

SpecShield Solar

Highly solar reflective liquid elastomeric roof coating for areas of high solar radiation

A one component, water-based, UV cross linking pure acrylic resin with 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 its performance characteristics for much longer periods of time compared to traditional roof coatings, which lose their performance characteristic 2 – 3 years down the line. SpecShield Solar also contains anti-microbial properties which allows this coating to be used in areas exposed to high moisture levels, such as by the coastline.

Intended Uses:

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 and insulation materials below the roof are also better protected as expansion & contraction from the heat penetration is minimized.

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

SpecShield Solar is an elastic & flexible coating that can also 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.

Properties:

- Outstanding exterior durability and UV resistance.
- Low temperature flexibility and crack resistance to lengthen the life of the roof.
- High resistance to dirt pick-up for long term solar reflectivity.
- Very good adhesion to multiple roofing substrates such as concrete, metal, bituminous membranes & polyurethane foam.
- Good protection against carbonation.
- Good protection against environmental degradation.
- Very good resistance to transmission of ponded water.
- Forms a seamless waterproofing barrier.
- Retains flexibility and elasticity – expands and contracts alongside waterproofing membrane.
- Impervious to ponding water.
- Resistant to mildew.
- Withstands pedestrian traffic to enable occasional maintenance and inspection.

Physical Test Results:

Tensile Properties ASTM D 2370 10 specimens; 3.0" long x 0.5" wide x 20mil dry film Conditioned 336±12h @ 73.4±3.6°F & 50±10%RH Test Speed 1.0±0.2"/min Test Condition 73.4±3.6°F & 50±10%RH Tensile Elongation 30d 80°C	Initial Percent Elongation (break) (%)	284
	Initial Tensile Strength (psi)	216
	Final Elongation (break) (%) accelerated weathering 1,000h	194
Permeance 3 specimens, test chamber @ 23°C & 50% RH tested in an inverted position	(perms)ASTM D 1653 Method B Condition A	4
Water Swelling ASTM D 471 3 Specimens; 1" x 2" X 500um Dry Film immersed in distilled water for 168+/-4h @ 23°C	% Mass	11
Tear Resistance ASTM D 51	Kg/ mm	1.8

Technical Data:

Colour	High reflective white, cool grey & cool ivory
Finish	Low sheen
Density	1.38 Kg/ Litre (On base)
Volume Solids	52%
Mass Solids	65%
Typical Film Thickness	500 – 600µm DFT (In two coats)
Theoretical Coverage	1 m²/ Litre @ 500µm DFT
Method of Application	Brush, roller & airless spray
Number of Coats	Should be applied in two coats in achieve total DFT
Viscosity	110 – 120 KU

Drying Information:

	0°C	5°C	10°C	25°C	30°C	40°C
Dust Dry	-	-	-	45 min	-	-
Hard Dry (For pedestrian traffic)	-	-	-	24 hrs	-	-
Overcoating Data – See Limitations						
Substrate Temp.	0°C	5°C	10°C	25°C	30°C	40°C
Minimum	-	-	-	6 hrs	-	-
Maximum	Extended*					

Note: 1 week for full cure. Do not apply if rain is imminent.

Surface Preparation:

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

On asphalt roofs, blisters should be cut out and the void filled PATCHING COMPOUND Cement Mortar Flexi. On felt remove - severe blisters should be cut open and bonded flat.

Any areas of moss or lichen growth should be treated with Fungicidal Wash in accordance with the instructions.

Any surface to be protected must be clean, dry, and firm.

Waterproofing: Liquid Waterproofing Coatings

Whilst we endeavour to ensure that all advice we give about the product is correct, the information given in this data sheet is not intended to be exhaustive and any person using the product for any purpose other than that specifically recommended in this sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so entirely at his own risk. As conditions of use, method of application and suitability of the substrate prior to painting are beyond our control, no guarantee is implied by the recommendations contained herein. We therefore do not accept any liability whatsoever or howsoever arising from the performance of this product or for any loss or damage arising out of the use of this product. The information contained in this sheet is liable to modification from time to time in the light of experience and ongoing product development programmes. It is the user's responsibility to ensure that this sheet is current prior to using the product

At any wide joints (such as joints on corrugated roofs or poor fitting flashings) or where excessive movements can be expected (such as valley gutter joints); apply a Bridging Tape over these areas.

Primers: Further detailed application information is given in the product technical data sheets. SpecShield Solar is to be applied to suitably primed surfaces.

Substrates	Primer
Cementitious Substrates	Epoxy WB Concrete Primer
Brick & Stone	Epoxy WB Concrete Primer
Ceramic Tiles & Glass	Epoxy WB GP Primer
Wooden Substrates	Dilute SpecShield Solar with 5% water
Metals – Galv, Ferrous, Lead, Copper, Aluminium, Brass or Stainless Steel	SpecNox Anti-Corrosive WB
Old Coatings	Check for adhesion & combability
Bituminous Membranes & Porous Surfaces	Check for adhesion and compatibility, prime with Bituminous & Porous Sealer Primer if necessary
Damp or Green Concrete	DampPrimer Damp Masonry Primer or Epoxy Cureseal

Application:

Mixing	Material is supplied in plastic containers. This is a one component product and does not require a hardener. Agitate/stir the product well before use to ensure a homogeneous mix and no settlement of pigments. No thinners should be added to this product
Application	SpecShield Solar can be applied using airless spray equipment, brush order roller. It should always be applied in minimum two layers to achieve the correct total thickness, and uniform pinhole free surface. 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.
Airless Spray	Minimum 180 bar, minimum 17 thou tip
Thinner	Typically, not thinned, but can be thinned up to 5% with water for sprayability, thinning 5% with water will result in a DFT 5% lower. Apply 5% extra material.
Work Stoppage	Do not allow material to remain in application equipment after use, thoroughly flush and clean all equipment with water. Seal the containers tightly after use to prevent drying out.
Clean Up	Clean all equipment immediately after use with water It is good working practice to periodically flush out the spray equipment during the course of the working day. Frequency of cleaning will depend upon the amount sprayed, temperature and elapsed time, including delays.

Environment:

	Surface Temperature	Ambient Temperature	Relative Humidity
Minimum	5°C*	7°C	No lower limit
Maximum	35°C**	45°C	95%

* Or 3°C above the dew point.

** Higher temperatures result in reduced sag resistance and faster cure.

* In the winter months due consideration must be given to the early onset of condensation formation early afternoon and application should be discontinued before this time.

Limitations:

- After applying the final coat, allow to dry for two days prior to wetting or rain.
- It should be noted that the success of a waterproofing system is dependent on the skill of the person applying the products.
- Heavy wet film thicknesses, exceeding 700µm Wet should be avoided as mud cracking can occur.
- Material (in closed containers) should be maintained in protected storage in accordance with information given in the STORAGE section of this data sheet.
- Technical and application data herein is for the purpose of establishing a general guideline of the coating application procedures.
- Test performance results were obtained in a controlled laboratory environment and Specialized Coating Systems makes no claim that the exhibited published test results, or any other tests, accurately represent results found in all field environments. As application, environmental and design factors can vary, due care should be exercised in the selection and verification of the performance and use of the coating.

Pack Size:

5 & 20 Litre.

Storage:

- Shelf Life: 12 months minimum at 25°C from date of manufacture. Subject to inspection thereafter.
- Store in dry conditions out of direct sunlight, away from sources of heat or ignition.

Precautions:

For complete safety and handling information please refer to the appropriate Safety Data Sheets prior to using this product.