

Ballistic Testing Services

Report Number: BTR-09-30-2023-Sample 2

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CloseFocusResearch.com

Name: Zai Al- Mataqema For Manufacturing Co.  
 Address: P.O. Box 1633, Dammam 31441, Saudi Arabia  
 Phone: Phone: +966 92-000-5939 Ext: 1610

Report Date: September 30, 2023  
 Contact: Azzam Hariri  
 Email: azzamh@zamilal.com

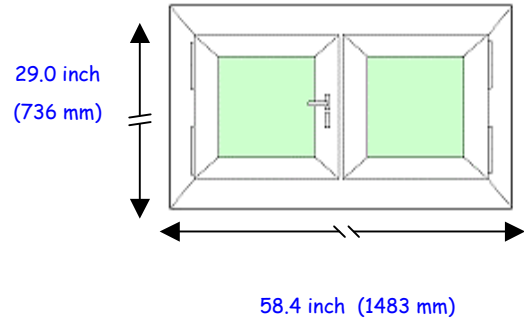
**Ballistic Results**

**Project Summary**  
 Type of Products to be tested: Ballistic Resistant Doors  
 Test Specimen Sample size(s): See Below  
 Number of test specimens: 2 Samples  
 Weight of all samples: 886.3 lbs  
 Are Materials a Health Hazard: No  
 Need the Tests performed by: within 10 to 14 days  
 Need products shipped back: Yes  
 Purchase Order Number: Not Applicable

**International Ballistic Standards / Specifications Testing**  
 ASTM  Canadian  FRA  NIJ  CFR Pass All  
 Australian  EN1063  Germ DIN  State Dept  CFR SYA  
 British  EN1522/23  MIL-SAMIT  UL 752  Other  
 Test Standard: National Institute of Justice 0108.01  
 Particular Test: NIJ III (.30 cal. 7.62 NATO M80)  
 Velocity Range: 2,700 to 2,800 ft/s  
 Shots: 45 shots  
 Shot Pattern: Multiple shots distributed over test sample

**Test Results**

Test Sample: Sample 2  
 Item: 2  
 Part Number: ZIA-BR-S-FO-99  
 Description: Open Out Double Door  
 Sample Size: 58.4 x 29.0 inch (1483 x 736 mm)  
 Thickness: 5.8 inch (148 mm)  
 Weight: 591 lbs (268 kg)  
 Weapon Type: 7.62 NATO  
 Cartridge / Projectile Type: 7.62 NATO / M80 FMJ  
 Projectile Weight: 150 grains  
 Target Distance: 49.2 feet  
 Number of Shots: 45 shots



	Shot 1	Shot 2	Shot 3	Shot 4	Shot 5	Shot 6	Shot 7	Shot 8	Shot 9	Shot 10
Shot Sequence:	Shot 1	Shot 2	Shot 3	Shot 4	Shot 5	Shot 6	Shot 7	Shot 8	Shot 9	Shot 10
Impact Velocity (ft/sec) *:	2,773	2,767	2,756	2,758	2,752	2,765	2,781	2,770	2,777	2,772
Impact Energy (ft-lbs):	2,561	2,550	2,529	2,533	2,522	2,546	2,575	2,555	2,568	2,559
Impact Momentum (lb-sec.):	1.85	1.84	1.84	1.84	1.83	1.84	1.85	1.84	1.85	1.85
Impact Angle (degrees):	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°
Sample Penetration:	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Witness Plate Penetration:	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP

Impact Spacing (inches) \*\*: N/A  
 Impact Spacing / Pattern: N/A  
 Witness plate material: 0.020 in. type 2024-T4 Aluminum foil alloy  
 Spall catch box: Not required  
 Witness / Box Distance: 6.0 inches  
 Spall Occurrence: No spall occurred  
 Test Temperature: 76 ° F  
 Test Date: September 30, 2023  
 Pass / Fail Results: Passed the Test  
 Comments:

NP = No Penetration  
 PP = Partial Penetration  
 CP = Complete Penetration  
 N/A = Not Applicable

**Footnotes**

\* Velocity measurements were taken at a distance of 6.6 feet from muzzle.

**Test and Report Engineers**

Tested and Reported by: Sam Raheb

Signature:

Date: September 30, 2023

Name: Zai Al- Mataqema For Manufacturing Co.

Report Date: September 30, 2023

**Ballistic Test Results and Photographs**

Test Data Continued:

Shot Sequence:	Shot 11	Shot 12	Shot 13	Shot 14	Shot 15	Shot 16	Shot 17	Shot 18	Shot 19	Shot 20
Impact Velocity (ft/sec)*:	2,769	2,756	2,781	2,777	2,759	2,753	2,772	2,782	2,764	2,769
Impact Energy (ft-lbs):	2,553	2,529	2,575	2,568	2,535	2,524	2,559	2,577	2,544	2,553
Impact Momentum (lb-sec.):	1.84	1.84	1.85	1.85	1.84	1.83	1.85	1.85	1.84	1.84
Impact Angle (degrees):	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°
Sample Penetration:	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Witness Plate Penetration:	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP

Shot Sequence:	Shot 21	Shot 22	Shot 23	Shot 24	Shot 25	Shot 26	Shot 27	Shot 28	Shot 29	Shot 30
Impact Velocity (ft/sec)*:	2,778	2,766	2,780	2,775	2,776	2,783	2,767	2,779	2,772	2,761
Impact Energy (ft-lbs):	2,570	2,548	2,574	2,564	2,566	2,579	2,550	2,572	2,559	2,539
Impact Momentum (lb-sec.):	1.85	1.84	1.85	1.85	1.85	1.85	1.84	1.85	1.85	1.84
Impact Angle (degrees):	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°
Sample Penetration:	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Witness Plate Penetration:	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP

Shot Sequence:	Shot 31	Shot 32	Shot 33	Shot 34	Shot 35	Shot 36	Shot 37	Shot 38	Shot 39	Shot 40
Impact Velocity (ft/sec)*:	2,753	2,777	2,762	2,756	2,773	2,757	2,756	2,752	2,754	2,779
Impact Energy (ft-lbs):	2,524	2,568	2,540	2,529	2,561	2,531	2,529	2,522	2,526	2,572
Impact Momentum (lb-sec.):	1.83	1.85	1.84	1.84	1.85	1.84	1.84	1.83	1.83	1.85
Impact Angle (degrees):	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°
Sample Penetration:	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Witness Plate Penetration:	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP

Shot Sequence:	Shot 41	Shot 42	Shot 43	Shot 44	Shot 45
Impact Velocity (ft/sec)*:	2,775	2,781	2,753	2,762	2,776
Impact Energy (ft-lbs):	2,564	2,575	2,524	2,540	2,566
Impact Momentum (lb-sec.):	1.85	1.85	1.83	1.84	1.85
Impact Angle (degrees):	0°	0°	45°	45°	45°
Sample Penetration:	NP	NP	NP	NP	NP
Witness Plate Penetration:	NP	NP	NP	NP	NP

**Ballistic Test Results:**

Test Sample 2 passed the National Institute of Justice 0108.01 NIJ III (.30 cal. 7.62 NATO M80) Ballistic test. There was no complete penetration of the test sample from any of the 7.62 NATO / M80 FMJ caliber projectiles.

**Note:**

Since the velocity range for the NIJ Level III testing performed on this sample was also within the velocity range for the UL752 Level 8 Standard, and no spall was observed, then in this case, this sample also passed the UL Level 8 7.62 NATO test.

**Witness Plate and Spall Effects:**

No spall occurred or damage to the 0.020 in. type 2024-T4 Aluminum foil alloy witness plate was observed.

**Photographs**

The following photographs on pages 3 through 5 show both the pre and post-test sample. Additional larger sized photographs are included with this report.

**Test and Report Engineers**

Tested and Reported by: Sam Raheb

Signature: 

Date: September 30, 2023

Name: Zai Al- Mataqema For Manufacturing Co.

Report Date: September 30, 2023

Ballistic Test Photographs



Post Test Sample 2 Front Side: ZIA-BR-S-FO-99 - Open Out Double Door - NIJ III (.30 cal. 7.62 NATO) - 1483 x 736 x 148 mm



Post Test Sample 2 Rear Side: ZIA-BR-S-FO-99 - Open Out Double Door - NIJ III (.30 cal. 7.62 NATO) - 1483 x 736 x 148 mm

Test and Report Engineers

Tested and Reported by: Sam Raheb

Signature: *Sam Raheb*

Date: September 30, 2023

Name: Zai Al- Mataqema For Manufacturing Co.

Report Date: September 30, 2023

Ballistic Test Photographs Continued

Sample 2: ZIA-BR-S-FO-99 - Open Out Double Door - NIJ III (.30 cal. 7.62 NATO) - 1483 x 736 x 148 mm



Pre Test Impact Side



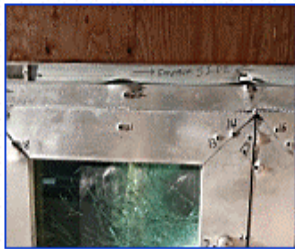
Pre Test Rear Side



Post Test Impact Side



Post Test Impact Side



Post Test Impact Side



Post Test Impact Side



Post Test Impact Side



Post Test Impact Side



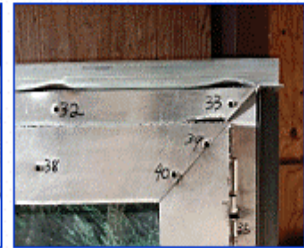
Post Test Impact Side



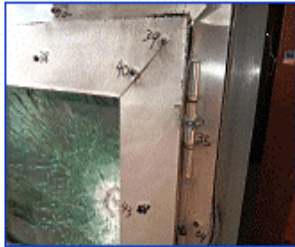
Post Test Impact Side



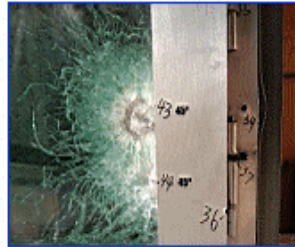
Post Test Impact Side



Post Test Impact Side



Post Test Impact Side



Post Test Impact Side



Post Test Impact Side



Post Test Impact Side



Post Test Impact Side



Post Test Impact Side



Post Test Impact Side



Post Test Impact Side

Test and Report Engineers

Tested and Reported by: Sam Raheb

Signature: *Sam Raheb*

Date: September 30, 2023

Name: Zai Al- Mataqdema For Manufacturing Co.

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Ballistic Test Photographs Continued

Sample 2: ZIA-BR-S-FO-99 - Open Out Double Door - NIJ III (.30 cal. 7.62 NATO) - 1483 x 736 x 148 mm



Post Test Impact Side



Post Test Impact Side



Post Test Impact Side



Post Test Rear Side



Post Test Rear Side



Post Test Rear Side



Post Test Rear Side



Post Test Rear Side

Test and Report Engineers

Tested and Reported by: Sam Raheb

Signature: *Sam Raheb*

Date: September 30, 2023