

CrownShield®

Product Description Sheet No. 319

High-Build Pigmented Epoxy Floor Coating for Commercial, Institutional, Industrial and Residential Use

Description

CrownShield, Product No. 319 is a two-component pigmented epoxy floor polymer. It is a 100% solids, non-shrink, highly modified for better UV resistance (see limitations), nearly no odor during application of the polymer.

Application Methods

The mixed epoxy is applied as a neat protective top coat for broadcast system, slurry broadcast system, EPC hand troweled or power troweled.

Use

Used in decorative, commercial, institutional and industrial applications where the toughest heavy-duty industrial and manufacturing floor environments exist.

Benefits

The best and most stable UV resistant epoxy formula of the CrownShield family of polymers (see limitations). This tough and dense beautiful pigmented seamless polymer overlay wear surface is easy to maintain. Requires no waxing. It becomes a monolithic part of the concrete improving the floors durability and life cycle. CrownShield can provide different surface appearances from smooth to aggressive textures, solid colors, random flaked or attractive patterns of colors and shapes. It is designed for a variety of environmental exposures and it cures down to 40°F (5°C).

Advantages

- Complies with USDA, FDA, OSHA, ADA and LEED® "Green" requirements
- Our best UV resistant pigmented epoxy formula
- Nearly no odor during application
- No VOC's – 100% solids formula
- Moisture-insensitive formula
- Excellent strength properties
- Excellent impact resistant

Typical Coverage

Neat Top Coat: 10 Mills (160 ft² / Gal.) Refer to typical application coverage chart or project specification for other uses.

Typical Data for CrownShield

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

Color	10 Standard Colors
Viscosity	550 – 750 cps.
Mix Ratio by Volume	Comp "A" 2 to Comp "B" 1
Potlife	5-35 minutes
Consistency	Nearly Self-Leveling
Tack Free Time	
@ 50°F *	10 – 12 hrs
@ 73°F	6 – 8 hrs
@ 90°F	5 – 7 hrs
Tensile Properties (ASTM D638) – 7 Days	
Tensile Strength	8,800 psi
Elongation at Break	5 %
Flexural Properties (ASTM D790) – 7 Days	
Flexural Strength	16,000 psi
Tangent Modulus of Elasticity	510,000 psi
Slant Shear Strength (ASTM C882) – 7 Days	
@ 50°F	4,000 psi; 100% Concrete Failure
@ 90°F	4,200 psi; 100% Concrete Failure
Compressive Strength (ASTM D695)	
Neat Polymer	
@ 50°F – 8 hour; 1 day; 7 days	3,700 psi; 10,100 psi; 14,100 psi
@ 73°F – 8 hour; 1 day; 7 days	6,300 psi; 10,200 psi; 14,200 psi
@ 90°F – 8 hour; 1 day; 7 days	10,300 psi; 10,300 psi; 14,200 psi
Compressive Strength (ASTM C579)	
EPC, 7 Days	11,500 psi
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 - 0.004 in. indentation
Indentation (Impact – MIL-D-3134, Para. 4.7.3)	
EPC, 7 day cure, Method:	2 lb. steel ball is dropped twice from an 8 ft. height. Value - 0.012 in. indentation
Adhesion to Concrete (Tensile Pull – ACI 503 R)	
EPC, 7 day cure	410 psi, 100% Concrete Failure
Abrasion Resistance (Taber – ASTM D4060)	
EPC, 7 day cure, 1,000 cycles, 1,000 g. load, Wheel No. 17	Loss 0.051 g
Water Absorption (ASTM D 570)	
EPC, 7 day cure	Max. 0.15%
Coefficient of Thermal Expansion (ASTM D696)	
7 days; -30°C (-22°F) / 30°C (86°F)	18.0 x 10 ⁻⁶ in / in./ °F
Flammability (ASTM D635)	
EPC, 7 day cure	Self-extinguishing
Shelf Life	1.5 years in original unopened containers
Packaging	3, 5, 15, 150 – Gal/Units

How to Apply CrownShield®

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.

Application Methods

Refer to Crown Polymers Application Method Guide and Specifications.

Mixing

Premix Component "A", pour Component "B" into "A" and mix for approximately 90 seconds (until one even color develops) with a low speed paddle attached to a drill (400-600 rpm). The neat mixed product is ready for immediate placement. If making an EPC slowly add sand to the mixed epoxy. Blend until a homogenous mix is developed. Place immediately.

Coverage

Product coverage depends upon the existing substrate surface profile and thickness of the designed system. 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.
- **ALL EPOXIES WILL AMBER WHEN EXPOSED TO UV ENVIRONMENTS.**
- Apply 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 ft². Request data.

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

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.

Caution

Component "A" - Irritant

Contains 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 cycloaliphatic 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 Safety Data Sheet for More Information before use.

LIMITED WARRANTY - "Crown Polymers Corp. 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 Corp. 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 Corp. 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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