

075700 SPRAYED POLYURETHANE FOAM (SPF) ROOFING

Design SPF roofing systems per the requirements and details found in the most recent edition of the “Spray Polyurethane Foam-based Roofing Manual” published by the National Roofing Contractors Association.

1. Avoid flat roofs with no slope. Minimum slope on roofs must be 1/4" per foot via sloped steel or tapered insulation.
2. For low-slope roofs, provide a coated foamed roofing system per the specifications outlined below:

A. Acceptable Manufacturers:

- 1) General Electric Company; Model Silicone
- 2) Dow Corning; Model 3-5000
- 3) Neo Guard
- 4) Substitutions are not permitted.

B. Foam Insulation

- 1) The insulation manufacturer and the particular polyurethane foam system must be approved for use in a warranted roof system by the warranty provider.
- 2) Where possible, roofs should be insulated with a 2” rigid cellular polyisocyanurate thermal insulation:

a. Acceptable Manufacturers:

- i. Johns Manville
- ii. Firestone Building Products Company
- iii. Atlas Roofing Corporation

- 3) Physical property requirements are as follows for acceptable insulation products:

<u>Property</u>	<u>Value</u>	<u>Test Method</u>
Density, sprayed –in-place, pcf, min.	2.7-3.0	ASTM D-1622
Compressive Strength, psi, min.	40	ASTM D-1621

Closed-cell content, percent, min.	90	ASTM D-2856
K-factor, aged, max.	0.16	ASTM C-518
Dimensional Stability, 7 days 158 deg F, 100% R.H., percent volume change, max.	15	ASTM D-2126

C. Overcoat Coatings

The silicone roofing membrane shall consist of a minimum two coats of an elastomeric, liquid applied material, domestically engineered and produced. The two coats shall be of contrasting colors. The minimum two-coated thickness shall be 20 mils dry with a total average of 24 mils.

D. Sealant

Sealant shall be a silicone sealant as recommended by the roof system manufacturer. The color of this sealant, if exposed, shall closely match that of the topcoat.

E. Primers

- 1) For exposed surface from wood, brick, and metal surfaces, primer shall be used as recommended and approved by the roof system manufacturer, and the polyurethane insulation manufacturer.
- 2) Cut-back asphalt primers are not to be used.

F. Granules

- 1) Granules as approved by the roof system manufacturer.
- 2) Granules shall be number 11 screen size, ceramic coated roofing granules, color to match topcoat. Broadcast rate shall be as recommended by manufacturer, but shall no be less than 50 lbs. Per 100 sq. ft.

G. Walkways

Provide and install weather resistant, breathable, resilient walkway pads composed of synthetic rubber strands. Pads shall be 2'-0" x 2'-0" and be located to protect roof areas where heavy or repeated traffic is expected, e.g. roof top equipment locations and access paths.

3. Performance Requirements

- A. Conform to applicable code for fire resistance ratings of roof system.
- B. Underwriters Laboratories, Inc. UL 790: Class A Fire Hazard Classification.
- C. Factory Mutual Engineering Corporation (FM): Roof Assembly Classification of Class I Construction; Windstorm Classification of 1-60 in accordance with construction bulletin 1-28.

4. Environmental Requirements

- A. Roofing products shall not be applied during periods of inclement weather, e.g. rain, snow, fog, mist, etc.
- B. Do not apply the polyurethane foam when substrate or ambient air temperatures are below 50 deg. F unless specifically approved in writing by the polyurethane foam manufacturer who will certify warranty in full.
- C. Do not apply coatings when ambient air temperature is below 40 deg F.
- D. When wind speeds exceed 10 mph at the job site, windscreens shall be used during the application of the polyurethane foam and coatings to prevent over spray onto adjacent surfaces not intended to receive foam and/or coating. Under no circumstances shall polyurethane foam or silicone coating be applied when wind speeds exceed 25 mph.

5. Warranty

Provide, at a minimum, a manufacturer's 10-year (15-20 year preferred) Full System Warranty, which shall be issued upon completion, inspection, and acceptance of the project. The warranties shall cover repair of leaks caused by deterioration/failure of any component of the installed system, defects in workmanship, and/or material defects. Any repairs covered by the warranty shall be without cost to the Owner throughout the term of the warranty. Warranties shall be comprehensive with no preparation and no cap for covered repairs.