RONDO KEY-LOCK® CONCEALED SUSPENDED CEILING SYSTEM

SUMMARY
Whether you’re looking to direct fix or fully suspend your plasterboard ceiling, the Rondo KEY-LOCK® Concealed Suspended Ceiling System is designed to produce high quality structure for a flawless, flush or featured finish. The KEY-LOCK® system can also be used as a framework to line virtually any existing wall or substrate.

SUITABLE FOR:
• Flush plasterboard ceilings
• Direct Fix or Fully Suspended applications
• Non-Fire Rated systems
• Fire Rated systems
• Acoustic Designs available
• Seismic Designs available*

SPECIAL FEATURES
• Able to be designed for external use, e.g. External Soffits
• Base Material Engineered from G2 BlueScope Steel for Strength and reliability
• Primary and secondary profiles available in custom lengths or radiusses

IN PRACTICE
Since its initial introduction over 50 years ago, the design simplicity of the Rondo KEY-LOCK® system has seen its use around the world in some remarkable projects from the Setia City Mall in Malaysia, to the Crown Metropol in Melbourne. Some KEY-LOCK® components have also been manufactured with a specific radius to produce vaulted ceilings or curved walls, such as in the Pod Pavilion in Malaysia, and the Aquatic Centre in Adelaide, as well as the famous “sky ceilings” at the Venetian Resort and Casino, Macau.

* Seismic activity varies significantly in the markets where the Rondo KEY-LOCK® System may be installed and therefore Rondo’s Technical Services Department should be contacted for assistance.

IMPORTANT NOTE:
Rondo recommends its products and systems are installed by a qualified tradesperson and according to the relevant codes and standards outlined on page 256 of this manual.
## Rondo Key-Lock® Components

### Primary Sections

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>25mm Top Cross Rail 0.55bmt</td>
<td>127</td>
<td>25mm Top Cross Rail 0.75bmt</td>
</tr>
<tr>
<td>128</td>
<td>38mm Top Cross Rail 0.75bmt</td>
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</table>

### Furring/Batten Sections

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>129</td>
<td>28mm Furring Channel</td>
</tr>
<tr>
<td>155</td>
<td>Wide Furring Channel with 10mm Express Joint</td>
</tr>
<tr>
<td>308</td>
<td>16mm Furring Channel</td>
</tr>
<tr>
<td>301</td>
<td>16mm Ceiling Batten</td>
</tr>
<tr>
<td>303</td>
<td>24mm Cyclonic Ceiling Batten</td>
</tr>
<tr>
<td>310</td>
<td>35mm Ceiling Batten</td>
</tr>
<tr>
<td>333</td>
<td>13mm Recessed Furring Channel</td>
</tr>
<tr>
<td>581</td>
<td>Resilient Channel</td>
</tr>
<tr>
<td>B005</td>
<td>Back Blocking Batten</td>
</tr>
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### Section Joiners

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>138</td>
<td>Furring Channel 129-308</td>
</tr>
<tr>
<td>272</td>
<td>Top Cross Rail 125-127-128</td>
</tr>
<tr>
<td>312</td>
<td>Joiner 310</td>
</tr>
<tr>
<td>315</td>
<td>Nail-up Batten 301</td>
</tr>
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</table>

### Primary to Secondary Joiners

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>119</td>
<td>Rondo U Clip</td>
</tr>
<tr>
<td>139</td>
<td>129-308 to 127-128</td>
</tr>
<tr>
<td>159</td>
<td>155 to 127-128</td>
</tr>
</tbody>
</table>

### Bulkhead Trim

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>321</td>
<td>Aluminium Direct Fix-TW – 13mm PB</td>
</tr>
</tbody>
</table>

### Wall Trims

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>140</td>
<td>Furring Channel Wall Track to suit 129</td>
</tr>
<tr>
<td>142</td>
<td>Wall Track to suit 308</td>
</tr>
<tr>
<td>340</td>
<td>Wall Track to suit 310</td>
</tr>
<tr>
<td>DUO5</td>
<td>Wall Angle 25 x 19mm Steel</td>
</tr>
<tr>
<td>DUO6</td>
<td>Wall Angle 19 x 9 x 9 x15mm Aluminium Shadowline</td>
</tr>
<tr>
<td>PS1</td>
<td>Shadowline Combination Set Bead for 10mm Board</td>
</tr>
<tr>
<td>PS2</td>
<td>Shadowline Combination Set Bead for 13mm Board</td>
</tr>
<tr>
<td>PS3</td>
<td>Shadowline Combination Set Bead for 16mm Board</td>
</tr>
</tbody>
</table>

### Primary Sections Diagram

![Primary Sections Diagram](image1)

### Furring/Batten Sections Diagram

![Furring/Batten Sections Diagram](image2)

### Section Joiners Diagram

![Section Joiners Diagram](image3)

### Primary to Secondary Joiners Diagram

![Primary to Secondary Joiners Diagram](image4)

### Bulkhead Trim Diagram

![Bulkhead Trim Diagram](image5)

### Wall Trims Diagram

![Wall Trims Diagram](image6)
### Direct Fixing Clips

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>156</td>
<td>Direct Fix Clip Timber/Steel for 155</td>
</tr>
<tr>
<td>157</td>
<td>Direct Fix Clip Masonry for 155</td>
</tr>
<tr>
<td>166</td>
<td>125-127-128 to Timber/Steel</td>
</tr>
<tr>
<td>226</td>
<td>129-308 to Timber/Steel</td>
</tr>
<tr>
<td>237</td>
<td>129-308 to Concrete</td>
</tr>
<tr>
<td>239</td>
<td>129-308 to Concrete-Screw Fix</td>
</tr>
<tr>
<td>282</td>
<td>Direct Fix FC Clip for Membrane Insulation</td>
</tr>
<tr>
<td>305</td>
<td>301 to Timber/Steel 150mm long</td>
</tr>
<tr>
<td>307</td>
<td>301 to Timber 90° DFC</td>
</tr>
<tr>
<td>311D</td>
<td>Direct fixing clip 310</td>
</tr>
<tr>
<td>313</td>
<td>Extended direct fixing clip for 310</td>
</tr>
<tr>
<td>314</td>
<td>DFC with positioning tab for 301 Batten to Timber/Steel 92mm</td>
</tr>
<tr>
<td>390</td>
<td>301 Batten Swivel Clip</td>
</tr>
<tr>
<td>394</td>
<td>129-308 to Timber/Steel</td>
</tr>
<tr>
<td>A124</td>
<td>TCR Assembly Clip with adj. through bolt</td>
</tr>
<tr>
<td>A239</td>
<td>FC Assembly Clip with adj. through bolt</td>
</tr>
<tr>
<td>BG01</td>
<td>BETAGRIP1 Standard Clip</td>
</tr>
<tr>
<td>BG02</td>
<td>BETAGRIP2 Long Clip</td>
</tr>
<tr>
<td>BG05</td>
<td>BETAFIL Double Membrane Insulation Clip</td>
</tr>
<tr>
<td>FC-INFIN0030</td>
<td>Sliding Adjustable Furring Channel Clip</td>
</tr>
<tr>
<td>FC-INFIN0080</td>
<td>Long Sliding Adjustable Furring Channel Clip</td>
</tr>
<tr>
<td>TCR-INFIN090</td>
<td>Sliding Adjustable Top Cross Rail Clip</td>
</tr>
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</table>

### Suspension Brackets for Rods

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>247</td>
<td>121 to Concrete</td>
</tr>
<tr>
<td>274</td>
<td>121 to Timber/Steel Joist</td>
</tr>
<tr>
<td>534</td>
<td>Adjustable Suspension Hanger (Purlins)</td>
</tr>
<tr>
<td>547</td>
<td>Adjustable Suspension Hanger (Concrete)</td>
</tr>
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</table>

### Suspension Clips

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>124</td>
<td>125-127-128 Thread Adj.</td>
</tr>
<tr>
<td>124N</td>
<td>124 with threaded nut 127–128</td>
</tr>
<tr>
<td>167</td>
<td>Side mounted TCR Suspension Clip</td>
</tr>
<tr>
<td>2534</td>
<td>TCR Suspension Clip</td>
</tr>
<tr>
<td>254</td>
<td>121/121 or 121/122 Joiner Spring Adj.</td>
</tr>
</tbody>
</table>
## Rondo Key-Lock® Components (continued)

### SUSPENSION RODS & NUTS

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>121</td>
<td>5mm soft galv. rod: plain</td>
</tr>
<tr>
<td>122</td>
<td>5.3mm soft galv. rod: M6 threaded one end</td>
</tr>
<tr>
<td>826</td>
<td>M6 nut to suit threaded rod</td>
</tr>
</tbody>
</table>

### ACCESSORIES

<table>
<thead>
<tr>
<th></th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>130</td>
<td>Rod Bender</td>
</tr>
<tr>
<td>545</td>
<td>L Bracket 75 x 75 x 1.50bmt</td>
</tr>
<tr>
<td>709</td>
<td>Joiner – DUOS</td>
</tr>
<tr>
<td>717</td>
<td>Bulkhead clip – screw fix</td>
</tr>
</tbody>
</table>

### RADIUSSED WALL TRIMS

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>242D</td>
<td>Shadowline Aluminium Column Trim</td>
</tr>
<tr>
<td>242R</td>
<td>Shadowline Aluminium Wall Angle</td>
</tr>
<tr>
<td>243D</td>
<td>‘L’ Column Trim</td>
</tr>
<tr>
<td>243R</td>
<td>‘L’ Wall Angle</td>
</tr>
</tbody>
</table>
INSTALLATION DETAILS
Suspended Ceilings for Internal Applications

Note:
The work shall comply with the requirements of the Standards listed in this manual on page 256, and undertaken by qualified trades persons.

STEP ONE
Fix Furring Channel Track along both walls and at 90° to the direction of the Furring Channel.

STEP TWO
Cut Suspension Rod to length. Attach Direct Fixing Clip (534 or 547) to one end and TCR clip 2534 to the other. Fix assembly to one side of the truss, purlin or concrete slab with appropriate fixings (as in Figures 1 & 2) and at required centres (see span tables, page 31). Refer to Figures 3 & 7 for information on positioning of Hangers, Top Cross Rail and Wall Track.

STEP THREE
Adjust all Hangers to correct drop using string line or laser.

STEP FOUR
Attach Top Cross Rails to suspension clips. Join primary rails end to end using Joiner 272. Also using Joiner 272 on each end of the Top Cross Rail run, tap joiner up against the walls to stabilise the system (refer Figures 3 & 4.)

NOTE:
For fire rated systems, leave a 20mm gap at the end of each Top Cross Rail.

C max = 125 TCR: 300mm max
127 TCR: 400mm max
128 TCR: 400mm max

* For single layer internal plasterboard ceilings

STABILISING THE SYSTEM

TOP CROSS RAIL ATTACHMENT

SUSPENSION BRACKETS FOR RODS

SUSPENSION ROD ASSEMBLY

ALTERNATIVE
Using 274 purlin or 247 concrete bracket

Suspension rod bracket Part No 534
Bolt or self-tapping screw
Suspension rod bracket Part No 547
Suspension rod 122 threaded one end
Suspension clip 124N (thread adjusted)
Suspension clip 2534
Top Cross Rail 125, 127 or 128
200mm long (minimum)
Lock in position with two nuts
STEP FIVE

Use the 139 Locking Key to connect both the Top Cross Rail and Furring Channel together. Space the Furring Channel at the building board manufacturers specifications and our tables on pages 36–38.

Join the Furring Channels end to end using 138 Joiners (see Figure 5). Ensure that the ends of the Furring Channel are connected into the Furring Channel Track.

NOTE:
For fire rated systems, leave a 20mm gap at the end of each Furring Channel and TCR.

Joints in the Furring Channels and Top Cross Rails should be staggered throughout the ceiling grid (refer to building board manufacturer for recommended spacing).

STEP SIX

Install lining sheet as per the building board manufacturer’s recommendations. Light fittings and air conditioning grills can also be installed (refer Figure 6).

NOTE:
As referenced in AS2785/2000, the ceiling grid is only designed to accept a distributed service load of 3 kg/m². For additional loads, consult the maximum load tables on pages 36–38.

STEP SEVEN

For examples of typical perimeter finishing methods, refer Figures 3 & 8.

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**FIGURE 5**

- **Light fitting**
- **Plasterboard**
- **Top Cross Rail**

**FIGURE 6**

- **Light fitting** (nominal 1200x600mm)
- **Plasterboard**

**FIGURE 7**

- **Suspension Rod**
- **Suspension Clip**
- **Locking key**
- **FC spacing**
- **TCR spacing**

**TABLES**

- **Maximum span 600mm**
- **Single layer of 10 & 13mm board**
- **For 16mm or multiple layers, screw fix Furring Channel to wall track**

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**ILLUSTRATIONS**

- **CONNECTING TO FURRING CHANNEL**
- **LIGHT FITTINGS (nominal 1200x600mm)**
- **SIDE MOUNTED**
- **END MOUNTED**

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**INSTALLATION DETAILS (continued)**

Suspended Ceilings (continued)
NOTE:
167 Top Cross Rail Side Mount Clip is only suitable for a single layer of board.

- TCR SIDE MOUNT CLIP 167

- INFINITI SLIDING ADJUSTABLE CLIP TO TCR

FURRING CHANNEL WALL TRACKS
Note: Leave a minimum gap of 5-10mm between Furring Channel and wall track
CONTROL JOINTS

INSTALLATION DETAILS (continued)
Control Joints for Internal Applications

Control joints allow for expansion and contraction movements in buildings. Rondo P35 Control Joint section should also be used when a building board surface abuts a dissimilar wall assembly. It is also recommended by the building board manufacturers that Rondo P35 Control Joints are installed when continuous ceiling lengths exceed 12m in any direction.
Suspended Ceiling System for External Applications

When installing the Rondo KEY-LOCK® suspended ceiling system in external applications, consideration should be given to wind pressure which may occur. For Downstrut details, refer to Figure 10.

WIND LOADING TABLE
The accompanying table shows the maximum spacing for part number 128 Top Cross Rail and maximum suspension point spacing along the Top Cross Rail for the wind pressures indicated. The limit state loading needs to be determined in accordance with AS/NZS1170.2 and the load combinations specified in AS/NZS 2785.

The downstrut acts in compression under an upward wind load and therefore nominal fixings are required at either end.

NOTE:
Check with the building board manufacturer for correct spacing of Furring Channels (part number 129).

### TABLE 1: ULTIMATE LOAD CAPACITY FOR 128 TOP CROSS RAIL

<table>
<thead>
<tr>
<th>SUPPORT CONFIGURATION</th>
<th>LIMIT STATES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TCR SPACING (mm)</strong></td>
<td><strong>TCR SUPPORT CENTRES (mm)</strong></td>
</tr>
<tr>
<td>1200</td>
<td>1200</td>
</tr>
<tr>
<td>900</td>
<td>1200</td>
</tr>
<tr>
<td>900</td>
<td>900</td>
</tr>
<tr>
<td>900</td>
<td>600</td>
</tr>
<tr>
<td>600</td>
<td>600</td>
</tr>
</tbody>
</table>

**NOTES:**
1. The above table gives the limit state load capacity for various ceiling configurations. The direction of loading may be upward or downward, provided the ceiling is installed with downstrutting as per Figure 10.
2. Slab connections to be independently checked.
3. Serviceability limit state deflection limited to L/250.
4. Lining contribution has been ignored in analysis.
5. Number 129 Furring Channels to be installed at 600 ctrs for TCR span=1200mm and 450 ctrs for TCR span=900mm or less.
6. Limit state load combinations to be calculated in accordance with AS/NZS 1170.0 or AS/NZS 2785.
7. * Capacity controlled by connections.
Direct fixing of Furring Channels and battens to either concrete, steel or timber wall or ceiling structures can be done using one of the many direct fixing clips as shown in Figure 11.

The maximum drop for direct fixing should be limited to 200mm. Any drop greater than 200mm requires a full Rondo suspension system.

Direct fixing clips need to be fixed along the sections in accordance with the relevant maximum span tables.

Furring channels should be spaced in accordance with the building board manufacturers recommendations.

**IMPORTANT NOTES:**

It is not recommended to screw or nail fix battens or Furring Channels directly to timber joist supporting a trafficable floor due to deflection of the joist occurring and possible subsequent interaction with the ceiling batten. Use only direct fixing clips as shown on page 9.

The BETAGRIP BG01/02 when used for Ceilings should only be secured with One Centre Fixing (i.e. Use Centre Hole Only).
Bulkhead Installation for Internal Applications

The Rondo Square Line Bulkhead System allows easy, economical and true bulkhead corner finishes to be achieved by using concealed support clips and fixings.

**STEP ONE**
Install the metal framework and fix the building board to the horizontal surface.

**STEP TWO**
Attach Support Clip 717 to the framework, with the bottom leg hard up against the building board. A string line can be used to assist if required (refer Figure 12).

**STEP THREE**
Introduce the Bulkhead Trim DUO 5 to the support clips (refer Figure 13).

**STEP FOUR**
Join Bulkhead Trim end to end using Joiner 709 to give a flush finish (refer Figure 14).

**STEP FIVE**
Introduce the vertical building board as shown below, and screw fix to the framework (refer Figure 15).
TYPICAL APPLICATION DETAILS
Bulkheads for Internal Applications

NOTE:
The maximum drop of bulkheads is not to exceed 1200mm for suspended bulkheads.
Curved Ceilings for Internal Applications

**TABLE 2: MAXIMUM FURRING CHANNEL CENTRES FOR CURVED CEILINGS**

<table>
<thead>
<tr>
<th>PLASTERBOARD THICKNESS (mm)</th>
<th>6.5</th>
<th>10</th>
<th>13</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CEILING CURVE RADIUS (mm)</strong></td>
<td>900–1000</td>
<td>1000–1500</td>
<td>1500–2000</td>
<td>2000–2500</td>
</tr>
<tr>
<td><strong>MAXIMUM FURRING CHANNEL CENTRES (mm)</strong></td>
<td>150</td>
<td>200</td>
<td>250</td>
<td>300</td>
</tr>
</tbody>
</table>
**TYPICAL APPLICATION DETAILS** (continued)

Raked & Cantilevered Ceilings for Internal Applications

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**TABLE 3: MAXIMUM CANTILEVER (L) FOR ONE LAYER 10/13/16mm PLASTERBOARD**

<table>
<thead>
<tr>
<th>MEMBER</th>
<th>CENTRES (mm)</th>
<th>L (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>129 FURRING CHANNEL</strong></td>
<td>600</td>
<td>350</td>
</tr>
<tr>
<td></td>
<td>450’</td>
<td>380</td>
</tr>
<tr>
<td><strong>308 FURRING CHANNEL</strong></td>
<td>600</td>
<td>250</td>
</tr>
<tr>
<td></td>
<td>450</td>
<td>270</td>
</tr>
<tr>
<td><strong>125 TOP CROSS RAIL</strong></td>
<td>1200</td>
<td>250</td>
</tr>
<tr>
<td></td>
<td>900</td>
<td>260</td>
</tr>
<tr>
<td><strong>127 TOP CROSS RAIL</strong></td>
<td>1200</td>
<td>260</td>
</tr>
<tr>
<td></td>
<td>900</td>
<td>280</td>
</tr>
<tr>
<td><strong>128 TOP CROSS RAIL</strong></td>
<td>1200</td>
<td>370</td>
</tr>
<tr>
<td></td>
<td>900</td>
<td>420</td>
</tr>
</tbody>
</table>

**NOTE:**
1. Maximum upstand to cantilever not to exceed 150mm.
2. Maximum weight of light fitting not to exceed 5kg/m.
3. Deflection limited to L/600
4. Ceiling to be constructed in accordance with the Rondo KEY-LOCK® installation guide
5. Minimum backspan as shown – reducing the suspension hangers to 900 ctrs does not increase the cantilever.
METAL CEILING BATTENS
Domestic for Internal Applications

Metal ceiling batten systems cut back on the cost of call-back maintenance when board is fixed directly to roof trusses.

Rondo have a range of metal ceiling batten systems which are suitable for truss spacings from 600mm to 1200mm and for use in cyclonic and high wind areas. Refer to maximum span and spacing tables for the various ceiling Battens (see page 33–35).

314 DIRECT FIXING CLIP
To accommodate the increasing use of timber “I” beams, the 314 Direct Fixing Clip has been designed with two extra nail or screw slots placed lower down on the clip, with an additional temporary holding tab to assist installation.

The temporary holding tab is tapped into the timber beam when the clip is at the required level, therefore freeing up both hands to permanently secure the clip with nails or screws through the two adjacent fixing slots.

390 BATTEN SWIVEL CLIP
With the ability to rotate 360°, the 390 Batten Swivel Clip can easily turn the ceiling batten on an angle that suits the change in roof truss direction.

It also incorporates the temporary holding tab for quick and easy installation.
METAL CEILING BATTENS (continued)
Domestic for Internal Applications (continued)

CEILING BATTENS AND DIAPHRAGM ACTION
Ceiling battens that are clipped or suspended are not designed or tested to provide the necessary ceiling diaphragm action required by the code to enable wind forces to be transferred to bracing walls (refer AS 1684 7.3.3-1 Parts 2-3).
Tests have been conducted on Rondo ceiling batten part number 303 by James Cook University to provide a satisfactory diaphragm system when direct fixed.
Contact Rondo state offices for further information.

IMPORTANT NOTE
Green timber should not come into contact with galvanised steel due to certain acidic substances in the timber which have a corrosive effect on the metallic coating. Some preservative treatments for wood can also have an adverse effect on metallic coated steel with which it is in contact. Timber treated with acidic preservatives of copper chromium arsenic (CCA) can be severely corrosive to the majority of metallic building components. Other timber treatments using Tanalith ‘E’ (Tanalised Ecowood) may cause pitting of the metal coating.
If any of the above timber is likely to come into contact with metallic coatings, the steel should be painted for protection.
The use of kiln-dried or appropriate dried timber is therefore recommended when metallic coated products are likely to be in contact.
### TABLE 4: FASTENER RECOMMENDATIONS

<table>
<thead>
<tr>
<th>BATTEN PART NO</th>
<th>NAIL LENGTH &amp; DIAMETER</th>
<th>SCREW LENGTH &amp; SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>HARDWOOD</strong></td>
<td><strong>SOFTWOOD</strong></td>
</tr>
<tr>
<td><strong>LENGTH (mm)</strong></td>
<td><strong>DIA (mm)</strong></td>
<td><strong>TYPE</strong></td>
</tr>
<tr>
<td>301</td>
<td>40</td>
<td>2.8</td>
</tr>
<tr>
<td>303</td>
<td>30</td>
<td>2.8</td>
</tr>
<tr>
<td>310</td>
<td>30</td>
<td>2.8</td>
</tr>
</tbody>
</table>

**NOTE:** Minimum three threads penetration into substrate.

### BUTT JOINT STITCHING BATTEN

B005 Butt Joint Stitching Batten developed with the plasterboard industry provides a constant recess shape for finishing when installed as per the plasterboard manufacturer’s recommendations.

A faster, more cost-effective joint with greater strength is therefore achieved.
Rondo 119 U Clip™
For Internal Applications

The Rondo U Clip™ adds a new dimension to the role of Top Cross Rails (TCR) in our KEY-LOCK® Ceiling System as it allows the carrying capacity of the 127 and 128 TCR profiles to provide support for a variety of applications, when used in conjunction with threaded M6 suspension rod.

The U Clip™ is simply snapped into the underside of the TCR and then the threaded rod is screwed into the clip, using either 122 (threaded one end) or 123 (threaded both ends) Suspension Rods. The standard 121 Rod can be accommodated by joining it to the threaded rods with the 254 Joiner (also known as the ‘Banana Clip’).

The design tables (Table 5) enables a range of applications, including but not limited to:

• Suspension of signage
• Suspension of additional KEY-LOCK® framing to allow lining board to form feature soffites at varying levels beneath either blacked out voids or an existing ceiling.
• Lighting, both single light boxes and continuous lighting.
• Services not requiring stabilising.
• Fixing Furring Channel at varying angles beneath the TCR (when coupled with the 239 clip)
• Support for bridging beneath ducting, beams, etc. (see Figure 24)
• Suspending another ceiling beneath an existing KEY-LOCK® ceiling such as the Duo exposed grid system.
TABLE 5: U CLIP DESIGN TABLES

SINGLE SPAN WITH SINGLE POINT LOAD

<table>
<thead>
<tr>
<th>SPAN</th>
<th>127 TCR spacing</th>
<th>128 TCR spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>900</td>
<td>16</td>
<td>47</td>
</tr>
<tr>
<td>1200</td>
<td>8</td>
<td>25</td>
</tr>
<tr>
<td>1500</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>1800</td>
<td>–</td>
<td>8</td>
</tr>
</tbody>
</table>

SINGLE SPAN WITH TWO EQUALLY SPACED POINT LOADS

<table>
<thead>
<tr>
<th>SPAN</th>
<th>127 TCR spacing</th>
<th>128 TCR spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>900</td>
<td>10</td>
<td>28</td>
</tr>
<tr>
<td>1200</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>1500</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>1800</td>
<td>–</td>
<td>4</td>
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</tbody>
</table>

DOUBLE SPAN WITH EQUAL POINT LOADS IN BOTH SPANS

<table>
<thead>
<tr>
<th>SPAN</th>
<th>127 TCR spacing</th>
<th>128 TCR spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>900</td>
<td>32</td>
<td>50</td>
</tr>
<tr>
<td>1200</td>
<td>21</td>
<td>38</td>
</tr>
<tr>
<td>1500</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>1800</td>
<td>–</td>
<td>14</td>
</tr>
</tbody>
</table>

DOUBLE SPAN WITH TWO EQUALLY SPACED POINT LOADS IN BOTH SPANS

<table>
<thead>
<tr>
<th>SPAN</th>
<th>127 TCR spacing</th>
<th>128 TCR spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>900</td>
<td>18</td>
<td>29</td>
</tr>
<tr>
<td>1200</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>1500</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>1800</td>
<td>–</td>
<td>7</td>
</tr>
</tbody>
</table>

NOTES:
1. Allowable point load is specified in kg. Point loading considered as dead load only.
2. Deflection limited to L / 360 under service load, for other limits adjust load accordingly.
3. The above tables assume construction in accordance with the Rondo Keylock Manual.
4. The above tables are only valid for the Rondo 119 U Clip installation.
EXPRESS JOINT: CEILINGS
Rondo 155 Express Joint Furring Channel for Internal Applications

The 155 Express Joint Furring Channel is a 48mm face width profile with a 10mm wide central strip which can be used together with complimentary clips from the KEY-LOCK® System for internal ceilings or wall finishes (see Figure 25). The profile’s width allows the use of building boards requiring up to a 12mm edge distance for screwing whilst offering a 10mm wide express joint which is easily followed when sheeting the framing (see Figure 27). The complimentary clips allow the 155 Express Joint Furring Channel to be direct fixed to timber joists or steel purlins and clipped into standard Top Cross Rail for a fully suspended ceiling (see Figure 28). This product is specified for use with particular specialised building boards by the manufacturers. This is a special, made-to-order product and therefore it is important to check availability with an Authorised Rondo Distributor, or Rondo Sales Office. Rondo 155 Express Joint can also be used in wall finishes by directly fixing to wall substrates (see Figures 26,27 & 28).

IMPORTANT NOTE:
The Rondo Express Joint Furring Channel is for internal use only. Rondo does not recommend it for exterior use.
TABLE 6: 155 FURRING CHANNEL DIRECT FIX

N2 (W33) WIND LOADING

<table>
<thead>
<tr>
<th>CLADDING DETAILS (Plasterboard)</th>
<th>FURRING CHANNEL SPACING</th>
<th>SINGLE SPAN</th>
<th>CONTINUOUS SPAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x 10mm</td>
<td>1740</td>
<td>1600</td>
<td>2160</td>
</tr>
<tr>
<td>1 x 13mm</td>
<td>1620</td>
<td>1480</td>
<td>2000</td>
</tr>
<tr>
<td>1 x 16mm</td>
<td>1460</td>
<td>1330</td>
<td>1810</td>
</tr>
<tr>
<td>2 x 13mm</td>
<td>1310</td>
<td>1190</td>
<td>1620</td>
</tr>
<tr>
<td>2 x 16mm</td>
<td>1170</td>
<td>1070</td>
<td>1450</td>
</tr>
</tbody>
</table>

N3 (W41) WIND LOADING

<table>
<thead>
<tr>
<th>CLADDING DETAILS (Plasterboard)</th>
<th>FURRING CHANNEL SPACING</th>
<th>SINGLE SPAN</th>
<th>CONTINUOUS SPAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x 10mm</td>
<td>1690</td>
<td>1530</td>
<td>1890</td>
</tr>
<tr>
<td>1 x 13mm</td>
<td>1620</td>
<td>1480</td>
<td>1830</td>
</tr>
<tr>
<td>1 x 16mm</td>
<td>1460</td>
<td>1330</td>
<td>1770</td>
</tr>
<tr>
<td>2 x 13mm</td>
<td>1310</td>
<td>1190</td>
<td>1620</td>
</tr>
<tr>
<td>2 x 16mm</td>
<td>1170</td>
<td>1070</td>
<td>1450</td>
</tr>
</tbody>
</table>

NOTES:
1. Wind loading to AS4055 as follows: N2: $V_{s2} = 40\text{m/s}$ $V_{u2} = 26\text{m/s}$ $C_p = -0.3$
N3: $V_{s3} = 50\text{m/s}$ $V_{u3} = 32\text{m/s}$ $C_p = -0.3$
2. Ultimate limit state: $\text{LC1: 1.2G + Wu}$
3. Serviceability limit state: $\text{LC2: G - Limit L/600}$
   $\text{LC3: G + Ws - Limit L/200 to AS 1170.0}$
4. N2 wind loading was previously W33, and N3 wind loading was previously W41.
5. The above tables are for internal ceilings in non-cyclonic regions.

TABLE 7: CEILING INSTALLATION WITH KEY-LOCK TCR

MAXIMUM CEILING LOAD: TCR SPAN 1200mm

<table>
<thead>
<tr>
<th>SPACING OF 127 STANDARD TCR</th>
<th>FURRING CHANNEL SPACING</th>
</tr>
</thead>
<tbody>
<tr>
<td>450</td>
<td>600</td>
</tr>
<tr>
<td>ALLOWABLE CEILING WEIGHT (kg/m²)</td>
<td>155 FURRING CHANNEL</td>
</tr>
<tr>
<td>900</td>
<td>27</td>
</tr>
<tr>
<td>1200</td>
<td>19</td>
</tr>
<tr>
<td>1500</td>
<td>15</td>
</tr>
<tr>
<td>1800</td>
<td>9.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPACING OF 128 HEAVY DUTY TCR</th>
<th>FURRING CHANNEL SPACING</th>
</tr>
</thead>
<tbody>
<tr>
<td>450</td>
<td>600</td>
</tr>
<tr>
<td>ALLOWABLE CEILING WEIGHT (kg/m²)</td>
<td>155 FURRING CHANNEL</td>
</tr>
<tr>
<td>900</td>
<td>50</td>
</tr>
<tr>
<td>1200</td>
<td>37</td>
</tr>
<tr>
<td>1500</td>
<td>21</td>
</tr>
<tr>
<td>1800</td>
<td>9.1</td>
</tr>
</tbody>
</table>

NOTES:
1. The above tables give the allowable dead load for the various ceiling configurations. The calculated ceiling weight therefore does not have to be factored in accordance with ASINZS 2785.
2. Connections to be independently checked.
3. Deflection limited to L/360.
4. Lining contribution has been ignored in analysis.
5. Refer to details on Page 15 for external suspended ceiling systems.
Rondo does not produce a suspension clip for attachment to the lip of steel purlins ('C' or 'Z' purlins, etc.) for the following reasons:

**AS/NZS 2785:2000 Suspended Ceilings – Design and Installation** details the following in respect to this issue:

- **Section 4 Installation – Part 4.4:** “In the case of purlins, the top fixing shall be made to the web of the purlin unless specifically designed otherwise”

- **APPENDIX G Fixing (Informative): G2 Top Fixing, G2.1 Purlin Fixings:**
  
  “Purlin fixings should be as follows:

  A) Connections should be made to the web of the purlin, unless specifically designed otherwise

  B) Where flange connections are necessary, they should be made as close as possible to the web of the purlin

  C) Purlin manufacturers do not recommend attaching the top fixing to the lip of the purlin

  D) Fixings should be selected and installed in accordance with the manufacturers specifications.”
PRODUCT DATA SPECIFICATIONS

Furring Channels/Battens

MATERIAL SPECIFICATIONS

The sections are cold roll formed from steel strip manufactured to AS1397.

PART NO’S: 129/308/333/310

Steel Grade: G2
Yield Strength: Fy = 270 MPa (typical)
Coating Grade: Z275 – 275g/m2 zinc

PART NO’S: 301/303

Steel Grade: G550
Yield Strength: Fy = 550 MPa
Coating Grade: zincalume AZ150 – 150g/m² alum/zinc
Base Metal Thickness: As specified

TABLE 8: FURRING CHANNELS & BATTENS – SECTION DIMENSIONS

<table>
<thead>
<tr>
<th>BATTEN PART NO</th>
<th>AREA (mm²)</th>
<th>D (mm)</th>
<th>T (bmt) (mm)</th>
<th>Xc (mm)</th>
<th>Yc (mm)</th>
<th>YIELD STRESS (MPa)</th>
<th>SELF-WEIGHT (kg/m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>129</td>
<td>59.6</td>
<td>27.3</td>
<td>0.50</td>
<td>25.56</td>
<td>13.04</td>
<td>270</td>
<td>0.468</td>
</tr>
<tr>
<td>308</td>
<td>48.2</td>
<td>16.0</td>
<td>0.50</td>
<td>25.56</td>
<td>7.70</td>
<td>270</td>
<td>0.378</td>
</tr>
<tr>
<td>333</td>
<td>63.2</td>
<td>12.7</td>
<td>0.50</td>
<td>31.74</td>
<td>6.44</td>
<td>270</td>
<td>0.496</td>
</tr>
<tr>
<td>301</td>
<td>33.2</td>
<td>16.3</td>
<td>0.42</td>
<td>18.00</td>
<td>5.81</td>
<td>550</td>
<td>0.261</td>
</tr>
<tr>
<td>303</td>
<td>45.1</td>
<td>23.5</td>
<td>0.42</td>
<td>32.52</td>
<td>11.48</td>
<td>550</td>
<td>0.354</td>
</tr>
<tr>
<td>310</td>
<td>66.0</td>
<td>35.0</td>
<td>0.55</td>
<td>36.00</td>
<td>15.97</td>
<td>270</td>
<td>0.518</td>
</tr>
</tbody>
</table>
PRODUCT DATA SPECIFICATIONS (continued)

Top Cross Rails

MATERIAL SPECIFICATIONS
The sections are cold roll formed from zinc coated steel strip, which is manufactured to AS1397.

Steel Grade: G2
Yield Strength: $F_y = 270$ MPa (typical)
Coating Grade: Z275 – 275g/m² zinc
Base Metal Thickness: As specified

TABLE 9: TOP CROSS RAILS – SECTION DIMENSIONS

<table>
<thead>
<tr>
<th>BATTEN PART NO</th>
<th>AREA (mm²)</th>
<th>D (mm)</th>
<th>T (bmt) (mm)</th>
<th>Xc (mm)</th>
<th>Yc (mm)</th>
<th>YIELD STRESS (MPa)</th>
<th>SELF-WEIGHT (kg/m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>48.2</td>
<td>26.35</td>
<td>0.55</td>
<td>10.65</td>
<td>14.18</td>
<td>270</td>
<td>0.378</td>
</tr>
<tr>
<td>127</td>
<td>65.7</td>
<td>26.35</td>
<td>0.75</td>
<td>10.65</td>
<td>14.20</td>
<td>270</td>
<td>0.516</td>
</tr>
<tr>
<td>128</td>
<td>84.2</td>
<td>38.65</td>
<td>0.75</td>
<td>10.65</td>
<td>20.41</td>
<td>270</td>
<td>0.661</td>
</tr>
</tbody>
</table>
### Span Tables

**129 Furring Channel: Direct Fix**

**Maximum Spans:** Wind Loads N2 (0.29kPa Ult)

<table>
<thead>
<tr>
<th>Cladding Details (Plasterboard)</th>
<th>Furring Channel Spacing</th>
<th>Single Span</th>
<th>Continuous Span</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>450</td>
<td>600</td>
</tr>
<tr>
<td>1 x 10mm</td>
<td>1245</td>
<td>1148</td>
<td>1713</td>
</tr>
<tr>
<td>1 x 13mm</td>
<td>1213</td>
<td>1119</td>
<td>1670</td>
</tr>
<tr>
<td>1 x 16mm</td>
<td>1184</td>
<td>1092</td>
<td>1630</td>
</tr>
<tr>
<td>2 x 13mm</td>
<td>1128</td>
<td>1041</td>
<td>1552</td>
</tr>
<tr>
<td>2 x 16mm</td>
<td>1088</td>
<td>1004</td>
<td>1498</td>
</tr>
</tbody>
</table>

**Maximum Spans:** Wind Loads N3 (0.45 kPa Ult)

<table>
<thead>
<tr>
<th>Cladding Details (Plasterboard)</th>
<th>Furring Channel Spacing</th>
<th>Single Span</th>
<th>Continuous Span</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>450</td>
<td>600</td>
</tr>
<tr>
<td>1 x 10mm</td>
<td>1125</td>
<td>1037</td>
<td>1547</td>
</tr>
<tr>
<td>1 x 13mm</td>
<td>1105</td>
<td>1018</td>
<td>1519</td>
</tr>
<tr>
<td>1 x 16mm</td>
<td>1085</td>
<td>1001</td>
<td>1494</td>
</tr>
<tr>
<td>2 x 13mm</td>
<td>1047</td>
<td>965</td>
<td>1440</td>
</tr>
<tr>
<td>2 x 16mm</td>
<td>1018</td>
<td>938</td>
<td>1400</td>
</tr>
</tbody>
</table>

### Notes:
1. Wind loading to AS4055 as follows:  
   - N2: $V_{hu} = 40 \text{m/s}$, $V_{hs} = 26 \text{m/s}$, $C_{pi} = -0.3$  
   - N3: $V_{hu} = 50 \text{m/s}$, $V_{hs} = 32 \text{m/s}$, $C_{pi} = -0.3$
2. Ultimate limit state:  
   - LC1: $1.2G + W_u$
3. Serviceability limit state:  
   - LC2: $G$ - Limit Li600  
   - LC3: $G + W_s$ - Limit Li200 to AS 1170.0
4. N2 wind loading was previously W33, and N3 wind loading was previously W41.
5. The above tables are for internal ceilings in non-cyclonic regions.

**Maximum Spans:** Wind Loads 0.50 kPa – 1.00 kPa

<table>
<thead>
<tr>
<th>Cladding Details (Plasterboard)</th>
<th>Furring Channel Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.50 kPa</td>
</tr>
<tr>
<td></td>
<td>0.60 kPa</td>
</tr>
<tr>
<td></td>
<td>Single Span</td>
</tr>
<tr>
<td></td>
<td>450</td>
</tr>
<tr>
<td>1 x 10mm</td>
<td>1097</td>
</tr>
<tr>
<td>1 x 13mm</td>
<td>1078</td>
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<td>2 x 16mm</td>
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</table>

<table>
<thead>
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<th>Cladding Details (Plasterboard)</th>
<th>Furring Channel Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.70 kPa</td>
</tr>
<tr>
<td></td>
<td>0.80 kPa</td>
</tr>
<tr>
<td></td>
<td>Single Span</td>
</tr>
<tr>
<td></td>
<td>450</td>
</tr>
<tr>
<td>1 x 10mm</td>
<td>1009</td>
</tr>
<tr>
<td>1 x 13mm</td>
<td>997</td>
</tr>
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<td>2 x 13mm</td>
<td>959</td>
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<tr>
<td>2 x 16mm</td>
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<table>
<thead>
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<th>Cladding Details (Plasterboard)</th>
<th>Furring Channel Spacing</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>0.90 kPa</td>
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<td></td>
<td>1.00 kPa</td>
</tr>
<tr>
<td></td>
<td>Single Span</td>
</tr>
<tr>
<td></td>
<td>450</td>
</tr>
<tr>
<td>1 x 10mm</td>
<td>947</td>
</tr>
<tr>
<td>1 x 13mm</td>
<td>937</td>
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<tr>
<td>1 x 16mm</td>
<td>928</td>
</tr>
<tr>
<td>2 x 13mm</td>
<td>908</td>
</tr>
<tr>
<td>2 x 16mm</td>
<td>893</td>
</tr>
</tbody>
</table>

**Notes:**
1. Stated pressure is the ultimate design wind load, including all local factors.
2. Deflection limited to the lesser of Li600 under dead load, or Li200 under dead plus service wind load.
3. Service wind load checked at 0.65 times the ultimate pressure.
4. Strength check of unrestrained flange in compression.
5. Connections to be independently checked.
### SPAN TABLES (continued)

#### 308 Furring Channel: Direct Fix

**MAXIMUM SPANS: WIND LOADS N2 (0.29 kPa ULT)**

<table>
<thead>
<tr>
<th>Cladding Details (Plasterboard)</th>
<th>Furring Channel Spacing</th>
<th>Single Span</th>
<th>Continuous Span</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<tr>
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<td></td>
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<tr>
<td>1 x 10mm</td>
<td>1018</td>
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<td>1384</td>
</tr>
<tr>
<td>1 x 13mm</td>
<td>990</td>
<td>907</td>
<td>1359</td>
</tr>
<tr>
<td>1 x 16mm</td>
<td>965</td>
<td>885</td>
<td>1324</td>
</tr>
<tr>
<td>2 x 13mm</td>
<td>915</td>
<td>840</td>
<td>1170</td>
</tr>
<tr>
<td>2 x 16mm</td>
<td>881</td>
<td>808</td>
<td>1094</td>
</tr>
</tbody>
</table>

**MAXIMUM SPANS: WIND LOADS N3 (0.45 kPa ULT)**

<table>
<thead>
<tr>
<th>Cladding Details (Plasterboard)</th>
<th>Furring Channel Spacing</th>
<th>Single Span</th>
<th>Continuous Span</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>450</td>
<td>600</td>
</tr>
<tr>
<td></td>
<td></td>
<td>450</td>
<td>600</td>
</tr>
<tr>
<td>1 x 10mm</td>
<td>913</td>
<td>837</td>
<td>1253</td>
</tr>
<tr>
<td>1 x 13mm</td>
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<td>1228</td>
</tr>
<tr>
<td>1 x 16mm</td>
<td>878</td>
<td>806</td>
<td>1206</td>
</tr>
<tr>
<td>2 x 13mm</td>
<td>845</td>
<td>775</td>
<td>1160</td>
</tr>
<tr>
<td>2 x 16mm</td>
<td>820</td>
<td>752</td>
<td>1094</td>
</tr>
</tbody>
</table>

**NOTES:**
1. Wind loading to AS4055 as follows: N2: $V_{hu} = 40 \text{m/s}$, $V_{hs} = 26 \text{m/s}$, $C_{pi} = -0.3$  
2. Ultimate limit state: $LC_1: 1.2G + Wu$  
3. Serviceability limit state: $LC_2: G - \text{Limit L/600}$, $LC_3: G + Ws - \text{Limit L/200 to AS 1170.0}$  
4. N2 wind loading was previously W33, and N3 wind loading was previously W41.  
5. The above tables are for internal ceilings in non-cyclonic regions.

**MAXIMUM SPANS: WIND LOADS 0.20 kPa – 0.50 kPa**

#### 0.20 kPa

<table>
<thead>
<tr>
<th>Cladding Details (Plasterboard)</th>
<th>Furring Channel Spacing</th>
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<tbody>
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<tr>
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#### 0.30 kPa

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<td>2 x 16mm</td>
<td>876</td>
<td>803</td>
<td>1202</td>
</tr>
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</table>

**NOTES:**
1. Stated pressure is the ultimate design wind load, including all local factors.  
2. Deflection limited to the lesser of L/600 under dead load, or L/200 under dead plus service wind load.  
3. Service wind load checked at 0.65 times the ultimate pressure.  
4. Strength check of unrestrained flange in compression.  
5. Connections to be independently checked.
**310 Batten: Direct Fix**

### MAXIMUM SPANS: WIND LOADS N2 (0.29 kPa Ult)

#### CLADDING DETAILS (Plasterboard)

<table>
<thead>
<tr>
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#### MAXIMUM SPANS: WIND LOADS N3 (0.45 kPa Ult)

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<td>1 x 13mm</td>
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<td>1 x 16mm</td>
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<td>956</td>
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<td>2 x 13mm</td>
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<td>894</td>
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#### MAXIMUM SPANS: WIND LOADS 0.50 kPa – 1.00 kPa

<table>
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<td>1015</td>
<td>934</td>
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<tr>
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<td>902</td>
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<tr>
<td>2 x 16mm</td>
<td>975</td>
<td>894</td>
</tr>
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</table>

**NOTES:**

1. Stated pressure is the ultimate design wind load, including all local factors.
2. Deflection limited to the lesser of L/600 under dead load, or L/200 under dead plus service wind load.
3. Service wind load checked at 0.65 times the ultimate pressure.
4. Strength check of unrestrained flange in compression.
5. Connections to be independently checked.
**MAXIMUM SPANS: WIND LOADS N2 (0.29kPa ULT)**

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**MAXIMUM SPANS: WIND LOADS N3 (0.45 kPa Ult)**

<table>
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<tr>
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<td>800</td>
</tr>
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</table>

**NOTES:**
1. Wind loading to AS4055 as follows: 
   - **N2:** $V_{uh} = 40\text{m/s}$ $V_{sh} = 26\text{m/s}$ $C_p = -0.3$
   - **N3:** $V_{uh} = 50\text{m/s}$ $V_{sh} = 32\text{m/s}$ $C_p = -0.3$
2. Ultimate limit state: 
   - **LC1:** $1.2G + W_u$
3. Serviceability limit state: 
   - **LC2:** $G$ - Limit L/600
   - **LC3:** $G + W_s$ - Limit L/200 to AS 1170.0
## 303 Cyclonic Batten: Direct Fix

### Maximum Spans: Wind Loads N2 (0.29 kPa Ult)

<table>
<thead>
<tr>
<th>Cladding Details (Plasterboard)</th>
<th>Batten Spacing</th>
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<td></td>
<td>900</td>
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<td>2 x 16mm</td>
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<td>1137</td>
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### Maximum Spans: Wind Loads N3 (0.45 kPa Ult)

<table>
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<tr>
<th>Cladding Details (Plasterboard)</th>
<th>Batten Spacing</th>
<th>Single Span</th>
<th>Continuous Span</th>
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<td>773</td>
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### Maximum Spans: Wind Loads 0.50 kPa – 0.80 kPa

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<th>Cladding Details (Plasterboard)</th>
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### Notes:
1. Stated pressure is the ultimate design wind load, including all local factors.
2. Deflection limited to the lesser of L/600 under dead load, or L/200 under dead plus service wind load.
3. Service wind load checked at 0.65 times the ultimate pressure.
4. Strength check of unrestrained flange in compression.
5. Connections to be independently checked.
# LOAD TABLES
125 Top Cross Rail x 0.55bmt

## MAXIMUM CEILING LOAD: TCR SPAN 900mm

<table>
<thead>
<tr>
<th>SPACING OF TOP CROSS RAIL</th>
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<td>ALLOWABLE CEILING WEIGHT (kg/m²)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>129</td>
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<tr>
<td>1800</td>
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<td>5.9</td>
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</table>

## MAXIMUM CEILING LOAD: TCR SPAN 1200mm

<table>
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<tbody>
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<td></td>
<td>ALLOWABLE CEILING WEIGHT (kg/m²)</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>129</td>
<td>308</td>
<td>129</td>
</tr>
<tr>
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</tr>
<tr>
<td>1200</td>
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<td>10</td>
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<tr>
<td>1800</td>
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<td>5.9</td>
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## MAXIMUM CEILING LOAD: TCR SPAN 1500mm

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<tr>
<td>1800</td>
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**NOTES:**
1. The above tables give the allowable dead load for the various ceiling configurations. The calculated ceiling weight therefore does not have to be factored in accordance with AS/NZS 2785.
2. Connections to be independently checked.
3. Deflection limited to L/360.
4. Lining contribution has been ignored in analysis.
5. Refer to details on Page 15 for external suspended ceiling systems.
# MAXIMUM CEILING LOAD: TCR SPAN 900mm

<table>
<thead>
<tr>
<th>SPACING OF TOP CROSS RAIL</th>
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<th>ALLOWABLE CEILING WEIGHT (kg/m²)</th>
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<tbody>
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# MAXIMUM CEILING LOAD: TCR SPAN 1200mm

<table>
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<th>ALLOWABLE CEILING WEIGHT (kg/m²)</th>
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<tbody>
<tr>
<td></td>
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</table>

# MAXIMUM CEILING LOAD: TCR SPAN 1500mm

<table>
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<th>SPACING OF TOP CROSS RAIL</th>
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<td>6.1</td>
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**NOTES:**
1. The above tables give the allowable dead load for the various ceiling configurations. The calculated ceiling weight therefore does not have to be factored in accordance with AS/NZS 2785.
2. Connections to be independently checked.
3. Deflection limited to L/360.
4. Lining contribution has been ignored in analysis.
5. Refer to details on Page 15 for external suspended ceiling systems.
**LOAD TABLES** (continued)

128 Top Cross Rail x 0.75bmt

### MAXIMUM CEILING LOAD: TCR SPAN 1200mm

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<tr>
<td></td>
<td>9.1</td>
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<td>5.9</td>
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### MAXIMUM CEILING LOAD: TCR SPAN 1500mm

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<tr>
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<tr>
<td></td>
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<td>–</td>
<td>5.9</td>
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### MAXIMUM CEILING LOAD: TCR SPAN 1800mm

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**NOTES:**
1. The above tables give the allowable dead load for the various ceiling configurations. The calculated ceiling weight therefore does not have to be factored in accordance with AS/NZS 2785.
2. Connections to be independently checked.
3. Deflection limited to L/360.
4. Lining contribution has been ignored in analysis.
5. Refer to details on Page 15 for external suspended ceiling systems.