



THOUGHTFULLY DESIGNED CONCRETE COATINGS

## URETHANE POLYMER CONCRETE VC / FC

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### Hit Tight Deadlines

**KRETUS® URETHANE POLYMER CONCRETE VC / FC** is a fast-curing 3-component vertical system, with low odor and 100% solids. 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 under extreme industrial conditions.

#### 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)
- Fast Cure
- 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
- Decorative and Functional Vertical Systems
- Industrial, Institutional, Government, Healthcare, Commercial, and Residential

#### FINISH & COLOR

- Matte, Cream
- Colorants: See Urethane Polymer Concrete Color Chart at [kretus.com/color-charts](https://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](https://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: 3 lbs Urethane Polymer Concrete WC/VC, 1-gallon bucket
- Part B: 3 lbs Urethane Polymer Concrete WC/VC FC, 1-gallon bucket
- Part C: 3.5 lbs Urethane Polymer Concrete VC, 1-gallon bucket

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](http://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](http://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](http://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](http://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 = 3 lbs:3 lbs:3.5 lbs by weight  |
| with colorant                       |           | Add to mix ratio: 4 oz Urethane Polymer Concrete Colorant by volume.   |
| with accelerant                     |           | Add to mix ratio: 1 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)   <45% RH (Relative Humidity)   |
| Working Time   Recoat Window        |           |  |
| @ 50°F (10°C), 50% RH               |           | Working Time: 20 min   Recoat Window: 8 hrs  |
| @ 70°F (21°C), 50% RH               |           | Working Time: 10 min   Recoat Window: 3 hrs  |
| @ 100°F (37°C), 50% RH              |           | Working Time: 5 min   Recoat Window: 2 hrs   |
| Return to Service   Full Cure       |           |  |
| @ 50°F (10°C), 50% RH               |           | Return to Service: 10 hrs   Full Cure: 3 days  |
| @ 70°F (21°C), 50% RH               |           | Return to Service: 6 hrs   Full Cure: 3 days   |
| @ 100°F (37°C), 50% RH              |           | Return to Service: 4 hrs   Full Cure: 3 days   |

## Standard Kit Coverage Rates\*

Vertical coat, 3-8 mils .....400 sf

For more applications, see the Urethane Polymer Concrete General Overview at [kretus.com/product-general-overviews](http://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)                 | <15 lbs. |
| Relative Humidity (ASTM F2170)  | <99%     |
| Abrasion Resistance, mg loss, CS-17 wheel/1,000g load/1,000 cycles (ASTM D4060) | 40       |

|   |                                |
|---|--------------------------------|
| Adhesion to Concrete, psi (ASTM D4541).....                 | 1,000                          |
| Compressive Strength, psi (ASTM C109).....                  | 8,000                          |
| Compressive Strength, psi (ASTM C579).....                  | 7,250                          |
| 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 D790).....                     | 4,400                          |
| 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   |
| Impact Resistance @125 mils (D1709).....                    | >160 in. lbs                   |
| Oil Absorption (MIL-D-3134).....                            | 0%                             |
| Perm Rating, perms (ASTM E96).....                          | 0.1                            |
| Shore D Hardness (ASTM D2240).....                          | 85                             |
| Tensile Strength, psi (ASTM C307).....                      | 1,100                          |
| Tensile Strength, psi (ASTM D638).....                      | 750                            |
| 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  | Isopropyl Alcohol .....                        | 1  |
| Acetic Acid, 30% .....                            | 2  | Jet Fuel .....                                 | 1  |
| Acetone .....                                     | 1  | Lactic Acid, 30% (Dairy Facility).....         | 1  |
| Ammonia, 30% .....                                | 1  | Lime Juice .....                               | 1  |
| Ammonium Hydroxide, 30%.....                      | 1  | Magnesium Hydroxide .....                      | 1  |
| Antifreeze (Coolant).....                         | 1  | MEK (Methyl Ethyl Ketone) .....                | NR |
| Benzene (Component of Crude Oil) .....            | 3  | Methanol .....                                 | NR |
| Benzyl Alcohol .....                              | 3  | Methylene Chloride.....                        | 3  |
| Betadine, 11% .....                               | 2  | MIBK (Methyl Isobutyl Ketone).....             | NR |
| Boric Acid, 4% .....                              | 3  | Mineral Oil .....                              | 1  |
| Brake Fluid, DOT 3 .....                          | 1  | Motor Oil, SAE 30 .....                        | 1  |
| Chromic Acid, 10%.....                            | 1  | Mineral Spirits .....                          | NR |
| Chromic Acid, 30%.....                            | 1  | Mustard, Yellow .....                          | 3  |
| Citric Acid, 30% .....                            | 1  | Nitric Acid, 30% .....                         | 2  |
| Ethanol, 95% .....                                | 3  | Oleic Acid .....                               | 1  |
| Ethyl Acetate, 99% (Food/Beverage Facility) ..... | NR | Oxalic Acid, 10% .....                         | 1  |
| Formaldehyde, 37% .....                           | 2  | Phosphoric Acid, 20%.....                      | 1  |
| Premium Gasoline.....                             | 1  | Potassium Hydroxide, 30%                       |    |
| Hydraulic Fluids                                  |    | (Alkaline Batteries, Soap Manufacturing) ..... | 1  |
| (Machinery, Automobile, Aviation).....            | 1  | Propylene Glycol .....                         | 1  |
| Hydrochloric Acid, 10%.....                       | 1  | Silver Nitrate, 20% (Photo Labs).....          | 3  |
| Hydrochloric Acid, 30%.....                       | 1  | Sodium Chloride, 20% .....                     | 1  |
| Hydrofluoric Acid, 10% .....                      | 1  | Sodium Hydroxide (Caustic Soda), 50% .....     | 1  |
| Hydrofluoric Acid, 30% .....                      | 1  | Sodium Hypochlorite (Bleach), 10% .....        | 2  |
| Hydrogen Peroxide, 10% .....                      | 1  | Sodium Hypochlorite (Bleach), 30%.....         | 2  |
| Hydrogen Peroxide, 50% .....                      | 3  | Sodium Persulfate                              |    |
| Iodine, 2% .....                                  | 3  | (Bleaching and Oxidizing Agent).....           | 2  |

|   |   |                                    |   |
|---|---|------------------------------------|---|
| Sulfuric Acid, 37% (Battery Acid) ..... | 1 | Vinegar, Distilled .....           | 1 |
| Tannic Acid, 20% .....                  | 2 | Water (Hard Water from Well) ..... | 1 |
| Tartaric Acid, 10% .....                | 1 | Whisky .....                       | 1 |
| Transmission Fluid .....                | 1 | Wine, Cabernet Sauvignon.....      | 1 |
| Urine, Dog or Cat .....                 | 1 | Xylene .....                       | 3 |
| Urea (Nitrogen-Rich Fertilizer) .....   | 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.