

PRODUCT TECHNICAL STATEMENT

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| Material, product or form of construction | Brownie by Poly Glass Fibre Insulation and Ecowool |
| Issued by (company) | Integra Building Products |
| Reference number | DSL-202206 Brownie Ceiling Version |
| Version and date of issue | Approved 20200624 |

PRODUCT DESCRIPTION

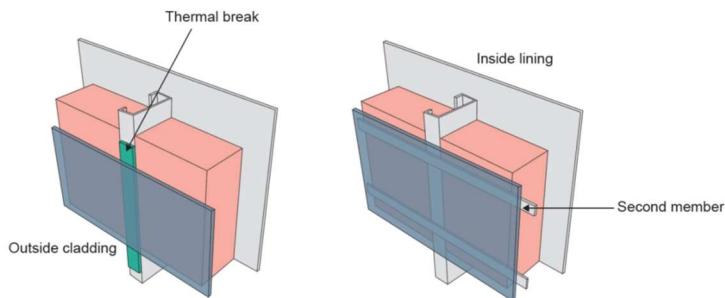
Formaldehyde-free range of glass mineral wool insulation

APPLICATION AND INTENDED USE

Brownie ceiling batts, the formaldehyde-free range of glass mineral wool insulation are intended for both thermal and acoustic insulation application in walls, floors and ceilings.

COMPLIANCE WITH THE NATIONAL CONSTRUCTION CODE

| Performance Requirement | Meeting the Requirement |
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| Specification C1.10 – Fire Hazard Properties | Specification C1.10 Clause 7 for insulation materials. When tested to AS/NZS 1530.3 this product does not exceed the ‘Spread of Flame’ or ‘Smoke Developed’ indices of Specification C1.10 Clause 7. |
| J1.2 Thermal Construction General Insulation must comply with AS/NZS 4859.1 and <ul style="list-style-type: none">be installed so that meets the following minimum requirements: | <p>Tested and documents verified for: (see NCPR)</p> <p>Brownie Ceiling by Ecowool</p> <p>Installation Instructions (minimum requirement)</p> <ul style="list-style-type: none">Abuts or overlaps adjoining insulation other than at supporting members such as studs, noggings, joists, furring channels and the like where the insulation must butt against the member; andForms a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier; andDoes not affect the safe or effective operation of a service or fitting. <p>Reflective Insulation such as DeSilvaLine;</p> <ul style="list-style-type: none">Do not use a Class 1-4 vapour barrier in Zones 4-8 on the outside of frame if there is bulk insulation such as Brownie or polyester like insulation in the frame.Reflective insulation such as DeSilvaLine has an integrated Class 1 vapour barrier. The correct position in Climate Zone 4-8 is with a condensation risk analysis as approved by the certifier or designer, generally on the occupant side of the frame.Reflective insulation such as DeSilvaLine can be used on the outside if the condensation risk analysis shows dewpoint is within the drainage cavity. |

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| | <ul style="list-style-type: none"> To maximise the reflective R-Value an airspace is required and be unventilated and The reflective insulation closely fitted against any penetration, door or window opening; and Taped together <p>Bulk insulation such as Brownie or Rockwool must be installed so that:</p> <ul style="list-style-type: none"> It maintains its position and thickness, other than where it crosses roof battens, water pipes, electrical cabling or the like; and In a ceiling, where there is no bulk insulation or reflective insulation in the wall beneath, it overlaps the wall by not less than 50mm |
| J1.3 (d) – Roof and ceiling construction | <p>A roof that</p> <ul style="list-style-type: none"> Is required to achieve a minimum Total R-Value; and has a metal sheet roofing fixed to metal purlins, metal rafters or metal battens; and does not have a ceiling lining or has a ceiling lining fixed directly to those metal purlins, metal rafters or metal battens must have a thermal break, consisting of a material with an R-Value of not less than R0.2, installed between the metal sheet roofing and its supporting purlins, metal rafters or metal battens. R0.2 is not enough to minimise condensation risk. The required added R-Value is calculated by the Total R-Value less the construction R-Value. The Total R-Value is specified within the Energy Efficiency Report and suitability of the material is not limited to fire requirements but directions from the designer and installer at the time of sale. |
| J1.4 Roof Lights | |
| J1.5 (c) – Walls | <p>A wall that –</p> <ul style="list-style-type: none"> Is required to achieve a minimum Total R-Value; and has a lightweight external cladding such as weatherboards, fibre-cement or metal sheeting fixed to a metal frame; and does not have a wall lining or has a wall lining fixed directly to the same metal frame must have a thermal break, consisting of a material with an R-Value of not less than R0.2, installed between the metal sheet roofing and its supporting purlins, metal rafters or metal battens. The solution below is both R0.2 and non-combustible. One option is to use the following is shown in the Handbook: Energy Efficiency NCC Volume One 2019, pg 75 <div style="text-align: center;">  <p style="text-align: center;">Thermal break needed Thermal break not needed</p> </div> <p>The required added R-Value is calculated by the Total R-Value less the construction R-Value. The Total R-Value is specified within the Energy Efficiency Report and suitability of the material is not limited to fire</p> |

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| | requirements but directions from the designer and installer at the time of sale. Integra are not fire engineers and can not design a non-combustible wall. We can provide documentation for certifiers, designers and engineers to develop performance solutions. |
| J1.6 (a) – Floors | <p>The following installation instructions are minimum requirements and guidance from the designer, engineer or certifier needs to be considered to achieve the design intent;</p> <ul style="list-style-type: none"> insulated around the vertical edge of its perimeter with insulation having an R-Value of not less than 1.0 or floor above or below a carpark or a plant room –Must achieve the total R-Value specified in table J1.6 a concrete slab-on-ground with an in-slab or in-screed heating or cooling system; or located in climate zone 8, must have insulation installed around the vertical edge of its perimeter. <p>DePolyLine 300 is a 300kPa water resistant (0.8% vol/vol) insulation that can be used on the slab edge or below a raft slab. Do not detail insulation below footings or pile caps.</p> <p>DeSilvaLine 100kPa is a water resistant (0.1% vol/vol) insulation that can be used on the slab edge or below a raft slab. Do not detail insulation below footings or pile caps</p> <p>Where the insulation is exposed above grade the insulation needs to be protected from UV light and physical damage.</p> |

| Test Standard | Test Type | Report |
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| AS/NZS 4859.1:2018 AS 1530.1 Engineering Assessment ASTM D5116-10 | Thermal Fire NCC Vol 1 BCA 2019 Compliance Low VOC +Formaldehyde Free | Product Certification BMP 539717 CSIRO Report FNC12297A IGNIS Assessment IGNS-7043 Issue 1 Revision 01[2019] TUV SUD Group Test Report 7191129800-CHM16-MA-CR1 |

| Thickness (mm) | R-Value (m2K/W) |
|----------------|-----------------|
| 120 | R2.5 |
| 140 | R3.0 |
| 165 | R3.5 |
| 195 | R4.1 |
| 230 | R5.0 |
| 278 | R6.0 |

Widths available 430 and 580mm, length 1160mm

LIMITATIONS OF USE

Porous bulk fibre can result in condensation issues when vapour barriers are not used correctly. Climate zones 4-8 require a Class 3 or 4 vapour barrier to be placed on the cladding side of the frame. A Class 1 vapour barrier may be required on the occupant side.

CONDITIONS OF USE

Maximum service temperature is 350°C

INSTRUCTIONS FOR DESIGN, CONSTRUCTION OR INSTALLATION

Ensure, so far as is reasonably practicable, the plant or substances they design, manufacture, import, supply or install is without risks to health and safety including carrying out testing and analysis and providing information about the risks posed to users of the plant or substances. (WHS Act s22-26)

Install as per Ecowool Installation Instructions (covering electrical safety, handling and fitting) and <https://www.safework.nsw.gov.au/resource-library/manufacturing/safe-management-of-synthetic-mineral-fibres-smf-glasswool-and-rockwool>

MAINTENANCE INSTRUCTIONS

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

SUPPORT

Brownie is a grading system that provides first line support as a reseller. The manufacturer and importer Ecowool prefers end users to contact the reseller in the first instance for technical support.