



BRANZ Appraised

Appraisal No.598 [2008]

BRANZ Appraisals

Technical Assessments of products
for building and construction

**BRANZ
APPRAISAL
No. 598 (2008)**

PLASTATEK JOINTING AND COATING SYSTEM

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Product

1.1 Plastatek is a jointing and coating system for use as a finishing system for Monotek® Sheet - Cavity Construction.

1.2 The system consists of a fibreglass mesh reinforced jointing plaster, followed by a fibreglass mesh reinforced, polymer-modified, cement-based plaster which is finished with a cement-based finishing plaster. The plaster system is finished with a 100% acrylic-based paint system.



Scope

2.1 Plastatek has been appraised for use as a jointing and coating system for Monotek® Sheet - Cavity Construction 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,
- situated in NZS 3604 Building Wind Zones up to, and including 'Very High'.

2.2 Plastatek has also been appraised for use as a jointing and coating system for Monotek® Sheet - Cavity Construction on buildings subject to specific design up to an ultimate limit state (ULS) wind pressure of 2500 Pa; and,

- constructed with timber framing complying with the NZBC; and,
- within the scope limitations of BRANZ Appraisal No. 466 (2005) Monotek® Sheet - Cavity Construction.

2.3 Monotek® Sheet - Cavity Construction must be used, designed and installed as described in BRANZ Appraisal No. 466 (2005) and the Monotek® Sheet - Cavity Construction Technical Literature.

2.4 Installation of components and accessories supplied by Plastabrick NZ Ltd must be carried out only by Plastabrick NZ Ltd licensed contractors.

Building Regulations

New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, Plastatek 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 B2 DURABILITY: Performance B2.3.1 (b), 15 years and B2.3.1 (c), 5 years. Plastatek meets these requirements. See Paragraphs 10.1 and 10.2.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. Plastatek when used to finish Monotek® Sheet - Cavity Construction meets this requirement. See Paragraphs 8.1-8.3 and 13.1 and 13.2.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Plastatek meets this requirement and will not present a health hazard to people.

3.2 This is an Appraisal of an **Acceptable Solution** in terms of New Zealand Building Code compliance. Plastatek meets the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 9.7.10.2. Plastatek has been appraised for use as a jointing and coating system for Monotek® Sheet - Cavity Construction, which is an Alternative Solution in terms of New Zealand Building Code compliance.

Technical Specification

4.1 System components and accessories supplied by Plastabrick NZ Ltd for Plastatek are:

Primers

- *Plastatek Resin* is a ready-to-use, acrylic-based primer. It is diluted 1 to 1 with clean drinking water then used to seal the face of the Monotek® sheets and sheet joints prior to plastering.

Plasters

- *Plastatek Jointing Plaster* is a polymer-modified, Portland cement-based plaster supplied in 20 kg bags and mixed on site with clean drinking water and 1 litre of Plastatek Resin per bag. It is trowel applied to the joints of the Monotek® Sheets as the bedding compound for the jointing mesh.
- *Plastatek Meshing Plaster* is a polymer-modified, Portland cement-based plaster supplied in 20 kg bags and mixed on site with clean drinking water. It is applied as the mesh coat in a minimum 2 mm layer followed by the embedment of fibreglass mesh reinforcement in the outer surface.
- *Plastacled 1.0 mm* is a polymer-modified, Portland cement-based finishing plaster supplied in 20 kg bags and mixed on site with clean drinking water. It is available in three grades to provide a textured, patterned or sponge finish.
- *Adobe* is a polymer-modified, Portland cement-based finishing plaster supplied in 20 kg bags and mixed on site with clean drinking water. It is formulated to achieve an undulating plaster finish.

Accessories

- Jointing Mesh - alkali-resistant fibreglass mesh with a nominal mesh size of approximately 4 x 4 mm and a minimum weight of 150 g/m². The mesh is supplied in rolls 65 mm wide.
- Reinforcing mesh - alkali-resistant fibreglass mesh with a nominal mesh size of approximately 4 x 4 mm and a minimum weight of 150 g/m². The mesh is supplied in rolls 1200 mm wide.
- Corner beads – plain uPVC or uPVC with fibreglass mesh corner mouldings.

Paint System Specification

- At least two coats of Extra Cover 100% acrylic-based exterior paint must be used over the finishing plasters to make the system weathertight and give the desired finish colour to exterior walls. Extra Cover is a 100% acrylic-based exterior paint formulated for use over cement-based plasters and is supplied in 4 litre, 10 litre and 20 litre pails. The paint colour selected must have an LRV of 40% minimum regardless of gloss value.

4.2 Accessories used with the system which are supplied by the licensed contractor are:

- Waterproof membrane tapes - tapes covered by a valid BRANZ Appraisal for use as waterproofing membranes over tops of plastered balustrades, fixing blocks and the like.
- Flexible sealant - sealant complying with NZBC Acceptable Solution E2/AS1, or sealant covered by a valid BRANZ Appraisal for use as a weather sealing sealant for exterior use.

Handling and Storage

5.1 Handling and storage of all materials supplied by Plastabrick NZ Ltd or the licensed contractor, whether on or off site, is under the control of Plastabrick NZ Ltd licensed contractors. Dry storage must be provided on site for the fibreglass mesh and bags and pails of plaster mix. uPVC corner moulds and profiles must be protected from direct sunlight and physical damage, and should be stored flat and under cover.

5.2 Plaster must be used within the designated shelf life from the date of manufacture.

Technical Literature

6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for Monotek® Sheet - Cavity Construction and Plastatek. 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

Fibre Cement Substrates

Monotek® Sheet - Cavity Construction

7.1 Monotek® Sheet - Cavity Construction must be designed and installed in accordance with BRANZ Appraisal No. 466 (2005) and the Monotek® Sheet - Cavity Construction Technical Literature.

General

8.1 Timber wall framing and cavity battens must have a moisture content of 20% or less at the time of the commencement of the Plastatek system.

8.2 The ground clearance to finished floor levels as set out in NZS 3604 must be adhered to at all times. At ground level paved surfaces, such as footpaths, must be kept clear of the bottom edge of the Plastatek system by a minimum of 100 mm, and unpaved surfaces by 175 mm in accordance with the requirements of NZBC Acceptable Solution E2/AS1, Table 18.

8.3 At balcony, deck or roof/wall junctions, the bottom edge of the Plastatek system must be kept clear of any adjacent surface, or above the top surface of any adjacent roof flashing by a minimum of 35 mm in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.3.6.

Control Joints

9.1 Control joints in the Plastatek system must be constructed in accordance with the Technical Literature, and be provided as follows:

- Vertical control joints - at maximum 5.4 m centres; aligned with any control joint in the fibre cement substrate, or where the cladding system abuts different cladding types.
- Horizontal control joints - at maximum 5.4 m centres and at inter-storey floor levels.

Durability

10.1 Plastatek meets code compliance with NZBC Clause B2.3.1 (b), 15 years for the jointing and plaster system, and code compliance with NZBC Clause B2.3.1 (c), 5 years for the exterior paint system.

Serviceable Life

10.2 Plastatek installations are expected to have a serviceable life of at least 15 years provided the paint finish system is maintained in accordance with this Appraisal.

Maintenance

11.1 Regular cleaning (at least annually) of the Plastatek plaster system is recommended to remove grime, dirt and organic growth, to maximise the life and appearance of the coating. Grime may be removed by brushing with a soft brush, warm water and detergent.

11.2 Annual inspections must be made to ensure that all aspects of the plaster system remain in a sound and weatherproof condition. Any damaged areas or areas showing signs of deterioration which would allow water ingress, must be repaired immediately. Sealant, paint coatings or the plaster system must be repaired in accordance with the instructions of Plastabrick NZ Ltd. Any damage to the substrate must be repaired and the advice of James Hardie New Zealand Limited must be sought.

11.3 Recoating of the paint system will be necessary throughout the life of the plaster system. The interval between recoats depends on the paint colour, orientation and quality of the application, and will be at approximately 8-10 yearly intervals in accordance with the instructions of Plastabrick NZ Ltd.

11.4 Minimum ground clearances as set out in this Appraisal must be maintained at all times.

(Note: Failure to adhere to the minimum ground clearances given in this Appraisal and the Technical Literature will adversely affect the long term durability of Plastatek.)

Control of External Fire Spread

12.1 Monotek® Sheet - Cavity Construction when finished with Plastatek is considered to meet the performance provisions of NZBC C3.3.5 for use as an external wall cladding when restricted to:

- Single storey buildings 1 m or more from the relevant boundary for all purpose groups.
- Buildings with a building height of less than 7 m and located 1 m or more from the relevant boundary, for all purpose groups other than SC and SD.
- Fully sprinklered buildings with a building height of less than 25 m and located 1 m or more from the relevant boundary

for all purpose groups other than SC, SD, SA and SR.

- Buildings containing purpose group SH, with a building height less than 10 m and located 1 m or more from the relevant boundary.

(Note: The building heights referenced in Paragraph 13.1 above are as defined in the Definitions Section of the Fire Safety Clauses of the NZBC.)

External Moisture

13.1 The Plastatek Jointing and Coating System, when installed and maintained in accordance with this Appraisal and the Technical Literature will meet code compliance with NZBC Clause E2.3.2.

13.2 The detailing of junctions between the Plastatek Jointing and Coating System and external joinery, other wall penetrations, e.g. meter boxes, and other cladding and roofing junctions are the responsibility of James Hardie New Zealand Limited for compliance with the NZBC. These details have not been assessed as part of this Appraisal but are covered by the Monotek® Sheet - Cavity Construction Appraisal.

Installation Information

Installation Skill Level Requirements

14.1 Installation and finishing of the Plastatek Jointing and Coating System must be completed by trained applicators, approved by Plastabrick NZ Ltd.

System Installation

Plastatek Jointing and Coating System

15.1 The Plastatek Jointing and Coating System must be installed in accordance with the Technical Literature.

Inspections

15.2 The Technical Literature must be referred to during the inspection of Plastatek installations.

Health and Safety

16.1 Safe use and handling procedures for the components that make up the Plastatek Jointing and Coating System are provided in 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:
- Plastatek has been tested to BRANZ EM 4 over Monotek® sheet.
 - BRANZ expert opinion on NZBC E2 code compliance for Monotek® Sheet - Cavity Construction was based on testing and evaluation of all details within the scope of the Monotek® Sheet - Cavity Construction Appraisal and as stated within this Appraisal. Monotek® Sheet - Cavity Construction was tested to E2/VM1. The testing assessed the performance of the foundation detail, window head, jamb and sill details, meter box head, jamb and sill details, vertical and horizontal control joints, internal and external corners and balustrade to wall junction with a plastered cap. In addition

to the weathertightness test, the details contained within the Monotek® Sheet - Cavity Construction Technical Literature have been reviewed, and an opinion has been given by BRANZ technical experts that the 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 Plastatek has been examined by BRANZ and found to be satisfactory.

Quality

- 19.1 The manufacture of the plasters 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 Quality of installation on site of the Plastatek Jointing and Coating System is the responsibility of the Plastabrick NZ Ltd licensed contractor.
- 19.3 Designers are responsible for the building design, and building contractors are responsible for the quality of installation of framing systems and joinery, building wraps, flashing tapes, airseals, joinery head flashings, cavity battens, Monotek® sheets etc in accordance with the instructions of James Hardie New Zealand Limited.
- 19.4 Building owners are responsible for the maintenance of Plastatek in accordance with the instructions of Plastabrick NZ Ltd.

Sources of Information

- NZS 3604: 1999 Timber framed buildings.
- BRANZ Evaluation Method No. 4 (2005) Test procedure for coating and jointing systems for flush finished fibre cement sheet cladding, 27 May 2005.
- BRANZ Appraisal No. 466 (2005) Monotek® Sheet - Cavity Construction.
- 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, Department of Building and Housing, Third Edition May 2007.
- The Building Regulations 1992, up to, and including June 2007 Amendment.



BRANZ

In the opinion of BRANZ, Plastatek Jointing and Coating 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 Plastabrick NZ Ltd, 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. [Plastabrick NZ Ltd](#):
 - 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. 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.
4. 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 [Plastabrick NZ Ltd](#).
5. 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.
6. BRANZ provides no certification, guarantee, indemnity or warranty, to [Plastabrick NZ Ltd](#) or any third party.

For BRANZ

C Preston
Chief Executive

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