SECTION 09700

RESINOUS FLOORING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Fluid applied primer coat.

B. Notch squeegee or trowel-applied cementitious urethane flooring.

C. Fluid applied sealer coat.

D. Dissipative, anti-static, high performance urethane top coat.

1.2 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Selection Samples: For each finish product specified, submit two samples 4 by 4 inches in size illustrating color and texture.

D. Verification Samples: For each finish product specified, submit two samples 4 by 4 inches in size in color, chip size and variation, and matrix color, representing actual product scheduled.

1.3 QUALITY ASSURANCE

A. Manufacturer Qualifications:

B. Installer Qualifications: Installation shall be performed by an applicator approved by the manufacturer of the floor surfacing materials. The Contractor shall furnish a certified installer certificate.

C. Pre-Application Meeting: Convene a pre-application meeting two weeks before the start of application of the floor coating system. Require attendance of parties directly affecting work of this section, including the Contractor and Applicator. Review the surface preparation, application, cleaning, protection and coordination with other work.

D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
   1. Finish areas designated by Architect.
   2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
   3. Refinish mock-up area as required to produce acceptable work.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

B. Store materials in accordance with the manufacturer's instructions.
   1. Store materials in dry, enclosed area with adequate protection from moisture.

2. Keep containers sealed until ready for use.

C. Storage Temperature: Store between 60 degrees F (18 degrees C) and 80 degrees F (27 degrees C).

1.5 PROJECT CONDITIONS

A. Roof shall be completed and building enclosed prior to flooring commencement.

B. Maintain temperature range of between 65 degrees F (18 degrees C) and 75 degrees F (25 degrees C) 24 hours before, during, and 72 hours after installation of flooring.

C. Provide uniform lighting of 50 fc in area of installation.

D. Restrict traffic from area where flooring is being installed or is curing.

1.6 WARRANTY

A. Provide 1 year warranty on labor and materials.

B. Warranty: Include coverage for delamination (separating of layers) of floor and cove base materials and degradation of surface finish.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer(s)
Puma-Crete Corp
68 Harrison Ave, Boston, MA 02111 Tel: 857-226-8247
Email: info@PumaCrete.net ; Web: www.PumaCrete.net

B. Substitutions: Not permitted.

2.2 MATERIALS

A. PRIMER: Roll applied, 2 component primer coat, in order to seal the substrate.

B. BASE COAT: 3-component, Cementitious urethane slurry coat, 1/8 inch.

C. INTERMEDIATE COAT**:** 2-component, Roll-applied glaze coat.

D. TOP COAT: 4-component, roll applied, static dissipative polyurethane top coat.
For anti slip, shall contain glass bead (oxide) for very light anti slip texture.

FINISHES AVAILABLE: *The standard specified finish for this system is #1*

1. Light Glass bead finish. PumaCRETE Floor with 1 coat of glaze finish and glass bead texture.
2. Light Anti-Skid finish – PumaCRETE Floor with 40/60 grit silica, and 1 coat (125 sf/gal). This finish is easy to clean with a mop or any other cleaning method and still has some slip-resistance.
3. Heavy Anti-Skid finish – PumaCRETE Floor with 20/40 grit silica, and 1 coat (140+/gal) of top coat. This finish is easy to clean with a deck brush and squeegee or power scrubber, but is not moppable. It is slip-resistant even when wet. Recommended for any area that needs to be consistently cleaned and is always wet.

Acceptable Manufacturer and Product: Resinous flooring material shall be PumaCRETE 301-PumaESD system, as manufactured by Puma-Crete Corp of Boston, MA. Substitutions are not permitted.

1. Material shall include select cementitious and silica quartz fillers.
2. Floor system shall be a 100 percent solid, pigmented urethane/epoxy resin system.
3. **Primer Coat:** new concrete: apply a primer coat of 103-PumaPOXY WB (300 sf per gal).
For a non-concrete surface: apply 104-PumaPOXY MB (100-200 sf per gal), in

order to seal the substrate.

4. **Base Coat:** 301-SL 3-component, Cementitious urethane slurry coat, 1/8 inch. 60 sf/unit System handles up to 25 lb of MVT - moisture vapor transmission. Notched squeegee or trowel applied system consisting of PumaCRETE's 301-resin, 301-hardener and SL aggregate.
5. **Intermediate Coat**: 104-PumaPOXY MB. This roll-applied glaze coat, 200 sf/gal will provide a glass smooth, consistent finish.
6. **Top Coat** 112-PumaESD static dissipative, 4-component, chemical resistant, high performance polyurethane top coat.
7. Color as selected by Architect from manufacturers standard color range.

PART 4 EXECUTION

4.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

1. Verify that substrate is ready to receive work, and that sub-floor surface is clean, dry, and free of substances which could affect bond.
2. Concrete hydrostatic, capillary or moisture pressure must be no greater than **25.0 lbs**./1000 sf/24 hours. Substrates in contact with the ground must have a properly installed, functioning and effective vapor barrier to help prevent potential problems resulting from hydrostatic, capillary or moisture vapor emission. New concrete must cure for minimum **10 days**, and contain less than **10% moisture** when tested per ASTM D1864.
3. Maintain minimum concrete surface temperature between 60° and 80° F., and relative humidity below 80% for a minimum of 48 hours before, during , and after installation, or until cured. Surface temperature must be 5° F. above dew point.
4. Beginning work constitutes acceptance of substrate.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

4.2 PREPARATION

A. Substrate Requirements:

1. Cove base (by others) shall be installed after resinous flooring is complete.
2. The substrate shall be clean, dry and sound. Remove dust, laitance, grease, curing compounds, waxes, foreign particles and any previously applied potentially incompatible coatings by shot-blasting, diamond grinding, scarifying, chipping, wire brushing, acid etching, or pressure washing. If pressure washing or any other liquid method is used for preparation, substrate should be fully rinsed, squeeze-dry mopped and allowed to completely dry.
3. Concrete: New concrete must cure for at least **10 days** at 70°F (21°C), and have been free from water for at least 7 days. Floors should be, shot-blasted or diamond grinded and thoroughly clean. If badly cracked, crumbling, punky or deeply contaminated with oil, a new concrete topping of proper thickness and strength should be installed. Unsound areas should be chipped out and any cracks, spalls, joints or other depressions filled PumaCRETE 301-SL or 117-PumaCOVE or 116-PumaMENDER (crack fill). The concrete should be at least 3500 psi. Concrete hydrostatic, capillary or moisture pressure must be no greater than **10.0 lbs**./1000 sf/24 hours.
4. VCT / Ceramic Tile: Tile and grout shall be thoroughly diamond-grinded with 18-25 grit diamonds. Loose tiles shall be removed and filled in with 301-SL
5. Radiant Heating System: PumaCRETE floors can be installed over a radiant heating system if the following 3 conditions are met:
   a) The wires are not exposed directly to the floor material. They must be covered by the substrate.
   b) The radiant heat system is not more than 140F at the source.

More detailed floor preparation guidelines can be found at www.pumacrete.net/resources

4.3 INSTALLATION - FLOORING

A. Apply flooring in accordance with PumaCRETE's instructions.

B. Apply 103-PumaPOXY WB at 300 sf per gal.

C. Apply 301-SL base coat, to a minimum thickness of 1/8 inch

D. Apply 104-PumaPOXY MB coating at rate of 200-250 sf/gal.

E. Apply 112-ESD (static dissipative) finish coat at rate of 1200-1400 sf/unit.

F. Ground Straps: ground the floor using copper connector straps placed at the perimeters of the room. Straps typically consist of 18-24" long copper ground tape, with conductive adhesive. These can be attached to electrical outlets, conduit, building steel, or a dedicated grounding bar. One connection is necessary for every 1000 square feet of contiguous ESD flooring.

G. Flooring must be tested after completion, to comply with the following: resistance to ground 1.0 x 10e5 to 1.0 x 10e8 ohms, measured per ANSI/ESD STM 7.1 and meeting requirements of ANSI/ESD S20. 20-2021.

Review more detailed PumaCRETE floor installation and grounding instructions at www.pumacrete.net/resources

4.4 TOLERANCES

A. Maximum Variation from Flat Surface: 1/8 inch in 10 feet (3 mm in 3 m).

4.5 PROTECTION

A. Protect finished installation during construction.

B. Do not permit traffic over finished floor surfaces for 48 hours.

4.6 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION