

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

PART 1 - GENERAL

1.1 SUMMARY

This section describes the requirements for installing a liquid applied, high solids, two-component, chemically curing, fire retardant, decorative traffic bearing surface intended for use as an elastomeric deck surface or similar application. This specification is not intended for use over on grade concrete surface without the use of a moisture mitigating sealer.

1.2 RELATED SECTIONS

- A. Cast-In-Place Concrete: Division 03 33 00
- B. Rough Carpentry: Division 06 10 53
- C. Flashing and Sheet Metal: Division 7 63 00

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: 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 – 80 °F (10 – 27 °C) until the coatings are 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, 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 to high vapor drive use GacoFlex E-5990 100% Solids Two-Component Epoxy Sealer
- B. Primer: GacoFlex E-5320 Two-Component Epoxy Primer (only if alternative GacoFlex E-5990 Sealer is used)
- C. GacoFlex Aggregate: GacoFlex Aggregate is a quartz aggregate, available in solid or pre-blended colors
- D. Polyurethane Coatings: GacoFlex U-64 Polyurethane, GacoFlex U-66 Series Polyurethane and GacoFlex UB-64 Series, two-component Polyurethane Coatings.
- E. Polyurethane Coating: GacoFlex UA-7090 is a high solids, two component, fire retardant, chemically cured polyurethane elastomer for multi-step application resulting in a waterproof, durable, non-slip, traffic bearing surface designed for pedestrian traffic. Service temperatures range from 0°F to 150°F (-18°C to 66°C) minimum application temperature is 40 °F (4 °C) minimum.
- F. Flashing and Accessories: GacoFlex 66B Polyester Reinforcing Tape, GacoFlex NF-621 Neoprene Sheet Flashing, and related materials as requires for flashing drains, base angles, etc.



PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that substrate is ready to receive the work; the surface is clean, dry and free of substances that could affect the 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 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 manufacturer that substrate conditions are acceptable to receive waterproofing application.

3.2 PREPARATION

- A. Clean the substrate, remove all surface contaminants. Refer to Gaco General Instruction GW-1-1, Surface Preparation.
- B. Fill voids, seal joints, and apply bond breaker as required.
- C. Mask off all adjoining areas that are not to receive the fluid applied waterproofing to prevent spillage outside membrane area.
- D. 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 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. Drying times vary depending on weather conditions such as temperature, humidity and air movement.

D. Taping: Apply GacoFlex UB-64 Polyurethane or GacoFlex U-66 Polyurethane by brush or roller in a 6" (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 an additional coat of polyurethane over the tape smoothing out wrinkles and fish mouths.

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

E. Neoprene Sheet: On expansion and seismic joints, install GacoFlex NF-621 Neoprene Sheet Flashing. At perimeter terminations install NF-621 Neoprene Sheet Flashing, perform detail work in accordance with manufacturer's instructions and as required by project documents and drawings. Drains, base flashing, and perimeters should be addressed at this time. Typically, use 6" (152 mm) width, 3" (72 mm) up, and 3" (72 cm) out. Use a suitable polyurethane sealant to filet sheet edges prior to coating.

F. Basecoat: Apply one coat of GacoFlex UB-64 Series Polyurethane at a rate of 1½ gallon per 100 ft² (3.78 L / 9.3 m²) to achieve a dry film thickness of not less than 18 mils (.30 mm).

G. Color Coat: Apply one coat of GacoFlex U-6402 pewter gray at a rate of 1 gallon per 100 ft² (3.78 L / 9.3 m²) to achieve a dry film thickness of not less than 12 mils

Alternate Colors: Apply one coat of GacoFlex U-66 Polyurethane Series in the desired color at a rate of 1 gallon per 100 ft² (3.78 L / 9.3 m²) achieve a dry film thickness of not less than 12 mils.

H. Wear Course: Apply a coat of GacoFlex UA-7090 Aliphatic Polyurethane at the rate of ¾ gallon per 100 ft² (2.84 L / 9.3 m²). GacoFlex UA-7090 Aliphatic Polyurethane can be thinned up to 10% with GacoFlex thinner T-5110 to extend the pot life for achieving a uniform application. Into the wet coating, immediately broadcast GacoFlex Granules to refusal. This will consume 25 to 30 lb per 100 ft² (11.3 to 13.6 kg per 9.3 m²). Allow the wear course to dry overnight. A dry film thickness of 7 mils, excluding GacoFlex Granules, should be achieved. When including GacoShell Granules, an average of 16 mils should be achieved.

I. Optional Additional Wear Course: In order to achieve uniformity of color over large areas, a second wear course should be installed. Apply a coat of GacoFlex UA-7090 Aliphatic Polyurethane at the rate of ¾ gallon per 100 ft² (2.84 L / 9.3 m²). GacoFlex UA-7090 Aliphatic Polyurethane can be thinned up to 10% with GacoFlex T5110 Thinner to extend the pot life for achieving a uniform application. Into the wet applied coating, immediately broadcast GacoFlex Granules to refusal. This will consume 25 to 30 lb per 100 ft² (11.3 to 13.6 kg per 9.3 m²). Allow to dry overnight. A dry film thickness of 7 mils, excluding GacoFlex Granules, should be achieved. When including GacoShell an average of 16 mils should be achieved.

J. Polyurethane Finish Coat: Sweep away any unattached GacoShell Granules not embedded into the coating. Apply GacoFlex UA-7090 Aliphatic Polyurethane at the rate of ¾ gallon per 100 ft² (2.84 L / 9.3 m²).

Allow 48 hours before the waterproofed 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 actions in the field.

B. Inspections: A minimum of three, (Substrate, Application and Final) inspections, by an approved manufacturer 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 granules, will average 44 mils (.96 mm). Thickness including GacoShell, will average approximately 53 mils (1.35 mm).

