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CrownStone™

Product Description Sheet No. 305

A Unique Architectural Colored Stone Polymer Concrete Overlay System for Commercial and Decorative Interior Uses

Description

CrownStone™, Product No. 305 is a two-component clear epoxy floor adhesive that bonds colored aggregates together into an open weave epoxy polymer concrete (EPC). It is a 100% solids, moisture-insensitive, non-shrink, nearly no odor during application. The surface is then top coated with a UV resistant polyurea, CrownPro.

Application Methods

The mixed polymer and aggregates (EPC) are applied by hand troweled or power troweled. A neat polyurea top coat is applied to improve color retention and anti-slip properties.

Recommended Use

Used as a decorative indoor wear surface overlay on concrete and wood. Placed on concrete slab-on-grade and decks outdoors where freezing conditions do not exist.

When water and snow is present on people's feet, and safety anti-slip surfaces are required CrownStone is the architects choice for entry areas and swimming pool decks

Benefits

The Uniqueness of CrownStone Floor System is its durability, beauty and character. It's versatility in color design, logo design, patterns and borders enhance any décor.

CrownStone aggregates are graded to one size, 1/8 in (3 mm), shape, and are available in 18 standard colors. The colored aggregates are blended to create custom blends and patterns. The only limitation in color design is our imagination.

CrownStone provides that extra degree of safety first when water is present because it drains down through the stones instead of building up on the surface in puddles.

Advantages

- Complies with USDA, FDA, ADA, and LEED® "Green" requirements
- Great working time
- Pre-leveling and spall repair not required
- No VOC's – 100% solids formula
- Cures down to 40°F (5°C)

Typical Thickness

3/8 inch (9 mm) thick (Request mix ratio)
Top Coat: 7 Mils (228 ft² / Gal.)

Typical Data for CrownStone

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

COLOR Clear **VISCOSITY** 1,000 – 1,200 cps.

MIX RATIO BY VOLUME Comp "A" 2 to Comp "B" 1

POTLIFE 12-18 minutes **CONSISTENCY** Low viscosity

TACK-FREE TIME

Substrate Temperature	50°F *	73°F	90°F
	10–12 hrs	6–8 hrs	5–7 hrs

TENSILE PROPERTIES (ASTM D638) 7 days

Tensile Strength 3,800 psi

Elongation at Break >7 %

FLEXURAL PROPERTIES (ASTM D790) 7 days

Flexural Strength 2,900 psi

SLANT SHEAR STRENGTH (ASTM C882) 7 days

Test Temperature Mode of Failure

90°F 100% Concrete Failure

50°F* 100% Concrete Failure

COMPRESSIVE STRENGTH (ASTM D695) Neat Polymer

73°F 90°F

8 hour 3,300 psi 3,900 psi

1 day 6,200 psi 6,800 psi

7 days 8,400 psi 8,500 psi

COMPRESSIVE STRENGTH (ASTM C579) 7 days

EPC 4,100 psi

HARDNESS (INDENTATION - ASTM D2240)

Neat Epoxy, 7 day cure, , Durometer, Shore D 79

IINDENTATION (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 - 0.016 in. indentation

ADHESION TO CONCRETE (TENSILE PULL- ACI 503 R)

EPC, 7 day cure, , - 350 psi, 100% concrete failure

ABRASION RESISTANCE (TABER- ASTM D 4060) EPC,

7 day cure, 1,000 cycles, 1,000 g. load, Wheel No. 10, Loss 0.032 g

WATER ABSORPTION (ASTM D 570)

EPC, 7 day cure, , < 0.18%

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 CrownStone™

Surface Preparation

Concrete 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 and grinding. 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.

Maintenance

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

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

Add Component "B", into Component "A" and mix for approximately 90 seconds (until one even color develops) with a low speed paddle attached to a drill (400-600 rpm). Pour mixed epoxy into a mixer that tumbles the materials and blends them together (concrete or mortar type). Add the CrownStone aggregate into the mixed epoxy and blend until all stone surfaces are evenly wetted. The mixed EPC is ready for immediate placement.

Coverage

Product coverage is depended upon thickness of the designed system.

Application Methods

- Hand or power trowel.
- Request application specification.

Limitations

- Substrate temperature must be 3°C or 5°F above measured dew point temperature.
- Minimum application substrate temperature is 40°F (5°C).
- **DO NOT APPLY on 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.
- Minimum thickness of overlay is 3/8 inch (9 mm).
- Withstands vapor pressure up to 3 Lbs/1,000 ft². Request data.
- **DO NOT PLACE CrownStone in an environment that freezes.**

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, 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.

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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Page 2 of 2 PDS 305 Revised 06/2008