

TEST REPORT

Date 08/21/02
W.O. No. T 36994

TENSILE PROPERTIES

Rate of test: 0.05 inches/minute

TEST METHOD : ASTM D 3039-00
IDENTIFICATION : Richlite
TEST DIRECTION : Tested in the "X" direction, as designated by the client.
TEST CONDITION : Tested "as received" at room temperature

| <u>SPECIMEN</u> | <u>THICKNESS</u> inches | <u>WIDTH</u> inches | <u>MAXIMUM LOAD</u> pounds | <u>ULTIMATE STRENGTH</u> Psi | <u>INITIAL MODULUS</u> Msi | <u>STRAIN TO FAILURE</u> % |
|-------------------------------|----------------------------|------------------------|-------------------------------|---------------------------------|-------------------------------|-------------------------------|
| 1 | 0.1268 | 1.005 | 2,741 | 21,500 | 1.82 | 1.53 |
| 2 | 0.1267 | 1.006 | 2,814 | 22,100 | 1.89 | 1.62 |
| 3 | 0.1271 | 1.001 | 2,748 | 21,600 | 1.83 | 1.65 |
| 4 | 0.1271 | 0.999 | 2,801 | 22,100 | 1.88 | 1.60 |
| 5 | 0.1268 | 1.000 | 2,710 | 21,400 | 1.80 | 1.60 |
| AVERAGE: | | | | 21,700 | 1.84 | 1.60 |
| STANDARD DEVIATION: | | | | 340 | 0.039 | 0.044 |
| COEFFICIENT OF VARIATION (%): | | | | 1.57 | 2.12 | 2.75 |

- Notes :
1. Specimen 1 exhibited lateral, tensile failure in the gage area.
 2. Specimens 2, 3, 4 and 5 exhibited lateral, tensile failure near the edge of the grips.
 3. Modulus was calculated, based on the chord between 1,000 and 3,000 μ -strain of the stress vs. strain curve.
 4. No acceptance/rejection criteria were submitted for the above results.

As a mutual protection to clients, the public and Delsen Testing Laboratories, Inc., this report is submitted for the exclusive use of the client to whom it is addressed. This report applies only to the sample(s) tested and is not necessarily indicative of the qualities of apparently similar or identical products. Use of this report, whether in whole or in part, or of any seals or insignia connected therewith, in any advertising or publicity matter, without prior written authorization from Delsen Testing Laboratories, Inc. is prohibited.

TENSILE PROPERTIES

Rate of test: 0.05 inches/minute

TEST METHOD : ASTM D 3039-00
IDENTIFICATION : Richlite
TEST DIRECTION : Tested in the "Y" direction, as designated by the client.
TEST CONDITION : Tested "as received" at room temperature

| <u>SPECIMEN</u> | <u>THICKNESS</u> inches | <u>WIDTH</u> inches | <u>MAXIMUM LOAD</u> pounds | <u>ULTIMATE STRENGTH</u> Psi | <u>INITIAL MODULUS</u> Msi | <u>STRAIN TO FAILURE</u> % |
|-------------------------------|----------------------------|------------------------|-------------------------------|---------------------------------|-------------------------------|-------------------------------|
| 1 | 0.1261 | 1.000 | 1,921 | 15,200 | 1.43 | 2.45 |
| 2 | 0.1259 | 1.002 | 1,835 | 14,500 | 1.14 | 1.88 |
| 3 | 0.1262 | 1.001 | 1,616 | 12,800 | 1.14 | 1.43 |
| 4 | 0.1260 | 1.001 | 1,920 | 15,200 | 1.15 | 2.04 |
| 5 | 0.1258 | 1.004 | 1,944 | 15,400 | 1.11 | 2.12 |
| AVERAGE: | | | | 14,600 | 1.19 | 1.98 |
| STANDARD DEVIATION: | | | | 1,070 | 0.133 | 0.373 |
| COEFFICIENT OF VARIATION (%): | | | | 7.33 | 11.2 | 18.8 |

- Notes:
1. Specimen 1 exhibited multiple, lateral, tensile failure in the gage area.
 2. Specimens 2, 3 and 5 exhibited lateral, tensile failure in the gage area.
 3. Specimen 4 exhibited lateral, tensile failure near the edge of the grips.
 4. Modulus was calculated, based on the chord between 1,000 and 3,000 μ -strain of the stress vs. strain curve.
 5. No acceptance/rejection criteria were submitted for the above results.

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