



BRANZ Appraised

Appraisal No.500 [2007]

BRANZ Appraisals

**Technical Assessments of products
for building and construction**

**BRANZ
APPRAISAL
No. 500 (2007)**

**ROCKCOTE RESENE
MONOTEK® SYSTEMS**

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Product

1.1 The Rockcote Resene Monotek® Systems consists of the Rockcote Resene Monotek® **Texture** System and the Rockcote Resene Monotek® **Render** System, which are jointing and coating systems for use as finishing systems for Monotek® Sheet - Cavity Construction.

1.2 The Rockcote Resene Monotek® Texture System consists of a fibreglass mesh reinforced jointing plaster followed by a mineral filled, polymer-based, elastomeric high build pre-coloured coating.

1.3 The Rockcote Resene Monotek® Render System consists of a fibreglass mesh reinforced jointing plaster, a cement based polymer modified levelling coat to the entire sheet surface, followed by a mineral filled, polymer-based, high build trowel applied pre-coloured texture coating. The plaster system is finished with Resene X200 waterproof membrane.



Scope

2.1 The Rockcote Resene Monotek® Systems have been appraised for use as jointing and coating systems 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 The Rockcote Resene Monotek® Systems have also been appraised for use as jointing and coating systems 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 Rockcote Resene Limited must be carried out only by Rockcote Resene Limited Registered Applicators.

Building Regulations

New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, the Rockcote Resene Monotek® Systems 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. The Rockcote Resene Monotek® Systems meets these requirements. See Paragraphs 10.1 and 10.2.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. The Rockcote Resene Monotek® Systems 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. The Rockcote Resene Monotek® Systems 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. The Rockcote Resene Monotek® Systems meet the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 9.7.10.2. The Rockcote Resene Monotek® Systems have 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 supplied by Rockcote Resene Limited for the Rockcote Resene Monotek® **Texture** System are:

Joint and Sheet Primer

- *Resene Cemseal* is a ready-to-use, acrylic-based primer supplied in 4 and 10 litre pails. It is applied in one coat to seal the face of the Monotek® sheets and sheet joints prior to plastering.

Jointing Plaster

- *Rockcote MultiStop FRP Bedding Compound* is a polymer-modified, Portland cement-based thin section jointing plaster supplied in 15 kg bags and mixed on site with clean drinking water. It is trowel applied to the joints of the Monotek® Sheets as the bedding compound for the jointing mesh.

Levelling Plaster

- *Rockcote MultiStop FRP Bedding Compound* is a polymer-modified, Portland cement-based thin section plaster supplied in 25 kg bags and mixed on site with clean drinking water. It must be applied over the sheet joints, internal and external corners prior to application of the Resitex texture finish to feather out the joints level and flush.

Sealer

- *Resene Cemseal* is a ready-to-use, acrylic-based primer supplied in 4 and 10 litre pails. It is applied in one coat to seal the levelling plaster prior to application of the Resene Anchor Coat.

Resitex Texture Preparation

- *Resitex Anchor Coat* is a ready-to-use, acrylic-based keying primer supplied in 10 litre pails. It is applied in one coat to seal the levelling plaster and sheet surface prior to application of the Resitex texture coating.

Resitex Texture Coating

- Resitex texture coatings are ready mixed, tintable, mineral-filled, polymer-based, elastomeric high-build coating with in pail and dry film preservatives, supplied in 10 litre pails.

They are spray or trowel applied to an approximate thickness of 0.5 – 2.0 mm. The selected Resitex Texture colour must have a minimum light reflectance value (LRV) of 40%.

4.2 System components supplied by Rockcote Resene Limited for the Rockcote Resene Monotek® **Render** System are:

Joint and Sheet Primer

- *Resene Cemseal* is a ready-to-use, acrylic-based primer supplied in 4 and 10 litre pails. It is applied in one coat to seal the face of the Monotek® sheets and sheet joints prior to plastering.

Jointing Plaster

- *Rockcote MultiStop FRP Bedding Compound* is a polymer-modified, Portland cement-based thin section jointing plaster supplied in 15 kg bags and mixed on site with clean drinking water. It is trowel applied to the joints of the Monotek® Sheets as the bedding compound for the jointing mesh.

Levelling Plaster

- *Rockcote MultiStop FRP Bedding Compound* is a polymer-modified, Portland cement-based thin section plaster supplied in 25 kg bags and mixed on site with clean drinking water. It must be applied over the sheet joints, internal and external corners and over the entire sheet surface prior to application of the Rockcote texture finish.

Sealer

- *Resene Cemseal* is a ready-to-use, acrylic-based primer supplied in 4 and 10 litre pails. It is applied in one coat to seal the levelling plaster prior to application of the Rockcote texture coating.

Rockcote Texture Coating

- Rockcote Mineral Textures are ready mixed, tintable, mineral-filled, polymer-based, high-build finishing plasters with in pail and dry film preservatives, supplied in 15 litre pails. They are spray or trowel applied to an approximate thickness of 1.0, 2.0 or 3.0 mm. The selected Rockcote Texture colour must have a minimum light reflectance value (LRV) of 40%.

Paint System

- Resene X200 is an acrylic waterproofing membrane for use as a protective finish over Rockcote Textures. It is supplied in 4 and 10 litre pails and is brush, roller or spray applied. The protective finish coat must have a minimum LRV of 40%.

4.3 System accessories supplied by Rockcote Resene Limited for the Rockcote Resene Monotek® Systems are:

- Jointing Mesh - alkali-resistant fibreglass mesh with a nominal mesh size of approximately 5 x 4 mm and a minimum weight of 150 g/m². The mesh is supplied in rolls 70 mm wide.
- Vitrotex corner flashings – alkali-resistant glass woven fabric.
- uPVC corner beads – 25 x 25 mm, 90° white uPVC with white fibreglass mesh. Available in 2.5 m lengths.

4.4 Accessories used with the system which are supplied by the Registered Applicator 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 Rockcote Resene Limited or the approved applicator, whether on or off site, is under the control of Rockcote Resene Limited Registered Applicators. 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 and textures 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 Rockcote Resene Monotek® Systems. 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 Rockcote Resene Monotek® Systems.

8.2 At ground level the bottom edge of the Rockcote Resene Monotek® Systems must be kept clear of paved surfaces, for example footpaths, by a minimum of 100 mm and unpaved surfaces by 175 mm in accordance with NZBC Acceptable Solution E2/AS1, Table 18.

8.3 At balcony, deck or roof/wall junctions, the bottom edge of the Rockcote Resene Monotek® 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 Rockcote Resene Monotek® 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 The Rockcote Resene Monotek® Systems meet code compliance with NZBC Clause B2.3.1 (b), 15 years for the jointing and texture systems, and code compliance with NZBC Clause B2.3.1 (c), 5 years for the exterior paint system.

Serviceable Life

10.2 Rockcote Resene Monotek® Systems 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 Rockcote Resene Monotek® Systems 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. Refer to Rockcote Systems 'My Home' maintenance guide.

11.2 Annual inspections must be made to ensure that all aspects of the jointing and texture 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 jointing and texture system must be repaired in accordance with the instructions of Rockcote Resene Limited. 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 X200 paint system and Resitex texture coating will be necessary throughout the life of the system. The interval between recoats depends on the paint colour, orientation and quality of the application, and will be at approximately 7-10 yearly intervals in accordance with the instructions of Rockcote Resene Limited.

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 the Rockcote Resene Monotek® Systems.)

Control of External Fire Spread

12.1 Monotek® Sheet - Cavity Construction when finished with the Rockcote Resene Monotek® Systems 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 Rockcote Resene Monotek® Systems, 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 Rockcote Resene Monotek® Systems 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 Rockcote Resene Monotek® Systems must be completed by trained applicators, approved by Rockcote Resene Limited.

System Installation

Rockcote Resene Monotek® Systems

15.1 The Rockcote Resene Monotek® Systems must be installed in accordance with the Technical Literature.

15.2 The Rockcote Resene Monotek® Systems must only be applied when the air and substrate temperature is within the range of +8°C to +35°C.

Inspections

15.3 The Technical Literature must be referred to during the inspection of Rockcote Resene Monotek® System installations by building consent authorities and territorial authorities.

Health and Safety

16.1 Safe use and handling procedures for the components that make up the Rockcote Resene Monotek® Systems 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:

- The Rockcote Resene Monotek® Texture System and Rockcote Resene Monotek® Render System have been tested to BRANZ EM4 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 Rockcote Resene Monotek® System has been examined by BRANZ and found to be satisfactory.

Quality

19.1 The manufacture of the plasters and textures 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 management system of the primer, Rockcote and Resitex Textures and Resene X200 paint manufacturer, Resene Paints Ltd, has been assessed and registered as meeting the requirements of ISO 9001: 2000 by Telarc, Registration Number 387.

19.3 Quality of installation on site of the Rockcote Resene Monotek® Systems is the responsibility of the Rockcote Resene Limited Registered Applicator.

19.4 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.

19.5 Building owners are responsible for the maintenance of Rockcote Resene Monotek® Systems in accordance with the instructions of Rockcote Resene Limited.

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, 8 June 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, **Rockcote Resene Monotek® Systems** 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 **Rockcote Resene 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. **Rockcote Resene 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.
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 **Rockcote Resene Limited**.
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 **Rockcote Resene Limited** or any third party.

For BRANZ

C Preston
Chief Executive

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