

BALLISTIC RESISTANCE TEST

NTS-Chesapeake Testing

4603B Compass Point Road
Belcamp, MD 21017

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

Project No.: PR153387-1

Test Date: 02/09/2022

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Test Panel Description: Transparent armor.

Manufacturer: Optima Ballistic Glass Columbia S.A.

Sample No.: OFC-12020-198

Size: 19.75 x 19.75 in
Avg. Thickness: 1.750 in
Thicknesses: 1.750 in, 1.730 in,
1.760 in, 1.760 in

Weight: 56.200 lbs
Plies/Laminates: N/A

Date Received: 01/25/2022
Received Via: DHL
Returned Via: DHL

Setup

Shot Spacing: NIJ-STD-0108.01
Level III
Witness Panel: 0.02 in 2024-T3 Al
Backing Material: N/A
Condition: Ambient

Primary Vel. Screens (ft): 6.500, 9.500
Primary Vel. Location (ft): 8.000
Range to Target (ft): 50.000
Target to Witness (in): 6.000

Range No.: Range 3
Temp: 68.1 °F
BP: 30.1 inHg
RH: 33.7 %
Barrel/Gun: WC020651
Gunner: William Ellis
Recorder: Ramon Chavez

Ammunition

Projectile	Lot No.	Manufacturer	Powder
(1) 7.62 x 51-mm, 149-grain M80 FMJ	NA	Military	N133

Applicable Standards or Procedures

(1) NIJ-STD-0108.01 Level III

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	Obliq. (°)	Footnotes
1	1	39.0	149	1075	2791	1075	2791	2791	None	0	
2	1	39.0	149	1073	2796	1071	2801	2799	None	0	
3	1	39.0	149	1073	2796	1073	2796	2796	None	0	
4	1	39.0	149	1080	2778	1080	2778	2778	None	0	
5	1	39.0	149	1074	2793	1074	2793	2793	None	0	

Remarks:

Required Velocity: 2700 - 2800 ft/s.

Projectile yaw check: Less than 3° yaw on all impacts.

Footnotes:

N/A