

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

PART 1 - GENERAL

1.1 SUMMARY

This section describes the requirements for installing a liquid applied waterproofing wear surface for deck surfaces over occupied space. Its intended use is suitable for residential and commercial foot traffic, patio furniture and similar equipment. This specification is not intended for use over on grade concrete.

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 manufacturers 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 St. 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: 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.
- F. The static coefficient shall exceed the minimum recommendations of the American Disability Act (ADA), for accessible routs, 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 SDS, 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, prior to the start of the work under this section.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

Acceptable Manufacturers:

Gaco: www.gaco.com

2.2 MATERIALS

- A. Sealer: GacoFlex E-5691 Three-component Epoxy Primer Sealer.
Alternative Sealer: For areas vulnerable high vapor drive seal with GacoFlex E-5990 100% Solids Two-Component Epoxy Sealer.
- B. Primer: GacoFlex E-5320 Two-Component Epoxy Primer (only when alternative E-5990 Sealer is used).
- C. Polyurethane Base Coating: GacoFlex UB-64 Polyurethane Series Two-Component Coating.
- D. Polyurethane Top Coating: GacoFlex U-66 Polyurethane Series Two-Component Coating.
- E. Flashing and Joint Reinforcing Fabric: Gaco 66B and 66S Polyester Reinforcing Tape. 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 add 3% - 5% for material loss during application.



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. Product Standard PS 1-95 and shall carry the grade trademark of the The Engineered Wood Association - APA 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 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. Prior to application of waterproofing perform calcium chloride test, to verify a moisture content of 6.8% or less has been established.
- E. Verify that the concrete meets the requirements of the coating manufacturer. Refer to Gaco 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.

3.2 PREPARATION

- A. Clean substrate to remove all surface contaminants. Refer to Gaco 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.

NOTE: For ICC requirements follow procedure 3.4.

- 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 E-5691 Primer Sealer at a rate of one gallon per 200 ft² (3.78 L / 18.6 m²). 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 E-5691 Primer Sealer.

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 150 ft² for CSP 3 190 ft² for CSP 2. Any excess product should be back rolled over entire area to ensure even application. Do not apply product if substrate is below 50 °F (10 °C) or above 110 °F (43 °C).

- C. Concrete Primer: Only if alternative GacoFlex E-5990 Sealer is used, apply one coat of GacoFlex E-5320 Primer by roller at the rate of one gallon per 200 ft² (3.78 L / 23.2 m²). Allow 3 to 24 hours drying time. For maximum solvent resistance, see drying time directed in Gaco 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 ft² (3.78 L / 23.2 m²). Allow 3 to 24 hours drying time. For maximum solvent resistance, see drying time directed in Gaco General Instructions GW-2-2. Drying times vary depending on weather conditions such as temperature, humidity and air movement.

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



- E. Taping: Apply GacoFlex UB-64 Polyurethane Series base coat or U-66 Polyurethane by brush or roller in a 5" to 6" (127 mm to 152 mm) 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 Polyurethane over the GacoFlex 66B Tape smoothing out wrinkles and fishmouths.

NOTE: Allow to cure a minimum of 1½ hours before proceeding to next step. On plywood substrates, taping application will require approximately ⅓ to ½ gallon of polyurethane coating per 100 ft² (1.25 to 1.89 L / 9.3 m²).

- F. Polyurethane Base Coat: Apply one coat of GacoFlex UB-64 Polyurethane base coat or U-66 Polyurethane Series at a rate of 1½ gallons per 100 ft² (5.68 L per 9.3 m²), (18 mils wet.) to all areas to receive fluid applied waterproofing, including areas previously caulked, flashed or fabric reinforced.

NOTE: Allow the base coat to cure completely: 8 hours minimum at 70 °F (21 °C).

- G. Troweling Mix: Prepare one unit of trowel mix by thoroughly blending two gallons (7.57 L) of GacoFlex U-66 Polyurethane with 1.25 gallons (4.73 L) (7.5 lb (3.4 kg)) GacoShell granule 18/40. Apply one unit of troweling mix per 133 ft² (12.4 m²) Allow to dry a minimum of 24 hours before walking on surface. In poor drying conditions, more time may be required.

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

3.4 ICC ESR-1284 INSTALLATION

- A. Polyurethane Base Coat: Apply one coat of GacoFlex UB-64 Polyurethane Series at a rate of 1½ gallon per 100 ft² (5.68 L per 9.3 m²), (18 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; 8 hours minimum at 70 °F (21 °C).

- B. Troweling Mix: Prepare one unit of trowel mix by thoroughly blending 2 gallons (7.57 L) of GacoFlex UB-64 Polyurethane base coat with 1.25 gallons (4.73 L) GacoShell granule 18/40, 7.5 lb (3.4 kg). Apply one unit of troweling mix per 133 ft² (12.4 m²). Allow to dry a minimum of 24 hours before walking on surface. In poor drying conditions, more time will be required. (16 dry with Gaco Shell 24 dry mil)

- C. Topcoat: Apply two coat of GacoFlex U-66 Polyurethane Coating at an application rate of ½ gallon per 100 ft² (1.89 L / 9.3 m²) to achieving a minimum dry film thickness of 6 mils.

3.5 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 will average 34 mils. Thickness including GacoShell will average approximately 43 mils.

