



KEY #635 MVT MOISTURE VAPOR TREATMENT

DESCRIPTION

Key #635 MVT is a two component, modified epoxy system designed to seal concrete and reduce moisture vapor transmission prior to applying finished flooring.

Key #635 MVT has proven to reduce moisture vapor emissions and be resistant to damage from high alkalinity.

Key #635 MVT is an environmentally friendly material containing no hydrocarbons or other solvents making it zero (0) VOC.

KEY ADVANTAGES

- Reduces moisture vapor emission rate through concrete
- Resistance up to 8 lbs MVER on the Calcium Chloride Test (ASTM F-1869)
- Resistance up to 85% RH on the RH Probe Test (ASTM F-2170)
- Provides excellent resistance to highly alkaline conditions
- Excellent bond to properly prepared concrete
- Convenient 2:1 mixing ratio
- High physical properties
- Can be rapidly surfaced with a variety of finished flooring materials

KEY CONSIDERATIONS

- Substrate temperature must be a minimum of 55°F before, during and 72 hours after installation.
- Must have effective vapor barrier directly under substrate.
- For use only on properly prepared surfaces; must be free of dirt, waxes, curing agents and other foreign materials.
- Does not function as a crack reflective membrane.
- Does not prevent damage or disbondment caused by ASR (Alkali Silica Reaction), high levels of unreacted silicates or metallic shake-on hardener treated concrete.

TYPICAL USES

- **Key #635 MVT** is designed as a negative side moisture vapor retarder to reduce moisture vapor transmission through concrete as required by moisture vapor sensitive floor coverings.
- **Key #635 MVT** can also be an effective primer for fast recoat under Key Resin flooring systems.

COLOR

Translucent Red

COMPOSITION

KEY #635 MVT is a highly cross-linked, alkaline resistant epoxy composition.

TYPICAL PROPERTIES & PERFORMANCE DATA

Tensile Strength	ASTM-D-638	10,400 psi
Tensile Elongation	ASTM-D-638	2 - 4%
Modulus of Elasticity	ASTM-D-638	2500 psi
Bond Strength to Concrete	ASTM-D-4541	400-500 psi 100% Concrete Failure
Permeability	ASTM E-96	1 Coat (10-12 mils) - 0.09 Perms 2 Coats (20 mils total) - 0.04 Perms
Water Vapor Transmission Grams/hr/sq. meter	ASTM-E-96	1 coat - 0.023 2 coats - 0.012
Alkaline Resistance	7 day Immersion 14 day Immersion ASTM-D-1308	10% Sodium Hydroxide - unaffected 50% Sodium Hydroxide - unaffected 10% Sodium Hydroxide - unaffected 50% Sodium Hydroxide - unaffected
Hardness Shore D	ASTM-D-2240	85
VOC		Zero
Water Absorption	ASTM-D-570	nil
Mix Ratio		2:1 by Volume
Pot Life/Working Time		25-35 Minutes
Recoat Time Minimum		4-6 Hrs. at 75 degrees F.
Maximum		72 Hrs.

APPLICATION

SURFACE PREPARATION

Surface preparation is the most critical portion of any successful resinous flooring system. All substrates must be properly prepared as outlined in Key Resin Company's Technical Bulletin #1. Work must be performed by trained or experienced contractors or maintenance personnel. **Key #635 MVT** is a moisture vapor suppressant for concrete substrates. Surface and air temperature must be a minimum of 55°F during installation and cure.

Concrete surface must be free of dirt, waxes, curing agents, any other foreign materials, and must be structurally sound. Surfaces should be vacuum shot blasted to "open" surface porosity or by grinding with coarse grit diamonds or stones. Surface profile must be a minimum CSP-3 to CSP-5 profile according to International Concrete Repair Institute Guideline #03732. Slabs that have been treated with silicate based densifiers or metallic shake-on hardeners may not be suitable for **Key #635 MVT**, consult with Key Resin for further details. Core sample testing should be considered to verify the presence of these contaminants.

Concrete surfaces should be tested for moisture transmission according to ASTM-F-2170 (Relative Humidity in Concrete Floor Slabs using in situ probes) and ASTM-F-1869 (Measuring Moisture Vapor Emission Rate of Concrete Subfloor using Anhydrous Calcium Chloride). Standards are available for purchase at www.astm.org.

Key #635 MVT must be applied a minimum of 12-14 mils above the highest points of the surface profile for readings up to 8 pounds on the calcium chloride test and/or readings up to 85% on the relative humidity probe test. For higher readings consult with **Key Resin Technical Services** regarding alternate moisture vapor control materials. Applying two thinner coats versus one thicker coat is recommended to help ensure the elimination of outgassing pinholes or thin spots. Refer to the detailed Installation Instructions document for important additional requirements.

Fill all cracks and non-moving joints with **Key #635 MVT**. If material continues to disappear into the void, add fumed silica to get a gel consistency and "putty" into the void to completely seal. Detailing with **Key #580** crack isolation membrane and fiberglass scrim is done after the **Key #635 MVT** application. If joint is to be exposed through the finished flooring system and filled with flexible joint filler, the bottom and sides of joint should be coated with **Key #635 MVT**.

MIXING & SPREADING

Stir resin and hardener separately prior to mixing. Mix ratio is 2 parts resin Part A to one part hardener Part B. Pour together and mix thoroughly for 60-90 seconds. For a two coat application, apply first coat at the rate of 115-125 sq.ft./gal. Apply extra material to areas showing penetration and soaking into the concrete. Allow to cure. Apply second coat at the rate of 160-200 sq.ft./gal. All areas should be pinhole free, show a uniform gloss and a uniform 12 mils minimum thickness above the highest points of the surface profile.

Maximum recoat time for **Key #635 MVT** is 72 hours. Depending on the flooring system to be applied over **Key #635 MVT**, it may be advantageous to apply **Key #502** primer or lightly broadcast 30 mesh silica into the second coat of **Key #635 MVT** to help achieve a good mechanical bond or extend the recoat time beyond 72 hours. Refer to detailed Installation Instructions document for important additional requirements.

For areas showing moisture vapor greater than 8 lbs./1000sq.ft/24 hours or relative humidity probe readings greater than 85% consult with **Key Resin Technical Services**.

AVAILABILITY

Key Resin Products are available throughout the United States, Canada, and a number of other countries. Contact the **KEY REPRESENTATIVE** in your area for details.

TECHNICAL SERVICE

Key Resin Company and **KRC Associates, Inc.** provide services and consultations on material selection, specification, troubleshooting, and other information on the proper repair and protection of concrete surfaces. **KEY REPRESENTATIVES** and **Key Resin Technical Services** are available to assist you. CALL (888) 943-4532 or visit www.keyresin.com.

WARRANTY

Key Resin Company ("Key") warrants for a period of one (1) year that its products will be free of manufacturing defects and will be in conformity with published specifications when handled, stored, mixed and applied in accordance with recommendations of **Key**. If any product fails to meet this warranty, the liability of **Key** will be limited to replacement of any non-conforming material if notice of such non-conformity is given to **Key** within (1) one year of delivery of materials. **Key** may in its discretion refund the price received by **Key** in lieu of replacing the material. No customer, distributor, or representative of **Key** is authorized to change or modify the published specifications of this warranty in any way. No one is authorized to make oral warranties on behalf of **Key**. In order to obtain replacement or refund the customer must provide written notice containing full details of the non-conformity. **Key** reserves the right to inspect the non-conforming material prior to replacement. EXCEPT FOR THE EXPRESSED WARRANTY STATED ABOVE, THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANT-ABILITY OR FITNESS FOR PURPOSE. **KEY'S OBLIGATION SHALL NOT EXTEND BEYOND THE OBLIGATIONS EXPRESSLY UNDERTAKEN ABOVE AND KEY SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO THE PURCHASER OR ANY THIRD PARTY FOR ANY LOSS, COST, EXPENSE, DAMAGE OR LIABILITY, WHETHER DIRECT OR INDIRECT, OR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**