

PSC 3839 PolyAspartic Polyurea Coating

PSC 3839 PolyAspartic is a two component, 100% solids, very fast setting polyaspartic coating, providing a fast turn-around time for the application. It comes in clear and can be used as base or top coat. This zero VOC system has been formulated to have a balanced pot-life/ cure schedule.

It has been designed to provide exceptional adhesion to concrete, very good chemical resistance, slight flexibility and outstanding abrasion resistance. This Polyaspartic Polyurea system has been approved by the Canadian Food Inspection Agency (CFIA) as an accepted construction material in food processing facilities.

Advantages

- Zero volatile content, no odour.
- Fast curing, with reasonable working time.
- Rapid return to service after application.
- Easy to use 1 to 1 mixing ratio
- Excellent long term durability
- Excellent mechanical properties.
- Low viscosity to promote adhesion to concrete
- Produces a very smooth, defect free surface, which is antimicrobial and very easy to clean.
- High UV and chemical resistance, making it stain resistant
- Hot tire resistance similar to solvent-borne coatings

Uses

- To protect by sealing and waterproofing horizontal interior or exterior concrete substrates from degradation due to moisture intrusion, solubilized salts, wearing and spillage.
- As an excellent top-coat for other coating systems.
- To enhance and restore existing concrete floors
- Areas of application include residential like basement and garages, commercial like offices, showrooms, stores and warehouses
- It can be used with a different kinds of aggregates like silica sand, quartz, color granules (mica) and plastic flakes to obtain a variety of colors and textures which in turn renders an anti-slip surface.

Suggested system components

PSC 3839 Polyaspartic coating is designed to be used without a primer on very porous concrete. Basecoats are usually applied at a film thickness between 6 to 10 mils. Intercoats and topcoats for high build systems can be applied at the same rate. It can be applied over solvent based or solvent free primers from a different chemistry provided the Polyaspartic application is done within the recoat window of such systems. PSC polyaspartic coating can be thinned with Butylacetate up to 10% by volume.

Limitations

Avoid applying PSC polyaspartic coating in direct sunlight during times of extreme heat. This can cause air bubbles being caught under the surface of the coating, wrinkling, blistering and pinholes. Schedule the application for early morning or late afternoon when ambient and substrate temperatures are low. Polyaspartics also moisture cure. Avoid applying the coating when the relative humidity is very high (more than 85 %), as the pot life / working will be reduced.

For a suitable cure schedule, do not apply this coating at film thicknesses greater than 12 mils. At this film thickness, the surface will appear dry according to the dry to touch time established here but remain soft under the surface, which can potentially cause defects if not enough time is allowed for a full through cure.

PSC polyaspartic is not intended for, immersion or application where moisture can reach the underside of the coating.

Protect both components A and B from freezing.

There is no temperature limitation when applying PSC 3839 polyaspartic coating

Warning: It is very important to apply PSC 3839 Polyaspartic coating over a completely dry substrate. Failing to do so, will result in water reacting with Polyaspartic part B ; leading to foaming and whitening, which will diminish the appearance.

Product Data

	Appearance	Packaging	Density
Part A “Resin”	Very clear, colorless liquid	3.98 Kg/USG 19.89 Kg/ 5 USG	1.05 Kg/L
Part B “Hardener”	Very clear, colorless liquid	4.13 Kg/ USG 20.64 Kg/ 5 USG	1.09 Kg/L
Part A +Part B	Clear coat	2 USG Kits 10 USG Kits	Mix Ratio 1 to 1 by Volume

General Data

Solids Content	100%, Zero VOC	
Viscosity	350 cP @ 20°C	
Finish	Clear and Glossy only.	
Mixing Method	Low Speed, Jiffy mixer	
Thinning	Not recommended for TopCoats, if needed use Butyl Acetate or Ester EEP.	
Mixing Ratio	1 to 1 by Volume.	
Coverage	Prime Coat / Basecoat Top Coat	270 ft ² per USG @ 6 mils 160 ft ² per USG @ 10 mils
Working Time @ 20 °C	25 minutes aprox	
Drying Time	Surface Dry: 2.5 hours Hard Dry 4-5 hours	
Recoat Window	Recoat time after 3 hours before 16 hours	
Light Traffic	8 hours	
Full cure	5 Days	
Storage Conditions / Shelf Life	12 months from date of production, if stored properly in original unopened and undamaged sealed packaging in dry conditions at temperatures between 5°C and 20 °C	
Standard Colors	3901 Black 3903 Dark Grey 3904 Medium Grey 3906 Light Grey 3911 Hangar White	3910 White 3915 Dark Brown 3917 Medium Brown 3916 Light Brown Clear

Technical Data

Gloss, ASTM D-523	60°	90+
Impact, in.lbs ASTM D-2794	Direct	150
	Reverse	150

Taber Abrasion ASTM D-4060 1000 g load, 1000 cycles, CS-17 wheel		48.7 mg loss
MEK Double Rubs, TM-2 Method #9		Softened
Pendulum Hardness		170 sec.
Adhesion to Concrete ASTM D4541		380 psi
Tensile Strength		8100 psi
Elongation @ break		5.2%
Flexibility		100% ¹

¹ 40 mils coating sample bent at 0 degrees without breaking or tearing

Chemical Resistance

Coatings based on polyaspartic esters are not as chemically resistant as polyurethanes based on Isocyanate-polyester chemistry. However they have comparable chemical resistance as topcoats based on water reducible urethane or hybrid (acrylic-urethane). On Medium-Duty applications like residential and commercial, polyaspartic based coatings deliver great advantages, like rapid curing, low VOC and excellent durability.

On garage floors testing reveals that common liquids like gasoline, antifreeze and motor oil have no effect when they come into contact with the coating for a period of 12 hours.

Some alcohols and ammonia (present on common household cleaners) do not have any effect after being in contact for 12 hours period.

Substances as MEK or Sulfuric Acid (50%) will soften the coating after a 2 hours period.

Mixing and Tinting

PSC 3839 PolyAspartic Coating may be applied clear or tinted. Clear PSC 3839 is prepared by accurately measuring the required amounts, 1 Part 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. When using more than one can of colorant, it is recommended to mix all the colorant cans in a container prior to use in order to get a consistent color. This is due to the unavoidable variations between cans/batches or small amounts of colorant left in the cans.

Tinted PSC 3839 is prepared by first mixing resin (A) and the colorant together, then mixing hardener (B) into the tinted Part A. Do not change this order of addition, otherwise the mixture pot-life may be adversely reduced. Do not count colorants into the volume ratio of Part A, resin, or Part B, hardener. When mixing tinted PSC 3839, use 0.5 Quarts of colorant per 2 USG of Polyaspartic. If using a white colorant use 1 Quart per 2 USG of Polyaspartic.

Shelf Life

Twelve (12) Months in unopened container.

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