

# BALLISTIC RESISTANCE TEST

## NTS-Chesapeake Testing

4603B Compass Point Road  
Belcamp, MD 21017

Client: Hardhead Veterans  
Project No.: PR151301-1  
Test Date: 12/09/2021 - 12/10/2021  
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**Test Panel** Description: Helmet.

**Manufacturer:** Hard Head Veterans LLC

**Sample No.:** (9mm, V0- ACH On Clay) 1

Size: Medium  
Avg. Thickness: 0.319 in  
Thicknesses: 0.331 in, 0.332 in,  
0.310 in, 0.303 in

Weight: 2.340 lbs  
Plies/Laminates: N/A

Date Received: 12/06/2021  
Received Via: UPS Ground  
Returned Via: UPS Ground

### Setup

Shot Spacing: AR/PD 10-02 REV A  
Change 7, dated 16  
Oct 2014  
Witness Panel: Clay  
Backing Material: NIJ Head Form  
Condition: Ambient

Primary Vel. Screens (ft): 5.000, 5.333,  
9.666, 10.000  
Primary Vel. Location (ft): 7.500  
Range to Target (ft): 15.000  
Target to Witness (in): 0.000

Range No.: Range 5  
Temp: 67.9 °F  
BP: 30.2 inHg  
RH: 40.6 %  
Barrel/Gun: WC024524  
Gunner: Gregory Bonilla  
Recorder: Joseph Gerdes

### Ammunition

Projectile	Lot No.	Powder
(1) 9-mm, 124-grain FMJ	Remington 23558	Accurate No. 2

### Applicable Standards or Procedures

Clay Drop 1 - Drop Time: 2:15 PM; Block No. WC074960; Temp: 91.0 °F, 91.0 °F; Drop Depths: 25.0 mm, 26.2 mm, 25.7 mm  
(1) AR/PD 10-02 REV A Change 7, dated 16 Oct 2014 (Modified)  
(2) Customer Request

Shot No.	Ammo	Powder/ Seating	Weight (gr)	Time 1 (µs)	Vel. 1 (ft/s)	Time 2 (µs)	Vel. 2 (ft/s)	Avg. Vel. (ft/s)	Striking Vel. (ft/s)	Penetration	Deformation (mm)	Obliq. (°)	Footnotes
1	1	5.7	125.1	3492	1432	3028	1431	1431	1421	None	6.4	0.0	(a)
2	1	5.7	125.1	3497	1430	3033	1429	1429	1419	None	8.9	0.0	(b)
3	1	5.7	125.1	3492	1432	3028	1431	1431	1421	None	3.2	0.0	(c)
4	1	5.7	125.1	3463	1444	3004	1442	1443	1433	None	12.5	0.0	(d)
5	1	5.7	125.2	3500	1429	3033	1429	1429	1418	None	16.7	0.0	(e)

#### Remarks:

Required velocity: 1400 + 50 ft/s.  
Head form No.: HB5-1 Head form temp.: 92.6 °F.  
Projectile yaw check: 0° yaw on all impacts.

#### Footnotes:

- (a) Crown
- (b) Front
- (c) Back
- (d) Right
- (e) Left

# BALLISTIC RESISTANCE TEST

**NTS-Belcamp**  
4603B Compass Point Road  
Belcamp, MD 21017

Client: Hardhead Veterans  
Project No.: PH00005352  
Test Date: 02/20/2023  
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**Test Panel** Description: Ballistic helmet with pads and retention system

**Manufacturer:** Hard Head Veterans LLC

**Sample No.:** (Multi Threat, V0) Helmet #1

Size: Large  
Avg. Thickness: 0.306 in  
Thicknesses: 0.311 in, 0.311 in,  
0.304 in, 0.299 in

Weight: 2.450 lbs  
Plies/Laminates: N/A

Date Received: 02/13/2023  
Received Via: UPS Ground  
Returned Via: UPS Ground

## Setup

Shot Spacing: AR/PD 10-02  
Witness Panel: Clay  
Backing Material: Clay-filled NIJ-  
0106.01 head form  
Condition: Ambient

Primary Vel. Screens (ft): 5.000, 5.333,  
9.666, 10.000  
Primary Vel. Location (ft): 7.500  
Range to Target (ft): 15.000  
Target to Witness (in): 0.000

Range No.: Range 4  
Temp: 68.8 °F  
BP: 30.1 inHg  
RH: 47 %  
Barrel/Gun: WC024521  
Gunner: Bernard Carr  
Recorder: Joshua Petty

## Ammunition

Projectile	Lot No.	Manufacturer	Powder
(1) .45 AUTO, 230-grain FMJ	NA	Federal	Accurate No. 2
(2) .40 S&W, 155-grain FMJ	NA	Federal	Accurate No. 2

## Applicable Standards or Procedures

Clay Drop 1 - Drop Time: 11:30 AM; Block No. WC074958; Temp: 96.2 °F, 96.4 °F; Drop Depths: 24.1 mm, 24.7 mm, 24 mm  
(1) AR/PD 10-02 Rev A, Change 6 (Modified)  
(2) Customer Request

Shot No.	Ammo	Powder/ Seating	Weight (gr)	Time 1 (µs)	Vel. 1 (ft/s)	Time 2 (µs)	Vel. 2 (ft/s)	Avg. Vel. (ft/s)	Penetration	Deformation (mm)	Obliq. (°)	Footnotes
1	1	5.5	230.8	5455	917	4728	916	917	None	16.5	0	(a)
2	1	5.3	230.6	5702	877	4940	877	877	None	14.4	0	(b)
3	2	4.4	155.8	5000	1000	4325	1002	1001	None	5.5	0	(c)
4	2	4.6	155.3	4796	1043	4156	1043	1043	None	16.6	0	(d)

### Remarks:

Required velocity shots 1-2: 830-860 ft/s.  
Required velocity shots 3-4: 985-1015 ft/s.  
Head form No.: HB2-1 Head form temp.: 96.8 °F.  
Projectile yaw check: 0 yaw on all impacts.

### Footnotes:

(a) Front  
(b) Left  
(c) Back  
(d) Right