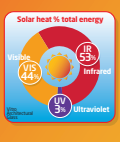
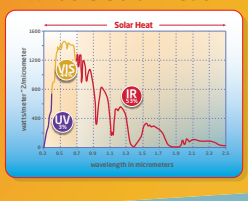
Reducing Your Heat Load

What is Solar Heat?





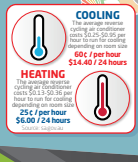
The sun's solar heat contains

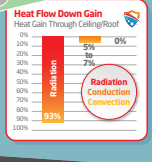
Infrared (IR)
- **53%** of total energy
- Felt as heat

Visible (VIS)
- **44%** of total energy
- Visible light

Ultraviolet (UV)
- **3%** of total energy
- Responsible for sunburn

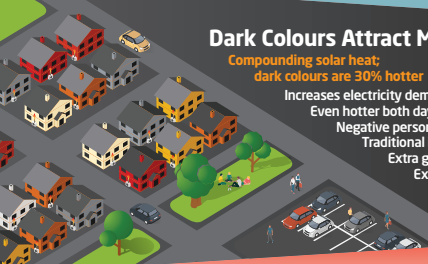
The Impact of Solar Heat





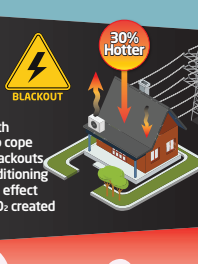
Heat has major impacts
- Cost of electricity
- Personal health and well being
- Grid demands and blackouts
- Increased CO_2 emissions
- Greenhouse gas increases
- Urban heat island growth
- Major impact on all industries

Dark Colours Attract More Heat



Compounding solar heat; dark colours are 30% hotter

- Increases electricity demand and costs
- Even hotter both day and night
- Negative personal and animal health
- Traditional insulation unable to cope
- Extra grid demands and blackouts
- Extra need for air conditioning
- Urban heat island effect
- Even more CO_2 created



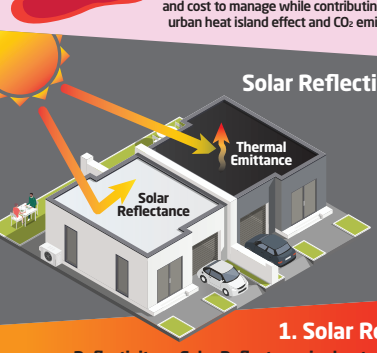
Traditional Fibreglass Insulation Stores Heat

Traditional insulation stores the heat during the day that's radiated through the roof material into your roof

Like a full bucket of water, once fully loaded, the stored heat enters the building to the coolest part of your living or working areas

It feels cooler during the day initially and hotter at night which requires more air conditioning and cost to manage while contributing to the urban heat island effect and CO_2 emissions.

Solar Reflective Index - SRI



Solar Reflective Index (SRI) was designed to measure heat reflective paints and coatings. It measures:

1. Solar Reflectance
Portion of visual light reflected (which is 44% of heat)

2. Thermal Emittance (Infrared)
Portion of absorped heat is reemitted (released from the surface) Both measured from 0 to 1, higher value is considered cooler. *Source: Cool Roof Rating Council*

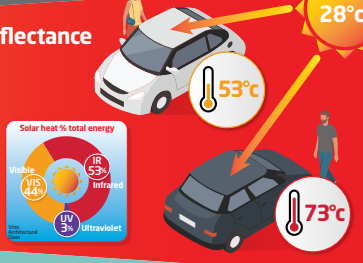
It allows for the heat to load into the roof surface first

1. Solar Reflectance

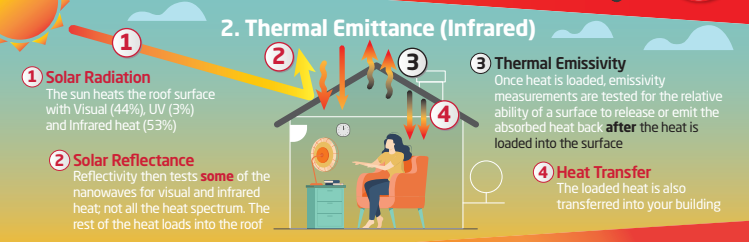
Reflectivity or Solar Reflectance is about light and not the total sum of blocked heat

White paint has 70% reflectivity, which means it reflects 70% of visual light which is 44% of the radiation heat; essentially then reflecting 30% of the heat

If 30% of the visual heat is reflected then much of the infrared heat penetrates through the car's white paint and loads into the metal because of the metal's density. This stored heat can burn your skin. The heat is loaded in the metal and not blocked with white paint. Like a dark roof it's worse for a black car



2. Thermal Emittance (Infrared)



1 Solar Radiation
The sun heats the roof surface with Visual (44%), UV (3%) and Infrared heat (53%)

2 Solar Reflectance
Reflectivity then tests **some** of the nanowaves for visual and infrared heat; not all the heat spectrum. The rest of the heat loads into the roof

3 Thermal Emissivity
Once heat is loaded, emissivity measurements are tested for the relative ability of a surface to release or emit the absorbed heat back **after** the heat is loaded into the surface

4 Heat Transfer
The loaded heat is also transferred into your building

100% Emissivity Challenge

Black is 1.0 = 100% or full heat load
SRI paints are measured on how much of the surface heat is released back out once absorbed. It is measured against black the perfect emitter that is an absolute 100% or a value of 1.0; a full heat load.

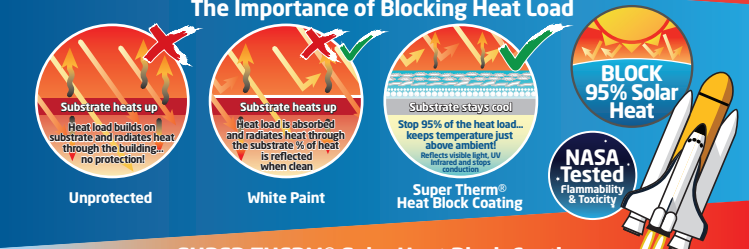
Emissivity is relative to the ability of roof surface to release or emit absorbed heat, not block the heat

What's an Emissivity Example?
Example: An emissivity rating of .92 doesn't mean 92% of the heat was blocked to cool the surface down. It means it won't trap 92% of the heat that's already in the substrate or surface

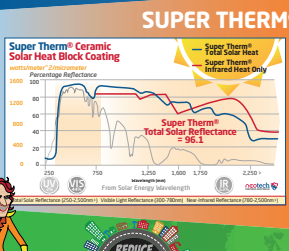
100% of Heat Loaded
A high emissivity number means nothing if the initial surface heat load is not blocked. It's like having an umbrella made from a flyscreen that allows 100% of the rain though and measuring how quickly you can dry while still being rained on

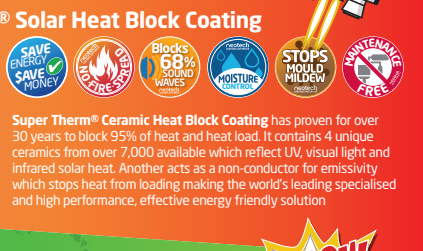
Therefore, how do you stop heat load?

The Importance of Blocking Heat Load

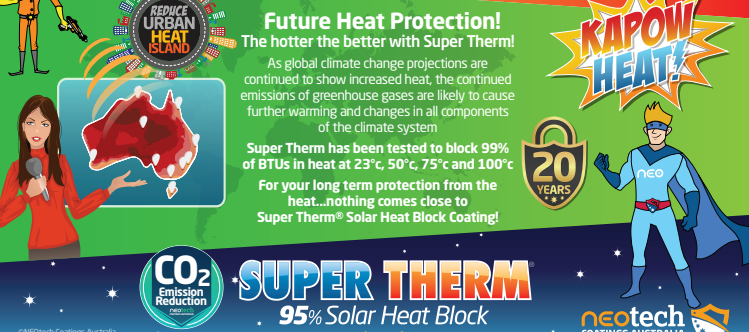


SUPER THERM® Solar Heat Block Coating





Super Therm® Ceramic Heat Block Coating has proven for over 30 years to block 95% of heat and heat load. It contains 4 unique ceramics from over 7,000 available which reflect UV, visual light and infrared solar heat. Another acts as a non-conductor for emissivity which stops heat from loading making the world's leading specialised and high performance, effective energy friendly solution



Future Heat Protection!

The hotter the better with Super Therm!

As global climate change projections are continued to show increased heat, the continued emissions of greenhouse gases are likely to cause further warming and changes in all components of the climate system

Super Therm has been tested to block 99% of BTUs in heat at 23°c, 50°c, 75°c and 100°c

For your long term protection from the heat...nothing comes close to Super Therm® Solar Heat Block Coating!

CO_2 Emission Reduction

SUPER THERM®

95% Solar Heat Block

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Future Proof with Tough Protection