

CustomTech™ Tech MVC Moisture Vapor and Alkalinity Barrier

1 Product Name

CustomTech™ Tech MVC Moisture Vapor and Alkalinity Barrier

2 Manufacturer

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3 Product Description

Tech MVC is a true single coat, high density, moisture- and alkali-resistant, two-component, 100% solids epoxy coating specifically formulated to control concrete moisture vapor emission and alkalinity beneath finished flooring. Tech MVC may be used on non-compliant concrete substrates up to 100% RH (per ASTM F-2170), 25lbs MVT (per ASTM F-1869) and pH 14, and is part of a full system to bring floors to ASTM F-710 compliance. Single-coat application effectively controls concrete moisture emission and creates an alkaline barrier between the substrate and adhered flooring materials. Tech MVC is compatible with TechPrime A acrylic primer, TechPrime WE water-based epoxy primer, TechPrime E 100% solids epoxy primer (with sand broadcast), most non-porous surface primers, reactive and pressure sensitive adhesives and setting materials typically used to install adhered flooring such as; tile, vinyl composition tile (VCT), carpet, sheet vinyl, rubber and wood. Note: Some adhesives may require the use of a primer, consult Custom Building Products Technical Services. Tech MVC is compatible with most epoxy coatings (including epoxy terrazzo) and reactive urethane and epoxy adhesives for direct bond applications.

Suitable Substrates

- Concrete, mortar beds, masonry. Properly prepared sound and stable concrete substrates (at least 7 days old for conventional and at least 5 days old for post-tensioned concrete) with an MVER up to 25 lbs. per 1,000 sq. ft. (11,3 kg per 92,9 m²) per 24 hours, and/or RH up to 100%
- Lightweight concrete
- Gypsum-based underlayments

Composition of Product

Tech MVC is a 2-component high quality Epoxy moisture vapor reducing and alkaline resistant coating

Benefits of Product in the Installation

- True Single Coat application
- Alkaline resistant to pH 14
- Reduces moisture vapor transmission (MVT) to less than 3 lbs when applied to correct thickness
- Primer ready in 5-6 hours at 73°F (23°C)

Packaging

2.65 gallon kit

4 Technical Data

Applicable Standards

ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes

ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride

ASTM E96 Standard Test Method for Water Vapor Transmission of Materials

ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring

ASTM D1308 Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes

Technical Chart

Property	Test Method	Results
Water Vapor Transmission	ASTM E-96	0.08 net perms
Alkaline Resistance, pH 14, 10 days	ASTM D1308	No effect
Tensile Pull on damp concrete	ASTM D7234	Failure in concrete substrate (>400 psi)

Environmental Consideration

Custom® Building Products is committed to environmental responsibility in both products produced and in manufacturing practices. Use of this product may contribute to LEED® certification.



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5 Instructions

General Surface Prep

For interior use only and not for use in areas subject to freeze thaw. All surfaces must be structurally sound, clean, dry and free from contaminants that would prevent a good bond. Newly prepared concrete must be cured for 7 days and then Shot blast to a ICRI CSP #3. Existing surfaces must be shot blast to a ICRI CSP#3. Edges may be ground to achieve an ICRI CSP #3. Take care to remove all dust that has been ground into the porosity of the substrate. Do not install over substrates containing asbestos. All substrates must be structurally sound, surface-dry, solid and stable. Ensure all old adhesives, contaminants, cures or other bond breakers are completely removed. Oil, un-reacted silicates or other penetrating treatments may act as contaminants that can lead to system failure. Contaminated surfaces may require additional preparation and/or testing prior to Tech MVC application. Inadequate mechanical surface preparation and subsequent cleaning could leave curing compounds and contaminants on the substrate surface, which may lead to pin-holing, fish-eying or bubbling in the Tech MVC. Porous substrates can exhibit out-gassing. If out-gassing occurs; Install when surface temperatures are falling. Do not acid-etch surfaces before applying. Movement free dimensionally stable cracks exceeding 1/32" (0.7 mm) should be treated with a high modulus epoxy. Moving joints must be honored through the entire system and left exposed with appropriate sealant.

Bonding to Lightweight Cement and Gypsum Surfaces

Lightweight or gypsum-based materials must obtain a minimum of 2000 psi (13.8 MPa) compressive strength at the recommended cure time. The underlayment must be sufficiently properly cured Surfaces to be covered must be clean, structurally sound and subject to deflection not to exceed the current ANSI standards. Expansion joints must be installed in accordance with local building codes and ANSI/TCNA guidelines.

Expansion Joint placement

Do not bridge joints designed to experience movement including both horizontal and vertical movement including slab curl and relaxing. Carry these types of joints through the finished flooring unless otherwise instructed in writing by an engineer. Clean the joint and install an open or closed cell-backer rod to the proper depth. After the flooring is finished follow the architect's and manufacturer's instructions to fill the joint with a specified color sealant.

Non moving dimensionally stable Joints

Movement free dimensionally stable cracks exceeding 1/32" (0.7 mm) should be treated with a high modulus epoxy. TechPrime E may be used for crack treatment. Always consult an engineer for final recommendation and product selection. Moving joints must be honored through the entire system and left exposed with appropriate sealant.

Mixing Procedures

Premix Part A to a homogenous consistency (2 to 3 minutes) using a low-speed mixer (at 300 to 450 rpm) and a paint mixing paddle. Pour Part B into the Part A container and mix thoroughly to a smooth, homogenous consistency. Do not mix at high speeds, which can entrap air within the mixed material. Pour the entire unit of any mixed Tech MVC onto the substrate within 3 minutes of mixing and begin spreading immediately. DO NOT leave mixed material in the pail for more than 3 minutes.

Application of Product

Install Tech MVC at temperatures within +/- 10° of the operating temperature of the facilities in service (but no lower than 50°F [10°C]), observe dew point requirements. Immediately after mixing pour the entire contents of the mixed unit on the floor and spread. DO NOT leave mixed product in the pail for more than 3 minutes. Apply Tech MVC with a notch squeegee and back-roll with a lint free roller to obtain minimum DFT as listed in coverage below. Ensure that all voids and pinholes are filled/sealed before moving on to the next flooring phase. "Shave off" the tops of any bubbles that protrude, and then apply a second tight coat of Tech MVC over the surface void(s) in question to insure a continuous surface film. NOTE: in many instances bubbles are reduced or not present if product is applied when temperatures are falling.

Curing of Product

Tech MVC is a reactive 2 component resin and typically cures to tack free in 5 – 6 hours. Protect from foot traffic and dust/contaminates until underlayment or protective layer is applied. Cured films of Tech MVC that are damaged must be repaired prior to floor covering application to ensure desired performance.

Protection

Care should be taken to prevent the application from becoming soiled or punctured during and after application. Protect from foot traffic and dust/contaminates until underlayment, protective layer or floor covering is applied.

Applications over Tech MVC

Allow Tech MVC to cure until tack-free - typically 5 to 6 hours at 73°F (23°C). Select a primer that will perform meeting expectations of finished floor covering(s). Within 48 hours of placement apply TechPrime A acrylic primer, TechPrime WE water-based epoxy primer, TechPrime E 100% solids epoxy primer (with sand broadcast) before installation of a self-leveling underlayment. Most Reactive adhesives may be directbonded to Tech MVC, and many pressure sensitive adhesives may be direct bonded to Tech MVC.

Floating or non-adhered floor systems can be installed directly over the cured Tech MVC per the manufacturer's recommendations.

A second coat of Tech MVC may be applied over the first application of Tech MVC within 48 hours.

Cleaning of equipment

Clean tools and equipment with appropriate solvent prior to hardening. Cured product may only be mechanically removed.

Health Precautions

Wear rubber gloves and eye protection while using this product. Avoid eye contact or contact with skin and wash thoroughly after handling. If eye contact occurs, flush with water for 15 minutes and consult a physician. Wash thoroughly after handling. Do not take internally. Keep out of the reach of children.



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Conformance to Building Codes

Installation must comply with the requirements of all applicable local, state and federal code jurisdictions.

6 Availability & Cost

Item Code	Size	Color
TechMVCK	2.65 gallon kit consisting of Part A 1.65 gallon and Part B 1 gallon	Part A: Translucent Red Part B: Clear

7 Product Warranty

Custom® Building Products warrants to the original consumer purchaser that its product shall be free from defects in material and workmanship under normal and proper usage for a period of one year following the date of original purchase. Custom's sole liability under this warranty shall be limited to the replacement of the product. Some states, countries or territories do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty will not extend to any product which has been modified in any way or which has not been used in accordance with Custom's printed instructions. Custom makes no other warranties either expressed or implied. This warranty gives you specific legal rights, and you may have other rights that vary from state to state or from one country/territory to another. For details and complete warranty information, visit the [CUSTOM warranty page](#).

8 Product Maintenance

Properly installed product requires no special maintenance.

9 Technical Services Information

For technical assistance, contact Custom® Building Products.

10 Filing System

Additional product information is available from the manufacturer upon request.

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Coverage

Moisture Vapor Transmission	Dry Film Thickness	Min Coverage
Under 15 lbs	> 10 mils	150 sq ft/gal (13.94 M ²)
Over 15 lbs	> 15 mils	120 sq ft/gal (11.15 M ²)
New concrete above grade	> 10 mils	150 sq ft/gal (13.94 M ²)