



**CITADEL®  
POLYUREA-1 HD**

**DESCRIPTION AND USES**

Polyurea-1 HD is a high solids, single component Aliphatic Polyurea that provides a high gloss, smooth finish with excellent protection from UV rays, abrasion, and many of today's harshest chemicals. Polyurea-1 HD provides reliable performance in a wide range of temperatures and climate conditions. For a beautiful satin finish, just add our Ultra Durability Plus additive. Ideal for interior, exterior horizontal and vertical use.

**PRODUCT**

DESCRIPTION	SKU
Clear 2 Gallon Kit	10607

**PACKAGING**

5 gallon bucket containing two - 1 gallon pouches and two stabilizer shots.

**COMPANION PRODUCT**

DESCRIPTION	SKU
Ultra Durability Plus Additive	15302

**RECOMMENDED PRIMERS**

- EP-55
- Hard Surface Primer
- Ultra-Hydro Stop
- Ultra-Hydro Stop H2O
- SLE-100
- Polyurea-350

**PRODUCT FEATURES AND BENEFITS**

- Fast return to service time, can accept vehicle traffic in 24 hours
- UV Stable, excellent chemical and abrasion resistance
- Easy roller application
- One gallon covers 400-500 square feet
- Unlimited Pot Life

**PRODUCT APPLICATION**

**READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING PROJECT**

**CONCRETE REPAIR**

All spalls and cracks must be chased out and repaired to ICRI standards using an appropriate patching material.

**SURFACE PREPARATION**

The concrete surface must be free of all dirt, grease, oil, fats, and other contamination. Remove surface contamination by cleaning with Krud Kutter® Original Cleaner Degreaser, detergent, or other suitable cleaner. Rinse thoroughly with clean, fresh water and allowed to dry.

**PRODUCT APPLICATION (cont.)**

**SURFACE PREPARATION (cont.)**

NOTE: The substrate must be completely dry prior to application of Polyurea-1 HD. Urethane coatings are sensitive to moisture and can affect proper curing of the coating.

**NEW, UNCOATED CONCRETE:** New concrete must be allowed to cure for a minimum of 30 days before application. In addition to the aforementioned cleaning, the concrete must be further prepared by mechanical grinding or acid etch to remove all laitance and produce a suitable surface profile.

**PREVIOUSLY COATED CONCRETE:** Previously coated concrete must be in good sound condition with the existing coating tightly adhering to the concrete. In addition to the aforementioned cleaning the existing coating must be sanded to dull the finish and produce a slight surface profile. Remove all sanding dust by vacuum. Do not wipe the floor with denatured alcohol or other solvent. If wiping is necessary, use only urethane grade Methyl Ethyl Ketone (MEK).

**MIXING**

Both components and environment should be pre conditioned to a minimum of 50° F (10° C) prior to use. Be sure the air and surface temperatures are at least 5° above the dew point. Polyurea-1 HD is moisture sensitive, so be sure the outside of the containers are dry and free of condensation.

Shake the container of Stabilized for one full minute before combining with the Polyurea-1 HD. The components can be mixed in a separate container or mixed in the gallon pouch. After combining the components, power mix at 500-700 rpm for 2-3 minutes. Use an appropriate size mixer and use care to not entrain air into the coating while mixing. Once mixed, the material has a 6 month shelf life.

**EQUIPMENT RECOMMENDATIONS**

**ROLLER:** Use a high quality 3/8 or 1/4 inch lint-free roller with a phenolic core.

**BRUSH:** Use a disposable natural fiber chip brush, 2-4 inch wide for cut in work.

**APPLICATION**

Apply only when air, material and floor temperatures are between 50-90°F (10-32°C) and the surface temperature is at least 5°F (3°C) above the dew point. The relative humidity should not be greater than 85%. Do not apply in direct sunlight or when temperature is rising. Be sure the substrate is completely dry.



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**PRODUCT APPLICATION (cont.)**

**APPLICATION (cont.)**

Pour out only the amount of material to be used into a roller pan. Unused material can be saved in the mixing container for up to 6 months provided it is properly sealed. Do not return unused material from the roller pan to the mixing container.

Use a 3/8 or 1/4 inch, lint free roller with a phenolic core to roll out the coating. Begin with rolling out a W or M pattern, then cross roll to fill in and smooth out the coating.

NOTE: Do not exceed recommended coverage rate, as film defects are possible.

**THINNING**

Not recommended

**CLEAN-UP**

Methyl Ethyl Ketone (MEK)

**PERFORMANCE CHARACTERISTICS**

**TENSILE STRENGTH**

METHOD: ASTM D412  
RESULT: 5,500

**ABRASION RESISTANCE**

METHOD: ASTM D4060, CS 17 Wheel, 1,000 g load, 1,000 cycles  
RESULT: 43

**COMPRESSIVE STRENGTH**

METHOD: ASTM D695  
RESULT: 12,000

**HARDNESS, SHORE D**

METHOD: ASTM D2240  
RESULT: 84

**ELONGATION**

METHOD: ASTM D412  
RESULT: 75

**GLOSS**

METHOD:ASTM D23 @ 60°  
RESULT: 91+

**COEFFICIENT OF FRICTION**


METHOD: ASTM D1894  
RESULT: 0.69 Wet, 0.80 Dry

**CHEMICAL RESISTANCE**

CHEMICAL	RESULT (77°F/25°C)
Acetic Acid 100%	RC
Acetone	R
Ammonium Hydroxide 50%	RC
Benzene	RC
Brake Fluid	RC
Brine saturated H2O	R
Chlorinated H2O	R
Clorox (10%) H2O	R
Diesel fuel	RC
Gasoline	R
Gasoline/5% MTBE	R
Gasoline/5% Methanol	R
Hydrochloric Acid 20%	R
Hydrofluoric Acid 10%	RC
Hydraulic fluid (oil)	RC
Isopropyl Alcohol	R
Jet Fuel (JP-4)	R
Lactic Acid	RC
MEK	NR
Methanol	R
Methylene Chloride	C
Mineral Spirits	R
Motor Oil	R
MTBE	C
Muriatic Acid 10%	R
NaCl/H2O 10%	R
Nitric Acid 20%	R
Phosphoric Acid 10%	RC
Phosphoric Acid 50%	NR
Potassium Hydroxide 10%	R
Potassium Hydroxide 20%	R, Dis
Propylene Carbonate	RC
Skydrol	RC
Sodium Hydroxide 25%	R
Sodium Hydroxide 50%	R, Dis
Sodium Hypchlorite 10%	RC
Sodium Bicarbonate	R
Stearic Acid	R
Sugar/H2O	R
Sulfuric Acid 10%	R
Sulfuric Acid >50%	R
Toluene	R
1, 1,1-Trichlorethane	C
Trisodium Phosphate	R
Vinegar/H2O 5%	R
H2O 14 days @ 82°	R
Xylene	NR

**Chemical Resistance: Chart Key**

R=recommended/little or no visible damage  
RC=recommended conditional/some effect, swelling or discoloration  
C=Conditional/Cracking-wash within one hour of spillage to avoid affects  
NR=Not recommended  
Dis=discolorative

	<b>TECHNICAL DATA</b>	<b>CDL-14</b>
	<b>CITADEL<sup>®</sup></b> <b>POLYUREA-1 HD</b>	

**PHYSICAL PROPERTIES**

		<b>POLYUREA-1 HD</b>
<b>Resin Type</b>		Aliphatic Urethane
<b>Weight*</b>	<b>Per Gallon</b>	9.59 lbs.
	<b>Per Liter</b>	1.1 kg
<b>Solids By Volume</b>		90%
<b>Volatile Organic Compounds*</b>		<50 g/l*
<b>Practical Coverage Rate</b>		400 sq.ft./gal. Coverage rate can vary depending on the texture and porosity of the concrete
<b>Dry Times at 72°F (22°C) and 50% Relative Humidity†</b>	<b>Recoat**</b>	4-12 hours***
	<b>Light Traffic</b>	4-6 hours
	<b>Full Traffic</b>	24 hours
<b>Shelf Life</b>		18 months unopened 6 months once the Stabilizer/Tint has been added
<b>Flash Point</b>		>200°F (93°C)
<b>Safety Information</b>		See SDS

Calculated values are shown and may vary slightly from the actual manufactured material.

† Dry times will be increase if temperatures are less than 65° F (18°C) and /or Relative Humidity is less than 50%.

\* Calculated applied VOC

\*\* As temperature, humidity, and dew points rise, re-coat windows are drastically shortened. Please contact Tech Service for recommended installation practices.

\*\*\* If 12 hour recoat time has elapsed, the coating must be sanded prior to recoating.

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