

Desothane[®] HS CA8000 Polyurethane Topcoats (US)

TECHNICAL DATA SHEET

Product Description

Desothane[®] HS CA8000 series polyurethane topcoats are used to protect the exterior of aircraft. These topcoats are designed to be applied over Desoprime[™] epoxy primers.

- High Solids
- Excellent adhesion to epoxy primers
- 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

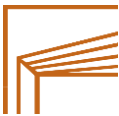


Mix ratio (by volume) for gloss colors:

- | | |
|----------------------------------|---------|
| • CA8000/XXXX (base component) | 2 parts |
| • CA8000B (activator component) | 1 part |
| • CA8000C/CT (thinner component) | 1 part |

Note: Different versions of Desothane[®] HS Thinners are available. See Dry Time Table for assistance in choosing the appropriate thinner for the required dry times.

Specifications



CA8000 series topcoats are qualified to:

- | | |
|--------------------------------------|---|
| • AMS 3095 | • DMS 2143 Type 1 Class 1 Composition C |
| • BAMS 565-002 Class A Grade B | • DPM 6456 |
| • BAMS 565-009 Grade B Type II | • DPM 6546 |
| • BMS 10-60 Type II Class B Grade D | • FEDEX STANDARD |
| • BMS 10-72 Type VIII | • GAMPS 3209 |
| • BMS 10-125 Type III Grade D | • GP110AEE |
| • BMS 10-126 Type I Grade D | • MS100029E Class HS |
| • CMS-CT-101 Type I | • RMS 430 Type II |
| • DHMS C4.04 Type VI Class B Grade B | • SMS 111207 Type 1 |
| | • VMS C4.04 Type VI Class B Grade B |

Qualified manufacturing sites for the following specifications are Shildon, UK and/or Gonfreville, France. Please refer to EMEA CA8000 TDS for further information.

- | | |
|------------------|------------------|
| • AIMS 04-04-012 | • AIMS 04-04-031 |
| • AIMS 04-04-013 | • AIMS 04-04-032 |
| • AIMS 04-04-024 | |

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

Product Compatibility:

CA8000 topcoats are compatible with the following primer specifications:

- 299-947-322 Type I
- AMS 3095
- BAMS 565-008 Grade A Type II
- BAMS 565-008 Grade B Type II
- BMS 10-72 Type VIII
- BMS 10-79 Type II Class B Grade A
- BMS 10-103 Type I Grade A
- BMS 10-72 Type VIII & IX Class NC
- BMS 10-79 Type II Class A Grade A
- BMS 10-118 Type I & II Grade B
- BMS 10-123 Type I Grade B
- CMS-CT-201 Class A & B Grade A
- CMS-CT-201 Class A & B Grade B
- CMS-CT-206 Type I Class A
- DHMS C4.01 Type 3 Grade A
- DHMS C4.18 Type III Class A Grade B
- GAMPS 3103
- GP110AEE
- HMS 16-1738
- HMS 16-2122
- MEP 10-060 Type I & II Class A
- MEP 10-060 Type I & II Class B
- MEP 10-068 Class A & B
- MEP 10-070
- MM1275 Type I & II
- MS100016E Class S
- PWA 36525 Type 1
- SMS-111204 Type 1 Class 1 Form 1
- SMS-111207 Type 7
- STMGK 189
- TCE-M-20710-14
- VMS C4.01 Type 3 Grade A
- VMS C4.18 Type III Class A Grade B

Surface Preparation and Pretreatments



CA8000 high solids topcoats can be applied over clean, dry, intact urethane compatible epoxy primers listed above. Desothane[®] HS topcoats may be applied over the primer with no abrasion step if applied between 2 and 48 hours after priming. If it is longer, then abrade the primer surface with 320 grit red Scotch-Brite[™] and clean the surface with a mild solvent such as Desoclean[™] 110 solvent.

Instructions for Use



Mixing Instructions:

Prior to mixing, thoroughly shake the base component. Add the activator to the base component and stir well. Then add the thinner component also under agitation. 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.



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Induction Time:

Not Required



Viscosity: (23°C/73°F)

- #2 Signature Zahn cup 18 to 22 seconds
- #2 EZ Zahn Cup 22 to 27 seconds
- #4 Ford cup 16 to 21 seconds
- ISO 4mm cup 21 to 34 seconds
- BSB3 cup 29 to 36 seconds
- BSB4 cup 16 to 21 seconds
- AFNOR #2.5 cup 54 to 70 seconds
- AFNOR #4 cup 14 to 16 seconds

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



Pot Life:

Thinner	20°C (68°F)	25°C (77°F)	30°C (87°F)	35°C (95°F)
CA8000C/CT	4 hours	3 hours	2 ½ hours	2 hours
CA8000C1/CT1	2 ½ hours	2 hours	1 ½ hours	1 hour
CA8000C2/CT2	1 ½ hours	1 hour	45 minutes	30 minutes
CA8000C3/CT3	1 hour	45 minutes	30 minutes	20 minutes
CA8000C4/CT4	45 minutes	30 minutes	20 minutes	15 minutes
CA8000C5/CT5	30 minutes	20 minutes	15 minutes	12 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 75 microns (2.0 to 3.0 mils). This can be accomplished with two medium coats with a 50% overlap. The first coat should be allowed to tack up before applying the second coat. If the first coat has not tacked up, sagging of the second coat may occur. If the first coat is dry to touch, a heavy orange peel may occur in the second coat.

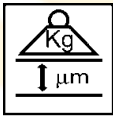
These application guidelines represent PPG's best advice in standard conditions. Some parameters will be influenced by environmental conditions, equipment settings, and other variables.

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Theoretical Coverage:

20 square meters/liter at 25 microns dry film (775 to 875 square feet/gallon at 1 mil dry film)
 Recommended dry film thickness; 50 to 75 microns (2.0 to 3.0 mils)



Dry Film Density:

1.44 grams/cubic centimeter (12.0 pounds/gallon)

Dry Film Weight:

36 grams/square meter at 25 microns dry film (0.0075 pounds/square feet at 1 mil dry film)



Equipment:

CA8000 high solids 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 40 psi (0.69 to 2.8 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.

Physical Properties (product)



Color Available in a wide range of colors



Gloss 90+ G.U at 60°



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Dry Times at Various Temperatures:

20°C (68°F)				
Thinners	Dry to Tape	Wet Edge	Time Between Coats	Dry to Fly
CA8000C/CT	9 - 12 hours	45 - 60 minutes	50 - 100 minutes	90 hours
CA8000C1/CT1	7 - 10 hours	25 - 40 minutes	40 - 60 minutes	65 hours
CA8000C2/CT2	4 - 5 hours	15 - 30 minutes	35 - 45 minutes	40 hours
CA8000C3/CT3	3 - 4 hours	10 - 15 minutes	30 - 40 minutes	24 hours
CA8000C4/CT4	2 - 3 hours	5 - 10 minutes	15 - 20 minutes	12 hours
CA8000C5/CT5	1 - 2 hours	3 - 5 minutes	10 - 15 minutes	8 hours
25°C (77°F)				
Thinners	Dry to Tape	Wet Edge	Time Between Coats	Dry to Fly
CA8000C/CT	8 - 12 hours	30 - 45 minutes	40 - 60 minutes	72 hours
CA8000C1/CT1	5 - 10 hours	15 - 30 minutes	30 - 45 minutes	48 hours
CA8000C2/CT2	3 - 4 hours	10 - 15 minutes	20 - 30 minutes	24 hours
CA8000C3/CT3	1 ½ - 2 ½ hours	8 - 12 minutes	15 - 20 minutes	12 hours
CA8000C4/CT4	1 - 1 ½ hours	3 - 5 minutes	10 - 15 minutes	8 hours
CA8000C5/CT5	45 - 60 minutes	2 - 4 minutes	7 - 13 minutes	6 hours
30°C (87°F)				
Thinners	Dry to Tape	Wet Edge	Time Between Coats	Dry to Fly
CA8000C/CT	6 - 9 hours	25 - 40 minutes	40 - 55 minutes	55 hours
CA8000C1/CT1	3 - 6 hours	10 - 25 minutes	25 - 35 minutes	30 hours



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CA8000C2/CT2	2 - 4 hours	8 - 15 minutes	15 - 25 minutes	18 hours
CA8000C3/CT3	1 ½ - 3 hours	6 - 12 minutes	10 - 15 minutes	10 hours
CA8000C4/CT4	45 - 60 minutes	5 - 10 minutes	8 - 12 minutes	6 hours
35°C (95°F)				
Thinners	Dry to Tape	Wet Edge	Time Between Coats	Dry to Fly
CA8000C/CT	5 - 8 hours	20 - 30 minutes	30 - 40 minutes	36 hours
CA8000C1/CT1	3 - 5 hours	10 - 20 minutes	15 - 30 minutes	24 hours
CA8000C2/CT2	2 - 3 hours	5 - 10 minutes	10 - 20 minutes	12 hours
CA8000C3/CT3	1 - 2 hours	3 - 5 minutes	5 - 10 minutes	6 hours

Accelerated cure for dry to tape with CA 8000C:

Allow 30 minutes flash off at 24°C ± 3°C (75°F ± 10°F)
followed by 60 minutes at 49°C (120°F)

Note: The cure rates of CA8000 topcoats are not affected by humidity.

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

VOC

VOC:

Mixed, ready for use VOC (EPA method 24) < 420 grams/liter.

Base Component	348 grams/liter
Activator Component	113 grams/liter
Thinner Component	864 grams/liter

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Flash point closed cup:

Base Component	29°C (84°F)
Activator Component	47°C (117°F)
Thinner Component	24°C (75°F)

Shelf Life:

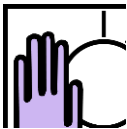
12 months from date of manufacture to most OEM material specifications. Consult the specification to verify shelf life requirements.

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.

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

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



Desothane[®] HS CA8000 Polyurethane Topcoats (US)

Asia Pacific

ASC – Australia

Tel 61 (3) 9335 1557
Fax 61 (3) 9335 3490

ASC – Japan

Tel 81 561 35 5200
Fax 81 561 35 5201

ASC – South East Asia

Tel 65 6861 1119
Fax 65 6861 6162

ASC – Suzhou

Tel (86-512) 6661 5858
Fax (86-512) 6661 6868

ASC – Tianjin

Tel (86-022) 2482 8625
Fax (86-022) 2482 8600

Americas

1 (818) 362-6711 or 1-800-AEROMIX

Europe and Middle East

ASC – Central Europe

Tel 49 (40) 742 193 10
Fax 49 (40) 742 139 69

ASC – Middle East & India

Tel (971) 4 883 9666
Fax (971) 4 883 9665

ASC – North Europe

Tel 44 (0) 1388 770222
Fax 44 (0) 1388 770288

ASC – South Europe

Tel 33 (0) 235 53 43 71
Fax 33 (0) 235 53 54 44

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