Gaco™

Application Specification:

RC-S2100-30-15
Revised: 06/2021

DIVISION 07 01 50.61:
GACOFLEX™ S2100 ELASTOMERIC SILICONE COATING
FOR RECOATING ELASTOMERIC ROOF COATING SYSTEMS

PART 1 – GENERAL

1.1 SUMMARY

A. This specification provides a remedial coating system for application over pre-existing elastomeric coating system over a roofing substrate. The use is restricted to circumstances where the membrane surface is in sound condition but requires a renewal of the membrane surface due to the normal effect of aging and use.

When properly applied, the GacoFlex S2100 Silicone Coating System provides a weathertight seal that protects the substrate from degradation caused by (UV), ultra violet light, water and other normal weathering hazards. The deck should have at least a Slope of Rise = 0.25 in (6.4 mm) to Run = 1 ft (0.3 m) to promote positive drainage.

B. The GacoFlex S2100 Elastomeric Silicone Roof Coating discussed in this specification has a moderate rate of water vapor transmission and is not recommended for use on cold storage or cryogenic structures that may have constant high-water vapor drive causing long-term accumulation of moisture in the roofing system that serves as a substrate for the GacoFlex S2100 Elastomeric Silicone Roof Coating.

C. This specification is intended only as a guide for the development of a project specification. The suitability of this specification for a particular project must be determined by a qualified representative of the owner

CONDITIONS TO CHECK AND CORRECTIONS TO CONSIDER ARE:

- With proper surface preparation, including the use of primer, most existing elastomeric coating systems can be recoated.
- The type of pre-existing coating system must be identified before proceeding.
- The existing coated roofing system must be fully adhered or mechanically attached and intact.
- Existing foam roofs with extensive delamination or blistering of the foam or the coating system, or with major areas of wet, saturated foam, etc., will require total removal and replacement.
- The structural decking must be sound.

D. Elements of this specification may require modification in order to clearly delineate project requirements. Sections that are not pertinent may be deleted.

E. Adhesion tests are strongly recommended prior to bidding. A Coating Applicator that is licensed by the product manufacturer should perform wet and dry adhesion tests as instructed in GacoFlex General Instructions GW-1-3 Adhesion Testing Procedures using the products listed in Section 2.2.

1.2 RELATED SECTIONS

A. Cast-In-Place Concrete:	Division 03 30 00	**F. Vapor /Air Barriers:**	Division 07 25 00
B. Flashing/Sheet Metal:	Division 07 60 00	**G. Board Insulation:**	Division 07 22 00
C. Roof Accessories:	Division 07 72 00	**H. Skylights:**	Division 08 60 00
D. Rough Carpentry/Wood Blocking:	Division 06 10 00	**I. Metal Decking:**	Division 05 30 00
E. Drains, Vents and Penetrations:	Division 22 14 26.13		

1.3 SUBMITTALS

A. **PRODUCT DATA:**
Submit manufacturer's standard submittal package including specification, installation instructions and general information for each waterproofing material.

B. **APPLICATOR QUALIFICATIONS:**
Submit current Letter of Good Standing from the specified waterproofing manufacturer.

C. **SUBSTRATE CONDITIONS:**

1. Applicator to present to owner a completed inspection report verifying substrate condition and any noted defects not specifically addressed in regard to the installation of the coating.

2. Surface shall be free from loose dirt, stone, debris, moisture, and shall be in stable condition. Any work on the area to receive this application shall be completed prior to the installation of the coating.

3. Applicator shall complete a substrate inspection prior to the start of the installation of the coating. The architect/owner and Applicator shall accept the substrate. Start of the work constitutes acceptance.

1.4 QUALIFICATION

A. Primary waterproofing materials shall be the products of a single manufacturer. Secondary materials shall be recommended by the primary manufacturer. The manufacturer shall have a minimum of ten (10) years' experience in the manufacture of materials of this type.

B. Applicators shall have a minimum of five (5) years' experience in the application of waterproofing materials of the type specified. The Applicator shall possess a current Letter of Good Standing from the specified waterproofing manufacturer.

C. **PRE-BID CONFERENCE:**
Ten (10) working days prior to the bid opening there is to be a mandatory Pre-Bid Conference. Those not attending the Pre-Bid Conference will not be allowed to bid the project. All products considered an equal to the specified product or any changes in the scope of work, installation, or specifications must be presented at the Pre-Bid Conference. If a change in the specifications is accepted, it will be considered as an alternate and will be presented as a bid addendum issued five (5) working days prior to the bid opening. No other changes to the specification or bid documents will be accepted.

D. Materials other than those specified shall be submitted to the architect/owner for approval no later than ten (10) days prior to the bid date. In requesting prior approval, it shall be necessary to submit:

1. A letter of certification, signed by an officer of the manufacturer, stating that the alternate material is equal to or better than the specified product.

2. Independent laboratory test data giving physical property values in comparison to the specified material.

E. **PRE-INSTALLATION CONFERENCE:** Just prior to the commencement of the installation, meet at the job-site with a representative of the coating manufacturer, Applicator, general contractor, architect, and other parties affected by this section. Review the methods and procedures, substrate conditions, scheduling, and safety.

1.5 DELIVERY, STORAGE AND HANDLING

A. Owner/owner's representative shall reject damaged or non-conforming materials. Rejected materials must be removed immediately from the job site.

B. Store the coating materials as recommended by the manufacturer and conforming to applicable safety regulatory agencies: town or city, state, and federal. Refer to all applicable data including, but not limited to: Safety Data Sheets, Product Data Sheets, product labels, and specific instructions for personal protection.

C. Provide adequate ventilation, protection from hazardous fumes, and overspray potential to workers and associated trades in close proximity of the site application.

1.6 **WARRANTY**

A. Manufacturer warrants that the material supplied will meet or exceed physical properties as published. The Applicator guarantees that workmanship will be free of defects in coating application. Since performance of previously applied coatings is beyond the control of Manufacturer and Applicator, requests for additional warranty coverage shall be subject to prior approval by Manufacturer.

B. **A FIFTEEN (15) YEAR MATERIAL AND LABOR WARRANTY MUST BE SUPPLIED BY PRODUCT MANUFACTURER**.

C. **PROTECTION OF BUILDING AND OCCUPANTS:**

1. All surfaces not to receive the coating specified shall be protected from overspray hazard, e.g., windows, doors, exterior surfaces and facades, parking lots, and vehicles. Protective coverings shall be secured against wind and shall be vented if used in conjunction with applications preventing collection and moisture.
2. Applicator to post signs noting potential overspray hazard within 400 ft (122 m) of applications.
3. All air intake ventilation equipment shall be turned off to prevent fumes from entering building.
4. Surfaces damaged during application shall be restored at no expense to the owner.
5. No smoking signs to be posted as mandated by local fire officials.

D. **SUBSTRATE:**
Proceed with work as specified only after substrate construction, preparation, and detail work has been completed.

E. **EQUIPMENT:**
All equipment used during operations shall be located so as not to adversely affect the daily operations or endanger occupants, structure, or materials on-site. All spray equipment must be grounded during operations**.**

PART 2 - PRODUCTS

2.1 MANUFACTURERS
Acceptable Manufacturers:
Gaco, www.gaco.com

2.2 MATERIALS

A. **CLEANER:**
GacoFlex GacoWash Concentrated Cleaner

B. **PRIMER:**
GacoPrime LVOC Primer *(GacoFlex E5320 Primer is a suitable alternative over appropriate substrates)*

C. **FLASHING:**
i. GacoFlex 66S Reinforcing Polyester Mesh
or
ii. GacoFlex SF2000 SeamSeal
or
iii. GacoPatch Silicone Roof Sealant

D. **SILICONE COATING:**
GacoFlex S2100 Elastomeric Silicone Coating having the following physical properties:

GacoFlex S2100 | Elastomeric Silicone Coating		
PROPERTY	***VALUE***	***TEST METHOD***
TENSILE STRENGTH	365 psi (2.5 MPa)	ASTM D412
ELONGATION AT BREAK (0 °F (-18 °C))	175 %	ASTM D412
SOLIDS	96.5 % by weight 95 % by volume	ASTM D1644 ASTM D2697
VOC	37 g / L (0.081 lb / gal)	EPA Method 24
REFLECTANCE (INITIAL)	0.88	C1549

PART 3 - EXECUTION

3.1. EXAMINATION

A. A nuclear or infrared scan must be performed, and any wet roofing materials must be removed and replaced.

B. Repairs to the structural components of the roof should be complete.

C. Verify that drains, vents, ducts, gutters, metal cap flashing, or other penetrations have been replaced or modified as needed.

3.2 PREPARATION

NOTE: IT IS EXTREMELY IMPORTANT FOR THE ROOF TO BE CLEAN AND DRY.

NOTE: For previously coated asphalt substrates, or for any substrate on which the existing coating shows excessive wear, voids, or bare spots, please contact Technical Services for surface preparation requirements.

A. First remove heavy deposits of dirt, leaves and other debris from the roof using a stiff broom or air broom, then inspect the entire roof surface and flashings for any open seams, tears, cuts, etc. Repair these defects using “like” materials recommended by the coating manufacturer so water does not enter the coated roofing system during the cleaning process. Pressure wash roof with water and allow to dry completely.

B. After the roof is dry from initial cleaning, apply GacoWash Concentrated Cleaner according to label instructions with sprayer of choice, using a 3 - 4 ft (0.9 - 1.2 m) arc pattern. A Hudson-type agricultural sprayer, conventional pressure sprayer or airless sprayer is recommended. Allow solution to stand for 10-15 minutes, adding a light mist of water to prevent drying. While it sets, lightly agitate any heavily soiled areas with a broom or brush. Do not allow dirt to settle in low areas. Use a commercial power washer >3,000 psi (21 MPa) to remove debris and continue rinsing until all suds are gone. Start at the highest point of the roof and work towards the lowest point. For low-sloped roofs, work away from and then back towards, roof drains. It is important to keep the surface wet until all of the GacoWash and other residue has been completely rinsed off and the surface is clean. After cleaning and rinsing the roof, ensure no dirt or debris is present.

C. **BIOLOGICAL CONTROL:**
Areas of algae, mildew or fungus on the roof membrane or the existing coating should be treated with a solution of 1-part household bleach and 3-parts water, followed by a power washer rinse using clear water.

D. **DRYING**:
Allow surfaces to thoroughly dry to prevent blistering of the GacoFlex S2100 Elastomeric Silicone Roof Coating. Examine roof, paying particular attention to areas of physical damage to determine that residual water has in fact dried before applying the GacoFlex S2100 Elastomeric Silicone Roof Coating.

NOTE: Drying time depends on weather conditions such as temperature, humidity and air movement. The above drying times assume good weather (70 °F / 21 °C daytime temperature) and no rain. Conditions of lower temperature and rain will require a longer period for drying.

3.3 INSTALLATION

A. **TECHNICAL ADVICE:**
The installation of this system shall be accomplished in the presence or with the advice of the manufacturer’s technical representative. Contact Technical Services for assistance.

B. **REPAIRS:**

1. Areas of delaminated, warped, bowed or saturated insulation must be removed down to the structural decking, replaced with compatible materials and appropriately attached.

2. In areas where the coated substrate has been damaged (such as polyurethane foam with an abraded or ground surface or where loose coating has been removed), spot prime with one (1) coat of GacoPrime LVOC Primer by brush or spray to the surface.

3. Remove defective pitch pan filler, metal flashing sealants or termination caulking and replace appropriately.

NOTE: All repaired areas must be primed with GacoPrime LVOC Primer prior to the installation of the GacoFlex S2100 Elastomeric Silicone Roof Coating system.

C. **PRIMER:**

i. **COVERAGE RATE:** Approximately 200 - 250 ft² / gal (18 - 23 m² / 3.8 L). Avoid puddling of primer on the surface. Target Wet Film Thickness (WFT) is 12 - 15 mils.

1. **BRUSH:** Use solvent resistant brush and apply.
2. **ROLLER:** Apply GacoPrime LVOC Primer with a solvent resistant short nap roller (standard 3/8 in (10 mm) nap recommended)
3. **SPRAY:** Do not thin. Use pressure pot or airless sprayer to apply primer Avoid puddling of primer on surface when spraying. This is a very low viscosity fluid, so a small tip size is recommended.

CURING TIME: Allow appropriate amount of cure time before applying base / top coats (approximately 2 hours depending on ambient temperature). The primer will dry to a slightly tacky film. Test the primer film by pressing firmly with a finger and removing. Properly dried film will be well bonded to the substrate. If the film is removed from the substrate allow further drying time.

D. **AT FLASHINGS, CRACKS, PENETRATIONS, AND TERMINATIONS USE ONE OF THE FOLLOWING:**

1. Apply GacoFlex S2100 Elastomeric Silicone Coating by brush or roller at a minimum width of 6 in (16 cm) centered on the seam at minimum rate of 1.5 gal / 100 ft^2 (5.7 L / 9.25 m^2) to obtain a Wet Film Thickness (WFT) of 24 mils (approx. 200 LF / gal (61 LM / 3.8 L). Immediately embed a 4 in (100 mm) strip GacoFlex 66S Reinforcing Polyester Mesh into the wet coating until the Polyester Mesh is completely saturated. The Polyester Mesh must be smoothly applied without wrinkles, "fish mouths," blisters, or pin holes. Once the Coating with embedded Polyester Mesh is firm to the touch, apply another coat of GacoFlex S2100 Elastomeric Silicone Coating at a minimum rate of 1.5 gal / 100 ft² (5.75 L / 9.3 m^2) to completely encapsulate the Polyester Mesh. Allow to cure for a minimum of twenty-four (24) hours (longer in overcast or low humidity conditions) before applying GacoFlex S2100 Elastomeric Silicone Coating top coat.

2. Apply GacoFlex SF2000 SeamSeal applied at a minimum of 4 in (102 mm) wide, crested and centered at the seam, with a minimum thickness at the center of 64 wet mils (approx. 70 LF / gal (23 LM / 3.8 L)). Allow to cure for a minimum of four (4) hours (longer in overcast or low humidity conditions) before applying a top coat of GacoFlex S2100 Silicone Roof Coating.

3. Apply GacoPatch Silicone Roof Sealant at a minimum of 4 in (102 mm) wide, crested and centered at the seam, with a minimum thickness at the center of 64 wet mils (approx. 70 LF / gal (23 LM / 3.8 L)). Allow to cure for a minimum of (4) hours (longer in overcast or low humidity conditions) before applying a top coat of GacoFlex S2100 Elastomeric Silicone Roof Coating.

E. **HVAC / ELECTRICAL:**
Existing HVAC Units and other equipment on curbs with a membrane flashing: The membrane flashing must be coated up to the bottom of the metal cap of the unit and sealed underneath with a 100% silicone sealant. Curbs must be a minimum of 8 in (210 mm) above the roofing membrane.

F. **SLEEPERS:**
Any units that are sitting on sleepers must be lifted so that the membrane underneath the units can be cleaned, primed and coated. An approved slip sheet must be placed under the sleepers to protect the coating. If the units are not lifted off the deck so as to be able to accomplish this procedure, the untreated area will be excluded from the manufacturer's warranty.

G. **SILICONE COATING:**
Apply one (1) coat of GacoFlex S2100 Elastomeric Silicone Coating at the average rate of 2.0 gal / 100 ft^2 (7.6 L / 9.25 m^2) to obtain 32 mil Wet Film Thickness (WFT) / 30 mil Dry Film Thickness (DFT). Coat all surfaces including expansion joint covers and flashings. At all edges and penetrations, an extra pass must be applied.

1. **OPTIONAL GRANULAR COAT:**
An additional granular coat may be added. Apply one coat of GacoFlex S2100 Elastomeric Silicone Coating at a minimum rate of 0.5 gal / 100 ft^2 (1.9 L / 9.25 m^2). Immediately broadcast white roofing granules into the wet coating at the rate of 30 lbs / 100 ft^2 (13.6 kg / 9.25 m^2).

2. **OPTIONAL WALKPAD**:
Apply one coat of GacoFlex SF2036 WalkPad at a rate of 4 gal / 100 ft^2 (15.2 L / 9.25 m^2) to obtain 64 mil WFT. Immediately broadcast GacoWalkPad safety yellow granules into wet coating at a rate of 0.5 lbs / 100 ft^2 (0.23 kg / 9. 25 m²) for improved traction.

CAUTION: WHILE THE USE OF GRANULES WILL IMPROVE TRACTION, CAUTION SHOULD STILL BE EXERCISED WHEN WALKING ON THE ROOF SURFACE, ESPECIALLY IN WET CONDITIONS.

NOTE: Tape off WalkPad area using duct tape. Remove duct tape while coating is still wet.

NOTE: GacoFlex WalkPad SF4236 is the only walk pad system approved for use with GacoFlex S2100 Elastomeric Silicone Roof Coating systems. However, SF4236 WalkPad should not be used on coated SBS membranes.

3.4 FIELD QUALITY CONTROL

A. Any variations from the specified limits found by the Applicator or owner's representative shall be corrected by the Applicator.

B. **MINIMUM DRY FILM THICKNESS (DFT) REQUIREMENT:**
Gaco recommends adding a 10 % variance factor to meet the minimum Dry Film Thickness (DFT) mil requirement to qualify as a warrantable application. It is the Applicator's responsibility to calculate the amount of coating needed to obtain the minimum Dry Film Thickness (DFT) mil thickness.

C. No traffic shall be permitted on the coated surface for a minimum of three (3) days. Damage to the surface by other trades shall not be the responsibility of the Applicator.