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Submitted by: Wechem, Inc.  
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Report No.: 49924

## REPORT

### Lab Sample No.:

49924 Buzz Up Insect Repellant Spray (lot# 5113) was contacted with rubber linemans gloves (Type 1, Class 2, ANSI/ASTM D120) to determine if any significant changes occur in the tested properties of the gloves.

## PROCEDURE

### Tensile Properties

The outer-surface of the glove was rubbed with a liberal amount of Buzz Up Insect Repellant Spray, wiped off, allowed to stand thusly for 4 hours and then washed with mild soap and warm water. The above procedure was repeated once a day for 3 days. On the fourth day, samples were cut from the cuff areas of the gloves and tested as reported.

### Area Swell

Test samples were measured after 24 hour soaks at 75°F in the Buzz Up Insect Repellant Spray.

### AC Electrical Proof Tests

Glove samples exposed to the Buzz Up Insect Repellant Spray as per tensile property samples but were not cut up. Test was performed at 20 KV @ 3 minutes; maximum proof test current was recorded during last 20 seconds of the test. Pass/Fail criteria is based on a maximum proof test current of 18 mA as dictated by Class 2 and 16" glove length. Clearance from cuff to water line was set at 3 inches. Test was repeated after 16 hour soak in distilled water.

**RESULTS**

**Tensile Properties (ASTM D412, Avg. of 5)**

	<u>Control</u>	<u>Buzz Up Insect Repellant Spray</u>
Tensile Strength, psi		
Initial	3,712	-
After 3 day Exposure	-	3,373
% Change from Initial	-	-9.1%
Initial Aged 7 days @ 158°F	3,804	-
After 3 day Exposure and 7 day aging @ 158°F	-	3,788
% Change from Initial, aged	+2.5%	-0.4%
Ultimate Elongation, %		
Initial	690	-
After 3 day Exposure	-	715
% Change from Initial	-	+3.6%
Initial Aged 7 days @ 158°F	676	-
After 3 day Exposure and 7 day aging @ 158°F	-	723
% Change from Initial, aged	-2.0%	+7.0%
500% Modulus, psi		
Initial	560	-
After 3 day Exposure	-	510
% Change from Initial	-	-8.9%
Initial Aged 7 days @ 158°F	570	-
After 3 day Exposure and 7 day aging @ 158°F	-	555
% Change from Initial, aged	+1.8	-2.6%

**Area Swell, % (ASTM D471, Avg. of 3)**

24 hour soak	-	-0.6%
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**AC Electrical Proof Test (ASTM D120)**

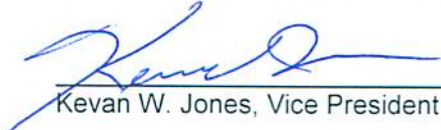
A)	Initial – Glove #	<u>1</u>	<u>2</u>	<u>3</u>
	Leakage at 20 KV, mA	12.6	12.5	12.3
	Pass/Fail	Pass	Pass	Pass
	Breakdown Voltage, KV	33.2 (FO)	33.0 (FO)	33.2 (FO)
	Buzz Up Insect Repellant Spray 3 day Exposure – Glove #	<u>1</u>	<u>2</u>	<u>3</u>
	Leakage at 20 KV, mA	13.4	13.2	13.5
	Pass/Fail	Pass	Pass	Pass
	Breakdown Voltage, KV	31.7 (FO)	32.0 (FO)	31.5 (FO)
B)	16 hour Distilled Water Soak Test			
	Initial – Glove #	<u>1</u>	<u>2</u>	<u>3</u>
	Leakage @ 20 KV, mA	12.5	12.3	12.6
	Pass/Fail	Pass	Pass	Pass
	Breakdown Voltage, KV	33.0 (FO)	32.8 (FO)	32.7 (FO)
	Buzz Up Insect Repellant Spray (3 day Exposure followed by 16 hour Soak Test)			
	Glove #	<u>1</u>	<u>2</u>	<u>3</u>
	Leakage @ 20 KV, mA	13.1	13.2	13.1
	Pass/Fail	Pass	Pass	Pass
	Breakdown Voltage, KV	32.5 (FO)	32.3 (FO)	32.6 (FO)

Note: (FO) Flashover indicates that the arc occurred over, but not through the glove.

**DISCUSSION**

The gloves are slightly affected as to the physical properties, but show no adverse effect as to the AC electrical proof tests. The low swell value shows that there is minimal material interaction between the sample and the glove material.

**DALLAS LABORATORIES, INC.**

  
 Kevan W. Jones, Vice President

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