

SECTION 096723

RESINOUS FLOORING CASTORCRETE® BIO FLOOR HDQ (COLORED QUARTZ)

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Moisture Vapor Emission Testing
 - 2. Surface Preparation
 - 3. Furnishing and installation of urethane mortar flooring and decorative broadcast.

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. Submit a statement from the manufacturer indicating the installer's certification.
- D. 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 CastorCrete Bio Floor HDQ flooring system shall be manufactured by a single manufacturer to ensure compatibility and proper bonding.
- B. Applicator shall have a minimum of 3 years experience in the installation of urethane mortar flooring and be certified by the manufacturer.
- C. Owner reserves the right to core drill the finished flooring in 3 locations to verify the thickness of the application. If the specified thickness was not achieved, the contractor may be directed to pay for testing and reapplication of flooring materials until the desired thickness is obtained.

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 65-85 degrees Fahrenheit.

1.06 WARRANTY

- A. Manufacturer shall warrant that the materials are free from defects and comply with written specifications.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. CastorCrete Bio Floor HDQ shall be supplied by Arizona Polymer Flooring, Inc., Phoenix, Arizona. Aggregate fillers for CastorCrete SL shall be supplied by Arizona Polymer Flooring, Inc. or other suitable sources approved by the manufacturer. Colored Quartz shall be supplied by Arizona Polymer Flooring.

2.02 MATERIALS

- A. CastorCrete SL urethane mortar
- B. Epoxy 400
- C. APF Colored Quartz as selected from manufacturers standard solid colors or blended colors by architect for basis of design.
- D. Polyurethane 100 or Polyurethane 100 VOC or Polyurethane 325 as a top coat as selected by architect for basis of design.
- E. Elastomeric caulking compounds shall be supplied by Vulkem, SIKA or Sonneborn.

2.03 SYSTEM DESCRIPTION

- A. Flooring system to be a minimum of 3/16" 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):	9,500 psi
2. Tensile Strength (ASTM C 307):	950 psi
3. Flexural Strength (ASTM C 580):	2,900 psi
4. Hardness, Shore D (ASTM D 2240):	85-90
5. Impact Resistance (ASTM D 2794):	160 in/lb
6. Flammability (ASTM E 648):	Class 1
7. Abrasion Resistance (ASTM D 4060, CS-17):	34 mg loss
8. Coefficient of Friction (ASTM F-1679):	0.8 dry
9. Water Absorption (ASTM D 543):	0.10%
10. Bond Strength (ACI 503.4-2.3.2):	350 psi, concrete failure

- C. Chemical and Stain Resistance (ASTM D-1308 24 hour immersion)

Urine.....	no effect
Blood.....	no effect
Whiskey.....	no effect
Black Ink.....	no effect

Brake Fluid.....	no effect
Gasoline.....	no effect
Skydrol B-4.....	no effect
Hydraulic Fluid #83282.....	no effect
Mineral Spirits.....	no effect
Xylene.....	no effect
MEK.....	film softened
50% Sodium Hydroxide.....	no effect
25% Hydrochloric Acid.....	no effect
25% Sulphuric Acid.....	no effect
25% Acetic Acid.....	no effect
25% Nitric Acid.....	film softened

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions:
 1. Inspect surfaces to receive flooring.
 2. Conduct Calcium Chloride Moisture Testing in accordance with ASTM F-1869 and or Relative Humidity (RH) Probe testing in accordance with ASTM F-2170. In the event that the tests result in 10 lbs per 1000 sq. ft. per 24 hours, or 85% relative humidity, refer to manufacturers recommendations for moisture remediation.
 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. Remove old coatings, substrate ridges and protrusions by grinding or sanding. Surfaces to receive flooring system shall be profiled to a minimum of 20 mils using mechanical scarification or shot blasting. Follow manufacturers' written surface preparation instructions.

3.03 INSTALLATION

- A. Allow sufficient time for the installation of the flooring system. At no time shall the speed of the project completion be allowed to detrimentally affect the application.
- B. Provide sufficient light, power, heat and working conditions to permit proper application of coating materials. Substrate temperature shall be a minimum of 45 degrees Fahrenheit during application and for 48 hours thereafter.
- C. Apply CastorCrete SL using a gauge rake set at 3/16 of an inch.
- D. Immediately upon placement, use a trowel to remove major imperfections and then backroll with a looped roller to aid in leveling.
- E. Allow CastorCrete SL to cure for 12 hours prior to application of Colored Quartz.
- F. After slurry base has cured, sand or grind surface to remove any trowel marks or imperfections. Apply Epoxy 400 at the rate of 200 sq. ft. per gallon. Broadcast

- specified Colored Quartz into the wet material to refusal. Allow to cure firm before proceeding.
- G. Once material has cured, remove loose aggregate, scrape and vacuum. Apply specified Polyurethane 100 or Polyurethane 100 VOC at the rate of 250-350 sq. ft. per gallon. Polyurethane 325 at the rate of 350-400 sq. ft. per gallon.
 - H. Immediately after the system has cured, saw cut completely through the urethane mortar at the pre-marked expansion joints. Fill the joints with elastomeric polyurethane caulking according to manufacturer's instructions.

3.04 FIELD QUALITY CONTROL

- A. Installer shall monitor the thickness of the system as 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