

Application Specification:

GW-15-U91
May 2016
Supersedes 4/16

DIVISION 07 18 13: GACOFLEX SINGLE COMPONENT URETHANE ELASTOMERIC COATING SYSTEM FOR APPLICATION ON CONCRETE DECKS

PART 1 - GENERAL

1.1 SUMMARY

- A. This section describes the requirements for installing a liquid applied vehicular traffic bearing membrane.

1.2 RELATED SECTIONS

- A. Cast-In-Place Concrete: Division 03 30 00
- B. Flashing and Sheet Metal: Division 07 60 00
- C. 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 "Qualified Applicator" Certificate from the specified waterproofing manufacturer.

1.4 QUALIFICATIONS

- A. Single Manufacturer: Primary waterproofing materials shall be products of a single manufacturer. The primary manufacturer shall recommend secondary materials. The primary 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 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 amendment issued 5 working days prior to the bid opening. No other changes to 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 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 alternative material is equal to or
2. Independent laboratory test data giving physical property values in comparison to the specified material.

E. Pre-Installation Conference: Just prior to commencement of the fluid application waterproofing system, meet at the site with a representative of the coating manufacturer, waterproofing contractor, general contractor, architect and other parties affected by this section. Review the application methods and procedures, substrate conditions, scheduling and safety.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Store all coating materials in the original unopened containers at 50° to 80°F (10° to 27°C) till coating is ready for use.
- B. Follow the special handling or storage requirements of the manufacturer for cold weather, hot weather, etc.
- C. Safety: Refer to all applicable data, including, but not limited to MSDS, PDS, product labels, specific instructions for specific personal protection requirements.
- D. Ventilation: Provide adequate ventilation to prevent the accumulation of hazardous fumes during application.
- E. 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.

1.6 JOB CONDITIONS:

- A. Safety: Refer to all applicable data, including, but not limited to MSDS, PDS, product labels and specific instructions for specific personal protection requirements.
- B. Ventilation: Provide adequate ventilation to prevent the accumulation of hazardous fumes during application.
- C. Weather: Proceed with the 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 LLC, prior to the start of the work under this section.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

Acceptable Manufacturers:
Gaco Western, www.gaco.com

2.2 MATERIALS

A. Sealer: GacoFlex U-5677 Polyurethane Concrete Sealer.

Alternative Sealer: For areas vulnerable to high vapor drive seal with GacoFlex E-5990 100% Solids Two-Component Epoxy Sealer.

B. Primer: GacoFlex E-5320 Two-Component Epoxy Concrete Primer.

C. Polyurethane Base Coating: GacoFlex U91 Single Component Moisture Curing Coating.

- D. Polyurethane Top Coating: GacoFlex U91 Single Component Moisture Curing Coating.
- E. Flashing and Joint Reinforcing Fabric: Gaco Western 66B and GacoFlex NF-621 Neoprene Sheet Flashing and related materials as required for flashing drains, base angles, etc.
- F. Granule: GacoShell Granule, a hard (90 Rockwell Scale) non-crushable, non-extractable organic granule with a specific gravity of 1.3 Size 12/ 20 unless otherwise specified.
- G. Misc. Accessories: All items incorporated into this system shall be compatible with and approved by the coating manufacturer.

Note: Allow additional material for rough or irregular surfaces. Consult Gaco Technical Service for further inquiries.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify substrate is ready to receive work; surface is clean, dry and free of substances that could affect bond.
- C. Do not begin the work until the concrete substrate has cured 28 days and/or has achieved a moisture content of no greater than 6.8%.
- D. Prior to the application of the waterproofing perform a calcium chloride test to verify moisture emittance is less than 3 lbs per 1000 sq. ft. in 24 hours.
- E. Verify that the concrete meets the requirements of the coating manufacturer. Refer to Gaco Western's General Instruction GW-2-1 for complete information on the installation and finishing of concrete.
- F. Verify with architect, general contractor and manufacture that substrate conditions are acceptable to receive waterproofing application.
- G. Contractor will accept substrate prior to the application of coatings.

3.2 PREPARATION

- A. Clean substrate to remove all surface contaminants. Refer to Gaco Western's General Instructions GW-1-1, Surface Preparation.
- B. Mask off all adjoining areas that are not to receive the fluid applied waterproofing.
- C. Provide a suitable workstation to mix the coating materials.

3.3 INSTALLATION

- A. Technical Advice: The installation of this waterproofing membrane 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. Concrete Sealer: Seal entire deck surface and all vertical or sloping surfaces of curbs, cants, parapets, etc., to receive coatings with one coat GacoFlex U-5677 Sealer at a rate of one gallon per 300 square feet (1.5 dry mils). Allow a minimum of 4 hours but no more than 8 hours maximum prior to applying primer coat. All applications of U-5677 Sealer are to be top coated with either GacoFlex E-5320 Primer by sunset the same day.

NOTE: High-humidity areas accelerate the rate of cure of GacoFlex U-5677 Sealer and can cause poor intercoat adhesion if left without a top coat. After 24 hours intercoat adhesion can be poor.

Alternative Concrete Sealer: For areas vulnerable to a high vapor drive seal with GacoFlex E-5990 100% Solids Two-Component Epoxy Sealer. Use a squeegee to uniformly apply product over coverage area at a rate of one gallon per 200 square feet (8 dry mils). Any excess product should be back rolled over entire area to ensure even application. Do not apply product if substrate is below 50°F or above 110°F.

- C. Concrete Primer: Apply one coat of GacoFlex E-5320 Primer by roller at the rate of one gallon per 200 square feet (7 dry mils). Allow 3 to 24 hours drying time. For maximum solvent resistance, see drying time directed in Gaco Western's General Instructions GW-2-2, Priming. Drying times vary depending on weather conditions such as temperature, humidity and air movement.
- D. Metal Primer: Apply one coat of GacoFlex E-5320 Primer by roller at the rate of one gallon per 250 square feet (3.78 L / 23.2 m²). Allow 3 to 24 hours drying time.
- E. Taping: Apply GacoFlex U91 Polyurethane base coat by brush or roller in a five to six inch (12.73 cm to 15.24 cm) wide stripe coat centered over all joints, cracks and changes of plane to be taped. While this coat is still tacky, unroll GacoFlex 66B Tape into the coating and apply a top coat of GacoFlex U91 Polyurethane over the GacoFlex 66B Tape smoothing out wrinkles and fishmouths.

NOTE: Allow curing a minimum of 1½ hour before proceeding to next step. On plywood substrates, taping application will require approximately 1/2 gallon per 100 square feet of GacoFlex U91 Polyurethane coating.

- F. Polyurethane Base Coat: Apply one coat of GacoFlex U91 Polyurethane base coat at a rate of 1.25 gallons per 100 sq. ft (16 dry mils) to all areas to receive fluid applied waterproofing, including areas previously caulked, flashed or fabric reinforced. **NOTE:** Allow the base coat to cure completely (24 hours at 75°F and 50% RH).

- G. Polyurethane / GacoShell Wear Course: Apply one coat GacoFlex U91 Polyurethane to ramp and turn areas at a rate of 1 gallon per 100 sq. ft. (3.78 L / 9.3 m²) (16 mils wet, 12 dry mils). While the coating is still wet, broadcast GacoShell granule size 12/20 at 30 to 50% coverage, approximately 4 to 6 pounds per 100 sq. ft. (1.8-2.7 kg / 9.3 m²).

Apply a second coat of GacoFlex U91 Polyurethane to the entire deck surface including the ramp and turn areas at a rate of 1 gallon per 100 sq. ft. (3.78 L / 9.3 m²). While the coating is still wet, broadcast GacoShell granule size 12/20 into all areas EXCEPT THE RAMP AND TURN AREAS at 30 to 50% coverage, approximately 3 to 5 pounds per 100 sq. ft. (1.4-2.3 kg / 9.3 m²). Allow the wear course to cure for at least 8 hours, but no more than 72 hours before applying the finish coat.

NOTE: An additional top coat may be required in order to fully encapsulate granule when GacoShell coverage rate exceeds recommendations.

- H. *Alternate Wear Course:* Apply one coat GacoFlex U91 Polyurethane to all areas at a rate of 1 gallon per 100 sq. ft. (3.78 L / 9.3 m²) (16 mils wet, 12 dry mils). While the coating is still wet, broadcast GacoShell granule size 12/20 at 30 to 50% coverage, approximately 3 to 5 pounds per 100 sq. ft. (1.4-2.3 kg / 9.3 m²). Allow to cure for at least 8 hours but no more than 72 hours.

Apply one additional coat of GacoFlex U91 Polyurethane Series TO RAMP AND TURN AREAS at a rate of 1 gallon per 100 sq. ft. (3.78 L / 9.3 m²) (16 mils wet, 12 dry mils) and immediately broadcast 12/20 size GacoShell granule at 30 to 50% coverage, approximately 3 to 5 pounds per 100 sq. ft. (1.4-2.3 kg / 9.3 m²) into the wet coating. Allow the additional wear course to cure for at least 8 hours, but no more than 72 hours before applying the finish coat.

- I. Finish Coat: Apply one coat of GacoFlex U91 Polyurethane by roller in a coat of the desired color over the granule at the minimum rate of 1 gallon per 100 square feet. The GacoShell granule must be totally encapsulated by this finish coat. (12.8 dry mils).

NOTE: Allow 48 hours before deck is put into use. In cool temperatures, a longer curing time may be required.

3.4 FIELD QUALITY CONTROL

- A. The contractor shall maintain a quality control program specifically to verify compliance with this specification. A daily log shall be kept to record progress in the field.
- B. Inspections: A minimum of three (Substrate, Application and Final) Inspections, by an approved manufacturer's representative, will be required on all projects requiring a warranty.
- C. Thickness: Minimum over all dry film thickness of the completed fluid applied waterproofing, excluding GacoShell, Concrete with U-5677 (50 dry mils) or E-5990 (56.5 dry mils).