

## SECTION 09742

### COLORCHROME FLOORING SYSTEM

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Section includes:
  - 1. Moisture vapor emission testing.
  - 2. Surface preparation.
  - 3. Joint treatment.
  - 4. Furnishing and installation of chemical resistant polyurethane floor coating system.
  
- B. Related Sections:
  - 1. Section 03300 - Cast-In-Place Concrete:
    - a. Concrete slabs on or below grade shall be installed over an effective moisture vapor barrier.
    - b. Concrete slabs shall be cured 30 days, be structurally sound and have a steel trowel finish.
    - c. 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.
    - d. No curing compounds or surface contaminants shall be used in placing new concrete.

##### 1.02 SYSTEM DESCRIPTION

- A. The flooring system shall consist of a primer coat, intermediate build coat and a finish coat. Total dry film thickness shall be 10-16 mils.
  
- B. Finished flooring system shall have the following performance characteristics:
  - 1. Gloss (60 degrees): 90-95
  - 2. Hardness (Shore D): 80-85
  - 3. Tabor Abrasion: (1000 gm load, 1000 cycles, CS-17 wheel): 34 mg loss.
  - 4. Tensile Strength, psi (ASTM D-638): 6,230
  - 5. Ultimate Elongation, % (ASTM D-638): 11
  - 6. Compressive Yield Strength, psi (ASTM D-695): 9,850
  - 7. Ultimate Compressive Strength, psi (ASTM D-695): 19,501
  - 8. Ultimate Flexural Strength, psi (ASTM D-790): 9,680
  - 9. Bond Strength to Concrete (ACI 503.4-2.3.2.2) concrete fails before loss of bond.
  
- C. Chemical Resistance: (ASTM D-1308 7 day exposure) Unaffected by the following:
  - 1. Brake fluid
  - 2. Skydrol B-4
  - 3. Gasoline
  - 4. Hydraulic Fluid #83282
  - 5. Mineral Spirits
  - 6. Xylene
  - 7. 50% Sodium Hydroxide
  - 8. 25% Hydrochloric Acid
  - 9. 25% Sulfuric Acid

### 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 resin material used in this system shall be manufactured by a single manufacturer to ensure compatibility and proper bonding.
- B. Applicator must have a minimum of 3 years experience in installing polymeric flooring systems and be certified by the manufacturer.
- C. All work shall be performed in strict accordance with the manufacturer's written instructions.

### 1.05 DELIVERY, STORAGE AND HANDLING

- A. All material shall be delivered to the jobsite 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 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 materials shall be supplied by Arizona Polymer Flooring Inc., Phoenix, Arizona.

### 2.02 MATERIALS

- A. Primer: 43.5 percent volume solids water-based epoxy primer.
- B. Intermediate Build Coat: 100 percent solids amine-cured epoxy.
- C. Finish Coat: 62.5 percent volume solids, two-component, VOC compliant, aliphatic chemical resistant polyurethane.

## **PART 3 EXECUTION**

### 3.01 EXAMINATION

- A. Verification of Conditions:
  - 1. Inspect surfaces to receive floor system.
  - 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 conditions.
  - 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.

### 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 effect the application.
- B. Provide sufficient light, power, heat and working conditions to permit proper application of the materials. Substrate temperature shall be at a minimum of 50°F during application and for 48 hours thereafter.
- C. Mechanically clean and fill all joints with Epoxy 300 Flex Paste according to manufacturer's instructions. Allow to cure. Sand smooth, if necessary.
- D. Prime prepared substrate with Epoxy 100 with ColorChrome pigment at 200-250 sq. ft. per gallon. Allow to cure overnight before proceeding.
- E. Apply build coat of Epoxy 400 with ColorChrome pigment at 150-200 sq. ft. per gallon. Allow to cure overnight before proceeding.
- F. Apply finish coat of Polyurethane 100, 100 VOC or 501 at 300-325 sq. ft. per gallon. If slip-resistance is required, broadcast 60-90 mesh bleached aluminum oxide at a rate of 2-5 pounds per 1000 sq. ft. and back roll into the wet polyurethane.

### 3.04 FIELD QUALITY CONTROL

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

### 3.06 MAINTENANCE

- A. Floor should be cleaned with ammonia and water or a mild, non-filming detergent. For difficult stains, paint thinner may be used without harming the finish.

**END OF SECTION**