


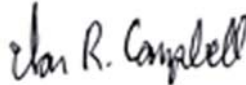
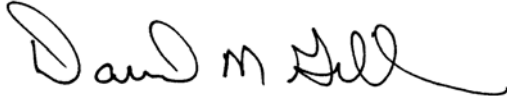


ENGINEERING REPORT NO. 37997-3

SALT FOG TEST

for

**AUSTRIALPIN, INC.
14865 20TH AVENUE
P.O. BOX 1257
BLAIRMORE, ALBERTA T0K 0E0
CANADA**

PREPARED BY:	 Phillip M. Toftely Test Engineer
	 Ian R. Campbell Test Technician
APPROVED BY:	 David M. Gillen Vice President

This document shall not be reproduced except in full, without the written authorization of Environ Laboratories LLC.

REVISION HISTORY

Revision	Total Number of Pages	Date	Description
--	9	May 16, 2008	Original

PREPARED FOR: AUSTRIALPIN, INC. P.O. BOX 1257 BLAIRMORE, ALBERTA T0K 0E0 CANADA ATTN: Mr. Aaron Hemphill	TEST DATES:
	Start: 5/2/2008 Completion: 5/6/2008
	ENVIRON TEST NO.: 37997-3
	PURCHASE ORDER NO.: 20080424adh1 PURCHASE DATE: 4/24/2008

SALT FOG TEST

1.0 ABSTRACT

1.1 Object

Subject three Quick Release Buckles to a Salt Fog Test in accordance with *MIL-STD-810F*, Method 509.4, Procedure I, as requested in AustriAlpin, Inc. purchase order 20080424adh1, dated April 24, 2008.

1.2 Conclusions

Post-test visual inspection revealed slight discoloration on the release levers. No evidence of damage was found. The units were returned to AustriAlpin, Inc.

2.0 UNIT(S) TESTED

Table 1: Units Tested

MANUFACTURER:	AUSTRIALPIN, INC.
DEVICE:	Three (3) Quick Release Buckles
MODEL/PART NO.:	Cobra Safety Click Lock
LOT SIZE:	Three samples

The results of this test apply only to the units identified in this Engineering Report by device identifier and model / part number, or serial number.

3.0 **TEST REQUESTED**

Subject the test units to a 96-hour Salt Fog Test in accordance with *MIL-STD-810F*, Method 509.4, Procedure I, as follows:

1. The salt solution shall be 5 parts, by weight, of sodium chloride dissolved in 95 parts distilled or de-ionized water.
2. The temperature in the exposure zone shall be $35^{\circ}\text{C} \pm 2^{\circ}\text{C}$.
3. The salt solution shall be atomized into the chamber at a rate that results in a salt fog fallout rate between 1.0 and 3.0 milliliters per hour per 80 square centimeters of horizontal collection area.
4. The collected fallout shall have a pH value between 6.5 and 7.2 when measured at $35^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

The samples shall be preconditioned for at least two hours at 35°C . The samples will then be exposed to the salt atmosphere for 24 hours followed by a 24-hour drying period at standard ambient temperature with a relative humidity of $50\% \pm 5\%$. This completes one cycle. The samples shall be exposed to two complete cycles for a total of 96 hours after the preconditioning.

4.0 INSTRUMENTATION, PROCEDURE, AND RESULTS

4.1 Instrumentation

All instrumentation is calibrated regularly by instruments directly traceable to the National Institute of Standards and Technology, and in accordance with *MIL-I-45208A*, *ANSI/NCSL Z540.3-2006*, and *ISO/IEC 17025: 2005*.

Table 2: Instrumentation List

Equipment Number	Description	Manufacturer	Model Number	Last Calibration	Due Calibration	Range
490-063	Hydrometer	VWR International / H-B Instruments	34620-164	9/27/2005	9/27/2010	1.000 to 1.070 Sp.G.
490-064	pH-ISE Meter	Orion	250Aplus	7/9/2007	7/9/2008	pH -2 to 19.999
504-039	Cyclic Corrosion Tester	Q-Panel Co.	Q FOG / CCT1100	11/30/2007	5/30/2008	Temperature: Ambient to +160°F; Humidity: 100%

4.2 Procedure

The salt used in this test meets the requirements of *MIL-STD-810F*. The Certificate of Conformance is on file at Environ Laboratories LLC.

The test samples were subjected to a 96-hour Salt Fog Test in accordance with Section 3.0 of this report. Checks made throughout the exposure periods revealed no deviations from the ranges specified in Section 3.0.

The test samples were placed in the salt fog chamber maintained at 35°C for a 2-hour preconditioning period prior to the 96-hour test specified in Section 3.0. A 5% salt solution was then atomized into the chamber in a manner that achieved an hourly fallout rate between 1.0 and 3.0 milliliters per hour per 80 square centimeters of horizontal collection area. The samples were first exposed to the salt fog for 24 hours and then dried for 24 hours. The samples were subjected to two exposure and drying cycles to complete the 96-hour test.

4.3 Results

Post-test visual inspection revealed slight discoloration on the release levers. No evidence of damage was found. The units were returned to AustriAlpin, Inc.

Figure 1 herein is the test data sheet. Photographs 1 and 2 depict the test setup. Photographs 3 and 4 are post-test views of the test units.



DATA SHEET

COMPANY: <u>AustriAlpin, Inc.</u>	
DEVICE: <u>(3) quick release buckles</u>	
MODEL NO. <u>Cobra Safety Quick Lock</u>	S/N: <u>3 samples</u>
TEST: <u>Salt Fog</u>	SPEC: <u>MIL-STD-883C</u> PARA: <u>509.4, Proc. I</u>
<ul style="list-style-type: none"> - 5% salt solution, 35°C-fog, 22°C-dry, 1 to 3 mL/hr, pH= 6.5 to 7.2 - Alternating Cycle- 2 hr dwell at 35°C / 24 hr fog / 24 hr dry / 24 hr fog / 24 hr dry 	
Start: <u>10:00am, 5/2/08</u>	
End: <u>12:05pm, 5/6/08</u>	
<ul style="list-style-type: none"> • Post-test Visual Inspection: <ul style="list-style-type: none"> • slight discoloration on surface of release lever • rest of test unit shows no damage 	
<ul style="list-style-type: none"> • test samples returned to customer 	
<u>504-039 490-063, 490-064</u>	

Test Performed By: Ian Campbell

Figure 1: Salt Fog Test Data Sheet



Photograph 1: Test units placed in salt fog chamber



Photograph 2: Test units placed in salt fog chamber



Photograph 3: Post-test view of test unit



Photograph 4: Post-test view of test units