



ChemMasters®

Quality • Innovation • Service

Duraguard™ 310CRU

Chemical Resistant Urethane
For Bridge and Wall Coatings

P R O D U C T D A T A

DESCRIPTION

Duraguard 310CRU is a two component, aliphatic polyurethane coating. It is used as a topcoat over ChemMasters **Safe-Cure & Seal EPX** epoxy primer to improve chemical and ultraviolet light resistance.

USES

- Concrete topcoat for D.O.T. applications including Municipal-Bridge Parapets, Bridge Columns, Precast Spans, Bridge Substructure & Superstructure.
- Coatings and toppings requiring ultraviolet light protection

ADVANTAGES

- Optimum chemical resistant coating for use inside or out
- Passes NCHRP 244 testing to protect concrete from chloride ion penetration when used in conjunction with **Safe-Cure & Seal EPX**
- Excellent abrasion resistance when used as a top coat for high build, trowel applied or self-leveling toppings
- Superior resistance to staining and deterioration caused by foodstuffs, acids, alkalis, hydrocarbons
- Exceptional color retention and stability with high gloss finish

Packaging

Package	Part Number
Duraguard 310CRU Part A Resin 5 gal	F5200.00A
Duraguard 310CRU Part B Hardener 1 gal	F5200.00B

TECHNICAL DATA

- ASTM Type V, aliphatic polyurethane coating
- ACI 302, Table 1.1 Class 1, 2, 3, 4, and 5 floors
- Ohio and New York State D.O.T. preapproved as topcoat for epoxy/urethane system for bridges and barrier walls
- Complies with 40 CFR Part 59 <350 g/L V.O.C. for Architectural Coatings

Estimated Coverage Rates

3 to 4 mils dry	200 to 300 ft ² /gal (5 to 7 m ² /L)*
* Use recommended DOT rates where applicable	

Physical Properties

Volatile Organic Compound	<350 g/L
Solids - pigmented Solids - clear	66 to 72% 60%
ASTM B117-73 Salt Resistance	No effect
ASTM D3363 (Pencil Hardness)	> 2 H
Solvent Resistance (100 double rubs)	No effect
Abrasion Resistance-Taber 1000g/1000 cycles CS-17 wheels	25 grams
Gel Time 0.5 cups (150 ml)	90 min
Drying Times:	Hours
Tack Free	5
Moderate Foot Traffic	12 to 24
General Traffic	48
Heavy Wheel Traffic	7 days

Chemical Resistance

Material	Rating
Ammonium Hydroxide	R
Sodium Hydroxide	R
Sodium Chloride	R
Calcium Chloride	R
Tri-sodium Phosphate	R
Ethyl Alcohol	R
Isopropyl Alcohol	R
Methyl Alcohol	R
Auto Brake Fluid	C
Hyjet #3 Brake Fluid	R
Skydrol 500 A & B Brake Fluid	R
Chromic 10% Acid	R
Hydrochloric Acid 31%	R

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Nov 2025

Chemical Resistance

Material	Rating
Nitric Acid 70%	N/R
Phosphoric Acid 35% & 80%	R, R
Sulfuric Acid 30% & > 50%	R, C
Acetic Acid 5% & 20%	R,R
Glacial Acetic Acid	C
Gasoline	R
Jet Fuel A-1	R
Toluene	R
Methylene Chloride	C
Trichloroethylene	C
Perchloroethylene	C
Butyl Cellosolve	R
Acetone	C
MEK	R
PM Acetate	R
Beer	R
Cola	R
Milk	R
Mustard	R
Bleach	R
Ratings: R= recommended; N/R = Not Recommended; C = Consult ChemMasters	

DIRECTIONS

Duraguard 310CRU may be used as a top coat for ChemMasters epoxy/urethane systems. Apply **Duraguard 310CRU** to primed concrete surfaces only. Use **Safe-Cure & Seal EPX, Duraguard 100WB, or Duraguard 100** as a primer.

Surface preparation is important; follow the recommendations for the selected primer. If the recoat window is missed, for the chosen primer, or the urethane is being applied over an older coating the basecoat must be sanded or screened then swept and solvent wiped prior to urethane application. Contact ChemMasters for additional details.

Coverage Rate: 200 to 300 ft²/gal (5 to 7 m²/L) yields 5 to 8 wet mils and dries to 3 to 4 mils. **When doing DOT work those individual requirements take precedence over any other coverage rates.**

Mixing: Stir or mix **Duraguard 310 CRU Part A, Resin** to disperse pigments, then add the entire contents of 1 gallon of **Duraguard 310CRU Part B Hardener** to the 5 gallon pail of **Duraguard 310CRU Part A**.

Mix at low speed using a drill fitted with a mixing blade for 3 minutes. Pigmented materials must be mixed until color is uniform with no streaks. Apply material within 60 minutes. Working time is drastically reduced when kept in large quantities.

Horizontal and Vertical applications: pour small quantities of the mixed **Duraguard 310CRU** onto horizontal primed area. Spread material evenly using a short nap solvent resistant roller.

Duraguard 310CRU may also be applied with solvent resistant brushes & rollers or sprayed using a GRACO (Gmax 5900 HD) sprayer rated at minimum 1 GPM or comparable airless sprayer combined with a minimum 0.025 GHD fan tip, depending on desired output rate. If using a sprayer flush hoses with solvent prior to spraying **Duraguard 310CRU**.

Recoat: Between 6 and 24 hours depending on the surface temperatures and humidity. If recoating is delayed longer than 24 hours after the material is tack free lightly sand or screen the surface prior to recoating.

Clean Up: Clean tools and equipment immediately after use with xylene (xylol) or PM acetate.

LIMITATIONS

Do not apply when:

- the surface or air temperature is or is expected to be below 50° F (10°C) within 6 hours of application.
 - temperature at the time of application is less than 5°F(2.7°C) above the dew point
 - dew, fog, or high humidity is expected within 4 hours of application.
 - rain is expected within 24 hours of application
 - if surface is frozen or frost filled
- Not recommended for waterproofing or damp proofing of exterior horizontal surfaces, floors, or below grade interior walls.
 - Do not apply in areas of immersion or where a negative head pressure may exist.
 - Application in direct sunlight or during times of extreme heat may cause wrinkling, pinholes, or blistering.
 - Schedule application for early morning or late afternoon when ambient and substrate temperatures are at their lowest.
 - Do not use strong caustic or solvent based cleaner. For additional data on good coating practice consult SSPC, NACE, or ICRI.
 - Not recommended for waterproofing or damp proofing of exterior horizontal surfaces, floors or below grade interior walls. Iron particles in block, brick or mortar may cause discoloration through the coating. Keep from freezing.

STORAGE: Store unmixed factory sealed containers in cool dry place out of direct sunlight. Shelf life of properly stored material is 2 years from the date of manufacture.

PRECAUTIONS.

Part A Warning: Flammable Liquid and Vapor. Harmful if swallowed. Causes eye irritation. Causes skin irritation. Harmful if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness. May cause damage to kidneys, liver, brain and nervous system through prolonged and repeated exposure by inhalation.

Part B: Danger: Flammable Liquid and Vapor. Causes serious eye irritation. May cause allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Consult Safety Data Sheet for complete hazard information.

For professional use only
Keep out of reach of children

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