

Ballistic Testing Services

Report Number: BTR-12-06-2019-Sample 15

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Name: Midwest Glass Fabricators
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Report Date: December 6, 2019
Contact: Paul Mouton
Email: pmouton@mwgf.com

Ballistic Results

Project Summary

Type of Products to be tested: Bullet Resistant Glazings
Test Specimen Sample size(s): 12 x 12 inch
Number of test specimens: 23 Samples
Weight of all samples: 321.7 lbs
Are Materials a Health Hazard: No
Need the Tests performed by: within 7 to 10 days
Need products shipped back: No
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: Underwriters Laboratory UL752 (Ambient Temp. Only)

Particular Test: UL Level 4 Part 1 (.30 cal. 30-06 JSP)

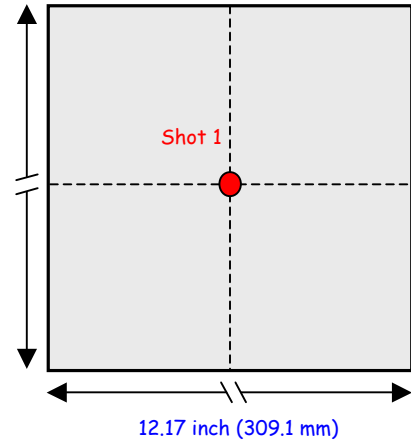
Velocity Range: 2,540 to 2,794 ft/s

Shots: 1 shot

Shot Pattern: Center shot

Test Results

Test Sample: Sample 15
Part Number / D.O.M.: MWGF-UL4-5 / November 20, 2019
Reference ID: CFR UL Levels 4 and 5
Description: Security Glazing
Sample Size: 12.13 x 12.17 inch (308.1 x 309.1 mm)
Thickness: 1.277 inch (32.44 mm)
Weight: 13.75 lbs (6.24 kg)
Weapon Type: .30 caliber 30-06
Cartridge / Projectile Type: .30 caliber 30-06 JSP
Projectile Weight: 180 grains
Target Distance: 15 feet
Number of Shots: 1 shot
Shot Sequence: Shot 1
Impact Velocity (ft/sec)\*: 2,612
Impact Energy (ft-lbs): 2,726
Impact Momentum (lb-sec.): 2.09
Impact Angle (degrees): 0°
Sample Penetration: NP
Witness Plate Penetration: NP
Impact Spacing (inches)\*\*: N/A
Impact Spacing / Pattern: N/A
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: 72 ° F
Test Date: December 06, 2019
Pass / Fail Results: Passed the Test
Comments: CFR Reference for UL Level 4 and 5 (.30-06 and 7.62 NATO)



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: [Handwritten Signature]

Date: December 6, 2019

Name: **Midwest Glass Fabricators**

Report Date: **December 6, 2019**

**Ballistic Test Results and Photographs**

**Ballistic Test Results:**

Test Sample 15 passed the Underwriters Laboratory UL752 UL Level 4 Part 1 (.30 cal. 30-06 JSP) Ballistic test. There was no complete penetration of the test sample from the .30 caliber 30-06 JSP caliber projectile.

**Witness Plate and Spall Effects:**

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

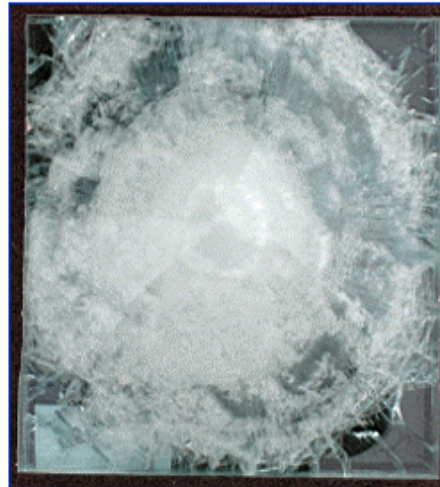
**Photographs**

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

**Sample 15: MWGF-UL4-5 - D.O.M. November 20, 2019 - CFR UL Levels 4 and 5 - UL Level 4 Part 1 - 12.13 x 12.17 x 1.277 in.**



Sample 15 Post Test Impact Side



Sample 15 Post Test Rear Side

**Test and Report Engineers**

Tested and Reported by: **Sam Raheb**

Signature: *Sam Raheb*

Date: **December 6, 2019**