

CrownShield[®] Pigmented Epoxy Binder for Vinyl Chips

TECHNICAL DATA SHEET Product Number: 8355

High Build Pigmented Epoxy Binder designed to Receive Broadcasted Vinyl Chips

DESCRIPTION

CrownShield No. 8355 is a 2 component, high build, high pigment load epoxy binder that is especially designed to receive CrownFlake System vinyl 1/8 inch and 1/4 inch chips and flakes. It is self-priming and it is formulated as a moisture tolerant epoxy binder and bonds tenaciously to dry or damp concrete. It can be applied directly to “saturated surface dry” (SSD) concrete slabs on grade (with no standing water). The high pigment load design means that it easily hides concrete between 160 to 200 square feet (14.9 to 18.9 sq. m) in a single coat application. It has ample working time for cut-ins, placement and broadcasting the vinyl chips. CrownShield No. 8355 Accelerator (6 wt. oz. per 2 gal) is available when rapid cure is required.

TYPICAL USES

A Decorative Floor – An Economical Terrazzo Look

- Classroom Floors
- Garage Floors
- Locker Room and Restroom Floors
- Restaurant Floors
- Retail Store Floors
- Hospital and Health Care Facility Floors
- Laboratory and Research Floors
- Pharmaceutical Floors

BENEFITS

- Complies with USDA, FDA, Food Safety Modernization Act. See **Crown Polymers Technical Bulletin: No. 3 Food and Beverage Compliance.**
- Slip Resistance (ADA). See **Crown Polymers Technical Bulletin: No. 4 Coefficient of Friction.**
- LEED[®] and Green Seal[®] requirements. See **Crown Polymers Technical Bulletin: No. 5 LEED and Green Seal Information.**
- VOC and EPA Compliant all states and provinces in North America. Cures to an inert finish. See **Crown Polymers Technical Bulletin: No. 2 VOC Compliance**
- Strong and Tough Floor
- Designed for new floors and for resurfacing old floors

LIMITATIONS

- This product is best suited for applications in temperatures between 60°F to 90°F (16°C to 32°C). See **Crown Polymers Technical Bulletin: No. 7 Temperature and Relative Humidity Limits**
- Higher temperatures will result in shortened working time and faster drying time.
- Color may vary due to batch to batch variation, always “box” different batches to avoid it.

COLORS

In four colors (only): Charcoal, Medium Gray, Sand Beige, Tan and White. Not available in pigment packs.

COVERAGE RATE PER GALLON

- Self-Priming Receiving Coat: 160 to 200 sq. ft. (14.9 to 18.9 sq. m.) 8 to 10 mils (WFT)

HANDLING AND SAFETY

Warning! Eye and skin irritant. May cause dermatitis and sensitization. Always read and follow the product SDS. Avoid contact with eyes, skin and clothing. Avoid breathing vapors, mist and spray. Use with good ventilation.

CONCRETE

Concrete must be structurally sound and free of curing agents, coatings, sealers, densifiers and other bond breakers.

New Concrete:

- Place concrete per ACI 302.2R Guide for Concrete Slabs that Receive Moisture-Sensitive Floor Materials.
- Water Cement Ratio 0.4 to 0.5, and an approximate 4,000 psi (28 MPa) strength level.
- Requiring a positive side moisture barrier in direct contact with the concrete meeting ASTM E1745 Standard Specification for Plastic Water Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.

The moisture barrier needs to be placed per ASTM E1643 Standard Practice for Selection, Design, Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs, Class A 15 mils (0.38mm)

Existing Concrete:

If field tests or laboratory analysis reveals concrete flooring slabs contain contaminants from previously applied unreacted silicate materials, such as, sodium silicates, potassium silicates or lithium silicates that will interfere with the bond, use CrownPrime WB Primer No. 8201. See **Crown Polymers Technical Bulletin: No. 20 Selecting a Primer**

- Contaminants include, but are not limited to, organic hydrocarbon materials, calcium chlorides, sodium silicates, potassium silicates, lithium silicates and aluminum stearates.
- Concrete flooring slabs can lose their structural strength over time, caused by conditions beyond the control of the flooring manufacturer or the installation contractor.
- If the concrete substrate deteriorates sufficiently, it will no longer support the bond of the remediation floor system.

Such conditions are detailed in ACI 201.2R “Guide to Durable Concrete” published by the American Concrete Institute. See **Crown Polymers Technical Bulletin: No. 1 Concrete Surface Preparation.**

CHEMICAL RESISTANCE DATA

See **Crown Polymers Technical Bulletin: No. 9 Chemical Resistance Guidelines and Chart.**

CHECK CONCRETE MOISTURE

Concrete must be dry before application of this floor coating material. Concrete moisture tests are required, either ASTM F1869 (calcium chloride) or ASTM F2170 (in situ RH probe). Refer to appropriate Technical Data Sheet limits and **Crown Polymers Technical Bulletin: No. 6 Moisture Mitigation Negative Side Moisture Barrier.**

CHECK TEMPERATURE AND HUMIDITY

Floor and material temperature must be at or above the published Technical Data Sheet. Dew Point must be 50F (30F) or more below the surface temperature. Do not apply if humidity is at or above 85%. See **Crown Polymers Technical Bulletin: No. 7 Temperature and Relative Humidity Limits.**

SURFACE PREPARATION

Surface preparation in accordance with: ICRI Guideline No. 310.2R Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair. The pH of the concrete substrate should be at 9 or above. All bond-breaking material must be removed. See **Crown Polymers Technical Bulletin: No. 1 Concrete Surface Preparation.**

APPLICATION EQUIPMENT

Depending on system applied: Disposable 3” brush for cutting in, variable low speed drill (450 rpm) with Jiffy® type impeller mixing paddle, 3/8 inch nap non-shedding phenolic core roller and frame, and V-notched rubber squeegee.

OPTIONAL ANTIMICROBIAL

The antimicrobial additive Silver® (sodium hydrogen zirconium phosphate) is a non-heavy metal biocide that can be added during the manufacturing process. (EPA Regulation Number 11631.2. and US Patent Number US 9,247,736 B2). The antimicrobial agent can be added to the top coat only for an economical application or it can be added to each step of the application, primer, body coat and top coat, which is recommended for abusive environments. See **Crown Polymers Technical Bulletin: No. 11 Understanding Silver® the Optional Antimicrobial Additive.**

MIXING

For ease of mixing and placement, the temperature of the “A” and “B” components should be between 70°F to 80°F (21°C to 27°C). Pre-mix the “A” and “B” component to ensure all raw material and pigments are dispersed uniformly. Box pigmented products if using different batch numbers for uniformity of color. See **Crown Polymers Technical Bulletin: No. 10 Mixing Guidelines.**

APPLICATION

After mixing all contents as instructed, immediately pour all liquid material on to the properly prepared concrete substrate or next epoxy lift in ribbons and squeegee the material out evenly. Check for desired wet film thickness with a WFT Gauge. Back-roll and cross rolling of material is critical. Broadcast chips into the wet material. Place all steps per **Crown Polymer Installation Instruction.**

SKID-RESISTANCE

Skid-Resistance – Field (in situ) Wet Dynamic Coefficient of Friction (DCOF), ANSI A326.3. See **Crown Polymers Technical Bulletin: No. 12 Wet Dynamic Coefficient of Friction.**

CLEAN-UP

Clean-up mixing station, tools and equipment as required. Use acetone, a VOC exempt solvent, for cleaning up. Observe all legal, and health and safety precautions when handling or storing solvents and materials, particularly in confined spaces. Make sure the working areas are well ventilated at all times during placement and curing time.

Physical Properties at 77°F (25°C)		
VOC (Volatile Organic Compounds), (VOC Calculated Per ASTM D3960)	50 gr./lt.	
Standard Viscosity Clear, Mixed Epoxy and Hardener	1,000 cps	
Standard Viscosity Clear, Mixed Epoxy and Hardener, at 50°F (10°C)	1,800 cps	
Mix Density Clear, Mixed Epoxy and Hardener	11.0 lbs./gal	
Pot Life, 1 gallon (3.79 liters) Mass, Pot Life is Reduced by Increases in Mass and Temperature	90 Minutes	
Pot Life, with Accelerated, 1 gallon (3.79 liters) Mass, Pot Life is Reduced by Increases in Mass and Temperature	45 Minutes	
Mix Ratio, by Volume	1:1	
Shelf Life (shipped and stored) at 40°F to 100°F (4.4°C to 38°C)	1.5 Years	
Cure Time at 77°F (25°C)	Standard	Accelerated
Dry to Touch	12 Hours	9 Hours
Foot Traffic	24 Hours	16 Hours
Full Cure (Vehicular Traffic)	7 Days	5 Days
Packaging 2 and 10 gal. (7.6 and 37.9 liters)		

Mechanical Properties at 77°F (25°C) 7 Day Cure	
Surface Preparation ICRI Guideline No. 310.2R Concrete Surface Profile (CSP 2 and above) Depending on System to be Installed and Condition of Concrete.	
Adhesion, ASTM D7234, Concrete Failure	>400 psi
Water Absorption, ASTM D570 Resin & Hardener	0.1%
Hardness (Shore D) ASTM D2240	75 – 85
Flame Test, ASTM E648	Class 1
Flammability, ASTM D635	Self-Extinguishing Bonded to Concrete
Microbial (fungi) Resistance, ASTM G21 (Without the Anti-Microbial Agent)	Pass #1
Moisture Vapor Emission Rate, ASTM F1869*	3 lbs.
Moisture Relative Humidity, ASTM F2170*	80% RH
*If moisture or relative humidity exceeds the limits consult the Crown Polymers representative and refer to Crown Polymers Technical Bulletin: No. 6 Moisture Mitigation Negative Side Moisture Barrier	

Although testing is critical, it is not a guarantee against future problems. This is especially true if there is no vapor barrier or it is not functioning properly and/or concrete is contamination from oils, chemical spills, densifiers, excessive salts or other bond breakers.

DISPOSAL

Dispose of empty packaging and other waste in accordance with federal, state, provinces and local regulations.

MAINTENANCE

Inspect the installed floor by spot cleaning and spot repairing the damaged or cracked areas. To prolong life of the flooring system, a daily maintenance program is highly recommended to ensure the floor is safe for its intended purposes. See **Crown Polymers Technical Bulletin: No. 8 Care and Maintenance.**

TECHNICAL SUPPORT

For questions, contact a Crown Polymers Representative.

DISCLAIMER

All guidelines, recommendations, statements, and technical data contained herein are based on information and tests. The accuracy and completeness of such tests are not guaranteed and are not to be construed as a warranty, expressed or implied. It is the responsibility of the user to document information and tests to determine the intent of the product for ones' own use. The application, job conditions and user assumes all risks and liability resulting from use of the product. We do not suggest or guarantee any hazards listed herein are the only ones, which may exist. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use the product. Recommendations or statements, whether in written or verbal, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and Crown Polymers makes no claim that these tests or any other tests accurately represent all environments. Not responsible for any typographical errors.

LIMITED WARRANTY

Crown Polymers warrants its products to be free of manufacturing defects and meets all Crown Polymers current published physical properties. Crown Polymers' sole responsibility shall be to replace the portion of any product proved to be defective. There are no other warranties by Crown Polymers 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 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. Crown Polymers shall not be responsible for the use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee pertaining to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator will be issued. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. Crown Polymers reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.



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