



**BRANZ Appraised**  
Appraisal No.524 [2007]

BRANZ Appraisals

Technical Assessments of products  
for building and construction

**BRANZ  
APPRAISAL  
CERTIFICATE  
No. 524 (2007)**

**CAVIBAT  
CAVITY BATTEN  
SYSTEM**

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## Product

1.1 Cavibat is an extruded fluted batten designed for use as a non-structural cavity batten in cavity-based wall cladding systems.

1.2 The Cavibat Cavity Batten System creates an 18 mm cavity, providing a secondary means of weather resistance by separating the cladding from the external wall framing, as well as providing an unobstructed path for any occasional ingress of water that may get past the external skin to drain to the exterior of the building. The Cavibat Cavity Batten System also acts as a total moisture barrier between the cladding and external wall frame.



## Scope

2.1 The Cavibat Cavity Batten System has been appraised for use as a non-structural cavity batten system for use with non-structural wall cladding systems on buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1; and,
- with a risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2; and,
- with cavity-based wall cladding systems complying with NZBC Acceptable Solution E2/AS1 or a valid BRANZ Appraisal Certificate that specifies a nominal 20 mm (minimum 18 mm) drained and vented cavity; and,
- situated in NZS 3604 Building Wind Zones up to, and including 'Very High'.

*(Note: Cavibat cavity battens can also be used on buildings subject to specific weathertightness design. Weathertightness design and detailing of these installations is the responsibility of the designer and is outside the scope of this Certificate. Cavibat cavity battens are not suitable for use where pressure equalized cavities are required.)*

## Building Regulations

### New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, the Cavibat Cavity Batten System if designed, used, installed and maintained in accordance with the statements and conditions of this Certificate, will meet or contribute to meeting the following provisions of the NZBC:

**Clause B1 STRUCTURE:** Performance B1.3.1, B1.3.2 and B1.3.4. The Cavibat Cavity Batten System meets the requirements for loads arising from wind and impact [i.e. B1.3.3 (h) and (j)]. See Paragraphs 9.1 - 9.3.

**Clause B2 DURABILITY:** Performance B2.3.1 (b), 15 years and B2.3.2. The Cavibat Cavity Batten System meets these requirements. See Paragraphs 10.1 and 10.2.

**Clause E2 EXTERNAL MOISTURE:** Performance E2.3.2. The Cavibat Cavity Batten System when used to form a drainage cavity behind a cladding system will contribute to meeting this requirement. See Paragraphs 13.1 - 13.5.

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

3.2 This Certificate appraises an **Alternative Solution** in terms of New Zealand Building Code compliance.

## Technical Specification

4.1 System components and accessories supplied by Cavity Batten Systems Limited are:

### Cavibat Cavity Battens

- Cavibat cavity battens are manufactured from extruded polypropylene. The battens are cut after extruding to a finished size of approximately 45 mm wide by 18 mm thick. The battens are supplied in 1200 mm long lengths.

4.2 System components and accessories supplied by the building contractor are:

- Cavibat cavity batten fixings – 40 x 2.5 mm flat head galvanised nails or galvanised or stainless steel finishing brads used to temporarily fix the battens in place until the cladding is installed.

## Handling and Storage

5.1 Handling and storage of the Cavibat cavity battens, whether on or off site, is under the control of the building contractor. Cavibat cavity battens must be protected from direct sunlight and physical damage, and should be stored flat and under cover.

## Technical Literature

6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for the Cavibat Cavity Batten System. The Technical Literature must be read in conjunction with this Certificate. All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Certificate must be followed.

## Design Information

### General

8.1 Cavibat cavity battens can be used to form drained cavities as specified by NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.2, except that Cavibat cavity battens can also be installed continuously in a horizontal orientation as ventilation and drainage is permitted through the batten flutes.

8.2 Cavibat cavity battens can be used as an alternative to the timber and polystyrene cavity battens specified within NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.4.

8.3 Cavibat cavity battens do not provide vermin proofing to the bottom of the drained cavity. A cavity vent strip complying with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.3 must be installed as part of the selected cladding system.

8.4 Where the Cavibat cavity battens are installed vertically or horizontally at greater than 450 mm centres, a building wrap support in accordance with NZBC Acceptable Solution E2/AS1 Paragraph 9.1.8.5 must be installed over the building wrap behind the cavity battens to prevent bulging of the building wrap into the drainage cavity.

8.5 Cavibat cavity battens are compatible with wood based, cement based, fibre cement, polystyrene based, metal and uPVC cladding products and kraft paper based and synthetic building wraps.

## Structure

9.1 The Cavibat cavity batten must be treated as a non-structural packer only. Fixing lengths for the cladding material must be as required for non-structural timber cavity battens. If the Cavibat cavity batten is to be used with a cladding system that was originally direct fixed, the fixing length must be increased by a minimum of 18 mm to ensure frame penetration depths are maintained.

### Impact Resistance

9.2 Cavibat cavity battens have adequate resistance to impact loads likely to be encountered in normal residential and commercial use. The battens also have adequate resistance to compressive loads likely to be encountered during fixing of the cladding.

### Wind Zone

9.3 Cavibat cavity battens are able to transfer the positive wind loads on the wall cladding to the structural wall frame. Cavibat cavity battens are suitable for use on buildings situated in all Building Wind Zones of NZS 3604, up to, and including 'Very High'.

## Durability

### Serviceable Life

10.1 Provided the Cavibat Cavity Batten System is not exposed to weather or ultra-violet (UV) light for a total of more than 60 days, it is expected to have a serviceable life of at least 15 years.

10.2 The Cavibat Cavity Batten System will have a durability equivalent to that of the cladding to meet code compliance with NZBC Clause B2.3.2 provided the cladding system is maintained in accordance with this Certificate and the batten is continually protected from UV light.

## Maintenance

11.1 No maintenance is required for the Cavibat Cavity Batten System. Regular checks, at least annually, must be made of the wall cladding, flashings and penetrations to ensure they are maintained weathertight and continue to perform their function, to ensure that water will not penetrate the cladding.

## Outbreak of Fire

12.1 The Cavibat Cavity Batten System must be separated from chimneys and flues in accordance with the requirements of NZBC Acceptable Solution C/AS1, Part 9 for the protection of combustible materials.

## External Moisture

13.1 Cavibat cavity battens alone will not prevent airflow into the roof space. The cavity must be sealed off from the roof space to meet code compliance with NZBC Clause E2.3.5.

13.2 Drained cavities constructed using the Cavibat Cavity Batten System allow excess moisture present at the completion of construction to be dissipated without permanent damage to building elements to meet code compliance with NZBC Clause E2.3.6.

13.3 Where a cladding manufacturer specifies a drained cavity that complies with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.2 as part of their system, the Cavibat Cavity Batten System may be used. Where a proprietary cladding system manufacturer specifies timber or polystyrene cavity battens as part of their system, permission must be obtained from the cladding manufacturer before the timber or polystyrene cavity battens are substituted with Cavibat cavity battens.

13.4 The detailing of the cladding system including junctions between the cladding system and external joinery, other wall penetrations, e.g. meter boxes, and other cladding and roofing junctions is the responsibility of the building designer for compliance with the NZBC. These details have not been assessed as part of this Appraisal.

13.5 The use of the Cavibat Cavity Batten System to form a drained cavity where there is a designed cavity drainage path for moisture that penetrates the cladding, does not reduce the requirements for junctions, penetrations etc of the cladding system to remain weather resistant.

## Installation Information

### Installation Skill Level Requirements

14.1 Installation of the Cavibat Cavity Batten System must be completed by competent tradespersons with an understanding of cavity construction.

### System Installation

#### Building Wrap and Flexible Sill and Jamb Tape Installation

15.1 The selected building wrap and flexible sill and jamb flashing tape must be installed in accordance with the wrap and flashing tape manufacturer's instructions prior to the installation of the Cavibat cavity battens.

#### Cavibat Cavity Battens

15.2 Cavibat cavity battens may be cut on site with a knife, hand saw or drop saw.

15.3 Cavibat cavity battens must be installed over the building wrap to the wall framing. The cavity battens must be fixed in place with 40 x 2.5 mm galvanised flat head nails or galvanised or stainless steel finishing brads at approximately 400 mm centres.

15.4 Where the studs are at greater than 450 mm centres, a building wrap support must be installed over the building wrap.

15.5 The battens must be installed in continuous lengths and may be installed vertically and/or horizontally to suit the requirements of the selected cladding.

#### Inspections

15.2 The Technical Literature must be referred to during the inspection of Cavibat Cavity Batten System installations.

## Health and Safety

16.1 There are no specific health and safety requirements for the Cavibat Cavity Batten System, however safe use and handling procedures for the components that make up the cladding system must be followed in accordance with the requirements of the relevant manufacturer's Technical Literature.

## Basis of Appraisal

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

### Tests

17.1 The following testing has been completed by BRANZ:

- Assessment of the face load strength of the Cavibat cavity batten was completed by fixing a representative cladding material through the cavity batten into timber framing. Power-driven nails, hand driven nails, wood screws and Tek screws were used to fix the cladding and the results were used in assessing the impact resistance of the Cavibat Cavity Batten System.
- BRANZ expert opinion on NZBC E2 code compliance for the Cavibat Cavity Batten System was based on testing to the relevant components of E2/VM1. The testing assessed the performance of the Cavibat cavity batten in a continuous vertical and horizontal orientation. In addition to the weathertightness test, the Technical Literature has been reviewed, and an opinion has been given by BRANZ technical experts that the Cavibat Cavity Batten System will meet the performance levels of Acceptable Solution E2/AS1 Third Edition July 2005 for drained cavity claddings.

### Other Investigations

18.1 A durability opinion has been given by BRANZ technical experts.

18.2 Site visits have been carried out by BRANZ to assess the practicability of installation, and to examine completed installations.

18.3 The Technical Literature for Cavibat Cavity Batten System has been examined by BRANZ and found to be satisfactory.

### Quality

19.1 The manufacture of the Cavibat cavity batten has been examined by BRANZ, including methods adopted for quality control. Details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

19.2 The quality of supply to the market is the responsibility of Cavity Batten Systems Limited.

19.3 Designers are responsible for the building design, and building contractors are responsible for the quality of installation of framing systems, building wraps, flashing tapes, airseals and cladding system in accordance with the instructions of the designer.

19.4 The quality of installation, handling and storage on site of the Cavibat cavity battens is the responsibility of the installer.

## Sources of Information

- NZS 3604: 1999 Timber framed buildings.
- Compliance Document for New Zealand Building Code External Moisture Clause E2, Department of Building and Housing, Third Edition July 2005.
- New Zealand Building Code Handbook and Approved Documents, Building Industry Authority, 1992.
- The Building Regulations 1992, up to, and including October 2004 Amendment.



**BRANZ**

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

**The Appraisal Certificate is issued only to the Certificate Holder, Cavity Batten Systems Ltd, and is valid until further notice, subject to the Conditions of Certification.**

### Conditions of Certification

1. This Certificate:
  - 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. The Certificate Holder:
  - 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.
3. The product and the manufacture are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ.
4. BRANZ makes no representation 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 the Certificate Holder.
5. Any reference in this Certificate to any other publication shall be read as a reference to the version of the publication specified in this Certificate.

For BRANZ

P Robertson  
Chief Executive

Date of issue: 21 March 2007