

SpecShield Solar

Extremely durable, cool roof coating that protects
& waterproofs your roof for years to come



SpecShield Solar is an easy to use, one component, water-based product based on a UV cross linking pure acrylic resin. It has been developed as a liquid applied highly solar reflective seamless elastomeric roof coating for areas of high solar radiation. SpecShield Solar also has anti-microbial properties which allows this coating to be used in areas exposed to high moisture levels, such as by the coast line.

Main Performance Benefits

Outstanding Exterior Durability:

Based on a UV cross-linking pure acrylic resin, SpecShield Solar has outstanding exterior durability, weather & dirt pickup resistance. The UV cross-linking technology in the coating creates a high performance film that is very resistant and gets tougher over time as the film is exposed. This means the coating retains it's performance characteristics for much longer periods of time compared to traditional roof coatings, which lose their performance characteristics 2 to 3 years down the line.

Cool Roof Application:

SpecShield Solar is a cool roof coating system that is designed to reflect solar radiation, decreasing the heat penetrating the building thus reducing ambient air temperatures & increasing thermal comfort within the building. The result in cooling is significantly lowering energy consumption/cooling loads from air-conditioning, and above all increasing the lifetime of roofs. The structure & insulation materials below the roof are also better protected as expansion & contraction from the heat penetration is minimized.

The excellent durability and dirt resistance, even after prolonged exposure, ensures long term solar reflectivity, unlike normal paints which darken over time and reduce energy efficiency.



Seamless Waterproofing:

SpecShield Solar is an elastic & flexible coating that can be used to waterproof new roofs or can be used to prolong the life of existing roof systems through the refurbishment of aged bituminous membranes, corroded metal roofs & concrete roofs. SpecShield Solar is resistant to the permeation of ponded water and will retain its flexibility even at low temperatures.

The Cool Roof Effect

What Is A Cool Roof?

A cool roof is characterized by its higher solar reflectance & infrared emittance values in comparison to other materials & coatings of the same colour. A cool roof minimizes the solar heat gain on roof surfaces, keeping them cooler under the sun.

Cool roof coatings feature special pigments that are added to boost solar reflectance abilities and infrared emittance abilities helping the roof release the absorbed heat and usually come in lighter colours.



What Colours Are SpecShield Solar Available In?



White



Cool Grey



Cool Ivory

Please Note: Colour swatches and illustrations displayed are only to be used as a guide and can vary from the original.

Solar Reflectance & Infrared Emittance

Defined by the *Heat Island Group at Lawrence Berkeley National Laboratory in California - USA* (<https://heatisland.lbl.gov/resources/definitions-and-terms#>), Solar Reflectance can be described simply as the fraction of the incident solar energy which is reflected by the surface in question and Infrared Emittance as the ability of a warm or hot material to shed some of its heat in the form of infrared radiation.

The Solar Reflectance Index (SRI) is a measure of the roof's ability to reject solar heat, as shown by a small temperature rise. It is defined so that a standard black (reflectance 0.05, emittance 0.90) is 0 and a standard white (reflectance 0.80, emittance 0.90) is 100. For example, the standard black has a temperature rise of 50°C in full sun, and the standard white has a temperature rise of 8.1°C.



Once the maximum temperature rise of a given material has been computed, the SRI can be computed by interpolating between the values for white and black. Materials with the highest SRI values are the coolest choices for roofing. Due to the way SRI is defined, particularly hot materials can even take slightly negative values, and particularly cool materials can even exceed 100.

SpecShield Solar under the guidelines of SANEDI (The South African National Energy Development Institute) has gone for testing to determine the solar reflectance, thermal emittance and solar reflectance index values. Here are the results!

ASTM E 1980

Product	Solar Reflectance		Thermal Emittance		SRI		
	ASTM C 1549 ¹		ASTM C 1371 ²		ASTM E 1980 ³		
	Avg.	Std.Dev.	Avg.	Std.Dev.	Low-Wind	Med-Wind	High-Wind
Spec Shield Solar 3 specimens; Cond 336±12h @ 73.4±3.6°F & 50±10%RH	0.819	0.000	0.905	0.005	102	102	102

- Note(s):
- 1- Reflectance measurements were conducted using a Devices and Services SSR-ER Version 6.4 Reflectometer operated in v5 emulation mode and calibrated with Devices and Services Reference Tile # D-18.
 - 2- Emittance measurements were conducted using a Devices and Services Emissometer Model AE calibrated with Devices and Services Reference Standards: High Emittance: 0.86 and Low Emittance: 0.06.
 - 3- SRI calculations per ASTM E 1980 utilize the following assumptions: Low-Wind $h_c = 5 \text{ W/m}^2\text{-K}$, Medium-Wind $h_c = 12 \text{ W/m}^2\text{-K}$, and High-Wind $h_c = 30 \text{ W/m}^2\text{-K}$.

Please Note: For more information on these results, please don't hesitate to get into contact with our technical department

Alternative Topcoat For Bituminous Membranes

SpecShield Solar applied in 2 layers (total DFT 600µm) can be used to repair & prolong the life of existing roof systems through the refurbishment of aged bituminous membranes.

Apply in place of reflective aluminium topcoats to provide a 10 year maintenance free system.



Application Overview

Please refer to the SpecShield Solar system sheet, technical datasheets, and analysis & preparation of substrate document for detailed instructions.

Surface Preparation:

SpecShield Solar should only be applied to structurally sound roof areas. On flat roofs which have been dressed with large or medium size chippings, these must be removed prior to application. A mechanical flail should be used to remove chippings and then the area swept down to remove all loose dirt & dust.

On bitumen membranes, blisters should be cut out and the void filled with PATCHING COMPOUND ReadyMix FlexiPatch. On felt, severe blisters should be cut open and bonded flat

Any surface to be protected must be clean, dry, firm and free from any moss or lichen growth

Application:

SpecShield Solar is an one component, water based product that does not require a hardener. Before application begins, it is advisable to first mix the paint thoroughly to ensure there is no settlement at the bottom of the drum. Application can then be done by either spray or by roller.

Please note the importance of following specifications properly. Depending on your surface, you will need to prime accordingly, and ensuring application of SpecShield Solar at the correct thickness will be vital to the longevity of the coating system. Please see our document "Elastomeric Roof Coatings - Film thickness in roof coatings" document for more information.



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