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](http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM%20D570) - Standard Test Method for Water Absorption of Plastics; 1998 (Reapproved 2010).

B. [ASTM D638](http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM%20D638) - Standard Test Method for Tensile Properties of Plastics; 2014.

C. [ASTM D695](http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM%20D695) - 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](http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM%20D905) - 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](http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM%20D4060) - Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser; 2014.

H. [ASTM E96/E96M](https://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM%20E96/E96M) - Standard Test Methods for Water Vapor Transmission of Materials; 2016.

I. [ASTM E648](http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM%20E648) - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source; 2017.

J. [ASTM F710](https://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM%20F710) - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2017.

K. [ASTM F1869](http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM%20F1869) - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2016a.

L. [ASTM F2170](http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM%20F2170) - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes; 2017.

M. [ICRI 310.2R](https://icri.site-ym.com/store/ViewProduct.aspx?id=5569356) - 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](http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM%20D638).

b. Compressive Strength: 17500 psi, when tested in accordance with [ASTM D695](http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM%20D695).

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](http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM%20D570) 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-Tex 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](https://icri.site-ym.com/store/ViewProduct.aspx?id=5569356), 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.

B. Barricade area to protect flooring until fully cured.

END OF SECTION