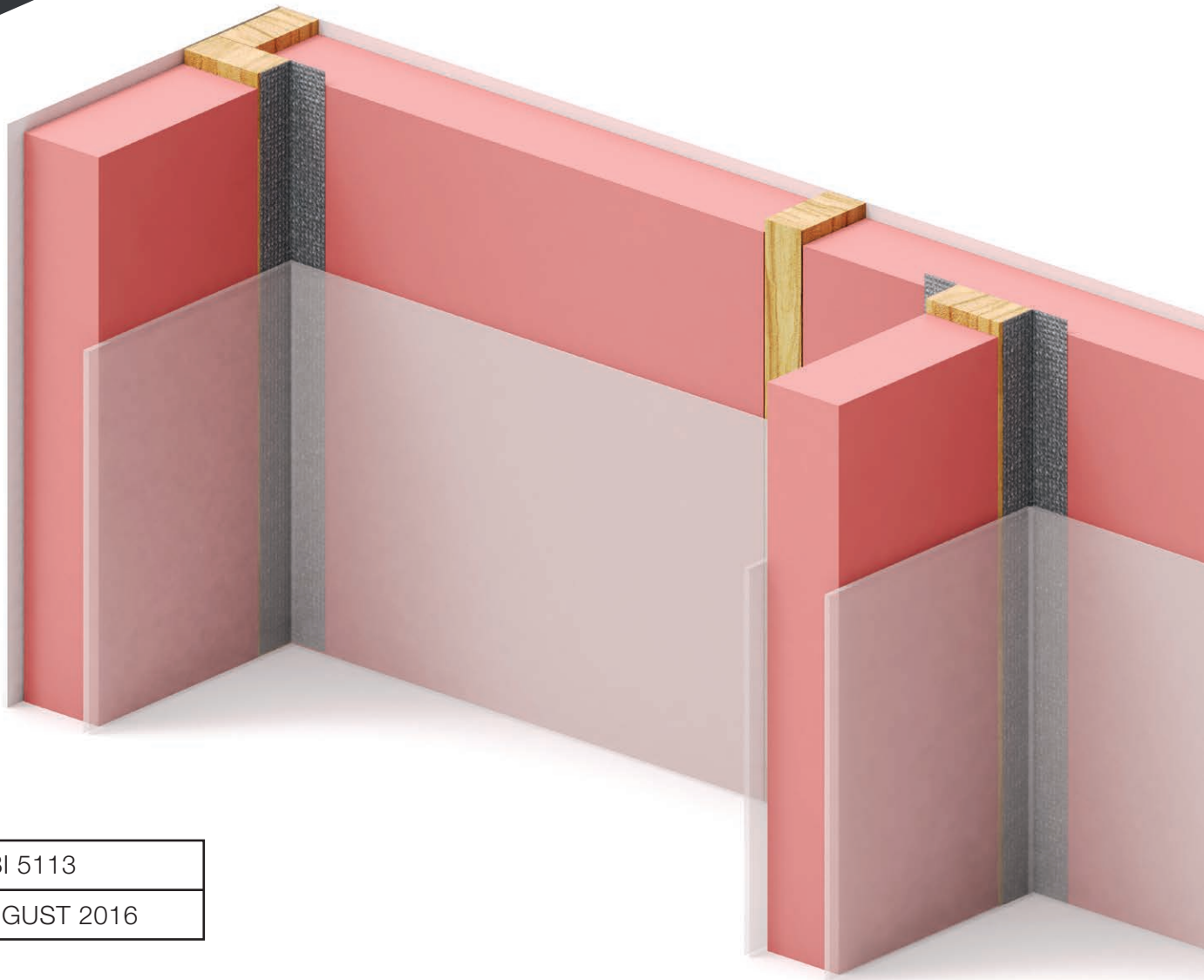




GIB®

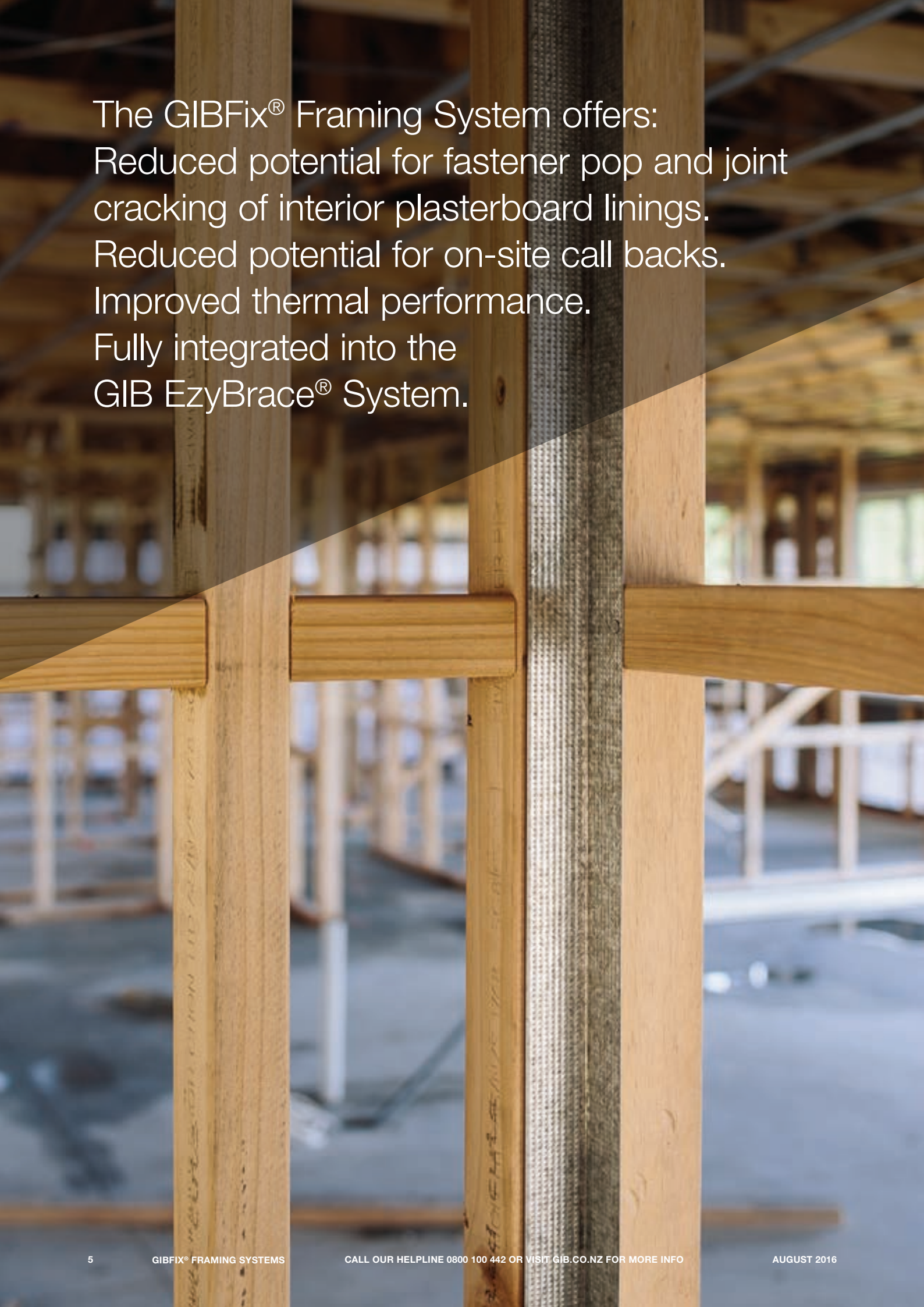
GIBFix® Framing System

The NEW GIBFix® Framing System is an alternative approach to timber framing for buildings within the scope of NZS3604:2011



CBI 5113

AUGUST 2016

A close-up photograph of a wooden framing system. The image shows vertical wooden studs and horizontal wooden joists. A metal mesh sleeve is wrapped around one of the vertical studs, likely for reinforcement or to prevent fastener pop. The background is a blurred view of a construction site with more wooden framing.

The GIBFix® Framing System offers:
Reduced potential for fastener pop and joint cracking of interior plasterboard linings.
Reduced potential for on-site call backs.
Improved thermal performance.
Fully integrated into the GIB EzyBrace® System.

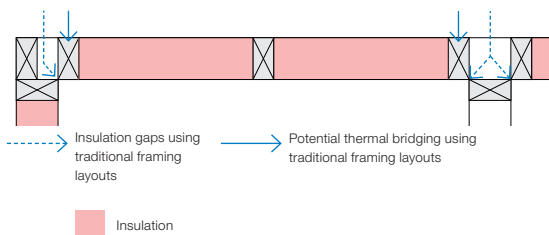
Why use the GIBFix® Framing System

With increased NZ Building Code requirements and growing customer demand for thermal efficiency and high quality interior finishes, traditional framing practices present problems such as multiple framing members at wall intersections creating thermal 'bridges' and cavities where insulation cannot be installed effectively.

Multiple framing members also take longer to dry resulting in an increased risk of fastener pops and blemishes resulting from timber frame movement.

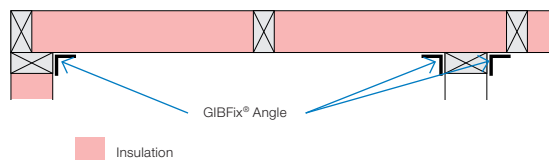
The GIBFix® Framing System offers better thermal efficiencies and minimises potential joint imperfections resulting from interior linings being fixed to multiple timber framing members.

FIGURE 1: TRADITIONAL WALL FRAMING LAYOUT



GFS004

FIGURE 2: GIBFIX® FRAMING SYSTEM (ALTERNATIVE LAYOUT)



GFS005

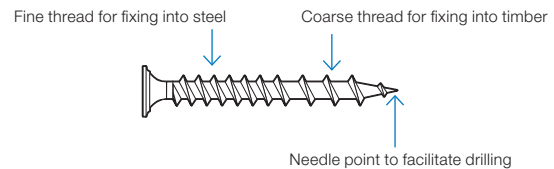
GIBFix® Framing System components

GIB® Grabber® 32mm x 7g Dual Thread Screws and GIBFix® Angles have been specifically developed for use as part of the GIBFix® Framing System but can also be used for standard fixing into timber or metal framing.

GIB® Grabber® Dual Thread Screws can be used with 10mm or 13mm GIB® plasterboard and are suitable for use in GIB EzyBrace® Systems.

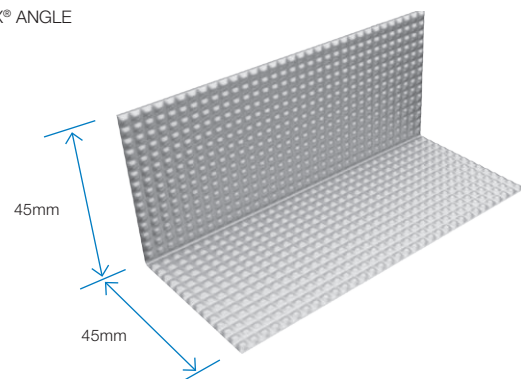
- Larger head for improved bracing performance and hold ability
- Dual thread for use with both timber and light steel framing

GIB® GRABBER® DUAL THREAD SCREW



- GIBFix® Angles support the plasterboard joint at wall and ceiling junctions. Angles are secured onto existing timber framing.
- Supports GIB® plasterboard corner joints and locks them together to reduce potential corner cracking which can occur when fastening plasterboard to independent framing members
- Knurled surface for easier fastener drilling
- Available in 2.4m and 2.7m lengths

GIBFIX® ANGLE



Dual Thread Screw and GIBFix® Angle interaction

The GIB® Grabber® Dual Thread Screw and GIBFix® Angles are designed to work together to reduce the potential impact of timber frame shrinkage on the interior plasterboard finish.

Figure 3 shows how twists and shrinkage, due to timber drying, can cause fastener pops and joint cracking in a conventional framing layout.

Figure 4 shows a corner junction using the GIBFix® Framing System and how removing non-essential framing and reinforcing plasterboard corners, using the GIBFix® Angle and GIB® Grabber® Dual Thread Screws, can greatly reduce the effect of timber movement.

GIB EzyBrace® Systems

To help achieve optimal framing and bracing design efficiency designers should consider the use of GIB EzyBrace® Systems used in conjunction with the GIBFix® Framing System.

For more information on the GIB EzyBrace® Systems refer to GIB EzyBrace® literature and design software downloadable from gib.co.nz/ezybrace or contact the GIB® Helpline on 0800 100 442.

FIGURE 3: TRADITIONAL WALL CORNER LAYOUT

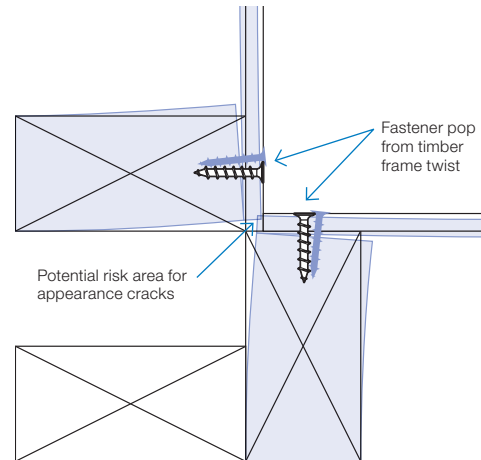
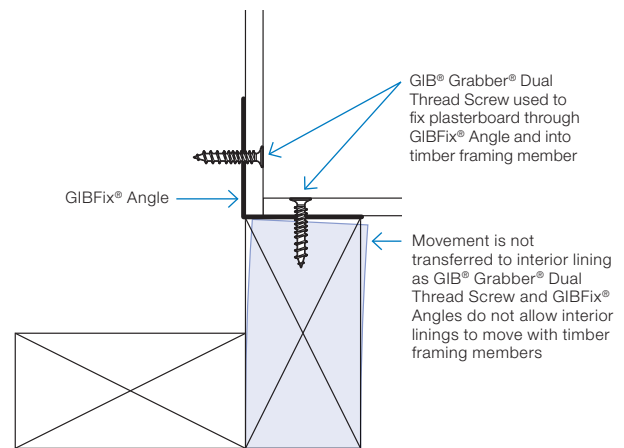


FIGURE 4: GIBFix® FRAMING WALL CORNER LAYOUT



GIBFix® Framing System installation

FRAME LAYOUT

- The GIBFix® Framing System removes the need for traditional 3 stud set outs for internal intersecting walls. Using the GIBFix® Framing System, GIB® plasterboard can now be fixed using the GIBFix® Angles.
- For builders this means traditional double stud set outs on exterior walls cannot be used as a reference point when lining up connecting internal walls.
- It is recommended builders discuss marking options for wall intersections with their Frame and Truss provider to allow easy location of walls during onsite construction.
- A minimum of 2 equally spaced nogs for walls between 2.4m and 3m in height are required at corners and wall junctions
- Always check corner framing requirements for external cladding.

GIBFIX® ANGLE INSTALLATION

- The installation of the GIBFix® Angle occurs before installation of the GIB® plasterboard lining.
- Locate GIBFix® Angles with a single flat head clout (or similar fastener) at the top and bottom of each GIBFix® Angle to temporarily hold it in place.
- Using the specified sheet fastener pattern use GIB® Grabber® Dual Thread Screws to fasten through the GIB® plasterboard and GIBFix® Angles.

OVER LAPPING OF GIBFIX® ANGLES

- Where an additional section of GIBFix® Angle is required to allow GIBFix® Angles to run continuously from the top to bottom of the stud, overlap by a minimum of 300mm and place at least 2 fasteners through both GIBFix® Angles into the stud side.
- Winstone Wallboards recommends the shorter GIBFix® Angle section be placed at the top of the stud.

GIB® PLASTERBOARD INSTALLATION

- When installing the GIB® plasterboard it is recommended to start on the Stud Side first and then fasten off the GIB® plasterboard on the GIBFix® Angle Only Side (as shown). This reduces potential angle twist during the installation of the plasterboard lining.
- If the GIBFix® Angle Only Side must be fastened off first it is recommended that additional clouts are placed along the length of the GIBFix® Angle and into the underlying timber framing at a maximum spacing of 500mm prior to commencing installation of the plasterboard.

GIB EZYBRACE® SYSTEMS

- The GIBFix® Framing System is used in conjunction with GIB EzyBrace® Systems.
- For more information refer to GIB EzyBrace® 2016 System literature available at gib.co.nz/ezybrace.

FIGURE 5: TRADITIONAL INTERNAL WALL INTERSECTION

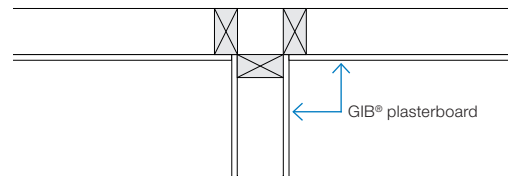


FIGURE 6: GIBFIX® FRAMING SYSTEM INTERNAL WALL INTERSECTION

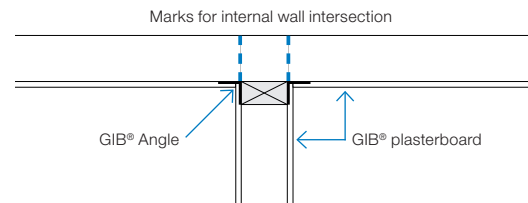
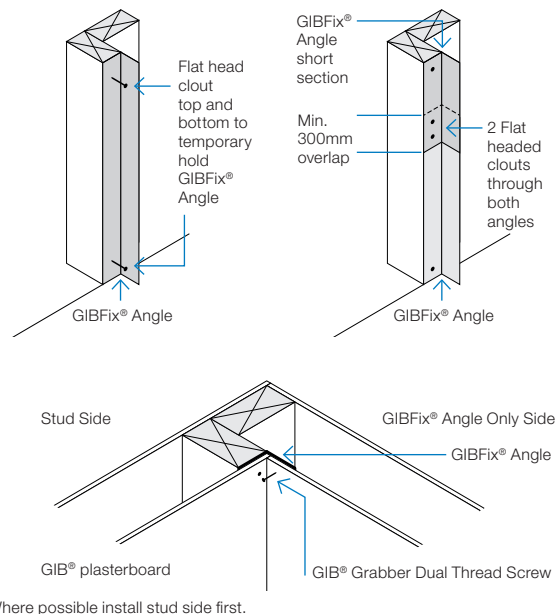


FIGURE 7: GIBFIX® ANGLE INSTALLATION



GIB HandiBrac[®] placement with GIBFix[®] Framing System for concrete floors

Figure 8 shows the preferred positioning of the GIB HandiBrac[®] panel hold-down brackets within the GIBFix[®] Framing System layout and where they are required by bracing systems with a 'H' in the specification code.

Note that, in corners and at wall junctions, a single GIB HandiBrac[®] can serve 'H' type bracing elements in both directions. Additional intermediate concrete anchors may need to be installed to meet the minimum requirements of NZS 3604:2011 for bottom plate fixing.

The GIB HandiBrac[®] is fixed to the stud which has the GIBFix[®] Angle.

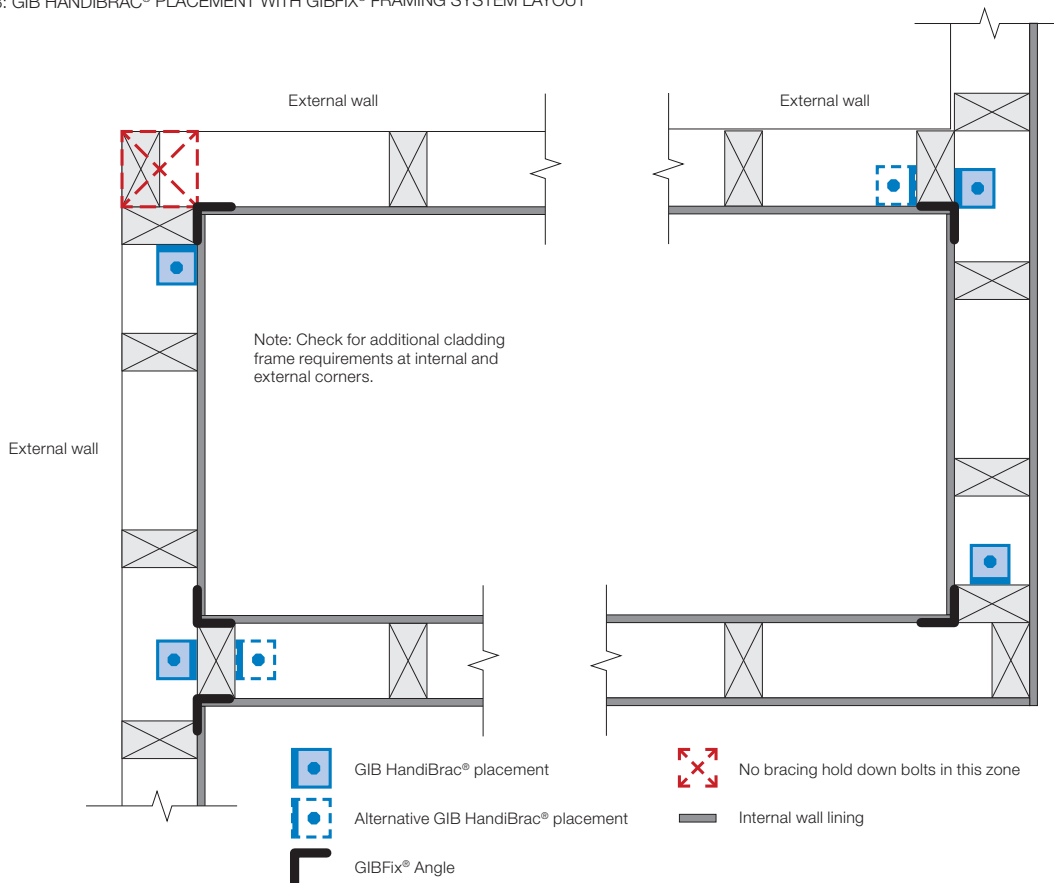
For bracing elements with sheet material both sides of the wall connect corner studs using 8/90mm gun nails as shown in figure 9.

TIMBER FLOORS

For timber floors bolt fixing in to solid joist or block is required.

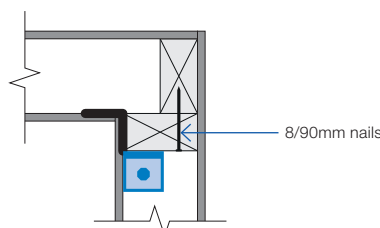
For more information on positioning and installation of GIB HandiBrac[®] refer to the GIB EzyBrace[®] Systems 2016 Literature or contact the GIB[®] Helpline on 0800 100 442

FIGURE 8: GIB HANDIBRAC[®] PLACEMENT WITH GIBFIX[®] FRAMING SYSTEM LAYOUT



GEB013

FIGURE 9: STUD CONNECTION FOR 'H' TYPE BRACING ELEMENTS WITH SHEET MATERIAL BOTH SIDES



GEB014

NZ Building Code

NZBC CLAUSE B1 - STRUCTURE

NZS 3604:2011 is a Compliance Document to NZBC Clause B1 and is silent on the placement of studs at wall intersections. The GIBFix® Framing System layout does not affect compliance with NZS3604:2011 or NZBC Clause B1 - Structure. A structural benefit of GIBFix® Framing System detailing is that all GIB® plasterboard corners are reinforced by a GIBFix® Angle adding robustness and seismic resilience. Corners are less prone to cracking due to relative movement of timber framing members.

NZBC CLAUSE B2 - DURABILITY

Under normal conditions of dry internal use GIBFix® Framing System components, have a service life in excess of 50 years and satisfy the requirements of NZBC Clause B2 – Durability. A 15 year durability requirement applies where linings are subject to direct water pressure, e.g. shower cubicle or shower over bath situations.

NZBC CLAUSE H1 – ENERGY EFFICIENCY

Buildings must be constructed to achieve an adequate degree of energy efficiency and the building envelope must provide adequate thermal resistance. The required thermal resistance (R-value) of timber framed external walls depends on climate zone but is commonly R 1.9 or R 2.0.

Home owners increasingly demand thermal efficiency and R-values well in excess of the minimum requirements of NZBC Clause H1 – Energy Efficiency.

Traditional 90mm timber framing limits the level of thermal insulation. Depending on Wind Zone and support to trusses or a second storey, nominally 90 x 45mm studs are commonly placed at 400 or 600mm centres or closer due to wall layout and the use of multiple studs at wall intersections. Thermal efficiency is further degraded by nogs or dwangs and services such as plumbing and wiring leaving limited space for bulk insulation.

To reduce thermal bridging, facilitate better installation of bulk insulation, and to achieve a more continuous thermal envelope, this literature recommends the use of GIBFix® Angles to replace triple studs at wall junctions.

For increased thermal efficiency the use of deeper studs and increased bulk insulation are recommended. Some designers prefer 140 x 45mm timber framing for exterior walls to increase thermal values, and alleviate problems with fitting insulation whilst leaving sufficient room for reticulating services. 140 x 45mm Studs can be placed at 600mm centres for all Wind Zones and heights including 3.0m (NZS3604:2011 Section 8-Walls).

See also BRANZ Study Report SR 246 (2011) Optimal Design of Timber Framing in Housing from branz.co.nz.

GIBFix® Framing System — August 2016

Winstone Wallboards Ltd accepts no liability if the GIBFix® Framing System is not designed and installed in strict accordance with instructions contained in this publication.

USE ONLY THE CURRENT SPECIFICATION

This publication may be superseded by a new publication at any time. Winstone Wallboards accepts no liability for reliance upon publications that have been superseded. Check for the current publication at gib.co.nz/library before using this publication. If you are unsure whether this is the current publication, call the GIB® Helpline on 0800 100 442.

BEWARE OF SUBSTITUTION

The performance of GIB® Systems is very sensitive to design detailing and construction practices. It is important to use only GIB® branded components where specified and to closely follow the specified design details and construction practices, to be confident that the required level of performance and quality is achieved on site.

For further information call our GIB® Helpline on 0800 100 442.

CAD DESIGN DETAILS

Where applicable drawings related to GIBFix® Framing System have been produced for CAD design. These are identified by a unique number in the bottom corner of each detail box. CAD design details can be found at gib.co.nz/library.

PATENTS

GIBFix® Framing System and GIB EzyBrace® Systems, including componentry and design method, have patents pending (NZ Patent Number 596691, NZ Patent 709159 pending) and design and other IP rights.

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FURTHER INFORMATION

For more information visit gib.co.nz/gibfix or call the GIB® Helpline 0800 100 442.



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