

### DESCRIPTION

Cool-Sil is a solvent-free, one-component and moisture-curing silicone rubber roof coating system. This coating application is designed for use on existing aged smooth surface BUR, granulated cap sheets and single-ply membranes. Cool-Sil provides excellent UV resistance, adhesion, and breathability, and has exceptional waterproofing properties. It is easily applied by roller, squeegee, or brush or spray.

### MATERIALS

The materials used in the Cool-Sil metal restoration system may include:

1. Coating: Cool-Sil HB (Roller Grade) Silicone Roof Coating or Cool-Sil SG (Spray Grade) Silicone Roof Coating
2. Primer: Rust-Go® Primer (for priming metal components only)
3. Sealant: All-Sil, Cool-Sil FG, Cool-Sil Skylight Sealer
4. Fabric Reinforcement: Grip Polyester™ Soft or UniBond ST™
5. Cleaning Solution: Simple Green Oxy Solve

### APPLICATION EQUIPMENT

1. 3/8" (10 mm) shed resistant nap roller
2. 1/4" (6.3 mm) notched squeegee
3. Wet mil gauge

### INSTALLATION

Installation of the Cool-Sil system is accomplished in the following steps: repair, preparation, priming (when required), and application. Prior to installation, ensure that adhesion testing was conducted in accordance with Garland adhesion testing procedures to verify a minimum adhesion strength of 2 pounds per linear inch (pli) for Cool-Sil to the application substrates. When calculating material requirements for a particular project, consideration must be given to overspray and applicator variance. Any of the Cool-Sil coatings may be used interchangeably as base or top coating layers.

See the Cool-Sil SG Spray Guide Application Guide for equipment requirements and spraying instruction.

#### Repair

1. All necessary field and flashing repairs must be done according to good construction practices, including replacement of all metal that is deemed unsalvageable or unsafe.
2. All panel fasteners must be checked and any loose fasteners must be tightened or, if necessary, replaced with oversized fasteners with neoprene washers. Missing fasteners must be replaced.
3. Stitch-fasten side or end lap metal panel gaps opening more than 1/8" wide.
4. Repair gaps, holes and joints in the metal roof with appropriate patching materials.
5. Completely remove existing seam coatings, mastics and sealants. All roof areas must promote positive drainage.
6. Ensure skylights, scuppers, gutters, penetrations and structures are firmly secured, watertight and in good working condition.
7. Where necessary, install water deflecting crickets behind rooftop mechanical units.

#### Preparation

1. Confirm local water run-off ordinances and restrictions prior to cleaning roof.
2. Carefully powerwash all roof surfaces with greater than 2,000 psi pressure to remove debris, rust, scale, dirt, dust, chalking, peeling, flaking coatings, etc. Do not force water into the roof system or damage roof surfaces.
3. Wearing personal protective clothing and equipment, remove algae, mildew or fungus with Garland D7 or Simple Green Oxy Solve. Rinse at least twice to be sure all cleaning agents or contaminants are completely removed to prevent adhesion issues.
4. Rust must be removed using the most rigorous method suitable for each particular job to ensure substrate is smooth and free of loose rust. Jet water blasting, sand blasting, grit blasting and/or power wire brushing is effective.
5. For optimal metal surface preparation to enhance coating adhesion, grit blasting is recommended.
6. Wipe galvanized metal surfaces clean with MEK prior to application.
7. If the roof surface becomes contaminated with dirt, dust or other contaminants at any time during the application of the Cool-Sil HS system, then cleaning measures must be taken to restore the surface to a suitable condition.
8. Ensure roof is dry prior to product application.

#### Priming

Immediately after cleaning, prime entire metal roof with Rust-Go Primer at 0.25 gal/100 sq. ft. (0.11 L/m<sup>2</sup>) to improve adhesion of Cool-Sil coating.

### Application of Cool-Sil Metal Restoration System

#### Fasteners

Create a watertight seal on all fastener heads by applying a heavy dab of All-Sil sealant.

#### Treatment of Metal Panel End Laps & Penetrations (Choose Method 1 or 2)

##### Method 1: Application of UniBond ST

1. Always begin with flashing seams and details.
2. Verify that the surface is clean and properly prepared.
3. Round corner edges of Unibond ST with scissors.
4. Remove the clear release liner from the back in workable sections.
5. Center 6" wide UniBond ST over the middle of lap. Use care to install the tape uniformly. Do not stretch or cause air pockets, wrinkles or fishmouths.
6. Apply pressure to tape starting at the center and work toward the outside edge with a steel roller to activate the bonding process.
7. Inspect the tape to ensure that it is properly installed. Verify edges are tightly fixed to the surface. If any discrepancies are present, repair them before the coating is applied.
8. Saturate the tape's polyester surface with Cool-Sil coating or Cool-Sil FG and allow to cure before applying field coating.

## Method 2: Application of 3-course Cool-Sil

1. Always begin with flashing seams and details.
2. Determine where the first run of 6 in. (150 mm) wide Grip Polyester Soft reinforcement will be started and verify the surface is clean. For other details requiring reinforcement (such as drains, penetrations or curbs), 12", 38" and 40" wide fabric reinforcement is available.
3. Position Grip Polyester Soft to roll out, apply coating at 3.0 gal/100 sq. ft. (1.22 L/m<sup>2</sup>) extending 4 in. (100 mm) on each side of lap to where the reinforcement is to be applied. Immediately roll reinforcement into the coating and completely saturate surface, ensuring full encapsulation of fabric without pinholes, voids, openings or vertical fibers.
4. Allow the product to cure before applying field coating.

## Treatment of Metal Panel Side Laps

On any uncrimped metal panel side laps, apply Cool-Sil 8 in. (200 mm) wide over the center of the lap.

## Metal Field Coating

1. Prior to field coating application, the local Garland Representative needs to complete an inspection of all treated seams and details.
2. Apply a base coating of Cool-Sil in a uniform manner at minimum application rate of 1.5 gal/100 sq. ft. (0.61 L/m<sup>2</sup>) over the entire roof surface, including all flashings. Allow to cure thoroughly, but no more than 72 hours.
3. Apply a top coating of Cool-Sil in a perpendicular direction over base coat at 1.0 gal/100 sq. ft. (0.41 L/m<sup>2</sup>).

## INSPECTION

Inspect entire roof area and touch up deficient areas with additional Cool-Sil as necessary to ensure complete and uniform coverage. Solvent wipe coating with acetone if it is exposed over 72 hours prior to overcoating. Special attention should be given to critical areas of roof, including roof penetrations, transitions, existing membrane seams, flashings and drains.

## LIMITATIONS

These are general guidelines for application of the Cool-Sil system. The material requirements may vary depending on the specific job requirements. If unusual conditions exist, contact your local Garland representative. Garland's fluid-applied elastomeric roofing systems must be applied to structurally sound substrates and properly prepared surfaces. All surfaces must be clean and dry before application of coatings. Garland's roofing systems must not be applied over wet insulation or roofing materials. Failure of the substrate does not constitute failure of the Garland fluid-applied membrane or system. Garland's systems are designed for use on roofs with positive drainage.

1. Cool-Sil is a moisture-cured roof coating. Consequently, Cool-Sil application must not be done when rain or other conditions such as fog or heavy dew are possible within a 12 hour period.
2. Roof surface must be at least 6°F (3°C) above the dew point and rising.
3. Surfaces must always be clean before application of product. Care must be taken to ensure that on-site manufacturing emissions or extended time intervals after original cleaning do not interfere with any stage of the coating applications. If either condition

occurs, then cleaning may be required again.

4. Drying time is affected by numerous factors, including temperature, direct sunlight, relative humidity, air movement, thickness, etc. Coating skin time is 2 hours and overcoat time is 4 hours at 77°F (25°C) and 50% relative humidity. Higher temperature and/or humidity will result in reduced skin and overcoat times, lower temperature and/or humidity may extend skin and overcoat times.
5. Thinning of coating materials is not permitted.
6. Adequate coating thickness is essential to performance. A controllable area should be measured and the specified material applied. The minimum coverage rate must be achieved throughout the entire fluid-applied roofing assembly and can be verified using a wet mil gauge during application. Multiple coats may be necessary on verticals to prevent sagging.
7. Solvent wipe coating with acetone if it is exposed over 72 hours prior to overcoating.
8. If a new single-ply membrane is used for repairs, it must be solvent-wiped with acetone prior to coating.
9. Deviations from these application guidelines and specific material requirements may seriously affect the fluid-applied roofing system performance and are strictly prohibited.
10. Applicator must comply with all applicable local, state and federal regulations if lead-based paint or other hazardous materials are encountered.
11. Roofing is hazardous work and fluid-applied membranes are very slippery when wet. Comply with fall protection rules and regulations.

## COLD WEATHER RESTRICTIONS

Do not attempt application if ice, snow, moisture or dew is present. Restrict application when overnight temperature drops below 40°F (4.4°C). Ambient temperature must be 50°F (10°C) and rising through the day. Cooler temperatures will negatively impact the properties of the system. Contact your Garland representative for proper cold weather applications.

## HOT WEATHER RESTRICTIONS

Do not attempt application if moisture or dew is present. Ambient temperature must be less than 95°F (35°C). Contact your Garland representative for proper hot weather application.

## STORAGE

Cool-Sil on the job site should be stored in a shaded, ventilated area under a light-colored, breathable reflective tarp. Do not store in direct sunlight. Storage temperature must range from 60 to 80°F (15°C to 26°C). Indoor ventilated storage is recommended when ambient temperature is below 60°F (15°C) or above 80°F (26°C).

For more information, visit us at: [www.garlandco.com](http://www.garlandco.com)

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