



BRANZ Appraised
Appraisal No. 719 [2011]

**TRADE-SEAL
PIPE AND SERVICES
PENETRATION SEAL**

Appraisal No. 719 [2011]
Amended 16 June 2014



BRANZ Appraisals

Technical Assessments of
products for building and
construction.



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Product

- 1.1 TRADE-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 TRADE-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 TRADE-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 TRADE-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 TRADE-SEAL into their design in accordance with the declared properties and the instructions of Marshall Innovations Limited.

Building Regulations

New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, TRADE-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 TRADE-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, TRADE-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 TRADE-SEAL 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 NZBC compliance.

Technical Specification

4.1 TRADE-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 TRADE-SEAL is available with various diameter EPDM sleeve sizes to accommodate different size wall penetrations.

Handling and Storage

5.1 TRADE-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. TRADE-SEALS should not be removed from the packaging until they are ready to use.

5.2 Handling and storage of the TRADE-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 TRADE-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 TRADE-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 TRADE-SEAL is primarily designed to prevent moisture ingress at pipes and services penetrations through walls.

7.3 The performance of TRADE-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. TRADE SEAL must be protected from UV light when installed.

7.4 TRADE-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 TRADE-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 TRADE-SEAL] and provided the exterior cladding is maintained in accordance with the cladding manufacturer's instructions and the cladding remains weather resistant, TRADE-SEAL is expected to have a serviceable life equal to that of the cladding.

Maintenance

- 9.1 No maintenance is required for TRADE-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 TRADE-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 TRADE-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 of the product supplied by Marshall Innovations Limited must be completed by competent trades people in accordance with the Technical Literature and this Appraisal.

General

- 13.1 The appropriate diameter TRADE-SEAL must be used. There must be a tight fit around the pipe or service penetration, but TRADE-SEAL should not be forced over the pipe or service penetration.
- 13.2 The flexible and rigid wall underlays to receive the TRADE-SEAL must be clean and dry. TRADE-SEAL must be rotated a quarter turn so the point of the TRADE-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 TRADE-SEAL collar extension can be trimmed to ensure the best fit to the penetration after application.
- 13.4 When the TRADE-SEAL is used in a retrofit installation, the collar extension is pushed through from the inside.

Health and Safety

- 14.1 Safe use and handling procedures for TRADE-SEAL is provided in the Technical Literature.

Basis of Appraisal

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

Tests

- 15.1 Adhesion testing after various forms of accelerated aging has confirmed the adhesion of TRADE-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

- 16.1 Assessment of the composition of the materials used to make TRADE-SEAL has been completed and a durability opinion has been provided by BRANZ experts.
- 16.2 The practicability of installation was assessed by BRANZ and found to be satisfactory.
- 16.3 The Technical Literature has been reviewed by BRANZ and found to be satisfactory.

Quality

- 17.1 The manufacture of TRADE-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.
- 17.2 The quality of supply to the market is the responsibility of Marshall Waterproofing NZ /AUS Ltd.
- 17.3 The quality of installation on site is the responsibility of the installer.
- 17.4 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.
- 17.5 Building owners are responsible for the maintenance of the cladding system over the TRADE-SEAL.

Sources of Information

- NZS 3604: 2011 Timber-framed buildings.
- Acceptable Solutions and Verification Methods for New Zealand Building Code External Moisture Clause E2, Department of Building and Housing, Third Edition July 2005 (including Amendment 6, 14 February 2014).
- Ministry of Business, Innovation and Employment Record of Amendments for Compliance Documents and Handbooks.
- The Building Regulations 1992.

Amendments

Amendment No. 1, dated 15 April 2013.

This Appraisal has been amended to update Appraisal Holder details.

Amendment No. 2, dated 30 October 2013.

This Appraisal has been amended to update clause changes as required by the introduction of NZBC Fire Clauses C1 – C6 Protection from Fire and A3 Building Importance Levels.

Amendment No. 3, dated 16 June 2014.

This Appraisal has been amended to update installation options.



In the opinion of BRANZ, **TRADE-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 **Marshall Innovations Limited**, and is valid until further notice, subject to the Conditions of Appraisal.

Conditions of Appraisal

1. This Appraisal:
 - a) relates only to the product as described herein;
 - b) must be read, considered and used in full together with the technical literature;
 - c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
 - d) is copyright of BRANZ.
2. **Marshall Innovations Limited:**
 - a) continues to have the product reviewed by BRANZ;
 - b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
 - c) abides by the BRANZ Appraisals Services Terms and Conditions.
 - 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 **Marshall Innovations Limited**.
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 **Marshall Innovations Limited** or any third party.

For BRANZ



Pieter Burghout

Chief Executive

Date of Issue:

23 December 2011