

TechMVC Moisture Vapor and Alkalinity Barrier

1 Product Name

TechMVC Moisture Vapor and Alkalinity Barrier

2 Manufacturer

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3 Product Description

CustomTech™ TechMVC™ 100% Solids Epoxy Moisture Vapor Control

TechMVC is a true single coat, high density, moisture- and alkali-resistant, two-component, rapid cure 100% solids epoxy coating specifically formulated to control concrete moisture vapor emission and alkalinity beneath finished flooring. TechMVC may be used on concrete substrates measuring up to 100% RH (per ASTM F-2170), 25 lbs MVT (per ASTM F-1869) and pH 14, and is part of a full system to bring floors to ASTM F-710 and ASTM F 3010-13 at 8.5 mils nominal for moisture vapor compliance. Single-coat application effectively controls concrete moisture emission and creates an alkaline barrier between the substrate and adhered flooring materials. TechMVC is compatible with appropriate CustomTech™ primers, most non-porous surface primers, reactive and pressure sensitive adhesives and setting materials typically used to install adhered flooring such as: ceramic tile, vinyl composition tile (VCT), carpet, sheet vinyl, rubber and wood. Note: Some adhesives may require the use of a primer, consult Custom Technical Services.

TechMVC is compatible with most epoxy coatings (including epoxy terrazzo) and reactive urethane and epoxy adhesives for direct bond applications.

For professional use only.

Key Features

- One coat application
- Solvent-free
- Low viscosity formula
- Reduces moisture vapor transmission of concrete

Suitable Substrates

Concrete, mortar beds, masonry. Properly prepared sound and stable concrete substrates having a minimum tensile strength of 150 psi (when tested per ASTM C 1583 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%.

Composition of Product

TechMVC 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 4 hours at 73°F (23°C)

Limitations to the Product

- For interior installations only.
- Do not install over gypsum-based subfloors and underlayments.
- Use only when substrate temperature is between 50°F and 90°F (10°C and 32°C)
- Ambient air temperature and humidity should be maintained within 10% of expected conditions for at least 72 hours prior to installation.
- Do not install when the concrete slab pH is less than 8; if this condition exists, contact Custom Technical Services.
- Do not use as a final wear surface; TechMVC must be covered with a flooring system.

Packaging

2.65 gallon kit

4 Technical Data

Applicable Standards

- ASTM F 3010-13: Standard Practice for Two-Component Resin Based Membrane Forming Moisture Mitigation Systems for Use Under Resilient Floor Coverings
- 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.

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Technical Chart

Property	Test Method	Results
Water Vapor Transmission (10 mil film)	ASTM E-96	0.085 net perms
Alkaline Resistance, pH 14, 10 days	ASTM D1308	No effects
Tensile Pull on damp concrete	ASTM D7234	Failure in concrete substrate (>400 psi)
VOC, g/l	ASTM D2369 SCAQMD Rule 1113	24

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.

5 Instructions

General Surface Prep

USE CHEMICAL-RESISTANT GLOVES, such as nitrile, when handling product.

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 bonding to the substrate. Newly prepared concrete must be cured for 7 days and then shot blasted to a ICRI CSP #3. Existing surfaces must be shot blasted to a ICRI CSP#3. Edges may be ground to achieve an ICRI CSP #3. Vacuum surface and take care to remove all dust that has been ground into the porosity of the substrate.

All substrates must be structurally sound, surface-dry (without surface condensation), solid and stable. Ensure all old adhesives, contaminants, curing compounds, bond breakers, oils, silicates, dust and sealers are completely removed. Contaminated surfaces require additional preparation and/or testing prior to TechMVC application. Inadequate mechanical surface preparation and subsequent cleaning could leave contaminants on the substrate surface, which may lead to pin-holing, fish-eying or bubbling in the TechMVC. Porous substrates can exhibit out-gassing. If out-gassing occurs; install when surface temperatures are falling. Do not acid-etch surfaces before applying. Any cementitious repair mortar or patch placed prior to the installation of Tech MVC must be fully cured and well bonded.

Bonding over cured Moisture Vapor Barriers

Bonding Over Cured TechMVC

Allow TechMVC to cure until tack free, typically 4 hours at 73°F (23°C). Select a primer that will meet performance expectations of finished floor covering(s). Within 48 hours of placement, apply an appropriate CustomTech™ primer with a suitable paint roller before installation of a self leveling underlayment. Consult primer datasheet or Technical Service for additional information.

For direct bond applications, select a compatible adhesive that will meet performance expectations of finished floor covering(s). Most reactive adhesives may be direct-bonded to TechMVC, and many pressure sensitive adhesives may be direct bonded to TechMVC. Floating or non-adhered floor systems can be installed directly over the cured TechMVC per the manufacturer's recommendations.

A second coat of TechMVC may be applied over the first application of TechMVC within 48 hours. For bonding ceramic or natural stone tile, use CUSTOM MBP™ Primer over Tech MVC.

Expansion Joint placement

Do not bridge joints that are designed to experience dynamic or differential movement. Follow the architect's and flooring manufacturer's instructions to fill the joint with a specified sealant or manufactured profile component.

NOTE: Future movement including slab curl or slab relaxation and subsequent cracks resulting in moisture intrusion or damage to floor finish do not constitute a product failure and is not guaranteed.

Non-Moving, Dimensionally Stable Joints

Movement-free dimensionally stable joints and cracks up to 1/8" (2.8 mm) wide should be treated with CustomTech™ MVC. For joints and cracks wider than 1/8", consider adding sand to Tech MVC to create an epoxy mortar, if appropriate.

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. Keep the mixing paddle submerged in the material and avoid air entrapment. Pour Part B into the Part A container and mix thoroughly for two minutes to a smooth, homogenous consistency, scrape the side of container for unmixed materials, mix for additional 15 seconds.

Application of Product

Install TechMVC at temperatures within +/-10° F of the operating temperature of the facilities in service (but no lower than 50°F [10°C]), observe dew point of the space and maintain the substrate temperature at a minimum of + 5F above the dew point.

Immediately after mixing, pour the entire contents on floor and begin spreading – DO NOT leave mixed material in the pail for more than 3 minutes.

Apply TechMVC with a 1/8" V-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. In rare instance when severe out-gassing creates bubbles in the TechMVC "shave off" the tops of any bubbles that protrude, and then apply a second tight coat of TechMVC over the surface void(s) in question to insure a continuous surface film.

NOTE: in many instances bubbles are reduced or eliminated – if product is applied when temperatures are falling.

Curing of Product

TechMVC is a reactive 2-component resin and typically cures to tack free in 4 hours at 73°F. Cooler temperatures may slow cure time. Protect from foot traffic and dust/contaminates until underlayment or protective layer is applied. Cured films of TechMVC that are damaged must be repaired prior to floor covering application to ensure desired performance.

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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.

Cleaning of equipment

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

Health Precautions

Wear nitrile rubber gloves and eye protection while using this product. Avoid eye contact and 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.

See Safety Data Sheet for complete safety precautions.

Conformance to Building Codes

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

6 Availability & Cost

Item Code	Component	Size	Color
TechMVCK	2.65 gallon kit consisting of two parts		
	Part A	1.73 gallons	Translucent brown
	Part B	0.92 gallons	Amber clear

7 Product Maintenance

Properly installed product requires no special maintenance.

8 Technical Services Information

For technical assistance, contact Custom Building Products' Technical Services.

9 Filing System

Additional product information is available from the manufacturer upon request.

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10 Related Products

Coverage

Location	Min Coverage
Slab on grade	450 sq ft (41.81 m ²) / unit, equivalent to a minimum thickness of 8 mils for a warranted system.
Slab above grade	700 sq ft (65.01 m ²) / unit, equivalent to a minimum thickness of 5 mils for a warranted system.

*Coverage values are for product manufactured after 3/1/16. Contact CUSTOM Technical Services for more information.

Chart is for estimating purposes. Coverage may vary based on installation practices and jobsite conditions.