

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:

1. Decorative resinous flooring systems.

B. Related Sections:

1. Section 07 92 00 "Joint Sealants" for sealants installed at joints in resinous flooring systems.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated. Include manufacturer's technical data, application instructions, and recommendations for each resinous flooring component required.
- B. Samples for Initial Selection: For each type of exposed finish required.
- C. Samples for Verification: For each resinous flooring system required, 6 inches (150 mm) square, applied to a rigid backing by Installer for this Project.
- D. Product Schedule: For resinous flooring. Use same designations indicated on Drawings.
- E. Installer Certificates: Signed by manufacturer certifying that installers comply with specified requirements.
- F. Material Certificates: For each resinous flooring component, from manufacturer.
- G. Material Test Reports: For each resinous flooring system.
- H. Maintenance Data: For resinous flooring to include in maintenance manuals.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of flooring systems required for this Project.
1. Engage an installer who is certified in writing by resinous flooring manufacturer as qualified to apply resinous flooring systems indicated.
- B. Source Limitations: Obtain primary resinous flooring materials, including primers, resins, hardening agents, grouting coats, and topcoats, from single source from single manufacturer. Provide secondary materials, including patching and fill material, joint sealant, and repair materials, of type and from source recommended by manufacturer of primary materials.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages and containers, with seals unbroken, bearing manufacturer's labels indicating brand name and directions for storage and mixing with other components.

1.5 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with resinous flooring manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting resinous flooring application.
- B. Lighting: Provide permanent lighting or, if permanent lighting is not in place, simulate permanent lighting conditions during resinous flooring application.
- C. Close spaces to traffic during resinous flooring application and for not less than 24 hours after application unless manufacturer recommends a longer period.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Ceram #100 Decorative Troweled Mortar system by General Polymers or Owner-approved equal.

2.2 DECORATIVE RESINOUS FLOORING

- A. Resinous Flooring: Abrasion-, impact- and chemical-resistant, decorative-aggregate-filled, epoxy-resin-based, monolithic floor surfacing designed to produce a seamless floor and integral cove base.
- B. System Characteristics:
 - 1. Color and Pattern:
 - 2. Field: 14% Black, 18% Blue, 68% Beige
 - 3. Perimeter: 20% Black, 20% Light Beige, 20% New Blue.
 - 4. Wearing Surface: Textured for slip resistance
 - 5. Overall System Thickness: 1/4 inch (6.4 mm).
- C. Body Coat General Polymers Ceram 100:
 - 1. Resin: Epoxy.
 - 2. Formulation Description: 100 percent solids.
 - 3. Application Method: Troweled or screeded.
 - a. Thickness: 1/4 inch (6.4 mm).
 - b. Aggregates: Large, multicolored quartz.
- D. Thixotropic Grout Coat General Polymers 3744G Clear:
 - 1. Resin: Epoxy.
 - 2. Type: Clear.
 - 3. Finish: Gloss.

- E. Topcoat: Sealing or finish coats.
 - 1. Resin: Epoxy.
 - 2. Type: Clear.
 - 3. Finish: Gloss.
 - 4. Number of Coats: Two.
- F. System Physical Properties: Provide resinous flooring system with the following minimum physical property requirements when tested according to test methods indicated:
 - 1. Compressive Strength: 11,000 psi per ASTM C 579.
 - 2. Tensile Strength: 2,500 psi per ASTM C 307.
 - 3. Flexural Modulus of Elasticity: 4,500 psi per ASTM C 580.
 - 4. Impact Resistance: No chipping, cracking, or delamination and not more than 1/16-inch (1.6-mm) permanent indentation per MIL-D-3134.
 - 5. Resistance to Elevated Temperature: No slip or flow of more than 1/16 inch (1.6 mm) per MIL-D-3134.
 - 6. Abrasion Resistance: 100 mgs maximum weight loss per ASTM D 4060.
 - 7. Flammability: Self-extinguishing per ASTM D 635.
 - 9. Hardness: 85/65, Shore D per ASTM D 2240.
 - 10. Bond Strength: 350psi, 100 percent concrete failure per ACI 503R.

2.3 ACCESSORIES

- A. Primer: Type recommended by manufacturer for substrate and body coats indicated.
 - 1. Formulation Description: 100 percent solids.
- B. Waterproofing Membrane: Type recommended by manufacturer for substrate and primer and body coats indicated.
 - 1. General Polymers Fastop MVT moisture transmission barrier grout.
 - 2. Liquid system is not acceptable.
- C. Patching and Fill Material: Resinous product of or approved by resinous flooring manufacturer and recommended by manufacturer for application indicated.
- D. Divider Strips: L-type angle, 1/4 inch (6.4 mm) deep.
 - 1. Material: Aluminum.
 - 2. Top Width: 1/8 inch (3.2 mm)
- E. Control-Joint Strips: Separate, double L-type angles, positioned back to back, that match material and color of divider strips and in depth required for topping thickness indicated.
- F. Strip Adhesive: Epoxy-resin adhesive recommended by adhesive manufacturer for this use
- G. Anchoring Devices:
 - 1. Strips: Provide mechanical anchoring devices or adhesives for strip materials as recommended by manufacturer and required for secure attachment to substrate.

PART 3 – EXECUTION

3.1 PREPARATION

- A. General: Prepare and clean substrates according to resinous flooring manufacturer's written instructions for substrate indicated. Provide clean, dry substrate for resinous flooring application.
- B. Concrete Substrates: Provide sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants incompatible with resinous flooring.
 - 1. Roughen concrete substrates as follows:
 - a. Shot-blast surfaces with an apparatus that abrades the concrete surface, contains the dispensed shot within the apparatus, and recirculates the shot by vacuum pickup.
 - b. Comply with ASTM C 811 requirements unless manufacturer's written instructions are more stringent.
 - 2. Repair damaged and deteriorated concrete according to resinous flooring manufacturer's written instructions.
 - 3. Verify that concrete substrates are dry and moisture-vapor emissions are within acceptable levels according to manufacturer's written instructions.
 - a. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with application of resinous flooring only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m).
 - b. Perform plastic sheet test, ASTM D 4263. Proceed with application only after testing indicates absence of moisture in substrates.
 - c. Perform relative humidity test using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum [75] percent relative humidity level measurement.
 - 4. Alkalinity and Adhesion Testing: Verify that concrete substrates have pH within acceptable range. Perform tests recommended by manufacturer. Proceed with application only after substrates pass testing.
- C. Resinous Materials: Mix components and prepare materials according to resinous flooring manufacturer's written instructions.
- D. Use patching and fill material to fill holes and depressions in substrates according to manufacturer's written instructions.
- E. Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through resinous flooring according to manufacturer's written instructions.

3.2 APPLICATION

- A. General: Apply components of resinous flooring system according to manufacturer's written instructions to produce a uniform, monolithic wearing surface of thickness indicated.

1. Coordinate application of components to provide optimum adhesion of resinous flooring system to substrate, and optimum intercoat adhesion.
 2. Cure resinous flooring components according to manufacturer's written instructions. Prevent contamination during application and curing processes.
 3. At substrate expansion and isolation joints, comply with resinous flooring manufacturer's written instructions.
- B. Apply moisture transmission barrier grout over prepared substrate at manufacturer's recommended spreading rate.
- C. Install metal divider strips at floor perimeters, 6" away from face of wall.
- D. Integral Cove Base: Apply cove base mix to wall surfaces before applying flooring. Apply according to manufacturer's written instructions and details including those for taping, mixing, priming, troweling, sanding, and topcoating of cove base. Round internal and external corners.
1. Integral Cove Base: 6 inches (100 mm) high.
- E. Apply troweled or screeded body coats in thickness indicated for flooring system. Hand or power trowel and grout to fill voids. When cured, remove trowel marks and roughness using method recommended by manufacturer.
- F. Apply grout coat, of type recommended by resinous flooring manufacturer, to fill voids in surface of final body coat and to produce wearing surface indicated.
- G. Apply topcoats in number indicated for flooring system and at spreading rates recommended in writing by manufacturer.

3.3 FIELD QUALITY CONTROL

- A. Core Sampling: At the direction of Owner and at locations designated by Owner, take one core sample per 1000 sq. ft. (92.9 sq. m) of resinous flooring, or portion of, to verify thickness. For each sample that fails to comply with requirements, take two additional samples. Repair damage caused by coring and correct deficiencies.

3.4 PROTECTION

- A. Protect resinous flooring from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by resinous flooring manufacturer.

END OF SECTION