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MOISTUREBLOC EMULSION VAPOR REDUCTION SYSTEM PROCEDURE TO REDUCE MOISTURE VAPOR TRANSMISSION IN CONCRETE FLOORS TILE ADHESIVE CONCRETE PREPARATION FOR HIGH WATER VAPOR TRANSMISSION SLABS

DESCRIPTION

The following is a method for reducing moisture vapor transmission through concrete slabs as measured by ASTM F-1869 Calcium Chloride Test. The reduced moisture transmission protects the adhesive, which is bonded to a tile adhesive compatible to an ASTM C-1315 Sealer.

A concrete slab, which exhibits high moisture emission, results per ASTM F1869 Calcium Chloride Test (greater than 3.0# 1000 sq. ft. /24 hrs.) is coated with MoistureBloc Emulsion Primer Step 1. Step 1 is followed with MoistureBloc Emulsion Topcoat Step 2, an ASTM C-1315 sealer, which improves tile adhesion. For re-active adhesives, use MoistureBloc Emulsion Step 3 in place of Step 2, see data sheet #CP115C.

The MOISTUREBLOC EMULSION WATER REDUCTION SYSTEM protects tile adhesives from moisture vapor and alkali degradation.

SURFACE PREPARATION

The concrete shall be cleaned of all previously applied coatings, cut back adhesives, curing compounds and other materials to provide for application of the moisture reduction system. The floor shall be cleaned with soap and water to remove any dust or debris and allowed to dry for a minimum of 24 hours after cleaning. There should be no freestanding water on the surface when the moisture reduction system is applied.

APPLICATION

Moisture reduction system shall consist of the following products applied in accordance with the following procedures and methods.

The concrete shall be coated with Vexcon MoistureBloc Emulsion Primer Step 1, applied with rollers, at a rate not to exceed 160-180 sq.ft. per gallon and allowed to dry for a minimum of 24 hours. Then apply a second Coat of MoistureBloc Emulsion Primer Step 1 at a rate of 160-180 Sq. ft./gal. at a 90-degree angle to the application direction to the first coat to ensure that all pinholes and voids are filled, allow to dry.

After 24 hours, the concrete shall then be roller coated with MoistureBloc Emulsion Topcoat Step 2 applied at a rate not to exceed 140-150sq.ft. per gallon and allowed to dry.

The entire system shall be allowed to fully cure out and dry for a minimum of 24 hours prior to the application of floor tile, sheet goods or 72 hours prior to F1869 testing. This system is designed to reduce moisture vapor transmission by approximately 75%, based on ASTM F1869, or more depending on temperature, humidity, ground water levels and rainfall amounts.

ANALYSIS

The above recommendation is made based on the following calculations and independent laboratory results. MoistureBloc when tested in accordance with TT-P-001411, will withstand greater than 576 Pounds per square foot of Hydrostatic pressure and without allowing water to come through the film and will breathe through 1.5 metric perms of water vapor or 1.4#/1000sq.ft.24hrs.

As an ASTM C-1315, Type 1 Sealer at a 150 sq. ft. /gal. will breathe through less than 1.77 # water per 1000 sq.ft./24 hrs.

LABORATORY TESTS

Independent Laboratory test results by Bee Laboratories on mortar and cured concrete samples, coated with the MoistureBloc Emulsion system and tested by ASTM F1869, while the bottom of the block is immersed in water, show a reduction on average of 75% in the water vapor. See test report # TN124

This system functions to bring down F1869 test results of 12 #/1000sq.ft./24 hours to the limit of 3 #/1000 sq.ft./24 hrs.

It is strongly suggested that ASTM F1869 test be rerun on the MoistureBloc Emulsion coated concrete prior to applying tile to determine that the water vapor levels have been reduced to an acceptable level. Vexcon will provide additional material if required free of charge if the initial application does not reduce the vapor to less than 3 #/1000 sq.ft./24 hrs.

**KEY PROPERTIES OF MOISTUREBLOC EMULSION VAPOR REDUCTION SYSTEM
PRODUCT DATA SHEET #CP115A**

PRODUCT DATA SHEET#CP115B

PRIMER STEP 1	TOPCOAT STEP 2
<p>PHYSICAL PROPERTIES See Product Data Sheet #CP115A for complete data. Meets TTC-555 B and TTP 001411 VOC 296 grams/liter or 2.47 #/gallon Volume solids - 53% Dry time – 4 hours Weight-solids – 67% Wt/Gal. – 11.7 Coverage – 90 sq.ft./gallon</p>	<p>PHYSICAL PROPERTIES See Product Sheet #CP115B for complete data. Meets ASTM C-1315 Type I Class B VOC 285 grams/liter or 2.38 #/gallon Color: Milk white Dry to Touch: 25 minutes Tack Free: 4 hours Solids: 25 ± 1 Solvent Carrier: Solvent water Emulsion Pounds/Gallon: 8.25</p>
<p>ADVANTAGES Breathable 1.5 metric perms • Alkali Blocker Withstands 576 #/sq.ft. of Hydrostatic pressure Apply directly to fresh concrete (< 28 days old) Waterproof and protect, Excellent weathering resistance Resistant to acids, alkalis, Resistant to mold and fungus Moisture retentive (aids curing of new concrete) Cover most surface defects One coat single component application, Cost effective protection No primer required, Highly durable Suitable for low temperature. Application (consult VEXCON)</p>	<p>ADVANTAGES Breathable and Alkali Blocker Slip Resistant Meets Section 8.9 ASTM C-1315 Adhesion of tile cements. Excellent protection against attack by alkali, oil, and common industrial chemicals Low moisture transmission rate Quick drying Re-coatable and paintable Water Resistant</p>
<p>SPECIFICATIONS Concrete will be coated with MoistureBloc Emulsion Vapor Reduction Primer Step 1 as manufactured by Vexcon Chemicals, Inc., a modified acrylic texture paint that meets the requirements of Federal Spec. TTC-555B and VOC requirements and also TT-P-001411. Surface will be coated at 90 sq.ft/gallon in accordance with manufacturer's recommendation in product data sheet #CP115A to provide a water-resistant and weatherproofing coating.</p>	<p>SPECIFICATIONS Apply two coats of MoistureBloc Emulsion Vapor Reduction Topcoat Step 2 at 140-150sq. ft/gal. over dried Step 1. Manufactured by Vexcon Chemicals Inc., an ASTM C-1315 Cure and Seal per manufacturers directions in product data sheet #CP115B.</p>
<p>PACKAGING STEP 1 MoistureBloc Emulsion Vapor Reduction Primer Step 1 is available in 50-gallon drums and 5-gallon pails.</p>	<p>PACKAGING STEP 2 MoistureBloc Emulsion Vapor Reduction Topcoat Step 2 is available in 50-gallon drums and 5-gallon pails.</p>

REFERENCE DOCUMENT

ASTM C-1315 100 Barr Harbor Drive
ASTM F1869 West Conshohocken, PA
19428-2959

Federal Specification TTP 1411-Government
Printing Office
4 Research Place
Suite 200
Rockville, MD 20850
For additional supplemental reading
The Construction Specifier March 2000
Resilient Flooring Failures – Scott Parish