



# Diamapro-Epoxy MVR

Item Number: DCEPBMV - 100-01

## DESCRIPTION

**Diamapro® Diamacoat MVR** is an easy to apply, 2-component, 100% solids resinous system. In hot arid or humid environments, it can be applied over concrete with an MVER up to 25 lbs. and RH up to 99%. This moisture vapor resistant system has excellent adhesion to concrete and options for a fast or slow cure depending on environmental conditions.

## ADVANTAGES

- Moisture Vapor Resistance (up to 25 lbs. MVER and 99% RH)
- Meets USDA, FDA, EPA, and SCAQMD Standards
- Eligible for LEED Points: Made in California from Partially Recycled Materials
- Adhesion to Concrete, Wood, Metal, Non-glazed Tiles
- Anti-bacterial
- Easy Installation
- Impact Resistant
- Low Odor
- Waterproofing

## SUGGESTED USES & APPLICATION AREAS

- Seamless Moisture Mitigation
- Under most flooring systems

## AVAILABLE SYSTEMS

- Diamapro® Diamacoat-Flake System
- Diamapro® Diamacoat-Quartz System
- Diamapro® Diamacoat-Metallic System
- Diamapro® Diamacoat-ESD System

## PRECAUTIONS AND LIMITATIONS

- Coating will amber over time. Must be coated with a pigmented, UV stable system.
- DO NOT apply single coat 1/16".
- DO NOT let material puddle on floor
- Complete samples and onsite mockups to ensure desired results are achieved.
- **Application temperatures**
  - Curing speed varies with temperature
  - Application times are based on test results compiled in a lab setting.
  - Apply material when temperature is decreasing – adhere to the Diamapro® Dew Point Calculation Chart.
  - DO NOT apply under direct sunlight.
  - DO NOT install under inclement weather conditions.
  - If application temperatures are outside of those recommended, contact your Diamapro® Technical Representative.

## COVERAGE RATE

Primer Coat reduced with Diamapro® Diamacoat-Solvent VOC, 5-mils. total	560 sf/1.5-gal kit
2nd Coat with no solvent reduction, 11 mils total	218 sf/1.5-gal kit
Total	16 mils



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- Coverage rates are for estimating purposes only.
- Factors such as waste, unusual/abnormal substrate conditions.
- Unforeseen job-site conditions may affect actual product yields and are the responsibility of the installer.

## COMPONENTS

- Diamapro® Diamapro-Epoxy Part A:10-gal
- Diamapro® Diamapro-Epoxy MVR Part B: 5-gal

Larger kits are available through DIAMAPRO SYSTEMS®.

## SAFETY AND TESTING

- Safety:
  - Personal protective equipment and safety conditions must be considered before using any product.
  - Review all relevant and current documentation including Safety Data Sheets.
- Testing before installation:
  - Test and look for any unknown site conditions and/or defects.
  - To ensure desired results are achieved, the system should be tested in a small area on site before full installation begins.

## STORAGE AND APPLICATION TEMPERATURES

■ Ideal Storage Environment	Dry, Out of Direct Sunlight, 60-80°F
■ Material Temperature During Application	50-70°F and 5°F Above Dew Point
■ Minimum Substrate Temperature During Application	5°F Above Dew Point
■ Recommended Application Temperature for Material	60-90°F, <90% RH (Relative Humidity)

## CURED PROPERTIES TEST METHOD TYPICAL VALUES

PROPERTIES	TEST METHOD	TYPICAL VALUES
Abrasion Resistance	ASTM D4060	40 mg loss
Abrasion Resistance with Anti-Slip	ASTM D4060	24-30 mg
Adhesion Strength	ASTM D4541	400 psi, concrete failure
Adhesion Strength	ASTM D4541	400 psi, vinyl failure
Adhesion Strength	ASTM D4541	500 psi, natural quartz failure
Adhesion Strength	ASTM D4541	450 psi, color quartz failure
Compressive Strength	ASTM D695	13,700 psi
Flame Spread/Critical Flux	ASTM E648	Class 1
Flame Spread/Rate of Burning	ASTM D635	Self-extinguishing
Flexural Strength	ASTM D790	9,000 psi
PROPERTIES	TEST METHOD	TYPICAL VALUES
Hardness (Shore D)	ASTM D2240	85
Impact Resistance	ASTM D2794	120 in-lbs.
Indoor Air Quality	CA 01350	Compliant
Microbial Resistance	ASTM G21	Passes, 0 growth
Moisture Vapor Permeance	ASTM E96	0.08 perms
Tensile Elongation at Break	ASTM D638	5%
Tensile Strength	ASTM D638	7,800 psi
Thermal Coefficient of Linear Expansion	ASTM D696	18.0 x 10 <sup>-6</sup> in/in/°F
Water Absorption	ASTM D570	<0.05%



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Moisture Vapor Emission Rate	ASTM F1869	<25 lbs.
Relative Humidity	ASTM F2170	<99%

## Average Application Time

Ambient Temperature	60°-90°F <90% RH	50°F 50% RH	70°F 50% RH	100°F 50% RH
Working Time	25-30 min	40 min	30 min	20 min.
Recoat Time	8.5-24 hrs.	16-36 hrs.	8.5-24 hrs.	6-24 hrs.
Return to Service (Foot Traffic)	24 hrs.	36 hrs.	24 hrs.	24 hrs.
Full Cure (Vehicle Traffic)	7 days	7 days	7 days	7 days

### Colorant will influence:

- Working times
- Reduce chemical resistance
- Increase potential for stain.

*Coatings tested at ambient temperature over 1-3 days' exposure to chemical.*

*To ensure desired results are achieved, products should be tested on site before installation.*

## CHEMICAL AND STAIN RESISTANCE

1 = Best for chemical resistance: No adverse effects; Remove within 24 hours.

2 = Low potential for stain: No adverse effects; Removed within 24 hours.

3 = High potential for stain or degradation: Must be removed within 24 hours of exposure.

NR = Not recommended

Acetic Acid 10%	1	Lactic Acid, 30% (Dairy Facility)	NR
Acetic Acid, 30%	2	Lime Juice	2
Acetone	NR	Magnesium Hydroxide	1
Ammonia, 30%	1	MEK (Methyl Ethyl Ketone)	NR
Ammonium Hydroxide, 30%	1	Methanol	NR
Antifreeze (Coolant)	1	Methylene Chloride	NR
Benzene (Component of Crude Oil)	3	MIBK (Methyl Isobutyl Ketone)	NR
Benzyl Alcohol	3	Mineral Oil	1
Betadine, 11%	NR	Motor Oil, SAE 30	1
Boric Acid, 4%	1	Mineral Spirits	NR
Brake Fluid, DOT 3	1	Mustard, Yellow	2
Chromic Acid, 10%	3	Nitric Acid, 30%	NR
Chromic Acid, 30%	3	Oleic Acid	1
Citric Acid, 30%	1	Oxalic Acid, 10%	1
Ethanol, 95%	NR	Phosphoric Acid, 20%	3
Ethyl Acetate, 99%	NR	Potassium Hydroxide, 30%	1
Formaldehyde, 37%	3	Propylene Glycol	1
Premium Gasoline	1	Silver Nitrate, 20% (Photo Labs)	3
Hydraulic Fluids	2	Hydraulic Fluid (Aviation), Skydrol LD-4	2
Hydrochloric Acid, 10%	3	Sodium Chloride, 20%	1
Hydrochloric Acid, 30%	3	Sodium Hydroxide 50%	1
Hydrofluoric Acid, 10%	1	Sodium Hypochlorite (Bleach), 10%	2
Hydrofluoric Acid, 30%	3	Sodium Hypochlorite (Bleach), 30%	3
Hydrogen Peroxide, 10%	NR	Sodium Persulfate	3
Hydrogen Peroxide, 50%	NR	Sulfuric Acid, 37% (Battery Acid)	NR
Iodine, 2%	3	Tannic Acid, 20%	3
Isopropyl Alcohol	3	Tartaric Acid, 10%	1
Jet Fuel	1	Transmission Fluid	1



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Urine, Dog or Cat	1	Whisky	1
Urea (Nitrogen-Rich Fertilizer)	1	Wine, Cabernet Sauvignon	2
Vinegar, Distilled	1	Xylene	3
Water (Hard Water from Well)	1		

## SURFACE PREPARATION

- Mechanically remove all release agents, curing compounds, salts, efflorescence, grease, oil, dust, and other bond inhibiting contaminates.
- New concrete must be a minimum of 30 days old.
- Mechanically prepare concrete (grind or shotblast) to an ICRI CSP 3.
- Adhere to ICRI (International Concrete Repair Institute) current standards.
- Complete all repairs during the surface preparation step.
- Fill all joints during the surface preparation step.
- Vacuum well to remove all imbedded dust created during the surface preparation step.

## MIXING

<b>Standard Kit Mix Ratio</b>	A:B = 1 gal: 1/2 gal
<b>Colorant (slightly reduces MVR efficacy)</b>	8 oz per kit
<b>Mixing Drill</b>	Low-RPM, high-torque drill Jiffy double-bladed mixer
<b>Mixing Directions</b>	Mix A until color and consistency are uniform. Add B and continue to mix for 2 min.
<b>Mixing Directions with Colorant</b>	Mix A with colorant until color is uniform. Add B and continue to mix for 2 min.

## Mixing Process

- Select a well-ventilated area outside of application zone and out of direct sunlight.
- Ideal mixing station is 4-by-4 feet or larger level surface protected by cardboard or poly sheets.
- Mix carefully to avoid introducing bubbles into the mixture by keeping the mixing fins below the surface.
- All mixing vessels must be clean.
- Pour entire contents of Part B into mixing vessel and then add Part A.
  - Aids in reducing mixing errors.
  - Part B is less viscous than Part A and less likely to cling to the sides of the vessel.
- Change mixing buckets every 2-5 batches.
- Scrape the mixing vessel sides and bottom to ensure coating is thoroughly blended.
- Buildup on bucket or transfer of buildup to a new batch affects the coating's overall appearance and may shorten a product's working time.
- Make sure that material stays thoroughly mixed throughout application.
- Do NOT allow any material (sand, texture, etc.) to settle at the bottom of the mixing vessel.
- Only combine products within the same product line.
- TOTAL MIX TIME: 2-3 minutes



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## Optional Colorant and/or Texture Additives:

- Combine additive(s) with Part A and mix until consistency and color are uniform.
- Add Part B to Part A
- Mix for 2 minutes

## PRECAUTIONS

- DO NOT apply under direct sunlight.
- DO NOT install during inclement weather.
- It is best to install when temperatures are dropping.

## INSTALLATION

- 2-coat application
  - On porous substrates, it helps prevent off gassing.
  - Total of 16 mils to achieve the full MVR performance.
- First coat
  - Reduce with 32 oz. of Diamapro® Diamapro-Solvent VOC per 1.5-gallon kit during mixing.
  - Apply at a rate of 320 sq.ft./gallon or 560 sq.ft./1.5 gal kit (5mils)
  - With a flat metal smoother blade, pull tight to the floor.
  - Back roll with a 3/8" nap microfiber roller.
  - Allow to cure.
- Second coat
  - No solvent reduction
  - With the appropriate notched squeegee, apply mixed material at a rate of 145 sq.ft./gallon or 218 sq.ft./1.5 gal. kit (11 mils).
  - Back roll with a 3/8" microfiber roller.
  - Allow to cure.

## CLEAN UP

- Allow the unused material to be cured in the mixing vessels.
- Discard the vessels according to the Federal, State and Local regulations.
- Uncured material can be cleaned up using Diamapro® Diamapro-Solvent VOC.
- Properly discard any rags that might have been used.
- Cured material needs to be mechanically removed.

## MAINTENANCE AND CLEANING

- Daily
  - Sweep removing all abrasives
  - Remove stain producing liquids as soon as they happen.
- Auto-scrubber
  - Fit with a soft, non-abrasive white pad.
  - Use Diamapro® Diamapro-Clean 30 in the freshwater tank according to the materials dilution rate.
- Mop and Bucket
  - Use Diamapro® Diamapro-Clean 30 diluted in the freshwater.



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