



BRANZ Appraised
Appraisal No. 757 [2015]

**INSULATION
ESSENTIALS
GLASSWOOL
INSULATION**



Appraisal No. 757 [2015]

Amended 16 March 2017

BRANZ Appraisals

Technical Assessments of products for
building and construction.



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Product

- 1.1 Insulation Essentials Glasswool Insulation is a resin bonded fibrous glasswool thermal insulation material for use in framed walls, ceilings and roofs of buildings. It is pre-cut to a range of suitable segment sizes.

Scope

- 2.1 Insulation Essentials Glasswool Insulation has been appraised as a thermal insulation material for framed or part-framed walls, ceilings and roofs of domestic and commercial buildings. In bushfire areas, the provisions of BCA Volume 2 Part 3.7.4 must be complied with.

Building Regulations

National Construction Code Series [NCC 2016] Building Code of Australia [BCA]

- 3.1 In the opinion of BRANZ, Insulation Essentials Glasswool Insulation, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet the following provisions of the BCA:

BCA Volume 1 - Class 2 to 9 Buildings

Section J - Energy Efficiency: Performance Requirement JP1. Insulation Essentials Glasswool Insulation will satisfy this requirement. See Paragraphs 13.1 and 13.5.

BCA Volume 2 - Class 1 and Class 10 Buildings

Part 2.6 Energy Efficiency: Performance Requirement P2.6.1. Insulation Essentials Glasswool Insulation will satisfy this requirement. See Paragraphs 13.2 - 13.5.

Technical Specification

4.1 Insulation Essentials Glasswool Insulation is a resin bonded fibrous glasswool insulation manufactured of recycled and/or virgin glass and phenol formaldehyde resin binder. Insulation Essentials Glasswool Insulation is available as set out in Table 1.

Table 1: Insulation Essentials Glasswool Insulation Product Range

R-value	Nominal Thickness [mm]	Width [mm]	Length [mm]	Nett Area [m ²]	Density [kg/m ³]
1.2 HD	50	430	1200	18.6	14.0
1.2 HD	50	580	1200	25.1	14.0
1.5	75	430	1200	19.6	8.0
1.5	75	580	1200	26.5	8.0
2.0 HD	70	430	1200	7.7	24.0
2.0 HD	70	580	1200	10.4	24.0
2.0	90	430	1200	14.5	10.0
2.0	90	580	1200	19.5	10.0
2.2 HD	90	430	1200	10.32	14.0
2.2 HD	90	580	1200	13.9	14.0
2.5 HD	90	430	1200	7.2	20.0
2.5 HD	90	580	1200	9.7	20.0
2.5	125	430	1200	12.4	8.0
2.5	125	580	1200	16.7	8.0
2.7 HD	90	430	1200	5.16	32.0
2.7 HD	90	580	1200	6.9	32.0
3.0	150	430	1200	10.3	8.0
3.0	150	580	1200	13.9	8.0
3.5	175	430	1200	9.3	8.0
3.5	175	580	1200	12.5	8.0
4.0	195	430	1200	7.7	8.0
4.0	195	580	1200	10.5	8.0
5.0	230	430	1200	5.1	10.0
5.0	230	580	1200	6.9	10.0
6.0	260	430	1200	4.6	12.1
6.0	260	580	1200	6.3	12.1
7.0	275	430	1200	3.0	16.0
7.0	275	580	1200	4.2	16.0

4.2 Insulation Essentials Glasswool Insulation is yellow in colour and is packaged in a double layer clear compression packaging with labelling in compliance with AS/NZS 4859.1.

4.3 Accessories used with Insulation Essentials Glasswool Insulation, which are supplied by the insulation installer, are wire netting, plastic strapping and fixings.

Handling and Storage

- 5.1 Insulation Essentials Glasswool 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 In general, insulation products are sensitive to the length of time they are stored in 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 Appraisals listing on the BRANZ website for details of the current Technical Literature for Insulation Essentials Glasswool Insulation. The Technical Literature must be read in conjunction with the 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 Insulation Essentials Glasswool Insulation is intended for use as thermal insulation to meet the energy efficiency requirements of the BCA. Insulation Essentials Glasswool Insulation can be used to meet the Deemed-to-Satisfy provisions of the BCA. Greater construction R-values can be achieved where specific design is used. Product R-values and dimensions are given in Table 1.
- 7.2 Insulation Essentials Glasswool Insulation can be friction-fitted between wall, ceiling or roof framing, or laid directly over the ceiling lining, ceiling battens or joists. In other horizontal situations, it must be adequately supported by wire netting or some other suitable durable material.
- 7.3 The insulation thickness should be selected to suit the framing cavity and must not be compressed into closed cavities less than the insulation's nominal thickness. In walls the insulation should be snug fit between the interior lining and the wall sarking. Support may be needed to prevent insulation encroaching into wall cladding cavity spaces.
- 7.4 To prevent moisture transfer and to provide roof ventilation, a separation of 25 mm minimum is required between the insulation and any rigid substrate or flexible roof sarking or underlay.
- 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 the BCA. See Paragraphs 10.1 and 15.6. The clearances must be taken into account in the assessment of BCA Energy Efficiency.

Durability

Serviceable Life

- 8.1 Where the building is maintained and where the insulation is not crushed or exposed to conditions that will diminish its thermal performance (e.g. moisture), then it can be expected to be fit for its intended purpose and have a serviceable life similar to other glasswool insulation products.

Maintenance

- 9.1 Insulation that has become damp must be removed and the cause of the dampness repaired. Cavities must be clean and dry before fitting new insulation of an equivalent thermal rating.

Fire Safety

- 10.1 Insulation Essentials Glasswool Insulation must be separated from sources of heat such as chimneys, flues, fuel burning appliances and downlights in compliance with the BCA.
- 10.2 Where Insulation Essentials Glasswool Insulation is used in bushfire areas and not protected by non-combustible building elements, consideration must be given to the provisions of BCA Part 3.7.4.

Damp and Weatherproofing

- 11.1 The total building envelope must comply with the Damp and Weatherproofing requirements of the BCA to ensure that the insulation remains dry in use.
- 11.2 The moisture content of the construction materials at the time of enclosing the insulation must meet the requirements of the lining manufacturer.

Internal Moisture

- 12.1 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.

Energy Efficiency

- 13.1 Insulation Essentials Glasswool Insulation complies with AS/NZS 4859.1 as required by BCA Volume One Deemed-to-Satisfy Provision J1.2. Insulation Essentials Glasswool Insulation satisfies BCA Volume One Performance Requirement JP1 through compliance with the Deemed-to-Satisfy Provisions of J1.1 to J1.6 where required.
- 13.2 Insulation Essentials Glasswool Insulation complies with AS/NZS 4859.1 as required by BCA Volume Two Acceptable Construction Practice 3.12.1.1. Insulation Essentials Glasswool Insulation satisfies BCA Volume Two Performance Requirement P2.6.1 through compliance with the provisions of Acceptable Construction Practice 3.12.1.1 to 3.12.1.5.
- 13.3 Contribution to the overall thermal performance and energy rating of houses needs to be considered. The individual thermal conductivity of the insulation contributes to the overall thermal energy rating but its thermal conductivity on its own cannot be used to determine the contribution to the overall energy rating and thermal efficiency of the house.
- 13.4 A thermal calculation method that complies with the ABCB Protocol for House Energy Rating Software must be used.
- 13.5 For details of State and Territory Variations refer to the BCA.

Installation Information

Installation Skill Level Requirements

- 14.1 Installation of Insulation Essentials Glasswool Insulation must be completed by an installer with an understanding of insulation installation.

General

- 15.1 Installation of Insulation Essentials Glasswool Insulation must be in accordance with the Technical Literature, Installation Instructions and this Appraisal. AS 3999 should be used as a guide for installing insulation in residential buildings.
- 15.2 The product must be installed only when the building is enclosed and when the construction materials have achieved the required maximum moisture content or less.
- 15.3 The insulation must either be neatly friction-fitted between framing members, or fitted over framing members and butted tightly so that the potential for gaps and convective heat loss is reduced. The material must not be folded, tucked or compressed. A close even fit provides the most efficient thermal performance.
- 15.4 The insulation must be continuous across the entire roof or ceiling plane between top plates of external walls.
- 15.5 Wherever possible the insulation should be fitted beneath wiring or plumbing. Electrical installation requirements must be followed.
- 15.6 The clearance requirements for heating appliances and downlights must be followed and reference made to the BCA, local or national safety requirements.

Inspections

- 15.7 The Technical Literature, this Appraisal and AS 3999 must be referred to during the inspection of Insulation Essentials Glasswool Insulation installations.

Health and Safety

- 16.1 When handling Insulation Essentials Glasswool Insulation it is recommended that installers follow the recommendations contained in the National Code of Practice for the safe use of synthetic mineral fibres. A dust mask and eye protection is recommended when handling the product to provide protection from loose fibres and dust that may be distributed.
- 16.2 Biosolubility has not been assessed for Insulation Essentials Glasswool Insulation material and is outside the scope of this Appraisal.

Basis of Appraisal

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

Tests

- 17.1 BRANZ has carried out thermal resistance testing of Insulation Essentials Glasswool Insulation in accordance with AS/NZS 4859.1.

Other Investigations

- 18.1 An assessment of the durability of Insulation Essentials Glasswool Insulation has been made by BRANZ technical experts.

Quality

- 19.1 The manufacture of Insulation Essentials Glasswool 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.
- 19.2 Insulation Essentials is responsible for the quality of the product supplied.
- 19.3 Quality of installation of the product on site is the responsibility of the installer.
- 19.4 Quality of maintenance of the building to ensure the insulation material remains dry is the responsibility of the building owner.

Sources of Information

- AS 3999: 2015 Bulk thermal insulation - Installation.
- AS/NZS 4859.1: 2002 Materials for the thermal insulation of buildings.
- BRANZ House Insulation Guide, Fifth Edition 2014.
- National Construction Code Series, Building Code of Australia 2016, Australian Building Codes Board.

Amendments

Amendment No. 1, dated 31 July 2015.

This Appraisal has been amended to update the Appraisal Holders' contact details.

Amendment No. 2, dated 14 December 2015.

This Appraisal has been amended to update the product range in Table 1.

Amendment No. 3, dated 16 March 2017.

This Appraisal has been amended to update the product range in Table 1.



In the opinion of BRANZ, **Insulation Essentials Glasswool 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 **Insulation Essentials**, 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. **Insulation Essentials:**
 - 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 **Insulation Essentials**.
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 **Insulation Essentials** or any third party.

For BRANZ



Chelydra Percy

Chief Executive

Date of Issue:

21 April 2015