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August 2020

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including *MasterFormat*, *SectionFormat*, and *PageFormat*, as described in *The Project Resource Manual—CSI Manual of Practice*.

The section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all Specifier Notes when editing this section.

Brackets [] indicate options in text to be filled in or deleted by the author; they should NOT be visible in final document.

Section numbers and titles are from *MasterFormat* 2018 Edition.

Please remove references to the manufacturer and preparer of this guide specification found in the header/footer.

NOTE: Because Bone Dry can be applied during the concrete pour or prior to installation of flooring we have provided two specification sections under which to include this valuable data. It is the specifier's option to select the most appropriate location for his/her project.

SECTION 03 05 50
CONCRETE SEALERS
OR
SECTION 09 05 61.13
MOISTURE VAPOR EMISSION CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete sealers

1.02 RELATED REQUIREMENTS

[Edit the following paragraphs to project requirements.](#)

- A. Section 03 30 00 – Cast-In-Place Concrete:
- B. Section 03 53 00 – Concrete Topping
- C. Division 09 – Finishes; Flooring Sections

1.03 REFERENCE STANDARDS -- VERIFY

- A. ASTM D 7234 - Standard Test Method for Pull-Off Adhesion Strength of Cylindrical Concrete Specimens.
- B. ASTM E 96 - Standard Test Method for Water Vapor Transmission of Materials.
- C. ASTM F 1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Chloride.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate with flooring sections for make, type and application method of adhesive and verify compatibility with sealer manufacturer.
- B. Receive approval of sealer manufacturer if installation of finish flooring will be less than 14 days after concrete pour.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's product literature [and testing data], listing applications and limitations.
- C. Specimen Warranty.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with at least three years of [documented] experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of experience.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to project site in original, unopened containers.
- B. Store materials in protected area not subject to freezing between 40° F (4° C) and 90° F (32° C)
- C. Store closed containers in well ventilated space.
- D. Wear protective clothing, gloves and eyewear when applying.
- E. Wear NIOSH approved respirator when handling.

1.08 FIELD CONDITIONS

- A. Ambient Conditions: Do not install sealer when concrete is less than 40° F (4° C), or more than 90° F (32° C) for a minimum of 24 hours before or after application.

1.09 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Provide manufacturer's limited warranty for coverage against damage to flooring or flooring adhesive materials due to concrete moisture.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Bone Dry Products, Inc.; Bone Dry Original: www.bonedryproducts.com.
- B. Substitutions: [[Not Allowed][See Section [01 60 00 - Product Requirements][01 25 00 – Substitution Procedures]].

2.02 PERFORMANCE REQUIREMENTS

- A. Penetrating Concrete Sealer Performance (based on 4,500 psi concrete test slab results):
 - 1. Adhesion at 7 Days, ASTM D 7239: 650 psi
 - 2. Water Vapor Transmission, ASTM E 96: 2.72 lbs. / 1,000 sq. ft. per 24 hours
 - 3. Moisture Vapor Emission Rate, ASTM F1869: 2.81 lbs. / 1,000 sq. ft. per 24 hours

2.03 MATERIAL

- A. Concrete Sealer:
 - 1. Composition: Water-based silicate penetrating compound.
 - 2. Finish: Transparent, no sheen.

2.04 ACCESSORIES

- A. Surface Preparation: Etch-A-Crete by Bone Dry Products, Inc.
- B. Primer: Bone Dry Primer by Bone Dry Products, Inc.
- C. Leveling Surface: Concrete-based material; gypsum-based products are not allowed.

PART 3 EXECUTION

3.01 PREPARATION

- A. Existing Concrete with Surface Coatings: Provide clean porous surface by:
 - 1. Mechanically profiling surface by diamond grinding or shot blasting surface.
 - 2. Gypsum-based underlayment, concrete with known moisture problems or over 20 year of age must receive skim coat of concrete; contact manufacturer for exceptions to this requirement.
- B. Thoroughly clean floor, of dust, paint, gypsum board compound, and other materials that interfere with complete coverage of sealer.
- C. If slab has no existing surface coatings but has received a hard-trowel or burnished finish either:
 - 1. Apply surface preparation (Etch-A-Crete) per manufacturer's instructions, or
 - 2. Mechanically profile surface by diamond grinding or shot blasting surface.
- D. If sealer will be applied on porous, non-painted, cement-based material (concrete block, gunite, or shotcrete) coat surface with primer as recommended by manufacturer.
 - 1. Clean surfaces of oil, grease and acidic conditions prior to applying primer.
- E. Verify that cracks (excluding expansion or control joints) are routed out and filled with Portland cement 6 inches beyond edges of crack.
 - 1. Cover trench saw cuts with cement-based coating prior to application of sealer.
- F. Protect surrounding finish surfaces within at least 24 inches from overspray of sealer.
- G. Ensure that areas to receive sealer are well ventilated.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
 - 1. Contact manufacturer for approval if flooring will be installed less than 14 days after application of sealer.
 - 2. Curing compound is not required after application of sealer.

Edit the following paragraphs to project requirements.

- B. New Concrete Applications:
 - 1. Apply first coat of sealer and let dry for no more than 10 minutes.
 - 2. Apply second coat while first is still wet, and only to areas where sealer has penetrated and texture of concrete is apparent.
 - a. Use broom or brush to spread pooled sealer.
 - 3. Allow sealer to dry for 6 hours minimum.
- C. Application At Time of Concrete Pour Applications For Burnished Finish:
 - 1. Do not apply cure and seal products or water during curing.
 - 2. Allow slab to dry for 1 hour minimum or until slab is firm enough to walk on after final troweling.
 - 3. Apply sealer in front of trowels at manufacturer's recommended rate, trowel as needed to achieve desired finish.
 - 4. Allow sealer to dry for 6 hours minimum.
- D. Application At Time of Concrete Pour Applications For Non-Burnished Finish:
 - 1. Do not apply cure and seal products or water during curing.
 - 2. Do not burnish concrete when troweling.
 - 3. Allow slab to dry for 1 hour minimum or until slab is firm enough to walk on after final troweling.
 - 4. Apply sealer in front of trowels at manufacturer's recommended rate, allow to absorb for 5 to 8 minutes.
 - 5. Apply second coat to areas where first coat has penetrated.
 - 6. Allow sealer to dry for 6 hours minimum.
- E. Existing Concrete with Prior Coating Applications:
 - 1. Sealer must be applied after leveling coat of concrete is applied to shot blasted surfaces.
 - 2. Apply sealer at manufacturer's recommended rate, allow sealer to absorb for **no more** than 10 minutes.
 - 3. Apply second coat to areas while first coat is still wet but has penetrated concrete.
 - 4. Allow sealer to dry for 6 hours minimum.
 - 5. Remove loose dry product by lightly scrapping concrete.

3.03 CLEANING

- A. Vacuum loose particles prior to applying approved flooring adhesives.
- B. See Section 01 74 19 - Construction Waste Management and Disposal, for disposal of containers.

3.04 PROTECTION

- A. Do not permit traffic on floor surface until fully dried.

END OF SECTION