

# SMI, Inc.

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Date: 31-Jan-2013

SMI/REF: 1301-231<sub>R</sub>  
Report revised for product name change

Product: "TITANIUM" Paint Sealant (received 08-Jan-2013)

Dilution: As received

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**British Aerospace**  
**AIRBUS AIMS09-00-002 (Issue 3, July 2011)**  
**EVALUATION OF MAINTENANCE MATERIALS**  
**Exterior and General Cleaners**

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5.3.1 Sandwich Corrosion Test	<u>Conforms</u>
5.3.2 Total Immersion Test	<u>Conforms</u>
5.3.3 Hydrogen Embrittlement Test	<u>Conforms</u>
5.3.4 Paint Softening Test	<u>Conforms</u>
5.3.5 Acrylic Crazeing Test	<u>Conforms</u>
5.3.6 Polycarbonate Crazeing Test	<u>Conforms</u>

Respectively submitted,



Patricia D. Viani, SMI Inc.



Client: Top Flight Supplies  
Product: "TITANIUM" Paint Sealant  
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AIMS 09-00-002 (Issue 3)

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5.3.3 Hydrogen Embrittlement Test: The product shall be non-embrittling as determined in accordance with ASTM F 519, using type 1a, 1c, or 2a specimens, cadmium plated in accordance with MIL-STD-870, Class 1, Type I. Type 1a and Type 1c specimens shall be loaded to 45% of the predetermined notch fracture strength and Type 2a specimens loaded to 80% of the yield strength. The entire 2a stressed specimen, or just the notched area of the 1a and 1c stressed specimen, shall be immersed continuously in the solution under test for 150 hours at a temperature between 20-30°C (68-86°F). The maintenance material being tested shall not cause embrittlement of the test specimens.

Specimens: Type 1c, cadmium plated

**As received:**  
**Specimen #1: No failures occurred within 150 hours.**  
**Specimen #2: No failures occurred within 150 hours.**  
**Specimen #3: No failures occurred within 150 hours.**  
**Specimen #4: No failures occurred within 150 hours.**

Result Conforms

5.3.4 Paint Softening Test: Maintenance material compatibility shall be tested with Airbus approved paints and/or customer specific systems. Testing shall consist of three specimens for each of the following combinations. The substrate shall be clad aluminium alloy 2024 suitably pre-treated:

- Epoxy primer of polyurethane primer with or without polyurethane topcoat (interior paint scheme according to TN A.007.10050 OR epoxy primer to MIL-PRF-23377 Type I with or without polyurethane topcoat to MIL-PRF-85285 Type I or customer specific system).
- Basic primer plus relevant exterior paint scheme according to TN A.007.10050 OR epoxy primer to MIL-PRF-23377 Type I with polyurethane topcoat to MIL-PRF-85285 Type I OR external paint scheme conforming to AMS 3095 OR customer specific system.

The thickness and drying times of individual coats shall be in accordance with the manufacturer's instruction sheets. Testing shall be in accordance with ISO 1518 "Scratch Test" using the following test sequence: one hour immersion in the maintenance material at an ambient temperature (23 ± 2)°C, rinsing with water immediately after the immersion and drying for 1 hour at room temperature. The material shall not soften the paint coat and the Scratch Test shall have 90% of the original value after the immersion.

The agent being tested shall not produce any blistering, discoloration or staining.

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5.3.4 Paint Softening Test: continued

Paint System		Weight required to produce scratch	
		Before exposure	After exposure
AS RECEIVED	Epoxy Primer without topcoat: Primer: MIL-PRF-23377 Type I, Epoxy, High Solids	Pass*	Pass*
	Epoxy primer with polyurethane topcoat: Primer : MIL-PRF-23377 Type I, Epoxy, High Solids Topcoat: MIL-PRF-85285 Type I, Polyurethane, High solids	Pass*	Pass*

\* Using a 2,000 gram load (maximum load of the scratch apparatus)

\*Conformance ("Pass") if no scratch occurs using a load equal to or greater than 1,800 grams (90% of 2,000 = 1,800), and there is no evidence of blistering, discoloration or staining.

Result                      Conforms

55.3.5 Acrylic Crazeing Test: Material conforming to MIL-P-25690 Type C shall be tested in accordance with ASTM-F-484. The maintenance materials shall not craze, crack, stain or discolor the test specimens.

**As received: No evidence of craze, crack, stain or discolor.**

Result                      Conforms

5.3.6 Polycarbonate Crazeing Test: Material conforming to ASTM-D-3935 or AMS-P-83310 shall be tested in accordance with the method for the determination of stress crazing detailed in ASTM F 484.

Specimens shall be stressed for (30 ± 2) minutes to an outer stress of 21MPa (3000 psi) at a temperature of (23 ± 2)°C.

**As received: No evidence of craze, crack, stain or discolor.**

Result                      Conforms