

SECTION 09780

SEAMLESS EPOXY-QUARTZ FLOORING

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 1. Moisture vapor emission testing.
 2. Surface preparation.
 3. Waterproofing membrane (if required).
 4. Furnishing and installation of seamless epoxy-quartz flooring.

1.02 RELATED SECTIONS

- A. Section 03300 - Cast-In-Place Concrete:
 1. Concrete slabs on or below grade shall be installed over an effective moisture vapor barrier.
 2. Concrete slabs shall be cured 30 days, be structurally sound and have a steel trowel finish.
 3. Surface shall be well sloped to drains, straight and level with the permissible degree of tolerance of 1/4" in 10'-0" in any direction.
 4. No curing compounds or surface contaminants shall be used in placing new concrete.

1.03 SUBMITTALS

- A. Submit manufacturer's product data, literature and brochures.
- B. Submit manufacturer's samples showing color choices and texture.
- C. Prior to commencing work, installer shall prepare two 6" x 6" samples of the resinous flooring chosen for the project showing actual color, thickness and texture. These samples shall serve as a basis for comparison throughout the duration of the work.

1.04 QUALITY ASSURANCE

- A. All materials used in the seamless epoxy-quartz flooring system shall be manufactured by a single manufacturer to ensure compatibility and proper bonding.
- B. Applicator shall be approved by the manufacturer and shall have a minimum of 3 years experience in installing seamless epoxy floors.

1.05 DELIVERY, STORAGE AND HANDLING

- A. All material shall be delivered to the job site in unopened containers clearly labeled by the manufacturer and stored in a dry location at a minimum of 65 degrees F.

1.06 WARRANTY

- A. Manufacturer shall guarantee that his materials are free from defects and comply with his published specifications.
- B. Applicator shall warranty against faulty workmanship for a period of 3 years from substantial completion of the project.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Resin system and graded silica filler shall be as supplied by Arizona Polymer Flooring, Glendale, Arizona.
- B. Broadcast aggregate shall be supplied by:
 - 1. SpectraQuartz
 - 2. Gordon Sand
 - 3. Other suitable manufacturer
- C. Elastomeric caulking compounds shall be supplied by:
 - 1. Vulkem
 - 2. SIKA
 - 3. Sonneborn

2.01 MATERIALS

- A. Seamless epoxy-quartz flooring shall consist of 100% solids clear Epoxy 400 or Epoxy 600, APF Slurry Filler, 20-30 mesh Monterey type sand and 28 mesh color quartz aggregate.
- B. Two-component aliphatic Polyurethane 100 or Polyurethane 500 shall be used as the finish coat for systems requiring a moppable texture.

2.03 SYSTEM DESCRIPTION

- A. Flooring system to be 1/8" thick with color and texture to match the sample chosen.
- B. Finished flooring system shall have the following performance characteristics:
 - 1. Compressive Strength (ASTM C 579): 9500 psi.
 - 2. Tensile Strength (ASTM C 307): 2500 psi.
 - 3. Flexural Strength (ASTM C 580): 4200 psi.
 - 4. Hardness Shore D (ASTM D 2240): 85
 - 5. Impact Resistance (ASTM D 2794): Passes 160 inch pounds.
 - 6. Thermal Shock Resistance (ASTM D 1044): passes
 - 7. Tabor Abrasion (ASTM D 1044): 34 mg. loss
 - 8. Water Absorption (ASTM D 543): 0.2%
 - 9. Bond Strength (ACI 503.4-2.3.2): 350 psi, concrete failure
 - 10. USDA Approval: Approved
- C. Chemical Resistance: (ASTM D 1308 - 7 day exposure) Unaffected by the following:
 - 1. Urine
 - 2. Blood
 - 3. Gasoline
 - 4. Brake Fluid
 - 5. Mineral Spirits
 - 6. 25% Hydrochloric Acid
 - 7. 25% Sulfuric Acid
 - 8. 10% Acetic Acid

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions:
 - 1. Inspect surfaces to receive epoxy flooring.
 - 2. Conduct calcium chloride moisture vapor emission testing according to ASTM 1869-04. If test reading is above three pounds, consult Arizona Polymer Flooring before proceeding.
 - 3. Before starting work, report in writing to the Architect any unsatisfactory condition.
 - 4. Application of any material shall signify that surfaces have been inspected and are satisfactory.

3.02 SURFACE PREPARATION

- A. Surfaces to receive flooring system shall be abraded to a minimum of 5 mil profile using shot blasting or acid etching. If acid etching is used, it shall be done in strict accordance with the manufacturer's written instructions. Etching shall be accomplished using a mechanical scrubber with an aggressive "nylogrit" type brush.
- B. Fill all cracks, holes and joints with Epoxy 300 Flex Paste prior to application of flooring system. True expansion joints shall be marked for sawcutting after installation of the flooring system.

3.03 INSTALLATION

- A. Allow sufficient time for the installation of the flooring system. At no time shall the speed of project completion be allowed to detrimentally affect the application.
- B. Provide sufficient light, power, heat and working conditions to permit proper application of the material. Substrate temperature shall be at a minimum of 50 degrees Fahrenheit during application and for 48 hours thereafter.
- C. If waterproofing is required, apply elastomeric Polyurethane 300 according to manufacturer's instructions to achieve a 40 mil membrane.
- D. Install coved base if required to a thickness of 1/8" to 1/4". Cove shall be 4" to 6" high with 3/4" to 1" radius and terminated with a metal or plastic edge strip. Cove shall be reasonably smooth and uniform in appearance to provide an easily cleaned surface. The seam between the coved base and the wall shall be sealed with an elastomeric polyurethane caulking.
- E. Flooring system shall be installed using the double slurry broadcast to achieve the specified thickness.
 - 1. Slurry shall consist of Epoxy 400 or Epoxy 600 and APF slurry filler. For each gallon of liquid resin, 7-10 pounds of slurry filler must be added.
 - 2. Broadcast aggregate for the first broadcast may be 20-30 mesh Monterey type sand or 28 mesh color quartz.
 - 3. Broadcast aggregate for the second broadcast shall be blended 28 mesh color quartz. Color blend shall be chosen by the owner.
- F. Areas to receive a moppable texture shall be sanded with 60-80 grit sandpaper and finished with Polyurethane 100 or Polyurethane 500.
- G. If the floor has been installed over true expansion joints, sawcut through the finished floor and caulk the joints with elastomeric polyurethane caulk.

3.04 FIELD QUALITY CONTROL

- A. Installer shall monitor the thickness of the system as the work progresses. Areas found to not meet the required thickness shall receive additional material until specified thickness is attained.

3.05 PROTECTION

- A. Installation areas must be kept free from traffic and other trades during the application procedure and cure time.

END OF SECTION