

Guide Specification

SECTION 09 67 23

RESINOUS FLOORING

(Eco-Crete SF)

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Slurry, cementitious-polyurethane flooring system, with aggregate broadcast, [and with satin, pigmented, light-stable, urethane topcoat] for resurfacing interior concrete floors in areas that require thermal-shock resistance and slip resistance.

1.2 RELATED REQUIREMENTS

- A. Section 03 30 00 – Cast-in-Place Concrete.

1.3 REFERENCE STANDARDS

- A. ASTM International (ASTM) (www.astm.org):
 1. ASTM C 307 – Standard Test Method for Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacing.
 2. ASTM C 579 – Standard Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes.
 3. ASTM C 580 – Standard Test Method for Flexural Strength and Modulus of Elasticity of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes.
 4. ASTM D 635 – Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.
 5. ASTM D 3960 – Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings.
 6. ASTM D 4226 – Standard Test Methods for Impact Resistance of Rigid Poly(Vinyl Chloride) (PVC) Building Products.
 7. ASTM D 4541 – Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.
 8. ASTM G 21 – Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.

- B. International Concrete Repair Institute (ICRI) (www.icri.org):
 - 1. ICRI 310.2R – Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair.

1.4 PREAPPLICATION MEETINGS

- A. Convene preapplication meeting 2 weeks before start of application of flooring system.
- B. Require attendance of parties directly affecting work of this Section, including Contractor, Architect, applicator, and manufacturer's representative.
- C. Review materials, protection of in-place conditions, surface preparation, application, protection, and coordination with other work.

1.5 SUBMITTALS

- A. In accordance with Division 01.
- B. Product Data: Submit manufacturer's product data, including surface preparation and application instructions.
- C. Samples:
 - 1. Colorants Added to Materials: Submit manufacturer's samples of colorants.
 - 2. Flooring Surface: Submit manufacturer's samples of flooring surface showing texture and sheen.
- D. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
- E. Manufacturer's Project References: Submit manufacturer's list of successfully completed resinous flooring system projects, including project name and location, name of architect, and type and quantity of flooring systems furnished.
- F. Applicator's Project References: Submit applicator's list of successfully completed resinous flooring system projects, including project name and location, name of architect, and type and quantity of flooring systems applied.
- G. Care and Maintenance Instructions: Submit manufacturer's care and maintenance instructions, including cleaning instructions.
- H. Warranty Documentation: Submit manufacturer's standard warranty.

1.6 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Manufacturer regularly engaged, for a minimum of 10 years, in the manufacturing of resinous flooring systems of similar type to that specified.
- B. Applicator's Qualifications:
 - 1. Applicator regularly engaged, for a minimum of 5 years, in application of resinous flooring systems of similar type to that specified.

2. Employ persons trained for application of resinous flooring systems.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name, manufacturer, and batch number.
- B. Storage and Handling Requirements:
 1. Store and handle materials in accordance with manufacturer's instructions.
 2. Keep materials in manufacturer's original, unopened containers and packaging until application.
 3. Store materials in clean, dry area indoors between 65 and 80 degrees F (18 and 27 degrees C).
 4. Store materials out of direct sunlight.
 5. Keep materials from freezing.
 6. Protect materials during storage, handling, and application to prevent contamination or damage.

1.8 AMBIENT CONDITIONS

- A. Apply flooring system under the following ambient conditions:
 1. Ambient and Concrete Floor Temperatures: Between 40 and 85 degrees F (4 and 29 degrees C).
 2. Material Temperature: Between 50 and 80 degrees F (10 and 27 degrees C).
 3. Relative Humidity: Maximum 80 percent.
 4. Dew Point: Floor temperature more than 5 degrees over dew point.
- B. Do not apply flooring system under ambient conditions outside manufacturer's limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Tennant Company, 701 North Lilac Drive, Minneapolis, Minnesota 55422. 800-553-8033. www.tennantco.com. info@tennantco.com.
- B. Substitutions permitted in accordance with Division 01.
- C. Single Source: Provide materials from single manufacturer.

2.2 RESINOUS FLOORING SYSTEM

- A. Resinous Flooring System: "Eco-Crete SF".
 1. Description: Slurry, cementitious-polyurethane flooring system, with aggregate broadcast, for resurfacing interior concrete floors in areas that require thermal-shock resistance and slip resistance.
 2. Temperature Resistant: To 200 degrees F (93 degrees C).
 3. Anti-Slip Surface: Meets ADA recommendations.

- B. System Components:
 - 1. Overlay: "Eco-Crete SF".
 - a. Application Thickness: 3/16 inch (5 mm) for a 1/4-inch (6-mm) finished floor.
 - b. Color: Manufacturer's colorants selected by Architect.
 - 2. Traction Aggregate: 40-mesh broadcast sand.
 - 3. Cove Primer: "Eco-Crete TC".
 - a. Color: Clear.
 - 4. Cove: "Eco-Crete CB".
 - a. Color: Manufacturer's colorants selected by Architect.
 - 5. Seal Coat: "Eco-Crete TC".
 - a. Application Thickness: 13 wet/dry mils.
 - b. Color: Manufacturer's colorants selected by Architect.
- C. Nominal System Thickness: 1/4 inch (6 mm).
- D. System Properties:
 - 1. VOC Content, ASTM D 3960, Mixed A+B+C: 0.04 lbs per gal (5 g/L).
 - 2. Compressive Strength, ASTM C 579: 8,200 psi (56.5 MPa).
 - 3. Tensile Strength, ASTM C 307: 975 psi (6.72 MPa).
 - 4. Flexural Strength, ASTM C 580: 2,500 psi (17.2 MPa).
 - 5. Bond Strength, ASTM D 4541: 100 percent concrete failure.
 - 6. Impact Strength, ASTM D 4226: Greater than 160 in-lbs.
 - 7. Resistance to Fungi Growth, ASTM G 21: Passes, rating of 1.
 - 8. Flammability, ASTM D 635: Self-extinguishing.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine concrete surface to receive flooring system.
- B. Verify concrete is structurally sound.
- C. Notify Architect of conditions that would adversely affect application or subsequent use.
- D. Do not begin surface preparation or application until unacceptable conditions are corrected.

3.2 PREPARATION

- A. Protection of In-Place Conditions: Protect adjacent surfaces and adjoining walls from contact with flooring system materials.
- B. Surface Preparation:
 - 1. Prepare concrete surface in accordance with manufacturer's instructions.
 - 2. Remove dirt, dust, debris, oil, grease, curing agents, bond breakers, paint, coatings, sealers, silicones, and other surface contaminants which could adversely affect application of flooring system.
 - 3. Steel shotblast concrete to a minimum surface profile of ICRI 310.2R, CSP 5.
 - 4. Key-cut termination points with 1/4-inch (6-mm) by 1/4-inch (6-mm) cut.

5. Patch depressions, divots, and cracks in concrete in accordance with manufacturer's instructions.
6. Mechanically remove loose, delaminated, and damaged concrete and repair in accordance with manufacturer's instructions.
7. Joints: Fill joints in accordance with manufacturer's instructions.

3.3 APPLICATION

- A. Apply flooring system in accordance with manufacturer's instructions at locations indicated on the Drawings.
- B. Ensure concrete is dry, clean, and prepared in accordance with manufacturer's instructions.
- C. Allow concrete to cure a minimum of 7 days before applying flooring system.
- D. Mixing:
 1. Mix material components together in accordance with manufacturer's instructions.
 2. Mix only enough material that can be applied within working time.
 3. Add and mix colorants with materials in accordance with manufacturer's instructions to achieve uniform color.
- E. Apply flooring system materials to obtain consistent mil thickness and smooth, uniform appearance and texture.
- F. Overlay:
 1. Apply overlay in accordance with manufacturer's instructions.
 2. Apply overlay to prepared concrete surface.
- G. Traction Aggregate:
 1. Broadcast traction aggregate in accordance with manufacturer's instructions.
 2. Broadcast traction aggregate into wet overlay.
- H. Cove:
 1. Apply cove primer and cove in accordance with manufacturer's instructions at locations indicated on the Drawings.
 2. Apply cove to height and shape as indicated on the Drawings.
 3. Apply cove to create seamless, smooth transition between flooring and walls.
- I. Seal Coat:
 1. Apply seal coat in accordance with manufacturer's instructions.
 2. Apply seal coat over traction aggregate.

3.4 PROTECTION

- A. Allow flooring system to dry in accordance with manufacturer's instructions before opening to traffic.
- B. Allow flooring system to dry a minimum of 1 week before cleaning by mechanical means.
- C. Protect completed flooring system from damage during construction.

END OF SECTION