

GIB® EzyBrace™ Systems, April 2009

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Use Only the Current Specification

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Substitution

GIB® systems are not generic. Where specified, GIB® branded components must be used when installing GIB® EzyBrace™ Systems. Substitution, other than as permitted in this literature, is not in accordance with the instructions contained in this publication.

Copyright

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Acknowledgements

WIND and EARTHQUAKE regions were reproduced from NZS 3604:1999 with kind permission from Standards New Zealand (SNZ).

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Assistance was provided by BRANZ with the design of the procedure for determination of the WIND ZONE.



BRANZ Appraised
Appraisal No.294 [2009]

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What's new

GIB® Bracing Elements

- More GIB® Standard Plasterboard options have been included starting at 0.4m in length.
- A single fastener pattern for GIB® Standard and GIB Braceline® systems.
- Options are included for designing with 10 mm and 13 mm GIB® Plasterboard.
- Less reliance on cut in angle braces, as these can be located without affecting bracing performance.
- A focus on the GIB HandiBrac® as the preferred bottom plate fixing for highly rated elements.

GIB® EzyBrace™ FP Software

- Based on "First Principles" engineering resulting in efficient demand calculations.
- Two storey building calculations are carried out within a single work book.
- Embedded panel ratings vary with wall length resulting in further design efficiencies.
- Lower capped Bracing Unit ratings for timber floors, which is based on recent research.

Appraisal

Both the printed GIB® EzyBrace™ literature and GIB® EzyBrace™ FP software have been independently appraised by BRANZ, Appraisal No. 294 (2009).



Sustainability and the Environment

Winstone Wallboards is committed to protecting the environment. Environmental matters are integrated into all business activities:

- All operations of Winstone Wallboards will strive to exceed all environmental regulatory requirements at all times.
- Protection of the environment is a day to day responsibility that we all must accept.
- We will treat the environment equally with all other operations and allocate appropriate management time and resources to address and continuously improve our activities.
- We will achieve our standards of performance through positive action, employee involvement and constant communication with our neighbours, local authorities and customers.



Environmental Choice

Winstone Wallboards is the first manufacturer of plasterboard to have products certified as environmentally preferable through Environmental Choice New Zealand. The Environmental Choice label acknowledges the product as meeting or exceeding the voluntary environmental declaration standard set by the New Zealand Eco-labelling Trust. The standard is a comprehensive life-cycle assessment which is scientifically and internationally recognised.

The Environmental Choice Label covers all GIB® Plasterboard 13mm and greater in thickness.



Waste Management

Specify GIB® Plasterboard with the Environmental Choice label as this ensures that the product selected minimises the impact on the environment. Consideration should be given to minimising on-site waste when designing and/or installing GIB® Plasterboard systems. For larger projects consideration should be given to the utilisation of Winstone Wallboards cut-to-length service to reduce the volume of waste produced.

GIB® Plasterboard off cuts, if separated from other waste building materials, can be readily recycled. For larger projects the waste can be diverted to compost manufacturers who grind up the GIB® Plasterboard and utilise it in compost. For smaller projects, the GIB® Plasterboard can be ground up and spread around the building site.



Scope of Use

This document is a guide to wall bracing of buildings constructed in accordance with NZS 3604:1999, Standard for Timber Framed Buildings not requiring specific design.

It is intended for use by owners, architects, engineers, draughtsmen and builders, and designed to help the user to determine a building's wall bracing needs. It explains how to use GIB® EzyBrace™ Systems to resist wind and earthquake forces.

The information contained in this document is believed to be correct and accurate. However, all due care should be exercised by those who use it. If necessary, appropriate advice should be sought. Winstone Wallboards Ltd accepts no liability if the system is not used in accordance with instructions contained in this literature.

Compliance with the New Zealand Building Code (NZBC)

GIB® EzyBrace™ Systems comply with the requirements of NZS 3604:1999, when designed and installed in accordance with this brochure. NZS 3604:1999 is an Acceptable Solution to NZBC Clause B1 Structure.

Under normal conditions of dry internal use GIB® EzyBrace™ Systems have a service life in excess of 50 years and satisfy the requirements of NZBC Clause B2 Durability.

Steel framed Housing

Bracing for steel framing is by specific design. The National Association of Steel Framed Housing (NASH) has a range of tested systems for buildings constructed using NASH design guidelines for light steel framed buildings that fall within the design scope of NZS 3604: 1999. Further information on bracing steel framing can be obtained from www.nashnz.org.nz.

How to use this Document

This document is a step by step guide through the process of designing a bracing system and filling out a bracing schedule in accordance with NZS 3604:1999.

Although manual calculations are still possible, the published Bracing Unit ratings for GIB® EzyBrace™ Systems have been conservatively rounded and kept simple in terms of available lengths. Demand design tables for Wind and Earthquake are no longer published in this document. Reference is made to the tables in NZS 3604:1999. Alternatively the tables can be downloaded from www.gib.co.nz/ezybrace.

The use of our GIB® EzyBrace™ FP software is strongly recommended as it improves the accuracy of calculations, delivers material efficiencies, reduces time input, and minimises the potential for errors.

External forces (Bracing Units (BUs) required or demand)

Step 1: Work out the required number of **BUs** for **wind**



Step 2: Work out the required number of **BUs** for **earthquake**

The structure's resistance (Bracing Units (BUs) achieved or capacity)

Step 3: Ensure adequate distribution of **wall bracing elements**



Step 4: Work out the achieved number of **BUs** for **wind**



Step 5: Work out the achieved number of **BUs** for **earthquake**