

## **PSC Decorative Quartz System**

PSC Decorative Quartz System is a 100 % solids decorative floor system designed for applications where an esthetic, decorative look of quartz aggregate combined with long lasting, scratch and wear resistant epoxy top coat is specified.

PSC Decorative Quartz System is composed of PSC 2099 Bonding Primer, a two component first base coat, either PSC 2300 or 2301, first broadcast of quartz aggregate, a two component second base coat, PSC 2300 or 2301, second broadcast of aggregate and one or two seal coats, either PSC 2302 Flexible Epoxy or PSC 2304 Exterior Epoxy (UV resistant flexible epoxy).

PSC Decorative Quartz System is sanitary, seamless, cosmetic and easy to maintain. This flooring system is applicable where a durable, esthetic effect is desired. PSC Decorative Quartz System has superior scratch and wear resistance, low maintenance and its high density prevents dirt penetration.

Designed for use in light duty manufacturing and heavy duty commercial facilities, offices, laboratories, health care facilities, vehicular showrooms, airport terminals etc. this flooring system provides an attractive solution for flooring requirements. The result is a decorative look of quartz aggregate.

Nominal thickness of this flooring system is from 1/8" to 1/4".

### **Uses**

- Interior, new or old horizontal concrete surfaces.
- Commercial applications, supermarkets and demanding residential applications.

### **Advantages**

- Interior applications on new or

PSC Decorative Quartz System is a complete system of materials manufactured by Polymer Science Corporation. To ensure compatibility of materials for best quality, use only products listed in this bulletin.

PSC Decorative Quartz System as described in this bulletin is designed and approved for concrete substrates.

### **Quality Assurance**

Applicators must be certified by Polymer Science Corporation.

Product data and application instructions are part of this bulletin (PSC Product Information Sheets).

Polymer Science Corporation warrants that its products are free from defects.

### **Product Handling**

Materials shall be delivered only in original sealed containers, labeled by Polymer Science Corporation, clearly indicating the brand name and type of contents.

Store unopened containers at a temperature between +10 C (+50 F) and +27 C (+80 F). Handle the containers with care, do not store for long periods in direct sunlight.

### **Conditions at Job Site**

Do not apply PSC Decorative Quartz System if the substrate temperature is less than +10 C (+50 F).

Do not proceed with installation unless the substrate is clean and dry.

PSC Decorative Quartz System can be applied to concrete that has cured for a minimum of 28 days.

Moisture content (vapor drive) should not exceed 1.8 kg / 90m<sup>2</sup> / 24 hours (4 lbs / 1000 sq.ft. / 24 hours). Test according to ASTM F1869.

**Safety and Health Conditions**

During the application of the coating, maximum effort has to be made to protect the applicator and other personnel near the workplace from breathing vapors and coming in contact of material with skin or eyes.  
 In confined areas, best protection from vapors is adequate fresh air supply. We also recommend use of self-contained breathing apparatus with full face cover which is operated in positive pressure mode. Pay attention for NIOSH / MSHA approval.  
 In unrestricted areas, wear a mask or respirator approved by NIOSH / MSHA.  
 Always wear fabric coveralls and protective neoprene gloves. To protect your eyes, wear a full face mask or OSHA approved goggles.

**Protection**

Keep product away from heat and flames, post "no smoking" signs.  
 Post warning signs approximately 100 feet from the work area.  
 Cover all intake vents near the work area.  
 Exclude all personnel not directly involved with the application process.  
 Have dry chemical fire extinguishers available at the job site.  
 Provide adequate ventilation.  
 After completion of application, do not allow light traffic on coated surfaces for the following period:

Temperature	+10 C (+50 F)	+21 C (+70 F)	+30 C (+86 F)
	4 days	48 hours	24 hours

Remove all foodstuffs from confined areas; protect plants, animals and vegetation which may be affected by coating. Use drop cloths or masking as required.

**Products**

**Materials**

Primer. PSC 2099 Bonding Primer.  
 Crack filler if required. PSC 2301 mixed with fumed silica.  
 Seal coat (optional). Epoxy approved by Polymer Science Corporation.  
 Base coat 1. PSC 2300, 2301, 2302 Flexible Epoxy or 2304 Exterior Epoxy. Quartz aggregate according to specific blend.  
 Base coat 2. As above. Quartz aggregate according to the specified blend.  
 First seal coat. Alternatives depending on flooring requirements are the same as for base coat 1.  
 Second seal coat as above (If specified).

**Chemical Resistance Data (PSC 2300 and PSC 2301).**

	Concentration	Immersion	Spills	Fumes
<b>Acids</b>				
- 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
<b>Alkalis</b>				
- 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
<b>Solvents</b>				
- Acetone, requires a 7 day 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

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

Intermediate	2 days
Maximum	7 days

**Cured resin performance for PSC 2300 Industrial Epoxy**

Description	Test Method	Results
Solids content	ASTM D2697	100%
Hardness (Shore D)	ASTM D2240	82
Compressive strength	ASTM D695	12,900 psi
Compressive modulus	ASTM D695	333,800 psi
Tensile strength	ASTM D638	7,900 psi
Tensile modulus	ASTM D638	421,000 psi
Elongation at break	ASTM D638	8%
Flexural strength	ASTM D790	13,300 psi
Flexural modulus	ASTM D790	415,000 psi
Adhesion	ASTM D4541	350 psi
Izod impact strength	ASTM D256	0.52 ft.lbs/in.notch
Taber abrasion (CS-10)	ASTM D4060	32 mg loss (1000 cycles)
Water resistance	ASTM D570	0.2%
Fungus/bacteria resistance	Mil-F-52505	No support of growth (TT-P-34)

**Maximum temperature limits for PSC 2001 QuartzSet and 2300 Industrial Epoxy**

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

Above temperature limits are laboratory test results.

**Execution**

Preparation

- The concrete surface must be free of ridges and sharp projections. The surface must be clean, sound and dry.
- Remove all dirt, dust and laitance by scrubbing vigorously with a power broom and a strong detergent. Thoroughly wash with clean water and allow to dry.
- Remove grease, oil and other fatty contaminants with PSC 0100 Cleaner Degreaser.
- Curing agents, old coatings, impregnations, laitance and other deleterious materials may require removal by mechanical means, i.e. shot blasting, sand blasting, grinding, sanding or any other method approved by Polymer Science Corporation.
- Proper cleaning procedures should be followed to insure bonding of the flooring system. Shot blasting does not remove deep penetrating contaminants, such as oil, grease etc. Seal control joints. Re-incorporate expansion joints and control joints into flooring system if required.
- Control joints and non-moving cracks. After mechanical cleaning, (if required) fill all non moving cracks with PSC 2302 Flexible Epoxy mixed with aggregate as per point 7.
- Repair all damaged areas of the concrete substrate to match adjacent areas. Use oven dry silica aggregate approved by PSC for filling and leveling at a ratio of 1 part epoxy mixed with 4 parts of aggregate by volume.

Application

- Primer. Apply PSC 2099 as per instructions on Product information Sheets.

Temperature	+10 C (+50 F)	+20 C (+68 F)	+30 C (+86 F)
Re-coat between	16 to 24 hours	8 to 12 hours	6 to 10 hours

- Binder (base coat 1). Re-Coat with PSC 2300 or 2301 over the primed surface using a notched squeegee or notched trowel at a uniform coverage rate of approximately 60 square feet per gallon (1.2 m<sup>2</sup> per liter) (25 mils w.f.t.). Then back roll immediately with a short napped phenolic roller to assure even coverage.

3. First Aggregate. Broadcast blended color quartz into the wet base coat until refusal at a rate of approximately 75 lbs. Per 100 square feet (3.6 kg per 1 m<sup>2</sup>). Broadcast in a manner that the aggregate falls vertically into the binder. Maintain a one to two foot wet edge without any aggregate to allow for a smooth transition to the next pass of epoxy. Allow to cure according to temperature chart in paragraph 1. Remove excess aggregate from the surface by sweeping up the aggregate, followed by vacuuming. Sand lightly with a floor sander using circular movements to remove any imperfections.

4. Second Base Coat. Apply PSC 2300 or 2301 at a rate of 50 square feet per gallon (1.3 m<sup>2</sup> per liter) (30 mils w.f.t) to prepared substrate with a notched squeegee or notched trowel. Back roll with a short napped phenolic roller to assure even coverage.

5. Second aggregate. Broadcast the pre-blended color quartz aggregate into wet epoxy base coat until refusal at a rate of approximately 50 lbs. per 100 square feet (2.45 kg per 1 m<sup>2</sup>). Maintain a one to two foot wet edge without aggregate to allow for a smooth transition to the next pass of epoxy. Allow to cure according to the temperature chart in paragraph 1. Remove excess aggregate as from the previous broadcast. To remove any imperfections sand lightly with a floor sander.

6. First Seal coat. Apply epoxy at a rate of approximately 160 square feet per gallon (10 mils w.f.t.) (4 m<sup>2</sup> per liter) and allow to cure according to the temperature chart in paragraph 1.

7. Second Seal Coat. Apply epoxy at a rate of 200 square feet per gallon (8 mils w.f.t) (5 m<sup>2</sup> per liter) and allow to cure as follows for light traffic;

Temperature	+10 C (+50 F)	+20 C (+68 F)	+30 C (+86 F)
Full cure	4 days	2 days	1 day

Do not allow heavy traffic on coated surfaces until completely cured for 7 days at +20 C (+68 F). Allow to cure 24 hours before at +20 C (+68 F) before allowing foot traffic.

Depending on traffic, an additional coat of PSC 2302 or PSC 2304 can be applied.

#### Cleaning

Remove all debris resulting from completion of coating operation from the site.

#### Maintenance

PSC Maintenance Products are specifically formulated to protect and maintain the surface of PSC Coatings.

To clean the surface, use periodically PSC 0150 Cleaner-Rejuvenator. To protect the surface, use regularly PSC 0200 DuraWax-Gloss or PSC 0210 DuraWax-Satin.

#### Warranty

Refer to Product Information sheet of each product.

**For orders or inquiries from Canada, US and Mexico, call toll free 1-866-793-3503 or email your orders to Polymer Science Corp. customer service [sales@polymersciencecorp.com](mailto:sales@polymersciencecorp.com)**