



## URETHANE POLYMER CONCRETE MF | FC

### Hit Tight Deadlines

**KRETUS® URETHANE POLYMER CONCRETE MF | FC** is a fast-curing, 100%-solids, 3-component medium-fill self-leveler. When working time is limited and/or application temperatures are low, use it to protect areas that are prone to hot and cold industrial power washing, high abrasion, extreme temperatures, and aggressive chemical and thermal attacks. Urethane Polymer Concrete (UPC) outperforms and outlasts epoxy, tile, VCT, concrete, and urethane-sand under extreme industrial conditions.

#### ADVANTAGES

- 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
- Fast Cure
- High Impact Resistance
- Low Maintenance
- Low Odor
- Moisture Vapor Resistance (up to 25 pounds MVER and 99% RH)
- Self-priming Cementitious Urethane
- Thermal Shock Resistance
- Waterproofing

#### SUGGESTED USES AND APPLICATION AREAS

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

#### KRETUS® SYSTEMS

- Color Quartz
- Industrial Sand
- UPC 1-Coat

For all KRETUS® systems, see [kretus.com/systems](https://kretus.com/systems).

#### FINISH AND COLOR

- Matte Opaque With or Without Pigment

See [kretus.com/color-charts](https://kretus.com/color-charts).

#### PRECAUTIONS AND LIMITATIONS

- **UV Resistance:** Coating will amber over time. If color stability is important, use UV-stable Urethane Polymer Concrete RC UV, Polyurethane, Polyaspartic, or Acrylic Sealer. See [kretus.com/products](https://kretus.com/products).
- **Prime Coat:** A prime coat may be required when stem walls are highly absorbent, if outgassing is suspected or prevalent, or if concrete is very porous or in poor condition. All concrete repairs must be completed before installing any system.
- Do not let material puddle on floor. This may cause white spots to appear when coating cures.
- Complete samples and onsite mockups to ensure desired results are achieved.
- **Application temperatures:** When temperatures increase, material cures faster. Material cures slower when temperatures decrease.

- Apply material when temperature is decreasing—adhere to the KRETUS® Dew Point Calculation Chart available at [kretus.com/project-planning](http://kretus.com/project-planning). DO NOT apply under direct sunlight. DO NOT install under inclement weather conditions.
- If application temperatures are outside of those recommended, contact your KRETUS® Technical Representative.
- Application times are based on test results compiled by lab technicians in a controlled setting. All times recorded using 1-quart samples.
- 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.
- For best results, apply when application temperatures and relative humidity are low.

## COMPONENTS

### Standard Kit

- **Part A:** Urethane Polymer Concrete SL/MF, 8 lbs.
- **Part B:** Urethane Polymer Concrete SL/MF FC, 8 lbs.
- **Part C:** Urethane Polymer Concrete MF, 40 lbs.

### Bulk Kit

- **Part A:** Urethane Polymer Concrete SL/MF, 16 lbs.
- **Part B:** Urethane Polymer Concrete SL/MF FC, 16 lbs.
- **Part C:** Urethane Polymer Concrete MF, 80 lbs.

Larger kits may be available through KRETUS® distributor.

## SAFETY, TESTING, AND WARRANTY

- **Safety:** Personal protective equipment and safety conditions must be considered before using any product. Review all relevant and current documentation including Safety Data Sheets ([kretus.com/safety-data-sheets](http://kretus.com/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.
- **Warranty:** For warranty to be upheld, Pre- and Post-Job Checklists ([kretus.com/project-planning](http://kretus.com/project-planning)) must be completed.

## 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	40-80°F, <45% RH (Relative Humidity)

## Average Application Time

Ambient Temperature	40-80°F, <45% RH	50°F, 50% RH	70°F, 50% RH	100°F, 50% RH
Working Time	10 min	20 min	10 min	5 min
Recoat Window	3 hrs.	8 hrs.	3 hrs.	2 hrs.
Return to Service (Foot Traffic)	2-5 hrs.	10 hrs.	6 hrs.	4 hrs.
Full Cure (Vehicle Traffic)	3 days	3 days	3 days	3 days

## SURFACE PREPARATION

Before installing any coating, the substrate must be sound, meaning all necessary repairs have been completed. It must be clean, dry, and free of any contaminants, moisture, materials, or particles that may hinder material's adhesion to the substrate. If applying directly over concrete, the substrate must be mechanically profiled to ICRI CSP 3. Different projects may require a different CSP. Contact your KRETUS® Technical Representative. Adhere to International Concrete Repair Institute current standards.

## MIXING AND APPLICATION

Standard Kit Mix Ratio	A:B:C = 8 lbs.:8 lbs.:40 lbs.
Urethane Polymer Concrete Colorant	4 oz per standard kit

Accelerant (at 70°F, decreases working time by 5 min, return to service by 1 hr.)	1-2 oz Poly Accelerant per standard kit
30-mesh or F-grade Industrial Sand for crack patching	10-15 lbs. per standard kit
Mixing Drill	High-speed, high-torque drill with Jiffler double-bladed mixer
Mixing Directions	Mix Part A for 15 seconds. Add Part B and mix for 30 seconds. Slowly add Part C and continue mixing for 2 minutes or until color and consistency are uniform.
Mixing Directions With Colorant	Mix Part A and color for 15 seconds. Add Part B and mix for 30 seconds. Slowly add Part C and continue mixing for 2 minutes or until color and consistency are uniform.
Mixing Directions With Anti-Slip, Color Quartz, or Sand	Mix Part A for 15 seconds. Add Part B and mix for 30 seconds. Slowly add Part C and continue mixing for 2 minutes. Add additive and continue to mix for 30 seconds or until color and consistency are uniform.

### Coverage Rates per Standard Kit

Crack and Joint Repair, 1/4" wide by 1/4" deep	307 LF/gal.
Crack and Joint Repair	See Joint Filler Rates ( <a href="http://kretus.com/joint-filler-rates">kretus.com/joint-filler-rates</a> ).
Base or Body Coat, 1/8"	60 SF/kit
Base or Body Coat, 3/16"	35 SF/kit
Base or Body Coat, 1/4"	25 SF/kit

Premeasure components to make sure you are using the correct mix ratio. Combine components according to mix instructions. Continue mixing until the coating's consistency is uniform. The coating must remain thoroughly mixed during the application.

Keep a wet edge while applying product. Wear spiked shoes when walking on material. For more applications and coverage rates, see KRETUS® General Overview ([kretus.com/product-general-overviews](http://kretus.com/product-general-overviews)).

### PROPERTIES WHEN FULLY CURED

PROPERTIES	TEST METHOD	TYPICAL VALUES
Abrasion Resistance	ASTM D4060	70 mg loss
Abrasion Resistance with Anti-Slip	ASTM D4060	40-60 mg loss
Adhesion Strength	ASTM D4541	>500 psi, concrete failure
Compressive Strength	ASTM C579	7,000 psi
Flame Spread/ Critical Flux	ASTM E648	Class 1
Flame Spread/ Rate of Burning	ASTM D635	Self-extinguishing
Flexural Modulus of Elasticity	ASTM C580	3.5 x 10 <sup>6</sup> psi
Flexural Strength	ASTM C580	2,700 psi
Hardness (Shore D)	ASTM D2240	80
Impact Resistance	ASTM D2794	>160 in-lbs.
Indoor Air Quality	CA 01350	Compliant
Linear Shrinkage	ASTM C531	0.20%
Microbial Resistance	ASTM G21	Passes, 0 growth
Moisture Vapor Permeance	ASTM E96	0.15 perms
Tensile Strength	ASTM C307	2,000 psi
Thermal Coefficient of Linear Expansion	ASTM C531	2.0 x 10 <sup>(-5)</sup> in/in/°F

Thermal Shock Resistance	ASTM C484	50 cycles, no cracking
Water Absorption	ASTM C413	<0.10%

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

Pigments or colorants may affect working times, reduce chemical resistance, or 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.

**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 always be adhered to. The steps given in this document and other mentioned documents are critical to the success of your project.