

Installation Guide Specification For Preserving Metal Roofs



I. GENERAL

1.01 SUMMARY

- A. Provide labor, materials, equipment, and supervision necessary to install spray-applied elastomeric acrylic coating system as outlined in this specification to preserve and extend the service life of metal roofing.
- B. The manufacturer's application instructions for each product used are to be considered part of these specifications and should be followed at all times.

1.02 SUBMITTALS

- A. Submit product data sheets and literature verifying physical properties of materials.
- B. Submit material safety data sheets.

1.03 QUALITY ASSURANCE

- A. Supplier Qualifications: The ENDURATECH Premier Roofing System for metal roofs, as supplied by NCFI Polyurethanes, is approved for use on the project.
- B. Applicator Qualifications: The applicator shall be approved by NCFI Polyurethanes to apply the system. Manufacturer's written verification of Tier One applicator approval is required.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Containers and Packaging: Deliver materials in original sealed containers, clearly marked with manufacturer's logo, full product name, and lot number(s).
- B. Storage: Store materials between 40°F and 100°F with careful handling to prevent damage to products. If conditions exceed these ranges, special consideration in storage must be taken. Do not store at high temperatures in direct sunlight.
- C. Protection: Protect all materials from freezing and other damage during transit, handling, storage, and installation.

1.05 PROJECT CONDITIONS

- A. These minimum recommendations for material usage are for ideal conditions. The number of gallons per 100 square feet may need to increase due to uneven application, rough surface texture, wind conditions while spraying and/or other variables.
- B. Structural cracks should be referred to NCFI Polyurethanes for recommendations.

- C. This installation guide specification assumes that the deck, if wood, is in sound condition.
- D. Do not apply materials unless surface to receive acrylic roofing system is clean, dry and prepared as specified.
- E. Install all material in strict accordance with all published safety, weather, or applicable regulations of the manufacturer and/or local, state, and/or federal agencies that have jurisdiction.
- F. The entire system shall be fully adhered to the substrate on which it is applied. Voids left under the system by creating bridges are not acceptable.
- G. Do not proceed with application of coating or sealing materials when temperature is less than 45°F. No coating system shall be applied if weather will not permit it to dry prior to exposure to precipitation or freezing.
- H. Excessive puddles of coating on the roof is not acceptable.
- I. Instructions for use of all roofing materials and application equipment should be read and followed at all times.

1.06 DETAIL WORK

- A. This specification does not extensively outline procedures for preparation and finishing of drains, vents, ducts, flashings, parapet walls, sheet metal work, etc. This work should be outlined by the contractor before work commences, and shall be performed observing good trade practices.

II. PRODUCTS

2.01 ENDURAMETAL

- A. The roofing system is a 100% acrylic, elastomeric, spray-applied ENDURATECH Premier Roofing System manufactured by NCFI Polyurethanes.
- B. Physical Properties of Cured Roofing System: The testing of the coating shall be done under ASTM-D6083, "Standard Specification for Liquid Applied Acrylic Coating Used in Roofing", unless otherwise specified.
 - 1. The roofing system shall have good resistance to ponding water.
 - 2. The roofing system shall contain no plasticizers.
 - 3. The roofing system shall contain no migrating fire retardants.
 - 4. The roofing system shall have a Class A fire rating on a noncombustible deck when tested according to the procedures outlined in ASTM E-108.

5. The roofing system shall also meet the following physical property requirements:

Property	ASTM Method	Results
Tensile Strength, psi (Max @ 73°F)	D6083	Minimum 250
% Elongation @ Break (73°F)	D6083	Minimum 250
Wet adhesion to Specified Substrate	D6083	Minimum 3.0 pli
Permeance, perms	D6083	Maximum 20
Volume Solids % Weight Solids %	D6083	> 50 > 65

2.02 RELATED MATERIALS

- A. Flashing, adhesives, thinners, elastomeric caulking compounds, primers, and similar materials shall be approved by the manufacturer of the coatings. All materials used shall be applied in accordance with its manufacturer's recommendations.

2.03 EQUIPMENT

- A. For recommended spray equipment guidelines, please refer to NCFI Polyurethanes' Technical Department.

III. EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins and product guide specification instructions.

3.02 EXAMINATION

- A. Inspect surfaces that will receive the ENDURATECH Coating System to make sure they are clean, smooth, sound, properly prepared, and free of moisture, dirt, debris, or other contamination.
- B. Verify that all roof penetrations, mechanical equipment, cants, edge metal, and other on-roof items are in place and secure.
- C. Verify that all critical areas around the immediate vicinity of the spray area are suitably protected.
- D. Verify all roof drains are clean and in working order.
- E. Verify that all air conditioning and air intake vents are suitably protected or closed.

3.03 PREPARATION

- A. The entire surface must be clean, sound, dry, and free of any contaminants that would interfere with proper adhesion of the coating. All loose paint and loose rust must be removed prior to the application of coating or sealant. Achievement of this condition may require the use of scraping, wire brushing, power brooming, vacuuming, sweepblasting, sandblasting or other means, and shall always be performed observing responsible trade practices.
- B. Spot prime rusty areas with ACRYLIC PRIMER.

- C. Metal that has corroded to the point of being weak or broken must be replaced.
- D. Any new metal must be clean and oil-free. Prime ferrous metal with ACRYLIC PRIMER at the rate of 1 gallon per 200 square feet.
- E. Tighten or replace all fasteners where necessary. In no case shall joints or seams be allowed to separate greater than 1/16 inch.
- F. Seal all joints and seams with BUTYL SEAM TAPE.
- G. All detail areas unable to be sealed with BUTYL SEAM TAPE must be sealed with ENDURATECH S.
- H. After allowing sealant to dry, (normally at least 24 hours), apply gray ENDURATECH to those areas at the rate of at least 1 gallon per 100 square feet. Immediately embed specified thickness of polyester reinforcing fabric into the wet coating. Work the fabric into the coating to cause good saturation of the fabric. Immediately apply a second coat of gray ENDURATECH to the fabric at the rate of at least 1 gallon per 100 square feet. The edges of the reinforcing fabric shall be well sealed. Overlap the edges by at least 2 inches with the ENDURATECH.
- I. Allow all coating to dry thoroughly, (normally 6 to 24 hours), before further application of the system.

3.04 APPLICATION

- A. Following the surface cleaning, defect repair and custom reinforcing detailed in Section 3.03; the entire roof shall receive the ENDURATECH Premier Roofing System consisting of a minimum of 35 dry mils of ENDURATECH coating, or approximately 4 gallons per 100 square feet.
- B. Apply a base coat of ENDURATECH coating by spray or roller at a rate of 2 gallons per 100 square feet. Allow to thoroughly dry for normally 4 to 12 hours.
- C. Apply a top coat of ENDURATECH coating in a cross-hatch technique at a rate of 2 gallons per 100 square feet. Allow to thoroughly dry before exposing to foot traffic.
- D. All coating edges shall be cut in evenly in a uniform manner so as to provide an aesthetically pleasing appearance.

3.05 FIELD QUALITY REQUIREMENTS

- A. Manufacturer's Field Services: Inspection by the coating manufacturer's representative shall be made to verify the proper installation of the system. Any areas that do not meet the minimum standards for application as specified herein shall be corrected at the contractor's expense. Manufacturer's inspection or verification shall not constitute acceptance of responsibility for any improper application of material.

3.06 CLEANING

- A. Surfaces not intended to receive the ENDURATECH Premier Roofing System shall be protected during the application of the system. Should this protection not be effective, or not be provided, the respective surfaces shall be restored to their proper conditions by cleaning, repairing or replacing. All debris from completion of work shall be completely removed from the project site.

IV. MATERIALS

The following materials listed in these recommendations are available from NCFI Polyurethanes:

1. ENDURATECH, 100% acrylic, high performance elastomeric roof coating.
2. ACRYLIC PRIMER, neoprene roofing primer.
3. ENDURATECH S, trowel grade sealant.
4. BUTYL SEAM TAPE, polyester reinforced waterproofing tape.
5. T272 Polyester Reinforcing Fabric, 6 inch, 10 inch, 20 inch, and 40 inch.