SECTION 07 00.00

SESCO Si750 WHITE SILICONE ROOF RESTORATION SYSTEM FOR ASPHALT BASED GRAVEL BUILT-UP ROOFING SYSTEMS

PART 1 - GENERAL

1.1 DESCRIPTION

This section establishes requirements for restoring existing asphalt based gravel built-up roofing (GBUR) systems through the application of a high-solids silicone roof coating system.

The roof restoration system is intended to:

1. Extend the service life of existing roofing assemblies.
2. Protect asphalt-based membranes from ultraviolet degradation.
3. Provide a seamless weather-resistant surface.
4. Improve solar reflectivity and reduce roof surface temperatures.
5. Prevent roof replacement when the existing roof remains structurally sound.

1.2 ROOF ELIGIBILITY

The roof coating system may be installed over:

1. Asphalt Based Gravel Built Up Roofing Systems (GBUR).

The system shall not be installed over:

1. **Coal Tar Pitch Built Up Roofing Systems.**
2. Roof assemblies containing wet insulation.
3. Roofs exhibiting widespread membrane failure.
4. Roofs with structural deficiencies.

1.3 DESIGN CONSIDERATIONS

The silicone coating system is intended for roofs exhibiting normal weathering and aging. Prior to restoration, the roofing assembly shall be evaluated to verify that:

1. The substrate is dry and stable.
2. Existing membranes remain securely attached.
3. Structural components remain serviceable.
4. Positive drainage is recommended. Roof areas exhibiting chronic standing water shall be reviewed before installation.

1.4 ADHESION VERIFICATION

Representative adhesion testing shall be performed before installation of the roofing system. Testing shall verify compatibility of the existing substrate with all restoration materials. Test results should be a minimum of 2lbs per lineal inch of fabric width.

1.5 RELATED WORK

Coordinate work under this section with:

a) Roof insulation
b) Sheet metal flashings
c) Roof accessories

d) Mechanical curbs
e) Roof drains
f) Equipment supports
g) Penetrations and pipe flashings

1.6 SUBMITTALS

A. **Product Data:**
Submit manufacturer's standard submittal package including specification, installation instructions, and general information for each waterproofing material.

B. **Applicator Qualifications:**
Applicator Qualifications: The applicator shall be approved by SESCO Roofing Products. The manufacturer's written verification of applicator approval is required.

C. **Substrate Conditions:**
1. Applicator to present to owner a completed inspection report verifying substrate condition and any noted defects not specifically addressed regarding the installation of the coating.
2. Surface shall be free from loose dirt, stone, debris, moisture, and shall be in stable condition. Any work on the area to receive this application shall be completed prior to the installation of the coating.
3. Applicator shall complete a substrate inspection prior to the start of the installation of the coating. The architect/owner and applicator shall accept the substrate. Start of the work constitutes acceptance.

1.7 QUALIFICATIONS

A. Products shall be supplied by a single manufacturer and designed to function as a complete roof restoration system. Manufacturer shall have been in business for (20) years.

B. Applicators shall have a minimum of five (5) years' experience and 1 million square feet in the application of waterproofing materials of the type specified. The Applicator shall possess a current Letter of Good Standing from the specified waterproofing manufacturer.

C. **Mandatory Pre-Bid Conference:**
Ten (10) working days prior to the bid opening there is to be a mandatory Pre-Bid Conference. Those not attending the Pre-Bid Conference will not be allowed to bid the project. All products considered equal to the specified product or any changes in the scope of work, installation, or specifications must be presented at the Pre-Bid Conference. If a change in the specifications is accepted, it will be considered as an alternate and will be presented as a bid addendum issued five (5) working days prior to the bid opening. No other changes to the specification or bid documents will be accepted.

D. Materials other than those specified shall be submitted to the architect/owner for approval no later than ten (10) days prior to the bid date. In requesting prior approval, it shall be necessary to submit: 1. A letter of certification, signed by an officer of the manufacturer, stating that the alternate material is equal to or better than the specified product. 2. Independent laboratory test data giving physical property values in comparison to the specified material.

E. **Pre-Installation Conference:** Just prior to the commencement of the installation, meet at the jobsite with a representative of the coating manufacturer, applicator, general contractor, architect, and other parties affected by this section. Review the methods and procedures, substrate conditions, scheduling, and safety.

1.8 DELIVERY, STORAGE, AND HANDLING

1. Deliver materials in original unopened containers bearing manufacturer identification.
2. Store materials in accordance with published manufacturer requirements.
3. Protect products from freezing temperatures, excessive heat, moisture, and contamination.

1.9 WARRANTY

A. Manufacturer warrants that the material supplied will meet or exceed physical properties as published. The Applicator guarantees that workmanship will be free of defects in coating application. Since performance previously applied coatings is beyond the control of Manufacturer and Applicator, requests for additional warranty coverage shall be subject to prior approval by Manufacturer.

B. A TEN (10) YEAR LABOR AND MATERIAL WARRANTY MUST BE OBTAINED THROUGH THE MANUFACTURER

PART 2 - PRODUCTS

2.1 MANUFACTURERS

ACCEPTABLE MANUFACTURERS- SESCO Roofing Products, SESCOROOF.COM

2.2 MATERIALS

A. **BLEED BLOCKING PRIMER**
SESCO ROOF Pr315 Bleed Block Primer

B. **FLASHING**
SESCO ROOF Si790 Mastic
Polyestermesh
Si800-Self level

C. **SILICONE ROOF MEMBRANE**
SESCO ROOF Si750 ROOF MEMBRANE

Minimum Physical Properties

Physical Property	Typical Value	Test Method
Solids by Weight	98%	ASTM D 1644
Solids by Volume	96%	ASTM D 2697
Tensile Strength	220 PSI	ASTM D 2370
Elongation	275%	ASTM D 2370
SRI	110	ASTM E1980
VOC	<45 g/l	EPA Method 24
Permeance	6.0 Perms	ASTM E 96

PART 3 - EXECUTION

3.1 EXAMINATION

A. A moisture survey is strongly recommended to identify and wet roofing materials. All wet roofing materials must be removed and replaced.
B. Inspect surfaces that will receive the coating system to make sure they are clean, smooth, sound, properly prepared, and free of moisture, dirt, debris, or other contamination.
C. Verify that all roof penetrations, mechanical equipment, cants, edge metal, and other on-roof items are in place and secure.
D. Verify that all critical areas around the immediate vicinity of the spray area are suitably protected.
E. Verify that all roof drains are clean and in working order by means of a water test.

F. Verify that all air conditioning and air intake vents are suitably protected or closed.

3.2 SURFACE PREPARATION

Cleaning

A. Remove all loose stone by power broom or vacuum.
B. Thoroughly power wash roof surface and all other areas to receive new coating with a minimum of 2,000 psi water pressure. Be sure not to damage existing membrane during this process or clog any roof drains.

> **NOTE: Roof may also be cleaned by high pressure wet-vac process instead of power washing**

C. Cleaning methods shall not damage the existing roofing membrane or inject water into existing system.

> **NOTE: Confirm removal of stone ballast will not affect the wind uplift rating of current assembly.**

D. Areas containing mildew, algae, or fungus shall be treated and cleaned prior to coating.

3.3 Installation

The roofing system shall be installed in accordance with the manufacturer's published requirements and with support from the manufacturer's technical team. Contractors are encouraged to consult Technical Services for guidance on application procedures, substrate conditions, and project-specific recommendations.

A. **Repairs**
   1. Remove all insulation that shows signs of moisture intrusion, delamination, distortion, or structural deterioration. Extend removal to the roof deck as required, replace with compatible materials, and secure in accordance with industry standards. Following replacement, restore the membrane assembly with **heat-applied granule-surfaced APP modified bitumen membrane**, regardless of the type of existing asphalt roofing system.
   2. Repair or replace any defective perimeter securement, membrane terminations, base flashings, parapet flashings, and penetration details. All replacement work shall be completed using **heat-applied granule-surfaced APP modified bitumen membrane**.
   3. Remove existing pitch pan compounds, sealants, and termination materials that have failed, deteriorated, or lost adhesion. Replace these components with approved materials suitable for the specific roof condition and detail.

> **NOTE**: Only heat-applied granule-surfaced APP modified bitumen membrane may be used for repairs to the asphalt roofing substrate prior to the installation of SESCO Silicone Roof Coating Systems, regardless of the existing asphalt membrane type. Do not use SBS, smooth APP or self-adhering membranes. Do not use asphalt mastics or cold adhesives as part of remedial roof repairs. All areas repaired with new granule surfaced APP membrane must be coated with two (2) applications of **Pr315 Bleed Block Primer** at a rate of 3 gallons per square minimum.

B. **Primer Application**
   1. Prime all asphaltic surfaces with **Pr315 Bleed Block Primer** at a coverage rate of **1.0 to 1.5 gallons per 100 square feet**. Porous or rough substrates may require additional material to obtain full coverage and prevent asphalt bleed-through into finish coat. If Asphalt Bleed Thru is not an issue primer may not be necessary.
C. **Roof Coating Preparation**

> **NOTE: Spudding of embedded gravel may be necessary for desirable surface in area of repairs. Fresh asphalt will need to be primed with Pr315 Bleed Block Primer at 1.0 to 1.5 gallons per 100 square feet.**

1. **Penetrations:** Apply **Si790 Mastic** at a rate of 60 dry mils min. Application shall encapsulate the area around the penetration. Application shall extend a minimum of 4" on to the existing roof membrane taper the edges smoothly onto the surrounding roof surface.
2. **Parapet Walls:** Apply **Si790 Mastic** to all seams and flashings on parapet walls at a rate of 30 dry mils. Application shall be a minimum of 4" wide over the seam. taper the edges smoothly onto the surrounding roof surface.
4. **Flashings:** Apply a layer of **Si790 Mastic** 4' wide at flashing points 60 dry mils min. Application should be made to insure water tightness of the flashing detail.

Crack and Split Treatment

1. **Minor Cracks and Splits (Less Than 1/4 Inch)**
   a. Fill and seal the defect with **Si790 Mastic**, ensuring complete coverage of the opening.
   b. Extend the repair material at least **4 inches beyond the damaged area** and taper the edges smoothly onto the surrounding roof surface.
2. **Major Cracks and Splits (Greater Than 1/4 Inch)**
   a. Apply **Si790 Mastic** to fully seal and fill the damaged area.
   b. Continue the application a minimum of **4 inches beyond the crack or split** and taper the edges smoothly onto the surrounding roof surface.
   c. After the repair area has been filled and brought level with the existing roof surface, install a strip of **polyester reinforcement fabric** of sufficient width to extend at least **2 inches past each side** of the defect.
   d. Apply an additional layer of **Si790 Mastic or Si750 High Solids Silicone** to completely cover and saturate the reinforcement.

Blisters

a. Remove existing blister, prime and fill with **Si800 Leveler** even with roof surface. Reinforce each repair with polyester fabric extending 2" past repair
b. Apply an additional layer of **Si800 Leveler or Si750 High Solids Silicone** to completely cover and saturate reinforcement
c. Blisters larger than 24' shall be repaired with in kind materials as listed in 3.3 A.

D. **SILICONE MEMBRANE APPLICATION**
   a. Once repairs have been completed and have completely cured apply surface leveling silicone at 4-6 gallons per square. Application rate can vary depending on gravel embedment. There should be no ballast protruding greater than ¼" maximum. Allow leveling coating to cure 24-48 hours depending on environmental conditions.
   b. Apply **Si750 White Silicone Roof Coating** uniformly over prepared roof surfaces.
   c. Coverage rate shall be sufficient to achieve a minimum finished dry film thickness of **35 mils DFT**.

NOTE: For granular or rough surfaces, more material may be needed to achieve the required mil thicknesses.

Additional coating shall be applied at transitions, flashings, repairs, granulated surfaces, and other irregular areas as necessary to achieve the specified minimum 35-mil dry film thickness.

Application shall not occur during precipitation, when moisture is present on the substrate, or when weather conditions may adversely affect curing.

WALKPAD (OPTIONAL)

Where specified, install walkpads as manufactured by SESCO Roofing Products

GRANULE SURFACE (OPTIONAL)

Where specified, apply an additional coat of **Si750 High Solids Silicone** at 10 mils and immediately broadcast **SESCO Roofing Granules manufactured by SESCO Roofing Products** at a rate of 30lbs/sq at a uniform rate sufficient to achieve full embedment and consistent appearance. Granules shall be distributed evenly while the coating remains wet.

QUALITY CONTROL INSPECTION

Verify by field measurement that the completed roofing system achieves a minimum dry film thickness as specified, any variations shall be corrected by the applicator.

MINIMUM DRY FILM THICKNESS (DFT) REQUIREMENT: SESCO ROOFING PRODUCTS recommends adding a 10 % variance factor to meet the minimum Dry Film Thickness (DFT) mil requirement to qualify as a warrantable application. It is the Applicator's responsibility to calculate the amount of coating needed to obtain the minimum Dry Film Thickness (DFT) mil thickness.

END OF SECTION 07 00 00.