BRANZ Appraised
Appraisal No. 883 [2015]

AEROBRICK VENEER CLADDING SYSTEM

Appraisal No. 883 (2015)

BRANZ Appraisals

Technical Assessments of products for building and construction.

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Product

1.1 The AeroBrick Veneer Cladding System is an external wall cladding system for use on single and two storey buildings where domestic construction techniques are used.

1.2 The system consists of autoclaved aerated concrete bricks (AeroBricks) installed using ties to form a 40-75 mm cavity. The coating system consists of 2-3 mm thickness of fibreglass mesh reinforced base coat plaster, followed by the application of 1-2 mm thick Spanish Finish, Float Finish or Texture Finish finishing plaster, which is then finished with a 100% acrylic exterior paint system.

Scope

2.1 The AeroBrick Veneer Cladding System has been appraised for use as a veneer cladding system for buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1 Paragraph 1.1 in terms of floor area, with a maximum of two stories; and,
- with a maximum height of brick veneer of 7.5 m above the supporting foundation, except that at gable ends and some piers this height may be up to 10.0 m, and a maximum height of 4.0 m above a roof line or 7.5 m above an adjacent building foundation, whichever is the lesser; and,
- with a depth of cavity of between 40 mm and 75 mm; and,
- with a risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1 Table 2; and,
- with timber framing constructed on slab-on-ground in accordance with NZS 3604 for brick veneer and/or concrete masonry foundation constructed in accordance with NZS 4229; and,
- situated in NZS 3604 Wind Zones up to and including Extra High.

2.2 The AeroBrick Veneer Cladding System is appraised for use with aluminium window and door joinery that is installed with vertical jambs and horizontal heads and sills. *[Note: The Appraisal of the AeroBrick Veneer Cladding System relies on the joinery meeting the requirements of NZS 4211 for the relevant Wind Zone.]*

2.3 Installation of plasters and accessories supplied by Specialized Construction Products Ltd and approved applicators must be carried out only by Specialized Construction Products Ltd approved applicators.

Building Regulations

3.1 **In the opinion of BRANZ, the AeroBrick Veneer Cladding 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. The AeroBrick Veneer Cladding System meets the requirements for loads arising from self-weight, earthquake [out of plane loading], wind, impact and creep and shrinkage [i.e. B1.3.3 [a], [f], [h], [j] and [q]]. See Paragraphs 11.1 – 11.9.

Clause B2 DURABILITY: Performance B2.3.1 [b] 15 years, B2.3.1 [c] 5 years and B2.3.2. The AeroBrick Veneer Cladding System meets these requirements. See Paragraphs 12.1 – 12.4.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. The AeroBrick Veneer Cladding System meets this requirement. See Paragraphs 16.1 – 16.5.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. The AeroBrick Veneer Cladding System meets this requirement and will not present a health hazard to people.

3.2 This is an Appraisal of an **Alternative Solution** in terms of New Zealand Building Code compliance.

Technical Specification

4.1 System components and accessories supplied by Specialized Construction Products Ltd for the AeroBrick Veneer Cladding System are:

AeroBricks

- AeroBricks are 75 mm thick, manufactured from autoclaved aerated concrete with an approximate density of 52 kg/m^2. AeroBricks are supplied 600 mm long x 200 mm high.

AeroBrick Mortar

- AERObond is a polymer modified, Portland cement-based adhesive mortar supplied in 20 kg bags and is mixed on site with clean water. It is trowel applied in a 10 mm +/- 2 mm layer to joint adjoining bricks and encase the brick tie. The AERObond mortar is tooled flush with the face of the AeroBricks.
- AERObond Concentrate is a polymer modified admixture for the site mixing of mortar. It is added at a rate of 80 g per mortar batch [5 litres of cement to 20 litres of wash-mixed sand].

Plasters

- Renderit is a polymer modified, Portland cement-based plaster supplied in 20 kg bags and is mixed on site with clean water. It is applied as the base coat in a minimum 2-3 mm layer followed by the embedment of fibreglass mesh reinforcement in the outer surface.
- Fine Mesh Coat is a polymer modified, Portland cement-based plaster supplied in 20 kg bags and is mixed on site with clean water. It is applied as the base coat around window and door joinery penetrations in a minimum 2-3 mm layer followed by the embedment of fibreglass mesh reinforcement in the outer surface. It is also used to achieve a heavy stucco texture finish when sprayed through a hopper gun or a sagola gun.
- Spanish Finish is a polymer modified, Portland cement-based finishing plaster supplied in 20 kg bags and is mixed on site with clean water. It is trowel applied in various thicknesses over the mesh coat to achieve an undulating style finish.
- Float Finish is a polymer modified, Portland cement-based finishing plaster supplied in 20 kg bags and is mixed on site with clean water. It is trowel applied in two coats [1-2 mm per layer] over the mesh coat and is polished flat to achieve a fine granular finish.
- Texture Finish is a polymer modified, Portland cement-based finishing plaster supplied in 20 kg bags and is mixed on site with clean water. It is spray applied in a 1-2 mm layer over the base coat to achieve a fine stippled finish.
- Tankit is an acrylic based, fibre reinforced waterproofing plaster membrane supplied in 20 litre pails. It can be used to seal the brick rebates in the concrete slab prior to installation of the AeroBricks.

Paint System Specification

- Exterior cementitous finishes have a high lime content which can effloresce to the surface of the paint finishes, creating a white layer of limestone commonly called efflorescence. This is especially noticeable with dark colours. Specialized Construction Products Ltd highly recommends the use of Limestop before the application of the required paint coating. Limestop is a water based primer that helps to make plaster hydrophobic, restricting the passage of moisture and reducing efflorescence. Limestop is supplied in 10 litre pails.
- At least two coats of a 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. Plastershield is a 100% acrylic-based exterior paint formulated for use over Specialized Construction Products Ltd cement-based finishing plasters. Plastershield is supplied in 10 litre pails.
- Specialized Construction Products Ltd allows the use of other acrylic exterior paint systems over the finishing plasters. An acrylic exterior paint system complying with any of Parts 7, 8, 9 or 10 of AS 3730 may be used. Paint colours must have a light reflectance value of 20% minimum regardless of gloss value. Proprietary paint systems not supplied by Specialized Construction Products Ltd have not been assessed and are therefore outside the scope of the Appraisal.

Accessories

- Reinforcing mesh - alkali-resistant fibreglass mesh with a nominal mesh size of 4 mm square and a weight of 160 g/m^2 for use in domestic and light commercial situations.
- uPVC components - brick head drip edge and 20 x 20 L bead.

4.2 Accessories used with the AeroBrick Veneer Cladding System which are supplied by the approved applicator are:

- Veneer ties and screw fixings - Grade EH ties and screws complying with AS/NZS 2699.1.
- Cement for site mixed mortar - Portland cement complying with NZS 3122.
- Sand for site mixed mortar - washed sand complying with NZS 3103. The sand must have a maximum salt content of 0.04% by mass.
- Steel lintels - hot-dip galvanised or stainless steel lintels complying with NZBC Acceptable Solution E2/AS1 Paragraph 9.2.9, Table D and Table E to support Aerobricks above window and door joinery openings.
- Shelf angle - hot-dip galvanised steel angle 75 mm high x 100 mm deep to support AeroBricks above the roof line on 2-storey construction. The shelf angle is fixed to the timber studs behind with M10 x 75 mm hot dip galvanised coach screws at maximum 600 mm centres. *[Note: Coastal locations as defined in NZS 3604 as Zone D and some Microclimatic conditions such as geothermal areas require corrosion proof lintels, brick ties and screws as per NZBC Acceptable Solution E2/AS1 Tables 18C and 18D.]*
- 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.

4.3 Accessories used with the AeroBrick Veneer Cladding System which are supplied by the building contractor are:

- Flexible wall underlay - building paper complying with NZBC Acceptable Solution E2/AS1 Table 23, or breather-type membranes covered by a valid BRANZ Appraisal for use as wall underlays.
- Flexible wall underlay support - polypropylene strap, 75 mm galvanised mesh, galvanised wire, or additional vertical battens for securing the flexible wall underlay in place and preventing bulging of the bulk insulation into the drainage cavity. *[Note: mesh and wire galvanising must comply with AS/NZS 4534.]*
- Rigid wall underlay - Plywood or fibre cement sheet complying with NZBC Acceptable Solution E2/AS1 Table 23, or rigid wall underlay covered by a valid BRANZ Appraisal for use as rigid sheathing systems.
- Flexible sill and jamb tapes - flexible flashing tapes complying with NZBC Acceptable Solution E2/AS1 Paragraph 4.3.11, or flexible flashing tapes covered by a valid BRANZ Appraisal for use around window and door joinery openings.

- Jamb and sill flashings – pliable polyethylene minimum 0.5 mm thick complying with the DPC/DPM requirements of NZBC Acceptable Solution E2/AS1 Table 23, or DPC's covered by a valid BRANZ Appraisal for use as concealed flashings.
- Window and door trim cavity air seal - air seals complying with NZBC Acceptable Solution E2/AS1 Paragraph 9.1.6, or self-expanding, moisture cure polyurethane foam air seals covered by a valid BRANZ Appraisal for use around window, door and other wall penetration openings.

Packaging, Handling and Storage

5.1 Handling and storage of all materials supplied by Specialized Construction Products Ltd or the approved applicators, whether on or off site is under the control of Specialized Construction Products Ltd approved applicators. AeroBricks and lintels must be handled with care to avoid physical damage, particularly to corners and edges, and must be stored so that they are protected from the weather. Dry storage must be provided for the fibreglass mesh and bags of plaster mix. 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.

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

Technical Literature

6.1 Refer to the Appraisals listing on the BRANZ Website for details of the current Technical Literature for the AeroBrick Veneer Cladding System. The Technical Literature must be read in conjunction with this Appraisal. All aspects of design, use, installation and maintenance contained within the Technical Literature and within the scope of this Appraisal must be followed.

Design Information

General

7.1 The AeroBrick Veneer Cladding System allows a brick veneer cladding to be erected to a height greater than that specified by NZBC Acceptable Solution E2/AS1, Section 9.2.

7.2 This system also allows the use of the veneer supported above roof lines on steel shelf angles coach screw fixed to the wall framing (see Paragraph 11.7).

7.3 The AeroBrick Veneer Cladding System is designed for use with a veneer cavity of 40-75 mm.

Framing

Timber Treatment

8.1 Timber wall framing behind the AeroBrick Veneer Cladding System must be treated as required by NZBC Acceptable Solution B2/AS1.

Timber Framing

8.2 Timber framing must comply with NZS 3604 for buildings or parts of a building within the scope limitations of NZS 3604. Buildings or parts of a building outside the scope of NZS 3604 must be to a specific design in accordance with NZS 3603 and the AS/NZS 1170 series. Studs must be at maximum 600 mm centres in Low, Medium, High and Very High Wind Zones and at maximum 400 mm centres in the Extra High Wind Zone. Dwangs must be fitted flush between the studs at maximum 800 mm centres.

8.3 The framing must have a maximum moisture content of 24% at the time of the cladding installation. *[Note: If AeroBricks bricks are fixed to framing with a moisture content of greater than 24% problems may occur at a later date due to excessive timber shrinkage.]*

General

9.1 Ventilation openings through the AeroBrick perpends at the base of the wall must provide a ventilation opening area of 1000 mm^2 per lineal metre of wall in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.3 (b). Ventilation openings at the top of the wall, or through AeroBrick perpends above window and door joinery penetrations, are not required.

9.2 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 cladding system by a minimum of 50 mm, and unpaved surfaces by 100 mm in accordance with the requirements of NZBC Acceptable Solution E2/AS1, Table 18.

9.2 At balcony, deck or roof/wall junctions, the bottom edge of the cladding 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.

9.2 All external walls of buildings must have barriers to airflow in the form of interior linings with all joints stopped for wind zones up to and including Very High, and rigid underlays for buildings in the Extra High wind zone. Unlined gables and walls must incorporate a rigid sheathing or an air barrier which meets the requirements of NZBC Acceptable Solution E2/AS1, Table 23. For attached garages, wall underlays must be selected in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.3.4. Where rigid underlays are used, the brick tie fixing length must be increased by a minimum of the thickness of the underlay.

9.2 Where the system abuts other cladding systems, designers must detail the junction to meet their own requirements and the performance requirements of the NZBC. Details not included within the Technical Literature have not been assessed and are outside the scope of this Appraisal.

Control Joints

10.1 Vertical control joints must be constructed in accordance with the Technical Literature, and be provided at maximum 12 m centres; aligned with any control joint in structural framing or foundation; where the height of the veneer changes by more than 20%; or where the system abuts different cladding types. *(Note: The design of vertical control joints where the system abuts different cladding types is outside the scope of this Appraisal and is the responsibility of the designer – see Paragraph 9.5.)*

Structure

Mass

11.1 The mass of the AeroBrick Veneer Cladding System is approximately 55 kg/m^2 at equilibrium moisture content, therefore it is considered a medium wall cladding in terms of NZS 3604.

Impact Resistance

11.2 The system has adequate resistance to impact loads likely to be encountered in normal residential use. The likelihood of impact damage to the system when used in light commercial type situations should be considered at the design stage, and appropriate protection such as the installation of barriers or bollards should be provided for vulnerable areas. *(Note: Additional coats of reinforced plaster or a heavier grade mesh can be used to increase impact resistance. This has not been assessed and is outside the scope of this Appraisal.)*

Wind Zones

11.3 The system is suitable for use in all Wind Zones of NZS 3604 up to, and including, Extra High.

Foundations

11.4 Foundation systems supporting the AeroBrick veneer must consist of concrete slab-on-ground systems complying with either NZS 3604 or NZS 4229 for brick veneer, or to specific engineering design.

Veneer Height

11.5 The maximum permitted height of veneer for the AeroBrick Veneer Cladding System is 7.5 m above its foundation support, except that at gable ends and some piers this height may be up to 10.0 m. Where veneer is above roofs, the maximum permitted height is 4.0 m above the veneer roof-line support, or 7.5 m above an adjacent building foundation, whichever is the lesser.

Wall Bracing Requirements

11.6 Bracing requirements of walls may be calculated by using the prescribed tables in NZS 3604 for medium weight wall claddings.

Supporting AeroBrick Bricks Above Roof Lines

11.7 Shelf angles must be used to support AeroBrick bricks above a roof line where no direct foundation support is available. The shelf angle must be fixed to the timber studs behind with M10 x 75 mm hot dip galvanised coach screws at maximum 600 mm centres.

Steel Lintels

11.8 Lintel angle sizes and details for spans up to 4.8 m are covered by NZBC Acceptable Solution E2/AS1 Paragraph 9.2.9, Table D and Table E.

AeroBrick Brick Ties

11.9 The AeroBricks are supported laterally by the veneer ties fixed to the framing. The ties must be Grade EH and fully embedded in the AeroBrick mortar and must be installed at maximum 600 mm horizontal centres and maximum 400 mm vertical centres (every second course).

Durability

Serviceable Life

12.1 The AeroBrick Veneer Cladding System meets the performance requirements of NZBC Clause B2.3.1 (b), 15 years for the cavity system, AeroBricks and plaster finish, and the performance requirements of NZBC Clause B2.3.1 (c), 5 years for the exterior paint system.

12.2 The AeroBrick Veneer Cladding 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 AeroBricks, ties, fixings and plaster are continuously protected by a weathertight coating and remain dry in service.

12.3 Coastal locations can be very corrosive to fasteners, especially locations within distances of up to 500 m from the sea including harbours, or 100 metres from tidal estuaries and sheltered inlets, and otherwise as shown in NZS 3604 Figure 4.2. These coastal locations are defined in NZS 3604 as Zone D. In Zone D, ties must be Grade 316, 316L or 304 stainless steel. Veneer ties outside Zone D must be protected in accordance with NZBC Acceptable Solution E2/AS1 Table 18C. Shelf angles and steel lintels must be protected in accordance with NZBC Acceptable Solution E2/AS1 Table 18D for the relevant Exposure Zone.

12.4 Microclimatic conditions, including geothermal hot spots, industrial contamination and corrosive atmospheres, and contamination from agricultural chemicals or fertilisers can convert a mildly corrosive atmosphere into aggressive environments for fasteners. The protection of fixings, ties, shelf angles and steel lintels in areas subject to microclimatic conditions requires specific design in accordance with NZS 3604 Paragraph 4.2.4, and is outside the scope of this Appraisal.

Maintenance

13.1 Regular maintenance is essential to ensure the performance requirements of the NZBC are continually met and to ensure the maximum serviceability of the system.

13.2 Annual inspections must be made to ensure that all aspects of the cladding system, including the paint coating system, plaster, flashings and any sealed joints remain in a weatherproof condition. Any cracks, damaged areas or areas showing signs of deterioration which would allow water ingress, must be repaired immediately. Sealant, paint coatings and the like must be repaired in accordance with the sealant or Specialized Construction Products Ltd's instructions.

13.3 Regular cleaning of the paint coating (at least annually) is recommended to remove any grime, dirt and organic growth that may have accumulated, and to maximise the life and appearance of the coating. Grime may be removed by brushing with a soft brush, warm water and detergent. The paint system must be recoated at approximately 5-10 yearly intervals in accordance with Specialized Construction Products Ltd's instructions.

13.4 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 ground clearances given in this Appraisal and the Technical Literature will adversely affect the long term durability of the system.)*

Control of External Fire Spread

14.1 The AeroBrick Veneer Cladding System has a peak heat release rate of less than 100 kW/m^2 and a total heat released of less than 25 MJ/m^2. In accordance with NZBC Acceptable Solution C/AS1 Table 5.1 the system is suitable for use on buildings with a SH Risk Group classification, at any distance to the relevant boundary. Refer to NZBC Acceptable Solutions C/AS2 – C/AS6 Paragraph 5.8.1 for the specific exterior surface finishes requirements for other building Risk Groups.

Prevention of Fire Occurring

15.1 Separation or protection must be provided to the AeroBrick Veneer Cladding 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.

External Moisture

16.1 The AeroBrick Veneer Cladding 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.

16.2 The cavity must be sealed off from the roof and sub-floor space to meet compliance with NZBC E2.3.5.

16.3 The AeroBrick Veneer Cladding System allows excess moisture present at the completion of construction to be dissipated without permanent damage to building elements to meet compliance with NZBC Clause E2.3.6.

16.4 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.

16.5 The use of the AeroBrick Veneer Cladding System where there is a designed cavity drainage path for moisture that penetrates the cladding, does not reduce the requirement for junctions, penetrations, etc to remain weather resistant.

Internal Moisture

17.1 The AeroBrick Veneer Cladding System alone does not meet NZBC Acceptable Solution E3/AS1, Paragraph 1.1.1(a). Buildings must be constructed with an adequate combination of thermal resistance and ventilation, and space temperature must be provided to all habitable spaces, bathrooms, laundries and other spaces where moisture may be generated or may accumulate.

Water Vapour

17.2 The AeroBrick Veneer Cladding System is not a barrier to the passage of water vapour, and when correctly installed will not create or increase the risk of moisture damage resulting from condensation.

Installation Information

Installation Skill Level Requirement

18.1 Installation and finishing of components and accessories supplied by Specialized Construction Products Ltd and its approved applicators must be completed by trained applicators, approved by Specialized Construction Products Ltd.

18.2 Installation of the accessories supplied by the building contractor must be completed by or under the supervision of a Licensed Building Practitioner with the relevant licence class, in accordance with the instructions given within the AeroBrick Veneer Cladding System Technical Literature and this Appraisal.

System Installation

Wall Underlay and Flexible Sill and Jamb Tape Installation

19.1 The selected wall underlay and flexible sill and jamb tape system must be installed by the building contractor in accordance with the underlay and tape manufacturer's instructions prior to the installation of the rest of the AeroBrick Veneer Cladding System. Flexible wall underlay must be installed horizontally and be continuous around corners. Underlay must be lapped 75 mm minimum at horizontal joints and 150 mm minimum over studs at vertical joints. Generic rigid underlay materials must be installed in accordance with NZBC Acceptable Solution E2/AS1 and be overlaid with a flexible wall underlay. Proprietary rigid wall underlay systems shall be installed in accordance with the manufacturer's instructions. Particular attention must be paid to the installation of the wall underlay and sill and jamb tapes around window and door openings to ensure a continuous seal is achieved and all exposed wall framing in the opening is protected.

Aluminium Joinery Installation

19.2 Aluminium joinery and associated head flashings 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 framing so a PEF rod and air seal can be installed after the joinery has been secured in place.

AeroBrick Veneer Cladding System

19.3 The system must be installed in accordance with the Technical Literature by a Specialized Construction Products Ltd approved applicator.

19.4 The AeroBrick plaster system must only be applied when the air and substrate temperature is within the range of +5°C to +30°C. A curing time of 48 hours must be allowed after laying the AeroBrick bricks before application of the AeroBrick plaster system.

Finishing

19.5 The paint manufacturer's 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.

Inspections

19.6 The Technical Literature must be referred to during the inspection of AeroBrick Veneer Cladding System installations.

Health and Safety

20.1 Cutting of AeroBricks must be carried out in well ventilated areas, and a dust mask and eye protection must be worn.

20.2 When power tools are used for cutting, grinding or forming holes, health and safety measures must be observed because of the amount of dust generated.

20.3 Safe use and handling procedures for the components that make up the AeroBrick Veneer Cladding 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

21.1 The following testing has been completed by BRANZ:

- BRANZ expert opinion on NZBC E2 code compliance for the AeroBrick Veneer Cladding System was based on evaluation of all details within the scope and 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 for rendered brick veneer cladding.
- BRANZ expert opinion on NZBC B1 code compliance for the AeroBrick Veneer Cladding System was based on testing and evaluation of the following properties; differential movement, mortar/brick bond, brick tie strength, lintel and shelf angle support.
- Durability testing of the AeroBricks. The testing included compressive strength, length change during moisture movement and mineralogy by x-ray diffraction crystallography.

Other Investigations

22.1 Structural and durability opinions have been provided by BRANZ technical experts.

22.2 The manufacturer's Technical Literature has been examined by BRANZ and found to be satisfactory.

22.3 The practicability of installation has been assessed by BRANZ.

Quality

23.1 The manufacture of the plasters has been examined by BRANZ, and details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

23.2 The manufacture of AeroBricks has been examined by an agent of 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.

23.3 The quality of materials, components and accessories supplied by Specialized Construction Products Ltd are the responsibility of Specialized Construction Products Ltd.

23.4 Quality on site is the responsibility of the Specialized Construction Products Ltd approved applicators.

23.5 Designers are responsible for the building design, and building contractors are responsible for the quality of installation of framing systems and joinery, wall underlays, flashing tapes, air seals and joinery head flashings in accordance with Specialized Construction Products Ltd's instructions.

23.6 Building owners are responsible for the maintenance of the AeroBrick Veneer Cladding System in accordance with Specialized Construction Products Ltd's instructions.

Sources of Information

- AS/NZS 1170 Series - Structural design actions.
- AS/NZS 2699.1: 2000 Built-in components for masonry construction – Wall ties.
- NZS 3103: 1991 Specification for sands and mortars and plasters.
- NZS 3122: 2009 Specification for Portland and blended cements (General and special purpose).
- NZS 3603: 1993 Timber structures standard.
- NZS 3604: 2011 Timber-framed buildings.
- NZS 4210: 2001 Masonry construction: Materials and workmanship.
- NZS 4211: 2008 Specification for performance of windows.
- Compliance Document for New Zealand Building Code External Moisture Clause E2, Department of Building and Housing, Third Edition July 2005 (Amendment 6, 14 February 2014).
- Ministry of Business, Innovation and Employment Record of Amendments for Compliance Documents and Handbooks.
- The Building Regulations 1992.

BRANZ

In the opinion of BRANZ, Aerobrick Veneer Cladding 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 Specialized Construction Products 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. Specialized Construction Products 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.
   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 Specialized Construction Products Ltd.
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 Specialized Construction Products Ltd or any third party.

For BRANZ

Chelydra Percy
Chief Executive

Date of Issue:
20 July 2015