

TRUCO COATINGS

SILICONE SPECIFICATION FOR MODIFIED BITUMEN ROOFING

This specification provides a durable Silicone Coating System for restoring new and aged (3 years or older) smooth and granulated Modified Bitumen (MB) or Built-up (BUR) systems that are in structurally sound condition. It provides very effective waterproofing, sealing seams, fasteners and penetrations. The end product shall be a seamless, elastomeric system protecting the roof against leaks and degradation by the elements.

It provides a white, reflective finish coat that dramatically reduces roof temperatures. This keeps the building cooler and eliminates expansion and contraction related problems.

Note: As TRUCO's high reflectance systems have a significant cooling effect on roofing surfaces, the building envelope should be evaluated to ensure that the insulation and vapor barrier are adequate to prevent condensation development on interior surfaces.

Part 1. - GENERAL

1.01 DESCRIPTION

- A. Work included: The contractor will provide all labor, materials and tools as required to prepare and complete the installation with new materials as specified. All workmanship shall conform to the material manufacturer's recommendations and accepted industry standards.
- B. The installation to include sealing of roof joints with 9601 Silicone Seam Compound, including but not limited to seams, curbs, penetrations, drains and scuppers. All preparatory work will then be encapsulated with 9600 Silicone Roof Coating.

1.02 SUBSTRATE CONDITIONS

- A. The pre-existing roofing system must be intact with no material or structural defects. It must be adequately bonded to the substrate and the insulation must be free from moisture. If moisture is suspected, obtain a moisture content survey. Remove and replace moist and inadequately bonded insulation.
- B. All pre-existing roofing must have sufficient slope (at least ¼" to the foot) to eliminate ponding water.
- C. This specification does not apply to roofs that have been covered with gravel or coal tar substrates.
- D. The substrate must be free of splits, blisters, grease, oils and debris. It is not recommended that TRUCO products be applied over brittle or friable membranes.
- E. The TRUCO system is not intended for use on heavy traffic bearing substrates. If foot traffic is expected, a rooftop walkway system shall be used which is approved by TRUCO.

1.03 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Provide primary products, including TRUCO 9600 Silicone Roof Coating and 9601 Silicone Seam Compound, etc., by a single manufacturer. Provide secondary products only as recommended and approved by TRUCO Coatings.
- B. Contractor Qualifications: A single qualified contractor shall perform all work addressed in this section. On System Warranted projects, the contractor must be trained and certified by TRUCO Coatings.
- C. Adhesion Test: Prior to estimating coating restoration project, conduct an adhesion test in accordance with TRUCO adhesion testing procedures to determine if a primer or other specific surface preparation is required.

1.04 SUBMITTALS

- A. Submit Manufacturer's literature and samples to the Owner or Owner's Representative. Literature on the protective coating, seam compound, reinforcement mesh and other related products shall be submitted for review before work is started. Literature shall show material specifications, installation instructions, Manufacturer's estimated application rate for required dry film thickness per warranty requirements and SDS.
- B. Submit a sample copy of the Coating Manufacturer's warranty to meet project specification.

1.05 PRELIMINARY PROJECT REVIEW

- A. Immediately after contract award, contractor shall submit a complete and accurate Bid Report to the TRUCO Warranty Department for approval. This should include Pre-Inspection Warranty Form, a copy of the roof drawing and the following pictures with detailed descriptions:
 - 1. Distant shot of entire building.
 - 2. Roof height shot of overall project.
 - 3. Close-up of penetrations, scuppers and drains.
 - 4. Any unusual flashing or problem areas.

1.06 JOB CONDITIONS

- A. Proceed with roofing work only when existing and forecasted weather conditions will permit work to be performed in accordance with manufacturer's requirements as follows:
 - 1. Do not begin work if rain is expected within six hours of application.
 - 2. Do not begin work if surface temperature is above 130 degrees Fahrenheit or below 40 degrees Fahrenheit, or when the dew point is within 5 degrees Fahrenheit of the surface temperature.
 - 3. No moisture, dirt, oils or other contaminants can be present when applying products.
 - 4. Do not atomize coating when wind velocity is above 15 m.p.h.

1.07 FIELD QUALITY CONTROL

- A. The overall weather conditions, including roof surface temperature, ambient air temperature, relative humidity, dew point and wind velocity shall be recorded daily by the Contractor. This data shall be submitted to TRUCO Coatings with the system warranty information.
- B. Inspections: A minimum of two (Beginning and Final) inspections, by an approved manufacturer's representative, will be required on all projects requiring a System Warranty. The first shall be conducted at the beginning of the project after all surface preparation is completed and prior to the application of any TRUCO products. The Final inspection will be conducted at the end of the project, after all product applications are completed.
- C. Verification of Coating Thickness: The wet film thickness shall be measured and recorded daily, along with the quantity of product and total square feet applied. This data shall be submitted to TRUCO Coatings with the system warranty information.

1.08 WARRANTY

Provide TRUCO Product or System Warranty per the requirement of the Building Owner and/or Architect. In order to obtain any TRUCO System Warranty, the following conditions apply:

- A. Determination of the appropriateness of the TRUCO Roofing System for any given roof must be obtained from TRUCO's Warranty Department prior to offering any TRUCO System Warranty. TRUCO will refuse to offer a warranty on any TRUCO System being installed over an unfit, unsound or inappropriate substrate. A project approval letter must be received from TRUCO prior to beginning the project.
- B. The TRUCO Roofing System must be applied to the full area of the roof. A Warranty will not be issued for installations over a section of any roof unless otherwise approved in advance by the TRUCO Warranty Department.
- C. All gutters and roof areas which pond water for more than 48 hours after precipitation ceases are excluded from the coverage under the TRUCO Warranty.
- D. All required forms, applicable warranty fees and the completed Warranty Registration Form, signed by the Contractor and Building Owner, must be returned to the TRUCO Warranty Department no later than 30 days after the completion of the project.

- E. Inspections: A minimum of two (Beginning and Final) inspections, by an approved manufacturer's representative, will be required on all projects requiring a System Warranty. The first to be conducted at the beginning of the project, after all surface preparation is completed and prior to the application of any TRUCO products. The Final inspection will be conducted at the end of the project, after all product applications are completed.

1.09 PRODUCT HANDLING

- A. Deliver only approved materials to the job site. Deliver materials in original sealed containers with seals unbroken and labels legible and intact.
- B. Store and handle materials in a manner that shall ensure there is no possibility of contamination. Store in a dry, well-ventilated, weather-tight place, at temperatures between 50° F and 90° F. Do not stack material pallets more than two high. Do not subject existing roof to unnecessary loading of stockpiled materials. In all cases the storage and handling of materials shall conform to the requirements of the manufacturer and all applicable safety regulatory agencies.
- C. Any damaged materials, or materials not conforming to the specific requirements, shall be rejected by the owner. Rejected materials shall be immediately removed from the job site and replaced at no cost to the owner.

Part 2. – PRODUCTS

2.01 SILICONE ROOF COATINGS

- A. Silicone Roof Coating products physical specifications and minimal performance criteria shall be as follows:
 - 1. 9600 Silicone Roof Coating
 - Tack Free Time: 1 – 2 hours
 - Elongation: 250%
 - Tensile Strength: 325 PSI
 - Solids Content: 96% (by volume)
 - 2. 9601 Silicone Seam Compound
 - Tack Free Time: 1 – 2 hours
 - Elongation: 275%
 - Tensile Strength: 130 PSI
 - Solids Content: 95% (by volume)
 - 3. RPM Series Polyester Mesh
 - A. Stitchbonded polyester mesh for reinforcement of seams and penetrations. Provides high strength and good elongation, while conforming well to irregular surfaces.
 - Tensile Strength: 57.1 PSI (ASTM D1682)
 - Elongation: 61% (ASTM D1682)
 - Mullen Burst: 176 lbs. (ASTM D3786)
 - Trapezoid: 16 lbs. (ASTM D1117)
 - 4. 9602 Bleed Blocker
 - A. Acrylic-based flexible coating for use on asphaltic surfaces to prevent bleed and discoloration.
 - Drying Time: 2 – 4 hours
 - Coverage Rates: 100 sq. ft/gal
 - Specific Gravity: 1.03

2.01 MANUFACTURER

- A. The following roof coating manufacturers have been approved for the project. No substitutions by secondary, indirect manufacturers will be allowed.
 - 1. TRUCO Coatings
 - 26259 Hwy 6
 - Adel, IA 50003
 - (800) 456-8467

- B. Other manufacturers requesting approval must submit acceptable information certifying that they are the direct manufacturer from raw material into the specified product and meet the performance criteria required.

PART 3.0 - INSTALLATION

3.01 SURFACE PREPARATION

- A. Examine substrate to receive new roofing. Do not proceed with installation of the TRUCO Roofing System until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer (TRUCO Coatings).

- B. Applicator shall address the following:

- Test patches
- Treatment of Deteriorated/damaged MB/BUR
- Treatment of ponding water areas
- Thorough cleaning
- Miscellaneous items

- C. Test Patches: Test patches shall be prepared in representative areas to check adhesion and ensure that the level of bleed or discoloration from the asphaltic substrate is minimal. Apply TRUCO 9600 Silicone Roof Coating White at a rate of 1.5 gallons per 100 s.f. Surface should be allowed to cure for a minimum of 24 hours prior to evaluating. If bleed or discoloration is present, the surface must be primed with TRUCO 9602 Bleed Blocker. See section 3.03 "Priming".

- D. Treatment of Deteriorated/Damaged MB/BUR: Any areas that are buckled, blistered or torn must be repaired using similar materials. Wet insulation must be replaced. All fresh repairs made with MB or BUR products shall be primed with TRUCO 9602 Bleed Blocker to prevent bleed or discoloration.

All areas where the MB or BUR has significantly cracked or crazed (i.e., gaps in width and/or depth in excess of 1/16") must receive a substrate repair coat of 9600 Silicone Roof Coating to fill the cracks and bring the substrate to a smooth, workable surface. Heavy cracking may require multiple coats and must be reinforced with RPM Series Polyester Mesh. A minimum of 24 hours drying time should be allowed before applying other TRUCO products.

Note: Repair coat(s) of 9600 Silicone Roof Coating are in addition to the standard coat of 9600 specified in section 3.04 (Coating Application).

- E. Treatment of Ponding Water Areas: Contractor shall make every effort to mechanically eliminate all ponding water areas on the roof prior to application of products ("ponding water" is defined as water which does not properly drain and remains for more than 48 hours after precipitation stops).
- F. Thorough Cleaning: Use a broom, power blower or roof vacuum to remove dirt, roofing granules and debris. Heavy deposits of dirt or contamination may require additional cleaning or mechanical scrubbing with a stiff bristle broom or brush. Remove oils or grease from the substrate with hot water and mild detergent. If necessary, the roof surface can be power washed with an approximate working pressure of 800 PSI to remove dirt or loose materials. Care should be taken not to damage the roof surface or inject water into the substrate during washing. If algae or fungus are present, use bleach to treat these areas and thoroughly rinse surface with fresh water. Allow at least 48 hours for complete drying after rain, power washing or water-related cleaning methods.
- G. Air conditioning units, blowers and evaporative coolers shall be disconnected or otherwise modified to prevent contaminating the roof surfaces with water or condensation, and to prevent fumes from entering the building.

3.02 FLASHINGS AND PENETRATIONS

- A. Flash all roof penetrations, drains, scuppers and splits with 9601 Silicone Seam Compound, then embed RH SERIES Polyester Mesh (4" wide). Cover the RH SERIES mesh with a liberal second coat of 9601 Silicone Seam Compound.
- B. Seams: All seam areas that are not tightly bonded or in good condition shall be coated with TRUCO 9601 Silicone Seam Compound and reinforced with TRUCO RH SERIES Polyester Mesh. Apply 9601 Silicone Seam Compound at a coverage rate of 24 sf/gal. (A 5" wide pattern should yield 58 lft/gal @ 55 mils DFT). The above coverage rates are to be achieved in a two-coat application and are the minimum Dry Film Thickness (DFT) requirements under this specification.

1. The application of 9601 Silicone Seam Compound should be centered on the seam, overlapping an adequate distance on either side of the seam.
2. Embed RH SERIES Polyester Mesh (4" wide) into the seam area. Back-brush the polyester using a stiff bristle brush to prevent wrinkling or air pockets under the fabric. Allow seam area to cure a minimum of two hours. A liberal second coat of 9601 is then applied over the RH SERIES Polyester Mesh.
- C. Gutters: Apply 9601 Silicone Seam Compound and RH SERIES Polyester Mesh to all interior gutter seams. Gutter must be clean and dry before application.

3.03 PRIMING (For asphaltic surfaces that exhibit bleed or discoloration)

- A. Apply 9602 Bleed Blocker at a rate of 0.75-1.0 gallon per 100 sq.ft. Allow 9602 to dry thoroughly, a minimum of 6 hours, before applying coating system.

3.04 COATING APPLICATION

- A. Prior to the coating application, all preparation materials shall be allowed to dry sufficiently to prevent damage from spray hoses, foot traffic, etc.
- B. Immediately prior to each application of TRUCO Silicone Coatings, all dust, dirt or other contaminants shall be blown off the roof surfaces. Surface must be clean and dry prior to any coating applications.
- C. The color of the finish coat (The final or last coat to be applied) shall be white.
- D. The entire roof, including interior gutter surfaces, shall receive the following TRUCO Silicone Roof Coating System:

Use the following application rates when specifying a 10-Year Warranty

1. Apply 9600 Silicone Roof Coating at a minimum rate of 1.5 gallons (24 wet mils) per 100 sq. ft. Allow a minimum of 24 hours drying time prior to allowing foot traffic or inspection of the roof surface. Inspect for insufficient coverage, defects, flaws or holidays. The minimum dry film thickness shall be twenty-two (22) mils. (Recommended tip size = 635).

Use the following application rates when specifying a 15-Year Warranty

1. Apply 9600 Silicone Roof Coating at a minimum rate of 2.0 gallons (32 wet mils) per 100 sq. ft. Allow a minimum of 24 hours drying time prior to allowing foot traffic or inspection of the roof surface. Inspect for insufficient coverage, defects, flaws or holidays. Correct any unsatisfactory conditions. The minimum dry film thickness shall be twenty-nine (29) mils. (Recommended tip size = 635).

Use the following application rates when specifying a 20-Year Warranty

1. Apply 9600 Silicone Roof Coating at a minimum rate of 2.5 gallons (40 wet mils total) per 100 sq. ft. Allow a minimum of 24 hours drying time prior to allowing foot traffic or inspection of the roof surface. Inspect for insufficient coverage, defects, flaws or holidays. Correct any unsatisfactory conditions. The minimum dry film thickness shall be thirty-seven (37) mils. (Recommended tip size = 635).

3.06 CLEANUP

- A. Maintain work areas in a clean, safe condition at all times during coating installation. Remove excess materials, trash and debris from the jobsite daily.
- B. At the completion of the project, clean area of any spills and containers and clean up all roofing debris, leaving jobsite in a clean and orderly condition.