

CrownShield™

TECHNICAL DATA SHEET

Product Number: 8320

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Multi-Functional Epoxy Flooring Product for all types of application conditions.

DESCRIPTION

CrownShield™ is a 2-component, low odor, 100% solids, thermosetting epoxy designed especially for flooring applications subjected to moderate traffic and/or when chemical resistance is required. This is a general-purpose Bis-A and Bis F epoxy coating product can be applied up directly to properly prepped substrates or as a body and cap coat. CrownShield™ is designed to be a tough and hard epoxy coating both as neat coating or when broadcasted or combined with aggregates.

EPOXY HARDENER – SELECTION GUIDE

Crown Polymers offers you 3 types of hardeners depending on application demands and ambient temperature conditions. An appropriate hardener (Side B) should be chosen for the best curing results. Our products have a "S", "F" or "H" at the end of the product name. [i.e. "CrownShield™ S"] to denote the different system requirements. If in doubt as to the correct (Side B) to use just ask us.

"S" – Standard Curing Hardener allows an application ranging between 50°F to 80°F. This hardener is our primary work-horse, a well-rounded system, perfect for versatile applications.

"F" – Fast Curing Hardener designed for faster set times, or lower temperature application ranging between 40°F to 60°F.

"H" – Hot Curing Hardener is a slow cured curative designed for higher temperature application ranging between 80° to 90°F.

TYPICAL USES

- Manufac. & Warehouse Floors
- Laboratories
- Mechanical Rooms
- Animal Care Areas
- Shop Floors
- Retail service areas
- Loading docks
- Pharmaceutical plants

BENEFITS

- 100% Solid Based - Low Voc,
- Low Odor
- Strong, Tough Coating System
- Can Be Used As Single Epoxy Coating System
- Good Chemical Resistance
- UV Resistance
- Excellent For Resurfacing

COLORS

Clear

Available in 15 colors – please refer to Crown Polymers standard epoxy color chart.

PACKAGING

3 gallons and 15 gallons (2 Sided Kits)

COVERAGE

Approximately 80 sq.ft. per gallon @ 20 mils

STORAGE

This product has a maximum shelf life of one year when stored off the ground in a dry area at 50° to 110°F, in the original sealed container.

LIMITATIONS

This product is best suited for application in temperatures between 60°F to 90°F. Certain colors appear white when scratched such as blue based. Higher temperature will result in faster drying time or poor workability. Color may vary due to batch-to-batch variation, especially in higher temperatures.

HANDLING/SAFETY

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

FIRST AID

In case of contact:

1. Eyes: Immediately flush with water for at least 15 minutes.
2. Skin: Immediately remove from skin with dry cloth followed by thorough washing with soap and water.
3. Inhalation: Remove to fresh air. If breathing is difficult, give oxygen.
4. Ingestion: Immediately call a Poison Center/Doctor. Do NOT induce vomiting. If vomiting occurs naturally, lie on your side, in the recovery position.

PRELIMINARY FLOOR INSPECTIONS

PHYSICAL CHARACTERISTICS

DESCRIPTION	PHYSICAL PROPERTIES
Components	2 Sides
Visual Appearance	High Gloss
Density	9.23 lb/gal
VOC content	<5g/l
Pot Life @ 70°F 50% RH	S: 35-40 minutes F: 10-15 minutes H: 60-65 minutes
Equipment	brush, roller & V-notched rubber squeegee
Number of Coats	1 @ 20mils
Theoretical Coverage	160 ft ² /gal 10 mils WFT
Dry to Touch @ 70°F, 50%RH	S: 7-8 hours F: 4-6 hours H: 8-10 hours
Light Traffic	24 hours
Full Cure	7 days
Recoat Time @ 70°F	12 to 72 hours
Min. Application Temp.	50°F
Mix ratio by Volume	2:1 (A/B)

CAUTION

Always read and understand the specific product data guide and SDS sheets before using this product. For more information contact Crown Polymers.

CHECK THE CONCRETE

Concrete must be structurally sound and free of curing membrane, paint or other sealer. If you suspect that the concrete has been previously sealed, call Crown Polymers technical support for further instructions.

CHEMICAL DATA @ 70°F

DESCRIPTION	DATA
pH Range	4 to 13
Inorganic Acids	Good
Organic Acids	Good
Alkali	Excellent
Solvents	Good
Hydrocarbons	Good

MECHANICAL PROPERTIES

HARDENER TECH DATA	STANDARD	FAST	HOT
Surface Prep Require	ICRI CSP-3, Primed	ICRI CSP-3, Primed	ICRI CSP-3, Primed
Adhesion, ASTM D7234	>400 PSI, Concrete Failure	>400psi, Concrete Failure	>400psi, Concrete Failure
Hardness, Konig (15mils) ASTM D4366	95	100	95
Tensile Strength, ASTM D2370	5600 psi	7130 psi	7290 psi
Tensile Elongation, ASTM D2370	2.7%	2.7%	3.0%
Compression, ASTM D695	12000 psi	11000 psi	12000 psi
Hardness (Shore D), ASTM D2240	70-80	70-80	70-80
Water Absorption, ASTM D570	<0.1%	<0.1%	<0.1%
Flame Test, ASTM D648	Class 1	Class 1	Class 1
Abrasion Resistance, ASTM D4060	30mg loss	30mg loss	30mg loss
Coefficient of Friction, ASTM D2047	0.7 smooth	0.7 smooth	0.7 smooth
Impact Resistance, ASTM D2794	160 in/lb	160 in/lb	160 in/lb

Note: Although testing is critical, it is not a guarantee against future problems. This is especially true if there is no vapor barrier or the vapor barrier is not functioning properly and/or you suspect you may have concrete contamination from oils, chemical spills or excessive salts.

THE APPLICATION PROCESS

CHECK FOR MOISTURE

Concrete must be dry before application of this floor coating material. Concrete moisture testing must occur. Calcium chloride testing or “In-situ” relative humidity testing is recommended. Test methods can be purchased at www.astm.org, see ASTM F1869-11 or F2170-11, respectively or follow manufacturer’s instructions. Readings must be below the defined threshold as specified for each Crown Polymers system to be installed directly to the concrete substrate. Please refer to the appropriate Technical Data Sheet for this information.

CHECK THE TEMPERATURE & HUMIDITY

Floor temperature and materials should be between 65°F (18°C) and 90°F (32°C). Humidity must be less than 95%. DO NOT coat unless floor temperature is more than (5°F) over the dew point.

1. SURFACE PREPARATION

Requires ICRI CSP 3

This product requires proper surface profile to perform as expected. Substrate must be mechanically profiled (ASTM 4259-83), clean, sound, and dry.

2. APPLICATION EQUIPMENT

Tools: 3” Disposable brush, low speed drill (450 rpm) with a 3.5” Jiffler blade, 3/8” nap non-shedding phenolic core roller, and 1/8” V-notch rubber squeegee.

3. MIXING

The temperature of the (A) and (B) portions should be between 70° and 80°F (20°-25°C). Mix them separately to ensure a uniform consistency. For a 3 gallon kit: add (Side-B) into (Side-A) in a 3.5 gallon bucket. Mix contents thoroughly until all components are completely incorporated and no streaking is observed. Thinning is not recommended. The portions of each side is accurately measured to ensure optimum product performance. Pouring from one container to the other (boxing) during mixing is very helpful in ensuring complete mixing. Mix for 2 minutes.

4. ROLL ON

After mixing all contents as instructed, immediately pour out into a ribbon on the surface. Squeegee the material out evenly and check for desired film thickness by using a wet-film thickness gauge. Back-rolling and then cross rolling is critical. Allow to dry minimum of 12 hours before recoat.

CLEAN-UP

Clean-up mixing station, tools and application equipment immediately after completion. Use suitable solvent as specified by Crown Polymers’ Technical Services Team or if permissible by law, xylene, as a general over-the-counter solvent. Observe all fire hazards, legal, and health and safety precautions when handling or storing solvents, particularly in confined spaces. Make sure the working area is well ventilated at all times during application and curing times.

DISPOSAL

Dispose all excess materials, packaging, and other waste in accordance with federal, state, and local regulations.

MAINTENANCE

Occasionally inspect the installed floor by spot cleaning and spot repairing any damaged or cracked areas. To prolong the life of the flooring system, a daily cleaning maintenance program is highly recommended to ensure the floor is safe for its intended purpose.

TECHNICAL SUPPORT

For any application questions, please call our Crown Polymers Technical Team. PLEASE SEE SAFETY DATA SHEET (SDS) FOR SAFETY AND PRECAUTIONS. USE PRODUCT AS DIRECTED. KEEP OUT OF THE REACH OF CHILDREN.

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.

