

# DeSoto® 512X310 Urethane Compatible Chrome-Free Epoxy Primer

## TECHNICAL DATA SHEET

### Product Description

512X310 is a chrome-free epoxy primer designed for use on composite aircraft surfaces.

- Compatible with Desothane® HS polyurethane topcoats and epoxy primers
- Excellent fluid resistance
- Compatible with all non-electrostatic spray equipment
- Can be applied in a wide range of conditions
- Service temperature -54°C to 177°C (-65°F to 350°F)

### Components



#### Mix ratio (by volume):

- 512X310 (base component) 1 part
- 910X533 (activator component) 1 part

### Specifications



512X310 primer is qualified to:

- 514563
- BMS 10-103 Type I Grade A
- CMS-CT-206 Type I Class A
- DHMS C4.01 Type 3 Grade A
- MEP 10-070
- MS100016E Class HS
- SMS 111207 Type 7
- TCE-M-20710-14
- VMS C4.01 Type 3 Grade A

*Note: PPG Aerospace recommends you check the most recent specification QPLs for updated information.*

#### Product Compatibility:

512X310 is compatible with the following topcoats:

- BAMS 565-009
- BMS 10-11 Type II
- BMS 10-60 Type I & Type II
- BMS 10-72 Type VIII
- DHMS C4.04
- DPM 6546
- MEP 10-069

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## Surface Preparation and Pretreatments



512X310 primer can be applied over clean, dry, and intact composite surfaces.

## Instructions for Use



### Mixing Instructions:

Prior to mixing, thoroughly shake the base component. Add activator to base component and stir well, maintain constant agitation for 10 minutes to ensure proper mixing. Induction time is required.

*Note: It is important to condition the paint for 24 hours prior to mixing by placing all materials in the shop or hangar, with ambient temperatures between 13° and 35°C (55° to 95°F). The minimum temperature of the paint components should be 13°C (55°F) prior to mixing.*



### Induction Time:

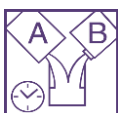
Temperature	13 - 21°C (55 - 70°F)	22 - 28°C (71 - 84°F)	>29°C (>85°F)
Induction Time Required	45 minutes	30 minutes	15 minutes



### Viscosity: (23°C/73°F)

- |                         |                  |
|-------------------------|------------------|
| • #1 Signature Zahn cup | 30 to 40 seconds |
| • #2 Signature Zahn cup | 16 to 20 seconds |
| • #4 Ford cup           | 12 to 15 seconds |
| • ISO 3mm cup           | 37 to 50 seconds |
| • ISO 4mm cup           | 18 to 22 seconds |
| • BSB3 cup              | 26 to 30 seconds |
| • BSB4 cup              | 15 to 17 seconds |
| • AFNOR #2.5 cup        | 45 to 56 seconds |
| • AFNOR #4 cup          | 14 to 16 seconds |

*Note: Viscosities quoted are the typical ranges obtained when using specified mix ratio.*



### Pot Life:

8 hours @ 21 - 25°C (70 - 77°F)

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## Application Guidelines

### Recommended Application Conditions:

Temperature	15 - 30°C (59 - 86°F)
Relative Humidity	20 - 90%

### Application:

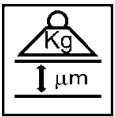
Ground the aircraft and the application equipment before priming. Stir the primer slowly during the application. The suggested film thickness is 13 to 20 microns (0.5 to 0.8 mils). This can be accomplished by one medium coat with a 50% overlap.

*These application guidelines represent PPG's best advice in standard conditions. Some parameters will be influenced by environmental conditions, equipment settings, and other variables.*



### Theoretical Coverage:

9 square meters/liter at 25 microns dry film (364 square feet/gallon at 1 mil dry film)  
 Recommended dry film thickness; 13 to 20 microns (0.5 to 0.8 mils)



### Dry Film Density:

1.96 grams/cubic centimeter (16 pounds/gallon)

### Dry Film Weight:

48 grams/square meter at 25 microns dry film (0.00996 pounds/square feet at 1 mil dry film)



### Equipment:

512X310 primer is compatible with conventional and HVLP spray equipment.

Equipment Type	Tip Size	Pot Pressure	Atomization Pressure at the Cap
High Volume Low Pressure Spray Gun (HVLP)	1.0 mm to 1.4 mm	10 to 20 psi (0.69 to 1.4 bar)	10 psi maximum (0.69 bar)
Conventional Air Spray Gun	1.2 mm to 1.8 mm	10 to 20 psi (0.69 to 1.4 bar)	45 to 60 psi (3.1 to 4.1 bar)

### Equipment Cleaning:

Clean spray equipment as soon as possible after use. Flush spray equipment with DeSoto® CN20, DeSoto® CN44, or Desoclean™ 45 high performance solvent cleaner.



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## Physical Properties (product)



**Color:** Light Gray



**Gloss:** Not Applicable



<b>Dry Times</b>	<b>13 - 21°C (55 - 70°F)</b>	<b>22 - 28°C (71 - 84°F)</b>	<b>&gt;29°C (&gt;85°F)</b>
Dust Free	45 minutes	30 minutes	20 minutes
Dry to Tape	2 ½ hours	2 hours	1 ½ hours
Dry to Topcoat	2 ½ hours	2 hours	1 ½ hours
Full Cure	7 days	7 days	7 days

Accelerated cure:

Allow 30 minutes flash off at 24°C ± 3°C (75°F ± 10°F)  
followed by 30 minutes at 65.5°C (150°F)



**VOC:**

Mixed, ready to use VOC (EPA method 24)	650 grams/liter
Base Component	494 grams/liter
Activator Component	804 grams/liter



**Flash point closed cup:**

Base Component	18°C (65°F)
Activator Component	7°C (45°F)

**Shelf Life:**

12 months from date of manufacture to most OEM material specifications. Consult the specification to verify shelf life requirements.

24 months from date of manufacture for PRC-DeSoto Standard.

*Note: The coating shelf life is provided for original, unopened containers.*



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*Note: The application and performance property values above are typical for the material, but not intended for use in specifications or for acceptance inspection criteria because of variations in testing methods, conditions and configurations.*

## **Storage Recommendations**



Inspect the condition of the container to ensure compliance. The material should be stored at temperatures between 5°C to 35°C (41°F to 95°F) to ensure shelf life.

*Note: When procuring to a qualified material specification, follow those storage instructions.*



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## Health Precautions

This product is safe to use and apply when recommended precautions are followed. Before using this product, read and understand the Safety Data Sheet (SDS), which provides information on health, physical and environmental hazards, handling precautions and first aid recommendations. An SDS is available on request. Avoid overexposure. Obtain medical care in case of extreme overexposure.

**For industrial use only. Keep away from children.**

**Additional information can be found at: [www.ppgaerospace.com](http://www.ppgaerospace.com)**

**For sales and ordering information call the local PPG office at the numbers listed below:**

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