

CrownQuartz™

Product Description Sheet No. 306

A Decorative Multi-Colored Epoxy Polymer Concrete Overlay Commercial, Institutional, Residential and Industrial Use

Description

CrownQuartz™, Product No. 306 is a two-component epoxy aggregate binder. It is a 100% solids, moisture-insensitive, non-shrink, and has nearly no odor during application. It creates an epoxy polymer concrete (EPC) with pigmented aggregates. The EPC is then top coated with a clear epoxy or a polyurea when UV resistance is required.

Application Methods

The mixed polymer is applied as a neat polymer that is immediately broadcasted with pigmented aggregate. It may be applied as a single or double lift; slurry broadcast; or mixed as an EPC and hand troweled or power troweled.

Uses

A very popular overlay that is used on concrete and wood substrates, indoors or outdoors, that requires a decorative appearance. It has the durability and toughness required for heavy-duty industrial and manufacturing environments.

Benefits

This tough and dense beautiful seamless polymer overlay wear surface is easy to maintain. It becomes a monolithic part of the concrete, increasing its durability and life cycle. Different appearances are achievable from smooth to aggressive textures, solid colors, or attractive patterns of colorful blends, borders and artistic shapes.

Advantages

- Complies with USDA, FDA, OSHA, ADA and LEED® “Green” requirements
- Applicable vertically on CrownCove & walls
- Nearly no odor during application
- No VOC’s – 100% solids formula
- Moisture-insensitive formula
- Cures down to 40°F (5°C)
- Excellent strength properties
- Excellent impact resistant

Typical Coverage

Refer to typical application coverage chart.

Typical Data for CrownQuartz

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

COLOR Light Amber **VISCOSITY** 550 – 750 cps.
MIX RATIO BY VOLUME Comp “A” 2 to Comp “B” 1
POTLIFE 12-18 minutes **CONSISTENCY** Nearly Self-Leveling

TACK-FREE TIME

Substrate Temperature	40°F *	73°F	90°F
	10–12 hrs	6–8 hrs	5–7 hrs

TENSILE PROPERTIES (ASTM D638) 7 days

Tensile Strength	7,800 psi
Elongation at Break	4-5 %

FLEXURAL PROPERTIES (ASTM D790) 7 days

Flexural Strength	9,200 psi
Tangent Modulus of Elasticity	490,000 psi

SLANT SHEAR STRENGTH (ASTM C882) 7 days

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) Neat Polymer

	50°F *	73°F	90°F
8 hour	3,900 psi	6,600 psi	10,100 psi
1 day	10,100 psi	10,200 psi	10,300 psi
7 days	13,100 psi	14,000 psi	14,100 psi

COMPRESSIVE STRENGTH (ASTM C579) 7 days

EPC	11,000 psi
-----	------------

HARDNESS (INDENTATION - ASTM D2240)

Neat Epoxy, 7 day cure, Durometer, Shore D 82

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 a 8 ft. height. Value - 0.010 in. indentation

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

EPC, 7 day cure, No slip or flow at required temperature of 158°F¹ And spillage at 180°F.

ADHESION TO CONCRETE (TENSILE PULL - ACI 503 R)

EPC, 7 day cure, - 380 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 0.048 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 ⁻⁶ in / in./°F

FLAMMABILITY (ASTM D635)

EPC, 7 day cure, self-extinguishing

Microbial Resistance (ASTM G21)

EPC, 7 day cure, Passes

SHELF LIFE 1.5 years in original unopened containers

PACKAGING 3, 5, 15, 150 - Gal/Units

* Pre-conditioned epoxy to 90°F before mixing

How to Apply CrownQuartz™

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, grinding and sanding wood substrates. 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.

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."

Mixing

Pour Component "B" into Component "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

Product coverage is depended upon the existing substrate surface profile and thickness of the designed system. Refer to Crown Polymers Application Method Guide and Specifications.

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 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 Material Safety Data Sheet for More Information before use.

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

For the Location of Your Nearest Crown Polymers Representative - **CALL NATIONWIDE TOLL-FREE 1.888.732.1270**



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 · web: www.crownpolymers.com

Page 2 of 2 PDS 306a Revised 06/2008