de Havilland	PPS 16.02 PRODUCTION PROCESS STANDARD

APPLICATION OF HOT DIP STRIPPABLE COMPOUND

Issue 3 - This standard supersedes PPS 16.02, Issue 2.
- Vertical lines in the left hand margin indicate changes over the previous issue.

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1 SCOPE

1.1 This Production Process Standard (PPS) specifies the procedure and requirements for the application of hot-dip strippable compound to parts for protection during handling, storage or shipping.

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.

2 HAZARDOUS MATERIALS

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

2.1.1 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 de Havilland Health and Safety Department.

3 REFERENCES

3.1 PPS 13.26 - General Subcontractor Provisions.

4 MATERIALS AND EQUIPMENT

4.1 Materials

4.1.1 Dip and Strip - 5E Red Opaque or 5E Amber, Plastic Seal, Hugh Russel & Sons Ltd.

4.2 Equipment

4.2.1 Electrically heated dip tank, thermostatically controlled, capable of maintaining a temperature of 330° to 350°F (e.g. Plastic Seal Melting Tank, Model #3, Hugh Russel & Sons Ltd.).

4.2.2 Lint-free cotton gloves (e.g. DSC 422-1).

5 PROCEDURE

5.1 General

5.1.1 Do not pre-heat parts before dipping except parts having porous surfaces which may be heated only sufficiently to drive off any entrapped moisture. Pre-heating will result in a coating that will be difficult to remove.

5.1.2 Keep the plastic in the dip tank at dipping temperature only for the minimum time necessary for the work on hand.

5.1.3 Switch off and cover the dip tank when not in use.

5.1.4 Use up the plastic as quickly as possible by constant take-out. Continued heating without take-out shortens the useful life of the plastic compound.

5.1.5 Maintain the working level by adding new plastic to the dip tank and stirring the compound gently at intervals to keep the newer plastic from remaining on the bottom.

5.1.6 Do not agitate or stir the plastic violently as this promotes the formation of air bubbles. If air bubbles form, remove by skimming the surface with a scraper before dipping of parts is attempted.

5.1.7 Take care when dipping parts of complex shape in order to avoid trapping air in recesses. Rotate the parts so that the compound contacts all surfaces.

5.1.8 Use only one type of plastic in melt. Do not mix different types.

5.1.9 Do not immerse hot, treated parts in water to accelerate setting. Moving air is the correct medium.

5.1.10 Ensure that the coating has properly set before handling. Premature handling will result in thinning of the film.

5.1.11 Do not remove oil which may collect on the surface of the cold plastic compound in the dip tank.

5.1.12 Do not apply hot-dip strippable compound on or in the vicinity of Electro-filmed bearings or surfaces.

5.1.13 Under no circumstances shall valves, fittings, pipes, etc., used in oxygen systems, be coated with hot-dip strippable compound.

5.2 Preparation of Hot Dip

5.2.1 Prepare hot-dip strippable compound as follows:

Step 1. Cut the plastic compound into cubes of about 2 inch sides.

Step 2. Place the plastic cubes in the dip tank and set the temperature control to 340 ± 10°F.

Step 3. Allow the plastic compound to completely melt.

5.2.2 Do not remove the film of oil which forms on the surface of the plastic during the melting process. When the plastic has melted completely, stir gently from top to bottom.

5.2.3 When the molten plastic has reached the correct temperature, a small amount of smoke will be emitted from the surface. Avoid excessive smoking resulting from over-heating (see paragraph 7.2).

5.2.4 Do not add solvents to the plastic compound, as this could result in a fire.

5.3 Preparation of Parts

5.3.1 Remove all corrosion, dirt, grease, etc. from the surfaces of parts to be coated.

5.3.2 Parts must be absolutely clean and dry (except for fingerprint remover used on highly polished surfaces).

5.4 Application of Compound

5.4.1 Complete Coverage (Single Dip)

5.4.1.1 Attach a suspension cord treated with oil to the part.

5.4.1.2 Immerse the part completely in the hot plastic compound and immediately withdraw it by means of the cord.

5.4.1.3 Hold the coated part over the dip tank for a few seconds to drain, allow to cool and harden in air.

5.4.1.4 When the film has set, clip the cord close to the plastic surface and heat seal at this point or apply a hot plastic coating.

5.4.2 Complete Coverage (Double Dip)

5.4.2.1 If it is necessary to coat a part without using a suspension cord, it may be double dipped as follows:

Step 1. Dip one end of the part in the hot plastic so that at least one half of it is coated.

Step 2. Remove and drain for a few seconds over the tank by holding it at approximately a 45° angle.

Step 3. After the film has set hard enough to handle, immerse the other half so as to give complete coverage of the part.

Step 4. Withdraw, drain and allow the film to set by cooling in air.

5.4.3 Partial Coverage

5.4.3.1 When it is necessary to protect certain areas of items (i.e., bearings installed in assemblies, threaded portions of gauges, bolts, etc.) during handling and fabrication, the plastic compound may be applied to give partial coverage.

5.4.3.2 Dip the parts in the hot plastic compound so as to cover entirely the surface to be protected.

5.4.3.3 Carry out dipping using a quick in-and-out motion.

5.4.3.4 Withdraw, drain and allow the film to set by cooling in air.

5.5 Removal of Plastic Compound

5.5.1 To remove the plastic coating from an item, slit the coating from end to end with a sharp wooden stick.

5.5.2 After slitting, peel the coating from the item.

5.5.3 Do not use metallic instruments such as a knife blade to slit open the plastic coating for removal.

5.5.4 Do not use solvents to attempt removal of the coating.

6 REQUIREMENTS

6.1 Coated surfaces should have a continuous film of compound.

7 SAFETY PRECAUTIONS

7.1 Under no conditions shall solvents be added to hot-dip strippable compound, (see paragraph 5.2.4).

7.2 The temperature of the dip tank must not exceed the temperature range as specified in paragraph 5.2.1. Higher temperatures will not accelerate melting of the plastic, but will shorten the life of the bath, and could result in a fire.

7.3 When working with hot plastic, operators must wear cotton gloves, in order to avoid accidental burns and also to avoid staining metal surfaces through handling.

*7.4 In case the hot plastic is accidentally splashed onto the skin, shake off the excess and peel off any remaining plastic carefully and slowly. **Do not tear off**. Immediately contact the Health Centre for treatment.*

8 PERSONNEL REQUIREMENTS

8.1 Personnel responsible for the application of hot-dip strippable compound to parts for protection during handling, storage or shipping must have a basic understanding of the procedure and requirements as specified herein and must have exhibited their familiarity to their supervisor.

9 MAINTENANCE OF EQUIPMENT

9.1 Keep the outside of the dip tank and the area around free from all traces of plastic, oil, grease and dirt.

9.2 At frequent intervals, particularly when the plastic becomes dark in colour, clean out the dip tank.

9.2.1 Cleaning may be accomplished by allowing the plastic to become cold, then reheating until the interior surfaces become soft and removing it as a solid block.

9.2.2 Clean the interior surfaces of the tank free of all traces of plastic compound, dispose of old plastic and make up a new melt according to section 5.2.

9.3 Check the temperature of the plastic weekly when it is at operating temperature, using an accurate thermometer, to ensure the setting of the tank temperature control is correct.