
PRO-KRETE SLQ – 1/4” (Nominal thickness) CEMENTITIOUS URETHANE, Decorative QUARTZ BROADCAST SYSTEM, WITH EPOXY GROUT COAT AND HIGH PERFORMANCE URETHANE TOP COAT.

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section includes the following:
 - 1. Resinous flooring system as shown on the drawings and in schedules.
- B. Related sections include the following:
 - 1. Cast-in-Place Concrete, section 03 30 00
 - 2. Concrete Curing, section 03 39 00

1.3 SYSTEM DESCRIPTION

- A. The work shall consist of preparation of the substrate, the furnishing and application of a cementitious urethane based self-leveling seamless flooring system with natural quartz aggregate broadcast, Epoxy Grout Coat and Urethane Solid color topcoat.
- B. The system shall have the color and texture as specified by the Owner with a nominal thickness of 1/4” inch. It shall be applied to the prepared area(s) as defined in the plans strictly in accordance with the Manufacturer's recommendations.
- C. Cove base (if required) to be applied where noted on plans and per manufacturers standard details unless otherwise noted

1.4 SUBMITTALS

- A. Product Data: Latest edition of Manufacturer's literature including performance data and installation procedures.
- B. Manufacturer's Material Safety Data Sheet (MSDS) for each product being used.
- C. Samples: A 6-inch square sample of the proposed system. Color, texture, and thickness shall be representative of overall appearance of finished system.
- D. LEED Submittals:
 - 1. Product data for Credit EQ 4.2: For flooring system, documentation including VOC content and chemical composition.
 - 2. MR Credit 2.1, 2.2: Construction waste management, packaging can be recycled.
 - 3. MR Credit 6: For flooring system, documentation includes renewable content and chemical composition.

1.5 QUALITY ASSURANCE

- A. The Manufacturer shall have a minimum of 5 years' experience in the production, sales, and technical support of cementitious urethane, polyurethane industrial flooring and related materials.
- B. The Applicator shall have been approved by the flooring system manufacturer in all phases of surface preparation and application of the product specified.
- C. No requests for substitutions shall be considered that would change the generic type of the specified System.
- D. System shall follow requirements of United States Department of Agriculture (USDA),

Food, Drug Administration (FDA), and local Health Department.

- F. A pre-installation conference shall be held between Applicator, General Contractor and the Owner to review and clarification of this specification, application procedure, quality control, inspection and acceptance criteria and production schedule.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping

1. All components of the system shall be delivered to the site in the Manufacturer's packaging, clearly identified with the product type and batch number.

B. Storage and Protection

1. The Applicator shall be provided with a dry storage area for all components. The area shall be between 60 F and 85 F, dry, out of direct sunlight and in accordance with the Manufacturer's recommendations and relevant health and safety regulations.
2. Copies of Safety Data Sheets (SDS) for all components shall be kept on site for review by the Engineer or other personnel.

C. Waste Disposal

1. The Applicator shall be provided with adequate disposal facilities for non-hazardous waste generated during installation of the system.

1.7 PROJECT CONDITIONS

A. Site Requirements

1. Application may proceed while air, material and substrate temperatures are between 55 F and 85 F providing the substrate temperature is above the dew point. Outside of this range, the Manufacturer shall be consulted.
2. The relative humidity in the specific location of the application shall be less than 85 % and the surface temperature shall be at least 5 F above the dew point.
3. The Applicator shall ensure that adequate ventilation is available for the work area and relevant signage.
4. The Applicator shall be supplied with adequate lighting equal to the final lighting level during the preparation and installation of the system.

B. Conditions of new concrete to be coated with cementitious urethane material.

1. Concrete shall be moisture cured for a minimum of 3 days and have fully cured a minimum of 5 days in accordance with ACI-308 prior to the application of the coating system pending moisture tests.
2. Concrete shall have a flat rubbed finish, float or light steel trowel finish (a hard steel trowel finish is neither necessary nor desirable).
3. Concrete should reach a minimum 3500 PSI Compressive Strength before the installation of the Cementitious Urethane.
4. Sealers and curing agents should not be used.
5. Concrete surfaces on grade shall have been constructed with a vapor barrier to protect against the effects of vapor transmission and possible delamination of the system.

C. Safety Requirements

1. All open flames and spark producing equipment shall be removed or temporarily decommissioned prior to commencement of application.
2. "NO SMOKING" signs shall be posted at all entrances and exits to work area.
3. The Owner shall be responsible for the removal of foodstuffs from the work area.
4. Non-related personnel in the work area shall be kept to a minimum.

1.8 WARRANTY

- A. ProREZ LLC warrants that material shipped to buyers at the time of shipment substantially free from material defects and will perform substantially to ProREZ LLC. published literature if used in accordance with the latest prescribed procedures and prior to the expiration date.
- B. ProREZ LLC. liability with respect to this warranty is strictly limited to the value of the material purchase.
- C. ProREZ LLC has no responsibility for the application and processing of products and is under no circumstances liable to any third party whatsoever.

PART 2 – PRODUCTS

2.1 FLOORING

- A. ProREZ LLC, ProKRETE SLB (self- leveling natural broadcast quartz) seamless flooring system.
 - 1. System Materials:
 - a. Topping: ProREZ LLC., ProKRETE SL resin, hardener and SL aggregate.
 - b. The aggregate shall be ProQUARTZ decorative 40 mesh.
 - c. Broadcast Coats: ProREZ LLC, ProPOXY S Epoxy resin and hardener.
 - d. Additional decorative broadcast ProQUARTZ decorative 40 mesh.
 - d. Grout Coats: ProREZ LLC, ProPOXY S Epoxy resin and hardener.
 - d. Top Coat: ProREZ LLC, ProTHANE Polyurethane resin and hardener
 - 4. Patch Materials
 - a. Shallow Fill and Patching: Use ProREZ LLC ProKRETE SL (up to ¼ inch).
 - b. Deep Fill and Sloping Material (over ¼ inch): Use ProREZ LLC, ProKRETE CM

2.2 MANUFACTURER

- A. ProREZ LLC 801 Pressley Rd. Ste. 101 Charlotte, NC 28217. Contact James Eller at 864-770-3277 or James@ProREZSoutheast.com for mor information.
- B. Manufacturer of Approved System shall be single source and made in the USA.

2.3 PRODUCT REQUIREMENTS

A. Topping	ProKRETE SL
1. Percent Reactive	100 %
2. VOC	0 g/L
3. Compressive Strength, ASTM C 579	9,500 psi
5. Tensile Strength, ASTM C307	1'500 psi
6. Flexural Strength, ASTM C580	2,200 psi
7. Hardness, Shore D ASTM2240	80
B. Grout Coat:	ProPOXY S.
1. Percent Solids	100 %
2. VOC	0 g/L
3. Tensile Strength, ASTM D 638	5'780 psi
4. Abrasion Resistance, ASTM D 4060 C 17 Wheel, 1,000 gm load, 1,000 cycles	30mg weight loss
5. Flammability, ASTM D 684, NFPA 101, Type 1	Class 1
6. Hardness, Shore D ASTM 2240	70-80
7. Potlife @ 70 F	20-40 minutes

C. Top Coat :	ProTHANE S
1. Tensile Strength ASTM D-2370	6,500 psi
2. Adhesion ASTM D-4541	400 psi, concrete failure (applied over Epoxy)
3. Impact Resistance ASTM D-2794	>160 in./lb
4. Abrasion Resistance CS17 Wheel 1000 GM Load 1000 Cycles ASTM D-4060	10-15 mg loss

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas and conditions, with Applicator present, for compliance with requirements for maximum moisture content, installation tolerances and other conditions affecting flooring performance.
 - 1. Verify that substrates and conditions are satisfactory for flooring installation and comply with requirements specified.

3.2 PREPARATION

A. General

- 1. New and existing concrete surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae growth, laitance, friable matter, dirt, and bituminous products.
- 2. Moisture Testing: Perform anhydrous calcium chloride test ASTM F 1869-98.
 - a. Perform three tests for the first 1,000 sf and then one test per 1,000 sf after that.
- 3. Mechanical surface preparation
 - a. Shot blast all surfaces to receive flooring system with a mobile steel shot, dust recycling machine (Blastrac or equal). All surface and embedded accumulations of paint, toppings hardened concrete layers, laitance, power trowel finishes, and other similar surface characteristics shall be completely removed leaving a bare concrete surface having a minimum profile of CSP 4-5 as described by the International Concrete Repair Institute.
 - b. Floor areas inaccessible to the mobile blast machines shall be mechanically abraded to the same degree of cleanliness, soundness and profile using diamond grinders, needle guns, bush hammers, or other suitable equipment.
 - c. Where the perimeter of the substrate to be coated is not adjacent to a wall or curb, a minimum 1/4 inch key cut shall be made to properly seat the system, providing a smooth transition between areas. The detail cut shall also apply to drain perimeters and expansion joint edges.
 - d. Cracks and joints (non-moving) greater than 1/8 inch wide are to be chiseled or chipped-out and repaired per manufacturer's recommendations.
- 4. At spalled or worn areas, mechanically remove loose or delaminated concrete to a sound concrete and patch per manufactures recommendations.

3.3 APPLICATION

A. General

- 1. The system shall be applied in four distinct steps as listed below:
 - a. Substrate preparation
 - b. Resurfacer application with natural aggregate broadcast.
 - c. Solid Color Grout-Coat application
 - d. Solid/Clear Top Coat application

2. Immediately prior to the application of any component of the system, the surface shall be dry and any remaining dust or loose particles shall be removed using a vacuum or clean, dry, oil-free compressed air.
3. The handling, mixing and addition of components shall be performed in a safe manner to achieve the desired results in accordance with the Manufacturer's recommendations.
4. The system shall follow the contour of the substrate unless pitching or other leveling work has been specified by the Architect.
5. A neat finish with well-defined boundaries and straight edges shall be provided by the Applicator.

B. Resurfacer

1. The resurfacer shall be applied as a self-leveling system as specified by the Architect. The resurfacer shall be applied in one lift with a nominal thickness of 1/16 inch.
2. The topping shall be comprised of three components, a resin, hardener and filler as supplied by the Manufacturer.
3. The hardener shall be added to the resin and thoroughly dispersed by suitably approved mechanical means. SL Aggregate shall then be added to the catalyzed mixture and mixed in a manner to achieve a homogenous blend.
4. The topping shall be applied over horizontal surfaces using 3/8" inch "v" notched squeegee, trowels or other systems approved by the Manufacturer.
5. Immediately upon placing, the topping shall be degassed with a loop roller.
6. Natural Quartz aggregate shall be broadcast to excess into the wet material at the rate of .75 lbs/sf.
7. Allow material to fully cure. Vacuum, sweep and/or blow to remove all loose aggregate.

D. Grout-Coat

1. The Grout-Coat shall be comprised of a Part A Resin and Part B Hardener and Color Pack, which is mixed and installed per the manufacturer's recommendations.
2. The Grout-Coat shall be squeegee applied and back rolled with a coverage rate of 100-110 sf/gal.

E. Topcoat

1. The topcoat shall be roller applied at the rate of 450-500 sf/gal to yield a dry film thickness of 4-5 mils.
2. The topcoat shall be comprised of a liquid resin and hardener that is mixed at the ratio of 1 parts resin to 2 part hardener per the manufacturer's instructions.
3. The finish floor will have a nominal thickness of 1/8" inch.

3.4 FIELD QUALITY CONTROL

A. Tests, Inspection

1. The following tests shall be conducted by the Applicator:
 - a. Temperature
 1. Air, substrate temperatures and, if applicable, dew point.
 - b. Coverage Rates
 1. Rates for all layers shall be monitored by checking quantity of material used against the area covered.

3.5 CLEANING AND PROTECTION

- A. Cure flooring material in compliance with manufacturer's directions, taking care to prevent their contamination during stages of application and prior to completion of the curing process.
- B. Remove masking. Perform detail cleaning at floor termination, to leave cleanable surface for subsequent work of other sections.

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