

Steel Stud & Track Installation Details

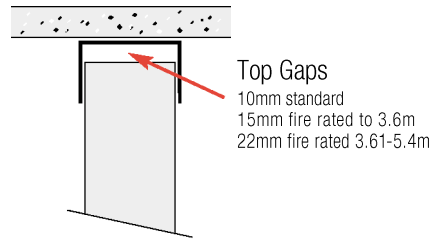


Installation - Track

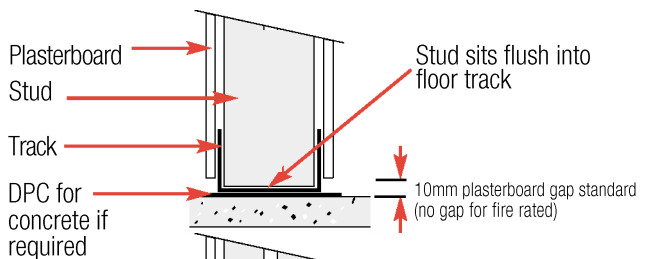
- To attach top or bottom track, choose the appropriate fastener for the type of material you are attaching to. eg: concrete, timber steel.
- Fastener centres are 600mm maximum (except suspended ceiling grids at 1200 mm centres) and maximum 100mm from ends.
- The track loads which they are required to resist are the values below the selected stud table.
- Allow extra length of fastener for attaching through any installed linings (not less than the thickness of the lining).
- When fixing to concrete, provide a damp proof membrane underneath no less than 10mm wider than the selected track width if required or specified
- Joints in track shall be butt jointed - if fixed to concrete provide 2mm gap between ends to allow for shrinkage of concrete.
- Ensure tracks are aligned and plumb.
- For **Fire Rated** partitions 3.61m to 5.4m, use the 50mm wall track.
- When attaching track to suspended ceilings, overlap track joints by 100mm. Such track shall be 0.55 BMT or 0.75 BMT as identified in maximum Wall Height Tables. Secure with four x 4mm diameter steel rivets 80mm apart. Joint must be under ceiling grid.

For all applications, track BMT must be equal or greater than the required stud BMT

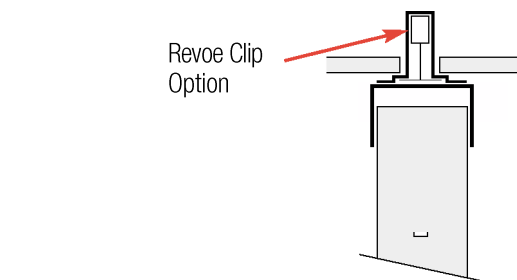
Head



Floor



Suspended Ceiling



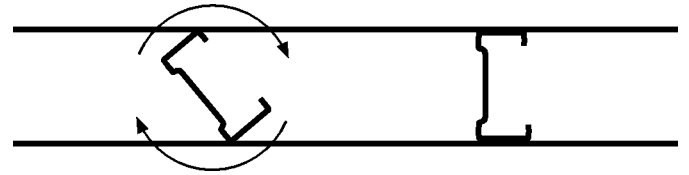
Notes for Fasteners:

- When multiple fasteners are required, these shall be evenly spaced either side of the nominated "600mm" centre, (or equal spaced) 30mm minimum centres for screws, rivets and Ramsets, 50mm for Dynabolts.
- Fasteners shall be maximum 100mm and 18mm minimum from track ends and 15mm from edges for multiple fasteners.
- Use twice as many fasteners when attaching to ceiling grids at 1200mm centres.
- Aluminium rivets shall not be used to attach track in fire rated partitions.

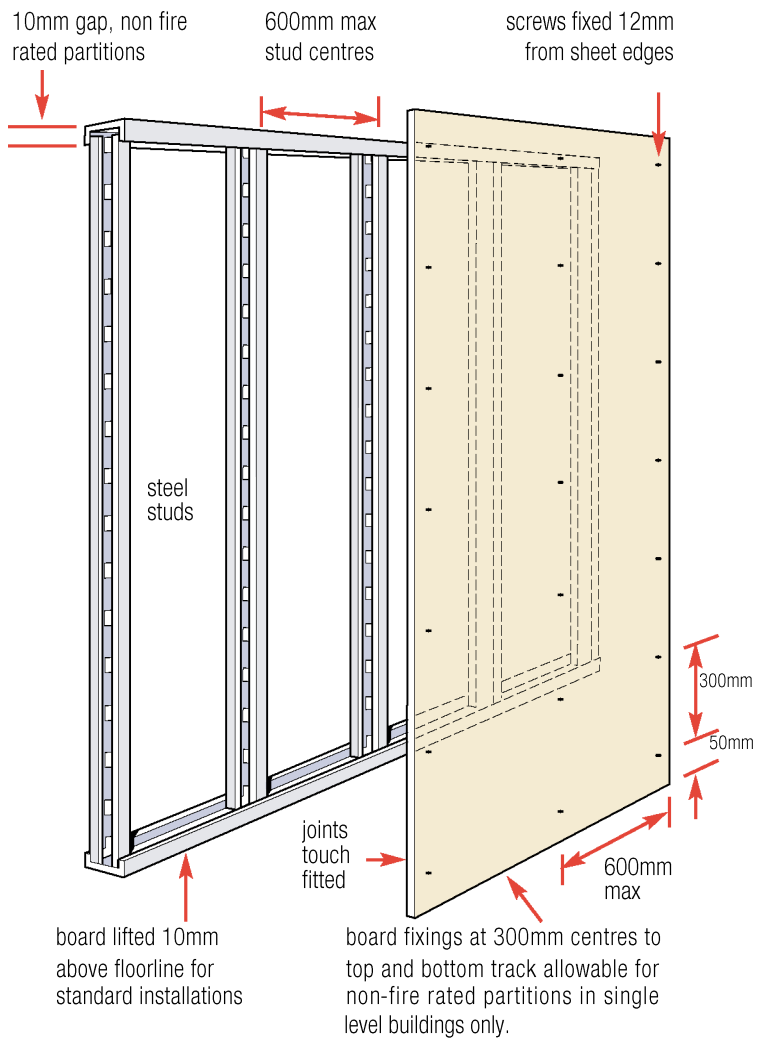
| NUMBER OF FASTENERS AT 600mm CENTRES | | | | | | |
|--|-------------------------------------|---|------------------------------|------|---------------------------|---------------------------------|
| Load on Track Fixings at 600mm Centre See tables | Type 17 12g x 40mm Screws into Wood | 10g-16 x 16mm Waferhead Screws into Steel | 3.2mm Blind Rivet into Steel | | M6 Dynabolt into Concrete | 3.8 x 32mm Ramset into Concrete |
| | | | Steel | Alum | | |
| kN | | | | | | |
| 0.2 | 1 | 2 | 2 | 2 | 1 | 2 |
| 0.4 | 1 | 2 | 2 | 2 | 1 | 2 |
| 0.6 | 1 | 2 | 2 | 3 | 1 | 2 |
| 0.8 | 1 | 2 | 3 | 3 | 1 | 3 |
| 1.0 | 1 | 3 | 4 | 4 | 1 | 2 |
| 1.2 | 1 | 3 | 4 | N/A | 1 | 2 |
| 1.4 | 2 | 3 | N/A | N/A | 1 | 2 |
| 1.6 | 2 | 4 | N/A | N/A | 2 | 2 |
| 1.8 | 2 | 4 | N/A | N/A | 2 | 2 |
| 2.0 | 2 | 5 | N/A | N/A | 2 | 3 |
| 2.2 | 2 | 5 | N/A | N/A | 2 | 3 |

Installation - Stud

- For standard installation insert the studs into the top and floor tracks and twist to lock as shown. The friction fit will hold the stud in place.
- Non-fire rated partitions - allow a 10mm gap between the top of the stud and inside face of the track, as illustrated.
- Fire rated partitions:
 - walls up to 3.6m high - allow a 15mm gap at the top
 - walls 3.61 to 5.4m high - allow a 22mm gap at the top and use the 50mm leg deflection head/fire track.
- Perimeter studs must be fixed with the web (back) against the joining wall. All other studs are to face in the same direction.
- Stud spacing is to be as selected from Maximum Height Tables brochure, Pages 8-15.
- For corners, junctions, wall ends etc it is recommended to use extra studs. This can be by "boxing" the stud or as per details on page 6.
- Studs may be held in place by the "grip" of the track or mechanically fastened by crimping or pop-riquets in non-fire rated partitions, single or multilevel buildings. Fire rated partitions may use light locating fasteners that fail at high temperatures such as a single aluminium rivet if necessary.



Insert stud into track on angle, then twist to lock into position.



Notes:

- Joints of linings must be staggered 600mm on opposite sides of partition
- Where deflection or seismic separation of partitions is required from floors and ceilings, do not screw the board to the top or floor tracks. Ensure the first screw into the stud is just above the track ie 50mm. This also applies for Fire Rated or Acoustic Sound Control Systems. This is to allow for unrestrained expansion of the stud in the track cavity.

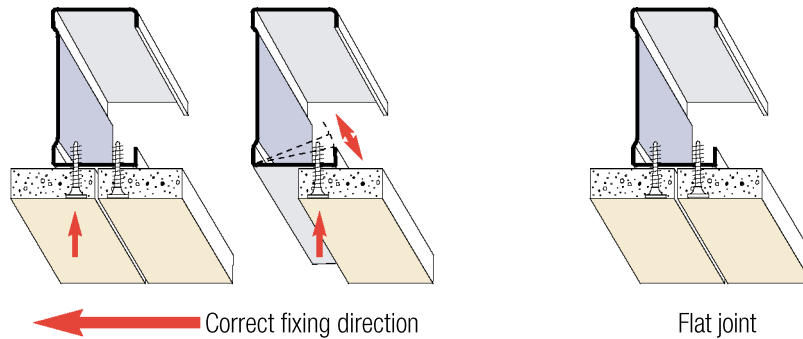
Fasteners: buglehead plasterboard drywall screws at 300mm centres to each stud as follows:
 6 Gauge x 25mm self tapping (for 12.5mm board).
 6 Gauge x 32mm self tapping (for 16mm board).

Installation – Plasterboard to Stud

To attach plasterboard to light gauge steel studs, a slightly different technique is required compared to conventional timber studs. Use the following instructions to ensure correct installation.

Correct Method

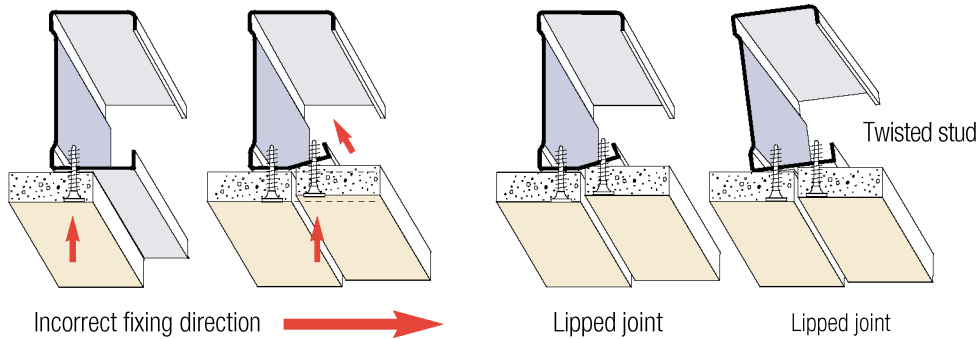
As the face of a steel stud can deflect initially, the correct sequence of attaching the board is important.



The first board shall be attached to the open side of the stud. The face will deflect slightly then will pull tight against the board. Support the stud to avoid twisting and fully screw the board to this stud before continuing. The next sheet can now be screwed to the closed side of the stud. Deflection will be minimal as the first sheet helps keep a rigid assembly and the result is a correct flat joint.

Incorrect Method

If a board is screwed to the closed side first, then the face is able to deflect when the next board is screwed



to the open side. This can permanently bend the face resulting in a lipped joint.

Plasterboard Fixing Sequence

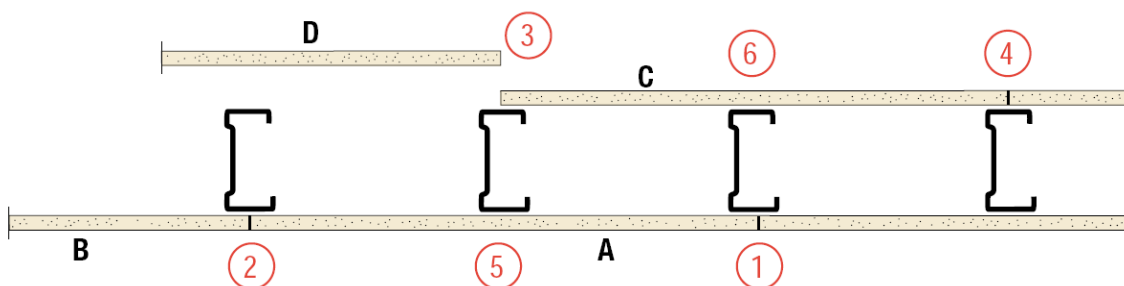
The boards shall be fixed in the sequence shown A B C D.

When installing the first side (A and B), fasten the board at the edges *only* (1 & 2). The centre must not be fastened until the second side (C & D) have been

installed. Locate board joints on each side of the wall on alternate studs.

Screws shall be fastened in sequence 1-6.

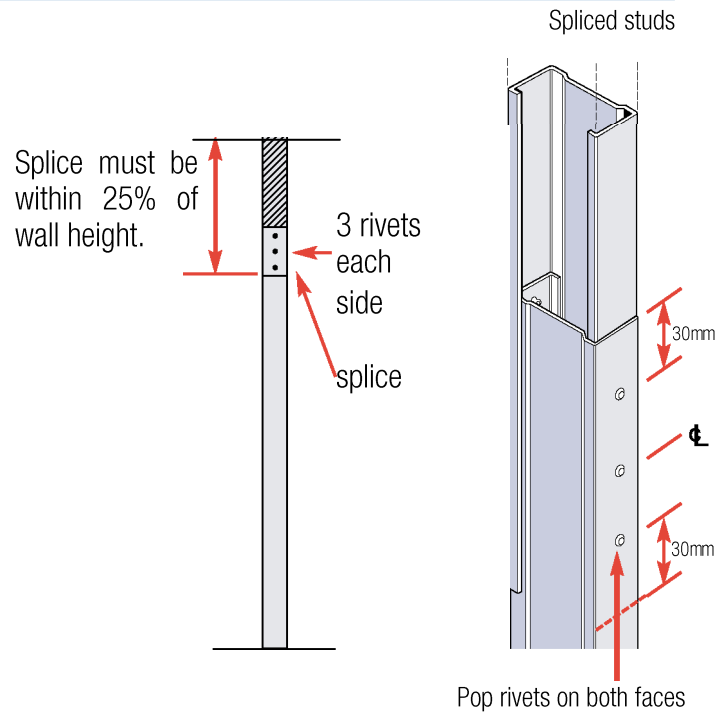
Correct sequence will minimise any misalignment problems and result in a higher quality finish.



Installation Details

Spliced Studs

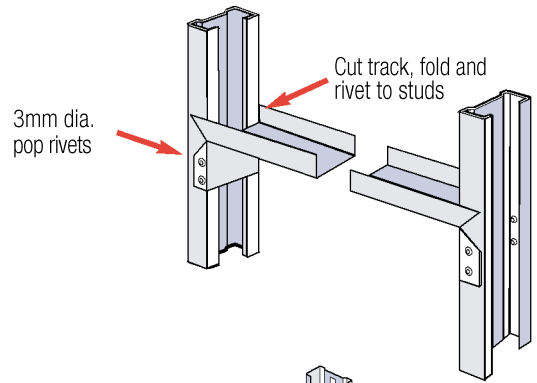
When heights greater than standard pre-cut lengths are required, using the 'boxing' feature single studs can be spliced together to extend to the required height. Minimum overlap: 3 x depth of stud eg:
 100mm stud = 300 mm overlap
 63.5mm stud = 200 mm overlap
 Rivets: 4mm dia. mild steel, 3 per face (total 6) Splice must be within 25% of wall height.
 Splices shall be alternated top and bottom.
 Splices may be used in fire rated walls provided steel rivets are used (not aluminium).



NOGGING

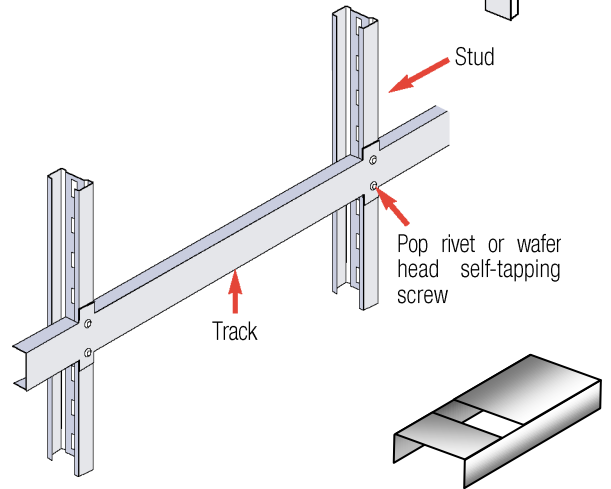
Single nogging

Where specific load requirements or fixtures will be needed, an individual nog can be formed from the track profile to fit between the studs. Cut and trim as shown and fix with 3mm diameter rivets. The maximum height tables do not allow for heavy loads to be attached to the walls such as TV's, cantilevered benches / bookcases/ toilets etc. Where such equipment is required to be hung off a wall, specifically designed supports are required. Please contact USG Interiors for this assistance.



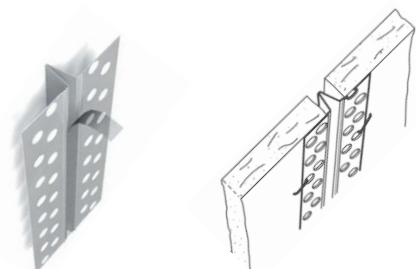
Continuous Nogging

For certain applications such as towel rails, pictures and suspended ceiling perimeter fixing etc, continuous nogging may be required. Use the track, cut, notch and fix as shown. This will normally link 5-6 studs at 600mm centres. Double sided can also be achieved if required by repeating on the other stud face.
 NOTE: Continuous pre-punched nogging also now available



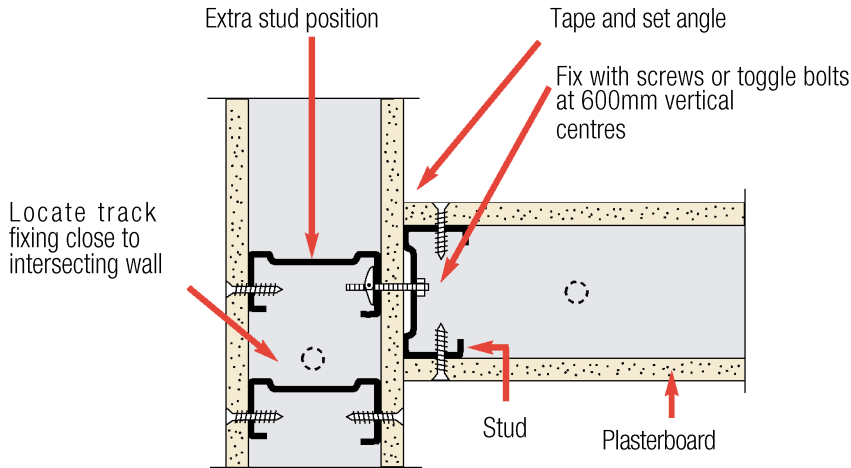
Control Joints (USG Zinc Control Joint #093)

Control joints shall be provided at 9m centres in partitions. Top and bottom track may be continuous through control joints. For construction refer Winstone Wallboards current GIB® Site Guide.

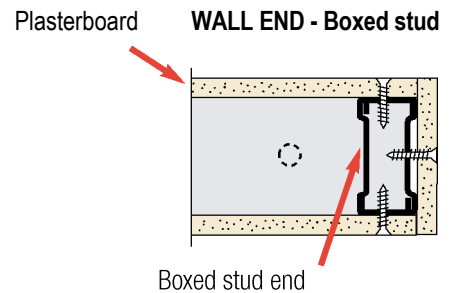
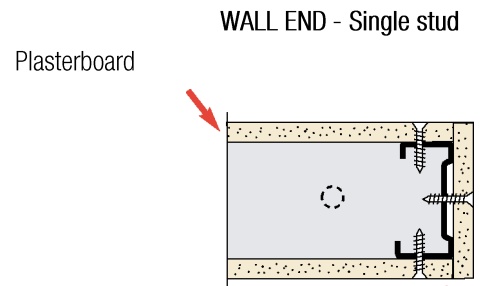
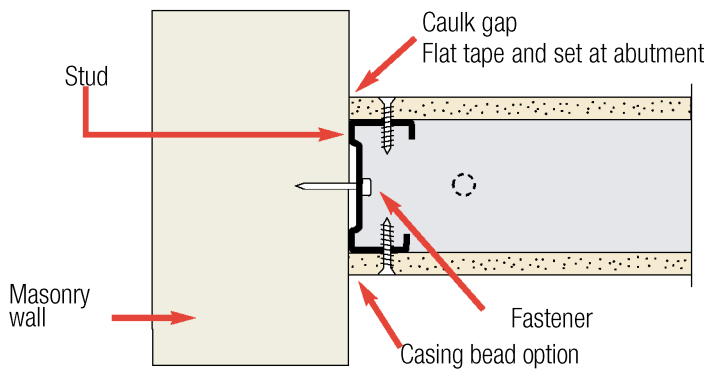


Installation - Details

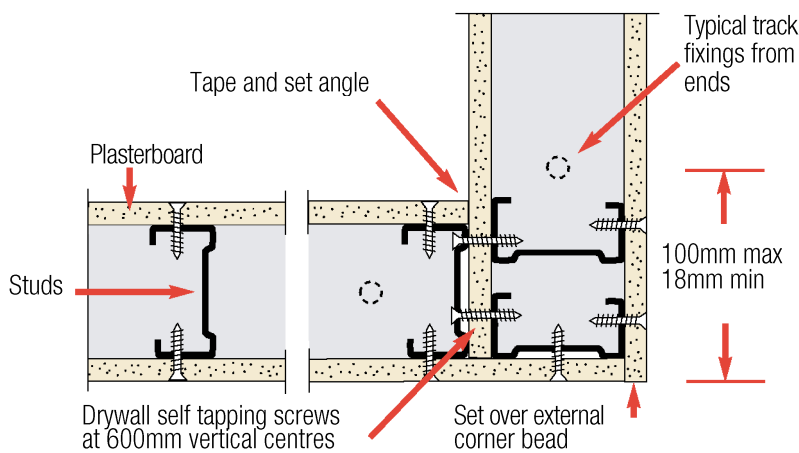
INTERSECTION – SINGLE LAYER APPLICATION



INTERSECTION – Masonry



CORNER – SINGLE LAYER APPLICATION

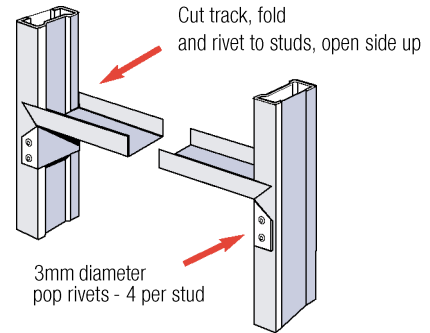


Installation - Details

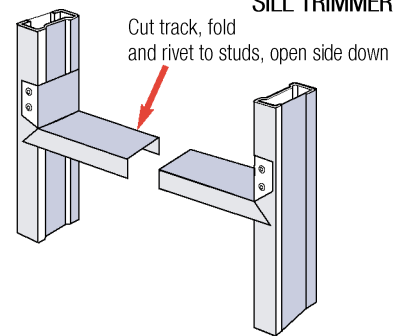
Door, Window and Opening Frames

- Frames either side of openings are to use boxed studs (type A, B or C page 8) and must be fixed to top and bottom tracks with a 0.75 BMT U-Channel (see details page 8).
- The header or lintel is made as a single nogging and installed openside up - sill trimmer openside down.
- For header/lintel/sill trimmers use:
 -up to 1200mm wide, 0.55 BMT Track
 -1200-1800mm wide, 0.75 BMT x 50mm deep Track
- Any jack studs between header/lintel/trimmer and top/bottom track shall be same size and spacing as for wall studs, 600mm centres maximum.
- Maximum door sizes are 2000 x 900mm and 60 kg.
- Frame size should allow for timber or aluminium joinery dimensions.
- For wall heights, or openings outside the limits shown in the figures below, a specific design will be required.

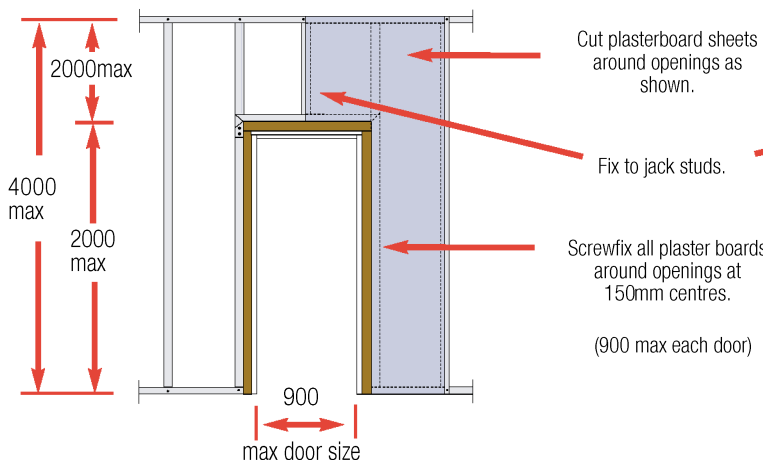
HEADER/LINTEL DETAILS



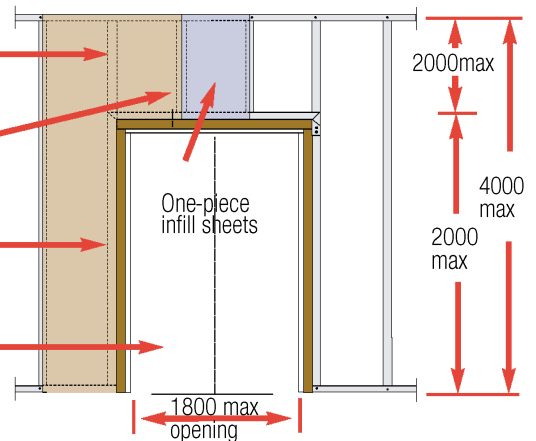
SILL TRIMMER DETAILS



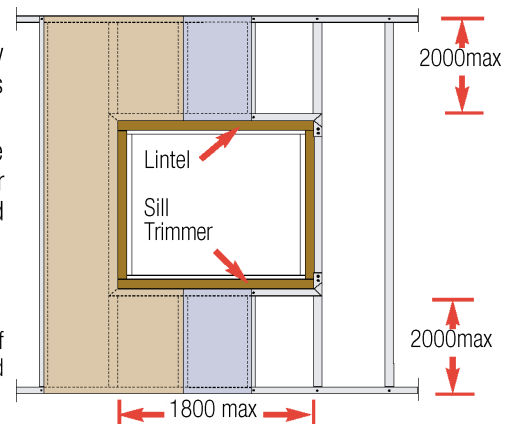
SINGLE DOOR



DOUBLE DOOR



WINDOW (OR OTHER OPENINGS)



- Unframed openings in wall linings on partitions shall not exceed 150mm in any direction and be fire rated in accordance with Winstone Wallboard's requirements where they penetrate a firewall.
- Openings between studs exceeding 150mm in any direction shall be provided with top and bottom trimmers (.55 BMT track) and jack studs either side of opening, and secured to studs as for lintels. Screwfix plasterboard around openings at 150mm centres.

Note:

The design of the floor, roof or ceiling supporting the partition is outside of the scope of this brochure, however particular attention must be paid to the bracing design of suspended ceilings where they support walls with large openings.

Installation - Details

DOOR, WINDOWS AND OPENING FRAMES

To select correct jamb stud arrangement, from table below choose opening width, number of doors (if applicable) and stud centres already determined from System Height Tables brochure. The letter A, B, or C indicates what type is required, **each** side of opening.

Frame Design (including doors and other openings)

| Max. width of openings | No of doors | Stud Centres (mm) | | | |
|------------------------|-------------|-------------------|-----|-----|-----|
| | | 300 | 400 | 450 | 600 |
| 900mm | 1 | A | A | A | A |
| 1200mm | 2 | B | A | A | A |
| 1500mm | 2 | B | B | B | A |
| 1800mm | 2 | C | B | B | A |

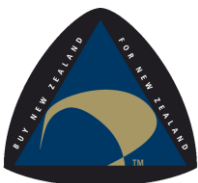
Combined U-Channel and Track Fixing at Jamb Studs

The 0.75 BMT U-Channels shall be fixed through the top and bottom tracks to the supporting structure.

- The load to be carried by the combined U-Channel and Track fixings shall be twice the "Load on Track Fixings (kN) at 600 mm ctrs" as per the tables on pages 8-15 of the System Height Table brochure.
- Determine the number of fasteners required from the tables as above for the appropriate substrate.

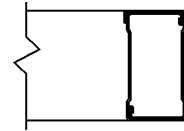
Jamb Stud Fixing

- The jamb studs shall be fixed to the 0.75 BMT U-Channels with waferhead screws.
- The load to be carried by the jamb stud fixings shall be twice the "Load on Track fixings (kN) at 600 mm ctrs" as per the tables on pages 8-15 of the System Height Table brochure.
- Determine the number of waferhead screws required from the tables as above. Where the jamb studs are Type A, half the fasteners shall be installed through each side of the U-Channel as shown in the figure opposite. Where the jamb studs are Types B or C then half the fasteners required shall be installed through the first U-Channel (as described above for Type A) and half through the second U-Channel. The fasteners through the second U-Channel can only be installed from one side of the U-Channel as shown in the figure opposite.

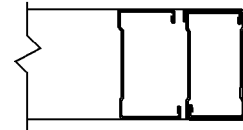


Jamb Stud Arrangement (each side of opening)

Type A boxed

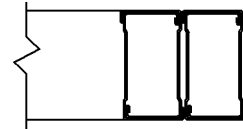


Type B boxed plus single

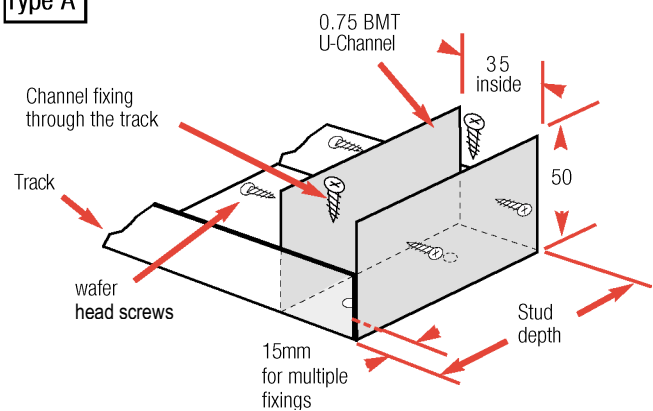


(linings to be screwed to both studs)

Type C double boxed

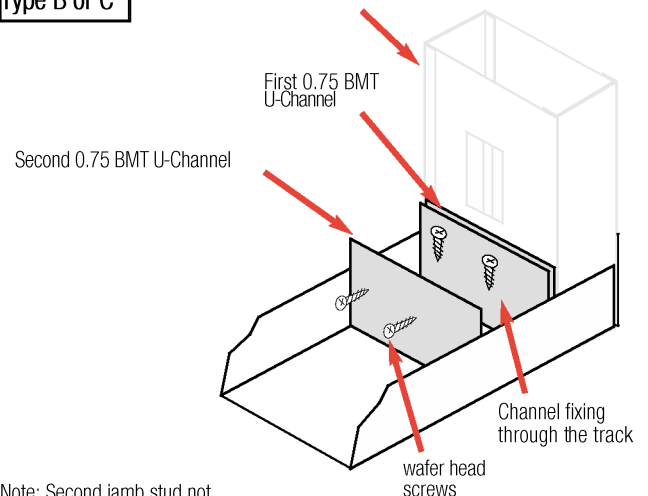


Type A



Note: Jamb stud not shown for clarity

Type B or C



Note: Second jamb stud not shown for clarity