

SECTION 09742

AIRCRAFT HANGAR 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 10-12 mils.
- B. Finished flooring system shall have the following performance characteristics:
 - 1. Gloss (60 degrees): 90-95
 - 2. Hardness (swad): 30
 - 3. Tabor abrasion: (1000 gm load, 1000 cycles, CS-17 wheel): 34 mg loss.
 - 4. Flexibility (ASTM D-222): Passes 1/8 inch.
 - 5. Impact resistance (ASTM D-2794): Passes 160 inch-pounds, direct and reverse.
- 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% Sulphuric 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., Glendale, 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, V.O.C. 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 at 250-300 sq. ft. per gallon. Allow to cure overnight before proceeding.
- E. Apply build coat of Epoxy 400 at 200-250 sq. ft. per gallon. If slip resistance is required, broadcast 36 mesh bleached aluminum oxide at a rate of 3-5 pounds per 1000 sq. ft. into the wet build coat. Allow to cure overnight before proceeding.
- F. Apply finish coat of Polyurethane 100 at 300-325 sq. ft. per gallon.

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