

CrownSeal™ Acrylic Polyurethane Primer/Sealer

TECHNICAL DATA SHEET Product Number: 8105

Acrylic Polyurethane Primer and Concrete and Masonry Sealer

DESCRIPTION

CrownSeal Acrylic Polyurethane Primer/Sealer No. 8105 is a low viscosity, two-component acrylic polyurethane designed as a primer for CrownSeal CRU No. 8110 and as a concrete sealer. It is a film forming sealer that leaves the surface with a wet look. It is a non-yellowing UV stable sealer that is available in clear gloss and clear satin. It is VOC Compliant in all states and provinces in North America. It cures to an inert, tough, concrete sealer. It's recoat window, different than all other polyurethanes, is limitless, just make sure the surface is clean and free of contaminates. It is ideal for use as an irregular surface sealer, such as, cementitious knock-downs, where an acrylic sealer is unacceptable. For added durability, place a second sealer coat. Do not apply at less than 300 sq. ft. (27.9 sq. m.). (Not intended for use as an epoxy coating or flooring overlay primer.)

TYPICAL USES

- Primer for polyurethanes, such as, CrownSeal CRU No. 8110
- Interior and exterior concrete, cementitious overlayment and sealer
- Ideal for textured concrete, cementitious overlayments and masonry where recoating does not require abrasive surface preparation.
- Unlimited recoat window

BENEFITS

- Excellent adhesion to concrete unlike other polyurethanes
- Concrete adhesion promoter/primer for polyurethanes, such as, CrownSeal CRU No. 8110
- 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**
- Longer lasting gloss retention, more durable and tougher than acrylic floor sealers
- As a sealer it is ideal for textured concrete and cementitious overlayments, because it's recoat window is limitless

LIMITATIONS

- Polyurethane primer only, not for other coating and flooring chemistries. Example, not for epoxy.
- 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

- CrownSeal Acrylic Polyurethane Clear Satin finish coat must be applied over CrownSeal Acrylic Polyurethane Clear Gloss.
- Higher temperatures will result in shortened working time and drying time. See **Crown Polymers Technical Bulletin: No. 20 Selecting a Primer**

COLORS

- Clear Gloss and Clear Satin only.

COVERAGE RATE PER GALLON

- Clear Gloss 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)
- Clear Satin 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:

- Contaminants include, but are not limited to organic hydrocarbon materials, calcium chlorides 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 requirements. Dew point must be 5°F (3°C) 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. 8105. 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 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 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 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.**

Physical Properties at 77°F (25°C)	
VOC (Volatile Organic Compounds), (VOC Calculated Per ASTM D3960)	<100 gr./lt.
Viscosity, Mixed	250 cps
Solids Content, by weight	38.5%
Mix Density, Mixed	9.2 lbs./gal
Pot Life, 1 gallon (3.79 liters) Mass, Pot Life is Reduced by Increases in Mass and Temperature	45 Minutes
Mix Ratio, by Volume	2:1
Minimum Application Surface Temperature	50°F
Dry to Touch 50°F to 90°F (10°C to 32°F)	2 to 6 Hours
Recoat Time 50°F to 90°F (10°C to 32°F)	6 to 12 Hours
Light Traffic 50°F to 90°F (10°C to 32°F)	24 Hour Minimum
Full Cure 50°F to 90°F (10°C to 32°F)	4 to 7 Days
Shelf Life (shipped and stored) at 40°F to 100°F (4.4°C to 38°C)	1 Year
Packaging 1.5 gal, 3 gal, 15 gal. (5.7 lt., 11.4 lt., 56.8 lt.)	

Mechanical Properties at 79°F (26°C) 7 Day Cure (Unless stated otherwise)	
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
Adhesion, ASTM D7234, Concrete Failure	>400 psi
Tensile Strength, ASTM D882	5,000 psi
Tensile Elongation, ASTM D882	10%
Pencil Hardness, ASTM D3363	3H
Abrasion Resistance, ASTM D4060 1,000 cycles, Wheel No. CS17, 1000 gr. Load	0.05 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: 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 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 clean-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.

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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