



Unisil Roof Coating

Product Data Sheet



PRODUCT DESCRIPTION

Unisil Roof Coating is a high volume solids, pure elastomeric silicone coating that provides superior weatherproofing, ultraviolet resistance, biological resistance and fire resistance over polyurethane foam insulation and other appropriate substrates. The pure silicone polymers provide long-term fire resistance, while the tight surface finish affectively resists the attachment of algae, mildew and mold organisms.

WARRANTY

See applicable warranties and guarantees for complete coverage and restrictions.

PACKAGING & SHELF LIFE

5 gallon (19 liter) pail
50 gallon (189 liter) drum

Shelf life 12 months if unopened containers stored between 40°F and 90°F (4°C and 32°C).

BASIC USES

Unisil Roof Coating is designed for protecting a wide range of substrates from the effects of moisture intrusion and weathering. Unisil Roof Coating is particularly effective as a protective coating over polyurethane foam on new or existing roofs, and hot or ambient storage tanks. It provides a barrier to the effects of degradation caused by normal weathering, aging and ultraviolet exposure. Unisil Roof Coating also achieves excellent adhesion to primed concrete, masonry, metal and wood surfaces.

Unisil Roof Coating is a single component elastomer that exhibits a rapid cure when exposed to ambient conditions. Long term elastomeric properties are retained under all types of weather conditions, from sub-zero temperatures to high heat in excess of 250°F (121°C).

Unisil Roof Coating adheres tenaciously to previously applied Unisil Roof Coating, as well as all other silicone

coatings tested. A test area should be applied to existing silicones to ensure adequate adhesion on recoats. Surface should be washed using a chemical cleaner, such as United Cleaning Concentrate (UCC), rinsed thoroughly, and allowed to dry. Existing coating that exhibits biological growth in the form of algae, mold or mildew, should be treated prior to application of Unisil Roof Coating. This will kill any residual spores that remain after cleaning and help prevent them from growing up through the new coating.

Unisil Roof Coating white meets Cool Roof Rating Council (CRRC) and EPA guidelines for ENERGY STAR® compliance. Unisil Roof Coating is also sustainable; through periodic recoating, the elastomeric coating can be maintained throughout the life of the building.

PHYSICAL PROPERTIES

UNISIL ROOF COATING	
Solids by Weight	80% (±2) [ASTM D1644]
Solids by Volume	68% (±2) [ASTM D2697]
Tensile Strength	459 psi (±25) (3.1 MPa) @73°F (23°C) 580 psi (±25) (4.0 MPa) @ 0°F (-17°C) [ASTM D412]
Elongation	234% (±10%) @73°F (23°C), initial 342% (±10%) @0°F (-17°C), after 5,000 hours weathering [ASTM D412]
Tear Resistance	37 pli [ATSM D624]
Permeance	6.1 Perms @ 20 mils (508 microns) [ASTM E96, Procedure B]
Resistance to Accelerated Weathering	Pass; no cracking or checking after 5,000 hours [ASTM D822/G23]
Solar Reflective Index (SRI)	108 White [ASTM E1908]
Emissivity	87% White [ASTM C1371]

VOC	<250 g/L [ASTM D3690, Method 24]
Adhesion (Wet)	>2.0 over SPF, Hypalon & EPDM [ASTM D903]
Dry Time to Walk On	3-4 hours @ 75°F (24°C), 50% RH
Temperature Limits for Normal Service Conditions	-80 to 350°F (-17 to 177°C) @ surface
Low Temperature Flexibility	Passes 180 degree flex over 1/2" (1.3 cm) mandrel @ -15°F (-26°C) [ASTM D522, Method B]
Fire Resistance	UL-790 Class A, FM Class 1, & ASTM E108
Water Leakage	Pass [ASTM D7281]
Moderate Hail	Pass [FM 4470 4.4]
Resistance to Traffic	Pass [FM 4470 4.4]
Standard Colors	White, Light Gray, Light Tan

APPLICATION INFORMATION

SUBSTRATE PREPARATION: Surfaces to be coated shall be completely dry and free of any degraded foam, grease, oil, dirt, or other contaminants that could interfere with proper adhesion. Any physical damage shall be repaired before coating application commences.

MIXING: Mix containers with an air-driven power mixer, taking care not to incorporate air into the product. Use immediately to avoid reacting in the container to trace amounts of moisture. Containers that have been stored for any length of time may develop a skin/film on top of the coating; this should be removed prior to mixing.

APPLICATION: Store **Unisil Roof Coating** in a warm area

long enough to bring material temperature to 70°F (21°C) prior to application. Each coat shall be applied in a direction perpendicular to the previous coat. Edges of flat roof areas shall be pre-coated in a "picture frame" configuration. Apply product with an airless sprayer, covering the surface at an even rate. Use an airless spray pump with a 2 gallon-per-minute (7.6 L/minute) output and 2,500 psi (17,238 kPa) pressure capability, fed with 5:1 transfer pumps. Use a reversible, self-cleaning tip with orifice size 0.030" (0.76 mm) and a fan angle of 50°. Filter screens should be 30 mesh or larger. Use a 1/2" (12.7 mm) minimum inside diameter hose. Apply at a rate of 100 ft²/gallon (2.5 m²/L) per coat. Must be applied in two or more separate coats to ensure proper coverage and cure rate,

continued on next page

GAF Liquid-Applied

January 2016, supercedes May 2015

For technical, system, and warranty information, visit gaf.com or call 1-800-766-3411.



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PERFORMANCE PROPERTIES

ASTM D6694-08	Meets the requirements contained in ASTM D6694 "Standard Specification for Liquid-Applied Silicone Coating Used in Spray Polyurethane Foam Roofing Systems."
UL 790 Class A Fire Testing	UL-790 Class "A" coating over various polyurethane foam substrates. Refer to UL Building Materials Directory for foam manufacturers and types, foam thicknesses and densities, inclines, and of rated roof systems.
Building Code Acceptance	Accepted by all major model building code authorities for Class "A" construction, including: the Uniform Building Code (UBC), Building Officials and Code Administrators (BOCA), and Southern Building Code Authority (SBCA). Also Miami-Dade County Product Control Approved.
CRRC, LEED, CA Title 24, ENERGY STAR®	Unisil Roof Coating White meets Cool Roof Rating Council (CRRC) and EPA guidelines for ENERGY STAR® compliance. Use of this product will help save energy and reduce electrical costs. Unisil Roof Coating also meets California Title 24 and LEED requirements.

APPLICATION INFORMATION, CONT'D.

and a pinhole-free continuous film. Each coat must be dry and cured before the next coat is applied. While this will normally

require 2 to 4 hours, resistance to wash-off from light rain is typically achieved within 30 minutes.

LIMITATIONS & PRECAUTIONS

Unisil Roof Coating is affected by moisture and must be protected from moisture contamination. Keep all containers tightly closed during storage. Containers are factory sealed with an inert gas to prevent contamination. After opening, if all material is not to be used, containers must be purged with nitrogen or dry air and tightly sealed to protect from moisture contamination. Remove any skin prior to mixing the material.

Solvents in **Unisil Roof Coating** are flammable. Use only in a well ventilated area. Keep away from heat, sparks, open flame or lighted cigarettes. Use explosion-proof mixing and application equipment that has been grounded and bonded.

If used in cryogenic storage or cold temperature storage applications, a vapor barrier must be applied prior to **Unisil Roof Coating**. Not recommended for immersion conditions. While it will withstand ponding water typically encountered on flat roofs, the National Roofing Contractors Association considers excessive ponding water on any roof unacceptable. Refer to NRCA manual for additional information.

Unisil Roof Coating is slippery when wet, as are loose roofing granules. Exercise caution when walking on a roof under these conditions.

If used indoors, provide mechanical exhaust ventilation. During indoor spray operations, air line masks or positive-pressure hose masks must be worn. Avoid contact with eyes and contact with skin.

Adequate precautions must be taken when applying **Unisil Roof Coating** to occupied buildings to ensure that air conditioners and ventilation units are turned off and covered to prevent solvent vapors from entering the building. Windows should also be kept closed. Signs should be posted around the area to advise building occupants or visitors of the spray activity.

It is good roofing practice to schedule an annual cleaning of the roof surface. This will eliminate the accumulation of leaves, dirt, debris and other contamination. It will also alert the Owner to any mechanical damage or other problems that may compromise the integrity of the roofing system. Roofs subject to a high degree of traffic or pollution fallout may require more frequent cleanings.

Applicable Standards: ASTM D1644, ASTM D2697, ASTM D412, ASTM D624, ASTM E96, ASTM D822, ASTM E1908, ASTM C1371, ASTM D3690, ASTM D903, ASTM D522, ASTM D7281, FM 4470

SAFETY & HANDLING

For additional information, refer to OSHA guidelines and product Safety Data Sheets (SDS). If personal exposure concentrations cannot be maintained below the appropriate

OSHA/NIOSH exposure limits using engineering controls or natural ventilation, an approved respirator may be appropriate based on employer-determined exposure levels.

CLEAN UP

Use VM & P Naphtha or Mineral Spirits to thoroughly flush equipment. Leave solvent in the lines and equipment until next use. It is not recommended practice to leave product in the pump or hoses.



GAF

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See applicable warranties and guarantees for complete coverage and restrictions.