CEILINGS

WALK-ABOUT™ >
ROUNDO WALK-ABOUT™ TRAFFICABLE CEILING SYSTEM

SUMMARY
The Rondo WALK-ABOUT™ System provides a framework onto which a trafficable platform can be installed in the plenum area above ceilings for servicing mechanical and electrical services. Using standard Rondo steel stud profiles with purpose made joiners and clips, the WALK-ABOUT system is suspended from the structure above to provide a safe and secure access to services whilst simultaneously providing a support for the ceiling beneath.

SUITABLE FOR:
• Steel Ceiling Grid Systems
• Supporting a Walking Platform in the Ceiling Plenum
• Seismic Designs*
• Supporting of direct fixed or fully suspended ceilings beneath

SPECIAL FEATURES
• Seamlessly integrates with Rondo KEY-LOCK® and Rondo DUO® Ceiling Systems
• Basic system design will accept a 1.1kN point load with a deflection limit of L/360

IN PRACTICE
As the second largest air conditioned footprint on earth (after NASA), the Venetian Resort and Casino, Macau is possibly one of the finest examples of the Rondo WALK-ABOUT system in situ, utilizing over 30,000m² of WALK-ABOUT ceiling to access their extensive services above ceiling level. The system also acted as a structure to support the curved KEY-LOCK® ceiling, forming the famous “sky” ceiling of the resort.

* Seismic activity varies significantly in the markets where the Rondo WALK-ABOUT 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 Walk-About™ Components

## Primary Sections

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>112</td>
<td>64mm x 0.50bmt Stud</td>
</tr>
</tbody>
</table>

## Furring Channels

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>129</td>
<td>28mm Furring Channel</td>
</tr>
<tr>
<td>308</td>
<td>16mm Furring Channel</td>
</tr>
</tbody>
</table>

## Wall Trim

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>111</td>
<td>64mm x 28mm x 0.50bmt with hem</td>
</tr>
</tbody>
</table>

## Section Joiners

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>224</td>
<td>Stud to Furring Channel Joiner</td>
</tr>
<tr>
<td>270</td>
<td>90° Stud to Stud Joiner</td>
</tr>
</tbody>
</table>

## Suspension Rod & Bracket

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>271</td>
<td>Bracket to suit 8mm rod</td>
</tr>
<tr>
<td>Not Supplied</td>
<td>8mm Threaded rod</td>
</tr>
<tr>
<td>271</td>
<td>8mm Threaded rod</td>
</tr>
</tbody>
</table>

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**Not Supplied:** 8mm Threaded Rod

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**Supplied:**

- 64mm x 0.50bmt Stud
- 28mm Furring Channel
- 16mm Furring Channel
- 64mm x 28mm x 0.50bmt with hem
- Stud to Furring Channel Joiner
- 90° Stud to Stud Joiner
- Bracket to suit 8mm rod
- 8mm Threaded Rod

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**Rondo Walk-About™**

**Components**

- **Primary Sections**
- **Furring Channels**
- **Wall Trim**
- **Section Joiners**
- **Suspension Rod & Bracket**

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**Dimensions:**

- **Page Dimensions:** 595.3x841.9
- **Image Dimensions:**
  - 254x549 to 307x602
  - 260x653 to 327x701
  - 311x549 to 364x602
  - 254x350 to 327x503
  - 316x257 to 364x304
  - 71x770
  - 216x780
  - 223x770
  - 255x706
  - 255x607
  - 255x409
  - 255x309
  - 71x706
  - 74x690
  - 74x650
  - 74x636
  - 71x612
  - 71x591
  - 71x561
  - 74x545
  - 74x531
  - 74x507
  - 74x492
  - 74x478
  - 74x469
  - 284x640
  - 274x541
  - 331x342
  - 274x340
  - 371
  - 284x439
  - 71x15

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**Page Number:** 64
Once the framework is constructed, a walking platform can be installed in accordance with AS 1657-1992, the current “Design, Construction and Installation Code” for “Fixed Platforms, Walkways, Stairs and Ladders”.

Although Rondo does not manufacture or supply systems or components for the construction of walking platforms, our Technical Services Department can assist customers in determining their requirements.
The following installation details are based on using the Rondo 112 Stud 64 x 0.50BMT profile.

**STEP ONE**
The Rondo steel stud sections will require boxing.
Looking at the end profile, note that one flange leg is 2mm longer than the other.
In order to box the studs, position them so that the shorter flange leg of one stud fits inside the longer leg of the other.
Then squeeze the studs together starting at one end and working along the full length of the studs. The studs now form a box section as shown in Figure 1.

**STEP TWO**
The structural suspension fixings should now be installed and set out in a 1200 x 1200mm grid pattern.
The 8mm threaded rod hangers, once cut to the appropriate length, are then secured to your structural fixings. One M8 nut should then be spun onto the end of each threaded rod hanger at a distance of 90mm.

**STEP THREE**
Place the Rondo Part # 271 ‘U’ Brackets onto the boxed stud section and attach to the threaded hanger rods with another M8 nut beneath the bracket. The primary studs are then secured to the threaded rod hangers as in Figure 2.

**STEP FOUR**
If joining studs is required, they should be spliced end to end with short pieces of Rondo 111 64mm Track screwed into each end of the stud top and bottom as in Figure 3.

**STEP FIVE**
When the full primary stud assembly has been completed it will be necessary to level the system using a suitable leveling device such as a laser. Adjusting the two nuts on each hanger ‘U’ Bracket will ensure the system is leveled and the nuts should be secured tightly.
STEP SIX
The secondary boxed stud assembly should now be installed at 90° to the primary studs and spaced 1200mm apart on top of the primary stud assembly. The secondary stud assembly is secured to the primary studs with the Rondo 270 Angle Bracket using two screws through the bracket to each stud as shown in Figure 4.

STEP SEVEN
Rondo Furring Channel can now be attached to the underside of the system by placing the Rondo 224 Furring Channel Clip over the lower primary stud assembly and clipping the Furring Channel into place as shown in Figure 5. Once the Furring Channel is installed the clip cannot be removed. Similarly, a full Rondo KEY-LOCK® Concealed Ceiling System for building board can be installed using either direct fix or suspension methods as detailed on pages 11 and 16 of this Design Manual, where the primary stud assembly is used as a purlin. The same applies to the installation of a Rondo DUO® Exposed Grid Ceiling System.

STEP EIGHT
The system is now ready for the installation of the platform or walkway to be positioned onto the primary stud framework to both coincide with any personnel access panels and adjacent to any mechanical or electrical equipment.

STEP NINE
Once the platforms are in place and properly secured and after a final check of the level the ceiling board can be attached to the Furring Channel in accordance with the board manufacturers recommendations.

PLEASE NOTE:
If access panels are to be installed in the ceiling, these must be the type of panel that allow safe access into the plenum space by service personnel. The standard Access Panels in Rondo’s PANTHER® range are not designed as personnel access panels.
STEEL STUD DRYWALL CEILING SYSTEMS

Steel studs may be used as ceiling joists, especially in situations where it is difficult to install a suspended ceiling. Typical applications would be corridors, bathrooms or open roof areas. The tables starting on page 75 set out the maximum spans for Rondo steel studs. They also show the minimum rows of bridging. Bridging in a ceiling serves the same purpose as Noggings in a wall.

The maximum ceiling span tables have been formulated using dead load plus 0.25kPa negative internal pressure. Deflection has been checked to Span/480. The studs have been checked for bending and shear over the supports.

Where Access Panels are placed in the ceiling, the joists supporting the Access Panel must be strengthened to allow for maintenance loads.

The ceiling span tables are applicable for internal non-trafficable ceilings only.

Where ceilings are external or subject to wind loads they should be checked by Rondo, or a structural engineer prior to commencement of work.

NOTE: Ceiling shown is a two-span
INSTALLATION GUIDE

STEP ONE
Set out the track locations in accordance with the ceiling levels, as shown on the architectural drawings.

STEP TWO
Secure the perimeter tracks in position using appropriate fasteners at not more than 600mm centres. The track fixings should be no more than 50mm from the stud locations.

STEP THREE
Cut the studs to length – this will be 10mm shorter than the span length.
NOTE: Heavier gauge studs can be cut using abrasive wheels fitted to circular saws.

STEP FOUR
Fit the studs into the perimeter tracks, then with a twisting action rotate the studs into position. Ideally, the studs should be orientated in the same direction to make fitting the lining board easier.

STEP FIVE
Fit the bridging members at the centres specified. Ensure the stud spacing is maintained when fitting the bridging members.

STEP SIX
Fit intermediate connections for multiple span ceiling joists. Ensure the fixings are tight and any deflection of the studs is taken up at this time.

STEP SEVEN
Fit the lining board to the studs. The lining board should be fitted such that the board is screwed to the open side of the stud first. This will prevent any misalignment of the board along the ceiling.

STEP EIGHT
Set the joints in the lining board and fit the cornice.
Mechanical joints are required where the maximum spans of the ceiling exceed those allowable for friction joints, or where a more positive connection is required (see Figure 2).

Mechanical joint Type 1 is suitable for single span ceilings up to 3000mm or two or three span ceilings up to 4000mm span.

A fastener should be used to the top and bottom of the stud and track where possible.

Mechanical joints Type 2 and 3 are used where larger spans are necessary (see Figures 3 & 4).

Where doubt exists, we suggest your local Rondo Technical Sales Representative be consulted for further design advice.

NOTES:

a) Where the ceiling intersects a stud wall, the wall must be checked for the ceiling load.

b) The plasterboard manufacturers recommend a continuous backing angle should be installed behind the wall/ceiling joint.
Friction joints provide allowance for movement of building elements. These joints rely on the friction between the stud and track sections to secure the ceiling joists.

It is not recommended to use this type of joint where vibration or mechanical equipment is used in close proximity to the ceiling. The maximum span for these ceilings is 2000mm for single spans and 2800mm for two or more spans.

Studs supporting access panels and in the local vicinity must be mechanically fastened.
When two span or three span continuous studs are used it is necessary to provide additional fixing points within the span of the studs (refer to Installation Details on page 70).

**SUSPENSION JOINTS**

These fixing points may be constructed using hoop iron strapping wrapped around the underside of the stud and fixed to the web. This strap is then fixed to the web of the roof purlin as shown in Figure 6, Suspension Joint Type 1.

To be effective, the strapping must be pulled tight before fixing off the loose end of the strap.

Alternatively, Angle Brackets, typically Rondo 553 Angle, may be used to connect to the studs as shown in Figure 7, Suspension Joint Type 2.

When connecting to concrete soffits, angle connectors can be used to make the stud connections as shown in Figure 8, Suspension Joint Type 3.

**SPLICE DETAILS**

Studs should be spliced/joined over a supporting member. Splicing of the studs should be over a minimum of 300mm for the 0.50, 0.55 and 0.75bmt sections. The 1.15bmt studs cannot be spliced in ceiling systems as the ceiling setout changes.
Where the bulkhead drop exceeds 600mm it starts to become difficult to use Furring Channels to form the bulkheads, and when the drop exceeds 1200mm steel studs are recommended.

Bulkheads require independent suspension to carry the additional plasterboard and framing members. This may be achieved by fixing the framing members directly to the structural soffit or alternatively, providing additional suspension hangers to the bulkhead.

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, or alternatively, by rigidly coupling the ceiling to the bulkhead.

Where the ceiling is coupled to the bulkhead, the termination points require special detailing and the ceiling must be checked for the horizontal load. Details of this may be sought from Rondo.

For the ‘box type’ bulkheads (refer Figure 10), the stud size and spacing depends on the span and drop. Details of specific configurations may be sought from Rondo.
TABLE 10: SINGLE SPAN CEILING JOISTS

<table>
<thead>
<tr>
<th>STUD WIDTH</th>
<th>51mm</th>
<th>64mm</th>
<th>76mm</th>
<th>92mm</th>
<th>150mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMT</td>
<td>0.50</td>
<td>0.75</td>
<td>0.50</td>
<td>0.75</td>
<td>1.15</td>
</tr>
<tr>
<td>PLASTERBOARD LININGS (mm)</td>
<td>SINGLE STUDS @ 600mm CENTRES / BOXED OR BACK TO BACK @ 1200mm CENTRES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 x 10mm</td>
<td>1835</td>
<td>2060</td>
<td>2145</td>
<td>2460</td>
<td>2775</td>
</tr>
<tr>
<td>1 x 13mm</td>
<td>1800</td>
<td>2020</td>
<td>2100</td>
<td>2530</td>
<td>2785</td>
</tr>
<tr>
<td>1 x 16mm</td>
<td>1740</td>
<td>1960</td>
<td>2095</td>
<td>2470</td>
<td>2705</td>
</tr>
<tr>
<td>2 x 13mm</td>
<td>1665</td>
<td>1880</td>
<td>1945</td>
<td>2335</td>
<td>2575</td>
</tr>
<tr>
<td>2 x 16mm</td>
<td>1580</td>
<td>1780</td>
<td>1860</td>
<td>2235</td>
<td>2450</td>
</tr>
</tbody>
</table>

NOTES:
1. Strength check: 1.2G + Wu, using Wu = 0.375kPa
2. Serviceability check: G + Ws Limit L / 360 or 12mm, G Limit L/600
3. Support walls and connections to be independently checked.
4. The live load in accordance with AS/NZS1170.1:2002 Clause 3.5.2 has not been applied to the ceiling joists. Accordingly, personnel are not permitted to traffic the ceiling joists.
5. Maximum span tables assume Noggings are equally spaced along studs.

MINIMUM BRIDGING REQUIREMENTS

<table>
<thead>
<tr>
<th>CEILING SPAN (m)</th>
<th>LINING CONDITION</th>
<th>NO. BRIDGING</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 2.0</td>
<td>Lined one side</td>
<td>0</td>
</tr>
<tr>
<td>2.0 – 4.0</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>4.0 – 6.0</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>6.0 – 7.0</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

NOTES:
1. Strength check: 1.2G + Wu, using Wu = 0.375kPa
2. Serviceability check: G + Ws Limit L / 360 or 12mm, G Limit L/600
3. Support walls and connections to be independently checked.
4. The live load in accordance with AS/NZS1170.1:2002 Clause 3.5.2 has not been applied to the ceiling joists. Accordingly, personnel are not permitted to traffic the ceiling joists.
5. Maximum span tables assume Noggings are equally spaced along studs.
Table 11: Continuous Span Ceiling Joists

### Notes:
1. Strength check: $1.2G + Wu$, using $Wu = 0.375kPa$.
2. Serviceability check: $G + Ws Limit L / 360$ or $12mm$, $G Limit L/600$.
3. Support walls and connections to be independently checked.
4. The live load in accordance with AS/NZS1170.1:2002 Clause 3.5.2 has not been applied to the ceiling joists. Accordingly, personnel are not permitted to traffic the ceiling joists.
5. Refer to Rondo for splice details where multiple span length exceeds single stud length. The above table assumes continuity.
6. Maximum span tables assume Noggings are equally spaced along studs.

### Minimum Bridging Requirements

#### Ceiling Span (m)

<table>
<thead>
<tr>
<th>LINING CONDITION</th>
<th>NO. BRIDGING</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 2.0</td>
<td>0</td>
</tr>
<tr>
<td>2.0 – 4.0</td>
<td>1</td>
</tr>
<tr>
<td>4.0 – 6.0</td>
<td>2</td>
</tr>
<tr>
<td>6.0 – 7.0</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Plasterboard LININGS (mm)

<table>
<thead>
<tr>
<th>STUD WIDTH</th>
<th>51mm</th>
<th>64mm</th>
<th>76mm</th>
<th>92mm</th>
<th>150mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMT</td>
<td>0.50</td>
<td>0.75</td>
<td>0.50</td>
<td>0.75</td>
<td>1.15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PLASTERBOARD LININGS (mm)</th>
<th>SINGLE STUDS @ 600mm CENTRES / BOXED OR BACK TO BACK @ 1200mm CENTRES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x 10mm</td>
<td>2380 2770 2480 3290 3710 2920 3780 4260 3240 4220 4930 5390 7200</td>
</tr>
<tr>
<td>1 x 13mm</td>
<td>2330 2710 2420 3240 3650 2850 3710 4180 3170 4120 4840 5260 7040</td>
</tr>
<tr>
<td>1 x 16mm</td>
<td>2230 2620 2310 3130 3530 2730 3550 4050 3050 3950 4690 5050 6760</td>
</tr>
<tr>
<td>2 x 13mm</td>
<td>2110 2510 2190 3000 3380 2590 3360 3890 2870 3730 4500 4780 6410</td>
</tr>
<tr>
<td>2 x 16mm</td>
<td>1960 2390 2040 2840 3210 2410 3140 3690 2680 3490 4270 4470 6000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PLASTERBOARD LININGS (mm)</th>
<th>SINGLE STUDS @ 450mm CENTRES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x 10mm</td>
<td>2690 3030 2850 3610 4070 3360 4140 4670 3730 4770 5390 6170 7850</td>
</tr>
<tr>
<td>1 x 13mm</td>
<td>2640 2970 2780 3580 3990 3280 4150 4580 3640 4690 5290 6030 7710</td>
</tr>
<tr>
<td>1 x 16mm</td>
<td>2560 2880 2660 3460 3860 3140 4020 4430 3490 4530 5120 5730 7480</td>
</tr>
<tr>
<td>2 x 13mm</td>
<td>2420 2760 2520 3300 3710 2980 3820 4250 3300 4290 4920 5480 7190</td>
</tr>
<tr>
<td>2 x 16mm</td>
<td>2260 2620 2350 3120 3520 2780 3600 4050 3080 4010 4680 5130 6850</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PLASTERBOARD LININGS (mm)</th>
<th>SINGLE STUDS @ 300mm / BOXED OR BACK TO BACK @ 600mm CENTRES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x 10mm</td>
<td>2810 3150 3020 3750 4210 3560 4290 4830 3950 4950 5580 6520 8120</td>
</tr>
<tr>
<td>1 x 13mm</td>
<td>2640 2970 2780 3580 3990 3280 4150 4580 3640 4690 5290 6030 7710</td>
</tr>
<tr>
<td>1 x 16mm</td>
<td>2560 2880 2660 3460 3860 3140 4020 4430 3490 4530 5120 5730 7480</td>
</tr>
<tr>
<td>2 x 13mm</td>
<td>2420 2760 2520 3300 3710 2980 3820 4250 3300 4290 4920 5480 7190</td>
</tr>
<tr>
<td>2 x 16mm</td>
<td>2260 2620 2350 3120 3520 2780 3600 4050 3080 4010 4680 5130 6850</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PLASTERBOARD LININGS (mm)</th>
<th>SINGLE STUDS @ 1200mm CENTRES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x 10mm</td>
<td>1690 2020 1760 2450 2980 2080 2710 3420 2310 3010 3910 3860 5200</td>
</tr>
<tr>
<td>1 x 13mm</td>
<td>1650 1980 1720 2390 2920 2030 2640 3350 2250 2940 3830 3770 5080</td>
</tr>
<tr>
<td>1 x 16mm</td>
<td>1580 1910 1640 2290 2820 1940 2530 3240 2160 2810 3700 3610 4860</td>
</tr>
<tr>
<td>2 x 13mm</td>
<td>1490 1830 1550 2160 2700 1840 2390 3110 2040 2660 3510 3380 4600</td>
</tr>
<tr>
<td>2 x 16mm</td>
<td>1390 1730 1450 2020 2570 1710 2230 2930 1890 2480 3280 3110 4300</td>
</tr>
</tbody>
</table>