

SECTION 099600 - EPOXY FLOOR COATINGS

GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes surface preparation and application of high-performance coating systems on the following substrates:
 - 1. Interior Substrates:
 - a. Concrete Floor Slabs

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For each type of finish-coat product indicated.
- C. Product List: For each product indicated. Cross-reference products to coating system and locations of application areas. Use same designations indicated on Drawings and in schedules.

1.4 QUALITY ASSURANCE

- A. Qualifications:
 - 1. The Manufacturer shall have a minimum of 10 years experience in the production, sales, and technical support of methyl methacrylate (MMA) industrial flooring and related materials.
 - 2. The Applicator shall have been approved by the flooring system manufacturer in all phases of surface preparation and application of the product specified.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.6 PROJECT CONDITIONS

- A. Application may proceed when space conditions, material and substrate temperatures are between 35 F and 90 F providing the substrate temperature is above the dew point. Outside of this range, the Manufacturer shall be consulted.
- B. Do not apply coatings in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
- C. The relative humidity in the specific location of the application shall be less than 85 % and the surface temperature shall be at least 5 F above the dew point.
- D. The Applicator shall ensure that adequate ventilation is available for the work area. This shall include the use of manufacturer's approved fans, smooth bore tubing and closure of the work area.
- E. The Applicator shall be supplied with adequate lighting equal to the final lighting level during the preparation and installation of the system.
- F. The Applicator shall be provided with adequate disposal facilities for non-hazardous waste generated during installation of the system.

PRODUCTS

1.7 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Dur-A-Flex, Inc.
 - 2. Epoxy Systems, Inc.
 - 3. Sherwin-Williams Company; General Polymers.
 - 4. Or Approved Equal

1.8 MATERIALS

- A. VOC Content of Resinous Flooring: Provide resinous flooring systems, for use inside the weatherproofing system, that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - 1. Epoxy Flooring: 100 g/L.

1.9 EPOXY FLOORING [Per Sheet A.1.1]

- A. Epoxy Flooring: Waterproof, designed to produce a seamless floor.
- B. System Characteristics:

1. Color and Pattern: As selected by Government Design Professional from manufacturer's full range
 2. Wearing Surface: Smooth
- C. Coats:
1. Primer: As required and recommended by the manufacturer for specific application area and substrate.
 2. Base Coat: Minimum of one (1) coat, but as required for specific application area based on manufacturer's recommendation.
 3. Topcoat (Sealing or finish coats): Minimum of one (1) coat, but as required by manufacturer.

EXECUTION

1.10 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.
1. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - a. Concrete: 12 percent.
 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 3. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
 4. Coating application indicates acceptance of surfaces and conditions.

1.11 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Remove plates, machined surfaces, and similar items already in place that are not to be coated. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and coating.
- C. Concrete surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae growth, lantance, friable matter, dirt, and incompatible paints.
1. Clean surfaces with pressurized water. Use pressure range of 1500 to 4000 psi at 6 to 12 inches.
- D. The substrate shall be sound and all spalls repaired prior to placement of the prime coat. Spalls and cracks shall be repaired with compatible rapid cure concrete patch materials per Manufacturer's recommendations.

- E. There shall be no visible moisture present on the surface at the time of application of the system. Compressed oil-free air and/or a light passing of a propane torch may be used to dry the substrate.
- F. Bond Test:
 - 1. Random tests for adequate bond strength shall be conducted on the substrate while the surface preparation is ongoing and prior to application of the primer, in accordance with the Manufacturer's recommendations, at minimum frequency of three tests per 5,000 sf. Smaller areas shall receive a minimum of three tests.
 - 2. Based on the test results, additional substrate preparation may be required before proceeding with the installation of the system.

1.12 APPLICATION

- A. Apply high-performance coatings according to manufacturer's written instructions.
 - 1. Use applicators and techniques suited for coating and substrate indicated.
- B. Immediately prior to the application of any component of the system, the surface shall be dry and any remaining dust or loose particles shall be removed using a vacuum or clean, dry, oil-free compressed air.
- C. The handling, mixing and addition of components shall be performed in a safe manner to achieve the desired results in accordance with the Manufacturer's recommendations.
- D. The system shall follow the contour of the substrate unless pitching or other leveling work has been specified by the Government Design Professional.
- E. Male and Female Shower Areas: System shall provide proper slope to all new and existing floor drains as depicted on the project design drawings.
- F. A neat finish with well-defined boundaries and straight edges shall be provided by the Applicator.

1.13 FIELD QUALITY CONTROL

- A. Government reserves the right to invoke the following procedure at any time and as often as Owner deems necessary during the period when coatings are being applied:
 - 1. Government may direct the Contractor, at no additional cost to engage the services of a qualified testing agency to sample coating material being used. Samples of material delivered to Project site will be taken, identified, sealed, and certified in presence of Contractor.
 - 2. Testing agency will perform tests for compliance with specified requirements.
 - 3. Government may direct Contractor to stop applying coatings if test results show materials being used do not comply with specified requirements. Contractor shall remove non-complying coating materials from Project site, pay for testing, and recoat surfaces coated with rejected materials. Contractor will be required to remove rejected materials from

previously coated surfaces if, on recoating with complying materials, the two coatings are incompatible.

B. Tests, Inspection

1. The following tests shall be conducted by the Applicator:

a. Temperature

1. Air, substrate temperatures and, if applicable, dew point.

b. Bond Tests

1. Bond Test of the primer to the substrate shall be checked as per Clause 3.2 C.

c. Coverage Rates

1. Rates for all layers shall be monitored by checking quantity of material used against the area covered.

1.14 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from coating operation. Correct damage by cleaning, repairing, replacing, and recoating, as approved by Government Design Professional, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

END OF SECTION 099600