

**"Progress Through Innovation, Technology
and Customer Satisfaction"**



June 8, 2006

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- TEST REPORT -

**P/N 67230B
PO#**


Prepared for:

GB Industries Sdn. Bhd.
22-2 Jalan USJ 21/7
47630 Subang Jaya Selangor Malaysia

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SUBJECT: Various Property Testing per ASTM D120 on Novax Gloves
PO#

RECEIVED: Three Pairs of Gloves identified as Novax Rubber Insulating Gloves (Class 2).

POLYMER IDENTIFICATION, ASTM 3677-00

Instrument: Perkin-Elmer Spectrum BX Spectrometer
Resolution: 4.0
Number of Scans: 6
Method of Preparation: Film

RESULTS

Polyisoprene

DIMENSIONS, PARA. 17.1 - 17.3.1

Three gloves tested.
Average of four readings reported.

REQUIREMENTS: Thickness Crotch, mm = 1.02 - 2.29
Thickness Palm & Back, mm = 1.27- 2.29

	<u>LENGTH, mm</u>	<u>WIDTH, mm</u>	<u>PALM, mm</u>	<u>CROTCH, mm</u>	<u>BACK, mm</u>
Glove 1	355	232	2.23	2.09	2.17
Glove 2	356	256	2.24	1.99	2.18
Glove 3	355	274	2.06	1.97	2.06

ORIGINAL PHYSICAL PROPERTIES, ASTM D 412-98a(02)e1, D 2240-03, D 624-00e1

Die C dumbbells tested at 20 in/min.

	<u>RESULTS</u>	<u>REQUIREMENTS</u>	<u>PASS/FAIL</u>
Shore A Durometer, points	36	47 max.	Pass
Tensile Strength, MPa	27.8	17.2 min.	Pass
Ultimate Elongation, %	679	600 min.	Pass
100% Modulus, MPa	0.801	-	-
200% Modulus, MPa	1.172	2.1 max.	Pass
300% Modulus, MPa	1.687	-	-
Tear Strength Die C, kN/m	49.1	21 min.	Pass

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PUNCTURE RESISTANCE, ASTM D 120-02a

Palm area punctured at 20 in/min.

	<u>RESULTS</u>	<u>REQUIREMENTS</u>	<u>PASS/FAIL</u>
Puncture Resistance, kN/m	162	18 min.	Pass

OZONE RESISTANCE, ASTM D 1149-99

Test specimens per ASTM D 518-99, Method A

Specimens exposed 3 hrs. @ 50 pphm @ 40°C, 20% elongation.

Observations made at 7x magnification.

	<u>RESULTS</u>	<u>REQUIREMENTS</u>	<u>PASS/FAIL</u>
	No cracks	No cracks	Pass

HEAT-AGED PROPERTIES, ASTM D 573-04

Specimens aged 168 hrs. @ 70°C in a forced air oven.

	<u>RESULTS</u>	<u>REQUIREMENTS</u>	<u>PASS/FAIL</u>
Durometer, point change	0	-	-
Tensile Strength, % of original	103.6	80 min	Pass
Elongation, % of original	98.7	80 min.	Pass

A-C PROOF TEST, ASTM D 120-95 SECTION 18.4.2

The glove was filled with tap water and immersed in water to a depth about 2 ½ inches from the cuff. A metal rod was lowered inside the glove as one electrode and a metal rod placed in the water tank outside the glove as the other electrode. A voltage was applied to the electrodes at an increasing rate of 1,000 V/s until specified voltage was reached. For Class 2 glove a maximum voltage of 20,000 V and a maximum current of 16 mA were used. The voltage was applied for a period of 3 minutes after which the voltage was lowered to 0 V.

	<u>Pass/Fail</u>	<u>Measured Current</u>
Class 2		
Glove 1	Passed	5 mA
Glove 2	Passed	5 mA
Glove 3	Passed	4 mA

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A-C MOISTURE ABSORPTION/PROOF TEST, ASTM D 120-95 SECTION 18.4.4

The glove was filled with tap water and immersed in water to a depth about 2 ½ inches from the cuff. The glove was soaked for a period of 16 hours. A metal rod was lowered inside the glove as one electrode and a metal rod placed in the water tank outside the glove as the other electrode. A voltage was applied to the electrodes at an increasing rate of 1,000 V/s until specified voltage was reached. For Class 2 glove a maximum voltage of 20,000 V and a maximum current of 16 mA were used. The specified voltage was applied for a period of 3 minutes after which the voltage was lowered to 0 V.

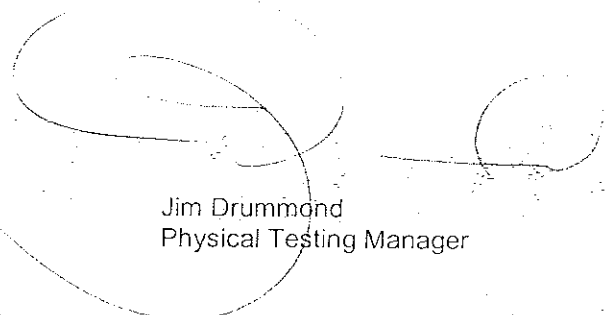
	<u>Pass/Fail</u>	<u>Measured Current</u>
Class 2		
Glove 1	Passed	8 mA
Glove 2	Passed	8 mA
Glove 3	Passed	7 mA

A-C BREAKDOWN TEST, ASTM D 120-95 SECTION 18.4.3

The glove was filled with tap water and immersed in water to a depth about 3 inches from the cuff. A metal rod was lowered inside the glove as one electrode and a metal rod placed in the water tank outside the glove as the other electrode. A voltage was applied to the electrodes at an increasing rate of 1,000 V/s until specified voltage was reached. For Class 2 glove a maximum voltage of 30,000 V was used.

	<u>Breakdown Voltage (VAC)</u>	<u>Pass/Fail</u>	<u>Measured Current at 30 kV</u>
Class 2			
Glove 1	N/A	Pass	12 mA
Glove 2	N/A	Pass	11 mA
Glove 3	N/A	Pass	12 mA


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