Desothane® HS CA8800 Buffable Polyurethane Topcoats

TECHNICAL DATA SHEET

Product Description

Desothane® HS Buffable topcoats are polyurethane coatings used to protect the exterior of aircraft. These high solids topcoats are designed to be applied over Desoprime™ epoxy primers and Desofill™ surfacers.

- Compatible with epoxy primers, surfacers, and intermediate coating
- May be buffed to remove minor imperfections
- Excellent gloss and image reflection
- Retains gloss and color in harsh exterior environments
- Can be applied in a wide range of conditions
- Excellent impact and erosion resistance
- Compatible with all current spray equipment
- Skydrol® resistant
- Service temperature -54°C to 177°C (-65°F to 350°F)

Components

Mix ratio (by volume) for gloss colors:

- CA8800/XXXX (base component) 2 parts
- CA8800Z (activator component) 1 part
- CA8800CT (thinner component) 1 part

Note: Desothane® HS Buffable thinners are available in 6 types based on dry time requirements: CA8800CT, CA8800CTR, CA8800CT1, CA8800CT2, CA8800CT3, and CA8800CT4.

Specifications

CA8800 series topcoats are qualified to:

- AMS 3095
- BAM 565-009 Grade B Type II
- BMS 10-125 Type III & VI Grade D
- DHMS C4.04 Type 6 Class B Grade B
- GAMPS 3209
- MEP 10-069
- MM1276 Type II
- MS100029E Class HS
- PAI 3760
- VMS C4.04

CA8800 series topcoats meet the requirements of:

- BMS 10-60 Type II Class B Grade D
- BMS 10-72 Type VIII
- BMS 10-125 Type III Grade D
- BMS 10-126 Type I Grade D

CA8800 series topcoats are listed on the following process standards:

- D6-1816
- DPM 6546
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Note: PPG Aerospace recommends you check the most recent specification QPLs for updated information.

Product Compatibility:
CA8800 topcoats are compatible with the following primer specifications:
- 299-947-322 Type I
- AMS 3095
- BAMS 565-008 Grade A & B Type II
- BMS 10-72 Type VIII & IX Class NC
- BMS 10-79 Type II & III
- BMS 10-103 Type I 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 & 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 & 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 3 Class A Grade B
- VMS C4.18 Type 3 Class A
- VMS CT-206 Type I Class A
- VMS C4.01 Type 3 Grade A
- VMS C4.18 Type 3 Class A Grade B
- VMS C4.18 Type 3 Class A

Surface Preparation and Pretreatments
CA8800 high solids topcoats can be applied over clean, dry, intact urethane compatible epoxy primers, surfacers, or intermediate coating. The surface may be cleaned with Desoto® CN20, Desoto® CN44, or Desoclean™ 110 solvent cleaner. Observe over coating window for primers or intermediate coating. For further information, refer to the Technical Data Sheets for the above mentioned primers and intermediate coating.

Instructions for Use
Mixing Instructions:
Prior to mixing, thoroughly shake the base component. Add one volume of CA8800Z buffable activator component to two volumes of base component and stir well. While mixing, add one volume of CA8800CT series thinner component and maintain constant agitation for 10 minutes. CA8800CT series component must be added to ensure adequate pot life and spray properties.

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 15° and 30°C (59° to 86°F). The minimum temperature of the paint components should be 15°C (59°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
- #4 Ford cup 14 to 17 seconds
- ISO 4mm cup 19 to 30 seconds
- BSB3 cup 48 to 71 seconds
- BSB4 cup 17 to 22 seconds
- AFNOR #2.5 cup 56 to 70 seconds
- AFNOR #4 cup 16 to 18 seconds

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

**Pot Life:** 21 - 25°C (70 - 77°F)

<table>
<thead>
<tr>
<th>Thinner</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA8800CT</td>
<td>3 hours</td>
</tr>
<tr>
<td>CA8800CTR</td>
<td>3 hours</td>
</tr>
<tr>
<td>CA8800CT1</td>
<td>2 hours</td>
</tr>
<tr>
<td>CA8800CT2</td>
<td>1 hour</td>
</tr>
<tr>
<td>CA8800CT3</td>
<td>45 minutes</td>
</tr>
<tr>
<td>CA8800CT4</td>
<td>30 minutes</td>
</tr>
</tbody>
</table>

**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 by two or three medium coats with a 50% overlap. 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 completely dry, a heavy orange peel could result.
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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:**
20 square meters/liter at 25 microns dry film (825 square feet/gallon at 1 mil dry film)
Recommended dry film thickness; 50 to 75 microns (2 to 3 mils)

**Dry Film Density:**
1.48 grams/cubic centimeter (12.32 pounds/gallon)

**Dry Film Weight:**
37 grams/square meter at 25 microns dry film (0.0068 pounds/square feet at 1 mil dry film)

**Equipment:**
CA8800 high solids topcoats are compatible with all current forms of spray equipment.

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Tip Size</th>
<th>Pot Pressure</th>
<th>Atomization Pressure at the Cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrostatic Air Spray Gun</td>
<td>1.2 mm or 1.5 mm</td>
<td>10 to 20 psi (0.69 to 1.4 bar)</td>
<td>45 to 60 psi (3.1 to 4.1 bar)</td>
</tr>
<tr>
<td>Electrostatic Air Assisted Airless Spray Gun</td>
<td>#611 or #613 (Graco Nomenclature)</td>
<td>700 to 1200 psi (48 to 82 bar)</td>
<td>40 to 60 psi (2.8 to 4.1 bar)</td>
</tr>
<tr>
<td>High Volume Low Pressure Spray Gun (HVLP)</td>
<td>1.0 mm to 1.4 mm</td>
<td>10 to 20 psi (0.69 to 1.4 bar)</td>
<td>10 psi maximum (0.69 bar)</td>
</tr>
<tr>
<td>Conventional Air Spray Gun</td>
<td>1.2 mm to 1.8 mm</td>
<td>10 to 20 psi (0.69 to 1.4 bar)</td>
<td>45 to 60 psi (3.1 to 4.1 bar)</td>
</tr>
</tbody>
</table>

**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:** Various
- **Gloss:** 90+ G.U at 60°

### Dry Times at Various Temperatures:

<table>
<thead>
<tr>
<th>Thinners</th>
<th>Dry to Tape</th>
<th>Wet Edge</th>
<th>Time Between Coats</th>
<th>Dry to Fly</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA8800CT</td>
<td>9 - 12 hours</td>
<td>45 - 60 minutes</td>
<td>50 - 100 minutes</td>
<td>90 hours</td>
</tr>
<tr>
<td>CA8800CT1</td>
<td>7 - 10 hours</td>
<td>25 - 40 minutes</td>
<td>40 - 60 minutes</td>
<td>65 hours</td>
</tr>
<tr>
<td>CA8800CT2</td>
<td>4 - 5 hours</td>
<td>15 - 30 minutes</td>
<td>35 - 45 minutes</td>
<td>40 hours</td>
</tr>
<tr>
<td>CA8800CT3</td>
<td>3 - 4 hours</td>
<td>10 - 15 minutes</td>
<td>30 - 40 minutes</td>
<td>24 hours</td>
</tr>
<tr>
<td>CA8800CT4</td>
<td>2 - 3 hours</td>
<td>5 - 10 minutes</td>
<td>15 - 20 minutes</td>
<td>12 hours</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thinners</th>
<th>Dry to Tape</th>
<th>Wet Edge</th>
<th>Time Between Coats</th>
<th>Dry to Fly</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA8800CT</td>
<td>8 - 12 hours</td>
<td>30 - 45 minutes</td>
<td>45 - 60 minutes</td>
<td>72 hours</td>
</tr>
<tr>
<td>CA8800CT1</td>
<td>5 - 7 hours</td>
<td>15 - 30 minutes</td>
<td>30 - 45 minutes</td>
<td>48 hours</td>
</tr>
<tr>
<td>CA8800CT2</td>
<td>3 - 4 hours</td>
<td>10 - 15 minutes</td>
<td>20 - 30 minutes</td>
<td>24 hours</td>
</tr>
<tr>
<td>CA8800CT3</td>
<td>1 ½ - 2 ½ hours</td>
<td>8 - 12 minutes</td>
<td>15 - 20 minutes</td>
<td>12 hours</td>
</tr>
<tr>
<td>CA8800CT4</td>
<td>1 - 1 ½ hours</td>
<td>3 - 5 minutes</td>
<td>10 - 15 minutes</td>
<td>8 hours</td>
</tr>
</tbody>
</table>

20°C (68°F)

25°C (77°F)
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### 30°C (87°F)

<table>
<thead>
<tr>
<th>Thinners</th>
<th>Dry to Tape</th>
<th>Wet Edge</th>
<th>Time Between Coats</th>
<th>Dry to Fly</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA8800CT</td>
<td>6 - 9 hours</td>
<td>25 - 40 minutes</td>
<td>40 - 55 minutes</td>
<td>55 hours</td>
</tr>
<tr>
<td>CA8800CT1</td>
<td>3 - 6 hours</td>
<td>10 - 25 minutes</td>
<td>25 - 35 minutes</td>
<td>30 hours</td>
</tr>
<tr>
<td>CA8800CT2</td>
<td>2 - 4 hours</td>
<td>8 - 15 minutes</td>
<td>15 - 25 minutes</td>
<td>18 hours</td>
</tr>
<tr>
<td>CA8800CT3</td>
<td>1 ½ - 3 hours</td>
<td>6 - 12 minutes</td>
<td>10 - 15 minutes</td>
<td>10 hours</td>
</tr>
<tr>
<td>CA8800CT4</td>
<td>45 - 60 minutes</td>
<td>5 - 10 minutes</td>
<td>8 - 12 minutes</td>
<td>6 hours</td>
</tr>
</tbody>
</table>

### 35°C (95°F)

<table>
<thead>
<tr>
<th>Thinners</th>
<th>Dry to Tape</th>
<th>Wet Edge</th>
<th>Time Between Coats</th>
<th>Dry to Fly</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA8800CT</td>
<td>5 - 8 hours</td>
<td>20 - 30 minutes</td>
<td>30 - 40 minutes</td>
<td>36 hours</td>
</tr>
<tr>
<td>CA8800CTR (Retarder)</td>
<td>5 - 8 hours</td>
<td>30 - 45 minutes</td>
<td>40 - 60 minutes</td>
<td>36 hours</td>
</tr>
<tr>
<td>CA8800CT1</td>
<td>3 - 5 hours</td>
<td>10 - 20 minutes</td>
<td>15 - 30 minutes</td>
<td>24 hours</td>
</tr>
<tr>
<td>CA8800CT2</td>
<td>2 - 3 hours</td>
<td>5 - 10 minutes</td>
<td>10 - 20 minutes</td>
<td>12 hours</td>
</tr>
</tbody>
</table>

Accelerated cure when using CT thinners:

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

*Note: The cure rate of CA8800 topcoats is not affected by humidity.*

### VOC:

<table>
<thead>
<tr>
<th>Component</th>
<th>VOC (EPA method 24)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Component</td>
<td>338 grams/liter</td>
</tr>
<tr>
<td>Activator Component</td>
<td>116 grams/liter</td>
</tr>
<tr>
<td>Thinner Component</td>
<td></td>
</tr>
<tr>
<td>CA8800CT</td>
<td>867 grams/liter</td>
</tr>
<tr>
<td>CA8800CTR</td>
<td>801 grams/liter</td>
</tr>
</tbody>
</table>
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Flash point closed cup:

<table>
<thead>
<tr>
<th>Component</th>
<th>Flash Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Component</td>
<td>29°C (84°F)</td>
</tr>
<tr>
<td>Activator Component</td>
<td>29°C (84°F)</td>
</tr>
<tr>
<td>Thinner Component</td>
<td></td>
</tr>
<tr>
<td>CA8800CT</td>
<td>24°C (75°F)</td>
</tr>
<tr>
<td>CA8800CTR</td>
<td>43°C (110°F)</td>
</tr>
</tbody>
</table>

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

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

**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  
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Fax (86-022) 2482 8600

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Fax 49 (40) 742 139 69

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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

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

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