SECTION 07 19 05 – CONCRETE FLOOR SEALER

PART 1 - GENERAL

1.1 SUMMARY

A. Provide the work of this Section in accordance with requirements of the Contract Documents.

B. Section includes concrete sealer and densifier **CS-01** for concrete floor slabs.

1.2 COORDINATION

A. Coordinate work with concrete curing specified in Division 03.

1. Do not use curing and sealing compounds for concrete curing where floor finishes are to be installed.

1.3 ACTION SUBMITTALS

A. Product Data:

1. Submit technical data including manufacturer's specifications, application instructions, and recommendations for each product.
2. Include manufacturer's printed statement of VOC content.
3. Include manufacturer's recommended number of application coats.

B. Sustainable Design Submittals:

1. Building Product Disclosure and Optimization - Sourcing of Raw Materials:

a. Extended Producer Responsibility (EPR): Submit documentation indicating that manufacturers have a take back or recycling program for the product purchased.
b. Bio-based Materials: For bio-based products and materials other than wood, submit documentation of product data and testing results in compliance with LEED requirements.
c. Wood Products: Submit documentation of Forest Stewardship Council or USGBC equivalent certification.
d. Materials Reuse: For products that are salvaged, refurbished, or reused, include a statement indicating costs for each product.
e. Recycled Content: For products having recycled content, indicate percentages by weight of post-consumer and pre-consumer recycled content.

1) Include statement indicating costs for each product having recycled content.

f. Regional Materials: For products that are required to comply with requirements for regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material.

1) Include statement indicating distance to Project, cost for each regional material and the fraction by weight that is considered regional.

2. Indoor Environmental Quality, Low Emitting Materials: Building Products must be tested and compliant with the California Department of Public-Health (CDPH) Standard Method V1.1-2010 or v1.2 2017, using the applicable exposure scenario.

    a. For paints, and coatings, wet applied, include printed statement of VOC content, showing compliance with the applicable VOC limits of the California Air Resources Board (CARB) 2007, Suggested Control Measure for Architectural Coatings or the South Coast Air Quality Management District (SCAQMD) Rule 1113-2011.
    b. Adhesives and Sealants: For wet applied on-site products, submit printed statement showing compliance with the applicable chemical content requirements of SCAQMD Rule 1168, effective July 1, 2005, and rule amendment date of January 7, 2005.
    c. Alternative tests for VOC above include ASTM D2369-10; ISO 11890 part 1; ASTM D6886-03; or ISO 11890-2.
    d. Methylene Chloride and perchloroethylene may not be added to paints, coating, adhesive or sealants
    e. Composite Wood: Submit documentation showing that wood used in the project has low formaldehyde emissions that meet the California Air Resources Board ATCM for formaldehyde requirements for ultra-low emitting formaldehyde (ULEF) resins or no added formaldehyde resins.

1.4 INFORMATIONAL SUBMITTALS

A. Sustainable Design Submittals:

1. Building Product Disclosure and Optimization - Environmental Product Declarations

    a. Submit product specific type III EPDs or Industry wide (generic) EPDs, USGBC approved program declaration or products with a publicly available, critically reviewed life-cycle assessment conforming to ISO 14044 that have at least a cradle to gate scope.

2. Building Product Disclosure and Optimization - Material Ingredients

    a. Material Ingredient Reporting: Submit documentation confirming chemical inventory of products to at least 0.1 % (1000pm) with at least one of the following:

        1) Submit published manufacturer inventory of ingredients identified by name and Chemical Abstract Service Registration Number (CASRN)
        2) Submit documentation that product has been certified as Cradle-to-Cradle v3 at the Bronze Level or better
        3) Submit Declare product label indicating that all ingredients have been disclosed down to 1000 ppm or designated as Red List Free or Declared
        4) Living Product Challenge
        5) Product Lens Certification
        6) USGBC approved program.

    b. Material Ingredient Optimization: Submit documentation confirming chemical inventory of products to at least 0.01 % (100pm) and/or that has a compliant material ingredient optimization report with at least one of the following:

        1) Submit GreenScreen V1.2 Benchmark: Third party report prepared by a licensed GreenScreen List Translator, or a full GreenScreen Assessment.
        2) Submit third-party verified documentation that product has been certified as Cradle-to-Cradle v3 at the Bronze Level or better

3) Submit third-party verified Cradle to Cradle v3 Material Health certificate at the Bronze Level or better
4) Submit third-party verified Declare product label indicating that all ingredients have been disclosed down to 100 ppm
5) Submit third-party verified documentation that product is Living Product Challenge certified with a Red List Free or LBC Red List Free Declare label.
6) Submit documentation that product has a manufacturer prepared action plan with material inventory to at least 1000 ppm.

1.5 QUALITY ASSURANCE

A. Applicator Qualifications: An employer of workers trained and approved by manufacturer.

B. Mockups: Prepare mockups of each required product on each type of substrate required to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Locate mockups on existing surfaces where directed by Architect.
2. Size: 10 sq. ft. (9.3 sq. m) each.
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 FIELD CONDITIONS

A. Limitations: Proceed with application only when the following existing substrate conditions permit concrete sealers to be applied according to manufacturers' written instructions and warranty requirements:

1. Concrete surfaces shall have cured for not less than 28 days.
2. Building has been closed in for not less than 30 days before treating wall assemblies.
3. Ambient temperature is above 40 deg F (4.4 deg C) and below 100 deg F (37.8 deg C) and will remain so for 24 hours.
4. Not less than seven days have passed since surfaces were last wet.

PART 2 - PRODUCTS

2.1 CONCRETE FLOOR SEALER

A. Penetrating Concrete Floor Sealer **CS-01**:

1. Clear, chemically reactive, waterborne solution of inorganic silicate or siliconate materials and proprietary components. Provide solution that is odorless, penetrating, and that hardens and densifies concrete existing concrete surfaces.

a. Curecrete Distribution Inc; “Ashford Formula”
b. Dayton Superior Corporation: “Sure Hard Densifier J17”
c. Euclid Chemical Company, “Eucosil”
d. L&M Construction Chemicals, Inc “Seal Hard”

B. Low-Emitting Materials:

1. Architectural paints and coatings wet-applied inside the weather-proofing system must meet the VOC general emissions testing criteria of CDPH Standard Method v1.2.
2. All paints and coatings wet-applied inside the weather-proofing system must have VOC content in compliance with the applicable VOC limits (g/L) found in tables in Division 01, Section 01 81 13 "Sustainable Design Requirements - LEED v4 BD+C."
3. Adhesives and Sealants wet-applied inside the weather-proofing system must meet the VOC general emissions testing criteria of CDPH Standard Method v1.2.
4. All adhesives and sealants wet-applied inside the weather-proofing system must have VOC content in compliance with the applicable VOC limits (g/L) found in tables in Division 01, Section 01 81 13.14 "Sustainable Design Requirements - LEED v4 BD+C."
5. Provide non-structural composite wood products that contain either No Added Formaldehyde (NAF) resins or Ultra Low Emitting Formaldehyde (ULEF) resins per CARB ATCM criteria noted in Division 01 Section 018113.14 "Sustainable Design Requirements - LEED v4 BD+C.".
6. Provide structural composite wood products tested per EN 717-1:2014 as compliant with emissions class E1. Structural composite wood, with no added urea-formaldehyde resins or surface treatments and certified per the following: PS 1-09 or PS 2-10 for plywood, PS 2-10 for OSB, ASTM D 5446-13 for structural composite lumber.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements and conditions affecting performance of the Work.

1. Verify that surfaces are clean and dry according to water-repellent manufacturer's requirements. Check moisture content in three representative locations by method recommended by manufacturer.
2. Verify that there is no efflorescence or other removable residues that would be trapped beneath the application of sealer.
3. Verify that required repairs are complete, cured, and dry before starting application.

3.2 PREPARATION

A. Cleaning: Before application of concrete sealer, clean substrate of substances that could impair penetration or performance of product according to concrete sealer manufacturer's written instructions and as follows:

1. Cast-in-Place Concrete: Remove oil, curing compounds, laitance, and other substances that inhibit penetration or performance of sealers according to ASTM E 1857.
2. Remove any existing flooring treatments, adhesives, or coatings.

B. Protect adjoining work, including mortar and sealant bond surfaces, from spillage or blow-over of floor coating. Cover adjoining and nearby surfaces of aluminum and glass if there is the possibility of sealer being deposited on surfaces.

3.3 APPLICATION

A. Apply coating of sealer on surfaces to be treated using pressure spray with a fan-type spray nozzle, or roller to the point of saturation. Apply coating in dual passes of uniform, overlapping strokes. Remove excess material; do not allow material to puddle beyond

saturation. Comply with manufacturer's written instructions for application procedure unless otherwise indicated.

3.4 CLEANING

A. Clean concrete sealer from adjoining surfaces and surfaces soiled or damaged by application as work progresses in accordance with product manufacturer's written cleaning instructions.

B. Correct damage to work of other trades caused by application, as approved by Architect.

END OF SECTION