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November 21, 2023

Riot Glass
17941 Brookshire Lane
Huntington Beach, CA 93647
ATTN: Brad Campbell

Dear Mr. Campbell,

Enclosed, please find a copy of Oregon Ballistic Laboratories' test report entitled: ASTM F3038 - Test Report of 15-minute testing of Riot Glass Compression Window System with 48" x 96" infill AP375BR and AP500CG Samples, along with the photos of the Forced Entry, Concentrated Assault tests.

The Riot Glass Compression Window System infill AP375BR and AP500CG Samples **PASSED** the 15-min performance requirements defined by Section 16 of ASTM F3038.

Very Respectfully,

Darius Nuttbrock
Ballistic Test Director
Oregon Ballistic Laboratories
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ASTM F3038 - Test Report

15-minute FE testing of Riot Glass Compression Window Systems AP375BR and
AP500CG

OBL 11022023

Prepared for

Riot Glass
17941 Brookshire Lane
Huntington Beach, CA 93647

By

Oregon Ballistic Laboratories, LLC
2873 22nd St. SE
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General Description

In November of 2023, Riot Glass submitted a request to test their 48" x 96" Compression Window Systems AP375BR and AP500CG to ASTM F3038. This request specified ASTM F3038 15-Minute Forced Entry Testing to be conducted at Oregon Ballistic Laboratories.

The Compression Window System Samples were shipped directly to Oregon Ballistic Laboratories, where preparations began for the November 2nd, 2023 test date.

Oregon Ballistic Laboratories conducted 15-minute Forced Entry tests on November 2nd, 2023, on the Compression Window System Samples.

Sample Preparation

Upon arrival, the samples were uncrated and rigidly mounted against a heavy steel frame constructed of ½" thick structural steel per Section 8 of ASTM F3038.

Forced Entry Test Setup

Riot Glass requested that The Forced Entry Test Resources (tools) for the 15-minute Concentrated Assault be used as specified in Table A1.1 of F3038-14. The pass/fail shapes, a 12"x12"x8" rigid rectangular shape and a 12" diameter and 12" high rigid cylinder, were provided to the attack teams. The names, ages, weights, shoulder circumference, and dominant hands of the test personnel for each 15-minute test sequence are listed in the forced entry test results section tables. After every 15-minute attack, test personnel were substituted on an as-needed basis. Photographs of the provided tools are located in Appendix A.

Photographs were taken before and after each test period. These photos are located in Appendix A.

Documentation

Customer was on sight for installation.

Forced Entry Test Results

Sample 1 – AP375BR – Test 1

The six-man Forced Entry, Concentrated Assault team (shown in the table below) **COULD NOT DEFEAT** the transparent portion of the test after **15:00**(mm:ss). Photographs of the resulting damage are located in Appendix A.

Test 1 – Transparency				
Name	Handed	Weight	Shoulder Cir.	Age
Aaron Stone	Right	170	48	44
Jason Stone	Right	161	46	41
Jerhemi Stone	Right	160	45	43
Chris Moe	Right	290	58.5	45
Nathan Myers	Right	200	50	45
Andrew Jacobson	Right	203	50	33

Sample 1 – AP375BR – Test 2

The six-man Forced Entry, Concentrated Assault team (shown in the table below) **COULD NOT DEFEAT** the frame edge portion of the test after **15:00**(mm:ss). Photographs of the resulting damage are located in Appendix A.

Test 2 – Frame Edge				
Name	Handed	Weight	Shoulder Cir.	Age
Aaron Stone	Right	170	48	44
Jason Stone	Right	161	46	41
Jerhemi Stone	Right	160	45	43
Jonathan Valladares	Right	194	52	30
Nathan Myers	Right	200	50	45
Andrew Jacobson	Right	203	50	33

Sample 1 – AP375BR – Test 3

The six-man Forced Entry, Concentrated Assault team (shown in the table below) **COULD NOT DEFEAT** the bite attack portion of the test at **15:00**(mm:ss). Photographs of the resulting damage are located in Appendix A.

Test 3 – Compression System				
Name	Handed	Weight	Shoulder Cir.	Age
Aaron Stone	Right	170	48	44
Jason Stone	Right	161	46	41
Jerhemi Stone	Right	160	45	43
Jonathan Valladares	Right	194	52	30
Nathan Myers	Right	200	50	45
Andrew Jacobson	Right	203	50	33

Sample 2 – AP500CG – Test 1

The six-man Forced Entry, Concentrated Assault team (shown in the table below) **COULD NOT DEFEAT** the transparent portion of the test at **15:00**(mm:ss). Photographs of the resulting damage are located in Appendix A.

Test 3 – Compression System				
Name	Handed	Weight	Shoulder Cir.	Age
Aaron Stone	Right	170	48	44
Jason Stone	Right	161	46	41
Jerhemi Stone	Right	160	45	43
Jonathan Valladares	Right	194	52	30
Nathan Myers	Right	200	50	45
Chris Moe	Right	290	58.5	45

Sample 2 – AP500CG – Test 2

The six-man Forced Entry, Concentrated Assault team (shown in the table below) **COULD NOT DEFEAT** the bite attack portion of the test at **15:00**(mm:ss). Photographs of the resulting damage are located in Appendix A.

Test 3 – Compression System				
Name	Handed	Weight	Shoulder Cir.	Age
Aaron Stone	Right	170	48	44
Jason Stone	Right	161	46	41
Jerhemi Stone	Right	160	45	43
Jonathan Valladares	Right	194	52	30
Nathan Myers	Right	200	50	45
Darius Nuttbrock	Left	162	46	30

Sample 2 – AP500CG – Test 3

The test director determined that the frame edge test was not required on the second test sample due to the frame and mounting being unchanged from sample one. The transparent infill was the only difference.

The toolset used for all attacks was F-3038 – 14 Table “A1.1 Tool Resource Table,” as seen below.



TABLE A1.1 Tool Resource Table

Resource Name and Nominal Description	Quantity
Note—Sharp-edged tools shall not be re-sharpened once testing has begun.	
Bolt Cutters—1200 mm (48 in.)	1
Broom, Push—Wooden	1
Pliers, Tongue and Groove—Channel lock style, straight jaw, 250 mm (10 in.)	1
Chisel, Cold—25 mm (1 in.) wide blade	2
Chisel, Cold—20 mm (¾ in.) wide blade	2
Chisel, Masonry—55 mm (2¼ in.) wide blade	2
Bar, Pinch Point—1500 mm (60 in.)	2
Bar, Ripping or Crowbar—1200 mm (48 in.)	2
Bar, Ripping or Crowbar—600 mm (24 in.)	2
End Nippers—350 mm (14 in.)	1
Hammer, Club or Drilling—1.36 kg (3 lb)	2
Hammer, Claw—450 g (16 oz)	2
Hammer, Sledge—5.4 kg (12 lb) head, 760 mm (30 in.) long	2
Hammer, Sledge—4.5 kg (10 lb) head, 760 mm (30 in.) long	2
Hatchet—460 mm (18 in.), 0.68 kg (1.5 lb)	1
Punch, Center—10 mm (¾ in.) diameter	1
Punch, Center—6.4 mm (¼ in.) diameter	1
Ram—54.4 kg (120 lb), 2 man, Impact area = 100 by 100 ± 6 mm (4 by 4 ± 0.25 in.)	1
Saw, Hack—300 mm (12 in.) hacksaw, all-purpose blade	2
Screwdriver, Flat—250 mm (10 in.) shank, 10 mm (¾ in.) wide flat blade	2
Screwdriver, Flat—6 mm (¼ in.) flat blade	2
Screwdriver, Phillips—250 mm (10 in.) shank, #2 drive	2
Screwdriver, Phillips—100 mm (4 in.) shank, #1 drive	2
Pliers, Locking, Vise Grip—300 mm (12 in.), large jaw	1
Wedge, Wood Splitting—235 mm (9¼ in.) long, 63 mm (2½ in.) wide blade, square head, 2.3 kg (5 lb)	3
Wrench, Adjustable—380 mm (15 in.)	1
Wrench, Adjustable—250 mm (10 in.)	2

Conclusion

The Riot Glass Compression Window Systems AP375BR & AP500CG **PASSED** the 15-minute performance requirements defined by Section 16 of ASTM F3038.

ASTM F3038 - Test Report

15-minute FE testing of Riot Glass Compression Window System

Appendix A – Photographs



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ASTM F-3038 – Attack Tools / Fail Shapes



Sample 1 - Test 1 / Transparency – Pre Test



Sample 1 – Test 1 / Transparency – Post Test



This report pertains only to the samples tested and must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.



Sample 1 – Test 2 / Frame Edge – Pre Test



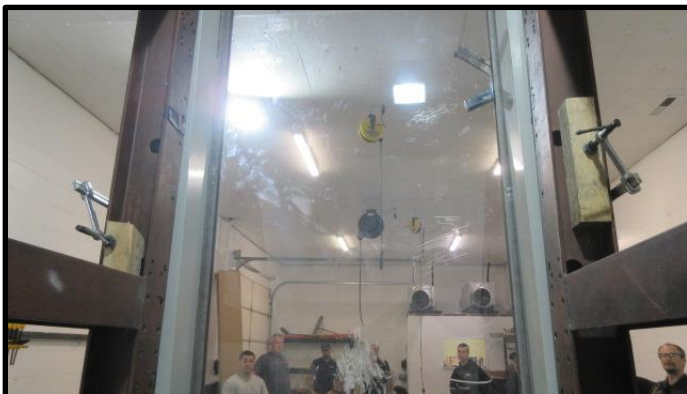
Sample 1 – Test 2 / Frame Edge – Post Test





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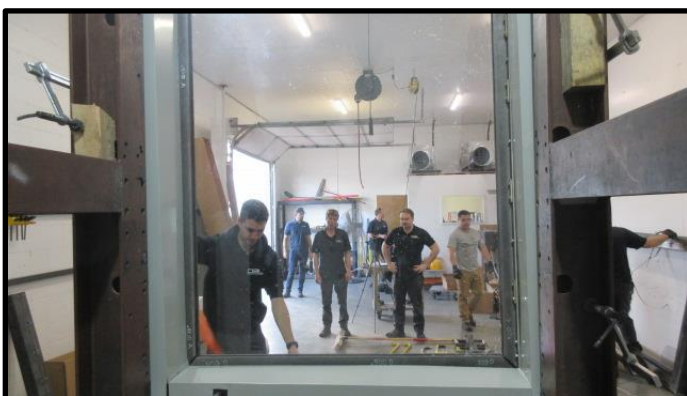
Sample 1 – Test 3 / Bite Attack – Pre Test



Sample 1 – Test 3 / Bite Attack – Post Test



Sample 2 - Test 1 / Transparency – Pre Test

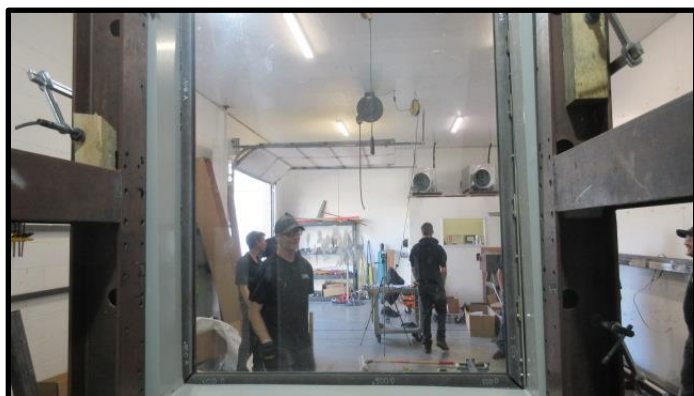


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Sample 2 - Test 1 / Transparency – Post Test



Sample 2 - Test 2 / Bite Attack – Pre Test



Sample 2 - Test 2 / Bite Attack – Post Test



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