

Overview

A range of reflective hybrid insulation products applicable for roofs, walls and floors of homes, buildings, sheds, and large commercial applications.

Product Description

The *Reflecta-Shield*, *Reflecta-Cell* and *Reflecta-Guard* consists of multi-layered reflective insulation with varying depth of polyethylene bubbles between two layers of aluminium, created on a core of air-bubble technology. Products from *Reflecta Range* incorporate an aluminium foil and polymer coating that reflects heat and air bubbles providing a barrier against temperatures, humidity, and noise.



PRODUCT SPECIFICATIONS

Options	<ul style="list-style-type: none"> • <i>Reflecta-Shield</i> is 4.4mm thick with air bubble depth of 3mm • <i>Reflecta-Cell</i> is 7.4mm thick with air bubble depth of 6mm • <i>Reflecta-Guard</i> is 13.4mm thick with air bubble depth of 12mm
Colours	-
Warranty	15 year warranty
Expected Life	Varies with type of application
Indicative Costs	Contact manufacturer
Purchase Options	-
Constituents	<ul style="list-style-type: none"> • Aluminium foil, less than 20% • Polyethylene, less than 80%
Technical Specifications	<ul style="list-style-type: none"> • <i>Reflecta-Shield</i> Product Specification • <i>Reflecta-Cell</i> Product Specification • <i>Reflecta-Guard</i> Product Specification
National & International Standards	<p>ISO 354 – 2003: Acoustic – Measurement of sound absorption in a reverberation room.</p> <p>AS ISO 11654 – 2002: Acoustic – Rating of sound absorption – Materials and systems.</p> <p>AS 1191 – 2002: Acoustics – Method for laboratory</p>



This assessment is current only to the valid date and shall not be reproduced in part at any time. Please refer to the ecospecifier website for current detailed product listing information. © Ecospecifier 2010

	measurement of airborne sound insulation of building elements. AS/NZS ISO 717.1:2004: Acoustics – Rating of sound insulation in buildings and of building elements.
Country of Origin	Australia
Projects	Australia, New Zealand, India, Maldives, Fiji
Preparation	-

ECOSPECIFIER LIFE-CYCLE ASSESSMENT

INTEGRATED DESIGN AND POLICY ISSUES

Products are designed to replace fibre-based batts, blanket and sarking in one application. Products perform as insulation, vapour barrier and temporary weather barrier.

Insulative performance is somewhat dependent on minimum air space dimensions (preferably over 20mm) adjacent to the outer surfaces. Reflective and hybrid insulation values should be quoted in the context of the building element as it is not the material itself which provides the thermal resistance but the impact of the low emittance surface that reduces heat flows across an air space.

It is important that penetrations through the foil (e.g. plumbing pipes or electrical cables) are taped and that the joins in the foil are taped. If air can leak from one air space to the next, the heat flow by convection 'short circuits' the reduced radiant heat flow caused by the reflective foil, substantially reducing its effect.

Reducing heating and cooling loads of buildings contributes to reductions in energy consumption and associated greenhouse gas emissions, through reduced need for air conditioning, and hence reduced plant size and operating costs. Reduced re-radiation from surfaces exposed to direct sun will also support staff comfort and increase productivity.

HUMAN HEALTH

Health

Product is manufactured without the use of formaldehyde (as some fibreglass and rockwool products are). As such, the product is able to provide energy efficiency without creating human health risks associated with airborne fibres or VOC emissions.

Comfort

R-values indicate that these systems will reduce solar heat gain, improving individual thermal comfort levels.

Indoor Environment Quality

The thermal benefits achieved by this product result in a reduction in radiated and conducted heat transfer and in the demand for air conditioning. This will potentially lead to increased comfort, promoting a healthy indoor environment.



This assessment is current only to the valid date and shall not be re-issued. For more information, visit the website for current detailed product listing information. © Ecospecifier 2010

Electromagnetic Radiation

Not Applicable

Safety

Product's fibre-free, non-allergenic and non-itchy insulation system mean there is no health or occupational health and safety risks to the occupants or installers.

Accessibility

Not Applicable

ECOLOGICAL QUALITY

Terrestrial Pollution

Emissions – The production of alumina from bauxite ores uses a chemical treatment, known as the Bayer Process (see Glossary). The alkaline mist associated with this process may have adverse land and vegetation impacts. However the volume of aluminium in the Reflecta range is minute.

Physical – Mineral extraction of bauxite used to make aluminium will disrupt landscapes and alter ecosystems. Because bauxite deposits are found near the Earth's surface, mining requires removal of topsoil and overburden before deeper excavation occurs. The small amount of aluminium means impacts are negligible.

Polypropylene is produced by a chain growth polymerisation of propylene, a gas obtained from petroleum cracking. Therefore, there would have been physical pollution due to oil extraction.

Aquatic Pollution

Emissions – Propylene is produced in the initial production stage of polypropylene and the emissions to water consist of methanol and butane. The production does not produce waste water. There is no pollution of water/groundwater or to the soil.

Physical – Bauxite residues of red mud are often disposed of in tailing dams where the mud is allowed to settle. The excess water is discharged into marine environments. The small amount of aluminium means impacts are negligible.

The petrochemical portion of polypropylene results in potential sea pollution in the extraction or spilling of oil. Other emissions include methanol and butane in the production of propylene.

Atmosphere Pollution

Greenhouse (GHG) – The process of manufacturing aluminium has very high energy requirements and subsequent GHG levels, particularly aluminium, but the small amount of aluminium means impacts are negligible.

Greenhouse intensity ~ The Greenhouse intensity for *Reflecta-Guard* is 5 kgCO₂/m² and for both *Reflecta-Cell* and *Reflecta-Shield* are 3.3 kgCO₂/m².

The *Reflecta-Guard* weighs 705 grams per square metre while the *Reflecta-Cell* and *Reflecta-Shield* weighs 470 grams per square metre.

Transport intensity – Product is manufactured in Australia. GHG intensities for shipping product are shown below. Most common shipping port from country of origin is Brisbane, Australia. Most common destination port is Mumbai, India.



This assessment is current only to the valid date and shall not be reproduced in part at any time. Please refer to the ecospecifier website for current detailed product listing information. © Ecospecifier 2010

Product Weight	Energy Intensity – Container Shipping	GHG Intensity – Container Shipping
6.5kg / 5 Litres	0.000135 MJ/ kg.km	0.000011kgCO _{2e} / kg.km

Table below provides land transportation greenhouse intensity figures to help calculate the greenhouse gas intensity of land transportation from shipping port.

Light commercial vehicle	Rigid Truck	Articulated Truck
0.001451kgCO _{2e} / kg.km	0.000195kgCO _{2e} / kg.km	0.000169kgCO _{2e} / kg.km

Transport intensity figures sourced from Australian National Greenhouse Gas Inventory 1990, 1995 and 1999 and WWF International, Inland Navigations and Emissions, 2005.

Operational Efficiency – The full benefits of this hybrid reflective insulation are intended for and experienced during building operation.

Re-use Efficiency – Subject to appropriate installation and removal techniques, product does not disintegrate or corrode with time, which project a high re-use potential.

Toxics and Pollutants – Polyethylene is highly stable and does not readily react with other elements or compounds in the environment. Neither LDPE nor aluminium are sources of toxics or pollutants in use but both create minor localised emissions around production facilities.

Ozone Depletion – None.

Urban Heat Island Effects – Not applicable.

Noise – Use of the product can reduce sound transmission from indoor to outdoor by 9-35 decibels.

Biodiversity

The process of mining for metal ores modifies soil profiles, topography and drainage patterns which impacts natural vegetation and biodiversity.

Open cast mining of minerals used in the fabrication involves habitat destruction. Petroleum, the primary raw material of polypropylene, can have localised marine biodiversity impacts in its extraction and potentially catastrophic impacts when spills occur.

RESOURCE DEPLETION

Resource Efficiency

Aluminium is the third most abundant metal on Earth and the most abundant in the Earth's crust. The primary mineral source for aluminium is bauxite ore, a non-renewable resource with an estimated supply of 180 years based on current Reserve Life Index (RLI) (Source: Meyer, 2004, Availability of bauxite reserves, Journal of Natural Resources Research, p.161).

Polypropylene is derived from fossil fuel based feedstock and is a non-renewable resource.

Embodied Fossil Fuel Energy

The Greenhouse intensity for *Reflecta-Guard* is 93 MJ/m² and for both *Reflecta-Cell* and *Reflecta-Shield* are 62 MJ/m².



This assessment is current only to the valid date and shall not be reproduced in part at any time. Please refer to the ecospecifier website for current detailed product listing information. © Ecospecifier 2010

The *Reflecta-Guard* weighs 705 grams per square metre while the *Reflecta-Cell* and *Reflecta-Shield* weighs 470 grams per square metre.

Embodied Water

Information not available

Durability

The product is very durable.

Reusability

The product can be 100% reuseable.

Repairability

The product can be easily repaired.



Design for Dematerialisation

Product reduces the material intensity of the HVAC system due to lower thermal loads. and is more effective as a radiant heat barrier than bulk insulation in hot climates per kilogram of material.

Design for Disassembly

Not Applicable

Recyclability

The product can be 100% recycled, if appropriate recycling facilities are available in close proximity to the site (unlikely due to lack of Takeback scheme).

Maintenance

None required

Product Takeback Scheme

No.

Extended Producer Responsibility (EPR)

No

CORPORATE AND SOCIAL SUSTAINABILITY

Audits and Environmental Reporting

No

Convictions

Unknown



This assessment is current only to the valid date and shall not be reproduced in part at any time. Please refer to the ecospecifier website for current detailed product listing information. © Ecospecifier 2010

Environmental Policy

No

Social Enhancement Programs

No

Technology Transfer Programs

No

Environmental Management Systems (EMS)

No

ECOSPECIFIER ISSUES OF CONCERN / RED LIGHTS

Issues of Concern

No issues of concern or red light comments are recorded.

ECOSPECIFIER GREENRATE GREEN BUILDING SCHEME PRE-ASSESSMENT

Etidama Pearls Design System for New Buildings

LIVEABLE BUILDINGS

LBi: Liveable Indoors

<p><u>LBi-9: Indoor Noise Pollution</u></p> <p>Product may assist in a project obtaining this credit by improving the noise isolation of normally occupied premises/rooms to reduce impact of unwanted noise. Credit point is achieved if internal ambient noise levels do not exceed 50 dBa or the prescribed level for the nominated areas.</p>	<p><i>Points Available</i></p> <p>1</p>
---	--

RESOURCEFUL ENERGY

<p><u>RE-r1: Minimum Energy Performance</u></p> <p>Product may assist in a project obtaining this requirement if the building meets the prescribed percentage performance improvement compared to the baseline.</p>	<p><i>Points Available</i></p> <p>Requirement</p>
<p><u>RE-1: Improved Energy Performance</u></p> <p>Product may assist in a project obtaining this credit for reduced energy consumption and carbon emissions during building</p>	<p><i>Points Available</i></p> <p>15</p>



This assessment is current only to the valid date and shall not be reproduced in part at any time. Please refer to the ecospecifier website for current detailed product listing information. © Ecospecifier 2010

operation compared to the baseline building consumption determined in RE-r1. Number of points awarded is determined by the percentage reduction from the baseline.

STEWARDING MATERIALS

SM-1: Non-Polluting Materials

Points Available

3

Product may assist in a project obtaining this credit for non-polluting materials to eliminate long-term negative impacts on human health and pollution of natural systems. 1 Credit point is awarded when all thermal insulation materials and blowing agents used in manufacture have an ODP of zero and a GWP less than 5. 1 Credit point is awarded for replacing of chlorine-based materials including PVC, in accordance with the prescribed proportions. 1 Credit point is awarded for elimination of products containing the following R-Phrases: R20-29, R31-33, R36-39, R41, R43, R45-46, R48-65.

LEED® for Commercial Interiors - Version 3 (see LEED® disclaimer below)

ENERGY & ATMOSPHERE

EA Prerequisite 2: Minimum Energy Performance

Required

Product may assist a project to comply with the ANSI/ASHRAE/IESNA Standard 90.1-2007 for the tenant's scope or works, when appropriately included in combination with other elements, to establish the minimum energy efficiency of a tenant space in accordance with prescribed requirements.

EA Credit 1.3: Optimize Energy Performance, HVAC

Points Available

10

Product may assist in a project obtaining credits for increasing the energy performance of a project HVAC system. EA Credit 1.3 offers two credit achievement approaches (Option 1 & 2).

Option 1 includes 5 credit points for HVAC Equipment Efficiency and another 5 for Appropriate Zoning and Controls of the HVAC system, in accordance with prescribed requirements

Option 2 is performance based in the reduction by either 15% (5 points) or 30% (10 points) of the ANSI/ASHRAE/IESNA Standard 90.1-2007 minimum compliance.

INDOOR ENVIRONMENT QUALITY

IEQ Credit 7.1: Thermal Comfort: Design

Points Available



This assessment is current only to the valid date and shall not be reproduced in part at any time. Please refer to the ecospecifier website for current detailed product listing information. © Ecospecifier 2010

Product is likely to assist in a project obtaining this credit, when appropriately designed in combination with other elements, such that the project complies with ASHRAE Standard 55-2004, Thermal Comfort Conditions for Human Occupancy with Section 6.1.1 documentation.

1

LEED® for New Construction & Major Renovations - Version 3 (see LEED® disclaimer below)

ENERGY & ATMOSPHERE

EA Prerequisite 2: Minimum Energy Performance

Required

Product may assist a project to comply with the ANSI/ASHRAE/IESNA Standard 90.1-2007 for the tenant's scope or works, when appropriately included in combination with other elements, to establish the minimum energy efficiency of a tenant space in accordance with prescribed requirements.

EA Credit 1: Optimize Energy Performance

Points Available

21

Product may assist in a project obtaining credits, when appropriately designed in combination with other elements in achieving levels of energy performance beyond prerequisite standard, through a variety of options. Project is assumed to be in compliance with EA Prerequisite 2: Minimum Energy Performance.

INDOOR ENVIRONMENT QUALITY

IEQ Credit 7.1: Thermal Comfort: Design

Points Available

1

Product is likely to assist in a project obtaining this credit, when appropriately designed in combination with other elements, such that the project complies with ASHRAE Standard 55-2004, Thermal Comfort Conditions for Human Occupancy with Section 6.1.1 documentation.

LEED® is a registered mark of the U.S Green Building Council (USGBC). The listing constitutes an **ecospecifier** Technical Opinion and is not endorsed by the USGBC or its agents. For detailed technical information about Credit requirements refer to the relevant LEED® Reference Guide. Rating Systems and Reference Guides are subject to change by the USGBC and any decision regarding the award of credits towards a LEED® rating is at the sole discretion of the USGBC.

BREEAM Issue 3

MATERIALS

Mat 6 – Insulation

Points Available

2

Product is likely to assist in a project obtaining credit points as it contributes to the projects use of thermal insulation which has low embodied impact compared to its thermal properties and has



This assessment is current only to the valid date and shall not be reproduced in part at any time. Please refer to the ecospecifier website for current detailed product listing information. © Ecospecifier 2010

been responsibly sourced.

ENERGY

Ene 1 – Reduction of CO2 emissions

Points Available

15

Product is likely to assist in a project obtaining credits as it demonstrates an improvement in the energy efficiency of a building's systems and therefore achieves lower operational related CO2 emissions. Number of points awarded is dependent on percentage improvement over the established baseline.

BREEAM® is a registered mark of BRE. The listing constitutes an **ecospecifier** Technical Opinion and is not endorsed by the BRE or its agents. For detailed technical information about Credit requirements refer to the relevant BREEAM® Reference Guide. Rating Systems and Reference Guides are subject to change by the BRE and any decision regarding the award of credits towards a BREEAM® rating is at the sole discretion of the BRE.

BCA Green Mark Non-residential Existing Buildings

ENERGY EFFICIENCY

1-2 Energy Efficiency

Points Available

22

Product is likely to assist in a project obtaining credit points by contributing to increased energy efficiency of the building. Number of points awarded is determined by the percentage improvement from the specified benchmarks.

INDOOR ENVIRONMENT QUALITY

4-5 Internal Noise Level

Points Available

2

Product is likely to assist in a project obtaining credit points by assisting in the achievement of ambient sound levels recommended in the prescribed standard.

Green Building Index Non-Residential New Construction v1

MANDATORY REQUIREMENTS

M2 Roof – RTTV

Mandatory

Product is likely to assist in a project complying with mandatory requirement by reducing heat conduction and radiation through opaque roof and sky lights. In order to comply, the roof thermal transfer value (RTTV) of the building shall not exceed 50 W/m2.

M3 Roof – U Value

Mandatory

Product is likely to assist in a project complying with mandatory requirement by reducing the thermal transmittance of a roof without skylights and assisting in achieving an average U-value below the prescribed levels.

ENERGY EFFICIENCY

EE1 Minimum EE Performance

Points Available



This assessment is current only to the valid date and shall not be reproduced in part at any time. Please refer to the ecospecifier website for current detailed product listing information. © Ecospecifier 2010

Product is likely to assist in a project obtaining credit points by assisting in the reduction of sound penetration between dwelling units and intra dwelling walls to levels below the established benchmarks.

3

INDOOR ENVIRONMENT QUALITY

EQ3 Sound Insulation

Points Available

Product is likely to assist in a project obtaining credit points by assisting in the reduction of sound penetration between dwelling units and intra dwelling walls to levels below the established benchmarks.

2

Green Mark and Green Building Index are copyrights of the Singapore BCA and Greenbuildingindex Sdn Ghd (GSD) respectively. The listing constitutes an **ecospecifier** Technical Opinion and is not endorsed by the BCA, GSD or their agents. Rating Systems and Reference Guides are subject to change by the BCA and GSD and any decision regarding the award of credits towards a Green Mark or GBI rating is at the sole discretion of the BCA or GSD.

National Australian Built Environment Rating System (NABERS) Compatibility

Products assist in achieving Energy of credit points in this rating tool.

BASIX building Sustainability Compatibility

Products assist in achieving Thermal Comfort of credit points in this rating tool.

Green Star™ Office Interiors Version 1.1 Compatibility (see Green Star™ disclaimer below)

INDOOR ENVIRONMENT QUALITY

IEQ-10: Internal Noise Levels

Points Available

Product is likely to assist in a project obtaining the conditional requirement for the design of a base building that achieves a predicted rating of 4 stars or greater using the Australian Building Greenhouse Rating (ABGR) scheme's Validation Protocol for Tenancy Energy Estimation Version 2005-02.

1

ENERGY IMPROVEMENTS

Ene-1: Energy Efficiency

Points Available

Product is likely to assist in a project obtaining the conditional requirement for the design of a base building that achieves a predicted rating of 4 stars or greater using the Australian Building Greenhouse Rating (ABGR) scheme's Validation Protocol for Tenancy Energy Estimation Version 2005-02.

1

Ene-2: Energy Improvements

Points Available

Product is likely to assist obtaining credits for improvement in the overall energy efficiency of a project. Credit points achieved are determined by the star rating achieved above the conditional 4 star Australian Building Greenhouse Rating (ABGR). Product contribution to credit points is determined by project energy load simulation and needs to be included in the

1



This assessment is current only to the valid date and shall not be reproduced in part at any time. Please refer to the ecospecifier website for current detailed product listing information. © Ecospecifier 2010

model to provide beneficial credits.

Green Star™ Office Design Version 3 Compatibility (see Green Star™ disclaimer below)

INDOOR ENVIRONMENT QUALITY

IEQ-13: Volatile Organic Compounds: Adhesives and Sealants

Points Available

1

Product is likely to assist in a project obtaining credits as it meets the prescribed Volatile Organic Compound (VOC) content standard for adhesives and sealants. To achieve credit points all adhesives and sealants used in the project must be in accordance with the prescribed standards.

Green Star™ Retail Version 1 Compatibility (see Green Star™ disclaimer below)

INDOOR ENVIRONMENT QUALITY

IEQ-7: Internal Noise Levels

Points Available

1

Product is likely to assist in a project obtaining this credit by directly reducing internal noise levels for 95% of the projects nominated area (GLA and common area) in accordance with levels of Table 1 of AS/NZS 107:2000.

ENERGY EFFICIENCY

Ene-1: Greenhouse Gas Emissions

Points Available

20

Product is likely to assist obtaining credits for improvement in the operational energy consumption of a project. Credit points achieved are determined by the predicted percentage of greenhouse gas emissions reduction below the "standard practice benchmark". This benchmark is determined by the Retail Centre V1 Energy Calculator.

Green Star™ Education Version 1 Compatibility (see Green Star™ disclaimer below)

INDOOR ENVIRONMENT QUALITY

IEQ-7: Internal Noise Levels

Points Available

2

Product is likely to assist in a project obtaining this credit by improving ambient noise levels in accordance with AS/NZS2107:2000 for the building services design and the overall building.

ENERGY EFFICIENCY

Ene: Conditional Requirement

Conditional

Product is likely to assist in a project obtaining the conditional requirement by meeting the green house gas emissions 'benchmark' determined by the



This assessment is current only to the valid date and shall not be reproduced in part at any time. Please refer to the ecospecifier website for current detailed product listing information. © Ecospecifier 2010

energy calculator.

Ene-1: Greenhouse Gas Emissions

Points Available

20

Product is likely to assist obtaining in a project obtaining credits for designs that minimise greenhouse gas emissions associated with operational energy consumption. Credit points achieved are determined by the predicted % reduction of greenhouse gas emissions below the conditional requirement.

Green Star™ Industrial Compatibility (see Green Star™ disclaimer below)

INDOOR ENVIRONMENT QUALITY

IEQ-7: Internal Noise Levels

Points Available

2

Product is likely to assist in a project obtaining this credit by maintaining internal noise levels at an appropriate level when appropriately designed in combination with other materials/elements.

One point is available for the design of areas that have noise levels between 'satisfactory' plus/minus 3 dB. The reverberation time must meet the requirements as laid out in the standard. These must be measured in accordance with AS/NZS 2107:2000.

One additional point is available where noise insulation between acoustically sensitive rooms and other spaces complies with $D_w + LA_{eq,T}$ greater than 75. This additional point is applicable where the non-industrial occupied space is more than 2.5% of the nominated area of the GLA up to 500m², and where there is a non-industrial occupied space.

ENERGY EFFICIENCY

Ene: Conditional Requirement

Conditional

Product is likely to assist in a project obtaining the conditional requirement by meeting the green house gas emissions bench mark, determined by the Green Star - Industrial v1 Greenhouse Gas Emissions Calculator Guide.

Ene-1: Greenhouse Gas Emissions

Points Available

20

Product is likely to assist obtaining credits for improvement in the operational energy efficiency of a project. Credit points achieved are by the further reduction below the conditional requirement determined by Green Star - Industrial v1 Greenhouse Gas Emissions Calculator Guide.

Green Star™ Multi Unit Residential Compatibility (see Green Star™ disclaimer below)

INDOOR ENVIRONMENT QUALITY



This assessment is current only to the valid date and shall not be reproduced in part at any time. Please refer to the ecospecifier website for current detailed product listing information. © Ecospecifier 2010

<p><u>IEQ-7: Internal Noise Levels</u></p> <p>Product is likely to assist in a project obtaining this credit by maintaining internal noise levels at an appropriate level when appropriately designed in combination with other materials/elements. One credit point is achieved when building services noise meets satisfactory design sound levels and one point is achieved where building construction exceeds the Building Code of Australia in accordance with prescribed requirements.</p>	<p><i>Points Available</i></p> <p>2</p>
---	--

ENERGY EFFICIENCY

<p><u>Ene: Conditional Requirement</u></p> <p>Product is likely to assist in a project obtaining the conditional requirement for energy consumption and minimisation of greenhouse gases, through improved thermal performance. Average thermal performance for dwellings must be improved by 10% compared to the thermal performance standard in the relevant jurisdiction.</p>	<p>Conditional</p>
--	---------------------------

<p><u>Ene-1: Greenhouse Gas Emissions</u></p> <p>Product is likely to assist obtaining credits for improvement in the operational energy efficiency of a project. Credit points achieved are determined by the predicted percentage of greenhouse gas emissions reduction below the “standard practice benchmark”. This benchmark is determined by the Multi Unit Residential Centre V1 Energy Calculator.</p>	<p><i>Points Available</i></p> <p>20</p>
--	---

Green Star™ Healthcare Version 1 Compatibility (see Green Star™ disclaimer below)

INDOOR ENVIRONMENT QUALITY

<p><u>IEQ-7: Internal Noise Levels</u></p> <p>Product is likely to assist in a project obtaining this credit by directly reducing internal noise levels for 95% of the OFA in accordance with Table 1 of the AS/NZS 2107:2000.</p>	<p><i>Points Available</i></p> <p>1</p>
--	--

ENERGY EFFICIENCY

<p><u>Ene: Conditional Requirement</u></p> <p>Product is likely to assist in a project meeting the energy conditional requirement. The project’s predicted greenhouse gas emissions must be equal to or an improvement, in the ‘bench mark’ building determined using Healthcare v1 Greenhouse Gas Emissions Calculator.</p>	<p>Conditional</p>
--	---------------------------

<p><u>Ene-1: Greenhouse Gas Emissions</u></p> <p>Product is likely to assist in a project obtaining credits for reduction in operational energy consumption and greenhouse gas emissions of the base building. One point is achieved for every 5% reduction against the ‘bench</p>	<p><i>Points Available</i></p> <p>20</p>
--	---



This assessment is current only to the valid date and shall not be reproduced in part at any time. Please refer to the ecospecifier website for current detailed product listing information. © Ecospecifier 2010

mark' building and zero net operating buildings receive 20 credit points.

Green Star™ is a registered mark of the Green Building Council of Australia (GBCA). The listing constitutes an ecospecifier Technical Opinion and is not endorsed by the GBCA or its agents. For detailed technical information about Credit requirements refer to the Green Star™ Technical Manuals. Rating Tools and Technical Manuals are subject to change by the GBCA, and any decision regarding the award of credits towards a Green Star rating is at the sole discretion of the GBCA.

ASSESSMENT COMPARISON

Fibreglass, rockwool, cellulose, mineral wool, natural wool, reflective, polyethylene bubble, polystyrene, polyurethane, lead or barium-impregnated PVC sheets, or other standard polyester insulations.



RELATED TOPICS

Insulation, heat, noise

CSI CATEGORY & NUMBER

07 21 00 Thermal Insulation

NBS CATEGORY & NUMBER

Building and Residential Services

P10 Sundry insulation/ proofing work

P11 Foamed/ Fibre/ Bead cavity wall insulation

Commercial Engineering & Services

P10 Sundry insulation/ proofing work

P11 Foamed/ Fibre/ Bead cavity wall insulation

Landscaping

P10 Sundry insulation/ proofing work

P11 Foamed/ Fibre/ Bead cavity wall insulation

ASSESSMENT CRITERIA SATISFIED

ENERGY/GREENHOUSE
<ul style="list-style-type: none">• Low energy in production• Potential less GHG/ODP down stream
HABITAT & LAND
<ul style="list-style-type: none">• Reduced terrestrial impact



This assessment is current only to the valid date and shall not be reproduced in part at any time. Please refer to the ecospecifier website for current detailed product listing information. © Ecospecifier 2010

RESOURCE DEPLETION & EFFICIENCY

- Abundant
- Reuse potential
- Least Processed Materials
- Reduced Material Use

HUMAN HEALTH

- Low/Reduced Offgassing
- Reduced toxics or carcinogens

POLLUTION TO ENVIRONMENT

- Reduced Life Cycle Toxicity
- Reduced Life Cycle Carcinogen
- Reduced Smog: Reduction

OTHER VITAL SIGNS

- Australian Standards
- MSDS
- Independent Verification
- Documented Manufacturer Claim
- Environmental info about product
- Environmental Policy

MANUFACTURER DETAILS

Green Insulation

Unit 1/13 Meakin Road

Meadowbrook, QLD 4131



This assessment is current only to the valid date and shall not be reproduced in part at any time. Please refer to the ecospecifier website for current detailed product listing information. © Ecospecifier 2010

Telephone: +61 7 3220 6522

Fax: +61 7 3200 4438

Email: contact@greeninsulation.com.au

Web: www.greeninsulation.com.au

This is a Certified Copy of an ecospecifier.com listing. Certified by **ecospecifier** Pty Ltd *per*



David Baggs | Technical Director & Principal Consultant
Chartered Architect, FAIA, ABSA, Green Star AP, LEED AP, MRoySocAS



This assessment is current only to the valid date and shall not be reproduced in part at any time. Please refer to the ecospecifier website for current detailed product listing information. © Ecospecifier 2010