

SECTION 09 67 00
FLUID-APPLIED EPOXY FLOORING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Fluid-applied flooring and base.

1.2 RELATED REQUIREMENTS

- A. Section 07 92 00 - Joint Sealants: Sealing joints between fluid-applied flooring and adjacent construction and fixtures.
- B. Section 09 05 61 - Common Work Results for Flooring Preparation: Concrete slab moisture and alkalinity testing and remediation procedures.

1.3 REFERENCE STANDARDS

- A. ASTM D570 - Standard Test Method for Water Absorption of Plastics; 1998 (Reapproved 2010).
- B. ASTM D638 - Standard Test Method for Tensile Properties of Plastics; 2014.
- C. ASTM D695 - Standard Test Method for Compressive Properties of Rigid Plastics; 2015.
- D. ASTM D790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials; 2017.
- E. ASTM D905 - Standard Test Method for Strength Properties of Adhesive Bonds in Shear by Compression Loading; 2008 (Reapproved 2013).
- F. ASTM D2794 - Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact); 2019.
- G. ASTM D4060 - Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser; 2014.
- H. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials; 2016.
- I. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source; 2017.
- J. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2017.
- K. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2016a.
- L. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes; 2017.
- M. ICRI 310.2R - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair; 2013.

1.4 SUBMITTALS

- A. See Section 01 33 00 - Submittal Procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns and colors available.

- C. Samples: Submit two samples, 12 by 12 inches in size illustrating color and pattern for each floor material for each color specified.
- D. Concrete Subfloor Test Report: Submit a copy of the moisture and alkalinity (pH) test reports.
- E. Field Quality Control Reports: Submit a copy of the Temperature and Coverage Rate reports.
- F. Manufacturer's Installation Instructions: Indicate special procedures.
- G. Manufacturer's Qualification Statement.
- H. Applicator's Qualification Statement.
- I. Maintenance Data: Include maintenance procedures, recommended maintenance materials, procedures for stain removal, repairing surface, and suggested schedule for cleaning.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Applicator Qualifications: Company specializing in performing the work of this section.
 - 1. Minimum three years of documented experience.
 - 2. Approved by manufacturer.

1.6 MOCK-UP

- A. Construct mock-up(s) of fluid applied flooring to serve as basis for evaluation of texture, slip resistance and workmanship.
 - 1. Number of Mock-Ups to be Prepared: One.
 - 2. Use same materials and methods for use in the work.
 - 3. Use approved design samples as basis for mock-ups.
 - 4. Locate where directed.
 - 5. Minimum Size: 48 inches by 48 inches.
- B. See Section 01 40 00 - Quality Control for additional requirements.
- C. Approved mock-up may remain as part of the Work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store resin materials in a dry, secure area.
- B. Store materials for three days prior to installation in area of installation to achieve temperature stability.

1.8 FIELD CONDITIONS

- A. Store materials in area of installation for minimum period of 24 hours prior to installation.
- B. Maintain ambient temperature required by manufacturer 72 hours prior to, during, and 24 hours after installation of materials.

1.9 WARRANTY

- A. Manufacturer's warranty covering the fluid-applied flooring against defects in materials for a minimum of one year from date of installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Fluid-Applied Flooring:

1. Basis of Design: Dur-A-Flex: www.dur-a-flex.com.
2. Crossfield Products Corp; Dex-O-Tex: www.crossfieldproducts.com/#sle.
3. Sherwin-Williams Company: General Polymers Brand: www.generalpolymers.com/#sle.
4. Sika Corporation: www.sikafloorusa.com/#sle.
5. or Approved Equal: See Section 01 60 00 - Material Equipment and Approved Equals.

2.2 FLUID-APPLIED FLOORING SYSTEMS

A. Fluid-Applied Flooring: Cementitious urethane based self-leveling seamless flooring system with decorative epoxy quartz aggregate broadcast and epoxy/aliphatic urethane topcoats.

1. System Thickness: 3/16 - 1/4 inch, nominal, when dry.
2. Texture: Slip resistant, as determined in Mock-up.
3. Color: As selected by Architect from manufacturer's full line.
4. Physical Properties:
 - a. Tensile Strength: 4000 psi, when tested in accordance with ASTM D638.
 - b. Compressive Strength: 17500 psi, when tested in accordance with ASTM D695.
 - c. Flexural Strength: 6250 psi, when tested in accordance with ASTM D790.
 - d. Impact Resistance: >160 inch-lbs, when tested in accordance with ASTM D2794.
 - e. Water Absorption: 0.04 percent, when tested in accordance with ASTM D570 for 24 hr.
 - f. Static Coefficient of Friction: >0.6, when tested in accordance with ANSI B101.1.
 - g. Dynamic Coefficient of Friction - Wet: >0.42 when tested in accordance with ANSI A326.3.
5. Basis of Design Product: Dur-A-Flex; HYBRI-FLEX EQ: www.dur-a-flex.com.
 - a. System Materials:
 - 1) Body Coat: Dur-A-Flex, Inc, Poly-Crete SL resin, hardener and SL aggregate, cementitious urethane system.
 - 2) Aggregate: Quartz granules.
 - 3) Broadcast Coat: Dur-A-Flex, Inc. Dur-A-Glaze #4, epoxy based two-component resin.
 - 4) Grout Coat: Dur-A-Flex, Inc Dur-A-Glaze #4 Water Clear, epoxy-based, resin and Hardener.
 - 5) Top coat: Dur-A-Flex, Inc. Armor Top aliphatic urethane two-component resin.

2.3 ACCESSORIES

A. Integral Cove base: 4 inch, unless otherwise noted.

1. Provide metal L-strip at termination.
 - a. Basis of Design: Schluter Jolly.
2. Align face of base with face of wall finish at tiled walls.

B. Patch Materials:

1. Basis of Design :
 - a. Shallow Fill and Patching (up to ¼ inch): Dur-A-Flex, Inc. Poly-Crete MD.

- b. Deep Fill and Sloping Material (over ¼ inch): Dur-A-Flex, Inc. Poly-Crete WR or Dur-A-UM
- c. Primer: Type recommended by fluid-applied flooring manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that subfloor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive flooring.
- B. Verify that subfloor and wall base surfaces are dust-free and free of substances that could impair bonding of materials to subfloor surfaces.
- C. Cementitious Subfloor Surfaces: Verify that substrates are ready for fluid-applied flooring installation by testing for moisture and alkalinity (pH).
 - 1. Test in accordance with Section 09 05 61.
 - 2. Obtain instructions if test results are not within limits recommended by fluid-applied flooring manufacturer.
- D. Verify that required floor-mounted utilities are in correct location.

3.2 PREPARATION

- A. Remove subfloor ridges and bumps. Fill low spots, cracks, joints, holes, and other defects with subfloor filler.
- B. Prepare concrete surfaces according to ICRI 310.2R, CSP 4-5, and manufacturer's instructions.
- C. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.
- D. Vacuum clean substrate.
- E. Apply primer to surfaces required by flooring manufacturer.

3.3 INSTALLATION - FLOORING

- A. Apply in accordance with manufacturer's instructions.
- B. Apply each coat to minimum thickness required by manufacturer.
- C. Finish to smooth level surface.
- D. Fillet and cove at vertical surfaces.
- E. Install cove base in accordance with manufacturer's instructions.

3.4 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Control, for additional requirements.
- B. The following tests are to be conducted by the Applicator, submit written reports:
 - 1. Temperature: Check and report air, substrate temperatures and dew point.
 - 2. Coverage Rates: Monitor and report quantity of material used against the area covered for each system layer.

3.5 PROTECTION

- A. Prohibit traffic on floor finish for 48 hours after installation.

The School District of Palm Beach County

Project Name:

SDPBC Project No.:

- B. Barricade area to protect flooring until fully cured.

END OF SECTION