

CrownShield[®] SL

Product Description Sheet No. 315

An Innovative Solution: Self-Leveling Epoxy Polymer Concrete Overlay for Industrial and Commercial Floors One lift: 1/8 to 3/16 inch (3.2 to 4.8mm) Thick

Description

CrownShield[®]SL, Product No. 315 is a three-component pigmented epoxy polymer concrete (EPC) that is a self-priming and self-leveling flooring overlay. It is a 100% solids, moisture-insensitive, non-shrink, nearly no odor during the one-lift application. A pigmented topcoat with Aluminum Oxide is used to provide anti-slip properties.

Application Methods

The mixed polymer (EPC) is applied as a one-lift self-leveling overlay with a gauge rake and spiked roller. An epoxy top coat with aluminum oxide is applied to create anti-slip properties.

Use

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

Benefits

CrownShield SL is self-leveling on rough or smooth surface floors. It's placed at the speed of 3,000 to 5,000 ft² per hour. It's a tough and dense, seamless polymer overlay wear surface that is easy to maintain. It requires no waxing. It becomes a monolithic part of the concrete increasing the floor durability and life cycle. Different surface appearances are available, smooth to aggressive textures; solid colors; random flaked. It cures down to 40°F (5°C). It may be the last floor you need!

Advantages

- Complies with USDA, FDA, OSHA, ADA and LEED[®] "Green" requirements
- Great working time
- Fewer application steps
- Increased production/day
- No VOC's – 100% solids formula
- Excellent strength properties
- Excellent impact resistant

Typical Coverage Time

Self-leveling kit covers 60 ft² at 1/8 in (3.2mm)
Placement time: 3,000 to 5,000 ft²/hour
Neat Top Coat: 10 Mil (160 ft² / Gal.)

Typical Data for CrownShield SL

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

Color	10 Standard Colors
Viscosity	Flow-able EPC
Mix Ratio	Pre-measured kit contains 3 components
Potlife	25-35 minutes
Consistency	Self-Leveling
Tack Free Time	
@ 40°F	11 – 12 hrs
@ 73°F	6 – 7 hrs
@ 90°F	5 – 6 hrs
Tensile Properties (ASTM D638) – 7 Days	
Tensile Strength	8,400 psi
Elongation at Break	8 %
Flexural Properties (ASTM D790) – 7 Days	
Flexural Strength	16,800 psi
Tangent Modulus of Elasticity	530,000 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	3,500 psi; 10,000 psi; 12,700 psi
@ 73°F – 8 hour; 1 day; 7 days	6,000 psi; 10,200 psi; 12,900 psi
@ 90°F – 8 hour; 1 day; 7 days	9,300 psi; 10,400 psi; 13,000 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 - 0.011 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, 7 day cure, 1,000 cycles, 1,000 g. load, Wheel No. 17	Loss 0.047 g
Water Absorption (ASTM D 570)	
EPC, 7 day cure	Max. 0.26%
Coefficient of Thermal Expansion (ASTM D696)	
7 days; -30°C (-22°F) / 30°C (86°F)	17.0 – 19.0 x 10 ⁻⁶ in / in./ °F
Flammability (ASTM D635)	
EPC, 7 day cure	Self-extinguishing
LEED EQ Credit 4.1	Meets
LEED EQ Credit 4.2	Meets
Shelf Life	1.5 years in original unopened containers
Packaging	1 Kit covers 60ft ² at 1/8 inch and 40 ft ² at 3/16 inch thickness

How to Apply CrownShield® SL

Surface Preparation

Concrete and other substrates must be clean, sound, and free of dust, grease, waxes, coatings, curing compounds and all contaminants. The only proper way to prepare the concrete substrate is 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.

Mixing

Pre-mix Component "A", 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). Slowly add Component "C" aggregate and blend until an even homogenous EPC blend is created. The mixed product is ready for immediate placement.

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.
- 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 ft². Request data.

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.

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

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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