



PSX700 (PC version)

APRIL 2008

Engineered Epoxy Siloxane

Product Data

PSX Advantage: PSX 700 is a patented engineered siloxane coating which embodies the properties of both a high performance epoxy and a polyurethane in one coat. This multi-purpose coating offers "breakthrough" weather resistance and corrosion control.

- Unique, high-gloss, super durable coating
- Superior protection attained as a two coat system over an inorganic zinc or zinc rich epoxy.
- Cures at room temperature
- Gloss and appearance retention exceeding the best polyurethane
- Significantly lower applied costs
- Excellent corrosion resistance
- High solids, VOC compliant
- Resists high humidity and moisture
- Applied by brush, roller or spray – without thinning
- Outstanding resistance to chemical splash and spill

Typical Uses

PSX 700 offers significant advantages in that the system can normally be applied in two coats compared to the traditional systems using epoxies and urethanes. It provides very effective long-term corrosion control and weatherability.

- Structural steel - bridges, marine
- Tanks
- Piping
- Industrial plants – power, pulp and paper, wastewater treatment, chemical and petrochemical
- Concrete walls and floors
- Transportation – rail car exterior, vehicle equipment, buses, trucks
- Marine – decks, boottops, topside and superstructures on ships, barges and offshore platforms

Physical Data

Finish	Gloss
Colour	Large range of colours from PPG's POS system and clear.
Components	2
Mixing Ratio	4L PSX700 to 1L PSX700B
Curing mechanism	Chemical reaction
Volume solids	90 ± 3%
Coats	1 or 2
Dry film thickness per coat	75-135 microns
Theoretical Coverage	m ² /L
75 microns	11.8
125 microns	7.1
VOC	g/L
700 mixed	120
mixed/thinned (12.5%)	204
Temperature resistance, dry	°C
Continuous	93
Intermittent	121
Flash point (SETA)	°C
Resin	97
Cure	96
140 Thinner	20

Qualifications

- NFPA – Class A
- USDA – Incidental food contact
- NORSOK M-CR-501 (coating system 1)
- ISO 12944 (Class C5M)
- Shell Specification ES/011 Vol. 2 Rev. 7

Typical Properties

Physical

Abrasion (ASTM D4060)	
1kg load/1000 cycles	weight loss
CS-17 wheel	53 mg

Adhesion, elcometer (ASTM D4541)	2700 psi
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Elongation (ASTM D522)	14%
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Performance

Salt spray (ASTM B117)	5500 hours
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Face corrosion, blistering	None
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Humidity (ASTM D2247)	5500 hours
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Face corrosion, blistering	None
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Gloss retention (ASTM G53) QUV-B bulb	
Greater than 50% gloss retention at 26 weeks	

Systems Using PSX 700

Steel (blasted 2 ½ +)		PSX 700
Amercoat D9	65-75	75-125
Amercoat 68HS	70-85	75-125
Amercoat 471		70-85
	75-125	
Concrete		
Amerlock Sealer	38	2 x (75-125)
Amerlock 2	125-175	75-125
Aluminium – sweep blast		75-125
Galvanised or zinc metal spray – 719 Polyetch, 1 coat		
Amercoat 473 or Amerlock 2		

PSX 700 Chemical Resistance Guide

Environment	Splash Spillage	Fumes & Weather
Acidic	E	E
Alkaline	E	E
Salt solutions		
Acidic	E	E
Neutral	E	E
Alkaline	E	E
Fresh water	E	E
Solvents	E	E
Petroleum products	E	E
F= Fair	G=Good	E=Excellent

This table is only a guide to show typical resistances of PSX 700. For specific recommendations, contact your PPG Industrial Coatings representative for your particular corrosion protection needs.

Thinner	140 Thinner
Equipment cleaner	140 Thinner
Shelf life when stored indoors at 4 to 38°C	
Resin and cure	1 year from shipment date



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Application Instructions

Adhere to all application instructions, precautions, conditions and limitation to obtain the maximum performance. When used over recommended primers, refer to Application Instructions for the specific primer being used for surface preparation data and application and drying procedures. For conditions outside the requirements or limitations described, contact your PPG Industrial Coatings representative.

Surface Preparation

Coating performance is, in general, proportional to the degree of surface preparation. Refer to specification for the specific primer being used. Prior to coating, primed surface must be clean, dry, undamaged and free of all contaminants including salt deposits. Round off all rough welds and remove all weld spatter.

Steel – Surfaces should be clean, free of oil and grease before abrasive blasting to Class 2 ½ or better AS/NZS 1627.4.

Concrete – acid etch (ASTM D4260) or abrasive blast (ASTM D4259) new concrete. Apply Amerlock Sealer or Amerlock 2.

Aluminium – Remove oil, grease or soap film with neutral detergent or emulsion cleaner, treat with Alodine 1200, Alumiprep or blast lightly with fine abrasive.

Galvanising – Remove oil or soap film with detergent or emulsion cleaner, then use zinc treatment such as Lithoform No. 2 or equivalent or blast lightly with fine abrasive.

Repair – Prepare damaged areas to original surface preparation specifications, feathering edges of intact coating. Thoroughly remove dust or abrasive residue before touch up.

Application Equipment

The following is a guide; suitable equipment from other manufacturers may be used. Changes in pressure, hose and tip size may be needed for proper spray characteristics.

Airless spray – Standard equipment such as Graco Bulldog Hydra-Spray or larger with a 0.38 to 0.53mm fluid tip.

Conventional spray – Industrial equipment such as De Vilbiss MBC or JGA spray gun with 78 or 765 air cap and 'E' fluid tip, or Binks No. 18 or 62 gun with a 66 x 63 PB nozzle set-up. Separate air and fluid pressure regulators, mechanical pot agitator, a moisture and oil trap in the main air supply line are recommended.

Power mixer – Jiffy Mixer powered by an air or an explosion-proof electric motor.

Brush – Natural bristle. Maintain wet edge.

Roller – Use industrial roller. Level any air bubbles with bristle brush.

Application Procedure

1. Flush equipment with 140 thinner before use.
2. Mix to a uniform consistency.
3. Add 1L PSX700B to 4L PSX700A. Mix thoroughly until uniformly blended. Induction time 15 minutes.

Pot Life (Hours) *

	32°C	21°C	10°C
700	1 ½	4	6 ½

* Thinning material with 6% thinner after 3 hours will extend pot life to 5 hours at 21°C.

4. If needed for workability, thin with 140 Thinner up to 12%.
5. Apply a wet coat in even, parallel passes, overlap each pass 50 percent to avoid holidays, bare areas and pinholes. If required, follow with a cross spray at right angles to first pass.

Environmental Conditions

Temperature

Air 4 to 35°C

Surface 4 to 35°C

Relative humidity 40% minimum

Surface temperatures must be at least 3°C above dew point to prevent condensation during application and initial dry through. Relative humidity lower than 40% will extend dry times.

Heat Curing

Allow 700 to dry to touch before exposing to curing temperatures above 60°C.

Drying time (ASTM D1640) (hours) @ 40% R.H. or above

	32°C	21°C	10°C	0°C
Touch	1	2	4 ½	9
Through	3	4 ½	8 ½	24

Recoat / topcoat time (hours) @ 40% R.H. or above

	32°C	21°C	10°C	0°C
700	2	3	7	18
Maximum	None			

6. Brush and / or roll applications will require two coats to achieve a 175µm DFT. There will be some surface texture, which is typical for brush and roll applications.
7. When applying PSX 700 directly over Amercoat D9 or Amercoat 68HS see special thinning instructions.
8. Clean all equipment with 140 thinner immediately after use.

Safety Precautions

Read each component's material safety data sheet before use. Mixed material has hazards of each component. Safety precautions must be strictly followed during storage, handling and use.

CAUTION:

Improper use and handling of this product can be hazardous to health.

Do not use this product without first taking all appropriate safety measures to prevent property damage and injuries. These measures may include, without limitation: implementation of proper ventilation, use of proper lamps, wearing of proper protective clothing and masks, tenting and proper separation of application areas. Consult your supervisor. Proper ventilation and protective measures must be provided during application and drying to keep spray mists and vapour concentrations within safe limits and to protect against toxic hazards. Necessary safety equipment must be used and ventilation requirements carefully observed, especially in confined or enclosed spaces, such as tank interiors and buildings.

This product is to be used by those knowledgeable about proper application methods. APPG Industries makes no recommendation about the types of safety measure that may need to be adopted because these depend on application environment and space, of which PPG Industries is unaware and over which it has no control.

If you do not fully understand these warnings and instructions or if you cannot strictly comply with them, do not use the product.

This product is for industrial use only.

** Thinning material with 6% thinners after 3 hours will extend pot life to 5 hours at 21°C.*

Thinning for Application over Amercoat D9

Thin PSX 700 with 140 Thinner up to 12% to assist in film thickness control and to minimise bubbling. This will depend on the age of the coating, surface roughness and conditions during curing. Based on conditions as interval between the mist-coat and full-coat may assist in the application.

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