

## Solar Shield®

### Fluid Applied Ceramic Hollow Micro spheres Roof Coatings

#### Product Information

An Innovative water based 100% siliconized acrylic roof waterproofing technology combining strength, lightweight, protection and integral insulation.

The SOLAR SHIELD is a fluid-applied ceramic hollow micro spheres elastomeric roof coating . Once in place the SOLAR SHIELD roof system becomes a seamless, continuous monolithic membrane impervious to adverse weather and extreme temperature fluctuations. As shown by conditions, airborne contaminants accelerated ageing tests, the SOLAR SHIELD lasts longer than conventional roofs. It is cold applied, so it is safer going on, and it is environmentally cleaner eliminating poisonous fumes.

#### Special Features

- A high degree of puncture-resistance due to outstanding tensile strength
- Exceptional elongation
- Absolute bondability to a wide variety of substrates
- Stability under extreme temperature fluctuations
- Resistance to ageing & UV radiations
- High solar reflectance Index (110/99)
- Space Age technology

The SOLAR SHIELD is applied directly to certain clean, dry, in place substrates . These include concrete, metal, etc. It offers an exclusive roofing formula featuring hollow ceramic beads. These beads are an integral component in a material similar to the insulative and reflective lightweight coatings used on the NASA space shuttle. This unique fluid applied ceramic coating can be sprayed or rolled on to form a seamless monolithic seal over any size or shape roof. The SOLAR SHIELD effectively dissipates and reflects solar radiation back into the atmosphere, resulting in an impressive reduction of solar loading.

- **Variable permeability.** The polymers used in SOLAR SHIELD expands when wet, offering unexcelled protection against damaging moisture penetration. The polymers shrink when dry, allowing any trapped moisture buildup to safely escape to the atmosphere.

- **Temperatures on the roof stay within 10 degrees of ambient air.** This lowers temperatures under the roof. Proven temperature reductions of up to 30% are not unusual with a single application of SOLAR SHIELD.

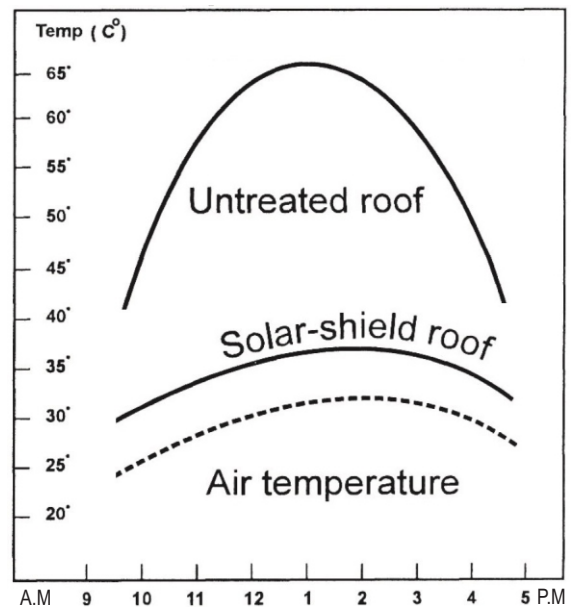
A SOLAR SHIELD roof can pay for itself through energy savings by drastically reducing solar loading, a critical factor inn lowering air conditioning costs.

#### Effect of SLOAR SHIELD on surface temperature

##### • Integral insulation

Ceramic hollow micro spheres are a poor conductor of heat and is a far more effective insulator than the bulky materials generally used for this purpose. This makes the SOLAR SHIELD unsurpassed in its ability to dissipate heat.

The high performance SOLAR SHIELD coating also insulates against roof expansion and contraction. This drastically reduces the possibility of roof leaks caused by thermal shock and reduces maintenance costs accordingly.



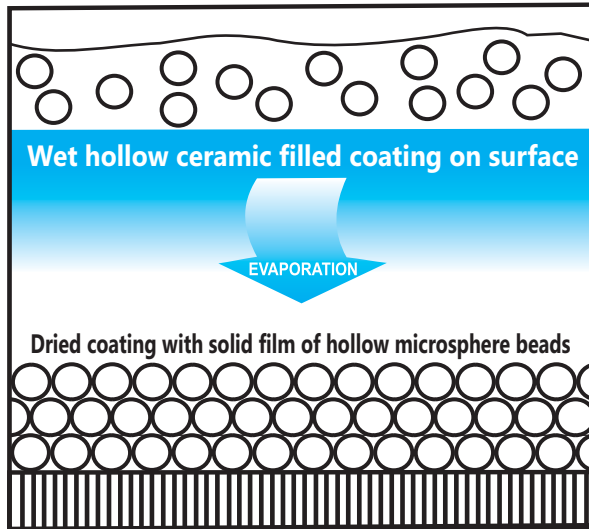
##### • Hollow Ceramic beads: The magic behind SOLAR SHIELD.

The 8-10 microns spheres that make up the SOLAR SHIELD are pure hollow ceramic microspheres . Each Each cell-smaller in diameter than a human hair-acts as an efficient insulator.

Once applied, water evaporates from the SOLAR SHIELD aqueous emulsion, and these hollow beads approach each other, eventually touch, then fuse into a continuous membrane the seamless SOLAR SHIELD. And since these spheres are over sixty two percent voids, the entire SOLAR SHIELD roof system is very light in weight causing no concern of dead load to existing roofs.

# Thermal Insulation

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## Uses

SOLAR SHIELD can be used for virtually any roof application whether it is new construction or retrofit applications. It will bond to concrete, galvanized metal, old asphalt roofs and asphalt shingles.

## Other Benefits

- Labour Savings.
- Rapid set time.
- Lightweight.
- Superior flexibility at extremely low temperatures.
- Excellent elongation and recovery properties.

## Technical Data

Tensile Strength,	ASTMD 412	615 psi
Elongation at break,	ASTMD 41	200%
Permeability	ASTME 96	8.8 perm-in
Water absorption	ASTMD471	<1% by weight
Brittleness(-37°C)	ASTMD746	passed 90° bend
Heat aging	ASTMD 865	
Tensile strength		640psi
Elongation at break		210 %

## Surface Preparation

- All surface must be clean and free from old latence, dust, dirt, oil & grease.

- Thereafter power wash the surface provided however it does not damage the roof and cause leak

## Primer

- SOLAR SHIELD will bond to concrete, unprimed or galvanized metal, old asphalt surfaces and asphalt shingles.
- Rusty surfaces require rust control prior to application

## Product Application

- Mix the material thoroughly before use Apply SOLAR SHIELD by soft brush, roller or spray gun.
- For spraying SOLAR SHIELD may be slightly diluted with water (1- 1.2 liters / bucket) Too great a dilution may lead to sedimentation and blocking of spray gun.
- Use airless spray with .031 inch tip with atomizing pressure Of 2200-2500 Psi. with 60 degree fan spread. Remove filters and screens to avoid intereptions
- Where substantial movement is anticipated in the substructure, reinforce SOLAR SHIELD by incorporating a non-woven polyester scrim as part of a "Sandwich" membrane system. Lay this mesh in the wet first coat before application of subsequent coats.

## Coverage

Apply two coats at a coverage rate of 6 m<sup>2</sup> per gallon per coat (DFT 350 microns) for flat roofs and 15 m<sup>2</sup> per gallon per coat (DFT 150 microns) for sloppy roofs, depending on the condition of the substrate.

## Colors

White, Grey, Most colors on request

## Packaging & Shelf Life

Solar Shield, 5 Gallon Bucket  
Solar Shield Rust-Pro, 5 Gallon Bucket  
2 years if remains unopened and be kept away from freezing.

## Product Warranty

5 to 15 years extendable limited warranty. The sole remedy for goods not in conformance with any warranty is replacement of the product or return of purchase price. The Delta Coatings & Sealants Inc. shall not be liable for any other damages included but not limited to labor expenses