

Ballistic Testing Services

Report Number: BTR-03-13-2008-TBD-Sample 6

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Report Date: March 13, 2008
 Contact: Bob Gray
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Ballistic Results

Project Summary

Type of Products to be tested: Laminated Polycarbonate
 Test Specimen Sample size(s): 12 x 12 inch
 Number of test specimens: 6 Sample(s)
 Weight of all samples: 37 lbs
 Are Materials a Health Hazard: No
 Need the Tests performed by: March 15, 2008
 Need products shipped back: Yes
 Purchase Order Number: TBD

International Ballistic Standards / Specifications Testing

ASTM Brunswick FRA NIJ CFR Pass All
 Australian Canadian Germ DIN State Dept CFR SYA
 British EN 1063 MIL-SAMIT UL 752 Other
 Test Standard: UL 752
 Particular Test: UL Level 3 Part 3 (.44 Magnum SWC)
 Velocity Range: 1,350 to 1,485 ft/s
 Number of Shots: 1 shot
 Spacing / Pattern: 1 to 1.5 inch unsupported edge shot

Test Results

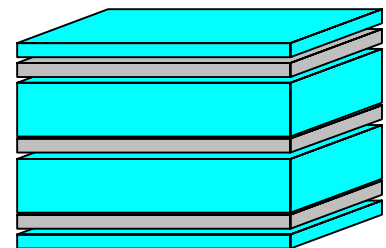
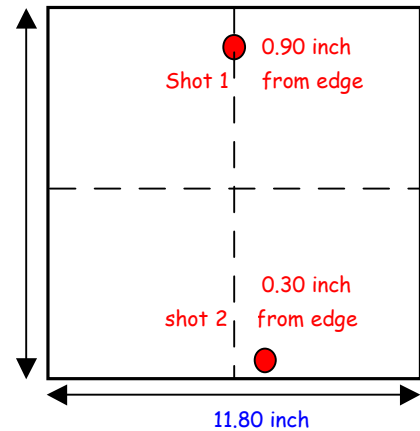
Product Number: Sample 6
 Sample Type: Laminated Polycarbonate
 Sample Size: 11.82 x 11.80 inch
 Thickness: 1.262 inch
 Weight: 7.47 lbs 11.82 inch
 Weapon Type: .44 Magnum
 Cartridge / Projectile Type: .44 Magnum SWC
 Projectile Weight: 240 gr
 Target Distance: 15 ft
 Number of Shots: 1 shot
 Shot Sequence:

	Shot 1	Shot 2
Impact Velocity (ft/sec) *:	<u>1,462</u>	<u>1,388</u>
Impact Energy (ft-lbs):	<u>1,139</u>	<u>1,026</u>
Impact Momentum (lb-sec):	<u>1.56</u>	<u>1.48</u>
Impact Angle (degrees):	<u>0 °</u>	<u>0 °</u>
Penetration Effect:	<u>NP</u>	<u>NP</u>
Bulge Height (inches) **:	<u>0.355</u>	<u>0.220</u>

Witness plate material: 0.125 in. thick corrugated cardboard
 Witness Plate Distance: 18 inches
 Spall Occurrence: None
 Test Temperature: 73 °F
 Test Date: March 13, 2008
 Comments: Passed the Test

NP = No Penetration
 CP = Complete Penetration

Shot # 2 was an extra shot
 See page 2 for the explanation



Comments and Test Descriptions

- * Velocity measurements were taken at a distance of 6.6 ft from muzzle
- ** The post impact Bulge Height is the distance between the apex of the extruded deformation bulge to the tangent plane of the flat surface. This measurement is taken from the side opposite to the impacts.

Test and Report Engineers

Tested and Reported by: Sam Raheb

Signature: Sam Raheb

Date: March 13, 2008

Name: Regal Plastic Supply Company

Report Date: March 13, 2008

Ballistic Test Results and Photographs

Ballistic Test Results:

The Transparent Laminated Polycarbonate test sample passed the UL 752 Level 3 Part 3 (.44 Magnum SWC) Ballistic test. An extra shot was taken at the extreme edge to see if the sample would delaminate. The sample did not delaminate and remained intact.

Projectile Penetration Effects:

There was no partial or complete projectile penetration of the Transparent Laminated Polycarbonate sample for the single shot.

Witness Plate and Spall Effects:

No spall was observed. The 0.125 in. thick corrugated cardboard witness plate remained undamaged.

Photographs

The following photographs show the post-test Transparent Laminated Polycarbonate. Additional larger sized photographs are included with this report.

Sample 6 - UL 752 Level 3 Part 3 (44 Magnum SWC) - 11.82 x 11.80 x 1.262 inch



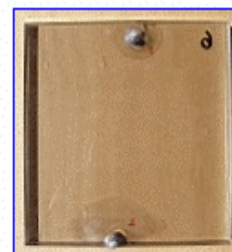
Post Test Impact Side



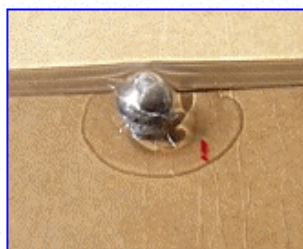
Post Test Shot 1 Impact Side



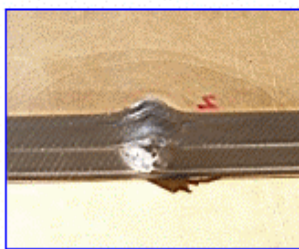
Post Test Shot 2 Impact Side



Post Test Rear Side



Post Test Shot 1 Rear Side



Post Test Shot 2 Rear Side

Test and Report Engineers

Tested and Reported by: Sam Raheb

Signature: *Sam Raheb*

Date: March 13, 2008