

SECTION 09 96 00
HIGH-PERFORMANCE COATINGS

PART 1 - GENERAL

1.1 DESCRIPTION

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

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For each type of finish-coat product indicated.
- C. Samples for Verification: For each type of coating system and in each color and gloss of finish coat indicated.
 - 1. Submit Samples on rigid backing, 8 inches square.
 - 2. Step coats on Samples to show each coat required for system.
 - 3. Slip-resistant finish.
 - 4. Label each coat of each Sample.
 - 5. Label each Sample for location and application area.
- D. 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.

1.3 QUALITY ASSURANCE

- A. Mockups: Apply benchmark samples of each coating system indicated to verify preliminary selections made under sample submittals, to demonstrate aesthetic effects, to demonstrate slip-resistant finish, and set quality standards for materials and execution.
 - 1. Architect will select one surface to represent surfaces and conditions for application of each type of coating and substrate.
 - a. Floor Surfaces: Provide sample of at least 100 sq. ft..
 - 2. Apply benchmark samples after permanent lighting and other environmental services have been activated.
 - 3. Final approval of color selections will be based on benchmark samples.
 - a. If preliminary color selections are not approved, apply additional benchmark samples of additional colors selected by Architect at no added cost to Owner.

1.4 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.

1.5 PROJECT CONDITIONS

- A. Apply coatings only when temperature of surfaces to be coated and surrounding air temperatures are between 50 and 95 deg F.
- 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.

1.6 EXTRA MATERIALS

- A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.
 - 1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. of each material and color applied.

PART 2 - PRODUCTS

2.1 HIGH-PERFORMANCE COATINGS, GENERAL

- A. Material Compatibility:
 - 1. Provide materials for use within each coating system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. Provide products of same manufacturer for each coat in a coating system.
- B. Colors: As selected by Architect from manufacturer's full range.

2.2 EPOXY COATINGS - PRIMER

- A. Water-Based Epoxy Floor Primer:
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Flowcrete; Flowcem.
 - b. General Polymers; AquArmor WBE.
 - c. Or approved equal.

2.3 EPOXY COATINGS - SLURRY COAT

- A. High Solids Water-Based Epoxy Floor Coating:
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Flowcrete; Flowcem.
 - b. General Polymers; AquArmor WBE.
 - c. Or approved equal.

2.4 EPOXY COATINGS - TOP COAT

- A. 100 Percent Solids Epoxy Floor Coating:
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Flowcrete; Flowcoat SF 41.
 - b. General Polymers; 3745 Self-Leveling Epoxy.
 - c. Or approved equal.

2.5 POLYURETHANE SEAL COAT

- A. Aliphatic Polyurethane Seal Coat:
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Flowcrete; Flowseal UV.
 - b. General Polymers; 4408 WB Polyurethane Gloss.
 - c. Or approved equal.

2.6 MISCELLANEOUS ACCESSORIES

- A. Patching and Fill Material: Manufacturer's product approved and recommended by manufacturer for application indicated.
- B. Slurry Aggregate: Type, size, and amount as recommended by manufacturer.
- C. Slip-Resistive Granules: Factory-graded (fine), packaged, rustproof, nonglazing, abrasive aggregate as recommended by manufacturer of not less than 95 percent fused aluminum-oxide granules.

PART 3 - EXECUTION

3.1 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. Slab substrates are dry and free of materials that may interfere with coating bond. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by coating manufacturer.
2. Verify compatibility with and suitability of substrates.
3. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
4. Coating application indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" and "MPI Maintenance and Repainting Manual" applicable to substrates indicated.
- B. Hazardous Materials: It is not known if hazardous materials including lead-based paint will be encountered in the Work.
 1. If suspected hazardous materials are encountered, do not disturb; immediately notify the Resident Engineer.
- C. 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.
 1. After completing coating operations, reinstall items that were removed; use workers skilled in the trades involved.
- D. Clean substrates of substances that could impair bond of coatings, including dirt, oil, grease, and incompatible paints and encapsulants.
- E. Concrete Substrates: Remove release agents, curing compounds, sealers, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.
 1. Abrasive blast clean surfaces to comply with ICRI CSP 4, and as recommended by high-performance coating manufacturer.
- F. Use patching, leveling, and fill material to fill holes, spalls, and depressions in substrates according to manufacturer's written instructions. Fill holes, spalls, and depressions 1/8 inch wide or wider and level protrusions more than 1/32 inch, unless more stringent requirements are required by coating manufacturer.

- G. Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through coating according to manufacturer's written recommendations.

3.3 APPLICATION

- A. Apply high-performance coatings according to manufacturer's written instructions.
 - 1. Use applicators and techniques suited for coating and substrate indicated.
 - 2. Coat surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, coat surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Coat back sides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
- B. Apply prime coat in accordance with manufacturer's written recommendations.
- C. Uniformly broadcast slip-resistive granules in slurry coat in amounts and methods as recommended by manufacturer, and in accordance with approved mock-up, to achieve a cleanable slip resistant finish. Sweep off excess slip-resistive granules prior to applying top coat.
- D. If undercoats or other conditions show through seal coat, apply additional coats until cured film has a uniform coating finish, color, and appearance.
- E. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections.

3.4 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 Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

3.5 INTERIOR HIGH-PERFORMANCE COATING SCHEDULE

A. Concrete Substrates, Horizontal Surfaces.

1. Epoxy Floor Coating System with Reservoir Type Moisture Vapor Transmission (MVT) System over Existing Concrete.
 - a. Prime Coat: Water-based epoxy primer.
 - b. Slurry Coat: High-Solids water-based epoxy floor coating, minimum 1/8 inch thick, with broadcast anti-slip granules.
 - c. Top Coat: 100 percent solids epoxy floor coating.
 - d. Seal Coat: Aliphatic polyurethane.

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