

# ROOFSHIELD®

## REFLECTIVE ACRYLIC ELASTOMER

### Technical Data & Application Instructions

#### PRODUCT DESCRIPTION

ROOFSHIELD is a water-based, high solids, flexible advanced acrylic coating. High reflectivity combined with good weatherability, ultraviolet resistance, adhesion and ease of application make ROOFSHIELD an effective coating for providing long term reflectivity over a wide range of roofing substrates.

#### BASIC USES

ROOFSHIELD was especially developed for extending the life of new or existing built-up, metal, concrete, single-ply and composite shingle roofs by providing a white reflective topcoat. The high reflectivity of ROOFSHIELD keeps the roof substrate cool, which not only prolongs its longevity, but saves on energy costs. ROOFSHIELD's rich consistency uniformly covers the textured profile of various substrates, forming a permanently flexible monolithic membrane, providing protection from normal weathering, aging and ultraviolet exposure.

#### COLORS

ROOFSHIELD is available in standard **White**, **Tan**, **Light Tan** and **Solar Gray** colors, which are certified to meet ENERGY STAR®, Cool Roof Rating Council (CRRC) and LEED reflectance and emissivity criteria. **White** and **Light Tan** also meet California Title 24 requirements. All other colors are custom matched by UNITED for the specific application. Color chips or samples must be furnished to UNITED for all custom colors. It is recommended that dark colors be tinted in KYMAX topcoat only.

#### PACKAGING & MIXING

ROOFSHIELD is a single component, ready-to-use material available in 5-gallon (19 liter) pails and 55-gallon (208 liter) drums.

ROOFSHIELD may appear well mixed, but upon standing will settle into a two stage suspension. **Thoroughly mix** the contents of all containers using a power mixer for a minimum of five (5) minutes prior to application. **Thinning or reducing the material is not recommended.**

#### TYPICAL PROPERTIES

- Solids by Weight:**  
70% (±2) [ASTM D2369]
- Solids by Volume:**  
60% (±2) [ASTM D2697]
- Tensile Strength:**  
250 psi (±20) (1.66 MPa) [ASTM D2370]
- Elongation:**  
200% (±20) @ 75°F (24°C)  
[ASTM D2370]
- Hardness:**  
70 to 80 Shore A [ASTM D2240]
- Permeance:**  
3.2 Perms @ 17 mils [ASTM E96]
- Permeability:**  
0.05 Perm Inches [ASTM E96]
- Low Temperature Flexibility:**  
Passes 180° flex over 1/8" mandrel @ -5°F (-21°C) [Federal Test Method No. 141 a-6221]
- Temperature Limits for Normal Service Conditions:**  
0°F to 180°F (-18°C to 82°C)

#### ADVANTAGES

- Ultraviolet Resistant** – No deleterious effects after 4,000 hrs. accelerated weathering.
- Reduced Energy Costs** – Remains white to reflect the sun's heat, dramatically lowering roof substrate temperature.
- Long Term Flexibility** – advanced elastic acrylic polymers remain permanently flexible upon extended exterior exposure.
- Water-Based** – Contains no solvents, cleans up with water. Conforms to all Federal, State and Local air pollution standards.
- Low Cost Application & Maintenance** – A minimal amount of labor and equipment is required for application. Touch-up is accomplished with acrylic caulk or additional ROOFSHIELD.
- Color Stable** – The acrylic resins crosslink under UV exposure to lock in color and lock out dirt.
- High Film Build** – High volume solids allows fast application to uniformly cover textured substrates.

## SURFACE PREPARATION

### BUILT-UP & MODIFIED BITUMEN ROOFING

All loose gravel, if present, shall be removed by power sweeping and/or vacuuming. Remaining gravel shall be power spud to achieve the smoothest surface possible. Any areas of unsound roof, i.e. blisters, delamination, deterioration, moisture saturation, etc., shall be repaired or replaced. Power sweep, vacuum or blow down roof to remove remaining dirt, dust and other contaminants prior to commencing with coating application. New asphalt shall be exposed to ambient conditions for 45 to 60 days prior to coating, or use **Roof Mate LP** as a basecoat. Under cold, cloudy and/or rainy conditions a longer period of time may be required.

**CONCRETE** – All concrete surfaces must be dry, clean, and free of dirt, oil, soapy films, surface chemicals or other foreign contaminants. Concrete surfaces that are contaminated with oil, grease, dirt, etc., shall be cleaned using a biodegradable chemical cleaner such as **UNITED'S UCC Cleaner**. Rinse thoroughly with clean water to remove all traces of the chemical cleaner. Thoroughly sweep, vacuum or blow down roof to remove remaining dirt, dust and other contaminants prior to commencing with coating application.

**METAL ROOFING** – All metal surfaces must be dry, clean and free of any dirt, oil, rust, surface films or other contamination that could interfere with proper adhesion. Deteriorated or badly corroded metal shall be replaced. Rusted areas shall be mechanically abraded to remove all loose rust and then primed with **Acrylex 400** high grade rust-inhibitive primer. New metal roofs exhibiting any type of surface film shall be washed with a vinegar or muriatic acid solution, or equivalent, to totally remove this film. All traces of the chemical cleaner shall then be thoroughly rinsed from the surface. Thoroughly sweep, vacuum or blow down roof to remove remaining dirt, dust and other contamination prior to commencing with coating application.

### APPLICATION INSTRUCTIONS

**ROOFSHIELD** may be applied by brush, roller, conventional or airless spray equipment. Airless spray is the preferred method. Brush or roller may be used for touch-up and edging work, or for small areas that are not practical for spray application. Any airless pump capable of 1 gallon (.4 l) per minute output and 2,000 psi (13,790 kPa) pressure will effectively spray **ROOFSHIELD**. A minimum  $\frac{3}{8}$ " (1 cm) inside diameter high pressure hose is recommended in conjunction with any airless handgun compatible with pump used. Tip size should be between .027" and .039" (.7 and 1.0 mm) with a fan angle of 40° to 50°.

**ROOFSHIELD** shall be applied in two or more coats to achieve a minimum total dry mil thickness of 15 to 25 dry mils (381 to 635 microns), depending on the substrate. This will require 2 to 4 gallons per 100 sq. ft. (.4 to 1.6 l/m<sup>2</sup>) depending upon surface texture. **ROOFSHIELD** should not be applied at more than 24 wet mils (610 microns) in any one coat. Additional coats may be applied as soon as the previous coat is dry enough to allow the applicator to walk on. When two coats are utilized, it is recommended that Gray be used as the first coat, thus making it easier to visually control the application of the second coat in White. Initial cure to achieve resistance to rain or dew will normally take several hours, depending on temperature and humidity.

**ROOFSHIELD** shall extend up and over all roof substrates on vent pipes, parapets and other protrusions to terminate a minimum of 3" (7.5 cm) above the substrate, creating a self terminating flashing. Extend coating up and under all counter-flashings, where utilized.

The sprayability of **ROOFSHIELD** will depend on the combination of proper equipment and temperature of the coating at time of application. **ROOFSHIELD** in the container is very cohesive and difficult to spray at **material temperatures** below 60°F (16°C). Thinning or reducing the mixture is not recommended. Addition of water reduces the rich thixotropic nature of **ROOFSHIELD** and decreases its ability to achieve a heavy film build with excellent vertical hold. Use water and **UCC Cleaner** to thoroughly flush equipment. Purge the water from the system using Mineral Spirits or Cellosolve solvent. Leave the solvent in the lines and equipment until next use. It is not recommended practice to leave **ROOFSHIELD** in the pump or hoses.

### LIMITATIONS & PRECAUTIONS

**ROOFSHIELD** will freeze and become unusable at temperatures below 32°F (0°C). Do not ship or store unless protection from freezing is available. Do not apply **ROOFSHIELD** at temperatures below 50°F (10°C), or when there is possibility of temperatures falling below 32°F (0°C) within a 24-hour period after application.

**ROOFSHIELD** requires complete evaporation of water to cure. Cool temperatures and high humidity retard cure. Do not apply if weather conditions will not permit complete cure before rain, dew or freezing temperatures.

For additional information, refer to OSHA guidelines and **ROOFSHIELD** Material Safety Data Sheet.



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A Subsidiary of Quest Specialty Chemicals<sup>TM</sup>  
19011 E. Cataldo Ave. • Spokane Valley, WA 99016  
(509) 926-7143 • Fax: (509) 928-1116  
(800) 541-4383 • [www.unitedcoatings.com](http://www.unitedcoatings.com)

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