

National Institute of Justice (NIJ)

Approved Test Laboratory
For Personal Body Armor

Expiration Date:

April 30, 2020

National Technical Systems

7447 W. 33rd St. N.

Wichita, KS 67205 U.S.A.

Phone (316) 832-1600 Fax (316) 832-1602

Email ustl@nts.com

www.nts.com/locations/wichita



NVLAP LAB CODE: 200818-0

Approved Signatory: Jake Crawford

HARD ARMOR STAND-ALONE PLATE:

Date Received: 08/26/19
Via: UPS
Returned Via: UPS

P-BFS TEST

Record No.: RMA19005-1
Test Date: 08/27/19
Customer: RMA Armament, Inc.

Test Conditions

Temperature: 71 °F
Humidity: 49 %
Clay Block No.: 13
Clay Block Size: 24" x 24" x 5.5"
Clay Temp.: 99.7 °F
Drop Average: 19.72 mm

Range 3

Muzzle to Screen 1: 39.30 ft.
Screen 1 - 4: 5.00 ft.
Screen 4 - Target: 5.70 ft.
Midpoint to Target: 8.20 ft.
Target to Witness: 0 in.
Barrel Length: 26 in.

Test Standard: Modified / Abbreviated NIJ Standard 0101.07 Draft (May 17, 2019)
IAW Section 12. Hard Armor: Ballistic Test Requirements and Procedures

Threat Level: NIJ RF2

Conditioning: Wet - Submersion

Sample Tested Description	Shot / Projectile Description					Chronograph		Test Results
	Shot No.	Shot Location	Degree Obliquity	Caliber	Bullet Weight (gr.) / Type	TIME sx-5	VELOCITY ft/s	Perforation BFD (mm)
Manufacturer: RMA Armament, Inc. Model No.: 1092 Serial No.: 0001 Lot No.: TestIII+ DoM: 08/22/19 Size: 9.5" x 12.5" Style: Shooter's Cut Cut: Multi-curved Weight (lbs.): 4.458 Threat Level: (NIJ 0101.06): III+	1	Top Right	0°	7.62mm NATO	147 / FMJ (M80)	177.8	2812	38.57
	2	Bottom Right	0°			181.3	2758	41.48
	3	Center	0°			181.6	2753	No Perforation

This test report may not be used to claim product certification, approval, or endorsement by NVLAP, NIST, NIJ or any agency of the Federal Government. This report contains data that are not covered by the NVLAP accreditation. 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.

Test Remarks/Notes:

- Plate tested as a stand alone plate
- Plate tested non-planar (with clay build-up/mound)

Test Round Description (IAW NIJ Threat Levels and Ammunition Table 2. January 2018)

7.62x51mm M80 Ball (NATO FMJ Steel Jacket Spire PT BT_U.S. Military Supply / NATO Specifications)
Test Velocity: 2780 +/- 30 ft/s

Test Requirements (IAW Section 12.2 Hard Armor P-BFD Requirements):

- Shot Pattern: 3-Shots per plate (IAW Figure 6.)
- Shot-to-Edge: 2.0" - 2.75" (51mm - 70mm)
- Shot-to-Shot: 2.0" Minimum
- Submersion: YES, IAW ASTM E3112/E3112M-19, Section 9.7 (Submersion in Plain Water)
- Drop Test: YES, IAW ASTM E3078/E3078M-19, Section 14 (Impact Durability Procedure)
- BFD: BFD measured for Shot No. 1 and Shot No. 2 Only
- PASS / FAIL: BFD ≤ 44.0mm (1-2); No Perforations (1-3)

Shot Spacing / Shot Locations (described from the shooter's perspective):

Shot No. 1: Top Right 2.50" from top and top right "V" angled edge
Shot No. 2: Bottom Right 2.50" from bottom and bottom right edges
Shot No. 3: Center 4.75" from left and right edges; 6.25" from top and bottom edges; 4.0" from Shot No. 1; 4.25" from Shot No. 2

Project Manager:	Nold
Range Tech(s):	Crawford

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HARD ARMOR STAND-ALONE PLATE:

Date Received: 08/26/19
Via: UPS
Returned Via: UPS

P-BFS TEST

Record No.: RMA19005-2
Test Date: 08/28/19
Customer: RMA Armament, Inc.

Test Conditions

Temperature: 70 °F
Humidity: 49 %
Clay Block No.: 13
Clay Block Size: 24" x 24" x 5.5"
Clay Temp.: 98.7 °F
Drop Average: 19.63 mm

Range 3

Muzzle to Screen 1: 39.30 ft.
Screen 1 - 4: 5.00 ft.
Screen 4 - Target: 5.70 ft.
Midpoint to Target: 8.20 ft.
Target to Witness: 0 in.
Barrel Length: 20 in.

Test Standard: Modified / Abbreviated NIJ Standard 0101.07 Draft (May 17, 2019)
IAW Section 12. Hard Armor: Ballistic Test Requirements and Procedures

Threat Level: NIJ RF2

Conditioning: Wet - Submersion

Sample Tested Description	Shot / Projectile Description					Chronograph		Test Results
Manufacturer: RMA Armament, Inc. Model No.: 1092 Serial No.: 0002 Lot No.: TestIII+ DoM: 08/22/19 Size: 9.5" x 12.5" Style: Shooter's Cut Cut: Multi-curved Weight (lbs.): 4.375 Threat Level: (NIJ 0101.06): III+	Shot No.	Shot Location	Degree Obliquity	Caliber	Bullet Weight (gr.) / Type	TIME sx-5	VELOCITY ft/s	Perforation BFD (mm)
	1	Top Left	0°			212.5	2353	22.78
	2	Bottom Right	0°	7.62x39mm	123 / MSC	212.0	2358	27.11
	3	Center	0°			212.7	2351	No Perforation

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Test Remarks/Notes:

- Plate tested as a stand alone plate
- Plate tested non-planar (with clay build-up/mound)

Test Round Description (IAW NIJ Threat Levels and Ammunition Table 2. January 2018)

7.62x39mm (Chinese Type 56) 123 gr. MSC (Steel Jacket Mild Steel Core PT BT_IAW Figure 1a, b & c)
Test Velocity: 2380 +/- 30 ft/s

Test Requirements (IAW Section 12.2 Hard Armor P-BFD Requirements):

- Shot Pattern: 3-Shots per plate (IAW Figure 6.)
- Shot-to-Edge: 2.0" - 2.75" (51mm - 70mm)
- Shot-to-Shot: 2.0" Minimum
- Submersion: YES, IAW ASTM E3112/E3112M-19, Section 9.7 (Submersion in Plain Water)
- Drop Test: YES, IAW ASTM E3078/E3078M-19, Section 14 (Impact Durability Procedure)
- BFD: BFD measured for Shot No. 1 and Shot No. 2 Only
- PASS / FAIL: BFD ≤ 44.0mm (1-2); No Perforations (1-3)

Shot Spacing / Shot Locations (described from the shooter's perspective):

Shot No. 1: Top Left 2.50" from top and top left " / " angled edge
Shot No. 2: Bottom Right 2.50" from bottom and bottom right edges
Shot No. 3: Center 4.75" from left and right edges; 6.25" from top and bottom edges; 4.0" from Shot No. 1; 4.25" from Shot No. 2

Project Manager:	Nold
Range Tech(s):	Zerger

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HARD ARMOR STAND-ALONE PLATE:

Date Received: 08/26/19
Via: UPS
Returned Via: UPS

P-BFS TEST

Record No.: RMA19005-3
Test Date: 08/28/19
Customer: RMA Armament, Inc.

Test Conditions

Temperature: 70 °F
Humidity: 49 %
Clay Block No.: 13
Clay Block Size: 24" x 24" x 5.5"
Clay Temp.: 99.3 °F
Drop Average: 19.94 mm

Range 3

Muzzle to Screen 1: 39.30 ft.
Screen 1 - 4: 5.00 ft.
Screen 4 - Target: 5.70 ft.
Midpoint to Target: 8.20 ft.
Target to Witness: 0 in.
Barrel Length: 26 in.

Test Standard: Modified / Abbreviated NIJ Standard 0101.07 Draft (May 17, 2019)
IAW Section 12. Hard Armor: Ballistic Test Requirements and Procedures

Threat Level: NIJ RF2

Conditioning: Wet - Submersion

Sample Tested Description	Shot / Projectile Description					Chronograph		Test Results
	Shot No.	Shot Location	Degree Obliquity	Caliber	Bullet Weight (gr.) / Type	TIME sx-5	VELOCITY ft/s	Perforation BFD (mm)
Manufacturer: RMA Armament, Inc. Model No.: 1092 Serial No.: 0003 Lot No.: TestIII+ DoM: 08/22/19 Size: 9.5" x 12.5" Style: Shooter's Cut Cut: Multi-curved Weight (lbs.): 4.413 Threat Level: (NIJ 0101.06): III+	1	Top Left	0°			154.8	3230	20.51
	2	Bottom Right	0°	5.56x45mm	56 / M193	152.6	3277	22.65
	3	Center	0°			152.0	3289	No Perforation

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Test Remarks/Notes:

- Plate tested as a stand alone plate
- Plate tested non-planar (with clay build-up/mound)

Test Round Description (IAW NIJ Threat Levels and Ammunition Table 2. January 2018)

5.56mm 56 +0 / -2 gr. (54-56 gr.) M193 BT (U.S. Military Supply / NATO Specifications)
Test Velocity: 3250 +/- 30 ft/s

Test Requirements (IAW Section 12.2 Hard Armor P-BFD Requirements):

- Shot Pattern: 3-Shots per plate (IAW Figure 6.)
- Shot-to-Edge: 2.0" - 2.75" (51mm - 70mm)
- Shot-to-Shot: 2.0" Minimum
- Submersion: YES, IAW ASTM E3112/E3112M-19, Section 9.7 (Submersion in Plain Water)
- Drop Test: YES, IAW ASTM E3078/E3078M-19, Section 14 (Impact Durability Procedure)
- BFD: BFD measured for Shot No. 1 and Shot No. 2 Only
- PASS / FAIL: BFD ≤ 44.0mm (1-2); No Perforations (1-3)

Shot Spacing / Shot Locations (described from the shooter's perspective):

Shot No. 1: Top Left 2.50" from top and top left " / " angled edge
Shot No. 2: Bottom Right 2.50" from bottom and bottom right edges
Shot No. 3: Center 4.75" from left and right edges; 6.25" from top and bottom edges; 4.0" from Shot No. 1; 4.25" from Shot No. 2

Project Manager:	Nold
Range Tech(s):	

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HARD ARMOR STAND-ALONE PLATE:

Date Received: 08/26/19
Via: UPS
Returned Via: UPS

P-BFS TEST

Record No.: RMA19005-4
Test Date: 08/28/19
Customer: RMA Armament, Inc.

Test Conditions

Temperature: 70 °F
Humidity: 49 %
Clay Block No.: 13
Clay Block Size: 24" x 24" x 5.5"
Clay Temp.: 99.9 °F
Drop Average: 20.20 mm

Range 3

Muzzle to Screen 1: 39.30 ft.
Screen 1 - 4: 5.00 ft.
Screen 4 - Target: 5.70 ft.
Midpoint to Target: 8.20 ft.
Target to Witness: 0 in.
Barrel Length: 26 in.

Test Standard: Modified / Abbreviated NIJ Standard 0101.07 Draft (May 17, 2019)
IAW Section 12. Hard Armor: Ballistic Test Requirements and Procedures

Threat Level: NIJ RF2

Conditioning: Wet - Submersion

Sample Tested Description	Shot / Projectile Description					Chronograph		Test Results
	Shot No.	Shot Location	Degree Obliquity	Caliber	Bullet Weight (gr.) / Type	TIME sx-5	VELOCITY ft/s	Perforation BFD (mm)
Manufacturer: RMA Armament, Inc. Model No.: 1092 Serial No.: 0004 Lot No.: TestIII+ DoM: 08/22/19 Size: 9.5" x 12.5" Style: Shooter's Cut Cut: Multi-curved Weight (lbs.): 4.434 Threat Level: (NIJ 0101.06): III+	1	Top Left	0°			156.1	3203	25.78
	2	Bottom Right	0°	5.56x45mm	61.8 / M855	158.0	3165	23.03
	3	Center	0°			161.1	3104	No Perforation

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- Plate tested non-planar (with clay build-up/mound)

Test Round Description (IAW NIJ Threat Levels and Ammunition Table 2. January 2018)

5.56mm 61.8 +/- 1.5 gr. (60.3 - 63.3 gr.) M855 BT (U.S. Military Supply / NATO Specifications)
Test Velocity: 3115 +/- 30 ft/s

Test Requirements (IAW Section 12.2 Hard Armor P-BFD Requirements):

- Shot Pattern: 3-Shots per plate (IAW Figure 6.)
- Shot-to-Edge: 2.0" - 2.75" (51mm - 70mm)
- Shot-to-Shot: 2.0" Minimum
- Submersion: YES, IAW ASTM E3112/E3112M-19, Section 9.7 (Submersion in Plain Water)
- Drop Test: YES, IAW ASTM E3078/E3078M-19, Section 14 (Impact Durability Procedure)
- BFD: BFD measured for Shot No. 1 and Shot No. 2 Only
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Range Tech(s):