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 Chemical, Metallurgical, Mechanical, Nondestructive, Environmental Testing, Analyses and Field Service.

**THE GREENSTREAK GROUP**  
 3400 Tree Court Industrial Blvd.  
 St. Louis, MO 63122

June 13, 2008  
 Lab. No. 08P-2048  
 P.O. No. 19795  
 Page 1 of 12  
 (Revised Report 8/20/08)

**Attention: James M. Vemmer**

**REPORT OF ANALYSIS**

**MATERIAL:** Compound 9100

**RESULTS:**

Test Method	Average
<b>*ASTM D 412 Method A, Die C</b>	
tensile strength, (psi)	2626
elongation at break, (%)	372
<b>*ASTM D 638, Die Type IV</b>	
tensile strength, (psi)	2633
elongation at break, (%)	370
<b>*ASTM D 2240</b>	
durometer hardness, (type A)	85.0/77.7
<b>*ASTM D 624</b>	
tear strength, (lbf/inch)	362 lbf-inch
<b>*ASTM D 570/ 24hr Immersion</b>	
water absorption, (%)	0.01
<b>*ASTM D 1203 Test Method A</b>	
volatile loss, (%)	.33
<b>*ASTM-D-792</b>	
specific gravity	1.35
<b>CRD-C 572-74, Section 7.2 Effect of Aikalies</b>	
change in weight (%)	+0.16
change in shore (A) durometer readings	+1.7
<b>CRD-C 572-74, Section 7.1 Accelerated Extraction</b>	
tensile strength (psi)	2022
elongation at break, (%)	336
<b>*ASTM D747</b>	
Average apparent bending modulus (psi)	707
<b>*ASTM D 746</b>	
brittleness temperature	-50°C/-58°F

\*Latest Edition

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**Attention: James M. Vemmer**

**REPORT OF ANALYSIS**

**MATERIAL:** Compound 9100

**SUBJECT:** Tension Testing

**TEST METHOD:** ASTM D 412, Method A, Die C

**RESULTS:**

Specimen	Width (in.)	Thick (in.)	Area (sq. in.)	Load (lbs.)	Tensile Strength (psi)	Elongation at Break, %
9100-1	.250	.073	.0183	48.75	2671	350
9100-2	.250	.073	.0183	46.88	2569	380
9100-3	.250	.073	.0183	48.44	2654	370
9100-4	.250	.073	.0183	47.60	2608	390
9100-5	.250	.073	.0183	47.99	2630	370
AVERAGE					2626	372

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**Attention: James M. Vemmer**

**REPORT OF ANALYSIS**

**MATERIAL:** Compound 9100  
  
**SUBJECT:** Tension Testing  
  
**TEST METHOD:** ASTM D 638, Die Type IV

**RESULTS:**

Specimen	Width (in.)	Thick (in.)	Area (sq. in.)	Load (lbs.)	Tensile Strength (psi)	Elongation at Break, %
9100-6	.250	.073	.0183	46.60	2553	360
9100-7	.250	.073	.0183	49.98	2739	380
9100-8	.250	.073	.0183	47.01	2576	380
9100-9	.250	.073	.0183	47.75	2616	360
9100-10	.250	.073	.0183	48.93	2681	370
AVERAGE					2633	370

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**Attention: James M. Vemmer**

**REPORT OF ANALYSIS**

**MATERIAL:** Compound 9100

**SUBJECT:** Durometer Hardness Testing

**TEST METHOD:** ASTM D 2240

**RESULTS:**

**Specimen	Durometer Hardness, Type A	
	Initial (Max)	Creep (15s Set)
9100-1	84.5	77.5
9100-2	85.5	78.0
9100-3	85.0	77.0
9100-4	85.0	78.0
9100-5	85.0	78.0
<b>AVERAGE</b>	85.0	77.7

\*\* Thickness obtained by plied pieces

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**Attention: James M. Vemmer**

**REPORT OF ANALYSIS**

**MATERIAL:** Compound 9100

**SUBJECT:** Tear Strength

**TEST METHOD:** ASTM D 624 Die B

**RESULTS:**

Specimen	Thickness (inches)	Load (lbf)	Tear Strength lbf/inch
9100-1	.073	27.02	370
9100-2	.073	25.64	351
9100-3	.073	26.65	365
Average			362

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Attention: **James M. Vemmer**

**REPORT OF ANALYSIS**

**MATERIAL:** Compound 9100

**SUBJECT:** Water Absorption Testing

**TEST METHOD:** ASTM D 570/ 24hr Immersion

**RESULTS:**

Specimen	Water Absorption, %
9100-1	0.01
9100-2	0.01
9100-3	0.01
Average	0.01

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**Attention: James M. Vemmer**

**REPORT OF ANALYSIS**

**MATERIAL:** Compound 9100  
  
**SUBJECT:** Volatile Loss  
  
**TEST METHOD:** ASTM D 1203/ Test Method A

**RESULTS:**

Specimen	Volatile Loss, %
9100-1	0.2
9100-2	0.4
9100-3	0.4
Average	.33

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**Attention: James M. Vemmer**

**REPORT OF ANALYSIS**

**MATERIAL:** Compound 9100

**SUBJECT:** Specific Gravity

**TEST METHOD:** ASTM D 792

**RESULTS:**

Specimen	Specific Gravity
9100	1.35

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**Attention: James M. Vemmer**

**REPORT OF ANALYSIS**

**MATERIAL:** Compound 9100  
  
**SUBJECT:** Effect-of Alkalies Test  
  
**TEST METHOD:** CRD-C-572-74; Section 7.2  
  
**RESULTS:** (after 7 days)

Sample	Change in Weight (%)	Change in Shore (A) Durometer Readings
9100-1	+0.16	+1.6
9100-2	+0.15	+1.5
9100-3	+0.16	+1.9
<b>AVERAGE</b>	<b>+0.16</b>	<b>1.7</b>

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**Attention: James M. Vemmer**

**REPORT OF ANALYSIS**

**MATERIAL:** Compound 9100

**SUBJECT:** Accelerated Extraction Testing

**TEST METHOD:** CRD-C 572-74, Section 7

**RESULTS:** (after samples reached constant weight)

Specimen	Width (in.)	Thick (in.)	Area (sq. in.)	Load (lbs.)	Tensile Strength (psi)	Elongation at Break, %
9100-1	.250	.073	.0183	37.56	2053	330
9100-2	.250	.073	.0183	33.98	1857	340
9100-3	.250	.073	.0183	35.68	1950	340
9100-4	.250	.073	.0183	39.87	2179	330
9100-5	.250	.073	.0183	37.88	2070	340
AVERAGE					2022	336

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**Attention: James M. Vemmer**

**REPORT OF ANALYSIS**

**MATERIAL:** Compound 9100  
  
**SUBJECT:** Bending Modulus  
  
**TEST METHOD:** ASTM D 747  
  
**RESULTS:**

Sample	Average Apparent Bending Modulus
9100	707

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**Attention: James M. Vemmer**

**REPORT OF ANALYSIS**

**MATERIAL:** Compound 9100

**SUBJECT:** Brittleness Temperature Test

**TEST METHOD:** ASTM D 746

**TEST APPARATUS:** Type A

**TEST SPECIMEN:** Type I

**RESULTS:**

Sample	**Brittleness Temperature (to the nearest 1 deg C)
9100	-50°C/-58°F

\*\* Temperature at which 10 of 10 Specimens passed

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