BOMBARDIER
Toronto (de Havilland)
PROPRIETARY INFORMATION

PPS 16.13

PRODUCTION PROCESS STANDARD

DE-ICER PROTECTIVE COATING

Issue 3 - This standard supersedes PPS 16.13, Issue 2.
- Vertical lines in the left hand margin indicate changes over the previous issue.

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This PPS is effective as of the distribution date specified on the accompanying distribution notice.

Direct any PPS related questions to the PPS Group (416) 375-7641.

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1 SCOPE

1.1 This Production Process Standard (PPS) specifies the procedure and requirements for the application of pneumatic de-icer protective coating if specified on the engineering drawing.

1.1.1 This PPS complements the engineering drawings that specify its use as an authorized instruction. The procedure specified in this PPS must 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 (de Havilland), all materials must be approved and assigned Material Safety Data Sheet (MSDS) numbers by the Bombardier Toronto (de Havilland) 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 (de Havilland) 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 31.17 - Solvent Usage.

3.5 PPS 34.15 - Application of Carbon Filled Polyurethane Enamel (F31 & F34).

4 MATERIALS AND EQUIPMENT

4.1 Materials

4.1.1 De-icer protective coating kit, #74-451-L (BF Goodrich), comprising:

- Primer, 74-451-122 (021045)
- Protective Coating, 74-451-123 (0165CP-9).
- Accelerator, 74-451-120 (KE-7005).

4.1.2 Masking tape, 1/2" width.

4.2 Equipment

4.2.1 Paint brush, 2" pure bristle.

4.2.2 Tack cloths (e.g., DSC 375-1).

4.2.3 Wiping cloths (e.g., DSC 378-2).

5 PROCEDURE (SEE FLOW CHART 1)

5.1 General

5.1.1 The de-icer protective coating is applied to protect the de-icer boot from damage caused by hydraulic fluid or engine oil contamination.

5.1.2 Only apply de-icer protective coatings if specified on the engineering drawing.

5.1.3 Only apply de-icer protective coatings after the conductive polyurethane enamel (F31) has been applied and allowed to cure according to PPS 34.15.

5.2 Surface Preparation

5.2.1 Prepare surface as follows:

Step 1. Clean and dry the surface with water and clean cloths to remove dirt, grit and loose particles.

Step 2. Solvent clean according to PPS 31.17. After cleaning, visually inspect the surface for evidence of dust, cloth fibres, etc. If necessary, tack rag the surface to remove loose particles.

Step 3. Mask off the de-icer with tape (see paragraph 4.1.2), applying it to the aircraft skin against the trailing edges and ends of the de-icer.

5.3 Preparation of Coating Materials

5.3.1 Preparation of Primer

5.3.1.1 Prepare primer as follows:

Step 1. Agitate the primer on a mechanical shaker for a minimum of 1 minute.

Step 2. Mix the accelerator thoroughly to a uniform consistency with a screw driver or a similar tool.

Step 3. Except when mixing a complete kit, mix the primer and accelerator in the ratio shown in Table I. When mixing a complete kit, mix thoroughly the quart of primer with 2 oz. accelerator.

5.3.2 Preparation of Protective Coating

5.3.2.1 Prepare protective coating as follows:

Step 1. Agitate the protective coating on a mechanical shaker for a minimum of 1 minute.

Step 2. Mix the accelerator thoroughly to a uniform consistency with a screw driver or a similar tool.

Step 3. Except when mixing a complete kit, mix the protective coating and accelerator in the ratio shown in Table I. When mixing a complete kit, mix thoroughly the quart of protective coating with 2 oz. accelerator.

TABLE I - COATING PREPARATION, POT LIFE AND CURE TIME

COATING TYPE	COMPONENT	MIXING RATIO (By Volume)	POT LIFE (Note 1)	CURE TIME (@ 75 ± 5°F)
Primer	Base	16	2 Hours	1 Hour
	Accelerator	1		
Protective Coating	Base	16	2 Hours	8 Hours
	Accelerator	1		

Note 1. The pot life is the time during which mixed adhesive remains suitable for application at 75°F ± 5°F. The time indicated is for a 100 gram mix unless otherwise specified.

5.4 Application of Coatings

5.4.1 Application of Primer

5.4.1.1 Apply primer as follows:

Step 1. Apply one even coat of the mixed primer to the surface of the de-icer with a paint brush (see paragraph 4.2.1) using short strokes in a chordwise direction (see Figure 1) to achieve a smooth finish and greater durability.

Step 2. Allow the primer to cure according to Table I before applying the protective coating.

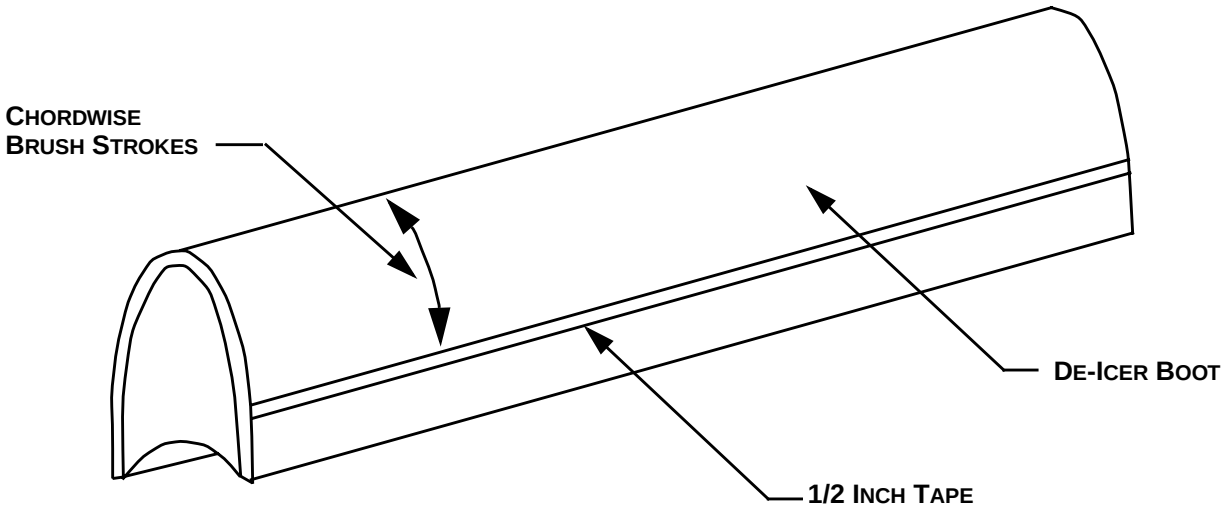

FIGURE 1 - PRIMER APPLICATION

5.4.2 Application of Protective Coating

5.4.2.1 Apply protective coating as follows:

Step 1. Apply one smooth coat of the mixed coating over the cured primer with a paint brush using short strokes in a chordwise direction (See Figure 1) to achieve a smooth high gloss finish.

Step 2. Remove the masking tape along the trailing edges and ends as soon as possible after applying the protective coating.

Step 3. Allow the coating to cure according to Table I before further processing of the assembly.

5.5 Clean-Up

5.5.1 Remove uncured primer and protective coating from tools and other areas according to PPS 31.17.

6 REQUIREMENTS

6.1 Apply de-icer protective coating only if specified on the engineering drawing.

6.2 Maintain the temperature between 60°F to 90°F during the application and curing of the primer and protective coatings.

6.3 The de-icing boot surface must be clean and free of all waxes, oil, dirt and silicone based substances before the application of the primer.

6.4 The primed surface must have a smooth even finish and must be completely cured according to Table I before the application of the protective coating.

6.5 The protective coating must have a smooth finish and must be completely cured according to Table I before further processing.

6.6 The completed coated de-icer boot must have a smooth even high gloss finish.

7 SAFETY PRECAUTIONS

7.1 Observe general shop safety precautions when performing the procedure specified herein.

7.2 Wear protective respiratory equipment according to PPS 13.13 when using primer and protective coating materials.

7.3 Provide adequate ventilation when using primer and protective coating materials. Do not inhale vapours.

7.4 Vapours are extremely flammable and explosive and must be used away from all sources of heat or ignition.

7.5 Avoid skin contact with the primer, protective coating and accelerator.

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

8 PERSONNEL REQUIREMENTS

8.1 Personnel responsible for the application of pneumatic de-icer protective coating must have a basic understanding of the procedure and requirements as specified herein and must have exhibited their familiarity to their supervisor.

9 STORAGE

9.1 Refer to PPS 31.17 for storage of solvents.

9.2 Storage life of materials specified herein shall be as specified in PPS 13.28.

FLOW CHART 1 - DE-ICER PROTECTIVE COATING APPLICATION