



## BRANZ Appraised

Appraisal No. 981 [2017]

## METALCRAFT CEILING BATTEN SYSTEM

Appraisal No. 981 [2017]

### BRANZ Appraisals

Technical Assessments of  
products for building and  
construction.



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## BRANZ

### BRANZ

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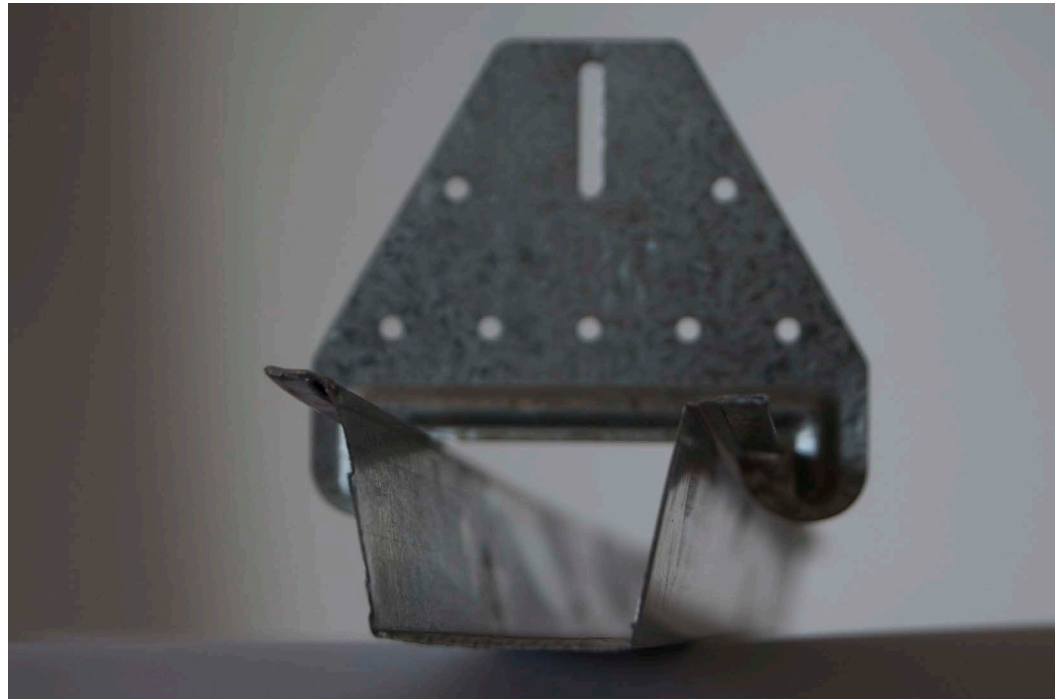
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## Product

- 1.1 The Metalcraft Ceiling Batten System is a light-gauge steel ceiling batten system for use in Residential and Commercial buildings. The ceiling battens are tophat steel channel sections formed from galvanised coil steel. The Metalcraft Ceiling Batten System also includes a roll-formed perimeter channel and hanger tabs. The components are screw-fixed to timber or steel ceiling framing.

## Scope

- 2.1 The Metalcraft Ceiling Batten System is appraised for use as ceiling battens directly supporting ceiling linings in buildings within the following scope:
  - on framed ceilings within the scope limitations on NZS 3604; and,
  - on timber and light gauge steel-framed ceilings subject to specific design.
- 2.2 The use of the Metalcraft Ceiling Batten System in structural applications such as part of a ceiling diaphragm, or as a part of fire resistance rated construction has not been assessed and is outside the scope of this Appraisal.

## Building Regulations

### New Zealand Building Code (NZBC)

- 3.1 In the opinion of BRANZ, Metalcraft Ceiling Batten System, 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. Metalcraft Ceiling Batten System meets the requirements for loads arising from self-weight and imposed gravity loads arising from use [i.e. B1.3.3 (a) and (b)].

**Clause B2 DURABILITY:** Performance B2.3.1 (b) 15 years and B2.3.2. Metalcraft Ceiling Batten System meets these requirements.

**Clause F2 HAZARDOUS BUILDING MATERIALS:** Performance F2.3.1. Metalcraft Ceiling Batten System meets this requirement and will not present a health hazard to people.



## Technical Specification

4.1 The Metalcraft Ceiling Batten System components supplied by Industrial Investments Group Limited are as follows:

- **Metalcraft Ceiling Batten** is a 35 mm deep trapezoidal top-hat steel-channel section with the flanges folded to double thickness, formed from galvanised coil steel (G550 grade, 0.55BMT, Z275) supplied by New Zealand Steel. It is available in 3.6, 4.8 and 6 m lengths. The Metalcraft Ceiling Batten features uniform indentations to the face to aid easy installation of self-drilling plasterboard screws.
- **The Metalcraft Perimeter Channel** is a roll-formed steel C-section formed from the same material as the Metalcraft Ceiling Batten and is available in 3 m lengths.
- **The Metalcraft Hanger Tab** is a pressed metal tab, stamped from galvanised coil steel (G300 grade, 0.75BMT, Z275) supplied by New Zealand Steel. It is screw fixed to the side of the supporting framing and readily facilitates the levelling and alignment of Metalcraft Ceiling Battens to allow for construction tolerances in timber framing prior to fixing of ceiling linings. The hanger tab is able to accommodate a drop of 25 mm from the underside of the ceiling joist.

4.2 Accessories used with the Metalcraft Ceiling Batten System which are supplied by the building contractor are:

### Fasteners:

- Fasteners for fixing Metalcraft Ceiling Batten System components to timber are 32 x 8 g wafer head, gold passivated, coarse thread screws.
- Fasteners for fixing Metalcraft Ceiling Batten System components to light steel framing are Konnect ST12 - 14 tpi x 20 mm CLS5 Steeltite self-drilling screws.

### Linings and Finishes:

- Installation of ceiling linings and other finishes over the Metalcraft Ceiling Batten System have not been assessed and are outside the scope of this Appraisal.

## Handling and Storage

5.1 The Metalcraft Ceiling Batten System components and accessories must be stacked flat off the ground and supported on a level platform. They must be kept dry at all times and care must be taken to avoid damage to the profiles.

## Technical Literature

6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for the Metalcraft Ceiling Batten System. The Technical Literature must be read in conjunction with this Appraisal. 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

### General

- 7.1 The Metalcraft Ceiling Batten is designed to be either directly screw fixed to the underside of rafters, ceiling joists, truss chords or floor joists through the double thickness flanges, or connected by way of Metalcraft Hanger Tabs.
- 7.2 The Metalcraft Perimeter Channel shall be screw-fixed to supporting framing at the perimeter of the room at 1200 mm maximum centres.
- 7.3 Metalcraft Hanger Tabs shall be fixed to the side of timber ceiling joists, truss chords or floor joists with three 32 x 8 g gold passivated, wafer head, coarse thread screws.
- 7.4 Metalcraft Hanger Tabs shall be fixed to the side of light steel ceiling joists, truss chords or floor joists with three Konnect ST12 - 14 tpi x 20 mm CLS5 Steeltite self-drilling screws.
- 7.5 Metalcraft Ceiling Battens can be fixed directly to the underside of timber ceiling joists, truss chords or floor joists with two 32 x 8 g gold passivated, wafer head, coarse thread screws.



- 7.6 Metalcraft Ceiling Battens can be fixed directly to the underside of light steel ceiling joists, truss chords or floor joists with two Konnect ST12 - 14 tpi x 20 mm CLS5 Steeltite self-drilling screws.
- 7.7 The Metalcraft Ceiling Batten System provides a dimensionally stable support frame for ceiling linings in non-structural or non-fire resistance rated situations.
- 7.8 The Metalcraft Ceiling Batten System is suitable for use in enclosed, dry environments. The use in other situations is outside the scope of this Appraisal.

### Framing

- 8.1 Timber framing behind the Metalcraft Ceiling Batten System must be treated as required by NZBC Acceptable Solution B2/AS1.
- 8.2 Timber framing must be designed and constructed in accordance with NZS 3604, or to a specific design using NZS 3603 and AS/NZS 1170;
- 8.3 Steel framing must be to a specific engineering design meeting the requirements of the NZBC, allowing for a maximum ceiling batten span of 1200 mm.
- 8.4 Timber framing supporting the Metalcraft Ceiling Batten System must remain dry in service. Refer paragraph 14.2 for information on moisture content.

### Structure

#### Load

- 9.1 The Metalcraft Ceiling Batten System is suitable to support single-layered ceiling linings up to a maximum weight of 25 kg/m<sup>2</sup> e.g. 13 mm plasterboard is nominally 12kg/m<sup>2</sup>. Ceiling battens shall be spaced at either 600 mm maximum or the maximum permissible span of the ceiling lining as specified by the proprietor, whichever is less. Ceiling battens shall span a maximum of 1200 mm between supporting framing for a continuous span, and 900 mm maximum for a single span. Multi-layered ceilings have not been assessed and are outside the scope of this Appraisal.
- 9.2 The Metalcraft Ceiling Batten system can support the weight of small, lightweight items with a maximum mass of 7.5 kg, fixed to the ceiling lining with not more than one item per 1 m<sup>2</sup>. Heavy items such as range hoods, garage door openers, large luminaires and the like must be fixed to truss chords, ceiling joists or floor joists or blocking fixed between these elements.

### Durability

#### Serviceable Life

- 10.1 The Metalcraft Ceiling Batten System when used in enclosed, dry environments is expected to have a serviceable life in excess of 50 years.

#### Maintenance

- 10.2 There are no maintenance requirements for the Metalcraft Ceiling Batten System components.

### Prevention of Fire Occurring

- 11.1 Separation or protection must be provided to Metalcraft Ceiling Batten System from heat sources such as fire places, heating appliances, flues and chimneys. Part 7 of NZBC Acceptable Solutions C/AS1 - C/AS6 and NZBC Verification Method C/VM1 provide methods for separation and protection of combustible materials from heat sources. The Metalcraft Ceiling Batten System itself is non-combustible, but separation from heat sources is required to prevent heat transfer to associated combustible elements such as timber or plasterboard.

### Electricity

- 12.1 Separation or protection to the Metalcraft Ceiling Batten System from electricity sources must be provided to avoid the risk of electric shock.



## Installation Information

### Installation Skill Level Requirement

- 13.1 Installation of the Metalcraft Ceiling Batten System must be completed by, or under the supervision of, a Licenced Building Practitioner with the relevant Licence Class, in accordance with the Technical Literature and this Appraisal.

### General

- 14.1 Metalcraft Ceiling Batten System must be installed in accordance with the Technical Literature. For inspection, reference must be made to the Technical Literature.

### Framing

- 14.2 To achieve an acceptable decorative finish, the ceilings must not be lined unless the moisture content of timber framing supporting the Metalcraft Ceiling Batten System is less than 18%. It is recommended that a moisture content of 8–12% is achieved where buildings are to be air conditioned or centrally heated.

### Cutting

- 14.3 The Metalcraft Ceiling Batten System components may be cut to length as required using tin snips or an angle grinder. Abrasive cutting techniques will damage the galvanised coating.

### Ceiling Batten Joints

- 14.2 The Metalcraft Ceiling Battens can be end-joined by butt joining where the ceiling battens meet the supporting framing.

### Health and Safety

- 15.1 Personal protective equipment must be used when handling or cutting the Metalcraft Ceiling Batten System components such as protective eyewear and gloves. Sharp cut edges should be filed smooth prior to fixing in place.
- 15.2 Dust resulting from the cutting or smoothing of components of the Metalcraft Ceiling Batten System may be a respiratory irritant, and the use of a suitable facemask is recommended.

## Basis of Appraisal

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

### Tests

- 16.1 The Metalcraft Ceiling Batten System has been assessed for bending stiffness and maximum loading capability. This assessment has been reviewed by BRANZ and found to be satisfactory.

### Investigations

- 17.1 The Metalcraft Ceiling Batten System Technical Literature has been examined by BRANZ and found to be satisfactory.
- 17.2 Site visits were carried out by BRANZ to assess the practicability of the installation of the systems, and to view completed installations.
- 17.3 An assessment was made of the durability of the systems by BRANZ technical experts and found to be satisfactory.



### Quality

- 18.1 Industrial Investments Group Limited's manufacturing process and details of the quality and composition of the materials, have been examined by BRANZ and found to be satisfactory.
- 18.2 Industrial Investments Group Limited is responsible for the quality of the product supplied.
- 18.3 The quality of the application of the Metalcraft Ceiling Batten System and subsequent finish of plasterboard linings on-site is the responsibility of the installation, stopping and finishing contractors.
- 18.4 Designers are responsible for the design of buildings.
- 18.5 Building owners are responsible for the maintenance in accordance with the instructions of Industrial Investments Group Limited.

### Sources of Information

- AS 1397: 2011 Continuous hot-dip metallic coated steel sheet and strip – Coatings of zinc and zinc alloyed with aluminium and magnesium.
- AS/NZS 1170: 2002 Structural design actions.
- NZS 3603: 1993 Timber structures standard.
- 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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23 January 2018

METALCRAFT CEILING BATTEN  
SYSTEM



**BRANZ**

In the opinion of BRANZ, the **Metalcraft Ceiling Batten System** is fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided it is used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to **Industrial Investments Group 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. **Industrial Investments Group 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 **Industrial Investments Group 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 **Industrial Investments Group Limited** or any third party.

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For BRANZ

**Chelydra Percy**

Chief Executive

Date of Issue:

23 January 2018