

NTS Technical Systems Test Report for Ballistic Resistance Test

Project No.: PH00009496 **Tested:** 2 January 2024 **PO No.:** 097-2023

Prepared For

Securitglass SAS | Carrera 18 No.164-33 | Bogota, DC 110131 COL

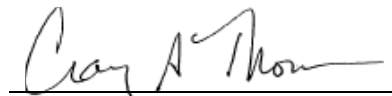
Prepared By

NTS Technical Systems | 4603B Compass Point Road | Belcamp, MD 21017 | (410) 297-8154 | www.nts.com

Attention: Ivan Marin



Beth Workman
Technical Writer
(beth.workman@nts.com)



Craig Thomas
Project Manager
(craig.thomas@nts.com)

Further dissemination only as directed by Securitglass SAS, 12 January 2024.

This report and the information contained herein represent the results of testing articles/products identified and selected by the client. The tests were performed to specifications and/or procedures approved by the client. NTS Technical Systems makes no representations expressed or implied that such testing fully demonstrates efficiency, performance, reliability, or any other characteristic of the articles being tested, or similar products. This report should not be relied upon as an endorsement or certification by NTS Technical Systems of the equipment tested, nor does it represent any statement whatsoever as to its merchantability or fitness of the test article or similar products for a particular purpose. This document shall not be reproduced except in full without written approval from NTS Technical Systems.

WARNING - This document contains technical data whose export is restricted by the Arms Export Control Act (Title 22, U.S.C., Sec 2751, et q.) or the Export Administration Act of 1979, as amended, Title 50, U.S.C., App. 2401 et seq. Violations of these export laws are subject to severe criminal penalties. Disseminate in accordance with provisions of DoD Directive 5230.25.

The information contained in this report may be subject to the provisions of the Export Administration Act (50 USC 2401 et seq.), the Export Administration Regulations (15 CFR 768 799), or the U.S. Arms Export Control Act (22USC 2778 et seq.) and the International Traffic in Arms Regulations (22 CFR 120-130). These statutes and regulations impose restrictions on import, export and transfer to foreign entities and persons, whether within the U.S. or abroad, of certain data and articles without approved licenses from the U.S. Department of State and/or the U.S. Department of Commerce.

NTS-Belcamp is an independent testing facility and has no affiliation with Securitglass SAS.

BALLISTIC RESISTANCE TEST

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

Client: Securitglass SAS
Project No.: PH00009496
Test Date: 01/02/2024
Page 1 of 1

Test Panel Description: Transparent armor

Manufacturer: Securitglass SAS

Sample No.: (MSC, V0) 32mm-1

Size: 16.00 x 16.00 in
Avg. Thickness: 1.247 in
Thicknesses: 1.247 in, 1.242 in,
1.249 in, 1.248 in

Weight: 24.530 lbs
Plies/Laminates: N/A

Date Received: 12/29/2023
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 6
Temp: 68.2 °F
BP: 30 inHg
RH: 32 %
Barrel/Gun: WC067279
Gunner: Brett Erisman
Recorder: William Ellis

Ammunition

Projectile	Lot No.	Manufacturer	Powder
(1) 7.62 x 39-mm, 123-grain MSC	114-73-31	Chinese	N 110

Applicable Standards or Procedures

- (1) NIJ-STD-0108.01 Level III (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	Obliq. (°)	Footnotes
1	1	20.8	122.1	1229	2441	1233	2433	2437	None	0	
2	1	20.8	122.2	1224	2451	1224	2451	2451	None	0	
3	1	20.6	122.2	1233	2433	1237	2425	2429	None	0	
4	1	20.6	122.2	1229	2441	1233	2433	2437	None	0	
5	1	20.6	122.4	1233	2433	1233	2433	2433	None	0	

Remarks:
Required Velocities: 2425 ± 25 ft/s
Projectile Yaw Check: 0° Yaw on all Impacts.

Footnotes:
N/A

BALLISTIC RESISTANCE TEST

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

Client: Securitglass SAS
Project No.: PH00009496
Test Date: 01/02/2024
Page 1 of 1

Test Panel | Description: Transparent armor

Manufacturer: Securitglass SAS

Sample No.: (MSC, V0) 42mm-1

Size: 16.00 x 16.00 in
Avg. Thickness: 1.604 in
Thicknesses: 1.602 in, 1.598 in,
1.603 in, 1.611 in

Weight: 31.850 lbs
Plies/Laminates: N/A

Date Received: 12/29/2023
Received Via: DHL
Returned Via: DHL

Setup

Shot Spacing: 3 shots on 120 mm
triangle
Witness Panel: .001 in Aluminum
foil with splinter
box
Backing Material: N/A
Condition: Ambient

Primary Vel. Screens (ft): 20.000, 20.333,
29.666, 30.000
Primary Vel. Location (ft): 25.000
Range to Target (ft): 32.800
Target to Witness (in): 19.680

Range No.: Range 6
Temp: 68.6 °F
BP: 30 inHg
RH: 32 %
Barrel/Gun: WC067279
Gunner: Brett Erisman
Recorder: William Ellis

Ammunition

Projectile	Lot No.	Manufacturer	Powder
(1) 7.62 x 39-mm, 123-grain MSC	114-73-31	Chinese	N 110

Applicable Standards or Procedures

- (1) EN 1063 BR6 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	Obliq. (°)	Footnotes
1	1	20.8	121.9	4102	2438	3824	2441	2439	2432	None	0	
2	1	20.8	121.9	4089	2446	3811	2449	2447	2440	None	0	
3	1	20.8	121.9	4080	2451	3807	2452	2451	2444	None	0	

Remarks:

Required Velocities: 2425 ± 25 ft/s
Projectile Yaw Check: 0° Yaw on all Impacts.

Footnotes:
N/A

BALLISTIC RESISTANCE TEST

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

Client: Securitglass SAS
Project No.: PH00009496
Test Date: 01/02/2024
Page 1 of 1

Test Panel Description: Transparent armor

Manufacturer: Securitglass SAS

Sample No.: (.44 Mag, V0) 19mm-2

Size: 16.00 x 16.00 in
Avg. Thickness: 0.747 in
Thicknesses: 0.750 in, 0.748 in,
0.742 in, 0.748 in

Weight: 14.180 lbs
Plies/Laminates: N/A

Date Received: 12/29/2023
Received Via: DHL
Returned Via: DHL

Setup

Shot Spacing: NIJ-STD-0108.01
Level IIIA
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): 16.400
Target to Witness (in): 6.000

Range No.: Range 6
Temp: 68.6 °F
BP: 30 inHg
RH: 31 %
Barrel/Gun: WC060275
Gunner: Brett Erisman
Recorder: William Ellis

Ammunition

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

Applicable Standards or Procedures

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

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	13.6	240.5	2153	1393	2153	1393	1393	None	0	
2	1	13.6	240.6	2045	1467	2045	1467	1467	None	0	
3	1	13.6	240.7	2102	1427	2102	1427	1427	None	0	
4	1	13.6	240.8	2218	1353	2218	1353	1353	None	0	
5	1	13.6	240.9	2179	1377	2179	1377	1377	None	0	

Remarks:

Required Velocities: 1400 ± 50 ft/s
Projectile Yaw Check: 0° Yaw on all Impacts.

Footnotes:

N/A

BALLISTIC RESISTANCE TEST

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

Client: Securitglass SAS
 Project No.: PH00009496
 Test Date: 01/02/2024
 Page 1 of 1

Test Panel | Description: Transparent armor

Manufacturer: Securitglass SAS | Sample No.: (9mm, V0) 19mm-1

Size: 16.00 x 16.00 in Avg. Thickness: 0.751 in Thicknesses: 0.750 in, 0.753 in, 0.752 in, 0.748 in	Weight: 14.210 lbs Plies/Laminates: N/A	Date Received: 12/29/2023 Received Via: DHL Returned Via: DHL
--	--	---

Setup

Shot Spacing: NIJ-STD-0108.01 Level IIIA 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): 16.400 Target to Witness (in): 6.000	Range No.: Range 6 Temp: 67.9 °F BP: 30 inHg RH: 30 % Barrel/Gun: WC078555 Gunner: Brett Erisman Recorder: William Ellis
--	---	--

Ammunition

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

Applicable Standards or Procedures

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

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	5.8	125.7	2127	1410	2127	1410	1410	None	0	
2	1	5.8	125.8	2114	1419	2118	1416	1418	None	0	
3	1	5.8	125.9	2110	1422	2114	1419	1420	None	0	
4	1	5.8	125.9	2127	1410	2127	1410	1410	None	0	
5	1	5.8	125.9	2127	1410	2127	1410	1410	None	0	

Remarks:
 Required Velocities: 1400 ± 50 ft/s
 Projectile Yaw Check: 0° Yaw on all Impacts.

Footnotes:
 N/A

BALLISTIC RESISTANCE TEST

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

Client: Securitglass SAS
 Project No.: PH00009496
 Test Date: 01/02/2024
 Page 1 of 1

Test Panel Description: Transparent armor

Manufacturer: Securitglass SAS Sample No.: (.357 Mag, V0) 16mm-2

Size: 16.00 x 16.00 in Avg. Thickness: 0.647 in Thicknesses: 0.649 in, 0.647 in, 0.645 in, 0.648 in	Weight: 12.220 lbs Plies/Laminates: N/A	Date Received: 12/29/2023 Received Via: DHL Returned Via: DHL
--	--	---

Setup

Shot Spacing: NIJ-STD-0108.01 Level II 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): 16.400 Target to Witness (in): 6.000	Range No.: Range 6 Temp: 68.6 °F BP: 30 inHg RH: 33 % Barrel/Gun: WC067273 Gunner: Brett Erisman Recorder: William Ellis
--	---	--

Ammunition

Projectile	Lot No.	Manufacturer	Powder
(1) .357 Mag, 158-grain JSP	22847	Remington	Accurate No. 2

Applicable Standards or Procedures

- (1) Customer Request
- (2) NIJ-STD-0108.01 Level II

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	7.9	158.2	2162	1388	2162	1388	1388	None	0	
2	1	7.9	158.5	2162	1388	2166	1385	1386	None	0	
3	1	7.9	158.5	2162	1388	2162	1388	1388	None	0	
4	1	7.9	158.7	2153	1393	2153	1393	1393	None	0	
5	1	7.9	158.7	2127	1410	2127	1410	1410	None	0	

Remarks:
 Required Velocities: 1395 ± 50 ft/s
 Projectile Yaw Check: 0° Yaw on all Impacts.

Footnotes:
 N/A

BALLISTIC RESISTANCE TEST

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

Client: Securitglass SAS
Project No.: PH00009496
Test Date: 01/02/2024
Page 1 of 1

Test Panel | Description: Transparent armor

Manufacturer: Securitglass SAS

Sample No.: (9mm, V0) 16mm-1

Size: 16.00 x 16.00 in
Avg. Thickness: 0.601 in
Thicknesses: 0.603 in, 0.598 in,
0.600 in, 0.601 in

Weight: 11.690 lbs
Plies/Laminates: N/A

Date Received: 12/29/2023
Received Via: DHL
Returned Via: DHL

Setup

Shot Spacing: NIJ-STD-0108.01
Level II
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): 16.400
Target to Witness (in): 6.000

Range No.: Range 6
Temp: 68.2 °F
BP: 30 inHg
RH: 33 %
Barrel/Gun: WC078555
Gunner: Brett Erisman
Recorder: William Ellis

Ammunition

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

Applicable Standards or Procedures

- (1) Customer Request
(2) NIJ-STD-0108.01 Level II

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	4.2	125.5	2617	1146	2617	1146	1146	None	0	
2	1	4.4	125.6	2505	1198	2505	1198	1198	None	0	
3	1	4.4	125.6	2509	1196	2509	1196	1196	None	0	
4	1	4.4	125.6	2539	1182	2539	1182	1182	None	0	
5	1	4.4	125.7	2544	1179	2548	1177	1178	None	0	

Remarks:

Required Velocities: 1135-1215 ft/s
Projectile Yaw Check: 0° Yaw on all Impacts.

Footnotes:

N/A