Diama-Tallic
SYSTEM DATA SHEET

Version Number: 100-04

DESCRIPTION

DiamaPro Systems® Diama-Tallic System is a decorative system with infinite design capabilities. With the number of metallic pigments available, this is considered a designer system. During the installation, multiple colors can be blended, producing a one-of-a-kind appearance.

The **DiamaPro Systems® Diama-Tallic System** is available in different cure time formulations. The selection is based on all environmental conditions and experience levels. With each cure times, the cured film performance criteria will remain the same, only the working and return to service times change.

RECOMMENDED USES

- Commercial spaces
- Showrooms
- Residential rooms
- Hospitality
- Retail

ADVANTAGES

- Using **DiamaPro Systems® Diama-Poxy MVR** as the primer, maximum allowable Moisture Vapor Emissions Rate (MVER) is 25 lbs./1000 sq.ft./24 hrs.
- 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
- Antibacterial
- Easy to clean.
- Low Maintenance

STORAGE AND HANDLING

- Storage
  - Store materials in a cool (60-80°F), dry place out of direct sunlight.
  - DO NOT allow water into materials unless instructed to do so.
- Handling
  - Safety Data Sheets must be adhered to.
  - No personnel may touch, relocate, or use materials without proper training.
  - All materials must be considered dangerous substances without firsthand knowledge.
  - Eating, smoking, and drinking are not allowed near materials.
- Disposal
  - Follow federal, local, and building requirements for waste disposal.

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SYSTEM COMPONENTS

Option #1

- DiamaPro Diama-Tallic
  - Primer: DiamaPro Systems® Diama-Poxy MVR with Metallic Colorant
  - Design Coat: DiamaPro Systems® Diama-Poxy with Metallic Colorant
  - Topcoat: DiamaPro Systems® Diama-Thane NGU Clear

Option #2

- DiamaPro Diama-Tallic UV
  - Primer: **DiamaPro Systems® Diama-Poxy MVR** with Metallic Colorant
  - Design Coat: **DiamaPro Systems® Diama-Thane NGU** with Metallic Colorant
  - Topcoat: **DiamaPro Systems® Diama-Thane NGU** Clear

TECHNICAL DATA

AVERAGE APPLICATION TIME

DiamaPro Systems® Diama-Poxy MVR Slow Cure (Primer)

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

DiamaPro Systems® Diama-Poxy (Option #1 Design Coat)

Product (B component)	MVR-Slow Cure	MVR-Fast Cure	Slow Cure	Standard	Fast Cure
Application Temperature	60-95°F <90% RH	41-77F <90% RH	60-110°F <90% RH	60-95°F <90%RH	41-85°F 90% RH
Working Time	25-30 min.	15 min.	40-50 min.	25-35 min.	15-20 min.
Recoat Time	8.5-24 hrs.	3-16 hrs.	9-36 hrs.	7.5-36 hrs.	5.5-24 hrs.
Return to Service	24 hrs.	5-6 hrs.	24 hrs.	24 hrs.	10 hrs.
Full Cure	7 days	5 days	7 days	7 days	5 days

DiamaPro Systems® Diama-Thane NGU (Topcoat and Option #2 Design Coat)

Product	Fast Cure	Slow Cure
Application Temperature	40-80F <40% RH	60-110F <90% RH
Working Time	15-20 min.	30-45 min.
Recoat Time	2-4 hours	6-8 hours
Return to Service	12 hours	48 hours
Full Cure	7 days	7 days

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PROPERTIES WHEN FULLY CURED

PROPERTY/TEST METHOD	DiamaPro Systems® Diama-Tallic	DiamaPro Systems® Diama-Tallic UV
NOMINAL THICKNESS	32-57 mils	32- mils
MOISTURE VAPOR EMISSION RATE, lbs./1,000 sf/24 hrs. (ASTM F1869)	<15	<15
RELATIVE HUMIDITY (ASTM F2170)	<90%	<80%
ADHESION TO CONCRETE, psi (ASTM D4541)	700	700
COEFFICIENT OF LINEAR THERMAL EXPANSION (ASTM D696)	0.000005	0.000005
PROPERTY/TEST METHOD	**DiamaPro Systems® Diama-Tallic**	**DiamaPro Systems® Diama-Tallic UV**
COMPRESSIVE STRENGTH, psi (ASTM D695)	Resin only: 11,000-12,000	Resin only: 11,000-12,000
DYNAMIC COEFFICIENT OF FRICTION (DCOF ANSI 137.1)	Based on Anti-Slip texture >0.4	Based on Anti-Slip texture >0.4
FLAMMABILITY (ASTM D635, E84 & E162)	Self-extinguishing Flame Spread Index: Class A, 9.29 Smoke Deposit, mg/MS: 0.1	Self-extinguishing Flame Spread Index: Class A, 9.29 Smoke Deposit, mg/ms: 0.1
FLEXURAL MODULUS OF ELASTICITY (ASTM D790)	620,000 Resin only: 380,000	620,000 Resin only: 380,000
FLEXURAL STRENGTH, psi (ASTM D790)	4,500-4,600 Resin only: 10,000	4,500-4,600 Resin only: 10,000
IMPACT RESISTANCE (MIL-D-24613)	Pass: No chipping, no cracking Indentation (24 hrs.): 0.0008	Pass: No chipping, no cracking Indentation (24 hrs.): 0.0008
OIL ABSORPTION (MIL-D-3134)	0.000005	0.000005
PERM RATING, perms (ASTM E96)	0%	0%
SHORE D HARDNESS (ASTM D2240)	0.1	0.1
IMPACT RESISTANCE (MIL-D-24613)	75-80	75-80
TENSILE STRENGTH, psi (ASTM D638)	1,100 Resin only: 4,000	1,100 Resin only: 4,000
WATER ABSORPTION (ASTM D570)	0%	0%
ABRASION RESISTANCE, mg loss, CS-17 wheel/1,000 g load/1,000 cycles (ASTM D4060)	4	4
HEAT RESISTANCE LIMITATION	140-200°F	140-200°F

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CHEMICAL AND STAIN RESISTANCE ASTM C722

1 = Best for chemical resistance: No adverse effects on fully cured coating; Remove within 24 hours.
2 = Low potential for stain: No adverse effects: Remove within 24 hours.
3 = High potential for stain or degradation: Must be removed within 24 hours of exposure.
NR = Not recommended

CHEMICAL	NGU	CHEMICAL	NGU
Acetic Acid 10%	1	Chromic Acid, 10%	1
Acetic Acid, 30%	2	Chromic Acid, 30%	1
Acetone	1	Citric Acid, 30%	1
Ammonia, 30%	1	Ethanol, 95%	1
Ammonium Hydroxide, 30%	1	Ethyl Acetate, 99%	1
Antifreeze (Coolant)	1	Formaldehyde, 37%	3
Benzene	1	Premium Gasoline	1
Benzyl Alcohol	1	Hydraulic Fluids	2
Betadine, 11%	1	Hydrochloric Acid, 10%	1
Boric Acid, 4%	1	Hydrochloric Acid, 30%	3
Brake Fluid, DOT 3	1	Hydrofluoric Acid, 10%	1
Hydrofluoric Acid, 30%	3	Phosphoric Acid, 20%	2
Hydrogen Peroxide, 10%	1	Potassium Hydroxide, 30%	1
Hydrogen Peroxide, 50%	1	Propylene Glycol	1
Iodine, 2%	3	Silver Nitrate, 20%	3
Isopropyl Alcohol	2	Sodium Chloride, 20%	1
Jet Fuel	1	Sodium Hydroxide 50%	1
Lactic Acid, 30% (Dairy Facility)	3	Sodium Hypochlorite 10%	1
Lime Juice	1	Sodium Hypochlorite 30%	2
Magnesium Hydroxide	1	Sodium Persulfate	3
MEK (Methyl Ethyl Ketone)	1	Sulfuric Acid, 37% (Battery Acid)	2
Methanol	1	Tannic Acid, 20%	3
Methylene Chloride	NR	Tartaric Acid, 10%	1
MIBK (Methyl Isobutyl Ketone)	1	Transmission Fluid	1
Mineral Oil	1	Urine, Dog or Cat	1
Motor Oil, SAE 30	1	Urea (Nitrogen-Rich Fertilizer)	1
Mineral Spirits	1	Vinegar, Distilled	1
Mustard, Yellow	1	Water (Hard Water from Well)	1
Nitric Acid, 30%	NR	Whisky	1
Oleic Acid	1	Wine, Cabernet Sauvignon	1
Oxalic Acid, 10%	1	Xylene	1

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LIMITATIONS

- An installed onsite mockup should be used to determine suitability and approval.
- Always evaluate the moisture transmission level and moisture content of the substrate before application.
- Primer Coat Required:
  - When known outgassing present or suspected.
- Polyaspartic: Do not apply single coat greater than 14 mils thick (114 sf per gallon).
- Polyurethane HP: Do not apply single coat greater than 7 mils thick (220 sf per gallon).

INSTALLATION INSTRUCTIONS

COVERAGE RATES

DiamaPro Systems® Diama-Poxy MVR (Primer) 2-10-gal. units

Primer Coat reduced with DiamaPro Systems® Diama-Solvent VOC, 5-mil total	320 sf/gal.
2nd Coat with no solvent reduction, 11 mils total	145 sf/gal.
Total	100 sq.ft./gal. = 16 mils

DiamaPro Systems® Diama-Poxy (Option #1) 2-10 gal. units

Design Coat – 15–50 mils		105-32 sq.ft./gal.
Accent Coats 5-15 mils		105-320 sq.ft./gal.

DiamaPro Systems® Diama-Thane NGU (Option #2) 2-10 gal. units

Design Coat – 15–50 mils		105-32 sq.ft./gal.
Accent Coats 5-15 mils		105-320 sq.ft./gal.

DiamaPro Systems® Diama-Thane NGU (Topcoat) 2-10 gal. unit

Topcoat 10-20 mil.	80-160 sq.ft./gal.

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

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 2.
- 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.

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MIXING STATION OVERVIEW

- Organize and inspect products, equipment, and tools to minimize delays during installation.
- Select a well-ventilated area outside of application zone and out of direct sunlight.
- Mixing station is ideally a 4-by-4 feet or larger level surface protected by cardboard or plastic liner.
- DO NOT mix or install material in confined space without proper ventilation.

MATERIAL STAGING

- **DiamaPro Systems® Diama-Tallic** Separate and Stage Components
  - Primer
    - DiamaPro Systems® Diama-Poxy MVR Parts A and B
  - Design Coat - Option #1 **DiamaPro Systems® Diama-Tallic**
    - DiamaPro Systems® Diama-Poxy Parts A and B
  - Design Coat – Option #2 DiamaPro Systems® Diama-Tallic UV
    - DiamaPro Systems® Diama-Thane NGU Parts A and B
  - Topcoat
    - DiamaPro Systems® Diama-Thane NGU Parts A and B
  - Metallic Pigments
  - Anti-Slip Glass 70
  - **DiamaPro Systems® Diama-Solvent VOC**
- Visual Inspection
  - All Part A: Make sure product is clear.
  - All Part B: Make sure product has no gelation or crystallization. If this occurs, contact DiamaPro Systems®.
  - Metallic Pigments
    - Make sure material is dry and undamaged.
    - Check to see that color is correct.
    - Batch numbers are the same.
      - If different batch numbers, box (or mix) all batches together to keep color consistent throughout application.
  - Anti-Slip
    - Material must be dry and undamaged.
    - Moisture will cause material to clump.
      - Clumps should be sifted prior to mixing or discarded.

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GENERAL MIXING GUIDE

- Induce Part B into Part A.
- Use a low-RPM, low-torque drill with Jiffy double-bladed mixer.
- DO NOT mix materials by hand.
- Premeasure components before combining.
- Mix materials in clean vessels. Change mix buckets every 2-5 batches.
- Periodically turn the drill off and use a paint stick to scrape sides and bottom of mixture.
- Use all material immediately after mixed.
- Buildup on bucket or transfer of buildup to new batch will shorten product's working time.
- DO NOT mix more material than can be applied within the published working time.
- DO NOT leave mixed material in mass.
- The more material in the vessel = more heat. The more heat = shorter working time.

INSTALLATION

- Primer - **DiamaPro Systems® Diama-Poxy MVR** with Metallic Colorant
  - Primer 1st Coat
    - Reduce with 32oz of **DiamaPro Systems® Diama-Solvent VOC** per 2-10 gal. unit.
    - Apply at a rate of 4 mils @ 400 sq.ft./gal.
    - With a flat, steel smoother blade, pull tight to the floor.
    - Back roll with a 3/8" nap microfiber roller.
    - Allow to cure.
  - Primer 2nd Coat
    - No solvent reduction
    - Add the selected Colorant and Metallic Colorant per design.
    - With the appropriate blade, apply at a rate of 11 mil @ 145 sq.ft./gal.
    - Back roll with a 3/8" nap microfiber roller.
    - Allow to cure.
    - Screen with a 120-grit screen fitted to a low-speed (175 rpm) buffer.
    - Clean the surface well.
- Design Coat - DiamaPro Systems® Diama-Poxy with Colorant or DiamaPro Systems® Diama-Thane NGU with Metallic Colorant
  - Using a notched squeegee, apply at a rate between 15-50 mil @ 32-105 sq.ft./gal.
  - Back roll with a 3/8"-1/2" nap microfiber roller.
  - Allow to cure.
  - Screen with a 120-grit screen fitted to a low-speed (175 rpm) buffer.
  - Clean the surface well.
- Optional: Design Coat – 2nd Layer
  - Use the same resin as in the Design Coat 1st layer.
  - Depending on design, multiple metallic colors can be applied and then blended to create the visual affects desired.
  - Allow to cure.
  - Screen with a 120-grit screen fitted to a low-speed (175 rpm) buffer.

    - Clean the surface well.
- Topcoat - DiamaPro Systems® Diama-Thane NGU Slow Cure
    - Using a flat blade, cover the entire floor.
    - Apply at a rate of 4-5 mil. @ 320-400 sq.ft./gal.
    - Back roll with a microfiber 3/8" 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 Systems® Diama-Coat 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 Systems® Diama-Clean 30** in the freshwater tank according to the materials dilution rate.
- Mop and Bucket
    - Use **DiamaPro Systems® Diama-Clean 30** diluted in the freshwater.

AVAILABILITY

DiamaPro Systems® Diama-Tallic System is only available through **DiamaPro Systems®** Authorized Distributors. Only **DiamaPro Systems® Trained-Applicators** are allowed to install the system. For a list of Authorized Distributors or Applicators please contact **DiamaPro Systems®**.

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The **DiamaPro Systems®** office offers assistance with specifications, performance test data and field services.

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