



Section 07 56 00

Fluid Applied Roofing

GE Enduris* 3500 Series Roof Coating

PART 1 GENERAL

1.1 Summary

- A. This specification provides a remedial coating system for application over approved metal roof systems. The use is restricted to circumstances where the roof surface is in sound condition, but requires a renewal of the surface due to the normal effect of aging and use.
- B. Enduris 3500 Series silicone roof coating, manufactured by Momentive Performance Materials, Inc. (MPM), is a high solids, solvent-free, alkoxy-based silicone roof coating which moisture cures to a durable, breathable, waterproof barrier that is highly resistant to degradation from UV and natural weathering.
- C. Scope: Installation of Enduris 3500 Series silicone roof coating, labor and accessory materials.
- D. Exclusions: This guide specification does not include: repair or replacement of roof accessory items such as vents, expansion joints, drains, penetrations and mechanical equipment; evaluation and correction of roof load capacity or wind uplift resistance.

1.2 Submittals

- A. Product Data: Technical Data Sheet (TDS) and Safety Data Sheet (SDS) for all products used on project.
- B. Shop Drawings: Drawings indicating scope of work and roofing details.
- C. Sample Warranty (optional; see Section 1.6).

1.3 Quality Assurance

- A. Manufacturer Qualifications: Enduris 3500 Series high solids, silicone roof coating supplied and manufactured by MPM are approved for and shall be used on this project. Upon request, MPM will provide certification that all MPM materials meet the physical properties required by the specification.
- B. Adhesion Test: Prior to estimating coating restoration project, conduct an adhesion test in accordance with MPM adhesion testing procedures to determine if a primer or other specific surface preparation is required.
- C. The silicone coating manufacturer shall have a minimum of 25 years' experience in the manufacture of silicone roof coatings and be ISO 9001 certified. The coating shall have an Underwriters Laboratories (UL) Listing, and Factory Mutual (FM) Class 1, 4470 Approval.
- D. Contractor Qualifications: The contractor shall be approved by MPM and eligible to offer a GE Enduris Silicone Labor & Material Warranty.
- E. Deviations: Any deviation from this specification must be approved in writing by MPM.
- F. Field Quality Control: Upon completion of the roof coating project, an inspection by MPM's designated third-party inspection agency may be required. Consult with MPM for specific requirements.

1.4 Delivery, Storage and Protection of Materials

- A. Delivery: All products shall be delivered in the original, factory- sealed drums, pails or other containers. All product containers shall be labeled with the manufacturer's name and address, product name and description, product date/expiration date and batch/lot number.
- B. Materials damaged during shipment, delivery or storage shall not be used on this project without approval of MPM.
- C. Handling and Storage: Store Enduris 3500 Series silicone roof coating containers between 15°F and 109°F (-9°C to 43°C). Other materials shall be stored in accordance with the appropriate material's TDS. Keep all products out of direct sunlight and protected from extreme temperatures.
- D. SDS and TDS for all materials used on this project will be kept on site and reviewed by appropriate personnel before use.

1.5 General Site Conditions

- A. All mechanical units, skylights, vents and other rooftop accessories should be in place prior to surface preparation and coating application.
- B. Mask or otherwise protect all surfaces not to be prepared and/or coated to prevent overspray damage. Use wind screens as appropriate.
- C. Review existing and imminent weather conditions (including potential for extreme temperatures, relative humidity, frost, dew, and precipitation) to assure that coating and accessory material will have sufficient curing time.
- D. Apply Enduris 3500 Series roof coatings only to clean, dry and secure surfaces.
- E. Temperature at the time of application of the Enduris 3500 Series silicone roof coating application should be above 0°F (-18°C) to allow coating to cure properly. Contact manufacturer if applying to substrates over 120°F (49°C).
- F. Protect Enduris 3500 Series roof coating from foot traffic or other potential abuse during the curing process. The coating is considered cured when it is tack free and sufficiently durable to withstand roof traffic.
- G. All work performed under this specification must be in accordance with all appropriate local, state and federal regulations.
- H. While cured Enduris 3500 Series roof coating is unaffected by ponding water conditions, various professional roofing associations (including NRCA) consider ponding water undesirable and recommend that roofs be designed for positive drainage. Corrective action should be considered, prior to application of Enduris 3500 Series roof coating, to correct existing ponding conditions and/or drainage deficiencies. Ponding water must be corrected on spray polyurethane foam roofing prior to coating application.

1.6 Warranty Information

- A. A manufacturer's limited labor & material warranty is available on eligible projects. Contact MPM Technical Support for details.
- B. Limited warranties are not available for continuous immersion service; cryogenic, freezer or cold storage facilities; or over existing wet roofing materials. Other limitations may apply.
- C. Inspections: Warranted projects are subject to:
 - 1. Pre-job inspection and adhesion test.
 - 2. Final quality control inspection.
 - 3. Inspections may be performed by MPM or its designated third-party inspectors at MPM's discretion.
- D. Warranty submittals
 - 1. MPM Warranty Pre-Approval Application
 - 2. Adhesion test results

PART 2 – PRODUCTS

2.1 Silicone Coating

- A. Enduris 3500 or 3500SC high solids, solvent-free, alkoxy-based, moisture-cured, silicone roof coating supplied and manufactured by Momentive Performance Materials, Inc., Waterford, NY.
- B. Physical Properties shall be tested in accordance with ASTM D6694 as indicated in the table below.

Property	ASTM	Value
Tensile Strength	D2370	200 psi
Elongation at Break	D2370	500%
Volume Solids	D2697	90% min
Weight Solids	D1644	90% min

2.2 Asphalt Bleed Blocker

- A. GE Asphalt Bleed Blocker, Momentive Performance Materials, Waterford, NY. Refer to the GE Asphalt Bleed Blocker Technical Data Sheet for physical property information.

2.3 Seam Treatment Materials

- A. GE Enduris Silicone Seam Sealant, Momentive Performance Materials, Waterford, NY. Refer to the Enduris Seam Sealant Technical Data Sheet for physical property information.
- B. GE UltraSpan* UST / USM pre-cured silicone transition sheets and molded corners, Momentive Performance Materials, Waterford, NY. Refer to the UltraSpan Technical Data Sheet for physical property information (mandatory for cover board).
- C. Reinforcement Fabric: GE RF100 series is a 100% polyester spun-laced textile reinforcing fabric that is available in 4", 6" or 12" widths. Refer to the RF100 Technical Data Sheet for physical property information.

2.4 Accessory Materials

- A. Traffic Mats: Yellow Spaghetti (manufactured by Western Plastics, Inc. 800-325-3605), nominal thickness $\frac{5}{16}$ ".
- B. Yellow Walkway Coating GE Enduris 3500 Protection Yellow silicone coating.

2.5 Cover Board

- A. Greenboard, recycled and pressed material cover board. (kellygreenproducts.com)
- B. Plywood, non-treated, at least .5" thick.

PART 3 – EXECUTION

3.1 Surface Preparation

- A. Underside of deck must be inspected for rot, rust or deterioration. Corrective measures must be taken, if needed, before coating preparations begin.
- B. The surface must be clean, sound, dry and free of any materials, laitance, flaking rust, and loose coating that may inhibit the proper adhesion of the coating or sealant.
- C. Pressure wash entire roof surface at 2500-4000 psi, utilizing GE roof prep wash or approved biodegradable detergent as needed to remove oils or other materials that interfere with adhesion. Rinse with clean water. Let dry thoroughly.
- D. All loose or flaking rust must be mechanically removed.
- E. Any water saturated insulation is to be removed and replaced with like material. The roof membrane should be replaced with new, like material.
- F. All loose or flaking rust must be mechanically removed.
- G. When possible, coping cap should be removed, and walls underneath sealed with Seam Sealer before re-installing coping cap.
- H. All endlaps, curbs, gaps, flashing details, angle changes, fasteners, and penetrations must be sealed with a minimum 60 mils of Enduris Seam Sealant. Sidelaps can be brought tight with fasteners if needed.
- I. On corrugated metal panels only, all sidelaps and endlaps must be sealed with a minimum 60 mils of Enduris Seam Sealant, two inches wide.
- J. When treating panel seams that exceed $\frac{1}{16}$ of an inch, a fabric or Ultraspan reinforcement must be utilized with Enduris Seam Sealant.
- K. Internal gutters and ridge closures must have appropriate foam closure, or be filled in with ISO board or expanding foam, then cut flush. These areas should then be sealed with Enduris Seam Sealant.
- L. All new pitch pockets must be filled 3 inches vertically with GE self-leveling silicone sealant or approved equal. Restore existing pitch pockets with seam sealer.

3.2 Finished Coating Characteristics

- A. The cured Enduris 3500 Series silicone roof coating shall be monolithic and seamless, encapsulating the entire roof surface.
- B. Coating is to be applied at a rate of 2.5 gallons per 100 square feet.
- C. Enduris 3500 Series silicone roof coating may be applied by brush, roller, or airless sprayer. Back-rolling should be kept to a minimum.
- D. Enduris Seam Sealant may be applied by brush, trowel, or gloved hand.
- E. Minimum cured coating thickness is 36 mils.

3.3 Safety Requirements

- A. All OSHA guidelines are to be followed at all times.
- B. Flammable materials must be stored on ground level, away from potential fire hazards.
- C. A guide specification, Safety Data Sheet and Product Data Sheet must be kept in triplicate at the jobsite at all times
- D. No skylights shall be coated the same color as the roof.
- E. After discussion with building owner/occupant regarding odors or overspray, sources of air entry into the building may be sealed to prevent overspray or odor intrusion.

3.4 Cleanup

- A. Keep all work areas clean, clear and free of debris at all times.
- B. Do not allow trash, waste or debris to accumulate on the roof. Remove these items from the roof on a daily basis.
- C. Collect and properly store all tools and unused materials at the end of each workday.
- D. Dispose of or recycle all trash and excess material in a manner conforming to current EPA regulations and local laws.
- E. Properly clean the finished roof surface after completion and make sure the drains and gutters are not clogged.
- F. Clean and restore all damaged surfaces to their original condition.

3.5 Quality Control

- A. Enduris 3500 Series silicone roof coating restoration projects are subject to pre-job, progress and final inspections by MPM, its designated third-party inspectors, or others subject to warranty requirements and contract documents.

END OF SECTION

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