Cool the World with Heat Reflective Coatings suitable for New Construction and Refurbishment

GAIA AWARD 2008 SILVER

World Recognition for Performance

Solacoat Coatings are the first and only range of heat reflective roof finishes and pavement texture coatings to win the GAIA Silver Award in 2008. Solacoat colours are in accordance with the B.C.A., Building Code of Australia section J – Energy Efficiency Guideline

AUSTRALIAN TRUSTED TRADER

Leaders in the Green Product Community

We are proud that the entire range of Solacoat brands are leaders in sustainable, environmentally friendly and low V.O.C. products. Solacoat makes a positive difference to the health of our urban environment. As a certified member of Ecospecifier green product community.

FACTS

By reducing the upper surface solar absorptance of 1m² of a roofs area by 0.25 is equivalent to removing a one off amount of 64kg of CO_2 emissions from the atmosphere for the life of the roof, 14,080kg / 200m² roof.

Department of Climate Change discussion paper

A 1°C drop in temperature can provide a 10% power saving, and as such a considerable overall power savings for property.

Macquarie University webpage Energy and Emissions – Sustainability

SOLACOAT

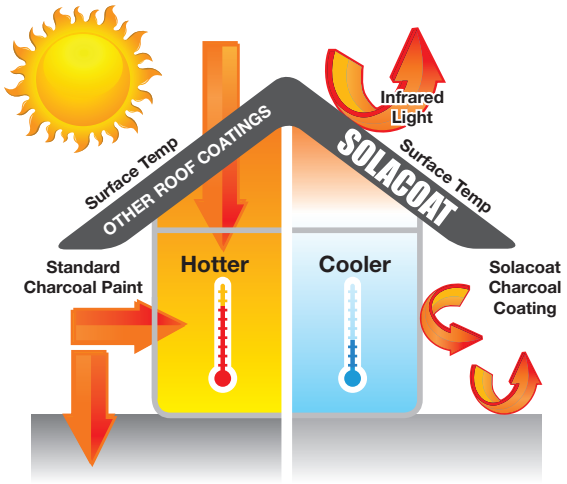
TAKES THE HEAT OUT OF THE ENVIRONMENT

Cool Roofs, Cool Walls and Cool Pavements... let's Cool the World with Solacoat!

When renovating, designing, and or constructing energy efficient buildings, one important design element to consider is how to reflect the solar rays that generate heat.

Reducing the amount of sunlight your building absorbs, during those hot summer days, will assist in lowering the heat built up on all construction surfaces, in-turn will assist in reducing human discomfort, energy cooling costs and greenhouse emissions.

Roofs, walls and pavements absorb heat. A buildings' thermal performance can be improved by making it more reflective to the suns solar rays. Reflecting a high percentage of the infrared solar rays, will assist in reducing the amount of heat being generated and absorbed, resulting in energy cost savings and the environmental impact.



Solacoat Metal Roof System

Solacoat Metal Roof System is a geoengineered coating method consisting of one coat of Solacoat WB Metal Primer and two coats of Solacoat Topcoat.

The Solacoat WB Metal Primer contains proven rust inhibiting agents to halt corrosion with excellent adhesion to all metals and is an excellent base for the Solacoat Topcoats.

The topcoat colours have a superior resistance to heat absorption with a higher solar reflectivity than corresponding coloured conventional paints. The lighter colours have a higher TSR Value and SRI rating than the darker colours, due to the significant solar reflectance.

Once installed this system provides a protective covering that shields, maintains and enhances the roof for many years to come. The beauty of the Solacoat Metal Roof System is that the building remains cool in the extremes of summer; its applied at a fraction of the cost to re-roofing and it is durable and aesthetically pleasing.

Solacoat Tile (Porous) Roof System

Solacoat Tile Roof System is a geoengineered coating method consisting of one coat of Solacoat CP Porous Primer and two coats of Solacoat Topcoat for application to concrete tiles and non-glazed terracotta tiles.

The topcoat colours have a superior resistance to heat absorption with a higher solar reflectivity than corresponding coloured conventional paints. The lighter colours have a higher TSR Value and SRI rating than the darker colours, due to the significant solar reflectance.

The Solacoat CP Porous Primer is designed to fill relatively small imperfections in the aged but mechanically sound tile surface and addresses durability, aesthetics and mould and fungi aspects. Once installed this system forms a protective coverage that shields, maintains and enhances the roof for many years to come while keeping the internal temperatures cool in the extremes of summer.

Solacoat Waterproof System

Solacoat Waterproof System is a geoengineered coating method that completely seals and waterproofs flat, non-vehicular trafficable commercial concrete roofs. The elastomeric coating system consists of one coat of Solacoat CP Porous Primer and one coat of Solacoat Waterproofing Topcoat for heat reflection, and is non-slip, leaving no more excessive heat build up in the concrete slab.

By moderating external roof top temperatures permits access for servicing roof-mounted equipment such as cooling towers, air-conditioners as well as ensuring a lower ambient internal temperature in which these essential equipment units are operating.

Flexible and durable the heat reflective membrane coating resists UV degradation, ponded water and many industrial chemical environments. Due to the heat reflectance, the coating will remain cool and should last longer than conventional waterproofing.

Building Code of Australia (B.C.A.) Energy Efficiency Provisions

The building industry is one of the fastest growing sectors and a significant contributor of the world's greenhouse gas emissions. Energy used in buildings, accounts for approximately 20% of all energy related greenhouse emissions.

Therefore when designing a new building or refurbishment it makes sense to consider approved and tested products, which help to improve the cooling energy efficiencies of the building envelope.

By incorporating energy efficient heat reflective products for roofs, walls and pavements, that reflect the amount of generated solar heat being absorbed, will provide energy efficiencies to the building and deliver social and environmental benefits to the community.

Benefits of cool roofs include downsized air-conditioning equipment, with typical energy savings of approximately 10-15%, extended roof life because they are less susceptible to thermal expansion and contraction, and reduced heat island effect, because non-reflective roofs can heat the air around them contributing to smog, elevated ambient temperatures and associated living/working environments.

Generally, cool roofs are most cost-effective when:

- **A roof is being installed as part of new construction or needs to be replaced on an existing building.**
- **Older, inefficient HVAC equipment needs to be replaced.**
- **The building is a flat-roofed, low-rise, air-conditioned commercial facility.**
- **There is little or no existing roof insulation.**
- **The climate is hot and sunny, at least in summer.**

Keeping roofs, walls and pavements cool, will not only protect the building but reduces the overall urban island heat effect.

Solacoat Heat Reflective Non-Slip Waterproof Pavement Coating

Solacoat Heat Reflective Non-Slip Waterproof Pavement is a geoengineered coating system consisting of one coat of Solacoat Pavement Basecoat and one coat of Solacoat Pavement Topcoat to pedestrian and low speed vehicular areas such as driveways, footpaths and car parks.

The Solacoat Pavement Topcoat is designed for maximum heat reflection, weather resistant and non-slip surface suitable for both pedestrian and low speed vehicular traffic areas such as: car parks, upmarket holiday resort and pool areas, and other constantly wet areas.

Lowered ambient air temperatures can be realised by the lessened heat burden imposed by notoriously hot asphalt or concreted areas when exposed to the all day sun.

A clear weather resistant clear sealer such as Solacoat Clear Pavement Sealer is recommended where vehicles are designed to be parked and oil leaks occur, so that cleaning is easily performed to maintain solar reflectivity.

Solacoat Heat Reflective Brick and Concrete Renders

Solacoat Heat Reflective All-In-One Brick and Concrete Render is a geoengineered coating system that is an excellent preparation for either new or refurbished brick and concrete walls. This membrane system is designed to accommodate slight building movements and provides an effective means to mitigate heat absorption.

Solacoat Brick and Concrete renders, available in fine, medium and coarse, are aesthetically appealing and reflects solar heat away from the building envelope. The Coarse grade is used on brick walls where the mortar joints should be completely obscured. The Medium grade is where less filling is required to fill mortar joints, while the Fine grade is where the mortar joints have been flush filled during application.

Solacoat's Heat Reflective Light Coloured Brick and Concrete Render System, assists in reducing absorbed heat by reflecting the infrared sunlight therefore remaining cool, even Solacoat's dark colours provide a lessor amount of absorbed heat then traditional dark colours!

Solacoat Marine Coatings

Solacoat Marine Coatings are a geoengineered coating system consisting of one coat of Solacoat WB Metal Primer and two coats of Solacoat Marine Coating.

This premium, high soft gloss opaque system is designed for moderating temperature extremes on exterior metal marine site surfaces where exposure to harsh coastal weather is encountered. Durable, flexible, heat reflective coating contains proven rust inhibiting agents to halt corrosion and includes excellent resistance to mould and fungal growth.

The Solacoat Marine Coating range is designed for the retro coating of buildings near marine environments such as shipping terminals or refrigerated and non-refrigerated shipping containers where heat mitigation is require because they are stored as deck cargo on ships in direct sunlight.

All metal marine buildings will benefit from the Solacoat Marine Coating system, in assisting to reflect solar rays and moderate harsh external temperature conditions.

TRUST OUR WORLDWIDE QUALITY AND REPUTATION

The following is only a small number of impressive projects that Solacoat has been involved in. Our reputation for quality has travelled throughout Australia, Asia and to the deserts of United Arab Emirates, where Solacoat won two Silver GAIA awards in 2008. Solacoat has proven to endure the world's most extreme environments, which is why the Solacoat family of products is the energy efficient choice of the building and refurbishment industry.

Supercheap Auto DC – QLD
Solacoat Metal Roof System applied to their DC warehouse roof and west facing wall in February 2006 to reduce internal temperatures. Still working 7.5 years later, and Staff are very happy.

Gas Tank – China
Solacoat Metal Roof System applied to gas tank in China to reduce heat built up to lessen gas losses.

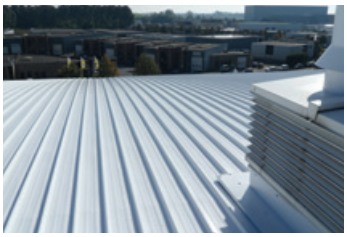
DEPULU Wheel Reconditioners – QLD
Solacoat Metal Roof System applied to engineering workshop/ factory, painting and preparation shop to reduce power consumption of air-conditioners and internal temperatures.

Gaylin International – Singapore
Solacoat Metal Roof System applied to warehouse and office to reduce power consumption of air-conditioners and internal temperatures.

Country Water Offices – NSW
Solacoat Metal Roof System applied to roof and walls to reduce power consumption and internal building temperatures.

South View Primary School – Singapore
Solacoat Roof System applied to the concrete roof and metal roof. Temperatures went from 48°C down to 32°C on the concrete roof and from 71°C down to 35°C on the metal roof.

Rail Infrastructure – NSW
Solacoat PT Rail Primer system applied to reduce temperatures on railway tracks to reduce rail traffic traversing the rail whilst in a compressed state (a common cause of heat buckle).



Amgen Breda Medical - Netherlands
Solacoat Metal Roof System was applied to a total of 14,700m2 roof surface. The roof temperature was reduced from 57.2C down to 27.3C.

Settlement City Shopping Centre – NSW
Solacoat Metal Roof System applied to the roof to reduce air conditioning costs

Sea/Land Shipping Containers
Solacoat Marine Coating applied to many shipping containers to reduce heat built up and protects produce and hazardous products.

TEST PROPERTIES AND APPROVALS

Independent International Thermal Testing

- **ASTM E1980-11** 'Standard Test Method for Calculating Solar Reflectance Index of Horizontal and Low Sloped Opaque Surfaces'
- **ASTM C1371-04a** 'Standard Test Method for Determination of Emittance of Materials near Room Temperature Using Portable Emissometers'
- **ASTM C1549-09** 'Standard Test Method for Determination of Solar Reflectance Near Ambient Termperature Using a Portable Solar Reflectometer'
- **LEED** SS Credit 7.1: Heat Island Effect: Non-Roof, Option 1. Use Hardscape materials with a Solar Reflectance Index $(SRI)_2$ of at least 29, calculated according to ASTM E1980.
- **LEED** SS Credit 7.2: Heat Island Effect: Roof, Option 1. Use roofing materials having a Solar Reflectance Index $(SRI)_3$ of at least 29 for Steep-Sloped Roof and 78 for Low-Sloped Roof, calculated according to ASTM E1980.

Industry Compliance

- Complies with Australian Standards AS/NZS 4859.1, Materials for the Thermal Insulation of Buildings.
- Verified Product Certificate Complies with Australian Standards
- AS/NZS ISO 9001-2015, ISO 14001-2015 NCS International Certification No. 7283001-QMS-002

Contact us to find out how your roof, walls and pavements can be cooler in summer!

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