

**SECTION 09 6700
FLUID-APPLIED FLOORING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fluid-applied flooring and base.

1.02 REFERENCE STANDARDS

- A. ASTM D4060 - Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser; 2014.
- B. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2017.
- C. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2016a.
- D. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes; 2017.
- E. ICRI 310.2R - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair; 2013.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns and colors available. Provide Manufacturer's Safety Data Sheets.
- C. Samples: Submit two samples, 12 inch by 12 inch in size illustrating color and pattern for color specified.
- D. Maintenance Data: Include maintenance procedures, recommended maintenance materials, procedures for stain removal, repairing surface, and suggested schedule for cleaning.

1.04 QUALITY ASSURANCE

- A. Applicator Qualifications: Company specializing in performing the work of this section.
 - 1. Minimum five years of experience.
 - 2. Approved and trained by manufacturer.
- B. Manufacturer's Field Technical Representative: Require manufacturer to provide its technical field representative's full time presence at the site during the installation of this work.

1.05 MOCK-UPS

- A. See Section 01 4000 - Quality Requirements for additional requirements.
- B. Construct mock-up(s) of fluid applied flooring to serve as basis for evaluation of texture and workmanship.
 - 1. Number of Mock-Ups to be Prepared: One.
 - 2. Use same materials and methods for use in the work.
 - 3. Locate where directed.
 - 4. Minimum Size: 48 inches by 48 inches.
- C. Obtain approval of mock-up by Architect before proceeding with work.

1.06 DELIVERY, STORAGE, AND HANDLING

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

1.07 FIELD CONDITIONS

- A. Maintain minimum temperature in storage area of 55 degrees F.
- B. Store materials in area of installation for minimum period of 24 hours prior to installation.
- C. Maintain ambient temperature required by manufacturer 72 hours prior to, during, and 48 hours after installation of materials.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Fluid-Applied Flooring:
 - 1. Sika Corporation: www.sikafloorusa.com/#sle.

2.02 FLUID-APPLIED FLOORING SYSTEMS

- A. Fluid-Applied Flooring: Polyurethane self leveling mortar base coat, top coat and broadcast aggregate.
 - 1. Primer: When required by manufacturer for substrate conditions, provide manufacturer's recommended primer at rates as recommended.
 - 2. Self Leveling Mortar: Sikafloor-22NA PurCem solid color three component, water dispersed polyurethane-based/cement and aggregate screed with the following properties:
 - a. Softening Point: 266 degrees F
 - b. Density (ASTM C905): 16.84 lb./US gal.
 - c. Flow: Approximately 11.8 inch.
 - d. Service Temperature: -40 degrees F minimum; +212 degrees F maximum.
 - e. Compressive Strength (ASTM 579): 5,802 psi at 28 days.
 - f. Tensile Strength (ASTM C307): 944 psi at 28 days.
 - g. Flexural Strength (ASTM C580): 2,790 psi
 - h. Pull Off Strength (ASTM D4541): >254 psi (substrate failure).
 - i. Thermal Compatibility (ASTM C884): Pass.
 - j. Shore D Hardness (ASTM D2240): 80 - 85.
 - k. Indentation (MIL - PRF-24613): ~0 percent
 - l. Impact Resistance (ASTM D2794): 5.02 ft.-lb. at 1/8 inch of thickness.
 - m. Abrasion Resistance (ASTM D4060):
 - 1) CS-17/1,000 cycles/2.2 lb. -0.0052 oz.
 - 2) H-22/1,000 cycles/2.2 lb. -0.080 oz.
 - n. Coefficient of Friction (ASTM D1894-61T): Steel 0.3; Rubber 0.5.
 - o. Coefficient of Thermal Expansion (ASTM D696): 0.89 x 10⁻⁵ in/in/degree F.
 - p. Water Absorption (ASTM C413): 0.10 percent.
 - q. Resistance to Fungi Growth (ASTM G21): Rated 0 (no growth).
 - r. Resistance to Mold Growth (ASTM D3273): Rated 10 (highest resistance).
 - s. VOC's Components A+B+C: <5 g/L.
 - 3. Aggregate: Quartz granules.
 - 4. Top Coat: Sikafloor-31NA PurChem, three component, solvent free, high build, integrally colored with a matte finish, with the following properties:
 - a. Water Absorption (ASTM C413): 0.10 percent
 - b. Softening Point: 266 degrees F.
 - c. Density (ASTM C905): 11.68 lb./US gal.
 - d. Tensile Strength (ASTM C307): 1,552 psi.
 - e. Flexural Strength (ASTM C580): 3,582 psi.
 - f. Pull Off Strength (ASTM D4541): >254 psi (substrate failure).
 - g. Thermal Compatibility (ASTM C884): Pass.
 - 5. System Thickness: 1/4 inch, nominal, dry film thickness (DFT).
 - 6. Texture: Slip resistant.

7. Sheen: Matte.
8. Color: As selected by Architect.

2.03 ACCESSORIES

- A. Primer: Type recommended by fluid-applied flooring manufacturer.
- B. Edge Sealant: 2 component, premium-grade polyurethans-based elastomeric sealant.
 1. Non-sag
 2. ASTM C920 , Type M, Grade NS, Class 25
 3. Federal Specification TT-S-00227E, Type II, Class A.
 4. Sikaflex -2C NS EZ Mix sealant manufactured by Sika Corporation.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that subfloor surfaces are flat within the tolerances specified for that type of work and are ready to receive flooring.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive flooring.
- C. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of materials to subfloor surfaces.
- D. Cementitious Subfloor Surfaces: Verify that substrates are ready for fluid-applied flooring installation by testing for moisture and alkalinity (pH).
 1. Test as Follows:
 - a. Alkalinity (pH): ASTM F710.
 - b. Internal Relative Humidity: ASTM F2170.
 - c. Moisture Vapor Emission: ASTM F1869.
 2. Obtain instructions if test results are not within limits recommended by fluid-applied flooring manufacturer.

3.02 PREPARATION

- A. Remove subfloor ridges and bumps. Fill low spots, cracks, joints, holes, and other defects with subfloor filler.
- B. Concrete Surface Preparation (CSP): Bead blast the concrete floor substrate to achieve a CSP-3 finish in accordance with The International Concrete Repair Institute, or as required by the fluid applied flooring manufacturer.
- C. Chemical surface preparation (acid etching) is not permitted.
- D. Vacuum clean substrate.
- E. Apply primer to surfaces required by flooring manufacturer.

3.03 INSTALLATION - FLOORING

- A. Apply in accordance with manufacturer's instructions.
- B. Grind and/or fill slab as required at transitions to provide level transitions to adjacent floor finishes per fluid applied floor manufacturer's standard details.
- C. Apply each coat to minimum thickness required by manufacturer.
- D. Finish to smooth level surface free of visible laps, voids or other marks or irregularities. Finished flooring shall be uniform in color, sheen and texture to match approved sample and mock up.
- E. Provide a seamless Cove base 4 inches in height at vertical surfaces.

3.04 PROTECTION

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

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2024-107.000

B. Barricade area to protect flooring until fully cured.

END OF SECTION