



POLYURETHANE CONCRETE FLOOR SYSTEM

GENERAL PRODUCT DESCRIPTION

PetraCrete U is a hybrid, three component polyurethane-concrete floor system. Its unique formulation makes it ideal for many harsh environmental conditions. It is especially suited to handle high temperature sanitary wash down and steam where thermal cycling is present. In addition, PetraCrete U has excellent chemical resistance. It is generally applied between 1/4" and 3/8" (6 - 9 mm). PetraCrete U is USDA accepted for use in federally inspected food facilities. Advantages:

- Resistant to thermal shock
- -50 to 250 degrees F temperature range
- Ideal for CIP (Cleaning-In-Place) applications
- Handles severe impact conditions
- Anti-slip surface
- Seamless flooring system
- Essentially odorless
- Withstands heavy forklift traffic
- Chemical resistant
- Abrasion resistant

INDUSTRIAL APPLICATIONS

- Beverage Plants
- Dairies
- Food Processing
- Freezers and Cold Storage
- Meat Packing and Poultry
- Fryer Lines
- Chemical and Secondary Containment
- Commercial Kitchens
- Bakeries
- Pharmaceutical

PRODUCT DATA

Volumetric Ratio: 1 to 1
 V.O.C. 0
 Application Temperature: 65-90°F and 5° above the dew point
 Thinning: Not required
 Pot Life: 15 minutes
 Time to mix batches: 20 minutes
 Cure Time @ 75°F: 4-6 hours (walking)
 12-16 hours (traffic)
 Shelf life: 6 months
 USDA Food and Beverage: Meets requirements

PHYSICAL PROPERTIES

PROPERTY	VALUE	REFERENCE
Compressive Strength	8,200 psi	ASTM C 579
Flexural Strength	2,375 psi	ASTM C 580
Tensile Strength	920 psi	ASTM D 307
Bond to Concrete	350 psi concrete fails at this point	ASTM D 4541
Coefficient of Thermal Expansion	<- 12.6 X 10	ASTM C 531
Water Absorption	.10% maximum	ASTM D 413
Linear Shrinkage	.20% maximum	ASTM C 531
Impact Resistance	16 ft. lb. - no failure	Mil-D-3134H
Anti-Microbial	Passes	G-21
Coefficient of Friction	Passes	ASTM D 2047
Modulus of Elasticity	1.8 X 10	ASTM D 580
Temperature Rating	230F	

CHEMICAL RESISTANCE

Acetic Acid 30%	R	Hydrochloric Acid 37%	R
Ethanol	R	Nitric Acid 30%	SS
Alcohol, Isopropyl	SS	Phosphoric Acid	SS
Aluminum Hydroxide	R	Skydrol R	R
Citric Acid	R	Sodium Bisulfate	R
Copper Chloride	R	Sodium Chloride	R
Diesel	R	Sodium Hydroxide 50%	R
Ferric Acid	R	Sulfuric Acid 50%	R

Note: The above guide is based on seven days exposure of the listed chemical at 72 degrees F (22 degrees C)
 Key: R = Recommended, SS = Splash and Spill, NR = Not Recommended.
 Above chart serves as a guideline only. Samples will be furnished upon request for testing.

PETRACRETE U

CONCRETE PREPARATION

Before the coating is applied, the concrete must be:

- Clean – Contaminants removed
- Profiled – Surface etched
- Sound – Cracks repaired

Mechanical methods are preferred for preparing concrete prior to coating application. Shot-blasting, diamond grinding, scarifying, and scabbling are all acceptable methods. The concrete profile should approximate 60-80 grit sandpaper after preparation.

MIXING

Volume mix ratio of PetraCrete U is 1 to 1 to 2 or one part of A, one part of B, and two parts of C. Mix the following with a drill and jiffler mixer.

1. In an empty five gallon bucket, pour 1 gallon of Part A and 1 gallon of Part B. If pigment is on the side, add 4 oz. of pigment. Mix with jiffler mixer for 30-45 seconds.
2. Add 22 lbs. of part C (approximately 2 gallons) and mix with jiffler mixer another 1-2 minutes or until thoroughly mixed.
3. The final topcoat mix uses one part A, one part B and 1.25 parts C.

APPLICATION PROCESS

PetraCrete U is best applied as a slurry broadcast at 250 mils in a double broadcast, or a 300 mil system in a triple broadcast by the following steps:

1. First broadcast. Broadcast random and lightly some 20 mesh sand to the floor. Apply the two gallon mix of PetraCrete U over approximately 80 square feet. Then using the 20 mesh sand for thickness, spread with a trowel.
2. Then immediately broadcast 16-20 mesh silica (approximately one pound per square foot) onto resin until refusal, meaning that the resin is thoroughly covered. This method requires that silica be thrown up and over the resin. Throwing silica directly at the resin mix will result in an uneven finish. Remember to keep a 1-2 foot wet edge by not broadcasting silica into the edge where the next batch is to be applied. Otherwise, a ridge will appear in the final finish.
3. After approximately 4-6 hours, the excess silica can be swept up.
4. Second broadcast. Repeat steps 1-3 using the trowel and sand as a gauge. The system should now be a nominal 200 mil thick system.
5. (Optional Third broadcast.) Repeat step 4. The system should be a nominal 300 mil thick system.

APPLICATION PROCESS (CONTINUED)

6. Top Coat. Apply PetraCrete U Topcoat mix at approximately 100-150 SF per gallon. Using a squeegee on a pole or a trowel pull the topcoat as tight as possible and then quickly backroll one direction and apply a random broadcast of 20-36 grit aluminum oxide for improved wear and slip resistance.
7. An optional coat of XtraKote TC Epoxy or PetraThane RCU is recommended for gloss and stain resistance after PetraCrete U is thoroughly dry (24 hours).

For estimating purposes use ~7 gallons of resin per 100 square feet for a 1/4" thick system depending on substrate condition.

COLOR SELECTION

PetraCrete U is available in the following colors: Gray, Tile Red, Green, and Tan. Other colors are available at an additional charge.

PACKAGING

Petra Crete U is available in a 10 Gallon kit size:

	<u>Part A</u>	<u>Part B</u>	<u>Part C</u>
10 Gallon Kit	5 gal.	5 gal.	2 Bags *

* Each bag weighs 52 pounds

CLEANUP

PetraCrete U while in a liquid state may be cleaned up with water and degreaser. Otherwise a strong solvent may be required while PetraCrete U is setting up.

WARRANTY

Petra Industrial Polymers products are warranted for one year after date of application. Please refer to the Petra Industrial Polymer's Limited Material Warranty for additional clarification.

SAFETY

Consult PetraCrete U material safety data sheet. Avoid PetraCrete U contact with skin. Some individuals may be allergic to epoxy.



Information expressed in this data sheet is correct to the best of our knowledge. The technical data sheet does not constitute a warranty, expressed or implied as to the performance of this product. The use and application of this product is beyond our control. Warranty and liability therefore is limited to the replacement only for defective materials. Technical information is subjected to change without cause.