STEEL FRAME WALL SYSTEMS
INSTALLATION GUIDE

GYPROCK™
Everything else is just plasterboard

PROFESSIONAL SOLUTIONS

CSR
INTRODUCTION

Gyprock™ Steel Frame Wall Systems comprise a series of lightweight wall assemblies prepared with zinc coated steel frame components together with one or more layers of Gyprock™ plasterboard fixed to one or both sides of the wall.

This guide provides detailed installation information for the fixing of Gyprock™ plasterboard to single stud, staggered stud, double stud and curved walls for both non-fire rated and fire rated applications.

Frame selection and assembly guidance is also provided for non-loadbearing applications.

For additional assistance with plasterboard fixing, contact the CSR Gyprock office in your region.

APPLICATIONS

Gyprock™ Steel Frame Wall Systems are most commonly used in non-loadbearing, non-fire rated applications, in commercial, industrial, institutional, domestic and high-rise construction, or in the renovation of older buildings.

Gyprock™ Steel Frame Wall Systems are also suitable for non-loadbearing fire rated wall construction.

Gyprock™ Steel Frame Wall Systems can be used for internal loadbearing applications provided the steel framing is designed to support vertical loadings. When specifying a loadbearing wall, ensure the system chosen has an appropriate Fire Resistance Level (FRL).

GYPROCK™ PLASTERBOARD

CSR Gyprock manufactures and distributes a diverse range of plasterboard sheet products for direct fixing to framing in non-fire rated and fire rated wall systems. All Gyprock™ Plasterboards are Manufactured to AS2588 – ‘Gypsum Plasterboard’.

Product Manufacture

Gyprock™ plasterboard products are manufactured from gypsum, paper and a small amount of additives. Gypsum is a naturally occurring, non-toxic sedimentary rock. The paper liner board used for plasterboard and cornice is made from 100% recycled newspapers and cartons and the additives are benign materials such as starch and foam.

The energy used in the manufacture of Gyprock™ is amongst the lowest of any building product. Emissions are limited to water vapour and products of natural gas consumption.

Good Environmental Choice Australia

The original Gyprock EC08™ with reCore™ technology was the first Australian made plasterboard to have been Certified by Good Environmental Choice Australia (GECA). Now Superchek™ and three boards in the EC08™ range carry GECA certification.

This certification as a good ‘environmental choice’ means that the product complies to the environmental and social performance characteristics as detailed in the voluntary environmental labeling standard - Panel Boards.

Green Building Council of Australia (GBCA)

The Green Building Council of Australia (GBCA) is Australia’s leading authority on green building. The GBCA was established in 2002 to develop a sustainable property industry in Australia and drive the adoption of green building practices. The GBCA promotes green building programs, technologies, design practices and processes, and operates Australia’s only national voluntary comprehensive environmental rating system for buildings - Green Star.
Gyprock™ Plasterboard CD – Recessed Edge

**Features**
- 1.5mm recess on face side allows formation of shallow channel for joint reinforcement.
- Provides smooth, even and continuous surface once jointed.
- 10mm and 13mm thickness.
- Manufactured with CD technology.

**Applications**
- Internal walls and ceilings.

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Gyprock Supaceil™

**Features**
- 10mm thick recessed edge plasterboard.
- Specially formulated to span 600mm on ceilings.
- Manufactured with CD technology.

**Applications**
- Interior ceilings with joists at 600mm maximum centres.

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Gyprock™ Plasterboard CD – Square Edge

**Features**
- Manufactured with CD technology.

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

**Bevelled Edge Finishing**
- Edges are slightly bevelled.
- Edges are butted together to form a neat V-joint.
- Joints do not need to be covered with battens or finished with compounds.

**Applications**
- Internal walls.
- Usually commercial construction, especially for office partitioning.

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Gyprock Soundchek™

**Features**
- Designed to provide enhanced acoustic resistance in wall and ceiling systems.
- A machine made sheet composed of a high density gypsum core encased in a heavy duty linerboard.
- Long edges are recessed to assist in producing a smooth, even and continuous surface once jointed.
- 13mm thickness.

**Applications**
- Internal walls where a higher sound rating is required.

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Gyprock Aquachek™

**Features**
- Specially processed plasterboard.
- Both the core and linerboard facing are treated in manufacture to withstand the effects of moisture and high humidity.
- Manufactured to the requirements specified in American Society for Testing and Materials C630.
- For use as a wall and ceiling lining in ‘wet areas’ and high moisture areas in residential and commercial applications.
- Recessed edges allow flush jointing to Recessed Edge Plasterboard.

**Applications**
- Gyprock Aquachek™ is a suitable substrate for ceramic tiles.
- Usage areas include bathrooms, kitchens, laundries, garages and ceiling applications such as walkways and verandahs.
- The Gyprock Aquachek™ Wet Area Lining System is suitable for walls in high, medium and low risk level wet areas as defined in AS3740.

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Gyprock Impactchek™ 13

**Features**
- 13mm thickness plasterboard reinforced with a woven fibreglass mesh.
- High strength to resist soft body impact damage.
- Long edges are recessed on the face side to assist in producing a smooth, even and continuous surface once jointed.
- Violet coloured face linerboard for easy identification.

**Applications**
- High traffic areas such as hallways, stairways, playrooms and garages.
TABLE 1: GYPROCK™ PRODUCT WEIGHTS

Colour shading behind each product approximates the colour of the product face liner sheets. For detailed sheet sizes and availability, contact the CSR Gyprock Sales Centre in your region or refer to www.gyprock.com.au

<table>
<thead>
<tr>
<th>Gyprock Lining Products</th>
<th>Thickness mm</th>
<th>Mass kg/m²</th>
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<tr>
<td>CD SQUARE EDGE</td>
<td>10</td>
<td>6.5</td>
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<td>SOUNDCHEK™</td>
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<td>SUPERCHER™</td>
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<td>EC08™ PARTITION</td>
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<td>9.3</td>
</tr>
<tr>
<td>EC08™ FIRE</td>
<td>13</td>
<td>10.5</td>
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<td>EC08™ IMPACT</td>
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<td>FYRCHER™</td>
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<td>FYRCHER™ MR</td>
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<tr>
<td>SHAFT LINER PANEL</td>
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</tr>
</tbody>
</table>

**Gyprock Fyrchek™**

**Features**
- Suitable for wall and ceiling systems where a fire rating is to be achieved, or where acoustic performance is required.
- Composed of a specially processed glass fibre reinforced gypsum core encased in a heavy duty pink liner board.
- Long edges are recessed for flush jointing.

**Applications**
- Fire rated walls and ceilings.
- High performance acoustic rated walls and ceilings.

**Gyprock EC08™ Fire**

**Features**
- A fire rated board developed for use in Green Star buildings.
- Certified by GECA as meeting the requirements of their environmental standard for Panel Boards. The basis of the certification is Gyprock ReCore™ technology, raising the level of recycled content.

**Applications**
- GECA certified board with fire and acoustic rating and suited to party walls and meeting rooms.

**Gyprock Fyrchek MR™**

**Features**
- A fire rated board with moisture resistant properties.
- Primarily intended for walls and ceilings in ‘wet areas’ and for protected soffits and external eaves which must also achieve fire resistance.
- Both the core and the liner board are treated in manufacture to withstand the effects of high humidity and moisture.
- Long edges are recessed for flush jointing.

**Applications**
- Walls and ceilings in ‘wet areas’ and for protected soffits and external eaves which must also achieve fire resistance.

**Gyprock Superchek™ 10**

**Features**
- 10mm plasterboard with denser core and heavy duty facing material.
- Resists double the force to impose a discernable surface indentation compared to standard plasterboard.
- Denser core for sound resistance. Walls lined with Superchek™ provide a clearly noticeable, 15% reduction in perceived loudness compared to standard plasterboard.

**Applications**
- High traffic areas such as hallways, stairways, playrooms and garages.

**Gyprock EC08™ Impact**

**Features**
- Fire and acoustic rated board that also offers increased impact resistance for applications in Green Star buildings.
- Certified by GECA as meeting the requirements of their environmental standard for Panel Boards. The basis of the certification is Gyprock ReCore™ technology, raising the level of recycled content.

**Applications**
- GECA certified board with fire and acoustic rating and increased impact resistance for high traffic areas such as hallways and stairs in education and health facilities.

**Gyprock EC08™ Partition**

**Features**
- A general purpose non-fire rated board developed for use in Green Star buildings.
- Certified by GECA as meeting the requirements of their environmental standard for Panel Boards. The basis of the certification is Gyprock ReCore™ technology, raising the level of recycled content.

**Applications**
- An economical, non-fire rated board for general wall and ceiling use and office fit-outs where fire and acoustic properties are not required.
Gyprock™ Mastics & Sealants

In fire rated systems where caulking is indicated, a fire-rated sealant such as Gyprock™ Fire Mastic must be used. Where specified for joints designed for significant movement, a polyurethane sealant such as Bostik Fireban One (FB1) may be used. Both products are also recommended for caulking acoustic systems and are available in 600ml sausages.

Gyprock™ Wet Area Acrylic Sealant is recommended for sealing non-fire rated wet area systems. It is available in 300ml cartridges.

**Stud Adhesive**

Gyprock™ Acrylic Stud Adhesive is coloured blue for easy identification. It can be used on both timber and steel in temperatures not less than 5ºC.

Contact surfaces must be free of oil, grease or other foreign materials before application.

The adhesive is applied with a broad knife to form 25mm diameter by 15mm high walnuts.

**WARNING**

- Stud adhesive MUST NOT be used on FIRE RATED or TILED WALL systems.
- Daubs of adhesive must never coincide with fastener points.
- Stud adhesive does not constitute a fixing system on its own and it must be used in conjunction with nail or screw fasteners.

**Gyprock™ Mastics & Sealants**

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Gyprock™ Wet Area Acrylic Sealant is recommended for sealing non-fire rated wet area systems. It is available in 300ml cartridges.

**Gyprock™ Cornice**

Gyprock™ Cove Cornice in 55mm and 90mm sizes is available in all states. 75mm is available in Western Australia and Victoria only.

Gyprock Classic™, Concerto™ and Tempo™ Cornice are 90mm profiles, Jazz™ and Symphony™ cornice are 75mm profiles, available in all states.

GYPROCK cornice sections are available in various lengths. Call your local sales office for lengths stocked in your state.

It is recommended that cornice be attached with Gyprock™ Cornice Cement.

**Jointing Compounds**

CSR Gyprock has a wide range compounds, cements and accessories for finishing plasterboard installations.

Refer the Gyprock™ Plasterboard Residential Installation Guide, N°GYP547 for details.

**Jointing of Wet Areas**

CSR Gyprock recommends that a Gyprock™ Wet Area Base Coat be used at horizontal and vertical joints within wet areas such as showers and above basins.

Where sheets are to be a substrate for tiling, set corners with paper tape and two coats of Wet Area Base Coat. Cover all fastener heads with Wet Area Base Coat.

Joints in non-tiled areas (that are not designated wet areas) may be finished with Gyprock™ finishing compounds.

**Handling & Storage**

All materials must be kept dry, preferably stored inside. Care should be taken to avoid sagging or damage to ends, edges and surfaces of sheets.

All GYPROCK plasterboard must 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 a maximum of 600mm centres.

If stored outside, sheets must be stored off the ground, stacked as previously detailed and protected from the weather.

Buildings should be sealed against water ingress before plasterboard is installed. It is recommended that plasterboard damaged by water is rejected or replaced.

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**TABLE 2: FIXING TO STEEL 0.5 – 0.8MM BMT**

<table>
<thead>
<tr>
<th>Plasterboard Thickness</th>
<th>1st Layer</th>
<th>2nd Layer</th>
<th>3rd Layer</th>
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<td>#6-18 x 25mm Bugle, NP</td>
<td>#6-18 x 25mm Bugle, NP</td>
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<tr>
<td>1 or 2 x 10mm Plasterboard</td>
<td>#6-18 x 25mm Bugle, NP</td>
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<td>1, 2 or 3 x 13mm Plasterboard</td>
<td>#6-18 x 25mm Bugle, NP</td>
<td>#6-18 x 40mm Bugle, NP</td>
<td>#10-40 Laminating</td>
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<td>1, 2 or 3 x 16mm Plasterboard</td>
<td>#6-18 x 30mm Bugle, NP</td>
<td>#6-18 x 45mm Bugle, NP</td>
<td>#10-40 Laminating</td>
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<td>13mm + 16mm Plasterboard</td>
<td>#6-18 x 25mm Bugle, NP</td>
<td>#6-18 x 45mm Bugle, NP</td>
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**TABLE 3: FIXING TO STEEL 0.8 – 2.4MM BMT**

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<thead>
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<tr>
<td>1, 2 or 3 x 16mm Plasterboard</td>
<td>#6-18 x 30mm Bugle, DP</td>
<td>#6-18 x 45mm Bugle, DP</td>
<td>#10-40 Laminating</td>
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<tr>
<td>13mm + 16mm Plasterboard</td>
<td>#6-18 x 25mm Bugle, DP</td>
<td>#6-18 x 45mm Bugle, DP</td>
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</tbody>
</table>
STEEL FRAME COMPONENTS

Component Selection
CSR Gyprock recommends steel components manufactured by Rondo Building Services Pty Ltd.
Additional information on steel building components can be obtained from the Rondo Building Services Pty Ltd, telephone 1300-367-663.
Other steel components of equivalent performance may be used, however it is the responsibility of the manufacturer of the steel component to substantiate equivalent performance with the recommended component.

Steel Studs
Rondo Steel Studs are manufactured with 25mm diameter holes at regular spacings along the web to allow electrical/plumbing services to be easily installed through framing. Service holes in adjacent studs should be aligned at the time of frame assembly.
Studs of 0.50, 0.55 and 0.75mm BMT have bell-mouthed service holes which have no protruding sharp edges, thereby eliminating the need to fit grommets to protect electrical installations.
Studs of 1.15mm BMT have punched service holes at regular spacings along the web.

TABLE 4: PRODUCTION SIZES FOR RONDO STEEL STUDS (mm)

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<tr>
<th>Depth</th>
<th>BMT</th>
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</table>

★ = Production lead time may be required  Q = Rondo Quiet Stud  *= Rondo Hemmed Stud

RONDO LIPPED STEEL STUD PROFILES

RONDO HEMMED STUD

RONDO QUIET STUD

RONDO STUD CLIP Nº126
Track

Rondo Track is used at the top and bottom of wall frames to locate the wall studs. Studs are held in the track by friction fit to allow for movement in the structure. Track and studs must not be fixed together in any way, and the plasterboard must not be fixed through the track.

TABLE 5: STANDARD PRODUCTION SIZES FOR RONDO WALL STUD TRACK

<table>
<thead>
<tr>
<th>Depth (mm)</th>
<th>BMT 0.5</th>
<th>BMT 0.7</th>
<th>BMT 1.15</th>
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<td>- ✓</td>
<td>✓ ✓</td>
<td>3000</td>
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Deflection Head Track

Rondo Deflection Track is used at the top of wall frames to locate the wall studs and to allow for vertical deflection of the ceiling/soffit. Studs are held in the track by friction and must not be fixed to the deflection track in any way. Plasterboard must not be fixed through the track. Refer to installation information in the ‘Wall System Detailing’ section of this guide.

TABLE 6: PRODUCTION SIZES FOR RONDO DEFLECTION HEAD TRACK

<table>
<thead>
<tr>
<th>Depth (mm)</th>
<th>BMT 0.7*</th>
<th>BMT 0.75</th>
<th>BMT 1.15</th>
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<td>✓ ✓</td>
<td>3000</td>
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</table>

* = Rondo Hemmed Stud

Nogging Track

Rondo Nogging Track is designed to support the wall studs and prevent twisting of the studs. Factory punched holes in the web allow quick installation to the studs. Nogging track is an alternative to conventional cut noggings. When fitted, nogging track should be screw fixed or cramped to both flanges of each stud.

TABLE 7: RONDO STEEL NOGGING TRACK

<table>
<thead>
<tr>
<th>Depth (mm)</th>
<th>Stud Spacing 450mm</th>
<th>Stud Spacing 600mm</th>
<th>Length (mm)</th>
</tr>
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<td></td>
<td>Track 0.75 BMT</td>
<td></td>
<td>3600</td>
</tr>
<tr>
<td>51</td>
<td>✓</td>
<td>✓</td>
<td>3600</td>
</tr>
<tr>
<td>64</td>
<td>✓</td>
<td>✓</td>
<td>3600</td>
</tr>
<tr>
<td>76</td>
<td>✓</td>
<td>✓</td>
<td>3600</td>
</tr>
<tr>
<td>92</td>
<td>✓</td>
<td>✓</td>
<td>3600</td>
</tr>
<tr>
<td>150</td>
<td>✓</td>
<td>✓</td>
<td>3600</td>
</tr>
</tbody>
</table>
Table 8 and 11 provide stud selection information suitable for all CSR Gyprock non-fire rated and fire rated non-loadbearing internal wall systems that are to be designed for a Uniform Distributed Load (UDL) of 0.25kPa.

Table 9 provides stud selection information suitable for specialised fire rated non-loadbearing wall systems that are required to be designed for a UDL of 0.35kPa. Refer to Rondo for other design pressures and for loadbearing walls.

### TABLE 8: MAXIMUM WALL HEIGHT WITH RONDO LIPPED STEEL STUDS - NON-LOADBEARING WALLS - WALLS GENERALLY (LOAD = 0.25kPa)

<table>
<thead>
<tr>
<th>Wall Frame and Lining Configuration</th>
<th>Stud Size (mm)</th>
<th>51</th>
<th>64</th>
<th>76</th>
<th>92</th>
<th>150</th>
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<tbody>
<tr>
<td></td>
<td>BMT</td>
<td>0.5</td>
<td>0.75</td>
<td>0.5</td>
<td>0.75</td>
<td>1.15</td>
</tr>
<tr>
<td>600mm max. cts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>2.77</td>
<td>2.91</td>
<td>3.33</td>
<td>3.93</td>
<td>4.17</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>3.20</td>
<td>3.22</td>
<td>3.72</td>
<td>4.22</td>
<td>4.43</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>3.38</td>
<td>3.52</td>
<td>3.91</td>
<td>4.35</td>
<td>4.52</td>
</tr>
<tr>
<td>600mm max. cts CSR 080(-/180/180)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>2.60</td>
<td>2.60</td>
<td>3.00</td>
<td>3.60</td>
<td>4.30</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>2.32</td>
<td>2.60</td>
<td>2.72</td>
<td>3.13</td>
<td>3.53</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>2.32</td>
<td>2.60</td>
<td>2.75</td>
<td>3.28</td>
<td>3.59</td>
</tr>
<tr>
<td>300mm max. cts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>10</td>
<td>2.32</td>
<td>2.60</td>
<td>2.72</td>
<td>3.24</td>
<td>3.58</td>
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<tr>
<td>300mm max. cts Boxed Studs</td>
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<td>2.37</td>
<td>2.83</td>
<td>3.51</td>
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</tr>
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</table>

### TABLE 9: MAXIMUM WALL HEIGHT WITH RONDO LIPPED STEEL STUDS - NON-LOADBEARING WALLS - WALLS OF SHAFTS AND FIRE ISOLATED EXITS (LOAD = 0.35kPa)

<table>
<thead>
<tr>
<th>Wall Frame and Lining Configuration</th>
<th>Stud Size (mm)</th>
<th>51</th>
<th>64</th>
<th>76</th>
<th>92</th>
<th>150</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BMT</td>
<td>0.5</td>
<td>0.75</td>
<td>0.5</td>
<td>0.75</td>
<td>1.15</td>
</tr>
<tr>
<td>600mm max. cts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>2.42</td>
<td>2.55</td>
<td>2.93</td>
<td>3.49</td>
<td>3.70</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>2.81</td>
<td>2.92</td>
<td>3.29</td>
<td>3.75</td>
<td>3.94</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>3.00</td>
<td>3.12</td>
<td>3.45</td>
<td>3.84</td>
<td>3.99</td>
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<td>600mm max. cts CSR 080(-/180/180)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>2.60</td>
<td>2.60</td>
<td>3.30</td>
<td>3.60</td>
<td>4.30</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>2.32</td>
<td>2.60</td>
<td>2.72</td>
<td>3.25</td>
<td>3.58</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>2.32</td>
<td>2.60</td>
<td>2.75</td>
<td>3.28</td>
<td>3.59</td>
</tr>
<tr>
<td>300mm max. cts</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>2.14</td>
<td>2.59</td>
<td>3.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>300mm max. cts Boxed Studs</td>
<td></td>
<td>2.65</td>
<td>3.26</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### TABLE 10: MINIMUM NUMBER OF NOGGINGS

<table>
<thead>
<tr>
<th>Lining Configuration</th>
<th>Wall Height (m)</th>
<th>Number of Noggings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lined Both Sides</td>
<td>0 - 4.4</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>4.4 - 8.8</td>
<td>1</td>
</tr>
<tr>
<td>Lined One Side*</td>
<td>0.0 - 3.0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>3.0 - 6.0</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>6.0 - 8.0</td>
<td>3</td>
</tr>
<tr>
<td>Staggered Studs</td>
<td>All</td>
<td>0</td>
</tr>
</tbody>
</table>

NOTES: *Plus noggings at head. Refer to details.
<table>
<thead>
<tr>
<th>Wall frame and lining configuration</th>
<th>Minimum Plasterboard Thickness</th>
<th>Stud Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>600</td>
<td>450</td>
</tr>
<tr>
<td>Spacing</td>
<td>10</td>
<td>3.70</td>
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<tr>
<td></td>
<td>13</td>
<td>4.13</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>4.30</td>
</tr>
</tbody>
</table>
FRAMING REQUIREMENTS

Introduction

Non-loadbearing wall framing is constructed using Rondo lipped steel studs fitted into track sections positioned at the top and bottom of the wall. Deflection head track must be used on all walls exceeding 4800mm in height and may be specified in any wall system to allow for vertical movement of the roof/ceiling.

Studs are held in the tracks by friction fit, and they must not be fixed together by mechanical fasteners or crimping except where specifically required around door openings.

Staggered stud wall systems are constructed using the Gyprock Staggered Stud Clip to locate 64mm depth lipped studs in 92mm floor and ceiling tracks. Alternatively, Rondo P140 sections may be used to locate studs to head track/angles. Refer to detailed assembly information.

CSR Gyprock recommends that internal non-loadbearing, non-fire rated walls be designed for a minimum UDL of 0.25kPa. Refer to Tables 8 to 11 for suitable stud sizes/height selection information. Where higher pressures are specified, contact Rondo Building Services.

Control Joints

Control joints must be provided through the frame and wall lining at 12m maximum centres and to coincide with building control joints, at changes to framing material, and at junctions with other walls. Control joints are formed using two studs.

Track Fixings

Each track fastener is required to withstand a shear load of 0.75kN for walls with a design load of 0.25kPa.

For walls with a design UDL of 0.35kPa, each track fastener is required to withstand a shear load of 1.1kN.

When fixing to concrete or masonry, use power driven fasteners, expansion anchors (eg. Dynabolts”), or easy drive masonry anchors.

When fixing to suspended ceiling systems, use CSR Gyprock™ Type ‘S’ Screws, toggle bolts or expandable fasteners.

Nogging

Nogging is not required in non-loadbearing single stud wall systems less than 4400mm in height which have plasterboard fixed on both sides.

Nogging is required in non-loadbearing double stud walls and single stud walls lined on one side only. An additional nogging is required near the top of the wall. Refer to Wall Head Details.

Where nogging is required, it should be screw fixed or crimped to both flanges of each stud.

Noggings must be installed where support is required for attaching handrails and wall fixtures.

Nogging must not be installed in staggered stud wall systems, as additional connection between studs reduces the acoustic performance of these wall systems.

Nogging must be installed in loadbearing wall systems to stabilise the wall. Refer to your project engineer or Rondo Building Services for requirements.

Installation Procedure

Single and Double Stud

- Accurately align floor and ceiling tracks according to the wall layout and fasten in place at 100mm maximum from each end of the track and at 600mm maximum centres along the track. Apply a continuous bead of sealant between the track and support structure where acoustic integrity is required.

- Place studs into the tracks and twist into position. The track flanges should provide a friction fit. Ensure studs are bottomed in floor track. Do not fix studs to top and bottom tracks.

- Position a stud at each end of the wall, and where appropriate, fix its web to the adjacent wall structure.

- Position studs along the wall at 600mm maximum centres. The open sides of these studs should be facing the end of the wall from which sheeting will begin.

- Where nogging track is to be used, fit to studs before installing into tracks. Otherwise cut-to-length nogging can be fitted after stud installation.

FIG 1: STUD INSTALLATION

- Position a stud at each end of the wall, and where appropriate, fix its web to the adjacent wall structure.

- Position studs along the wall at 600mm maximum centres. The open sides of these studs should be facing the end of the wall from which sheeting will begin.

- Where nogging track is to be used, fit to studs before installing into tracks. Otherwise cut-to-length nogging can be fitted after stud installation.

FIG 1: STUD INSTALLATION
PLASTERBOARD INSTALLATION

Introduction
Gyprock™ plasterboard sheets may be installed horizontally or vertically.
Vertical installation is generally preferred for commercial steel frame installations. However, to achieve some ‘Levels of Finish’, or in areas of glancing or critical lighting, horizontal sheeting may be used.

Fixing Notes
- Walls that are to be tiled must be fastener fixed. Adhesive is not permitted.
- Adhesive daubs must never coincide with fastening points.
- Do not fasten plasterboard sheeting to head tracks.
- Do not fix plasterboard to steel framing which is greater than 2.0mm in thickness.
- Sheet joints are not to coincide with edges of openings. Refer to FIG 2.
- Sheets are to be held firmly against frame while fasteners are positioned. Wherever possible commence fastening from the centre portion of the sheet, proceeding to the ends and edges. Alternatively, start at one edge and work across the sheet to the other edge.
- Fasteners are to be driven home with the head slightly below the surface of the sheet, but not punched through the face linerboard. Best results are obtained using a screw gun. Care should be taken to avoid damaging the face or core of the plasterboard.
- Ensure that all services and insulation materials are installed (when required), prior to the fixing of sheets to the second side of the wall.

Caulking
Caulk all perimeter gaps and penetrations to achieve stated acoustic performance. Use Gyprock™ Wet Area Acrylic Sealant or Gyprock™ Fire Mastic.

Jointing & Finishing
For jointing and finishing information, refer to the Gyprock™ Residential Installation Guide, NºGYP547. In multi-layer systems, jointing and finishing is required on the outer layer only, on each side of the wall.

Tiling
Where Gyprock™ plasterboard is used as a substrate for tiles, the sheets must be fastened with screws only. Adhesive/fastener fixing is not acceptable.
Where tiles will be up to 12.5kg/m², space screws in the field of the sheet at a maximum 200mm centres. Internal corners, external corners, around openings and butt joints are to be fastened at a maximum 150mm centres, with fasteners opposite each other at all joints. Where wall tiles are up to 32kg/m², space screws at 100mm maximum centres to the field of the board, internal corners, external corners, around openings and butt joints.

Fixing Procedures
Where possible, sheeting should commence from the end facing the open side of the studs. Refer to illustrations.
Notes On Fixing

- Offset joints on opposite sides of the wall by one stud.
- Cut sheets as necessary to provide up to 10mm gap at the bottom and appropriate clearance at the top.
- Do not fix sheets to the top and bottom tracks, (fix to studs only).
- Daubs of adhesive must be 200mm minimum from fastening points.
- Place edge fasteners at 10 to 16mm from sheet edge.
- Where possible, sheeting should commence from the end facing the open side of the studs.

Fixing Procedure

For fastener specifications refer to Table 2 & 3.

First Side

- Apply stud adhesive to intermediate studs. Using a broadknife apply daubs 25mm diameter x 15mm high at 200mm minimum from fastening points and at 300mm maximum centres.
- Apply sheets vertically (paper bound edges parallel with studs), leaving a 10mm max. gap between the bottom of the sheet and the floor, and with recess joints centred on stud flanges.
- Press the sheet firmly against the studs and screw fix recessed edges to the studs at 100mm maximum from top and bottom of sheet (but not through tracks) and at 400mm maximum centres.
- Screw fix to intermediate stud at 100mm maximum from top and bottom of sheet (but not through tracks) and at 1200mm maximum vertical centres.
- Screw fix at all corners and around openings at 300mm maximum centres.

Second Side

- Ensure all electrical/plumbing/insulation materials have been installed before sheeting second side.
- Cut the first sheet so that joints on opposite sides of the wall are located on different studs.
- Screw fix this sheet to both studs at 300mm maximum centres.
- Adhesive and fastener fix subsequent sheets as per instructions for the first side.
**Notes On Fixing**

- Butt joints in adjacent sheets and on opposite sides of the wall must be staggered by a minimum of one stud spacing.
- For a level 4 finish, butt joints must be formed between studs.
- Do not fix sheets to the top and bottom tracks, (fix to studs only).
- Daubs of adhesive must be 200mm minimum from fastening points.
- Place edge fasteners at 10 to 16mm from sheet edge.
- Where possible, sheeting should commence from the end facing the open side of the studs.

**Fixing Procedure**

For fastener specifications refer to Table 2 & 3.

**First Side**

- Apply stud adhesive to intermediate studs. Using a broadknife apply daubs 25mm diameter x 15mm high at 200mm minimum from fastening points and at 300mm maximum centres.
- Apply sheets horizontally (paper bound edges at right angles to studs), leaving a 10mm max. gap between the bottom of the sheet and the floor, and with butt joints centred on stud flanges.

**Second Side**

- Screw fix to each stud along one recessed edge, beginning at the centre of the sheet and working towards the ends.
- Press the sheet firmly against the studs and screw fix to each stud along the second recessed edge. Do not fix through top and bottom tracks.
- Hold the sheet firmly against the studs, and screw fix along the centreline of the sheet at every second stud.
- Screw fix butt joints at 200mm maximum centres.
- Screw fix at all corners and around openings at 300mm maximum centres.
- Apply the next row of sheets, cutting the first sheet so that butt joints will be offset from adjacent sheets by a minimum of one stud.
- Cut sheets as necessary to ensure appropriate clearance is provided at the head.

**Suitable For:**

- Noggings may not be permitted in staggered stud systems.
Notes On Fixing
- Butt joints in adjacent sheets and on opposite sides of the wall must be staggered by a minimum of one stud spacing.
- For a level 4 finish, butt joints must be formed between studs.
- Do not fix sheets to the top and bottom tracks, (fix to studs only).
- Place edge fasteners at 10 to 16mm from sheet edge.
- To avoid stud distortion, sheeting should commence from the end facing the open side of the studs.

Fixing Procedure
For fastener specifications refer to Table 2 & 3.

First Side
- Apply sheets horizontally (paper bound edges at right angles to studs), leaving a 10mm max. gap between the bottom of the sheet and the floor where an acoustic seal is required.
- Screw fix to each stud, beginning at the centre of the sheet and working towards the ends and edges. Alternatively, start at one edge and work across the sheet to the other edge.
- Screws are to be spaced at 400mm maximum centres along studs. Do not fix through top and bottom tracks.
- Where butt joints on framing are permitted, screw fix butt joints at 200mm maximum centres.
- Screw fix at all corners and around openings at 300mm maximum centres.
- Apply the next row of sheets, cutting the first sheet so that butt joints will be offset from adjacent sheets by a minimum of one stud spacing.
- Cut sheets as necessary to ensure appropriate clearance is provided at the head.

Second Side
- Ensure all electrical/plumbing/insulation materials have been installed before sheeting second side.
- Cut sheets as necessary so that butt joints in adjacent sheets and on opposite sides of the wall are staggered on different studs.
- Apply and fix sheets as detailed for the first side.

Fixing Specifications
<table>
<thead>
<tr>
<th>Location</th>
<th>Fixing &amp; Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field</td>
<td>Screws at 400mm max. centres</td>
</tr>
<tr>
<td>Sheet Width</td>
<td></td>
</tr>
<tr>
<td>900mm</td>
<td>4 Screws</td>
</tr>
<tr>
<td>1200mm</td>
<td>4 Screws</td>
</tr>
<tr>
<td>1500mm</td>
<td>5 Screws</td>
</tr>
<tr>
<td>Recessed Edges</td>
<td>Screw at each stud</td>
</tr>
<tr>
<td>Butt joints</td>
<td>Screws at 200mm max. centres</td>
</tr>
<tr>
<td>Corners &amp; Openings</td>
<td>Screws at 300mm max. centres</td>
</tr>
</tbody>
</table>

FIG 7: FASTENER FIXING - SINGLE LAYER HORIZONTAL SHEETING - NON-TILED AREAS

For Level 4 finish, form butt joints between framing.

One layer of Gyprock® plasterboard to each side of wall.

CSR Bradford Acoustic Insulation if required

Refer to perimeter details

SUITABLE FOR:
Noggings may not be permitted in staggered stud systems

GYPROCK™ STEEL FRAME SYSTEMS
Notes On Fixing

- First layer is installed vertically and fully screw fixed (no adhesive). Second layer is fixed with adhesive and screws, and sheets may be installed vertically or horizontally. Refer to FIG 7 for horizontal fixing.
- Cut sheets as necessary to provide up to 10mm gap at the bottom of outer sheets, and an appropriate clearance at the top.
- Daubs of adhesive must be 200mm minimum from fastening points.
- Place edge fasteners at 10 to 16mm from sheet edge.
- Where possible, sheeting should commence from the end facing the open side of the studs.

Fixing Procedure

For fastener specifications refer to Table 2 & 3.

First Side - First Layer

- Apply sheets vertically (paper bound edges parallel with studs), with the bottom edge of the sheet on the floor, and with recess joints centred on stud flanges.
- Press the sheet firmly against the studs and screw fix to at top and bottom (but not through tracks) and at 400mm maximum centres along all studs.
- Screw fix at all corners and around openings at 300mm maximum centres.

Second Side - First Layer

- Ensure all electrical/plumbing/insulation materials have been installed before sheeting second side.
- Cut the first sheet so that joints on opposite sides of the wall are located on different studs.
- Screw fix this and subsequent full width sheets as detailed for the first side.

First Side - Second Layer

- Cut the first sheet so that joints in the second layer do not align with joints in the first layer.
- Apply sheet vertically, leaving a 10mm max. gap between the bottom of the sheet and the floor, and screw fix at top and bottom (but not through tracks) and at 400mm max. centres to both studs.
- Apply stud adhesive over intermediate studs. Using a broadknife apply daubs 25mm diameter x 15mm high at 200mm minimum from fastening points and at 300mm maximum centres.
- Continue applying full sheets vertically with recess joints centred over stud flanges.
- Press sheets firmly against the studs and screw fix recessed edges at top and bottom (but not through tracks) and at 400mm max. centres.
- Press sheets firmly against the studs and screw fix to intermediate stud at top and bottom (but not through tracks) and at 1200mm maximum vertical centres.
- Screw fix at all corners and around openings at 300mm maximum centres.
CURVED WALLS

Applications
GYPROCK plasterboards of 10mm or greater thickness may be used on curved walls where the radius of the curve is 900mm or greater, as detailed in Table 12.

Fire rated walls MUST NOT be curved to a radius of less than 3000mm.

Where a radius tighter than 900mm is to be used, the wall should be sheeted with GYPROCk Flexible Plasterboard.

Gyprock™ Flexible Plasterboard

CSR Gyprock™ Flexible Plasterboard has been specifically designed for curved wall applications. It is particularly effective for small radius situations (less than 900mm) which can not be accomplished with 10 or 13mm GYPROCK plasterboards.

Refer to Table 13 for the minimum curving radius and maximum stud spacing for Gyprock™ Flexible Plasterboard applications.

Framing Preparation

Prepare the curved framing in accordance with Table 12 or 13 and FIG 9 appropriate for the chosen plasterboard and curving radius. For small radius curves, install double studs at each end of the curve to prevent frame deflection.

Rondo Flexi-Track™ makes the job of preparing curved walls considerably easier, and is available in 0.55 BMT for general use, and in 0.75 BMT for deflection head applications.

Flexi-Track™ should be fixed at each stud, through the pre-punched holes provided.

Ensure that all framing members to receive sheeting are correctly spaced and aligned for the application.

Plasterboard Fixing

GYPROCK 10, 13 and 16mm plasterboards may be attached vertically or horizontally, depending upon the framing support and application, however, wherever possible sheets should be installed with horizontal recess joints as this considerably improves the ease of jointing.

Sheets should begin and end a minimum of one stud from the curved section, and more if possible.

Curved walls must be screw fixed to all studs at 100mm maximum from the top and bottom of the wall (but not through tracks) and at (400mm maximum centres for non-fire rated walls) or (300mm maximum centres for fire rated walls).

All vertical butt joints must fall on framing members, be screw fixed at 200mm maximum centres, and be staggered by a minimum of 600mm between adjacent sheets.

<table>
<thead>
<tr>
<th>Table 12: Curving Radii and Maximum Stud Spacing for 6.5, 10, 13 and 16mm Gyprock Plasterboards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasterboard Thickness (mm)</td>
</tr>
<tr>
<td>Curve Radius (mm)</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>6.5</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>13</td>
</tr>
<tr>
<td>16</td>
</tr>
</tbody>
</table>

FIG 9: Framing Preparation for Curved Wall Using Rondo Flexi-Track

Minimum curving radius for Rondo Flexi-Track™

<table>
<thead>
<tr>
<th>Track Depth</th>
<th>Minimum Radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>51mm</td>
<td>180mm</td>
</tr>
<tr>
<td>64mm</td>
<td>200mm</td>
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<tr>
<td>76mm</td>
<td>230mm</td>
</tr>
<tr>
<td>92mm</td>
<td>285mm</td>
</tr>
<tr>
<td>150mm</td>
<td>475mm</td>
</tr>
</tbody>
</table>
Flexible Plasterboard Fixing

GYPROCK Flexible Plasterboard sheets can be curved with the recess edges bent around the curve (horizontal sheeting), however for very small radius applications GYPROCK Flexible Plasterboard curves significantly better where the recess edges are not bent around the curve (vertical sheeting).

In most instances, two layers of GYPROCK Flexible Plasterboard are recommended, and they can easily be flush jointed to one layer of 13mm GYPROCK for adjacent straight sections where appropriate.

All butt joints must fall on framing members.

When planning the sheet layout, ensure that the sheet edges of the first and second layers are staggered at least 200mm to avoid aligned joints.

Fasten GYPROCK Flexible Plasterboard as per FIG: 10, 11, 12 or 13, appropriate to the installation. Carefully follow the screw spacing details for each application.

Wetting Flexible Plasterboard

Wetting plasterboard is usually not a recommended practice, however when conditions of low humidity and temperatures occur, or an extremely tight radius is to be attempted, it may be necessary to roll on a small amount of water with a clean paint roller.

Only wet the surface of the plasterboard that will be in compression.

Allow 15 minutes for water to soak into the core before attempting to bend the board.

Plasterboard Jointing & Finishing

Jointing and finishing of curved walls is in accordance with normal practice.

In multi-layer systems, jointing and finishing is required on the outer layer only, on each side of the wall.

Note: Under some lighting conditions, glancing light may highlight the plasterboard joints. This is more apparent with vertical sheeting. A skim coat to the entire plasterboard surface is recommended to reduce this effect.

Refer to the Gyprock™ Residential Installation Guide, NºGYP547 for detailed jointing and finishing information.

Surface Decoration

GYPROCK Flexible Plasterboard can be painted with the full range of finishes.

The use of a preparatory sealer over the entire surface is recommended prior to application of finish coats.

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### TABLE 13: MINIMUM CURVING RADII AND MAXIMUM FRAME SPACING FOR GYPROCK FLEXIBLE PLASTERBOARD

<table>
<thead>
<tr>
<th>Applications</th>
<th>Sheets Installed Vertically</th>
<th>Sheets Installed Horizontally</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum Radius</td>
<td>Max. Stud Spacing</td>
</tr>
<tr>
<td>Concave</td>
<td>450mm</td>
<td>150mm</td>
</tr>
<tr>
<td>Convex</td>
<td>250mm</td>
<td>125mm</td>
</tr>
</tbody>
</table>

Notes – Low temperature and humidity will reduce board flexibility.
Flexible Plasterboard Fixing For Concave Curves

Apply pressure to the unrestrained end/edge of the sheet until it comes into contact with framing members or substrate.

When the sheet makes contact with the substrate it should be fixed with the appropriate fasteners, beginning at the stopped end and proceeding towards the unrestrained end/edge.

The second layer joints should be staggered at least 200mm from the first layer to prevent aligned joints.
Flexible Plasterboard Fixing for Convex Curves

Attach one end/edge of the sheet to the framing members or substrate by fastening at the appropriate centres.

Beginning from the attached end/edge, progressively work the sheet against the framing.

As the sheet makes contact with the framing, fix the sheet with the appropriate fasteners.

The second layer joints should be staggered at least 200mm from the first layer to prevent aligned joints.

Avoid placing more screws than recommended into the plasterboard face within the curved area.
WALL PERIMETER DETAILS

Note: Wall/ceiling junction details require engineer’s approval where seismic loads apply.

Wall Head Details

**FIG 14: FRICTION FIT HEAD**

- 6 – 10mm clearance to GYPROCK plasterboard
- Fill gap with CSR Gyprock® Wet Area Acrylic Sealant for acoustic integrity
- Track section with 32mm flange fastened to soffit at 600mm centres max.
- 100mm max. to first fastener (Do not fix through track)

**FIG 15: DEFLECTION HEAD**

- 20mm clearance to stud and GYPROCK plasterboard
- Fill gap with CSR Gyprock® Wet Area Acrylic Sealant for acoustic integrity
- Deflection Head Track fastened at 600mm centres max.
- 100mm max. to first fastener (Do not fix through track)

**FIG 16: HEAD USING ALUMINIUM HEAD TRACK**

- Fix extruded track at each furring channel
- GYPROCK plasterboard ceiling fixed to furring channel at appropriate centres
- RONDO extruded aluminium track for 64, 70 or 92mm studs

**FIG 17: HEAD FOR SUSPENDED TEE-LOCK CEILING**

- Fix track at each main runner
- RONDO P50 or P60 Shadowline Stopping Bead (finish as required)
- Fix wall sheets at 10 to 15mm below head track flanges
- NOTE: This method of construction is not recommended for studs adjacent to windows or doors or studs carrying loads greater than 0.25kPa.

**FIG 18: HEAD FOR SUSPENDED CEILING**

- Fix wall sheets at 10 to 15mm below head track flanges
- Additional Furring Channel in normal setout position
- Suspended Ceiling Top Cross Rail
- Finish as required
- Fix Head Track to Furring Channel at 600mm max. centres
- Where wall runs perpendicular to furring channel fix track to furring at each intersection

**NOTE:** Junction may be finished square, with stopping bead or with cornice. Do not rigidly fix cornice to walls where friction joints are used.

**NOTE:** Stopping bead or cornice finish as required. Do not rigidly fix cornice to walls where friction joints are used.

**NOTE:** This method of construction is not recommended for studs adjacent to windows or doors or studs carrying loads greater than 0.25kPa.

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Wall Base Details

Note: Wall/ceiling junction details require engineer’s approval where seismic loads apply.

For additional junction details refer to the fire rated section.

**FIG 25: WALL BASE DETAIL**

- Fix track at 600mm max. centres. With 150mm width track, use 2 fixings approximately 20mm in from each side of track
- Fill gap with CSR Gyprock® Sealant for acoustic integrity
- Studs bottomed in track
- 10mm max. gap at bottom of sheet

**FIG 26: TRACK FIXING DETAIL**

- 600mm max. centres
- Fix at 600mm max. centres along track
- 100mm max. from fastener to end of track

Control Joints

**FIG 27: CONTROL JOINT**

(Maintains acoustic integrity of the wall system in which it is installed).

- For $R_W$ up to 40, use backing rod only detail.
- For $R_W$ greater than 40, use backing rod and sealant detail.

- Finish surface as per external angles
- 15-20mm gap
- CSR Gyprock® Flexible Sealant (depth equal to wall lining thickness) for acoustic integrity
- Additional stud to form control joint
- Backing Rod – non fire rated 22mm dia. for acoustic integrity

**FIG 28: CONTROL JOINT AT JUNCTION OF MASONRY AND STEEL STUD WALL**

- RONDO Stopping Bead and set over
- Fill gap with CSR Gyprock® Flexible sealant for acoustic integrity

**FIG 29: CORNER DETAIL – PLASTERBOARD TO PLASTERBOARD WALLS**

- Set corner with external angle bead and cement
- Screw fix studs at 600mm max. vertical centres
- 100mm max. to first track fixing

**FIG 30: JUNCTION DETAIL – PLASTERBOARD/PLASTERBOARD WALLS**

- Set corners with paper tape and cement
- Fix at 600mm max. centres along track
- Fix studs at 600mm max. centres along track

GYPROCK™ STEEL FRAME SYSTEMS
Wet Area Details

IMPORTANT: Refer to the Components section for requirements on Wet Area Jointing.

**FIG 31: INSITU-FORMED SHOWER RECESS**

- **CERAMIC TILED**
- GYPROC AQUACHEK
- Vertical Corner Angle Flashing
- Ceramic Tiles
- Waterproof Membrane applied to face of wall lining and floor
- Additional nogging for plasterboard fixing when angle flashing is used
- Approved Flashing when required by building regulations
- Masking Tape
- Foam plastic rod used as essential bond breaker
- **Mortar Bed**

**FIG 33: BATH INSTALLATION**

- **Steel Stud**
- **Ceramic Tiles**
- **Waterproof Membrane** applied to face of wall lining and floor
- **Fixings 100mm max.**
- **Flexible Sealant**
- **Rondo Nº255 Top Hat Section to support bath**
- **Flashing Tape (25mm min.)**
- **Notch Stud 20mm max.**
- **Bath**
- **Mortar Bed**

**FIG 32: PREFORMED SHOWER BASE INSTALLATION**

- **Steel Stud**
- **GYPROC AQUACHEK**
- Waterproofing Membrane applied to face of GYPROC AQUACHEK behind tiled area
- **Vertical Corner Angle Flashing**
- **Ceramic Tiles**
- **Steel Track**
- **Nogging**
- **Flexible Sealant (25mm min.)**
- **Flashing Tape (25mm min.)**
- **6mm Mortar Bed**

**FIG 34: PLUMBING PENETRATIONS**

- **GYPROC™ STEEL FRAME SYSTEMS 23**
- **NON-FIRE RATED**
- **6mm Gyproc® Wet Area Acrylic Sealant or fluid apron**
- **Ceramic Tiles**
- **Support Batten or Steel Bracket**
- **6mm Gyproc® Wet Area Acrylic Sealant or fluid apron**
- **GYPROC AQUACHEK plasterboard**
- **Ceramic Tiles**
- **GYPROC plasterboard**
Door Jamb/Head Details

Alternative Door Jamb Details

NOTE: Either boxed studs or heavier gauge studs should be used to support door jambs.
FIG 39: LIGHTWEIGHT FIXTURES (EG. PICTURES AND WALL MIRRORS)

- Self tapping screw into stud
- Wall Plug and Screw
- Expanding Fastener

FIG 40: MEDIUM WEIGHT FIXTURES (EG. CUPBOARDS AND SHELVES)

- 2 x 45mm x Nº6 Screws each end
- 65mm Screw to hold fixture

FIG 41: HEAVYWEIGHT FIXTURES (EG. WALL BASINS AND CISTERNs - EXCLUDING WALL HUNG WC PANS)

- Steel Angle fixed to studs with 3 screws each side
- Timber Nogging (not CCA treated) 200 x 38mm min. fixed to angle with 3 screws each side
- Boxed Studs each side of fixture
- 3 x Nº10 Self Tapping Screws each side
- 4mm Steel Plate

Non-Fire Rated
FRAMING REQUIREMENTS

Introduction
The installation of steel stud and track wall framing for fire rated construction generally follows the same procedure as for non-fire rated walls.

Non-loadbearing wall framing is constructed using Rondo lipped steel studs fitted into track sections positioned at the top and bottom of the wall.

Deflection head track must be used on all walls exceeding 4800mm in height and may be specified in any wall system to allow for vertical movement of the roof/ceiling.

Studs are held in the tracks by friction fit, and they must not be fixed together by mechanical fasteners or crimping.

Staggered stud wall systems are constructed using the Gyprock Staggered Stud Clip to locate 64mm depth lipped studs in 92mm floor and ceiling tracks. Alternatively, Rondo P140 sections may be used to locate studs to head track/angles. Refer to detailed assembly information.

The Building Code of Australia requires that internal non-loadbearing, fire rated walls be designed for a minimum UDL of 0.25kPa or in some cases 0.35kPa. Refer to Tables 8 to 11 for suitable stud sizes/height selection information. Where higher pressures are specified refer to Rondo Building Services.

Control Joints
Control joints must be provided through the frame and wall lining at 12m maximum centres to coincide with building control joints, at changes to framing material and at junctions with other walls. Control joints are formed using two studs.

Track Fixings
Each track fastener is required to withstand a shear load of 0.75kN for walls with a design load of 0.25kPa.

For walls with a design UDL of 0.35kPa, each track fastener is required to withstand a shear load of 1.1kN.

When fixing to concrete or masonry, use power driven fasteners, expansion anchors (eg. Dynabolts™), or easy drive masonry anchors.

Nogging
Nogging is not required in non-loadbearing single stud wall systems less than 4400mm in height which have plasterboard fixed on both sides.

Nogging is required in non-loadbearing double stud walls and single stud walls lined on one side only.

Where nogging is required, it should be screw fixed or crimped to both flanges of each stud.

Noggings must be installed where support is required for attaching handrails and wall fixtures.

Nogging must not be installed in staggered stud wall systems as additional connection between studs reduces the acoustic performance of these wall systems.

Nogging must be installed in loadbearing wall systems to stabilise the wall. Refer to your project engineer or Rondo Building Services for requirements.

Installation Procedure
- Accurately align floor and ceiling tracks according to the wall layout and fasten in place at 100mm maximum from each end of the track and at 600mm maximum centres along the track. Apply a continuous bead of sealant between the track and support structure where acoustic integrity is required.
- Cut studs 15mm shorter than the floor to ceiling height to allow for heat expansion during a fire (20mm shorter where deflection head track is used). Studs should be prepared so that service holes in the webs will be aligned after installation.
- Place studs into the tracks and twist into position. The track flanges should provide a friction fit. Ensure studs are bottomed in floor track. Do not fix studs to top and bottom tracks.

FIG 42: STUD INSTALLATION

- Position a stud at each end of the wall, and where appropriate, fix its web to the adjacent wall structure.
- Position studs along the wall at 600mm maximum centres. The open sides of these studs should be facing the end of the wall from which sheeting will begin.
- Where nogging track is to be used, fit to studs before installing into tracks. Otherwise cut-to-length nogging can be fitted after stud installation.
PLASTERBOARD INSTALLATION

Introduction
All fire rated wall systems must be fastener fixed. Gyprock™ plasterboard sheets may be installed horizontally or vertically.

Vertical installation is generally preferred for commercial steel frame installations. However to achieve some ‘Levels of Finish’, or in areas of glancing or critical lighting, horizontal sheeting may be used.

Fixing Notes
• Sheets must be fastener fixed, adhesive is not permitted.
• Do not fasten plasterboard sheeting to the head and base tracks.
• Do not fix plasterboard to steel framing which is greater than 2.4mm in thickness.
• Sheet joints are not to coincide with edges of openings. Refer to FIG 2
• For single layer systems and the first layer of multiple layer systems, all butt joints must be backed by either a stud or nogging.
• For double layer systems, butt joints in the second layer should be either backed by nogging or stud and fixed at 200mm max. centres, or located between framing and fixed using laminating screws at 200mm max. centres.
• Sheets are to be held firmly against frame while fasteners are positioned. Wherever possible commence fastening from the centre portion of the sheet, proceeding to the ends and edges. Alternatively, start at one edge and work across the sheet to the other edge.
• Fasteners are to be driven home with the head slightly below the surface of the sheet, but not punched through the face linerboard. Care should be taken to avoid damaging the face or core of the plasterboard.
• Ensure that all services and insulation materials are installed (when required), prior to the fixing of sheets to the second side of the wall.
• Wall plates must be fixed to the support structure with steel fasteners.
• In wet areas, use FyrchekMR™ in lieu of Fyrchek™

Caulking
To achieve the specified fire and/or sound performance, all perimeter gaps and penetrations must be carefully and completely filled with Gyprock™ Fire Mastic or other tested fire/acoustic rated material of equivalent or better performance.

Jointing & Finishing
For jointing and finishing information, refer to the Gyprock™ Residential Installation Guide, NºGYP547. In multi-layer systems, jointing and finishing is required on the outer layer only, on each side of the wall. As a minimum, paper tape and one base coat is required.

Tiling
Where Gyprock™ plasterboard is used as a substrate for tiles, the sheets must be fastened with screws only. Adhesive/fastener fixing is not acceptable.

Where tiles will be up to 12.5kg/m², space screws in the field of the sheet at a maximum 200mm centres. Internal corners, external corners, around openings and butt joints are to be fastened with nails or screws at a maximum 150mm centres, with fasteners opposite each other at all joints. Where wall tiles are up to 32kg/m², space nails or screws at 100mm maximum centres to the field of the board, internal corners, external corners, around openings and butt joints.

Fixing Procedures
Where possible, sheeting should commence from the end facing the open side of the studs. Refer to illustrations.

FIG 43: SHEETING DIRECTION AND RECESS JOINT LOCATION FOR VERTICAL SHEETING

First Side – Full Width Sheet locates on second stud
Second Side – Cut Width Sheet locates on first stud
Direction of sheeting

FIG 44: SHEETING DIRECTION AND BUTT JOINT LOCATION FOR HORIZONTAL SHEETING

Butt Joints offset between layers
Butt Joints offset on opposite sides of the wall
Direction of sheeting
Notes On Fixing
- Offset joints on opposite sides of the wall by one stud.
- Cut sheets as necessary to provide up to 10mm gap at the bottom and appropriate clearance at the top.
- Do not fix sheets to the top and bottom tracks, fix to studs only.
- If butt joints are required, they must be staggered by 600mm minimum in adjacent sheets, backed by nogging and fixed at 200mm maximum centres.
- Place edge fasteners at 10 to 16mm from sheet edge.
- Where possible, sheeting should commence from the end facing the open side of the studs.

Fixing Procedure
For fastener specifications refer to Table 2 & 3.

First Side
- Apply sheets vertically (paper bound edges parallel with studs), leaving a 10mm max. gap between the bottom of the sheet and the floor, and with recess joints centred on stud flanges.
- Press the sheet firmly against the studs and screw fix recessed joints at 100mm maximum from top and bottom of sheet (but not through tracks) and at 300mm maximum centres. Do not fix to intermediate studs at this time.
- Screw fix at all corners and around openings at 300mm maximum centres.

Second Side
- Ensure all electrical/plumbing/insulation materials have been installed before sheeting second side.
- Cut the first sheet to half width so that joints on opposite sides of the wall are located on different studs.
- Screw fix to all studs at 100mm maximum from top and bottom of sheet (but not through tracks) and at 300mm maximum centres.
- Return to the first side and screw fix plasterboard to intermediate studs at 300mm maximum centres.
Notes On Fixing

- Butt joints in adjacent sheets and on opposite sides of the wall must be staggered by a minimum of one stud.
- All butt joints must be centred on a stud.
- Do not fix sheets to the top and bottom tracks, (fix to studs only).
- Place edge fasteners at 10 to 16mm from sheet edge.
- Where possible, sheeting should commence from the end facing the open side of the studs.

Fixing Procedure

For fastener specifications refer to Table 2 & 3.

First Side

- Apply sheets horizontally (paper bound edges at right angles to studs), leaving a 10mm max. gap between the bottom of the sheet and the floor, and with butt joints centred on stud flanges.
- Screw fix to each stud along recessed edges, beginning at the centre of the sheet and working towards the ends. Fix at 100mm maximum from top and bottom of the wall, but do not fix through top and bottom tracks.
- Screw fix butt joints at 200mm maximum centres.
- Screw fix field of sheet to all studs at 300mm maximum centres.
- Screw fix at all corners and around openings at 300mm maximum centres.
- Apply the next row of sheets, cutting the first sheet so that butt joints will be offset from adjacent sheets by a minimum of one stud.
- Cut sheets as necessary to ensure appropriate clearance is provided at the head.

Second Side

- Ensure all electrical/plumbing/insulation materials have been installed before sheeting second side.
- Cut sheets as necessary so that butt joints in adjacent sheets and on opposite sides of the wall are staggered on different studs.
- Apply and fix sheets as detailed for the first side.
Notes On Fixing
- Offset joints on opposite sides of the wall by one stud.
- Cut sheets as necessary to provide up to 10mm gap at the bottom and appropriate clearance at the top.
- Do not fix sheets to the top and bottom tracks.
- If butt joints are required, they must be staggered by 600mm min. between adjacent sheets and offset 300mm between layers. Joints in the first layer must be backed by nogging and screw fixed at 200mm max. centres. Joints in subsequent layers may be backed and fixed to framing or fixed to the previous layer using laminating screws at 200mm max. centres. (Tip: Locate butt joints in first layer at the bottom of the wall, and in the second layer at the top of the wall.)
- Place edge fasteners at 10 to 16mm from sheet edge.
- Where possible, sheeting should commence from the end facing the open side of the studs.

Fixing Procedure
For fastener specifications refer to Table 2 & 3.

First Side - First Layer
- Apply sheets vertically (paper bound edges parallel with studs), with the bottom edge of the sheet on the floor, and with recess joints centred on stud flanges.
- Press the sheet firmly against the studs and screw fix at 100mm maximum from top and bottom of sheet (but not through tracks) and at 600mm maximum centres along recessed edges, at all corners and around openings. Do not fix to intermediate studs at this time.

Second Side - First Layer
- Ensure all electrical/plumbing/insulation materials have been installed before sheeting second side.
- Cut the first sheet to half width so that joints on opposite sides of the wall are located on different studs.
- Screw fix this and subsequent full width sheets to all studs at 100mm maximum from top and bottom of sheet (but not through tracks) and at 600mm maximum centres.
- Return to the first side and screw fix plasterboard to intermediate studs at 100mm maximum from top and bottom of sheet (but not through tracks) and at 600mm maximum centres.

First Side - Second Layer
- Cut the first sheet to half width so that joints in the second layer do not align with joints in the first layer.
- Apply sheets vertically, leaving a 10mm max. gap between the bottom of the sheet and the floor, and screw fix at 100mm maximum from top and bottom of sheet (but not through tracks) and at 300mm maximum centres to all studs.
- Screw fix at all corners and around openings at 300mm maximum centres.

Second Side - Second Layer
- Begin with a full width sheet and install as detailed for the first side - second layer.
Notes On Fixing

- Butt joints in adjacent sheets of a layer and between layers must be staggered by a minimum of one stud.
- Do not fix sheets to the top and bottom tracks.
- Place edge fasteners at 10 to 16mm from sheet edge.
- Where possible, sheeting should commence from the end facing the open side of the studs.

Fixing Procedure

For fastener specifications refer to Table 2 & 3.

First Side - First Layer
- Apply sheets vertically (paper bound edges parallel with studs), with the bottom edge of the sheet on the floor, and with recessed joints centred on stud flanges.
- Press the sheet firmly against the studs and screw fix at 100mm max. from top and bottom of sheet (but not through tracks) and at 600mm maximum centres along recessed edges, at all corners and around openings. Do not fix to intermediate studs at this time.

Second Side - First Layer
- Cut the first sheet to half width so that joints on opposite sides of the wall are located on different studs.
- Screw fix this and subsequent full width sheets to all studs at 100mm maximum from top and bottom of sheet (but not through tracks) and at 600mm maximum centres.
- Return to the first side and screw fix plasterboard to intermediate studs at 100mm maximum from top and bottom of sheet (but not through tracks) and at 600mm maximum centres.

First Side - Second Layer
- Apply sheets horizontally (paper bound edges at right angles to studs), leaving a 10mm max. gap between the bottom of the sheet and the floor, and with butt joints centred on stud flanges.
- Screw fix to each stud along recessed edges, beginning at the centre of the sheet and working towards the ends. Fix at 100mm maximum from top and bottom of wall, but not through tracks.
- Screw fix butt joints at 200mm maximum centres.
- Screw fix field of sheet to all studs at 300mm maximum centres.
- Screw fix at all corners and around openings at 300mm maximum centres.
- Apply the next row of sheets, cutting the first sheet so that butt joints will be offset from adjacent sheets by a minimum of one stud.
- Cut sheets as necessary to ensure appropriate clearance is provided at the head.

Second Side - Second Layer
- Cut sheets as necessary so that butt joints in adjacent sheets are staggered.
- Fix sheets as detailed for first side – second layer.
Notes On Fixing

- Butt joints in adjacent sheets of a layer and between layers must be staggered by a minimum of one stud.
- Recess joints between layers must be staggered a minimum 300mm.
- Do not fix sheets to the top and bottom tracks.
- Place edge fasteners at 10 to 16mm from sheet edge.
- Where possible, sheeting should commence from the end facing the open side of the studs.

Fixing Procedure

For fastener specifications refer to Table 2 & 3

First and Second Side - First Layer

- Cut the top and bottom sheets to a suitable width so that second layer recessed joints will be offset a minimum 300mm from those in the first layer.
- Apply sheets horizontally (paper bound edges at right angles to studs) and with butt joints centred on stud flanges.
- Screw fix to each stud along recessed edges, beginning at the centre of the sheet and working towards the ends. Fix at 100mm maximum from top and bottom of the wall, but do not fix through top and bottom tracks.
- Screw fix field of sheet to all studs at 600mm maximum centres.
- Screw fix butt joints at 600mm max. centres and stagger fasteners.

First and Second Side - Second Layer

- Apply sheets horizontally (paper bound edges at right angles to studs), leaving a 10mm max. gap between the bottom of the sheet and the floor.
- Screw fix to each stud along recessed edges, beginning at the centre of the sheet and working towards the ends. Fix at 100mm maximum from top and bottom of wall, but not through tracks.
- Centre butt joints on stud flanges and screw fix at 200mm maximum centres and staggered.
- Alternatively, form butt joints within 50mm of the centre between studs. Fix with laminating screws at 200mm maximum centres and staggered.
- Screw fix field of sheet to all studs at 300mm maximum centres.
- Screw fix at all corners and around openings at 300mm maximum centres.
- Apply the next row of sheets, cutting the first sheet so that butt joints will be offset from adjacent sheets by a minimum of one stud.
- Cut sheets as necessary to ensure appropriate clearance is provided at the head.
### Fixing Specifications for Vertical Sheeting (shown)

<table>
<thead>
<tr>
<th>Layer</th>
<th>Fixing &amp; Spacing</th>
<th>Recessed Edges, Field, Corners &amp; Openings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Fixing &amp; Spacing</td>
<td>Screws at 600mm max. centres on studs</td>
</tr>
<tr>
<td>2nd</td>
<td>Fixing &amp; Spacing</td>
<td>Screws at 300mm max. centres on studs</td>
</tr>
<tr>
<td>3rd</td>
<td>Fixing &amp; Spacing</td>
<td>Screws at 300mm max. centres</td>
</tr>
</tbody>
</table>

**Butt Joints**
- Laminating Screws at 200mm max. centres

**Corners & Openings**
- Screws at 300mm max. centres

**Fixing Specifications for Horizontal Sheeting**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Fixing &amp; Spacing</th>
<th>Recessed Edges, Field, Butt Joints, Corners &amp; Openings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Fixing &amp; Spacing</td>
<td>Screws at 600mm max. centres on studs</td>
</tr>
<tr>
<td>2nd</td>
<td>Fixing &amp; Spacing</td>
<td>Screws at 600mm max. centres on studs</td>
</tr>
<tr>
<td>3rd</td>
<td>Fixing &amp; Spacing</td>
<td>Screws at 200mm max. centres</td>
</tr>
</tbody>
</table>

**Butt Joints**
- Screws at 200mm max. centres

**Corners & Openings**
- Screws at 300mm max. centres

**Laminating screws at 400x400mm max. grid**

---

**SUITE FOR:**

- FIRE RATED
FIG 51: INSTALLATION DETAIL FOR INTERNAL WALL SYSTEMS - THREE LAYER - VERTICAL OR HORIZONTAL SHEETING.

35 x 35 x 0.8mm angle screw fixed at 400mm centres to each stud

Set Joints in at least one layer

Set outer layer joints from accessible side

Screws Refer to Table 2 & 3

1st Layer Fixing & Spacing
Recessed Edges, Field
Corners & Openings
Screws at 600mm max. centres on studs

2nd Layer Fixing & Spacing
Recessed Edges, Field
Screws at 300mm max. centres on studs

Butt Joints Laminating Screws at 200mm max. centres

3rd Layer Fixing & Spacing
Recessed Edges, Field, Butt Joints
Corners & Openings
Laminating screws at 400x400mm max. grid

Fixing Specifications for Vertical Sheeting (shown)

Fixing Specifications for Horizontal Sheeting

Screws Refer to Table 2 & 3

1st Layer Fixing & Spacing
Recessed Edges, Field
Butt Joints Screws at 600mm max. centres on studs

Corners & Openings Screws at 300mm max. centres

2nd Layer Fixing & Spacing
Recessed Edges, Field, Butt Joints
Screws at 600mm max. centres on studs

Field Screws at 300mm max. centres on studs

Corners & Openings Screws at 300mm max. centres

Butt Joints Screws at 200mm max. centres on studs

3rd Layer Fixing & Spacing
Recessed Edges, Field, Butt Joints
Corners & Openings
Laminating screws at 400x400mm max. grid

SUITABLE FOR:

Alternative stud type for in-line stud framing
Introduction

Staggered stud steel frame wall systems provide effective resistance to sound transmission and acoustic impact. They are suitable for non-fire rated and fire rated applications, and are constructed using various steel sections as studs. Alternate studs are laterally offset so that the plasterboard is attached to one side only of each stud. The studs are held in place by either Gyprock™ Staggered Stud Clips or Rondo P140 sections.

Rondo Lipped Stud System Components
- Rondo 64mm lipped steel studs.
- Gyprock™ Staggered Stud Clip.
- Rondo 92mm track.
- Rondo P140 track

Installation

Set out, align and install floor and ceiling tracks in the normal manner. Position the stud clips on to the floor tracks to suit the stud layout. Cut the studs to appropriate length to suit the installation. Slide the upper stud clips onto the studs, leaving them about 150mm from the top. Place the bottom of the stud into the floor clip and swing the top of the stud into the head track, angling the stud as required. Slide the top clip into the head track.

The base clips may be riveted or screw fixed to the track to permanently locate studs if required. Refer to additional framing requirements detailed earlier in this guide.

Plasterboard Fixing

For detailed plasterboard installation instructions, refer to the relevant fire rated and non-fire rated sections.
FIG 56: HEAD/BASE DETAIL – STAGGERED STUD WITH P140 SPACER

- Continuously fill gap with Gyprock Fire Mastic/FB1 to depth of first layer.
- Gyprock plasterboard.
- Rondo P140 track 100mm nominal length fixed to stud.
- Caulk 10mm max. gap under outer plasterboard layer with Gyprock Fire Mastic/FB1.

NOTE: Wall/ceiling junction may be finished square, with stopping bead or with cornice.

Gyprock FYRCHECK plasterboard.

Staggered stud and staggered stud clip.

CSR Gyprock Fire Mastic.

Fix stud at 100mm max. from top and bottom and at 500mm max centres.

FIG 55: WALL JUNCTION AND DOOR JAMB

- Gyprock FYRCHECK plasterboard.
- Fire rated door jamb.

92 x 0.75mm BMT Steel Stud

Rondo P25 stopping angle.

64 mm x 0.75mm BMT Steel stud

GYPROCK Plasterboard.

Attach with plasterboard laminating screws at 600 mm centres.

FIG 54: STAGGERED STEEL STUD LAYOUT

- 64 mm x 0.75mm BMT Steel stud.
- Gyprock plasterboard.

Bevelled 75mm max. 15mm

Caulk 10mm max. gap under outer plasterboard layer with Gyprock Fire Mastic/FB1.

NOTE: Wall/ceiling junction may be finished square, with stopping bead or with cornice.
FIG 57: WALL/WALL JUNCTION - STAGGERED STUD WALL SYSTEM

Wall with required sound rating

Steel Angle (75 x 75 x 0.7mm BMT) fixed to stud with panhead screw at 600mm max. cts

Tape and set corners

CSR Gyprock Staggered Studs and Clips

GYPROCK plasterboard

FIG 59: STAGGERED STUD INSULATION WEAVING

Bradford insulation woven between studs (50mm max. thickness glasswool or 70mm max. thickness polyester batts)

GYPROCK Plasterboard

FIG 60: STAGGERED STUD INSULATION CUT AND FIT

GYPROCK Plasterboard

Bradford insulation cut to fit between studs

FIG 58: WALL/WALL JUNCTION - STAGGERED STUD WALL SYSTEM

Intersecting wall with required sound rating

Finish corners as required

CSR Gyprock Fire Mastic to depth of first layer minimum

Wall track fixed to masonry at 600mm max. centres

GYPROCK® STEEL FRAME SYSTEMS 37
**COLUMN ENCASEMENT**

**Introduction**

CSR Gyprock™ has developed a series of plasterboard encasement systems which provide up to 180 minutes fire resistance for structural columns.

Gyprock™ systems are available for encasement of columns made from steel or timber.

**Caulking**

To attain the specified FRL, all perimeter gaps and penetrations must be carefully and completely filled with Gyprock™ Fire Mastic.

**Universal Encasement Clip**

The Gyprock™ Universal Encasement Clip is manufactured from 1mm galvanised steel, and has been designed to suit common steel flange thicknesses between 6 and 28mm.

The clip slides onto the steel column flange and holds in place via integral punched grips. Rondo Nº140 wall Furring Track is held in the back tongue to form framework for plasterboard fixing.

**Plasterboard Fixing**

Where the width of plasterboard sheet is greater than 600mm, additional nogging support must be installed at 600mm maximum centres along the column.

Cut flanges of (Nº140) track appropriately to form nogging and screw fix each end to the adjacent longitudinal tracks.

GYPROCK FYRCHEK plasterboard must be screw fixed to all furring and nogging track at 200mm maximum horizontal and vertical centres.

Fix subsequent layer(s) of plasterboard to the same specifications. Ensure plasterboard layers provide a zig-zag corner joint at all corners.

Provide a 6mm gap between sheet ends and abutting walls/ceilings/floors and caulk with Gyprock™ Fire Mastic.

Butt joints in consecutive layers of plasterboard must be staggered a minimum of 300mm. Fix each layer to the adjacent layer along all butt joint edges using Gyprock™ Laminating Screws at 200mm maximum centres.

**Framing**

Metal angle must be fixed to the soffit or ceiling framing at 600mm maximum centres and at 100mm maximum from each end, and aligned to provide a framework for plasterboard fixing.
**FIG 63: COLUMN TO WALL JUNCTION**

- Metal Angle fixed to soffit at 600mm maximum centres and 100mm maximum from each end.
- Caulk all gaps with Gyprock Fire Mastic/FB1
- CSR Gyprock® Universal Encasement Clips
- Rondo Wall Furring Track clipped along flanges of beam
- Each layer of GYPROCK FYRCHEK plasterboard fixed at 200mm maximum centres to all framing

**FIG 64: FIXING TO STEEL COLUMN**

- CSR Gyprock® Universal Encasement Clips at 800mm maximum centres along column flanges and 150mm maximum from each end of column
- Rondo Wall Furring Track held in back tongue of CSR Gyprock® Universal Encasement Clips
- Screw fix each layer at 200mm maximum centres to all steel framing
- Offset Butt Joints in consecutive layers by 300mm minimum
- Fasten at butt joints with laminating screws at 200mm max centres
- Apply External Angle Bead to all corners and set

**FIG 65: FIXING TO STEEL HOLLOW SECTION**

- Apply External Corner Bead and set all corners
- Rondo Track fixed to column at ends and 800mm max. centres
- Each layer of GYPROCK FYRCHEK plasterboard fixed at 200mm maximum centres to all tracks

---

**GYPROCK™ STEEL FRAME SYSTEMS**

- FIRE RATED
WALL PERIMETER DETAILS

Note: Wall/ceiling junction details require engineer's approval where seismic loads apply.

**FIG 66: FRICTION FIT HEAD**  
(Maintains the FRL of the wall system in which it is installed).

- 100mm max. to first fastener. Do not fix through head track.
- 6 – 10mm clearance to plasterboard.
- Continuously fill gap with Gyprock Fire Mastic/FB1 to 13mm minimum depth.
- Track section with 32mm flange fastened to ceiling at 600mm maximum centres.
- GYPROCK FYRCHEK plasterboard 1, 2 or 3 layers.

**FIG 67: DEFLECTION HEAD**  
(Maintains the FRL of the wall system in which it is installed).

- 100mm max. to first fastener. Do not fix through head track.
- 20mm clearance to stud and GYPROCK plasterboard.
- Continuously fill gap with Gyprock Fire Mastic/FB1 to 13mm minimum depth.
- Deflection Head Track fastened to ceiling at 600mm maximum centres.
- GYPROCK FYRCHEK plasterboard.

**FIG 68: WALL/CEILING JUNCTION**  
(Maintains the FRL of the wall system in which it is installed).

- 10mm Gap.
- Continuously fill gap with CSR Gyprock Fire Mastic to 13mm minimum depth.
- Backing Rod.
- 2 or 3 layers GYPROCK FYRCHEK plasterboard.

**FIG 69: WALL/CEILING JUNCTION**  
(Maintains the FRL of the wall system in which it is installed).

- 10mm Gap.
- Gyprock Fire Mastic.
- Rondo P50 Tape and set if required.
- 2 or 3 layers GYPROCK FYRCHEK plasterboard.

**FIG 70: WALL BASE DETAIL**  
(Maintains the FRL of the wall system in which it is installed).

- Metal track fixings at 600mm max. centres. With 150mm width track, use 2 fixings approximately 20mm in from each side of track.
- Continuously fill gap with Gyprock Fire Mastic/FB1 to 13mm minimum depth.
- Studs bottomed in track.
- 10mm max. gap at bottom of outer sheet.

**FIG 71: TRACK FIXING DETAIL**

- 100mm max. from fastener to end of track.
- 600mm max. centres.
FIG 72: STUDS LINED ONE SIDE ONLY
Track section with 32mm flange fastened to ceiling at 600mm maximum centres
100mm max. to Nogging track
GYPROCK FYRCHÉK plasterboard 1, 2 or 3 layers
NOTE: Junction may be finished square, with stopping bead or with cornice. Do not rigidly fix cornice to walls where friction joints are used
Nº8 Tek screw one side only
Nº8 Tek screw both sides

FIG 73: RECESSED SKIRTING DETAIL - FRL 120/120/120
16mm GYPROCK FYRCHÉK plasterboard
Stopping bead and set finish
Neat butt joint
9mm Cemintel™ Wallboard
Continuously fill gap with Gyprock Fire Mastic/FB1
Rebate 10mm wide max. x 6mm deep max.
12mm MDF skirting with 1.0mm steel strip behind. Separately fix skirting and steel with two screws per stud

FIG 74: RECESSED SKIRTING DETAIL - FRL 90/90/90
16mm GYPROCK FYRCHÉK plasterboard
13mm GYPROCK FYRCHÉK plasterboard
Stopping bead and set finish
Neat butt joint
6mm Cemintel™ Wallboard
Continuously fill gap with CSR Gyprock Fire Mastic/FB1
Rebate 12mm wide max. x 5mm deep max.
12mm MDF skirting with 1.0mm steel strip behind. Separately fix skirting and steel with two screws per stud

FIG 75: CONTROL JOINT FOR SINGLE LAYER WALL SYSTEMS
Maintains the FRL of the wall system in which it is installed.
16mm GYPROCK FYRCHÉK plasterboard
Gyprock Fire Mastic/FB1 (depth 15mm min.)
RONDO P35 Control Joint or alternative
Stud in normal position
Tracks discontinuous at control joint
Finish surface as per external angles
15-20mm gap
13mm GYPROCK FYRCHÉK plasterboard

FIG 76: CONTROL JOINT FOR DOUBLE LAYER WALL SYSTEMS
Maintains the FRL of the wall system in which it is installed
2 x 16mm GYPROCK FYRCHÉK plasterboard
Gyprock Fire Mastic/FB1 (depth 20mm min.)
RONDO P35 Control Joint or alternative
Stud in normal position
Tracks discontinuous at control joint
Additional stud to form control joint
Finish surface as per external angles
15-20mm gap
2 x 13mm GYPROCK FYRCHÉK plasterboard
Wall/Wall Junction Details

Note: Wall/ceiling junction details require engineer's approval where seismic loads apply. These details are also suitable for non-fire rated applications and where acoustic integrity is required.
**Wet Area Details**

**IMPORTANT:** Refer to the Components section for requirements on Wet Area Jointing.

---

### FIG 82: INSITU-FORMED SHOWER RECESS

**CERAMIC TILED - FRL - /60/60**

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel Stud</td>
<td>-</td>
</tr>
<tr>
<td>Single or double stud wall</td>
<td>-</td>
</tr>
<tr>
<td>wall system</td>
<td>-</td>
</tr>
<tr>
<td>Plasterboard lining not</td>
<td>- minimum 1 x 13mm GYPROCK FYRCHENK</td>
</tr>
<tr>
<td>shown (GYPROCK FYRCHENK</td>
<td>-</td>
</tr>
<tr>
<td>required)</td>
<td>-</td>
</tr>
<tr>
<td>Mortar Bed</td>
<td>-</td>
</tr>
<tr>
<td>Ceramic Tiles</td>
<td>-</td>
</tr>
<tr>
<td>Class 1 Membrane</td>
<td>- applied to face of wall lining</td>
</tr>
<tr>
<td>and floor</td>
<td>-</td>
</tr>
<tr>
<td>Approved Flashing</td>
<td>- when required by building regulations</td>
</tr>
<tr>
<td>Vertical Corner</td>
<td>-</td>
</tr>
<tr>
<td>Angle Flashing</td>
<td>-</td>
</tr>
<tr>
<td>Bond breaker</td>
<td>-</td>
</tr>
<tr>
<td>Foam plastic rod</td>
<td>-</td>
</tr>
<tr>
<td>Flexible Sealant</td>
<td>-</td>
</tr>
</tbody>
</table>

**Mortar Bed**

- Continuously fill gap (10mm max.) with Gyprock Fire Mastic/FB1 to 13mm min. depth

---

### FIG 83: INSITU-FORMED SHOWER RECESS

**CERAMIC TILED - FRL - /120/120**

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel Stud</td>
<td>-</td>
</tr>
<tr>
<td>Single or double stud wall</td>
<td>-</td>
</tr>
<tr>
<td>wall system</td>
<td>-</td>
</tr>
<tr>
<td>Plasterboard lining not</td>
<td>- minimum 2 x 13mm GYPROCK FYRCHENK</td>
</tr>
<tr>
<td>shown (GYPROCK FYRCHENK</td>
<td>-</td>
</tr>
<tr>
<td>required)</td>
<td>-</td>
</tr>
<tr>
<td>Mortar Bed</td>
<td>-</td>
</tr>
<tr>
<td>Ceramic Tiles</td>
<td>-</td>
</tr>
<tr>
<td>Class 1 Membrane</td>
<td>- applied to face of wall lining</td>
</tr>
<tr>
<td>and floor</td>
<td>-</td>
</tr>
<tr>
<td>Approved Flashing</td>
<td>- when required by building regulations</td>
</tr>
<tr>
<td>Vertical Corner</td>
<td>-</td>
</tr>
<tr>
<td>Angle Flashing</td>
<td>-</td>
</tr>
<tr>
<td>Bond breaker</td>
<td>-</td>
</tr>
<tr>
<td>Foam plastic rod</td>
<td>-</td>
</tr>
<tr>
<td>Flexible Sealant</td>
<td>-</td>
</tr>
</tbody>
</table>

**Mortar Bed**

- Continuously fill gap (10mm max.) with Gyprock Fire Mastic/FB1 to 13mm min. depth

---

### FIG 84: PREFORMED SHOWER BASE - FRL - /60/60

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural Sheet Flooring</td>
<td>-</td>
</tr>
<tr>
<td>Ceramic Tiles</td>
<td>- 6mm</td>
</tr>
<tr>
<td>Flexible Sealant</td>
<td>-</td>
</tr>
<tr>
<td>Preformed Shower Base</td>
<td>-</td>
</tr>
<tr>
<td>Flashing Tape (25mm min.)</td>
<td>- Flexible Sealant</td>
</tr>
<tr>
<td>Waterproofing Membrane</td>
<td>- applied to face of plasterboard</td>
</tr>
<tr>
<td></td>
<td>- behind tiled area</td>
</tr>
<tr>
<td>Ceramic Tiles</td>
<td>-</td>
</tr>
<tr>
<td>Steel Track Nogging for</td>
<td>- fixed to framing</td>
</tr>
<tr>
<td>plasterboard fixing</td>
<td>-</td>
</tr>
<tr>
<td>Mortar Bed</td>
<td>-</td>
</tr>
<tr>
<td>Approved Flashing</td>
<td>- when required by building regulations</td>
</tr>
<tr>
<td>Vertical Corner</td>
<td>-</td>
</tr>
<tr>
<td>Angle Flashing</td>
<td>-</td>
</tr>
<tr>
<td>Water Proofing Membrane</td>
<td>- applied to face of plasterboard</td>
</tr>
<tr>
<td></td>
<td>- behind tiled area</td>
</tr>
<tr>
<td>Plasterboard lining not</td>
<td>- minimum 1 x 13mm GYPROCK FYRCHENK</td>
</tr>
<tr>
<td>shown (GYPROCK FYRCHENK</td>
<td>-</td>
</tr>
<tr>
<td>required)</td>
<td>-</td>
</tr>
</tbody>
</table>

*Plasterboard lining not shown (minimum 1 x 13mm GYPROCK FYRCHENK required)*

**Mortar Bed**

- Continuously fill gap (10mm max.) with Gyprock Fire Mastic/FB1 to 13mm min. depth

---

### FIG 85: BATH INSTALLATION - FRL - /60/60

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bath</td>
<td>-</td>
</tr>
<tr>
<td>Support Batten</td>
<td>- fixed to framing</td>
</tr>
<tr>
<td>Mortar Bed</td>
<td>-</td>
</tr>
<tr>
<td>Bath</td>
<td>-</td>
</tr>
<tr>
<td>Support Batten</td>
<td>- fixed to framing</td>
</tr>
<tr>
<td>Mortar Bed</td>
<td>-</td>
</tr>
<tr>
<td>Flexible Sealant</td>
<td>- Flexible Sealant</td>
</tr>
<tr>
<td>Flashing Tape (25mm min.)</td>
<td>-</td>
</tr>
<tr>
<td>Waterproofing Membrane</td>
<td>- applied to face of plasterboard</td>
</tr>
<tr>
<td></td>
<td>- behind tiled area</td>
</tr>
<tr>
<td>Ceramic Tiles</td>
<td>-</td>
</tr>
<tr>
<td>13mm Gyprock</td>
<td>- AQUACHEK or FYRCHENK MR</td>
</tr>
<tr>
<td>AQUACHEK or FYRCHENK MR</td>
<td>-</td>
</tr>
<tr>
<td>Steel Track Nogging</td>
<td>- fixed to framing</td>
</tr>
<tr>
<td>Mortar Bed</td>
<td>-</td>
</tr>
</tbody>
</table>

**Continuous fill gap (10mm max.) with Gyprock Fire Mastic/FB1 to 13mm min. depth**
WALL PENETRATIONS

**FIG 86: PIPE PENETRATION THROUGH WALL**
(Ups to FRL -/120/- . Appraisal: WRFA C91409)

- CSR Gyprock Fire Mastic
- Thickness 15mm min.
- 25mm
- Steel or copper metal pipe system, 1.5mm min. wall thickness
- 2 layer GYPROCK FYRCHEK wall system
- Where wall system has only one layer of GYPROCK FYRCHEK, provide extra 200mm wide border and fix with laminating screws

**FIG 87: TYPICAL PVC PIPE PENETRATION**
Refer to manufacturer for assessment number and installation details.

- GYPROCK Plasterboard wall with required fire rating
- PVC pipe
- Proprietary Fire Collar

**FIG 88: TYPICAL PVC PIPE PENETRATION RETROFIT FIRE COLLAR**
Refer to manufacturer for assessment number and installation details.

- PROMAT™ Fyre Collar fixed to support framing
- PROMAT™ Fyre Collar fixed to support framing
- PVC Pipe
- Fire rated wall to system specification
- Fire rated sealant as per system specification

**FIG 89: ACCESS PANEL IN WALL**

- Wall studs and noggings around cutout
- One layer 16mm GYPROCK FYRCHEK fixed to studs and noggings around cutout
- Set over stopping bead around opening
- Fire rated access panel installed to manufacturer’s details

**FIG 90: HANDRAIL ATTACHMENT**

- Wall Studs
- Timber support plate
- Wafer head screw
- GYPROCK Fyrchek lining to system requirements
- Fix with max. 10g screws to timber support plate
- Hand rail or similar light weight attachment

**FIG 91: HANDRAIL ATTACHMENT - ALTERNATIVE METHOD**

- Wall Studs
- Timber support plate
- Rondo Nogging Bracket No.501
- Wafer head screw
- GYPROCK Fyrchek lining to system requirements
- Fix with max. 10g screws to timber support plate
- Hand rail or similar light weight attachment
FIG 92: CABLE TRAY AND CABLES
FRL - /120/120. Appraisal: FSP 0087 (PROMAT)

- **Cable Tray**
- **IBS™ strips 50 x 19mm**
- **Electrical Cables**
- **CSR Gyprock Fire Mastic 3mm minimum thickness and 30mm overlap on board face**
- **Fill all gaps with CSR Gyprock Fire Mastic**

FIG 93: CABLELING (UP TO 3 CORE + EARTH)
FRL - /120/60. Appraisal: WFRA C91409

- **Where wall system has only one layer of FYRACHEK, provide extra 200mm wide border and fix with laminating screws**
- **25mm**
- **25mm**
- **10-30mm**
- **CSR Gyprock Fire Mastic**
Fire Dampers

Detail FIG 94 is suitable for dampers rated up to FRL ~/-120/-.. Duct weight must not be supported by the wall. For full specifications and installation details, refer to the appropriate damper manufacturer.

**FIG 94: INSTALLATION DETAIL FOR FIRE DAMPER IN STUD WALL SYSTEM -**

Appraisal: CSIRO FCO 2106.

- Boxed studs
- Deflection Head
  - Track fixed to studs
- Promaseal IBS™ backing rod 20% larger diameter than gap (gap 15-30mm).
  - Promaseal Acrylic Mastic over (5mm min. depth)
- Caulk between plasterboard and damper body sides with Promaseal Acrylic Mastic 5mm min. depth
- 1 or 2 layers
  - GYPROCK
  - FYRCHERK
  - Plasterboard as per FRL
- Damper seal angles
  - 75 x 50 x 1.2mm MS
- Deflection Head
  - Track fixed to studs

Mechanical fire damper tested and approved for AS1530.4
FIG 95: INSTALLATION DETAIL FOR TYPICAL INTUMESCENT FIRE DAMPER
Refer to manufacturer for assessment number and installation details.

- **Spigot to terminate with break joint**
- **Rondo angles**
  - Mechanically fixed to studs
- **Proprietary intumescent damper**
- **Perimeter gaps sealed**
- **Steel studs at 600mm centres**
- **GYPROCK™ plasterboard**

Steel studs at 600mm centres

Steel studs at 600mm centres
Health & Safety

Information on any known health risks of our products and how to handle them safely is on their package and/or the documentation accompanying them.

Additional information is listed in the Material Safety Data sheet. To obtain a copy, telephone 1800 807 668.

Warranty

Gyprock™ products are manufactured for life, with all CSR products designed to achieve optimal performance when part of a CSR integrated system.

Gyprock™ continues to lead the market with premium quality products which are the preferred choice of plastering professionals.

Gyprock™ plasterboard products are manufactured to the Australian Standard AS2588 providing confidence in quality of product and support. For details on our product warranty, please log onto www.gyprock.com.au, or contact us on 1300 306 556.