



BRANZ Appraised

Appraisal No. 907 [2022]

ULTIBRAC BRACKET

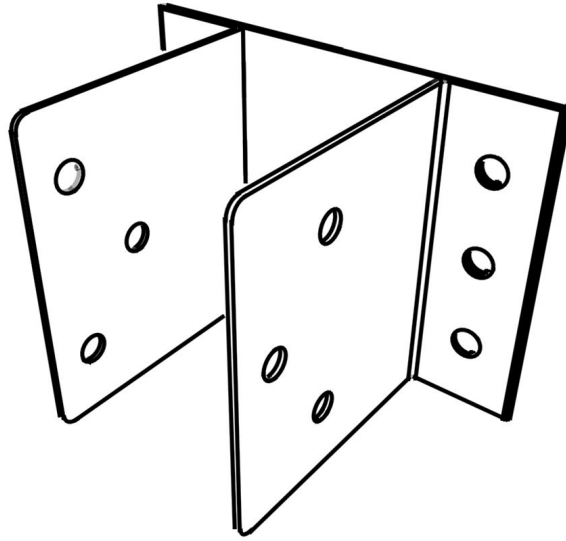
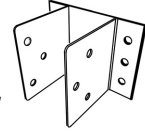
Appraisal No. 907 [2022]

This Appraisal replaces BRANZ Appraisal No. 907 [2016]

Amended 25 October 2022

ULTIBRAC

ONE BRACKET - MULTI PURPOSE



BRANZ Appraisals

Technical Assessments of products for building and construction.



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Product

- 1.1 Ultibrac stainless steel and galvanised brackets are used to connect boundary joists to joists or nogs (blocking) where timber deck cantilever balustrade posts are used for barriers.

Scope

- 2.1 Ultibrac brackets have been appraised for use as an alternative connection for boundary joists to floor joists or nogs as described in NZS 3604, Figures 7.10 (b) and 7.10 (c) for timber-framed structures designed in accordance with NZS 3604.
- 2.2 Ultibrac brackets can be used as part of the specific design of posts and balustrades.

Building Regulations

New Zealand Building Code (NZBC)

- 3.1 In the opinion of BRANZ, Ultibrac brackets, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet the following provisions of the NZBC:

Clause B1 STRUCTURE: Performance B1.3.1, B1.3.2 and B1.3.4. Ultibrac brackets meet the requirements for loads arising from self-weight, imposed gravity loads arising from use, wind, and impact [i.e. B1.3.3 (a), (b), (h) and (j)]. See Paragraph 8.1.

Clause B2 DURABILITY: Performance B2.3.1 (a) not less than 50 years and B2.3.2. Ultibrac brackets meet these requirements. See Paragraph 9.1.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Ultibrac brackets meet this requirement.

Clause F4 SAFETY FROM FALLING: Performance F4.3.1, F4.3.4 (c) and F4.3.4 (d). Ultibrac brackets contribute to meeting these requirements when used with posts and balustrades to construct barriers. See Paragraphs 7.1-7.3.

Technical Specification

- 4.1 Ultibrac brackets are for use at the top and bottom of joists or nogs when connecting to boundary joists.
- 4.2 Ultibrac brackets are manufactured from 1.2 mm thick Grade 304 stainless steel and pre-drilled with fixing holes. Ultibrac brackets are also available in 1.2 mm thick Z275 galvanised steel for interior and enclosed environments.
- 4.3 The fixings supplied for use with the Ultibrac bracket are manufactured from Grade 304 stainless steel or mechanically galvanised steel in accordance with NZS 3604 Table 4.3, as follows:
 - 14 g x 35 mm type 17 wood screws.
 - 14 g x 75 mm type 17 wood screws.

Handling and Storage

- 5.1 Ultibrac brackets and their fasteners are durable products, but should be stored in covered and dry conditions until they are installed.

Technical Literature

- 6.1 This Appraisal must be read in conjunction with:
 - Ultibrac, Version 2.0, July 2022.
- 6.2 All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed..

Design Information

- 7.1 NZBC Clause F4.3.1 requires a barrier where people could fall 1 m or more. Where timber decks or balconies are to support cantilever balustrades, NZS 3604, Paragraph 7.4.1.3 prescribes deck joist connections. Ultibrac brackets are for use as an alternative method of connection to provide rigidity and strength for the support of cantilever balustrade posts.
- 7.2 Ultibrac brackets have been tested and assessed for the barrier loads given in AS/NZS 1170.1.
- 7.3 The structural information given below is for structures constructed with joists and nogs with a minimum size of 190 x 45 mm, and for timber of grade SG8 or greater.

Structure

NZS 3604 Structures

- 8.1 Ultibrac brackets may be used as an alternative to the connection details given in NZS 3604, Figures 7.10 [b] and 7.10 [c]. They replace the 6 kN nail straps and the M12 coach screws given in these details. The maximum post spacing for internal or external barriers when using Ultibrac brackets is given in Table 1.

Table 1: Maximum Post Spacing Between Posts for Structures Constructed with Ultibrac Brackets

| Barrier Height | Internal Use | External Use |
|----------------|--------------|--------------|
| 1 m | 3 m | 1.2 m |

Durability

- 9.1 Ultibrac brackets and fixings manufactured from both stainless steel and galvanised steel meet the requirements of NZS 3604, Tables 4.1, 4.2 and 4.3. They have an expected serviceable life of at least 50 years.

Maintenance

- 10.1 Ultibrac brackets and fixings should not require any maintenance once installed. All deck structures should be regularly checked for the condition of timber and fixings.



Installation Information

Installation Skill Level Requirement

- 11.1 All design and building work must be carried out in accordance with the Ultibrac brackets Technical Literature and this Appraisal, by competent and experienced tradespersons conversant with the Ultibrac brackets. Where the work involves Restricted Building Work [RBW], this must be completed by, or under the supervision of, a Licensed Building Practitioner [LBP] with the relevant License Class.

Installation

- 12.1 The installation of Ultibrac brackets must be in accordance with the instructions given in the Technical Literature. All nails and screws must be fixed through the appropriate holes in the Ultibrac brackets.
- 12.2 The balustrade post must be fixed at least 100 mm away from each connection when using Ultibrac brackets.

Health and Safety

- 13.1 Suitable care must be taken when handling power and hand tools, and when handling treated timber.

Basis of Appraisal

The following is a summary of the technical investigations carried out:

Tests

- 14.1 Testing was carried out by BRANZ on simulated deck barriers using Ultibrac brackets to determine their structural strength.

Other Investigations

- 15.1 A structural opinion has been provided by BRANZ technical experts.
- 15.2 A site inspection has been carried out by BRANZ to assess the practicability of installation, and to examine completed installations.
- 15.3 The Technical Literature has been examined by BRANZ and found to be satisfactory.

Quality

- 16.1 Details regarding the composition of the materials used were obtained by BRANZ and found to be satisfactory.
- 16.2 The quality of materials, components and accessories supplied by Mattoni Holdings Limited is the responsibility of Mattoni Holdings Limited.
- 16.3 Quality on-site is the responsibility of the installer.
- 16.4 Designers are responsible for the building design, and building contractors are responsible for the quality of installation of Ultibrac brackets in accordance with the instructions of Mattoni Holdings Limited.
- 16.5 Building owners are responsible for the maintenance of timber decks and structures incorporating Ultibrac brackets.

Sources of Information

- AS/NZS 1170.1:2002 Structural design actions – Part 1: Permanent, imposed and other actions.
- NZS 3604:2011 Timber-framed buildings.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.



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Amendments

Amendment No. 1, dated 25 October 2022

This Appraisal has been amended to add Table 1 for clarity.



In the opinion of BRANZ, **Ultibrac brackets** are fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided they are used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to **Mattoni Holdings Limited**, and is valid until further notice, subject to the Conditions of Appraisal.

Conditions of Appraisal

1. This Appraisal:
 - a) relates only to the product as described herein;
 - b) must be read, considered and used in full together with the Technical Literature;
 - c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
 - d) is copyright of BRANZ.
2. **Mattoni Holdings Limited**:
 - a) continues to have the product reviewed by BRANZ;
 - b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
 - c) abides by the BRANZ Appraisals Services Terms and Conditions;
 - d) warrants that the product and the manufacturing process for the product are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ pursuant to BRANZ's Appraisal of the product.
3. BRANZ makes no representation or warranty as to:
 - a) the nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
 - b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
 - c) any guarantee or warranty offered by **Mattoni Holdings Limited**.
4. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.
5. BRANZ provides no certification, guarantee, indemnity or warranty, to **Mattoni Holdings Limited** or any third party.

For BRANZ



Chelydra Percy

Chief Executive

Date of Issue:

05 August 2022