BOMBARDIER

Toronto Site

PROPRIETARY INFORMATION

PPS 16.18

PRODUCTION PROCESS STANDARD

PROTECTIVE COATING OF AIRCRAFT MARKINGS, FILMS AND LABELS

Issue 10
- This standard supersedes PPS 16.18, Issue 9.
- Deletions have been made at this issue and, therefore, detail changes have not been noted.
- Direct PPS related questions to christie.chung@aero.bombardier.com or (416) 375-7641.
- This PPS is effective as of the distribution date.

Prepared By:	(Christie Chung)	November 11, 2015
	PPS Group	
Approved By:	(*K. Quon*, for Emma Jane Donlin)	November 12, 2015
	Materials Technology	
	(Stephen Pitt)	November 13, 2015
	Quality	

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1 SCOPE

1.1 This Production Process Standard (PPS) specifies the procedure and requirements for protective coating of aircraft markings, films and labels.

1.1.1 This PPS complements the engineering drawings that specify its use as an authorized instruction. The procedure specified in this PPS shall be followed to ensure compliance with all applicable specifications. In general, if this PPS conflicts with the engineering drawing, follow the engineering drawing. The requirements specified in this PPS are necessary to fulfil the engineering design and reliability objectives.

1.1.2 Refer to PPS 13.26 for the subcontractor provisions applicable to this PPS.

1.1.3 Procedure or requirements specified in a Bombardier BAPS, MPS, LES or P. Spec. do not supersede the procedure or requirements specified in this PPS. Similarly, the procedure and requirements specified in this PPS are not applicable when use of a BAPS, MPS, LES or P. Spec. is specified.

2 HAZARDOUS MATERIALS

2.1 Before receipt at Bombardier Toronto, all materials shall be approved and assigned Material Safety Data Sheet (MSDS) numbers by the Bombardier Toronto Environment, Health and Safety Department. Refer to the manufacturer's MSDS for specific safety data on any of the materials specified in this PPS. If the MSDS is not available, contact the Bombardier Toronto Environment, Health and Safety Department.

3 REFERENCES

3.1 PPS 13.13 - Personal Protective Respiratory Equipment.

3.2 PPS 13.26 - General Subcontractor Provisions.

3.3 PPS 13.28 - Storage Life of Adhesives, Sealants, Paints and Composite Products.

3.4 PPS 22.06 - Screen Printing - Direct Process.

3.5 PPS 31.17 - Solvent Usage.

3.6 PPS 34.03 - Application of Polyurethane Enamel.

4 MATERIALS AND EQUIPMENT

4.1 Materials

4.1.1 Chem Seal CS7707, Clear 2 Part Nylon Coating.

4.1.2 Tempo 7600 Series polyurethane clear enamel to BAMS 565-002, Class A, Grade A.

4.1.3 AkzoNobel Aerospace Eclipse ECL-G-7 polyurethane clear enamel to DHMS C4.04.

4.1.4 PPG Aerospace, PRC-DeSoto, Desothane HS CA8800/B900 polyurethane clear enamel to DHMS C4.04.

4.2 Equipment

4.2.1 Graduated measuring containers.

4.2.2 Disposable wax-free paperboard containers (e.g. MELO take-out containers).

5 PROCEDURE

5.1 General

5.1.1 Overcoat the following labels and screen printed markings according to this PPS. It is preferred that Chem Seal CS7707 be used to overcoat the labels and screen printed markings, however, Tempo 7600 Series, Eclipse ECL-G-7 or Desothane HS CA8800/B900 polyurethane clear enamels are acceptable alternative protective coating material.

- All labels and screen printed markings applied to the exterior of the aircraft.
- Labels and screen printed markings applied in any areas which may be subject to contamination with fuel and/or hydraulic fluid (including the fuselage at the wing root, front and rear wing spars, engine nacelles and wheel well areas).
- If specified by the engineering drawing.

5.2 Preparation of Coating Material

5.2.1 Prepare Chem Seal CS7707 or Tempo 7600 Series coating as follows:

Step 1. Stir the base and catalyst component of the coating thoroughly in their own containers.

Step 2. Mix the appropriate amount of each of the components in a clean wax free cup. Refer to Table I for the appropriate mixing ratio. Mix only sufficient material for the job at hand.

Step 3. Stir the base/catalyst mixture thoroughly to obtain a homogeneous mix.

Step 4. Allow the mixture to stand for a reaction time of approximately 15 minutes.

Step 5. Re-stir immediately before using.

Step 6. Discard unused catalyzed mixture at the end of each shift.

5.2.2 Prepare Eclipse ECL-G-7 and Desothane HS CA8800/B900 coatings according to PPS 34.03, except do not add thinner to the base/catalyst mixture for brush application as specified herein.

TABLE I - MIXING DATA

COATING MATERIAL	MIXING RATIO (BASE:CATALYST)	POT LIFE (NOTE 1)
Chem Seal CS7707	100:6 (by weight)	24 hours
Tempo 7600 Series	1:1 (by volume)	8 hours
Eclipse ECL-G-7 (Gloss)	As specified in PPS 34.03 (Note 2)	
CA8800/B900 (Gloss)	As specified in PPS 34.03 (Note 2)	

Note 1. The pot life is the time during which mixed adhesive remains suitable for application at 75 ± 5°F. The time indicated is for a 100 gram mix unless otherwise specified.
Note 2. Do not add thinner to polyurethane clear enamel for brush application as specified herein.

5.3 Preparation of Parts

5.3.1 Immediately before applying coating, solvent wipe the label/marking and adjacent structure within one inch of the label according to PPS 31.17.

5.4 Application of Coating

5.4.1 Apply a thin brush coat of the coating material (Chem Seal CS7707, Tempo 7600, ECL-G-7 or CA8800/B900) to the entire surface of the label/marking and overlap the coating onto the adjacent surface by approximately 1/4". If using Chem Seal CS7707, allow the first coat to air dry for approximately 30 minutes at room temperature before applying a second coat. If using Tempo 7600 Series, ECL-G-7 or CA8800/B900 polyurethane clear enamel as the coating material, it is not necessary to apply a second coat.

5.5 Curing

5.5.1 Chem Seal CS7707 will be dry to the touch after 30 minutes at 75 ± 5°F, but a minimum of 3 days (72 hours) at 75 ± 5°F is required for full cure.

5.5.2 For Eclipse ECL-G-7 and Desothane HS CA8800/B900 polyurethane enamel, refer to PPS 34.03 for the curing details.

5.5.3 Allow Tempo 7600 Series polyurethane enamel to air cure at a minimum temperature of 68°F for at least 3 days (72 hours) before exposure to weather or being placed into service. In order to achieve its optimum cure, allow a Tempo 7600 Series coating to air cure for 7 days (168 hours) at 68°F minimum.

5.6 Clean-Up

5.6.1 Clean equipment and brushes according to PPS 31.17 immediately after use.

6 REQUIREMENTS

6.1 Ensure that the cured coating is continuous, adherent and uniform in appearance and has overlapped onto the adjacent surfaces by approximately 1/4".

6.2 Ensure the cured coating is free from imperfections such as sags, runs, craters and contamination such as dust or lint.

7 SAFETY PRECAUTIONS

7.1 Observe standard plant safety precautions when performing the procedure specified herein.

7.2 Refer to PPS 31.17 for the safety precautions for handling and using solvents.

7.3 Keep coating materials away from fire and other sources of ignition.

7.4 Wear protective respiratory equipment according to PPS 13.13 when working with protective coating as specified herein. Supply sufficient ventilation when applying coating material.

7.5 Avoid skin contact with coating material. Use neoprene gloves when handling or mixing the materials specified herein.

8 PERSONNEL REQUIREMENTS

8.1 Personnel responsible for protective coating of aircraft markings, films and labels shall have a good working knowledge of the procedure and requirements as specified herein and shall have exhibited their competency to their supervisor.

9 STORAGE

9.1 Store coating material components with the precautions necessary for flammable materials.

9.2 Store Chem Seal CS7707 at a temperature of 60 - 80°F.

9.3 Store Eclipse ECL-G-7 and Desothane HS CA8800/B900 polyurethane components according to PPS 34.03.

9.4 Store Tempo 7600 Series polyurethane components (in the form of the original kit) indoors at a temperature of 50 - 90°F in such a manner that the components are protected from direct heat or open flame.

9.5 Issue the oldest stock of the coating material components first.

9.6 When not in use, keep containers of coating material components tightly closed.

9.7 Refer to PPS 13.28 for the storage life of Chem Seal CS7707, Tempo 7600 Series, Eclipse ECL-G-7 and Desothane HS CA8800/B900 coatings.