Introduction

CSR Gyprock has developed a wide range of decorative ceiling systems as well as a large selection of fire and/or acoustic rated ceiling systems to meet specific FRL (Fire Resistance Level), Rw (Weighted Sound Reduction Index) and Sound Absorption requirements.

CSR Gyprock offers both Flush Jointed Ceiling Systems and Panel Ceiling Systems.
Overview of Flush Jointed Ceiling Systems

Gyprock™ Flush Jointed Ceiling Systems utilise various framing formats and plasterboard fixing techniques. Gyprock™ plasterboard which is fixed to the underside of the framing is jointed using tape and compounds to CSR Gyprock specifications to form smooth ceiling surfaces for decorative coating.

Overview of Panel Ceiling Systems

Gyprock™ Panel Ceiling Systems offer lightweight, decorative and/or acoustic solutions for commercial applications. They are installed with a two-way suspended grid or direct fixed to battens or an existing plasterboard ceiling.

The precoated face of the supporting grid or edge profile of the panels combine with various surface textures to form a decorative feature ceiling.
Flux Jointed Ceiling Systems

Components

Plasterboard

CSR GFC manufactures and supplies a diverse range of plasterboard and fibre cement sheets, acoustic panels and accessories to suit a multitude of wall, ceiling and encasement applications.

Gyprock™ Plasterboard CD is composed of a gypsum core encased in a heavy duty linerboard. Available with long edges recessed to assist in producing a smooth, even and continuous surface once jointed, or in square edge (SE) and recessed edge/square edge (RE/SE). Gyprock™ Plasterboard CD is manufactured to AS2588 – ‘Gypsum Plasterboard’, and incorporates CD (Controlled Density) technology. Gyprock™ Plasterboard CD is suitable for internal walls and ceilings.

Gyprock Supaceil™ is a 10mm thick sheet designed to span up to 600mm in ceiling applications. Gyprock Supaceil™ is composed of a gypsum core encased in a heavy duty linerboard. Long edges are recessed for flush jointing. Gyprock Supaceil™ is manufactured to AS2588 – ‘Gypsum Plasterboard’, and incorporates CD (Controlled Density) technology.

Gyprock Soundchek™ has been designed to provide increased acoustic resistance in wall and ceiling systems. Gyprock Soundchek™ is 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. Gyprock Soundchek™ is manufactured to AS2588 – ‘Gypsum Plasterboard’, and is suitable for internal walls and ceilings.

Gyprock Impactchek™ is high strength plasterboard designed for impact areas. It is composed of a glass fibre reinforced gypsum core plus a fibreglass mesh bonded to the inside of the back face. 13mm IMPACTCHEK is encased in a violet linerboard and may be used in fire rated applications, and 10mm IMPACTCHEK is encased in white linerboard. The long edges of both are recessed for flush jointing.

Gyprock Aquachek™ is designed for use in lining the walls of ‘wet areas’ of residential and commercial buildings. It is a gypsum plasterboard with a core treated to make it resistant to moisture and humidity. It is manufactured to satisfy the requirements of AS2588 – ‘Gypsum Plasterboard’, and the water resistant requirements of ASTM C630. It is encased with light blue linerboard and the long edges are recessed.

Gyprock Fyrchek™ can be used in wall and ceiling systems where an FRL is to be achieved, or where acoustic performance is required. Gyprock Fyrchek™ is composed of a specially processed glass fibre reinforced gypsum core encased in a heavy duty pink liner board.

Gyprock Fyrchek MR™ is primarily intended for walls and ceilings in ‘wet area rooms’ and for soffits and external walls that must achieve fire resistance. Gyprock Fyrchek MR™ is composed of a specially processed glass fibre reinforced gypsum core which is treated in manufacture to withstand the effects of moisture, and encased in a heavy duty light blue liner board.

Gyprock Flamechek MR™ is a fire and moisture resistant high performance 10mm thick plasterboard. Gyprock FlamechekMR™ is a gypsum plasterboard with a treated core to make it resistant to moisture and fire. It is manufactured to satisfy the requirements of AS2588 – ‘Gypsum Plasterboard’, and the water resistant requirements of ASTM C630. It is encased with blue linerboard and the long edges are recessed.

Gyprock™ Shaft Liner Panel is a 25mm thick sheet composed of a glass fibre reinforced gypsum core encased in a heavy duty linerboard. Gyprock Shaft Liner Panel is used to enclose lift shafts, stairwells and service shafts in multistorey construction. Gyprock Shaft Liner Panel can be used to achieve fire resistance in wall and ceiling systems.

Gyprock™ Flexible Plasterboard has been designed for curved wall and ceiling systems and has an enhanced core to enable bending to a small radius. It is composed of a gypsum core encased in a heavy duty linerboard. Long edges are recessed to assist in producing a smooth, even and continuous surface once jointed. Gyprock™ Flexible Plasterboard is 6.5mm thick and is installed in two layers.

Gyprock™ Perforated Plasterboard has been designed for use in ceilings where additional sound absorption is required. It is composed of a gypsum core encased in a heavy duty linerboard and incorporates CD technology. Long edges are recessed for flush jointing. Perforations total 8.2% of the sheet area.

FIG 1: PERFORATION PATTERN
Fire Hazard Properties

The BCA limits the materials used in Class 2 to 9 buildings by controlling the Fire Hazard properties of linings. These properties are assessed using AS/ISO9705 room burn test or AS/NZS3837 the cone calorimeter test. The room burn test is a large scale test to determine SMOGRARC, and the cone calorimeter is a small scale test to determine a Group Number.

### TABLE 1: FIRE HAZARD PROPERTIES

<table>
<thead>
<tr>
<th>CSR GFC Product</th>
<th>SMOGRARC</th>
<th>Group Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 - 13mm Plasterboard CD</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>10mm SUPACEIL™</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>10 - 13mm SOUNDCHEK™</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>10 - 13mm AQUACHEK</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>6.5mm FLEXIBLE</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>13mm Perforated Sheet</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>13 - 16mm FYRCHEK™</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>13 - 16mm FYRCHEK MR™</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>25mm SHAFT LINER PANEL</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>10mm FLAMECHEK MR™</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

**NOTES: SMOGRARC = Smoke Growth Rate Index.**

---

**Gyprock™ Cornice**

CSR Gyprock manufactures six popular machine made cornice profiles which cater for many styles and applications. Please refer to Product Availability table in this section for detailed product size and availability information. It is recommended that cornice be attached with Gyprock™ Cornice Cement.

**GYPROCK™ COVE CORNICE**

**GYPROCK™ JAZZ CORNICE**

**GYPROCK™ SYMPHONY CORNICE**

**GYPROCK™ CONCERTO CORNICE**

**GYPROCK™ TEMPO CORNICE**

**GYPROCK™ CLASSIC CORNICE**

**GYPROCK™ SHADOWSET - FLUSH**

**GYPROCK™ SHADOWSET - PLANT-ON**
## Gyprock™ Plasterboard & Cornice Availability

### TABLE 2: GYPROCK™ PRODUCT AVAILABILITY

Colour shading behind each product approximates the colour of the product face liner sheets.

<table>
<thead>
<tr>
<th>Gyprock™ Product</th>
<th>Thickness mm</th>
<th>Width mm</th>
<th>Sheet Length (mm)</th>
<th>Mass kg/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2400</td>
<td>2700</td>
<td>3000</td>
<td>3600</td>
</tr>
<tr>
<td>CD Recessed Edge</td>
<td>10</td>
<td>1200</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>900</td>
<td>✓SN</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>1200</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>CD Square Edge</td>
<td>10</td>
<td>1200</td>
<td>✓</td>
<td>SN</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>1200</td>
<td>SN</td>
<td>SN</td>
</tr>
<tr>
<td>CD Recessed Edge/Square Edge</td>
<td>10</td>
<td>1200</td>
<td>W</td>
<td>SN</td>
</tr>
<tr>
<td></td>
<td>1210</td>
<td>W</td>
<td>✓SN</td>
<td>✓</td>
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<td></td>
<td>1350</td>
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<td>✓</td>
</tr>
<tr>
<td>Supaceil™</td>
<td>10</td>
<td>900</td>
<td>W</td>
<td>W</td>
</tr>
<tr>
<td></td>
<td>1200</td>
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<td>W</td>
<td>✓</td>
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<td></td>
<td>1350</td>
<td>✓</td>
<td>SN</td>
<td>✓SN</td>
</tr>
<tr>
<td>SoundChek™</td>
<td>10</td>
<td>1350</td>
<td>✓</td>
<td>✓</td>
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<td></td>
<td>13</td>
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<tr>
<td>Aquacheck™</td>
<td>10</td>
<td>1200</td>
<td>✓</td>
<td>✓SN</td>
</tr>
<tr>
<td></td>
<td>1350</td>
<td>SN</td>
<td>SN</td>
<td>WSN</td>
</tr>
<tr>
<td>ImpactChek™</td>
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<tr>
<td></td>
<td>13</td>
<td>1200</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Flexible</td>
<td>6.5</td>
<td>1200</td>
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<td>✓</td>
</tr>
<tr>
<td>FlameChek MR™</td>
<td>10</td>
<td>1350</td>
<td>✓</td>
<td>✓SN</td>
</tr>
<tr>
<td>FyrChek™</td>
<td>13</td>
<td>1200</td>
<td>✓</td>
<td>✓SN</td>
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<tr>
<td></td>
<td>16</td>
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<td>✓SN</td>
<td>✓</td>
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<tr>
<td>FyrChek™ MR</td>
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<td>✓SN</td>
<td>SN</td>
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<td></td>
<td>16</td>
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<td>✓SN</td>
<td>W</td>
</tr>
<tr>
<td>Perforated Sheet</td>
<td>13</td>
<td>1200</td>
<td>✓</td>
<td>✓SN</td>
</tr>
<tr>
<td>Shaft Liner Panel</td>
<td>25</td>
<td>600</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cove Cornice</td>
<td>55</td>
<td>W</td>
<td>W</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>75</td>
<td>W</td>
<td>W</td>
<td>✓NT</td>
</tr>
<tr>
<td></td>
<td>90</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Classic™ Cornice</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Tempo™ Cornice</td>
<td>90</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Symphony™ Cornice</td>
<td>75</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Concerto™ Cornice</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Jazz™ Cornice</td>
<td>75</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Shadowset™</td>
<td>105</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Indicates available in: ✓ = All States & Territories; W = Western Aust.; S = South Aust.; N = Northern Territory.
Indicates NOT available in: W = Western Aust.; S = South Aust.; N = Northern Territory.
* = Length is 2740. ▲ = 3300 and 3900mm lengths also available in WA only.
In Western Australia only, additional Recessed Edge/Square Edge products are available.
Additional sizes may be available in some products. Call your state office for details.
Gyprock™ Resilient Mount

The Gyprock™ Resilient Mount is a proprietary component used in conjunction with Rondo steel sections for fastening Gyprock™ plasterboard to a supporting structure while simultaneously isolating it from structure borne vibration.

This significantly reduces the amount of impact noise, speech and low frequency sound filtering through to rooms above, below or alongside the noise generating room. The resilient mount has been design for use on ceilings and can be used on walls provided plasterboard with minimum mass of 13kg/m² is fixed on the resilient mount side of the wall. The mount can be used in fire rated and non fire rated systems.

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.

This product is suitable for use with pre-painted metal battens and some treated timbers. Always follow directions on packaging when using CSR stud adhesive.

WARNING

- Stud adhesive MUST NOT be relied on in FIRE RATED 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.

Fasteners

CSR Gyprock distributes a comprehensive range of ring shank nails, hot-dip galvanised clouts, and screws for use with timber and steel framing to accommodate most installation applications.

Fasteners for Plasterboard Fixing:

- Gyprock™ Clouts. 2.8, 3.15 and 3.75mm dia. (hot-dip galvanised) for fixing to timber.
- Gyprock™ Ring Shanked Nails. 2.8mm dia. for fixing to timber.
- Gyprock™ Type ‘W’ Screws. #6 and #8 for fixing to timber.
- Gyprock™ Type ‘S’ Needle Point (NP) Screws. #6 and #8 for fixing to timber, and for lightweight steel studs and furring channel up to 0.8mm thickness.
- Gyprock™ Type ‘S’ Drill Point (DP) Screws. #6 and #8 for fixing to steel framing 0.8mm to 1.2mm thickness.
- Gyprock™ Plasterboard Laminating Screws. #10 x 40mm. for laminating layers of plasterboard together (where permitted).

Jointing & Finishing

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

This manual does not provide plasterboard jointing and finishing details.

It should be noted that multi-layered systems only require jointing and finishing of the outer layer.

Information relating to the jointing and finishing of Gyprock™ plasterboard can be found in the Gyprock™ Plasterboard Installation Manual, NºGYP547, or visit the Gyprock™ Web site www.gyprock.com.au
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 GYPROC 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.

STACKING AND SUPPORT OF PLASTERBOARD SHEETS

Gyprock™ Mastic & Sealants

Gyprock™ Fire Mastic must be used in fire rated systems where caulkking is indicated and is also recommended for caulkking acoustic systems. It is 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.

Vermiculite mixed with plaster is used in some ceiling junction details. It is available in 6kg bags. Refer Caulking in the Plasterboard Fixing section for limitations.

Steel Framing Components

CSR Gyprock recommends steel building elements manufactured by Rondo Building Services Pty Ltd, for our systems. Other brands of equivalent or better performance may be used. It is the responsibility of the manufacturer of the steel component to substantiate equivalent or better performance than the recommended Rondo component.

General information on Rondo steel building components is provided throughout this manual.

Additional information can be obtained from the Rondo Building Services Pty Ltd office in your state, or telephone 1300 367 663.

LIGHTS

Recessed lights must be installed so as to prevent damage from temperature rise and to prevent the risk of fire. Refer to AS/NZS 3000.
Framing

Introduction
Framing requirements detailed in this guide apply to both non fire rated and fire rated installations.

This manual details the minimum requirements for various common timber and steel framing systems, and recommended installation methods.

Framing must comply with the appropriate requirements detailed in this guide and additional requirements detailed in CSR Gyprock or Rondo Building Services literature current at the time of installation.

Timber Framing
• Timber members to which plasterboard will be fixed must:
  - must comply with AS1684 ‘Residential Timber-Frame Construction’ or AS1720.1 ‘Timber Structures : Design Methods’.
  - be spaced at no more than 600mm centres.
  - have a minimum fixing face width of 35mm.
  - have a timber moisture content at the time of lining of no more than 16%.
• Unseasoned timber framing shall be given sufficient drying time in the construction programme to minimise the possibility of shrinkage after the fixing of linings.
• Kiln-dried timber framing must be protected from wetting during storage and erection.
• CCA or LOSP treated timber classified H1 to H3 may be used subject to specific plasterboard fixing requirements. Refer to ‘Plasterboard Fixing’ section.

Steel Framing
• Steel framing to which plasterboard will be fixed must:
  - comply with AS/NZS4600, ‘Cold Formed Steel Structures’.
  - be spaced at no more than 600mm centres.
  - have a minimum fixing face width of 32mm.
  - be no greater than 1.2mm base metal thickness.

Ceiling Suspension Systems
• Gyprock™ Ceiling Suspension Systems are designed to AS2785 ‘Suspended Ceilings – Design and Installation’. They are not trafficable unless stated, and are designed to carry the weight of the ceiling only.

Where a trafficable ceiling is required, install a proprietary trafficable ceiling system such as Rondo Walkabout.

- Strengthen suspension systems to support light fittings and access panels as detailed in the appropriate illustrations in this guide and/or other relevant CSR Gyprock or Rondo technical literature.
- Any additional loads are not to be placed upon, or carried by the suspension system.

Corrosion Protection
• For steel components in external environments, in heavy industrial areas or within 1km of the coast, additional coatings may be required. Refer to AS2785 for guidance.

Control Joints
Control joints are to be installed in both fire rated and non-fire rated ceilings:
• To coincide with control joints in the supporting frame.
• In continuous interior ceiling areas, spaced at no more than 12m centres in both directions. Control joints may be positioned to intersect light fixtures, heating vents and air diffusers.
• In exterior ceilings, spaced at not more than 6.0m maximum centres in both directions.
• At changes of framing type.

The continuity of Gyprock™ plasterboard and support framework should be broken at control joints.

Refer to the following details and the additional details on fire rated control joints later in this guide.

FIG 3: CONTROL JOINT DETAILS FOR NON FIRE RATED CEILING

FIG 4: CONTROL JOINT DETAILS FOR NON FIRE RATED CEILING
## Gyprock™ Ceiling Systems Installation Guide

### TABLE 4: MAXIMUM SPANS FOR METAL BATTEN/FURRING CHANNEL USED IN CEILINGS

<table>
<thead>
<tr>
<th>Gyprock Plasterboard Layers x Thickness</th>
<th>N°581* Resilient Furring</th>
<th>N°308* Furring Channel</th>
<th>N°129* Furring Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spacing of Furring</td>
<td>Spacing of Furring</td>
<td>Spacing of Furring</td>
</tr>
<tr>
<td></td>
<td>(mm)</td>
<td>(mm)</td>
<td>(mm)</td>
</tr>
<tr>
<td>1 x 10mm all products except CD and SOUNDCHEK</td>
<td>600</td>
<td>600</td>
<td>1000</td>
</tr>
<tr>
<td>1 x 10mm Gyprock CD</td>
<td>600</td>
<td>600</td>
<td>1000</td>
</tr>
<tr>
<td>1 x 10mm SOUNDCHEK</td>
<td>600</td>
<td>600</td>
<td>1100</td>
</tr>
<tr>
<td>1 x 13mm all products</td>
<td>600</td>
<td>600</td>
<td>1100</td>
</tr>
<tr>
<td>1 x 16mm FYRCHF</td>
<td>600</td>
<td>600</td>
<td>1100</td>
</tr>
<tr>
<td>2 x 13/16mm FYRCHF</td>
<td>600</td>
<td>600</td>
<td>1100</td>
</tr>
<tr>
<td>3 x 16 FYRCHF</td>
<td>-</td>
<td>-</td>
<td>900</td>
</tr>
</tbody>
</table>

**NOTE:** Furring to be continuous over 2 or more spans. Dead load deflection Span÷360. * Includes Internal UDL of 0.25kPa.

### TABLE 3: MAXIMUM SPAN OF PLASTERBOARD IN CEILING APPLICATIONS

<table>
<thead>
<tr>
<th>GYPROCK Product</th>
<th>Thickness</th>
<th>Maximum Spacing of Framing Members</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>General Applications</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(mm)</td>
</tr>
<tr>
<td>6.5mm Flexible Plasterboard used in two layers</td>
<td>350</td>
<td>NA</td>
</tr>
<tr>
<td>10mm GYPROCK Plasterboard CD</td>
<td>450</td>
<td>NA</td>
</tr>
<tr>
<td>10mm All types of plasterboard except CD</td>
<td>600</td>
<td>450</td>
</tr>
<tr>
<td>13mm plasterboard all types except Perforated</td>
<td>600</td>
<td>450</td>
</tr>
<tr>
<td>13mm Perforated Sheet</td>
<td>600</td>
<td>NA</td>
</tr>
<tr>
<td>16mm FYRCHF</td>
<td>600</td>
<td>450</td>
</tr>
</tbody>
</table>

**NOTE:** NA = Not Applicable

### TABLE 2: MAXIMUM SPANS FOR METAL BATTEN/FURRING CHANNEL USED IN CEILINGS

- **TABLE 2:** MAXIMUM SPANS FOR METAL BATTEN/FURRING CHANNEL USED IN CEILINGS

- **FIG 5:** PERIMETER DETAIL FOR NON FIRE RATED CEILINGS

- **FIG 6:** PERIMETER DETAIL FOR NON FIRE RATED CEILINGS

**NON FIRE RATED**

- Fire Rated

- Non Fire Rated
Steel Furring Channel Direct Fixed to Framing

GYPROCK plasterboard may be fixed directly to steel furring which is held by appropriate direct fixing clips attached to a structural support as shown in adjoining details.

Direct fixing clips provide some vertical adjustment to enable accurate levelling of the furring. After levelling, the brackets should be permanently fixed in place by two nails/screws.

Furring channels then snap fit into the clips.

The ceiling drop should be limited to 200mm maximum with these attachment systems.

Install brackets to ensure there is a clearance between joist and furring of 10mm minimum.

A system comprising Nº129 furring channel spaced at 600mm centres and with fixing clips at 1200mm maximum centres can support a maximum of 3 layers x 16mm GYPROCK FyRcheK and lightweight insulation.

Refer to span tables in this guide and Rondo Building Services specifications for alternative grid span and spacing information.
Steel Furring Channel on Resilient Mounts

The Gyprock™ Resilient Mount may be screw fixed directly to the underside of joists or trusses using (50mm x Nº8 screws for timber) or (30mm x Nº8 screws for steel) as detailed in FIG 8.

Should the joists or trusses be uneven, the adjustable direct-fix bracket (NºCSR4) should be fixed to the side of the framing. This will provide up to 20mm height adjustment for levelling purposes. After levelling, the bracket should be permanently fixed in place with two nails/screws.

The resilient mount may then be screw fixed to the adjustable bracket (NºCSR4) using a 45mm x Nº8 screw.

The furring channels then snap fit into the anchor clips.

The Gyprock™ Resilient Mount is designed to support a maximum ceiling load of 27kg per mount, and must be installed at appropriate centres to suit the chosen ceiling system and total ceiling mass.

A system comprising Nº129 furring channel spaced at 600mm centres fitted with Gyprock™ Resilient Mounts at 1200mm centres maximum along the furring channel, can support a maximum of 3 layers x 16mm GYPROCK FYRCHEK and lightweight insulation.

Refer to span tables in this guide and Rondo Building Services specifications for alternative grid span and spacing information.

FIG 9: GYPROCK RESILIENT MOUNT FIXING

FIG 10: STEEL FURRING CHANNEL FIXED WITH RESILIENT MOUNTS TO FRAMING
Concealed Grid Suspended Ceiling

GYPROCK plasterboard may be fixed directly to steel furring which is part of a concealed grid suspended ceiling frame as detailed in the following illustration.

These systems are NON-TRAFFICABLE and are not designed to resist the weight of foot traffic. Where access to the ceiling area is required, install a Rondo Walkabout Ceiling System.

Gyprock™ Suspended Ceiling Systems comprise suspension brackets fixed to the supporting structure, suspension rods, suspension clips, top cross rails, and a locking key or Gyprock™ Resilient Mount for coupling to the furring channel. Refer to Suspended Ceiling Components.

Where Top Cross Rails are not continuous, they must be joined as shown in the suspended ceiling components details. Joins must be aligned with hanging points.

Where Furring Channels are not continuous, they must be joined as shown in the suspended ceiling components details.

Where the Gyprock™ Resilient Mount is used, it is designed to support a maximum ceiling load of 27kg per mount, and must be installed at appropriate spacing to suit the chosen ceiling system and total ceiling mass.

A system comprising Nº128 Top Cross Rails at 1200mm maximum spacings, suspension points at 1200mm maximum centres, Nº129 furring channel at 600mm maximum spacings (with or without Gyprock™ Resilient Mounts) can support up to 3 layers of 16mm GYPROCK FYRCHÉK and lightweight insulation.

No provision has been made for the support of services or lighting systems. Adequate independent or additional support must be provided for services and lighting systems. Refer to Grid Installation in this guide and Rondo Building Services specifications.

Refer to span tables in this guide and Rondo Building Services specifications for alternative grid span and spacing information.

FIG 11: CONCEALED GRID SUSPENDED CEILING
Key-Lock™ Concealed Grid Suspended Ceiling Components
(Refer to Rondo Building Services literature for additional information)

**SUSPENSION BRACKETS**

- Suspension Rod N°121/122
- Suspension Rod Bracket N°534
- Fixing Clip Assembly N°151 or N°A124
- Top Cross Rail N°127/128
- Joist Suspension Rod N°121/122
- Joist Suspension Rod Bracket N°534
- Joist Suspension Rod Nº121/122
- Appropriate masonry fastener

**SUSPENSION CLIPS**

- Suspension Rod N°121
- Suspension Rod Clip N°2534
- Top Cross Rail N°127/128
- Suspension Rod N°122/123
- Suspension Clip N°124
- Fixing Clip Assembly N°151 or N°A124

**JOINERS**

- Top Cross Rail N°127/128
- Resilient Mount to Top Cross Rail Clip N°CSR5
- Gyprock Screw N°6 x 30mm
- Gyprock Resilient Mount
- Gyprock Screw
- Furring Channel N°129/308
- Locking Key N°139

**JOINERS**

- Joiner N°138
- Furring Channel N°129/308
- Allow 20mm expansion gap for every 6m of furring channel in fire rated ceilings
- Top Cross Rail N°127/128
- Top Cross Rail Joiner N°272 (or 200mm min. length of Top Cross Rail)
- Allow 20mm expansion gap for every 4.8m of TCR in fire rated ceilings
Suspended Bulkheads

Drops up to 450mm - up to 3 layers x 16mm GYPROCK Plasterboard
Drops 450mm to 1200mm - up to 1 layer GYPROCK Plasterboard (8.5kg/m² maximum).

**FIG 12:**

- Suspension Rods fixed to structural support
- GYPROCK plasterboard
- Furring Channel Nº129
- Notch furring channel (leaving head flange) bend and screw fix
- Cut and remove 25mm of head
- Cut through head and down legs of furring channel (leave face intact) bend and screw fix
- Locking Key Nº139

**FIG 13:**

- Suspension Rods fixed to structural support
- Top Cross Rail (Nº128 for fire rated systems)
- Furring Channel Nº129
- TCR Suspension Clip Nº2534
- Suspension Rods fixed to structural support
- Gal. Angle
- Screw each side to lock key to top cross rail
- GYPROCK plasterboard
- Alternative plasterboard corner detail for fire rated systems

**FIG 14: BULKHEAD DETAIL**

Drops greater than 450mm - up to 3 layers x 16mm GYPROCK Plasterboard

- Bracing fixed to structural soffit/purlins
- Framing fixed to structural soffit/purlins
- Bracing may require noggings
- Independent suspension of ceilings
- Wall Track Nº140 (to support ends of Furring Channel) fixed to framing at 600mm max. centres
- Track fixed to bottom of studs

**Bulkheads**

Bulkheads require independent support to carry the additional plasterboard and framing members. Depending on the drop and plasterboard mass to be installed, this may be achieved with additional suspension hangers as detailed in FIG 12 and 13, or by fixing framing members directly to the structural supports as detail in FIG 14.

All bulkheads require bracing to provide lateral stability to the framework during incidental loading. This may be achieved by providing stud bracing, fixed diagonally between the bulkhead framework and the structural soffit at regular intervals as shown in FIG 14 or alternatively, by rigidly coupling the ceiling to the bulkhead. If rigid coupling is used, the ceiling must be checked for horizontal loading. Refer to Rondo Building Services for assistance.
Curved Ceilings

GYPROCK plasterboards may be used on curved installations in accordance with Table 5 and 6.

Where a radius tighter than 900mm is to be used, the framing should be sheeted with GYPROCK Flexible Plasterboard. For detailed fixing information on GYPROCK Flexible Plasterboard, refer to brochure N°GYP544, Gyprock™ Steel Frame Wall Systems Installation Guide.

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

Raked Suspended Ceilings

FIG 17: RAKED SUSPENDED FLUSH JOINTED CEILING

Screw to fix Nº139
Locking Key to Top Cross Rail
Screw to prevent clips sliding up Top Cross Rail

TABLE 5: CURVING RADII AND MAXIMUM FRAME CENTRES FOR 6.5, 10, 13 AND 16MM GYPROCK PLASTERBOARDS

<table>
<thead>
<tr>
<th>Plasterboard Thickness (mm)</th>
<th>Gypsum™ Flexible Plasterboard</th>
<th>Gyprock™ Plasterboard CD and Flexible Plasterboard ONLY</th>
<th>All Gyprock™ Plasterboards except perforated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Curve Radius (mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;900</td>
<td>900 - 1000</td>
<td>1000 - 1500</td>
</tr>
<tr>
<td></td>
<td>1500 - 2000</td>
<td>2000 - 2500</td>
<td>2500 - 3000</td>
</tr>
<tr>
<td></td>
<td>3000 - 4000</td>
<td>4000 - Plus</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maximum Stud Centres (mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.5</td>
<td>Refer to Table 6</td>
<td>150</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td></td>
<td>250</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td></td>
<td>350</td>
<td>450</td>
</tr>
<tr>
<td></td>
<td></td>
<td>550</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>150</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td></td>
<td>250</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td></td>
<td>350</td>
<td>400</td>
</tr>
<tr>
<td></td>
<td></td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>150</td>
<td>250</td>
</tr>
<tr>
<td></td>
<td></td>
<td>250</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td></td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>250</td>
<td></td>
</tr>
</tbody>
</table>

TABLE 6: MINIMUM CURVING RADII AND MAXIMUM FRAME SPACING FOR GYPROCK FLEXIBLE PLASTERBOARD

<table>
<thead>
<tr>
<th>Applications</th>
<th>Minimum Radius</th>
<th>Max Stud Spacing</th>
<th>Minimum Radius</th>
<th>Max Stud Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concave</td>
<td>450mm</td>
<td>150mm</td>
<td>650mm</td>
<td>200mm</td>
</tr>
<tr>
<td>Convex</td>
<td>250mm</td>
<td>125mm</td>
<td>450mm</td>
<td>200mm</td>
</tr>
</tbody>
</table>

Notes – Low temperature and humidity will reduce board flexibility.
Curved Lengthways = where recessed edges are NOT curved.
Curved Widthways = where recessed edges are curved.
**Butt Joints in Non Fire Rated Suspended Ceilings**

FIG 18 shows suitable details for suspended ceilings in commercial buildings which are not required to be fire rated, are isolated from building movement at the perimeter and have a well controlled air environment such as occupied, air conditioned offices.

**FIG 18: BUTT JOINT CONSTRUCTION USING RONDO N°B005 BATTENS (TOP VIEW)**

- Rondo NºB005 Batten
- Battens at 300mm max centres
- 450mm max.
- Back-blocking
- 400mm
- 100mm min.

Note: Install screws to batten carefully. Collated screw guns may not be suitable.

**FIG 19: BUTT JOINT CONSTRUCTION USING RONDO N°B005 BATTENS AND BACK-BLOCKING (TOP VIEW)**

- Cornice adhesive
- Plasterboard fixed with 2 screws each side of joint
- Tape and set formed butt joint as per normal Gyprock recommendations for recess joints

Note: Install screws to batten carefully. Collated screw guns may not be suitable.
Steel Frame Ceiling Systems

Introduction
CSR GFC has developed a wide range of tested fire and/or acoustic ceiling systems utilising steel framing and plasterboard fixed to one or both sides.

These systems are most commonly specified above stairwells and corridors, and under concrete floors where personnel access is not required.

This section also details methods for constructing isolated bulkheads utilising steel furring channel framing.

Frame Requirements
Refer to the Framing section for the general requirements on steel frame construction.

All systems detailed in this section are non-trafficable, and are designed to carry the weight of the ceiling only. The ceiling framing must be strengthened to support light fittings and services.

Ceilings Lined One Side

Joist Selection
Steel joists for ceilings lined one side can be selected based on Table 7, which provides span information for Rondo Lipped Steel Stud sections when used as ceiling joists.

Joist End Support
Refer to following pages for alternative ceiling joist end support configurations and recommended construction methods.

Nogging/Bridging
Where joist span exceeds 2.50m, one row of nogging/bridging is required at mid span.

Where joist span exceeds 4.00m, two rows of nogging/bridging are required at equal spacings.

Control Joints
Control joints are to be installed in both fire rated and non-fire rated continuous interior ceiling areas, spaced at no more than 12m centres in both directions, and as detailed in the Framing section earlier in this guide.

FIG Z900: GENERAL LAYOUT OF CEILING FRAMING FOR SINGLE SPAN

Fix wall track to structural wall framing as detailed
Align ceiling joists with wall studs (or provide heavier gauge wall angle/track support)
Bridging/Nogging (use track, stud or nogging section) fixed to joists
Gyprock™ Ceiling Systems Installation Guide

TABLE 7: MAXIMUM SPAN OF JOISTS FOR INTERNAL CEILINGS
SINGLE SPAN – LIPPED STEEL STUD LINED ONE SIDE
Uniform Distributed Load (UDL) = 0.25kPa.

<table>
<thead>
<tr>
<th>C-Stud Depth mm</th>
<th>51</th>
<th>64</th>
<th>76</th>
<th>92</th>
<th>150</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stud Gauge BMT (mm)</td>
<td>0.50</td>
<td>0.50</td>
<td>0.75</td>
<td>1.15</td>
<td>0.55</td>
</tr>
<tr>
<td>Plasterboard (Layers x mm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Span of Joist (m) – Joist Spacing 300mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 x 10 or 1 x 13</td>
<td>2.05</td>
<td>2.40</td>
<td>2.85</td>
<td>3.10</td>
<td>3.00</td>
</tr>
<tr>
<td>(2 x 16) or (1 x 13 + 1 x 16)</td>
<td>1.80</td>
<td>2.20</td>
<td>2.55</td>
<td>2.75</td>
<td>2.65</td>
</tr>
<tr>
<td>3 x 16</td>
<td>1.65</td>
<td>2.05</td>
<td>2.35</td>
<td>2.60</td>
<td>2.45</td>
</tr>
<tr>
<td>Maximum Span of Joist (m) – Joist Spacing 450mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 x 10 or 1 x 13</td>
<td>1.80</td>
<td>2.15</td>
<td>2.55</td>
<td>2.75</td>
<td>2.65</td>
</tr>
<tr>
<td>(2 x 16) or (1 x 13 + 1 x 16)</td>
<td>1.60</td>
<td>1.95</td>
<td>2.25</td>
<td>2.45</td>
<td>2.35</td>
</tr>
<tr>
<td>3 x 16</td>
<td>1.45</td>
<td>1.80</td>
<td>2.10</td>
<td>2.25</td>
<td>2.15</td>
</tr>
<tr>
<td>Maximum Span of Joist (m) – Joist Spacing 600mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 x 10 or 1 x 13</td>
<td>1.65</td>
<td>1.95</td>
<td>2.35</td>
<td>2.55</td>
<td>2.40</td>
</tr>
<tr>
<td>(2 x 16) or (1 x 13 + 1 x 16)</td>
<td>1.45</td>
<td>1.75</td>
<td>2.05</td>
<td>2.25</td>
<td>2.10</td>
</tr>
<tr>
<td>3 x 16</td>
<td>1.35</td>
<td>1.60</td>
<td>1.90</td>
<td>2.05</td>
<td>1.95</td>
</tr>
</tbody>
</table>

NOTES:
- Maximum deflection = Span ÷ 480 or 10mm.
- Nogging/bridging required (equally spaced) - 1 row for spans over 2.50m – 2 rows for spans over 4.00m.
- For alternative spans using boxed studs or multispan configurations, refer to Rondo Building Services.

Framing Installation
Refer to FIG Z901, Z902, Z903, Z904 and Z905 for alternative frame assembly methods.
- Install steel track with the lower flange aligned at the required ceiling height and fix at ends and at 600mm maximum centres between.
  - To masonry, use power driven fasteners, expansion anchors, or easy drive masonry anchors.
  - To steel stud framing, use Gyprock type ‘S’ Screws, toggle bolts or expandable fasteners.
  - To timber framing, use Gyprock Clouts or Gyprock type ‘W’ Screws.
- Cut and install ceiling joists (lipped steel stud) into tracks, leaving a 5 – 10mm gap at each end (8 – 15mm for fire rated ceilings). Fix as indicated for the appropriate installation method.

NOTE: For alternative frame construction methods or for multi-span applications, refer to Rondo literature.

Plasterboard Installation
GYPROCK plasterboard can be installed in any of the methods detailed in this guide which are appropriate for the type of ceiling being constructed. Refer to appropriate details on Plasterboard Fixing.

Caulking
Fire rated ceilings must have all perimeter gaps fully caulked. Refer to Perimeter Framing & Caulking

FIG Z901: JOIST END SUPPORT – FRICITION JOINT
Maximum Joist Span: 2.0m (single span).
Maximum Joist Span: 2.8m (continuous over 2 or 3 spans).
**FIG Z902: JOIST END SUPPORT - MECHANICAL JOINT**  
Maximum Joist Span: 3.0m (single span).  
Maximum Joist Span: 4.0m (continuous over 2 or 3 spans).

**FIG Z903: JOIST END SUPPORT - MECHANICAL JOINT**  
Maximum Joist Span: 3.0m (single span).  
Maximum Joist Span: 4.0m (continuous over 2 or 3 spans).

**FIG Z904: JOIST END SUPPORT MECHANICAL JOINT**  
Maximum Joist Span: 6.0m (single span).

**FIG Z905: JOIST END SUPPORT MECHANICAL JOINT**  
Maximum Joist Span: 6.0m (single span).

**TABLE 8: BULKHEAD DROP & SPAN**  
Refer Fig Z910.

<table>
<thead>
<tr>
<th>Plasterboard Lining</th>
<th>Maximum Drop &amp; Span (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Furring Nº308</td>
</tr>
<tr>
<td>1 x 10mm</td>
<td>680</td>
</tr>
<tr>
<td>1 x 13mm</td>
<td>770</td>
</tr>
<tr>
<td>2 x 16mm</td>
<td>710</td>
</tr>
<tr>
<td>3 x 16mm</td>
<td>650</td>
</tr>
</tbody>
</table>
Ceilings Lined
Two Sides

Joist Selection
Maximum permissible spans for Rondo Lipped Steel Stud (150mm x 0.75BMT) lined on two sides are detailed in Table 9.

Maximum permissible spans for Rondo C-H Stud profiles lined on two sides are detailed in Table 10.

Alternative steel framing methods are permitted and must be designed by the project engineer. Framing must be at 600mm maximum centres, with a maximum material thickness of 1.2mm BMT.

Joist End Support
Refer to the following details for alternative ceiling joist end support configurations and recommended construction methods.

Note the specific requirements for the end support construction detailed where the longer spans are chosen.

1.15mm BMT track and 1.5mm angle are non-standard and may require fabrication.

Nogging
One row of nogging is required mid-span where single lipped C-stud sections are used. Nogging is not required where boxed lipped C-stud sections are used.

Nogging must also be included at all joints in GYPROCK Shaft Liner Panel. Refer to FIG Z913.

Control Joints
Control joints are to be installed in fire rated continuous interior ceiling areas, spaced at no more than 12m centres in both directions, and as detailed in the Framing section earlier in this guide.

Plasterboard Installation
GYPROCK plasterboard must be installed and fixed in accordance with appropriate fire rated system details in this guide. Layers applied to the top of the joists must be fixed to fire rated 2 layer system specifications.

GYPROCK Shaft Liner Panel should be installed into the C-H Stud profile during frame assembly. Cut the panels 15mm short, install and push hard-up one end. Install 22mm IBS Rod at the other end to seal the gap and allow for expansion. Refer FIG Z913.

Caulking
Fire rated ceilings lined two sides must have perimeter gaps fully caulked as detailed in FIG Z912 or Z913.
### TABLE 9: MAXIMUM SPAN OF CEILING JOISTS - RONDO LIPPED C-STUD (150 X 0.75MM BMT) - LINED TWO SIDES

<table>
<thead>
<tr>
<th>System</th>
<th>Plasterboard Linings</th>
<th>Ceiling Joist - Single Lipped C-Stud with 1 Row Nogging</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSR 992</td>
<td>Above: 2 x 16mm GYPROCK FYRCHEK</td>
<td>Ceiling Joist Spacing (mm)</td>
</tr>
<tr>
<td></td>
<td>Below: 2 x 16mm GYPROCK FYRCHEK</td>
<td>End Support (FIG Z914)</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td>2000</td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>2600</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>3200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>System</th>
<th>Plasterboard Linings</th>
<th>Ceiling Joist - Boxed Lipped C-Studs with No Nogging</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSR 992</td>
<td>Above: 2 x 16mm GYPROCK FYRCHEK</td>
<td>Ceiling Joist Spacing (mm)</td>
</tr>
<tr>
<td></td>
<td>Below: 2 x 16mm GYPROCK FYRCHEK</td>
<td>End Support (FIG Z914)</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td>2000</td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>2600</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>3200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>System</th>
<th>Plasterboard Linings</th>
<th>Ceiling Joist - Single Lipped C-Stud with 1 Row Nogging</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSR 993</td>
<td>Above: 2 x 16mm GYPROCK FYRCHEK</td>
<td>Ceiling Joist Spacing (mm)</td>
</tr>
<tr>
<td></td>
<td>Below: 3 x 16mm GYPROCK FYRCHEK</td>
<td>End Support (FIG Z914)</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td>1800</td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>2300</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>2700</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>System</th>
<th>Plasterboard Linings</th>
<th>Ceiling Joist - Boxed Lipped C-Studs with No Nogging</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSR 993</td>
<td>Above: 2 x 16mm GYPROCK FYRCHEK</td>
<td>Ceiling Joist Spacing (mm)</td>
</tr>
<tr>
<td></td>
<td>Below: 3 x 16mm GYPROCK FYRCHEK</td>
<td>End Support (FIG Z914)</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td>1800</td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>2300</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>2700</td>
</tr>
</tbody>
</table>

**NOTES TO TABLE 9 & 10:**
Uniform Distributed Load = 0.25kPa. Maximum Deflection = Span÷360 or 10mm.
Single C-stud joist members should be propped prior to fixing of top layers.
Where C-H profile joists are used, a C-H PROFILE nogging is required at joints in GYPROCK Shaft Liner.
Fix track to wall at each joist with 2 x 0.6kN fasteners

Fix each angle to wall at each joist with 1 x 1.0kN fastener

Fix joist to track with 1 x Nº10 pan head screw top and bottom

Fix joist to track with 1 x Nº10 pan head screw top and bottom

Fix joist to track with 1 x Nº10 pan head screw top and bottom

Loadbearing wall frame (check for capacity)

Wall lining to suit fire rating requirements

Align joists directly over wall studs

Wall lining to suit fire rating requirements

Align joists directly over wall studs

Loadbearing wall frame (check for capacity)
Plasterboard Fixing

- Gyprock™ plasterboard sheets should be installed with the long edge at right angles to the direction of the framing to which they are fixed.
- Fire rated installations must be fastener fixed. Adhesive is not permitted.
- Adhesive does not constitute a fixing system by itself and must be used in conjunction with nails or screws.
- Adhesive daubs must be kept 200mm minimum from fastening points.
- Fasteners are to be installed at 10 - 16mm from sheet edges.
- 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.
- Plasterboard must not be fixed directly to steel thicknesses greater than 1.2mm BMT.
- Fixings to CCA treated timbers must be class 3 screws or hot dip galvanised nails.
- For prepainted metal, LOSP or CCA treated timber framing, use 1/3 spacing method or full screw fixing.

Non Fire Rated Ceiling Systems

- When directly fixing a single layer system, the plasterboard sheets may be either all fastener fixed or fastener/adhesive fixed.
- When fixing a two layer system, the first layer must be all fastener fixed. The second layer may be all fastener fixed or adhesive/fastener fixed.

Fire Rated Ceiling Systems

- Plasterboard must be fastener fixed only, adhesive is not permitted.
- Fire rated ceiling systems must be installed strictly in accordance with CSR Gyprock specifications.

Plasterboard Joints

Wherever possible, butt jointing of sheets on ceilings should be avoided.

In non fire rated single layer systems, where butt joints on ceilings are positioned between framing members, the sheet ends must be reinforced (back-blocked), and depressed, forming a recess to enable jointing.

For detailed information, refer to the Gyprock™ Plasterboard Residential Installation Guide, NºGYP547.

In multi-layer systems, butt joints in hidden layers are to be formed on framing members and offset by 450mm minimum in consecutive layers. Butt joints in the final layer are to be formed within 50mm of the centreline between members, offset by a minimum of 450mm from previous layers and in adjoining sheets, and fixed with laminating screws at 200mm maximum centres.

In multi-layer systems recessed joints in consecutive layers must be offset by a minimum of 300mm.

Control Joints

Control joints are to be installed in fire rated continuous interior ceiling areas, spaced at no more than 12m centres in both directions, and as detailed in the Framing section earlier in this guide.

Caulking

To attain the specified FRL, all perimeter gaps and penetrations must be carefully and completely filled with Gyprock™ Fire Mastic. In some cases, vermiculite plaster may be used. (Refer to appropriate details). Vermiculite for caulking is to be mixed 3:2 by volume with cornice cement. Use sufficient water to achieve a stiff workable mix. Vermiculite plaster is not to be used as a general purpose acoustic or fire rated caulking, except where detailed in this manual. Vermiculite has no capacity to accommodate building movement.

In non fire rated systems, to attain the stated acoustic rating, fill all gaps and around penetrations with Gyprock™ Wet Area Acrylic Sealant or Gyprock™ Fire Mastic.

Curved Ceilings

For details on plasterboard fixing to curved ceilings, refer to the ‘Gyprock™ Steel Frame Wall Systems Installation Guide’, NºGYP544.

Plasterboard Jointing & Finishing

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

For non fire rated ceilings, information is provided for various ‘Levels of Finish’, including tolerances, back-blocking and fastener spacing.

In multi-layer systems, jointing and finishing is required on the visible outer layer only.

Laminating Screws

In 2 and 3 layer ceiling systems, Gyprock™ Laminating Screws (40mm x Nº10) may be used to laminate layers of plasterboard together at butt joints and control joints formed between framing.
### TABLE 11: FIXING PLASTERBOARD TO SOFTWOOD

<table>
<thead>
<tr>
<th>Plasterboard Thickness</th>
<th>1st Layer</th>
<th>2nd Layer</th>
<th>3rd Layer</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5mm Plasterboard</td>
<td>2.8x40mm Gal Clout or 2.8x25mm Ring Shank Nail or Type S #6-18 x 25mm NP Screw</td>
<td>2.8x40mm Gal Clout or 2.8x30mm Ring Shank Nail or Type S #6-18 x 32mm NP Screw</td>
<td>2.8x50mm Gal Clout or Type S #6-18 x 40mm NP Screw</td>
</tr>
<tr>
<td>10mm Plasterboard</td>
<td>2.8x40mm Gal Clout or 2.8x30mm Ring Shank Nail or Type S #6-18 x 30mm NP Screw</td>
<td>2.8x50mm Gal Clout or Type S #6-18 x 40mm NP Screw</td>
<td>3.75x75mm Gal Clout or Type S #8-15 x 65mm NP Screw or #10x40mm Laminating Screw (walls only)</td>
</tr>
<tr>
<td>13mm Plasterboard</td>
<td>2.8x40mm Gal Clout or 2.8x30mm Ring Shank Nail or Type S #6-18 x 32mm NP Screw</td>
<td>3.15x65mm Gal Clout or Type S #6-18 x 50mm NP Screw</td>
<td>3.75x75mm Gal Clout or Type S #8-15 x 65mm NP Screw or #10x40mm Laminating Screw (walls only)</td>
</tr>
<tr>
<td>16mm Plasterboard</td>
<td>2.8x50mm Gal Clout or Type S #6-18 x 32mm NP Screw</td>
<td>2.8x50mm Gal Clout or Type S #6-18 x 45mm NP Screw</td>
<td></td>
</tr>
<tr>
<td>13mm + 16mm Plasterboard</td>
<td>2.8x40mm Gal Clout or 2.8x30mm Ring Shank Nail or Type S #6-18 x 32mm NP Screw</td>
<td>2.8x50mm Gal Clout or Type S #6-18 x 45mm NP Screw</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE 12: FIXING PLASTERBOARD TO HARDWOOD

<table>
<thead>
<tr>
<th>Plasterboard Thickness</th>
<th>1st Layer</th>
<th>2nd Layer</th>
<th>3rd Layer</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5mm Plasterboard</td>
<td>2.8x30mm Gal Clout or 2.8x25mm Ring Shank Nail or Type S #6-18 x 25mm NP Screw</td>
<td>2.8x30mm Gal Clout or 2.8x25mm Ring Shank Nail or Type S #6-18 x 32mm NP Screw</td>
<td>3.15x65mm Gal Clout or Type S #6-18 x 50mm NP Screw or Type S #8-15 x 65mm NP Screw or #10x40mm Laminating Screw (walls only)</td>
</tr>
<tr>
<td>10mm Plasterboard</td>
<td>2.8x30mm Gal Clout or 2.8x25mm Ring Shank Nail or Type S #6-18 x 25mm NP Screw</td>
<td>2.8x40mm Gal Clout or Type S #6-18 x 32mm NP Screw</td>
<td>3.15x65mm Gal Clout or Type S #8-15 x 65mm NP Screw or #10x40mm Laminating Screw (walls only)</td>
</tr>
<tr>
<td>13mm Plasterboard</td>
<td>2.8x30mm Gal Clout or 2.8x25mm Ring Shank Nail or Type S #6-18 x 30mm NP Screw</td>
<td>2.8x40mm Gal Clout or Type S #6-18 x 32mm NP Screw</td>
<td>3.15x65mm Gal Clout or Type S #8-15 x 65mm NP Screw or #10x40mm Laminating Screw (walls only)</td>
</tr>
<tr>
<td>16mm Plasterboard</td>
<td>2.8x40mm Gal Clout or Type S #6-18 x 32mm NP Screw</td>
<td>3.15x65mm Gal Clout or Type S #6-18 x 45mm NP Screw</td>
<td></td>
</tr>
<tr>
<td>13mm + 16mm Plasterboard</td>
<td>2.8x30mm Gal Clout or 2.8x25mm Ring Shank Nail or Type S #6-18 x 32mm NP Screw</td>
<td>2.8x50mm Gal Clout or Type S #6-18 x 45mm NP Screw</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE 13: FIXING PLASTERBOARD 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>
</tr>
</thead>
<tbody>
<tr>
<td>6.5mm Plasterboard</td>
<td>Type S #6-18 x 25mm NP Screw</td>
<td>Type S #6-18 x 25mm NP Screw</td>
<td>Type S #8-15 x 65mm NP Screw or #10x40mm Laminating Screw (walls only)</td>
</tr>
<tr>
<td>10mm Plasterboard</td>
<td>Type S #6-18 x 25mm NP Screw</td>
<td>Type S #6-18 x 40mm NP Screw</td>
<td>Type S #8-15 x 65mm NP Screw or #10x40mm Laminating Screw (walls only)</td>
</tr>
<tr>
<td>13mm Plasterboard</td>
<td>Type S #6-18 x 25mm NP Screw</td>
<td>Type S #6-18 x 40mm NP Screw</td>
<td>Type S #8-15 x 65mm NP Screw or #10x40mm Laminating Screw (walls only)</td>
</tr>
<tr>
<td>16mm Plasterboard</td>
<td>Type S #6-18 x 30mm NP Screw</td>
<td>Type S #6-18 x 45mm NP Screw</td>
<td>Type S #8-15 x 65mm NP Screw or #10x40mm Laminating Screw (walls only)</td>
</tr>
<tr>
<td>13mm + 16mm Plasterboard</td>
<td>Type S #6-18 x 25mm NP Screw</td>
<td>Type S #6-18 x 45mm NP Screw</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE 14: FIXING PLASTERBOARD TO STEEL 0.8 – 2.0mm BMT

<table>
<thead>
<tr>
<th>Plasterboard Thickness</th>
<th>1st Layer</th>
<th>2nd Layer</th>
<th>3rd Layer</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5mm Plasterboard</td>
<td>Type S #6-18 x 25mm DP Screw</td>
<td>Type S #6-18 x 25mm DP Screw</td>
<td>Type S #6-18 x 40mm DP Screw</td>
</tr>
<tr>
<td>10mm Plasterboard</td>
<td>Type S #6-18 x 25mm DP Screw</td>
<td>Type S #6-18 x 40mm DP Screw</td>
<td>#10x40mm Laminating Screw (walls only)</td>
</tr>
<tr>
<td>13mm Plasterboard</td>
<td>Type S #6-18 x 25mm DP Screw</td>
<td>Type S #6-18 x 40mm DP Screw</td>
<td>#10x40mm Laminating Screw (walls only)</td>
</tr>
<tr>
<td>16mm Plasterboard</td>
<td>Type S #6-18 x 30mm DP Screw</td>
<td>Type S #6-18 x 45mm DP Screw</td>
<td>#10x40mm Laminating Screw (walls only)</td>
</tr>
<tr>
<td>13mm + 16mm Plasterboard</td>
<td>Type S #6-18 x 25mm DP Screw</td>
<td>Type S #6-18 x 45mm DP Screw</td>
<td></td>
</tr>
</tbody>
</table>
Perforated Plasterboard Installation

Notes On Fixing

- Plan the layout of the sheets prior to application. It is recommended that a border of standard GYPROCK plasterboard at least 150mm wide be provided around the perimeter of the ceiling. Suitable framing must be provided.
- To align perforations, use a stringline or laser.
- Framing members must be positioned at 600mm centres and coincide with non-perforated areas of sheets.
- May be used in curved applications with 2.0m minimum radius.
- Additional details, including information on preparing suspended ceiling systems are provided in a later section of this brochure.

Fixing Procedure - Sheets

- Apply GYPROCK Perforated Plasterboard sheets with paper bound edges at right angles to framing members. Align pattern to previously installed sheets and screw at 300mm maximum centres.
- If butt joints are required, centre joints on framing members and screw at 200mm centres opposed. Butt joints should be staggered.

Joints

Tape and set joints using only approved GYPROCK jointing systems and use as detailed in the Gyprock™ Plasterboard Residential Installation Guide, NºGYP547.

Due to the location of the perforations close to the edge of panels, butt joints are of a narrower width than is normal. Special care should be taken to ensure a good joint finish without filling of perforations.
Notes On Fixing

- Install sheets with paper bound edges at right angles to joists/framing to which sheets are being fixed.
- Daubs of adhesive must be 200mm minimum from fastening points.
- Place edge fasteners at 10 to 16mm from sheet edge.

Fixing Procedure

Refer to Plasterboard Fixing for fastener details.

- Apply stud adhesive to framing in accordance with the following table. Using a broadknife, apply daubs 25mm diameter x 15mm high at 230mm maximum centres and at 200mm minimum from fastening points at sheet edges and centreline. Omit daubs at ends of sheets and at butt joints.

<table>
<thead>
<tr>
<th>Plasterboard Width (mm)</th>
<th>Conventional Spacing</th>
<th>1/3 Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>900</td>
<td>F A F/F A F</td>
<td>F A F A F</td>
</tr>
<tr>
<td>1200</td>
<td>F A A F/F A A F</td>
<td>F A F A F A F</td>
</tr>
<tr>
<td>1350</td>
<td>F A A A F/F A A F</td>
<td>F A F A F A F</td>
</tr>
</tbody>
</table>

F = Fastener  A = Adhesive Daub  F/F = 1 Screw or 2 Nails at 50 - 75mm apart

- Apply plasterboard and fasten one recessed edge at each framing member.
- Press the sheet firmly against the framing, then fasten along the second recessed edge at each framing member.
- Fasten along the centreline of sheet at each framing member with 2 nails at 50 to 75mm apart or 1 screw.
- Where butt joints are made on framing members, nail fix at 150mm or screw fix at 200mm maximum centres.
- Where butt joints are made between framing, join within 50mm of centreline between framing and adhesive fix back-block joint. Back-block recessed joints where required. Refer to the Gyprock™ Plasterboard Residential Installation Guide, GYP547 for full details.
- Offset butt joints in adjoining sheets by 600mm minimum.
- Fasten around service openings with nails at 150mm or screws at 200mm maximum centres.
- Fasten ends of sheets at 300mm maximum centres for a cornice finish, or at 150mm maximum centres for a set finish.
- Under slow drying conditions, hold 1350mm wide sheets against the framing members for at least 48 hours with temporary fasteners driven through plasterboard blocks at every second frame. Refer to installation detail.
**Notes On Fixing**

- Install sheets with paper bound edges at right angles to the furring/frame to which sheets are being fixed.
- Place edge fasteners at 10 to 16mm from sheet edge.

**Fixing Procedure**

Refer to Plasterboard Fixing for fastener details.

**First Layer**

- Begin with a half width sheet.
- Apply plasterboard and fasten along recessed edges at each framing member.
- Press the sheet firmly against the framing and fasten the body of the board at each framing member at 300mm maximum centres.

**Use the following at each framing member:**
- 900mm width sheets - 4 screws equally spaced.
- 1200mm width sheets - 5 screws equally spaced.
- 1350mm width sheets - 6 screws equally spaced.

- Fasten butt joints centred on framing members at 200mm maximum centres.
- Fasten around service openings at 200mm maximum centres.
- Fasten ends of sheets at 300mm maximum centres.

**Second Layer**

- Begin with a full width sheet so that recess joints will be offset from first layer by 300mm min.
- Using a broadknife, apply adhesive daubs 25mm diameter x 15mm high at 230mm maximum centres and 200mm minimum from fastening points at the edges and centreline of the sheet. Omit daubs at ends of sheets and at butt joints.

Use the following daubs at each framing member:
- 900mm width sheets - 2 daubs.
- 1200mm width sheets - 4 daubs.
- 1350mm width sheets - 4 daubs.

- Apply plasterboard and fasten one recessed edge at each framing member.
- Press the sheet firmly against the framing, then fasten along the second recessed edge at each framing member.
- Fasten along the centreline of the sheet with 1 screw at each framing member.
- Offset butt joints in adjoining sheets and between layers by 600mm minimum and fasten at 200mm maximum centres.
- Fasten around service openings at 200mm maximum centres.
- Fasten ends of sheets at 300mm maximum centres for a cornice finish, or at 150mm maximum centres for a set finish.
- Under slow drying conditions, hold 1350mm wide sheets against the framing members for at least 48 hours with temporary fasteners driven through plasterboard blocks at every second frame.
Notes On Fixing

- Install sheets with paper bound edges at right angles to the furring /framing to which sheets are being fixed.
- Place edge fasteners at 10 to 16mm from sheet edge.

Fixing Procedure

Refer to Plasterboard Fixing for fastener details.

- Apply plasterboard and fasten to each framing member along recessed edges.
- Press the sheet firmly against the framing and fasten the body of the board to each framing member with screws at 300mm maximum centres.

Use the following at each framing member:

900mm width sheets - 4 screws equally spaced.  
1200mm width sheets - 5 screws equally spaced.  
1350mm width sheets - 6 screws equally spaced.

- Where butt joints are made on framing members, screw fix at 200mm maximum centres.
- Where butt joints are made between framing, join within 50mm of centreline between framing and back-block joint. Back-block recessed joints where required. Refer to the Gyprock™ Plasterboard Residential Installation Guide, N°GYP547 for full details.

- Offset butt joints in adjoining sheets by 600mm minimum.
- Fasten around service openings with screws at 200mm maximum centres.
- Screw fix ends of sheets at 300mm maximum centres for a cornice finish, or at 150mm maximum centres for a set finish.

Two Layer Systems

- Fix the first layer as detailed for a single layer system, beginning with a half width sheet. Butt joints may be on the same member.
- Begin the second layer with a full width sheet so that the recess joints will be offset from the first layer joints by 300mm minimum.
- Offset butt joints a minimum of 600mm between layers and between adjacent sheets in the second layer.
- Fix the second layer using screws applied to the same specifications as detailed above for a single layer system.
Notes On Fixing

- Install sheets with paper bound edges at right angles to the framing to which sheets are being fixed.
- Offset recess joints of 1st and 2nd layers by 300mm min.
- Place edge fasteners at 10 to 16mm from sheet edge.
- Leave a 6mm gap around perimeter and caulk with Gyprock™ Fire Mastic.
- Single layer systems are to be installed as detailed for the second layer. Butt joints are to be formed within 50mm of the centreline between framing, fully back-blocked and fixed with laminating screws at 200mm maximum centres.

Fixing Procedure
Refer to Plasterboard Fixing for fastener details.

First Layer
- Begin with a half width sheet.
- Apply plasterboard and fasten along recessed edges at each framing member.
- Press the sheet firmly against the framing and fasten the body of the board to each framing member at 200mm maximum centres.

Use the following at each framing member:
- 900mm width sheets - 6 fasteners equally spaced.
- 1200mm width sheets - 7 fasteners equally spaced.
- 1350mm width sheets - 8 fasteners equally spaced.
- Form butt joint on framing and fasten at 150mm maximum centres.
- Fasten around openings at 150mm maximum centres.
- Fasten ends of sheets at a 200mm maximum centres.

Second Layer
- Begin with a full width sheet so that recess joints will be offset from first layer by 300mm minimum.
- Apply plasterboard and fasten recessed edges and body of sheets as for the first layer.
- Fasten around openings at 150mm maximum centres.
- Offset butt joints in adjoining sheets by 600mm minimum and fix according to frame spacing - Framing at 450mm maximum spacing - Butt joint on framing and fasten at 150mm maximum centres (or as detailed for 600mm frame spacing). Framing at 600mm maximum spacing - Butt joint within 50mm of centre line between framing and fix to 1st layer with laminating screws at 200mm maximum cts.
- Fasten ends of sheets at 200mm maximum centres for a cornice finish, or at 150mm maximum centres for a set finish.
Notes On Fixing

- Install sheets with paper bound edges at right angles to the framing to which sheets are being fixed.
- Offset recess joints between layers by 300mm min.
- Place edge fasteners at 10 to 16mm from sheet edge.
- Leave a 6mm gap around perimeter and caulk with Gyprock™ Fire Mastic.

Fixing Procedure

Refer to Plasterboard Fixing for fastener details.

First Layer

- Begin with a 400mm width sheet so that recess joints will be offset from second layer.
- Apply plasterboard and screw fix along recessed edges at each framing member.
- Press the sheet firmly against the framing and fasten the body of the board to each framing member with screws at 200mm maximum centres.

Use the following at each framing member: 900mm width sheets – 6 fasteners equally spaced. 1200mm width sheets – 7 fasteners equally spaced. 1350mm width sheets – 8 fasteners equally spaced.

- Form butt joints centred on framing members and fasten at 150mm maximum centres.
- Fasten around openings with at 150mm maximum centres.
- Fasten ends of sheets at a 200mm max. centres.

Second Layer

- Begin with an 800mm width sheet. Offset recess joints 300mm minimum from the previous layer. Offset butt joints between layers by 600mm minimum.
- Fasten 2nd layer sheets as for first layer.

Third Layer

- Begin with a full width sheet. Offset recess joints 300mm minimum from the previous layer. Offset butt joints in adjoining sheets and from previous the layers by 600mm minimum.
- Apply plasterboard and fasten recessed edges, body of sheets and around openings as for previous layers.
- Butt joint within 50mm of the centreline between framing and fix to previous layer with Laminating Screws at 200mm max. centres.
- Fasten ends of sheets at a 200mm max. centres for a cornice finish, or at a 150mm maximum centres for a set finish.
Perimeter Framing & Caulking

At ceiling/wall junctions, ceiling framing is required to support the plasterboard as detailed in FIG Z101 to FIG Z130. To seal the junction between the ceiling and wall, one of the caulking details FIG Z140 to FIG Z147 must be used. The junction detail should be selected with regard to appearance and acoustic integrity.

**FIG Z100: CEILING PERIMETER FRAMING AND CAULKING SELECTION**

**Step 1:**
Choose a suitable ceiling perimeter framing detail. Refer to FIG Z101 to FIG Z130.

**Step 2:**
Choose a suitable perimeter caulking detail. Refer to FIG Z140 to FIG Z147.

**CEILING PERIMETER FRAMING AT JUNCTION WITH TIMBER FRAMED WALL**

**FIG Z101**

**FIG Z102**

1 or 2 layers of GYPROCK FYRCHEXK

Angle may be required as backing for caulking

Non fire rated or lower rated timber wall system

Rondo Wall Track fixed at 600mm max. centres

Blocking to suit FRL. Refer to ‘National Association of Forest Industries Ltd’ publication ‘MRTFC’

**FIG Z103**

**FIG Z104**

1, 2 or 3 layers of GYPROCK FYRCHEXK

50x50mm Plasterers Steel Angle or Wall Track fixed at 600mm max. centres

Non fire rated or lower rated timber wall system

Rondo Wall Track fixed at 600mm max. centres

Blocking to suit FRL. Refer to ‘National Association of Forest Industries Ltd’ publication ‘MRTFC’

NOTE: Caulking of the ceiling perimeter may be necessary before fixing wall linings
CEILING PERIMETER FRAMING AT JUNCTION WITH FIRE RATED STEEL FRAMED WALL

FIG Z111

Rondo Wall Track fixed at 600mm max. centres with metal fasteners

Refer to FIG Z100

FIG Z112

Rondo Wall Track fixed at 600mm max. centres with metal fasteners

Fire rated wall system

FIG Z113

Steel Track fixed at 600mm max. centres with metal fasteners

Refer to FIG Z100

FIG Z114

Steel Angle or Track fixed at 600mm max. centres with metal fasteners

Fire rated wall system

FIG Z115

Steel Angle fixed at 600mm max. centres with metal fasteners

Refer to FIG Z100

FIG Z116

Steel Angle fixed at 600mm max. centres with metal fasteners

Fire rated wall system
CEILING PERIMETER FRAMING AT JUNCTION WITH MASONRY WALL

FIG Z121
Wall track or angle fixed at 600mm max. centres with metal fasteners

FIG Z122
Masonry wall system

FIG Z123
Ceiling Joist

FIG Z124
Packer to suit

FIG Z125
Masonry wall system

FIG Z126
Rondo Wall Track

FIG Z127
Render

FIG Z128
Gyprock Masonry Adhesive (large daubs to bridge cavity)
Caulking Details for Fire Rated Ceilings

Perimeter caulking details Z140 to Z147 will maintain the FRL of the CSR Gyprock ceiling systems in which they are installed. These details (excluding Z146 and Z147) are also suitable where acoustic integrity is required.

**FIG Z140**
Suitable for 2 and 3 layer plasterboard ceiling systems.

**FIG Z141**
Suitable for 2 and 3 layer plasterboard ceiling systems.

**FIG Z142**
Suitable for 1, 2 and 3 layer plasterboard ceiling systems.

**FIG Z143**
Suitable for 2 and 3 layer plasterboard ceiling systems.

**FIG Z144**
Suitable for 1, 2 and 3 layer plasterboard ceiling systems.

**FIG Z145**
Suitable for 1, 2 and 3 layer plasterboard ceiling systems.
Ceiling Perimeter Junctions to control Room to Room Noise via Ceiling Space

To achieve stated acoustic isolation (CAC) values for Gyprock™ Ceiling Systems, it is necessary to install one of the following wall to ceiling junction details. The acoustic performance of set plasterboard ceilings can be maintained if there are no penetrations in the ceiling or the penetrations are acoustically treated. Untreated penetrations can result in up to a 10dB loss in integrity.

**FIG Z800: WALL/CEILING JUNCTION**
- Ceiling Framing
- 13mm GYPROCK plasterboard CD continuous over wall
- Tape and set corner
- Apply sealant above track and fix wall track to ceiling framing

**FIG Z801: WALL/CEILING JUNCTION**
- 13mm GYPROCK plasterboard CD continuous over wall
- Tape and set corner
- Apply sealant above track and fix wall track to ceiling framing

**FIG Z802: WALL/CEILING JUNCTION**
- 1200mm min. Ceiling Framing
- 1200mm min. Bradford 75mm Anticon™ Insulation
- 100mm min
- 1200mm min.
- Ceiling Framing
- 13mm GYPROCK plasterboard CD
- Tape and set corner

**FIG Z803: WALL/CEILING JUNCTION**
- Framing to appropriate detail
- Wall System
- 70mm max.
- 6mm gap max.
- Wall Angle Trim
- Rondo DUO 5 fixed to wall with metal fasteners at 600mm max. centres
- NOTE: Wall surface behind angle must be flush. Fill any raked joints behind angle.

**FIG Z804: WALL/CEILING JUNCTION**
- Shadowline stopping bead
- Rondo P50
- 22mm IBS rod
- NOTE: Wall surface behind angle must be flush. Fill any raked joints behind angle.

**FIG Z805: WALL/CEILING JUNCTION**
- Framing to appropriate detail
- Wall System
Fire Rated Ceiling Control Joints

**FIG Z033: CONTROL JOINT PARALLEL TO STEEL FRAMING - 1 LAYER**
(Maintains FRL of the ceiling system in which it is installed).

- Continuous back-block of GYPROCK FYRCHEK same thickness as ceiling sheet
- 1 layer GYPROCK FYRCHEK plasterboard screw fixed to furring channel each side of joint at 200mm max. centres
- Fix one side of back-block with laminating screws at 600mm max. centres or plaster based adhesive
- 15 to 20mm gap

**FIG Z034: CONTROL JOINT PARALLEL TO STEEL FRAMING - 2 LAYERS**
(Maintains FRL of the ceiling system in which it is installed).

- Continuous back-block of GYPROCK FYRCHEK same thickness as ceiling sheet
- 2 layers GYPROCK FYRCHEK plasterboard screw fixed to furring channel each side of joint at 200mm max. centres
- Fix one side of back-block with laminating screws at 600mm max. centres or plaster based adhesive
- 15 to 20mm gap

**FIG Z037: CONTROL JOINT PARALLEL TO STEEL FRAMING - 3 LAYERS**
(Maintains FRL of the ceiling system in which it is installed).

- Continuous back-block of GYPROCK FYRCHEK same thickness as ceiling sheet
- 3rd layer of GYPROCK FYRCHEK plasterboard fixed with laminating screws at 200mm max. centres
- Fix one side of back-block with laminating screws at 600mm max. centres or plaster based adhesive
- 15 to 20mm gap

**FIG Z035: CONTROL JOINT PERPENDICULAR TO STEEL FRAMING - 2 LAYERS**
(Maintains FRL of the ceiling system in which it is installed).

- Continuous back-block of GYPROCK FYRCHEK same thickness as ceiling sheet
- 2nd and 3rd layers of GYPROCK FYRCHEK plasterboard fixed to furring channel at 200mm max. centres
- Fix one side of back-block with laminating screws at 600mm max. centres or plaster based adhesive
- 15 to 20mm gap

**FIG Z038: CONTROL JOINT PERPENDICULAR TO STEEL FRAMING - 3 LAYERS**
(Maintains FRL of the ceiling system in which it is installed).

- Continuous back-block of GYPROCK FYRCHEK same thickness as ceiling sheet
- 2nd and 3rd layers of GYPROCK FYRCHEK plasterboard fixed to furring channel at 200mm max. centres
- Fix one side of back-block with laminating screws at 600mm max. centres or plaster based adhesive
- 15 to 20mm gap
FIG Z042: CONTROL JOINT PARALLEL OR PERPENDICULAR TO TIMBER OR STEEL FRAMING - 2 LAYERS
(Maintains FRL of the ceiling system in which it is installed).

NOTE: Control joint must be placed centrally between joists when installed parallel to framing.

Continuously fill gap with CSR Gyprock® Fire Mastic to depth of first layer minimum.

Back-block between trimmers with GYPROCK FYRCHEK same thickness as ceiling sheet.

RONDO P35 Control Joint with set finish

Laminating screws at 200mm max. centres

10 to 12mm gap

15 to 20mm gap

FIG Z043: CONTROL JOINT PARALLEL TO TIMBER FRAMING - 3 LAYERS
(Maintains FRL of the ceiling system in which it is installed).

Back-block between trimmers with GYPROCK FYRCHEK same thickness as ceiling sheet.

Fix back-block to ceiling sheet with plaster based adhesive or laminating screws.

RONDO P35 Control Joint with set finish

200mm min.

15 to 20mm gap

GYPROCK FYRCHEK plasterboard

10 to 12mm gap

FIG Z044: CONTROL JOINT PARALLEL OR PERPENDICULAR TO TIMBER FRAMING - 3 LAYERS
(Maintains FRL of the ceiling system in which it is installed).

NOTE: Control joint must be placed centrally between joists when installed parallel to framing.

Continuously fill gap with CSR Gyprock® Fire Mastic to depth of first layer minimum.

Back-block between trimmers with GYPROCK FYRCHEK same thickness as ceiling sheet.

RONDO P35 Control Joint with set finish

Fix 2nd and 3rd layers to preceding layer with laminating screws at 200mm max. centres

Aluminium Foil under joist, 300 x 150 x 0.15mm

200mm min.

300mm min.

200mm min.

Aluminium Foil under joint, 300 x 150 x 0.15mm

FIG Z045: CONTROL JOINT PARALLEL OR PERPENDICULAR TO TIMBER OR STEEL FRAMING - 2 LAYERS
(Maintains FRL of the ceiling system in which it is installed).

NOTE: Control joint must be placed centrally between joists when installed parallel to framing.

Continuously fill gap with CSR Gyprock® Fire Mastic to depth of first layer minimum.

Back-block between trimmers with GYPROCK FYRCHEK same thickness as ceiling sheet.

RONDO P35 Control Joint with set finish

Laminating screws at 200mm max. centres

15 to 20mm gap

15 to 20mm gap

GYPROCK FYRCHEK plasterboard

10 to 12mm gap

FIG Z041: CONTROL JOINT PERPENDICULAR TO TIMBER FRAMING - 2 LAYERS
(Maintains FRL of the ceiling system in which it is installed).

Laminating screws at 200mm max. centres

10 to 12mm gap

NOTE: Control Joint must be placed centrally between joists when installed parallel to framing.

Continuously fill gap with CSR Gyprock® Fire Mastic to depth of first layer minimum.

Fix 2nd and 3rd layers to preceding layer with laminating screws at 200mm max. centres

Aluminium Foil under joist, 300 x 150 x 0.15mm

200mm min.

300mm min.

200mm min.

Aluminium Foil under joint, 300 x 150 x 0.15mm

FIG Z040: CONTROL JOINT PARALLEL TO TIMBER FRAMING - 2 LAYERS
(Maintains FRL of the ceiling system in which it is installed).

Laminating screws at 200mm max. centres

10 to 12mm gap

NOTE: Aluminium Foil must be placed under joist where control joint is perpendicular to framing. Refer to FIG Z041.

RONDO Stopping Bead with set finish

200mm min.

15 to 20mm gap

GYPROCK FYRCHEK plasterboard
Access & Air Conditioning Penetrations in Ceilings

Penetrations for Access Panels and Air Conditioning

**FIG Z032: FIRE HATCH IN CEILING**

- Ceiling Joists/Trimmers around all sides of opening
- Ceiling cut-out equal to hatch frame size
- Fire rated access panel installed to manufacturer’s specifications
- GYPROCK FYRCHEK plasterboard ceiling lining

**FIG Z033: AIR CONDITIONING DUCT/DAMPER PENETRATION IN CEILING**

- AC Duct and Damper supported independently to ceiling system
- Ceiling suspension system
- Fusible Link
- Fire Damper
- 30mm Bradford Fireseal Damper Strip
- Air Diffuser
- Volume Dampers

**VIEW FROM ‘A’**

The system detailed in FIG Z033 incorporates a 600 x 400 x 0.76mm galvanised steel duct incorporating a single blade fire damper with an opening size of 460mm x 460mm (Blendair CFDI 450 x 450mm single blade fire and smoke damper or equivalent).

The design incorporates a 450 x 450mm aluminium volume damper located in the fir damper, and a 600 x 600mm face size by 0.76mm steel diffuser for the air outlet.

**FIRE RATED**
Electrical Penetrations

Ceilings - Fire Rated

The Gyprock™ Fire Spring is a steel coil approximately 25mm in diameter and 170mm in length. It is designed to keep power cables away from combustible materials, effectively eliminating the need to ‘back-block’ the wiring.

The Gyprock™ Fire Spring is used in plasterboard ceiling systems required to be resistant to the incipient spread of fire.

The Gyprock™ Fire Spring can be installed during ceiling construction as shown in FIG Z054, or once the ceiling has been installed as shown in FIG Z055.

FIG Z054: GYPROCK FIRE SPRING FITTED DURING CEILING INSTALLATION TESTED TO AS1530.4

Alternately, where electrical wires or conduits penetrate a fire rated ceiling, the penetration must be back-blocked with two 100 x 100mm pieces of 16 mm GYPROCK FYRCHÉK. Recess the lower piece to accommodate the wiring, and fix both blocks in position with Gyprock™ Cornice Cement or Gyprock™ Base Coat 45 or 60.

FIG Z056: BACK-BLOCKING OF ELECTRICAL PENETRATION ON CEILING

FIG Z057: RECESSED LIGHT CAVITY IN TIMBER FRAME
(Maintains the FRL of the wall system in which it is installed).
**FIG Z058: RECESSED LIGHT BOX IN SUSPENDED STEEL FRAME CEILING**
(Maintains the FRL of the wall system in which it is installed)
(Component not supplied by CSR)

- Fabricated box 0.5mm galvanised steel 1230L x 285W x 120H mm
- Wiring penetration 2 layers 16mm GYPROCK FYRCHEK screw fixed to steel box at 300mm max. centres
- Hanging bolts 85 x 7mm 50 50
- 2 layers 16mm GYPROCK FYRCHEK screw fixed to steel box at 300mm max. centres

**FIG Z059: SURFACE MOUNTED LIGHT PERPENDICULAR TO FURRING CHANNELS**

- Additional short length of Top Cross Rail to support Furring Channels
- Light Fitting screw fixed to Furring Channel

**FIG Z060: SURFACE MOUNTED LIGHT PARALLEL TO FURRING CHANNELS**

- Additional short length of Top Cross Rail to support Furring Channels
- Light Fitting screw fixed to Furring Channel

**FIG 26: FIRE RATED REGAL HALOGEN DOWNLIGHT**
Regal type R1012/FRD downlight is suitable for FRL 60/60/60 and 60 minute RISF.
Plumbing Penetrations

**FIG Z069: COPPER PIPE PENETRATION THROUGH CEILING**
(Maintains the FRL of the ceiling system in which it is installed).

**Sprinkler Pipes**
The penetration through fire rated ceilings for sprinkler pipes should not exceed the pipe diameter plus 10mm.
The hole must be cut using a hole saw.
Once the pipe is in position caulk around the sprinkler head with Gyprock™ Fire Mastic.

**FIG Z070: PVC PIPE PENETRATION THROUGH CEILING**
(Maintains the FRL of the ceiling system in which it is installed).
Installation must be to fire rated collar manufacturer’s specifications.

Additional support framing if required

**FIG Z071: FIRE SPRINKLER PIPE PENETRATION THROUGH CEILING**
(Maintains the FRL of the ceiling system in which it is installed).
Beam Encasement

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

Steel Beams

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 beam 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 beam/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.
Timber Beams

The Gyprock™ Timber Beam Encasement Systems provide up to 120 minutes structural fire resistance to timber beam sections.

All nails must have a minimum penetration into the timber of 20mm.

FIG 30: TIMBER BEAM ENCASEMENT SYSTEM FIRE RATED - SINGLE AND FIRST LAYER FIXING

FIG 31: TIMBER BEAM ENCASEMENT SYSTEM FIRE RATED - SECOND/THIRD LAYER FIXING
(Third layer must be fixed to the same specifications).

FIG 29: STEEL BEAM ENCASEMENT SYSTEM - FIRE RATED - THREE SIDED PLASTERBOARD FIXING
Panel Ceiling Systems

Introduction

Gyprock™ Panel Ceiling Systems are an attractive, economical and functional solution for commercial and industrial ceilings in offices, shops and shopping centres, hospitals and nursing homes, school and university buildings, clubs, restaurants, function centres and community buildings, warehouse and factory buildings.

There is a range of Gyprock™ Panel Ceiling Systems to suit both decorative and acoustic requirements. Advantages include:

• Fast, easy and inexpensive to install. Panels simply sit in a two-way grid suspended frame.
• Panels in grid systems provide ready access to services located above.
• Dimensionally stable panels that will not buckle, shrink or warp. Under normal usage, deflection is minimal – well within the stringent tolerances set by AS2785.
• Virtually maintenance free.
• Vinyl laminate finished panels simply wipe clean with a damp cloth.
• Systems easily adapt to accept flush mounted lighting systems.
• Panels can be easily cut on-site using a trimming knife or panel saw to fit around columns, sprinklers and to accommodate flush lighting systems, etc.
• Used in conjunction with exposed grid suspension systems.
• Hold down clips are available for areas of fluctuating air pressure.

Gyprock™ Plasterboard Panels

Gyprock™ Plasterboard Panels are machine made with a gypsum core and various face treatments to suit individual applications. Gyprock™ Panels are produced to fit 600 x 1200mm standard grids.

Perforated Panel has a white vinyl face finish, and a regular grid of 6mm full depth holes. Perforations are approximately 10% of the panel area, and combined with suitable insulation, provide a medium level of acoustic absorption.

Supatone™ is a paper faced white ceiling tile suited to basic commercial ceilings. A low maintenance bright white panel, it can be wiped clean with a damp cloth.

Freshtone™ Diamond White has a lightly textured vinyl surface which resists fading and mould growth. With a white finish, it is suitable for shopping centres, factories and offices.
USG Ceiling Panels
USG ceiling panels have a mineral fibre core and offer attractive textured appearance and high acoustic ratings to meet the needs of offices, conference rooms, boardrooms, hospitals, cinemas, education, showrooms, restaurants, and hotels. The range includes:

**Eclipse ClimaPlus™**
- 19mm thick mineral fibre panels with three edge options.
- High NRC values achieved through patented technology.
- High stain resistance
- Humidity resistant to maximum 95% R.H. at 40°C.
- Non-perforated for a cleaner, lighter appearance.

**Impressions ClimaPlus™**
- 15mm thick mineral fibre panels with three edge options.
- Micro fissured for a cleaner, whiter appearance.
- Formulated to resist temperature and humidity conditions up to 40°C and 95% R.H.
- NRC 0.50 - 0.60, CAC 33/35 min for quiet comfort.

**Mars ClimaPlus™**
- 19mm thick mineral fibre/glasswool panels with three edge options.
- Smooth non-perforated finish.
- Ultra high light reflectance (90%).
- Formulated to resist high temperature and high humidity.
- High combinations of NRC and CAC.

**Olympia Micro ClimaPlus™**
- 15mm thick mineral fibre panels with three edge options.
- Economical, fine-textured panel.
- Excellent light reflectance reduces the number of light fixtures needed, energy usage and eye strain.
- Humidity resistant to maximum 95% R.H. at 40°C.

**Radar ClimaPlus™**
- 15 or 19mm thick mineral fibre panels with three edge options.
- True non-directional texture allows installation in any direction.
- A fresh, clean look adapts to any interior.

Ecophon™ Ceiling Panels
Ecophon™ ceiling panels have a bonded glasswool core for high acoustic performance and the Akutex T finish to provide an attractive easy care surface.

The range includes:

**Focus**
- 20mm thickness panels with a range of edge profiles.
Also available for direct fixing to battens or existing ceiling. The Akutex T surface is micro-perforated vinyl paint that can be easily wiped clean.

**Advantage**
- 15mm thickness panels with a glass tissue facing to meet general conditions and good acoustic performance.

**Master**
- 40mm thickness panels with the highest acoustic performance plus Akutex T finish.

**Hygiene**
- 20mm thickness panels with a ‘cleanroom’ classification. Provides excellent acoustic performance and the Akutex T finish is suitable for pressure wash-down situations.

For detailed information, please refer to the ‘Ecophon Product Catalogue’.
Acoustic Panel/Tile Ceiling Systems

SYSTEM SPECIFICATION

- Rondo Duo™ suspended ceiling system with appropriate acoustic ceiling tiles.
- DONN™ suspended ceiling system with appropriate acoustic ceiling tiles
- Fricker Easy Access System® with appropriate acoustic ceiling tiles
- Plasterboard ceiling or timber battens with Ecophon Focus F acoustic ceiling tiles.

TYPICAL LAYOUT

ACOUSTIC OPINION OR TEST
Refer to CSR Fricker

NOTES: NA = Not Applicable  NAV = Not Available

CEILING TILE EDGE DETAILS

Square  Tegular  Fineline  Shiplap  Shiplap (F)
FIG 32: TYPICAL INSTALLATION DETAIL - RONDO DUO EXPOSED GRID SUSPENDED CEILING SYSTEM

Practical minimum 150mm

1200mm max. between suspension points

GYPROCK plasterboard or acoustic tile

FIG 33: TYPICAL INSTALLATION DETAIL - FRICKER EASY ACCESS SYSTEM® WITH ACOUSTIC CEILING TILES

Suspension clip and 5mm rod (staggered at 1200mm max. cts)

Back to back concealed C-Splines (not fixed to system)
FIG 34: TYPICAL INSTALLATION DETAIL - DONN™ EXPOSED GRID SUSPENDED CEILING SYSTEM

FIG 35: DONN™ COMPONENTS

FIG 36: DONN™ COMPONENTS
**Design Considerations**

**Suspension Systems**

Gyprock™ Suspended Ceilings incorporate an Exposed Grid Ceiling System (Rondo Duo™, Fricker Easy Access System® or USG Donn™), and are designed to AS/NZS 2785 ‘Suspended Ceilings – design and installation’.

**They are not trafficable unless stated, and are designed to carry the weight of the ceiling only.** Where a trafficable ceiling is required, install a proprietary trafficable ceiling system.

Strengthen suspension systems to support light fittings and access panels as shown in the detailing section of this manual and/or Rondo technical literature.

Any additional loads are not to be placed upon, or carried by the suspension system without the approval of Rondo Building Services or CSR Gyprock.

**Pressure Equalisation Air Grilles**

Rooms which do not have permanently open air ventilation grilles should have grilles fitted in the doors to allow air pressure to equalise during opening/closing.

If no ventilation grilles are fitted to a room or its doors, CSR Gyprock recommends that each panel be held in place with Panel Hold-down Clips (Nº703), to prevent panels lifting under pressure fluctuations.

**Fire Resistance**

CSR Gyprock ceiling panels have been tested to AS1530.3, ‘Simultaneous determination of Ignition, Flame Propagation, Heat Release and Smoke Release.’

### TABLE 15: FIRE HAZARD PROPERTIES

<table>
<thead>
<tr>
<th>CSR GFC Product</th>
<th>SMOGRArc</th>
<th>Group Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>13mm Perforated Panels</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>10mm FRESHTONE™ Diamond White</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>10mm SUPATONE™</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>10 – 13mm Unpainted Panel</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>USG Eclipse ClimaPlus™</td>
<td>31*</td>
<td>1</td>
</tr>
<tr>
<td>USG Impressions ClimaPlus™</td>
<td>7.4*</td>
<td>1</td>
</tr>
<tr>
<td>USG Mars ClimaPlus™</td>
<td>149*</td>
<td>1</td>
</tr>
<tr>
<td>USG Olympia Micro ClimaPlus™</td>
<td>26*</td>
<td>1</td>
</tr>
<tr>
<td>USG Radar ClimaPlus™</td>
<td>7.4*</td>
<td>1</td>
</tr>
<tr>
<td>Ecophon ADVANTAGE</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Ecophon FOCUS</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

**NOTES:** SMOGRArc = Smoke Growth Rate Index.

* Average Specific Extinction Area

**Grid Installation**

The following information assumes the room is square and the ceiling panels are to be installed in a standard square-on-square pattern. Installation methods will need to be modified to allow for out of square rooms or other grid patterns, such as brick pattern, and to allow for light fittings, etc.

- For best appearance, the panels closest to the walls may need to be cut to size to provide a symmetrical pattern. To determine the position of the grid, determine the number of 1200mm panels that will fit the room dimension. Determine any remainder and add 1200mm. Divide this total by 2. This is the margin along each side of the room. Now determine the number of 600mm panels that will fit the room dimension. Determine any remainder and add 600mm. Divide this total by 2. This is the margin at each end of the room.

**Example Grid Calculations:**

**Main Tee Grid**

- 4000 ÷1200 = 3.3 modules
- 4000 – 3600 (3 panels) = 400
- 400 + 1200 = 1600
- 1600 ÷ 2 = 800 margin on each side of the room.

**Cross Tee Grid**

- 5000 ÷ 600 = 8.3 modules
- 5000 – 4800 (8 panels) = 200
- 200 + 600 = 800
- 800+ 2 = 400 margin at each end of the room.
• Install selected wall trim with the bottom flange aligned at the required ceiling level. The ends should be mitre cut for a more attractive finish. Fix trim to the wall framing/masonry at the ends and at 600mm maximum centres between.

Accurately position and fix suspension brackets to the floor/roof structure to support Main Tees at 1200mm centres. (Accurate installation is important to ensure that Main Tees will be at 1200mm spacings).

• Position and fix suspension brackets to the floor/roof structure at 1200mm maximum centres along the main tees.

• Insert rod to suspension brackets and clips.

• Cut main tees so that the cross tee slots are appropriately located to suit the margin. Install Main Tees into the suspension brackets by squeezing the clip.

• Join main tees by sliding the self locking end tabs together. Locate the outer ends of the main tees on the wall trim for stability.

• Install the self locking tabs of the cross tees through the pre-punched slots in the main tees and gently push to lock together forming a grid of 1200 x 600mm. Cut and install the outer cross tees on to the wall trim as described for the main tees.
- Accurately align and level the grid. The suspension clips can be adjusted to either a string line or laser.
- To assist with stabilising the grid system in large ceiling areas, the Wall Trim Stabiliser Nº705/706 should be attached to the wall trim at every second or third main and cross tee.

- Rondo Partition Mount Clip Nº704 can be fixed to the top of the partition frame to connect the ceiling system to partitioning.

**Panel Installation**

Clean hands or gloves are essential to prevent soiling of panel face during installation.

- Remove protective plastic cover from panel face.
- Lift the panel through the grid and position face down on the bottom flanges of the grid main/cross tees.
- Fit Hold-down Clips to cross tee top flange, and bend hold-down flanges downward to prevent panels lifting.

**FIG 37: TYPICAL LIGHT FITTING INSTALLATION**

- Light fittings must always be supported on main tees. Additional suspension brackets, rods and clips MUST BE INSTALLED to support light fittings. Refer to Rondo literature for maximum allowable loads for the grid.
- Additional cross tees will need to be installed to support panels at the side of light fittings.

**FIG 38: PANEL HOLD-DOWN CLIP**
Suggested Bulkhead Detail
(Maximum Drop 600mm)
FIG 39: HORIZONTAL EXPOSED GRID/VERTICAL SCREW-UP SYSTEM

FIG 40: SUGGESTED RAKED CEILING DETAIL
(Maximum Pitch 45°)
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.

Guarantee

CSR Building Products guarantees its Gyprock™ products to be free of defects in materials and manufacture.

If a CSR product does not meet our standard, we will, at our option, replace or repair it, supply an equivalent product, or pay for doing one of these.

CSR recommends that only products, components and systems recommended by it be used. If this is not done, CSR will need to be satisfied that any defect in its product is attributable to our failure to meet our standard (and not another cause) before this guarantee applies.

This guarantee excludes all other guarantees and liability for damage or loss in connection with defects in CSR’s product, other than those imposed by legislation.

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