



BRANZ Appraised
Appraisal No. 998 [2018]

RESENE CONSTRUCTION SYSTEMS MASONRY RENDER SYSTEM

Appraisal No. 998 [2018]
Amended 31 May 2019



BRANZ Appraisals

Technical Assessments of products
for building and construction.



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Product

- 1.1 The Resene Construction Systems Masonry Render System is a reinforced solid plaster system for use as a finishing system over substrates of concrete masonry, clay brick veneer, in-situ or pre-cast reinforced concrete.
- 1.2 The coating system consists of a minimum 5 mm thickness of fibreglass mesh reinforced polymer-modified plasters and high-build, tintable finishing plasters. The plaster is finished with a tintable protective finishing coat. The plaster can be applied to achieve different textured appearances.
- 1.3 The system incorporates Resene Construction Systems EdgeSeal joinery flashings.

Scope

- 2.1 The Resene Construction Systems Masonry Render System has been appraised as an exterior solid plaster finishing system for buildings within the following scope:
 - with substrates of concrete masonry, in-situ concrete or pre-cast concrete up to 3 storeys, with a maximum height from ground to eaves of 10 m; and,
 - with substrates of clay brick veneer designed and constructed in accordance with the scope limitations of NZBC Acceptable Solution E2/AS1, NZS 4210 and NZS 4229; and,
 - with floor plan area limited only by seismic and structural control joints; and,
 - with supporting structures designed and constructed in accordance with the NZBC; and,
 - situated in NZS 3604 Wind Zones up to, and including Extra High.
- 2.2 The Resene Construction Systems Masonry Render System has been appraised for bond, durability and weathertightness of the plaster system for concrete masonry, in-situ concrete or pre-cast concrete buildings subject to specific design with no building height or wind exposure restriction.

Limitations and Conditions

- 3.1 The Resene Construction Systems Masonry Render System must only be applied on vertical surfaces except for sills, concrete reinforced parapets and concrete reinforced balustrades which must have a minimum 10° slope and be waterproofed in accordance with the requirements of the Technical Literature and building designer.
- 3.2 The Resene Construction Systems Masonry Render System for use on buildings within the scope detailed in Paragraph 2.1, are appraised for use with aluminium window and door joinery that is installed with vertical jambs and horizontal heads and sills. [The Appraisal of the Resene Construction Systems Masonry Render System relies on the joinery meeting the requirements of NZS 4211 for the relevant Wind Zone.]
- 3.3 Installation of plasters and accessories supplied by Resene Constructions Systems and its approved applicators must be carried out only by Resene Constructions Systems approved applicators.



Building Regulations

New Zealand Building Code (NZBC)

4.1 In the opinion of BRANZ, the Resene Construction Systems Masonry Render 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 B2 DURABILITY: Performance B2.3.1 [b], 15 years, B2.3.1 [c], 5 years, and B2.3.2. The Resene Construction Systems Masonry Render System meets these requirements. See Paragraphs 10.1 and 10.2.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. The Resene Construction Systems Masonry Render System meets this requirement. See Paragraphs 14.1 - 14.3.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. The Resene Construction Systems Masonry Render System meets this requirement and will not present a health hazard to people.

Technical Specification

5.1 System components and accessories supplied by Resene Construction Systems are as follows:

Base, Levelling and Waterproofing Plasters

- A base [mesh] coat is applied using one of the following renders, followed by a subsequent coat of the same render to level the surface.
- **Coarse Mesh Render** 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 base coat in a minimum 2 mm layer followed by the embedment of fibreglass mesh reinforcement in the outer surface.
- **Rockcote PM100 Quick Render** is a dry mix, cement-based, polymer-modified plaster supplied in 20 kg bags and mixed on site with clean water. It is used as a base coat for bonding and bedding the fibreglass mesh and is trowel-applied to an approximate thickness of 4-5 mm.
- **Rockcote Mono5 Render** is a dry mix, cement-based, polymer-modified plaster supplied in 20 kg bags and mixed on site with clean water. It is used as a base coat for bonding and bedding the fibreglass mesh and is trowel-applied to an approximate thickness of 4-5 mm.
- **Resene Construction Systems RMaxx** is a high-yielding, cement-free dispersion based basecoat plaster supplied in 20 kg pails. It is applied as the base coat in a minimum 1.5 mm layer followed by the embedment of fibreglass mesh reinforcement in the outer surface. An additional 1.0-1.5 mm is applied to fully encase the mesh.
- **HydroPlast** is an acrylic dry powder with cement activator, that when mixed with water creates a flexible waterproofing render for use as a render over reinforced concrete balustrades and parapets, windows and door joinery sills and rebates. It is supplied in 10 kg bags and is applied over the levelling render with a trowel in a 1 mm layer followed by the embedment of fibreglass mesh reinforcement in the outer surface.

Primer

- **Rockcote Render Prime** is a water-borne acrylic, polymer dispersion, tintable coating supplied in 15 litre pails. It is brush or roller-applied as a primer between the selected base coat and acrylic texture.
- **Resene Limelock** is a water-borne acrylic, polymer dispersion, tintable coating supplied in 10 litre pails. It is brush or roller applied as a primer between the mineral textures and the finishing system.

Mineral Texture Coating

- **Resene Construction Systems Mineral Textures** are dry mix, cement-based, polymer-modified plasters, supplied in 20 kg bags and mixed on site with clean water. They are trowel or spray applied to an approximate thickness of 1.0 - 3.0 mm.



Acrylic Texture Coating

- **Resene Construction Systems** acrylic texture coatings are ready mixed, tintable, mineral-filled, polymer-based, elastomeric high-build coating with in pail and dry film preservatives, supplied in 15 litre pails. They are spray or trowel applied to an approximate thickness of 0.5 – 2.0 mm. The selected Resene Construction Systems texture colour must have a minimum light reflectance value [LRV] of 25%.

uPVC Primer, Plaster Modifier and Finishes

- **Multistop bedding compound** – used as a uPVC primer when mixed with diluted Acrylbond resin or water.
- **Acrylbond** is a water-based co-polymer resin supplied in 4 and 15 litre pails used as a plaster modifier.
- **Rockcote Premium Armour** is a water-borne 100% acrylic-based protective finish for use over Rockcote Textures. It is supplied in 4 and 15 litre pails and is brush or roller applied. The protective finish coat must have a minimum LRV of 25%.
- **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 25%.

Accessories

- **Reinforcing mesh** – an alkali-resistant fibreglass with a nominal mesh size of approximately 5.0 x 4.0 mm and an approximate weight of 160 g/m²
- **Sticky Mesh** – alkali-resistant fibreglass, 150 mm wide corner pieces.
- **uPVC components** – base caps, corner beads, vertical control joint, horizontal control joint, EdgeSeal jamb and head flashings.

5.2 Accessories used with the system which are supplied by the Resene Construction Systems approved applicator are:

- **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

6.1 Handling and storage of all materials supplied by Resene Construction Systems or the approved applicators, whether on or off site, are under the control of Resene Construction Systems approved applicators. Dry storage must be provided on site for the fibreglass mesh and bags of plaster. uPVC flashings and profiles must be protected from direct sunlight and physical damage and should be stored flat and under cover. Liquid components must be stored in frost-free conditions.

6.2 Handling and storage of all materials supplied by the building contractor, whether on or off site, are under the control of the building contractor. Materials must be handled and stored in accordance with the relevant manufacturer's instructions.

Technical Literature

7.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for the Resene Construction Systems Masonry Render 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. The Resene Construction Systems Masonry Render System listing on the BRANZ website excludes specific details. These details have not been assessed by BRANZ and are outside the scope of the Appraisal.



Design Information

Substrates

Concrete Masonry

- 8.1 Concrete Masonry must be designed and constructed in accordance with NZS 4210 and either NZS 4229 or AS/NZS 1170.

In-situ and Pre-cast Reinforced Concrete

- 8.2 In-situ and pre-cast reinforced concrete walls must be specifically designed in accordance with NZS 3101 and AS/NZS 1170 using the design guidelines.

Clay Brick Veneer

- 8.3 Clay brick veneer must be designed and constructed in accordance with NZBC Acceptable solution E2/AS1, NZS 4210 and NZS 4229. Ventilation and drainage opening requirements must be adhered to.

Control Joints

- 9.1 Control joints in the Resene Construction Systems Masonry Render System must be constructed in accordance with the technical literature, and be provided as follows:
- Aligned with any control joint in the underlying substrate; and,
 - At any junction where the underlying substrate material changes – e.g. where concrete masonry abuts in-situ or pre-cast reinforced concrete.

Durability

- 10.1 The Resene Construction Systems Masonry Render System meets the performance requirements of NZBC Clause B2.3.1 [b], 15 years for the plaster finish, and the performance requirements of NZBC Clause B2.3.1 [c], 5 years for the exterior paint system.

Serviceable Life

- 10.2 The Resene Construction Systems Masonry Render System is expected to have a serviceable life of at least 30 years provided the system is maintained in accordance with this Appraisal, and the plaster is continuously protected by a weathertight coating and remain dry in service.

Maintenance

- 11.1 Regular maintenance is essential to ensure the performance requirements of the NZBC are continually met and to ensure the maximum serviceability of the system.
- 11.2 Regular cleaning [at least annually] of the paint coating is required to remove grime, dirt and organic growth and to maximise the life and appearance of the coating. Grime may be removed by brushing with a soft brush, warm water and detergent. Paint systems must be recoated at approximately 7-10 yearly intervals in accordance with the paint manufacturer's instructions.
- 11.3 Annual inspections must be made to ensure that all aspects of the system, including the coating system, plasters, flashings and any sealed joints remain in a weatherproof condition. Any cracks, damaged areas or areas showing signs of deterioration which could allow water ingress, must be repaired immediately. The Resene Construction Systems Masonry Render System must be repaired in accordance with the instructions of Resene Construction Systems.
- 11.4 Minimum ground clearances as set out in this Appraisal and the Technical Literature must be maintained at all times during the life of the system. [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 Resene Construction Systems Masonry Render System.]



Control of External Fire Spread

- 12.1 The Resene Construction Systems Masonry Render System using Rockcote PM100 Quick Render with a mineral texture coating with the Rockcote Premium Armour protective finishing coat has an exterior surface finishes peak heat release rate of less than 100 kw/m² and a total heat released of less than 25 MJ/m². Testing was carried out as per NZBC Acceptable Solutions C/AS1 Paragraph 5.4 and C/AS2-C/AS6 Paragraph 5.8.1.
- 12.2 The Resene Construction Systems Masonry Render System using Rockcote PM100 Quick Render with a mineral or acrylic texture coating with the Resene X200 protective finishing coat has an exterior surface finishes peak heat release rate of less than 150 kw/m² and a total heat released of less than 50 MJ/m². Testing was carried out as per NZBC Acceptable Solutions C/AS1-C/AS6 Paragraph 5.8.1.
- 12.3 The Resene Construction Systems Masonry Render System using any other Resene Construction Systems base plaster, texture or surface finish has not been assessed for a peak heat release or total heat released rating.
- 12.4 Refer to NZBC Acceptable Solutions and Verification Methods C/AS1-C/AS7 and C/VM2 for Requirements for fire rating and exterior surface finish requirements of external walls.

Prevention of Fire Occurring

- 13.1 Resene Construction Systems Masonry Render System need not be separated from fireplaces, heating appliances, flues and chimneys. However, when used in conjunction with, or attached to heat sensitive materials, the heat sensitive material must be separated from fireplaces, heating appliances, flues and chimneys in accordance with the requirements of NZBC Acceptable Solutions C/AS1 to C/AS6, Paragraph 7.5.9 for the protection of combustible materials.

External Moisture

- 14.1 The Resene Construction Systems Masonry Render System, when installed in accordance with this Appraisal and the Technical Literature, prevents the penetration of moisture that could cause undue dampness or damage to building elements.
- 14.2 The Resene Construction Systems Masonry Render System allows excess moisture present at the completion of construction to be dissipated without permanent damage to building elements to meet the performance requirements of Clause E2.3.6.
- 14.3 The details given in the Technical Literature for weather sealing are based on the design principle of having a first and second line of defence against moisture entry for all joints, penetrations and junctions. The ingress of moisture must be excluded by detailing joinery and wall interfaces as shown in the Technical Literature. Weathertightness details that are developed by the designer are outside the scope of this Appraisal and are the responsibility of the designer for compliance with the NZBC.

Installation Information

Installation Skill Level Requirements

- 15.1 Installation and finishing of components and accessories supplied by Resene Construction Systems and its approved installers must be completed by trained applicators, approved by Resene Construction Systems.
- 15.2 Installation of the accessories supplied by the building contractor must be carried out in accordance with the Resene Construction Systems Masonry Render System Technical Literature and this Appraisal by, or under the supervision of, a Licensed Building Practitioner [LBP] with the relevant License Class.



System Installation

Joinery opening preparation

- 16.1 Joinery openings to concrete masonry, in-situ or pre-cast reinforced concrete walls shall be prepared in the first instance by the application of HydroPlast, a flexible waterproofing render, in accordance with the Technical Literature.

Aluminium Joinery Installation

- 16.2 Aluminium joinery must be installed by the building contractor in accordance with the Technical Literature. A 7.5 - 10 mm nominal gap must be left between the joinery reveal and the wall opening so a PEF rod and air seal can be installed after the joinery has been secured in place.

The Resene Construction Systems Masonry Render System

- 16.3 The system must be installed in accordance with the Technical Literature by Resene Construction Systems approved applicators.
- 16.4 The Resene Construction Systems Masonry Render System plaster system must only be applied when the air and substrate temperature is within the range of +5°C to +30°C.

Inspections

- 16.5 The Technical Literature must be referred to during the inspection of Resene Construction Systems Masonry Render System installations.

Finishing

- 16.6 The paint manufacturers' instructions must be followed at all times for application of the paint finish. The plaster must be cured for a minimum of 2-3 days and must be dry before commencing painting.

Health and Safety

- 17.1 Safe use and handling procedures for the components that make up the Resene Construction Systems Masonry Render 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

- 18.1 The following testing has been undertaken by BRANZ:
- BRANZ expert opinion on NZBC E2 code compliance for the Resene Construction Systems Masonry Render System was based on evaluation of all details within the scope and as stated within this Appraisal. The details contained within the Technical Literature have been reviewed, and an opinion has been given by BRANZ technical experts that the system will meet the performance levels of NZBC clause E2.

Other Investigations

- 19.1 Site visits of Resene Construction Systems Masonry Render System installations have been carried out by BRANZ to assess the practicability of installation, and to examine completed installations.
- 19.2 The Technical Literature for the Resene Construction Systems Masonry Render System has been examined by BRANZ and found to be satisfactory.

Quality

- 20.1 The manufacture of the plasters and finishes 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.



- 20.2 The quality of materials, components and accessories supplied by Resene Construction Systems is the responsibility of Resene Construction Systems.
- 20.3 Quality on site is the responsibility of the Resene Construction Systems approved applicators.
- 20.4 Designers are responsible for the building design, and building contractors are responsible for the quality of construction of underlying substrates, joinery and air seals in accordance with the instructions of Resene Construction Systems.
- 20.5 Building owners are responsible for the maintenance of the Resene Construction Systems Masonry Render System installations in accordance with the instructions of Resene Construction Systems.

Sources of Information

- AS 3730 Guide to the properties of paints for buildings.
- AS/NZS 1170: 2002 Structural design actions.
- NZS 3101: 2006 Concrete structures standard.
- NZS 3604: 2011 Timber-framed buildings.
- NZS 4210: 2001 Masonry construction: Materials and workmanship.
- NZS 4211: 2008 Specification for performance of windows.
- NZS 4229: 2013 Concrete masonry buildings not requiring specific engineering design.
- Acceptable Solutions and Verification Methods for New Zealand Building Code External Moisture Clause E2, Ministry of Business, Innovation and Employment, Third Edition July 2005 [Amendment 7, 01 January 2017].
- Ministry of Business, Innovation and Employment Record of Amendments for Compliance Documents and Handbooks.
- The Building Regulations 1992.

Amendments

Amendment No. 1, dated 31 May 2019

This Appraisal has been amended to reflect the change to usage specification for Hydroplast in paragraph 5.1.



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22 November 2018

RESENE CONSTRUCTION
SYSTEMS MASONRY PLASTER
SYSTEM



In the opinion of BRANZ, **Resene Construction Systems Masonry Plaster 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 **Rockcote Resene Ltd T/A Resene Construction Systems** 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 Ltd T/A Resene Construction Systems**
 - 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 **Rockcote Resene Ltd T/A Resene Construction Systems**.
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 **Rockcote Resene Ltd T/A Resene Construction Systems** or any third party.

For BRANZ

Chelydra Percy

Chief Executive

Date of Issue:
22 November 2018