

P.O. Box 2400  
 Cookeville, Tennessee 38502-2400  
 Phone: 931-372-8871  
 Fax: 931-525-3896

## Puncture Test

Test Number: RD082366PT

Date of Manufacture: 2008

Specimen Number: 1021080606-7

Date of Test: August 18, 2008

Description of Test Specimen: Innovative Energy; Polyethylene Bubble Pack with Metallized Film Facers (AstroShield II).

Test Method: ASTM F 1306

Report Prepared For: Innovative Energy, Inc. / Eric Baker

The observed maximum load for puncture of the film is recorded below under puncture load. The stress in  $\text{lb}_f/\text{in}^2$  at the puncture force is shown as stress at puncture. The stress at penetration is based on the probe area of  $0.0123 \text{ in}^2$ . The maximum force observed is shown in the fourth column. The specimens continued to resist complete puncture after penetration for the facer because of the elasticity of the bubble pack core.

Specimen	Load at Film Puncture ( $\text{lb}_f$ )	Stress at Film Puncture ( $\text{lb}_f/\text{in}^2$ )	Maximum Observed Load ( $\text{lb}_f$ )
1	10.20	829	10.23
2	7.60	618	10.30
3	10.51	854	10.60
4	11.90	967	12.35
5	7.20	585	9.24
6	10.40	846	10.47
7	10.53	856	11.76
8	12.05	980	12.05
9	8.75	711	10.12
10	7.55	614	10.72
Average	<u>9.67</u>	<u>786</u>	
Std. Dev.	<u>1.78</u>	<u>145</u>	

Ronald S. Swader  
 Reviewed By:

08-27-08  
 Date:

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The results in this report apply only to the specimen tested.