8100 CrownCote™ HP High Performance Polyurethane Topcoat

TECHNICAL DATA SHEET Product Number: 8100 Clear

High Solids Chemical Resistant Aliphatic Polyurethane Sealer Available

With Optional Aluminum Oxide 320 Mesh Aggregate for Enhanced Abrasion Resistance

DESCRIPTION

8100 CrownCote™ HP is a high solids, two-component, abrasion, chemical, and stain-resistant aliphatic polyurethane finish coat. It is available in clear gloss. It cures to an inert, tough, impact, abrasion, and chemical resistant finish coat. It is resistant to Skydrol, betadine, and conventional hot-tire staining. Excellent adhesion to Crown Polymers epoxy system. It requires a primer, 8105 CrownSeal Polyurethane Hybrid Polyurethane-Acrylic Primer, and Concrete Sealer when it is applied to properly prepared concrete and cementitious overlays. It is used as an upgraded finish coat on Crown Polymers products and systems used in aircraft hangars, industrial kitchens, automotive showrooms and shop floors, commercial laboratories and research facilities, hospital and health care, wine and spirit processing, and other facilities subject to heavy foot traffic, forklift traffic and chemical attack. It is VOC Compliant in all states and provinces in North America.

TYPICAL USE

- Aircraft Hangar and Maintenance Floors
- Automotive Show Room and Repair Floors
- Commercial Bakery and Kitchen Floors
- Hospital and Health Care Facility Floors
- Laboratory and Research Floors
- Manufacturing and Warehouse Floors
- Pharmaceutical Floors
- School and University Floors

BENEFITS

- Complies with USDA, FDA, Food Safety Modernization Act. See Crown Polymers Technical Bulletin: 3 Food and Beverage Compliance.
- Slip Resistance (ADA) See Crown Polymers Technical Bulletin: 4 Coefficient of Friction.
- LEED® and Green Seal® requirements. See Crown Polymers Technical Bulletin: 5 LEED and Green
- Seal Information.
- High Solids, Low VOC and EPA Compliant, and low odor during installation. Cures to an inert finish. See Crown Polymers Technical Bulletin: 2 VOC Compliance.
- Strong and Tough Floor.
- Excellent Chemical and Abrasion Resistance
- 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).
- Scratches in certain colors may appear white, such as blue pigmented products.
- Do not apply product below 30% Relative Humidity
- Higher temperatures and high humidity will result in shortened working times and faster drying time.
- Do not use as a primer.
- Do not thin with solvent.

COLORS

Clear Gloss

COVERAGE RATE

- Direct to Concrete requires a Primer 8105 CrownSeal Polyurethane Acrylic at 500 to 600 sq. ft. (46.5 to 55.7 sq. m.) per gallon WFT 3.2 TO 2.75 mils (0.08 to 0.07 mm)
- 8100 CrownCote™ HP Clear over Epoxies (without a primer): 500 to 600 sq. ft. (46.5 to 55.7 sq. m.) WFT 3.2 to 2.75 mils (0.08 to 0.07 mm)
- Optional Aluminum Oxide Additives:
  - #220 up to ½ lb./Gal.
  - #320 up to 3 lbs./Gal.

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 the earth or Granular Fill Under Concrete Slabs, Class A 15 mils (0.38 mm)

Existing Concrete:

- If field tests or laboratory analysis reveals inferior concrete flooring slabs containing contaminants from previously applied unreacted silicate materials that will interfere with the bond, use 8201 CrownPrime WB Clear. See Crown Polymers Technical Bulletin: 20 Selecting a Primer
- Contaminants include, but are not limited to organic, hydrocarbon materials, calcium chlorides, and aluminum stearates.
- Concrete flooring slab 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: 1 Concrete Surface Preparation.

Properties at 77°F (25°C) Unless Otherwise Stated	
VOC (Volatile Organic Compounds) ASTM D3960	<50 gr./lt.
Solids, Weight %	98%
Viscosity, Mixed Clear	400 cps
Mix Ratio, by Volume	3:1
Pot Life,1 gallon (3.79 liters) Mass, Pot Life is Reduced by Increases in Mass & Temperature	45 Minutes, 50% RH
Minimum Application Surface Temperature	50°F (10°C)
Minimum Application Relative Humidity	30%
Dry to Touch 50°F to 90°F (10°C to 32°C)	4 to 10 Hours
Recoat Time 50°F to 90°F (10°C to 32°C)	12 to 24 Hours
Light Traffic 50°F to 90°F (10°C to 32°C)	24 Hours Minimum
Full Cure 50°F to 90°F (10°C to 32°C)	7 days
Shelf Life (shipped and stored) at 40°F to 100°F (4.4°C to 38°C)	1 Year
Packaging 1 and 4 gal kit (5.7 and 15.1 lts. kit)	

Mechanical Properties at 77˚F (25˚C) Unless Otherwise Stated	
Surface Preparation ICRI Guideline No. 310.2R (CSP 2 to CSP 4), Depending on System being Installed and Concrete Condition.	
Gloss Index, 60 Degrees Clear Gloss, ASTM D523	**80 - 90**
Hardness, Konig (5 mils), ASTM D4366	**150**
Tensile Strength, ASTM D2370	**4500 psi**
Tensile Elongation, ASTM D2370	**5%**
Abrasion Resistance, ASTM D4060, CS17 Wheel 1000 cycles	**30 mg loss**
Impact Resistance, ASTM D2794	**160 in/lb**
***If moisture or relative humidity exceeds the test limits consult a Crown Polymers representative and refer to Crown Polymers Technical Bulletin 6 Moisture Mitigation Negative Side Moisture Barrier.**	
Note: Although testing is critical, it is not guaranteed against future Problems. This is especially true if there is not a positive side vapor barrier installed per ACI 302.2R and ASTM F1754. Concrete must be sound and durable per ACI 201.2R and be free of bond breaking properties and/or concrete contamination from oil, chemical spills, densifiers, excessive salts and other bond breakers.	

CHEMICAL RESISTANCE DATA

See Crown Polymers Technical Bulletin: 9 Chemical Resistance Guidelines and Chart.

CHECK CONCRETE MOISTURE

The 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: 6 Moisture Mitigation Negative Side Moisture Barrier.

CHECK TEMPERATURE & HUMIDITY

Floor and material temperature must be at or above the published Technical Data Sheet. Dew Point must be 5˚F (3˚C) or more below the surface temperature. Do not apply if humidity is at or above 95%. See Crown Polymers Technical Bulletin: 7 Temperature and Relative Humidity Limits.

SURFACE PREPARATION

Surface preparation following: 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: 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, 1/4 inch nap non-shedding phenolic core roller.

MIXING

For ease of mixing and placement, the temperature of the "A" and "B" components should be between 70˚F to 80˚F (20˚C to 26˚C). Pre-mix the "A" and "B" components to ensure all raw material and pigments are dispersed uniformly. See Crown Polymers Technical Bulletin: 10 Mixing Guidelines.

APPLICATION

After mixing all contents as instructed, pour into a paint tray to dip and roll. Do not pour out all contents onto the floor to squeegee and back-roll. This will cause roller lines and shorten work time considerably. Place all steps per Crown Polymer Installation Guidelines.

SKID-RESISTANCE

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

SHIPPING and STORAGE

Ship and store material between 40°F to 90°F (4°C to 32°C). Store in a dry environment and out of direct sunlight.

SHELF LIFE

Shelf life is 1 year from the date of manufacturer, provide the containers are unopened.

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 cement 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

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 merchant- ability 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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