



SPI COATINGS

PROVEN PERFORMANCE • REAL WORLD SOLUTIONS

SUNSHIELD

INSULATION
AND
CORROSION
SPECIALISTS

Technical Data Sheet (05/29/19)

DESCRIPTION

SUNSHIELD is a water-borne combination of high-performance duo of elastomeric acrylics and resin additives, which produces a tough, yet flexible coating film. It combines four different ceramics that provide both heat reflectivity and heat-blocking properties. SUNSHIELD is a flexible membrane with low permeability that can greatly reduce expansion and contraction of a roof. SUNSHIELD's blend of resin additives produce a flexible coating membrane that can be applied directly to any surface. It also prevents corrosion and surface deterioration. Although durable and offering solar blocking performance, SUNSHIELD does not give the same benefits as SUPER THERM®.

TYPICAL USES

- As a one-coat roofing insulation system on exteriors to block the migration of Solar Heat gain.
- As an insulation system for the exterior of vertical walls against Solar Heat.
- As insulation for transportation vehicles, refrigerated containers, reefer trucks, and railroad cars when applied to the exterior.
- As a "Green" coating where a low VOC and durability is needed (21 grams/ltr).
- As a system over metal, concrete, masonry, and wood to stop moisture penetration and corrosion.
- Ability to resist dirt, mold, mildew, and pollution to increase longevity, and reduce surface maintenance.
- As a topcoat over metal roofs, or an intermediate coat on flat roofs.

APPLICATION METHODS

SUNSHIELD can be applied to metal, concrete, masonry and wood. The application can be spray, brush or roller. For specific instructions on surface preparation, mixing and application, please refer to the SPI's application instructions for SUNSHIELD. This coating should never be applied at less than a total of 19 mils wet (450 microns), 10 mils dry (250 microns).

TESTS AND CERTIFICATIONS (partial list)

USDA Approved

FIELD TESTING has proven:

1. The coating provides a water-tight barrier
2. The coating can withstand large temperature variances without peeling, cracking or loss of adhesion
3. The coating is resistant to mold and mildew
4. Designed for flexibility and elongation, the coating is designed to move with the substrate, and to withstand the rigors of expansion and contraction
5. The ceramics contained have sound dampening qualities.

PHYSICAL DATA

- ◆ Solids: By weight 60.5% / By Volume: 55.7%
- ◆ 30-60 minutes to tack free at 70°F (21°C)
- ◆ Overcoat: 2 hours when 70°F (21°C) at 40% relative humidity
- ◆ Full Cure: 21 days
- ◆ Cures by evaporation
- ◆ Weight: 11.8 lbs. per gallon
- ◆ Vehicle Type: Acrylic blend
- ◆ Shelf Life: Up to 3 years if unopened under appropriate storage conditions (See MSDS).
- ◆ VOC Level: 21 grams/liter
- ◆ Viscosity: 105 – 110 KU;
- ◆ pH: 8.5-9.5
- ◆ Maximum Surface Temperature when applying: 150°F (65°C)
- ◆ Minimum Surface Temperature when applying: 40°F (5°C)
- ◆ Maximum Surface Temperature after curing: 300°F (149°C)

SPREAD RATE: 85 sq.ft./gallon; 10 dry mils

SAFETY PRECAUTIONS

Do not use this product without first taking all appropriate safety measures to prevent property damage and injuries. These measures may include, without limitation: proper ventilation, use of proper lamps, wearing of protective clothing and masks, tenting, and proper separation of application areas. For more specific safety procedures, please refer to the SUNSHIELD Material Safety Data Sheet. **KEEP OUT OF REACH OF CHILDREN.**

LIMITATION OF LIABILITY: The information contained in this data sheet is based upon tests that we believe to be accurate and is intended for guidance only. All recommendations or suggestions relating to the use of the products made by SPI, whether in technical documentation, or in response to a specific enquiry, or otherwise, are based on data which to the best of our knowledge is reliable. The products and information are designed for users having the requisite knowledge and industrial skills, and the end-user has the responsibility to determine the suitability of the product for its intended use.

SPI has no control over either the quality of condition of the substrate, or the many factors affecting the use and application of the product. Therefore, SPI does not accept any liability arising from loss, injury, or damage resulting from such use or the contents of this data sheet (unless there are written agreements stating otherwise).

Information contained in this data sheet is subject to modification as a result of experience and continuous product development. This data sheet replaces and previous issues and the user has the responsibility to ensure that this sheet is current regarding the product.



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Application Instructions (5/8/15)

SUNSHIELD is a water-borne combination of a high-performance duo of elastomeric acrylic and resin additives, which produces a tough, yet flexible coating film. It combines four different ceramics that provide both heat reflectivity and insulating properties. SUNSHIELD is a flexible membrane with low permeability that can greatly reduce expansion and contraction of a roof. SUNSHIELD's blend of resin additives produce a flexible coating membrane that can be applied directly to fabric. It also prevents corrosion and surface deterioration. Although durable and offering solar heat blocking performance, SUNSHIELD does not give the same benefits as SUPER THERM®.

SURFACE PREPARATION

Surface must be clean from oil, tar, rust, grease, salts, and films.

- 1) Use general degreaser if needed.
- 2) Clean surface using TSP (tri-sodium-phosphate) or a citrus cleaner to release dirt and degreaser residue.
- 3) Pressure-wash if possible @ 3500 psi.
- 4) Salt contamination on a surface can come as a result of salt water, fertilizers, and car exhaust. Use Chlor*Rid or equivalent to decontaminate surface if salts are present. Acceptable levels: Nitrates: 5-10 mcg/cm², Sulfates: 5-10 mcg/cm², Chlorides: 3-5 mcg/cm²

Surface must be completely dry before applying.

- 1) SUNSHIELD must be applied during proper temperatures (below) and the prescribed overcoat window of the coating over which it will be applied.
- 2) Maximum Surface Temperature when applying: 150°F (65°C)
- 3) Minimum Surface Temperature when applying: 40°F (5°C)
- 4) Maximum Surface Temperature after curing: 300°F (149°C)

NOTE:

- 1) Use Rust Grip® as a primer when needed.
- 2) If pack rust or mill scale exist, it must be removed by grit blast, power tool or needle gun. Once removed, begin with Step 1 (power wash).
- 1) Harsh environments where color is desired, or where pooling may occur: SUNSHIELD should be over-coated with ENAMO GRIP (solvent based) over metal or concrete, or SP SEAL COAT over flexible surfaces (foam, tar, rubber and wood).

MIXING

SUNSHIELD should be mechanically mixed or mixed by hand for three minutes, then applied.

APPLICATION

SUNSHIELD can be applied by brush, roller or spray; however, the preferred method is by air or airless sprayer. It should never be applied directly over rust, nor should it ever be diluted or thinned.

- 1) If application is by brush, use a soft bristle brush.
- 2) If application is by roller, use a 1/4 inch nap roller.
- 3) If application is by spray, use a standard airless sprayer (2 gallons/minute at 3,300 psi.) with a .029-.033 tip.

- **NOTE:** The number of applications and the thickness of each should be in accordance with the job specifications.
- **NOTE:** All filters should be removed from both the gun handle and spray machine prior to application, as they will trap the ceramics.
- **NOTE:** Temperatures must always be a minimum of 5 degrees F. above the dew point during application.
- **NOTE:** If SUNSHIELD is applied during a period of extremely high humidity or if there is rain soon after the application, bubbles may appear on the surface. Do not puncture these bubbles. This is normal and the coating will continue to cure with no effect on the performance or appearance of the coating. Bubbles will dry down tight and disappear without a trace or imprint.

MINIMUM SPREAD RATES (mil thickness)

SUNSHIELD will be applied at no less than a total of 19 mils wet (450 microns)/10 mils dry (250 microns) for each application. Spread Rate is 80 sq ft per gallon. (7.4 sq meter per gallon)

CURE TIME

- 1) 30-60 minutes to tack free at 70°F (21°C)
- 2) Overcoat: 2 hours when 70°F (21°C) at 40% Relative Humidity
- 3) Full Cure: 21 days

TEMPERATURE

- 1) Apply between 50°F. and 100°F.
- 2) Store between 40°F. and 100°F.

CLEAN-UP EQUIPMENT

- 1) After completion, spray system should be cleaned with soap and water.
- 2) After completion, brushes and rollers can be cleaned with soap and water, stored and reused.

SAFETY DATASHEET (SUN/11/00)

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SECTION I - IDENTIFICATION OF THE PRODUCT AND THE COMPANY:

PRODUCT NAME: Sunshield (UPC#851207002027, SKU#768432, Part#312)

GHS PRODUCT IDENTIFIED: Global Harmonized System #3209.10.000

CHEMICAL TYPE: Waterbased coating

MANUFACTURER: Superior Products International II, Inc.

ADDRESS: 10835 W. 78th St., Shawnee, KS 66214 USA

EMERGENCY TELEPHONE NUMBER: 800/424-9300; 202/483-7616

SECTION II - HAZARD IDENTIFICATION:

This product is water-based and not classified as dangerous for supply or conveyance. The ingredients are water-reducible. This product has been analyzed for use in and around food manufacturing and found to be safe for use on non-contact surfaces. No toxics or toxic off-gassing is present.

SECTION III - HAZARDOUS INGREDIENTS:

Texanol - 0.5-1.5% (CAS #25265-77-4) Mica - 1.5-3% (CAS #12001-26-2)

SECTION IV - FIRST AID MEASURES:

EYES: Flush with water for at least 15 minutes; consult physician if irritation continues.

INGESTION: Do not induce vomiting. Drink 1-2 glasses milk/water. Seek medical attention according to amount of product ingested.

SKIN: Wash with mild soap and water.

INHALATION: Remove to fresh air.

SECTION V - FIREFIGHTING MEASURES:

CONDITIONS OF FLAMMABILITY: Not flammable, water-based product

HAZARDOUS COMBUSTION PRODUCTS: Carbon monoxide, methacrylate and other noxious gases

AUTOIGNITION TEMP.: NAP MINIMUM IGNITION ENERGY: NAV

FLAMMABLE LIMITS: (Lower) NAP% (Upper) NAP% FIRE POINT: NAP

FLASH POINT & METHOD: NAP SENSITIVITY TO MECHANICAL IMPACT? No

SENSITIVITY TO STATIC DISCHARGE? No

SPECIAL PROCEDURES: Firefighters should wear full-body protection & SCBA

MEANS OF EXTINCTION: Water, water fog, dry chemical, foam or CO₂

SECTION VI - ACCIDENTAL RELEASE MEASURES:

Use kitty litter, sand or other to control spread and absorb liquid.

SECTION VII - HANDLING AND STORAGE:

STORAGE REQUIREMENTS: Keep from freezing. Store below 50C. degrees. Keep container closed tightly to prevent drying out.

HANDLING PROCEDURES/EQUIPMENT: Treat as paint product. Use ventilation and protective equipment to suit conditions of use. Use soap and water for clean-up.

SECTION VIII - EXPOSURE CONTROLS AND PERSONAL PROTECTION:

PERSONAL PROTECTIVE EQUIPMENT: Avoid inhalation of liquid when applying. Use particulate respirator.

ENGINEERING CONTROLS: Use mechanical ventilation to control aerosol or mist if product is sprayed.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES:

PHYSICAL STATE: Liquid **SOLUBILITY IN WATER:** soluble/miscible
APPEARANCE AND ODOR: white color, mild acrylic odor
FREEZING POINT: 30F. degrees **BOILING POINT:** 192C degrees **pH:** 8
SPECIFIC GRAVITY: 1.4 **ODOR THRESHOLD:** 0.08-25ppm
COEFF. WATER/OIL: NAV **EVAPORATION RATE:** slow%
VAPOUR DENSITY (Air = 1): 2.1 **VOLATILES:** less than 5
VAPOUR PRESSURE: 17mmHg @ 20C degrees

SECTION X - STABILITY AND REACTIVITY:

CONDITIONS OF REACTIVITY: stable CONDITIONS OF INSTABILITY: stable
CHEMICAL INCOMPATIBILITY: strong acids or bases
HAZARDOUS DECOMPOSITION PRODUCTS: none known, no hazardous
polymerization
CORROSIVE BEHAVIOR: no

SECTION XI - TOXICOLOGICAL INFORMATION:

ROUTES OF ENTRY: SKIN CONTACT SKIN ABSORPTION EYE CONTACT X
INHALATION INGESTION SYNERGISTIC PRODUCTS none known
EXPOSURE LIMITS: mica 3mg/m (ACGIH)
EFFECTS OF ACUTE EXPOSURE: liquid splash could result in eye or nose irritation

EFFECTS OF ACUTE EXPOSURE: liquid splash could result in eye or nose irritation and/or headache

EFFECTS OF CHRONIC EXPOSURE: excessive exposure to liquid product may result in minor irritations

MUTAGENICITY: NAP
REPRODUCTIVE TOXICITY: NAP
TERATOGENICITY: NAP
SENSITIZATION: not expected

CARCINOGENICITY: ingredients not listed

IRRITANCY: possible skin or eye irritation if not washed off

SECTION XII. ENVIRONMENTAL INFORMATION:

SECTION A - ENVIRONMENTAL INFORMATION

Water—the resins will be diluted and dissipate when flushed with water.

Soil—the resin contents are biodegradeable in ground acids over a period of time.

No ecological hazards are known to exist.

SECTION XIII - WASTE DISPOSAL

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Product spill should be contained by previously described absorption methods, and dried product disposed of as normal industrial waste according to all federal, state or governmental regulations.

SECTION XIV - TRANSPORT INFORMATION:

The only restriction to carriage is for protection against freezing. Contents are water-based.

SECTION XV - REGULATORY INFORMATION:

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SECTION XVI - OTHER INFORMATION:

NAP

PREPARED BY: J. Britchett, Superior Products Int'l. Inc.

DATE: 9-1-10