Sol-R-Shield™ DATA SHEET

WEATHER-RESISTANT, INFRA-RED REFLECTIVE ROOF INSULATING COMPOUND

Sol-R-Shield™ is a highly durable, elastomeric reflective coating, specifically designed to produce a thermal barrier with outstanding insulation properties. In summer, **Sol-R-Shield™** creates cooler internal building temperatures by reflecting solar heat, generated primarily by Infra-Red (I-R) radiation. In winter, **Sol-R-Shield™** conserves internal building heat from escaping via roof-absorption and transmission to the outside. The cost of insulating with **Sol-R-Shield™** can be amortized in as little as 18-months, due to energy savings on reduced Heating, Ventilation and Air Conditioning (HVAC) operating and maintenance costs. **Sol-R-Shield™** forms a water, weather and sun-tolerant, highly flexible coating, resistant to fading, yellowing, cracking, checking and flaking. **Sol-R-Shield™** will extend the life of the original roofing material appreciably, and will lower ongoing roof maintenance costs as well.

FEATURES

- Single-Component
- Water-Based
- High-Solid Content (60% by volume)
- Non-Petrochemical
- Non-Toxic
- Non-Flammable
- Non-Metallic
- Flexible down to -20ºF
- High Resistance to U-V, I-R, and Weather
- High Resistance to Staining & Mildew
- Fast Drying
- Brush, Roller, Spray or Mop Application
- Plain Water Clean-Up
- Extends Roof Life
- Reduces HVAC and Insulation Requirements

PRACTICAL USES

Structural Roofing:

- Tar and Gravel
- Concrete
- Asphalt
- Metal
- Tile
- Fiberglass
- Wood Shake & Shingle

Vehicular Roofing:

- Buses, Vans, Trucks & Trailers
- Recreational Vehicles/Campers
- Mobile Homes and Coaches
- Houseboats
- Job-Site Mobile Offices
- Equipment/Tool Storage Sheds
- Cargo Containers
- Rail Boxcars
- Refrigerated Structures

SURFACE PREPARATION

Surfaces to be coated or sealed with **Sol-R-Shield™** should be dry, clean, and free from all oil, grease, dirt, loose aggregate, and other contaminants. Using a stiff-bristle push-broom, sweep the roof free of all dirt and loose gravel. Water-rinse and allow to dry. For best results, the area to be coated must be absolutely dry before application and while curing. **Sol-R-Shield™** will bridge most hairline cracks, but is not designed to be a roof repair or a re-roofing compound. Larger cracks and expansion joints should be caulked with **TWI-500™** Expansion Joint Sealant.

COVERAGE

One gallon of **Sol-R-Shield™** covers an area of 100 square feet at a 10-mil Dry Film Thickness (DFT). Two coats are recommended for optimal results, yielding a final DFT of 20-mil.

APPLICATION

Sol-R-Shield™ may be applied with a brush, roller or string mop. Thinning with water may be required for air or airless spray application through a .020-inch orifice. Allow 1 to 4 hours drying time between coats, depending on temperature/ humidity.

TOOL & EQUIPMENT CLEANING

Equipment and tools used in applying **Sol-R-Shield™** may be cleaned with water immediately after use.

PACKAGING

Sol-R-Shield™ is packaged in 1-gallon cans, four each 1-gallon cases, 5-gallon pails and 55-gallon drums.

(over)

PHYSICAL PROPERTIES

APPLICATION

Appearance . . . . . White Liquid
Consistency . . . . . Brushable/Sprayable
Composition . . . . . Elastomeric Acrylic Emulsion
Dry Film Thickness (DFT) 10-mil
Coverage . . . . . 100 ft^2/gallon
Solid Content 60%
Dry Time . . . . . @ 2 Hours at 77ºF/50% RH
Cure Time . . . . . @ 24 Hours at 77ºF/50% RH

PERFORMANCE

Color . . . . . White
Peel Adhesion . . . . . 10 lbs./linear inch
(Before 100% Cohesive Break)
Elongation 300%
High Temperature Resistance . . . . . 220°F
Low Temperature Flexibility . . . . . -20°F
Moisture Vapor Transmission . . . . . > 1 Perm
Finish . . . . . Soft, Textured "Matte"
Environmental Resistance . . . . . Excellent
(Solar I-R, U-V, Smog, Weather, Heat, Cold)
Reflectivity: Visible Light (6330Å) . . . . . @ 75%
I-R Light (8000Å) . . . . . @ 85%

PERFORMANCE TEST PROCEDURES

*REFLECTED ENERGY

Reflectance capabilities were obtained via a series of tests using collimated lasers of known qualitative & quantitative wavelengths, and a laser power meter. Measured quality and quantity of reflected light was compared to measured quality and quantity of direct light.

TEST PROCEDURES (Continued)

*TRANSMITTED ENERGY

Absorption and transmission of solar energy through **Sol-R-Shield™**, was simulated under laboratory conditions using two identical, black, metallic structural models, each identically equipped with internally and externally mounted Electro-thermocouplers. An Infra-Red light source of known quality and quantity, was used as a Solar-simulated heat source. Internal and external heat measurements were taken at regular intervals and recorded. Result synopsis:

Elapsed	Control		**Sol-R-Shield™**	
Time	Roof	Inside	Roof	Inside
1 hr.	135ºF	91ºF	100ºF	71ºF
8 hrs.	160ºF	101ºF	110ºF	82ºF

The dark surface of the untreated Control is essentially similar to that of an untreated dark roof on a warm, sunny day. The 20ºF differential of the inside temperatures is essentially the difference between normal comfort and the required use of HVAC. The 50ºF differential of roof temperatures reduces the day/night expansion/contraction cycle, and is enough to lengthen the life of the roof substantially.

The savings in HVAC operating and maintenance costs alone can amortize **Sol-R-Shield™** application costs in approximately 18-months. Added significant savings may result from extended useful roof life and reduced roof maintenance costs.

*Full test protocols, procedures and results available upon request.

Toll-Packaged for:

TradeWinds International, Inc.
1374½ E. Colorado Street
Glendale CA 91205
v: 818-500-1921
f: 818-500-3973
toll-free: 888-463-3003
e-mail: tradewinds@usa.com