



SRC SPF ROOFING SYSTEM

Installation Guide Specification 07500

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 polyurethane foam and spray-applied silicone coating system as outlined in this specification to create a seamless waterproof roofing system.
- 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 fire ratings and physical properties of materials.
- B. Submit material safety data sheets.

1.03 QUALITY ASSURANCE

- A. Supplier Qualifications: The SRC SPF Roofing System, 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. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
- D. Protection: Protect all materials from freezing and other damage during transit, handling, storage, and installation.

1.05 PROJECT CONDITIONS

- A. For application details of polyurethane foam, consult National Coatings for recommendations on the proper system to use on project substrate and at expected substrate and ambient temperatures. Under no conditions shall the foam be applied when the substrate temperature is expected to be below 50°F. Do not apply polyurethane foam when wind velocity is above 15 mph unless a wind screen is used.
- B. Do not proceed with application of coating materials when surface or ambient temperature is less than 50°F.

- C. Do not apply materials unless surface to receive urethane foam and/or silicone coating is clean and dry.
- D. 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.

1.06 DETAIL WORK

- A. This specification does not extensively outline procedures for preparation and finishing of drains, vents, ducts, flashings, parapet walls, etc. This work should be outlined by the contractor before work commences, and shall be performed observing good trade practices. In most cases the self-flashing attributes of the foam will be utilized without the need for additional flashing materials. In any case, the foam should never be applied in a manner that traps moisture or forces moisture to migrate underneath the system. Any needed sheet metal work shall be in accordance with the latest editions of SMACNA and/or NRCA Sheet Metal Manuals.

II. PRODUCTS

2.01 POLYURETHANE FOAM

- A. The foam shall be premium quality, high density polyurethane spray foam (2.5lb, 2.7lb or 3.0lb) approved for use with NCC.
- B. Physical Properties of Cured Foam:
 - 1. Polyurethane foam shall contain EPA-approved 245fa blowing agent and meet U.S. non-ozone-depleting requirements of the U.S. EPA mandate and International Montreal Protocol. No polyurethane foam with phased-out HCFC 141b blowing agent is acceptable.

Properties	ASTM Test	Value	Units
Density	D-1622	2.5 (min)	Lbs/Ft
Compressive Strength	D1621	42 (min)	Lbs/Ft
Closed Cell Content	D-2856	90 (min)	%
Thermal Conductivity	C-177/C-158	0.18 (max)	BTU/Ft-Hr-deb.F/Inch "K" Factor
U.L. Listing	UL 790*	Class A*	UL Rating
*These flame spread ratings are for test conditions, and are not intended to reflect hazards presented by this or any other material under actual fire conditions.			

2.02 SRC SILICONE ROOFING SYSTEM

- A. The coating shall be the spray applied SRC coating system, provided by National Coatings Corporation.
- B. Physical Properties of Cured Coating System:
 - 1. The coating system shall have good resistance to ponding water.
 - 2. The coating system shall contain no plasticizers.
 - 3. The coating system shall contain no migrating fire retardants.
 - 4. The coating system shall have a Class A fire rating over foam on a noncombustible deck when tested according to the procedures outlined in ASTM E-108.
 - 5. The protective coating system shall also meet the following physical property requirements:

Property	ASTM Method	Results
Tensile Strength, psi (Max @ 73°F)	D-412	Minimum 247
% Elongation @ Break (73°F)	D-412	Minimum 237
Weathering/UV Resistance:	D-6694	No degradation - 5000 hrs
Permeance, perms	E-96	10.7
Volume Solids %	D-2369	92+/-3
Weight Solids %		92+/-3

2.03 RELATED MATERIALS

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

2.04 EQUIPMENT

- A. For recommended spray equipment guidelines, please refer to National Coatings Technical Paper "TP-117 Silicone Coatings Spray Guide", 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 urethane foam insulation 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.
- F. When properly applied, SRC silicones from National Coatings are not affected by ponding water. However, the National Roofing Contractors Association (NRCA) considers ponding water objectionable due to structural and health concerns. The NRCA recommends that all roof assemblies have positive drainage. NCC strongly recommends following established NRCA guidelines.

3.03 PREPARATION

- A. Prior to foam application, all existing non-embedded gravel surfacing material shall be removed by means of a stiff bristle street broom, powered mechanical sweeper, or vacuuming. Porous volcanic slag must be totally removed from the roof because it may hold moisture and cause bond failure and blisters. All loose dirt and dust remaining after gravel removal must be broomed and/or vacuumed from the roof. All blisters, ridges and other imperfections must be secured so that the surface will be clean and dry and a secure base for foam application.

- B. Existing low areas where water ponds and areas with obviously poor drainage to roof scuppers, drains, or roof edges should be corrected by filling and/or tapering the sprayed foam or by adding drains. To prevent the ponding of water, the entire system must be well sloped into drains. Install additional drains as necessary.
- C. Prime substrate by applying 1 gallon per 200 square feet of A450 black acrylic primer.
- D. Other types of surfaces: Preparation of surfaces and use of materials may vary substantially with different types of new or existing roofs. Contact the foam manufacturer for specific recommendations over other types of surfaces.

3.04 APPLICATION

A. Polyurethane Foam Insulation:

1. Fill all low areas with foam as required to achieve proper water drainage. The foam should be applied in a manner to compliment designed drainage and to eliminate the accumulation of water. Minimum foam pass ½ inch.
2. To all properly prepared surfaces, apply the foam in minimum ½ inch lifts to reach the required thickness of at least 1.5 inch minimum thickness with a tolerance of + ¼ inch – 0 inch. Flash passes of less than ½ inch are not acceptable.
3. Extend foam up walls, around pipes, and other projections a minimum of 4 inches. The top edge of the foam shall extend all the way up the parapet wall.
4. In areas where obstacles do not permit normal spray techniques and the application tolerance specified above cannot be met, the contractor shall still apply the specified minimum thickness of foam required by a method that he shall select and is approved by the manufacturer. However, the completed application of foam shall be monolithic with adjacent areas of normal application.
5. Apply foam so that the finished surface is smooth and free of voids, pinholes and crevices with a maximum allowable roughness defined as “coarse orange peel”. “Treebark” or “popcorn” surfaces are not acceptable.

B. SRC Silicone Coating System:

1. Before the first coat of the SRC silicone coating system is applied, the installed foam insulation must cure a minimum of 2 hours.
2. After thorough preparation as necessary, the entire roof shall receive the SRC Silicone Roofing System consisting of silicone coating in one or two passes over entire roof surface to achieve a final thickness of:

22 mils (1.5 gallons per square) minimum for a 10 year warranty
30 mils (2.0 gallons per square) minimum for a 15 year warranty
38 mils (2.5 gallons per square) minimum for a 20 year warranty
3. Allow the topcoat to cure and inspect the finished coating surface for pinholes, cracks, thin areas, or other defects. Repair any defects observed with silicone sealant and/or additional silicone coating material.

4. **Granulated Roof Surfacing:** After the application of the final coat of SRC immediately embed in the wet coating 35 lbs. per 100 square feet of RoofGuard Granules. Granule application shall be made by means of a low-pressure sandblast pot assembly or other device capable of maintaining production rates similar to that of the coating operation. These minimum recommendations for material usage are for ideal conditions.
5. 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.
6. Coating shall terminate at least 2 inches above or beyond the edge of applied foam in a neat and uniform manner.
7. No coating shall be applied if weather will not allow it to dry prior to exposure to precipitation or freezing temperatures.

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 technical 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 foam insulation and/or 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. The site shall be left in a broom-clean condition. Mineral Spirits can be used to remove coating from unintended surfaces.

IV. MATERIALS

The following materials listed in these recommendations are available from National Coatings Corporation:

1. SRC 740 or SRC 750 high solids silicone roof coating
2. Black primer A450
3. Premium quality, high density polyurethane spray foam (2.7lb or 3.0lb) approved for use with NCC
4. RoofGuard Granules

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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