

SOLAR COATING SYSTEMS

1-PLY ACRYLIC RENOVATION SYSTEM

Specification for Built-Up Roofing 07590

PART 1. GENERAL

1.01 SUMMARY

- A. Furnish and install a seamless, reinforced waterproof spray applied asphalt emulsion and elastomeric acrylic coating system as outlined in this specification, to preserve the membrane and extend the life of the existing built-up roof.
- 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 QUALITY ASSURANCE

- A. Supplier Qualifications: The Solar Coating Systems Roof Renovation System is approved for use on the project.
- B. Applicator Qualifications: The applicator shall be approved by Solar Coating Systems to apply the system.

1.03 SUBMITTALS

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

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 and Handling: 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. This installation guide specification assumes that the deck is sound and in good condition. It also assumes the if the deck is plywood, it has no dry rot, and is in sound condition, or has been repaired.
- B. The minimum recommendations for material usage are for ideal conditions. The specified rate

of application per 100 square feet may vary and need to be increased due to uneven application, rough surface texture, wind conditions while spraying or other variables.

- C. Any wet insulation must be identified and removed. Consult a Solar Coating Systems Technical Consultant regarding the need for moisture surveys and other assessments.
- D. Structural cracks should be referred to the appropriate Solar Coating Systems Technical Consultant.
- 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 or tapered insulation drainage systems 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.

PART 11. PRODUCTS

2.01 SOLAR COATING SYSTEMS ROOF RENOVATION SYSTEM

- A. The roofing system is a polyester-reinforced 100% acrylic, elastomeric, spray-applied SCS Roofing System provided by Solar Coating Systems Corporation.
- B. The reinforcing fabric shall meet the following physical property requirements:

Properties	Test Method	Typical Value
Weight (per sq. yard)	Calculated by formula	2.75-3.0 oz
Bursting Strength (lbs)	ASTM D3786	127-177
Tensile Strength (psi)	ASTM D1682	41-57
Tear Strength (lbs)	ASTM D1117	14.2-16
Elongation (%)	ASTM D1682	25.8-62

- C. 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.
- D. The protective acrylic coating system shall meet the following physical property requirements:

Properties	ASTM Method	Requirements	Results
Tensile Strength, psi (Max @ 73° F)	D6083	Minimum 200	>200
% Elongation @ Break (73° F)	D6083	Minimum 100	>100
Wet Adhesion to PVC Substrate	D6083	Minimum 3.0 pli	
Permeance, perms	D6083	Maximum 15	21
Volume Solids %	D6083	> 50	> 50
Weight Solids %	D6083	> 65	> 65
Reflectivity	D6083	> 0.70	0.87
Emmissivity	D6083	> 0.75	0.90

2.02 RELATED MATERIALS

- A. All materials used shall be applied in accordance with its manufacturer's recommendations. Solar Coating Systems shall approve of all flashing materials, adhesives, elastomeric caulking compounds, primers, and other similar materials either manufactured by Solar Coating Systems or others.

2.03 EQUIPMENT

- A. Recommended spray equipment is the Graco GH-5030 pump or Graco GM-7000 pump, or Garlock equivalent. Use a Reverse-A-Clean tip with a minimum tip size of .033 up to about .045.

Note: For alternative equipment recommendations consult the spray equipment manufacturer directly.

PART 111. 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 GENERAL CONDITIONS

- A. Substrate surfaces must be dry, clean, and void of any dirt and debris.
- 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.

3.03 PREPARATION of EXISTING MEMBRANE

- A. On built up roofs with gravel, spud gravel off to obtain smooth roof surface.
 - B. On smooth surface or cap sheet built-up roofs, the surface must be clean, sound, dry and free of any loose materials or existing coatings that would inhibit proper adhesion of the coating system. Achievement of this condition may require power washing. Cleaning shall always be performed observing good trade practices.
 - C. Roof membrane shall be repaired and made sound and watertight prior to application of the fluid applied reinforced roofing membrane using one or more of the following steps.
 - D. Repair all cracks, voids, holes or other surface imperfections in the roof field or flashing areas with a three course of **SCS Brushable White Elastic Patch** as appropriate. As an option, **apply SCS Acrylic Coating applied** at the rate of at least 2 gallons per 100 square feet. Polyester reinforcing fabric shall then be embedded in the wet coating. The polyester fabric shall extend 4-6 inches beyond the area in need of repair. The coating shall extend 2 inches beyond the edges of the polyester reinforcing fabric.
 - E. All blisters and ridging shall be cut, dried out, and repaired as described in section 3.03 D of this installation guide specification.
 - F. Seal all HVAC ductwork joints as needed with **SCS Brushable White Elastic Patch** and reinforcing polyester fabric. Coat entire duct assembly with two 1.0 gallon coats (per 100 sq. ft.) of Solastic Acrylic Coating.
 - G. Reseal around all mechanical equipment and roof penetrations with **SCS Brushable White Elastic Patch**. Install new treated wood supports under pipe supports, where required.
 - H. The Acrylic/polyester field system shall extend up any parapet walls and curbs high enough so that the edges extend up the wall and curb about 4". Apply an approved **SCS Acrylic Coating** at a rate of 2 gallons per 100 Square feet and embed polyester from the top of the curb or parapet wall to a minimum 2"-3" on the field membrane The Acrylic/polyester wall flashing shall extend up any parapet walls high enough so that a metal cap flashing can overlap the edges.
- OR**
- I. All loose seams of existing roof systems on walls shall be fastened down and sealed. Sealant must seal fasteners as well. Seal these areas with a three course of **SCS Brushable White Elastic Patch** reinforced with 4-6" polyester. Allowing mastic to dry (normally 24 hours), before applying the roof renovation system. as described in section 3.04 of this installation guide specification.
 - J. In all valley areas, waterways, crickets, drain areas or other areas where ponding water accumulation is a concern, apply an approved **SCS Acrylic Coating** at the rate of 2 gallons per 100 square feet, approximately 46 inches wide. Immediately embed 40 inch wide **SCS T325 or T326 Firm polyester** reinforcing fabric into the wet coating. The Acrylic coating 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 acrylic coating and fabric extend at least six inches up above the potential waterline.

- K. ReSeal Pitch Pans with **SCS Brushable White Elastic Patch** or Chem Curbs if required.
- L. Allow acrylic coating to dry thoroughly before proceeding to application of the remainder of the roofing system as described in section 3.04 of this installation guide specification.

3.04 APPLICATION

A. Reinforced Acrylic System:

1. Apply an approved **SCS Acrylic Coating** at the rate of 2 gallons per 100 square feet, approximately 44-46 inches wide. Immediately embed 40 inch wide **SCS T325 or T326** polyester reinforcing fabric into the wet coating. The Acrylic Coating shall extend a minimum of 2 inches beyond the edges of the polyester reinforcing fabric. While still wet, apply a thin coat of an approved **SCS Acrylic Coating** over the polyester at a rate of $\frac{1}{2}$ to $\frac{3}{4}$ gallons per square foot.
2. Overlap side laps of 40" polyester by at least 2". Overlap end laps 6". Offset end laps 18" minimum from previously installed sheets. Assure good saturation and sealing of all edges when applying the Acrylic Coating and polyester. Broom in or roll in polyester.
3. Extend ply system above the cant a minimum 2" at wall and projection bases.
4. The Acrylic/polyester system shall extend up any parapet walls high enough so that a metal cap flashing can overlap the edges.
5. At roof edges where there is no parapet wall, add 6-12" wide polyester fabric along perimeter, and embed in an approved **SCS Acrylic Coating** at a rate of 2 gallons per 100 Square Feet.

B. Solastic Surface Coating:

1. Apply two coats of an approved **SCS Acrylic Coating** at a rate of 1-1/2 gallons per 100 Square Feet per Coat. After the first coat dries, apply the second coat of **an approved SCS Acrylic Coating** over the entire system, at the rate of 1-1/2 gallons per 100 square feet. Use crosshatch technique for the second coat. Total Coating over the polyester shall be a minimum of 3 gallons per 100 square feet.
2. Apply these top coats over all HVAC duct work and over the top of any parapet walls, etc.
3. 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, or other variables.
4. No coating shall be applied if weather will not allow it to dry prior to exposure to precipitation, dew, or freezing temperatures.

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 elastomeric coating materials 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.

PART 1V. MATERIALS

The following materials listed in these recommendations are available from Solar Coating Systems.

- 1. Approved SCS Acrylic Coating.
 - a. Solastic Premium White Elastomeric Coating
 - b. Solastic MB Elastomeric Coating
 - c. Solastic BUR Elastomeric Coating
- 2. SCS Brushable White Elastic Patch, elastomeric sealant.
- 3. SCS T325, or T326 Polyester Reinforcing Fabric, 4 inch, 6 inch, 10 inch, 20 inch and 40 inch.