CITADEL

UC URETHANE CEMENT
TOTES MTO

DESCRIPTION AND USES

Citadel® UC Urethane Cement is a heavy duty, self-leveling, slurry-broadcast, anti-slip and antimicrobial treated cementitious urethane flooring system.

The UC product is typically installed by factory trained contractors. Be sure you are fully aware of all application procedures and have all the required equipment available prior to beginning the installation of this product.

NOTE: This TDS is for the Made to Order Totes only. Please refer to CIT-61 UC-190 SRX or CIT-60 UC-125 SL TDSs for information on the 2-gallon kits.

PRODUCT FEATURES AND BENEFITS

- VOC <10 g/l, SCAQMD Approved
- Contains a silver ion antimicrobial additive to protect the surface
- Positively textured profile to minimize slip risks in wet or damp areas
- Resistant to temperatures of up to 220-250°F and suitable for steam cleaning
- Unaffected by moisture vapor transmission
- Rapid return to service in 24 hours
- Low odor and non-toxic
- This coating complies with USDA FSIS regulatory sanitation performance standards for food establishment facilities

PRODUCT

SKU	DESCRIPTION
406179	UC Base Part A for 540 Gallon Kit
406180	UC Hardener Part B for 540 Gallon Kit

Pigment, aggregate, and filler sold separately.
Note: Part A estimated 297 gallons, Part B estimated 244 Gallons.

COMPANION PRODUCTS

SKU	DESCRIPTION
400157	UC Grey Pigment Pack
400158	UC Red Pigment Pack
400160	UC Dark Grey Pigment Pack
400162	UC-190 SRX Filler (55 lb. Bag)
400163	UC-125 SL Filler (40 lb. Bag)
314759	#20-40 Silica Sand (50 lb. bag)

RECOMMENDED TOPCOATS

- Citadel RG-70
- Citadel RG-80
- Citadel UL-80
- Citadel ET-80
- Citadel PLE-100
- Citadel SLE-100

PRODUCT APPLICATION

READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING PROJECT

SURFACE PREPARATION

NEW CONCRETE: New concrete should be allowed to cure for a minimum of 28 days. The concrete must be structurally sound, dry, and free of grease, oils, dust, curing compounds and other coatings or contaminants. Surface laitance must be removed. The preferred method of surface preparation is to mechanically abrade the floor by diamond grinding to achieve a final 60-80 grit finish, reference profile CSP-5 according to ICRI. If patching is required, use Citadel Fortification Formula Concrete Repair.

PREVIOUSLY COATED: Previously coated surfaces must be sound and in good condition. Smooth, hard, or glossy finishes should be scarified by sanding or sweep blasting to create a surface profile. The UC is compatible with most coatings, but a test patch is suggested.

NOTE: Concrete should have a minimum of 3,000 psi compressive strength. Concrete must be visibly dry at time of application.

PRIMING

UC does not normally require a primer due to the application method unless the substrate is extremely porous. If a primer is needed, a scratch coat of UC is recommended.

MIXING

Low speed drill and 3" Hanson Plunge Mixer or 1/2-5/8"-chuck spiral single paddle mud or mortar mixer. **Important:** Hand mixing will produce inconsistent results and is not an approved method. Thoroughly mix each component separately before combining.

Mixing Ratio:
BY VOLUME: 1.19 Gallons A : 0.98 Gallon B (+/- 5%)

- SL 1/8" (yielding a 3/16" finished floor): 17,000 SQ FT (540G Kit): 297 Gallon A : 244 Gallon B : 10,800 LBs Filler : 270 LBs pigment
- SRX 1/4" (yielding a 5/16" finished floor): 8,100 SQ FT (540G Kit): 297 Gallon A : 244 Gallon B : 14,850 LBs Filler : 270 LBs pigment

BY WEIGHT: 10LB A (+/- 5%) : 10LB B (+/- 5%)

- SL 1/8" (yielding a 3/16" finished floor): 17,000 SQ FT (540G Kit): 2,500 LB A (+/- 5%) : 2,500 LB B (+/- 5%) : 10,800 LBs Filler : 270 LBs pigment
- SRX 1/4" (yielding a 5/16" finished floor): 8,100 SQ FT (540G Kit): 2,500 LB A (+/- 5%) : 2,500 LB B (+/- 5%) : 14,850 LBs Filler : 270 LBs pigment

Form: EJ-378
Rev.: 102926

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PRODUCT APPLICATION (cont.)

MIXING

Note: Before starting, ensure the concrete surface, and the ambient air are all at 40-90°F (4-32°C), not recommended for relative humidity above 80%. All material, especially the Filler, must be at a minimum of 50°F (10°C) prior to mixing. Allow the Filler to warm-up above minimum temperature if necessary. Filler below this minimum temperature will quickly lower the temperature of the admix and affect application of the coating.

Pour the base (Part A) and hardener (Part B) components together in a clean, dry 5-gallon (18.93 L) container and power mix using an approved mixer as mentioned above. While mixing, add filler (Part C) and Pigment Pack (Part D) and continue to mix until uniform color is achieved. **DO NOT OVERMIX.** Only mix as much material as can be used within the pot life of 20-25 minutes. **DO NOT THIN**

APPLICATION EQUIPMENT

- Steel hand trowel or adjustable screed pin or cam rake
- Spiked or looped roller

APPLICATION

Immediately after mixing, spread the UC using a steel hand trowel or adjustable screed rake set to the desired thickness. Immediately roll with a spiked or looped roller to release any entrapped air and level the mortar. Do not roll the surface after 4 to 8 minutes of it being applied to the floor. Late rolling will cause problems with the finished texture and appearance.

Broadcast #20-40 silica aggregate or color quartz aggregate to rejection, approximately 1 lb. per square foot.

CLEAN UP

Applicators and equipment should be cleaned immediately after use with an active solvent like xylene (in SCAQMD, use acetone only). Clean spills or drips while still wet with solvent. Dried UC will require mechanical abrasion for removal.

LIMITATIONS

NOTE: It is recommended to consume the entirety of the tote within 3 months of opening when stored at room temperature in tightly sealed containers. If only using a partial tote, make sure remaining product is protected from temperature extremes and remains sealed to prevent air getting into the tote.

PERFORMANCE CHARACTERISTICS

COMPRESSIVE STRENGTH

METHOD: ASTM C579
RESULT: 8,128 psi

TENSILE STRENGTH

METHOD: ASTM C307
RESULT: 1,450 psi

BOND STRENGTH TO CONCRETE

METHOD: ASTM D4541
RESULT: Minimum 400 psi (100% concrete failure)

FLEXURAL STRENGTH

METHOD: ASTM C580
RESULT: 2,900 psi (20 MPa)

ABRASION RESISTANCE

METHOD: ASTM D4060 (CS 17 wheels, 1000 cycles)
RESULT: 0.05g loss

COEFFICIENT OF THERMAL EXPANSION

METHOD: ASTM C531
RESULT: 1.5 x 10^{-5}in/in/°F

COEFFICIENT FRICTION

METHOD: ASTM D2047
RESULT: Exceeds ADA recommendations

TEMPERATURE RESISTANCE

METHOD: Continuous exposure
RESULT: 200°F

METHOD: Intermittent spills
RESULT: 250°F

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PHYSICAL PROPERTIES

		UC URETHANE CEMENT
Resin Type		Cementitious Urethane
Pigment Type		Varies depending on color
Weight	**Per Gallon**	8.4-10.2 lbs.
	Per Liter	1.0-1.2 kg
Solids	**By Weight**	100%
	By Volume	100%
Volatile Organic Compounds		<10 g/l
Recommended Dry Film Thickness (DFT) Per Coat		190 mils
Practical Coverage		63 sq ft per 2-gallon mixture at 1/8" (yielding a 3/16" finished floor) 40 sq ft per 2-gallon mixture at 3/16" (yielding a 1/4" finished floor) 30 sq ft per 2-gallon mixture at 1/4" (yielding a 5/16" finished floor)
Mixing Ratio by Volume		1.19 Gallons A : 0.98 Gallon B (+/- 5%) : 1 Bag Filler : 1 Pigment Pack
Pot Life @ 70°F (21°C) and 50% Relative Humidity		20-25 minutes
Re-Coat Window (Min./Max)		12 hours/24 hours
Dry Times at 77°F (25ºC) and 50% Relative Humidity	**Foot Traffic**	6-8 hours
	Vehicle Traffic	12-16 hours
	Full Cure*	3-5 days
Dry Heat Resistance		220-250°F (104-121°C) Depending on thickness applied
Shelf Life		2 years
Flash Point		>350°F (>176°C)
Safety Information		For additional information, see SDS

*Coating achieves its full physical and chemical resistant properties.
Calculated values are shown and may vary from the actual manufactured material.

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