

Gyprock RigitoneTM Perforated Range

Suspended Ceiling System
Installation and Design Guide

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Introduction

Excellence in design is achieved with a balance of aesthetics and functionality. The Gyprock Rigitone perforated plasterboard range allows architects and designers to create beautiful ceilings and walls that achieve high levels of acoustic performance.

The Rigitone range is a superior and modern acoustic solution that delivers a monolithic design due to its edge to edge pattern layouts. The panel perforations together with acoustic fabric lining and insulation, where used, reduce echo and noise reverberation to create more comfortable environments for work and leisure.

Available in a range of seven contemporary perforation patterns, Rigitone delivers a seamless perforated ceiling design. Installed with a unique jointing system, all edges of the boards are pre-primed to improve jointing speed, and corresponding installation tools are available.

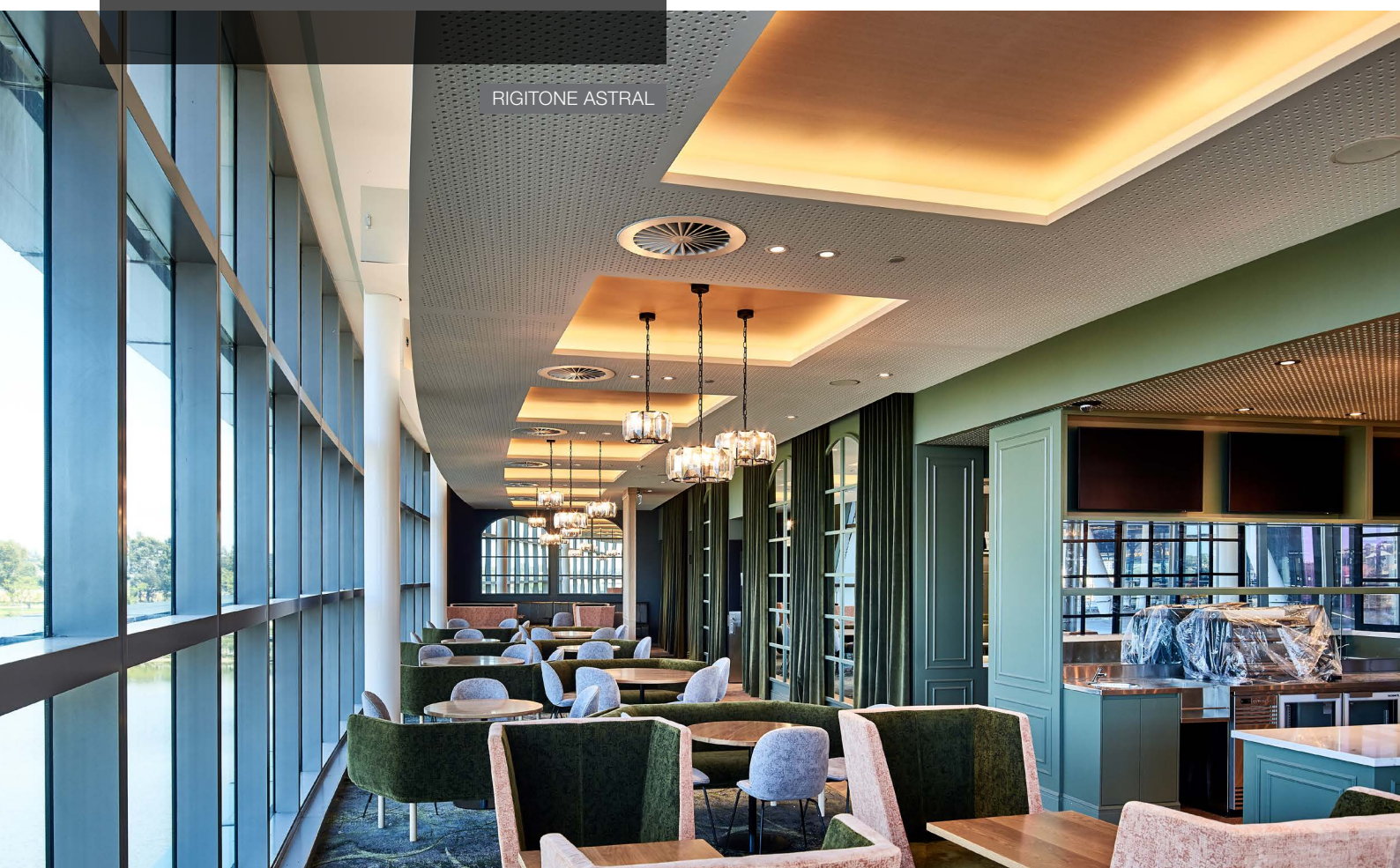
The Rigitone range features the innovative Activ'Air technology to help improve indoor air quality by converting formaldehyde into non-harmful inert compounds that are permanently locked in the board and cannot be released back into the air.



INTERNATIONAL
ALLIANCE



RIGITONE ASTRAL



Acoustic control

Good acoustic design includes control of both sound transmission and sound absorption. Sound transmission is controlled by using solid or cavity elements sealed to prevent sound leakage. To combat sound transmission, Gyprock provides a range of systems which achieve high transmission reduction targets.

Sound absorption is the control of sound within a room where absorbing surfaces reduce the amount of sound bouncing back into the room of origin. The total amount of sound absorption in a room and hence the reverberation time, is critically important for speech intelligibility, privacy and general noise levels.

Gyprock's Rigitone range of perforated plasterboard provides high levels of reverberation control with much greater freedom for designers:

- Options suitable for ceilings and walls
- Plasterboard provides ease of installation and versatility
- The surface is more durable than mineral fibre or similar acoustic absorbers

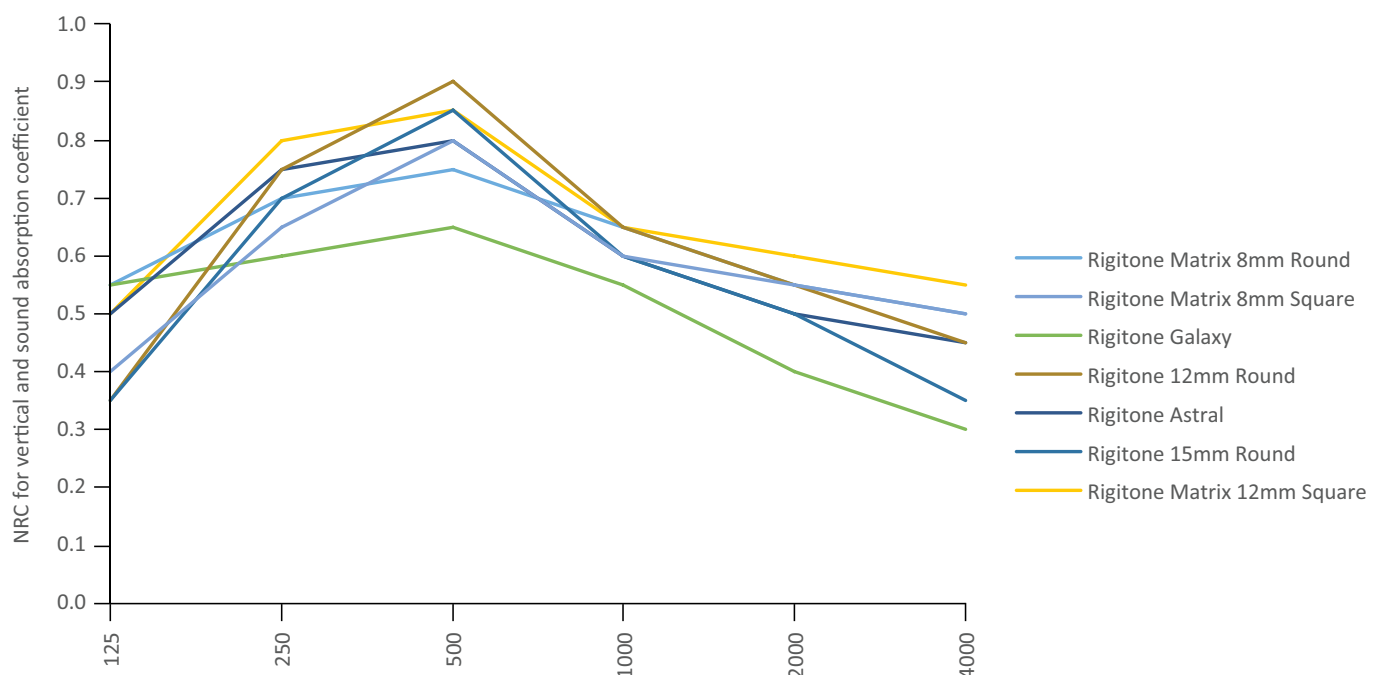
Acoustic assessment

A material's sound absorbing properties are expressed by the noise reduction coefficient (NRC), a simple measure that averages the absorption values over just a few frequencies. NRC typically ranges from 0 (total reflection) to 1 (total absorption). For perforated products, the NRC is dependent on the amount of open surface area, the type of acoustic fabric, the use of additional insulation material and the depth of the air cavity (plenum) behind the lining. Boards in the Rigitone range were tested for sound absorption in CSIRO Melbourne and Auckland University laboratories. Testing was performed with air cavities of 65mm, 200mm and 600mm with and without insulation (50mm CSR Bradford glasswool batts at 14kg/m³).

PKA Acoustic Consulting provided complete acoustic predictions based on testing data along with perforated and slotted resonance formula calculations, as well as their database of sound absorption coefficient. The acoustic absorption performance summary graph below shows the absorption coefficients for the Rigitone range, with an uninsulated 200mm cavity installation. For Technical Support contact DeisgnLINK on 1800 621 117.

Acoustic absorption performance summary:

200mm plenum (air cavity), uninsulated (full details on following pages)



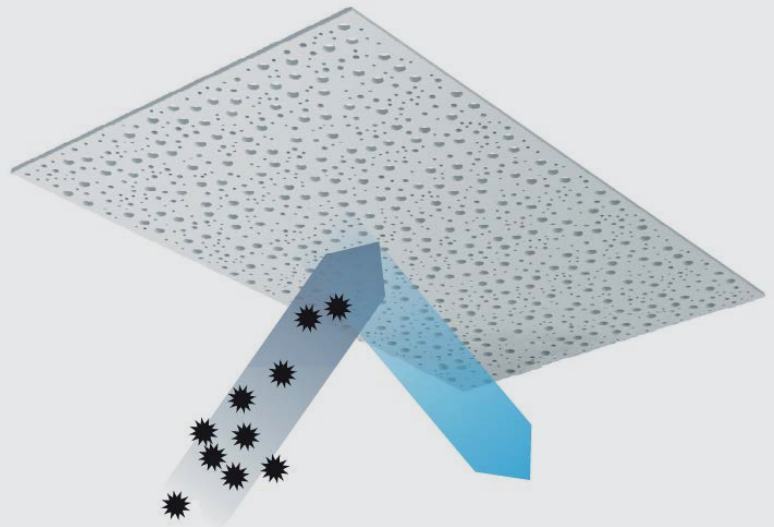
All boards in the Rigitone range are supplied with acoustic fabric backing as standard and were tested as supplied.

Activ'Air

Many materials, such as particleboard, furniture, carpets and paint emit formaldehyde, one of the most prevalent VOCs. This means that high concentrations of formaldehyde, which has been classified as a known carcinogen by The World Health Organisation and the US Department of Health, can frequently be found in the air we breathe in many indoor spaces.

Activ'Air is a patented technology that converts formaldehyde into non-harmful inert compounds that are permanently locked in the board and cannot be released back into the air. Controlled testing has shown that Activ'Air can reduce the concentration of formaldehyde within an environment by up to 60% when installed in ceilings, even when there is continuous airflow containing formaldehyde.

Installing Rigitone containing Activ'Air technology to ceilings and/or walls will have an enduring impact on air quality and will improve the environment for people working and living in the space.

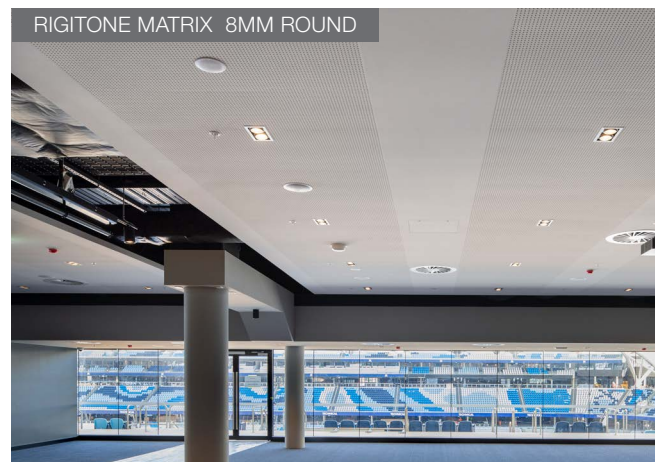


Activ'Air converts formaldehyde into inert compounds which are locked into the board, creating healthier indoor environments.

Acoustic fabric

Rigitone perforated plasterboard is supplied with a highly effective black acoustic fabric backing that dramatically improves the acoustic performance of the board. This unique fabric is exclusive to Gyprock and apart from improved acoustic performance, it provides other benefits:

- Eliminates dust from ceiling cavities coming down into the room
- Effectively masks the ceiling framework so that it is not seen from below through the perforations



Fire performance

Rigitone perforated plasterboard achieves a Group One and $\text{SMOGRA}_{\text{RC}} < 100 \text{ m}^2/\text{s}^2$ rating when assessed to AS5637.1. Please refer to report number WF45759 available for download on the Gyprock website for further information.

Plasterboard may be used wherever a non-combustible material is required.



Access panel solutions

Access panels are integrated into suspended ceilings to allow for inspection, service and maintenance work on the installations in the space above. Gyprock offers solutions for the Rigitone range that provide easy access but are barely perceptible in a continuous perforated ceiling pattern.

These genuine International Alliance access panels consist of a metal frame that houses a matching perforated plasterboard panel. Pre-cut panels are supplied for the majority of the Rigitone patterns, and the Rigitone Galaxy is supplied frame only, with the panel required to be cut on site to suit.

The well thought-out Rigitone system makes these prefabricated access panels easy and cost effective to install and maintains the high design quality of rooms with continuously perforated ceilings. Accurate installation is facilitated by fitting bolts, that assist with the alignment of the access panels. Note, access panels are only suitable for ceilings with a plenum depth greater than 140mm. Rigitone Access Panels are nominally 500mm x 500mm x 12.5mm.

Note: Rigitone Astral Access Panel is 510mm x 510mm x 12.5mm nominally.



Gyprock Rigitone perforated range

The Rigitone range combines functionality and aesthetics in the modern design of ceilings. The four contemporary perforation patterns provide design versatility and acoustic performance for ceiling and wall projects.

Table 1: Gyprock Rigitone perforated range

Product Name	Open Area	Perforation Centres (mm)	Thickness (mm)	Nominal Weight (kg/m ²)	Size (mm) W x L	Edge Profile	Suitable for Walls	Suitable for Ceilings	Acoustic Fabric
Rigitone Matrix 8mm Round"	15.5%	18	12.5	10.0	1188 x 1998	Rigitone Edge	✓	✓	Black
Rigitone Matrix 12mm Round	18.1%	25	12.5	9.5	1200 x 2000	Square Edge	✓	✓	Black
Rigitone Matrix 15mm Round	19.6%	30	12.5	9.5	1200 x 1980	Square Edge	✓	✓	Black
Rigitone Matrix 8mm Square*	19.8%	18	12.5	10.0	1188 x 1998	Square Edge	✓	✓	Black
Rigitone Matrix 12mm Square	23.0%	25	12.5	8.5	1200 x 2000	Rigitone Edge	✓	✓	Black
Rigitone Astral <i>A regularly staggered pattern consisting of 12mm and 20mm round perforations</i>	19.6%	33	12.5	9.5	1188 x 1980	Rigitone Edge	✓	✓	Black
Rigitone Galaxy <i>Irregular scattered pattern of 8mm, 15mm and 20mm round perforations</i>	10.0%	non-uniform pattern	12.5	10.0	1200 x 1960	Rigitone Edge	✓	✓	Black

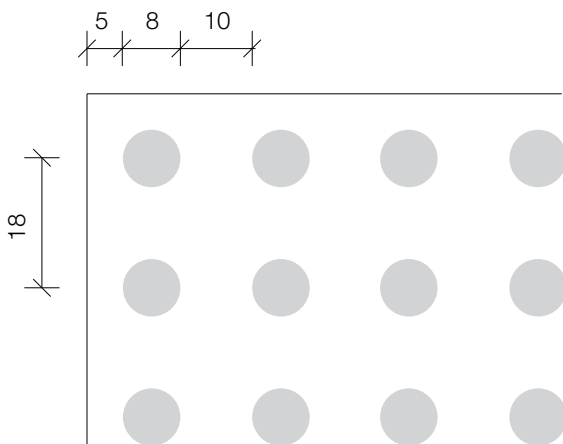
* Special order product. Lead times and minimum order quantities apply.



Rigitone Matrix 8mm Round (8/18)

A pattern of 8mm round perforations spaced at 18mm centres, providing a 15.5% open area. Supplied with a black acoustic fabric backing.

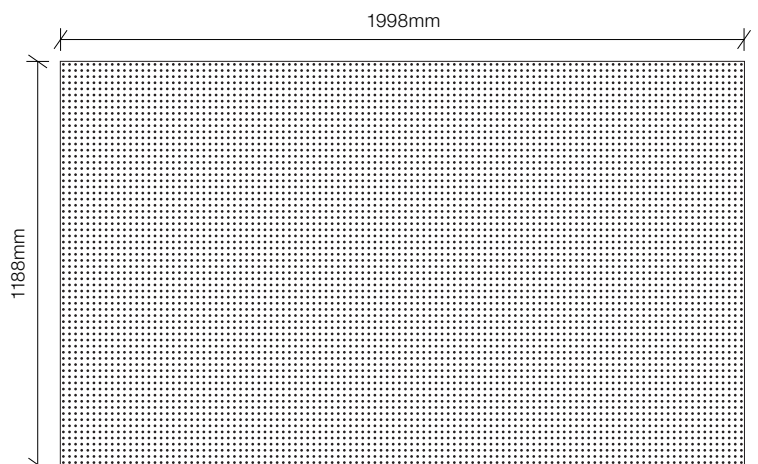
A 500mm x 500mm matching access panel is also available.



Matrix 8mm Round 15.5% open area				Sound Absorption Coefficient α_p					
Plenum (Air Cavity)	Plenum Insulation	α_w	NRC	Octave Band Centre Frequencies (Hz)					
				125	250	500	1000	2000	4000
65mm*	Empty	0.60	0.60	0.20	0.30	0.65	0.80	0.60	0.50
	50mm glasswool (14kg/m ³)	0.70	0.70	0.35	0.55	0.70	0.80	0.65	0.55
200mm	Empty	0.60(L)	0.65	0.55	0.70	0.75	0.65	0.55	0.50
	50mm glasswool (14kg/m ³)	0.75(L)	0.75	0.70	0.80	0.75	0.75	0.70	0.70
600mm	Empty	0.65(L)	0.65	0.60	0.70	0.65	0.60	0.60	0.55
	50mm glasswool (14kg/m ³)	0.75	0.75	0.70	0.75	0.70	0.70	0.75	0.75

Acoustic appraisal PKA-A167. (L) denotes excess performance at 250Hz

*A 65mm ceiling plenum is not suitable for access panel installation.

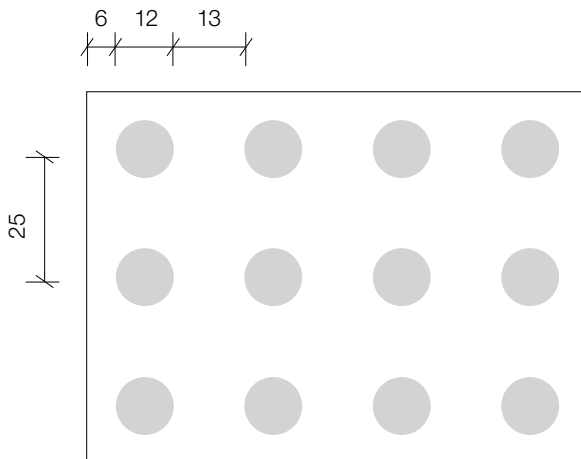




Rigitone Matrix 12mm Round (12/25)

A pattern of 12mm round perforations spaced at 25mm centres, providing a 18.1% open area. Supplied with a black acoustic fabric backing.

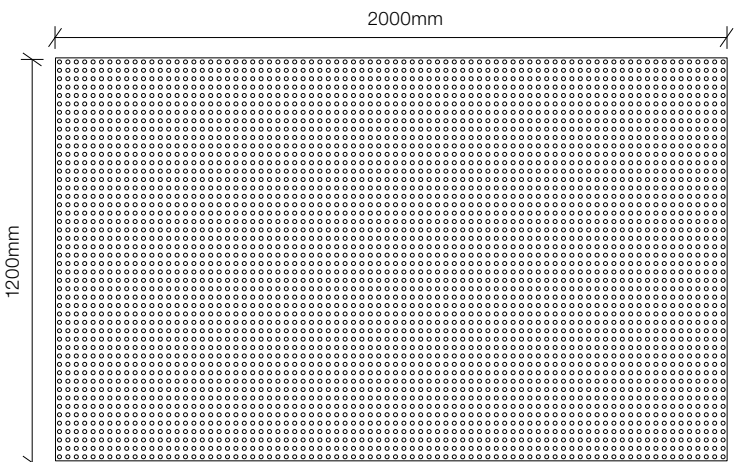
Access panels are available in a range of sizes.



Matrix 12mm Round 18.1% Open Area				Sound Absorption Coefficient α_p					
Plenum (Air Cavity)	Plenum Insulation	α_w	NRC	Octave Band Centre Frequencies (Hz)					
				125	250	500	1000	2000	4000
65mm*	Empty	0.55	0.60	0.15	0.30	0.65	0.80	0.60	0.45
	50mm glasswool (14kg/m ³)	0.70	0.70	0.30	0.55	0.80	0.75	0.65	0.55
200mm	Empty	0.60(L,M)	0.70	0.35	0.75	0.90	0.65	0.55	0.45
	50mm glasswool (14kg/m ³)	0.70(L,M)	0.85	0.55	0.95	0.95	0.85	0.70	0.55
600mm	Empty	0.65(L)	0.70	0.50	0.75	0.80	0.70	0.60	0.50
	50mm glasswool (14kg/m ³)	0.80(L)	0.90	0.60	0.90	0.95	0.90	0.75	0.65

Acoustic appraisal PKA-A167. (L) denotes excess performance at 250Hz. (M) denotes excess performance at 500Hz, 1000Hz

*A 65mm ceiling plenum is not suitable for access panel installation.

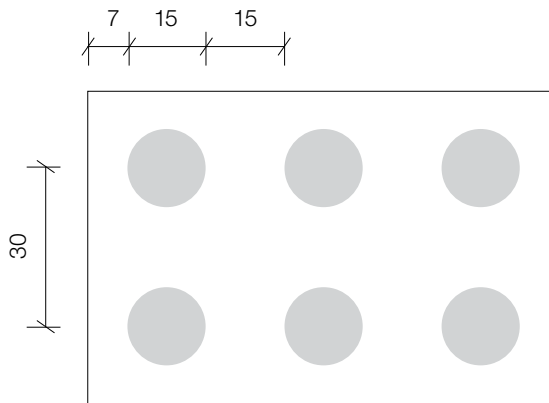




Rigitone Matrix 15mm Round (15/30)

A pattern of 15mm round perforations spaced at 30mm centres, providing a 19.6% open area. Supplied with a black acoustic fabric backing.

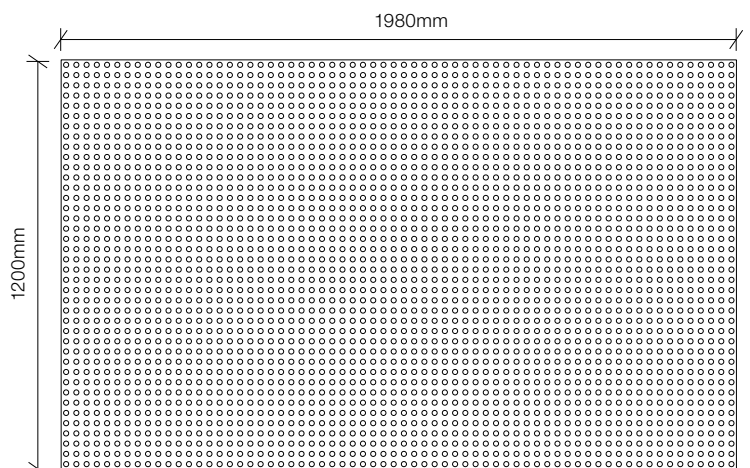
Access panels are available in a range of sizes.



Matrix 15mm Round 19.6% Open Area				Sound Absorption Coefficient α_p					
Plenum (Air Cavity)	Plenum Insulation	α_w	NRC	Octave Band Centre Frequencies (Hz)					
				125	250	500	1000	2000	4000
65mm*	Empty	0.50	0.55	0.20	0.30	0.60	0.80	0.50	0.30
	50mm glasswool (14kg/m ³)	0.70	0.70	0.35	0.55	0.85	0.75	0.65	0.55
200mm	Empty	0.50(LM)	0.65	0.35	0.70	0.85	0.60	0.50	0.35
	50mm glasswool (14kg/m ³)	0.70(LM)	0.90	0.60	0.95	1.00	0.85	0.70	0.55
600mm	Empty	0.55(L)	0.65	0.50	0.70	0.75	0.65	0.55	0.40
	50mm glasswool (14kg/m ³)	0.80(L)	0.90	0.65	0.90	1.00	0.90	0.75	0.65

Acoustic appraisal PKA-A167. (L) denotes excess performance at 250Hz. (M) denotes excess performance at 500Hz, 1000Hz

*A 65mm ceiling plenum is not suitable for access panel installation.





Rigitone Matrix 8mm Square (8/18)

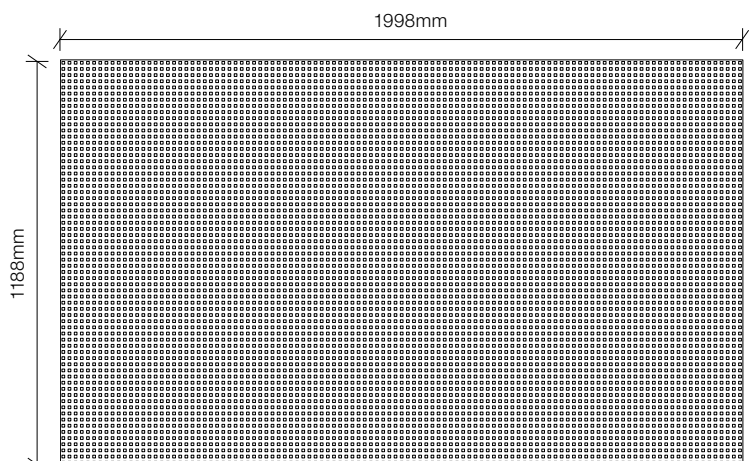
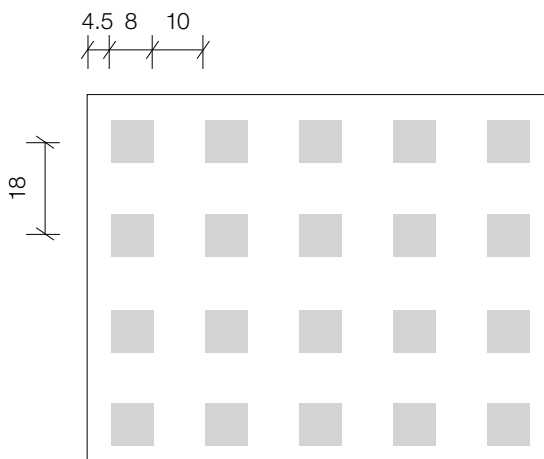
A pattern of 8mm square perforations spaced at 18mm centres, providing a 19.8% open area. Supplied with a black acoustic fabric backing.

Access panels are available in a range of sizes.

Matrix 8mm Square 19.8% Open Area				Sound Absorption Coefficient α_p					
Plenum (Air Cavity)	Plenum Insulation	α_w	NRC	Octave Band Centre Frequencies (Hz)					
				125	250	500	1000	2000	4000
65mm*	Empty	0.60	0.60	0.15	0.30	0.65	0.85	0.65	0.50
	50mm glasswool (14kg/m ³)	0.75	0.70	0.30	0.55	0.80	0.80	0.70	0.60
200mm	Empty	0.60(L)	0.65	0.40	0.65	0.80	0.60	0.55	0.50
	50mm glasswool (14kg/m ³)	0.80	0.80	0.40	0.70	0.85	0.80	0.80	0.70
600mm	Empty	0.65(L)	0.70	0.45	0.70	0.75	0.65	0.60	0.55
	50mm glasswool (14kg/m ³)	0.80	0.80	0.50	0.80	0.80	0.80	0.75	0.70

Acoustic appraisal PKA-A167. (L) denotes excess performance at 250Hz. (M) denotes excess performance at 500Hz, 1000Hz

*A 65mm ceiling plenum is not suitable for access panel installation.

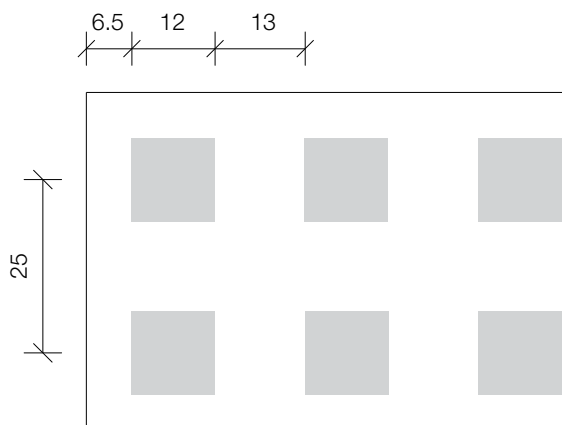




Rigitone Matrix 12mm Square (12/25 Q)

A pattern of 12mm square perforations spaced at 25mm centres, providing a 23% open area. Supplied with a black acoustic fabric backing.

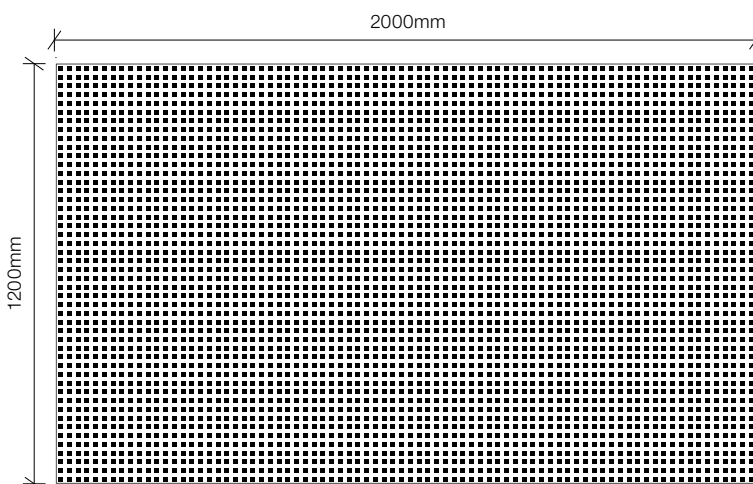
A 500mm x 500mm matching access panel is also available.



Matrix 12mm Square 23% open area				Sound Absorption Coefficient α_p					
Plenum (Air Cavity)	Plenum Insulation	α_w	NRC	Octave Band Centre Frequencies (Hz)					
				125	250	500	1000	2000	4000
65mm*	Empty	0.60	0.65	0.20	0.35	0.70	0.85	0.65	0.50
	50mm glasswool (14kg/m ³)	0.75	0.75	0.35	0.60	0.85	0.85	0.70	0.60
200mm	Empty	0.65(L)	0.70	0.50	0.80	0.85	0.65	0.60	0.55
	50mm glasswool (14kg/m ³)	0.85(L)	0.90	0.70	0.90	0.90	0.90	0.80	0.75
600mm	Empty	0.65(L)	0.70	0.65	0.70	0.65	0.70	0.65	0.55
	50mm glasswool (14kg/m ³)	0.90	0.85	0.70	0.70	0.85	0.95	0.90	0.95

Acoustic appraisal PKA-A167. (L) denotes excess performance at 250Hz

*A 65mm ceiling plenum is not suitable for access panel installation.





Rigitone Astral (12-20/66)

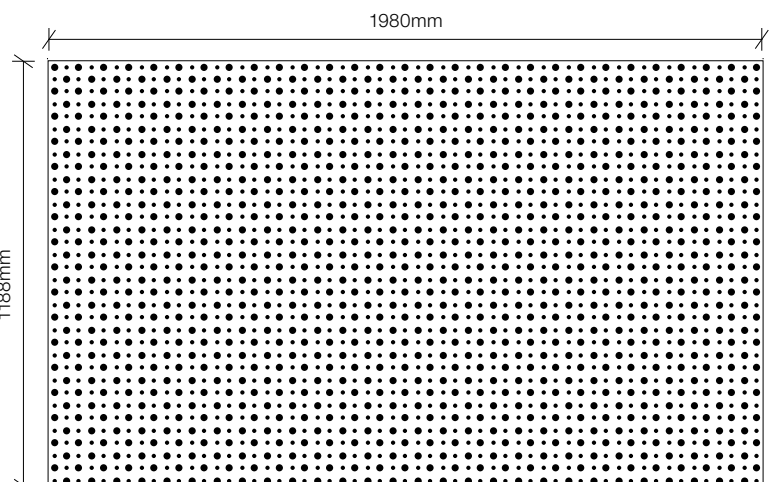
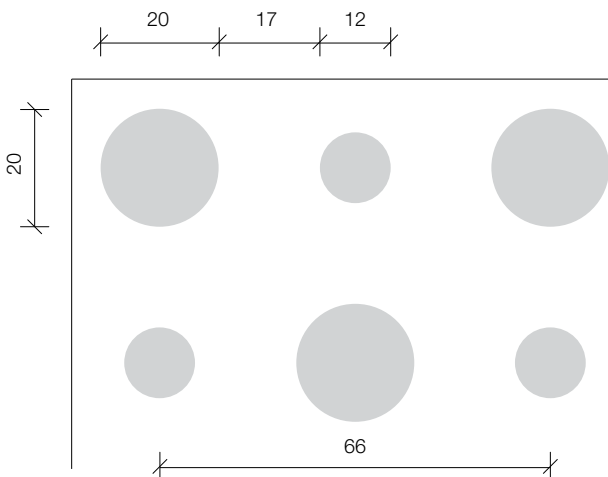
A regularly staggered pattern consisting of 12mm and 20mm round perforations spaced at 33mm centres, providing a 19.6% open area. Supplied with a black acoustic fabric backing.

A 510mm x 510mm matching access panel is also available.

Astral 19.6% open area				Sound Absorption Coefficient α_p					
Plenum (Air Cavity)	Plenum Insulation	α_w	NRC	Octave Band Centre Frequencies (Hz)					
				125	250	500	1000	2000	4000
65mm*	Empty	0.50	0.55	0.20	0.35	0.55	0.80	0.55	0.30
	50mm glasswool (14kg/m ³)	0.60	0.65	0.35	0.50	0.70	0.80	0.60	0.45
200mm	Empty	0.55(LM)	0.65	0.50	0.75	0.80	0.60	0.50	0.45
	50mm glasswool (14kg/m ³)	0.80(L)	0.85	0.70	0.85	0.85	0.85	0.70	0.70
600mm	Empty	0.65	0.65	0.60	0.65	0.65	0.65	0.60	0.50
	50mm glasswool (14kg/m ³)	0.80	0.80	0.70	0.70	0.80	0.85	0.75	0.75

Acoustic appraisal PKA-A167. (L) denotes excess performance at 250Hz (M) denotes excess performance at 500Hz, 1000Hz

*A 65mm ceiling plenum is not suitable for access panel installation.





Rigitone Galaxy

(8-15-20 Super)

An irregular scattered pattern consisting of 8mm, 15mm and 20mm round perforations, providing a 10% open area. Supplied with a black acoustic fabric backing.

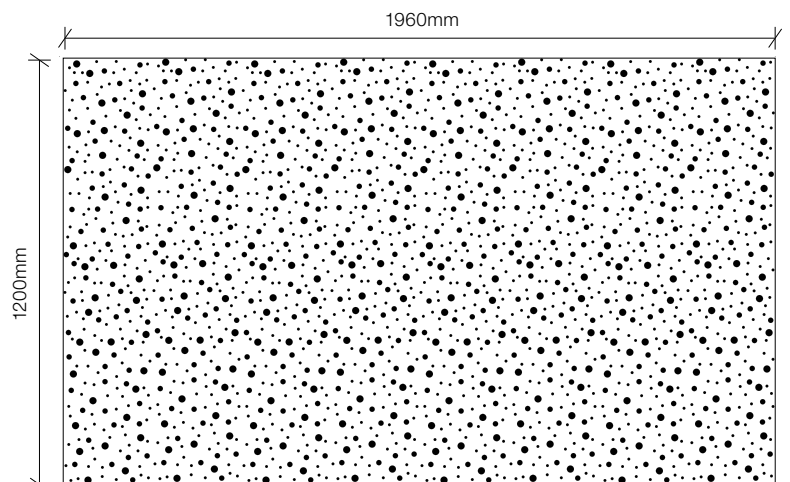
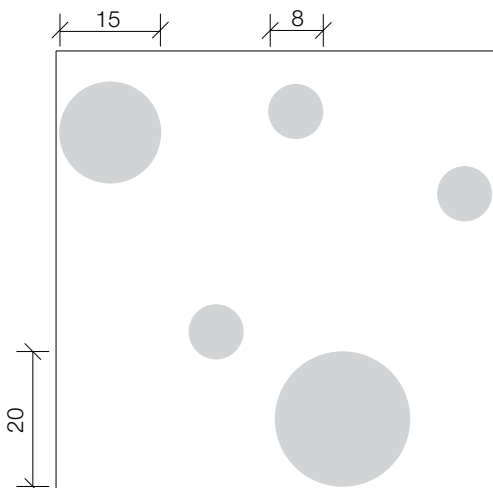
A 500mm x 500mm matching access panel is also available.

Please note a cut piece of Galaxy board is required for the Galaxy access panel, which is supplied frame only.

Galaxy 10% open area				Sound Absorption Coefficient α_p					
Plenum (Air Cavity)	Plenum Insulation	α_w	NRC	Octave Band Centre Frequencies (Hz)					
				125	250	500	1000	2000	4000
65mm*	Empty	0.50	0.55	0.20	0.35	0.70	0.75	0.45	0.35
	50mm glasswool (14kg/m ³)	0.50(L)	0.60	0.35	0.55	0.70	0.75	0.45	0.35
200mm	Empty	0.45(L)	0.55	0.55	0.60	0.65	0.55	0.40	0.30
	50mm glasswool (14kg/m ³)	0.55(L)	0.60	0.60	0.65	0.60	0.60	0.45	0.45
600mm	Empty	0.60	0.60	0.60	0.60	0.60	0.60	0.50	0.50
	50mm glasswool (14kg/m ³)	0.65	0.65	0.60	0.60	0.65	0.70	0.55	0.55

Acoustic appraisal PKA-A167. (L) denotes excess performance at 250Hz

*A 65mm ceiling plenum is not suitable for access panel installation.



Rigitone accessories

The unique, seamless finish of Gyprock Rigitone is made possible by the use of a specialised primer, filler and installation tools.

While all four edges of the standard range of Rigitone boards are pre-primed and sanded, Rigitone Primer is used to prepare cut edges for jointing.

Pattern spacers are available to ensure boards with square edges are fixed with the exact gap required for jointing. Boards with the chamfered edge are designed to be butted directly next to each other, and so do not require a pattern spacer.

Rigitone joints are achieved using the Rigitone Filler sausage, dispensed with the Accessory Kit.

The Rigitone Accessory Kit includes the tools required to achieve the Rigitone system joint. From the barrel gun with proprietary nozzles that dispenses the filler accurately, to the screw head filler template and cleaning brush, this kit is an all-in-one installation solution.



Rigitone Primer



Rigitone pattern spacer



Rigitone filler



Rigitone Filler Accessory Kit

Ceiling system

Concealed grid suspended ceiling system

Rigitone boards may be fixed directly to steel furring which is part of a concealed grid suspended ceiling frame as detailed in Figure 1.

These systems are NON-TRAFFICABLE. They 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 for coupling to the furring channel. Refer to Figure 2.

Rondo N°605 furring channels must be used at all board joints.

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.

Gyprock Rigitone ceiling systems are generally classified as vented ceiling systems. Refer to Table 2 for typical framing spacings. If ceiling venting is restricted and a pressure differential can develop, refer to Table 3 for pressure-resisting system requirements. For detailed framing design guidance, consult Rondo and refer to [The Professional Series](#).

Table 2: Vented Ceiling Framing for Rigitone

Ultimate Wind Pressure (kPa)	Top Cross Rail No 127 Max. Spacing (mm)	Furring Channel No 605 Max. Spacing (mm)
0	1200	600

NOTES:

- Serviceability limit state deflection is limited to the lesser of the following:
 - $L/200$ for $G_{max} + W_{ser, dn}$ and $0.9G_{min} + W_{ser, up}$
 - $L/360$ for G_{max}
- In addition to the maximum lining weight, an allowance has made for 1.2 kg/m^2 of framing weight and 1.0 kg/m^2 insulation weight.

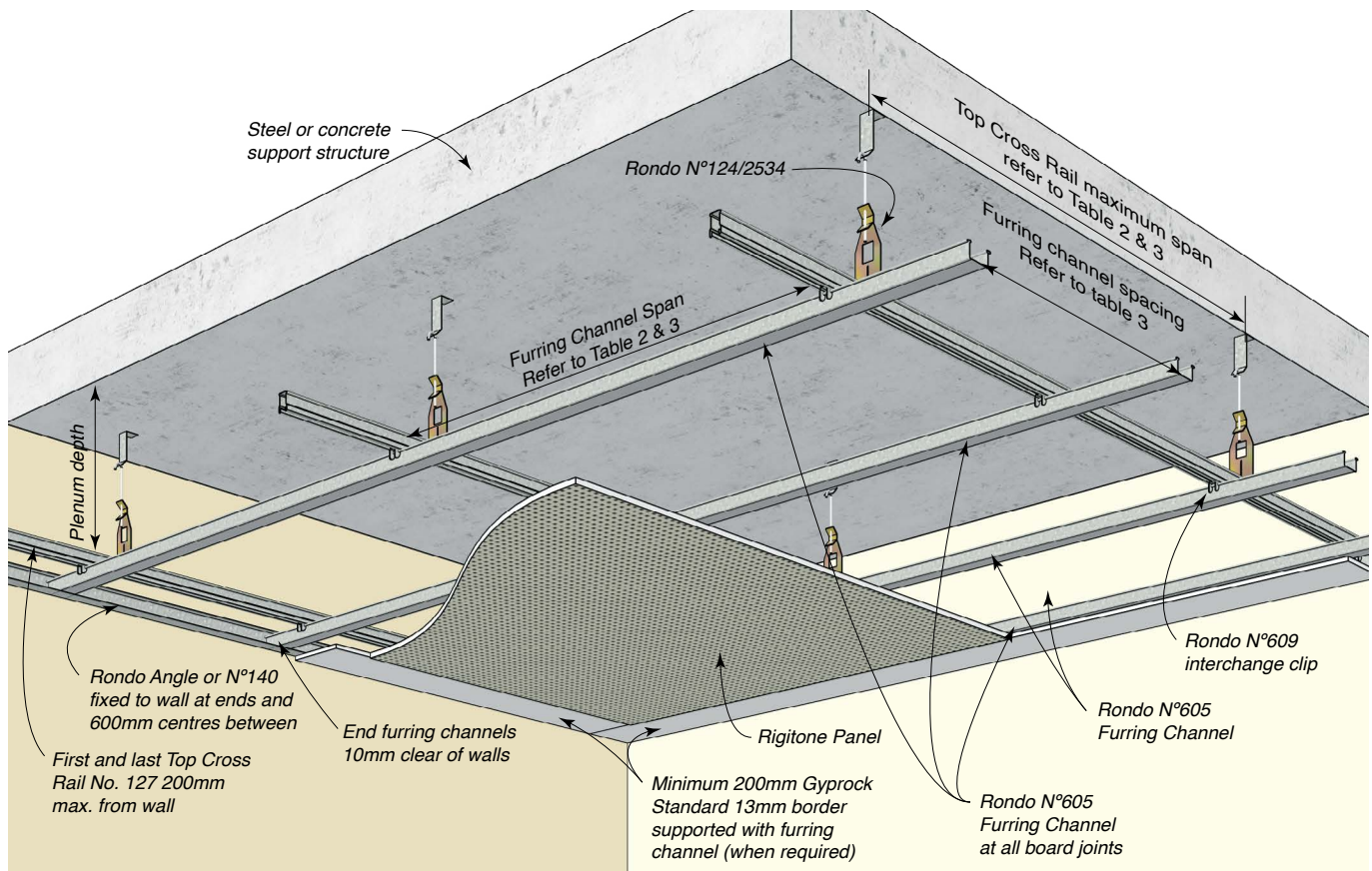
Table 3: Pressure-Resisting Ceiling Framing for Rigitone

Ultimate Wind Pressure (kPa)	Suspension Rod No 121 Max. Spacing (mm)	Top Cross Rail No 127 Max. Spacing (mm)	Furring Channel No 605 Max. Spacing (mm)
0.25	1200	1200	600
0.5	900	1200	600
0.75	900	900	300
1	900	700	300

NOTES:

- Contact Rondo Technical Services for any other lining configurations not listed above
- Serviceability limit state deflection is limited to the following:
 - $L/200$ for $G_{max} + W_{ser, dn}$ and $0.9G_{min} + W_{ser, up}$
 - $L/360$ for G_{max}
- In addition to the maximum lining weight, an allowance has made for 1.2 kg/m^2 of framing weight and 1.0 kg/m^2 insulation weight.
- Table assumes installation in accordance with the details herein

Figure 1: Rigitone concealed grid suspended ceiling



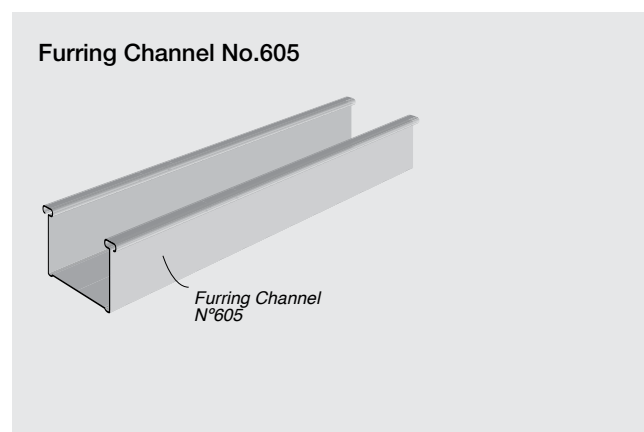
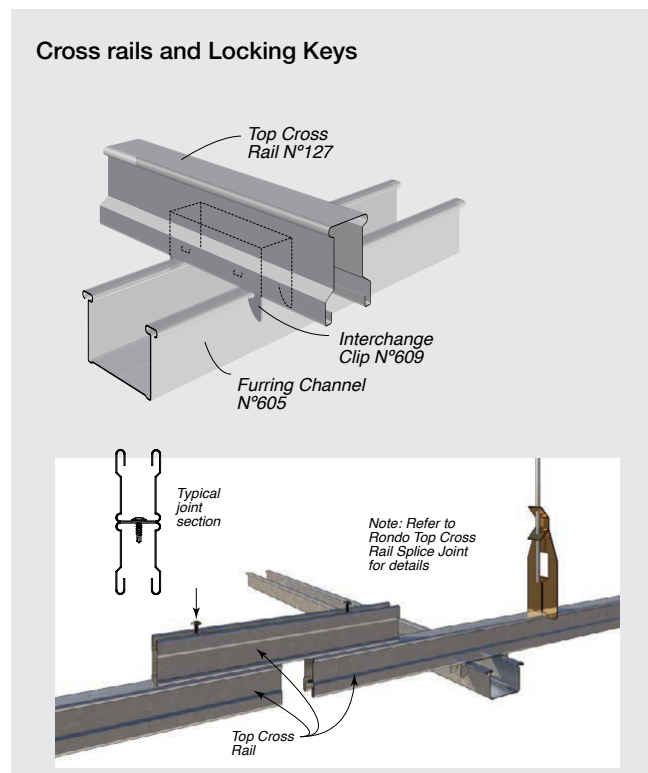
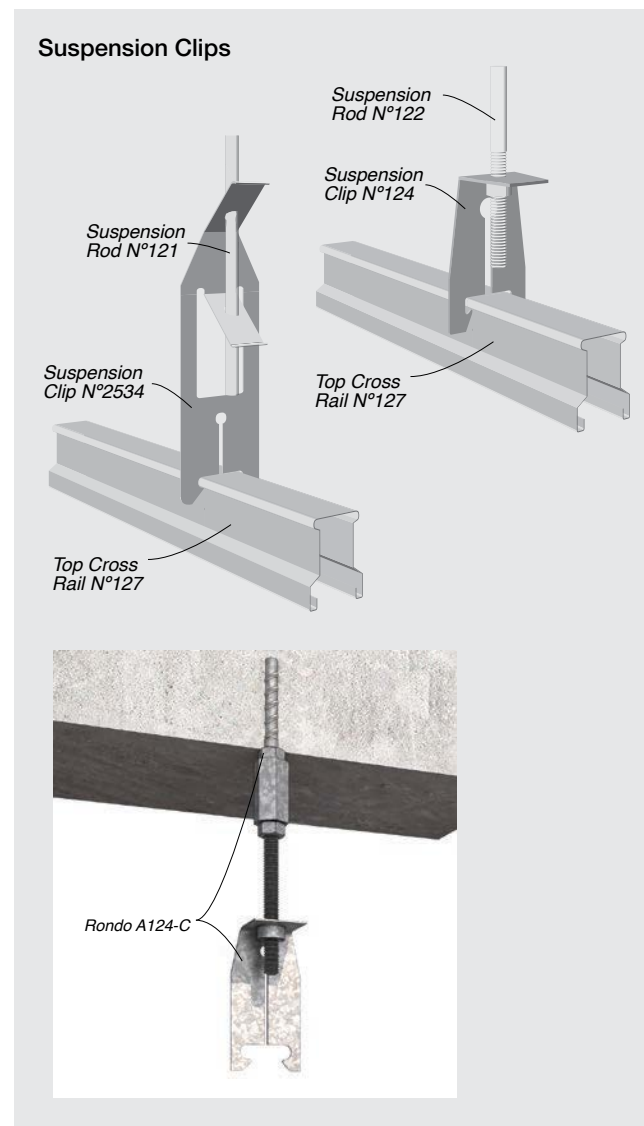
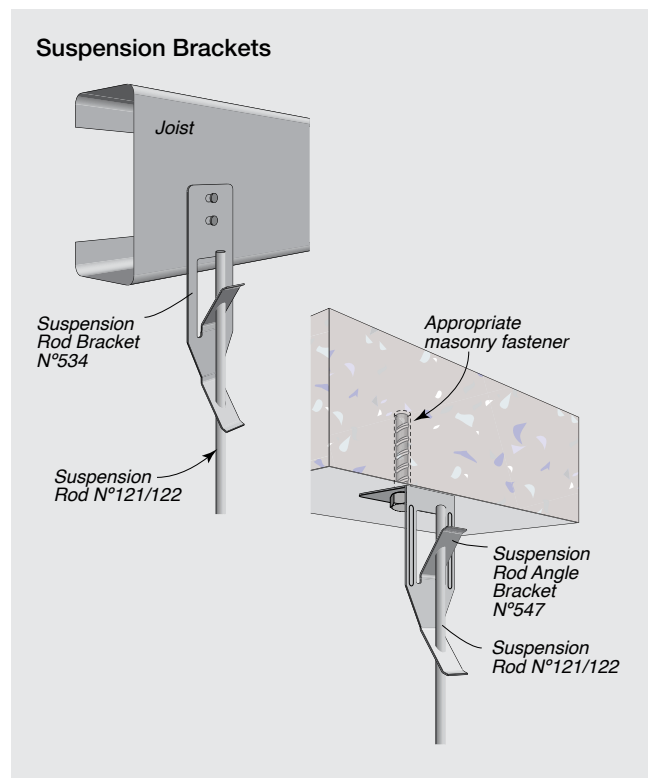
Ceiling system components

Rigitone is specially designed to be screw fixed to suspended ceilings. Its unique installation method allows the product's perforated pattern to continue uninterrupted where boards meet.

Below outlines the components required to install Rigitone on Rondo's KEY-LOCK® suspended ceiling system.

Figure 2: KEY-LOCK® Suspended Ceiling System Components

(Refer to Rondo Building Services literature for additional information)



Design considerations

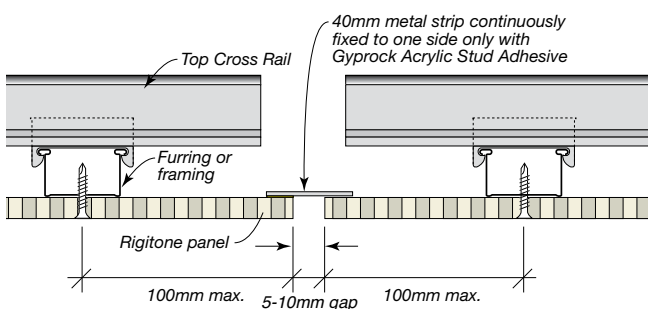
- Choose a board and confirm the size.
- Determine the ceiling area.
- Plan the ceiling grid and furring channel layout based on Table 2 and the size of the decorative border. Refer to Figure 1, and Figure 9.

Control joints

Gyprock Rigitone installations require control joints to be installed at 10m maximum centres in both directions. Control joints are also to be provided:

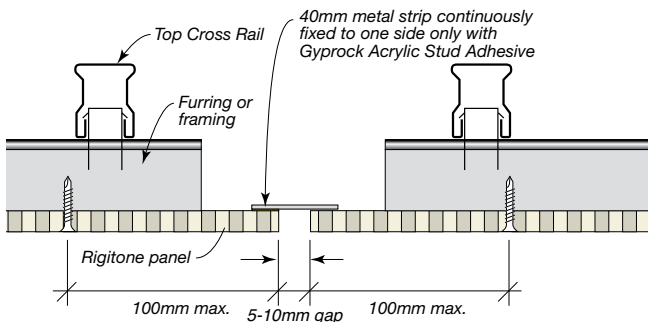
- At all construction joints of the building
- At junctions with other building elements
- At changes of structural support systems
- Other locations as specified.

Figure 3: Control joint – parallel to furring channel



NOTE: To maintain appearance, ensure Gyprock Acrylic Stud Adhesive does not intrude into the gap.

Figure 4: Control joint – perpendicular to furring channel



NOTE: To maintain appearance, ensure Gyprock Acrylic Stud Adhesive does not intrude into the gap.

- When required, plan for a decorative border using 13mm Gyprock Standard Plasterboard. For perimeter details refer to Figure 5, Figure 6 and Figure 7.
- Adequate independent or additional support must be provided for services and lighting systems.
- Diagonal bracing may be required to resist earthquake actions, refer to Rondo for details.

Perimeter details

Gyprock Rigitone ceilings can be finished in a range of perimeter details. Rigitone panels (even with a standard plasterboard border) should not be fixed to perimeter walls as the suspended ceiling system must be able to move independently of the structure.

Figure 5: Perimeter detail – wall angle trim

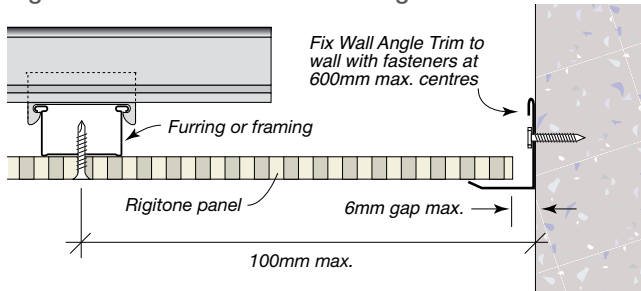


Figure 6: Perimeter detail – shadowline

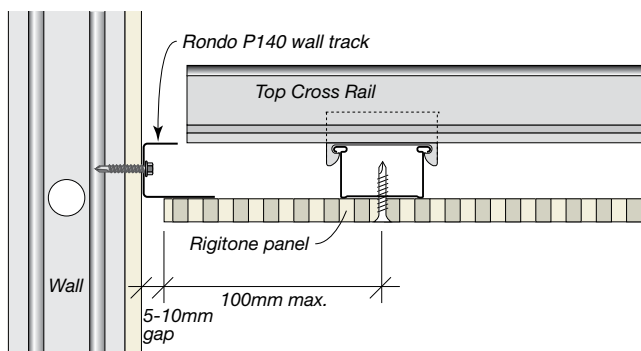
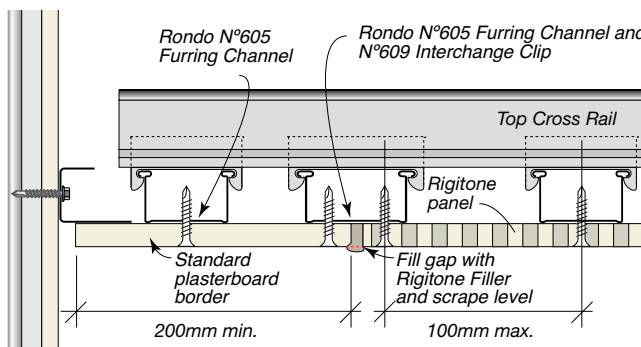


Figure 7: Perimeter detail – standard plasterboard border



Board Installation

Installation overview

1. Install boards from the centre of the room with the long edge of the boards at right angles to the furring channels.
2. Use the pattern specific spacer tool, to ensure the correct alignment of the boards.
3. Screw fix boards in accordance with this guide.
4. Fill gaps between boards using Rigitone Filler in conjunction with the specialised Rigitone Filler Accessories Kit, barrel gun and nozzles. Allow to dry for approximately 20-30 minutes.
5. Cover all screw heads using Rigitone Filler and the screw filler template from the Accessories Kit. Allow to dry for approximately 20-30 minutes.
6. Scrape off excess filler from joints and screw heads.
7. Sand joints and screw heads.
8. Paint and finish as required.

NOTE: For all cut boards, bevel the cut edges, then paint the edges with Rigitone Primer.

Board layout and installation

Mount the first board in the centre of the room. Use an alignment line or preferably a fixed edge guide to ensure the board is properly aligned before screwing it into place. Refer to Figure 9.

Rigitone boards must be installed with the long edges at right angles to the furring channels and ends of boards must be supported by furring channels.

Boards should be fastened into place using Gyprock 6g x 25mm needle point screws at 15mm min. from board ends, 50mm minimum from the long edges and at 170mm max. centres. Refer to Figure 10. Ensure fastener is centrally located between perforations.

Always fasten the short edges of the board first, then the long edges and body.

Ensure boards are level and in full contact with the furring channel before screw fixing. Refer to Figure 11.

Any slight unevenness in the surface under the boards can be compensated by loosening the screws slightly.

Work outwards from the centre of the room in a star pattern when mounting subsequent boards, making sure that they are all laid in the same direction (see markings on the ends and lettering on the long edges of the boards).

Installation procedure

Board preparation

When required, boards are to be cut using a hand or power saw. It is not recommended to score and snap Rigitone boards. Prepare any cut edges by bevelling them slightly using a hand sander and then apply Rigitone Primer sealing agent to all cut board edges.

Figure 8: Preparing Rigitone boards

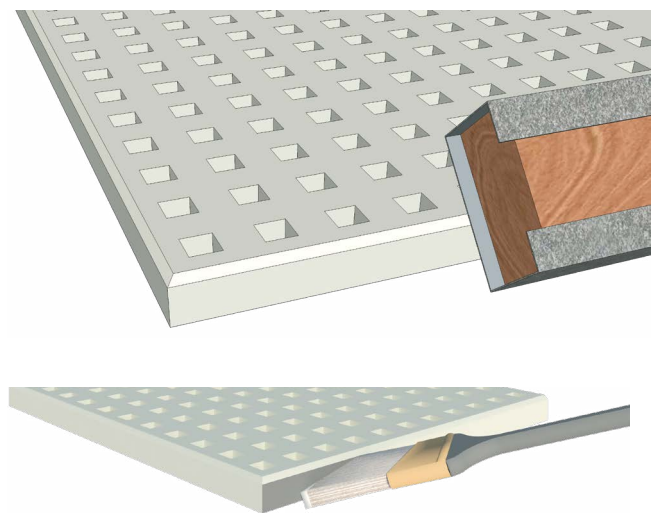


Figure 9: Rigitone board installation order

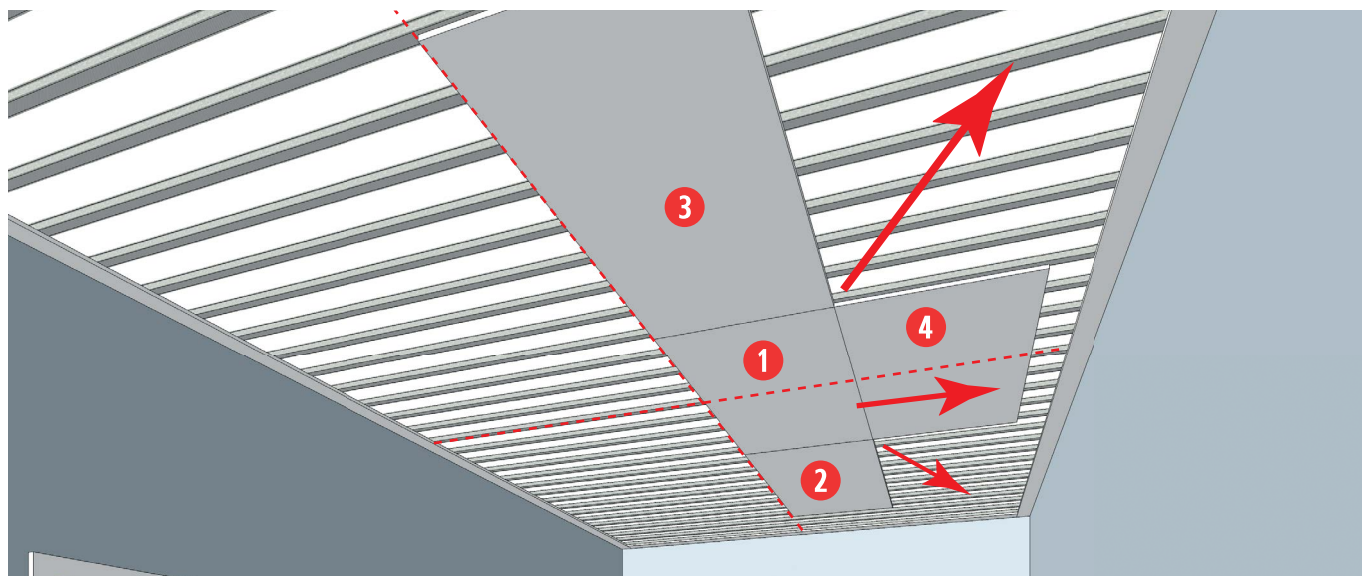


Figure 10: Rigitone Board Fixing Locations

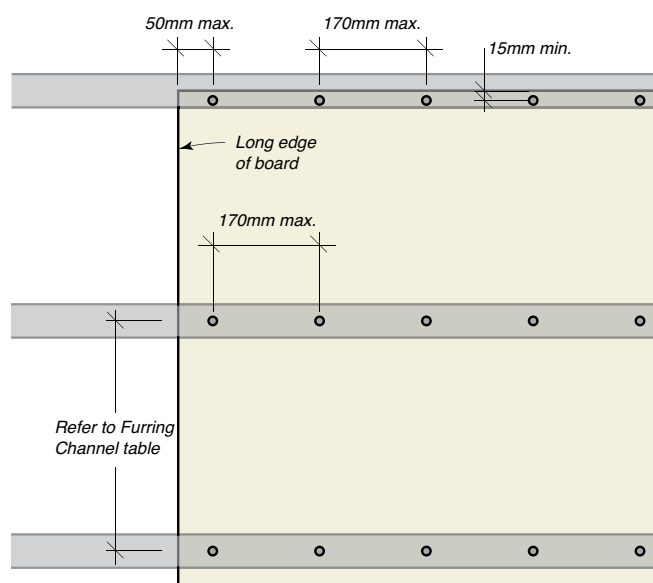
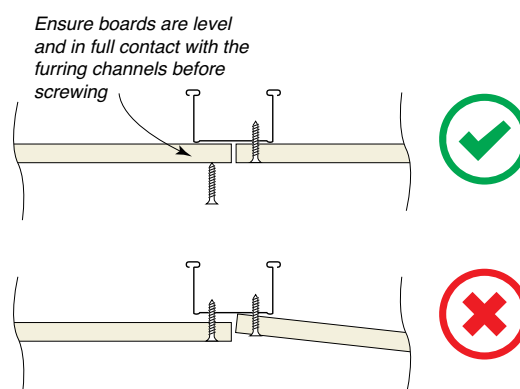


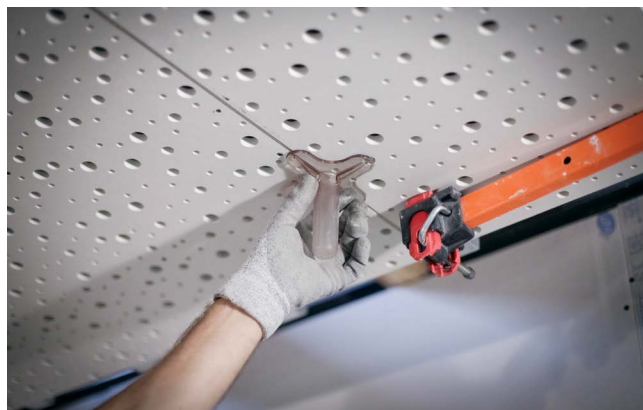
Figure 11: Board support



Once the first board is installed correctly, use the appropriate Pattern Spacing tool to align all boards evenly and to maintain the required joint space. Refer to Figure 12. Continue installation of boards in the order recommended in Figure 9.

Refer to Figure 5, Figure 6 and Figure 7 for perimeter finishing options.

Figure 12: Rigitone pattern spacer tool



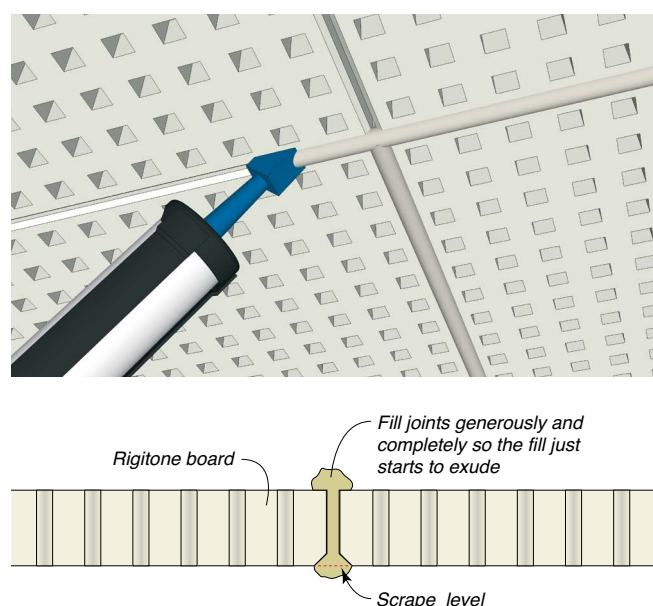
Jointing, finishing and painting

Jointing of boards is completed using specialised Rigitone products. Refer to the Rigitone Accessories section on page 14.

Joint filling

Fill the joints generously and completely leaving a slightly raised bead at the face of the board and so that the filler starts to exude from the back of the joint.

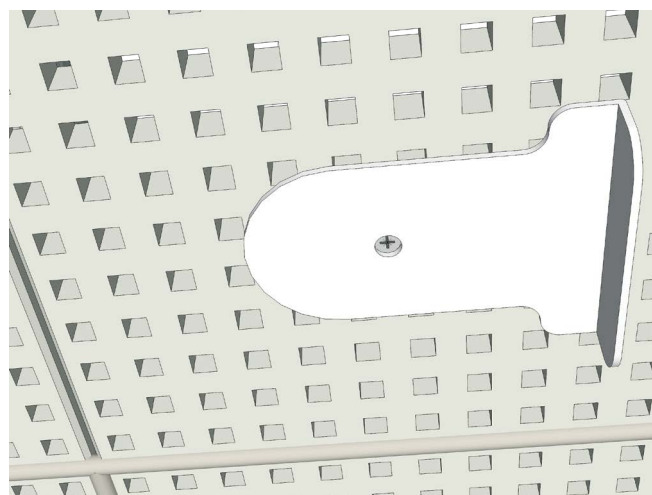
Figure 13: Join filling



Screw covering

Using the Rigitone screw head template, cover and slightly overfill the screw heads.

Figure 14: Screw covering

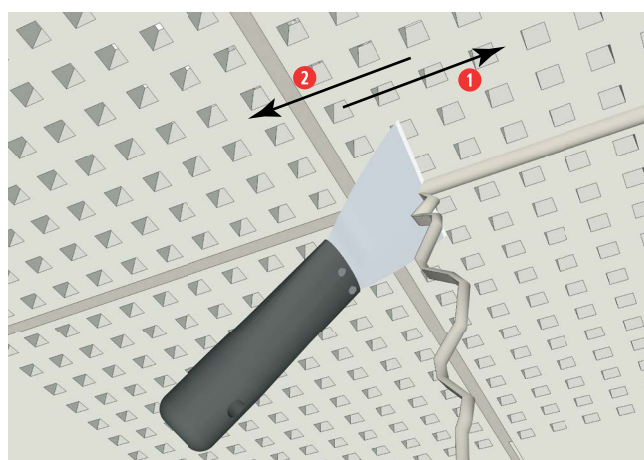


Joint finishing

After approximately 20-30 minutes, carefully remove the slightly hardened excess joint filler from joints and screw heads using the specialised notched joint knife, moving in one direction then pass back over the joints in the other direction to smooth the surface.

After approximately 24 hours, the joints and covered screw heads can be sanded and prepared for painting. Heavy sanding should be avoided as it may result in surface damage.

Figure 15: Joint scraping



Painting

After the joints are completed, the surface of the plasterboard is painted in accordance with the paint manufacturer's specifications using a paint roller, taking care to paint the surface only, and not the voids. Long nap and heavily loaded paint rollers should be avoided for this reason. Spray painting is NOT permitted as paint will impair the acoustic tissue thus degrading the acoustic properties. Waterbased paints are required for boards that contain Activ'Air technology. Repainting will not impact the performance of Activ'Air.

AS/NZS2311 requires that a sealer plus two coats of water based paint must be applied as a minimum. Such a system will provide a surface with minimal difference in texture and porosity.

Access panel installation

Rigitone Access Panels are designed to match the perforation patterns of the individual boards with minimal visible interruption of the pattern. Access Panels for Matrix 8mm Round, Matrix 12mm Square and Astral include a perforated panel infill to match the sheet pattern when the cut-out is located between rows of perforations. Rigitone Galaxy Access Panels require a cut-out piece to be attached, sourced from the fixed Galaxy board to ensure the pattern continues undisturbed. A minimum plenum depth of 140mm is required to insert the Access Panel from the finished side.

Table 4: Critical dimensions for 500 x 500mm (nominal) Rigitone access panels

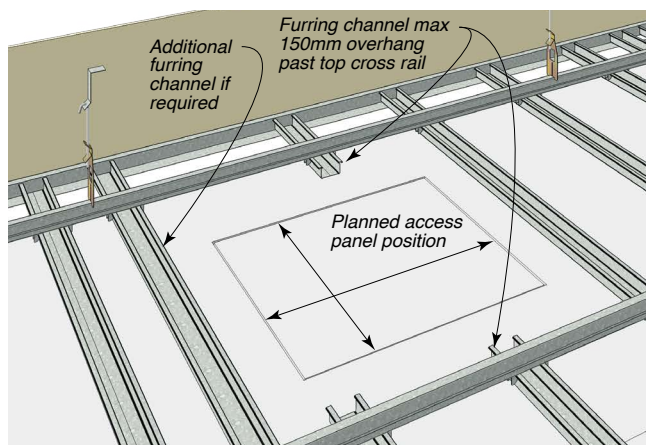
Hatch	Cut Opening mm	Formed Opening mm
Rigitone Matrix 8mm Round	518 x 518	501 x 501
Rigitone Matrix 12mm Square	510 x 510	493 x 493
Rigitone Astral	528 x 528	513 x 513
Rigitone Galaxy	515 x 515	500 x 500

Installation procedure

Plan ceiling layout

The ceiling grid layout must be prepared with respect to the Access Panel location. Furring channels are to be located or terminated between 40 and 100mm from the opening, and additional cross rails may be required.

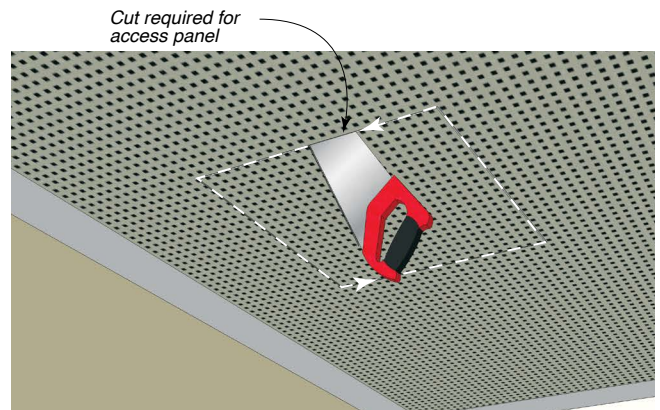
Figure 16: Plan ceiling layout



Cut opening

Using a hand saw, cut the required hole size for the access panel.

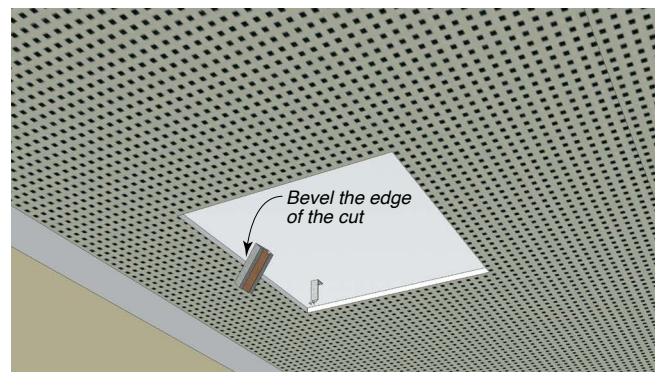
Figure 17: Cut opening



Bevel panel edges

Bevel the cut edges of the hole with a sanding block.

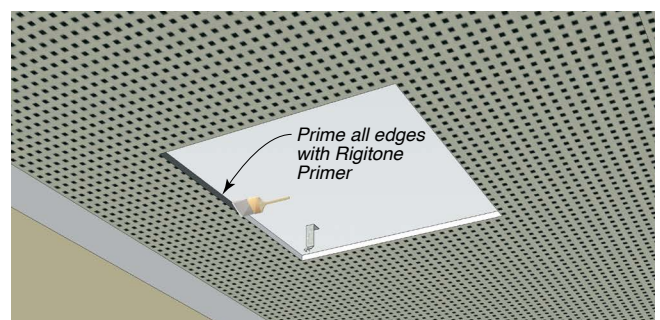
Figure 18: Bevel panel edges



Prime edges

Prime all cut edges of the opening with Rigitone Primer.

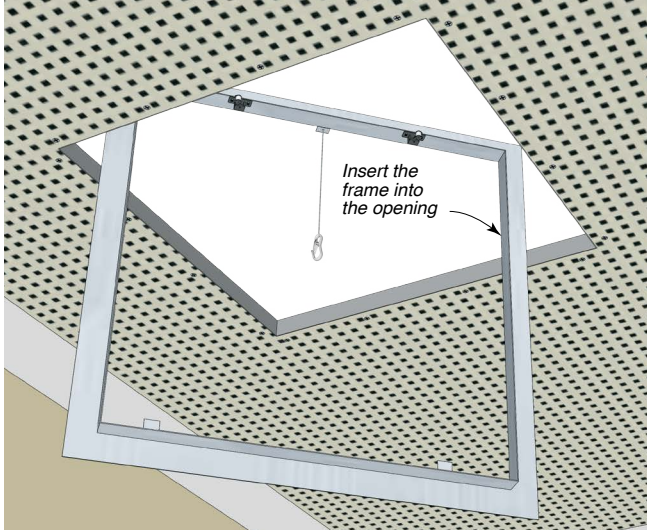
Figure 19: Prime edges



Position frame

Insert the access panel frame through the opening and position squarely in the cut-out.

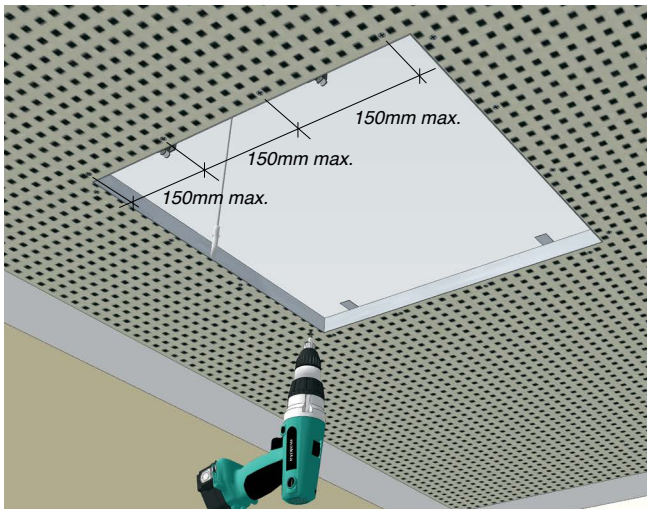
Figure 20: Position frame



Install panel frame

Screw fix the access panel frame through the Rigitone panels at 50mm from corners and 150mm max. centres on all sides.

Figure 21: Install panel frame



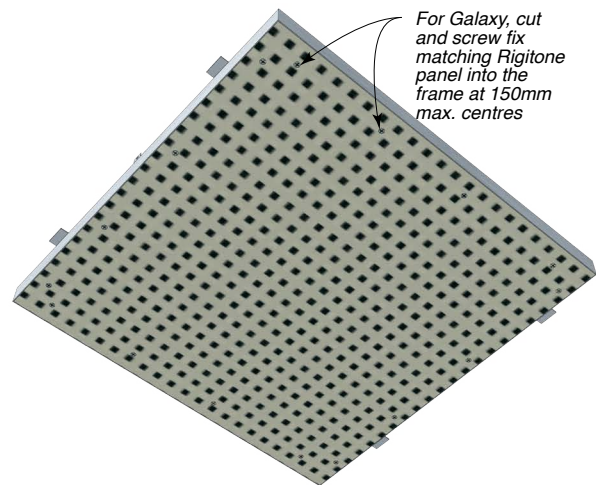
Panel door preparation

A matching door panel is required to be cut and installed into the door frame.

Gyprock recommends that the door panel be cut from a new sheet of Rigitone plasterboard, helping to achieve a superior finish.

The cut panel should fit snug into the door frame and be screw fixed at 150mm centres. Edges should be filled with Rigitone Filler.

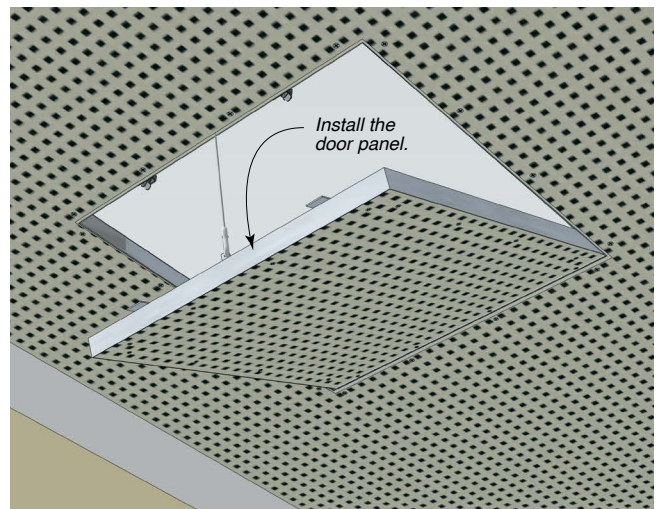
Figure 22: Pane door preparation



Rigitone door install

Install the door panel. Engage the hinge tabs, hook the retaining chord to the door frame. Push the door closed and latch closed.

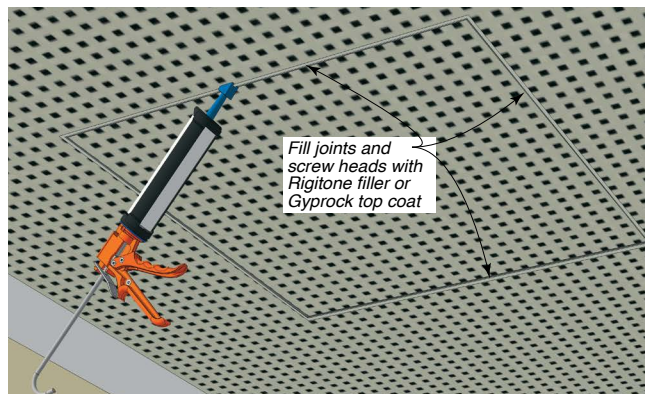
Figure 23: Rigitone door install



Joint/screw filling

Fill all gaps between plasterboard and framing and cover screw heads with Rigitone Filler or Gyprock Top Coat. Once dry, scrape back and sand, ready for finishing.

Figure 24: Joint/screw filing



Storage and handling

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

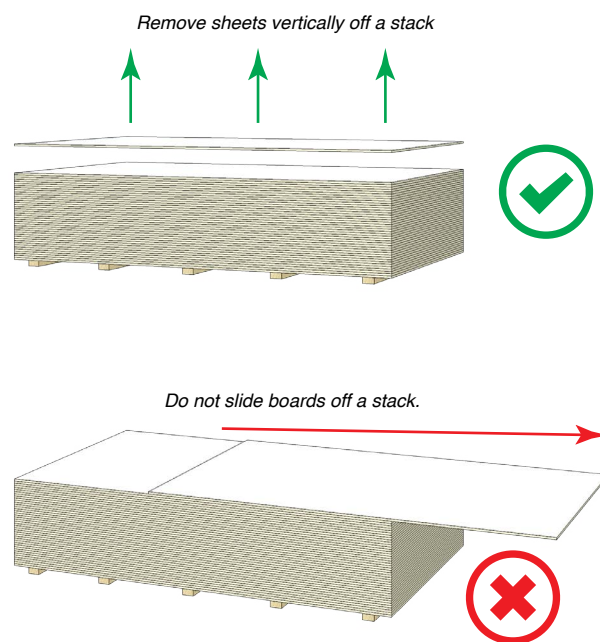
All Rigitone boards must be stacked flat, properly supported on a level platform or on support members which extend the full width of the boards and which are spaced at a maximum of 350mm.

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

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

Boards must be dry prior to fixing, jointing and finishing.

Figure 25: Board handling





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