



BRANZ Appraised

Appraisal No. 1012 [2026]

REALWOOL UNDERFLOOR INSULATION

Appraisal No. 1012 [2026]

This Appraisal replaces BRANZ
Appraisal No. 1012 [2023]



BRANZ Appraisals

Technical Assessments of
products for building and
construction.



TEXTILE PRODUCTS

Textile Products 1971 Ltd

22 Miami Parade
Onehunga
Auckland

Tel: 09 636 6230

Email: sales@textile.co.nz

Web: www.textile.co.nz



BRANZ

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 RealWool Underfloor Insulation is a blend of sheep's wool and polyester fibre used as a thermal insulation material for use in timber-framed floors.

Scope

- 2.1 RealWool Underfloor Insulation has been appraised as a thermal insulating material for timber-framed floors in new or existing domestic and commercial buildings.

Building Regulations

New Zealand Building Code (NZBC)

- 3.1 In the opinion of BRANZ, RealWool Underfloor Insulation, 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 B2.3.1 [c] 5 years. RealWool Underfloor Insulation meets these requirements. See Paragraphs 8.1 and 8.2.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. RealWool Underfloor Insulation meets this requirement.

Clause H1 ENERGY EFFICIENCY: Performance H1.3.1 [a] and H1.3.2 E. RealWool Underfloor Insulation contributes to meeting these requirements. See Paragraphs 14.1 and 14.2.

Technical Specification

Wool Blend Insulation

- 4.1 RealWool Underfloor Insulation is a thermally bonded mixture of coloured sheep's wool fibres sourced from manufacturers of woollen products, and thermally bonded polyester fibres. The wool and polyester fibres are blended, carded and thermally bonded to produce blankets, which are then slit to the required width, compressed and packaged. RealWool Underfloor Insulation is available as set out in Table 1.

Table 1: RealWool Underfloor Insulation product range

R-value	Nominal thickness (mm)	Width (mm)	Length (mm)	Area Density (kg/m ²)
2.0	115	450 or 500 or 600	various	1.2
3.6	140	450 or 500 or 600	1,160	4.3

[Note: Customised widths additional to those listed above can be provided by Textile Products 1971 Ltd. These must be to the same R-value, thickness and density requirements as the products above.]

- 4.2 RealWool Underfloor Insulation is grey in colour and is compression packed in clear polythene bags with labelling in compliance with AS/NZS 4859.1.
- 4.3 Accessories used with RealWool Underfloor Insulation, which are supplied by the insulation installer, are staples.

Handling and Storage

- 5.1 RealWool Underfloor Insulation must be stored under cover and in dry conditions. Heavy objects must not be stacked on the packs. The packs must be stored in an orientation that avoids excessive compression of the product.
- 5.2 Compression packaged polyester can be subjected to a maximum combination of compression density and storage time after which the product may not achieve its designed thermal performance.
- 5.3 In general, insulation products are sensitive to the length of time they are stored under compression packaging. Product that does not recover to its nominal thickness may not achieve the stated thermal resistance [R-value].

Technical Literature

- 6.1 This Appraisal must be read in conjunction with:
- RealWool Datasheet, Version 2, dated 2 December 2025.
 - RealWool Installation Instructions, Version 2, dated 2 December 2025.
- 6.2 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 RealWool Underfloor Insulation is intended for use as thermal insulation to meet the requirements of the NZBC. RealWool Underfloor Insulation can be used to meet the requirements of the NZBC Verification Methods H1/VM1, H1/VM2, NZBC Acceptable Solutions H1/AS1 or H1/AS2. Greater construction R-values can be achieved where specific design is used. For construction R-values, refer to the BRANZ House Insulation Guide. Product R-values and dimensions are given in Table 1.
- 7.2 RealWool Underfloor Insulation R-values have been determined by testing to AS/NZS 4859.1.
- 7.3 RealWool Underfloor Insulation is designed to be fitted between joists with the sides folded down at right angles and stapled in place.



- 7.4 Where the subfloor area is subject to wind such as in pole houses, or the subfloor does not have a closed perimeter, e.g. solid concrete, masonry ring foundation or a subfloor that is enclosed with a sheet material, the insulation must be protected with a suitable lining material.
- 7.5 The building envelope must be constructed to ensure the insulation remains dry during installation, and throughout the life of the building.
- 7.6 The clearance requirements for heating appliances and downlights must be met and reference made to the manufacturer's instructions and NZS 4246.

Durability

- 8.1 The durability assessment of RealWool Underfloor Insulation to meet the requirements of the NZBC is based on the difficulty of access and replacement, and the ability to detect failure of the insulation, both during normal use and maintenance of the building.

Serviceable Life

- 8.2 Where the building is maintained so that provisions of NZBC Clauses E2 and E3 are met, and where the insulation is not crushed or exposed to conditions that will diminish its thermal performance [e.g. moisture], RealWool Underfloor Insulation is expected to have a serviceable life of at least 50 years. Support accessories must also be selected according to the required serviceable life.

Maintenance

- 9.1 Insulation that has become damp must be removed and the cause of dampness repaired. Flooring and framing must be clean and dry before fitting new insulation of an equivalent thermal rating. NZS 4246 gives guidance on thermal insulation maintenance due to water damage.

Prevention of Fire Occurring

- 10.1 Separation or protection must be provided to RealWool Insulation from heat sources such as fireplaces, heating appliances and chimneys. NZBC Acceptable Solutions C/AS1 and C/AS2 provide methods for separation and protection of combustible materials from heat sources.

Downlights

- 10.2 Insulation should maintain 100 mm clearance from all undefined recessed luminaires, treating them as a heat source. For insulation to abut or cover recessed luminaires, these must be clearly marked as being suitable for having insulation abutting and covering them and have been installed in accordance with NZBC Acceptable Solution G9/AS1.

Fire Separations

Fire Resistance Ratings

- 11.1 The RealWool Insulation has not been assessed for use in locations where a fire resistance rated (FRR) separation is required.

Control of Internal Fire and Smoke Spread

Interior Surface Finishes

- 12.1 Where the completed floor system forms the ceiling to an occupied space, the insulation including any surface lining product enclosing the insulation from the adjacent occupied space, must achieve the Group Number for internal surface finish requirements as specified in NZBC Acceptable Solutions C/AS1 or C/AS2.

External Moisture

- 13.1 The total building envelope must be weathertight and comply with the requirements of NZBC Clause E2 to ensure that the insulation remains dry in use.
- 13.2 The moisture content of the construction materials at the time of enclosing the insulation must meet the requirements of NZBC Acceptable Solution E2/AS1, or a lower moisture content if required by the lining manufacturer.



Internal Moisture

- 14.1 Buildings must provide an adequate combination of thermal resistance, ventilation and space temperature to all habitable spaces, bathrooms, laundries and other spaces where moisture may be generated or may accumulate. This does not apply to Communal Non-residential, Commercial, Industrial Outbuildings or Ancillary buildings.

Energy Efficiency

- 15.1 RealWool Underfloor Insulation will contribute to meeting the requirements of NZBC Clause H1, Performance H1.3.1 [a] and H1.3.2 E by compliance with NZBC Verification Methods H1/VM1, H1/VM2, NZBC Acceptable Solutions H1/AS1 or H1/AS2. Refer to Paragraphs 7.1-7.6.
- 15.2 RealWool Underfloor Insulation R-values have been determined by BRANZ testing to AS/NZS 4859.1 and are given in Table 1.

Installation Information

Installation Skill Level Requirements

- 16.1 All design and building work must be carried out in accordance with RealWool Underfloor Insulation Technical Literature and this Appraisal. All building work must be undertaken by competent and experienced tradespeople conversant with RealWool Underfloor Insulation.

General

- 17.1 Installation of RealWool Underfloor Insulation must be in accordance with the Technical Literature and this Appraisal. NZS 4246 should be used as a guide for installing insulation in residential buildings.
- 17.2 RealWool Underfloor Insulation must be installed only when the building is enclosed and when the construction materials have achieved the required maximum moisture content or less.
- 17.3 RealWool Underfloor Insulation must be released from the packaging and allowed to re-loft prior to installation. The time to loft will depend upon the length of time the product has been packaged and stored.
- 17.4 RealWool Underfloor Insulation is supplied in blanket form [see Table 1] to suit framing layouts. The insulation is designed to fit between the floor joists with the sides folded down. There must be no gaps between subsequent installed insulation otherwise the thermal performance will be compromised. Care during installation is important to avoid gaps that can create convectional heat loss.
- 17.5 The insulation should be folded down at right angles on either side and fixed with staples 50 mm from the underside of the flooring. The insulation is to be secured in place with staples along the edge of the insulation at 300-400 mm centres.
- 17.6 A minimum of 100 mm gap must be maintained between RealWool Underfloor Insulation and plumbing downpipe work. This gap will also ensure that there is adequate access for servicing.
- 17.7 The clearance requirements for heating appliances, light fittings and downlights must be followed. Refer also to NZS 4246.

Inspections

- 17.8 The Technical Literature, this Appraisal and NZS 4246 must be referred to during the inspection of RealWool Underfloor Insulation installations.

Health and Safety

- 18.1 Refer to the Technical Literature and NZS 4246 for guidance on health and safety requirements such as personal protective clothing and installation hazard assessment.



Basis of Appraisal

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

Tests

19.1 BRANZ has carried out thermal resistance testing of RealWool Underfloor Insulation in accordance with AS/NZS 4859.1.

Other Investigations

20.1 An assessment of the durability of RealWool Underfloor Insulation has been made by BRANZ technical experts.

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

Quality

21.1 The manufacture of RealWool Underfloor Insulation has been examined by BRANZ, including methods adopted for quality control. Details of the manufacturing processes, and quality and composition of the raw materials used were obtained and found to be satisfactory.

21.2 Textile Products 1971 Ltd is responsible for the quality of the product supplied.

21.3 Quality of installation of the product on-site is the responsibility of the installer.

21.4 Quality of maintenance of the building to ensure the insulation material remains dry is the responsibility of the building owner.

Sources of Information

- AS/NZS 4859.1:2018 Thermal insulation materials for buildings.
- BRANZ House Insulation Guide [[Sixth Edition](#)].
- NZS 4246:2016 Energy efficiency – Installing bulk thermal insulation in residential buildings.
- Ministry of Business, Innovation and Employment Record of amendments – Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.



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12 May 2026

REALWOOL UNDERFLOOR
INSULATION



In the opinion of BRANZ, **RealWool Underfloor Insulation** 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 **Textile Products 1971 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. **Textile Products 1971 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 quality of work;
 - 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 **Textile Products 1971 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 **Textile Products 1971 Ltd** or any third party.

For BRANZ

Claire Falck
Chief Executive
Date of Issue:
12 May 2026