BOMBARDIER
AEROSPACE
Toronto (de Havilland)

PPS 16.10

PRODUCTION PROCESS STANDARD

APPLICATION OF PLASTISOL COATING (F39)

Issue 4
- This standard supersedes PPS 16.10, Issue 3.
- PPS ACN 16.10/1 has been superseded in this or previous issues.
- 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.

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1 SCOPE

1.1 This Production Process Standard (PPS) specifies the procedure and requirements for the application of plastisol coating (finish code F39) to aircraft parts and assemblies.

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 Aerospace Process Specification (BAPS) or Bombardier Aerospace Montreal (Canadair) Materials and Processes Specification (MPS) **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 or MPS is specified.

2 HAZARDOUS MATERIALS

2.1 Before receipt at Bombardier Aerospace Toronto, all materials must be approved and assigned Material Safety Data Sheet (MSDS) numbers by the Bombardier Aerospace 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 Aerospace Toronto Environment, Health and Safety Department.

3 REFERENCES

3.1 PPS 13.26 - General Subcontractor Provisions.

3.2 PPS 16.20 - Temporary Corrosion Protection of Carbon and Low Alloy Steel Parts.

3.3 PPS 17.02 - Abrasive Blasting.

3.4 PPS 31.03 - Cleaning Carbon and Low Alloy Steels.

3.5 PPS 31.04 - Degreasing Processes.

3.6 PPS 31.17 - Solvent Usage.

3.7 PPS 32.01 - Chemical Conversion Coating of Aluminum and Titanium Alloys by Immersion.

3.8 PPS 32.02 - Manual Application of Chemical Conversion Coatings.

4 MATERIALS AND EQUIPMENT

4.1 Materials

4.1.1 Plastisol Coating - Soft, mar-resistant, decorative (finish code F39), to MIL-P-20689C (Types and Classes as shown below):

Type I - General purpose dip coating compound.
Type II - General purpose spray coating compound.
Type III - General purpose roller coating compound.
Class 1 - General use.
Class 2 - Fungus resistant.

4.1.2 Primer/Adhesive, heat activated. The primer/adhesive shall be suitable for use with the applicable plastisol coating.

4.1.3 Lint-free cotton wipers (e.g., DSC 378-2).

4.1.4 Protective wrapping material (e.g., Brown Kraft paper, Kimpac K41, AIR-CAP C120 or D120 plastic bubble film, Poly Foam).

4.2 Equipment

4.2.1 Suitable Baking Oven.

4.2.2 Electronic coating thickness gauge (e.g., Isoscope or elcometer) or micrometer.

5 PROCEDURE

5.1 General

5.1.1 F39 is a mar-resistant, decorative coating applied by dip coating (Type I), spray coating (Type II) or roller coating (Type III).

5.1.2 If specified on the engineering drawing, pre-treat surfaces to which F39 is to be applied with heat activated primer/adhesive.

5.1.3 Apply heat activated primer/adhesive and F39 coating before the application of the applicable paint/primer system.

5.2 Preparation of Parts (See Flow Chart 1)

5.2.1 Untreated Aluminum Alloys

5.2.1.1 Clean and chemical conversion coat untreated aluminum alloys according to PPS 32.01 or PPS 32.02, as applicable.

5.2.1.2 Parts which are coated immediately after chemical conversion coating do not require cleaning before F39 coating.

5.2.1.3 Degrease parts that have become contaminated according to PPS 31.04 or solvent wash according to PPS 31.17 immediately before coating.

5.2.2 Untreated Carbon and Low Alloy Steel Parts

5.2.2.1 Clean untreated carbon and low alloy steel parts according to PPS 31.03 immediately before application of F39 coating.

5.2.2.2 Degrease parts which have been oil dip coated according to PPS 16.20 according to PPS 31.04 immediately before F39 coating.

5.2.3 Chemical Conversion Coated Aluminum Alloys and Treated Carbon and Low Alloy Steels

5.2.3.1 Aluminum alloys which are F39 coated immediately after chemical conversion coating, or surface treated carbon and low alloy steel parts which are F39 coated immediately after surface treatment (i.e., plated, ivadized, manganese phosphate coated), do not require cleaning before coating.

5.2.3.2 Degrease parts which have become contaminated according to PPS 31.04 or solvent wash according to PPS 31.17 immediately before coating.

5.2.4 Do not touch prepared and cleaned part surfaces with bare hands or otherwise subject such parts to contamination. Wear clean cotton gloves while handling surfaces which have been prepared for F39 coating.

5.3 Application and Curing of Coating

5.3.1 The application Type, Class and thickness of F39 coating shall be as specified on the engineering drawing. If no reference to Type and Class is made, apply F39 coating to Type I, Class 1 specifications.

5.3.2 Cure the coating and temperature activated primer/adhesive at the temperature and for the length of time specified by the manufacturer.

5.4 Rework of Damaged or Defective Parts

5.4.1 Minor Defects

5.4.1.1 Touch up small nicks, pinholes, pits or scratches by brush using F39 coating.

5.4.2 Major Defects

5.4.2.1 Completely strip coatings with major defects by abrasive blasting according to PPS 17.02. The parts shall then be reprocessed according to the original processing sequence.

5.5 Protection for Transport or Storage

5.5.1 Individually wrap coated parts to be transported or stored in protective wrapping material (see paragraph 4.1.4) and place in cardboard boxes to provide protection against damage.

6 REQUIREMENTS

6.1 Visual Requirements

6.1.1 Inspect coated surfaces for damage such as nicks and scratches and defects such as pits, pinholes, peeling or other irregularities that impair appearance or protective qualities. Reject and action damaged or defective coatings according to section 6.3.1.

6.2 Film Thickness

6.2.1 The film thickness of the cured coating, as measured with an electronic coating thickness gauge or suitable micrometer, shall be according to the engineering drawing.

6.2.2 Check the thickness at random points selected by the inspector.

6.2.3 Reject and action coatings failing to meet the requirements according to section 6.3.2.

6.3 Rejections

6.3.1 Parts Rejected Upon Visual Inspection

6.3.1.1 Rework damaged or defective coatings (see section 6.1) according to section 5.4.

6.3.2 Parts Rejected Upon Results of Film Thickness Tests

6.3.2.1 Reject and rework coatings failing to meet the requirements of the film thickness tests according to section 5.4.2.

7 SAFETY PRECAUTIONS

7.1 Safety precautions applicable to the materials and procedures specified herein shall be as defined by the subcontractor performing such work for Bombardier Aerospace Toronto.

8 PERSONNEL REQUIREMENTS

8.1 Personnel responsible for the application of plastisol coating (finish code F39) to aircraft parts and assemblies must have a basic understanding of the procedure and requirements as specified herein and must have exhibited their familiarity to their supervisor.

FLOW CHART 1 - SURFACE PREPARATION AND COATING