
IPAS-050

IP6 Range: 2 Component low VOC Polyurethane Finishes, Clear & Pigmented

Read in conjunction with IP6-Colour Range Technical Data Sheet

1. Scope

- 1.1. This document covers the application and curing of the IP6 range of 2 component low VOC polyurethane finishes to BS2X34 A/B. These materials are primarily designed for use as the finish coat in an aerospace airframe coating system, although other applications may be applicable subject to end user approval.
- 1.2. This procedure covers all clear and pigmented versions
- 1.3. Please read this document in conjunction with any specifier drawings or application information sheets.

2. Substrate Preparation

- 2.1. All substrates must be clean, grease and dust free prior to painting
- 2.2. The IP6 Range is normally used over a primed substrate, typically IP3 low VOC epoxy primers; either chromate (IP3-6362) or chrome free (IP3-6500/6600/6700).

Alternative primers may be employed subject to end user specifications/type testing

3. Coating Preparation

- 3.1. Ensure that the material part A (Base) is thoroughly mixed prior to use. Thorough mixing that is designed to lift any settled material from the base/bottom of the container is essential prior to coating application.
- 3.2. Ensure that part A (IP6-xxxx Base) & B (IP6-CAT Catalyst) are stored between 5°C and 35°C.
- 3.3. Ensure that parts A & B are between 20°C and 35°C before use.
- 3.4. **Mixing:** The IP6 Range is a two-component product and requires mixing with IP6-CAT before use. Please refer to the Part A (base) component can label for the correct volumetric mixing ratio. Mixing ratios for IP6 are reported as volumetric; weight ratios are available on the IP6 Colour Range Technical Data Sheet. (Note: the mixing ratio can vary from colour to colour and gloss level).

Small volume mixing: please obtain the mixing ratio calculated by weight to ensure that correct stoichiometry is maintained. Small quantities may be measured by volume if operators are confident that the required mix ratio can be achieved.

Part A and B blending: The order of addition for Part A to B is not critical. Part A may be added to Part B or Part B to Part A. The critical factor for the IP6 coatings is thorough mixing and the Dwell Period (induction time) before spraying.

3.4.1. After thoroughly mixing for a minimum 2 minutes the blended Part A and B should be allowed to stand for a minimum induction time of 15 minutes.

3.4.2. Re-stir the mix before use.

3.4.3. Mixed Pot life: 4 hours

3.5. The mixed material may require thinning for spray application. Typically, 10-15% using standard thinner 665-550-025, IP985-REDUCER or IP-MEG-REDUCER is required for optimum application properties. Alternative thinners may be used after consultation with the Indestructible Technical Department.

Viscosity measurement prior to application may be performed at the discretion of the end user.

4. Spray Room Conditions

4.1. Temperature and humidity within the spray area can affect the application properties of the coating.

4.2. Our current recommendations on spray room conditions are as follows:

Temperature: in the range 20 - 30°C

Humidity: in the range 30 - 80% RH

4.3. These guidelines should be read in conjunction with any indicated values quoted in end user application specifications

5. Application and Curing / Baking

5.1 The coating is designed for spray application using conventional or HVLP air atomising spray guns. It is recommended that latest generation 'compliant' spray guns are used to provide the best finish with minimal orange peel. Other methods may be employed subject to end user evaluation and approval for specific components.

5.2. Parts shall be sprayed with wet on wet process. For thicker coatings, allow a 1-5-minute dwell between each coat.

5.3. The range can be allowed to cold cure (air dry) or can be force cured

5.3.1 Air Drying / Cold Curing:	Room temperature: 20 - 35°C
	Maximum 80% RH
	Surface dry/handleable: 4 hours
	Hard dry to pack/ship: minimum 16 hours
	Full chemical hardness: 7 days

5.3.2 Low Temp Force Curing: Air dry/flash off: 30-50 minutes at room temperature 20-35°C
Maximum 80% RH
Cure: Typically, minimum 12 hours @ 35-45°C (95-113°F)

Curing at 35-45°C can be used to reduce the time required to achieve full chemical resistance and/or a handleable coating. This drying cycle is generally item specific due to the mass of the coated unit acting as a heat sink. This process should be evaluated on a case by case basis before incorporation into a process control document.

5.3.3 Force Curing: Air dry / flash off: 30-50 minutes at room temperature 20-35°C
Maximum 80% RH
Cure: Typically, 90-120 minutes @ 70-90°C (160-195°F)

This curing cycle is generally item specific due to the mass of the coated unit acting as a heat sink.

6. Drying Prior to Further Stencil or Masking application:

- 6.1 Allow a minimum 16 hours at room temperature as described in 5.3.1 or force cure in line with 5.3.2 followed by a minimum 2 hours cooling time to return the coating to room temperature 20-30°C. Failure to allow sufficient drying time before masking or stencil application can lead to paint lifting during mask removal. Failure to allow the IP6 to cool to room temperature before masking or stencil application will lead to marking of the warm, soft coating and may also cause lifting when masking or stencils are removed.

7. Coating Thickness:

- 7.1 The recommended dry coating thickness is 35-50 microns.

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