



PSX[®] 700

High-performance, engineered siloxane - lowering total operational costs



**PPG Protective &
Marine Coatings**

Bringing innovation to the surface.™



PPG Protective & Marine Coatings

Unrivalled performance & protection

PSX[®] 700

Introducing the *PSX 700* factor

Global experience and reliability

PPG Protective & Marine Coatings (PPG) is a world leader in protective and marine coatings. We develop products that protect customers' assets in some of the world's most demanding markets and environments including:

- Civil Infrastructure
- Marine New-Build
- Marine Dry Dock
- Marine Sea Stock
- Rail
- Offshore
- Petrochemical
- Power

Our coatings provide unrivalled performance for asset owners, contractors, fabricators and applicators across the globe, helping our customers meet the challenges they face today and tomorrow.

Experience, innovation and integrity – that is what makes PPG the ideal coatings partner.

PPG's innovative technology proves that you do not need a three-coat system to obtain the optimum corrosion resistance of a zinc primer and an epoxy midcoat, along with the long-term gloss and color retention of conventional aliphatic polyurethane.

Now, with only one coat of zinc primer, plus one coat of our breakthrough *PSX 700* you get performance equalling, or surpassing, the finest three-coat systems available today. Our unique system uses patented engineered siloxane components delivering the excellent adhesion, toughness, corrosion and chemical resistances of epoxy siloxane.

In addition, *PSX 700* removes the need to use the traditional mid-coat epoxy to achieve excellent resistant to weathering, exterior gloss and color retention.

***PSX 700* offers unsurpassed benefits in three critical performance areas**

The benefits of *PSX 700* are more than just a reduction in coats. Three additional factors set this breakthrough product apart from all others:

- Unsurpassed performance
- Significant cost savings
- Outstanding environmental characteristics

Put the power of the *PSX 700* factor to work for you on your next project and find out how the product can benefit your business.



FACTOR 1 - unsurpassed performance

PSX 700 offers a longer service life than the traditional epoxy/aliphatic polyurethane system it replaces (see Table 1, Service life projection). And when combined with a zinc primer, the two-coat system significantly outlasts the best three-coat systems (zinc primer, epoxy midcoat, and polyurethane finish).

Table 1: Service life projection

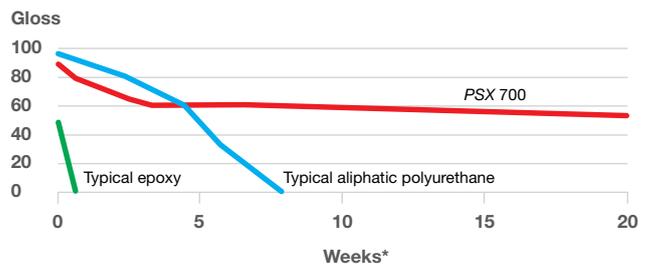
System	Number of coats	Surface preparation ISO 8501-1 / Years of service		Environmental conditions**
		St2/St3	Sa2½	
Epoxy/ epoxy/ urethane	3	10+	15-24*	C4
		6-10	12-21*	C5
Epoxy/ PSX 700	2	15+	20-32*	C4
		8-15	16-28*	C5

* Based on zinc rich epoxy ** ISO12944

Here are some of the key performance benefits offered by PSX 700:

- Gloss and color retention surpasses that offered by conventional aliphatic polyurethane (see Table 2)
- Corrosion resistance and chemical resistance exceeds those provided by an epoxy coating (see Table 5)
- Abrasion resistance is greater than, or equal to, a flexible aliphatic polyurethane and far superior to an ordinary epoxy (see Table 4)
- Highly resistant to stains, graffiti and dirt accumulation

Table 2: Accelerated weathering QUV test



* 1 week equates to approximately 1 year of Florida exposure.



PSX[®] 700

Introducing the *PSX 700* factor

FACTOR 2 - significant cost savings

PPG's *PSX 700* siloxane-epoxy coating delivers dramatic, proven cost savings. Use one coat of *PSX 700* to replace a conventional epoxy/polyurethane topcoat system or use *PSX 700* over a zinc primer to replace a conventional three-coat zinc primer, epoxy, conventional polyurethane system. Either way, here's how you save:

- Less frequent repainting: due to greatly extended service life
- Shorter application time: only one low-VOC coat to apply reduces costly plant downtime
- Increased profitability: one coat versus two coats or more increases profits through lower product costs
- Reduced hazardous waste management costs: extremely low-volatile, organic compound content easily satisfies stringent environmental and health and safety requirements, and cuts disposal costs (fewer cans to discard)
- Quick and easy application: using airless or conventional spray, brush or roller
- Shorter downtime: cures at room temperature and will be touch-dry in two hours at 21°C (70°F)
- Higher output/throughput

Table 3: Applied cost savings

System description	% three-coat zinc silicate/epoxy/PU	% two-coat zinc silicate/ <i>PSX 700</i>
Material (A)	4.8	7.3
Application (B)	95.2	63.5
Total Operational Costs	100	70.8

Reference: Corrosion 92/NACE Annual Conference, NACE Paper #335.
Includes surface preparation and application by conventional spray.
Note: Costs are based on industry standards in the United States.



FACTOR 3 - outstanding environmental characteristics

PSX 700 meets, or exceeds, today's stringent environmental, health and safety requirements due to its formulation of ultra-high solids and extremely low-volatile organic compounds. It also needs little or no thinning, providing significant reduction in solvent emissions and hazardous waste.

Importantly, unlike polyurethane, *PSX 700* does not contain hazardous isocyanates, and also provides Class A fire resistance with low fire and smoke generation ratings.

***PSX 700* – Typical Applications**

- Airports
- Bridges
- Heavy equipment
- Manufactured products
- Marine topsides and superstructures
- Offshore platforms
- Piping
- Structural steel
- Tank exteriors
- Wind turbines

Breakthrough technology - Proven in service

PSX 700 is a major breakthrough in protective coatings technology, and is still unequalled in quality and performance. Like all other PPG products, it's been thoroughly tested in the only way that matters – in service, for over a decade. In fact, *PSX 700* is currently protecting millions of square meters of valuable assets in a wide variety of applications, ranging from corrosive chemical environments to general maintenance.



PSX 700

The standard in high performance coatings

PPG's patented *PSX* engineered siloxane technology represents an entirely new coating category, offering unprecedented improvements in performance and durability. *PSX 700* is an exceptional example of this technology and offers a combination of characteristics available in no other product.

Table 4: Abrasion resistance / ASTM D4060
(1 kg (2.2 lbs) load/1000 cycles, CS17 wheel)

System	mg (oz) loss
<i>PSX 700</i>	53 (0.0019)
Epoxy mastic	102 (0.0036)
Flexible aliphatic PU finish	60 (0.0021)

Abrasion resistance: The abrasion resistance of *PSX 700* is similar to flexible aliphatic polyurethane.

Table 5: Chemical resistance (24-hour exposure) ISO 2812
(Splash/spill resistance of *PSX 700* compared to an epoxy mastic and a conventional polyurethane)

Chemical	<i>PSX 700</i>	Epoxy mastic	Conventional polyurethane
Sodium hydroxide, 50%	10	10	10
HCL, Conc.	10	8	8
Sulfuric acid, 93%	6	6	0
Phenol	8	2	0
Phosphoric acid, Conc.	10	2	8
Acetone	10	8	10
Ammonium hydroxide, Conc.	10	10	10
Ethyl alcohol	10	10	10

10 = no change, 0 = complete failure

Benefits of PSX 700 engineered siloxane

Features and benefits

Features	Benefits
Outstanding gloss and color retention	Long-term durability Retains initial surface appearance much longer than traditional aliphatic polyurethane
Application directly over zinc epoxies and zinc silicates ¹	Saves cost of labor and epoxy mid-coat
Outstanding chemical and corrosion resistance	Excellent for the most severe environments Resists chemical cleaning agents and graffiti removers
Ultra-high solids, VOC-compliant	Environmentally friendly / Meets the most stringent VOC regulations
User-friendly	Apply by brush, roller or spray / Isocyanate-free / Flash points over 90°C (195°F) Long open time reducing dry-spray
Compatible with a wide range of primers	Can be used in a number of projects and situations
Low-surface energy	Resists graffiti, fouling and dirt accumulation
Fast dry-to-handle	Allows heavy transport overnight
Unlimited topcoat window	Easy field touch-up
Superior color pigmentation system	Supplied colors hide in one coat over zinc primers Supplied colors meet ACQPA requirements in Florida weathering test program

Systems

Typical systems using PSX 700

System-1: Zinc epoxy based

Zinc epoxy	Zinc epoxy ¹	75 microns (3.0 mils)
Engineered siloxane	PSX 700	125 microns (4.9 mils)

System-2: Zinc silicate based

Zinc silicate	Zinc silicate ¹	75 microns (3.0 mils)
Engineered siloxane	PSX 700	125 microns (4.9 mils)

System-3: Epoxy based

Epoxy mastic	Surface tolerant epoxy	125 microns (4.9 mils)
Engineered siloxane	PSX 700	125 microns (4.9 mils)

¹ Zinc in compliance with ISO 12944.

PPG Protective & Marine Coatings brings unrivaled levels of innovation, experience and expertise in coatings technology, supported through our expanding global supply and distributors' network in over 60 countries.

We have in-depth knowledge of the industry, our customers' day-to-day challenges and the environmental, health and safety standards in the marketplace. By working in close partnership with customers, our technical service representatives are able to offer an unsurpassed level of market knowledge. This enables us to respond quickly with efficient, economic solutions in all environments and industries.

The result – performance-enhancing coating systems that can be applied more easily, resist the elements more effectively, and deliver maximum performance with minimum downtime.

PPG Protective & Marine Coatings

P.O. Box 58034

1040 HA Amsterdam

The Netherlands.

Tel +31 (0)20 407 5050

Fax +31 (0)20 407 5059

Email pmc@ppg.com

Website www.ppgpmc.com/fireprotection