

## **SECTION 07 56 00**

### **TOPSHIELD GUIDE SPECIFICATION SINGLE PLY ROOF RESTORATION TS-SP-85-1.5 10yr**

#### **PART I – GENERAL**

##### **1.01 RELATED DOCUMENTS**

- A. Requirements of Division 1 General Requirements
- B. Related sections – Sheet metal

##### **1.02 DESCRIPTION**

- A. Restoration of existing SINGLE PLY roof membrane by cleaning surface, treating seams and applying high solids, silicone roof coating.
- B. Must be fully adhered or mechanically attached with covered fasteners. Ballasted systems are not candidates for restoration within this specification.

##### **1.03 SUBMITTALS**

- A. Sample of reinforcing and repair tapes
- B. Applicator approval letter from the manufacturer
- C. Product literature
- D. Manufacturer's warranty as required

##### **1.04 QUALITY CONTROL**

- A. Comply with manufacturer's installation instructions and manufacturer's published specifications for all phases of work including substrate preparation, application of materials and protection of adjacent surfaces.
- B. All substrates must be peel tested for adhesion and those results provided to TOPSHIELD for analysis. If peel test is over 2 pounds per inch width without primer, TS #85 silicone roof coating, may be applied directly to the single ply.
- C. Insulated roofs must have an infra-red scan and wet areas marked and removed.

##### **1.05 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. Package labels must be clearly visible on pallets.
- B. Store all roll goods in a dry, protected environment.
- C. Store coatings and mastics at recommended temperatures appropriate for time of year materials are being installed. Product must be stored

at temperatures as stated on the product label. Polyester must be kept dry.

### **1.06 PROJECT CONDITIONS**

- A. Ambient air temperature must be between 40°F and 110°F.
- B. Roof surface must be dry with no precipitation in the forecast for the next 8 hours.
- C. Contractor must follow local, state and federal codes and safety requirements.

### **1.07 WARRANTY**

- A. Warranty issued shall be for coating application only. This warranty does not cover the existing roof, structural deck or any labor associated with this project.
- B. Warranties will be issued for completed projects on an entire building.

## **PART II – PRODUCTS**

### **2.01 ACCEPTABLE MANUFACTURERS**

- A. TOPSHIELD Roofing Systems

### **2.02 MATERIALS**

- A. Roof Restoration System: TS-SP-85-1.5 10yr
  - #296 primer ¼ -½ gal/sq
  - TS #85 silicone coating 1.5 gal/sq
- B. Physical properties for TS #85 silicone coating:
  - Weight 10.7 lbs/gallon
  - Tensile 300 psi
  - Solids by Weight 96 + or -3%
  - Solids by Volume 96 + or -3%
  - Cure time 2-8 hrs (appx.)
  - Reflectivity .87
  - Elongation 200%
- C. Related Materials
  - #483 polyester reinforcement fabric
  - TOPSHIELD Tape
  - TS #81 silicone patch
  - #296 single ply primer

## **PART III – EXECUTION**

### 3.01 INSPECTION

- A. Evaluate condition of existing SINGLE PLY membrane system. Perform total inspection of all roof areas. Clean a 12 inch by 12 inch area and perform an adhesion test using TS #85 silicone coating and 2" wide #483 polyester reinforcement with and without #296 primer. Peel test should measure 4 pounds for a 2" wide test strip or 2 pounds for a 1" wide test strip.
- B. Nondestructive testing using Infra-red inspection and verified with actual roof cores. A roof plan shall be made to show all deteriorated areas, which require replacement of wet insulation and damaged membrane.
- C. Deck replacement – as the restoration progresses deteriorated deck shall be removed and replaced with like kind and quality material.
- D. Fasteners which have loosened or backed out shall be removed and replaced. Curling insulation boards shall be refastened flat or replaced.
- E. Install new SINGLE PLY over repair areas per NRCA and original SINGLE PLY manufacturer recommendations. New SINGLE PLY must be primed using #296 primer.

### 3.02 SURFACE PREPARATION

- A. Surface shall be swept clean of all debris using a broom and/or blower.
- B. Using a low-pressure sprayer, apply "Simple Green" brand biodegradable cleaner at the rate of ¼ gallon per square. Immediately remove by power washing and scrubbing with rotary floor cleaner, soft broom or rags using a maximum pressure of 1500 psi. Let surface dry. Repeat if necessary to remove all loose surface particles and deteriorated membrane.
- C. All flashing defects, punctures and drains shall be flashed using TOPSHIELD Tape. Tape shall be coated with TS #81 silicone patch or TS #85 silicone coating. Drains will have an additional ply of #483 polyester embedded in a minimum of 3 gal/sq of TS #85 silicone coating over the TOPSHIELD Tape. Flashing boots which are cracked or deteriorated must be replaced.
- D. Ponding areas which pond water for 48 hours or longer shall have a ply of #483 polyester embedded in a minimum of 3 gal/sq of TS #85 silicone coating. Drainage may also be corrected by the addition of drains or installation of tapered insulation under new membrane. New Membrane must be primed with #296 primer at a minimum rate of ¼ gallon per square and peel tests performed to insure a peel strength of 2 pounds per inch width of test fabric.
- E. Create slope on the top of all pitch pans using TOPSHIELD #81 silicone patch. Also can be used to fill and seal the top two inches of new pitch pans after filling the base with quick set cementitious grout.
- F. All laps and seams shall be inspected and sealed using TOPSHIELD Tape. Seam area needs to be sufficiently cleaned to accept the TOPSHIELD repair tape which must be a min. 4" wide and coated

with TS #81 silicone patch or TS #85 silicone coating. Optional: Apply 4 – 6” wide #483 polyester tape in a 3 gal/sq application of TS #85 silicone coating, depending on verifiable inspection of a TOPSHIELD representative, existing project conditions and warranty requirements.

### 3.03 MEMBRANE APPLICATION

- A. Protection and start-up procedures
  - 1. Wet insulation shall be removed and replaced in kind. New SINGLE PLY shall be bonded to insulation and tie in performed according to NRCA recommendations and SINGLE PLY manufacturers procedures. Prime new single ply with #296 primer.
  - 2. Prior to work, post notices a minimum of 48 hours around building and parking lots. Protect adjacent surfaces where product is not to be applied using masking tape, plastic / paper sheets, stretch wrap, tarps, or plywood, whichever is appropriate.
  - 3. Owner should be notified of start times so that fresh air intakes may be sealed off and or HVAC units shut down.
  - 4. Contractor should constantly monitor wind direction to prevent coating cars and adjacent surfaces. If winds become excessive, coating should stop.
  - 5. Contractor must remove drain screens and seal the drainpipe to prevent plugging of drain during the coating operation. Unplug drains and reinstall screens after coating operation has been completed.
- B. Prime and Silicone Coat – apply #296 primer at the rate of ¼ - ½ gallon per square. Allow a minimum of 4 hours for prime coat to cure before applying silicone coat. Ambient air temperature must be between 40 degrees F and 110 degrees F. Do not install if temperature is less than 40 °F. Do not install if rain is forecasted within 8 hours of application. After prime coat has cured, apply TS #85 silicone coating at the rate of 1.5 gallons per square in one uniform coat. Total coverage of TS #85 shall be 1.5 gallons per square.
- C. Application method: prime coat must be applied using a squeegee and heavy duty roller. The TS #85 may also be applied by spray. Spray application should only be attempted by contractors experienced in spraying moisture cured coatings.
- D. Skid resistant surface: Let the TS #85 silicone roof coating cure till walkable. Mix 3-5 lbs of crushed walnut shells into a 5 gal pail of coating and stir till uniform. Apply using a roller at a minimum rate of 1 gallon per square. Skid resistance can be increased or decreased by adding varying amounts of crushed walnut shells. For source of crushed shells contact:
  - a. Composition Materials Co., Inc.  
249 Pepes Farm Road  
Milford, CT  
203-874-6500

- E. Note: NEVER apply to wet or damp or rusted surfaces. Surfaces should be completely cleaned before application. Low humidity may extend curing periods. All repairs must use compatible products.

### **3.04 JOB SITE CLEAN UP**

- A. Remove masking and protection.
- B. Notify owner coating operation is complete so HVAC vents can be opened and units restarted.
- C. Remove all roofing related trash and debris from jobsite.
- D. Dispose of containers in accordance with local regulations.

Note: TOPSHIELD does not practice Engineering or Architecture. Any review of the building's construction or inspection of roof plans or inspection of the building's structural roof deck by TOPSHIELD representatives shall not constitute any warranty by TOPSHIELD of such plans, specifications or construction. Any roof inspections are solely for the benefit of TOPSHIELD. TOPSHIELD is not responsible for the failure of previously applied coatings.