BRANZ Appraised
Appraisal No. 767 [2018]

PINK® BATTS® SKILLION ROOF INSULATION

Appraisal No. 767 (2018)

This Appraisal replaces BRANZ Appraisal No. 767 (2012).

BRANZ Appraisals

Technical Assessments of products for building and construction.

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Product

1.1 Pink® Batts® Skillion Roof Insulation is a range of resin bonded fibrous glasswool thermal insulating material, with a controlled thickness for use in skillion roof applications.

Scope

2.1 Pink® Batts® Skillion Roof Insulation has been appraised for use as a thermal insulation material for timber framed skillion roofs of domestic and commercial buildings.

Building Regulations

New Zealand Building Code (NZBC)

3.1 **In the opinion of BRANZ, Pink® Batts® Skillion Roof 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 (a) not less than 50 years. Pink® Batts® Skillion Roof Insulation meets this requirement. See Paragraph 9.1.

Clause E3 INTERNAL MOISTURE: Performance E3.3.1. Pink® Batts® Skillion Roof Insulation will contribute to meeting this requirement. See Paragraphs 14.1 and 14.2.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Pink® Batts® Skillion Roof Insulation meets this requirement and will not present a health hazard to people.

Clause H1 ENERGY EFFICIENCY: Performance H1.3.1 (a) and H1.3.2 E. Pink® Batts® Skillion Roof Insulation will contribute to meeting these requirements. See Paragraphs 15.1 and 15.2.

Technical Specification

4.1 Pink® Batts® Skillion Roof Insulation is a resin bonded fibrous glasswool insulation manufactured from recycled and/or virgin glass and cured urea extended phenolic resin. Pink® Batts® Skillion Roof Insulation is available as set out in Table 1.

Table 1: Pink® Batts® Skillion Roof Insulation product range.

R-value	Nominal Thickness (mm)	Width (mm)	Length (mm)	Nett Area (m^2)	Density (kg/m^3)
3.2	115	432	1220	3.7	22.6
3.6[1]	165	432	1220	6.3	10.3

1. Pink® Batts® Skillion Roof Insulation products that have the Environmental Choice license.

4.2 Pink® Batts® Skillion Roof Insulation is pink in colour and baled in pink polythene bags with labelling in compliance with AS/NZS 4859.1.

Handling and Storage

5.1 Pink® Batts® Skillion Roof Insulation must be stored under cover and in dry conditions. Heavy objects must not be stacked on the bales. The bales must be stored in an orientation that avoids excessive compression of the product.

5.2 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 R-value.

Technical Literature

6.1 Refer to the Appraisal listing on the BRANZ website for details of the current Technical Literature for Pink® Batts® Skillion Roof Insulation. 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 Pink® Batts® Skillion Roof Insulation is intended for use as thermal insulation to meet the requirements of the NZBC. Pink® Batts® Skillion Roof Insulation R-values of 3.2 $m^2°C/W$ and 3.6 $m^2°C/W$ can be used to meet the minimum schedule method R-values of NZBC Verification Method H1/VM1 or NZBC Acceptable Solution H1/AS1. 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 Pink® Batts® Skillion Roof Insulation thermal resistance (R-value) has been determined by testing to AS/NZS 4859.1, which is an acceptable method in NZBC Acceptable Solution H1/AS1.

7.3 Pink® Batts® Skillion Roof Insulation is designed to be friction-fitted between timber roof framing (rafters) in skillion roofs.

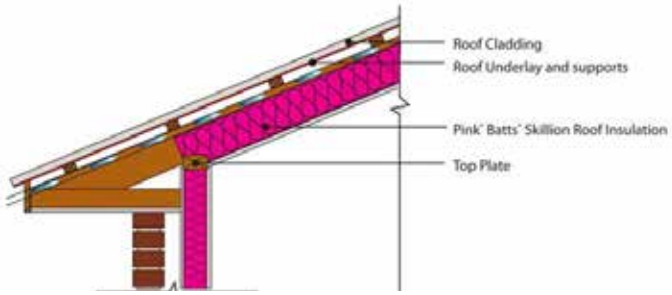
7.4 Pink® Batts® Skillion Roof Insulation is designed to maintain its labelled nominal thickness and to maintain ventilation in a skillion roof application.

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 downlights must be met and reference made to the manufacturers instructions and NZS 4246. See Paragraphs 11.1 -11.3.

Roof Ventilation

8.1 To prevent moisture transfer and to provide roof ventilation in skillion roof applications, separation of 25 mm minimum is required between the insulation and any rigid substrate or flexible roof underlay. Pink® Batts® Skillion Roof Insulation is designed to maintain its nominal thickness in order to achieve the 25 mm clearance in normal applications. The R3.2 product (115 mm nominal thickness) has been designed for minimum 140 mm deep rafters, and the R3.6 product (165 mm nominal thickness) has been designed for minimum 190 mm deep rafters.



Durability

Serviceable Life

9.1 Where the building is maintained so that provisions of the 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), Pink® Batts® Skillion Roof Insulation can expect to have a serviceable life of at least 50 years.

Maintenance

10.1 Insulation that has become damp must be removed and the cause of dampness repaired. Cavities 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

11.1 Pink® Batts® Skillion Roof Insulation is considered a non-combustible material and need not to be separated from heat sources such as fire places, 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 fireplaces, heating appliances, flues and chimneys in accordance with the requirements of Part 7 of NZBC Acceptable Solutions C/AS1 to C/AS6 and NZBC Verification Method C/VM1.

Downlights

11.2 Recessed luminaires shall be of type and be installed in accordance with NZBC Acceptable Solution C/AS1 to C/AS6, Section 7.4.

11.3 Insulation materials must maintain a clearance of 100 mm to undefined recessed luminaires in existing buildings.

Control of Internal Fire and Smoke Spread

12.1 Pink® Batts® Skillion Roof Insulation has been classified non-combustible when tested to AS 1530.1 and can therefore be assigned a Group Number of 1-S. Unless foamed plastics building materials are also used as part of the wall or ceiling construction, there are no internal surface finish requirements in Risk Group SH in accordance with NZBC Acceptable Solution C/AS1, Paragraph 4.2. When used in an occupied space, Pink® Batts® Skillion Roof Insulation does not need to be enclosed in any Risk Group. Refer to NZBC Acceptable Solutions C/AS2 to C/AS6 for the specific internal surface requirements for walls or ceilings in other Risk Groups.

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 installing and enclosing the insulation must meet the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 10.2 (a), 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.

14.2 Roofs of housing complying with the Schedule Method for Compliance with Clause H1.3.2 E will have adequate thermal resistance. Other buildings may require more thermal insulation to satisfy the requirements of NZBC Acceptable Solution E3/AS1 than that to satisfy the energy efficiency provisions alone.

Energy Efficiency

15.1 Pink® Batts® Skillion Roof 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 Method H1/VM1 or NZBC Acceptable Solution H1/AS1. Refer to Paragraphs 7.1 - 7.5.

15.2 Pink® Batts® Skillion Roof 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 Installation of Pink® Batts® Skillion Roof Insulation must be completed by an installer with an understanding of insulation installation.

General

17.1 Installation of Pink® Batts® Skillion Roof Insulation must be in accordance with the Technical Literature, Installation Instructions and this Appraisal. NZS 4246 should be used as a guide for installing insulation in residential buildings.

17.2 Pink® Batts® Skillion Roof 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 Pink® Batts® Skillion Roof 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 In situations where the material is installed from above (pre-roofing), planning and preparation must be undertaken to ensure the product does not get wet.

17.5 Where a controlled thickness is required, the installer must ensure the specified maximum thickness is not exceeded.

17.6 Pink® Batts® Skillion Roof Insulation is installed by friction-fitting the insulation between framing members. The insulation must not be folded, tucked or compressed. A close, even fit provides the most efficient thermal performance.

17.7 Pink® Batts® Skillion Roof Insulation is manufactured to suit roof rafter framing centres of 450 mm. Where the insulation is required to be cut to fit, the cut should be 10 mm wider than the space to ensure a friction fit.

17.8 The clearance requirements for heating appliances and downlights must be followed. Refer also to NZS 4246.

Inspections

17.9 The Technical Literature, this Appraisal and NZS 4246 must be referred to during the inspection of Pink® Batts® Skillion Roof 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.

18.2 Pink® Batts® Skillion Roof Insulation is manufactured using fibre technology to ensure that the product meets the bio-solubility requirements. *(Note: This has not been assessed and is outside the scope of this Appraisal.)*

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 Pink® Batts® Skillion Roof Insulation in accordance with AS/NZS 4859.1.

19.2 Tests have been carried out in accordance with AS 1530.1. Pink® Batts® Skillion Roof Insulation is not deemed combustible according to the test criteria. The results have been reviewed by BRANZ technical experts.

Other Investigations

20.1 An assessment of the durability of Pink® Batts® Skillion Roof Insulation has been made by BRANZ technical experts.

20.2 The manufacturer's Technical Literature including Installation Instructions have been reviewed by BRANZ and found to be satisfactory.

Quality

21.1 The manufacture of Pink® Batts® Skillion Roof 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.

22.1 The range of Pink® Batts Skillion Roof Insulation products have been assessed for their environmental impact by the New Zealand Ecolabelling Trust and comply with the requirements of the Environmental Choice Specification, Licence No. 2504017 - Thermal (resistive type) Building Insulants. The products that have the Environmental Choice license are noted in Table 1.

22.2 Tasman Insulation New Zealand Ltd is responsible for the quality of the product supplied.

22.3 Quality of installation of the product on site is the responsibility of the installer.

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

Sources of Information

- AS 1530.1: 1994 Combustibility test for materials.
- AS/NZS 4859.1: 2002 Materials for the thermal insulation of buildings.
- NZS 4246: 2016 Energy efficiency - Installing bulk thermal insulation in residential buildings.
- BRANZ House Insulation Guide, Fifth Edition 2014.
- BRANZ Bulletin Number 525 Preventing moisture problems in timber-framed skillion roofs.
- Acceptable Solution and Verification Methods for New Zealand Building Code Energy Efficiency Clause H1, Ministry of Business, Innovation and Employment, Fourth Edition, (including Amendment 3, 1 January 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, Pink® Batts® Skillion Roof 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 Tasman Insulation New Zealand 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. Tasman Insulation New Zealand 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 Tasman Insulation New Zealand 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 Tasman Insulation New Zealand Ltd or any third party.

For BRANZ

Chelydra Percy
Chief Executive
Date of Issue:
03 August 2018