CITADEL

POLYUREA-350

DESCRIPTION AND USES

Citadel® Polyurea-350 is a two-component, 98% solids, VOC compliant Polyurea that was developed as a primer/basecoat for a variety of coating systems. This coating provides exceptional adhesion to a large number of substrates and performs well in a wide range of temperatures and climate conditions. Extended working time makes it a great choice for both residential and commercial applications. Patent-Pending Adjustable Cure Rate Technology™ simplifies installations in all temperatures by maintaining consistent cure times and material pot life.

PRODUCTS

SKU	DESCRIPTION
390071	Light Gray-Summer (3-gallon kit)
390072	Light Gray-Winter (3-gallon kit)
390073	Light Gray-Arctic (3-gallon kit)
390074	Dunes Tan-Summer (3-gallon kit)
390075	Dunes Tan-Winter (3-gallon kit)
390076	Dunes Tan-Arctic (3-gallon kit)
390077	Clear-Summer (3-gallon kit)
390078	Clear-Winter (3-gallon kit)
390079	Clear-Arctic (3-gallon kit)
390080	Light Gray-Summer (15-gallon kit)
390081	Light Gray-Winter (15-gallon kit)
390082	Light Gray-Arctic (15-gallon kit)
390083	Dunes Tan-Summer (15-gallon kit)
390084	Dunes Tan-Winter (15-gallon kit)
390085	Dunes Tan-Arctic (15-gallon kit)
390086	Clear-Summer (15-gallon kit)
390087	Clear-Winter (15-gallon kit)
390088	Clear-Arctic (15-gallon kit)

RECOMMENDED TOPCOATS

- SLE-100
- RG-70
- RG-80x
- UL-80
- ET-80
- Poly-1 HD
- Poly-3 WB

PRODUCT APPLICATION

READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING PROJECT

ACTIVATOR SELECTION

As weather changes so does the installation properties, working times and cure rates for all floor coatings; regardless of manufacturer. Citadel's 1 Day floor assortment is specially formulated to deliver optimal product performance over a broad temperature range. This allows installation of 1 Day floors throughout the year while providing best in class return to service. NOTE: Installation in cold temperatures may require additional cure times of 36-48 hours for vehicle traffic.

PRODUCT APPLICATION (cont.)

ACTIVATOR SELECTION (cont.)

Use the chart to select the right product assortment for your project. Keep in mind, the temperature of the concrete surface is often different than the ambient temperature. Temperatures ranges should be consistent for ambient, material and substrate during application and cure. All coating products should be conditioned to match the temperature of the job site. Be sure to monitor the temperature of concrete surface and ambient conditions daily during your installation.

1 Day Install Base Coats	Recommended Temp Range	Return to Service - Physical Properties*			
		Tack Free	Foot Traffic	Vehicle Traffic*	Recoat
Summer	70-100º F	1-2 hours	2-4 hours	24 hours	2-12 hours
Winter	50-70º F	1-2 hours	2-4 hours	24 hours	2-12 hours
Arctic	0-50º F	1-2 hours	2-4 hours	24 hours	2-12 hours
* Physical Properties are based on 72º F and 50% RH. Changes in these conditions may cause times to vary. Extreme cold temps will slow cure times.					

SURFACE PREPARATION

NEW CONCRETE/PREVIOUSLY COATED 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 (SSPC-SP1). Remove oil, dirt, grease, and other chemical contaminants by cleaning with Rust-Oleum® Professional Cleaner Degreaser, detergent, or other suitable cleaner. Rinse with water. Surface laitance must be removed. Rising moisture vapor emission rate must not exceed 3 lb. per 1000 sq. ft. over a 24-hour period as measured by calcium chloride test method ASTM F-1869.

The application area must be completely free of sealers, oils, dirt, paint, alkali, penetrating sealers, or any foreign materials that would prevent Polyurea-350 from penetrating the concrete surface. The recommended substrate should have a minimum concrete surface profile (CSP) of 2-3 in accordance with the ICRI Guideline No. 03732. Contact ICRI at www.ICRI.org for more information on these surface profiles. Surface must be dry prior to application of Polyurea-350.

MIXING

Both components should be preconditioned to a minimum of 50°F (10°C) prior to use. Thoroughly mix each component separately before combining. If only using part of a container, be sure to use a separate mixer blade for each component to avoid cross contamination.

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PRODUCT APPLICATION (cont.)

MIXING (cont.)

NOTE: The Part B component uses a moisture scavenger in its formulation to pull out any moisture which may have entered during the filling process. When this occurs, the scavenger settles out as a solid in the container. There is no need to try and mix this hard settled material into the liquid. Keep your paddle mixer above the packed-out scavenger and pre-mix as normal. It is still required to pre-mix the material prior to use. Another option would be to transfer the material to a different mixing bucket, then mix as normal.

Pour the Part A and Part B components together in a clean, dry five-gallon container and power mix at 500-700 rpm for a minimum of two minutes. Do not entrain air into the mixing. Do not mix more material than can be applied in 20-25 minutes. If using less than a full container, combine the components using a mixing ratio of 1:2 by volume, Part A to Part B.

TINTING (Clear)

Pre-mix Universal Tint Packs prior to adding into floor coatings. Hand mixing until uniform in appearance is acceptable. Add Universal Tint Packs at 8 oz. per gallon of mixed floor coating material and combine thoroughly via power mix to achieve uniform colorant dispersal. **NOTE:** Some colors, including safety colors, may require additional coats if desired coverage is not achieved in the first application. **NOT FOR USE IN WATER BASED COATINGS**

If there are any questions on the tint process of this product, please consult our technical service department.

EQUIPMENT RECOMMENDATIONS

SQUEEGEE: Use a high-quality notched rubber squeegee.

ROLLER: Use a high quality 3/8" lint-free roller with a phenolic core.

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

PRODUCT APPLICATION (cont.)

APPLICATION

Apply only when air, material and floor temperatures are between 0-90°F (-18 -32°C) and surface temperature is at least 5°F (3°C) above the dew point. The relative humidity of the air should not be greater than 85%. Do not apply in direct sunlight or when temperature is rising. Colder environmental conditions can slow the cure of Polyurea-350. Be sure the substrate is completely dry. Variability in these conditions during application may lead to surface defects. For application outside of this temperature range, please contact Rust-Oleum Technical Service.

Immediately after mixing, pour the material onto the floor in a long, 8-inch-wide stripe. **NOTE:** Do not scrape the sides or bottom of the container. Use only the material that flows naturally out of the container. Also, do not turn the container upside down and leave on the floor to drain. Doing so may result with unactivated material from the sidewall of the container being applied. This will cause soft spots in the coating.

Use a rubber squeegee to spread the material out and achieve the 80-350 sq. ft./gal. spread rate. Back roll the material smooth using a 3/8" lint free roller with a phenolic core to smooth out the finish. If being used as a basecoat for a color aggregate or color flake finish, begin to broadcast the desired amount of aggregate or flake unto the coating as soon as the roller application is completed. Do not do any additional rolling after the broadcasting material.

THINNING

None required. **NOTE:** If necessary, can be thinned up to 20 percent with acetone or methyl ethyl ketone.

CLEANUP

Methyl ethyl ketone.

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PERFORMANCE CHARACTERISTICS

TENSILE STRENGTH

METHOD: ASTM D412
TYPICAL VALUE: 3600

ELONGATION

METHOD: ASTM D412
TYPICAL VALUE: 198

TEAR STRENGTH (PLI)

METHOD: ASTM 2240
TYPICAL VALUE: 350

FLEXIBILITY (1/8" MANDREL)

METHOD: ASTM D1737
RESULT: Pass

IMPACT RESISTANCE

METHOD: ASTM D2794
TYPICAL VALUE: Direct/Reverse, 250/285-inch pounds.

ADHESION

METHOD: ASTM D4541
TYPICAL VALUE: >500 psi

CHEMICAL RESISTANCE

CHEMICAL	RESULT (77°F/25°C)
Acetic Acid 100%	C
Acetone	C
Ammonium Hydroxide 50%	RC
Benzene	C
Brine saturated H2O	RC
Chlorinated H2O	R
Clorox (10%) H2O	R
Diesel fuel	RC
Gasoline	RC
Gasoline/5% MTBE	RC
Gasoline/5% Methanol	RC
Hydrochloric Acid 20%	R
Hydrofluoric Acid 10%	NR
Hydraulic fluid (oil)	RC
Isopropyl Alcohol	R
Lactic Acid	RC
MEK	NR
Methanol	R
Methylene Chloride	C
Mineral Spirits	RC
Motor Oil	R
MTBE	C
Muriatic Acid 10%	R
NaCl/H2O 10%	RC
Nitric Acid 20%	NR
Phosphoric Acid 10%	R
Phosphoric Acid 50%	NR
Potassium Hydroxide 10%	R
Potassium Hydroxide 20%	R, Dis
Propylene Carbonate	RC
Skydrol	C
Sodium Hydroxide 25%	R
Sodium Hydroxide 50%	R, Dis
Sodium Hypochlorite 10%	R
Sodium Bicarbonate	RC
Stearic Acid	R
Sugar/H20	R
Sulfuric Acid 10%	R
Sulfuric Acid >50%	NR
Toluene	RC
1, 1,1-Trichlorethane	C
Trisodium Phosphate	RC
Vinegar/H2O 5%	R
H2O	R
H2O 14 days at 180°F	R
Xylene	RC

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

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POLYUREA-350

PHYSICAL PROPERTIES

		POLYUREA-350
Resin Type		Polyurea
Weight	**Per Gallon**	9.9 lbs.
	Per Liter	1.2 kg
Solids by Volume		98%
Volatile Organic Compounds		<50 g/l**
Mixing Ratio		1:2 (Part A to Part B)
Induction Time		None required
Pot Life		20-25 minutes
Recommended Dry Film Thickness (DFT)		5-20 mils
Practical Coverage Rate at Recommended DFT		80-350 sq. ft./gal. Coverage rate can vary depending on the texture and porosity of the concrete
Dry Times at 70-80ºF (21-27°C) and 50% Relative Humidity†	**Recoat**	2-12 hours*
	Light Traffic	2-4 hours
	Full Traffic	24 hours
Shelf Life		3 years
Safety Information		For additional information, see SDS

Calculated values are shown and may vary slightly from the actual manufactured material.
† Extreme cold temperatures may slow cure times.
* If 12 hour recoat time has elapsed, the coating must be sanded prior to topcoating.
** Calculated Applied VOC