

SPECIFICATION

WORK TO BE DONE AND
MATERIAL TO BE USED FOR

ADRIAN HART

196 KING STREET

WILKINSON

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GIB Ezybrace® Systems 2016 BU/m Ratings

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The BU/m ratings for GIB EzyBrace® Systems shown below are responsibly conservative and are provided to allow manual calculation, and for use in alternative proprietary software.

The GIB EzyBrace® 2016 software delivers more accurate demand calculations based on specific building parameters entered, and bracing resistance (BU/m) is often higher than the values presented below. Do not use this table to assess bracing substitutions

Table 1: GIB® Standard Bracing Unit Ratings

Type	Minimum Length (m)	Lining	Other Requirements	BU/m	
				W	EQ
GS1-N	0.4	GIB® Standard plasterboard one side	N/A	50	55
	1.2			70	60
GS2-N	0.4	GIB® Standard plasterboard both sides	N/A	70	65
	1.2			95	85
GS2-NOM	0.4	GIB® Standard plasterboard both sides (standard GIB® site guide fastener pattern)	N/A	50	50
GSP-H	0.4	GIB® Standard plasterboard one side, structural plywood the other	Panel hold-down fixings	100	115
	1.2			150*	150*

Table 2: GIB Braceline® Bracing Unit Ratings

Type	Minimum Length (m)	Lining	Other Requirements	BU/m	
				W	EQ
BL1-H	0.4	GIB Braceline® one side	Panel hold-down fixings	90	100
	1.2			120*	105
BLG-H	0.4	GIB Braceline® one side, GIB® Standard plasterboard the other	Panel hold-down fixings	110	115
	1.2			150*	145*
BLP-H	0.4	GIB Braceline® one side, structural plywood the other	Panel hold-down fixings	120*	135*
	1.2			150*	150*

* Timber Floors – A limit of 120 BU/m for NZS 3604:2011 timber floors applies unless specific engineering ensures that uplift forces generated by elements rated higher than 120 BU/m can be resisted by floor framing.

Wall Heights other than 2.4m

The published Bracing Unit ratings are based on a 2.4 metre height. For greater heights, the ratings must be multiplied by a factor $f = 2.4$ divided by the actual wall height. The Bracing Unit ratings for walls higher than 2.4 metres will reduce.

For example:

The Bracing Unit rating of a 2.7 metre high wall is obtained by multiplying the values in Tables 1 and 2 by $f = 2.4/2.7 = 0.89$

The Bracing Unit rating of a 3.6 metre high wall is obtained by multiplying the values in Tables 1 and 2 by $f = 2.4/3.6 = 0.67$

The height of walls with a sloping top plate can be taken as the average height.

Walls lower than 2.4 metres shall be rated as if they were 2.4 metres high.

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



Length of GIB EzyBrace® elements ('H' Type)

GIB EzyBrace® elements with an 'H' extension (requiring special panel hold-down fixings) can be used when the dimension 'L' as illustrated in figures 33–36 is 400mm or more.

'H' type GIB EzyBrace® elements are identified by GIB® specification numbers GSP-H, BL1-H, BLG-H and BLP-H.

The length of an 'H' type element is not only determined by the sheet material, but also by the placement of the hold-down fixings.

Hold-down fixings cannot be placed closer together than what is shown for the standard panel in figure 33.

Hold-down fixings can be placed under windows provided sill trimming studs beneath the opening are connected to the bracing element using 8/90mm gun nails, as illustrated in figure 34.

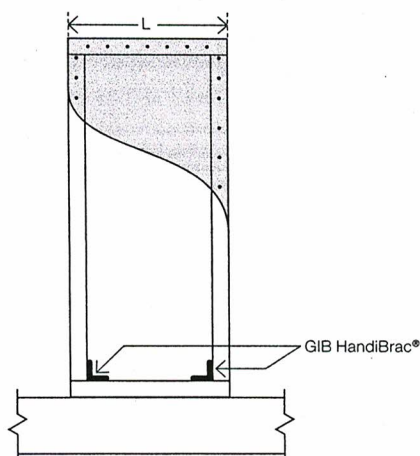
Spike doubling stud to trimming stud using a minimum of 2/90mm gun nails at 600mm centres. Lintel straps (where required for wind uplift) should be checked in and be located away from the bracing element fasteners.

Perimeter bracing fixing for linings of both 'H' and 'N' type elements is along the top and bottom plates, end stud, and doubling stud immediately adjacent to the opening as indicated in figures 34–36.

When using bracing straps, installed in accordance with p.17, fix the strap to the same framing member as shown for the GIB HandiBrac® below, and install the adjacent anchor bolt in the same position as the GIB HandiBrac® bolt.

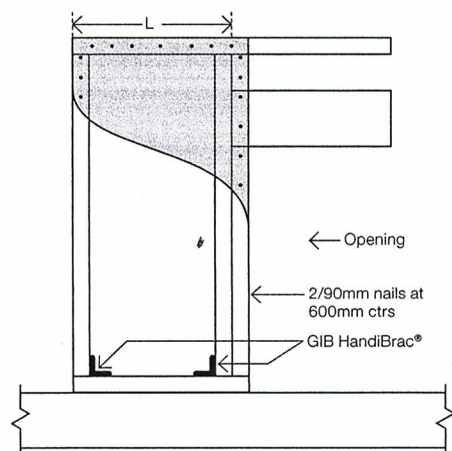
Fastener spacings and diagram scales shown in figures 33–36 are indicative only. Refer to p.23–30 for construction details.

FIGURE 33: BL BRACING ELEMENTS (OPTION A)



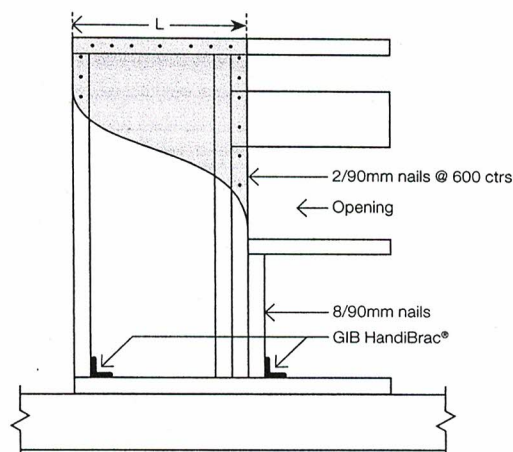
'H' type elements with specific hold downs
'L' indicates the length of the bracing element

FIGURE 35: BL BRACING ELEMENTS (OPTION C)



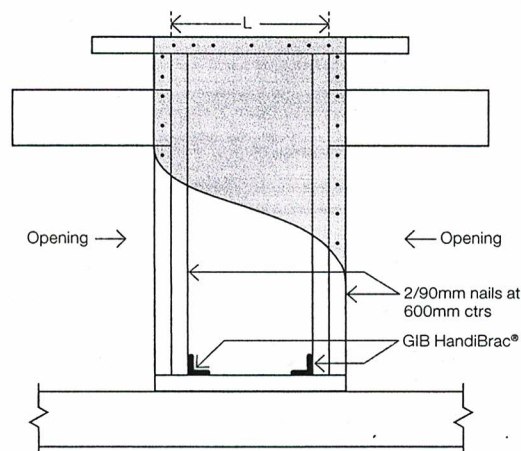
'H' type elements with specific hold downs
'L' indicates the length of the bracing element

FIGURE 34: BL BRACING ELEMENTS (OPTION B)



'H' type elements with specific hold downs
'L' indicates the length of the bracing element

FIGURE 36: BL BRACING ELEMENTS (OPTION D)



'H' type elements with specific hold downs
'L' indicates the length of the bracing element

GIB EzyBrace® Systems specification BL1-H

Specification code	Minimum length (m)	Lining requirement	Other requirements
BL1-H	0.4	10mm or 13mm GIB Braceline® to one side only	Hold downs

WALL FRAMING

Wall framing to comply with;

- NZBC B1 — Structure B1/AS1 Clause 3 Timber (NZS 3604:2011).
- NZBC B2 — Durability B2/AS1 Clause 3.2 Timber (NZS 3602).

Framing dimensions and height as determined by NZS 3604:2011 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING

Timber floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in GIB EzyBrace® Systems or GIB® Site Guide.

Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or Three power driven 90 x 3.15mm nails at 600mm centres.

Concrete floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in GIB EzyBrace® Systems or GIB® Site Guide. Within the length of the bracing element bottom plates are to be fixed in accordance with the requirements of NZS 3604:2011.

WALL LINING

- A layer of 10mm or 13mm GIB Braceline®
- Sheets can be fixed vertically or horizontally.
- Sheet joints shall be touch fitted.
- Use full length sheets where possible.

PERMITTED ALTERNATIVES

For permitted GIB® plasterboard alternatives refer to p. 5 in GIB EzyBrace® Systems literature.

FASTENING THE LINING

Fasteners

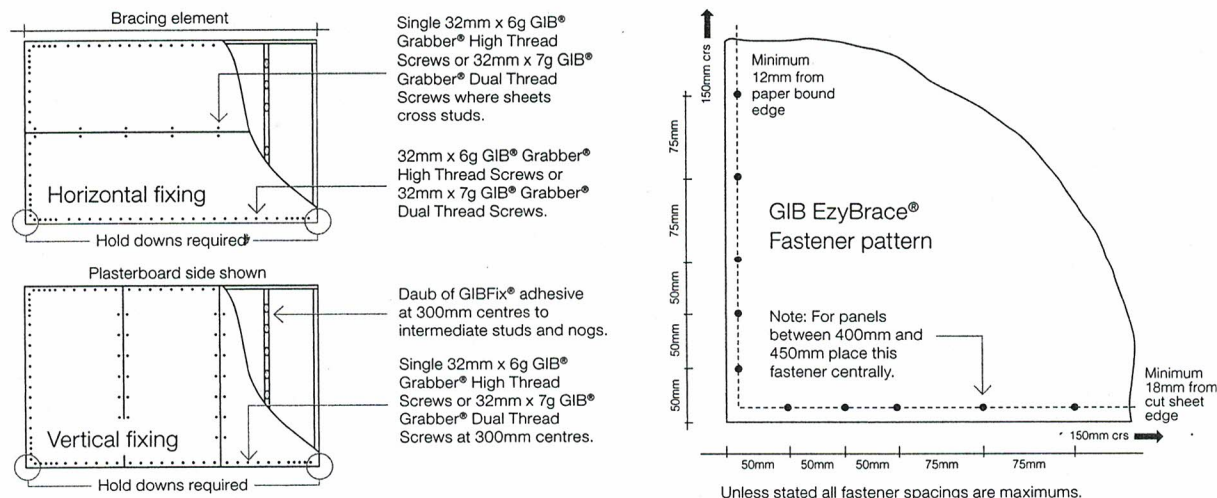
32mm x 6g GIB® Grabber® High Thread Screws or 32mm x 7g GIB® Grabber® Dual Thread Screws. If using the GIBFix® Framing System or if fastening through GIBFix® Angles use only 32mm x 7g GIB® Grabber® Dual Thread Screws.

Fastener centres

50,100,150, 225, 300mm from maximum each corner and 150mm thereafter around the perimeter of the bracing element. For vertically fixed sheets place fasteners at 300mm maximum centres to the sheet joint. For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud. Use daubs of GIBFix® adhesive at 300mm maximum centres to intermediate studs. Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge.

JOINTING

Joint strength is important in delivering bracing system performance. All fastener heads stopped and all sheet joints GIB® Joint Tape reinforced and stopped in accordance with the GIB® Site Guide.



In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise performance. Follow the specifications. This specification sheet is issued in conjunction with the publication GIB EzyBrace® Systems

SECTION 1

PRELIMINARY AND GENERAL

PRELIMINARY AND GENERAL

This specification is of a general type covering all the basic requirements of the building. Should there be any words that do not pertain to this contract, eg unit instead of houses etc, the wording shall be read to mean this contract. All work is to comply with the Building Act 2004 the New Zealand Building Code 1992 and current New Zealand Standard specifications unless otherwise specified.

CONTRACT

This contract includes the supply and delivery of all materials, labour, tools, fittings, plant etc, necessary for the due and proper completion of the building shown on plans and herein specified in a thorough and workmanlike manner in strict accordance with the New Zealand Building Code and the territorial authority concerned. Amendments to, or new bylaws instituted by the territorial authority or new or special requirements after the date of tendering and which involve additional cost, will be carried out and such additional cost added to the contract.

BUILDING CONSENT AND NOTICES

Contractor to comply with labour and building laws of the district, to apply for and obtain the necessary building consents and pay all fees for the same. The contractor shall be responsible for giving of all notices to the territorial authority and for all works which require inspection and approval before they are covered in. Should any such notices not be given and works have to be uncovered, any expense caused by this shall be paid by the contractor for that particular works.

SITE

Tenderers shall visit the site to ascertain conditions as no extras will be allowed through failure to ascertain works required below and above ground.

PROVIDE AND FIX

The words "provide and fix" shall be construed to mean "provide and fix" where mentioned separately unless otherwise specified.

INSURANCE

The contractor is to take out a builder's risk insurance for a sufficient sum to cover the contract cost. This policy is to remain in force unless taken over by the owner. Proof of such insurance shall be lodged with the building owner.

MATERIALS AND WORKMANSHIP

The contractor shall provide all materials and labour of every description necessary, whether or not particularly noted or specified, needed for the completion of the building. All plant, haulage and cartage shall be allowed for the work carried out according to the true intent and meaning of the drawings and specifications. All workmanship must be careful and thorough and in accordance with normal trade practices and all materials to the approval of the territorial authority. Any specified materials non procurable when required and thus retarding progress of contract, may be substituted with others similar provided that such substituted materials conform to the territorial authority bylaws and are approved by the owners.

INTERPREATION

Materials shown and not specified must be of the kinds commonly used for the services they are intended to perform. Any figured dimensions shall be taken in preference to scale. Any difference between specification and plan, to be read as plans being right. Anything shown on plan and not mentioned in specifications and vice-versa and that is necessary to complete job to be read as being included in both.

STABILITY OF STRUCTURE

The contractor shall, in all cases, use proper care and diligence in bracing and supporting all parts of his work against damage by wind. He shall also support and protect the work from damage by water. His work shall at all times be self-supporting, absolutely strong and fully equal to resist all strains to which it may be subject.

LEVELS

The contractor shall check all levels on the site. It is the contractor's responsibility to confirm the accuracy of any levels.

SETTING OUT

The contractor shall perform all setting out and he shall be responsible for its accuracy and shall amend any errors without cost to the employer.

MAINTENANCE

Maintenance period is **365** days after the owner has taken possession. Any defects in materials, workmanship, or any part(s) that require replacing or adjusting which have been included in this contract shall be adjusted or replaced as specified in this specification at the contractor's own expense.

TEMPORARY CONVENIENCES

The contractor upon the works shall make provision for the installation of adequate toilets for the use of the workmen in accordance with the requirements of the local Environmental Health Officer. Such toilet shall be removed upon completion of the works.

WATER AND POWER

Allow for all temporary water and power connections from reticulation laid to the head of the drive, and remove on completion.

PROTECTION OF WORK

The contractor shall substantially cover and protect all parts of his work exposed to damage either during progress of the work or when same is finished and shall deliver the same done by him or his sub-contractors upon completion of the contract in a new, sound, clean and perfect condition.

VARIATION OF EXTRA WORKS

After the final approval of plans by the owner, no variation or extra works shall be carried out by the contractor expect with the written authority of the owner. Before such works are proceeded with, the owner shall pay for the same.

DAMAGE TO PROPERTY

The contractor shall provide for making good all damage to any adjoining buildings, footpaths, fences, right of ways, trees, shrubs, garden walls and all damage of every kind arising during or out of his works.

PROGRESS PAYMENTS

Progress payments shall be made at monthly intervals in accordance with the general conditions of the contract on receipt of the contractors written claim. The contractor shall also make written application for liens and maintenance moneys as these become due.

FLUCTUATION IN COST

If there should be either a rise or fall in the award of ruling rate of labour or price of materials between the date of the quotation and the date when such labour is employed or such materials are procured for this contract, then on final settlement a compensating adjustment of the contract price shall be made and the owner shall make such additional payment or receive such allowance from the contract price as such a rise or fall shall cause.

CLEANING

At the conclusion of the work, premises shall be careful cleaned out, windows washed and glass left free from scratches or paint, etc, and the entire building left in perfectly clean and immaculate condition for occupation. The site shall be generally tidied up and all signs of building debris removed.

HEALTH AND SAFETY

Refer to the requirements of the Health and Safety in Employment Act 1992. Comply with all relevant New Zealand safety legislation.

Take all practical steps to make the site and the contract works safe and to provide and maintain a safe working environment. Ensure that all those working on or visiting the site are aware of the rules governing site safety, are properly supervised and are not unnecessarily exposed to hazards.

Identify any significant hazards.

Maintain proper procedures for dealing with any emergencies that may arise. Immediately investigate accidents, identify their cause and maintain a register of accidents and serious harm. Provide a copy of any report which the contractor is required to make to a public authority on any accident which is associated with carrying out the contract works and results in serious harm to any person.

SECTION 2

EXCAVATION

PRELIMINARY AND GENERAL

Refer to the preliminary and general section which also applies to this section of the work.

EXCAVATION

Excavate as required for all foundations, footings, steps, piles, water pipes, drainage, etc to the various depths, levels and grades as required for the proper excavation of the works. All footings to have a solid bottom and all to the approval of the territorial authority. Keep all excavations clear of water and fallen material. Allow for taking foundations down through filling into original undisturbed clay.

BACKFILL

No ancillary trades shall commence, nor shall filling-in be commenced until the work has been inspected and approved. Back fill where required in layers not exceeding 150mm and consolidate with ramming.

SECTION 3

CONCRETE WORK

IMPORTANT

All concrete work shall comply with NZS 3109 minimum concrete compressive strength at 28 days shall be:

.....17.5..... MPa for *BLRS*.....
..... MPa for

At least 24 hours notice **MUST BE GIVEN** to the Inspector's Office **BEFORE POURING** CONCRETE FOUNDATIONS, BOND BEAM SUSPENDED TERRACE SLABS, CONCRETE FLOORS ETC.

PRELIMINARY AND GENERAL

Refer to the preliminary and general section which also applies to this section of the work.

WORKMANSHIP

Placing – before placing, all boxing and reinforcing steel shall be inspected and approved. Clean out and hose down all formwork before placing concrete. Concrete shall be finally deposited in place within 15 minutes of delivery from the mixer or agitator truck as the case may be. Thoroughly tamp concrete in place and protect with damp sacks or other approved method as directed.

SECTION 6

CARPENTRY AND JOINERY

PRELIMINARY AND GENERAL

Refer to the preliminary and General section which also applies to this section of the work.

All timber to comply with NZSS 3631 for classification and grading National Grading Rules.

GENERAL

- (a) The whole of the timber shall be the best of all the several kinds specified free from shakes, sapwood, all large or loose knots, large gum streaks and shall be thoroughly seasoned and all timber including joinery, shall be put in hand immediately the contract is signed. Any timber not up to standard or warps excessively must be removed from the job on the instruction of the owner.
- (b) Care must be taken when ordering lengths of timber as no butts will be allowed where it is possible to avoid them.
- (c) Framing timber when delivered to the site shall be stacked on skids and if unseasoned shall be fillet stacked. Finishing lines and joinery shall be stacked in a similar manner and covered or stored inside the closed-in building.
- (d) All nails, screws and iron work used externally shall be galvanized. Junctions of all woodwork and concrete shall be separated by 3 ply Malthoid.
- (e) All exposed timber shall be planed sanded and primed before fixing and all inside work shall be hand-dressed and glass papered to a smooth surface. All nails shall be carefully punched and all bruises and tool marks shall be removed. All framing timber shall be gauged.
- (f) Provide totara grounds in concrete work for fittings or approved purpose made fixings.
- (g) All scantlings and thickness of timber in carpentry work and joinery are to be finished the given dimensions unless otherwise stated.

WORKMANSHIP

All work to comply with NZS 3604 ~~2011~~ and the New Zealand Building Code unless otherwise stated.

- (a) All carpentry work shall be set up and constructed to the dimensions given. The carpenter shall set out and ensure the proper execution of the work carried out by other tradesmen and shall attend on and make good for all other trades. He shall provide and fix all necessary plant and temporary structure including formwork, centring, boxing, shoring, strutting, and scaffolding and shall remove them as required; he shall provide and maintain any temporary coverings for any finished work subject to likely damage; he shall ensure the property closure for the works during constructions and shall clean up on completion.
- (b) **Framing**
To existing walls when required. All work shall be according to the best trade practice. The framework shall be so arranged and will provide all necessary support and fixing for the linings, and all post beams, studs, joists and walings shall extend in one piece between supports and shall only be joined over solid bearings. Spacings of all framing shall be regular throughout and shall be to suit the sizes and standards of all linings and sheathings specified. Joints shall be constructed to transmit the loads and stresses to which they are subjected. Plates shall be joined by 3 kn and 6 kn connections and shall be double nailed to every stud. Framework shall be well anchored to foundations, the steel framework and the roof structure.