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# GACO WESTERN

## *Application Specification:*

MR-32

February 2007  
Supersedes 05/01

### SECTION: 07120 GACOFLEX 32 MIL POLYURETHANE AND SILICONE ELASTOMERIC COATING SYSTEM OVER METAL ROOFS

#### PART 1 - GENERAL

##### 1.1 SUMMARY

The GacoFlex elastomeric coating systems in this specification have moderate rate of water vapor transmission and are not recommended for use on cold storage or cryogenic structures. Such structures may have constant high water vapor drive causing long-term accumulation of moisture in the insulation. Consult Gaco Western for vapor retardant systems to use on refrigerated structures.

- A. Two Component Aromatic Polyurethane: Base coats include UB-64 series and UB-8380. These types of coatings offer the toughest and most durable base coats available. As base coats they offer excellent impact and abrasion resistance.
- B. GacoSil S-10 silicone coating is specified as a top coat over the GacoFlex UB-64 or UB-8380.

This specification is intended only as a guide for the development of a project specification. A qualified representative of the owner must determine the suitability of this specification for a particular project.

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

##### 1.2 RELATED SECTIONS

- A. Flashing/Sheet Metal: Section 07600
- B. Roof Accessories: Section 07800
- C. Drains, vents, penetrations Section 07700
- D. Vapor barriers/air barriers: Section 07190
- E. Skylights: Section 05300

##### 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 "Qualified Applicator" certificates from the specified waterproofing manufacturer.
- C. Substrate Conditions:
  - 1. Manufacturer's representative to present to owner a completed inspection from verifying substrate condition and any noted defects not specifically addressed regarding this installation.

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2. Surface shall be free from loose dirt, stone, debris, and moisture and shall be in stable condition. Any work on the area to receive this application shall be completed prior to installation.
3. Loose paint, powdery or friable rust and scale shall be removed by power brushing to provide a sound, tight surface. Soft asphalt, and/or bitumastics and silicone caulking shall be completely removed.
4. Applicator shall complete a substrate inspection prior to start of roofing. The architect/owner and applicator shall accept the surface. Start of the work constitutes acceptance.

#### **1.4 QUALIFICATIONS**

- A. Primary waterproofing materials shall be products of a single manufacturer. The primary manufacturer shall recommend secondary materials. Manufacturer shall have a minimum of 10 years experience in the manufacture of materials of this type.
- B. Applicators shall have a minimum of 5 years experience in the application of waterproofing materials of the type specified. Applicator shall possess a current "Qualified Applicator" certificate from the specified waterproofing manufacturer.
- C. Pre Bid Conference: 10 working days prior to bid opening there is to be a mandatory Pre-Bid Conference. Anyone 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 of installation or specifications must be presented at the Pre-Bid Conference. If a change in the specification is accepted, it will be considered as an alternate and will be presented as a bid amendment issued 5 working days prior to the bid opening. No other changes to the specification or bid documents will be accepted.
- D. Pre-Installation Conference: Just prior to commencement of the fluid application waterproofing system, meet at the site with a representative of the coating manufacturer, the waterproofing contractor, the general contractor, the architect and other parties affected by this section. Review methods and procedures, substrate conditions, scheduling and safety.

#### **1.5 DELIVERY, STORAGE AND HANDLING**

- A. Deliver all materials in sufficient quantities as not to cause delays in application of the roofing system. Owner/owner's representative shall reject damaged materials not conforming. Rejected materials shall be removed immediately from the job site and replaced at no additional cost to the owner.
- B. Store materials as recommended by manufacturer and conforming to applicable safety regulatory agencies: Town, state, and federal. Refer to all applicable data including but not limited to MSDS sheets, Product Data sheets, and 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 site applications.

#### **1.6 ENVIRONMENTAL REQUIREMENTS**

Proceed with work of this section only when existing and forecasted weather conditions will permit the application to be performed in accordance with the manufacturer's recommendations.

#### **1.7 WARRANTY**

A warranty is available for commercial projects only. Contractor must be eligible for, and make application to, Gaco Western, prior to the start of work under this section.

### **PART 2 – PRODUCTS**

#### **2.1 MANUFACTURERS**

Acceptable Manufacturers:  
Gaco Western

**2.2 MATERIALS**

- A. Cleaner: GacoFlex D-09.
- B. Primer: Prime metal surfaces with GacoFlex E-5320 two component epoxy primer.
- C. Elastomeric Seam Coat and Base Coating:  
GacoFlex Two Component Aromatic Urethane Base Coats UB-64 series and UB-8380.
- D. Elastomeric Coating:  
Gaco Western GacoSil S-10 series using contrasting colors and having the following physical properties:

<u>Property</u>	<u>Value</u>	<u>Test Method</u>	<b>Change in % after exposure Emmaqua, ASTM G90-94 401 DAYS @ 86°F (30°C)</b>
Tensile Strength	480 psi	ASTM D-412-68	0%
Elongation	210%	ASTM D-412-68	-9%
Tear Resistance	40 pli	ASTM D-624	30%
Hardness	50 Shore A	ASTM D-676	0%
Water Vapor Permeability	6.2 perms Procedure B at 0.5 mm (20 mils) thickness ± 10% Minimum permeance requirement is 2.5 U.S. perms	ASTM E-96	
Volume Solids	69% ± 1%	Calculated	
Reflectance	0.89	ASTM C-1549 S-1000 White	
Emittance	0.89	ASTM C-1371 S-1000 White	

**Note:** GacoSil S-1000 white meets ENERGY STAR® reflectance performance requirements for both low and high-sloped roofs and is approved by the Cool Roof Rating Council (CRRC).

- E. Other Materials Required: Gaco Western shall approve all other materials.

**2.3 PERFORMANCE QUALIFICATIONS**

This entire system including all accessories shall be a seamless and waterproof roofing system designed for the intended use. It shall not be adversely affected by normal weathering for exposure to occasional foot traffic required for maintenance of roof-mounted equipment. The service temperatures of this system shall range from -40°F to 200°F (-40°C to 93°C). The manufacturer to meet the following minimum physical properties shall test it.

**PART 3 – EXECUTION**

**3.1 EXAMINATION**

- A. Verify that substrate is ready to receive work; surface is clean, dry and free of substances that could affect bond.
- B. Cleaning of the roof should be accomplished by using power vacuum equipment, power sweepers, air blowers, power washers or other suitable means.
- C. All associated construction (i.e. drain installation, edge flashing, penetrations and mechanical apparatus) shall be completed prior to commencement of specified roofing system.
- D. Verify that all other work involved with this area, done under other sections, has been completed and accepted by the architect and general contractor prior to starting the waterproofing application.

### 3.2 PREPARATION

A. Cleaning: Clean with GacoFlex D-09 etching detergent according to the manufacturer's directions, follow with thorough rinsing and allow to dry completely before priming.

1. For general cleaning, apply etching detergent with sprayer of choice, Hudson type agricultural sprayer, Conventional pressure sprayer, or airless sprayer. Use 3 to 4 foot (.91 to 1.22 m) arc pattern. Allow D-09, etching detergent to stand for 5 minutes. Clean with commercial powerwasher, >2000 psi (13.79 MPa).

**CAUTION:** Protect eyes from contact with cleaning solution by wearing goggles when mixing or using this product. If cleaner is applied by spray equipment, wear an alkaline mist canister respirator.

B. Substrate Condition: Loose paint, powdery or friable rust and scale must be completely removed by power brushing to provide a sound, tight surface. Soft asphalt, and/or bitumastics and silicone caulking shall be completely removed.

C. Inspect Fasteners: Tighten and/or replace all loose metal deck fasteners.

**NOTE:** Care must be taken to insure that the substrate is structurally sound and is properly prepared. The owner and/or contractor must correct any defect in the condition of the substrate existing prior to the coating; otherwise these defects may adversely affect the condition of the coating over time, necessitating maintenance and/or repair.

### 3.3 INSTALLATION

A. Technical Advice: The installation of this roofing system shall be accomplished in the presence of, or with the advice of the manufacturer's technical representative. Contact the nearest regional office for assistance.

B. Primer/Sealer: Appropriate primers are as follows:

1. Metal: E-5320 applied at the rate of one gallon per 250 square feet (3.78 L / 23.2 m<sup>2</sup>).
2. Copper: E-5320 applied at the rate of one gallon per 250 square feet (3.78 L / 23.2 m<sup>2</sup>).

NOTE: Appropriate primer shall be as specified and/or at direction of the manufacturer's representative.

C. Seams and Fasteners: Apply seam coating to all seams and fasteners at the rate of 20 mils (.51 mm). Allow to dry, and then inspect seams. Where seams show openings, re-spray with seam coating or seal off with a single component urethane caulk.

D. Base Coating: Apply one coat of Gaco Western's \_\_\_\_\_ to achieve a nominal, film thickness of 20 dry mils (.51 mm), 18 mils (.45 mm) minimum. Double coat flashing and edge termination: Refer to the product label for application instructions.

1. Base coat shall be allowed to cure a minimum of 1 hour before proceeding with topcoat application.
2. Base coat shall be second coated or top coated within 48 hours. If application is delayed beyond that time, consult Gaco Western for primer recommendations.

E. Top Coating: Apply a topcoat of Gaco Western's S-10 series to achieve a nominal film thickness of 12 dry mils (.30 mm), 11 mils (.28 mm) minimum. The coverage rate shall be no less than 1.25 gallon(s) per 100 square feet (4.73 L / 9.3m<sup>2</sup>).

### 3.4 FIELD QUALITY CONTROL

The thickness of the coating shall average 32 mils (.81 mm).