

Name: Sample Company  
 Address: 12345 Cotton Hill Road, Northridge, California 91324  
 Phone: Phone: 818-555-1234

Report Date: March 15, 2004  
 Contact: Ralfy Willickers  
 Email: [rwillickers@samplecompany.com](mailto:rwillickers@samplecompany.com)

**Ballistic Results**

**General Information**

Type of Products to be tested: **Transparent Armor Window**  
 Test Specimen Sample size(s): **24 x 24 x 2.75 inches**  
 Number of test specimens: **1 Sample**  
 Weight of sample: **Approximately 100 lbs**  
 Are Materials a Health Hazard: **No**  
 Need the Tests performed by: **3/22/04**  
 Need products shipped back: **No**  
 Purchase Order Number: **12345-6**

**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

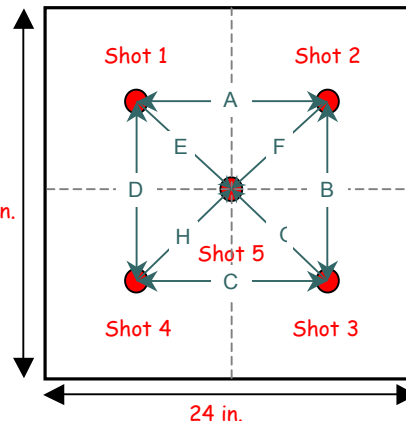
Test Specification Details: **National Institute of Justice**  
 Particular Test: **NIJ III (.30 cal. 7.62 NATO M80)**  
 Velocity Range: **2,700 to 2,800 ft / sec**  
 Number of Shots: **5 shots**  
 Spacing / Pattern: **> 2 inches (See illustration below)**

**Test Results**

Product Number: **Sample 1**  
 Sample Type: **Transparent Armor Window**  
 Sample Size: **24 x 24 inches**  
 Thickness: **2.75 inches**  
 Weight: **Approximately 100 lbs**  
 Weapon Type: **7.62 NATO Rifle**  
 Cartridge / Projectile Type: **7.62 x 51 NATO M80**  
 Projectile Weight: **147 gr**  
 Target Distance: **49.2 ft**  
 Number of Shots: **5 shots**



post-test impact side



Shot Sequence:	Shot 1	Shot 2	Shot 3	Shot 4	Shot 5
Impact Velocity (ft/sec) *:	2,746	2,753	2,758	2,737	2,744
Impact Energy ( ft-lbs):	2,461	2,473	2,482	2,445	2,457
Impact Momentum ( lb-sec.):	1.79	1.80	1.80	1.79	1.79
Impact Angle (degrees):	0°	0°	0°	0°	0°
Penetration Effect:	NP	NP	NP	NP	NP
Bulge Height (inches) ***:	~ 0.12	~ 0.12	~ 0.12	~ 0.12	~ 0.12

Witness plate material: **0.020 in. type 2024-T3 Aluminum foil alloy**  
 Witness Plate Distance: **6 inches**  
 Spall Occurrence: **Spall failure (CP) of witness plate on shot #5**  
 Test Temperature: **77 °F**  
 Test Date: **March 15, 2004**  
 Comments: **All 5 shots caused spall dents in the witness plate.**

Impact Spacing (inches)	
A	12.00
B	11.70
C	11.90
D	11.60
E	8.40
F	8.50
G	8.40
H	8.50
Average <b>11.80</b>	
Average <b>8.45</b>	

Definitions	
NP	= No Penetration
CP	= Complete Penetration

**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 Wilson**

Signature: *Sam Wilson*

Date: **March 15, 2004**

Name: [Sample Company](#)

Report Date: [March 15, 2004](#)

Ballistic Results and Photographs

Ballistic Test Results:

This Transparent Armor Window test sample failed the National Institute of Justice NIJ III (.30 cal. 7.62 NATO M80) Ballistic test due to glass spall failure of the 0.020 in. type 2024-T3 Aluminum foil alloy witness plate.

Projectile Penetration Effects:

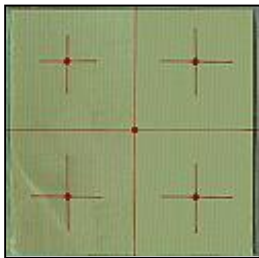
There was no partial or complete projectile penetration of the Transparent Armor Window sample for all 5 shots.

Witness Plate Spall Effects:

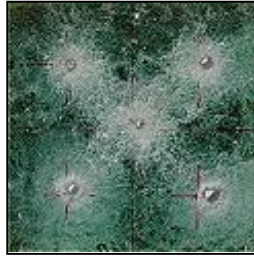
The 4 outer perimeter shots caused minor glass spall impressions in witness plate without any penetration. However, the 5th center shot caused glass spall penetration of the witness plate, thus resulting in the failure of the sample according to the NIJ III ballistic test standard.

Photographs

The following photographs show both the pre and post-test Transparent Armor Window sample and the post-test Aluminum foil witness plate. Additional larger sized photographs are included with this report.



pret-test impact side



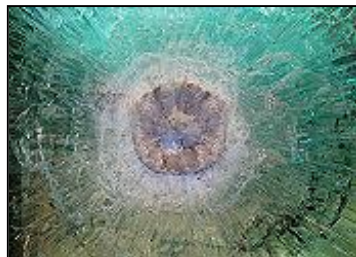
post-test impact side



post-test rear side



post-test impact side close up - 2 shots



post-test impact side close up - shot #1



post-test rear side close up - shot #1



witness plate front



witness plate rear



shot 5 spall witness plate front



shot 5 spall witness plate rear

Test and Report Engineers

Tested and Reported by: Sam Wilson

Signature: *Sam Wilson*

Date: [March 15, 2004](#)