

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, single-ply membrane and metal roofs. Cool-Sil provides excellent UV resistance, adhesion, and breathability, and has exceptional waterproofing properties. It is easily applied by roller, squeegee, or brush.

MATERIALS

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

1. Coating: Cool-Sil HB (Roller Grade) Silicone Roof Coating
2. Primer: Cool-Sil Single Primer (required for TPO or PVC), Rust-Go® Primer (for priming metal components only)
3. Sealant: All-Sil, Cool-Sil FG, Cool-Sil Skylight Sealer
4. Fabric Reinforcement: Grip Polyester™ Firm or UniBond ST™
5. Cleaning Solution: Garland D7™ or Simple Green Oxy Solve
6. Walkways: Cool-Sil Yellow Walkway Coating and Cool-Sil Yellow Walkway Granules

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 applicable substrates. When calculating material requirements for a particular project, consideration must be given to overspray and applicator variance.

Repair

1. All necessary field and flashing repairs must be done according to good construction practices, including the removal of all wet insulation and defective materials as identified through a moisture detection survey such as an infrared scan and replacement with like-materials.
2. All single-ply seams must be checked and any loose seams must be resealed, or if necessary, replaced with new single-ply materials.
3. Wrinkled single-ply membrane areas must be cut out and replaced to ensure a smooth substrate.
4. Repair any single-ply membrane that has shrunk and is tenting at walls.
5. Repairs should be made with cured single-ply membrane.
6. Remove any walkway pads and make necessary repairs with new single-ply membrane.

7. All roof areas must promote positive drainage.

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. If the roof surface becomes contaminated with dirt, dust or other contaminants at any time during the application of the Cool-Sil system, then cleaning measures must be taken to restore the surface to a suitable condition.
5. Ensure roof is dry prior to product application.

Application of Non-Reinforced Single-Ply Application

A. Single-Ply Membrane field/flashing seams and details coating:

1. Apply Cool-Sil at 2.0 gal/sq. ft. or Cool-Sil FG at 1/4 in. thick, 8 in. wide over all seams. Always begin with flashing seams and details before proceeding to field application. The minimum application rate should be 2.0 gal/100 sq. ft. (0.82 L/m²).
2. Allow the product to cure thoroughly before applying field coating layers, as described in section B.

NOTE: Fabric reinforcement is required in areas that hold water, around drains, on loose/damaged seams or over existing membrane repairs. Recommended over originally fully adhered single-ply seams. Choose fabric reinforcement Method 1 or 2 indicated in the Partially Reinforced System below.

Application of Partially Reinforced Single-Ply System

Single-Ply Field/Flashing Side Laps, End Laps and Details (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. For other details requiring reinforcement such as drains, penetrations and curbs.
6. Do not stretch or cause air pockets, wrinkles or fishmouths.
7. Apply pressure to tape starting at the center and work toward the outside edge with a steel roller to activate the bonding process.
8. 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.

9. Saturate the tape's polyester surface with Cool-Sil coating 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 Firm 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 Firm to roll out, apply coating at 3.0 gal/100 sq. ft. (1.22 L/m²) 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.

B. Single-Ply 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 a minimum application rate of 1.5 gal/100 sq. ft. (0.61 L/m²) over the entire roof surface, including all flashings. Use a 1/4" notched squeegee to spread coating and roller-apply for uniform minimum coverage. Allow to cure thoroughly, but for 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/m²).

Application of Non-Skid Surface for Walkways

1. Apply Cool-Sil at 1.0 gal/100 sq. ft. (0.41 L/m²) to clean and dry topcoat within 72 hours of its application.
2. Broadcast dry roofing granules or 20-40 mesh silica sand at 30 lbs./sq. ft. into wet coating and immediately back-roll to set.

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 or 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 or MEK 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

The Garland Company, Inc.
Toll Free: 800-321-9336

Garland Canada Inc.
Toll Free: 800-387-5991

The Garland Company UK, LTD
Toll Free: 0800 328 5560

Cool-Sil is a trademarks of The Garland Company, Inc., Garland Canada Inc. and The Garland Company UK, LTD.