

COOL ROOF COATING OVER MODIFIED BITUMEN ROOF SYSTEM – (07 56 10)

1. All applicable parts of the General Roofing Specification (07 30 00) shall be included within this section.
2. Assessment of Cool Roof Acrylic Coating over modified Bitumen Roof Systems
 - 2.1. A Cool Roof Acrylic Coating over modified Bitumen shall be determined as failed when any of the following conditions exist:
 - 2.1.1. When the Cool Roof Acrylic Coating loses adhesion to the modified bitumen roof system or between applications of Cool Roof Acrylic Coating.
 - 2.1.2. When the Cool Roof Acrylic Coating cracks, peels, flakes or delaminates in any other way due to faulty product.
 - 2.1.3. When the Cool Roof Acrylic Coating loses reflectivity properties due to color fade caused by faulty product or other environmental factors, such as surface contaminants. Aged Solar Reflective Index readings below 80 shall be considered loss of reflectivity.
 - 2.1.4. When coating blisters are present on the majority of the modified bitumen roof system.
 - 2.2. Roof coating manufacturer shall submit the following documents to the Registrant Professional for review prior to having their Cool Roof Acrylic Coating being specified:
 - 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 D6083.
 - 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. Proof of current Energy Star Rating for the roof coating.
 - 2.2.5. Fire classification for the proposed coating comply with ASTM E108 per Underwriters Laboratories or another ASTM recognized fire testing facility.

- 2.2.6. A list of five (5) projects in Arizona where the proposed coating has been installed, including project name, project size, address, owner contact, and year applied.
 - 2.2.7. A letter from the Cool Roof Acrylic 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. The Cool Roof Acrylic Coating can be used on 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 Cool Roof Acrylic 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 Cool Roof Acrylic Coating system does not meet the criteria established to be acceptable to receive a new Cool Roof Coating, then the replacement or overlay of the existing roof system with a new roof system is required.
 - 4.2. If a Cool Roof Acrylic 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 constitutes a failed Cool Roof Acrylic Coating 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 removing the Cool Roof Acrylic Coating from the modified bitumen roof membrane other than to not damage the modified bitumen roof membrane.

6. Back of Parapet Wall Treatment

6.1. Cool Roof Coating shall be spray or roller applied to fully encapsulate any modified bitumen base or parapet wall flashing.

6.1.1. At locations where the modified bitumen membrane terminates less than the full height of the parapet wall, the back of the parapet wall shall be sealed with either a water repellent or waterproof product as directed by the SFB Professional Registrant.

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. Cool Roof Acrylic Coating shall be applied to any modified bitumen membrane applied to a high wall.

7.2. Areas where the Cool Roof Acrylic Coating over modified bitumen does not extend the full height of the high wall, the high wall shall be sealed with either a water repellent or waterproof material compatible with the substrate as designated by the Professional Registrant.

7.3. If the Coating System can be seen from the ground, custom matched color Elastomeric Acrylic 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 Acrylic 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 Cool Roof Acrylic Coating System

8.1. Biodegradable Cleaner.

8.1.1. Biodegradable cleaner should be used in areas that have accumulated dirt or other contaminants before installing the coating. Follow manufacturer application instructions.

8.2. Cool Roof Acrylic Coating

8.2.1. The Cool Roof Acrylic Roof Coating shall be Energy Star Rated and listed on the Cool Roof Rating Council website, www.coolroofs.org. The coating shall contain bleed block resin and meet ASTM D6083. Along with the following liquid and physical performance properties:

Elongation	250%	ASTM D2370
Tensile Strength	250 psi	ASTM D2370
Volume Solids	50%	ASTM D2697
Solar Reflective Index (Initial) >100		ASTM E1980
Solar Reflective Index (3 Year Aged) > 85		ASTM E1980
Adhesion Minimum 2.0 PLI		ASTM D903 or C794

8.2.2. No private label coating manufacturers allowed.

8.2.3. The Cool Roof Acrylic Coating shall not be considered part of the modified bitumen manufacturers' 20-year no dollar limit (NDL) material and labor warranty and the manufacturer of the modified bitumen roofing product must accept or approve the use of the Cool Roof Coating Product and that the Cool Roof Coating will not alter or void the modified bitumen product warranty in any way. A 10-year coating manufacturer product warranty may be requested Professional Registrant.

8.2.4. The Cool Roof Acrylic Roof Coating shall be spray or roller applied. If the coating is spray applied, the first coat shall also be back rolled, 25 dry mil coating thickness is required unless coating manufacturer or modified bitumen manufacturer requires greater dry mil thickness.

8.2.5. The Cool Roof Acrylic Coating Manufacturers' guide specification, product data sheets, safety data sheets and application instructions shall be considered part of this specification.

9. Closeout Documents

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

10. Preventive 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. Budget Cost Range

11.1. This part shall apply only to SFB budgeting and economic projections and analysis. Not to be used for anything else.

11.2. Budget Cost Range Cool Roof Acrylic Coating over Modified Bitumen

11.2.1. \$0.85 - \$1.25 per square foot

11.3. Budget Life Cycle Costs

11.3.1. \$0.01 per square foot per year to clear the roof coating of debris and repair minor nicks or damage to the roof coating.

11.3.2. Cleaning the roof coating by pressure washing will assist in maximizing the Solar Reflective Index of the coating, at a cost of \$0.10 per square foot per year as needed.

11.3.3. Cool Roof Acrylic Coatings are sustainable and can be recoated at the 10-year mark to provide additional reflectivity and UV protection for the modified bitumen membrane.

12. Expected Cool Roof Acrylic Coating End of Life

12.1. A properly installed and maintained Cool Roof Acrylic Coating can be sustained by making any repairs necessary and installing additional coating to receive an additional 10-year product warranty. Based on Cool Roof Acrylic Coating performance in Arizona, the service life of this coating with recoating every 10-13 years is 30+ years.