GacoFlex™

Application Specification:

MR-S42-34-20
Revised: 10/2025

DIVISION 07 01 50.61:
GACOFLEX™ S42 SERIES ELASTOMERIC SILICONE ROOF COATING FOR RESTORING AGED METAL ROOFING SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. This specification provides a remedial roof coating for application over existing weathered metal roofing systems of all profiles. Application is restricted to circumstances in which the metal panel substrate is in sound condition but requires a rejuvenation of the overall finish to prolong the useful life of the metal roofing system.

When properly applied in conjunction with seam restoration and fastener replacement, the GacoFlex S42 Series Elastomeric Silicone Roof Coating provides a weathertight seal that protects the substrate from degradation caused by ultraviolet light (UV), water, and other normal weathering hazards. The metal panels must be free of deflection and should have a slope ratio of 2:12 or greater to promote positive drainage.

Suitable metal surfaces to receive a GacoFlex S42 Series Elastomeric Silicone Roof Coating include steel (aged at least one year or treated galvanized steel), anodized aluminum, and pre-finished metal (other than siliconized and fluorocarbon finishes). The GacoFlex S42 Series Elastomeric Silicone Roof Coating is intended to renew an existing finish or add improved reflectivity to bare metal.

B. The GacoFlex S42 Series 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 accumulations of moisture.

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:

- The type of existing metal panel roofing system must be identified.
- The existing metal panels must be fully secured and intact.
- Structural elements must be sound.

D. Adhesion tests are strongly recommended prior to bidding with special attention to determine if a primer is necessary in consideration of the existing substrate type and present material condition of area indented for Gaco coating application. 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 below.

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 QUALIFICATIONS

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**:
Prior to the commencement of the installation, meet at the jobsite 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 TWENTY (20) YEAR MATERIAL AND LABOR WARRANTY MUST BE SUPPLIED BY THE 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 – Manufactured by Amrize Building Envelope LLC.
Other brands manufactured by Amrize Building Envelope LLC as noted.

2.2 MATERIALS

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

B. SACRIFICIAL TAPE:
ScotchBlue™ Original Painter's Tape or equivalent (as needed)

C. PRIMER:
GacoPrime LVOC Primer *(as needed)*
ALTERNATE: GacoFlex E5320 Primer over appropriate substrates

D. RUST AND SUBSTRATE PRIMER:
GacoFlex Acrylic Metal Rust Primer *(as needed)*

E. FLASHING (SEAMS & LAPS):
1.) GacoFlex 66S Reinforcing Polyester Mesh Tape
2.) GacoPatch Silicone Roof Sealant
3.) GacoFlex UF9022 – GacoMastic™
4.) GacoFlex H.E.R.

F. FLASHING (EXPOSED FASTENERS):
1.) GacoPatch Silicone Roof Sealant
2.) GacoFlex UF9022 – GacoMastic™
3.) GacoFlex H.E.R.

G. COATING: GacoFlex S42 Series Elastomeric Silicone Roof Coating having the following physical properties:

GacoFlex S42 Series | Elastomeric Silicone Roof Coating		
PROPERTY	***VALUE***	***TEST METHOD***
TENSILE STRENGTH	450 psi (3.1 MPa)	ASTM D412
ELONGATION AT BREAK (0 °F (-18 °C))	169 %	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. Metal panels must be structurally sound and securely fastened. Severe oxidation may render some panels unsuitable to serve as a proper substrate for the coating and should be replaced as needed.

B. Verify that substrate is ready to receive work; surface is clean, dry, and free of substances that could affect bond.

C. Verify that all other work involved with this area, done under other sections, has been completed and accepted by the architect, general contractor, or owner prior to starting the waterproofing application.

3.2 PREPARATION

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

A. Inspect metal fasteners and retighten where possible. Where fasteners are stripped out, missing, corroded, or neoprene grommets are deteriorated, replace with oversize screws. Inspect horizontal and vertical seams, panel end laps, and tension bars/straps. Where necessary, remove fasteners to separate the panels, remove existing sealant, add new butyl caulk, and re-secure with new fasteners to create a water-tight compression seal.

B. Remove heavy deposits of dirt, leaves and other debris from the roof using a stiff broom. Then 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 or an existing coating should be treated with a solution of 1-part household bleach to 3-parts water, followed by a power wash rinse using clean water.

D. **DRYING:** Allow surfaces to dry thoroughly. Examine the roof, paying particular attention to areas of physical damage or previous repairs to determine that residual water has in fact dried before applying GacoFlex S42 Series 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.

E. Structurally sound metal panels with moderate to extensive oxidation should be cleaned and/or lightly abraded to remove loose surface rust and treated with a rust-inhibiting primer to help prevent corrosion from spreading.

3.3 INSTALLATION

A. **TECHNICAL ADVICE:** The installation of this coating shall be accomplished with the advice of, the manufacturer's technical representative. Contact Technical Services for assistance.

B. **PRIMER:**

i. **COVERAGE RATE - GACOPRIME LVOC PRIMER:** If adhesion testing indicates the need for a primer, apply GacoPrime LVOC Primer at an approximate rate of 200 - 250 ft² / gal (18 - 23 m² / 3.8 L).

Avoid puddling of primer on the surface. Target Wet Film Thickness (WFT) is 6 - 8 mils. Apply through one of the following methods:

1. **BRUSH:** Use solvent resistant brush and apply.
2. **ROLLER:** Apply GacoPrime 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.

ii. **COVERAGE RATE - GACOFLEX E5320 PRIMER:** If adhesion testing indicates the need for a primer, Apply one coat at the rate of 1 gal / 300 ft² (3.78 L / 27.8 m²) for a DFT of 2-3 mils.
mils.

1. **BRUSH:** Use solvent resistant brush and apply.
2. **ROLLER:** Apply GacoFlex E5320 primer with a solvent resistant short nap roller (standard 3/8 in (10 mm) nap recommended).
3. **SPRAY:** Use pressure pot or airless sprayer to apply primer Avoid puddling of primer on surface when spraying.

Iii **COVERAGE RATE - GACOFLEX ACRYLIC METAL RUST PRIMER:**
For areas of rust or corrosion, apply one coat at the rate of 1.0 gal / 200 ft² (1.89 L / 18.6 m²) for a DFT of 2.7-2.9 mils.

iv. **CURING TIME – GACOPRIME LVOC PRIMER:** Allow appropriate amount of cure time before applying base / topcoats (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 for further drying time.

v. **CURING TIME – GACOFLEX E5320 PRIMER:** Allow appropriate amount of cure time before applying base / topcoats (approximately 6 hours minimum depending on ambient temperature). Dry time is dependent upon temperature and humidity. Apply GacoFlex topcoat within 72 hours.

vi. **CURING TIME – GACOFLEX ACRYLIC METAL RUST PRIMER:** Allow appropriate amount of cure time before applying base / topcoats (approximately 6 hours minimum depending on ambient temperature). Dry time is dependent upon temperature and humidity. Apply GacoFlex topcoat within 72 hours.

C. **AT ALL FLASHING SEAMS, CORNERS, AND VERTICAL/SIDE LAPS – CHOOSE ONE OF THE FOLLOWING:**

1. Apply GacoFlex S42 Series Elastomeric Silicone Roof 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 / 9.3 m^2) to obtain a Wet Film Thickness (WFT) of 24 mils (approx. 200 LF / gal (61 LM / 3.8L). 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 S42 Series 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).

2. 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 (21 LM / 3.8 L). Allow to cure for a minimum of 4 hours (longer in overcast or low humidity conditions).

3. Apply GacoFlex UF9022 – GacoMastic at the approximate rate of 70 LF / gal and 3 in (76 mm) wide, crested and centered at the seam. Achieve an average minimum WFT of 64 mils when measured at

center at all areas to receive flashing. Allow to dry a minimum of forty (40) hours at 75 °F (24 °C) and 55 % R.H. to achieve full cure. Low humidity and low temperature will result in longer cure times.

4. Apply GacoFlex H.E.R. Sealant at the approximate rate of 70 LF / gal and 3 in (76 mm) wide, crested and centered at the seam. Achieve an average minimum WFT of 64 mils when measured at center at all areas to receive flashing. Allow to dry a minimum of twelve (12) to twenty-four (24) hours at 75 °F (23.9 °C) and 45 % R.H. Weather-related conditions such as frost, dew, mist, condensation, humidity, and temperature must be taken into consideration prior to coating. Temperature should be above 40 °F (4.45 °C) more than 5 °F (2.8 °C) above the dew point and rising, for best application results.

   NOTE: Refer to manufacturer's product instructions and/or data sheet for important information regarding drying times and other important factors to consider regarding application.

D. **AT HORIZONTAL SEAMS/END LAPS – CHOOSE ONE OF THE FOLLOWING:**

1. Apply GacoFlex S42 Series Elastomeric Silicone Roof 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 / 9.3 m^2) to obtain a Wet Film Thickness (WFT) of 24 mils (approx. 200 LF / gal (61 LM / 3.8L). 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 S42 Series Elastomeric Silicone Coating at a minimum rate of 1.5 gal / 100 ft^2 (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).

2. Apply sacrificial tape ScotchBlue™ ORIGINAL Painter's Tape (or equivalent) as required. 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 (21 LM / 3.8 L). Allow to cure for a minimum of four (4) hours (longer in overcast or low humidity conditions).

3. Apply GacoFlex UF9022 – GacoMastic at the approximate rate of 70 LF / gal and 3 in (76 mm) wide, crested and centered at the seam. Achieve an average minimum WFT of 64 mils when measured at center at all areas to receive flashing. Allow to dry a minimum of forty (40) hours at 75 °F (24 °C) and 55 % R.H. to achieve full cure. Low humidity and low temperature will result in longer cure time.

4. Apply GacoFlex H.E.R. Sealant at the approximate rate of 70 LF / gal and 3 in (76 mm) wide, crested and centered at the seam. Achieve an average minimum WFT of 64 mils when measured at center at all areas to receive flashing. Allow to dry a minimum of twelve (12) to twenty-four (24) hours at 75 °F (23.9 °C) and 45 % R.H. Weather-related conditions such as frost, dew, mist, condensation, humidity, and temperature must be taken into consideration prior to coating. Temperature should be above 40 °F (4.45 °C) more than 5 °F (2.8 °C) above the dew point and rising, for best application results.

   NOTE: Refer to manufacturer's product instructions and/or data sheet for important information regarding drying times and other important factors to consider regarding application.

E. **FLASHING (EXPOSED FASTENERS) – CHOOSE ONE OF THE FOLLOWING:**

NOTE: For all methods, cure/drying time can be concurrent with "Section 3.3.C" & "Section 3.3.D" when applied is started at the same time.

1. Apply GacoPatch as received to all exposed fasteners. Ensure complete encapsulation of each exposed fastener and eliminate any voids/air pockets between flashing product, fasteners, and surrounding substrate components.). Allow to cure for a minimum of four (4) hours (longer in overcast or low humidity conditions).

2. Apply GacoFlex UF9022 – GacoMastic as received to all exposed fasteners. Ensure complete encapsulation of each exposed fastener and eliminate any voids/air pockets between flashing product, fasteners, and surrounding substrate components. Allow to dry a minimum of forty (40) hours at 75 °F (24 °C) and 55 % R.H. to achieve full cure. Low humidity and low temperature will result in longer cure time.

3. Apply GacoFlex H.E.R. Sealant as received to all exposed fasteners. Ensure complete encapsulation of each exposed fastener and eliminate any voids/air pockets between flashing product, fasteners,

and surrounding substrate components. Allow to cure for a minimum of four (4) hours. Allow to dry a minimum of twelve (12) to twenty-four (24) hours at 75 °F (23.9 °C) and 45 % R.H. Weather related conditions such as frost, dew, mist, condensation, humidity, and temperature must be taken into consideration prior to coating. Temperature should be above 40 °F (4.45 °C) more than 5 °F (2.8 °C) above the dew point and rising, for best application results.

NOTE: Refer to manufacturer's product instructions and/or data sheet for important information regarding drying times and other important factors to consider regarding application.

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 S42 Series Elastomeric Silicone Roof Coating at the average rate of 2.25 gal / 100 ft² (4.7 L / 9.3 m²) to obtain 36 mil Wet Film Thickness (WFT) / 34 mil Dry Film Thickness (DFT). Coat all surfaces including expansion joint covers and flashings. At all edges, penetrations, and standing seams or other vertical corrugations, an extra pass must be applied.

OPTIONAL GRANULAR COAT: An additional granular coat may be added. Apply one coat of GacoFlex S42 Series Elastomeric Silicone Roof Coating at a minimum rate of 0.5 gal / 100 ft^2 (1.9 L / 9.3 m^2). Immediately broadcast white roofing granules into the wet coating at the rate of 30 lbs. / 100 ft^2 (13.6 kg / 9.3 m^2).

CAUTION: While the use of granules will improve traction, caution should still be exercised when walking on the coated roofing system, especially in wet conditions.

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):**
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.