

**National Institute  
of Justice (NIJ)**

Approved Test Laboratory  
For Personal Body Armor

Expiration Date:

April 30, 2022

**National Technical Systems**

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NVLAP LAB CODE: 200818-0

Approved Signatory: Jake Crawford

Date Received: 9/22/2020

Via: UPS

Returned Via: FedEx

**P-BFS TEST**

Record No.: RMA20003-1

Test Date: 9/24/2020

Customer: RMA Armament, Inc.

**Test Conditions**

Temperature: 67.5 °F  
Humidity: 52 %

Clay Block No.: 15  
Clay Block Size: 24" x 24" x 5.5"  
Clay Temp.: 98.2 °F  
3-Drop Average: 23.76 mm (25mm +/- 3mm)

Test Standard: Modified / Abbreviated NIJ Standard 0101.07 Draft (February 14, 2020)  
IAW Section 12. Hard Armor: Ballistic Test Requirements and Procedures

Threat Level: NIJ RF1

Conditioning: Wet - Water Submersion

**Range 3**

Muzzle to Screen 1: 14.30 ft.  
Screen 1 - 4: 5.00 ft.  
Screen 4 - Target: 5.70 ft.  
Midpoint to Target: 8.20 ft.

**Test Barrel Length:**

Barrel Length (M80): 26 in.  
Barrel Length (MSC): 20 in.  
Barrel Length (M193): 26 in.

Sample Tested Description		Shot / Projectile Description				Chronograph		Test Results	
Manufacturer:	RMA Armament, Inc.	Shot No.	Shot Location	Degree Obliquity	Caliber	Bullet Weight (gr.) / Type	TIME sx-5	VELOCITY ft/s	Perforation BFD (mm)
Model No.:	F-SAPI	1	Top Center	0°	7.62mm NATO	147 / FMJ (M80)	180.1	2776	32.52
Serial No.:	TEST PLATE								
Lot No.:	00001								
DoM:	09/18/20								
Plate Curve:	Multi-curved								
Plate Cut:	Shooter's Cut	2	Bottom Left	0°	7.62x39mm	123 / MSC	209.8	2383	19.37
Size:	9.75" x 12"								
Thickness:	1.02"								
Weight (lbs.):	4.614								
Threat Level:	(NIJ 0108.01): III								
		3	Bottom Right	0°	5.56x45mm	56 / M193	149.0	3356	20.42

**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 2020)**

Shot 1: 7.62x51mm M80 Ball (NATO FMJ Steel Jacket Spire PT BT\_U.S. Military Supply / NATO Specifications)  
Test Velocity: 2780 +/- 30 ft/s

Shot 2: 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

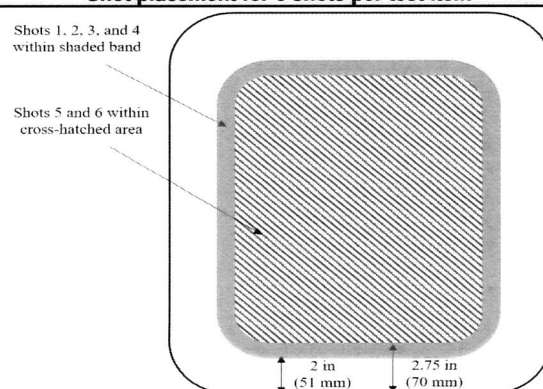
Shot 3: 5.56mm 56 +0 / -2 gr. (54-56 gr.) M193 BT (U.S. Military Supply / NATO Specifications)  
Test Velocity: 3250 +/- 30 ft/s

**Test Requirements (IAW Section 12.3 Hard Armor P-BFD Requirements):**

- Shot Pattern: 3-Shots per plate (Per Customer Request IAW Figure 7.)
- Shot-to-Edge: (Shots 1-3): 2.0" - 2.75"
- Shot-to-Shot: 2.0" (51mm) 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 Nos. 1-3
- PASS / FAIL: BFD ≤ 44.0mm (Shot Nos. 1-3); No Perforations (Shot Nos. 1-3)

**Shot Pattern:**

**Figure 7. NIJ RF1, NIJ RF2, and NIJ RF3:  
Shot placement for 6 shots per test item**



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

Shot No. 1:	Top Center	2.50" from Top Edge and Centered
Shot No. 2:	Bottom Left	2.50" from Bottom and Left Edges
Shot No. 3:	Bottom Right	2.50" from Bottom and Right Edges

Project Manager: Nold

Range Tech(s): Diefenderfer

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Approved Signatory: Jake Crawford

**HARD ARMOR STAND-ALONE PLATE:**Date Received: 9/10/2020  
Via: FedEx  
Returned Via: FedEx**P-BFS TEST**Record No.: RMA20002-2  
Test Date: 9/16/2020  
Customer: RMA Armament, Inc.**Test Conditions**Temperature: 68.9 °F  
Humidity: 55 %  
  
Clay Block No.: 15  
Clay Block Size: 24" x 24" x 5.5"  
Clay Temp.: 99.7 °F  
3-Drop Average: 26.55 mm (25mm +/- 3mm)**Range 3**Muzzle to Screen 1: 14.30 ft.  
Screen 1 - 4: 5.00 ft.  
Screen 4 - Target: 5.70 ft.  
Midpoint to Target: 8.20 ft.**Test Barrel Length:**Barrel Length (M855): 26 in.  
Barrel Length (M855A1): 26 in.Test Standard: Modified / Abbreviated NIJ Standard 0101.07 Draft (February 14, 2020)  
IAW Section 12. Hard Armor: Ballistic Test Requirements and Procedures  
Threat Level: NIJ RF2  
Conditioning: Wet - Water 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.: FSAPI-M Serial No.: TEST SAMPLE Lot No.: 0001 DoM: 09/08/20 Plate Curve: Multi-curved Plate Cut: Shooter's Cut Size: 9" x 11" Thickness (in.): 1.092 Weight (lbs.): 4.954 Threat Level: (NIJ 0108.01): III	1	Top Left	0°	5.56x45mm	61.8 / M855	161.5	3096	24.97
	2	Bottom Right	0°	5.56x45mm	62 / M855 A1	160.9	3108	23.83

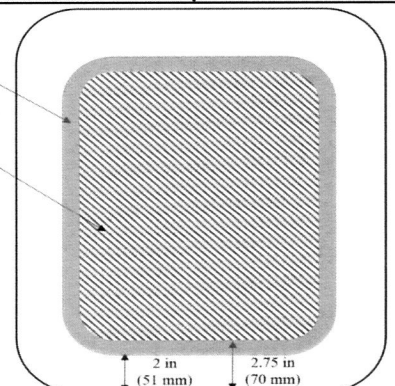
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**Test Remarks/Notes:**

- 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 2020)**Shot 1: 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  
  
Shot 2: 5.56x45mm, 62 gr. FMJ (M855 A1) Enhanced Penetration Round (EPR)  
Test Velocity: 3115 +/- 30 ft/s**Test Requirements (IAW Section 12.3 Hard Armor P-BFD Requirements):**

- Shot Pattern: 2-Shots per plate (Per Customer Request IAW Figure 7.)
- Shot-to-Edge: (Shots 1-2): 2.0" - 2.75"
- Shot-to-Shot: 2.0" (51mm) 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 Nos. 1-2
- PASS / FAIL: BFD ≤ 44.0mm (Shot Nos. 1-2); No Perforations (Shot Nos. 1-2)

**Shot Pattern:****Figure 7. NIJ RF1, NIJ RF2, and NIJ RF3:  
Shot placement for 6 shots per test item**Shots 1, 2, 3, and 4  
within shaded band  
  
Shots 5 and 6 within  
cross-hatched area**Shot Spacing / Shot Locations (described from the shooter's perspective):**Shot No. 1: Top Left 2.50" from Top and Top Left "I" Edges  
Shot No. 2: Bottom Right 2.50" from Bottom and Right EdgesProject Manager: Woods  
Range Tech(s): Montgomery