7350 CrownPro™ AcidShield™ Novolac Epoxy

TECHNICAL DATA SHEET Product Number: 7350

Chemical Resistant Novolac Epoxy Liner, High Viscosity Coating and Mortar Binder

DESCRIPTION

7350 CrownPro AcidShield is a multifunctional phenol novolac epoxy that is extremely chemical resistant with a high heat deflection temperature. 7350 CrownPro AcidShield is a high viscosity thick film novolac coating designed to cure at ambient temperatures to provide exceptional corrosion protection for surfaces in severe chemical and physical environments. It can be applied directly over 8303 CrownShield MVB (moisture mitigation primer). It is VOC Compliant in all states and provinces in North America.

TYPICAL USES

- Crude Oil Storage Tanks
- Food Processing Facilities
- Internal Tank and Pipe Lining
- Mining and Milling Industries
- Petrochemical Plants
- Power Generating Plants
- Pulp and Paper Industry
- Steel Structures and Bridges
- Secondary Containment Floors and Walls
- Semi-Conductor Manufacturing and Etching
- Water and Wastewater Treatment Plants

BENEFITS

- Complies with USDA, FDA, Food Safety Modernization Act. **See Crown Polymers Technical Bulletin: 3 Food and Beverage Compliance.**
- Slip Resistance (ADA) **See Crown Polymers Technical Bulletin: 4 Coefficient of Friction.**
- LEED® and Green Seal® requirements. **See Crown Polymers Technical Bulletin: 5 LEED and Green Seal Information.**
- 100% Solids, Zero VOC and EPA Compliant, and low odor during installation. Cures to an inert finish. **See Crown Polymers Technical Bulletin: 2 VOC Compliance.**
- Strong and Tough Floor.
- Superior Chemical and Abrasion Resistance
- Designed for new floors and for resurfacing old floors and walls

LIMITATIONS

- This product is best suited for applications in temperatures between 60°F to 90°F (16°C to 32°C).
- Scratches in certain colors may appear white, such as blue pigmented products.
- Higher temperatures will result in shortened working times and faster drying time.
- Color may vary due to batch to batch variation, always “box” different batches to avoid it.
- Do not use as a primer when concrete slab exceeds 3 lbs. or 80% RH.

COLORS

- Pigmented only, 15 Standard Colors* and Custom Colors. Available in factory pigmenting or CrownPigment™ Epoxy 6300 PigmentPack™ ***See Crown Polymers Standard Color Guide Acrylics, Epoxies, Polyaspartics, Polyurethanes (PigmentPack).**

COVERAGE RATE PER GALLON

- Primer: 100 to 160 sq. ft. (9.3 to 14.9 sq. m.) WFT 10 to 16 mils (0.20 to 0.25 mm)
- Coating: 100 to 160 sq. ft. (9.3 to 14.9 sq. m) WFT 10 to 16 mils (0.25 to 0.41 mm)
- Broadcast and Trowel: Varies Depending on thickness of system selected.

1/16 to 1/4 inch (1.59 to 6.35 mm) and more.

CONCRETE

Concrete must be structurally sound and free of curing agents, coatings, sealers, densifiers, and other bond breakers.

New Concrete:

- Place concrete per ACI 302.2R Guide for Concrete Slabs that Receive Moisture-Sensitive Floor Materials.
- Water Cement Ratio 0.4 to 0.5, and an approximate 4,000 psi (28 MPa) strength level.
- Requiring a positive side moisture barrier in direct contact with the concrete meeting ASTM E1745 Standard Specification for Plastic Water Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.
- The moisture barrier needs to be placed per ASTM E1643 Standard Practice for Selection, Design, Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs, Class A 15 mils (0.38mm)

Existing Concrete:

If field tests or laboratory analysis reveals inferior concrete flooring slabs containing contaminants from previously applied unreacted silicate materials that will interfere with the bond, use 8201 CrownPrime WBC Primer. **See Crown Polymers Technical Bulletin: 20 Selecting a Primer.**

- Contaminants include, but are not limited to organic hydrocarbon materials, calcium chlorides, and aluminum stearates.
- Concrete flooring slabs can lose their structural strength over time, caused by conditions beyond the control of the flooring manufacturer or the installation contractor.
- If the concrete substrate deteriorates sufficiently, it will no longer support the bond of the remediation floor system.

Such conditions are detailed in ACI 201.2R "Guide to Durable Concrete" published by the American Concrete Institute. **See Crown Polymers Technical Bulletin: 1 Concrete Surface Preparation.**

CHEMICAL RESISTANCE DATA

See Crown Polymers Technical Bulletin: 9 Chemical Resistance Guidelines and Chart.

CHECK CONCRETE MOISTURE

Concrete must be dry before application of this floor coating material. Concrete moisture tests are required, either ASTM F1869 (calcium chloride) or ASTM F2170 (in situ RH probe). **Refer to appropriate Technical Data Sheet limits and Crown Polymers Technical Bulletin: 6 Moisture Mitigation Negative Side Moisture Barrier.**

Physical Properties at 77°F (25°C)	
VOC (Volatile Organic Compounds), (VOC Calculated Per ASTM D3960)	0 gr./lt.
Pot Life,1 gallon (3.79 liters) Mass, Pot Life is Reduced by Increases in Mass & Temperature	20 Minutes
Mix Ratio, by Volume	3:1
Minimum Application Surface Temperature	50°F
Dry to Touch 50°F to 90°F (10°C to 32°F)	2 to 4 Hours
Recoat Time 50°F to 90°F (10°C to 32°F)	12 to 24 Hours
Light Traffic 50°F to 90°F (10°C to 32°F)	72 Hours
Full Cure 50°F to 90°F (10°C to 32°F)	7 Days
Shelf Life (shipped and stored) at 40°F to 100°F (4.4°C to 38°C)	1.5 Years
Packaging 1 and 4 gal (3.79 and 15.14 lt) kits	

Mechanical Properties at 77°F (25°C) 7 Day Cure (Unless otherwise stated)	
Surface Preparation ICRI 310.2R Concrete Surface Profile (CSP 2 and above) Depending on System to be Installed and Condition of Concrete.	
Compressive Strength, ASTM D695, 7 Days	12,000 PSI
Tensile Strength, ASTM D638	4,500 PSI
Tensile Elongation, ASTM D638	2%
Adhesion, ASTM D7234, Concrete Failure	>400 PSI
Hardness (Shore D) ASTM D2240	80-85
Water Absorption, ASTM D570 Resin & Hardener	0.15%
Abrasion Resistance, ASTM D4060 Resin & Hardener 500 cycles, Wheel No. CS17, 1000 gr. Load	0.026 gr.
Microbial (fungi) Resistance, ASTM G21 (Without the Anti-Microbial Agent)	Pass #1
Moisture Vapor Emission Rate, ASTM F1869*	3 lbs.
Relative Humidity, F2170*	80%
*If moisture or relative humidity exceeds the limits consult the Crown Polymers representative and refer to Crown Polymers Technical Bulletin: 6 Moisture Mitigation Negative Side Moisture Barrier.	

Note: Although testing is critical, it is not a guarantee against future problems. This is especially true if there is not a positive side vapor barrier or it is not functioning properly and/or concrete has contamination from oils, chemical spills, densifiers, excessive salts or other bond breakers.

CHEMICAL RESISTANCE CHART

The chemical resistance of 7350 CrownPro AcidShield is influenced by many factors, including exposure to a mixture of chemicals, service temperature, and housekeeping practices. 7350 CrownPro AcidShield Clear will have superior chemical and stain resistance to 7350 CrownPro AcidShield Pigmented. Successful engineering of the 7350 CrownPro AcidShield must also take into consideration such factors as substrate design, temperature cycling, and anticipated thermal and mechanical shock. Whenever possible, a sample should be tested under actual or simulated field conditions before a decision is made on the suitability of a given system. Users are urged to consult Crown Polymers' technical service department for recommendations on the specific project.

The following chart is a guide to the resistance properties of 7350 CrownPro AcidShield.

Key:
1. Suitable for continuous contact for 7 days.
2. Suitable for intermittent spills and continuous contact up to 72 hours
3. Suitable for intermittent spills, when followed promptly by water flushing
4. Not recommended

* Coating stains when exposed to this chemical

Acetic Acid, 10%	1	Ethyl Acetate	1
Acetic Acid, 25%	2	Ethyl Alcohol	1
Acetic Acid, 50%	3	Formaldehyde	1
Acetic Acid, Glacial	3	Formic Acid 25%	1
Acetone	2	Gasoline	1
Aluminum Chloride	1	Hydrobromic Acid, 48%	* 1
Aluminum Nitrate	1	Hydrochloric Acid, 37%	* 1
Aluminum Sulfate	1	Hydrofluoric Acid, 25%	2
Ammonium Hydroxide	1	Hydrogen Peroxide, 30%	1
Ammonium Nitrate	1	Lactic Acid, 50%	1
Ammonium Sulfate	1	Lactic Acid, 85%	1
Aniline	3	Jet Fuel	1
Antifreeze (ethylene glycol or propylene glycol)	1	Isopropyl Alcohol	1
Barium Chloride	1	Maleic Acid, 40%	2
Barium Hydroxide	1	Methanol	1
Barium Sulfide	1	Methylene Chloride	3
Beer	1	MEK (Methyl Ethyl Ketone)	2
Benzene	1	Mineral Spirits	1
Betadine	* 1	Motor Oil	1
Boric Acid	1	Mustard	1
Brake Fluid	1	Nitric Acid, 10%	* 1
N-Butyric Acid, 50%	3	Nitric Acid, 30%	* 2
Calcium Chloride	1	Nitric Acid, 50%	* 3
Calcium Hydroxide	1	Oleic Acid	1
Calcium Nitrate	1	Phosphoric Acid, 85%	2
Calcium Sulfate	1	Potassium Chloride	1
Chloroform	1	Potassium Cyanide	1
Chromic Acid, 50%	* 1	Potassium Hydroxide	1

Citric Acid, 50%	1	Potassium Nitrate	1
Coffee	1	Potassium Sulfate	1
Cola Syrup	1	Skydrol	* 1
Copper Chloride	1	Sodium Hydroxide, 50%	1
Copper Nitrate	1	Sodium Chloride	1
Diesel Fuel	1	Sulphuric Acid, 50%	* 1

DILUTED per ECOLABS RECOMMENDATIONS		Sulphuric Acid, 98%	* 1
• Boost 3200 Diluted 12 fl. oz. per Gal Water	2	Tetrahydrofuran	3
• Boost 3201 Dilute 12 f. oz. per Gal Water	2	Toluene	1
• Exelerate HS Diluted 1 fl. oz. per Gal Water	2	Transmission Fluid	1
• Konduct Alkaline Cleaner Na2O 12.3%	2	Trichlorethylene	3
• Mandate Plus Diluted 1 fl.oz. per 3 Gal Water	2	Trichloroethane	1
• Passivation Acid Diluted 50% Water	2	Urea	1
• Ster-Bac Quat Diluted 1 fl. oz. per 2.5 Gal Water	3	Vegetable Oil	1
• Synerge Diluted 1 fl. oz. per 4 Gal Water	2	Whiskey	1
• VORTEXX Diluted 6 fl. oz. per Gal Water	2	Xylene	1
• XY-12 Diluted 12 fl. oz. per Gal Water	2		

CHECK TEMPERATURE & HUMIDITY

The concrete must be dry before application of this floor coating material. Concrete moisture tests are required, either ASTM F1869 (calcium chloride) or ASTM F2170 (in situ RH probe). **Refer to appropriate Technical Data Sheet limits and Crown Polymers Technical Bulletin: 6 Moisture Mitigation Negative Side Moisture Barrier.**

CHECK TEMPERATURE & HUMIDITY

Floor and material temperature must be at or above the published Technical Data Sheet. Dew Point must be 5°F (3°F) or more below the surface temperature. Do not apply if humidity is at or above 95%. **See Crown Polymers Technical Bulletin: 7 Temperature and Relative Humidity Limits.**

SURFACE PREPARATION

Surface preparation per: ICRI Guideline No. 310.2R Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair. The pH of the concrete substrate should be at 9 or above. All bond-breaking material must be removed. **See Crown Polymers Technical Bulletin: 1 Concrete Surface Preparation.**

APPLICATION EQUIPMENT

Depending on system applied: Disposable 3” brush for cutting in, variable low-speed drill (450 rpm) with Jiffy® type impeller mixing paddle, 3/8 inch nap non-shedding phenolic core roller, and V-notched rubber squeegee for spreading neat epoxy and gauge rake or trowels for thicker applications.

OPTIONAL ANTIMICROBIAL

The antimicrobial additive is a non-heavy metal biocide that can be added during the manufacturing process. The antimicrobial agent can be added to the topcoat only for an economical application or it can be added to each step of the application, primer, body coat, and topcoat, which is recommended for abusive environments. **See Crown Polymers Technical Bulletin: 11 Understanding the Optional Antimicrobial Additive.**

MIXING

For ease of mixing and placement, the temperature of the “A” and “B” components should be between 70°F to 80°F (20°C to 26°C). Pre-mix the “A” and “B” components to ensure all raw material and pigments are dispersed uniformly. **See Crown Polymers Technical Bulletin: 10 Mixing Guidelines.**

APPLICATION

After mixing all contents as instructed, immediately pour all liquid material onto the properly prepared concrete substrate, or next epoxy lift in ribbons and squeegee the material out evenly. Back-rolling and cross rolling of material are critical for receiving coat, lock coat, grout coat, topcoat, and finish coat. Check for desired wet film thickness with a WFT Gauge. If broadcasting aggregate, broadcast into the wet material. Place trowel mortar mix within installation sequence. Place all steps per Crown Polymer Installation Guidelines.

SKID-RESISTANCE

Skid-Resistance – Field (in situ) Wet Dynamic Coefficient of Friction (DCOF), ANSI A326.3. **See Crown Polymers Technical Bulletin: 4 Coefficient of Friction.**

SHIPPING and STORAGE

Ship and store material between 40°F to 90°F (4°C to 32°C). Store in a dry environment and out of direct sunlight.

SHELF LIFE

Shelf life is 1 year from the date of manufacturer, provided the containers are unopened.

CLEAN-UP

Clean-up mixing station, tools, and equipment as required. Use acetone, a VOC exempt solvent, for cleaning up. Observe all legal, and health, and safety precautions when handling or storing solvents and materials, particularly in confined spaces. Make sure the working areas are well ventilated at all times during placement and curing time.

DISPOSAL

Dispose of empty packaging and other waste per federal, state, province, and local regulations.

MAINTENANCE

Inspect the installed floor by spot cleaning and spot repairing the damaged or cracked areas. To prolong the life of the flooring system, a daily maintenance program is highly recommended to ensure the floor is safe for its intended purposes. **See Crown Polymers Technical Bulletin: 8 Care and Maintenance.**

TECHNICAL SUPPORT

For questions, contact a Crown Polymers Representative. Additional Support Documents are available from Crown Polymers, including brochures, application guidelines, videos and more. Visit Crownpolymers.com or contact Crown for additional resources.

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