

CrownShield[®] 40-2

Product Description Sheet No. 323

High-Build Pigmented Epoxy Floor Base Coat and Epoxy Polymer Concrete for Commercial and Industrial Use

Description

CrownShield[®] 40-2, Product No. 323 is a two-component pigmented modified epoxy floor base coating or epoxy polymer concrete (EPC) when aggregate is added. It is a 100% solids, moisture-insensitive, non-shrink, nearly no odor during application. It is not a top coat.

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. Another polymer will than encapsulate it as the top coat.

Use

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

Benefits

CrownShield 40-2 typically reduces the tack-free and cure time by 50%, thus allowing twice the work or more in one day. The tough and dense polymer creates the foundation for both decorative and industrial overlay applications. It becomes a monolithic part of the concrete increasing its durability and life cycle. It cures down to 40°F (5°C).

Advantages

- Complies with USDA, FDA, OSHA, ADA and LEED[®] "Green" requirements
- Typically tack-free in 2 to 3 hours
- Replaces other Crown products at the same specified quantities
- No VOC's – 100% solids formula
- Moisture-insensitive formula
- Excellent strength properties
- Excellent impact resistant

Typical Coverage

Neat Base Coat: 10 Mills (160 ft² / Gal.)

Refer to typical application coverage chart and specification for other uses.

Typical Data for CrownShield 40-2

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 10-15 minutes **CONSISTENCY** Nearly Self-Leveling

TACK-FREE TIME

Substrate Temperature	40°F	73°F
	6-8 hrs	2-2.5 hrs

TENSILE PROPERTIES (ASTM D638)

Tensile Strength	7,800 psi
Elongation at Break	5 %

FLEXURAL PROPERTIES (ASTM D790)

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

SLANT SHEAR STRENGTH (ASTM C882)

Test Temperature	Value	Mode of Failure
73°F	4,100 psi	100% Concrete Failure
40°F	4,000 psi	100% Concrete Failure

COMPRESSIVE STRENGTH (ASTM D695)

	50°F	73°F
6 hour	3,600 psi	6,800 psi
1 day	9,600 psi	10,100 psi
7 days	14,000 psi	14,000 psi

COMPRESSIVE STRENGTH (ASTM C579)

EPC	11,000 psi
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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

ADHESION TO CONCRETE (TENSILE PULL - ACI 503 R)

EPC, 7 day cure, - 390 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 0.051 g

WATER ABSORPTION (ASTM D 570)

EPC, 7 day cure, max. 0.23%

COEFFICIENT OF THERMAL EXPANSION (ASTM D696)

Temperature Range	-30°C (-22°F) / 30°C (86°F)
7 days	17.0 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® 40-2

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

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 a WET SUBSTRATE.**
- **DO NOT THIN** - solvents could prevent proper cure.
- Aggregate must be dry when used.
- **DO NOT USE AS TOP COAT.**
- 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 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.

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."

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



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