

**DIVISION 07 18 13:  
GACOFLEX SINGLE-COMPONENT POLYURETHANE ELASTOMERIC COATING  
SYSTEM FOR APPLICATION ON PLYWOOD AND CONCRETE DECKS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. This section describes the requirements for installing a liquid-applied polyurethane waterproofing and wear surface for deck surfaces over occupied spaces that are subjected to limited residential or commercial foot traffic, patio furniture, and similar equipment. This specification is not intended for use over on-grade concrete surfaces without the use of a moisture mitigating sealer.

**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.
- C. Americans with Disabilities Act (ADA) Recommendations: Prior to installation, submit manufacturer's data indicating that the specified waterproofing application conforms to the provisions of the ADA Accessibility Guidelines as published by the US Access Board, 1331 F Street, NW, Suite 1000, Washington, DC 20004-1111.

**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: Ten 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 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 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.
- F. The static coefficient shall exceed the minimum recommendations of the American Disability Act (ADA), for accessible routes, for wet and dry surfaces, and for leather and rubber heel materials.

### **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 SDS, 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 prior to the start of the work under this section.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

Acceptable Manufacturers:  
Gaco Western, [www.gaco.com](http://www.gaco.com)

## 2.2 MATERIALS

- A. Sealer: GacoFlex E5691 Three-Component Epoxy Primer Sealer.  
  
*Alternative Sealer:* For areas vulnerable to high vapor drive seal with GacoFlex E5990 100% Solids Two-Component Epoxy Sealer.
- B. Primer: GacoFlex E5320 Two-Component Epoxy Primer (only if alternative GacoFlex E5990 Sealer is used).
- C. Urethane Base Coating: GacoFlex U91 Single Component Moisture Curing Coating.
- D. Urethane 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 18/40 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.
- B. Verify that the plywood shall conform to U.S. DOC PS 1 or CSA 0325 and shall carry the grade trademark of the Engineered Wood Association - APA AB EXT or APA AC EXT are acceptable. Underlayment grade plywood (APA AC EXT Underlayment) with solid, plugged cross bands under the face veneer is recommended for commercial installations. Refer to Gaco Western's General Instruction GW-2-3 for complete information on the installation and fastening of plywood.

**Unacceptable Grades:** APA C-D EXT, APA C-C EXT, Exposure 1 markings, oriented strand board (OSB), waferboard and Lauan or Mahogany plywood are **NOT** suitable substrates for liquid-applied coating systems. This is due to poor dimensional stability, weak glue lines which allow buckling or lifting of the top ply, and excessive splintered, leafed and raised surface grain.

- 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. Where applicable, 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 manufacturer 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 E5691 Primer Sealer at a rate of one gallon per 200 square feet (3.78 L / 18.6 m<sup>2</sup>). Allow to dry until nearly tack free where water has evaporated leaving a clear film before proceeding to next coat. Recoat window is approximately 2 hours (depending on temperature and humidity) to 28 days. No additional primer is necessary when sealing with GacoFlex E5691 Primer Sealer.

*Alternative Concrete Sealer:* For areas vulnerable to a high vapor drive seal with GacoFlex E5990 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: Only if alternative Gacoflex E5990 Sealer is used, apply one coat of GacoFlex E5320 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 E5320 Primer by roller at the rate of one gallon per 250 square feet (3.78 L / 23.2 m<sup>2</sup>). Allow 3 to 24 hours drying time.

**NOTE:** No primer required on new, clean and dry plywood.

- E. Taping: Apply GacoFlex U91 Urethane 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 Urethane 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 Urethane coating.

- F. Urethane Base Coat: Apply one coat of GacoFlex U91 Urethane base coat at a rate of 1 gallon per 100 sq. ft (12.8 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. Intermediate Coat and Texture: Apply one coat of GacoFlex U91 Urethane base coat at a rate of 1 gallon per 100 sq. ft (12.8 dry mils). Once coating is tacky, broadcast GacoShell 18/40 granule at approximately 4 to 6 pounds per 100 sq. ft. Refer to Gaco Western Instruction Guidelines for approximate time to broadcast Gacoshell Granules.

**NOTE:** Coat and sprinkle small areas at a time, taking care not to overlap coating and granule at edges. When texture coat is cured enough to walk on, lightly sweep away loose GacoShell granule. If GacoShell gets wet from rain allow 2 days of drying weather before proceeding with finish coat.

**NOTE:** Allow the Intermediate coat to cure completely (24 hours at 75°F and 50% RH).

H. Finish Coat: Apply one coat of GacoFlex U91 Urethane by roller in a coat of the desired color over the granule at the minimum rate of 0.75 gallon per 100 square feet. The GacoShell granule must be totally encapsulated by this finish coat. (9.6 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 E5691 (43 dry mils), E- 5990 (50 mils) and Plywood (35 dry mils).