SECTION 09 67 23

RESINOUS FLOORING

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\*\* NOTE TO SPECIFIER \*\* SureCrete; fluid-applied non-permeable membrane air barriers.  
This section is based on the products of SureCrete, which is located at:  
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 Web: [www.surecretedesign.com/](https://www.surecretedesign.com/)

[ [Click Here](http://www.arcat.com/arcatcos/cos45/arc45126.html) ] for additional information.  
  
SureCrete Design, an inventor of Eco-Stain and other trendsetting products, continues to redefine what's possible in the decorative and specialty concrete market segment. This brand represents more than 1,500 top-quality decorative concrete products. The extensive product line, industry-leading innovation, in-house manufacturing, and commitment to the best customer service help SureCrete exceed expectations. Whether you are looking for an overlay, a coating, a sealer, or any of our other high-quality products, expect superior quality and consistency to get the job done right, every time.

1. GENERAL
   1. SECTION INCLUDES
      1. Resinous epoxy solid color flooring.
   2. RELATED SECTIONS
      1. Section 03 30 00 - Cast-in-Place Concrete.
      2. Section 03 35 00 - Concrete Finishing.
      3. Division 07 - Thermal and Moisture Protection.
   3. REFERENCES
      1. ASTM International (ASTM):
         1. ASTM C 882 - Standard Test Method for Bond Strength of Epoxy-Resin Systems Used with Concrete.
         2. ASTM C 1028 - Standard Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces.
         3. ASTM D790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
         4. ASTM D 2240 - Standard Test Method for Rubber Property - Durometer Hardness.
         5. ASTM D 3363 - Standard Test Method for Film Hardness by Pencil Test.
         6. ASTM D 4060 - Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abrasion.
         7. ASTM D 4541 - Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.
         8. ASTM F 1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
         9. ASTM F 2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
   4. SUBMITTALS
      1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
      2. Product Data:
         1. Manufacturer's data sheets on each product to be used.
         2. Preparation instructions and recommendations.
         3. Storage and handling requirements and recommendations.
         4. Typical installation methods.
         5. Descriptive data and specific recommendations for mixing, application, curing including any precautions of special handling instructions required to comply with the Occupational Safety and Health Act.
         6. Prepare instructions and recommendations.
         7. Submit storage and handling requirements and recommendations.
         8. Product Schedule: For resinous flooring.
         9. Material Certificates: For each resinous flooring component, from manufacturer.
         10. Material Test Reports: For each resinous flooring system.
         11. Maintenance Data: For resinous flooring to include in maintenance manuals.
      3. Test and Evaluation Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
      4. Source Quality Control: Documentation verifying that components and materials specified in this Section are from single manufacturer.
      5. Examples for Verification: For each resinous flooring system required, 6 inches (152 mm) square, applied to a rigid backing by Installer for this Project.
      6. Installer Certificates: Signed by manufacturer certifying that installers comply with specified requirements.
   5. QUALITY ASSURANCE
      1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum seven years documented experience.
      2. Installer Qualifications: Company specializing in performing Work of this section with minimum three years documented experience with projects of similar scope and complexity.
      3. The Applicator shall have a minimum of three years' experience in installation of the flooring system as confirmed by the manufacturer in all phases of surface preparation and application of the product specified.
      4. No requests for substitutions shall be considered that would change the generic type of the specified System.
      5. System shall be in compliance with requirements of United States Department of Agriculture (USDA), Food Drug Administration (FDA), and local Health Department.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
       1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
       2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
       3. Retain mock-up during construction as a standard for comparison with completed work.
       4. Do not alter or remove mock-up until work is completed or removal is authorized.
  1. PRE-INSTALLATION CONFERENCE
     1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
  2. DELIVERY, STORAGE, AND HANDLING
     1. All components of the system shall be delivered to the site in the Manufacturer's packaging, clearly identified with the product type and batch number.
     2. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
     3. The Applicator shall be provided with a storage area for all components. The area shall be between 60 and 90 degrees F (15.6 and 32 degrees C), dry, out of direct sunlight and in accordance with the Manufacturer's recommendations and relevant health and safety regulations.
     4. Protect from damage due to weather, excessive temperature, and construction operations.
     5. Copies of Safety Data Sheets (SDS) for all components shall be kept on site for review by the Engineer or other personnel.
     6. Waste Disposal: The Applicator shall be provided with adequate disposal facilities for non-hazardous waste generated during installation of the system.
  3. PROJECT CONDITIONS
     1. Site Requirements:
        1. Application may proceed while air, material and substrate temperatures are between 60 and 90 degrees F (15.6 and 32 degrees C) providing the substrate temperature is above the dew point. Consult manufacturer if conditions are outside of this range.
        2. Relative Humidity: In specific location of application; less than 85 percent.
        3. Surface Temperature: At least 5 degrees F (2.8 degrees C) above the dew point.
        4. Ensure adequate ventilation the work area.
        5. Adequate lighting, equal to final lighting levels, during preparation and installation of system.
     2. Conditions of New Concrete to be Coated with Epoxy Material:
        1. Moisture cured for a minimum of 7 days and have fully cured a minimum of twenty-eight days per ACI-308 prior to the application of the coating system pending moisture tests.
        2. Concrete Finish: Flat rubbed finish, float or light steel trowel finish (a hard steel trowel finish is neither necessary or desirable).
        3. Sealers and curing agents should not to be used.
        4. Construct concrete surfaces on grade with a vapor barrier to protect against effects of vapor transmission and possible delamination of system.
     3. Safety Requirements:
        1. Remove open flames and spark-producing equipment from work area prior to commencement of application.
        2. Post "No Smoking" signs at the entrances to work area.
        3. Remove all foodstuffs from work area.
        4. Non-related personnel in the work area shall be kept to a minimum.
  4. WARRANTY
     1. Manufacturer warrants that at time of shipment, shipped materials will be substantially free from material defects and will perform substantially to SureCrete LLC, published literature if used per the latest prescribed procedures and prior to the expiration date.
     2. Liability with respect to manufacturer's warranty is strictly limited to the value of the material purchase.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: SureCrete, 15246 Citrus County Drive, Dade City, FL 33523; Tel: 352-567-7973; Fax: 352-521-0973; Email: specs@fenixspc.com; Web: [www.surecretedesign.com/](https://www.surecretedesign.com/)

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
  1. SOLID COLOR RESINOUS FLOORING
     1. Basis of Design Primer: DK 700 as manufactured by SureCrete.
        1. Solids: 96.5 percent.
        2. VOC's: 40000 ppm (40 grams per L).
        3. Water Vapor Transference per ASTM E96 and ASTM E93): Less than 0.02.
        4. Water Permeance: Less than 0.1.
        5. Adhesion to Dry Concrete per ASTM D4541: 621 psi (4.28 mPa).
        6. Adhesion to Wet Concrete per ASTM D4541: 621 psi (4.28 mPa).
     2. Basis of Design Base Coat: COLORTEC 500E as manufactured by SureCrete.
        1. Solids: 100 percent.
        2. VOC: 0.
        3. Adhesion: 400 psi (2.76 mPa).
        4. Abrasion Resistance: 35.274 oz (1000 gm) at 500 cycles; (0.0011 oz (31 mg) loss.
        5. Compressive Strength: 9000 psi (62.05 mPa).

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - 1. Color: \_\_\_\_\_\_\_\_.
      2. Color: As determined by the Architect from manufacturer's selection.
    1. Basis of Design Top Coat: COLORTEC 400WB as manufactured by SureCrete.
       1. Solids: 57 percent.
       2. VOC: 72000 ppm (72 grams per L).
       3. Adhesion per ASTM D3002 and ASTM D3359 to epoxy: 100 percent.
       4. Abrasion Resistance per ASTM D4060: 35.274 oz (1000 gm) at 500 cycles is 0.0023 oz (65 mg) loss.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - 1. Color: \_\_\_\_\_\_\_\_.
      2. Color: As determined by the Architect from manufacturer's selection.

1. EXECUTION
   1. EXAMINATION
      1. Examine substrates, areas and conditions, with Applicator present, for compliance with requirements for maximum moisture content, installation tolerances and other conditions affecting flooring performance.
      2. Verify that substrates and conditions are satisfactory for flooring installation and comply with requirements specified.
   2. PREPARATION
      1. New and existing concrete surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae growth, laitance, friable matter, dirt, and bituminous products.
      2. Moisture Testing: Perform tests recommended by manufacturer and as follows.
         1. Perform relative humidity test using is situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.
         2. If the relative humidity exceeds 75 percent, then SureCrete DK 700 moisture mitigation system must be installed prior to resinous flooring installation. Slab-on grade substrates without a vapor barrier may also require the moisture mitigation system.
      3. There shall be no visible moisture present on the surface at the time of application of the system. Compressed oil-free air and/or a light passing of a propane torch may be used to dry the substrate.
      4. Mechanical Surface Preparation:
         1. Shot blast all surfaces to receive flooring system with a mobile steel shot, dust recycling machine (Blastrac or equal). All surface and embedded accumulations of paint, toppings hardened concrete layers, laitance, power trowel finishes and other similar surface characteristics shall be completely removed leaving a bare concrete surface having a minimum profile of CSP 3-4 as described by the International Concrete Repair Institute.
         2. Floor areas inaccessible to the mobile blast machines shall be mechanically abraded to the same degree of cleanliness, soundness and profile using diamond grinders, needle guns, bush hammers, or other suitable equipment.
         3. Where the perimeter of the substrate to be coated is not adjacent to a wall or curb, a minimum 1/8 inch (3 mm) key cut shall be made to properly seat the system, providing a smooth transition between areas. The detail cut shall also apply to drain perimeters and expansion joint edges.
         4. Cracks and joints (non-moving) greater than 1/8 inch (3 mm) wide are to be chiseled or chipped-out and repaired per manufacturer's recommendations.
      5. At spalled or worn areas, mechanically remove loose or delaminated concrete to a sound concrete and patch per manufactures recommendations.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions and in proper relationship with adjacent construction.
   4. PROTECTION
      1. 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