

## Tiger Profiles & Insulation LLC – Solacoat WB & CP Primers

### Overview

Water based metal primer and water based primer for concrete and masonry products suitable for use under heat reflective coatings in interior and exterior residential, commercial and industrial applications.



### Product Description

*Solacoat WB Primer* is a water based primer based on an acrylic resin and zinc phosphate complex that has good adhesion to both ferrous and nonferrous metals. The primer also provides anti-corrosive properties on steel. The primer can be top coated with water based coatings, such as Solacoat heat reflective coatings, as well as conventional solvent based coatings. The product is lead and zinc chromate free. Applications include new and old metal roofs and walls, tanks, pipes, cranes, agricultural parts, earthmoving equipment, structural steel and production line priming.

*Solacoat CP Primer* is a water based sealer, primer, undercoat suitable for exterior and interior concrete/cementitious surfaces for use under heat reflective coatings. The primer has a ceramic alloy component which aids in the filling of uneven surfaces optimising a surface substrate for heat reflectivity. The primer is not suitable to be applied when temperature is cold (below 10 degrees Celsius) or when humidity is above 75%.

The primers can form part of a heat reflective coating system. Heat reflective coatings can substantially reduce heat absorption of substrate materials, minimising heat transfer into buildings and vehicles. The coatings also assist in reducing 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 of thermal comfort levels (interior and exterior) and a reduction of energy cooling loads placed on air conditioning systems in surrounding buildings and vehicles.

### PRODUCT SPECIFICATIONS

<b>Options</b>	Not applicable
<b>Colours</b>	<ul style="list-style-type: none"><li>• <i>Solacoat WB Primer</i> is available in white and off-white only</li><li>• <i>Solacoat CP Primer</i> is available in off-white and can be tinted with earth oxide colours to pastel shades</li></ul>
<b>Warranty</b>	10 years
<b>Expected Life</b>	5 - 10 years



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<b>Indicative Costs</b>	Contact supplier
<b>Purchase Options</b>	-
<b>Constituents</b>	Water based primer (constituents proprietary – sighted by ecospecifier for assessment)
<b>National &amp; International Standards</b>	<ul style="list-style-type: none"> <li>• Australian Paint Approval Scheme (APAS) accredited</li> <li>• Manufactured in NATA approved laboratory</li> </ul>
<b>Country of Origin</b>	Australia
<b>Availability</b>	<p><i>Asia</i></p> <ul style="list-style-type: none"> <li>• Malaysia, Philippines, Thailand, China, Japan, India, Pakistan, Singapore</li> </ul> <p><i>Middle East</i></p> <ul style="list-style-type: none"> <li>• UAE, Afghanistan, Iran and Saudi Arabia, Egypt</li> </ul> <p><i>Africa</i></p> <ul style="list-style-type: none"> <li>• South Africa</li> </ul>
<b>Projects</b>	Contact supplier
<b>Preparation</b>	Surface substrate must be clean, dry and free from all contamination.

## 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.

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*Solacoat WB and Solacoat CP Primers*, when top coated with a suitable *Solacoat Heat Reflective Coating* can form part of an overall design strategy to reduce heat absorption of a substrate material and minimise urban heat island effects.

## **HUMAN HEALTH**

### **Health**

Primer contains a very small percentage (less than 1% 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 for further information on health issues.

### **Comfort**

Primers top coated with a suitable *Solacoat Heat Reflective Coating* will assist in reducing urban heat island effects and improve thermal comfort levels.

### **Indoor Environment Quality**

Not applicable

### **Electromagnetic Radiation**

Not applicable

### **Safety**

Not applicable

### **Accessibility**

Not applicable

## **ECOLOGICAL QUALITY**

### **Terrestrial**



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*Emissions* – 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 minerals used in the primers 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.

**Aquatic**

*Emissions* – Primers contain small volumes 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* – Extraction of mineral additives in primer, silica and minerals 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.

Primers contain polymers derived from petroleum. Petrochemical production can contribute to oil spills at sea.

**Atmosphere**

*Greenhouse (GHG)* – Primer has comparable embodied energy and GHG intensity to other water based primers, which are low in comparison to solvent based primers.

*Greenhouse intensity* –

- *Solacoat WB Primer* - 183gCO<sub>2e</sub> / m<sup>2\*</sup> to 212gCO<sub>2e</sub> / m<sup>2\*</sup>

\*based on average coverage of approximately 134g to 156g / m<sup>2</sup> (depending on application method). Intensity figures used for constituents are a combination of specific and proxy data sourced from Alcorn, New Zealand and Bath University, United Kingdom.

- *Solacoat CP Primer* - 75gCO<sub>2e</sub> / m<sup>2\*</sup> to 168gCO<sub>2e</sub> / m<sup>2\*</sup>

\*based on average coverage of approximately 110g to 241g / m<sup>2</sup> (smooth and rough surfaces respectively). 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
<i>Solacoat WB Primer</i> – approximately 134g to 156g / m <sup>2</sup> (depending on application method)	0.000135MJ / kg.km	0.000011kgCO <sub>2e</sub> / kg.km
<i>Solacoat CP Primer</i> - approximately 110g to 241g / m <sup>2</sup> (smooth and rough surfaces respectively)		



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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 <sub>2e</sub> / kg.km	0.000195kgCO <sub>2e</sub> / kg.km	0.000169kgCO <sub>2e</sub> / 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* – Primers top coated with a suitable *Solacoat Heat Reflective* may lead to a reduction in energy 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* – Primers emit limited volatile organic compounds (VOC) into the air. Typical primer VOCs can combine with other air pollutants to form photochemical smog. The VOCs from Solacoat and Solacoat are unlikely to do this due to constituency.

The primers have moderate to low VOC content, minimizing VOC emissions. High VOCs can adversely affect indoor air quality and occupant health. The VOC content of the primers meets the indoor environment quality requirements of some green building rating systems. See the *Ecospecifier GreenRate Green Building Scheme Pre-Assessment* section for further details. Content for each primer is:

- *Solacoat WB Primer* - 70g/L
- *Solacoat CP Primer* - 41g/L

*Ozone Depletion* – Primers do not contain any ozone depleting (ODP) substances. Primers top coated with a suitable *Solacoat Heat Reflective Coating* may minimise the use of ODPs through reducing loads placed on mechanical air conditioning systems, which often use refrigerants with ODP impacts.

*Urban Heat Island Effects* – Primers top coated with a suitable *Solacoat Heat Reflective Coating* will minimise heat absorption of substrate.

*Noise* – Not applicable

### **Biodiversity**

The extraction of petroleum for synthetic polymer based constituents 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 primers, particularly titanium dioxide (pigment) and silica, 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.



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## RESOURCE DEPLETION

### Resource Efficiency

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

Coating system contains silicon and titanium oxides which are abundant, but non-renewable resources.

### Embodied Fossil Fuel Energy

- *Solacoat WB Primer* – 7MJ / m<sup>2</sup>\* to 8MJ / m<sup>2</sup>\*

\*based on average coverage of approximately 134g to 156g / m<sup>2</sup> (depending on application method). Intensity figures used for constituents are a combination of specific and proxy data sourced from Alcorn, New Zealand and Bath University, United Kingdom.

- *Solacoat CP Primer* – 3MJ / m<sup>2</sup>\* to 6MJ / m<sup>2</sup>\*

\*based on average coverage of approximately 110g to 241g / m<sup>2</sup> (smooth and rough surfaces respectively). 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

Information not available

### Durability

Primers provide a durable and protective coating for a surface substrate and have a 10 year performance warranty.

*Solacoat WB Primer* has excellent adhesion to ferrous and non ferrous substrates.

### Reusability

Not applicable

### Repairability

Damaged surface areas can be recoated.

### Design for Dematerialisation

Primers top coated with a suitable *Solacoat Heat Reflective 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.

High adhesion and coverage characteristics may assist increase in re-coating of existing roofs, reducing removal and replacement of existing roofs.

### Design for Disassembly

Not applicable



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### **Recyclability**

Unused product is recyclable where facilities exist.

### **Maintenance**

*Solacoat WB Primer* provides corrosion resistance to steel substrates.

Primers top coated with a suitable *Solacoat Heat Reflective 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**

No

### **Social Enhancement Programs**

No

### **Technology Transfer Programs**

No

### **Environmental Management Systems (EMS)**

No

## **ECOSPECIFIER ISSUES OF CONCERN / RED LIGHTS**

### **Issues of Concern**

- *Solacoat WB & CP Primers*

Primers contain substances (approximately 18% - 23% b/w) unclassifiable as carcinogenic according to the International Agency for Research on Cancer (IARC). Precautions for workers such as reducing skin contact, inhalation of vapours and using appropriate



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Personal Protective Equipment (PPE) mitigate potential issues to *low* risk in accordance with an **ecospecifier** Risk Assessment.

Primers contain a small percentage of titanium dioxide, approximately 4% b/w for *Solacoat WB* and 20% b/w for *Solacoat CP*. 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. 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. This issue is unlikely to be of any consequence in use/disposal/re-use. Refer to Material Safety Data sheet for further information.

### Red Light Comments

- *Solacoat WB & CP Primers*

Primers contain a small volume (approximately 1 - 3% 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 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.

## ECOSPECIFIER GREENRATE GREEN BUILDING SCHEME PRE-ASSESSMENT

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

### ENERGY & ATMOSPHERE

#### EA Prerequisite 2: Minimum Energy Performance <sup>1,2</sup>

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).

*Points Available*

**Required**

### INDOOR ENVIRONMENTAL QUALITY

#### EQ Credit 4.2: Low -Emitting Materials, Paints and Coatings <sup>2</sup>

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.

*Points Available*

**1**



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SUSTAINABLE SITES

<p><u>SSCredit 7.1: Heat Island Effect: Non-Roof</u> <sup>1</sup></p> <p>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;</p> <ul style="list-style-type: none"> <li>• <i>Option 1</i> 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</li> <li>• <i>Option 2</i> 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).</li> </ul> <p><u>Exemplary Performance: Innovation in Design &amp; Process: Heat Island Effect: Non-Roof</u> (<i>additional 1 point</i>)</p> <p>Possible achievement when either of the following options are met:</p> <ul style="list-style-type: none"> <li>• <i>Option 1</i> 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; and</li> <li>• <i>Option 2</i> includes demonstrating of the on-site parking spaces have been located under cover.</li> </ul>	<p><i>Points Available</i></p> <p>1</p> <p>1</p>
<p><u>SSCredit 7.2: Heat Island Effect: Roof</u> <sup>1</sup></p> <p>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:</p> <ul style="list-style-type: none"> <li>• Option 1 includes using roofing materials with a high Solar Reflective Index (SRI);</li> <li>• Option 2 includes installing a vegetated roof; or</li> <li>• Option 3 includes installing high albedo and vegetated roof surfaces.</li> </ul> <p><u>Exemplary Performance: Innovation in Design &amp; Process: Heat Island Effect: Roof</u> (<i>additional 1 point</i>)</p> <p>Possible achievement when 100% of the projects roof area</p>	<p><i>Points Available</i></p> <p>1</p> <p>1</p>



(excluding mechanical equipment, photovoltaic panels, and skylights) is comprised of a green roof.

## ENERGY & ATMOSPHERE

### EA Prerequisite 2: Minimum Energy Performance <sup>1</sup>

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).

*Points Available*

**Required**

### EA Credit 1: Optimize Energy Performance <sup>1</sup>

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.

*Points Available*

**10\***

\* 2 points mandatory performance level

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

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.

**1**

## INDOOR ENVIRONMENTAL QUALITY

### EQ Credit 4.2: Low-Emitting Materials: Paints and Coatings <sup>2</sup>

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.

*Points Available*

**1**

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



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Product does not assist in the achievement of credits for this rating tool.

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

ENERGY

<p><u>Ene-1: Energy</u> <sup>1</sup></p> <p>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>.</p>	<p><i>Points Available</i></p> <p><b>Conditional</b></p>
<p><u>Ene-2: Energy Improvement</u> <sup>1</sup></p> <p>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 model to provide beneficial credits.</p>	<p><i>Points Available</i></p> <p><b>15</b></p>

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

ENERGY

<p><u>Ene-: Conditional Requirement</u> <sup>1</sup></p> <p>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 kgCO<sub>2</sub> / m<sup>2</sup> / annum as determined using the Australian Building Greenhouse Rating (ABGR) <i>Validation Protocol for Computer Simulations</i> or by using the final and current version of the Green Star™ Energy Calculator.</p>	<p><i>Points Available</i></p> <p><b>Conditional</b></p>
<p><u>Ene-1: Greenhouse Gas Emissions</u> <sup>1</sup></p> <p>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 kgCO<sub>2</sub>/m<sup>2</sup>/annum. Full points are available for carbon-neutral base buildings.</p>	<p><i>Points Available</i></p> <p><b>20</b></p>

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



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INDOOR ENVIRONMENT QUALITY

<u>IEQ-8: Volatile Organic Compounds: Paint<sup>2</sup></u>	<i>Points Available</i>
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.	<b>1</b>

ENERGY

<u>Ene-1: Greenhouse Gas Emissions<sup>1</sup></u>	<i>Points Available</i>
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 <i>Retail Centre V1</i> Energy Calculator.	<b>20</b>

**Green Star™ Education version1 2008 Compatibility** (see Green Star™ disclaimer below)

INDOOR ENVIRONMENT QUALITY

<u>IEQ-8: Volatile Organic Compounds: Paint<sup>2</sup></u>	<i>Points Available</i>
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.	<b>1</b>

ENERGY

<u>Ene: Conditional Requirement<sup>1</sup></u>	<b>Conditional</b>
Product is likely to assist in a project obtaining the conditional requirement by meeting the green house gas emissions ' <i>benchmark</i> ' determined by the energy calculator.	

<u>Ene-1: Greenhouse Gas Emissions<sup>1</sup></u>	<i>Points Available</i>
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.	<b>20</b>

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

INDOOR ENVIRONMENT QUALITY



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<u>IEQ-8: Volatile Organic Compounds: Paint<sup>2</sup></u>	<i>Points Available</i>
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.	<b>1</b>

ENERGY

<u>Ene Conditional Requirement<sup>1</sup></u>	<b>conditional</b>
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.	

<u>Ene-1: Greenhouse Gas Emissions<sup>1</sup></u>	<i>Points Available</i>
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.	<b>20</b>

**Green Star™ Multi Unit Residential version1 2009 Compatibility** (see Green Star™ disclaimer below)

INDOOR ENVIRONMENT QUALITY

<u>IEQ-8: Volatile Organic Compounds: Paint<sup>2</sup></u>	<i>Points Available</i>
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.	<b>1</b>

ENERGY

<u>Ene: Conditional Requirement<sup>1</sup></u>	<i>Conditional</i>
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.	

<u>Ene-1: Greenhouse Gas Emissions<sup>1</sup></u>	<i>Points Available</i>
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.	<b>20</b>



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**Green Star™ Healthcare version1 2009 Compatibility** (see Green Star™ disclaimer below)

INDOOR ENVIRONMENT QUALITY

<p><u>IEQ-8: Volatile Organic Compounds: Paint<sup>2</sup></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><b>1</b></p>
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ENERGY

<p><u>Ene-Con: Energy Conditional Requirement<sup>1</sup></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 '<i>bench mark</i>' building determined using <i>Healthcare v1 Greenhouse Gas Emissions Calculator</i>.</p>	<p><b>Conditional</b></p>
<p><u>Ene-1: Greenhouse Gas Emissions<sup>1</sup></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 '<i>bench mark</i>' building and zero net operating buildings receive 20 credit points.</p>	<p><i>Points Available</i></p> <p><b>20</b></p>

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

INDOOR ENVIRONMENT QUALITY

<p><u>IEQ-13: Volatile Organic Compounds: Paints<sup>2</sup></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><b>1</b></p>
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ENERGY



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Ene: Conditional Requirement<sup>1</sup>

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 *Energy Efficiency in Buildings* demonstrated by using the Green Star SA energy calculator or fully comply with ASHRAE *Advanced Energy Design Guide for Small Office Buildings*.

**Conditional**

Ene-1: Greenhouse Gas Emissions<sup>1</sup>

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 2,000m<sup>2</sup> 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: Paint<sup>2</sup>

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<sup>1</sup>

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**



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<u>Ene-1: Greenhouse Gas Emissions<sup>1</sup></u>	<i>Points Available</i>
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 <i>Retail Centre PILOT</i> Energy Calculator.	<b>20</b>

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### The ESTIDAMA Pearls New Buildings Rating Method Vol- 4

#### RESOURCEFUL ENERGY

<u>RE-r1: Energy Conservation: Minimum<sup>1</sup></u>	<i>Points Available</i>
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.	<b>Requirement</b>

<u>RE-1: Energy Conservation Improvement: Carbon Reduction<sup>1</sup></u>	<i>Points Available</i>
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.	<b>20</b>
Up to 3 credit points may be achieved by products/materials in combination for passive environmental design.	

#### LIVEABLE BUILDINGS

<u>LB-1 Community Walkability</u>	<i>Points Available</i>
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.	<b>2</b>

<u>LB-26: Paints and Coatings Emissions<sup>2</sup></u>	<i>Points Available</i>
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.	<b>1</b>



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## BREEAM Gulf Issue 2.0

### ENERGY

<u>Ene 1 – Reduction of CO<sub>2</sub> emissions<sup>1</sup></u>  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 CO <sub>2</sub> emissions. Number of points awarded is dependent on percentage improvement over the established baseline.	<i>Points Available</i>  <b>15</b>
<u>Hea 9 – Volatile Organic Compounds: Decorative paints and varnishes<sup>2</sup></u>  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 BSEN 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.	<i>Points Available</i>  <b>1</b>

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<sup>1</sup> *Applicable when top coated with a heat reflective coating. Thermal benefits of coatings are not applicable when used in interior applications not exposed to solar radiation*

<sup>2</sup> *This product is not likely to be used internally, but might be a contiguous finish with external painting (particularly in foyer areas)*

### ASSESSMENT COMPARISON

Non reflective and solvent based primers

### RELATED TOPICS

Bricks & Blocks; Concrete, Admixture, Sealers, Forms; Door & Gates; Floors; Insulation – Thermal Insulation; Landscaping & Outdoor; Roofs; Sealants; Steel; Walls; Waterproofing & Pest Control

### CSI CATEGORY & NUMBER

09 90 00                      Painting and Coating



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09920 Exterior Paints  
 09 96 00 High-Performance Coating  
 09 70 00 Wall Finishes

**NBS CATEGORY & NUMBER**

**Building and Residential Services**

M60 Painting / Clear finishing  
 Z22 Sealants

**Landscaping**

M60 Painting / Clear finishing  
 Z22 Sealants

**NATSPEC CATEGORY & NUMBER**

0183 Metals and prefinishes  
 0345 Steel – protective

**ASSESSMENT CRITERIA SATISFIED**

<b>ENERGY/GREENHOUSE</b>
<ul style="list-style-type: none"> <li>Potential less GHG / ODP down stream</li> </ul>
<b>HABITAT &amp; LAND</b>
<ul style="list-style-type: none"> <li>Reduced terrestrial impact</li> </ul>
<b>HUMAN HEALTH</b>
<ul style="list-style-type: none"> <li>Low / Reduced Offgassing</li> </ul>
<b>POLLUTION TO ENVIRONMENT</b>



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- Reduced chemical toxicity through Life Cycle
- Low / no carcinogens through Life Cycle
- Reduced smog-forming potential

#### OTHER VITAL SIGNS

- MSDS
- Independent Verification
- Documented Manufacturer Claim
- Environmental info about product
- National / International Standard
- ISO 14001 Certification

#### SUPPLIER DETAILS

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PO Box 23499

Sharjah, UAE

Telephone: + 971 6 5338449

Fax: + 971 6 5336673

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