

SECTION 07 26 00

VAPOR EMISSION AND ALKALINITY CONTROL FOR EXISTING CONCRETE

PART 1 - GENERAL

1.01 SUMMARY

- A. Water vapor emission and alkalinity control treatment for existing on, below, and above grade concrete slabs scheduled to receive moisture sensitive floor coverings and adhesives.

1.02 RELATED SECTIONS

- A. Section 09 65 00 – Resilient Flooring
- B. Section 09 68 00 – Carpet Flooring

1.03 REFERENCES

- A. ASTM D1308-02 – Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes.
- B. ASTM D4541-02 – Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.
- C. ASTM E96 – Standard Test Methods for Water Vapor Transmission of Materials.
- D. ASTM F710-05 – Practice for Preparing Concrete Floors to Receive Resilient Flooring.
- E. ASTM F1869-04 – Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

1.04 SYSTEM DESCRIPTION

- A. Utilizes a two-component modified epoxy liquid penetrant to stabilize internal humidity by restricting excessive moisture and pH (alkalinity), and to mechanically regulate permeability and suppress the volume of moisture reaching concrete surfaces, for compliance with subsequent floor covering's written limits. Application methods determined by site conditions, presence of sub-slab vapor barriers for slabs-on-grade, concrete mix design and contaminants, age of concrete substrate, results of ASTM F1869-04 calcium chloride testing, and finish floor covering manufacturer's recommendations.

1.05 SUBMITTALS

- A. Product Data: Submit manufacturer's data for each component used in vapor emission control treatments.
- B. Include copy of warranty to be issued for vapor emission control coating system and certificate of underwriter's coverage of manufacturer's warranty.
- C. Include test reports conducted by nationally recognized independent testing agency indicating conformance with specified performance requirements.

1. Manufacturer's Certification: Certify that applicator of vapor emission control treatments is trained and certified/employed by treatment manufacturer.
2. Provide 5 project references documenting at least 10 years of manufacturer's experience in vapor emission control treatment production, and 3 project references documenting at least 3 years of applicators experience in applying vapor emission control treatments.

1.06 QUALITY ASSURANCE

- A. Application shall be performed by manufacturer's employed personnel or certified applicators.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, handle and protect in accordance with manufacturer's instructions and recommendations.
- B. Deliver materials in manufacturer's packaging including application instructions.
- C. Keep materials from freezing.

1.08 SEQUENCING

- A. Apply Treatment to areas with moisture vapor emission rates exceeding floor covering manufacturer's written limits, as determined by ASTM F1869-04 calcium chloride testing. Coordinate with installation of floor coverings. Ensure flooring installation complies with vapor emission control system manufacturer's warranty requirements.

1.09 WARRANTY

- A. Manufacturer's Warranty: Warrant vapor emission control treatment against manufacturing defects and improper installation for a period of 10 years.
 1. Cover costs of treatment materials, cementitious compounds, and labor costs of application and preparation.
 2. Extend warranty to flooring material, adhesive, and installation labor for same period against moisture vapor emission related failure.
 3. Provide warranty underwritten by product liability insurance carrier having a minimum "A" rating from Best or equivalent rating system in the amount of \$5,000,000 per occurrence and naming Owner, Architect, and Contractor as co-insured.
 4. Guarantee moisture vapor and alkalinity emission rates to be at or below published requirements of floor covering manufacturers.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Basis of Design: Floor Seal Technology, Inc. Contact: Tyler Lusk (408) 436-8181. www.floorseal.com .

2.02 MATERIALS

- A. Remedial Treatment: MES 100.

2.03 ACCESSORIES

- A. Cementitious Surfacing: 100 percent Portland cement based self-leveling compound to be applied to areas receiving resilient flooring. Cement must bond with subsequent floor coverings and adhesives. Approved products:
 - 1. Mapei Ultraplan 1 Plus by Mapei International
 - 2. Ardex K-15 by Ardex Engineered Cements, Inc.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions: Examine substrates where work is to be performed. Provide written notification of deficiencies detrimental to proper or timely installation; do not proceed until corrected.

3.02 APPLICATION

- A. Following at least 28 days after placement of concrete and prior to floor covering installation, perform calcium chloride testing per ASTM F1869-04 and alkalinity testing per ASTM F710-05.
- B. For areas emitting moisture and alkalinity at rates exceeding floor covering manufacturer's published limits, apply treatment as follows:
 - 1. Mask and protect adjacent wall and floor surfaces from effects of scarification and application.
 - 2. Scarify slab surface in area of application by shot blasting or other method acceptable to coating treatment manufacturer.
 - 3. Prepare and treat cracks, control joints and cold joints per treatment requirements.
 - 4. Apply two-component epoxy penetrant and coating with roller and squeegee over entire treatment area; saturate surfaces to ensure a thorough mechanical bond.
 - 5. Clean and fill divots, chips, voids and other surface irregularities with 100 percent Portland cement based patching compound or cementitious fill.
 - 6. Apply cementitious surfacing over coating in areas to receive resilient and carpet floor coverings to facilitate adhesive; apply at a thickness of 1/8-inch.

END OF SECTION 07 26 00