

# Desothane® HS CA8200 Military and Defense Topcoats

## TECHNICAL DATA SHEET

### Product Description

Desothane® HS CA8200 military and defense topcoats are high solids polyurethanes used to protect the exterior of aircraft. These topcoats are designed to be applied over Desoprime™ epoxy primers and Koroflex® urethane primer.

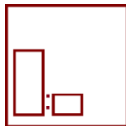
- Good gloss and color retention
- Excellent fluid resistance
- Compatible with all current spray equipment
- Can be applied in a wide range of conditions
- Service temperature -54°C to 177°C (-65°F to 350°F)

### Components



#### Mix ratio (by volume) for gloss colors:

- CA8201/XXXXX (base component) 1 part
- CA8000D (activator component) 1 part



#### Mix ratio (by volume) for semi-gloss colors:

- CA8221/XXXXX (base component) 3 parts
- CA8200B (activator component) 1 part

#### Mix ratio (by volume) for flat colors:

- CA8211/XXXXX (base component) 3 parts
- CA8200B (activator component) 1 part

#### Mix ratio (by volume) for gunship/matte colors:

- CA8271/XXXXX (base component) 3 parts
- CA8200B (activator component) 1 part

### Specifications



CA8200 series topcoats are qualified to:

- AIMS 04-04-036
- DMS 2115 Type I
- EMS 93123
- FMC 9661-01
- GC130N
- GP110AEF
- MIL-PRF-85285 Type I
- MMS-420
- RMS 176 Type II

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



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## Product Compatibility:

CA8200 topcoats are compatible with the following primers:

- DMS 1786
- MIL-P-53022
- MIL-PRF-23377
- MIL-PRF-85582
- MMS-423
- TT-P-2760

## Surface Preparation and Pretreatments



CA8200 high solids topcoats can be applied over clean, dry, and intact Desoprime™ epoxy and Koroflex® primers. Desothane® HS topcoats may be applied over the primer with no abrasion if the primer was applied between 4 and 48 hours before top coating. If it is longer, then abrade the primer surface and clean the surface with Desoclean™ 110 mild solvent cleaner. For further information, refer to the Technical Data Sheet for the above mentioned primers.

## Instructions for Use



### Mixing Instructions:

Prior to mixing, thoroughly shake the base component for 10 minutes. Add the activator to the base component and stir well. Maintain constant agitation for 10 minutes to ensure proper mixing.

*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:

Not Required



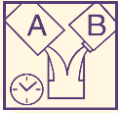
### Viscosity: (23°C/73°F)

- |                |                    |
|----------------|--------------------|
| • #2 Zahn cup  | 41 seconds maximum |
| • #4 Ford cup  | 30 seconds maximum |
| • ISO 4 cup    | 68 seconds maximum |
| • BSB3 cup     | 66 seconds maximum |
| • BSB4 cup     | 36 seconds maximum |
| • AFNOR #4 cup | 34 seconds maximum |

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



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## Pot Life:

Base Component	13 - 21°C (55 - 70°F)	22 - 28°C (71 - 82°F)	>29°C (>85°F)
CA82X1	4 hours	4 hours	3 hours
CA82X2	3 hours	2 - 3 hours	1 - 2 hours
CA82X3	3 hours	2 hours	1 hour
CA82X4	1 hour	30 minutes	15 minutes

## 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 top coating. Stir the topcoat slowly during the application. The suggested film thickness is 50 to 100 microns (2.0 to 4.0 mils). For gloss and semi-gloss topcoats this can be accomplished by two or three medium coats with a 50% overlap. With the flat and gunship/matte coatings it may be applied with a heavy cross coat or 2 coats. Note the first coat should be allowed to tack up before applying the second coat. If the second is applied before the first coat has tacked up, sagging may occur. If the first coat is dry hard, a heavy orange peel in the second coat may occur.

*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:

Gloss colors:

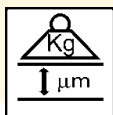
20 square meters/liter at 25 microns dry film (825 square feet/gallon at 1 mil dry film)

Semi-gloss, Flat, and Matte colors:

20 square meters/liter at 25 microns dry film (820 square feet/gallon at 1 mil dry film)

Recommended dry film thickness; 50 to 100 microns (2.0 to 4.0 mils)

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## Dry Film Density:

Gloss colors:

1.48 grams/cubic centimeter (12.33 pounds/gallon)

Semi-gloss, Flat, Gunship, and Matte Colors:

1.64 grams/cubic centimeter (13.66 pounds/gallon)

## Dry Film Weight:

Gloss colors:

37 grams/square meter at 25 microns dry film (0.0075 pounds/square foot at 1 mil dry film)

Semi-gloss, Flat, and Matte colors:

41 grams/square meter at 25 microns dry film (0.0084 pounds/square foot at 1 mil dry film)



## Equipment:

CA8200 high solids military topcoats are compatible with all current forms of spray equipment.

Equipment Type	Tip Size	Pot Pressure	Atomization Pressure at the Cap
Electrostatic Air Spray Gun	1.2 mm or 1.5 mm	10 to 20 psi (0.69 to 1.4 bar)	45 to 60 psi (3.1 to 4.1 bar)
Electrostatic Air Assisted Airless Spray Gun	#611 or #613 (Graco Nomenclature)	700 to 1200 psi (48 to 82 bar)	40 to 60 psi (2.8 to 4.1 bar)
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:**

Many colors in gloss, semi-gloss, flat, or gunship/matte using Federal Standard 595 color chips (Fed Standard 34095 cannot be certified to any material specification).



**Gloss:**

Gloss colors, 90+ G.U at 60°  
Flat or matte colors, <10 G.U at 85°  
Semi-gloss colors, 15 - 45 G.U at 60°



Dry Times	13 - 21°C (55 - 70°F)	22 - 28°C (71 - 84°F)	>29°C (>85°F)
CA82X1 Base Component			
Dry to Tape	8 - 10 hours	5 - 7 hours	3 - 4 hours
Dry Hard	14 hours	12 hours	10 hours
Dry to Fly	56 hours	48 hours	40 hours
Time Between Coats	60 - 90 minutes	45 - 60 minutes	30 - 45 minutes
Wet Edge			
Gloss	60 minutes	60 minutes	45 minutes
Semi-Gloss	45 minutes	45 minutes	20 minutes
Flat and Matt	30 minutes	30 minutes	15 minutes
CA82X2 Base Component			
Dry to Tape	5 - 7 hours	3 - 5 hours	2 - 3 hours
Dry Hard	12 hours	10 hours	8 hours
Dry to Fly	48 hours	40 hours	32 hours
Time Between Coats	30 - 40 minutes	15 - 30 minutes	10 - 20 minutes
Wet Edge			
Gloss	60 minutes	45 minutes	30 minutes
Semi-Gloss	45 minutes	30 minutes	20 minutes
Flat and Matt	20 minutes	15 minutes	10 minutes



## Desothane® HS CA8200 Military and Defense Topcoats

CA82X3 Base Component			
Dry to Tape	4 - 5 hours	2 - 3 hours	1 - 2 hours
Dry Hard	10 hours	8 hours	6 hours
Dry to Fly	40 hours	32 hours	24 hours
Time Between Coats	25 minutes	10 - 20 minutes	10 minutes
Wet Edge			
Gloss	25 minutes	20 minutes	15 minutes
Semi-Gloss	50 minutes	15 minutes	10 minutes
Flat and Matt	15 minutes	10 minutes	10 minutes
CA82X4 Base Component			
Dry to Tape	1 ½ - 2 hours	1 hour	20 minutes
Dry Hard	8 hours	6 hours	4 hours
Dry to Fly	32 hours	22 hours	18 hours
Time Between Coats	10 minutes	5 - 10 minutes	5 minutes

Accelerated cure for dry hard, CA82X1:

Allow 1 hour flash off at 24°C (75°F)  
followed by 4 hours at 49°C (120°F)

*Note: The cure rates of CA8200 topcoats are not affected by humidity.*

*Note: The times listed above are dependent upon film thickness, airflow, and spray technique. Lower film thickness, better airflow, spraying "dry" will decrease the dry-to-tape, and time between coats.*

### VOC

#### VOC:

Mixed, ready to use VOC (EPA method 24) for all gloss, semi-gloss, and flat colors is 420 grams/liter.

#### Gloss Colors

Base Component	304 grams/liter
Activator Component	485 grams/liter

#### Semi-Gloss Colors

Base Component	482 grams/liter
Activator Component	206 grams/liter



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Flat and Matte Colors

Base Component

470 grams/liter

Activator Component

206 grams/liter



## Flash point closed cup:

Gloss Colors

Base Component

27°C (80°F)

Activator Component

29°C (84°F)

Semi-Gloss Colors

Base Component

27°C (80°F)

Activator Component

39°C (102°F)

Flat and Matte Colors

Base Component

27°C (84°F)

Activator Component

39°C (102°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: Shelf life is provided for original, unopened containers.*

*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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