

Ballistic Testing Services

Report Number: BTR-11-13-2008-N/A-Sample 2

Phone: 800-513-4291 Email: [techsupport@CloseFocusResearch.com](mailto:techsupport@CloseFocusResearch.com)

CloseFocusResearch.com

Name: Regal Plastic Supply Company  
 Address: 2356 Merrell Road, Dallas, TX , 75229  
 Phone: Phone: 800-441-1553

Report Date: November 13, 2008  
 Contact: Bob Gray  
 Email: rgray@regal-plastics.com

**Ballistic Results**

**Project Summary**

Type of Products to be tested: Poly / Acrylic BR Material  
 Test Specimen Sample size(s): 12 x 12 inch  
 Number of test specimens: 6 Sample(s)  
 Weight of all samples: 29 lbs  
 Are Materials a Health Hazard: No  
 Need the Tests performed by: November 19, 2008  
 Need products shipped back: Yes  
 Purchase Order Number: N/A

**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 1 Part 2 (9 mm Parabellum FMJ)  
 Velocity Range: 1,175 to 1,293 ft/s  
 Number of Shots: 2 shots  
 Spacing / Pattern: 1.25 to 1.75 in.

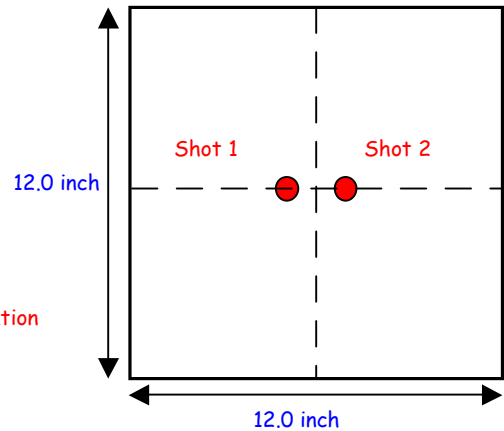
**Test Results**

Product Number: Sample 2  
 Sample Type: Poly / Acrylic BR Material  
 Sample Size: 12.0 x 12.0 inch  
 Thickness: 0.803 inch  
 Weight: 4.84 lbs  
 Weapon Type: 9 mm Parabellum  
 Cartridge / Projectile Type: 9 mm Parabellum FMJ  
 Projectile Weight: 124 gr  
 Target Distance: 15 ft  
 Number of Shots: 2 shots  
 Shot Sequence:

|                              | Shot 1       | Shot 2       |
|------------------------------|--------------|--------------|
| Impact Velocity (ft/sec) *:  | <u>1,217</u> | <u>1,180</u> |
| Impact Energy (ft-lbs):      | <u>408</u>   | <u>383</u>   |
| Impact Momentum (lb-sec):    | <u>0.67</u>  | <u>0.65</u>  |
| Impact Spacing (inches) **:: | <u>N/A</u>   | <u>1.2</u>   |
| Impact Angle (degrees):      | <u>0 °</u>   | <u>0 °</u>   |
| Penetration Effect:          | <u>NP</u>    | <u>NP</u>    |
| Bulge Height (inches) ***:   | <u>~0.03</u> | <u>~0.03</u> |

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

NP = No Penetration  
 CP = Complete Penetration



**Ballistic Test Results:**

The Poly / Acrylic BR Material test sample passed the UL Level 1 Part 2 (9 mm Parabellum FMJ) Ballistic test. However the sample completely delaminated upon removal from the test fixture.

**Projectile Penetration Effects:**

There was no partial or complete projectile penetration of the Poly / Acrylic BR Material sample for both shots.

**Witness Plate and Spall Effects:**

No spall was observed and no damage occurred to the witness plate.

**Comments and Test Descriptions**

- \* Velocity measurements were taken at a distance of 6.6 ft from muzzle
- \*\* Impact Spacing is the distance between shots. (shot 1= N/A, shot 2 = 1 to 2)
- \*\*\* 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: November 13, 2008