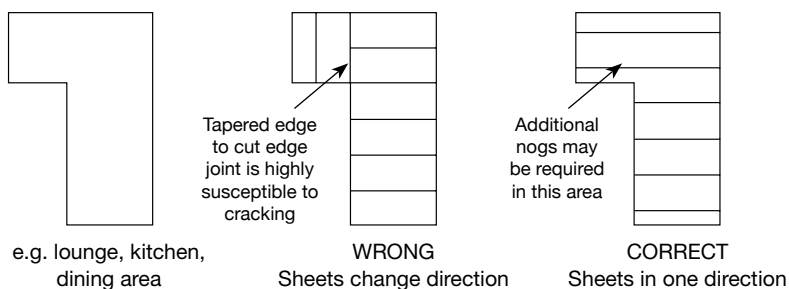


GENERAL REQUIREMENTS

Framing dimensions and structured performance must comply with the requirements of NZ 3604:1999.

- The use of GIB® Rondo® Metal Ceiling Battens is recommended to achieve a stable substrate
- Because of the heat that can be generated in roof spaces, timber battens can be subjected to conditions that can cause substantial movement resulting in joint failure and popped fastenings. If the use of timber battens is unavoidable additional care must be taken to ensure that moisture content of the timber battens is 18% or less. This will lessen the risk of defects
- Battens or ceiling joists shall be spaced as follows:-
13mm GIB® plasterboard - 600mm centres maximum
10mm GIB® plasterboard - 450mm centres maximum
- Nogs or ribbon plates are required to all ceiling perimeters where timber scotia has been used. They may be omitted when the junction between walls and ceiling lining is either finished with GIB-Cove® or reinforced using a plaster-on tape product such as paper tape or GIB® UltraFlex
- To limit sag in GIB® plasterboard ceilings, long term uniformly distributed loads such as that of fixtures and fittings and/or overlaid insulation shall not exceed 3kg/m² unless independently supported.

All ceiling sheets must be fixed at right angles to the ceiling framing. Sheets must not be fixed in the same direction as the framing to which it is attached. All ceiling battens in a single area need to run in the same direction to enable this. Sometimes this will require additional nogs to be fitted between trusses. Failure to do this will result in a tapered edge/cut edge joint at a point that is highly susceptible to cracking.



Winstone recommends...

- 13mm GIB® plasterboard on GIB Rondo® steel battens at 600mm centres. When batten, labour and board costs are taken into account this system is the most cost effective as well as being the least prone to finishing defects

See page 39 for control joint details.

Radiant Ceiling Heating

Electric Radiant Ceiling Heating (ERCH) systems may give rise to abnormal localised or overall temperature conditions in ceiling spaces which could affect the timber framing and GIB® plasterboard linings. Excessive thermal or hygrometric movement induced by these systems may result in some or combinations of the following defects; deterioration of the gypsum in the GIB® plasterboard core (possibly affecting structural and fire resistant rating performance), fastener 'popping', joint peaking or joint cracking. Prior to construction, we suggest you contact your designer to fully consider these factors in order to optimise surface finish quality. Winstone will not accept liability for surface finish quality problems where ERCH systems are installed in conjunction with any GIB® lining system.

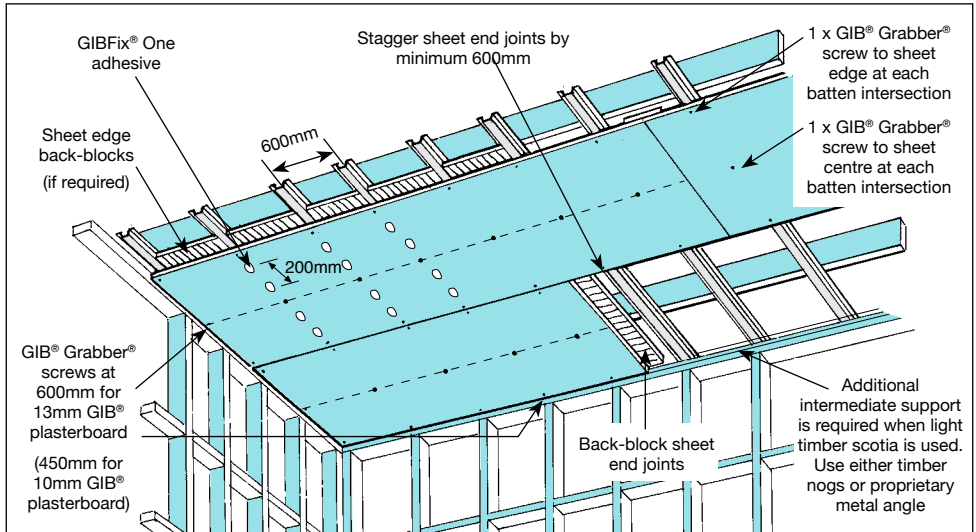
STANDARD FIXING DETAILS

GIB® Standard plasterboard, GIB Ultralite®, GIB Aqualine® and GIB Toughline®

If bracing, noise control, fire rating considerations exist consult the relevant section in this publication and the relevant GIB® System literature for appropriate information.

Fastening and Jointing the Ceiling Lining

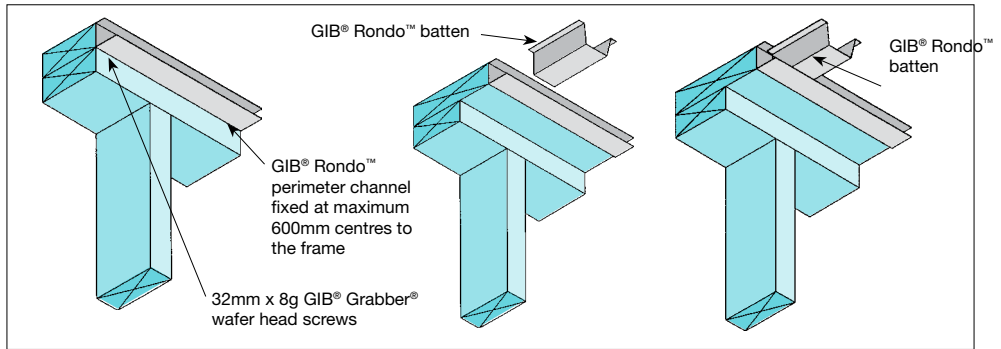
Fasteners	Steel battens - 25mm x 6g GIB® Grabber® Self Tapping Drywall screws Timber battens or Joists - 32mm x 6g GIB® Grabber High Thread Drywall screws
Adhesives	GIBFix® All-Bond GIBFix® One
Fasteners Centres	Single screws to the edges and centre of the sheets across each batten Screws to be no closer than 12mm from sheet edges Daubs of adhesive at 200mm centres between the screws Do not place adhesive at sheet edges or under fasteners, this may lead to screw or nail pops
Lining	The lining shall be fixed at right angles to the battens or joists Commence fixing from the centre of the sheets outwards Sheets to be touch fitted Use long length sheets to minimise sheet end butt joints Back-block sheet end butt joints. See page 46 See page 47 for sheet edge backblocking requirements
Batten Spacings	13mm GIB® plasterboard - 600mm centres max 10mm GIB® plasterboard - 450mm centres max



Note: For ceiling diaphragms (see page 54)

GIB® RONDO™ CEILING BATTEN SYSTEM INSTALLATION INSTRUCTIONS

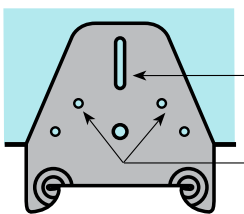
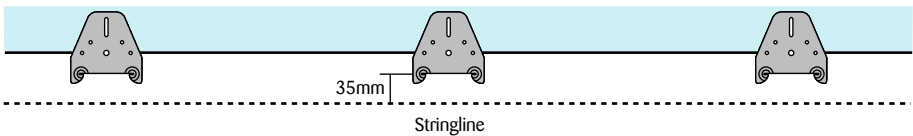
Consult an electrical contractor for any earthing requirement that may need to be incorporated.



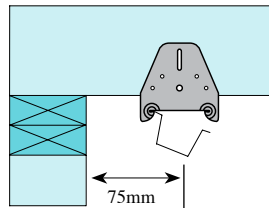
- Establish a datum line for the ceiling
- Place a string line on the datum line at right angles to the battens, under the truss or joist closest to the centre of the room
- Install GIB® clips at 600mm centres (450mm for 10mm plasterboard) using the string line to establish the correct position
- Cut the batten to the required length using snips or a hacksaw
- Insert the batten into the channel at each end and fit into the clip
- Install remainder of clips ensuring that the batten is straight and flat

GIB® Rondo® Metal Ceiling Battens can be fixed directly through the edge flange to the joist or bottom chord using either;

- GIB® Grabber® 32mm x 8g wafer head screws
- Flat headed nails minimum 45mm x 2.8mm

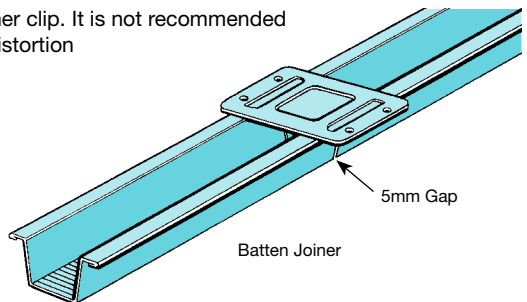
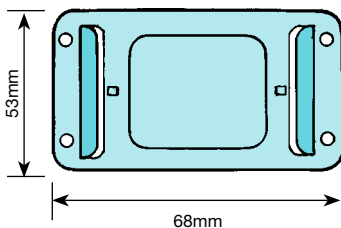


Insert one 30 x 2.8mm GIB® Nail into the vertical slot driving it firmly but not quite home
Adjust levels as necessary then drive completely home.
Insert 2 further nails or screws to complete the connection



Simply hook one side of the GIB® Rondo® into the clip squeeze the batten sides together and push up into the clip
Release the batten and ensure it is locked into each side of the clip

- If a joint needs to be made use a batten joiner clip. It is not recommended to lap the joints as this can cause surface distortion



Bottom Truss Chord Restraint

Lateral support to the bottom chord of trusses is provided by direct fixed timber or metal battens lined with a GIB® plasterboard ceiling.

When clip fixed metal battens are used additional restraint may need to be provided by installing timber runners over the truss bottom chords. These situations mainly involve light weight roofs. Consult the truss designer for further detail.

BACK-BLOCKING

For general, non inter-tenancy, non fire or noise rated systems, it is not recommended to fix sheet end butt joints on ceiling battens. Sheet end butt joints should be back-blocked.

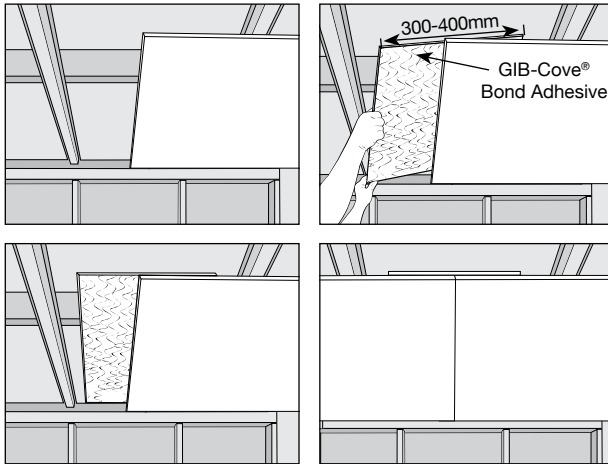
If the ceiling is either fire rated or forms part of a noise control system, back blocking may not be appropriate. Consult the GIB® Fire Rated Systems or GIB® Noise Control Systems literature for details.

Back blocking is a practice that strengthens and stabilises joints between GIB® plasterboard sheets. It is primarily used to reinforce the joint and to artificially create a taper where butt joints occur. Back blocking consists of laminating strips of plasterboard to the back surface of the sheets directly behind joints using GIB-Cove® Bond. Panel adhesives are not suitable for back-blocking due to their flexibility. Tapered edge joints can be back-blocked directly without the need for temporary battens and packing strips.

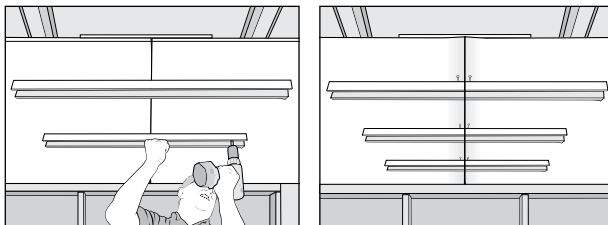
Sheet End Joints

Where sheet end joints are unavoidable, they must be placed centrally between framing members (battens or joists) and back-blocked.

Back Blocking Butt Joints in Ceilings



Creating the Taper



Battens to provide temporary support. Remove when adhesive has set.

While adhesive is still wet insert 1-2mm packer each side of the joint to create taper at joint

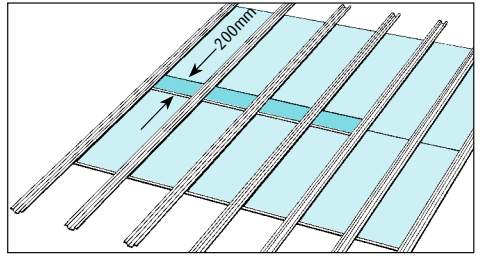
Tapered edge joints in ceilings

To reduce the risk of cracks caused by substrate movement, back-blocking of tapered edge joints is required in the following situations.

- When timber battens have been used:
Any area containing 3 or more tapered joints
- When steel battens have been used:
Any area containing 6 or more tapered joints

Note:

1. When a Level 5 finish has been specified for a ceiling ALL joints must be back-blocked.
2. Sheet edge back-blocking is not required for a Level 4 finish when a suspension system has been used. This includes a GIB® Rondo® metal ceiling batten system fixed on clips. Sheet ends should be back-blocked (see page 46).



RAKING CEILINGS

Due to the higher temperatures and low air flow that can occur in raking ceilings, special attention must be paid to installation details in these situations.

Winstone recommend;

- GIB® Rondo® Metal Ceiling Battens fixed on clips. This method gives a degree of separation between the timber framing and the GIB® plasterboard and results in a more stable ceiling substrate.
- 13mm GIB® plasterboard on metal battens spaced at 600mm
- 13mm GIB® Ultralite® PLUS will give a higher quality surface finish
- The use of control joint and perimeter (see p38) relief to help reduce the risk of cracking in large, expansive ceilings. See pages 38/39 for details

Typical Raking Ceiling Detail

