

# THE PSX 700 FACTOR



*Revolutionary high-performance engineered siloxane protective coating*



**1 + 1 = 3**

# PSX 700 Typical applications



- Structural steel
- Concrete walls and floors
- Marine topsides and superstructures
- Tank exteriors
- Piping
- Heavy equipment
- Machinery
- Manufactured products
- Offshore platforms

## Breakthrough technology proven in service



PSX® 700 is a major breakthrough in protective coatings technology, and like all other Ameron products, it has been thoroughly tested in the only way that matters – in service. In fact, PSX® 700 currently is in service protecting millions of square feet of valuable assets in a wide variety of applications, ranging from corrosive chemical environments to general maintenance. For specific information about PSX® 700's suitability for your particular application, just give us a call.



*We're giving an entire industry math lessons!*

# Introducing the PSX<sup>®</sup> 700 Factor:

$$1 + 1 = 3$$

Conventional wisdom says you need a 3-coat system to obtain the optimum corrosion resistance of a zinc silicate primer and an epoxy midcoat, along with the long-term gloss and color retention of aliphatic polyurethane. Revolutionary new technology from Ameron proves otherwise.

Now with only 1 coat of zinc primer, plus 1 coat of our breakthrough PSX<sup>®</sup> 700 siloxane-epoxy, you'll get performance equaling or surpassing the finest 3-coat systems available today.

With PSX<sup>®</sup> 700, you no longer need a costly polyurethane topcoat to attain outstanding weatherability, exterior gloss and color retention. And in many cases, you don't even require a zinc primer. Because PSX<sup>®</sup> 700 combines patented engineered siloxane components with the excellent adhesion; toughness corrosion, and

chemical resistance of epoxy, it offers superior performance over a range of organic primers. Even a single coat of PSX<sup>®</sup> 700 offers adequate performance in certain applications.

## **PSX<sup>®</sup> 700 offers unsurpassed benefits in 3 critical performance areas**

The PSX<sup>®</sup> 700 Factor is about a lot more than 2 coats equaling 3. Three additional factors set this breakthrough product apart from all others—unsurpassed performance, significant cost savings, and outstanding environmental characteristics (see adjoining pages).

Put the power of the PSX<sup>®</sup> 700 Factor to work for you on your next project—and find out how effective Ameron's new math really is.



FACTOR

1

# Unsurpassed performance

PSX® 700 offers a longer service life than the traditional epoxy/aliphatic polyurethane system it replaces (see Figure 1, Service Life Projections).

But when combined with an inorganic zinc primer (such as Ameron's Dimetcote Series inorganic zinc), the 2-coat system significantly outlasts the best 3-coat zinc silicate, epoxy, polyurethane system. Here are just a few of the performance benefits offered by PSX® 700:

- Gloss and color retention surpasses that offered by an aliphatic polyurethane (see Figure 2).
- Corrosion and chemical resistances exceed those provided by an epoxy coating (see Figure 6 and 7).
- Adhesive strength of 2700 psi (on steel, using ASTM D4541) is more than double the 500-1000 psi offered by conventional epoxy coatings.
- Abrasion resistance is greater than or equal to a flexible aliphatic polyurethane and far superior to an ordinary epoxy (see Figure 5).
- PSX® 700 is highly resistant to stains, graffiti and dirt accumulation.

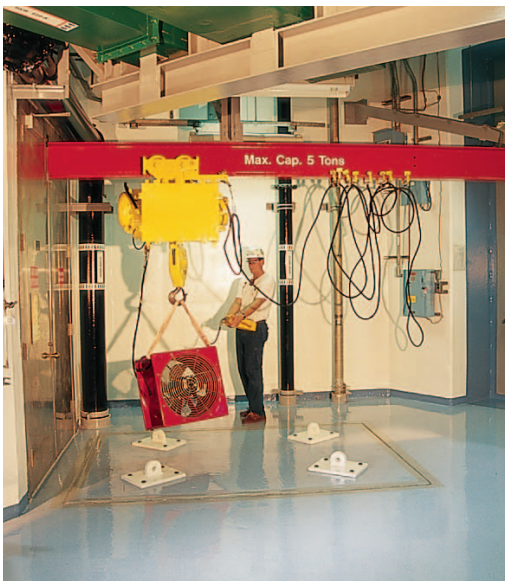


Figure 1

SERVICE LIFE PROJECTIONS			
System	Number of Coats	Years of Service†	
		SP-5	Conditions*
Epoxy/Urethane	2	6-10	Moderate
		4-8	Severe
PSX 700**	1	7.5-13	Moderate
		5-10	Severe

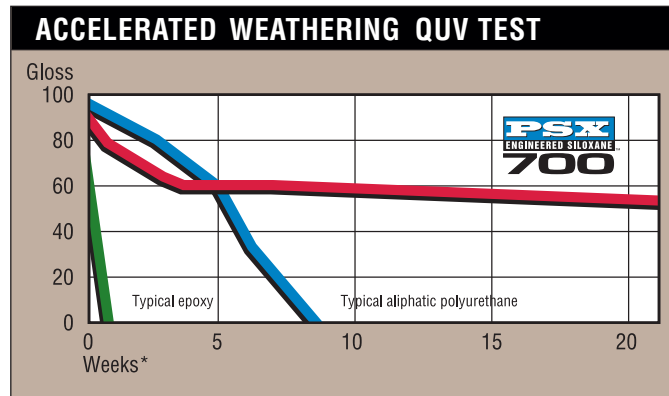
\* Moderate = General industrial, no heavy fumes or fallout, 3 mils/year corrosion of steel.

Severe = Heavy industrial, heavy fumes and fallout, 3-6 mils/year corrosion of steel.

\*\* Assumes, conservatively, a 30% improvement in performance.

† Reference NACE Paper #335.

Figure 2



\* 1 week approximates 1 year of Florida exposure, based on rough correlation of data.

# FACTOR 2

## Significant cost savings

Ameron's PSX<sup>®</sup> 700 siloxane-epoxy coating delivers dramatic, proven cost savings in many important ways. Use 1 coat of PSX<sup>®</sup> 700 to replace epoxy polyurethane topcoat as part of a system; or use PSX<sup>®</sup> 700 over an inorganic zinc silicate primer to replace a conventional 3-coat zinc silicate primer, epoxy, aliphatic polyurethane system. Either way, here's how you save:

- Less frequent repainting due to greatly extended service life.
- Lower initial application costs: you have one less coat to apply, whether you're replacing a conventional 2-coat or 3-coat system.
- Shorter application time (only 1 low-VOC coat to apply) reduces costly plant downtime; for OEM products, 1 coat versus 2 or more increases profits through lower product costs.
- Reduced costs of hazardous waste management; extremely low volatile organic compound content (1.0 lbs./gal. VOC) 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 dries to the touch in 2 hours at 70°F (21°C).



# FACTOR 3

## Outstanding environmental characteristics

Formulated with very high solids and extremely low volatile organic compounds (1.0 lbs./gal.(120 g/l) VOC), PSX<sup>®</sup> 700 meets or exceeds today's stringent environmental, health and safety requirements—without compromising performance. And because PSX<sup>®</sup> 700 needs little or no thinning, it provides significant reductions in solvent emissions and hazardous waste.

Unlike polyurethane, PSX<sup>®</sup> 700 contains no hazardous isocyanates. And PSX<sup>®</sup> 700 provides Class A fire resistance with low fire and smoke generation ratings to 20 mils (500 microns) DFT.

A faster drying version is also available as PSX<sup>®</sup> 700FD.



Figure 3

APPLIED COST SAVINGS		
System Description	3-coat IOZ/Epoxy/PU System	2-coat IOZ/PSX 700 System
Material	\$0.22/2.37	\$0.34/3.66
Total Application Costs	<b>\$1.93/20.77</b>	<b>\$1.60/17.22</b>
\$ Total per (ft. <sup>2</sup> )/(m <sup>2</sup> )	\$2.15/23.14	\$1.94/20.88

Reference: Corrosion 92/NACE Annual Conference, NACE Paper #335. Includes surface preparation and application by conventional spray.



# PSX 700 A new standard in high-performance coatings

Ameron's patented new PSX® Engineered Siloxane technology is really an entirely new coating category, offering unprecedented improvements in performance and durability. PSX® 700, an outstanding example of this technology, offers a combination of characteristics available in no other product. For more information, please call or write us at the address below.

## Performance profile

Figure 4

FLEXIBILITY (Percent elongation)	
System	Results
PSX 700	14%
Epoxy Mastic	<5%
Flexible Aliphatic PU Finish	>32%

**Enhanced flexibility:** The PSX® 700 film is more flexible than a typical epoxy, as shown above.

Figure 5

ABRASION RESISTANCE (1 kg load/1000 cycles, CS17 wheel)	
System	Mg Loss
PSX 700	53
Epoxy Mastic	102
Flexible Aliphatic PU Finish	60

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

Figure 6

CHEMICAL RESISTANCE (24-HOUR EXPOSURE) (Splash/spill resistance of PSX 700 compared to an epoxy mastic and an aliphatic polyurethane)			
Chemical	PSX 700	Epoxy Mastic	Aliphatic 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
Ethy Alcohol	10	10	10

10 = No change, 0 = Complete failure

Figure 7

SALT FOG RESISTANCE						
System	DFT	Hours	Surface Prep	Blistering*	Face Corrosion	Scribe*
SBS/PSX 700	7 mils	5500	SSPC-SP10	10	10	6
SBS/Epoxy Mastic	7 mils	3000	SSPC-SP10	10	10	6

SBS – Sand-blasted steel RS – Rusted steel \*10 = No change, 0 = Complete failure

**Salt fog resistance:** At equivalent dry film thickness, PSX® 700 has 1.8 times the corrosion resistance of epoxy mastic over blasted steel. 1 mil = 25 microns



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