CustomTech® TechMVC™ Moisture Vapor and Alkalinity Barrier



1. **Product Name**

   CustomTech® TechMVC™ Moisture Vapor and Alkalinity Barrier

2. **Product Description**

   CustomTech® TechMVC™ 100% Solids Epoxy Moisture Vapor Control is a true single coat, 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. The single-coat application effectively controls concrete moisture emission and creates an alkaline barrier between the substrate and adhered flooring materials. For professional use only.

   Key Features

   - One coat application
   - Solvent-free
   - Low viscosity formula
   - Reduces moisture vapor transmission of concrete
   - Primer ready in as little as 4 hours

   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 to100%.

   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

   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

3. **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.

   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 Damp/wet concrete Dry concrete	ASTM D7234	(50% rh - 73.4˚F/23˚C) 904 psi /6.233 Mpa (100% concrete failure) 1059 psi /7.302 Mpa (100% concrete failure)
Compressive Strength	ASTM D695 ASTM D2369	Avg. 11,382 psi
VOC, g/l	SCAQMD Rule 1113	24 g/L
Viscosity at 77˚ F/25˚ C	CBP SOP 089	550 Cp
Work Time at 77˚ F/25˚ C		30 min
Cure Time at 77˚ F/25˚ C		4 hours

   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.

4. **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

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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.

Joints or Cracks in Substrate

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 (such as Custom's® Commercial 100% Silicone Sealant) or a manufactured profile component. Substrate movement resulting in flooring failures/issues are beyond the control of CUSTOM Building Products. These may include: moisture intrusion, slab curl, slab relaxation, deflection, expansion, isolation joints, saw cuts, new and existing cracks that may develop, widen or become more narrow after the system has been installed. For the proper treatment of control or saw cut joints and cracks for flooring [e.g. Resilient, etc.], refer to ASTM F710. For tile installations, refer to TCNA Details EJ171. Movement-free dimensionally stable joints and cracks up to 1/8€ (2.8 mm) wide may be treated with CustomTech™ TechMVC Moisture Vapor and Alkalinity Barrier. For joints and cracks wider than 1/8", consider adding sand to TechMVC to create an epoxy mortar, if appropriate. Contact Custom Technical Services for additional information.

Treating Dormant (Non-moving/Static) Concrete Cracks with "Epoxy sand-patch" to receive TechMVC™
1. Complete all general surface preparation steps first.
2. Plan to prepare, prime, patch and cover cracks treated with full floor coat of TechMVC™ on same day, one step after the other, immediately to ensure bonding of successive layers.
3. Prepare: Chase cracks using a suitable v-shaped concrete blade w/proper dust control. Blade should be 1/4" - 1/2" wide to create an adequate surface area for the material to bond with.
4. Perpendicular/cross cuts may be necessary in treating large-wide cracks. Pre-placing a closed cell backer-rod in large-wide cracks can assist in reducing epoxy sand-patch slump.
5. Clean cracks with suitable vacuum system removing all contaminants and loose materials.
6. Mix unit of TechMVC™ per mixing instructions. Prime all vertical walls of cracks liberally with "neat" (no-sand) TechMVC™ using a chip brush or other equivalent immediately after mixing and ensure good coverage.
7. Add graded, dry, clean 20-30 mesh sized sand into properly mixed TechMVC™ at a 4:1 ratio by volume and use a low speed drill w/paddle to mix sand into epoxy thoroughly. Using separate containers to measure epoxy to sand is recommended.
8. Use a patching or cement finishing trowel to apply/force epoxy sand-patch mixture into cracks that have been vertically coated with "neat" (no sand added) TechMVC™ and is still wet.
9. If any areas "slump" or patch sinks in cracks, re-apply as needed to finish flush with concrete surface.
10. Mix and apply TechMVC™ per "Application of Product" instructions on the technical data sheet to the entire concrete surface for moisture vapor control.
11. DO NOT patch/fill moving cracks that are displaced or joints such as expansion, isolation or engineered "non-static" joints, joints should be carried through the flooring assembly. Consult the architect, engineer and/or flooring manufacture for specific instructions.

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.

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.

Conformance to Building Codes

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

5. Size & Availability

Item Code	Component	Size	Color
TechMVCK	2.65 gallon kit consisting of two parts		

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Part A	1.73 gallons	Translucent brown
Part B	0.92 gallons	Amber clear

6. 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 custombuildingproducts.com

7. Product Maintenance

Properly installed product requires no special maintenance.

8. Technical Services Information

For technical assistance, contact Custom® Building Products.

9. Filing System

Additional product information is available from the manufacturer upon request.

Coverage Chart

Location	Min Coverage
Slab on ground	450 sq ft (41.81 m²) / unit, equivalent to a minimum thickness of 8 mils for a warranted system.
Suspended slab	730 sq ft (65.01 m²) / 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.

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