

# ULTRA-CRETE 600

THREE-PART, CEMENTITIOUS POLYURETHANE SELF-LEVELING SLURRY  
DESIGNED TO BE APPLIED AT 1/8" TO 1/4" USING A GAUGE RAKE

**ULTRA-CRETE 600** is a 3-component, fluid applied cementitious polyurethane slurry with very good flow characteristics used to protect floors susceptible to thermal shock and water erosion while resisting vapor and hydrostatic pressure on properly prepared substrates. Ultra-Crete 600 also works well in damp conditions and on floors with slightly elevated moisture emission levels up to 85% relative humidity and up to 10 lbs.

## USES

- Commercial kitchens
- Chillers and freezers
- Garages
- Pharmaceutical plants
- Animal kennels
- Meat and dairy processing areas
- Bottling and production areas
- Wash down bays
- Sanitation areas
- Warehouses and mechanical rooms
- Automotive service bays
- Car washes
- Water treatment facilities
- Basements

## ADVANTAGES

- Resurfaces eroded concrete floor from 1/8" to 1/4" per lift
- Fluid consistency for gauge rake & troweling finishing
- Chemical resistant
- Thermal shock resistant
- Wide temperature service range from -50°F to 200°F
- Does not harbor bacteria growth
- Non-tainting for areas at risk of food flavor contamination
- Phthalate (BPA) free
- Interior and exterior applications

## COLOR PACKS

Available in Gray, Tile Red or Tan

## PACKAGING

- One Part A (resin)
- One Part B (hardener)
- One Part C (aggregate)

## SURFACE PREPARATION

The concrete substrate must be clean, structurally sound and dry. Concrete compressive strength must be >3500 psi at 28 days and >217 psi in-situ tensile bond strength at the time of application. Remove all dirt, dust, spalling or loose concrete, oil, grease, wax, mildew, efflorescence, laitance, curing compounds, form release agents, paint or any other foreign material which might effect the bond. **SEE WARNING REGARDING PAINT REMOVAL.**

Umaco Ultra-Clean may be used to remove oil or grease stains from concrete surfaces. The concrete must have a surface profile of CSP 3 to 6. Shot-blasting is the preferred method. Other suitable preparation methods may include dustless grinding and scarification.

## **Concrete Moisture**

Ultra-Crete 600 works well in damp conditions and on floors with slightly elevated moisture emission levels up to 85% relative humidity and up to 10 pounds and between 9 to 12pH. Should moisture vapor emissions exceed the above thresholds, an appropriate moisture vapor remediation primer such as Umaco Ultra-Prime MVB with a full broadcast of washed and dried quartz sand should be applied. Contact a Umaco representative for more information.

## PRIMING

Priming is not typically necessary, however, highly absorbent concrete, non-absorbent concrete, applications over existing coating systems and concrete whose moisture vapor transmission exceeds the allowable rate

may make priming necessary. Contact a Umaco representative to discuss which primer is required (if necessary) for your specific application.

## PROPER PLANNING

Proper planning of mixing and application work flow are essential elements to achieve a seamless and aesthetically pleasing floor. Plan ahead by laying out installation into sections. Allow the full width of the area to be completed in 15 minutes or less to ensure no placement lines are visible, as cold joint lines will show in the finished floor. Edge details, sloping and proper pitching are critical for proper flooring system installation. Crack repairs must also be addressed before installation of the Ultra-Crete 600 system. Ultra-Crete 600 requires at least 4-5 people to install. Ideally, the mixing, delivery and pouring, gauging, smoothly and porcupine roller steps have a dedicated person performing these activities. Larger projects with multiple batches being mixed concurrently will require more laborers.

## SUBSTRATE SURFACE TEMP

50°F to 85°F with less than 80% ambient humidity.

## MIXING

In a 5 gallon or larger mixing vessel, combine Part's A and B (as well as optional color packs) mixing with a low speed drill for approximately 30-45 seconds. While continuing to mix slowly, add in the Part C mixing for an additional 2 minutes to yield a lump free consistency. Ensure no unmixed powder pockets remain at the bottom of the mixing vessel before pouring out onto the substrate. It is recommended to start with smaller batches initially due to a short pot life. Do not mix more than can be mixed, placed, finished and tied into with the



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next batches within a 10-15 minute window at 72°F and 50% Humidity. Higher temperatures and humidity will reduce this time frame.

### **COVERAGE PER KIT**

Coverage rates will vary depending on the application thickness, floor profile and absorbency of the concrete.

1/8" (using gauge rake).....55-60 ft<sup>2</sup>

### **APPLICATION**

Once mixed, immediately pour out in a straight bead onto the area to be resurfaced. Immediately spread using a gauge rake to meter the depth at the desired thickness and evenly cover the area. Continue placing fresh material against the wet edge of the previously spread mix and continue to spread while walking in the mixture with spiked/cleated shoes. Break the surface tension and bubbles using a Magic Trowel or smoother attached to an extension pole immediately following the gauging step. Use a rounded edge finishing trowel/pool trowel in difficult to reach areas. Once the surface tension is relieved, lightly roll the porcupine roller around the surface to break any trapped air bubbles. Broadcasting may occur into the fresh Ultra-Crete 600. When broadcasting into the fresh surface, allow no less than 12 hours to cure prior to scraping and removing loose aggregates from the surface.

### **EQUIPMENT CLEANUP**

Equipment should be cleaned with an environmentally safe solvent as permitted under local regulations immediately after use.

### **DISPOSAL**

Dispose of empty packaging and other waste in accordance with federal, state, provinces and local regulations

### **STORAGE**

Ultra-Crete 600 has a shelf life of one (1) year from date of manufacture in original factory sealed containers when stored indoors at a temperature between 40°F to 85°F.

### **LIMITATIONS**

- Surfaces must be dry, clean and free of foreign matter
- Material should not be applied at temperatures below 50F°
- Do not use broken, damaged or wet bags of Part C (aggregate)
- This product is not UV stable
- Sunlight and metal halide exposure will cause yellowing but will not affect the performance
- Batch to batch color variations may occur
- Do not apply to un-reinforced sand cement screeds, asphalt or bitumen substrates, glazed tile or non porous brick and tile, magnesite, copper, aluminum, polyesters or elastomeric membranes
- Keep containers tightly closed
- Containers that have been open must be used as soon as possible
- For professional use only

### **MAINTENANCE**

For maximum life expectancy, routinely sweep and wash floors with appropriate cleaners and detergents including Umaco Ultra-Clean. All chemicals or abrasive grit should be removed as soon as possible.

### **WARNING**

This product contains Isocyanates and other chemicals that may cause serious physical injury. Before using, read the Safety Data Sheet and follow all precautions to prevent bodily harm.

**WARNING!** If you scrape, sand or remove old paint, you may release lead dust or fumes. **LEAD IS TOXIC. EXPOSURE TO LEAD DUST OR FUMES CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE.**

Before you start, find out how to protect yourself and your family by contacting the USEPA National Lead Information Hotline at 1-800-424-LEAD or log onto [www.epa.gov/lead](http://www.epa.gov/lead). Wear a properly fitted respirator and prevent skin contact to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Follow these instructions to control exposure to other hazardous substances that may be released during surface preparation.

**For technical assistance call 978-453-8881.**

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### **LIMITED WARRANTY**

*The manufacturer guarantees its products to be free of defects and the extent of its liability is limited to the purchase price of the materials only, if proved to be defective. Improper mixing, incorrect application or other factors beyond the control of the manufacturer or its dealers may produce unsatisfactory results and cannot be held to be the manufacturers or its dealers responsibility. There are no other guarantees either expressed or implied. (2023)*

**POT-LIFE & CURE TIMES (50% RELATIVE HUMIDITY)**

Temperature	50°F (10°C)	72°F (22.2°C)	86°F (30°C)
Pot-life	30 to 35 min.	17 to 20 min.	6 to 10 min.
Working Time	26 to 30 min.	15 to 18 min.	5 to 9 min.
Tack Free	4 hours	2 hours	90 min.
Recoat Window			
-Solvent-based products	5 to 24 hours	3 to 24 hours	2 to 12 hours
-Water-based products	4 to 24 hours	2 to 24 hours	2 to 12 hours
Foot Traffic	18 to 24 hrs.	12 to 18 hrs.	18 to 24 hrs.
Heavy Traffic	48 to 72 hrs.	24 to 36 hrs.	12 to 24 hrs.
Full Chemical Resistance	7 days	5 days	4 days

**CURED COATING PROPERTIES (DRY FILM)**

Property	Test Method	Results
Abrasion Resistance, mg/loss* Taber Abraser	ASTM D4060	100 mg (0.1 g) loss
Compressive Strength	ASTM C579	5,700 psi (39.3 MPa)
Flexural Strength	ASTM D790	1,500 psi (10.3 MPa)
Tensile Strength	ASTM 307	700 psi (4.8 MPa)
Adhesion to Concrete	ASTM D7234	450 psi (3.1 MPa) concrete failure
Flammability	ASTM D635	Self-Extinguishing
Percent Elongation	ASTM D2370	6%
Shore D Hardness	ASTM D2240	80 – 85
Volatile Organic Compounds (VOC's)	ASTM D3960	2 g/L mixed
Microbial Resistance	ASTM G21	Pass #1
Water Absorption (24 hour immersion)	ASTM C413	<0.1%
Thermal Stability / Heat Resistance -Tested on concrete block	MIL-D-3134J Section 4.6.3	No slip, flow, no softening or change in appearance
Thermal Compatibility with Concrete	ASTM C884	Pass
Softening Point/ Service Temp (Constant)	ASTM C905	266°F (130°C) Min. -50°F (-10°C) Max. 200°F (93.3°C)
Impact Resistance -Tested on concrete block	ASTM D3134	Pass
	ASTM D2794	160 in.lbs.- no delamination/chipping

\*CS-17 Taber Abrasion Wheel, 1,000 gram load, 1,000 revolutions Results are based on conditions at 77°F (25°C), 50% relative humidity.

**TYPICAL CHEMICAL & STAIN RESISTANCE**

Covered Spot Test – 125 mil film at 7 day cure: E - Excellent; G - Good (slight sign of exposure/stains, coating recovers); NR - Not Recommended (Permanent Damage)	
ACIDS	24 hour Exposure
Acetic Acid 25% (Vinegar)	G
Citric Acid 10%	G
Lactic Acid (Milk)	G
Phosphoric Acid 85%	G
Sulfuric Acid 25% (Battery Acid)	G
Sulfuric Acid 98%	NR
Hydrochloric Acid 32% (Muriatic)	G
Nitric Acid 50%	G
BASES	
Ammonium Hydroxide 10%	E
EBGE	E
Sodium Chloride 20%	E
Sodium Hydroxide 50%	E
Sodium Hypochlorite (Bleach)	G
Trisodium Phosphate 10%	E
ALCOHOLS	
Ethylene Glycol (Antifreeze)	E
Hand Sanitizer	G
Isopropyl Alcohol 91%	G
Methanol	G
SOLVENTS	
Acetone	NR
d-Limonene	E
MEK	NR
Methylene Chloride	NR
Mineral Spirits	E
PGMEA	G
HYDROCARBONS	
Brake Fluid	G
Transmission Fluid	G
Motor Oil (SAE 30)	G
Gasoline	G
Kerosene	G
Hydraulic Fluid	G
Skydrol – LD-4	G
MISCELLANEOUS	
Coffee	G
Coke	G
Hydrogen Peroxide 3%	G
Ketchup	G
Monster Energy Drink	G
Mustard	G
Tide 1%	G
Windex (Ammonia Based)	G
Wine – Red	G

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