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**PART 1 GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section includes surface preparation and field sealing of exposed interior concrete floor surfaces.
- B. Seal exposed concrete floor surfaces noted in "Finish Schedule".
- C. Related Requirement:
  - 1. Division 1 Section "Sustainable Design Requirements".

**1.3 QUALITY ASSURANCE**

- A. The work of this section shall be performed by a company which specializes in the type of painting work required for this Project, with a minimum of 5 years of documented successful experience and shall be performed by skilled workmen thoroughly experienced in the necessary crafts.
  - 1. Work shall be performed in compliance with Owner's insurance underwriters' requirements and UL approvals and testing for materials, assemblies and procedures.
- B. Manufacturer shall specialize in manufacturing the type of concrete sealer specified in this section, with a minimum of 5 years of documented successful experience, and have the facilities capable of meeting all requirements of Contract Documents as a single-source responsibility and warranty.
- C. Applicator Qualifications: A firm or individual experienced in applying coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- D. Regulatory Requirements: Comply with applicable rules of the pollution-control regulatory agency having jurisdiction in the project locale regarding volatile organic compounds (VOC) and use of hydrocarbon solvents.
- E. Indoor air quality qualifications: Provide types of coatings that meet or exceed the VOC limits established by the Green deal program for paints.
- F. Manufacturer's identification tags or marks are not acceptable on surfaces which will remain exposed to view after installation.
  - 1. Evidence of "patching" after removal of tags or marks is not acceptable.

**1.4 SUBMITTALS**

- A. Submit the following according to Conditions of the Construction Contract and Division 1 Specification Sections.
- B. Product Data: For concrete sealer system indicated.
  - 1. Include primers.
  - 2. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material.
  - 3. Submit a cut sheet for concrete sealer highlighting compliance with Green Seal VOC limits.
- C. LEED Submittals:
  - 1. Credit EQ 4.1: Product Data for adhesives and sealants used on the interior of the building indicating VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D (EPA Method 24).
  - 2. Credit EQ 4.2: Product Data for paints and coatings used on the interior of the building indicating VOC content of each product used. Indicate VOC content in g/l calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- D. Qualification Data: For Applicator.

- E. Hazardous Materials Notification: In the event no product or material is available that does not contain asbestos, PCB or other hazardous materials as determined by the Owner, a "Material Safety Data Sheet" (MSDS) equivalent to OSHA Form 20 shall be submitted for that proposed product or material prior to installation.
- F. Asbestos and PCB Certification: After completion of installation, but prior to Substantial Completion, Contractor shall certify in writing that products and materials installed, and processes used, do not contain asbestos or polychlorinated biphenyls (PCB), using format in Article 3 of General Conditions.

### 1.5 DELIVERY, HANDLING, STORAGE

- A. Comply with General Conditions and Division 1, Section "Product Requirements".
- B. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:
  - 1. Product name or title of material.
  - 2. Product description (generic classification or binder type).
  - 3. Manufacturer's stock number and date of manufacture.
  - 4. Contents by volume, for pigment and vehicle constituents.
  - 5. Thinning instructions.
  - 6. Application instructions.
  - 7. Color name and number.
  - 8. VOC content.
- C. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C).
  - 1. Maintain storage containers in a clean condition, free of foreign materials and residue.
  - 2. Protect from freezing.
    - a. Keep storage area neat and orderly.
    - b. Remove oily rags and waste daily.

### 1.6 PROJECT CONDITIONS

- A. Apply waterborne coatings only when temperatures of surfaces to be painted and surrounding air are around 70 deg F.
- B. Apply solvent-thinned coatings only when temperatures of surfaces to be painted and surrounding air are around 70 deg F.
- C. Do not apply coatings in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.
  - 1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated.

### 1.7 WARRANTY

- A. Comply with General Conditions and Division 1, Section "Product Requirements" agreeing to repair or replace specified materials or Work that has failed within the warranty period. Failures include but are not limited to the following:

## **PART 2 PRODUCTS**

### 2.1 UNAUTHORIZED MATERIALS

- A. Materials and products required for work of this section shall not contain asbestos, polychlorinated biphenyls (PCB) or other hazardous materials identified by the Owner.

### 2.2 MANUFACTURERS

- A. Products of the manufacturers specified in this section establish the minimum functional, aesthetic and quality standards required for work of this section.
- B. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated or comparable product by one of the following:
  - 1. Euclid Chemical Company.
  - 2. ChemMasters.

3. Dayton Superior Construction.
4. W.R. Meadows, Inc.

C. Substitutions: Comply with General Conditions using form in Division 1, Section "Substitution Request Form".

### 2.3 MATERIALS, GENERAL

- A. Material Compatibility: Provide concrete sealers that are compatible with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. Material Quality: Provide manufacturer's best-quality concrete sealer material specified that is factory formulated and recommended by manufacturer for application indicated.
1. Material containers not displaying manufacturer's product identification will not be acceptable.
  2. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers.
    - a. Furnish manufacturer's material data and certificates of performance for proposed substitutions.
- C. VOC Content: Adhesive and sealants used inside the waterproofing system and applied onsite shall have VOC content equal to or less than the applicable VOC limits. Refer to Section 01 81 13 / Sustainable Design Requirements for additional information.
- D. VOC Content: Paints and coatings used inside the waterproofing system and applied onsite shall have VOC content equal to or less than the applicable VOC limits. Refer to Section 01 81 13 / Sustainable Design Requirements for additional information.

### 2.4 SEALERS

- A. Interior Concrete Sealer: Water-based sodium silicate solution used to densify, seal and dustproof concrete.
1. Euclid Eucosil (liquid densifier for concrete surfaces).
- B. Interior Epoxy Water Emulsion Primer applied at spreading rate recommended by manufacturer.
- |                                  |  |
|----------------------------------|--|
| 1. Color                         | Clear.   |
| 2. Mixing                        | No pre-mixing required.                                |
| 3. VOC                           | 0 g/L.   |
| 4. Coverage                      | 1 gallon will cover from 150 to 600 ft.2.              |
| 5. Cure Time                     | 4-6 hours (foot traffic) and 24 hours (wheel traffic). |
| 6. Resistance to Moisture        | Excellent.   |
| 7. Thermal Shock                 | Excellent.   |
| 8. Adhesion to Concrete          | Excellent.   |
| 9. Product Composition (Weight): |  |
| a. Water                         | 60%.   |
| b. Sodium Silicate               | 15-40%.  |
| c. Formaldehyde                  | < 0.1%.  |

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for paint application.
1. Proceed with sealer application only after unsatisfactory conditions have been corrected and surfaces receiving sealer are thoroughly dry.
  2. Start of painting sealer will be construed as Applicator's acceptance of surfaces and conditions within a particular area.
- B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates.
1. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
  2. Notify Architect about anticipated problems when using the materials specified over substrates primed by others.

### 3.2 PREPARATION

- A. Cleaning: Before applying sealer or other surface treatments, clean substrates of substances that could impair bond of the coating.
  - 1. Remove oil and grease before cleaning.
  - 2. Schedule cleaning and sealing so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
  
- B. Surface Preparation: Clean and prepare surfaces to be sealed according to manufacturer's written instructions for each particular substrate condition and as specified.
  - 1. Provide barrier coats over incompatible primers or remove and reprime.
  - 2. Cementitious Materials: Prepare concrete surfaces to be sealed.
    - a. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents.
    - b. Roughen as required to remove glaze.
    - c. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
    - d. Use abrasive blast-cleaning methods if recommended by sealer manufacturer.
    - e. Determine alkalinity and moisture content of surfaces by performing appropriate tests.
      - 1) If surfaces are sufficiently alkaline to cause the finish sealer to blister and burn, correct this condition before application.
      - 2) Do not seal surfaces if moisture content exceeds that permitted in manufacturer's written instructions.
    - f. Clean concrete floors to be painted with a 5 percent solution of muriatic acid or other etching cleaner.
      - 1) Flush the floor with clean water to remove acid, neutralize with ammonia, rinse, allow to dry, and vacuum before painting.

### 3.3 APPLICATION

- A. General: Apply sealer according to manufacturer's written instructions.
  - 1. Use applicators and techniques best suited for concrete and type of material being applied.
  - 2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
  
- B. Scheduling Sealing: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for sealing as soon as practicable after preparation and before subsequent surface deterioration.
  - 1. Apply two (2) coats of sealer required regardless of application method.
  
- C. Application Procedures: Apply sealers according to manufacturer's written instructions.
  
- D. Minimum Coating Thickness: Apply sealer materials no thinner than manufacturer's recommended spreading rate to achieve dry film thickness indicated. Provide total dry film thickness of the entire system as recommended by manufacturer.

### 3.4 CLEANING

- A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.
  - 1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

### 3.5 PROTECTION

- A. Protect work of other trades, whether being sealed or not, against damage from sealer. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.
  
- B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.
  - 1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

**END OF SECTION**