

Enduris™ 3500

Silicone Roof Coating

Product Description

Enduris 3500 silicone roof coating is a high performance, protective barrier for a variety of architectural surfaces and roofing substrates. Upon cure, Enduris 3500 silicone roof coating forms a durable, breathable, monolithic weatherproof roofing membrane that is highly resistant to degradation from Ultraviolet (UV)/Infrared (IR) and natural weathering.

Key Features and Typical Benefits

- **Silicone Durability** - Cured silicone rubber exhibits excellent long-term resistance to natural weathering including: extreme temperatures, ultraviolet radiation, rain and snow.
- **VOC Compliant** - Enduris high solid silicone has a solvent-free formulation. The VOC (Volatile Organic Compounds) content is well below the current limits of California's relevant Air Quality Management Districts.
- **Ease of Use** - Enduris 3500 silicone roof coating is a single component material that requires no mixing or separate components.
- **Versatile Application** - Enduris 3500 can be applied with high pressure spray equipment, roller or brush.
- **High Build Formulation** - Allows for single coat application and hangs on slopes without sagging.
- **Storage & Shelf Life** - Enduris 3500 silicone roof coating can be stored in unheated warehouses during the colder months without the risk of freezing. Shelf life is 24 months from date of manufacture when properly stored.

Potential Applications

For structurally sound roofing applications including over existing coatings, single ply, modified bitumen and BUR, spray polyurethane foam, low and steep sloped metal, and other horizontal and vertical substrates. All substrates require an adhesion test. Consult Momentive Performance Materials (MPM) technical services for proper technique.

Packaging

Enduris 3500 silicone roof coating is available in nominal 1 gallon plastic pails 9.8 lbs. (4.45 kg), 5 gallon plastic pails 54.0 lbs. (24.5 kg) and 55 gallon chime steel drums that weigh 540 lbs. (245.2 kg) equal to 50 gallons.

Colors

Enduris is available in white, tan, light grey, medium grey, black and protection yellow. Custom colors can be prepared with advance notice.

Typical Physical Properties

Typical physical property values of Enduris 3500 silicone roof coating as supplied and cured are set forth in the tables below.

Typical Properties - Supplied

Property	Value ⁽¹⁾	Test Method
Solids Content Volume	90	ASTM D1644-01
Tack Free Time	20-30 minutes	ASTM D3960
Skin-Over Time	10-15 minutes	WPSTM C-560
Viscosity	18,600 centipoises	ASTM D2196
Tensile Strength	151 psi (1.04 MPa)	ASTM D2370
Elongation	398%	ASTM D2370
Durometer Hardness Shore A	36	ASTM D2240
TVOC	<24 g/L	EPA Method 24
Solar Reflectance - Initial ⁽²⁾	88%	ASTM C1549
Emittance - Initial ⁽²⁾	90	ASTM C1371
SRI Value - Initial ⁽²⁾	111	ASTM E1980
Solar Reflectance - Aged ⁽²⁾	55%	ASTM C1549
Emittance - Aged ⁽²⁾	89	ASTM C1371
SRI Value - Aged ⁽²⁾	65	ASTM E1980
Permeance	4.7 perms	ASTM E96 (B)
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) Values derived from testing on Enduris 3502 (white).

Installation

Refer to Design and Application Guide for surface preparation requirements, design information and detailed application instructions.

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), spray-applied polyurethane foam (SPF), metal, concrete, common parapet/coping materials and asphaltic substrates such as modified bitumen (granulated or smooth) or BUR. (Enduris Asphalt Bleed Blocker will aide in prevention of discoloration, "bleed through" or "tobacco staining", from oils wicking out of an asphaltic substrate). 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.

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, gently stir the material immediately prior to use.

Enduris 3500 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. Care should be taken to avoid overspray onto adjacent building materials, vehicles, plants, etc. 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.

Surface application temperature ranges from 0°F (-17°C) to 120°F (48°C). Contact MPM technical services for applications outside of normal temperature ranges.

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 maintain pressure of 3,300 psi at the tip while spraying 2 gallons per minute.

Contact spray equipment manufacturers for spray rig and tip sizes and hose recommendations.

For Enduris Bleed Blocker a 1/2" to 3/4" (12-19mm) nap roller cover is recommended. For Enduris 3500 silicone roof coating a 1 1/4" to 1 1/2" (32-38mm) nap roller cover, for use with coatings containing solvent is recommended. When a squeegee is used back rolling is required.

Other application tools include, but are not limited to: Wet mil gage, "chip" or paint brush, cigar rollers, roller frames, solvents (for clean-up), shears (for cutting fabrics) and any PPE required.

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 90°F (32°C) to maintain full shelf life.

Enduris 3500 silicone roof coating generally can be stored in unheated warehouses during colder months without the risk of freezing. Enduris 3500 silicone roof coating reacts with atmospheric moisture to cure. Once containers are open and exposed to air 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.

Skylight Restoration

Skylights may be restored using Optic™ translucent coating. Never coat skylights with anything other than translucent (clear) coatings.

Application Coating Vertical Surfaces

When coating vertical wall surfaces, other than parapets and walls associated with the roofing system, 3100 SilShield silicone architectural coating is suggested. Contact an MPM representative for additional information.

Limitations

Enduris 3500 silicone 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, or continuous water immersion service.
- Unprepared surfaces including but not limited to those that are wet, dusty, oily, mildewed, heavily chalked, blistered or structurally unsound.
- Building materials that might wick 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 by testing.
- 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 1 hour of application. Note: In colder temperatures 1 hour may not be sufficient time to form a firm skin and become tack free.
- Enduris 3500 silicone roof coating requires atmospheric moisture to aide in curing. It is not suitable for use in unventilated spaces.

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)** - Enduris 3502 (white) only. Rated Product ID-1200- 0002.
- **UL 790** - Flammability Characteristics—Enduris 3500 silicone roof coating carries Class “A” and Class “B” credentials as tested under UL 790 procedures. 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 approved
- Florida Product Approval
- FM Global
- **NSF P151** - Enduris 3500 roof coating in White, Medium Gray, Tan and Dark Gray are certified to NSF P151. UL FDQR.MH61555: Certification of Rainwater Harvesting Components, also referred to as Rainwater Catchment System.

Technical Services

Additional technical information and literature may be available from MPM. Laboratory facilities and application engineering are available upon request from MPM. Any technical advice furnished by MPM or any representative of MPM concerning any use or application of any product is believed to be reliable but MPM makes no warranty, express or implied, of suitability for use in any application for which advice is furnished.

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.

Product Safety, Handling and Storage

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

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