



# NATIONAL CERTIFIED TESTING LABORATORIES

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## UFC DoD ASTM E330-14

### STRUCTURAL PERFORMANCE TEST REPORT SUMMARY

#### RENDERED TO:

Liberty Glass & Metal  
339 Riverside Drive  
N. Grosvenordale, CT 06255

**PRODUCT TYPE: Project Out At Bottom**

**SERIES/ MODEL: "Projected"**

	<u>Measured</u>	<u>Allowed</u>
<u>Para. No. B-3.1.2.1</u>		
Frame Member Design – ASTM E330		
Top Rail - Deflection		
144.0 psf exterior	0.48 mm (0.018")	6.35 mm (0.250")
144.0 psf interior	3.18 mm (0.125")	6.35 mm (0.250")
Top Rail – Permanent Set		
144.0 psf exterior	0.18 mm (0.007")	2.03 mm (0.080")
144.0 psf interior	0.13 mm (0.005")	2.03 mm (0.080")
<u>Para. No. B-3.1.2.2</u>		
Glazing Frame Bite	Meets As Stated	

**Test Completion Date:** 02/03/21

Reference must be made to Report Number NCTL-110-24028-1 dated 02/03/21 for complete test sample description and data.

### National Certified Testing Laboratories

Justin L. Bupp  
Laboratory Manager



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## STRUCTURAL PERFORMANCE TEST REPORT

**Report Number** NCTL-110-24028-1

**Report Date** 02/03/21

**Report To** LIBERTY GLASS & METAL  
339 Riverside Drive  
N. Grosvenordale, CT 06255

**Date Testing Started** 02/03/21  
**Date Testing Completed** 02/03/21

**Specification** United Facilities Criteria (UFC), "DoD Minimum Anti-Terrorism Standard For Buildings (Paragraph Numbers: B-3.1.2.1 Frame Member Design, B-3.1.2.2 Glazing Frame Bite)."  
  
ASTM E330-14, "Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference."

### Description of Sample Tested

Note: All dimensions are in the order (Width x Height x Thickness) unless otherwise noted.

**Model/ Series** "Projected"

**Configuration** Project Out At Bottom

**Frame Size** Overall  
1054 mm x 673 mm (41.5" x 26.5")

**Vent Size** 1022 mm x 641 mm (40.25" x 25.25")

**Viewing Area** 889 mm x 508 mm (35" x 20")

**Frame & Vent Type** Extruded aluminum with poured urethane thermal breaks

**Joint Construction** Frame  
(2)-Screws butt-type  
  
Vent  
Mitered with staked in place metal corner keys

**Glazing Components**

Overall	28.32 mm (1.115") nominal
Glass Thickness	(1) Lite of 5 mm (0.183") nominal annealed glass to the exterior and (1) Lite of laminated glass to the interior
Laminated Glass	(2) Lites of 3 mm (0.105") nominal annealed glass separated by a 0.76 mm (0.030") PVB interlayer
Spacer Type/Size	17.58 mm (0.692") Desiccant filled aluminum spacer (Type A1-D)
Glazing System	Interior glazed with a silicone back-bedding and a snap-in rigid extruded aluminum glazing bead with (1) strip of foam filled bulb-vinyl. The overall glass bite was 12.7 mm (0.5")

**Weatherstrip**

Type (2) Strips foam filled bulb-vinyl  
 Location Vent perimeter

**Operating Hardware**

## Locks

Type Metal lock/lock handle  
 Location 241 mm (9.5") From each end of the bottom rail

## Keeper

Type Metal  
 Location Sill at the lock locations

## Hinge Hardware

Type (4)-Bar  
 Location Stiles/ jambs

**Auxiliary**

Type Plastic alignment block  
 Location 107 mm (4.25") From each end of the sill and 133 mm (5.25") from the bottom of the jambs

Type Plastic spacer  
 Location Under the hinges at the stiles

**Reinforcement**

No reinforcement employed

**Weep Description**

Size 12.7 mm (0.5") Notch  
 Location Exterior weatherstrip at the bottom rail

**Interior/ Exterior Surface Finish**

Black anodized

**Sealant**

Location Frame corners, interior and exterior glazing perimeters and glazing bend to vent  
 Material Silicone

**Insect Screen**

No screen employed

**Installation Method**

The window was installed in a 50.8 mm x 203 mm (2" x 8") spruce-pine-fir lumber test buck and was fastened with a full length aluminum trim clip at the frame perimeter. The clip was fastened to the frame with (1) #10 x 25.4 mm (1") hex head screw and to the back with (1) #6 x 38 mm (1.5") dry wall screw. Both screws were located on 89 mm (3.5") centers. The exterior perimeter was sealed with silicone sealant.

This test report was prepared by National Certified Testing Laboratory (NCTL), for the exclusive use of the above named client and it does not constitute certification of this product. The results are for the particular specimen tested and do not imply the quality of similar or identical products manufactured or installed from specifications identical to the tested product. The test specimen was supplied to NCTL by the above named client. No conclusions of any kind regarding the adequacy or inadequacy of the glass in the test specimen are to be drawn from the ASTM E330 test.

Foam tape is mounted to the perimeter of the test buck prior to clamping to the test wall. NCTL is a testing lab and assumes that all information provided by the client is accurate and does not guarantee or warranty any product tested or installed.

Detailed drawings were not available for laboratory records at the time of this report. Ambient conditions during the referenced testing are available upon request. A copy of this report along with representative sections of the test specimen will be retained by NCTL. This report does not constitute certification or approval of the product, which may only be granted by a certification program validator or recognized approval entity. All tests were conducted in full compliance with the referenced specifications and/or test methods. This report may not be reproduced, except in full, without the written consent of NCTL.

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DIGITAL SIGNATURE

Justin L. Bupp  
Laboratory Manager

JLB/ kir  
Attachments  
Appendix A – Drawing & Revision Summary

## APPENDIX A

### **Section 1:**

Component Drawings, with Applicable Part Numbers, Manufacturing and Modeling Details, were reviewed (as submitted) for Product Verification  
(Reference: NCTL-110-24028-1)

See Attached Documentation;  
any deviations noted.

Note: The above referenced component drawings along with representative sections of the test specimen will be retained per procedure by NCTL. This testing facility assumes that all information provided by the client is accurate.

### **Section 2:**

<u>Identification</u>	<u>Date</u>	<u>Page &amp; Revision</u>
Original Issue	02/03/21	Not Applicable