301 CrownShield™ Epoxy Thru-Product

Technical Data Sheet (TDS)

PHYSICAL PROPERTIES

VOC	<5 g/L
SOLIDS CONTENT	100%
VOLUMETRIC MIX RATIO	2A:1B
COVERAGE RATE	Primer: 200 ft²/gal 8 Mils Build /Top Coat: 160 ft2 / gal 10 Mils
APPLICATION TEMP	50°- 90°F
POTLIFE 1 Gal mass @ 75°F	20 Mins
DRY TIME @ 75°F	5-12 Hours
RECOAT WINDOW	12-24 Hours
FULL CURE	7 Days
PACKAGING	1.5 Gal Kit 3 Gal Kit 15 Gal Kit

MECHANICAL PROPERTIES

TENSILE STRENGTH ASTM D2370	2,500 p.s.i
SHORE D HARDNESS ASTM D2240	67-72
ELONGATION ASTM D2370	20%
ADHESION TO CONCRETE ASTM D7234	>400 p.s.i

CHEMICAL RESISTANCE

Refer to CrownTech Chemical Resistance Guideline Technical Bulletin No. 9

PRODUCT DESCRIPTION

301 CrownShield™ Clear is a two-component general purpose epoxy primer, coating, and flooring mortar binder for broadcast and hand-troweled or power-troweled product. It is a low viscosity, low odor, 100% solids thermosetting epoxy. It's a general-purpose epoxy, an upgraded Crown Polymer product that can be added for superior chemical and abrasion-resistant topcoats and finish coats, such as 8320 CrownShield™ Epoxy or Aliphatic Polyester Polyurethane or Polyaspartic top coats for industrial kitchens, commercial laboratories, and wine and spirit processing facilities subjected to heavy foot traffic, forklift traffic and chemical exposure. It can be applied directly over Crown Polymers 8303 CrownShield™ MVB (moisture mitigation primer). It is VOC Compliant in all states and provinces in North America

TYPICAL USES

- Aircraft Hangars & Maintenance Floors
- Automotive Show Room and Repair Areas
- Commercial Bakeries and Kitchens
- Hospital and Health Care Facility Floors
- Laboratories and Research Floors
- Manufacturing and Warehouse Floors
- School & Universities
- Pharmaceutical Floors

BENEFITS

- Complies with USDA, FDA, Food Safety Modernization Act.
- Slip Resistance (ADA)
- LEED® requirements.
- Low VOC and EPA Compliant, and low odor during installation. Cures to an inert finish.
- Strong and Tough Floor
- Strong Chemical and Abrasion Resistance
- Designed for new floors and for resurfacing old floors

COLORS

Clear Gloss

LIMITATIONS

- When adding Pigment packs color may vary from batch to batch, box all batches together prior
- Higher ambient, surface and product temps will shorten working time
- May amber under UV exposure
- Will not bridge cracking
- Do not thin

SHELF LIFE

1 Year from Date of Manufacture provided unopened

STORAGE

Store in a dry environment at room temperature and out of direct sunlight.

DISCLAIMER

All technical bulletins, installation guidelines, guidelines, recommendations, statements, specifications, 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 assume 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 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 represnt all environments. Not responsible for typograhical 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 protion 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 expressed or implied. In addition, no warranty or guarantee pertaining to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by applicator will be issued. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of substrate or structural defects are also excluded from limited warranty.

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Application Guide

APPLICATION EQUIPMENT

Protective Clothing
Jiffy Mixing Paddle
Slow Speed Drill
18”x 3/8” Nap Roller Cover
8-12 Mil Notched Squeegee
15-20 Mil Notched Squeegee
4” Chip Brush
Spike Shoes

SURFACE DIAGNOSTICS

Concrete must be structurally sound and free of all contaminants and bond breakers. Test concrete compressive strength using a Schmidt or Rebound Hammer to ensure substrate has compressive strength of 3500 psi or higher.
Perform a PH test using concrete PH test strips or meter to ensure substrate PH is between 9-12.
Perform Moisture Test using either Calcium Chloride per ASTM F1869 or In-Situ Relative Humidity Probe per ASTM F2170 to ensure substrate has Moisture Vapor Emission Rate of 3 lbs or less and Relative Humidity of 80% or less. See CrownTech Bulletin 6: Moisture Mitigation Negative Side Moisture Barrier

SURFACE PREPARATION

Use Mohs scratch test to determine concrete hardness for proper diamond bond selection. Concrete should be mechanically profiled and prepared to produce a Concrete Surface Profile (CSP) level between #2 & #4 per ICRI Guideline no. 310.2R. See CrownTech Bulletin 1: Concrete Surface Preparation

SURFACE REPAIR

All depressions, divots and cracks should be profiled and free of dust and contaminants. Repair cracks to reduce the ability to see the defect through the coating.

TEMPERATURE EVALUATION

Ambient and substrate temps should be above 50°F and a minimum of 5°F above Dew Point.
Product temps should be between 70-80°F.
Relative Humidity should not exceed 80%. See CrownTech Bulletin 7: Temperature & Relative Humidity

REVIEW SAFETY DATA SHEETS FOR PRECAUTIONS

MIXING

1. Pre-Mix B-Component in its respective container using Jiffy mixer and drill at slow speeds for 30 seconds to ensure components are fully suspended.
2. Pre-Mix A-Component in its respective container using clean Jiffy mixer and drill at slow speeds for 30 seconds or until thoroughly homogeneous.
3. Transfer A-component and B-component at a mix rate of 2A:1B by volume into a clean 5-gal bucket and mix for 2-3 minutes being sure to scrape sides of the bucket with a stir stick ensuring both components are thoroughly blended

COVERAGE RATE

Primer: 200 Ft² / Gal @ 8 mils
Build/Topcoat: 160 ft²/ Gal @ 10 mils

WORKING TIME

15-25 Minutes @ 75°F

Warmer ambient, product and surface temperatures and high humidity will shorten potlife and working time.

APPLICATION STEPS

1. Cut-in edges using a 4” chip brush. Do not allow wet edges to stand more than 10 minutes ahead of application of main body of floor.

Epoxy sets faster in mass, product should not remain in bucket

2. Pour a band of mixed material across the surface roughly 4-6” wide. Use 8-12 or 15-20 mil notched squeegee to gauge material across surface depending on desired application
3. Back roll the surface with 18” x 3/8” nap roller by walking into the wet material wearing spike shoes and roll the surface wall to wall with overlap perpendicular to your first pass

✓ Allow coating to dry.
Light Foot Traffic – 24 Hours

SLIP RESISTANCE

Skid-Resistance – Field (in situ) Wet Dynamic Coefficient of Friction (DCOF), ANSI A326.3. See Crown Polymers Technical Bulletin: 4 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.

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: 8 Care and Maintenance.

TECHNICAL SUPPORT

For questions, contact a Crown Polymers Representative. Additional Support Documents are available from Crown Polymers, including brochures, application guidelines, videos and more. Visit Crownpolymers.com or contact Crown for additional resources