edge of shiplap joint

7. On sheet corners, keep the first screws 50mm from the edge to avoid

breakage. Rest of fasteners at 12-15mm from sheet edges.



Figure 4 - Floor installation perspective

ResCom<sup>®</sup> 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<sup>®</sup> flooring demonstrated no denotable decrease to its

strength and performance.

NOTE: At all times it is advised by Magnesium Oxide Board Corporation Pty Ltd that the elements of flooring design and construction must comply with the requirements of the Building Code of Australia (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.

	Joist Centres	1.5kPa/1 .8kN	2.0kPa/1 .8kN	3.0kPa/2 .7kN	5.0kPa/4 .5kN
16mm	400mm	✓			
18mm	400mm	✓	✓		
18mm	450mm	✓	✓		
19mm	450mm	✓	✓		
20mm	450mm	✓	✓	✓	
20mm	600mm	✓	✓	✓	
25mm	450mm	✓	✓	√	✓
25mm	600mm	✓	✓	✓	
40mm	900mm	✓	✓	√	√
50mm	1200mm	✓	√	✓	✓

#### **Ceiling Installation**

ResCom<sup>®</sup> 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<sup>®</sup> 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 -

- 1. MgO Corp ResCom<sup>R</sup> Ceiling Board
- 2. MgO Corp ResCom<sup>R</sup> Floor Board

3. Metal or timber joist as specified





#### Beam Cladding

- 1. MgO Corp ResCom<sup>R</sup> Board
- 2. Structural Steel Beam
- MgO Corp ResCom<sup>R</sup> soldiers the same thickness as board used, 100mm wide wedged into steel at butt joints.
- 4. MgO Corp ResCom<sup>R</sup> cover strips, 100mm wide laid over joints.
- 5. Staggered joints.



- 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
- Mastic tape or silicone bead is recommended for use on steel beams to prevent moisture build up between substrates.



#### **Column Cladding**

- 1. MgO Corp ResCom<sup>R</sup> Board
- MgO Corp ResCom<sup>R</sup> soldiers the same thickness as board used, 100mm wide wedged into steel at butt joints.
- 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
- Mastic tape or silicone bead is recommended for use on steel beams to prevent moisture build up between substrates.



#### Door/Window Opening End Cap

1. MgO Corp ResCom<sup>R</sup> wall board

2. Screws will be non-corrosive class 3 to 5 No.8 x 40 selfdrilling 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. MgO Corp ResCom<sup>R</sup> 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





#### **T**-junction

- 1. MgO Corp ResCom<sup>R</sup> 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. MgO Corp ResCom<sup>R</sup> 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. MgO Corp ResCom<sup>R</sup> 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. MgO Corp ResCom<sup>R</sup> 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 noncorrosive nails.

External angle bead and compound
 Allow full height sheer support when
 wall angle is more than 25<sup>o</sup>

\* Mastic tape or silicone bead is recommended for use on steel beams to prevent moisture build up between substrates.





#### **Fire Collar Installation**

- 1. MgO Corp ResCom<sup>R</sup> Board
- 2. Wall collar
- 3. Plastic pipe
- 4. Concrete slab or wall
- 5. Collar



#### Duct and Electrical Wire Installation

- 1. MgO Corp ResCom<sup>R</sup> Board
- 2. Ventilation duct
- 3. Electrical cables
- 4. Acrylic sealant
- \* Mastic tape or silicone bead is recommended for use on steel beams to prevent moisture build up between substrates.







#### **Power Point Installation**

- 1. MgO Corp ResCom<sup>R</sup> Board
- 2. Non-corrosive steel stud
- 3. Fire resistant switch box
- 4. Fire mastic/sealant
- 5. Fire resistant switch box
- 6. Electrical wiring
- 7. Switch box cover



# **PRODUCT RANGES**

## ResCom-WallBoard

Internal Wall and Ceiling Linings



Exterior Linings and in Wet Areas



Commercial Applications that Require Greater Strength and Protection

### ResCom-Flooring

Structural Load Bearing Flooring











































ResCom

Magnesium Oxide Board Corporation Pty Ltd 3 Allen street, Moffat beach, Queensland, 4551

 ABN
 47151957742

 Phone
 +61 7 5491 1688

 Fax
 +61 7 5491 3755

 Email
 admin@magoboard.com.au

 web
 www.mgoboard.com.au