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CrownSeal™ WB

TECHNICAL DATA SHEET **Product Number: 8112**

Waterborne Polyurethane Clear, Satin and Matte Finish Coat

DESCRIPTION

CrownSeal No. 8112 is a two-component, low order, abrasion and chemical resistant, UV stable, waterborne aliphatic polyurethane finish coat. It is available in clear gloss, satin, matte and it can be pigmented with Crown Polyurethane PigmentPacks™. It is VOC Compliant in all states and provinces in North America. It cures to an inert, tough, impact, abrasion and chemical resistant finish coat. Excellent adhesion to concrete, cementitious mortars and epoxies. 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 subjected to heavy foot traffic, fork lift traffic and chemical attack.

TYPICAL USES

- Aircraft Hangar and Maintenance Floors
- Automotive Show Room and Repair Floors
- Commercial Bakery and Kitchen Floors
- Decorative Cementitious and Polymer Overlays
- Hospital and Health Care Facility Floors
- Laboratory and Research Floors
- Manufacturing and Warehouse 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 in all states and provinces in North America. Cures to an inert finish. See **Crown Polymers Technical Bulletin: No. 2 VOC Compliance.**
- UV Stable
- 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). Do not apply when Relative Humidity exceeds 85%. **See Crown Polymers Technical Bulletin: No. 7 Temperature and Relative Humidity Limits**
- No. 8112 CrownSeal WB Satin or Matte finish coat will not appear “satin” unless it is applied over CrownSeal WB Clear Gloss finish coat.
- Higher temperatures will result in shortened working time and drying time.
- Requires primer when applied directly to concrete and cementitious overlayments. **See Crown Polymers Technical Bulletin: No. 20 Selecting a Primer**

COLORS

Available in standard colors by adding CrownPigment WB (water based) Polyurethane PigmentPacks Series No. 6100 available in 15 standard colors. See **Crown Polymers Standard Color Guide Acrylics, Epoxies, Polyaspartics, Polyurethanes (PigmentPack).**

COVERAGE RATE PER GALLON

- Clear Gloss and Pigmented Finish Coat: 300 to 350 sq. ft. (27.9 to 32.5 sq. m.) WFT 4.6 to 5.3 mils (0.12 to 0.13 mm)
- Satin and Matte Finish Coat: 400 to 450 sq. ft. (37.2 to 41.8 sq. m.) WFT 4 to 3.6 mils (0.10 to 0.9 mm)

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 Crown Polymers and the installation contractor.
- If the concrete substrate deteriorates sufficiently, it will no longer support the bond of the remediation flooring 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 requirements. Dew point must be 5°F (3°F) 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: Variable low speed drill (450 rpm) with Jiffy® type impeller mixing paddle, disposable 3" brush for cutting in, 3/8 inch nap non-shedding phenolic core roller and rubber squeegee for spreading CrownSeal CRU No. 8110. Pour, squeegee and back-roll suggested, because Dip-n-Roll can be challenging for inexperienced installers resulting in unattractive lap lines.

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 (20°C to 26°C). Pre-mix the "A" and "B" component to ensure all raw material and pigments are dispersed uniformly. See **Crown Polymers Technical Bulleting: 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 lift in ribbons and squeegee the material out evenly. Back-roll and cross rolling of material. Check for desired wet film thickness with a WFT Gauge. If broadcasting aggregate, such as, 60 mesh or 90 mesh, broadcast a sprinkle (not full broadcast) into the wet material. 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: No. 12 Wet Dynamic Coefficient of Friction.**

Physical Properties at 77°F (25°C) 7 Day Cure (Unless stated otherwise)	
VOC (Volatile Organic Compounds), (VOC Calculated Per ASTM D3960)	<100 gr./lt.
Viscosity, Mixed	400 cps
Solids Content, by Volume (Clear Gloss and Satin)	51.0%
Solids Content, by Volume (Matte Pigmented)	54.0%
Mix Density, Mixed	9.2 lb./gal
Pot Life,1 gallon (3.79 liters) Mass, Pot Life is Reduced by Increases in Mass & Temperature	45 Minutes
Mix Ratio, by Volume	2:1
Minimum Application Surface Temperature	500F
Dry to Touch 50°F to 90°F (10°C to 32°C)	5 to 10 Hours
Recoat Time 50°F to 90°F (10°C to 32°C)	10 to 16 Hours
Light Traffic 50°F to 90°F (10°C to 32°C)	24 Hour Minimum
Full Cure 50°F to 90°F (10°C to 32°C)	7 to 14 Days
Shelf Life (shipped and stored) at 40°F to 100°F (4.4°C to 38°C)	1 Years
Packaging 1.5 gal, 3 gal, 15 gal. (5.7 lt, 11.4 lt., 56.8 lt.)	

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.	
Gloss Index, 60 Degrees Clear Gloss, ASTM D523	90 - 95
Gloss Index, 60 Degrees Clear Stain, ASTM D523	40 - 70
Gloss Index, 60 Degrees Matte, ASTM D523	10 - 20
Gloss Index, 60 Degrees Pigmented, ASTN D523	80 - 90
Adhesion, ASTM D7234, Concrete Failure	>400 psi
Tensile Strength, ASTM D882	7,500 psi
Tensile Elongation, ASTM D882	10%
Pencil Hardness, ASTM D3363	2H
Abrasion Resistance, ASTM D4060 **1,000 cycles, Wheel No. CS17, 1000 gr. Load**	0.03 gr.
Flexibility, Bend Mandrel Coating Test, ASTM D522	Pass 1/8 Inch
Flame Test, ASTM E648, Bonded to Concrete	Class 1
Flammability, ASTM D635, Bonded to Concrete	Self-Extinguishing
Microbial (fungi) Resistance, ASTM G21 (Without the Anti-Microbial Agent)	Pass #1
Wet Dynamic Coefficient of Friction, ASNI 326.3 **Depends on texture of system selected, ranging from smooth or aggressive.** **Measured with BOT 3000E equipment.**	>0.45 (inclines) >0.42 (level)
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: **Crown Polymers Technical Bulletin: No. 6 Moisture Mitigation Negative Side Moisture Barrier**	

Note: Although testing is critical, it is not a guarantee against future problems. This is especially true if there is not a positive side vapor barrier or it is not functioning properly and/or concrete has contamination from oils, chemical spills, densifiers, excessive salts or other bond breakers.

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: No. 8 Care and Maintenance.**

TECHNICAL SUPPORT

For questions, contact a Crown Polymers Representative.

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