

PSX 700

Engineered Siloxane Coating

Product Data

Data Sheet: 700

Date: 07/00

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
- Recommended to be applied over inorganic zinc silicate
- 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
- Indoor aquatic centres
- Commercial buildings and shopping centres
- Airports and hospitals
- Coastal developments

Typical Properties PSX 700

Physical

Physical Data

| | |
|-----------------------------|---|
| Finish | Gloss |
| Colour | Large range of colours from Ameron POS system |
| Components | 2 |
| Curing mechanism | Chemical reaction |
| Volume solids | 90 ± 3% |
| Coats | 1 or 2 |
| Dry film thickness per coat | 75-175 µm (80-190 µm Wet) |
| Theoretical Coverage | m ² /L |
| 75 microns | 11.8 |
| Temperature resistance, dry | °C |
| Continuous | 93 |
| Intermittent | 121 |

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
 ACQPA France
 "O" Class fire rating (UK Building Regulations) based on testing according to BS476 Parts 6 and 7 (fire propagation and flame spread).

Application Data

| | |
|---------------------------|--|
| Applied over | Correctly primed steel, galvanising or aluminium. |
| Surface preparation | |
| Steel / concrete | Refer application instructions for the specific primer used. Be sure primer is clean and dry when PSX700 is applied. |
| Method | Airless or conventional spray, brush or roller |
| Mixing ratio (by volume) | 4 parts A to 1 part B |
| Pot Life (Hours) * | |
| 700 / mixed paint | 32°C 21°C 10°C |
| | 1 ½ 4 6 ½ |

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

Surface Preparation

Steel should be cleaned, free of oil and grease prior to

| | |
|--|-------------|
| Abrasion (ASTM D4060) | |
| 1kg load/1000 cycles | weight loss |
| CS-17 wheel | 53 mg |
| Adhesion, elcometer | |
| (ASTM D4541) | 2700 psi |
| Elongation (ASTM D522) | 14% |
| Performance | |
| Salt spray (ASTM B117) | 5500 hours |
| Face corrosion, blistering | None |
| Humidity (ASTM D2247) | 5500 hours |
| Face corrosion, blistering | None |
| Gloss retention (ASTM G53) QUV-B bulb | |
| Greater than 50% gloss retention at 26 weeks | |

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 Ameron representative for your particular corrosion protection needs.

Systems Using PSX 700

| Steel (blasted 2 ½ +) | | PSX 700 |
|-----------------------------|---------|---------|
| Ameron D9 | 65-75 | 75-125 |
| Amercoat 68HS | 70-85 | 75-125 |
| Amercoat 471 | 70-85 | 75-125 |
| Concrete | | |
| Amercoat 385 | 100-125 | 75-125 |
| Amerlock 2 | 100-125 | 75-125 |
| Aluminium – sweep blast | | 75-125 |
| Galvanised – sweep blast –, | | |
| Amercoat 385 | 100-125 | 75-125 |

abrasive blasting to Class 2 ½ or better AS/NZS 1627.4. Round off all rough welds and remove all weld spatter. Apply recommended primer as per instructions.

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 PSX700 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 (700) | 1 | 2 | 4 ½ | 9 |
| Through (700) | 3 | 4 ½ | 8 ½ | 24 |

Recoat / Topcoat Time (hours) @ 40% R.H. or above

| | 32°C | 21°C | 10°C | 0°C |
|--------------------|-------------|------|------|-----|
| PSX700 over PSX700 | 2 | 3 | 7 | 18 |
| maximum | None | | | |
| Thinner | Thinner 140 | | | |
| Equipment cleaner | Thinner 304 | | | |

Shelf life when stored indoors at 4 to 38°C

Part A & B 1 year from shipment date

Numerical values are subject to normal manufacturing tolerances, colours and testing variances. Allow for application losses and surface irregularities.

Safety Precautions

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

Read each component's material safety data sheet before use. Mixed material has hazards of each component.

This product is only for industrial use by experienced applicators.

Keep away from children. When mixing or applying wear goggles and gloves and ensure good ventilation. When spraying, wear appropriate protective clothing and air supply. If splashed on skin, wash with soap and water. Adequate forced ventilation must be provided in confined spaces.

Technical information given verbally or in writing is based on knowledge and research, given in good faith and believed to be reliable, but no guarantee of accuracy is made or implied. Since methods and conditions of use are beyond our control, all merchandise is sold and received subject to the condition that our liability whether express or implied for any defect in quality, or for any lack of fitness for the specified use thereof, is limited to the return of the purchase price if written claim is made within 14 days from date of delivery. It is recommended that the user makes his or her own tests to determine the suitability of the product for his own requirements. Freedom from patent restrictions is not implied.





PSX 700

Engineered Siloxane Coating

Application Instructions

Data Sheet: 700

Date: 07/00

Refer to the Product Data sheet for properties and uses.

Adhere to all application instructions, precautions, conditions and limitations during storage, handling, application and drying periods to obtain the maximum performance. For conditions outside the requirements or limitations described contact your Ameron 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 2 or Amercoat 385

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 Metaphos 67 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 Thinner 304 before use.
2. Mix to a uniform consistency.
3. Add PSX 700 Part B to PSX 700 Part A. Mix thoroughly until uniformly blended.

Pot Life (Hours) *

| | 32°C | 21°C | 10°C |
|---------|------|------|------|
| PSX 700 | 1 ½ | 4 | 6 ½ |

4. If needed for workability, thin with Thinner 140 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.

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 |
|---------|------|------|------|-----|
| PSX 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 Ameron D9 or Amercoat 68HS see special thinning instructions.
8. Clean all equipment with Thinner 304 immediately after use.

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

Thinning for Application over Ameron D9

Thin PSX 700 with Thinner 140 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 an increased interval between the mist-coat and full-coat may assist in the application.

Environmental Conditions

Temperature

| | |
|-------------------|-------------|
| Air | 4 to 49°C |
| Surface | 4 to 49°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 PSX 700 to dry to touch before exposing to curing temperatures above 60°C.

Flash Point (Seta)

| | |
|-------------|-------|
| Part A | 97 °C |
| Part B | 96 °C |
| Thinner 140 | 27 °C |
| Thinner 304 | -4 °C |

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. Ameron 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 Ameron 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.

Technical information given verbally or in writing is based on knowledge and research, given in good faith and believed to be reliable, but no guarantee of accuracy is made or implied. Since methods and conditions of use are beyond our control, all merchandise is sold and received subject to the condition that our liability whether express or implied for any defect in quality, or for any lack of fitness for the specified use thereof, is limited to the return of the purchase price if written claim is made within 14 days from date of delivery. It is recommended that the user makes his or her own tests to determine the suitability of the product for his own requirements. Freedom from patent restrictions is not implied.

