

Tiger Profiles & Insulation LLC – Solacoat Heat Reflective & Non-slip Waterproof Pavement Coating

Overview

Low VOC water based heat reflective, non-slip and waterproof topping and coating system suitable for a range of horizontal impervious surfaces in interior and exterior residential, commercial and industrial applications.



Product Description

Solacoat Heat Reflective and Non-Slip Waterproof Pavement Coating is a water based, durable, non-slip, waterproof and heat reflective coating system suitable for pedestrian walk areas, light vehicle traffic areas and low speed heavy vehicle areas. The coating system consists of Solacoat Pavement Coating mixed with off-white cement (10 or 15% b/w depending on application) as a topping, and where necessary, a Solacoat Pavement Sealer. The clear sealer inhibits stains and marks and enables easier cleaning of the surface.

The coating system reflects between approximately 50-60% of heat rays, substantially reducing heat absorption of impervious horizontal surfaces. The coating can minimise localised rises in ambient air temperature in the built environment caused due to the heat absorption of high mass surfaces (urban heat island effect). Benefits include an increase in thermal comfort levels (interior and exterior) and a reduction of energy cooling loads placed on air conditioning systems in surrounding buildings.

PRODUCT SPECIFICATIONS

Options	Coating system is available with <i>Solacoat Pavement Sealer</i> to assist in spoilage removal of coating surface (e.g. tyre marks, oil, scuffing, etc.)
Colours	Available in Sandstone and Terracotta
Warranty	10 year warranty covering solar reflectivity, colour uniformity, cracking, peeling or flaking.
Expected Life	5 - 10 years
Indicative Costs	Contact supplier
Purchase Options	-



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 2009

Constituents	Water based acrylic coating and sealer (constituents proprietary – sighted by ecospecifier for assessment)
National & International Standards	<ul style="list-style-type: none"> • Australian Paint Approval Scheme (APAS) accredited • Manufactured in NATA approved laboratory
Country of Origin	Australia
Availability	<p><i>Asia</i></p> <ul style="list-style-type: none"> • Malaysia, Philippines, Thailand, China, Japan, India, Pakistan, Singapore <p><i>Middle East</i></p> <ul style="list-style-type: none"> • UAE, Afghanistan, Iran and Saudi Arabia, Egypt <p><i>Africa</i></p> <ul style="list-style-type: none"> • South Africa
Projects	Contact supplier
Preparation	Contact supplier

ECOSPECIFIER LIFE-CYCLE ASSESSMENT

INTEGRATED DESIGN AND POLICY ISSUES

Urban heat islands effects artificially raise ambient temperatures in urban areas resulting in thermal discomfort (interior and exterior) and disturbance of local microclimates, which in turn, adversely affect plants and animals in the local area.

Solacoat Pavement Coating can be used independently, or form part of an overall design strategy, to reduce heat absorption of a substrate material and minimise urban heat island effects. The subsequent reduction of heat absorption and ambient temperatures can minimise loads placed on mechanical air conditioning systems in a building (e.g. rooftop parking) and potentially allow for the integration (or longer natural ventilation period) for mixed mode air conditioning (natural ventilation with optional mechanical air conditioning). This can lead to an increase in the overall energy performance levels of a building (and surrounds) and potential reduction in HVAC plant sizes.

Areas coated will be approximately 5 -12°C cooler than conventional coatings or uncoated natural stone, concrete or ceramic tiles surfaces. This will reduce surrounding ambient temperatures by approximately 3 – 8°C and increase water efficiency of immediately surrounding garden or vegetated verge areas.



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 2009

HUMAN HEALTH

Health

Coating contains up to ~15% b/w of crystalline silica. Crystalline silica exists in a variety of other common materials such as concrete, render, grout, tile, glass etc. This issue relates to the cutting, grinding and other occupational production activities of products containing crystalline silica and is not an issue as installed in buildings.

The IARC classifies crystalline silica inhaled in the form of quartz, from occupational sources, as carcinogenic to humans (Group 1). However, the Australian body, ASCC/NOHSC (National Occupational Health and Safety Commission) have **not** classified crystalline silica as a carcinogen.

Accordingly the sanding, grinding and other occupational production activities of products containing Crystalline Silica, may present issues if appropriate precautions are not taken. Precautions for workers such as reducing exposure to product in dust form and using appropriate Personal Protective Equipment (PPE) mitigate potential issues to *low* risk in accordance with an **ecospecifier** Risk Assessment. Refer to Material Safety Data Sheet for further information.

See *ecospecifier Issues of Concern* section below.

Comfort

Coating will assist in reducing urban heat island effects and improve thermal comfort levels.

Indoor Environment Quality

Not applicable

Electromagnetic Radiation

Not applicable

Safety

Coating has slip resistant qualities.

Accessibility

Product facilitates universal access on surfaces coated with product as it improves grip and safety for wheeled traffic.

ECOLOGICAL QUALITY

Terrestrial

Emissions – Coating system requires the addition of cement, 10 or 15% depending on application. Cement manufacturing plants emit combustion gases, wastewater, plant maintenance waste and research and laboratory wastes. The largest emission stream from cement plants is the particulate matter from kiln stacks, however this is commonly collected and returned into the processing plant (Environment Australia, 2006, *Emission Estimation Technique Manual for Cement Manufacturing Version 2.0*, p. 4).

Application tools should be cleaned in a contained treatment system to avoid contamination of topsoil. This product must be disposed of in accordance to local regulations.

Physical – Extraction of mineral additives used in the coating results in the removal and stockpiling of topsoil and sub-soil, and from removing overburden and inter-burden, results in modified soil profiles, topography and drainage.



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 2009

Aquatic

Emissions – Coating contains a small volume of substances that are very toxic to marine environments and may cause long term adverse effects in the aquatic environment in liquid form. See *ecospecifier Issues of Concern* section below.

Physical – Coating system requires the addition of cement which primarily contains limestone and other mineral based materials such as sand, clay and shale. Mineral extraction of sand for titanium dioxide is common in marine environments such as lakes and coastal areas and will have localised disruptive impacts to ecosystems caused by mining processes.

Coating contains polymers derived from petroleum. Petrochemical production can contribute to oil spills at sea.

Atmosphere

Greenhouse (GHG) – Coating has comparable embodied energy and GHG intensity to other water based concrete coatings, which are low in comparison to solvent based coatings.

Greenhouse intensity –

- *Pedestrian* – approximately 840gCO_{2e} / m²*

*based on average coverage of ~1kg / m² calculated using 1.426kg coating + 1.5kg cement per 3m². Intensity figures used for constituents are a combination of specific and proxy data sourced from Alcorn, New Zealand and Bath University, United Kingdom.

- *High use / heavy traffic (sealed)* – approximately 4kgCO_{2e} / m²*

*based on average coverage of ~3.9kg / m² calculated using 1.426kg coating + 2.25kg cement + 0.2kg sealer per m². Intensity figures used for constituents are a combination of specific and proxy data sourced from Alcorn, New Zealand and Bath University, United Kingdom.

Transport intensity – Product is manufactured in Brisbane, Australia. Energy and GHG figures for shipping product are shown below.

Product weight	Energy Intensity - Container Shipping	GHG Intensity - Container Shipping
<ul style="list-style-type: none"> • <i>Pedestrian</i> - ~1kg / m² • <i>High use / heavy traffic (sealed)</i> - ~3.9kg / m² 	0.000135MJ / 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



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 2009

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

Operational efficiency – Coating may lead to a reduction in cooling loads placed on air conditioning systems in a building, subsequently reducing greenhouse gas emissions generated in energy production.

Re-use Efficiency – Not applicable

Toxics and Pollutants – Coating emits limited volatile organic compounds (VOC) into the air. VOCs can combine with other air pollutants to form photochemical smog.

Ozone Depletion – Coating does not contain any ozone depleting (ODP) substances. Coating may minimise the use of ODPs through reducing loads placed on mechanical air conditioning systems, which often use ODP refrigerants.

Urban Heat Island Effects – Coating reflects heat rays and can substantially reduce heat gain of impervious horizontal surfaces minimising urban heat island effects.

Noise – Not applicable

Biodiversity

The extraction of petroleum for synthetic polymer based constituents in the coating will disrupt local landscapes and alter local ecosystems. In the event of an oil-spill, while rare, significant localised biodiversity impacts can result.

The process of extracting mineral based additives in coating, particularly titanium dioxide (pigment), silica and sand (constituent of cement), are sourced as a result of sand mining, a high biodiversity impact process. Mining modifies soil profiles, topography and drainage patterns which impacts natural vegetation and biodiversity.

RESOURCE DEPLETION

Resource Efficiency

Synthetic polymer based constituents are derived from diminishing and non-renewable reserves of petroleum.

Coating system contains silicon dioxide, titanium dioxide and requires the addition of cement with the primary constituents of sand, limestone, clay and shale which are all abundant, but non-renewable resources.

Embodied Fossil Fuel Energy

- *Pedestrian* – approximately 15MJ / m²*

*based on average coverage of ~1kg / m² calculated using 1.426kg coating + 1.5kg cement per 3m². Intensity figures used for constituents are a combination of specific and proxy data sourced from Alcorn, New Zealand and Bath University, United Kingdom.

- *High use / heavy traffic (sealed)* – approximately 59MJ / m²*

*based on average coverage of ~3.9kg / m² calculated using 1.426kg coating + 2.25kg cement + 0.2kg sealer per m². Intensity figures used for constituents are a combination of specific and proxy data sourced from Alcorn, New Zealand and Bath University, United Kingdom.

Embodied Water



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 2009

Information not available

Durability

Coating provides a durable and protective coating for a surface substrate and has a 10 year performance warranty.

Reusability

Not applicable

Repairability

Damaged surface areas can be recoated.

Design for Dematerialisation

Coating can assist in minimising urban heat island levels and heat transfer into buildings reducing energy loads placed on HVAC systems. This may also lead to reduced plant size, reduced operational times, and in some cases, elimination of mechanical air conditioning systems.

Design for Disassembly

Not applicable

Recyclability

Unused product is recyclable where facilities exist.

Maintenance

Regular cleaning of surface coating in areas prone to surface contamination may be required to maintain maximum heat reflectivity characteristics. Coating will require periodic recoating. Recoating period will depend on application.

Coating will inhibit thermal expansion of substrate which may reduce maintenance requirements of substrate.

Product Takeback Scheme

No

Extended Producer Responsibility (EPR)

No

CORPORATE AND SOCIAL SUSTAINABILITY

Audits and Environmental Reporting

No

Convictions

No

Environmental Policy



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 2009

No

Social Enhancement Programs

No

Technology Transfer Programs

No

Environmental Management Systems (EMS)

No

ECOSPECIFIER ISSUES OF CONCERN / RED LIGHTS

Issues of Concern

- *Coating Part A – Solacoat Heat Reflective and Non-Slip Waterproof Pavement Coating*

Coating contains a small percentage of titanium dioxide (~3% b/w). In 2006, the IARC reclassified titanium dioxide as possibly carcinogenic to humans (Group 2B). This issue of concern relates to the inhalation of powdered and ultra-fine titanium dioxide dust during manufacture. Accordingly the sanding, grinding and other occupational production activities of products containing titanium dioxide may present issues if appropriate precautions are not taken. Precautions for workers such as reducing exposure to product in dust form and using appropriate Personal Protective Equipment (PPE) mitigate potential issues to *low* risk in accordance with an **ecospecifier** Risk Assessment. Refer to Material Safety Data sheet for further information.

Coating contains a small volume of a substance (up to 2% b/w) unclassifiable as carcinogenic according to the IARC. Precautions for workers such as reducing skin contact, inhalation of vapours and using appropriate Personal Protective Equipment (PPE) mitigate potential issues to *low* risk in accordance with an **ecospecifier** Risk Assessment.

- *Coating Part B – Cement additive*

Coating system requires the addition of off-white Portland cement. Portland cement is harmful by inhalation, in contact with skin and if swallowed (R20/21/22). Precautions for workers such as reducing skin contact and using appropriate Personal Protective Equipment (PPE) mitigate potential issues to *low* risk in accordance with an **ecospecifier** Risk Assessment. Refer to Material Safety Data sheet for further information.

- *Solacoat Pavement Sealer*

Sealer contains a small volume (less than 0.15% b/w) of substances that are very toxic to marine environments (R50), in liquid form. This issue of concern has been classified as *medium* risk in accordance with an **ecospecifier** Risk Assessment and primarily relates to the cleaning of application tools. Tools must be cleaned in a contained system. Contaminated cleaning water, or primer in liquid form, must not be allowed to stormwater and bodies of water. This product must be disposed of in accordance to local regulations.

Red Light Comments

- *Coating Part A – Solacoat Heat Reflective and Non-Slip Waterproof Pavement Coating*

Coating contains a small volume (less than 1% b/w) of substances that are very toxic to marine environments (R50) and may cause long term adverse effects in the aquatic environment (R53), in liquid form. This red light comment has been classified as *medium* risk in accordance with an **ecospecifier** Risk



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 2009

Assessment and primarily relates to the cleaning of application tools. Tools must be cleaned in a contained system. Contaminated cleaning water, or primer in liquid form, must not be allowed to stormwater and bodies of water. This product must be disposed of in accordance to local regulations.

Coating contains a small volume (less than 1% b/w) of a substance that may cause cancer (R45). Precautions for workers such as reducing skin contact, inhalation of vapours and using appropriate Personal Protective Equipment (PPE) mitigate potential issues to *medium* risk in accordance with an ecospecifier Risk Assessment.

ECOSPECIFIER GREENRATE GREEN BUILDING SCHEME PRE-ASSESSMENT

LEED® for Commercial Interiors - Version 2.0 (see LEED® disclaimer below)

INDOOR ENVIRONMENTAL QUALITY

EQ Credit 4.2: Low-Emitting Materials, Paints and Coatings ²

Points Available

Product is likely to assist in a project obtaining this credit as it meets the prescribed standard/s for interior paint/s and/or coating/s applied on-site.

1

LEED® for New Construction & Major Renovations - Version 2.2 (see LEED® disclaimer below)

SUSTAINABLE SITES

SS Credit 7.1: Heat Island Effect: Non-Roof

Points Available

Product is likely to assist in a project obtaining this credit as it reduces heat island effects. Credit point is achieved when the requirements for one of the two following options are met:

1

- *Option 1* includes providing a combination of shade (within 5 years of occupancy), paving materials with a Solar Reflectance Index (SRI) of at least 29 and an open grid pavement system for 50% of the site hardscape (including roads, sidewalks, courtyards and parking lots); or
- *Option 2* includes placing a minimum of 50% of parking spaces under cover (any roof used to shade or cover parking must have a SRI of at least 29).

Exemplary Performance: Innovation in Design & Process: Heat Island Effect: Non-Roof (additional 1 point)

1

Possible achievement when either of the following options are met;

- *Option 1* includes demonstrating that 100% of non-roof impervious surfaces have been constructed with high-albedo materials and/or open grid paving and/or will shade within 5 years; or
- *Option 2* includes demonstrating of the on-site parking spaces have been located under cover.



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 2009

SS Credit 7.2: Heat Island Effect: Roof

Points Available

Product is likely to assist in a project obtaining this credit as it reduces heat island effects. Credit point is achieved when the prescribed requirements for one of the three following options are met:

1

- Option 1 includes using roofing materials with a high Solar Reflective Index (SRI);
- Option 2 includes installing a vegetated roof; or
- Option 3 includes installing high albedo and vegetated roof surfaces.

Exemplary Performance: Innovation in Design & Process: Heat Island Effect: Roof (additional 1 point)

1

Possible achievement when 100% of the projects roof area (excluding mechanical equipment, photovoltaic panels, and skylights) is comprised of a green roof.

ENERGY & ATMOSPHERE

EA Prerequisite 2: Minimum Energy Performance ^{1, 3}

Points Available

Product may assist a project meet the Rating System Energy Prerequisite, when appropriately included in combination with other elements and assessed using a computer simulation model, to comply with the nominated standard or the local energy code (whichever is more stringent).

Required

EA Credit 1: Optimize Energy Performance ^{1, 3}

Points Available

Product may assist in a project obtaining credits, when appropriately designed in combination with other elements and assessed using a computer simulation model, for increasing the level of energy performance above the nominated baseline prerequisite standard.

10*

* 2 points mandatory performance level

Exemplary Performance: Innovation in Design & Process: Optimize Energy Performance (additional 1 point)

1

Possible achievement when minimum energy cost savings of 45.5% for New Buildings and 38.5% for Existing Buildings are obtained when using EA Credit 1 Option 1. An Innovation in Design & Process credit point is not available for Option 2, 3 or 4.

INDOOR ENVIRONMENTAL QUALITY

EQ Credit 4.2: Low-Emitting Materials: Paints and Coatings ²

Points Available

Product is likely to assist in a project obtaining this credit as it meets the prescribed standard/s for interior paint/s and/or coating/s applied on-site.

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 2009

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.

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

INDOOR ENVIRONMENT QUALITY

<u>IEQ-11: Volatile Organic Compounds: Paints</u> ²	<i>Points Available</i>
Product is likely to assist in a project obtaining credits as it meets the prescribed Volatile Organic Compound (VOC) content standard for paints. To achieve credit points 95% of all painted surfaces in the project must be in accordance with the prescribed standard.	2

Green Star™ Office Design Version 2 Compatibility (see Green Star™ disclaimer below)

INDOOR ENVIRONMENT QUALITY

<u>IEQ-13: Volatile Organic Compounds: Paints</u> ²	<i>Points Available</i>
Product is likely to assist in a project obtaining credits as it meets the prescribed Volatile Organic Compound (VOC) content standard for paints. To achieve credit points 95% of all painted surfaces in the project must be in accordance with the prescribed standard.	1

ENERGY

<u>Ene-1: Energy</u> ^{1,3}	<i>Points Available</i>
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 <i>Validation Protocol for Tenancy Energy Estimation Version 2005-02</i> .	Conditional
<u>Ene-2: Energy Improvement</u> ^{1,3}	<i>Points Available</i>
Product is likely to assist in 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	15



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 2009

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: Paints ²

Product is likely to assist in a project obtaining credits as it meets the prescribed Volatile Organic Compound (VOC) content standard for paints. To achieve credit points 95% of all painted surfaces in the project must be in accordance with the prescribed standard.

Points Available

1

ENERGY

Ene-: Conditional Requirement ^{1,3}

Product is likely to assist in a project obtaining the conditional requirement for the design of a base building in which the project's greenhouse gas emissions do not exceed 110 kgCO₂ / m² / annum as determined using the Australian Building Greenhouse Rating (ABGR) *Validation Protocol for Computer Simulations* or by using the final and current version of the Green Star™ Energy Calculator.

Points Available

Conditional

Ene-1: Greenhouse Gas Emissions ^{1,3}

Product is likely to assist in obtaining credits for minimising the greenhouse gas emissions of a project. Credit points achieved are determined by determining the reduction in predicted greenhouse gas emissions below the Conditional Requirement of 110 kgCO₂/m²/annum. Full points are available for carbon-neutral base buildings.

Points Available

20

Green Star™ Retail version1 2008 Compatibility (see Green Star™ disclaimer below)

INDOOR ENVIRONMENT QUALITY

IEQ-8: Volatile Organic Compounds: Paint ²

Product is likely to assist in a project obtaining a credit point as it meets the prescribed Volatile Organic Compound (VOC) content standard for paints. To achieve the credit point 95% of all painted surfaces in the project must be in accordance with the prescribed standard.

Points Available

1

ENERGY



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 2009

Ene-1: Greenhouse Gas Emissions¹

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.

Points Available

20

Green Star™ Education version 1 2008 Compatibility (see Green Star™ disclaimer below)

INDOOR ENVIRONMENT QUALITY

IEQ-8: Volatile Organic Compounds: Paint²

Product is likely to assist in a project obtaining a credit point as it meets the prescribed Volatile Organic Compound (VOC) content standard for paints. To achieve the credit point 95% of all painted surfaces in the project must be in accordance with the prescribed standard.

Points Available

1

ENERGY

Ene: Conditional Requirement¹

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

Conditional

Ene-1: Greenhouse Gas Emissions¹

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.

Points Available

20

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

INDOOR ENVIRONMENT QUALITY

IEQ-8: Volatile Organic Compounds: Paint²

Product is likely to assist in a project obtaining a credit point as it meets the prescribed Volatile Organic Compound (VOC) content standard for paints. To achieve the credit point 95% of all painted surfaces in the project must be in accordance with the prescribed standard.

Points Available

1

ENERGY



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 2009

<p><u>Ene Conditional Requirement</u>¹</p> <p>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 Pilot Energy Calculator.</p>	<p>conditional</p>
<p><u>Ene-1: Greenhouse Gas Emissions</u>¹</p> <p>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 the Energy Calculator.</p>	<p><i>Points Available</i></p> <p>20</p>

Green Star™ Multi Unit Residential version 1 2009 Compatibility (see Green Star™ disclaimer below)

INDOOR ENVIRONMENT QUALITY

<p><u>IEQ-8: Volatile Organic Compounds: Paint</u>²</p> <p>Product is likely to assist in a project obtaining a credit point as it meets the prescribed Volatile Organic Compound (VOC) content standard for paints. To achieve the credit point 95% of all painted surfaces in the project must be in accordance with the prescribed standard.</p>	<p><i>Points Available</i></p> <p>1</p>
--	--

ENERGY

<p><u>Ene: Conditional Requirement</u>¹</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><i>Conditional</i></p>
<p><u>Ene-1: Greenhouse Gas Emissions</u>¹</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 “<i>standard practice benchmark</i>”. This benchmark is determined by the <i>Multi Unit Residential Centre V1</i> Energy Calculator.</p>	<p><i>Points Available</i></p> <p>20</p>

Green Star™ Healthcare version 1 2009 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 2009

<p><u>IEQ-8: Volatile Organic Compounds: Paint²</u></p> <p>Product is likely to assist in a project obtaining a credit point as it meets the prescribed Volatile Organic Compound (VOC) content standard for paints. To achieve the credit point 95% of all painted surfaces in the project must be in accordance with the prescribed standard.</p>	<p><i>Points Available</i></p> <p>1</p>
--	--

ENERGY

<p><u>Ene-Con: Energy Conditional Requirement¹</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 <i>Healthcare v1 Greenhouse Gas Emissions Calculator</i>.</p>	<p>Conditional</p>
--	---------------------------

<p><u>Ene-1: Greenhouse Gas Emissions¹</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 mark' building and zero net operating buildings receive 20 credit points.</p>	<p><i>Points Available</i></p> <p>20</p>
--	---

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.

Green Star SA™ Office Version 1 Compatibility (see disclaimer below)

INDOOR ENVIRONMENT QUALITY

<p><u>IEQ-13: Volatile Organic Compounds: Paints²</u></p> <p>Product is likely to assist in a project obtaining a credit point as it meets the prescribed Volatile Organic Compound (VOC) content standard for paints. To achieve the credit point 95% of all painted surfaces in the project must be in accordance with the prescribed standard.</p>	<p><i>Points Available</i></p> <p>1</p>
--	--

ENERGY

<p><u>Ene: Conditional Requirement¹</u></p> <p>Product is likely to assist in a project obtaining the conditional requirement by improving energy performance equal to or better than a notional building constructed to the 'deemed to comply' fabric and building services clauses of SANS 204:2008 <i>Energy Efficiency in Buildings</i> demonstrated by using the Green Star SA energy calculator or fully comply with ASHRAE <i>Advanced Energy Design Guide for Small Office Buildings</i>.</p>	<p>Conditional</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 2009

Ene-1: Greenhouse Gas Emissions¹

Product is likely to assist in obtaining credits for minimising the greenhouse gas emissions of a project. Credit points achieved are determined by demonstrating the reduction in predicted greenhouse gas emissions below the Conditional Requirement. Full points are available for carbon-neutral base buildings.

Alternatively this product may assist in a project obtaining 4 points for offices smaller than 2,000m² UA by assisting in demonstration of compliance with ASHRAE *Advanced Energy Design Guide for Small Office Buildings*.

Points Available

20

or

4

Green Star SA™ Retail Pilot Compatibility (see disclaimer below)

INDOOR ENVIRONMENT QUALITY

IEQ-8: Volatile Organic Compounds: Paint²

Product is likely to assist in a project obtaining credits as it meets the prescribed Volatile Organic Compound (VOC) content standard for paints. To achieve credit points 95% of all painted surfaces in the project must be in accordance with the prescribed standard.

Points Available

1

ENERGY

Ene: Conditional Requirement¹

Product is likely to assist in a project obtaining credits by reducing operational energy consumption and maximising operational energy efficiency so that the predicted carbon emissions of the building are less than or equal to the predicted carbon emissions of the notational building in the same location established by the requirements of the *Retail Centre PILOT* Energy Calculator and the Modelling Protocol Guide.

Conditional

Ene-1: Greenhouse Gas Emissions¹

Product is likely to assist in a project 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 PILOT* Energy Calculator.

Points Available

20

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

The ESTIDAMA Pearls New Buildings Rating Method Vol- 4

RESOURCEFUL ENERGY



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 2009

<p><u>RE-r1: Energy Conservation: Minimum¹</u></p> <p>Product may assist in a project obtaining this requirement if the building meets the prescribed energy performance requirements, such as the required Prescriptive or Performance Requirements.</p>	<p><i>Points Available</i></p> <p>Requirement</p>
<p><u>RE-1: Energy Conservation Improvement: Carbon Reduction¹</u></p> <p>Product may assist in a project obtaining this credit for Energy Conservation Improvement to reduce energy consumption and carbon emissions during building operation compared to either Budget Building or Benchmark building including renewable energy inputs or offsets.</p> <p>Up to 3 credit points may be achieved by products/materials in combination for passive environmental design.</p>	<p><i>Points Available</i></p> <p>20</p>

LIVEABLE BUILDINGS

<p><u>LB-1 Community Walkability</u></p> <p>Product may assist in a project obtaining this credit where the ground floor level of the building is integrated into the surrounding urban fabric and supports a pedestrian-oriented urban environment by achieving measures determined in EPDS.</p>	<p><i>Points Available</i></p> <p>2</p>
<p><u>LB-26: Paints and Coatings Emissions²</u></p> <p>Product may assist in a project obtaining this credit by reducing indoor air contaminants resulting from the use of paints and coatings. Credit point is achieved where 95% of all surface areas covered by paints and coatings meet or are less than the maximum TVOC Content Limits Values for Paints and Varnishes as stated in Annex II, Table A of European Directive 2004/42/CE: 2004.</p>	<p><i>Points Available</i></p> <p>1</p>

BREEAM Gulf Issue 2.0

ENERGY

<p><u>Ene 1 – Reduction of CO₂ emissions¹</u></p> <p>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.</p>	<p><i>Points Available</i></p> <p>15</p>
<p><u>Hea 9 – Volatile Organic Compounds: Decorative paints and varnishes²</u></p> <p>Product is likely to assist in a project obtaining credits as it meets the prescribed standards for VOC content and fungal and algal resistant for decorative paints and varnishes. Products that meet the BS EN 13300:2001 referred to the requirements of Decorative Paint Directive 2004/42/CE are compliant with this credit. To achieve credit point all product types under credit Hea 9 used in the project must be in accordance with the prescribed requirements.</p>	<p><i>Points Available</i></p> <p>1</p>

BREEAM® is a registered mark of the BRE. 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



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 2009

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.

¹ *Thermal benefits of coatings are not applicable when used in interior applications not exposed to solar radiation*

² *This product is not likely to be used internally, but might be a contiguous finish with external paving*

³ *Applicable when coating is applied on landscape paving and/or trafficable roof applications*

ASSESSMENT COMPARISON

Non reflective and solvent based horizontal surface coatings

RELATED TOPICS

Concrete, Admixture, Sealers, Forms; Floors; Landscaping & Outdoor; Sealants; Waterproofing & Pest Control

CSI CATEGORY & NUMBER

09 61 00	Floor Treatment
09 61 13	Slip-Resistant Flooring Treatment
09 90 00	Painting and Coating
09920	Exterior Paints
09 96 00	High-Performance Coating
09 97 23	Concrete and Masonry Coatings

NBS CATEGORY & NUMBER

Building and Residential Services

C42	Repairing / Renovating / Conserving concrete
M60	Painting / Clear finishing
Q26	Special surfacing / pavings for sport / general amenity
Z22	Sealants

Landscaping

M60	Painting / Clear finishing
Q26	Special surfacing / pavings for sport / general amenity
Z22	Sealants

NATSPEC CATEGORY & NUMBER

0277	Pavement ancillaries
------	----------------------



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 2009

0612	Cementitious toppings
0613	Terrazzo in situ
0671	Painting

ASSESSMENT CRITERIA SATISFIED

ENERGY/GREENHOUSE
<ul style="list-style-type: none"> • Potential less GHG / ODP down stream
HABITAT & LAND
<ul style="list-style-type: none"> • Reduced terrestrial impact
HUMAN HEALTH
<ul style="list-style-type: none"> • Low / Reduced Offgassing
POLLUTION TO ENVIRONMENT
<ul style="list-style-type: none"> • Reduced chemical toxicity through Life Cycle • Low / no carcinogens through Life Cycle • Reduced smog-forming potential
OTHER VITAL SIGNS
<ul style="list-style-type: none"> • MSDS • Independent Verification • Documented Manufacturer Claim • Environmental info about product • National / International Standard • ISO 14001 Certification



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 2009



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 2009

SUPPLIER DETAILS

Tiger Profiles & Insulation LLC

Sharjah Industrial Area 2

PO Box 23499

Sharjah, UAE

Telephone: +971 6 5338449

Fax: +971 6 5336673

Email: rosy.salameh@tigerprofiles.com

Web: www.solacoat.net, www.tigerprofiles.com

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 2009