MOMENTIVE™

Enduris* 3500

silicone roof coating

Product Description

GE Enduris 3500 silicone roof coating is a high performing protective barrier for a variety of architectural surfaces and roofing substrates. Upon cure, Enduris 3500 silicone roof coating forms a durable, breathable and weatherproof roofing membrane that is highly resistant to degradation from UV and natural weathering.

Basic Uses

Enduris 3500 silicone roof coating is an excellent product to consider for coating structurally sound roofing applications including: single ply, modified bitumen, BUR, foam, metal and other horizontal, vertical roofing, and existing coatings. Perform an adhesion test on each surface type to ensure a secure bond has been made.

Key Features and Typical Benefits

- **High Build Formulation** – Allows for single coat application and hangs on peaks without sagging.
- **Unaffected by Standing Water -** Ponding water resistant
- **Ease of Use** – Enduris 3500 silicone roof coating can be applied with common airless equipment, roller or brush, and is a single component material that requires no mixing of separate components.
- **Silicone Durability** – Cured silicone rubber exhibits excellent long-term resistance to natural weathering including: extreme temperatures, ultraviolet radiation, rain and snow.
- **VOC Compliant** – High solids solvent-free formulation and low Volatile Organic Compounds content is well below the current limits of California's relevant Air Quality Management Districts.
- **Storage & Shelf Life** – Enduris 3500 silicone roof coating can be stored in unheated warehouses during cooler months without the risk of freezing. Shelf life is 18 months from date of manufacture when properly stored.

Licensed
Products

Packaging and Colors

Enduris 3500 silicone roof coating is available in 5 gallon (5 gallons, 18.9 liters, 54 pounds or 24.5 kg) plastic pails and 55 gallon (50 gallons, 208.2 liters, 540 pounds or 245.2 kg) chimed steel drums and 275 gallon (250 gallons, 946.3 liters, 2700 pounds or 1225.8 kg) polymer totes. Most popular colors below; other colors may be available upon request.

White Enduris 3502 | Tan Enduris 3505 | Black Enduris 3503 | Protection Yellow Enduris 3500 Pro Yellow

Light Grey Enduris 3504LG | Medium Grey Enduris 3504 | Dark Grey Enduris 3508

Typical Physical Properties

Typical physical property values of Enduris 3500 silicone roof coating as supplied are set forth in the table below:

Typical Physical Properties – Supplied

Property	Value(1)	Test Method
Solids Content, Volume	90	
Weight	91	ASTM D1644-01 (Modified)
Tack Free Time	20-30 minutes	ASTM D3960
Skin-Over Time	10-15 minutes	WPSTM C-560
Viscosity	22,000 centipoises	ASTM D2196
Tensile Strength	204 psi (1.41 MPa)	ASTM D2370
Elongation	542%	ASTM D2370
Durometer Hardness Shore A	36	ASTM D2240
VOC	<24 g/L	EPA Method 24
Solar Reflectance - initial	88%	ASTM C1549
Emittance - initial	0.90	ASTM C1371
SRI Value - initial	111	ASTM E1980
SRI Value - aged(2)	65	ASTM E1980
SRI Value - aged(3)	103	ASTM E1980
Permeance	9.3 perms	ASTM E96 (BW)
Tear Resistance	32 lbf/in.	ASTM D624
Low Temperature Flexibility	Pass	ASTM D522 (B)
Resistance to Wind Driven Rain	Pass	TT-C-555B

(1) Typical properties are average data and are not to be used as or to develop specifications.
(2) 3-year aging test at 3 locations (Florida, Arizona and Ohio); independently applied and tested. Results varied at each location. Calculated for medium and/or high wind. As reported at CRRC
(3) Accelleerated aging test by QUV; independently tested, verified and reported.

Applicable Standards

- **ASTM D6694** – Standard Specification for Liquid-Applied Silicone Coating Used in Spray Polyurethane Foam Roofing Systems. Result: Pass
- **Cool Roof Rating Council (CRRC)** – Licensed Seller ID 1200. SCM3502 (white) only. Rated Product ID – 0002.
- **UL 790** – Flammability Characteristics – Enduris 3500 silicone roof coating carries Class "A" Non-Combustible and Class "B" Combustible credentials as tested under UL 790 procedures over spray foam and single ply roofing systems. Refer to the UL directory for specific information.
- **ASTM E84** – Standard Test Method for Surface Burning Characteristics of Building Materials. Result: Class A (Flame Spread Index 10, Smoke Developed Index 185).
- **Miami Dade NOA** – 13-1119.01
- **CAL FIRE**
- **California Title 24 Compliant** - Can be used to comply with Title 24 high efficiency requirements (Enduris 3502).
- **NSF 151 Certification for rainwater catchment -** Reported as UL Classified Water Quality systems
- **FM Global**

FM APPROVED

ENERGY STAR

Enduris 3502 only

CLASSIFIED UL

CLASSIFIED UL WATER QUALITY

Can be used to comply with TITLE 24 building envelope requirements

Technical Services

For additional technical resources, please contact your local customer service center. (See Customer Service Centers section herein for contact information.) Any technical advice furnished by Momentive Performance Materials (MPM) or any representative of MPM concerning any use or application of any MPM product is believed to be reliable, but MPM makes no warranty, expressed or implied, of suitability for use in any application for which such advice is furnished.

Customer Evaluation

Customers must evaluate MPM products and make their own determination as to the fitness of use in their particular applications.

Product Safety, Handling and Storage

Customers considering the use of this product should review the latest Safety Data Sheet and label for product safety information, handling instructions, personal protective equipment if necessary, and any special storage conditions required. Safety Data Sheets are available at www.ge.com/silicones or, upon request from any MPM representative. Use of other materials in conjunction with MPM sealant products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Uncured Product Storage

Enduris 3500 silicone roof coating should be stored in sealed containers in a dry area, out of direct sunlight and high heat. Do not open containers until ready for use and store containers at or below 109°F (43°C) to maintain full shelf life. Enduris 3500 silicone roof coating generally can be stored in unheated warehouses during the cooler months without the risk of freezing.

Enduris 3500 silicone roof coating reacts with atmospheric moisture to cure. Once containers are open and exposed to the atmosphere, a skin will form on the material over time. The formation of skin will be negligible in winter months but can form quickly (minutes) under hot and humid conditions. Cured skin that has formed on the top of the material must be removed or screened from the bulk material, as it may contribute to pump clogging. Take appropriate precautions to cover open containers during use.

Installation Considerations

Surface Preparation

Enduris 3500 silicone roof coating can be applied to itself as well as a variety of roofing materials and substrates including: single ply membranes (TPO, PVC, EPDM, CSPE, and Hypalon), spray-applied polyurethane foam, metal, concrete, and common parapet/coping materials. Asphaltic substrates such as; modified bitumen, smooth BUR, and granulated cap sheet may require bleed blocker. Surfaces to which Enduris 3500 silicone roof coating is to be applied must be clean, dry, structurally sound and free of loose particles, dirt, dust, oil, frost, mildew and other contaminants. Damage to the underlying roof system, such as cracks, openings, holes, etc. should be properly repaired prior to application. Saturated substrates must be removed and repaired appropriately. Users of Enduris 3500 silicone roof coating should verify that suitable adhesion can be attained to all existing roofing materials to be coated prior to large scale application of the coating. It is recommended that a test patch be cleaned and coated with Enduris 3500 silicone roof coating to verify the effectiveness of the asphalt bleed cleaning method and adhesion to the surface(s).

Application Guidelines

Enduris 3500 silicone roof coating should be applied as received and dilution with solvent is not recommended. If settling in the package has occurred, stir or shake the material prior to use. Care should be taken to avoid overspray onto adjacent building materials, vehicles, plants, etc. Overspray can be cleaned up before it has cured by wiping alternately with solvent and dry rags. Cured material can be removed from surfaces with a razor blade, or scrubbed off with steel wool or synthetic abrasive pads and solvent. To control overspray, avoid spraying in winds that may cause drift. Surfaces not intended for coating should be masked or covered.

Enduris 3500 silicone roof coating should be sprayed or rolled ensuring uniform build and thorough coverage and can be applied in one coat. If applying in multiple coats, allow adequate time between each coat for the coating to cure before applying additional coat. Final cured film thicknesses must be free of voids, pinholes, cracks or blisters.

Application Temperature

Enduris 3500 silicone roof coating can be applied throughout the year as long as the substrates being coated are completely dry. Frost and/or moisture will interfere with adhesion. Lower temperatures will lengthen the skin over, tack free and ultimate cure time and may require an overnight cure in winter months to allow the top coat application to proceed (film build may not be sufficient to allow walk over). Higher temperatures will accelerate the cure rate and decrease the open time of the coating. Contact manufacturer if applying to substrates over 120°F (49°C).

Application Equipment

Enduris 3500 silicone roof coating can be applied by spraying, rolling or brushing. Enduris 3500 silicone roof coating works with most commercially available spray application equipment that can deliver a minimum of 3,300 psi at the spray tip for at least 2.2 gallons per minute. Always use components rated for the required pump pressure. Hoses should be vapor lock type for prevention of moisture contamination. Contact MPM technical services for equipment recommendations.

Cleanup of spray equipment containing uncured material may be accomplished by flushing with mineral spirits or toluene. DO NOT USE water or alcohol based solvents. Enduris 3500 silicone roof coating cures by reacting with moisture, thus it should not be left in pumping equipment and hoses for prolonged periods unless equipment contains moisture lock hoses, fittings and seals. Equipment without moisture lock hoses, fittings and seals may transmit sufficient moisture vapor to gradually form cured material on hose walls and at unsealed connections. This can cause increased operating pressures and flow restriction.

Application Thickness

Theoretical maximum coverage rate of Enduris 3500 silicone roof coating is 14.4 mils (390 microns) DFT / gallon / square.

- Using 21 dry mils (610 microns) basis, coverage rate of Enduris 3500 silicone roof coating is approximately 1.5 gallons (5.7 liters) / square.

Coverage rates are approximate. Irregular surfaces and other factors may yield different coverage rates. Testing should be performed to determine actual coverage rates necessary to achieve desired mil thickness.
Please refer to Enduris 3500 silicone roof coating warranty mil chart for more details.

Granules: As an optional finish, granules may be installed into topcoat while it is still wet. Typical application rate is 40 pounds (18 kilograms) per 100 square feet (9.3 square meters). Contact the granule supplier or manufacturer for guidelines on suitable granule size and rate of granule coverage.

Coating Vertical Surfaces

When coating vertical wall surfaces other than parapets and walls directly associated with the roofing system , GE SilShield* 2400 silicone architectural coating is suggested. Contact an MPM representative for additional information.

Product Details: White 3502-SC may be available. Optimized for hot, wet and summer climates, it has double the open and tack-free time as stated in the Typical Physical Properties chart. This -SC version has Energy Star and Title24, but not UL and FM approvals at this time. Another version, 3502-E has the standard (listed) open and tack-free time but also has the -SC approvals.

Limitations

Enduris 3500 roof coating should not be considered for:

- Use on pedestrian, deck or frequent traffic bearing surfaces.
- Cold storage roofing application without vapor barrier, cryogenic tank applications. Not designed for primary water containment.
- Unprepared surfaces including but not limited to those that are wet, dusty, oily, mildewed, heavily chalked, blistered or other-wise structurally unsound.
- Building materials that might bleed oil or solvents. These include, but are not limited to, certain vulcanized rubber products, tapes, failed sealants, some caulking compounds and asphaltic/mastic materials unless appropriate preparation or primers are used. Consult (MPM) Technical Services for primer recommendations.
- Surfaces where adhesion has not been verified.
- Inclement weather may negatively affect uncured Enduris 3500 silicone roof coating by displacement of uncured material; therefore, application of coating should not proceed if heavy rain, hail or snowfall is impending or expected within 24 hours of application.
- Enduris 3500 silicone roof coating requires atmospheric moisture for propagation of cure thus it is not suitable for use in totally confined spaces.

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

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Americas 1.866.275.4372
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