



**BRANZ Appraised**

Appraisal No.643 [2011]

**BRANZ Appraisals**

**Technical Assessments of products  
for building and construction**

**BRANZ  
APPRAISAL  
No. 643 (2011)**

This Appraisal replaces BRANZ  
Appraisal No. 643 (2010) issued  
10 August 2010.

**TYVEK® FLEXWRAP™  
FLEXIBLE FLASHING  
TAPE**

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## Product

1.1 Tyvek® Flexwrap™ is a flexible flashing tape for use around framed joinery openings as a secondary weather resistant barrier.

1.2 Tyvek® Flexwrap™ is installed into and around the framed joinery opening over the flexible wall underlay and exposed frame to cover both the face and edge of the opening framing. Tyvek® Flexwrap™ is also used at joinery heads to seal flashing upstands to the flexible wall underlay.



## Scope

2.1 Tyvek® Flexwrap™ has been appraised as a flexible flashing system for use around window and door joinery openings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1; and,
- with a risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2; and,
- with wall cladding systems complying with NZBC Acceptable Solution E2/AS1 or a valid BRANZ Appraisal that specifies a flexible flashing system; and,
- with flexible wall underlays compatible with the flashing tape; and,
- situated in NZS 3604 Wind Zones up to, and including, 'Extra High'.

2.2 Tyvek® Flexwrap™ has also been appraised as a flexible flashing system for use around window and door joinery openings of steel framed buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, with regards to building height and floor plan area; and,
- constructed with steel framing complying with the NZBC; and,
- with a risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2; and,
- with wall cladding systems covered by a valid BRANZ Appraisal that specifies a flexible flashing system; and,
- with flexible wall underlays compatible with the flashing tape and steel frame; and,
- situated in NZS 3604 Wind Zones up to, and including, 'Extra High'.

## Building Regulations

### New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, Tyvek® Flexwrap™, 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. Tyvek® Flexwrap™ meets these requirements. See Paragraphs 8.1 and 8.2.

**Clause E2 EXTERNAL MOISTURE:** Performance E2.3.2. Tyvek® Flexwrap™ contributes to meeting this requirement. See Paragraphs 7.1 - 7.4 and 11.1.

**Clause F2 HAZARDOUS BUILDING MATERIALS:** Performance F2.3.1. Tyvek® Flexwrap™ 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 The products supplied by Tasman Insulation New Zealand Limited are:

- Tyvek® Flexwrap™ which is a flexible, mouldable, tear-resistant flashing tape available in boxes containing a roll 175 mm wide and 22.8 m long. It is a double-layer tape manufactured with a facing of elastic Tyvek® (polyethylene) backed with a self-sealing, highly adhesive butyl rubber and a peel back release liner.
- Tyvek® Contractor Tape™ is a thin polypropylene adhesive tape, available in rolls 48 mm wide and 50 m long.

### Handling and Storage

5.1 Handling and storage of all materials supplied by Tasman Insulation New Zealand Limited, whether on or off site, is under the control of the installer. Tyvek® Flexwrap™ components must be protected from damage and weather. Rolls must be stored under cover, in clean, dry conditions away from direct exposure to sunlight.

## Technical Literature

6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for Tyvek® Flexwrap™. 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.

## Design Information

### General

7.1 Contact Tasman Insulation New Zealand Limited for details of the flexible wall underlays that are compatible with the system. The installation method for Tyvek® Flexwrap™ follows the installation guidelines shown within NZBC Acceptable Solution E2/AS1, Figures 72A and 72B.

7.2 The use of flexible flashing systems around window and door joinery openings is critical to assist the overall weathertightness performance of window and door joinery installations.

7.3 Tyvek® Flexwrap™ is designed to prevent air leakage and water penetration around window and door openings at framing junctions (e.g. at the sill trimmer and opening stud junction), and to keep any water that gets past the cladding, or through the joinery, from direct contact with the framing.

7.4 Tyvek® Flexwrap™ is not designed to overcome poor detailing and workmanship of the window or door joinery installation. The system must not be considered in isolation, but be considered as part of the wall cladding system. Tyvek® Flexwrap™ is designed to be used in conjunction with air seals and joinery flashing systems, not as a substitute.

7.5 When Tyvek® Flexwrap™ is used in conjunction with LOSP (light organic solvent preservative) treated timber, the solvent from the timber treatment must be allowed to evaporate (generally at least one week) prior to the installation of the system.

### Durability

8.1 Assessment of durability to meet the NZBC is based on difficulty of access and replacement, and the ability to detect failure of Tyvek® Flexwrap™ both during normal use and maintenance of the building.

### Serviceable Life

8.2 Provided it is not exposed to the weather or ultra-violet light for a total of more than 30 days, and provided the exterior cladding is maintained in accordance with the cladding manufacturer's instructions and the cladding remains weather resistant, Tyvek® Flexwrap™ is expected to have a serviceable life equal to that of the cladding.

### Maintenance

9.1 No maintenance is required for Tyvek® Flexwrap™. Regular checks, at least annually, must be made of the junctions between the joinery and wall cladding to ensure that they are maintained weathertight and that the primary means of weather resistance for the junction, e.g. flashing, sealant, etc continues to perform its function, to ensure that water will not penetrate the cladding.

### Outbreak of Fire

10.1 Tyvek® Flexwrap™ must be separated from chimneys and flues in accordance with the requirements of NZBC Acceptable Solution C/AS1, Part 9 for the protection of combustible materials.

### External Moisture

11.1 Where a cladding manufacturer specifies the use of generic flashing tapes around window and door joinery openings at framing junctions as part of their system, or they specify the use of flexible flashing tapes that comply with NZBC E2/AS1, Paragraph 9.1.5(b), Tyvek® Flexwrap™ may be used.

## Installation Information

### Installation Skill Level Requirements

12.1 Installation of Tyvek® Flexwrap™ must be completed by tradespersons with an understanding of flexible flashing systems, in accordance with instructions given within the Tyvek® Flexwrap™ Technical Literature and this Appraisal.

## General

13.1 The selected flexible wall underlay must be installed in accordance with the manufacturer's instructions, and must completely cover the joinery opening. The underlay is then cut on a 45° angle away from each corner of the opening so the flaps can be folded into the opening and secured to the interior face of the framing.

13.2 Before Tyvek® Flexwrap™ is applied, the substrate surfaces must be clean, dry and free from any surface contaminants such as dust and grease that may cause loss of adhesion.

13.3 A length of Tyvek® Flexwrap™ must be cut to the length of the sill plus 400 mm. The tape is installed flush with the interior face of the opening and is applied over the entire length of the sill and 200 mm up each jamb.

13.4 At the corners the Tyvek® Flexwrap™ is fanned out over the face of the wall and pressed firmly onto the wall underlay.

13.5 A 400 mm length of Tyvek® Flexwrap™ must be installed 200 mm down the jamb and 200 mm along the lintel at each of the top corners of the window or door joinery opening.

13.6 The fanned corners are secured with Tyvek® Contractor Tape™ or clouts while the adhesive bond of the Tyvek® Flexwrap™ tape strengthens.

13.7 If Tyvek® Flexwrap™ is exposed to the weather or UV light for more than 30 days, it must be replaced with new material.

### Installation Temperature

13.8 Tyvek® Flexwrap™ must not be installed at temperatures of less than 5°C.

### Inspections

13.9 The Technical Literature must be referred to during the inspection of Tyvek® Flexwrap™ installations.

16.3 The quality of supply to the market is the responsibility of Tasman Insulation New Zealand Limited.

16.4 Designers are responsible for the building design, and building contractors are responsible for the quality of installation of framing systems and flexible wall underlays in accordance with the instructions of the designer.

16.5 The quality of installation, handling and storage on site is the responsibility of the installer in accordance with the instructions of Tasman Insulation New Zealand Limited.

## Sources of Information

- ICC Evaluation Service, Inc, AC148 Acceptable Criteria for Flexible Flashing Materials, July 2001.
- NZS 3604: 2011 Timber-framed buildings.
- Compliance Document for the New Zealand Building Code External Moisture Clause E2, Department of Building and Housing, Third Edition July 2005 (including Amendment 5, 1 August 2011).
- New Zealand Building Code Handbook, Department of Building and Housing, Third Edition (Amendment 12, 10 October 2011).
- The Building Regulations 1992.

## Basis of Appraisal

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

### Tests

14.1 Testing of Tyvek® Flexwrap™ has been completed by BRANZ to the requirements of ICC Evaluation Service Acceptance Criteria for Flashing Materials AC148. The adhesion of Tyvek® Flexwrap™ to black bituminous Kraft building paper complying with the requirements of NZBC Acceptable Solution E2/AS1, Table 23 and selected other synthetic wall underlays has been tested and found to be satisfactory.

### Other Investigations

15.1 An assessment was made of the durability of Tyvek® Flexwrap™ by BRANZ technical experts.

15.2 Site inspections were carried out by BRANZ to examine the practicability of installation.

15.3 The Technical Literature has been reviewed by BRANZ and found to be satisfactory.

### Quality

16.1 The manufacture of Tyvek® Flexwrap™ 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 manufacturer of the Tyvek® Flexwrap™ product, E.I. du Pont de Nemours and Company, Richmond, VA 23234, USA, is certified for compliance with ISO 9001:2008 by the Underwriters Laboratories Inc.



**BRANZ**

In the opinion of BRANZ, Tyvek® Flexwrap™ Flexible Flashing Tape 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 [Tasman Insulation New Zealand](#), 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. [Tasman Insulation New Zealand](#):
  - 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 [Tasman Insulation New Zealand](#).
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 [Tasman Insulation New Zealand](#) or any third party.

For BRANZ

P Burghout  
Chief Executive

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