

Crown Natural Stone™

Product Description Sheet No. 371

info@crownpolymers.com
www.crownpolymers.com

847.659.0300 Phone
847.659.0310 Facsimile
888.732.1270 Toll Free

A Decorative Epoxy Polymer Concrete Overlay Embedded with Natural Stones

Description

Crown Natural Stone™, Product No. 371, is a troweled Epoxy Polymer Concrete (EPC) System. By combining a 100% solids, non-shrink, pigmented epoxy resin matrix with natural stones, marble, granite, onyx, glass chips, or other approved aggregates a unique and decorative overlay system will protect the concrete and other substrates. The system maybe used as decorative flooring, deck overlays, balcony overlays, counter tops, benches and wall panels. *Our limitation is only our imagination for color and design!*

Advantages

- Aesthetically attractive appearances
- Customized designs
- Chemical and stain resistant
- Seamless or divided into decorative patterns
- Unlimited color and design options
- ADA Slip resistant compliance
- Useable for interior or exterior applications
- Thickness of 3/8 in. to any depth
- Applicable and curable down to 40°F
- May be precast offsite and bonded onsite to the substrate
- Factory assistance on design and aggregate selection
- Low to nearly no odor during application
- 100% solids, No shrinkage, No VOC's
- Very safe to use
- Excellent working time
- Cures and adheres on dry or damp concrete surfaces
- May be placed in metal or other structural sound forms - non-corrosive
- Cures with minimal surface voids
- Requires less grinding & grouting labor to create smooth surfaces
- Meets or exceeds all NTMA & TTMAC standards
- May be placed on-site or precast for faster placement

Where to Use

Use Crown Natural Stone floor and walls systems on clean concrete or other structurally sound interior or exterior surfaces that require minimal maintenance.

- Health care, hospitals, pharmaceuticals, research, and clean rooms
- Commercial, retail, hallways, lobby, elevator and office areas
- Animal care and animal research
- Laboratory and chemical research
- Institutional facilities – schools and government offices and work areas

Typical Data for Crown Natural Stone

(Material and Curing Conditions at 73°F unless noted, 50% R.H.)

Color: Standard Colors, Computerized custom color matching available upon request (color matching including NTMA and TTMAC standard color pallets).

Hardness, @ 24 hours Shore D

ASTM D2240 80

Compressive Strength

ASTM D695 9,000 psi

Tensile Elongation %

ASTM D638 6-12

Tensile Strength

ASTM D638 3,100 psi

Water Absorption, %

ASTM D570 0.15

Abrasion Resistance

ASTM D 060, CS-17 Wheel
Lost 20-40 mg

Flammability

ASTM D635 Self-extinguishing over concrete

Flexural Strength

ASTM C580 3,900 psi

ASTM D790 6,000 psi

Thermal Coefficient of Linear Expansion

ASTM D696, in./in./°F 17 X 10⁻⁶

Impact Resistance

MIL-D-3134, Sec. 4.7.3
Withstands 19 ft.-lbs.
without cracking, chipping, delaminating

Adhesion

ACI 503R 350 psi
100% concrete failure

Resistance to Elevated Temperatures

MIL-D-3134J No slip or flow at
required temperature of 158°F

Slip Resistance Complies with ADA Standards

ASTM C = Polymer Concrete System
ASTM D = Resin Only

Changing of the aggregate could change the physical strength properties; however, the above properties are very typical for North America aggregate and epoxy overlays.

Unique Decorative EPC Overlay Embedded with Natural Stones

Surface Preparation

All substrate surfaces must have all loose and deterioration removed to a sound surface. 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 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 the flow-ability maintains product temperature before mixing at about 20°C (73°F). When the substrate temperature is 15°C (60°F) or lower, preheat each epoxy component to 90°F before mixing. Caution the pot life will be reduced by about 50%.

Mixing

Pre-mix Component "A", then pour Component "B" into "A" and mix for 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.

Chemical resistance **Result**
ASTM D1308, 7 days immersion @ 73°F

Distilled Water	NE
Mineral Water	NE
Isopropanol	NE
1% Soap Solution	NE
10% Sodium Hydroxide	NE
10% Hydrochloric Acid	NE

5% Acetic Acid	NE
0.25 Detergent Solution	NE
30% Sulfuric Acid	NE
Ethanol	NE

NE = No effect on specimens

Limitations

- Do not apply on wet or water saturated surfaces.
- Do not apply when substrate temperature is below 40°F (4°C) or dropping during cure.
- Do not thin with solvents or other materials, they will prevent proper cure.
- Substrate temperature must be at least 5°F above the dew point.

Caution

Component "A"- Irritant

Contains epoxy resins. Prolonged contact with skin may cause irritation. Avoid contact with eyes.

Component "B" - Corrosive

Contains aliphatic/cycloaliphatic amines. Contact with skin may cause severe burns. Avoid eye contact. Product is a strong sensitizer

Important Information

Use of safety goggles, chemical-resistant gloves, adequate ventilation and NIOSH/OSHA approved respirator is recommended.

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

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 published physical 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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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

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