

PSC 2000 StoneSet

PSC 2000 StoneSet is a two component, 100 % solids epoxy binder designed for interior applications of stone aggregate floors. Mix ratio of PSC 2000 is 2 to 1 and both components are precisely measured and packaged for on site mixing and use. PSC 2000 StoneSet may be mixed with aggregate like crushed stone, synthetic materials, quartz sand or aluminum oxide. It has excellent bond strength, bonding various aggregates together and to the substrate providing a floor with as vibrant colors and patterns which is limited only by the specific aggregate to be used. Stone aggregate floors are a perfect choice for vehicular showrooms, hotel lobbies, museums, recreation centers etc.

PSC 2000 StoneSet is approved by CFIA (Canadian Food Inspection Agency) for incidental contact in federally and provincially inspected meat and poultry plants.

Uses

- Interior or exterior applications of stone aggregate floors.
- Vehicular showrooms, recreation centers, lobbies, museums.
- Commercial, municipal and residential facilities.

Advantages

- Excellent bond strength.
- Excellent durability.
- Very good chemical resistance.
- Very lightly colored.
- Excellent workability.
- Low odor.
- Low viscosity.
- Well balanced flexibility.

PSC 2000 is designed to

- Waterproof new or existing interior or exterior horizontal concrete structures.
- Reduce maintenance costs associated with unprotected floors.
- Protect concrete substrate from various chemicals, like gasoline, brake fluids, antifreeze and solvents.
- Protect concrete from leakage and moisture intrusion.

How does PSC 2000 perform?

- It bonds the aggregate together and to the substrate becoming thus an integral part of the floor structure.
- It is liquid applied to form a seamless, protective barrier.
- It provides a durable, skid resistant surface.
- PSC 2000 StoneSet system is sustainable for the life of the floor.

Suggested system components

Primer

- PSC 2000 applied @ 6 to 7 mills (250 to 270 sq. ft. / USG).

Intercoat

- PSC 2000 mixed with aggregate according to the following table

Aggregate size	Mix with 1 Liter (1 QT) of PSC 2000	Mix with 4 Liters (1 USG) of PSC 2000
Less than 3/32" (2 mm)	18 – 22 lbs. (8 – 10 kg)	68 – 83 lbs. (30 –38 kg)
3/32" – 1/8" (2 – 3 mm)	22 – 29 lbs. (10 – 13 kg)	83 – 110 lbs. (38 – 49 kg)

1/8" – 3/16" (3 – 5 mm)	29 – 33 lbs. (13 – 15 kg)	110 –125 lbs. (49 – 57 kg)
3/16" – 5/16" (5 – 9 mm)	33 – 40 lbs. (15 – 18 kg)	125 – 151 lbs (57 – 68 kg)

Topcoat

- PSC 2000 StoneSet, PSC 2300 Industrial Epoxy or PSC 2301 ClearGuard for superior chemical resistance and compressive strength.
- PSC 2302 Flexible Epoxy or PSC 2304 Exterior Epoxy (UV resistant) .

Limitations

- Avoid applying PSC 2000 StoneSet (or any polymer coating) in direct sunlight during times of extreme heat. Schedule the application for early morning or late afternoon when ambient and substrate temperatures are low.
- PSC 2000 StoneSet is not intended for exterior (for exterior, topcoat with 2304), immersion or application where moisture can reach the underside of the coating.
- Do not apply if ambient or substrate temperature is below 15 C (60 F) or over 30 C (86 F).
- Do not thin. Addition of thinners will slow down the cure and reduce the qualities of this product. Critical re-coat times will also be affected.

General data

- Volume solids 100 %
- VOC 0 g/L
- Flash point Greater than 536 F (280 C)
- Specific weights Resin: 9.6 lbs./gallon (1.15 g/cm3)
Hardener: 8.1 lbs./gallon (0.97 g/cm3)
- Viscosity @ 27C° 900 CP
- Appearance High gloss, slightly amber
- Mix ratio Mix two volumes of resin (A), with one volume of hardener (B)
- Mixing method Low speed jiffy mixer
- Drying time At 20 C (68 F)
Tack free time 12 hours
Re-coat time 12 to 24 hours
Light foot traffic 12 to 14 hours
Full cure 2 days
- Coverage Depends on the type of aggregate and aggregate/
PSC 2000 mix
- Pot life 30 minutes at 20 C (68 F)
- Thinning Not recommended
- Shelf life 1 year in unopened containers
- Pull strength Greater than 300 psi. (depending on aggregate and substrate)

Coverage

Coverage depends on the type of aggregate and the application thickness of PSC 2000 StoneSet / aggregate mixture, and therefore cannot be predicted. When using PSC 2000 as a primer, coverage will vary according to surface texture and porosity. A rough estimate for priming purposes is 250 to 270 sq. ft. / USG depending on application thickness.

Chemical resistance data

Performance

	Concentration	Immersion	Spills	Fumes
Acids				
- Acetic	5 %	-	Yes	Yes
- Fatty acids	-	Yes	Yes	Yes
- Chromic	-	-	Yes	Yes
- Citric	-	Yes	Yes	Yes
- Hydrochloric	30 %	-	Yes	Yes
- Lactic	10 %	Yes	Yes	Yes
- Phosphoric	10 %	-	Yes	Yes
- Sulfuric	10 %	Yes	Yes	Yes

- Sulfuric	90 %	-	Yes	Yes
Alkalis				
- Ammonia	10 %	-	Yes	Yes
- Caustic Salts	-	Yes	Yes	Yes
- Detergents	Various	Yes	Yes	Yes
- Sodium Hydroxide	50 %	Yes	Yes	Yes
- Sodium Hypo Chloride	10 %	Yes	Yes	Yes
Solvents				
- Acetone, requires 7 days cure	-	-	Yes	Yes
- Gasoline	-	-	Yes	Yes
- Aliphatic Hydrocarbons	-	Yes	Yes	Yes
- Aromatic Hydrocarbons	-	Yes	Yes	Yes
- Ketones, requires a 7 day cure	-	-	Yes	Yes
- Carbon tetrachloride	-	-	Yes	Yes
- Xylene	-	Yes	Yes	Yes
Salts				
- Metal Salts, various	10 %	Yes	Yes	Yes

Chemical exposure at temperature range 16 C (60 F) to 27 C (80 F).

Intermediate	2 days
Maximum	7 days

Consult Polymer Science Corporation for compounds not listed above or for exposures in excess of those listed.

Maximum temperature limits for PSC 2000 StoneSet

Dry heat	110 C (230 F)
Spills	66 C (150 F)
Immersion	66 C (150 F)
Cold	-40 C (-40 F)

Above temperature limits are laboratory test results.

Test section

Apply mixed PSC 2000 StoneSet in an inconspicuous area measuring approx. 3 ft. by 3 ft. Follow the surface preparation and application instructions. Inspect for proper adhesion and appearance.

Preliminary floor inspection and surface preparation

Ensure that the substrate is structurally sound. The surface must be clean and dry and above 15 C (60 F) and less than 30 C (86 F) to assure successful application. Concrete must be at least 28 days old. Test for vapor drive according to ASTM D4263. Ensure that cracks will not telegraph to the surface. Repair all cracks by using PSC 2630 Crack Repair Kits.

If there is uncertainty as to whether or not a curing compound or any coating is present on the floor, the following tests can be performed.

- Pour a cup of water on three or four areas on the floor. If the water puddles out, then there probably is not any curing compounds or coatings on the floor and the preparation process may begin. If the water beads up like rain on a waxed car, then curing compounds or other coatings may be present. These must be removed either by chemical or mechanical means.
- Place a drop of muriatic acid on the floor. If the acid bubbles, a curing compound or any other coating is not present.

The concrete substrate must be examined for the presence of moisture. Test vapor drive according to ASTM D4263. The vapor drive should not exceed 3 lbs./1000 sq.ft./24 hours. Follow instructions as outlined by the supplier of the test kits. Make sure the concrete surface to be tested is completely clean of any residue or other debris. All sealants, curing compounds and coatings must be removed before testing.

Remove all oil, grease, wax, dirt, laitance and other surface contaminants. Mechanical methods are recommended to clean concrete, such as shot-blasting, scarification, sandblasting, and high pressure water blasting. Next sweep and vacuum any remaining dirt and dust with a wet/dry vacuum.

Contaminants may also be removed by scrubbing with PSC 0100 Cleaner Degreaser, followed by thoroughly rinsing and scrubbing with clean water. Do not use unbuffered acid or any solvents to remove contaminants. Do not use sweeping compounds to remove dust.

Priming

Prime porous substrates such as wood or concrete with a thin film of PSC 2000 using a paint brush or foam roller. Note that PSC 2000 is not suitable for waterproofing surfaces.

Mixing epoxy and aggregate

Wear protective gloves and goggles to avoid injury from splashes. Follow these instructions carefully.

PSC 2000 StoneSet has a limited pot life. Complete all surface preparations before mixing Part A and B. Pay attention that Part A by itself and the blended Parts A and B will be thicker (more viscous) at lower temperatures.

Accuracy in measuring and mixing the components is essential to the performance of PSC 2000. For accurate transfer of components, scrape the walls of all containers that they are being emptied completely. Seal product containers immediately after use.

PSC 2000 StoneSet is prepared by accurately measuring the required amounts, 2 Parts by volume of resin (A) and 1 Part by volume of hardener (B), into a clean mixing container. Pour the components slowly to avoid introducing air bubbles. Mix for 2 to 3 minutes. Scrape the sides and bottom of the mixing container to ensure complete mixing.

A steel trowel is generally sufficient to mix smaller amounts of blended epoxy and aggregate. Larger amounts are preferably mixed in a portable cement mixer.

PSC 2000 StoneSet may be mixed with aggregate like crushed stone, synthetic materials, quartz sand, and aluminum oxide. Aggregate must be dry and free of dust and foreign materials. The table under heading "Suggested system components" provides a guideline for mix ratios of blended epoxy and aggregate. Note that irregularly shaped aggregate requires more epoxy binder than aggregate with smooth, round surfaces.

Mix the blended Parts A and B immediately with aggregate. Ensure that aggregate particles are entirely coated with a film of epoxy. Apply by pouring a bead of epoxy wetted aggregate in the form of a wide ribbon on the surface to be coated. Do not leave the material in the container for too long because it will set faster thus reducing the pot life. Spread the poured material with a trowel as evenly as possible with a slow steady motion.

Pot life

Determine the pot life from table below. The end of the pot life is apparent from a thickening and heating of the mixed Part A and B. Pot life is generally shorter at higher temperatures.

Temperature	15 C (60 F)	20 C (68 F)	30 C (86 F)
Pot life	40 minutes	30 minutes	15 minutes

Application

Product, surface and atmospheric temperature must be kept between 15 C (60 F) and 30 C (86 F) during the application and while PSC 2000 is curing. Provide adequate ventilation during the application and cure period.

Troweling techniques

Using a steel trowel, loosely spread the epoxy / aggregate mixture over the prepared substrate. Then, firmly pack the epoxy / aggregate mixture by applying downward pressure on the trowel. Use forward, backward, and sideways motions. Create uniform surface gloss by applying wide sweeps with a clean trowel and a little bit downward pressure.

Molds, panels and decors

Decorative patterns should be installed before the general area is finished. Vertical surfaces can be covered by using pre-manufactured epoxy / aggregate panels and installing them with construction adhesive or polymer modified tile adhesive. Preformed items may include decorative floor patterns, vertical panels, and free standing objects. Molds can be made from wood, concrete, and plastic. To ensure easy release from mold, use a release agent or line the mold with a polyethylene film. Pay attention to that some epoxy will flow from the aggregate to the bottom of the mold.

Re-coating

Re-coat within the re-coat window below. Apply a coat of PSC 2000, PSC 2300, PSC 2301, 2302 or 2304, using a high quality nap roller suitable for the application of solvent based coatings. Apply coating as evenly as possible.

Curing time

Determine the curing time and re-coat window from the table below. Pay attention to that lower temperatures slow down the curing process.

Temperature	15 C (60 F)	20 C (68 F)	30 C (86 F)
Dry to touch	18 hours	12 hours	6 hours
Re-coat window	18 to 30 hours	12 to 24 hours	6 to 12 hours
Full cure	3 days	2 days	24 hours

Diluting

Do not dilute PSC 2000.

Clean up

Before PSC 2000 StoneSet has cured, application equipment can be cleaned with solvents such as xylene.

Trouble shooting

Problem observed	Possible causes
Slow cure	Low product, substrate or ambient temperature; improper mix ratios and/or mixing
Whitening	Excessive exposure to moisture from substrate or surface water during the cure; exposure to pooling water after full cure.
Peeling between coats	Past critical re-coat time; contamination between coats.
Coating soft, dulling	Improper mixing; use of thinner in product; extreme weather conditions.
Fast cure	High substrate and ambient temperatures.
Bubbling	High temperatures; no primer used; working product past pot life; improper mixing; overworked the product.

Recommendations

- Always apply a test patch in an inconspicuous area. Confirm compatibility with the substrate and that the application meets owner expectations.
- For interior use only. Product will yellow and chalk when exposed to sunlight.
- Do not use PSC 2000 for waterproofing.

Exposure risks

PSC 2000 StoneSet contains nonylphenol and proprietary aliphatic polyamines.

Corrosive, may cause severe eye and skin burns. Harmful or fatal if swallowed. Aspiration hazard if swallowed, can enter lungs and cause damage. May cause allergic skin reaction. May cause blindness.

Proposition 65

PSC 2000 contains chemicals listed by the State of California as known to cause cancer, birth defects, and other reproductive harm.

VOC content

Part A and Part B combined contain 0 g/L of VOC

Precautions

Keep out of reach of children. Avoid all personal contact. Use rubber gloves and eye protection. Use adequate ventilation. If the TLV is exceeded, or if primer is used in a poorly ventilated area, use NIOSH / MSHA approved respiratory protection in accordance with applicable federal, state, provincial and local regulations. Avoid breathing vapors. Seal containers after use. Empty containers may contain hazardous residue. All warning labels must be observed until containers are commercially cleaned or reconditioned.

First aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. Seek immediate medical attention. In case of skin contact, wash affected areas with soap and water. If irritation persists, seek immediate medical attention. If inhalation causes physical

discomfort, persists, or any breathing difficulty occurs, seek immediate medical attention. If swallowed, seek immediate medical attention.

Refer to Material Safety Data Sheet (MSDS) for further information.

Packaging

3 gallon kit (short-filled / 2 gallons Part A and 1gallon Part B)

15 gallon kit (10 gallons Part A and 5 gallons Part B)

165 gallon bulk kit (110 gallons Part A and 55 gallons Part B)

Warranty Disclaimer

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