

## CCS™ BINDER, POLYUREA PRIMER

### Epoxy Primer For CCS Binder, Polyurea

CCS Binder, Polyurea Primer is a versatile high performance two component, solvent free, epoxy designed for prime coating dry and damp surfaces in preparation for installation of CCS Binder, Polyurea, other quick setting polyurea products and various epoxies under difficult application conditions. The product's short cure cycle, and tolerance of surface dampness, and its high bond strength to prepared substrates make it ideally suited as a primer. Prime coating substrates with Polyurea Primer significantly improves the bond strength of the topcoat to the substrate. The product has a convenient 2:1, by volume mix ratio and does not contain volatile solvents (VOC's). Typical applications include the prime coating of concrete and steel substrates in rebuilding damaged joint nosing, repairing spalled and deteriorated concrete and sealing non-structural cracks in concrete. Determination of the bond strength of Polyurea Primer + Polyurea system to the prepared substrate, particularly under low temperature, damp conditions prior to installation is recommended.

#### Features

- Convenient 2: 1, by vol. mix ratio
- Fast cure for short downtime
- Bonds to dry and damp substrates
- Improves bond of Polyurea to construction materials
- Resists road, auto and aircraft chemicals
- Environmentally safe-No VOC solvents

**Limitations:** Primer coat must be allowed to cure to a set but still tacky condition before applying CCS Binder Polyurea. Do not apply primer on wet substrates. Minimum installation temperature is 50 deg F. Minimum cure temperature is 40 deg F. Do not add solvents or otherwise thin this material.

**Packaging & Colors:** Standard package sizes of Part A + Part B are 3 and 15 gallons. Color is clear amber; custom colors available.

**Shelf Life:** Three years minimum in unopened, original containers when stored between 60 and 90 dog F in a dry place away from sunlight. Remixing of components may be required upon prolonged storage.

**Chemical Resistance:** Resistant to a wide range of commonly used deicing chemicals and aircraft and automotive fluids. It has limited resistance to hydrocarbon solvents. Performance is a function of the specific chemical and concentration, ambient and solution temperatures, exposure times and housekeeping procedures. For information on specific chemicals and exposure conditions, contact a ChemCo Systems, Inc., technical representative.

**Surface Preparation:** Concrete surfaces may dry or damp and must be sound and free of all bond inhibiting substances. Wet surfaces must be dried with artificial heat to at least a damp condition prior to application of Polyurea Primer. Prepare surfaces for bonding in accordance with *ASTM D 4259* or *ACI 503R* and ChemCo Systems' specific recommendations. Properly prepared concrete surfaces should have a minimum strength of 250 psi in direct tension. Steel surfaces should be cleaned to "white metal" according to SSPC SP 5.

**Mixing:** Polyurea Primer is a two-component adhesive. The resin to hardener (Part A: Part B) mix ratio is 2:1, by volume. Read all Material Safety Data Sheet (MSDS) information before handling the product, Wear safety glasses and clean neoprene rubber gloves when handling the materials. Premix the individual components before drawing from bulk packaging. Transfer the appropriate quantities of Part A and Part B into a mixing container. Mix thoroughly using a Jiffy mixer blade attached to a low speed (350 - 750 rpm) electric or pneumatic drill. Proper mixing will take 2 - 3 minutes. Pour the mixed primer onto the substrate or into a shallow tray (extends working life by reducing the build-up of exothermic heat.)

**Installing:** Prime the substrate with mixed Polyurea Primer. The recommended primer thickness is 8 - 10 mils (160 - 200 sq ft/gal). Apply the Polyurea neat binder, mortar, concrete or flowable grout to the primed substrate when the primer is set but still tacky (approx. 4 - 5 hr @ 50 dog F, 1 - 1.5 hr @ 75 dog F and .75 - 1 hr @ 90 deg F). Clean application tools frequently.

**Clean up:** Excess mixed product is best removed from the work area and tools before it hardens. Use of rags and solvents such as acetone or heavy-duty detergents facilitate cleaning. Cured product may be removed from tools by soaking in an epoxy stripper.

TYPICAL PROPERTIES <sup>(1)</sup>

Property <sup>(2)</sup>	Test Method	Value
Mix Ratio, A:B,	by vol	2 : 1
	by wt	100 : 44
Color:	Part A	Clear amber
	Part B	Clear amber
	Mixed	Clear amber
Weight per Gallon, lb	Part A	9.5
	Part B	8.3
	Mixed	9.1
Viscosity, cp:	Part A	300
	Part B	150
	Mixed	250
Gel Time, 100 g, minutes	ASTM D 2471	15
Primer Cure Time, minimum, hours (3)	ASTM D 4541	
	@ 50 F	4.0
	@ 73 F	1.5
	@ 90 F	.75
Tensile Strength, psi	ASTM D 638	8000
Elongation at Break, %	ASTM D 638	2.0
Bond Strength of Polyurea to Prime Coated ASTM C 109 Cement Mortar with Polyurea Primer, psi: dry	ASTM D 4541 Cement mortar failure {4}	
damp		300 (4)

- (1) The properties listed are typical and descriptive of the product and should not be used for specification purposes. For specification preparation, reference the ChemCo Systems, Inc., product guideline specification.
- (2) Cure schedule, 7 days at 73 ± 4 F and test temperature, 73 ± 4 F.
- (3) Minimum primer cure time before application of Polyurea.
- (4) Primer coat cure schedule, 1.75 hr @ 73 ± 4 F before application of Polyurea. Compressive strength of cement mortar, 4500 psi

**Handling and Toxicity:** This bulletin does not accompany the product when sold. For hazard warnings, safe handling and first aid instructions, READ CAREFULLY THE MATERIAL SAFETY DATA SHEETS AND CONTAINER WARNING LABELS.

**Part A:** Liquid epoxy resin, HMIS Health Hazard Rating- 2 (Moderate Hazard). Warning! Causes eye and skin irritation. May cause allergic skin reaction. Harmful if swallowed. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid prolonged or repeated contact with skin.

**Part B:** Liquid epoxy hardener, HMIS Health Hazard Rating- 3 (Serious Hazard). Contains alkaline amines. Danger! Causes severe eye and skin burns. May cause allergic skin and respiratory reaction. Combustible, corrosive. Do not get in eyes or skin or on clothing. Avoid breathing vapor. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Keep away from heat and open flame.

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