SECTION 03 54 20

MOISTURE EMISSION CONTROL

PART 1 – GENERAL

1.1 PURPOSE

A. This guideline is intended to provide useful information to the Professional Service Provider (PSP) to establish a basis of design. PSP is to apply the principles of this section such that the University of Texas at Arlington (UTA) may achieve a level of quality and consistency in the design and construction of their facilities. Deviations from these guidelines must be approved by UTA and may require justification through Life Cycle Cost (LCC) analysis and submitted to UTA for approval.

1.2 LESSONS LEARNED AND DESIGN CONSIDERATIONS

A. This is intended to be used only when the concrete cannot cure naturally.

1.3 SECTION INCLUDES

A. Preparation of all interior concrete floor slabs over building crawl space.
B. Installation of floor vapor barrier

1.4 REFERENCE DOCUMENTS

A. ASTM D1308 - Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes.
B. ASTM E96-10 - Standard Test Methods for Water Vapor Transmission of Materials

1.5 SYSTEM DESCRIPTION

A. Concrete floor topping system utilizing a multi-component concrete moisture emission control coating system, designed to mechanically restrict water vapor movement from the slab

1.6 SUBMITTALS

A. See Division 01 for submittal procedures
B. Product Data: Submit manufacturer's data for each component used in moisture emission control system.
C. Include copy of warranty to be issued for moisture emission control system and certificate of underwriter's coverage of manufacturer's warranty.
D. Include test reports conducted by nationally recognized independent testing agency indicating conformance with specified performance requirements.
E. Manufacturer's Certifications:
    1. Certify that applicator of the moisture emission control system is trained and certified/employed by manufacturer.
    2. Certify that moisture emission control warranty will be honored and in effect without requiring calcium chloride moisture emission testing, in-situ relative humidity testing, or pH testing prior to flooring installation. Manufacturer to assume all liability for damages to finished flooring caused by moisture or pH originating from the concrete slab.

1.7 QUALITY ASSURANCE

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

1.8 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

1.9 WARRANTY

A. Manufacturer's Warranty: Warrant moisture emission control system against moisture vapor transmission from treated concrete surface, manufacturing defects and improper installations for a period of 10 years.
B. Cover costs of treatment materials, cementitious compounds, and labor costs of application and preparation.

C. Extend warranty to flooring material, adhesive, and installation labor for same period against moisture vapor emission or alkalinity related failure.
D. 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.
E. Warranty may not exclude concrete slabs containing silica or silicate compounds

PART 2 – PRODUCTS

2.1 MANUFACTURERS
A. Basis of Design: Floor Seal Technology, Inc., www.floorseal.com, http://www.floorseal.com.
1. Other Acceptable manufacturers: Laticrete DRYTEK epoxy Moisture Barrier, www.laticrete.com http://www.laticrete.com.
2. Ardex Engineered Cements; product K 13, www.ardex.com
3. Substitutions: Refer to Division 01.

2.2 MATERIALS
A. Concrete moisture emission control coating system - Floor Vapor Barrier :
1. Floor Seal Technology, Inc., MES 100.
2. Performance characteristics:
a) Water vapor transmission per ASTM E96 - 95% reduction.
b) Concrete adhesion per ASTM D7234 - 100% concrete cohesive failure or 540+ psi
c) Alkalinity resistance per ASTM D1308 - Resist pH 14 exposure for 16 days

PART 3 – EXECUTION

3.1 EXAMINATION
A. Verification of Conditions: Examine substrates where work is to be performed

3.2 APPLICATION
A. Following at least 14 days after placement of concrete and prior to erection of interior walls scarify slab surface in area of application by shot blasting or other method acceptable to coating treatment manufacturer.
B. Prepare and treat cracks, control joints and cold joints per manufacturer's requirements.
C. Apply multi-component concrete moisture emission control coating system as required to provide warranted installation.

3.3 PROTECTION
A. Allow moisture emission control coating to dry for at least 72 hours before opening to pedestrian or wheeled traffic.
B. Protect finished underlayment from spills, especially those containing oils, grease, acids, and lubricants.
C. Protect finished underlayment from flooding or frequent exposure to topical water sources.

3.4 PATCHING
A. Patch any cracks, spalls, and divots in underlayment, or damages to the concrete moisture emission control system requiring attention, prior to the installation of flooring at no additional charge to Owner.

END OF SECTION