Element U.S. Space & Defense Test Report for Ballistic Resistance Testing

Project No.: PH00019139D Tested: 18 June 2026 P.O. No.: Signed Quote OH32084

Prepared For
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OPTIMA BALLISTIC GLASS S.A.S. PROPRIETARY INFORMATION

Revision History

Rev.	Description	Issue Date
0	Initial Release	22 June 2026

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BALLISTIC RESISTANCE TEST

Element U.S. Space & Defense
4603B Compass Point Road
Belcamp, MD 21017

Client: Optima Ballistic Glass Colombia S.A.S.
Project No.: PH00019139-2
Test Date: 06/18/2026
Page 1 of 1

Test Panel

Description: Transparent sample.

Manufacturer: Optima Ballistic Glass Colombia S.A.S.

Sample No.: (.44 Mag LSWCGC, V0) 28102-101

Size: 495.30 x 495.30 mm
Avg. Thickness: 22.390 mm
Thicknesses: 22.377 mm, 22.327 mm, 22.377 mm, 22.479 mm

Weight: 11.450 kg
Plies/Laminates: N/A

Date Received: 05/05/2026

Setup

Shot Spacing: 5 shots equally spaced
Witness Panel: 0.02 in 2024-T3 Al
Backing Material: N/A
Condition: Ambient

Primary Vel. Screens (m): 1.980, 2.900
Primary Vel. Location (m): 2.440
Range to Target (m): 4.999
Target to Witness (mm): 152.400

Range No.: Range 1
Temp: 20.4 °C
BP: 30.2 inHg
RH: 47.2 %
Barrel/Gun: CDS-199
Gunner: Jacob Arisman
Recorder: Isaiah Lookingbill

Ammunition

Projectile	Lot No.	Manufacturer	Powder
(1) .44 Mag., 240-grain SWCGC	NA	Remington	3 N 38

Applicable Standards or Procedures

(1) NIJ-STD-0108.01 Level IIIA (Modified)
(2) Customer Request

Shot No.	Ammo	Powder/ Seating	Weight (gr)	Time 1 (µs)	Vel. 1 (m/s)	Time 2 (µs)	Vel.2 (m/s)	Avg. Vel. (m/s)	Penetration	Obliq. (°)	Footnotes
1	1	14.0	239.3	2125.0	430.4	2130.0	429.2	429.77	None	0	
2	1	14.0	239.4	2137.0	427.9	2142.0	427.0	427.33	None	0	
3	1	14.0	239.4	2118.0	431.6	2123.0	430.7	431.29	None	0	
4	1	14.0	239.8	2172.0	420.9	2174.0	420.6	420.93	None	0	
5	1	14.0	239.8	2133.0	428.5	2137.0	427.9	428.24	None	0	

Remarks:
Required Velocity: 411.5 - 442 m/s.
Projectile Yaw Check: 0° Yaw on All Impacts.

Footnotes:
N/A

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ATTACHMENT A
CALIBRATION DATA

Asset Number	Asset Type	Manufacturer	Model	Calibrated	Due
WC027072	Measurement Tools (Angle Gauge)	SPI	91-316-0	02/24/2026	02/24/2027
WC027147	Meter (Chronograph)	YIS/Cowden Group, Inc	Chrono USB	09/22/2025	09/22/2026
WC067021	Meter (Chronograph)	YIS/Cowden Group, Inc	Chrono-USB (17025)	09/22/2025	09/22/2026
WC075083	Scale (Digital)	RCBS	Charge Master 1500	11/19/2025	11/19/2026
WC078618	Measurement Tools (Tape Measure)	Craftsman	CMHT37525	09/26/2025	09/26/2026
WC079302	Scale (Floor)	Torbal Scales	BA153C	12/18/2025	12/18/2026
WC079394	Gauge (Depth)	Starrett	3753A-6/150	01/19/2026	01/19/2027
EL00003996	Measurement Tools (Tape Measure)	Craftsman	CMHT37525	12/29/2025	12/29/2026
EL00000256	Sensor (Temperature/Humidity)	Onset	MX1101	09/30/2025	09/30/2026
WC079418	Tower (Drop, Penetration)	Chesapeake Testing	NIJ Drop Sphere	09/04/2025	09/04/2026

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END OF REPORT

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