

Ballistic Testing Services

Report Number: BTR-02-11-2023-20230102-Sample 1

Phone: 800-513-4291 Email: techsupport@CloseFocusResearch.com

CloseFocusResearch.com

Name: Avalon International Aluminum, Inc
 Address: 21451 SW 108th Avenue, Tualatin, OR 97062
 Phone: Phone: 208-272-0524

Report Date: February 11, 2023
 Contact: Rick Carleton
 Email: gm@avalon.solutions

Ballistic Results

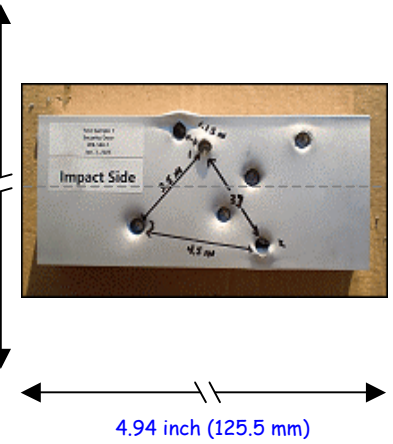
Project Summary
 Type of Products to be tested: Security Door and Frame
 Test Specimen Sample size(s): Unknown
 Number of test specimens: 2 Samples
 Weight of all samples: 13.2 lbs
 Are Materials a Health Hazard: No
 Need the Tests performed by: within 5 to 7 days
 Need products shipped back: No
 Purchase Order Number: 20230102

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: Underwriters Laboratory UL752
 Particular Test: UL Level 3 (.44 Magnum SWC) - Multi-shot
 Velocity Range: 1,350 to 1,485 ft/s
 Shots: 5 shots
 Shot Pattern: Multiple shots distributed over test sample

Test Results

Test Sample: Sample 1
 Item / Part Number: 1 / WS-500-1
 D.O.M.: January 3, 2023
 Description: Bullet Resistant Security Door
 Sample Size: 12.00 x 4.94 inch (304.8 x 125.5 mm)
 Thickness: 1.750 inch (44.5 mm)
 Weight: 6.50 lbs (2.95 kg)
 Weapon Type: .44 Magnum
 Cartridge / Projectile Type: .44 Magnum SWC
 Projectile Weight: 240 grains
 Target Distance: 15 feet
 Number of Shots: 5 shots

12.00 inch
(304.8 mm)



4.94 inch (125.5 mm)

	Shot 1	Shot 2	Shot 3	Shot 4	Shot 5
Shot Sequence:					
Impact Velocity (ft/sec) *:	1,416	1,408	1,413	1,419	1,423
Impact Energy (ft-lbs):	1,068	1,056	1,064	1,073	1,079
Impact Momentum (lb-sec.):	1.51	1.50	1.51	1.51	1.52
Impact Angle (degrees):	0°	0°	0°	0°	0°
Sample Penetration:	NP	NP	NP	NP	NP
Witness Plate Penetration:	NP	NP	NP	NP	NP

Impact Spacing (inches) **: See the shot spacing in the impact side photo
 Impact Spacing / Pattern: Multiple shots distributed over test sample
 Witness plate material: 0.125 in. thick corrugated cardboard
 Spall catch box: Not required
 Witness / Box Distance: 18.0 inches
 Spall Occurrence: No spall occurred
 Test Temperature: 69 ° F
 Test Date: February 11, 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 feet from muzzle.

Test and Report Engineers

Tested and Reported by: Sam Raheb

Signature: *Sam Raheb*

Date: February 11, 2023

Name: Avalon International Aluminum, Inc

Report Date: February 11, 2023

Ballistic Test Results and Photographs

Ballistic Test Results:

Test Sample 1 passed the Underwriters Laboratory UL752 UL Level 3 (.44 Magnum SWC) - Multi-shot Ballistic test. There was no complete penetration of the test sample from any of the .44 Magnum SWC caliber projectiles.

Witness Plate and Spall Effects:

No spall occurred or damage to the 0.125 in. thick corrugated cardboard witness plate was observed.

Photographs

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

Sample 1: WS-500-1 - Security Door - UL Level 3 - 12.00 x 4.94 x 1.750 in.



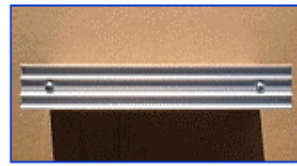
Pre Test Impact Side



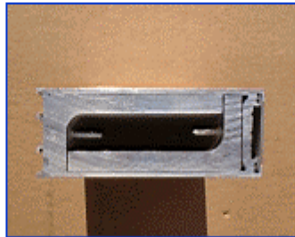
Pre Test Rear Side



Pre Test Top Side



Pre Test Bottom Side



Pre Test Left Side



Post Test Impact Side



Post Test Rear Side



Post Test Top Side



Post Test Bottom Side



Post Test Left Side



Post Test Left Side



Post Test Right Side

Test and Report Engineers

Tested and Reported by: Sam Raheb

Signature: *Sam Raheb*

Date: February 11, 2023