

# CrownPro™ AcidShield

Product Description Sheet No. 350

## Acid Resistant Epoxy Coating and Epoxy Polymer Concrete for Floors, Trenches and Secondary Containment Areas

### Description

**CrownPro™ AcidShield**, Product No. 350 is a two-component, pigmented, modified Novolac epoxy floor coating or epoxy polymer concrete (EPC) when aggregate is added. It is a 100% solids, moisture-insensitive, non-shrink, nearly no odor during application.

### Application Methods

The mixed polymer may be applied as a neat coating, single or double broadcast, slurry broadcast, or EPC hand troweled or power troweled.

### Use

Used in decorative, commercial, institutional, industrial and civil engineering applications where acid environments exist or potential spillages may happen in areas like secondary containment. This product handles most of the toughest and heavy-duty industrial and manufacturing floor conditions.

### Benefits

CrownPro AcidShield is considered a leader in its abilities to protect concrete and steel substrates from corrosive acid exposures. The dense seamless polymer overlay wear surface is easy to maintain with standard industrial floor cleaning equipment and power water/chemical sprayers. Its durability partly comes from its monolithic attachment to the concrete increasing the concrete's life cycle of use. Different surface profiles from smooth to aggressive textures are available. Crown understands safety issues, therefore its part of our product design from the start. CrownPro AcidShield cures down to 40°F (5°C).

### Advantages

- Complies with USDA, FDA, OSHA, ADA and LEED® "Green" requirements
- Great working time
- Coupon testing program is available
- No VOC's – 100% solids formula
- Moisture-insensitive formula
- Excellent strength properties
- Excellent impact and abrasion resistant

### Typical Data for CrownPro AcidShield

Material and curing conditions at 73°F (23°C), 50% R.H unless noted.

**COLOR** 10 Standard Colors    **VISCOSITY** 2000-2300 cps.

**MIX RATIO BY WEIGHT** Comp "A" 66    Comp "B" 34

**POTLIFE** 15-20 minutes    **CONSISTENCY** Nearly Self-Leveling

#### TACK-FREE TIME

Substrate Temperature	40°F	73°F	90°F
	12-14 hrs	6-8 hrs	4-6 hrs

#### TENSILE PROPERTIES (ASTM D638)

Tensile Strength	7,800 psi
Elongation at Break	5 - 8 %

#### FLEXURAL PROPERTIES (ASTM D790)

Flexural Strength	13,300 psi
Tangent Modulus of Elasticity	500,000 psi

#### SLANT SHEAR STRENGTH (ASTM C882)

Test Temperature	Value	Mode of Failure
50°F	4,000 psi	100% Concrete Failure
90°F	4,200 psi	100% Concrete Failure

#### COMPRESSIVE STRENGTH (ASTM D695)

	40°F	73°F	90°F
7 days	13,100 psi	13,700 psi	13,900 psi

#### COMPRESSIVE STRENGTH (ASTM C579)

EPC	10,800 psi
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#### HARDNESS (INDENTATION - ASTM D2240)

Neat Epoxy, 7 day cure, Durometer, Shore D 80

#### INDENTATION (LOAD - MIL-D-3134, Para. 4.7.4.2.1)

EPC, 7 day cure, Method: 1 in. diameter steel ram steadily applies a load of 2,000 lbs. for 30 min. on the test specimen that is placed on concrete. Value - 0.002 in. indentation

#### INDENTATION (IMPACT - MIL-D-3134, Para. 4.7.3)

EPC, 7 day cure, Method: 2 lb. steel ball is dropped twice from a 8 ft. height. Value - 0.010 in. indentation

#### ADHESION TO CONCRETE (TENSILE PULL - ACI 503 R)

EPC, 7 day cure, - 400 psi, 100% concrete failure

#### ABRASION RESISTANCE (TABER - ASTM D 4060)

EPC, day cure, 1,000 cycles, 1,000 g. load, Wheel No. 17, Loss 0.049 g

#### WATER ABSORPTION (ASTM D 570)

EPC, 7 day cure, max. 0.11%

#### COEFFICIENT OF THERMAL EXPANSION (ASTM D696)

Temperature Range -30°C (-22°F) / 30°C (86°F)

7 days 18.0 X 10<sup>-6</sup> in / in./°F

#### RESISTANCE TO ELEVATED TEMPERATURE (MIL-D-3134J)

EPC, 7 day cure, No slip or flow at required temperature of 158°F and spillage at 180°F.

#### DEFLECTION TEMPERATURE (ASTM D648)

Neat epoxy, 7 day cure, Fiber Stress Loading+ 264 psi, 195°F

#### FLAMMABILITY (ASTM D635)

EPC, 7 day cure, self-extinguishing

#### MICROBIAL RESISTANCE (ASTM G21)

Passes

#### SHELF LIFE

2 years in original unopened containers

#### PACKAGING

5 - Gal/Units

### Typical Coverage

Most application rates are determined by the environmental exposures. All recommendations are given in specification format.

# How to Apply CrownPro™ AcidShield

## Surface Preparation

Concrete and other substrates must be clean, sound, and free of dust, grease, waxes, coatings, curing compounds and all contaminants. Typical removal methods include dust-free abrasive shot blasting. Clean the substrate to the desired surface profile for the overlay system selected. Follow the Crown Polymer Surface Preparation Guide for best results.

## Test Substrate For Cleanliness and Adhesion

Before placement of the polymer overlay, test the cleaned concrete substrate for soundness and cleanliness with a Tensile Pull Test ACI 503 R (min.200 psi) or Crown Polymers Surface Shear Test. 100% concrete must fail to pass either test without bond line failure.

## Preconditioning Polymer

When temperatures drop, polymers typically thicken and it becomes harder to flow or to spread the product. When the temperatures are warmer, they typically become thinner. To improve product flow-ability maintain product temperature before mixing at about 20°C (73°F). When the substrate temperature is 5°C (40°F) or lower, preheat each epoxy component to 32°C (90°F) before mixing. Caution the pot life will be reduced by about 50%. It may be necessary to reduce the mixed volume quantity of the batch.

## Customer Satisfaction

Apply the entire overlay system to a test area to ensure that the application meets the customer's expectations or provide a sample for written approval before starting work.

## Mixing

Pre-mix Component "A", (when pigmented) then pour Component "B" into "A" and mix for approximately 90 seconds (until one even colors develops) with a low speed paddle attached to a drill (400-600 rpm). The mixed product is ready for immediate placement.

## Coverage and Exposures

Product coverage (thickness) is depended upon the chemical(s) and environmental exposures coupled with the required safety surface textures for pedestrians walking and vehicles traffic requirements. Refer to Crown Polymers Chemical Resistance Chart for product capabilities. Once all the project conditions are known, a Guide or Specifications can be written.

## Application Methods

Refer to Crown Polymers Application Method Guide and Specifications.

## Limitations

- Substrate temperature must be 3°C or 5°F above measured dew point temperature.
- Minimum application substrate temperature is 5°C (40°F).
- **DO NOT APPLY on a WET SUBSTRATE.**
- **DO NOT THIN** - solvents could prevent proper cure.
- **EPOXY Will AMBER when exposed to UV environments. When used outdoors cover with a sacrificial protective coating.**
- Aggregate must be dry when used.
- Pre-condition polymer as needed.
- Applied the next polymer lift within 24 hours if the ambient temperature is below 85°F and 18 hours if above 85°F.
- Withstands vapor pressure up to 3 lbs/1,000 ft<sup>2</sup>. Request data.

## Caution

### Component "A" - Irritant

Contains novolac epoxy resins. Prolonged contact with skin may cause irritation. Avoid contact with eyes.

### Component "B" - Corrosive

Contact with skin may cause severe burns. Avoid eye contact. The product is a strong sensitizer. Contains aliphatic amines.

## Important Information

Use safety goggles and chemical-resistant gloves. NIOSH/OSHA approved respirator, and adequate ventilation is recommended when in a confined air space.

## Clean Up

In case of spills wear suitable protective equipment, contain spill, and collect with absorbent material, place in suitable container. Ventilate area. Avoid contact. Dispose according to applicable local, state, and federal regulations.

## First Aid

In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes. For respiratory problems, remove person to fresh air. Contact Physician Immediately. Wash clothing before re-use.

Consult Material Safety Data Sheet for More Information before use.

## Maintenance

For maximum life expectancy, routinely sweep and wash floors with appropriate cleaners and detergents. All chemicals or abrasive grit should be removed as soon as possible.

**FOR INDUSTRIAL USE ONLY**  
**KEEP OUT OF REACH OF CHILDREN**  
**KEEP CONTAINERS TIGHTLY CLOSED**

LIMITED WARRANTY - "Crown Polymers, LLC warrants its products to be free of manufacturing defects, to be of good quality, and that they will meet Crown Polymers current physical published properties when applied in accordance with Crown Polymers written directions and tested in accordance with ACI, ASTM and Crown Polymers Standards. Product proved to be defective will be replaced. **There are no other warranties by Crown Polymers, LLC of any nature whatsoever, expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product.** Crown Polymers, LLC shall not be liable for damages of any sort, including remote or consequential damages, resulting from any claimed breach of any warranty, whether expressed or implied, from any other cause whatsoever. Crown Polymers will not be responsible for use of this product in a manner to infringe on any patent held by others."

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USA Corporate Office & Factory

Crown Polymers, LLC · 11111 Kiley Drive · Huntley, IL 60142 USA · PH: 847.659.0300 · FX: 847.659.0310  
email: [info@crownpolymers.com](mailto:info@crownpolymers.com) · web: [www.crownpolymers.com](http://www.crownpolymers.com)

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