

ELASTOMERIC SILICONE COATING FOR RESTORING MODIFIED AND SMOOTH BUILT UP ROOFING MEMBRANES - (07 56 20)

1. All applicable parts of the General Roofing Specification (section 07 30 00) shall be included in this section.
2. Assessment of Elastomeric Silicone Roof Coating Systems
 - 2.1. An Elastomeric Silicone roof coating system shall be determined as failed when any of the following conditions exist and removing and correcting the deficiencies would be more than 50% of the cost to remove the existing roof system and install a new 20-year approved roofing system.
 - 2.1.1. When the coating system loses adhesion to the substrate to which it has been installed or between application of coats of coating.
 - 2.1.2. When the coating system surface cracks due to faulty coating materials or improper installation of the coating system.
 - 2.1.3. When the coating system allows water to pass through it and no longer serves to protect the existing roof from moisture intrusion.
 - 2.1.4. When coating blisters are present on a sizable portion of the roof area.
 - 2.2. Roof coating manufacturer shall submit the following documents to the Professional Registrant for review to have their roof coating considered for use.
 - 2.2.1. Product data and safety data sheets.
 - 2.2.2. Test Report from an independent ASTM accredited testing facility validating that the roof coating complies with ASTM D6694.
 - 2.2.3. Sample copy of roof coating manufacturer's 10-year no dollar limit (NDL) material and labor warranty stating that the roof coating will comply with all materials and labor to repair or remove and replace roofing materials that leak due to defective coating or faulty installation for the length of the warranty.
 - 2.2.4. Fire classification for the proposed coating comply with ASTM E108 per Underwriters Laboratories or another ASTM recognized fire testing facility.
 - 2.2.5. A list of 5 projects in Arizona where the proposed coating has been installed, including project name, project size, address, owner contact, and year applied.

- 2.2.6. A letter from the Elastomeric Silicone Roof Coating Manufacturer stating that the Roofing Contractor is an authorized applicator of the roof coating system.
3. Roof Slope Use as defined in Part 7, General Roofing Specification (07 30 00)
 - 3.1. A Roof Coating System can be used on any of the following roof slopes:
 - 3.1.1. Low Slope
 - 3.1.2. Transitional Slope
 - 3.1.3. High Slope, in accordance with the manufacturer's limitations and testing data.
 - 3.2. The recommended minimum slope for Elastomeric Silicone Roof Coating is $\frac{1}{4}$ " per vertical unit 12 inches per unit horizontal when possible. The absolute minimum slope for elastomeric silicone coatings shall be "positive roof drainage". Ponding water is not acceptable.
4. Repair or replacement of roof, not to contradict Part 6, General Roofing Specification (07 30 00)
 - 4.1. If an existing Silicone Roof Coating system does not meet the criteria established to be acceptable to receive a new elastomeric silicone roof coating, then the replacement or overlay of the existing roof system with a new roof system is required.
 - 4.2. If a Silicone Roof Coating system is beyond repair, it shall be either removed or isolated with a recovery board before new roof system is installed.
 - 4.3. Additional information for what constitutes a failed Silicone Roof Coating system can be found in Part 2 of this Section.
5. Demolition requirements
 - 5.1. All items as found in Part 10, General Roofing Specification (07 30 00).
 - 5.2. No special demolition requirements for Silicone Roof Coating systems.
6. Back of Parapet Wall Treatment
 - 6.1. Elastomeric Silicone Roof Coating System to the back of parapet walls shall be spray or roller applied to the back of parapet walls as required within this section and by the Roofing Manufacturer.

- 6.1.1. Height of Coating System to the back of parapet walls shall be determined by the type of parapet wall surface. Coating may be terminated beneath the metal wall counter flashing or extend up the back of the parapet wall. If the back of the parapet wall is stucco or a synthetic wall system, the coating shall be either terminate beneath the metal parapet wall counter flashing of extend up the full height of the back of the parapet wall.
- 6.1.2. At locations where the Coating System terminates less than the full height of the parapet wall, the back of the parapet wall surface shall be waterproofed with materials suitable to the substrate.

7. High Wall Treatment

- 7.1. Coating System shall be spray or roller applied to properly prepared high wall substrate.
- 7.2. Height of coating system on high walls is unlimited.
- 7.3. If the Coating System can be seen from the ground, custom matched color Elastomeric Silicone Roof Coating shall be installed to match the surrounding substrate. If a color match is not practical, the Elastomeric Silicone Coating System shall be terminated at a height that is not visible from the ground.
- 7.4. Areas where the Elastomeric Silicone Roof Coating System does not extend the full height of the high wall, the high wall shall be waterproofed with materials compatible with the substrate.

8. Components of Elastomeric Silicone Roof Coating System

- 8.1. Biodegradable Cleaner
 - 8.1.1. Biodegradable cleaner to be used where required to ensure the existing roof surface is in a clean condition to receive the new Roof Coating System.
- 8.2. Fabric adhesive and bleed block primer (if required by coating manufacturer)
 - 8.2.1. Fabric adhesive and bleed block primer to be used on asphaltic surfaces to increase the adhesion of the new coating system and to prevent asphalt bleed from the existing roof system through the new coating system.

8.3. Primer to Other Substrates

8.3.1. Primer as required by coating manufacturer to provide greater adhesion to aluminized asphalt, metal, concrete masonry units (CMU), or other surfaces to receive the Elastomeric Silicone Roof Coating System.

8.4. Self-Flashing SPF Roof Insulation

8.4.1. Self-Flashing SPF Roof Insulation is an option to three coursing with silicone/polyester /silicone that may be used to seal parapet walls, pipe penetrations, curbs, and other roof top penetrations. SPF shall be UL723 fire rated and 50 PSI compressive strength.

8.5. Construction Grade Sealant

8.5.1. Silicone sealant, as approved by the coating manufacturer, for in filling cracks, splits or voids and for sealing reglet counter flashing

8.6. Reinforcement Fabric

8.6.1. Stich bonded polyester fabric, as supplied by the coating manufacturer, for reinforcement at drains / scupper areas, valley lines, pipe penetrations, curbs, split seams, flashings, tears, perimeter areas or for the full reinforcement of the new Coating System where specified.

8.7. Fluid Applied Elastomeric Silicone Sealant

8.7.1. Silicone sealant to be used as an option to stich bonded fabric on certain detail areas, leveling small rough textured areas and for reinforcing metal flanges at drip edges.

8.8. Elastomeric Silicone Roof Coating

8.8.1. Elastomeric silicone roof coating shall be internally plasticized to provide a permanently flexible waterproof coating system that is fire classified by Underwriters Laboratories or a recognized fire testing agency to comply with ASTM E108 Class A or Class B as required. The Elastomeric Silicone coating shall meet all requirements of ASTM D6604 and comply with the following physical property requirements:

Volume Solids 90% Content Minimum SBV

170% Minimum Elongation

160 psi Tensile Strength

Greater than 20 lbs. per inch Tear Resistance

Solar Reflective Index greater than 100 Initial

Adhesion Minimum 2.0 PLI

- 8.8.2. No private label coating manufacturers allowed.
- 8.8.3. The Elastomeric Silicone Roof Coating System shall have a minimum ten (10) year, no dollar limit (NDL) written material and labor warranty to be provided by the Roof Coating manufacturer. Fifteen (15) and twenty (20) year no dollar limit (NDL) warranties are available when agreed upon in writing by the SFB Professional Registrant and the Coating Manufacturer.
- 8.8.4. The minimum dry mil thickness of the Elastomeric Silicone Roof Coating shall be 35 or greater if required by the Coating Manufacturer for a ten (10) year no dollar (NDL) manufacturer warranty. Fifteen (15) year warranty shall be a minimum 40 dry mil thickness and twenty (20) shall be 45 dry mil thickness or greater if required by the Coating Manufacturer.
- 8.8.5. The Roof Coating manufacturer's guide specification for the proper repairs of the existing roof system, surface preparation and installation of the Roof Coating System components shall be considered an integral part of this Section. If there is a discrepancy between the SFB and the Coating manufacturer's requirements, the more stringent requirement will prevail when approved by the Professional Registrant.

9. Closeout Documents

- 9.1. All items as found in Part 16, General Roofing Specification (07 30 00).

10. Preventative Maintenance Criteria

- 10.1. All items as found in Part 17, General Roofing Specification (07 30 00).
- 10.2. Roof Coating manufacturer shall provide District maintenance personnel training in the proper inspection and housekeeping procedures on an annual basis for the entire warranty period. Any deficiencies observed during the

annual inspection shall be documented and reported in writing to the District for either warranty repair or third-party damage repair.

11. Budgeting cost ranges

11.1. Budget Cost Range Elastomeric Silicone Roof Coating Preservation System

11.1.1. 10-year Manufacturer NDL \$3.00-\$3.50 per square foot (Basis of Design)

11.1.2. 15-year Manufacturer NDL \$3.50 - \$4.00 per square foot (Optional)

11.1.3. 20-year Manufacturer NDL \$5.00 - \$6.00 per square foot (Optional)

11.2. Budget Life Cycle Cost Estimates

11.2.1. Roof Manufacturer to provide no cost inspection on an annual basis for the term of the warranty.

11.2.2. Roof Coating System Maintenance to clear the roof of debris and repair minor nicks or damage to the roof system = .01 per square foot per year.

11.2.3. Roof Coatings are sustainable and can be re-coated after the warranty period expires. Re-coating budget is \$2.00 - \$3.50 per square foot to receive a new Roof Coating Manufacturer 10 Year NDL Warranty.

12. Expected Roof Coating End of Life

12.1. A properly installed and maintained Elastomeric Silicone Roof Coating System can be sustained at the end of the warranty period by making any repairs needed and installing additional coating to receive a new Roof Coating Manufacturer 10 Year NDL Warranty. Based on local roof coating performance of greater than 30 years, the expected End of Life (EOL) of an Elastomeric Silicone Roof Coating System with recoats at a 10-15 year time frame is 30 years.