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Architectural Concrete Solutions

Technical Bulletin

Page: 1 of 2
June 2009

BOMANITE VAPOR GUARD SYSTEM Negative Side Moisture Dissipation Membrane System

PRODUCT DESCRIPTION

A.) Composition and Typical Uses

The Bomanite Vapor Guard System is a fluid-applied, multi-layered, polymer-modified system designed for use under finished flooring where high Moisture Vapor Transmission (MVT) rates and/or alkalinity are present in the concrete substrate. The system is composed of specialized colloidal compounds, penetrating water-based epoxies and styrene-modified cementitious repair products.

As a general rule, most flooring manufacturers (vinyl, wood or resinous) do not recommend installing their products on concrete surfaces having Moisture Vapor Emission Rate (MVER) levels in excess of three to five pounds of moisture emission over a 1,000 square foot area during a 24-hour time period as measured by an anhydrous calcium chloride test procedure in accordance to ASTM D 1869. The Bomanite Vapor Guard System has proven to dissipate moisture vapor emissions and prevent damage from high alkalinity to allow for the successful installation of vinyl, wood or resinous flooring to concrete substrates. Consult the manufacturer's recommended range of acceptable MVT before assessing and developing the appropriate Bomanite Vapor Guard System. The Bomanite Vapor Guard System is used as a negative-side vapor transmission retarder beneath Bomanite Custom Toppings Systems and Modena by Bomanite Custom Polishing System to minimize the effect of MVT and alkalinity.

The Bomanite Vapor Guard System is applied in a series of applications. The specific system varies depending on the MVER of the substrate for application:

| | |
|--------------------------|---|
| MVT up to 6 pounds | VG - I |
| MVT between 6-12 pounds | VG - II |
| MVT between 12-18 pounds | VG - III |
| For MVT over 20 pounds | Consult The Bomanite Company Technical Services |

The Bomanite Vapor Guard System is approximately 1/16" to 3/32" (depends on which system is used). It can also serve as an underlayment for smoothing, leveling or flattening surfaces. Formulated with environmental requirements in mind, Bomanite Vapor Guard contains no hydrocarbon solvents. This results in no significant odor during installation and also meets all volatile organic substance regulations.

B) Advantages and Limitations

Advantages

- Reduces or eliminates effects of moisture vapor emissions
- Excellent adhesion to concrete
- Premeasured, prepackaged liquid and aggregates ensure consistent quality
- High flexural, compressive and tensile strength
- Can be used for vertical applications
- Superior to sheet good products in that it can conform to any given shape due to its fluid nature
- Can be used to level, flatten, smooth or slope substrate

Limitations

- Minimum ambient and surface temperatures of 45 °F required during installation
- If subsurface cracks, Bomanite Vapor Guard System may reflect cracks to some degree
- Hydrostatic or hydraulic moisture sources that develop after initial testing and remediation can cause long-term failure
- Not to be specified as a substitute for a functioning vapor barrier beneath slab



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Page: 2 of 2
June 2009

PHYSICAL CHARACTERISTICS AND TECHNICAL DATA

MVT Reduction (%)

| | |
|-------------------------------|-------------------------------|
| MVT Reduction (lbs. moisture) | 10 lbs./1,000 sq. ft./24 hrs. |
| VG-I | approx. 45% |
| VG-II | approx. 70% |
| VG-III | approx. 85% |

Tensile Strength

ASTM C-190 925 psi

Shear Bond Strength

ASTM C-882 410 psi

Fire Retardance

ASTM E-648, FTMS 372,
NFPA 253, Critical Radiant Heat Flux
 >1.07 Watts/cm²

Compressive Strength

ASTM C-109 5,140 psi

Flexural Strength

ASTM C-78 1,260 psi

MAINTENANCE

Once applied and covered with a subsequent floor covering system no regular maintenance is required.

SPECIFICATION ASSISTANCE

Consult The Bomanite Company for specification assistance, detailing, etc. This consultation is highly recommended prior to specification.

WARRANTY

The products used in this system are warranted to meet uniform quality standards within conventional manufacturing tolerances. Since no control is exercised over product use, no warranty or guarantee, expressed or implied, can be made to such use. Seller's and manufacturer's obligation under this warranty is limited to reimbursement of the purchase price of the portion of the products proven to be defective. The user assumes all risks and liability resulting from the use of these products.