



THOUGHTFULLY DESIGNED CONCRETE COATINGS

URETHANE POLYMER CONCRETE MF / AP

Get Tough Jobs Won

KRETUS® URETHANE POLYMER CONCRETE MF / AP is a medium-fill, low odor, 100% solids, 3-component self-leveler designed to withstand hot and cold industrial power washing, high abrasion, extreme temperatures, and aggressive chemical and thermal attacks. This self-priming cementitious urethane outperforms and outlasts epoxy, tile, VCT, concrete, and urethane-sand in extreme industrial environments.

ADVANTAGES

- Meets USDA, FDA, SCAQMD, and VOC Standards
- Eligible for LEED Points: Made in California from Partially Recycled Materials
- Adhesion to Concrete, Wood, Metal, Non-glazed Tiles
- Anti-bacterial
- Extreme Temperature Resistance, -40°F to 266°F (-40°C to 130°C)
- High Traffic and Hot Tire Resistance
- Impact and Scratch Resistance
- Low Maintenance
- Low Odor
- Moisture Vapor Resistance
- Thermal Shock Resistance
- Waterproofing

SUGGESTED USES & APPLICATION AREAS

- Seamless Moisture Mitigation
- Slurry, Mortar, and Decorative Systems
- Industrial, Institutional, Government, Healthcare, Commercial, and Residential

KRETUS® SYSTEMS

- 1-Coat UPC MF (kretus.com/upc-1-coat)
- Color Quartz MF (kretus.com/color-quartz-upc)

FINISH & COLOR

- Matte, Cream
- Colorants: See Urethane Polymer Concrete Color Chart at kretus.com/color-charts.

LIMITATIONS

- Urethane Polymer Concrete will amber over time. If color stability is important, use UV-stable Urethane Polymer Concrete UV, Polyurethane, or Polyaspartic coatings. See kretus.com/products.
- Where outgassing is suspected or prevalent, a Urethane Polymer Concrete RC prime coat may be required.

COMPONENTS

Standard (Single) Kit

- Part A: 8 lbs Urethane Polymer Concrete SL/MF, 1-gallon bucket
- Part B: 8 lbs Urethane Polymer Concrete SL/MF AP, 1-gallon bucket
- Part C: 40 lbs Urethane Polymer Concrete MF, single bag

Bulk (Double) Kit

- Part A: 16 lbs Urethane Polymer Concrete SL/MF, 2-gallon bucket
- Part B: 16 lbs Urethane Polymer Concrete SL/MF AP, 2-gallon bucket
- Part C: 80 lbs Urethane Polymer Concrete MF, two 40-lb bags

Larger kits available through KRETUS® distributor.

STORAGE & HANDLING

Store materials in a cool, dry place out of direct sunlight. DO NOT mix materials that are warmer than 85°F. Sealed, unopened Parts A and B may be placed in an ice bath to bring the temperature of the material down. DO NOT place any aggregates or additives in ice bath. DO NOT let water into material.

SAFETY

Review current Safety Data Sheet(s) at kretus.com/safety-data-sheets and all relevant documentation before installation. Safety conditions and personal protective equipment must be considered before using any KRETUS® product.

TESTING AND WARRANTY

Before you begin installation, review Pre- and Post-Job Checklists available at kretus.com/project-planning. 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 beginning installation.

SURFACE PREPARATION

Before installing any KRETUS® product, substrate must be clean, profiled, and sound. Refer to Surface Preparation in individual System Installation Guides available at kretus.com/installation-guides.

IDEAL CONDITIONS

Apply material when temperature is decreasing—adhere to the KRETUS® Dew Point Calculation Chart available at kretus.com/project-planning. DO NOT apply under direct sunlight. DO NOT install if rain is forecasted during time allotted for installation.

- higher temperature and/or humidity = reduced working times
- lower temperature and/or humidity = increased working times

MIXING & APPLICATION

Standard Kit Mix Ratio	Mix Ratio	A:B:C = 8 lbs:8 lbs:40 lbs by weight
	with colorant	Add to mix ratio: 4 oz Urethane Polymer Concrete Colorant by volume.
	with accelerant	Add to mix ratio: 1-2 oz Poly Accelerant by volume. At 70°F: Decreases working time by 5 minutes and return to service by 1 hour.
Mixing Drill		High-RPM, high-torque mixing drill with Jiffler double-bladed mixer.
Mixing Directions		Mix A alone or with colorant for 15 seconds. Add B and continue to mix for 30 seconds. Slowly add C and continue to mix for 2 min.
Recommended Application Temperature		40-80°F (4-27°C) <70% RH (Relative Humidity)
Working Time Recoat Window		
	@ 50°F (10°C), 50% RH	Working Time: 30 min Recoat Window: 12 hrs
	@ 70°F (21°C), 50% RH	Working Time: 20 min Recoat Window: 8 hrs
	@ 100°F (37°C), 50% RH	Working Time: 10 min Recoat Window: 6 hrs
Return to Service Full Cure		
	@ 50°F (10°C), 50% RH	Return to Service: 24 hrs Full Cure: 5 days
	@ 70°F (21°C), 50% RH	Return to Service: 16 hrs Full Cure: 5 days
	@ 100°F (37°C), 50% RH	Return to Service: 10 hrs Full Cure: 5 days

Standard Kit Coverage Rates*

1/8" medium-fill self-leveler	60-63 sf
3/16" medium-fill self-leveler	45-50 sf
1/4" medium-fill self-leveler	35-40 sf

For more applications, see the Urethane Polymer Concrete General Overview at kretus.com/product-general-overviews.

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

PROPERTIES OF FULLY CURED COATING

Total Solids	100%
Moisture Vapor Emission Rate, lbs./1,000 sf/24 hrs (ASTM F1869)	<25 lbs.
Relative Humidity (ASTM F2170).....	<99%
Abrasion Resistance, mg loss, CS-17 wheel/1,000g load/1,000 cycles (ASTM D4060).....	12
Adhesion to Concrete, psi (ASTM D4541)	700
Compressive Strength, psi (ASTM C109).....	12,000
Compressive Strength, psi (ASTM C579).....	12,500-12,900 Resin: 10,000
Coefficient of Linear Thermal Expansion (ASTM D696)	0.000005
Flame Spread/NFPA 101 (ASTM E84)	Class A
Flammability (ASTM D635)	Self-extinguishing
Flexural Modulus of Elasticity, psi (ASTM C580)	300
Flexural Strength, psi (ASTM C580)	2,600-2,700
Heat Resistance Limitation (based on system thickness)	5–158°F (-15–70°C) @1/16-1/8"
.....	-13–176°F (-25–80°C) @3/16"
.....	-40–248°F (-40–120°C) @1/4"
.....	-40–266°F (-40–130°C) @ 1/2"
Impact Resistance (MIL-D-24613)	Pass: No chipping, no cracking
.....	Indentation (24 hrs): 0.0008
Oil Absorption (MIL-D-3134)	0%
Perm Rating, perms (ASTM E96)	0.1
Shore D Hardness (ASTM D2240).....	85
Tensile Strength, psi (ASTM C307)	1,290
Thermal Shock or Stability (ASTM C531 Part 4.05)	0.00011
Water Absorption (ASTM D570).....	0%

CHEMICAL & STAIN RESISTANCE

- 1 = Best for chemical resistance: Chemical has no adverse effects on fully cured coating; remove within 24 hours.
- 2 = Low potential for stain: Chemical has no adverse effects on fully cured coating if removed within 24 hours.
- 3 = High potential for stain or degradation: Chemical must be removed within 24 hours of exposure.
- NR = Not recommended

Acetic Acid (Component of Vinegar), 10%	1	Ethanol, 95%	3
Acetic Acid, 30%	2	Ethyl Acetate, 99% (Food/Beverage Facility)	NR
Acetone	1	Formaldehyde, 37%	2
Ammonia, 30%	1	Premium Gasoline	1
Ammonium Hydroxide, 30%.....	1	Hydraulic Fluids	
Antifreeze (Coolant).....	1	(Machinery, Automobile, Aviation)	1
Benzene (Component of Crude Oil)	3	Hydrochloric Acid, 10%	1
Benzyl Alcohol	3	Hydrochloric Acid, 30%	1
Betadine, 11%	2	Hydrofluoric Acid, 10%.....	1
Boric Acid, 4%	3	Hydrofluoric Acid, 30%.....	1
Brake Fluid, DOT 3	1	Hydrogen Peroxide, 10%.....	1
Chromic Acid, 10%	1	Hydrogen Peroxide, 50%.....	3
Chromic Acid, 30%.....	1	Iodine, 2%	3
Citric Acid, 30%	1	Isopropyl Alcohol	1

Jet Fuel	1	Silver Nitrate, 20% (Photo Labs).....	3
Lactic Acid, 30% (Dairy Facility)	1	Sodium Chloride, 20%	1
Lime Juice	1	Sodium Hydroxide (Caustic Soda), 50%	1
Magnesium Hydroxide.....	1	Sodium Hypochlorite (Bleach), 10%	2
MEK (Methyl Ethyl Ketone)	NR	Sodium Hypochlorite (Bleach), 30%.....	2
Methanol	NR	Sodium Persulfate	
Methylene Chloride	3	(Bleaching and Oxidizing Agent)	2
MIBK (Methyl Isobutyl Ketone)	NR	Sulfuric Acid, 37% (Battery Acid).....	1
Mineral Oil	1	Tannic Acid, 20%	2
Motor Oil, SAE 30	1	Tartaric Acid, 10%	1
Mineral Spirits	NR	Transmission Fluid	1
Mustard, Yellow	3	Urine, Dog or Cat	1
Nitric Acid, 30%	2	Urea (Nitrogen-Rich Fertilizer)	1
Oleic Acid	1	Vinegar, Distilled	1
Oxalic Acid, 10%	1	Water (Hard Water from Well)	1
Phosphoric Acid, 20%	1	Whisky	1
Potassium Hydroxide, 30%		Wine, Cabernet Sauvignon.....	1
(Alkaline Batteries, Soap Manufacturing).....	1	Xylene	3
Propylene Glycol	1		

Pigments or colorants may reduce chemical resistance or increase potential for stain. Coatings tested at ambient temperature over 1-3 days' exposure to chemical. Before completing an installation, products should be tested for chemical resistance on site.

DISCLAIMER: The information contained in this document is intended for use by KRETUS®-qualified and -trained professionals. This is not a legally binding document and does not release the specifier from their responsibility to apply materials correctly under the specific conditions of the construction site and the intended results of the construction process. The most current valid standards for testing and installation, acknowledged rules of technology, as well as KRETUS® technical guidelines must be adhered to at all times. The steps given in this document and other mentioned documents are critical to the success of your project.