BOMBARDIER
Toronto (de Havilland)
PROPRIETARY INFORMATION

PPS 34.24

PRODUCTION PROCESS STANDARD

Application of DSC 596 (Sur-Prep AP-1) Paint Adhesion Promoter

Issue 3
- This standard supersedes PPS 34.24, Issue 2.
- Vertical lines in the left hand margin indicate technical changes over the previous issue.
- This PPS is effective as of the distribution date.

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1 Scope

1.1 This Production Process Standard (PPS) specifies the procedure and requirements for application of DSC 596 (Sur-Prep AP-1) paint adhesion promoter.

1.1.1 This PPS complements the engineering drawings that specify its use as an authorized instruction and the procedure specified 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.

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 General

3.1.1 Unless a specific issue is indicated, the issue of the reference documents specified in this section in effect at the time of manufacture shall form a part of this specification to the extent indicated herein.

3.2 Bombardier Toronto (de Havilland) Specifications

3.2.1 EHS-OP-005 - Hazardous Materials Management - *Bombardier Toronto (de Havilland) internal operating procedure*.

3.2.2 PPS 13.13 - Personal Protective Respiratory Equipment.

3.2.3 PPS 13.26 - General Subcontractor Provisions.

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

3.2.5 PPS 31.17 - Solvent Usage.

3.3 Bombardier Aerospace Specifications

3.3.1 BAERD GEN-023 - Contamination Control for Compressed Air.

4 Materials and Equipment

4.1 Materials

4.1.1 Unless otherwise specified in this section, use only the materials specified; use of superseding or alternative materials is not allowed.

4.1.2 DSC 596-1 paint adhesion promoter, Zip-Chem Aviation Products Sur-Prep AP-1; a two part (Part A and Part B) solution, supplied in “point of use” kit form with appropriate mixing quantities, pre-measured by weight, of Part A and Part B.

4.1.3 DSC 596-2 paint adhesion promoter, Zip-Chem Aviation Products Sur-Prep AP-1 Aerosol (11 oz can). Use DSC 596-2 paint adhesion promoter (aerosol) as received; no addition components required, but shake can thoroughly before use.

4.1.4 Masking tape utilizing rubber based adhesive (e.g., 3M #218 or 3M #8428) for masking off areas to which adhesion promoter is not to be applied.

4.1.5 Compressed air for use with spray guns. Compressed air used with spray application equipment must meet the requirements of BAERD GEN-023.

4.2 Equipment

4.2.1 Mechanical paint shaker, capable of agitation of primer base component to ensure uniform distribution of solids without adversely affecting the base component.

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

4.2.3 Cotton gloves (e.g., DSC 422-1).

4.2.4 Standard spray gun and associated hardware (e.g., HVLP guns, air assisted or airless spray guns with or without electrostatic spray equipment). Spray guns and associated equipment must be capable of applying coatings as specified herein without unacceptable defects as specified in section 6. Operate spray guns and associated equipment according to the equipment manufacturers instructions.

5 Procedure

5.1 General

5.1.1 Unless a particular form of DSC 596 is specified by the engineering drawing (i.e., -1 liquid or -2 aerosol), it is acceptable to apply either DSC 596-1 or DSC 596-2 when use of DSC 596 is specified. For larger areas, use of DSC 596-1 is recommended; for smaller areas, use of DSC 596-2 is recommended.

5.1.2 DSC 596 paint adhesion promoter helps “re-activate” the surface of cured painted surfaces for subsequent coats to be applied and is also sometimes used for enhancing the adhesion of stencils to cured painted surfaces.

5.1.3 Apply DSC 596 paint adhesion promoter to parts or assemblies only if the temperature is between 65°F (18°C) and 90°F (32°C) and the relative humidity is 15 -70% in the application area. Use calibrated indicators to monitor and record temperature and humidity conditions.

5.2 Preparation of DSC 596-1 Paint Adhesion Promoter

5.2.1 Prepare DSC 596-1 paint adhesion promoter according to the manufacturers instructions or as follows:

Step 1. DSC 596-1 paint adhesion promoter is procured in “point of use packaging” utilizing components pre-measured by weight and packaged together. Add the entire contents of Part A to the container of Part B. Minimize the time that Part A and Part B containers are open and exposed during the pouring process; immediately re-seal the Part B container after adding the Part A component. Take care to avoid exposure of DSC 596 paint adhesion promoter to liquid water or moisture during mixing or prior to application as this will cause a white precipitate to form and will compromise the effectiveness of the solution; discard the solution (e.g., according to EHS-OP-005) if white precipitate is observed.

Step 2. Agitate the solution on a mechanical paint shaker (ref. para. 4.2.1) for a minimum of 5 minutes. Alternatively, it is acceptable to agitate the solution by hand shaking for a minimum of 10 minutes. Proper agitation is necessary to ensure a homogeneous mixture of the component parts and effectiveness of the paint adhesion promoter; improper mixing will result in an unacceptable coating.

Step 3. Transfer the mixed paint adhesion promoter to a “use” container and keep covered until ready for application. The pot life of the mixed solution is 10 - 24 hours.

5.3 Preparation of Parts

5.3.1 Mask off (ref. para. 4.1.4) areas to which DSC 596 paint adhesion promoter is not to be applied, as necessary.

5.3.2 For painted surfaces contaminated with oil or grease, solvent clean according to PPS 31.17.

5.3.3 Wipe parts with a tack cloth (ref. para. 4.2.2) to remove loose particles (i.e., dust, etc.) immediately before applying the paint adhesion promoter.

5.3.4 Always wear clean, white cotton gloves (ref. para. 4.2.3) while handling cleaned parts to prevent contamination.

5.4 Application of DSC 596 Paint Adhesion Promoter

5.4.1 Spray apply a thin continuous wet film of DSC 596 paint adhesion promoter. Start from the top and migrate to the bottom, minimizing overlap. Do not allow solution to pool or run.

5.4.2 If any defects occur (e.g., pools or runs), dry the area with compressed air, remove the coating by solvent cleaning and re-apply the coating as specified herein.

5.5 Curing of DSC 596 Paint Adhesion Promoter

5.5.1 For large application areas, allow the coating to air dry for a minimum of 30 minutes. For small application areas (e.g., stencils), allow the coating to air dry for a minimum of 15 minutes. Accelerated, heat curing is not allowed.

5.5.2 During curing of DSC 596, take care to ensure the coating is not exposed to liquid water or moisture.

5.5.3 Cured DSC 596 paint adhesion will form a fine white powder that will reduce the gloss on the painted surface which will not appear continuous. This is normal and is considered an acceptable condition.

5.5.4 Overcoating of DSC 596 paint adhesion promoter must occur with 24 hours of application. If more than 24 hours has elapsed since the application of DSC 596 paint adhesion promoter without overcoating, or if the coating has been contaminated with oil or grease, remove the coating by solvent cleaning according to PPS 31.17 and re-apply as specified herein. Provided the coating has not been contaminated before overcoating, no surface preparation of the DSC 596 coating is required before overcoating.

5.6 Clean-Up

5.6.1 Flush spray guns used to apply DSC 596 paint adhesion promoter with the solvent specified by PPS 31.17 after use.

5.6.2 Solvent clean “use” containers according to PPS 31.17 after use.

5.6.3 Solvent clean all equipment (e.g., cranes, baskets, frames, filters, etc.) frequently to avoid build-up of dust and loose overspray.

6 Requirements

6.1 A white precipitate in the mixed DSC 596 solution caused by exposure to liquid water, moisture or excessive humidity will compromise the effectiveness of the solution and is not acceptable. Mixed DSC 596 solution exhibiting signs of white precipitate must be discarded (e.g., according to EHS-OP-005).

6.2 Solution breaks (de-wetting) in the applied film must not be observed; a void in the **wet** film indicates inadequate cleaning. Cured DSC 596 paint adhesion will form a fine white powder that will reduce the gloss on the painted surface which will not appear continuous; this is normal and is considered an acceptable condition.

6.3 Cured DSC 596 paint adhesion promoter coatings must be free of damage (such as scratches), defects (such as blemishes, runs, etc.) and other irregularities that could impair appearance or adhesion promoting properties of the coating.

6.4 Cured DSC 596 paint adhesion promoter coatings must be overcoated within 24 hours of application.

7 Safety Precautions

7.1 The safety precautions specified herein are specific to Bombardier Toronto to meet Canadian Federal and Provincial government environmental, health and safety regulations. It is recommended that other facilities consider these safety precautions; however, suppliers, subcontractors and partners are responsible for ensuring that their own environmental, health and safety precautions satisfy the appropriate local government regulations.

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

7.3 Do not smoke, eat, or drink in DSC 596 adhesion promoter spraying areas.

7.4 Wear personal protective respiratory equipment according to PPS 13.13 when applying DSC 596 paint adhesion promoter.

7.5 Keep all DSC 596 adhesion promoter containers closed when not in use.

7.6 Ensure the spray booths and rooms are equipped with suitable exhaust systems. Spray rooms must be equipped with forced or induced ventilation systems capable of maintaining sufficient ventilation to meet Occupational Health and Safety Act requirements.

7.7 Do not have open flames or unprotected lights in areas where coating operations are carried out. Do not use infra-red or other heat lamps in coating booths (i.e., any area where DSC 596 paint adhesion promoter is being applied).

7.8 Avoid skin contact with mixed DSC 596 paint adhesion promoter or components. If skin contact occurs, wash the affected area thoroughly with soap and water.

7.9 Avoid eye contact with DSC 596 paint adhesion promoter or components. If contact occurs, flush the eyes immediately with large quantities of water at an eye wash station and report to the Health Centre.

7.10 Refer to PPS 31.17 for the safety precautions for solvent cleaning.

8 Personnel Requirements

8.1 Personnel responsible for application of DSC 596 (Sur-Prep AP-1) paint adhesion promoter must have a good working knowledge of the applicable procedure and requirements as specified herein and must have exhibited their competency to their supervisor.