

SMI, Inc.

12219 SW 131 Avenue
Miami, Florida 33186-6401 USA

Phone: (305) 971-7047
Fax: (305) 971-7048

Attn: Bobbie Pettit
Hi-Lite Solutions, Inc.
1285 Brucetown Road
Clear Brook, VA 22624-0399

Date: 07-Jul-2010

SMI/REF: 1005-423_R

Product: **AERO GREEN 4035 RUNWAY RUBBER REMOVER**
(received 19-May-2010)

Dilution: As received

Page 1 of 6

Partial testing in accordance with
AMS 1435A
FLUID, GENERIC, DEICING/ANTI-ICING
Runways and Taxiways

Note: Product not meant to be used as a runway deicer. Testing performed per client's request for informational purposes.

3.2 PROPERTIES

3.1.2	Appearance	Conforms
3.2.1	Flash Point	Conforms
3.2.2	Specific Gravity	Informational
3.2.3	pH	*Not performed
3.2.4	Freezing Point	*Not performed
3.2.5	Effect on Aircraft Metals	
3.2.5.1	Sandwich Corrosion	Conforms
3.2.5.2	Total Immersion Corrosion	Conforms
3.2.5.3	Low Embrittling Cadmium Plate	Conforms
3.2.5.4	Hydrogen Embrittlement	Conforms
3.2.5.5	Stress-Corrosion Resistance	
	AMS 4911	Conforms
	AMS 4916	Informational
3.2.6	Effect on Transparent Plastics	
	MIL-P-25690 (Type C)	Conforms
	MIL-P-83310 (Polycarbonate)	Conforms
3.2.7	Effect on Painted Surfaces	Conforms
3.2.8	Effect on Unpainted Surfaces	Conforms
3.2.9	Rinsibility	Conforms
3.2.10	Runway Concrete Scaling Resistance	*Not performed
3.2.11	Storage Stability	Not performed

**Testing not performed per client's request.*

Respectfully submitted,



Patricia D. Viani, SMI Inc.

3.1.2 Appearance: Fluid, as received by purchaser, shall be homogeneous, uniform in color, and free from skins, lumps, and foreign materials detrimental to usage of the product. If fluid is colored, it shall be blue.

Fluid was blue in color, and homogeneous.

Result Conforms

3.2. Physical Properties: The fluid, as supplied by vendor, shall conform to the following requirements: tests shall be performed in accordance with specified tests on the product in concentrated form as delivered by vendor, unless otherwise specified herein.

3.2.1 Flash Point: Shall be reported and shall be not lower than 100°C (212°F), determined in accordance with ASTM D 56 or ASTM D 93. In case of dispute, flash point determined in accordance with ASTM D 56 shall apply.

No flash point observed to 100°C.

Result Conforms

3.2.2 Specific Gravity: Shall be reported and shall be within ± 0.015 of the preproduction value established in 4.2.3 determined in accordance with ASTM D 891.

Specific Gravity = 1.034

Result Informational

3.2.3 pH: Shall be 7.0 to 11.5 and within ± 0.5 of the preproduction value established in 4.2.3, determined in accordance with ASTM E 70.

Result *Not performed

3.2.4 Freezing Point:

3.2.4.1 Freeze point of fluid diluted 1:1 by weight with ASTM D 1193 Type IV water shall be reported and shall be lower than -14.5°C (+6°F) determined in accordance with ASTM D 1177.

Result *Not performed

3.2.4.2 Shall be reported and shall be within 4°C (7°F) of the preproduction value established in 4.2.3, determined in accordance with ASTM D 1177.

Result *Not performed

***Testing not performed per client's request.**

Client: Hi-Lite Solutions, Inc. Date: 07-Jul-2010
 Product: AERO GREEN 4035 RUNWAY RUBBER REMOVER SMI/REF: 1005-423_R
 Dilution: As received
 AMS 1435A Page 3 of 6

3.2.5 Effect on Aircraft Metals:

3.2.5.1 Sandwich Corrosion: Specimens, after testing in accordance with ASTM F 1110, shall not show corrosion worse than control panels run using ASTM D 1193, type IV, water.

	2024-T3 Bare Anodized	2024-T3 Alclad	7075-T6 Bare Anodized	7075-T6 Alclad
DEICER	1	1	1	1
CONTROL	1	1	1	1

Result Conforms

3.2.5.2 Total Immersion Corrosion: The fluid, tested in accordance with ASTM F 483 except that panels of AMS 4376 shall be tested for 24 hours, shall neither show evidence of corrosion of panels nor cause a weight change of any test panel greater than shown in Table 1:

TEST PANEL	WEIGHT CHANGE (mg/cm ² /24hrs)	
	ALLOWABLE	RESULTS
AMS 4037 Al Alloy, anodized as in AMS 2470	0.3	+ 0.02
AMS 4041 Al Alloy	0.3	0.01
AMS 4049 Al Alloy	0.3	0.02
AMS 4376 Mg Alloy, dichromate treated as in AMS 2475	0.2	0.03
AMS 4911 or MAM 4911 Titanium Alloy	0.1	0.01
AMS 5045 Carbon Steel	0.8	0.01

Result Conforms

3.2.5.3 Low-Embrittling Cadmium Plate: Test panels, coated with low-embrittling cadmium plate, shall not show a weight change greater than 0.3 mg/cm²/24hrs, determined in accordance with ASTM F 1111.
Average Weight Change: 0.01 mg/cm²/24hrs
Result Conforms

3.2.5.4 Hydrogen Embrittlement: The fluid shall be nonembrittling, determined in accordance with ASTM F 519, Type 1a, 1c, or 2a.

Specimens: Type 1c, cadmium plated per MIL-STD-870.
Load: 45%, stressed specimens immersed in deicer for 150 hours, or until failure
Test temperature: 20°C (68°F)
No failures within 150 hours.

Result Conforms

3.2.5.5 Stress-Corrosion Resistance: The fluid shall not cause cracks in AMS 4911 or MAM 4911 titanium alloy specimens, determined in accordance with ASTM F 945, Method A.
AMS 4911: No cracking observed.
Result Conforms

3.2.5.5.1 The fluid shall be tested in accordance with ASTM F 945, Method A using AMS 4916 specimens. Report shall detail the effect of the fluid and the effect of control solution. The results shall be reported for informational purposes only.
AMS 4916: Cracking observed.

Result Informational

3.2.6 Effect on Transparent Plastics:
3.2.6.1 The fluid, at 25°C ± 2 (77°F ± 4), shall not craze, stain, or discolor MIL-P-25690 stretched acrylic plastic, determined in accordance with ASTM F 484.
No crazing, staining nor discoloration observed.
Result Conforms

3.2.6.2 The fluid, at 25°C ± 2 (77°F ± 4), shall not craze, stain, or discolor MIL-P-83310 polycarbonate plastic, determined in accordance with ASTM F 484, except that the specimens shall be stressed for 30 minutes ± 2 to an outer fiber stress of 13.8 MPa (2000 psi).
No crazing, staining nor discoloration observed.
Result Conforms

3.2.7 Effect on Painted Surfaces: The fluid, at 25°C ± 2 (77°F ± 4), shall neither decrease the paint film hardness by more than two pencil hardness levels nor shall it produce any streaking, discoloration, or blistering of the paint film, determined in accordance with ASTM F 502.

No decrease in hardness; no streaking, discoloration, nor blistering.

Result Conforms

3.2.8 Effect on Unpainted Surfaces: The fluid, tested in accordance with ASTM F 485, shall neither produce streaking nor leave any stains requiring polishing to remove.

No streaking or stains.

Result Conforms

3.2.9 Rinsibility: The fluid shall be completely rinsible in tap water, determined in accordance with 3.2.9.1

3.2.9.1. A 75 x 200 mm panel of clear glass shall be cleaned to provide a surface free of waterbreak, dried, and coated with the deicer/anti-icer fluid by pouring the fluid over the panel while it is held in a horizontal position. The coated panel shall be inclined at an angle of approximately 45 degrees for 10 minutes ± 0.5, then placed in a horizontal position for 24 hours ± 0.25 at room temperature. After the 24 exposure, the panel shall be rinsed in tap water for 5 to 6 minutes, followed by a rinse with ASTM D 1193, Type IV, water, allowed to air dry at ambient temperature, and examined for visible traces of deicer/anti-icer fluid.

Fluid was completely rinsible.

Result Conforms

3.2.10 Runway Concrete Scaling Resistance: The condition of the runway concrete surface shall have a rating not greater than 1 for 50 freeze-thaw cycles, determined in accordance with ASTM C 672 except that concrete shall:

- ▲ Be air-entrained with an air content as specified in ASTM C 672
 - ▲ Have a minimum cement content of 510 pound per cubic yard ± 10 (302 kg/m³ ± 6)
 - ▲ Have a slump, 1.5 inches ± 0.5 (38 mm ± 13)
- A 25 % by volume solution of the deicer/anti-icer fluid, as supplied by the manufacturer in commercial concentration, in tap water shall be substituted for calcium chloride. Performing more than one freeze-thaw cycle per day is acceptable.

Result *Not performed

***Testing not performed per client's request.**

Client: Hi-Lite Solutions, Inc.

Date: 07-Jul-2010

Product: AERO GREEN 4035 RUNWAY RUBBER REMOVER

SMI/REF: 1005-423_R

Dilution: As received

AMS 1435A

Page 6 of 6

3.2.11

Storage Stability: The fluid, after storage in accordance with ASTM F 1105, shall not exhibit separation or an increase in turbidity compared to unaged fluid. Any increase in turbidity shall be reported, but shall be acceptable if removed by mild agitation.

This test requires one year of storage. If testing in accordance with this paragraph is requested by client, the storage testing will be due one year from receipt of sample.

Result Not performed