



Unisil HS II Roof Coating

Technical Data Sheet



PRODUCT DESCRIPTION

United Coatings™ Unisil HS II Roof Coating is a high-solids, moisture-cure silicone coating that provides weatherproofing, ultraviolet resistance, biological resistance, and fire retardancy over polyurethane foam insulation and other appropriate substrates. The silicone polymers are naturally fire retardant to provide long-term fire resistance, while the tight surface finish effectively provides enhanced protection against algae, mold, and mildew.

Unisil HS II Roof Coating is a single-component high-solids silicone coating that provides protection against the adverse effects of ponding water on roofs.

PACKAGING & SHELF LIFE

5-gallon (18.9 liter) pail
50-gallon (189 liter) drum

Shelf Life: 12 months from date of manufacture in unopened containers, if stored properly in a clean and well-ventilated area at 40°F – 90°F (5°C – 32°C). Storage outside this temperature range may shorten shelf life. Keep containers covered when not in use. Do not allow coating to freeze.

BASIC USES & ADVANTAGES

United Coatings™ Unisil HS II Roof Coating is designed to be applied over structural concrete, metal, asphaltic membranes and single plies. It is built for protecting a wide range of substrates from the effects of moisture intrusion and weathering, and is particularly effective as a protective coating over polyurethane foam on new or existing roofs.

Advantages:

- Long-term elastomeric properties from sub-zero temperatures to high heat
- Resistance to weathering
- Low VOC

PHYSICAL PROPERTIES

UNISIL HS II ROOF COATING- WHITE		
Property	Value (Nominal)	Tested Per ASTM
Solids by Weight	92%	D1644
Solids by Volume	84%	D2697
VOC	<50 g/L	D3960
Tensile Strength	228 PSI (1.57 MPa)	D2370
Elongation	169%	D2370
Elongation after Weathering	210% (±10%) at 0°F (-17°C)	D412
Cold-Temperature Flexibility	Passes 180 degree flex over 1/2" (12.7 mm) mandrel at -15°F (-26°C)	D522
Tear Strength	16 PLI	D624
Accelerated Weathering	Pass; no cracking or checking after 5,000 hours	G154
Permeance	10.7 Perm	E96

Dry time to Walk On	5 hours at 70°F (21°C) 50% R.H.
Application Temperature (Air)	40°F (5°C) and rising
Application Temperature (Surface)	40°F – 110°F (5°C – 43°C)
Thermal Emittance	Initial: 0.90
Solar Reflectance	Initial: 0.89
Solar Reflective Index (SRI)	Initial: 113

APPLICATION INFORMATION

Substrate Preparation: Roof must have positive drainage with no moisture trapped in the roof assemblies. Roof substrate must be clean, completely dry, and free from any foreign matter. Pressure-wash to remove all dust and debris, and allow to dry. Examine substrate to receive new roofing and conduct test patches to verify adhesion of coating prior to start of work. Check for any damaged roof membranes, including all flashings and penetrations, and repair before coating application commences. Priming of substrate may be required. See gaf.com for more information.

Mixing: **United Coatings™ Unisil HS II Roof Coating** is a ready-to-use material; however, some settling of material may have occurred during shipment and storage. 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. Take care not to incorporate air into the product. Mix prior to use with a 3/4 horsepower or larger mixer with a blade capable of uniformly mixing the entire container. Use immediately to avoid trace amounts of moisture from causing a reaction in the container. For 5-gallon (18.9 liter) pails, use 3" (76 mm) minimum diameter mixing blades. For 55-gallon (208 liter) drums, use 6" (152

GAF Liquid-Applied

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APPROVALS	
ASTM D6694-08	Meets the requirements contained in ASTM D6694 "Standard Specification for Liquid-Applied Silicone Coating Used in Spray Polyurethane Foam Roofing Systems."
California Title 24	Can be used to comply with Title 24 cool roof requirements
CRRC (Cool Roof Rating Council) coolroofs.org	CRRC Rated
Department of Energy, ENERGY STAR® (U.S. only)	ENERGY STAR® Certified (U.S. only)
UL 790 Class A	UL Listed to ANSI/UL 790 Class A Refer to UL Online Certification Directory for actual assemblies
Factory Mutual	FM Approved Refer to FMApprovals.com/ RoofNav for actual FM Approved assemblies.
LEED®	Can contribute toward satisfying Credits under LEED® v3 and LEED® v4 ; see the GAF LEED® playbook at gaf.com/green for details.
NSF	NSF Protocol P151 Health Effects from Rainwater Catchment System Components

Note: LEED® — an acronym for Leadership in Energy and Environmental Design™ — is a registered trademark of the U.S. Green Building Council.



APPLICATION INSTRUCTIONS, CONT'D

mm) minimum diameter mixing blades.

Application: United Coatings™ Unisil HS II Roof Coating may be applied by brush, roller, or airless sprayer. Apply evenly at the rate specified for the substrate being coated (see gaf.com for specific substrate guidelines). Additional coats may be applied as soon as the previous coat is dry enough to walk on and should be applied perpendicular to the previous coat to ensure proper coverage. Total coverage is dependent on the substrate. Smooth substrates may require less coating, while rough or porous substrates may require more coating. See listing at www.nsf.org for application and cure instructions for rainwater catchment use.

Spray Application: Apply product with an airless sprayer, covering the surface at an even rate. Use an air-

less spray pump with a 3 gallon-per-minute (11 L/minute) output and 3,500 psi (24,138 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. Minimum of 1 coat. Apply subsequent coats of **United Coatings™ Unisil HS Roof Coating** as soon as the previous coat is completely dry and within 24 hours to avoid inter-coat delamination. All surfaces must be uniformly coated and free from voids, pinholes, or blisters.

For Application Questions: Contact GAF Technical Services at 1-800-766-3411 or visit gaf.com.

LIMITATIONS & PRECAUTIONS

IMPORTANT: Repair leaks promptly to avoid adverse effects, including mold growth.

- Do **NOT** apply on wet substrates.
- Do **NOT** heat container.
- Do **NOT** attempt to thin product.

- Do **NOT** apply if rain, dew, fog, heavy moisture condensation, frost or freezing temperatures are in the 24-hour forecast.

SAFETY & HANDLING

For specific information regarding safe handling of this material, please refer to the Safety Data Sheet (SDS).

CLEAN-UP

Use VM&P naphtha or mineral spirits to thoroughly flush equipment. Leave solvent in the lines and equipment until next use. Do not leave product in the pump or hoses.