

SECTION 075600 – FLUID-APPLIED ROOFING RECOVER

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide labor, materials, equipment, and supervision necessary to install an elastomeric silicone coating restoration system as outlined in this specification for the complete roof restoration.
- B. The manufacturer's application instructions for each product utilized are considered part of these specifications and must be followed as part of this Work.

1.2 PREINSTALLATION MEETING

- A. Preliminary Roofing Conference: Before starting roof restoration system installation, conduct conference at Project site.
 - 1. Meet with Owner, Architect, Owner's insurer if applicable, roof restoration system Installer, roofing system manufacturer's representative.
 - 2. Review methods and procedures related to roof restoration system installation, including manufacturer's written instructions.
 - 3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review existing deck substrate conditions, existing insulation, and existing roof membrane.
 - 5. Review structural loading limitations of roof deck during and after roofing.
 - 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roof restoration system.
 - 7. Review cleaning and preparation requirements for existing roof services scheduled to receive the roof restoration system.
 - 8. Review temporary protection requirements for roof restoration system during and after installation.
 - 9. Review roof observation and repair procedures after roof restoration system installation.

1.3 ACTION SUBMITTALS

- A. Product Data:
 - 1. Silicone-based restoration system.
 - 2. Accessory coating materials.
- B. Shop Drawings: Include roof plans, sections, details, and attachments to other work, including the following:
 - 1. Layout, thickness, and extent of coatings.
 - 2. Base flashings and coating terminations.
 - 3. Flashing details at penetrations and membrane splice repairs.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and manufacturer.
- B. Manufacturer Certificates:
 - 1. Performance Requirement Certificate: Signed by roof restoration system manufacturer, certifying that roofing restoration system complies with requirements specified in "Performance Requirements" Article.
 - a. Submit evidence of complying with performance requirements.
 - 2. Special Warranty Certificate: Signed by roof restoration system manufacturer, certifying that all materials supplied under this Section are acceptable for special warranty.
- C. Sample Warranties: For manufacturer's special warranties.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer of a silicone-based roof restoration system, utilizing manufacturer's high solids silicone, in accordance with the specified requirements.
- B. Applicator Qualifications: The applicator shall be approved by the manufacturer to apply the system. The manufacturer's written verification of applicator approval is required.
- C. In the absence of a General Contractor, the roofing Contractor shall be the prime Contractor. All Subcontractors shall be identified and approved at the time the proposal is submitted. The contractor shall carry a valid State of Connecticut roofing license.
- D. Refer to manufacturer's detail drawings for preparation and finishing of drains, vents, ducts, flashings, parapet walls, etc. Any details not shown in the drawings require manufacturer approval prior to application.
- E. Coordinate site visits with manufacturer's authorized field inspector to review the installation of the silicone-based restoration system is in accordance with manufacturer's requirements.
- F. Upon completion of the silicone-based restoration system installation, the Contractor must coordinate an inspection by the manufacturer's representative or manufacturer's designated third-party inspection firm to confirm that the installation meets the requirements of this specification. Consult with the manufacturer for details and warranty requirements.

1.7 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed in accordance with manufacturer's written instructions and warranty requirements.
 - 1. Consult the coatings manufacturer for recommendations on the proper system to use on the project substrate and at the expected substrate and ambient temperatures. Do not spray-apply coatings when wind velocity is above 15 mph.
 - 2. Do not apply materials unless the surface to receive 100% silicone coating is clean and dry.
- B. Moisture Survey: For roof membranes with insulation beneath, conduct an infrared moisture survey that identifies any wet areas (> 18% moisture) beneath the membrane prior to installation.
- C. Adhesion Pull Test: Perform Adhesion Pull Tests before commencing with installation of the silicone-based restoration system. Demonstrate that adhesion pull tests pass a minimum pull value of 2.0 pli.
- D. The entire Silicone-based Restoration System shall fully adhere to the surface on which it is applied. Voids left under the system caused by bridging are not acceptable.

1.8 WARRANTY

- A. Manufacturer's Warranty: Manufacturer must provide an all-inclusive, no dollar limit, non-prorated, labor and material roof warranty. Manufacturer agrees to repair or replace components of roof coating system that fail in materials or workmanship within specified warranty period.
 - 1. Special warranty includes the coating, terminations, flashings, and other components of fluid-applied silicone-based roof coating system.
 - 2. Warranty Period: 10 years from Date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Physical Properties of Cured Coating System
 - 1. Tensile Strength, ASTM D6694 / D-2370: 150 psi (1034.21 kPa) minimum at 73°F (22.78°C).
 - 2. % Elongation at Break, D6694 / D-2370: 100 psi (689.48 kPa) minimum, at 73°F (22.78°C).
 - 3. Volume Solids %, ASTM D6694 / D-2697: greater than 57.
 - 4. Weight Solids %, ASTM D6694 / D-1644: Report value.

2.2 ELASTOMERIC, SILICONE COATING SYSTEM

- A. Roof Restoration System: Alkoxy-formulated, high solids, low VOC silicone, high build formulation or low viscosity formulation roof coating system.
- B. Basis of Design: Silkoxy H3 or EZ high solids elastomeric silicone coating, manufactured by Everest Systems, LLC.
 - 1. Subject to compliance with specified Performance Requirements, acceptable roof restoration system manufacturers include the following:
 - a. Everest Systems, LLC.
 - b. Henry Company.
 - c. Proguard Building, Building Envelope Solutions.
 - d. Sika Sarnafil, Sika Corporation.

2.3 ACCESSORIES AND MISCELLANEOUS MATERIALS

- A. Manufacturer's flashing and waterproof coverings for expansion joints compatible with the coatings.
- B. Manufacturer's Flashing Grade Sealant: Seal fatigued flashings, such as curbs, through roof penetrations, drains, base flashings, and other areas of concern.
- C. Manufacturer's cleaner or approved roof wash for the existing single-ply membrane roof system to enhance the adhesion of the roof coating system.
- D. Utilize manufacturer's recommended roofing fabric and silicone coating formulated for repairs to the existing single ply roof membrane.
- E. Manufacturer's primer for asphalt restoration.
- F. Miscellaneous materials such as adhesives, elastomeric caulking compounds, vents, and drains shall be a composite part of the roof system and shall be compatible with the coating materials.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Comply with the manufacturer's product data, including product technical bulletins and product guide specification instructions.

3.2 EXAMINATION

- A. 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.

- 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 that all roof drains are clean and in working order.
- E. Verify that all air conditioning and air intake vents are suitably protected or closed.

3.3 SURFACE PREPARATION

A. General:

- 1. Existing roofing materials shall be securely fastened to meet wind uplift requirements.
- 2. All roofing surfaces shall be free of loose material, grease, soft asphalt, and other materials that could interfere with adhesion. Typically, this can be achieved by power washing with a minimum of 3500 psi power washer. Severe contamination may require industrial cleaning products. Check with your Everest Systems Representative for recommendations.
- 3. Areas of ponded water must be repaired with the application of manufacturer's recommended coating or the installation of additional drains.
- 4. Based on the results of the moisture survey, remove any wet insulation, and replace it with like type and kind of insulation.

B. EPDM Membrane Roofing:

- 1. Repair EPDM roofs to watertight condition according to the manufacturer's recommended procedures.
- 2. Apply recommended surface cleaner in accordance with manufacturer's instructions. Thoroughly rinse single ply membrane roof surface using power washer prior to the final system application.
- 3. Seal penetrations and edges with manufacturer's recommended polyester roofing fabric and silicone coating formulated for repairs to the existing single ply roof membrane.
- 4. Reseal around all mechanical equipment and roof penetrations with manufacturer's polyester roofing fabric and silicone coating formulated for repairs to the existing single ply roof membrane.
- 5. Procedure for repair of failing roof membrane seams or in areas where additional roof fasteners were installed:
 - a. Apply silicone-based coating in a 4-inch-wide strip over the seam at a rate of 2 gallons per 100 square feet (32 wet mils / 28 dry mils).
 - b. Embed 4-inch-wide polyester fabric in the wet coating. The fabric must be completely embedded in the silicone-based coating.
 - c. Immediately apply a 6-inch-wide layer of silicone-based coating at a rate of 2 gallons per 100 square feet (32 wet mils / 28 dry mils).
 - d. Allow to dry for 12 to 24 hours.

6. All areas of significant ponding, walkways, and high-traffic areas should receive fabric as follows:
 - a. Apply silicone coating in a 45-inch-wide strip over the area at a rate of 2 gallons per 100 square feet (32 wet mils / 28 dry mils).
 - b. Embed the 40-inch polyester fabric in the wet coating. The fabric must be completely embedded in the silicone-based coating.
 - c. Spray or roll a 45-inch-wide layer of silicone coating at a rate of 2 gallons per 100 square feet (32 wet mils / 28 dry mils).
 - d. In the wet finish coat, apply kiln-dried quartz aggregate or ceramic granules at a rate of 35 lbs per 100 square feet.
 - e. Allow to cure completely.
 - f. Reseal around all mechanical equipment and roof penetrations with manufacturer's recommended silicone flashing.
7. Seal all edges and seams with a 6-inches wide application of the silicone coating at a rate of 3 gallons per 100 square feet (48 wet mils / 42 dry mils).

3.4 APPLICATION

A. High Solids Silicone Coating System:

1. Provide coating at approximate coverage rate to achieve a completed systems having a minimum 10-year labor and material warranty, and at a rate of not less than 1.5 gallons per square.
 - a. Utilize silicone coating with greater sage resistance for vertical roof transitions exceeding 18-inches (457.2-mm)
2. Spray or roller apply coating system without causing runs or puddles. If using a spreader bar application, back-roll immediately behind the silicone extrusion application before skinning occurs.
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, roof profile, wind conditions, or other variables.
4. Application of coating in weather that will not allow the coating to skin-over before exposure to precipitation is prohibited.
5. Allow coating application to thoroughly dry before exposure to foot traffic.

3.5 FIELD QUALITY REQUIREMENTS

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- Inspection by the coating manufacturer's representative shall be made, as needed, 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 sole expense.

3.6 CLEANING

- A. Protect surfaces not intended to receive spray polyurethane foam insulation and/or elastomeric coating materials during the application of the system. Should this protection not be effective, or not be provided, restore the respective surfaces to their proper conditions by cleaning, repairing, or replacing.
- B. Completely remove all debris generated by the Work from the project site. The site shall be left in a broom-clean condition.

END OF SECTION 075600