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 -20°F
- 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

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.
PHYSICAL PROPERTIES

APPLICATION
Appearance ................... White Liquid
Consistency ............ Brushable/Sprayable
Composition ...... Elastomeric Acrylic Emulsion
Dry Film Thickness (DFT) .............. 10-mil
Coverage .................... 100 ft²/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 ........ 220ºF
Low Temperature Flexibility .......... -20ºF
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:

<table>
<thead>
<tr>
<th>Elapsed Time</th>
<th>Control Roof Inside</th>
<th>Sol-R-Shield™ Roof Inside</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 hr.</td>
<td>135ºF 91ºF</td>
<td>100ºF 71ºF</td>
</tr>
<tr>
<td>8 hrs.</td>
<td>160ºF 101ºF</td>
<td>110ºF 82ºF</td>
</tr>
</tbody>
</table>

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.

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