

# CrownShield<sup>®</sup>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<sup>®</sup> 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. Complete with a Crown Polymers specified 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% when broadcasted, 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<sup>®</sup> "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 Mils (130-150 ft<sup>2</sup> / Gal. - Depending on porosity of substrate)  
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.

<b>Color</b>	10 Standard Colors
<b>Viscosity</b>	550 – 750 cps.
<b>Mix Ratio by Volume</b>	Comp "A" 2 to Comp "B" 1
<b>Potlife</b>	10-15 minutes
<b>Consistency</b>	Nearly Self-Leveling
<b>Tack Free Time</b>	
@ 40°F	6 – 8 hrs
@ 73°F	2 – 2.5 hrs
<b>Tensile Properties (ASTM D638) – 7 Days</b>	
Tensile Strength	7,800 psi
Elongation at Break	5 %
<b>Flexural Properties (ASTM D790) – 7 Days</b>	
Flexural Strength	13,000 psi
Tangent Modulus of Elasticity	500,000 psi
<b>Slant Shear Strength (ASTM C882) – 7 Days</b>	
@ 73°F	4,100 psi; 100% Concrete Failure
@ 40°F	4,000 psi; 100% Concrete Failure
<b>Compressive Strength (ASTM D695)</b>	
Neat Polymer	
@ 50°F – 6 hour; 1 day; 7 days	3,600 psi; 9,600 psi; 14,000 psi
@ 73°F – 6 hour; 1 day; 7 days	6,800 psi; 10,100 psi; 14,000 psi
<b>Compressive Strength (ASTM C579)</b>	
EPC, 7 Days	11,000 psi
<b>Hardness (Indentation – ASTM D2240)</b>	
Neat Epoxy, 7 day cure, Durometer	Shore D 82
<b>Indentation (Load – MIL-D-3134, Para. 4.7.4.2.1)</b>	
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
<b>Indentation (Impact – MIL-D-3134, Para. 4.7.3)</b>	
EPC, 7 day cure, Method:	2 lb. steel ball is dropped twice from an 8 ft. height. Value - 0.010 in. indentation
<b>Adhesion to Concrete (Tensile Pull – ACI 503 R)</b>	
EPC, 7 day cure	390 psi, 100% Concrete Failure
<b>Abrasion Resistance (Taber – ASTM D4060)</b>	
EPC, 7 day cure, 1,000 cycles, 1,000 g. load, Wheel No. 17	Loss 0.051 g
<b>Water Absorption (ASTM D 570)</b>	
EPC, 7 day cure	Max. 0.23%
<b>Coefficient of Thermal Expansion (ASTM D696)</b>	
7 days; -30°C (-22°F) / 30°C (86°F)	17.0 x 10 <sup>-6</sup> in / in./ °F
<b>Flammability (ASTM D635)</b>	
EPC, 7 day cure	Self-extinguishing
<b>Shelf Life</b>	1.5 years in original unopened containers
<b>Packaging</b>	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.

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

### 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 ft<sup>2</sup>. 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 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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