BRANZ Appraised
Appraisal No. 690 [2017]

TWO STOREY BRICK VENEER SYSTEM

Appraisal No. 690 (2017)

This Appraisal replaces BRANZ Appraisal No. 690 (2010)

Amended 03 September 2021

BRANZ Appraisals

Technical Assessments of products for building and construction.

Clay Brick and Paver Manufacturers Association
Private Bag 92 066
Victoria Street West
Auckland 1142
Tel: 09 367 0913

BRANZ
1222 Moonshine Rd,
RD1, Porirua 5381
Private Bag 50 908
Porirua 5240,
New Zealand
Tel: 04 237 1170
branz.co.nz

Product

1.1 The Two Storey Brick Veneer System is a clay brick veneer cladding system specifically for use on two storey buildings.

1.2 The clay brick manufacturers whose bricks are covered by this Appraisal are as follows:

- NZ Brick Distributors
- Canterbury Clay Bricks
- Clay Bricks Ltd
- Brick and Stone Imports T/A Midland Brick NZ

Full contact details are given on page 9.

Scope

2.1 The Two Storey Brick Veneer 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, and 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 m, and a maximum height of 4 m above a roof line; and,
- with a depth of cavity of between 40 mm and 60 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 and/or concrete masonry foundation constructed in accordance with NZS 4229; and,
- situated in NZS 3604 Wind Zones up to, and including, Very High.

2.2 The Two Storey Brick Veneer 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 Two Storey Brick Veneer System relies on the joinery meeting the requirements of NZS 4211 for the relevant Wind Zone.]*

[Note: The Two Storey Brick Veneer System can be used to provide fire resistance rated construction, but this aspect has not been assessed and is outside the scope of this Appraisal.]

Building Regulations

New Zealand Building Code (NZBC)

3.1 **In the opinion of BRANZ, the Two Storey Brick Veneer 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 Two Storey Brick Veneer System meets the requirements for loads arising from self-weight, earthquake, wind, impact and creep and shrinkage [i.e. B1.3.3 (a), (f), (h), (j) and (q)]. See Paragraphs 8.1–8.19.

Clause B2 DURABILITY: Performance B2.3.1 (a) not less than 50 years. The structural support elements and hidden flashings meet this requirement. Performance B2.3.1 (b) 15 years. The brick veneer wall cladding meets this requirement. See Paragraphs 9.1–9.4.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. The Two Storey Brick Veneer System meets this requirement. See Paragraphs 12.1–12.3.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. The Two Storey Brick Veneer System meets this requirement.

Technical Specification

Clay Bricks

4.1 The Two Storey Brick Veneer System uses 70 to 90 mm thick bricks, which are extruded, kiln-fired clay bricks, nominally 230 to 350 mm long and from 48 to 200 mm high. The bricks are smooth, patterned or textured, of varying colour, and are manufactured to AS/NZS 4455.

Accessories

4.2 Accessories and materials used with the Two Storey Brick Veneer System that are supplied by the bricklayer or builder are:

- **Mortar** – complying with NZS 4210.
- **Metal brick ties and screw fixings** – complying with AS/NZS 2699.1.
- **Steel lintels and steel shelf angles** – complying with AS/NZS 2699.3.
- **Bricklock** – a galvanised double wire used as reinforcing in mortar joints over steel-less openings as described in this Appraisal.
- **Building wrap** – wrap complying with NZBC Acceptable Solution E2/AS1, Table 23, or breather-type membranes covered by a valid BRANZ Appraisal for use as wall wraps.
- **Flexible sill and jamb flashing 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 openings.
- **Joinery head flashings** – folded from aluminium or galvanised steel to suit window or door trim opening. Refer to NZS 3604, Section 4 and NZBC Acceptable Solution E2/AS1, Table 20 for material selection and durability requirements.
- **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 suitable for use around window, door and other wall penetration openings.
- **Roof support flashings** – butyl rubber or bituminous flashings complying with either Paragraph 4.3.9 or Paragraph 4.3.10 of NZBC Acceptable Solution E2/AS1. Coated or galvanised steel flashings are not suitable for this application.

Handling and Storage

5.1 Bricks are either packaged in plastic and delivered on pallets or delivered in strapped packs with no pallet. They 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.

5.2 Components such as brick ties, lintels and shelf angles must be handled so as to avoid damage. They must also be stored in dry locations protected from the weather.

5.3 Pre-bagged, pre-mixed mortar and/or bags of cement must be stored in dry locations protected from the weather.

Technical Literature

6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for the Two Storey Brick Veneer 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 Two Storey Brick Veneer System allows brick veneer cladding to be erected to a height greater than that specified by NZS 3604.

7.2 This system also allows the use of the veneer supported above roof lines on steel shelf angles or alternatively on support ledges constructed from sealed and flashed H3.2 treated timber plates nail and coach screw fixed to the wall framing (see Paragraph 8.12).

7.3 The system and Technical Literature apply for use only with 70 mm to 90 mm thick bricks.

7.4 The system is designed for use with a veneer cavity of 40-60 mm.

Structure

General

8.1 The Two Storey Brick Veneer System can be used with buildings designed to have floor loadings of up to 3 kPa capacity.

Foundations

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

8.3 Where the building under consideration is to be built on expansive soils (as defined by AS 2870), control joints may be necessary, and the advice of a design professional should be obtained.

Framing

8.4 The system can be used as a masonry veneer cladding for timber-framed buildings complying with NZS 3604, or for buildings to specific design in accordance with AS/NZS 1170 and NZS 3603.

8.5 All framing timber, including studs, floor joists and lintels must be kiln dried to a maximum of 18% moisture content.

8.6 Walls to which the veneer is attached must be constructed from 90 x 45 mm minimum, VSG8 or MSG8, or better, timber framing. Studs must be at maximum 400 mm centres.

8.7 The maximum span of any external opening where the veneer is supported over the opening must be in accordance with the lintel tables in the Technical Literature.

Timber Treatment

8.8 All framing timber including studs, floor joists, and lintels must be treated to a minimum of H1.2. Timber support ledges must be treated to a minimum of H3.2.

Veneer Height

8.9 The maximum permitted height of veneer for the Two Storey Brick Veneer System is 7.5 m above its foundation support. There are some special situations where a height of up to 10 m is allowed. These situations are described in the Technical Literature. Where veneer is above roofs, the maximum permitted height is 4 m above the veneer roof-line support, or 7.5 m above an adjacent building foundation, whichever is the lesser.

Wall Bracing Requirements

8.10 Bracing requirements of walls may be calculated by using the prescribed tables in NZS 3604. However, the Technical Literature contains alternative tables for use that reduce the level of bracing units required by taking account of the actual weight of the cladding.

Mass

8.11 For structural design purposes, 70 mm wide bricks have a mass of approximately 140 kg/m^2, and 90 mm wide bricks have a mass of approximately 180 kg/m^2. For other widths between these values, interpolation may be used.

Supporting Bricks Above Roof Lines

8.12 The Technical Literature offers two options for supporting bricks above a roof line where no direct foundation support is available. These options are:

- Timber framing option – a ledge of approximately 90 mm width is formed from two timber stringers nailed and coach screwed side-by-side to the framing. The veneer is supported on the timber after a waterproof membrane has been placed up the wall and over the timber to protect it, and to provide a flashing out over the roof.
- Steel shelf angle option – a galvanised steel angle is fixed to the framing as support for the veneer. A waterproof membrane is placed over the angle and out over the roof.

8.13 Where bricks are supported above roof lines as outlined above, and in the Technical Literature, these supports may be fixed in a horizontal position, such as at the head of the roof, or on an angle with the slope of the roof.

8.14 Options are also given for supporting veneer in the middle of a roof area such as may be found at the sides of dormer windows or at small gable ends. This option applies only where the face area of the brick veneer being supported is 1.5 m^2 or less, and the height of veneer is no more than 1.2 m. At dormer openings, three trimmer rafters are required for structural support in place of the normal two. For brick veneer outside the above limits specific engineering design is required.

Steel Lintel Angles

8.15 Lintel angle sizes and details for spans up to 4,800 mm are given in the Technical Literature.

Steel-less Openings

8.16 The Technical Literature also gives an option for the use of steel-less openings, as an alternative solution to steel lintel angles. Openings up to a maximum span of 3.7 m are permitted, providing there is timber support framing over the opening to which brick ties can be fixed. Where no timber framing is provided over the opening (e.g. such as may be found over garage doors), the normal steel lintel angles must then be provided for the brickwork support.

8.17 Steel-less openings are based on the engineering design principles of brick ties fixed to framing to support the bricks in courses immediately above the opening. Higher courses are supported by arch action to the adjacent walls once the mortar has cured. However, when using this system, the alternative span tables for timber lintels as set out in the Technical Literature must be used, along with details given in the Technical Literature.

8.18 The brickwork is supported by the veneer ties fixed to the framing, as well as Bricklock (a galvanised double wire) set in the first mortar course above the opening where the opening width is over 1.2 m, and the height of the brick veneer over the opening exceeds 400 mm. Installation must be strictly as set out in the Technical Literature. Brickwork constructed using this method must be temporarily supported until the mortar has cured.

Concrete Masonry Buildings

8.19 The Two Storey Brick Veneer System may also be used with concrete masonry buildings constructed in accordance with NZS 4229. A cavity, with a minimum width of 40 mm and maximum 60 mm, must be formed between the veneer and masonry structural wall, with the veneer attached to the concrete masonry by veneer ties mechanically fixed to the face of the masonry, all in accordance with the Technical Literature.

Durability

Serviceable Life

9.1 Kiln-fired clay bricks produced by the manufacturers listed at the end of this Appraisal will have a serviceable life of at least the life of the building, and in excess of 50 years.

9.2 Brick veneer ties, must meet the durability requirements of NZBC Acceptable Solution E2/AS1, Paragraph 9.2.7.1.

9.3 Flashings must comply with NZBC Acceptable Solution E2/AS1, Paragraph 9.2.4.

9.4 Lintels and shelf angles must meet the durability requirements of NZBC E2/AS1, Paragraph 9.2.9.

Maintenance

10.1 An inspection of the brick veneer must be carried out at least annually. Weep holes must be kept clear of dust, dirt, spider webs and the like to ensure that moisture can continue to drain from the cavity.

10.2 Where bricks or mortar are cracked, the cause must be determined (this may require a structural engineer's assessment) and repairs must be carried out to restore the cladding.

Prevention of Fire Occurring

11.1 The Two Storey Brick Veneer System is considered a non-combustible material and need not be separated from heat sources such as 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 heat sources such as fireplaces, heating appliances and chimneys. Part 7 of NZBC Verification Method C/VM1 and Acceptable Solution C/AS1, and Acceptable Solution C/AS2 provide methods for separation and protection of combustible materials from heat sources.

Fire Affecting Areas Beyond the Fire Source

Vertical Fire Spread

12.1 This Appraisal only covers buildings 10 m or less in height. NZBC Functional Requirement C3.2 identifies that external vertical fire spread to upper floors only needs be considered for buildings with a building height greater than 10 m. Control of external vertical fire spread is therefore outside the scope of this Appraisal.

Horizontal Fire Spread

12.2 The Two Storey Brick Veneer System is composed entirely of clay bricks and mortar and is therefore defined as non-combustible, as per NZBC Acceptable Solution C/AS2 Definitions. When clay bricks and mortar are uncoated or have a directly applied surface finish of no more than 1 mm in thickness, they can be used within 1 m of the relevant boundary. This meets the requirements of Paragraph 5.4 of NZBC Acceptable Solution C/AS1 and Paragraph 5.8.2 a) of NZBC Acceptable Solution C/AS2.

12.3 Refer to NZBC Acceptable Solutions C/AS1 and C/AS2, and Verification Method C/VM2 for fire resistance rating and control of external fire spread requirements for external walls.

External Moisture

13.1 The Two Storey Brick Veneer System, when installed in accordance with this Appraisal and the Technical Literature, on buildings with a risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2, prevents the penetration of moisture that could cause undue dampness or damage to building elements.

13.2 The cavity must be sealed off from the roof and subfloor space to meet code compliance with NZBC Clause E2.3.5.

13.3 The Two Storey Brick Veneer System allows excess moisture present at the completion of construction to be dissipated without permanent damage to building elements in compliance with NZBC Clause E2.3.6.

13.4 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.

Installation Information

Installation Skill Level Requirement

14.1 Installation of clay bricks, brick ties and shelf angles must only be carried out by competent bricklayers, in accordance with instructions given within the Two Storey Brick Veneer System Technical Literature and this Appraisal. Where the work involves Restricted Building Work (RBW) this must be completed by, or under the supervision of, a Licensed Building Practitioner (LBP) with the relevant License Class.

System Installation

Building Wrap and Tape Installation

15.1 The selected building wrap and flashing tape system must be installed by the building contractor in accordance with the wrap and tape manufacturers' instructions prior to the installation of the clay bricks. Particular attention must be paid to the installation of the building wrap and sill/jamb junction and head/jamb junction tapes at window and door openings to ensure a continuous seal is achieved and all exposed timber in the opening is protected.

Aluminium Joinery Installation

15.2 Adequate weather protection must be provided around door and window frames. Aluminium joinery must be installed so that a cover to the brick veneer of approximately 10–20 mm is provided when measured from the back of the brick to the front of the joinery flange.

15.3 Aluminium joinery must have a 7.5 mm nominal gap 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.

15.4 Head flashings must be provided at all openings of the brick veneer cladding as set out in the Technical Literature. Jambs must be flashed with the likes of a DPC flashing material attached to the opening stud over the building wrap and folded around into the back of the joinery flange. The jamb flashing material must overlap in front of the sill flashing upstands.

15.5 Sill flashings must be provided in the veneer cavity under all openings as described in the Technical Literature.

Clay Brick Installation

15.6 If at all possible, bricks should be of one single batch. If this is not possible, bricks from two batches should be thoroughly mixed to avoid obvious colour variations. It is recommended that bricks be selected from at least 3 different pallets or packs simultaneously.

15.7 Pallets or packs of bricks should always be kept covered so that they are laid dry. If rain is likely during construction, the top course and cavity should be covered to reduce the likelihood of efflorescence occurring on the surface of the bricks.

15.8 Brickwork should be cleaned thoroughly as construction progresses, as mortar stains can be difficult to remove later. If acid is used for cleaning, industry guidelines must be followed with respect to methods of use and disposal.

15.9 Bricks must not be stack bonded, and should be at least quarter bonded.

15.10 Mortar joints may be between 7 and 13 mm thick, with the recommended thickness being 10 mm. Joints may be raked to a maximum depth of 6 mm and should be tooled to provide a hard smooth surface to reduce water absorption.

15.11 If mortar is site batched, it must be carefully mixed (in the volumes described in NZS 4210, Table 2.1 for the required durability requirement) to ensure consistent colour and bond strength. Pre-mixed mortar is recommended for its consistency in both strength and colour, as well as its low level of chloride salts.

Brick Tie Installation

15.12 Brick ties must be screw fixed to the framing at the spacings given in the Technical Literature, and must angle down from the framing toward the brick veneer at a 5° slope.

15.13 Brick ties may be dry bedded, i.e. the tie is fixed so that it lies on the top surface of the brick and the mortar bed placed on top of it, rather than bedding the tie within the mortar bed.

Bricks Above Roof Lines Support Installation

15.14 The brick above roof line support should not be fixed to the framing until the veneer below has reached its full height so that the veneer is correctly aligned.

15.15 Where a steel shelf angle is to be fixed above a roof, it is recommended that temporary timber blocks be cut to the slope of the rafter below and the correct height, then tack nailed to provide temporary support until the steel angle is permanently fixed. The angle is then fixed to the studs with 75 x 10 mm coach screws at 400 mm centres.

15.16 Where the brick above roof line support slopes, bricks must be cut to the angle at which the support slopes, and be laid on a 10 mm thick mortar bed.

15.17 Where steel angles are proposed, they should be ordered from the fabricator and clearly marked with a marking pen so that their location according to the building drawings is uniquely identified. Holes should be drilled 11 mm diameter at 25 mm down from the top of the vertical flange, sharp edges filed and the bare metal surfaces of galvanised steel angles painted as soon as possible with 2 coats of zinc rich primer. For quality, drilling and painting is best carried out in a fabricator's workshop.

15.18 When fixing steel angles to the framing 6 mm pilot holes must first be drilled in the studs to take the coach screws.

15.19 Brick above roof line supports must be installed in accordance with the Technical Literature prior to the installation of the brick veneer. Building papers or wraps must be installed over the steel angle upstand.

15.20 Where brick above roof line has timber supports, the installation, including fixing spacing, must be in accordance with the Technical Literature.

15.21 Where steel angle or timber supports are used, the cavity must be flashed to the outside in accordance with the Technical Literature.

15.22 Where these supports are horizontal, any joints in the flashings must be permanent and watertight.

General

15.23 During and after brick veneer installation it is recommended that, if possible, internal linings be attached to timber frames by screwing rather than nailing in order to avoid vibration to the cladding that could produce hairline cracks in the mortar.

15.24 Any brick veneer covered by this Appraisal may be painted, bagged or plastered as long as the weight limitations of Table 2.3 of NZS 4210 are not exceeded for the type of brick tie used. Painting, bagging or plastering is outside the scope of this Appraisal.

Inspections

15.25 The Technical Literature must be referred to during the inspection of the Two Storey Brick Veneer System installations by building consent authorities and territorial authorities. Flashing installation is a critical point for inspection.

Health and Safety

16.1 Cutting of clay bricks with power tools should be carried out in well ventilated areas, and a dust mask and eye protection should be worn.

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:

- BRANZ expert opinion on NZBC E2 code compliance for the Two Storey Brick Veneer System was based on testing and evaluation of all details within the scope and stated within this Appraisal. The Two Storey Brick Veneer System was tested to NZBC 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 control joints, internal and external corners and a pipe penetration. In addition to the weathertightness test, 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 Acceptable Solution E2/AS1 for drained cavity buildings.

Other Investigations

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

18.2 Site inspections were carried out by BRANZ to assess methods used for construction of the Two Storey Brick Veneer System and to inspect completed systems.

18.3 Assessment has been made of the structural aspects and durability of the system and opinions given by BRANZ technical experts.

Quality

19.1 The manufacture of clay bricks by the companies listed at the end of the Appraisal has been examined by BRANZ, and details of the quality and composition of the materials used were obtained and found to be satisfactory.

19.2 The manufacturers listed under Contact Details are responsible for the quality of bricks supplied.

19.3 Various component suppliers are responsible for the supply of components used with the system.

19.4 Designers are responsible for the design of the building and incorporating the wall cladding system in accordance with the Technical Literature.

19.5 Quality on-site for construction of the Two Storey Brick Veneer System is the responsibility of the building contractor and the bricklayer in accordance with the instructions of the brick manufacturers that are the current members of the Clay Brick and Paver Manufacturers Association.

19.6 Building owners are responsible for the maintenance of the Two Storey Brick Veneer System in accordance with the instructions of the brick manufacturer.

Sources of Information

- AS 2870:2011 Residential slabs and footings.
- AS/NZS 1170:2002 Structural design actions.
- AS/NZS 2699.1:2000 Built-in components for masonry construction – Wall ties.
- AS/NZS 2699.3:2002 Built-in components for masonry construction – Lintels and shelf angles [durability requirements].
- AS/NZS 4455:2008 Masonry units, pavers, flags and segmental retaining wall units.
- 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.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.

Contact Details

The contact details for the clay brick manufacturers covered by this Appraisal are:

nzbrick DISTRIBUTORS	**NZ Brick Distributors** Unit 1-99 Sawyers Arms Road Papanui Christchurch 8052 Tel: 0800 BRICKS [274 257] Fax: 03 354 0226 Web: www.nzbrickdistributors.co.nz
Canterbury ClayBricks	**Canterbury Clay Bricks** 1 Horndon St Darfield Tel: 03 318 8203 Fax: 03 318 8171 Web: www.clay-bricks.co.nz
Clay Bricks Ltd — Dare To be Different!	**Clay Bricks Ltd** 50 Tregoweth Lane Huntly Tel: 07 828 9919 Fax: 07 828 9913 Web: www.claybricks.co.nz
Midland Brick NZ CLAY BRICKS & PAVERS	**Brick and Stone Imports T/A Midland Brick NZ** 8 Cowley Place Albany Auckland Tel: 09 414 1075 Fax: 09 414 1073 Web: www.midlandbrick.co.nz

Amendments

Amendment No. 1, dated 03 September 2021.

This Appraisal has been amended to reflect building code updates relating to fire.

BRANZ

In the opinion of BRANZ, Two Storey Brick Veneer 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 Clay Brick and Paver Manufacturers Association, 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. Clay Brick and Paver Manufacturers Association:
   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 Clay Brick and Paver Manufacturers Association.
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 Clay Brick and Paver Manufacturers Association or any third party.

For BRANZ

Chelydra Percy
Chief Executive

Date of Issue:
22 August 2017