



**Modified/Abbreviated NIJ 0106.01/STANAG 2920 and  
NIJ 0101.06  
Testing**

**Prepared By:**

**Matt Lutz**

**NTS Labs, LLC- Wichita  
7447 W. 33<sup>rd</sup> St. N.  
Wichita, KS 67205  
USA**

**9 MAY 2023**

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**This report shall not be used to claim product certification, approval or endorsement. The results of the testing relate only to the samples submitted for testing and are not representative of a complete model or lot. This test report shall not be interpreted as an endorsement by NTS Labs, LLC- Wichita as to the continued quality or performance of any items of the same or similar design.**

## 1. Introduction

provided five helmet samples and six hard armor samples for testing in accordance with NIJ 0106.01, STANAG 2920 and NIJ 0101.06.

## 2. Threats and Instrumentation

### 2.1. Threats

- 9mm 124 gr. FMJ
- 44 Mag. 240 gr. LSWCGC
- 44 Mag. 240 gr. JHP
- 357 Sig 125 gr. FMJ (TMJ)
- 17 gr. FSP
- 7.62mm 147 gr. M80
- 30 Cal. 166 gr. APM2
- 5.56mm 62 gr. M855 (SS109)
- 7.62x39mm 123 gr. MSC
- 7.62x39mm 119 API-BZ
- 7.62x54R 150 gr. B32

### 2.2 Instrumentation

Projectile velocity measurements were obtained using Oehler Research Model 57 infrared screens with Oehler Research Model 34 chronographs. Penetration was determined by visual examination of the aluminum witness sheet or Roma Clay. BFS measurement were obtained using a calibrated digital depth gauge.

## 3. Details of Test

The objective of this project was to determine if the samples provided met the P-BFS requirements of NIJ 0106.01 and NIJ 0101.06 and to determine ballistic limit.

Conditioning, velocity, range length and results are noted on the data sheets. The samples were secured to the helmet test rig or clay block using elastic straps with hook and loop fastening. The witness material was inspected after each impact for penetration.



#### 4. Summary of Results

**Table 1. Summary of Helmet Penetration Testing**

Test Record	Conditioned	Threat	Shot Number	Velocity (m/s)	Penetration (Y/N)
PGD23001-1	Wet	44 Mag. LSWC-GC	1	431.4	N
			2	419.6	N
			3	412.1	N
			4	433.9	N
PGD23001-2	Wet	9mm FMJ	1	439.1	N
			2	432.3	N
			3	417.9	N
			4	412.4	N
PGD23001-3	Wet	44 Mag. JHP	1	427.5	N
			2	429.1	N
			3	431.0	N
			4	427.7	N
PGD23001-4	Wet	357 Sig TMJ	1	449.2	N
			2	447.3	N
			3	449.4	N
			4	459.3	N

**Table 2. Summary of Helmet V50 Testing**

Test Record	Conditioned	Threat	V50 (m/s)	Range of Results	Mixed Range of Results
PGD23001-5	Ambient	17 gr. FSP	659.8	27.4	27.4

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PGD23001

**Table 3. Summary of Helmet Penetration Testing**

Test Record	Conditioned	Threat	Shot Number	Velocity (m/s)	BFS (mm) Penetration (Y/N)
PGD23001-6	Dropped/ Submerged	5.56mm SS109	1	954.9	17.92
			2	952.2	16.48
			3	956.1	N
			4	954.9	N
			5	945.4	N
			6	948.9	N
PGD23001-7	Dropped/ Submerged	7.62mm M80	1	850.4	43.86
			2	851.4	40.93
			3	859.1	N
			4	850.9	N
			5	843.9	N
			6	854.3	N
PGD23001-8	Dropped/ Submerged	7.62x39mm MSC	1	718.5	26.28
			2	717.9	25.58
			3	726.4	N
			4	719.2	N
			5	730.2	N
			6	728.1	N
PGD23001-9	Dropped/ Submerged	7.62x39mm API-BZ	1	710.8	24.34
			2	721.2	23.86
			3	713.8	24.38
PGD23001-10	Dropped/ Submerged	30 Cal. APM2	1	877.4	40.01
PGD23001-11	Dropped/ Submerged	7.62x54R B32	1	857.6	41.11

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Best Regards,



Matt Lutz  
General Manager



**NATIONAL TECHNICAL SYSTEMS**  
**NIJ 0106.01 HELMET:**  
**BALLISTIC PENETRATION TEST**

Date Received: February 18, 2023  
 Via: Fed Ex  
 Returned Via: Fed Ex

Record No.: PGD23001-1  
 Test Date: March 16, 2023

**Test Conditions**

Temperature: 21.1 °C  
 Humidity: 40 %

**Range 2**

Muzzle to Screen 1: 1.52 m  
 Screen 1 - 2: 1.52 m  
 Screen 2 - Target: 1.83 m  
 Midpoint to Target: 2.59 m

Test Standard: Modified / Abbreviated NIJ Standard 0106.01 for Ballistic Helmets  
 December 1981

Test Method: IAW Paragraph 5.2 Ballistic Penetration Test  
 Test Ammunition: IAW NIJ Standard 0108.01, September 1985  
 Threat Level: IIIA  
 Conditioning: Wet

Headform Size: 7 1/4  
 Witness Plate: 2024-T3 Alum.  
 Barrel Length: 25.4 cm

Sample Tested Description	Test / Ammunition Description					Chronograph		Test Results
	Shot No.	Impact Location	Degree Obliquity	Caliber	Bullet Weight (gr.) / Type	TIME sx-5	VELOCITY m/s	Penetration
Model No.: ARCH HIGH CUT								No Penetration
Size: L	1	Front	0°			353.3	431.4	No Penetration
Serial No.: 22081817	2	Back	0°			363.2	419.6	No Penetration
Lot No.: 3777	3	Right	0°	.44 Mag.	240 / LSWC GC	369.8	412.1	No Penetration
Weight (kg.): 1.360	4	Left	0°			351.2	433.9	No Penetration
Protection Level: NIJ IIIA								

**Notes:**

•Helmet tested as received from customer with retention / suspension system, chinstrap and pads.

**Conditioning:**

•Helmet tested at ambient conditions 20 - 28 °C (68 - 82°F) and 30% - 70% RH

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**Test Ammunition / Velocity Information:**

Test Round: .44 Magnum 240 gr. Lead Semi-Wadcutter Gas Checked (LSWCGC)  
 Test Velocity: 426 +/- 15 m/s (1400 +/- 50 ft/s)

Technician (s): Wilson / Zerger

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**NIJ 0106.01 HELMET:**  
**BALLISTIC PENETRATION TEST**

Date Received: February 18, 2023  
 Via: Fed Ex  
 Returned Via: Fed Ex

Record No.: PGD23001-2  
 Test Date: March 16, 2023

**Test Conditions**

Temperature: 20.6 °C  
 Humidity: 40 %

**Range 2**

Muzzle to Screen 1: 1.52 m  
 Screen 1 - 2: 1.52 m  
 Screen 2 - Target: 1.83 m  
 Midpoint to Target: 2.59 m

Test Standard: Modified / Abbreviated NIJ Standard 0106.01 for Ballistic Helmets  
 December 1981

Test Method: IAW Paragraph 5.2 Ballistic Penetration Test  
 Test Ammunition: IAW NIJ Standard 0108.01, September 1985  
 Threat Level: IIIA  
 Conditioning: Wet

Headform Size: 7 1/4  
 Witness Plate: 2024-T3 Alum.  
 Barrel Length: 25.4 cm

Sample Tested Description	Test / Ammunition Description					Chronograph		Test Results
	Shot No.	Impact Location	Degree Obliquity	Caliber	Bullet Weight (gr.) / Type	TIME sx-5	VELOCITY m/s	
Model No.: ARCH HIGH CUT								Penetration No Penetration
Size: L	1	Front	0°	9mm	124 / FMJ	347.1	439.1	No Penetration
Serial No.: 2208108	2	Back	0°			No Penetration		
Lot No.: 3777R	3	Right	0°			No Penetration		
Weight (kg.): 1.381	4	Left	0°			No Penetration		
Protection Level: NIJ IIIA								

**Notes:**

•Helmet tested as received from customer with retention / suspension system, chinstrap and pads.

**Conditioning:**

•Helmet tested at ambient conditions 20 - 28 °C (68 - 82°F) and 30% - 70% RH

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**Test Ammunition / Velocity Information:**

Test Round: Remington (23558), 9mm 124 gr. FMJ RN  
 Test Velocity: 426 +/- 15 m/s (1400 +/- 50 ft/s)

Technician (s): Wilson / Zerger

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**NIJ 0106.01 HELMET:**  
**BALLISTIC PENETRATION TEST**

Date Received: February 18, 2023  
 Via: Fed Ex  
 Returned Via: Fed Ex

Record No.: PGD23001-3  
 Test Date: March 16, 2023

**Test Conditions**

Temperature: 21.7 °C  
 Humidity: 40 %

**Range 2**

Muzzle to Screen 1: 1.52 m  
 Screen 1 - 2: 1.52 m  
 Screen 2 - Target: 1.83 m  
 Midpoint to Target: 2.59 m

Test Standard: Modified / Abbreviated NIJ Standard 0106.01 for Ballistic Helmets  
 December 1981

Test Method: IAW Paragraph 5.2 Ballistic Penetration Test  
 Test Ammunition: IAW NIJ Standard 0101.06, July 2008  
 Threat Level: IIIA  
 Conditioning: Wet

Headform Size: 7 1/4  
 Witness Plate: 2024-T3 Alum.  
 Barrel Length: 25.4 cm

Sample Tested Description	Test / Ammunition Description					Chronograph		Test Results
	Shot No.	Impact Location	Degree Obliquity	Caliber	Bullet Weight (gr.) / Type	TIME sx-5	VELOCITY m/s	
Model No.: ARCH HIGH CUT								Penetration No Penetration
Size: L	1	Front	0°			356.5	427.5	No Penetration
Serial No.: 22081775	2	Back	0°			355.2	429.1	No Penetration
Lot No.: 3777	3	Right	0°	.44 Mag.	240 / JHP	353.6	431.0	No Penetration
Weight (kg.): 1.361	4	Left	0°			356.3	427.7	No Penetration
Protection Level: NIJ IIIA								

**Notes:**

•Helmet tested as received from customer with retention / suspension system, chinstrap and pads.

**Conditioning:**

•Helmet tested at ambient conditions 20 - 28 °C (68 - 82°F) and 30% - 70% RH

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**Test Ammunition / Velocity Information:**

Test Round: Speer (4453 or 4736), .44 Magnum 240 gr. Jacketed Hollow Point (JHP)  
 Test Velocity: 436 +/- 10 m/s (1430 +/- 30 ft/s)

Technician (s): Wilson / Zerger

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**NATIONAL TECHNICAL SYSTEMS**  
**NIJ 0106.01 HELMET:**  
**BALLISTIC PENETRATION TEST**

Date Received: February 18, 2023  
 Via: Fed Ex  
 Returned Via: Fed Ex

Record No.: PGD23001-4  
 Test Date: March 16, 2023

**Test Conditions**

Temperature: 21.1 °C  
 Humidity: 37 %

**Range 2**

Muzzle to Screen 1: 1.52 m  
 Screen 1 - 2: 1.52 m  
 Screen 2 - Target: 1.83 m  
 Midpoint to Target: 2.59 m

Test Standard: Modified / Abbreviated NIJ Standard 0106.01 for Ballistic Helmets  
 December 1981

Test Method: IAW Paragraph 5.2 Ballistic Penetration Test  
 Test Ammunition: IAW NIJ Standard 0101.06, July 2008  
 Threat Level: IIIA  
 Conditioning: Wet

Headform Size: 7 1/4  
 Witness Plate: 2024-T3 Alum.  
 Barrel Length: 25.4 cm

Sample Tested Description	Test / Ammunition Description					Chronograph		Test Results
	Shot No.	Impact Location	Degree Obliquity	Caliber	Bullet Weight (gr.) / Type	TIME sx-5	VELOCITY m/s	
Model No.: ARCH HIGH CUT								Penetration No Penetration
Size: L	1	Front	0°	.357 Sig	125 / TMJ	339.3	449.2	No Penetration
Serial No.: 22081533	2	Back	0°			340.4	447.7	No Penetration
Lot No.: 3777	3	Right	0°			339.1	449.4	No Penetration
Weight (kg.): 1.353	4	Left	0°			331.8	459.3	No Penetration
Protection Level: NIJ IIIA								

**Notes:**

•Helmet tested as received from customer with retention / suspension system, chinstrap and pads.

**Conditioning:**

•Helmet tested at ambient conditions 20 - 28 °C (68 - 82°F) and 30% - 70% RH

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**Test Ammunition / Velocity Information:**

Test Round: Speer (4362), .357 Sig 125 gr. TMJ  
 Test Velocity: 448 +/- 10 m/s (1430 +/- 30 ft/s)

Technician (s): Wilson / Zerger

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# NATIONAL TECHNICAL SYSTEMS

## V50 BALLISTIC LIMIT TEST

Date Received: February 18, 2023  
 Via: Fed Ex  
 Returned Via: Fed Ex

Record No.: PGD23001-5  
 Test Date: March 16, 2023

**Test Conditions**

Temperature: 20.5 °C  
 Humidity: 51 %

**Threat**

Projectile: Fragment Simulating Projectile  
 Weight: 1.1 g (17 gr.)  
 Type: Type 2 (HRC 27 +/- 3)  
 Powder: Bullseye  
 Barrel Length: 60.96 cm  
 Obliquity: 0°  
 Yaw: ≤ 5°

**Range 2**

Muzzle to Screen 1: 1.36 m  
 Screen 1 - 4: 1.52 m  
 Screen 2 - 3: 1.25 m  
 Screen 4 - Target: 2.35 m  
 Midpoint to Target: 3.11 m

**Sample Description**

Model No.: ARCH HIGH CUT  
 Size: L  
 Serial No.: 22081474  
 Lot No.: 3777  
 Weight (kg.): 1.365  
 Protection Level: NIJ IIIA

**Test Standard / Specification**

STANAG 2920, Edition 2  
 31 July 2013  
 Target: Helmet Shell  
 Conditioning: Ambient

**Witness Information**

Witness Sheet: 0.5mm Aluminum Alloy  
 Target to Witness: 5 cm

Shot No.	Powder Charge (gr.)	CHRONOGRAPHS 1 - 4		CHRONOGRAPHS 2 - 3		AVERAGE VELOCITY m/s	LOSS VELOCITY m/s	STRIKING VELOCITY m/s	TEST RESULTS			
		TIME sx-5	VELOCITY m/s	TIME sx-5	VELOCITY m/s				IMPACT LOCATION	Shot Included Y or N	Complete - C Partial - P	
1	4.7	204.0	747.1	166.2	749.1	748.1	38.7	709.4	Crown	N	C	
2	4.4	214.3	711.2	174.6	713.1	712.1	36.7	675.4	Front	Y	P	
3	4.6	211.9	719.2	172.5	721.7	720.5	37.2	683.2	Right	N	C	
4	4.4	223.4	682.2	181.9	684.4	683.3	35.4	648.0	Back	Y	C	
5	4.2	219.6	694.0	178.9	695.9	695.0	35.9	659.0	Left	Y	C	
6	4.1	232.1	656.6	189.1	658.4	657.5	33.9	623.6	Crown	N	P	
7	4.2	221.4	688.3	180.3	690.5	689.4	35.5	653.9	Front	Y	P	
8	4.3	215.2	708.2	175.3	710.2	709.2	36.7	672.5	Right	Y	C	
9	4.2	222.6	684.6	181.3	686.7	685.7	35.5	650.2	Back	Y	P	
This test was performed in accordance with the specification requirements and the results properly reflect the ballistic performance of the listed sample.						V50 VELOCITY	HIGH PARTIAL	LOW COMPLETE	RANGE OF RESULTS	RANGE OF MIXED RESULTS		
						659.8 m/s	675.4 m/s	648.0 m/s	27.4 m/s	27.4 m/s		

**Notes:**

- Helmet was tested as a finished helmet shell with retention/suspension system removed for V50 consistency.
- Helmet Shell secured using helmet V50 fixture IAW Annex E to STANAG 2920, Figures E1 and E2.

**Projectile Used:**

.22 Caliber, 1.1g +/- 0.03g (17 gr.) Chisel Nose Fragment Simulating Projectile (FSP)  
 IAW Appendix 1 to Annex A - Category A2: Type 2 (27 +/- 3 HRC) IAW Figure A1a

**Starting Velocity / V50 Calculation:**

- Starting Velocity: 700 m/s
- V50 based on (6) fair impacts using (3) partial and (3) complete penetrations with a range of results ≤ 40 m/s.

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## HARD ARMOR STAND-ALONE PLATE:

### P-BFS TEST

Date Received: February 16, 2023  
 Via: FedEx  
 Returned Via: FedEx

Record No.: PGD23001-6  
 Test Date: March 28, 2023

**Test Conditions**

Temperature: 20.0 °C  
 Humidity: 34 %  
 Clay Block No.: 11  
 Clay Block Size: 24" x 24" x 5.5"  
 Clay Temperature: 35.6 °C  
 Drop Average: 19.06 mm

**Range 3**

Muzzle to Screen 1: 11.98 m  
 Screen 1 - 4: 1.52 m  
 Screen 4 - Target: 1.74 m  
 Midpoint to Target: 2.50 m  
 Barrel Length: 66.04 cm

Test Standard: IAW Modified / Abbreviated NIJ 0101.06, July 2008  
 Threat Level: III++

Conditioning: Ambient  
 Drop Test: Yes  
 Submersion: Yes

Sample Description		Shot / Projectile Description				Chronograph		Test Results	
		Shot No.	Shot Location	Degree Obliquity	Caliber	Bullet Weight (gr.) / Type	TIME sx-5	VELOCITY m/s	Perforation BFS (mm)
Model No.:	B-line-Single-NIJ3	1	Top Left	0°	5.56x45mm	62 / SS109	159.6	954.9	17.92
Lot No.:	N/A	2	Bottom Right	0°			160.0	952.5	16.48
Serial No.:	N/A	3	Middle Left	0°			159.4	956.1	No Perforation
Size (cm):	30x25	4	Middle Right	0°			159.6	954.9	No Perforation
Weight (kg.):	2.550	5	Top Right	0°			161.2	945.4	No Perforation
		6	Bottom Left	0°			160.6	948.9	No Perforation

*This test was performed in accordance with the specification requirements listed in addition to any customer testing modifications or requests. The test results properly reflect the ballistic performance of the listed sample. This test report shall not be reproduced except in full without written approval of National Technical Systems.*

**Notes:**

•Stand-Alone plate tested non-planar (with clay mound / build-up)

**Ammunition Description:**

5.56x45mm, 62 gr. FMJ (SS109)  
 Velocity: 950 +/- 9.1 m/s

**Sample Description:**

•Customer Proprietary

Project Manager: Montgomery  
 Range Tech(s): Zerger

# National Technical Systems

## HARD ARMOR STAND-ALONE PLATE:

### P-BFS TEST

Date Received: February 16, 2023  
 Via: FedEx  
 Returned Via: FedEx

Record No.: PGD23001-7  
 Test Date: March 28, 2023

**Test Conditions**

Temperature: 20.4 °C  
 Humidity: 33 %  
 Clay Block No.: 11  
 Clay Block Size: 24" x 24" x 5.5"  
 Clay Temperature: 35.4 °C  
 Drop Average: 18.55 mm

**Range 3**

Muzzle to Screen 1: 11.98 m  
 Screen 1 - 4: 1.52 m  
 Screen 4 - Target: 1.74 m  
 Midpoint to Target: 2.50 m  
 Barrel Length: 66.04 cm

Test Standard: IAW Modified / Abbreviated NIJ 0101.06, July 2008  
 Threat Level: III

Conditioning: Ambient  
 Drop Test: Yes  
 Submersion: Yes

Sample Description		Shot / Projectile Description				Chronograph		Test Results	
		Shot No.	Shot Location	Degree Obliquity	Caliber	Bullet Weight (gr.) / Type	TIME sx-5	VELOCITY m/s	Perforation BFS (mm)
Model No.:	B-line-Single-NIJ3	1	Top Left	0°	7.62mm NATO	147 / FMJ (M80)	179.2	850.4	43.86
Lot No.:	N/A	2	Bottom Right	0°			179.0	851.4	40.93
Serial No.:	N/A	3	Middle Left	0°			177.4	859.1	No Perforation
Size (cm):	30x25	4	Middle Right	0°			179.1	850.9	No Perforation
Weight (kg.):	2.558	5	Top Right	0°			180.6	843.9	No Perforation
		6	Bottom Left	0°			178.4	854.3	No Perforation

*This test was performed in accordance with the specification requirements listed in addition to any customer testing modifications or requests. The test results properly reflect the ballistic performance of the listed sample. This test report shall not be reproduced except in full without written approval of National Technical Systems.*

**Notes:**

•Stand-Alone plate tested non-planar (with clay mound / build-up)

**Ammunition Description:**

7.62mm NATO, 147 gr. (9.6g) FMJ (U.S. Military M80)  
 Velocity: 847 +/- 9.1 m/s

**Sample Description:**

•Customer Proprietary

Project Manager: Montgomery  
 Range Tech(s): Zerger

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## HARD ARMOR STAND-ALONE PLATE:

### P-BFS TEST

Date Received: February 16, 2023  
 Via: FedEx  
 Returned Via: FedEx

Record No.: PGD23001-8  
 Test Date: March 28, 2023

**Test Conditions**

Temperature: 21.9 °C  
 Humidity: 33 %  
 Clay Block No.: 11  
 Clay Block Size: 24" x 24" x 5.5"  
 Clay Temperature: 35.3 °C  
 Drop Average: 18.89 mm

**Range 3**

Muzzle to Screen 1: 11.98 m  
 Screen 1 - 4: 1.52 m  
 Screen 4 - Target: 1.74 m  
 Midpoint to Target: 2.50 m  
 Barrel Length: 50.80 cm

Test Standard: IAW Modified / Abbreviated NIJ 0101.06, July 2008  
 Threat Level: III+

Conditioning: Ambient  
 Drop Test: Yes  
 Submersion: Yes

Sample Description		Shot / Projectile Description				Chronograph		Test Results	
		Shot No.	Shot Location	Degree Obliquity	Caliber	Bullet Weight (gr.) / Type	TIME sx-5	VELOCITY m/s	Perforation BFS (mm)
Model No.:	B-line-Single-NIJ3	1	Top Left	0°	7.62x39mm	123 / MSC	212.1	718.5	26.28
Lot No.:	N/A	2	Bottom Right	0°			212.3	717.9	25.58
Serial No.:	N/A	3	Middle Left	0°			209.8	726.4	No Perforation
Size (cm):	30x25	4	Middle Right	0°			211.9	719.2	No Perforation
Weight (kg.):	2.532	5	Top Right	0°			208.7	730.2	No Perforation
		6	Bottom Left	0°			209.3	728.1	No Perforation

*This test was performed in accordance with the specification requirements listed in addition to any customer testing modifications or requests. The test results properly reflect the ballistic performance of the listed sample. This test report shall not be reproduced except in full without written approval of National Technical Systems.*

**Notes:**

•Stand-Alone plate tested non-planar (with clay mound / build-up)

**Ammunition Description:**

Russian 7.62x39mm 123 gr. MSC (M43)  
 Velocity: 725 +/- 9.1 m/s

**Sample Description:**

•Customer Proprietary

Project Manager: Montgomery  
 Range Tech(s): Zerger

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## HARD ARMOR STAND-ALONE PLATE:

### P-BFS TEST

Date Received: February 16, 2023  
 Via: FedEx  
 Returned Via: FedEx

Record No.: PGD23001-9  
 Test Date: March 28, 2023

**Test Conditions**

Temperature: 21.1 °C  
 Humidity: 34 %

Clay Block No.: 11  
 Clay Block Size: 24" x 24" x 5.5"  
 Clay Temperature: 34.7 °C  
 Drop Average: 17.23 mm

Test Standard: IAW Modified / Abbreviated NIJ 0101.06, July 2008  
 Threat Level: III+

Conditioning: Ambient  
 Drop Test: Yes  
 Submersion: Yes

**Range 3**

Muzzle to Screen 1: 11.98 m  
 Screen 1 - 4: 1.52 m  
 Screen 4 - Target: 1.74 m  
 Midpoint to Target: 2.50 m  
 Barrel Length: 50.80 cm

Sample Description		Shot / Projectile Description				Chronograph		Test Results	
		Shot No.	Shot Location	Degree Obliquity	Caliber	Bullet Weight (gr.) / Type	TIME sx-5	VELOCITY m/s	Perforation BFS (mm)
Model No.:	B-line-Single-NIJ3	1	Top Center	0°	7.62x39mm	119 / API BZ	214.4	710.8	24.34
Lot No.:	N/A	2	Bottom Right	0°			211.3	721.2	23.86
Serial No.:	N/A	3	Bottom Left	0°			213.5	713.8	24.38
Size (cm):	30x25								
Weight (kg.):	2.569								

*This test was performed in accordance with the specification requirements listed in addition to any customer testing modifications or requests. The test results properly reflect the ballistic performance of the listed sample. This test report shall not be reproduced except in full without written approval of National Technical Systems.*

**Notes:**

•Stand-Alone plate tested non-planar (with clay mound / build-up)

**Ammunition Description:**

Russian 7.62x39mm 119 gr. API BZ  
 Velocity: 715 +/- 9.1 m/s

**Sample Description:**

•Customer Proprietary

Project Manager: Montgomery  
 Range Tech(s): Zerger

# National Technical Systems

## HARD ARMOR STAND-ALONE PLATE:

### P-BFS TEST

Date Received: February 16, 2023  
 Via: FedEx  
 Returned Via: FedEx

Record No.: PGD23001-10  
 Test Date: March 28, 2023

**Test Conditions**

Temperature: 21.1 °C  
 Humidity: 34 %  
 Clay Block No.: 11  
 Clay Block Size: 24" x 24" x 5.5"  
 Clay Temperature: 34.7 °C  
 Drop Average: 17.23 mm

**Range 3**

Muzzle to Screen 1: 11.98 m  
 Screen 1 - 4: 1.52 m  
 Screen 4 - Target: 1.74 m  
 Midpoint to Target: 2.50 m  
 Barrel Length: 71.12 cm

Test Standard: IAW Modified / Abbreviated NIJ 0101.06, July 2008  
 Threat Level: IV

Conditioning: Ambient  
 Drop Test: Yes  
 Submersion: Yes

Sample Description	Shot / Projectile Description					Chronograph		Test Results
	Shot No.	Shot Location	Degree Obliquity	Caliber	Bullet Weight (gr.) / Type	TIME	VELOCITY	Perforation
						sx-5	m/s	BFS (mm)
Model No.: U-line-ESAPI-NIJ4 Lot No.: N/A Serial No.: N/A Size (cm): 30x25 Weight (kg.): 2.950	1	Center	0°	.30 Cal. (.30-06)	166 / M2AP	173.7	877.4	40.01

*This test was performed in accordance with the specification requirements listed in addition to any customer testing modifications or requests. The test results properly reflect the ballistic performance of the listed sample. This test report shall not be reproduced except in full without written approval of National Technical Systems.*

**Notes:**  
 •Stand-Alone plate tested non-planar (with clay mound / build-up)

**Ammunition Description:**  
 .30 Cal. (.30-06) 166 gr. (10.8g) AP (U.S Military M2AP)  
 Velocity: 878 +/- 9.1 m/s

**Sample Description:**  
 •Customer Proprietary

Project Manager: Montgomery  
 Range Tech(s): Zerger

# National Technical Systems

## HARD ARMOR STAND-ALONE PLATE:

### P-BFS TEST

Date Received: February 16, 2023  
 Via: FedEx  
 Returned Via: FedEx

Record No.: PGD23001-11  
 Test Date: March 28, 2023

**Test Conditions**

Temperature: 20.8 °C  
 Humidity: 33 %  
 Clay Block No.: 11  
 Clay Block Size: 24" x 24" x 5.5"  
 Clay Temperature: 34.7 °C  
 Drop Average: 17.23 mm

**Range 3**

Muzzle to Screen 1: 11.98 m  
 Screen 1 - 4: 1.52 m  
 Screen 4 - Target: 1.74 m  
 Midpoint to Target: 2.50 m  
 Barrel Length: 71.12 cm

Test Standard: IAW Modified / Abbreviated NIJ 0101.06, July 2008  
 Threat Level: IV

Conditioning: Ambient  
 Drop Test: Yes  
 Submersion: Yes

Sample Description	Shot / Projectile Description					Chronograph		Test Results
	Shot No.	Shot Location	Degree Obliquity	Caliber	Bullet Weight (gr.) / Type	TIME	VELOCITY	Perforation
						sx-5	m/s	BFS (mm)
Model No.: U-line-ESAPI-NIJ4 Lot No.: N/A Serial No.: N/A Size (cm): 30x25 Weight (kg.): 2.943	1	Center	0°	7.62x54R	155 / B32 API	177.7	857.6	41.11

*This test was performed in accordance with the specification requirements listed in addition to any customer testing modifications or requests. The test results properly reflect the ballistic performance of the listed sample. This test report shall not be reproduced except in full without written approval of National Technical Systems.*

**Notes:**

•Stand-Alone plate tested non-planar (with clay mound / build-up)

**Ammunition Description:**

7.62x54R, 150 gr. API B32  
 Velocity: 854 +/- 9.1 m/s

**Sample Description:**

•Customer Proprietary

Project Manager: Montgomery  
 Range Tech(s): Zerger