PART I - GENERAL

1.01 DESCRIPTION
A. Work under this Section includes, but is not necessarily limited to vapor control barrier.
B. Related Sections include the following:
   1. Division 3, Section 03300 – Cast-in-Place Concrete
   2. Division 9 – FINISHES

1.02 SYSTEM DESCRIPTION
A. Provide a moisture vapor control system consisting of a combination of epoxy resins and other chemical compounds that is specifically formulated to prevent floor failures on concrete slabs. The moisture mitigation system must comply with the full intent of the newly adopted ASTM F3010-13 standard. A signed “Certificate of Conformance” must be presented to the University stating that the product submitted complies with this ASTM standard.

1.03 QUALITY ASSURANCE
A. Manufacturer: Membrane-forming moisture mitigation systems to be qualified under this practice shall have a vapor permeance no greater than 0.1 grains h\(^{-1}\) ft\(^{-2}\) in. Hg\(^{-1}\) when tested in accordance with Test Method E96 Wet Method when applied at the recommended thickness designated by its manufacturer.
B. Applicator: Must be “Certified” with the product manufacturer as being trained and qualified to apply the specified product.

1.04 SUBMITTALS
A. GENERAL: Refer to Section 01330 – Shop Drawings, Product Data and Samples.
B. PRODUCT DATA: Manufacturer’s specification, data, and installation instructions.
C. Submit installer “certificate” from the product manufacturer.
D. Submit Tests from an Independent Testing Agency for the following: Testing Agency must be certified by the International Concrete Repair Institute (ICRI).
   1. ASTM E 96 Test Methods for water Vapor Transmission of materials, Wet Method - vapor permeance no greater than 0.1 grains h\(^{-1}\) ft\(^{-2}\) in. Hg\(^{-1}\)
   2. ASTM D 7234 Test Method for Pull-Off Adhesion Strength of Coatings on concrete using portable Pull-Off Adhesion Testers
4. ASTM F-3010-13 – Submit signed “Certificate of Conformance” document confirming product submitted meets or exceeds the full intent of this standard.

5. ASTM F 710 – Test Method to Measure PH levels of the concrete using an Electronic PH Meter manufactured by Wagner Electronics.

E. Warranty certificate as specified.

1.05 PRODUCT HANDLING

A. Refer to Section 01610 – Product Requirements.

B. Material data safety sheet to be delivered to site prior to application.

1.06 JOB CONDITIONS

A. Concrete surface temperature shall be 50 to 90°F.

1.07 WARRANTY

A. 15 year warranty if product is applied by a trained and manufacturer approved installer.

1. Warranty; Beginning on the date the project was finished the specified product manufacturer will warrant the system against material defects and the vapor transmission reduction as shown in the manufacturer printed literature is subject to the condition and restrictions set forth in the warranty.

PART II - PRODUCTS

2.01 MANUFACTURERS

A. Specified Product: KOSTER VAP 1 2000 or Equal

1. 100% solid 2 component epoxy barrier system used for the control of moisture vapor emission and alkalinity control. Product must have an overall perm rating of 0.1 or less.

2. No water based or silicates formulation allowed.

3. Be assured self leveling products and adhesives comply with the specified product.

2.02 PHYSICAL PROPERTIES

A. Formulation: Moisture vapor control system consisting of a combination of epoxy resins and other chemical compounds. No Water based or silicate formulation allowed.

B. The methods below are to be conducted by an Independent Laboratory testing certified by ICRI: See 1.04 Submittals

1. ASTM E 96 Water Vapor Transmission, wet method. Vapor permeance no greater than 0.1 grains h⁻¹ ft⁻² in. Hg⁻¹

2. ASTM D 7234 Concrete Adhesion Min 500 psi (100% concrete cohesive failure)
3. ASTM D 1308 Chemical Resistance, 14pH solution No damage, 100% resistant at 28 day exposure

4. ASTM F 710 – Test Method to Measure PH levels of the concrete.

PART III - EXECUTION

3.01 EXAMINATION

A. New Interior Concrete Substrates;

1. Submit the mix design of the new concrete to be coated to the manufacturer technical team for review to identify possible bonding issues that may be inherent. Indentify how the concrete was cured and what compounds if any were used and to submit to the manufacturer. No silicates may be added to the concrete or spray applied.

B. Existing Interior Concrete Substrates with existing floor failures;

1. University might choose to take cores of older existing slabs and have them analyzed by a qualified laboratory. Discuss the details of the findings with the manufacturer’s technical team and the University Representative. (Consultant to omit if the University chooses not to take core samples)

3.02 INSTALLATION

A. Mechanically prepare surfaces to an ICRI #3 by shotblasting. Grinding is permitted in inaccessible areas or for edging purposes.

1. Mix and apply the control barrier system in accordance with the manufacturers written instructions.

2. Treat all moving, non-moving voids and cracks in accordance with the manufacturers written instructions.

3.03 FIELD QUALITY CONTROL

A. Floor Covering Applications

1. Post installation moisture test not required after the installation or product.

2. Disposal of product should be done in accordance with current local, state and federal regulations.

END OF SECTION 07264