



Seamless Flooring Systems

TECHNICAL DATA SHEET

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The Cure for the Common Concrete™

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Epoxy Quartz™ Flooring

Epoxy and Quartz Flooring System (with Double Broadcast Base Epoxy and Top Coat)

Product Description: Epoxy Quartz™ Flooring is a decorative, high-build, durable aggregate-filled system using finely ground quartz. It provides a slip and impact resistant surface with exceptional strength and wear characteristics.

Typical Uses, Applications: Ideally suited for commercial, industrial, institutional and residential applications such as:

- Locker rooms & Showers
- Lobbies
- Detention facilities
- Fire Stations
- Laboratories
- Service Bays
- Animal Clinics & Veterinarian Clinics
- Commercial kitchens
- Garage floors
- Work shops
- Restrooms

Product Advantages:

- Aggressive non-skid feature
- Available with anti-microbial additive
- More cost effective and longer lasting than vinyl products
- Ability to install over concrete or wood substrates
- Seamless and sanitary floor covering
- A variety of aggregate colors may be blended to match any decor
- A variety of quartz colors may be used to create colorful borders, patterns, logos and designs
- Chemical resistant
- Highly durable
- Available with corrosion inhibitor additive
- Optional vapor barrier with Seamless Vapor Seal Primer™ can control vapor emissions in concrete up to 15 Lbs./1000 Ft²/24 hr

System Specification:

- 1 Coat - Seamless Premium Primer™ with efflorescence blockers
- 1 Coat (Optional) - Seamless Vapor Seal Primer™
- 2 Coats - Seamless Premium Quartz Base Coat™ with Seamless Premium Quartz broadcast to refusal (Available in slow-cure or fast-cure formula)
- 1 Coat - Seamless Premium Quartz Top Coat™ for fill coat (Available in slow-cure or fast-cure formula)
- 1 Coat (Optional*) - Seamless One-Coat Industrial Sealer™ (a polyaspartic polyurea sealer for heavy-duty chemical, mar and impact resistance and UV inhibitors (*NOTE: Mandatory on all outdoor installations))

Packaging:

- Primer: 5 Gallon Kit (1 x 5 Gal.) or 1 Gallon Kit (1 x 1 Gal.) with efflorescence blockers
- Optional Primer to control vapor emissions in excess of 4 Lbs./1000 Ft²/24 hr.: 1½ Gallon Unit (1 gallon part A to ½ gallon part B) or 15 Gallon Unit (10 gallons part A to 5 gallons part B)
- Base Coat-Regular or Fast Cure: 1½ Gallon Unit (1 gallon part A to ½ gallon part B) or 15 Gallon Unit (10 gallons part A to 5 gallons part B)
- Top Coat (Clear Polyurea for heavy-duty chemical, mar and impact resistance): 1 Gallon Unit (½ gallon part A to ½ gallon part B) or 10 Gallon Unit (5 gallons part A to 5 gallons part B)
- Top Coat-Regular or Fast Cure: 1½ Gallon Unit (1 gallon part A to ½ gallon part B) or 15 Gallon Unit (10 gallons part A to 5 gallons part B)
- Seamless HP Epoxy Quartz™: 27 standard color blend selections (may also custom-blend other colors) packaged in 50 lb. bags.

Storage: All containers should be stored at 50°F to 95°F and be kept tightly sealed and out of direct sunlight. DO NOT ALLOW TO FREEZE

Coverage:

- Primer:
 - Seamless Premium Primer™: 400-600 Ft²/Gal. and/or

- Seamless Vapor Seal Primer™: 100-200 Ft²/Gal.

1st Base Coat:

- Seamless Premium Quartz Base Coat™: 200 Ft²/Gal. at 16 mil; or
- Seamless Premium Quartz Base Coat Fast Cure™: 200 Ft²/Gal. at 16 mil
- Seamless HP Epoxy Quartz™: ½ lb/Ft²/broadcast

2nd Base Coat:

- Seamless Premium Quartz Base Coat™: 100 Ft²/Gal. at 16 mil; or
- Seamless Premium Quartz Base Coat Fast Cure™: 100 Ft²/Gal. at 16 mil
- Seamless HP Epoxy Quartz™: ½ lb/Ft²/broadcast

Top Coat:

- Seamless Premium Quartz Top Coat™: 100 Ft²/Gal. at 16 mil
- Seamless Premium Quartz Top Coat Fast Cure™: 100 Ft²/Gal. at 16 mil
- Seamless One-Coat Industrial Sealer™: (Optional indoors - mandatory outdoors) 100 Ft²/Gal. at 16 mil

water. A minimum of 30 days cure is required on all concrete. Relative humidity in the concrete floor slab should be below 80% (per ASTM F-2170).

Before starting flooring work, test existing concrete slab to test for efflorescence or high pH reading which means the floor is not neutral. The most common form of testing is the use of a wide-range pH paper or tape. Make sure the floors' pH reading ranges between 5-9 to ensure adhesion. The testing of concrete for alkalinity can show the amount of alkalinity only at the time the test is ran, and cannot be used to predict long-term conditions.

Calcium chloride tests should be conducted to determine if the concrete is sufficiently dry for an epoxy flooring installation. The calcium chloride tests should be conducted in accordance with the latest edition of ASTM F 1869, *Standard Test Method for Measuring Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride*. When running a calcium chloride test, it is important to remove any grease, oil, curing agents, etc. so accurate readings can be obtained.

Failing to adhere to these strict guidelines can result in product delamination, discoloration, blistering, or altogether failure of the coating system. Testing is the responsibility of the applicator. Seamless Flooring Systems LC bears no responsibility for failures due to any of the above conditions.

Concrete surfaces shall be bead blasted or diamond grinded to remove all surface contaminants and laitance. The concrete should be at least 2500 psi and have an ICRI concrete surface profile within 3-5. After initial preparation has occurred, inspect the concrete for imperfections and treat as necessary. Allow concrete to breathe for a minimum of 24 hours after preparation. Any voids need to be filled using a Seamless Premium Binder or Base Coat epoxy (100% solids epoxy) blended with our Seamless Binder Thickener to a paste-like consistency. Any high spots need to be ground smooth. For surface preparation recommendations, consult the Technical Services Department.

Cracks should be chased with a diamond crack chaser (approximately ¼" x ¼"), swept, vacuumed or blown clean. Fill cracks, expansion joints and control joints with a Seamless Premium Binder or Base Coat epoxy (100% solids epoxy) blended with our Seamless Binder Thickener to a paste-like consistency and packed tightly into expansion joints and cracks with a spatula. Follow this treatment by installing our Seamless Crack Suppression Membrane™. Primer is to be applied to the crack suppression membrane as well as the concrete surface.

| Cured Physical Properties | | |
|--|--------------------------------|----------------------------------|
| Property | Test Method | Results |
| Compressive Strength | ASTM C579 | 12,000 PSI |
| Tensile Strength | ASTM C307 | 2,500 PSI |
| Flexural Strength | ASTM C580 | 4,500 PSI |
| Flexural Modules of Elasticity | ASTM C580 | 2.0 X 10E6 PSI |
| Indentation | MIL D 3134F | No Indentation |
| Impact Resistance | ASTM D4226 | >160 in/lb |
| Shore Hardness | ASTM D2240 | 85 - 90 |
| Percent Elongation | ASTM D2370 | 6% |
| Water Absorption | ASTM C413 | 0.1% |
| Bond Strength | ACI Comm. #503. Pg. 1139-41 | >400 psi |
| Abrasion Resistance, CS 17 Wheel, 1000 gm load, 1000 cycles | ASTM D4060 | 90-100 milligrams max loss |
| Heat Resistance Limitation (continuous exposure) | | 140°F / 60°C |
| Coefficient of Friction | ASTM D2047 | 0.6 |
| Flammability | ASTM D635 | Self- extinguishing |
| Thermal Coefficient of Linear Expansion | ASTM C531 | 1.8 x 10-5in/ in/°C |

Inspection

Surface Preparation - Concrete

Concrete must be clean, dry and free of grease, paint, oil, dust, curing agents, or any foreign material that will prevent proper adhesion. The concrete should be porous and be able to absorb

Surface Preparation - Metal and Wood

Metal and wood surfaces must be clean, dry and free of any contaminants such as grease, paint, oil, dust, or any foreign material that will prevent proper adhesion.



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If rust is present on metal, use an abrasive metal wheel with an angle grinder to remove rust. Remove metal shavings and all dust from the surface before applying the primer. A corrosion inhibitor may be added to prevent rusting. Contact us if needed.

Wood joints should be filled using a Seamless Premium Binder or Base Coat epoxy (100% solids epoxy) blended with our Seamless Binder Thickener to a paste-like consistency and applied smooth with a 3-6 inch spatula. Any high spots need to be sanded smooth.

1. Primer Application

Select the Primer Application

If the vapor emission is less than 4 Lbs./1000 Ft²/24 hr select the Seamless Premium Primer™ for application. If vapor emission is greater than 4 Lbs./1000 Ft²/24 hr select the Seamless Vapor Seal Primer™. Refer to the applicable Technical Data Sheets and the Seamless Flooring Systems LC Installation and Technical Reference Manual for specific instructions.

Mixing

Premix Seamless Premium Primer™ for a minimum of 60 seconds with a slow speed, battery-powered drill with a jiffy-type mixing wand. Seamless Base Coat may optionally be used as a primer when blended with 10% Acetone and mixed at a ratio of 2:1 (Part A Resin to Part B Hardener, respectively). If adding Seamless Anti-Microbial Additive™, add 1 ounce anti-microbial additive per gallon and mix for a minimum of 90 seconds.

Application

After mixing, Pre-measure and pour into a paint tray. Measure 48 ounces for a 12" paint tray for use with a 9" roller or measure 1 gallon for a 20" paint tray for use with an 18" roller. Fully wet the roller pad and using a 3/8" nap roller pad apply to the concrete in overlapping strokes. Do not contact finished wall, railing, stone or other finished surfaces with the roller pad as staining will occur. Ensure a spread rate of between 300 to 600 Ft²/gallon.

Drying Time

You may apply our Seamless Flooring Systems product as

soon as the surface is dry to touch or in about 30 minutes to 1 hour (but not later than 10 hours). If re-coat time has been exceeded, lightly sand the surface and wipe with Acetone before next application. All times are based on average temperature of 70°F and 50% humidity. Cooler temperatures will increase drying time.

Limitations

- Do not apply at any temperature below 45°F or above 95°F or within 5°F of the dew point
- Concrete must be cured for a minimum of 30 days and have less than 4 Lbs. of moisture per thousand square feet
- For interior use only unless protected by our U.V. resistant coating, Seamless One-Coat Sealer™.
- Epoxy must be cured for a minimum of 24 hours before coming in contact with water
- Concrete should be a minimum of 2500 psi
- If concrete is in excess of 4 Lbs./Ft²/24 Hrs. then apply Seamless Vapor Seal Primer™ prior to the application of this Seamless Premium Primer™

Seamless One-Coat Industrial Sealer™ is recommended for commercial kitchens for thermal and chemical resistance and service or shop areas for abrasion resistance.

2. 1st Broadcast Base Coat Application: Once primer is completely cured, and prior to a 5 hour cure time, apply Seamless Premium Base Coat of your choice to the concrete floor. In a clean, dry container, pre-mix 2 parts Resin Part A by volume. Add 1 part Hardener Part B by volume to the pre-mixed Resin. Mix thoroughly for 90 to 120 seconds using a low-speed, battery-powered drill at 600 RPM. Transfer the mixture from the batch container to a transport container and mix for an additional 60 seconds. Lightly sprinkle Seamless HP Epoxy Quartz™ sparsely onto the surface for gauging. Pour entire contents onto floor immediately. Drain the batch and transfer containers into drain buckets to remove excess mixed epoxy. Using a flat squeegee, spread an approximate rate of 200 Ft²/Gal. Cut-in edges with a hand squeegee. Back roll with a 3/8" nap roller immediately after spreading.

Gently broadcast Seamless HP Quartz™ into wet base coat at the rate of ½ lb./Ft². Spiked shoes or equivalent should be worn by mechanic to walk on wet base coat when rolling and broadcasting. DO NOT step into broadcast quartz as this may leave holes in the cured product. **CAUTION:** *Concrete surfaces will be very slippery. Step carefully to avoid falling into wet epoxy.* Continue broadcasting quartz until all liquid is filled (full refusal) and there are no apparent wet spots.

Allow sufficient cure time so that material is cured hard enough to walk on without leaving an impression in the coating. Using a clean, stiff bristle push broom, recover loose, excess quartz. Clean (sifted), recovered quartz may be used in the 2nd broadcast application. Sand or screen any high areas until surface is smooth. Vacuum clean.

3. 2nd Broadcast Base Coat Application: Repeat procedure in step 2, except this time slightly more base coat epoxy will be consumed as the surface is now rough. Spread the Seamless Base Coat of choice at 100 Ft²/Gal. Pay particular attention to any thin or bare spots remaining from first broadcast. Fully wet these areas and broadcast quartz to fill. Broadcast quartz to full refusal of wet epoxy so there are no wet spots remaining on the surface.

Allow sufficient cure time so that material is cured hard enough to walk on without leaving an impression in the coating. Using a clean, stiff bristle push broom, recover loose, excess quartz. Clean (sifted), recovered quartz may be left at the location for attic stock in case future repairs are necessary. Lightly sand or screen any high areas until surface is smooth. Vacuum clean.

4. Top Coat Application: After the 2nd base coat is fully cured, using the top coat product of your choice, in a clean, dry container, pre-mix 2 parts Resin Part A by volume. Add 1 part Hardener Part B by volume to the pre-mixed Resin. Mix thoroughly for 90 to 120 seconds using a low-speed, battery-powered drill at 600 RPM. Transfer the mixture from the batch container to a transport container and mix for an additional 60 seconds. Pour entire contents onto floor immediately. Drain the batch and transfer containers into drain buckets to remove excess mixed epoxy. Using a 12" flat squeegee, spread an approximate rate of 140 to 200 Ft²/Gal. Cut-in edges with a hand squeegee. The amount of pressure used on the squeegee will determine the traction surface of this systems. Less pressure will result in a higher gloss with less traction. More pressure will result in more traction. Back roll with a ¼" nap mohair roller immediately after spreading to remove squeegee lines and ensure a flat, smooth surface. Do not allow puddles to form on the surface.

5. Optional Finish Coat: If using Seamless Premium Quartz Base Coat (or Fast Cure), and a final coating of the polyurea coating is desired, apply the Seamless One-Coat Industrial Sealer™ or Seamless Premium WB-CRU Sealer™ (Corrosion Resistant Urethane, water-based formula available in clear or satin finish) to enhance the finished surface. Apply using a ¼" nap mohair roller. You will be able to achieve a spread rate

of 350 Ft²/Gal. because of the smoother surface. Allow 24-36 hours cure time before opening floor to light foot traffic (36 hours minimum for machinery traffic).

Typical Properties

| | |
|--------------------------------|-------------------------|
| Color | Clear, Custom |
| Pencil Hardness | 2H |
| Impact, forward/reverse in-lbs | 40/40 |
| Gloss, 85°, % | 95 |
| MEK Double Rubs | 200 |
| Solids Content | 100% (Solvent-Free) |
| Application Method | Spray, Squeegee, Roller |
| Coverage | 1600 SF/Gal/Mil |
| Pot Life | 30 min. @ 75°F |
| Tack-Free Time | 8 hours @ 75°F |

Clean Up: Uncured material can be removed with a solvent such as Xylene or Acetone. Cured material can only be removed mechanically.

Maintenance: Sweep away dust and debris with a broom. Clean on a regular basis with a surfactant type mild detergent. Epoxy Quartz™ Flooring surfaces should never be waxed. Refer to the Seamless Flooring Systems "Care and Maintenance Guidelines" sheet for Epoxy Quartz™ Flooring for more information.

Re-Coating

Epoxy Quartz™ Flooring should be inspected every 2-3 years and re-coated as necessary. Surface should be clean and dry. Lightly sand the surface with a 60-100 grit sanding pad. Vacuum all dust and finish by wiping with Acetone. Apply a thin layer of our sealers: Seamless Premium CRU Sealer™, Seamless Premium WB-CRU Sealer™ or Seamless One-Coat Industrial Sealer™. Consult Technical Data Sheets for benefits and specifications or contact Seamless Flooring Systems. NOTE: CRU sealers are available in clear or satin finishes.

Please read material safety data sheets before using any products.

Disclaimer: All statements and recommendations are based on experience we believe to be reliable. The use or application of these products is beyond the control of the Seller or Manufacturer, neither Seller or Manufacturer make any warranty, expressed or implied, as to results or hazard from its use. The suitability, risk and liability whatsoever of a product for an intended use shall be solely up to the User. The Two Year Limited Material Warranty for Epoxy Quartz™ Flooring is available from Seamless Flooring Systems or from an Authorized Epoxy Quartz™ Flooring Dealer only and should be carefully read before consenting of any work to commence.

TO BE INSTALLED BY A CERTIFIED INSTALLER ONLY. CERTIFICATION MAY BE VERIFIED BY CONTACTING SEAMLESS FLOORING SYSTEMS LC.