



# ACRYSHIELD® ROOF MANAGEMENT SYSTEM

## Installation Guide Specification

### For Color and Logo Work on TPO Roofs

*Saving Money, Safeguarding the Environment...One Roof at a Time.®*



## 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 change the color or apply a logo to new TPO single-ply roofing.
- B. The manufacturer's application instructions for each product used are 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 ACRYSHIELD® Roof Management System for new TPO Roofs, as supplied by National Coatings Corporation, is approved for use on the project.
- B. Applicator Qualifications: The applicator shall be approved by National Coatings Corporation to apply the system. Manufacturer's written verification of 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. Wet insulation must be thoroughly evaluated and then addressed with removal or other measures. Consult a National Coatings Technical Consultant regarding the need for moisture surveys and other assessments.

- C. Structural cracks should be referred to the appropriate National Coatings Technical Consultant.
- D. This installation guide specification assumes that the deck, if plywood, has no dry rot, and is in sound condition, or has been repaired.
- E. Do not apply materials unless surface to receive acrylic roofing system is clean, dry and prepared as specified.
- F. 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 which have jurisdiction.
- G. The entire system shall be fully adhered to the surface on which it is applied. Voids left under the system by creating bridges are not acceptable.
- H. Do not proceed with application of coating or sealing materials when temperature is less than 50°F. No coating system shall be applied if weather will not permit it to dry prior to exposure to precipitation or freezing.
- I. Heavy puddles of coating on the roof are not acceptable.
- J. Instructions for use of all roofing materials and application equipment should be read and followed at all times.
- K. As a general principle, to prevent the ponding of water, install additional drains as necessary.

#### 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 ACRYSHIELD ROOF MANAGEMENT SYSTEM

- A. The roofing system is an acrylic, elastomeric, spray-applied ACRYSHIELD Roof Management System manufactured by National Coatings Corporation.
- 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 top coat 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
Permeance, perms	D6083	Maximum 15
Volume Solids % Weight Solids %	D6083	> 50 > 65

- C. The reinforcing fabric shall be Tietex T272 or an equivalent that meets the following physical property requirements:

Properties	Test Method	Average Value
		T272
Weight (per sq. yard)	Calculated by formula	3 ounces
Bursting Strength (lbs)	ASTM D3786	177
Tensile Strength (psi)	ASTM D1682	57.1
Tear Strength (lbs)	ASTM D1117	16.1
Elongation (%)	ASTM D1682	62
Conformability		Excellent
Ease of Saturation		Excellent

## 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 National Coatings Technical Paper "TP-102 Guide for Selecting Coating Spray Equipment", or consult the spray equipment manufacturer directly.

# 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 which will receive the ACRYSHIELD Roof Management 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 surface must be clean, sound, dry and free of any materials that would inhibit proper adhesion of the coating or sealant. Achievement of this condition may require the use of INDUSTRIAL CLEANER, scraping, power brooming, vacuuming or other means, and shall always be performed observing responsible trade practices.
- B. Pressure wash the membrane free of any significant accumulation of dirt and debris prior to applying the base coat. Where unsealed membrane or seam defects are discovered, avoid introducing water beneath the membrane by using lower pressure and/or manual rinse techniques.
- C. When the surfaces are dry, apply A140 TPO PRIMER with a fully saturated brush or scouring pad at a rate of 1 gallon per 200 square feet. The surface should appear wet during application. Apply primer to a wider area than the actual bonding area to insure complete coverage.
- D. Allow A140 TPO PRIMER to dry completely (typically within 2-4 hours) before applying tape or coating. A140 TPO PRIMER will lose its sheen (gloss) and will feel dry to the touch. Drying conditions will vary depending on ambient air conditions.
- E. All loose seams of existing roof system shall be sealed in accordance with the TPO manufacturer's recommendations. Then seal all TPO single ply seams with BUTYL SEAM TAPE.
- F. All valley areas, waterways, drain areas or other area where potential water accumulation is a concern, apply ACRYSHIELD A500 at the rate of 2 gallons per 100 square feet, approximately 46 inches wide. Immediately embed 40 inch wide T272 polyester reinforcing fabric into the wet coating, with a second coat of ACRYSHIELD A500 being immediately applied on top of the fabric at the rate of 1 gallon per 100 square feet. Both the first and second coats shall extend a minimum of 2 inches beyond the edges of the polyester reinforcing fabric. In any large valley area multiple widths of fabric should be used, overlapping them a minimum of 3 inches so that the coating and fabric extend at least six inches up above the potential waterline.
- G. Allow coating to dry thoroughly (normally 8 to 24 hours depending on weather conditions), before proceeding to application of the remainder of the roofing system as described in section 3.04 of this guide specification.
- H. For additional information regarding projects over newly installed TPO contact NCC Technical Services.

### 3.04 COATING APPLICATION

- A. Following the surface cleaning, defect repair and custom reinforcing detailed in Section 3.03; the entire roof shall receive the ACRYSHIELD Roof Management System consisting of a minimum of 24 dry mils of ACRYSHIELD coating, or approximately 3 gallons per 100 square feet.
- B. Apply a base coat of ACRYSHIELD A500 coating by spray or roller at a rate of 1.5 gallons per 100 square feet. **This may be a darker or the same as the topcoat color.** Allow to thoroughly dry for 8 to 24 hours (depending on weather conditions).
- C. Apply a top coat of ACRYSHIELD A500 coating in a cross-hatch technique at a rate of 1.5 gallons per 100 square feet. **This is the final coat and is the color chosen by the owner.** Allow to thoroughly dry before exposing to foot traffic.
- D. All coating edges shall be cut evenly in a uniform manner so as to provide an aesthetically pleasing appearance.

### 3.05 FIELD QUALITY REQUIREMENTS

- A. In case of manufacturer's labor and material warranty - 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

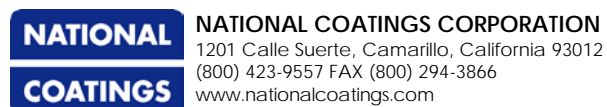
- A. Surfaces not intended to receive the ACRYSHIELD Roof Management System shall be protected during the application of the system. Should this protection not be effective, or not be provided, the respective surfaces shall be restored to their proper conditions by cleaning, repairing or replacing. All 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 National Coatings Corporation:

1. ACRYSHIELD® A500 acrylic, high-performance, elastomeric roof coating
2. A140 TPO PRIMER low VOC solvent based primer for new TPO membranes
3. ACRYFLEX® acrylic architectural sealant; available as A150 trowelable grade.
4. BUTYL SEAM TAPE polyester-reinforced waterproofing tape
5. T272 polyester-reinforcing fabric 6-inch, 10-inch, 20-inch and 40-inch
6. INDUSTRIAL CLEANER water-based, biodegradable cleaner

The suggestions and data in this specification are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use are beyond our control. The prospective user should determine the suitability of our materials and installation recommendations before adopting them for commercial use.



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