



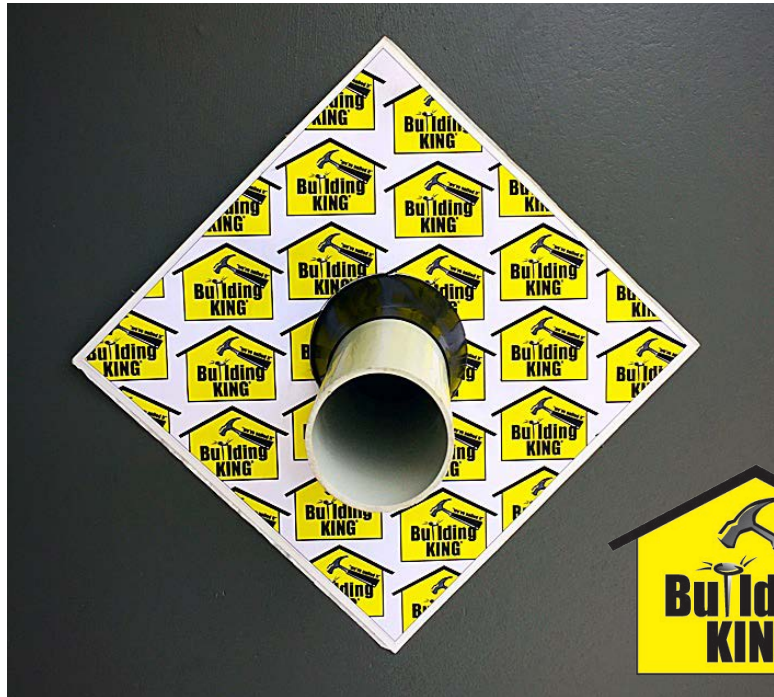
## BRANZ Appraised

Appraisal No. 932 [2017]

## BUILDING KING BUILDING SEAL

## PIPE AND SERVICES PENETRATION SEAL

Appraisal No. 932 [2017]



### BRANZ Appraisals

Technical Assessments of products for building and construction.



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## BRANZ

### BRANZ

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## Product

- 1.1 Building King Building Seal is a wall cladding pipe and service penetration seal consisting of an elastic EPDM sleeve fitted with a self-adhesive flange.

## Scope

- 2.1 Building King Building Seal has been appraised for use as a pipe and service penetration seal for use where the pipes and service penetration penetrates the wall underlay on timber framed buildings within the following scope:
  - the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1; and,
  - with BRANZ Appraised flexible and rigid wall underlays; and,
  - situated in NZS 3604 Wind Zones up to, and including Extra High.
- 2.2 Building King Building Seal has been appraised for use as a pipe and service penetration seal for use where the pipes and service penetration penetrates the wall underlay on steel framed buildings within the following scope:
  - the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1, with regards to building height and floor plan area; and,
  - with BRANZ Appraised flexible and rigid wall underlays; and,
  - situated in NZS 3604 Wind Zones up to, and including Extra High.
- 2.3 Building King Building Seal has also been appraised for use on buildings subject to specific weathertightness design. Building designers are responsible for the building design and for the incorporation of Building King Building Seal into their design in accordance with the declared properties and the instructions of Building King Limited.

## Building Regulations

### New Zealand Building Code (NZBC)

- 3.1 In the opinion of BRANZ, Building King Building Seal, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet or contribute to meeting the following provisions of the NZBC:

**Clause B2 DURABILITY:** Performance B2.3.1 (b), 15 years and B2.3.2. The Building King Building Seal meets these requirements. See Paragraphs 8.1 and 8.2.

**Clause E2 EXTERNAL MOISTURE:** Performance E2.3.2. When used as part of the wall cladding system, Building King Building Seal will contribute to meeting this requirement. See Paragraphs 7.1 - 7.4 and 11.1.

**Clause F2 HAZARDOUS BUILDING MATERIALS:** Performance F2.3.1. The Building King Building Seal meets this requirement and will not present a health hazard to people.

## Technical Specification

- 4.1 Building King Building Seal is an EPDM sleeve bonded to a carrier material of spun-bonded high density polyethylene film 150 micron thick. The carrier material is backed with a self-adhesive layer. The Building King Building Seal is available with various diameter EPDM sleeve sizes to accommodate different sized wall penetrations.

## Handling and Storage

- 5.1 Building King Building Seal must be protected from damage and weather. It must be stored under cover in clean, dry conditions away from direct exposure to sunlight, heat or flame. Building King Building Seals should not be removed from the packaging until they are ready to use.
- 5.2 Handling and storage of the Building King Building Seal, whether on-site or off-site, is the responsibility of the installer.

## Technical Literature

- 6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for Building King Building Seal. The Technical Literature must be read in conjunction with this Appraisal. All aspects of design, use, installation and maintenance contained within the scope of this Appraisal and the Technical Literature must be followed.

## Design Information

### General

- 7.1 Building King Building Seal when used with BRANZ Appraised flexible and rigid wall underlays provides an Alternative Solution to the pipes and services penetrations specified in NZBC Acceptable Solution E2/AS1, Paragraph 9.1.9.3 and Figure 68.
- 7.2 Building King Building Seal is primarily designed to prevent moisture ingress at pipes and services penetrations through walls.
- 7.3 The performance of Building King Building Seal is reliant on it being the correct size for the pipe or service penetration and being fully adhered to the flexible or rigid wall underlay. Building King Building Seal must be protected from UV light when installed.
- 7.4 Building King Building Seal can be applied to either side of the flexible or rigid wall underlay to provide a seal for pipes and services penetrations.
- 7.5 Where a proprietary cladding system is used, all flashing details must be carried out in accordance with the specifications of the system. Flashing details which are outside the scope of the cladding system are the responsibility of the designer for compliance with the NZBC.

### Durability

- 8.1 Assessment of durability to meet the NZBC is based on the difficulty of access and replacement, and the ability to detect failure of the Building King Building Seal during both normal use and maintenance of the building.

### Serviceable Life

- 8.2 Provided the selected flexible and rigid wall underlay is not exposed to the weather or ultra-violet light for longer than stated in the relevant Appraisal, [a maximum of 90 days applies to the Building King Building Seal] and provided the exterior cladding is maintained in accordance with the cladding manufacturer's instructions and the cladding remains weather resistant, Building King Building Seal is expected to have a serviceable life equal to that of the cladding.

### Maintenance

- 9.1 No maintenance is required for Building King Building Seal, however regular checks must be made of the cladding system to ensure it is sound and will not allow moisture penetration.

## Prevention of Fire Occurring

- 10.1 Separation or protection must be provided to Building King Building Seal 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

- 11.1 Building King Building Seal provides suitable flashing and sealing around pipe and service penetrations when used in conjunction with BRANZ Appraised wall underlays and will contribute to the wall cladding meeting code compliance with NZBC Clause E2.3.2.

## Installation Information

### Installation Skill Level Requirements

- 12.1 Installation must always be carried out in accordance with the Building King Building Seal Technical Literature and this Appraisal by, or under the supervision of, a Licensed Building Practitioner [LBP] with the relevant Licence Class.

### General

- 13.1 The appropriate diameter Building King Building Seal must be used. There must be a tight fit around the pipe or service penetration, but Building King Building Seal should not be forced over the pipe or service penetration.
- 13.2 The flexible and rigid wall underlays to receive the Building King Building Seal must be clean and dry. Building King Building Seal must be rotated a quarter turn so the point of the Building King Building Seal flange is upwards before adhering it to the substrate. This will assist moisture run off. The flange is smoothed over to ensure a good bond to the flexible or rigid wall underlay.
- 13.3 The Building King Building Seal collar extension can be trimmed to ensure the best fit to the penetration after application.
- 13.4 When the Building King Building Seal is used in a retrofit installation, the collar extension is pushed through from the inside.

## Basis of Appraisal

The following is a summary of the technical investigations carried out:

### Tests

- 14.1 Adhesion testing after various forms of accelerated aging has confirmed the adhesion of Building King Building Seal to a range of flexible and rigid wall underlays. The results have been reviewed by BRANZ experts and found to be satisfactory.

### Other Investigations

- 15.1 Assessment of the composition of the materials used to make Building King Building Seal has been completed and a durability opinion has been provided by BRANZ experts.
- 15.2 The practicability of installation was assessed by BRANZ and found to be satisfactory.
- 15.3 The Technical Literature has been reviewed by BRANZ and found to be satisfactory.



### Quality

- 16.1 The manufacture of Building King Building Seal has not been examined by BRANZ but details of the quality and composition of the materials used were obtained and found to be satisfactory.
- 16.2 The quality of supply to the market is the responsibility of Building King Limited.
- 16.3 The quality of installation on site is the responsibility of the installer.
- 16.4 Designers are responsible for the building design, and building contractors are responsible for the quality of the installation of the framing system, the wall underlay and cladding system.
- 16.5 Building owners are responsible for the maintenance of the cladding system over the Building King Building Seal.

### Sources of Information

- NZS 3604: 2011 Timber-framed buildings.
- 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 February 2017].
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.



In the opinion of BRANZ, **Building King Building Seal** 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.

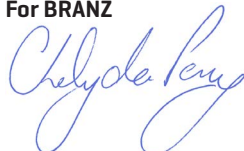
The Appraisal is issued only to **Building King Ltd**, and is valid until further notice, subject to the Conditions of Appraisal.

### 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. **Building King 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 **Building King 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 **Building King Ltd** or any third party.

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For BRANZ



**Chelydra Percy**

Chief Executive

Date of Issue:

11 August 2017