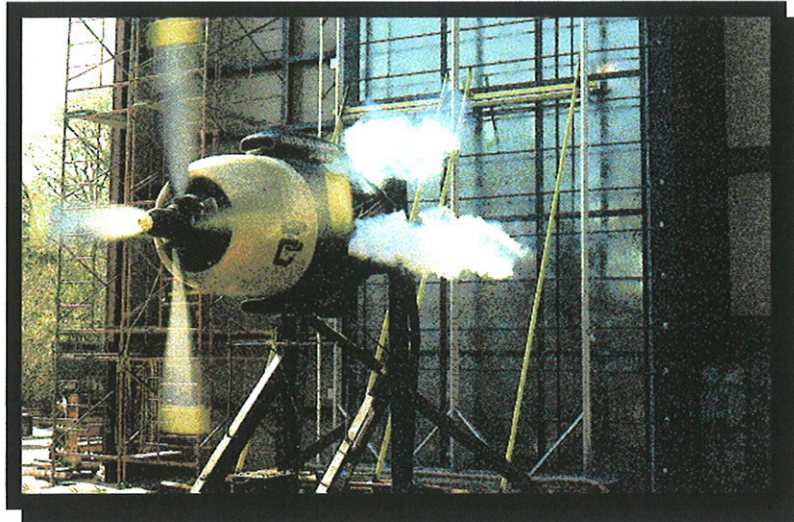




CONSTRUCTION CONSULTING LABORATORY, *INTERNATIONAL*



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**TEST REPORT:**

**AAMA 501-05 PERFORMANCE REPORT  
UNITED STATES ALUMINUM  
SERIES IT 451 STOREFRONT SYSTEM  
REPORT CCLI #09-227**

**December 13, 2009**

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Prepared for:

**UNITED STATES ALUMINUM**  
200 Singleton Drive  
Waxahachie, TX 75165

1601 Luna Road  
Carrollton, Texas 75006

**S-UNITED, INC.**  
*A Quality Control Company*

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**AAMA 501-05 PERFORMANCE REPORT**  
**UNITED STATES ALUMINUM**  
**SERIES IT 451 STOREFRONT SYSTEM**  
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December 13, 2009

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**APPENDIX:**

APPENDIX A: UNITED STATES ALUMINUM SERIES IT 451 STOREFRONT DRAWINGS

Refer to mock-up drawing in **Appendix A**. This report is not complete unless this drawing is stamped and initialed by **CCLI** as illustrated below.

Detail	Detail	Date	Stamped as Illustrated
U.S. Aluminum	Elevation	11/10/09	 <b>CONSTRUCTION CONSULTING LABORATORY, INTERNATIONAL</b> <b>1601 Luna Road Carrollton, Texas 75006</b> Phone (972) 242-0556 Report <u>09-227</u> , Date <u>12-13-09</u> Reviewed BY <u>CW</u>
U.S. Aluminum BOM			
U.S. Aluminum	USA-3124	11/10/09	
U.S. Aluminum	USA-3114	11/10/09	
U.S. Aluminum	USA-3124	11/10/09	
U.S. Aluminum	USA-3124	11/10/09	
U.S. Aluminum	USA-3124	11/10/09	



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## 1. PROJECT DATA

**Project:** AAMA 501-05 Performance Testing  
United States Aluminum  
Series IT 451 Storefront System

**Date of Testing:** November 11, 2009

**Test Performed At:** US Aluminum testing facility in Waxahachie, TX.

**Tested For:** United States Aluminum  
200 Singleton Drive  
Waxahachie, TX 75165

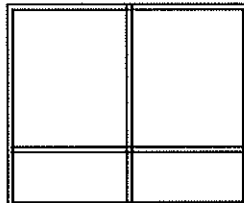
**Witnessed By:** (All or Partial Viewing)  
Terry Hopgood United States Aluminum  
Jeffrey Crump Construction Consulting Laboratory, *International*

## 2. SUMMARY

The United States Aluminum Series IT 451 Storefront System was tested in accordance with AAMA 501-05 and passed the short form requirements noted in laboratory test specifications section for Air Infiltration @ 6.24 Psf, Water Penetration @ 10.00 Psf, Uniform Load Deflection @ 25 Psf with a positive measured deflection of .180" and a negative measured deflection of .135", with an allowable of .505". Uniform Load Structural Test was performed @ 37.5 Psf positive and negative with head anchors and screws and Uniform Load Structural Test was performed @ 37.5 Psf positive and negative with screws only with no glass breakage or unallowable permanent deformation.

## 3. TEST SPECIMEN

**Product Type:** Aluminum Storefront, **Product Drawings, Appendix A**  
**Series Model:** IT 451 Storefront System  
**Publication No.:** AAMA 501-05  
**Frame Size:** 9'-4 $\frac{1}{4}$ " x 7'-3 $\frac{3}{4}$ "  
**Configuration:**





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**Weather-Stripping:** None.

**Hardware:** None.

**Glass:** Sealed Insulated Glass: 2 pcs 1/4" tempered, 1/2" air spacer, and 1" overall thickness.

**Glazing:** Exterior glazed using glazing gasket (part #NP225) at interior and exterior of glass with horizontal glazing stops (part #IM 453) at frame horizontal members.

**Weep Arrangement:** 1 1/4" x 1/8" weep slot located at frame sill flashing (FT-400), 6" from each end and 24" O.C. total of (5) five.

**Sealant:** Frame is interior and exterior perimeter sealed with backer rod and Tremco<sup>®</sup> silicone. Glazing gasket ends (part #NP225) buttered with silicone. Continuous seal at frame sill (part #IS453) and sill flashing (part #FF400). End cap (part #CP-145) applied and sealed at top of verticals mulls. Water deflectors completely sealed (at head only) and sealed at interior on horizontal mullion. End dams embedded in silicone.

**Reinforcement:** None.

**Installation Features:** Test specimen was installed in a #2 (2" x 8") yellow pine wood test buck with frame head horizontal anchored over two 4" long channel (part #HT-250) per lite spaced 4" from each vertical. Each channel was attached with two (2) #12 x 3" flat head wood screws. Frame sub-sill attached with 1/4" dia. wood screws 6" from each end and 12" on center. After initial structural load fasteners at the 4" long channel inside frame head were removed and frame head was then attached with #12 x 3" flat head wood screws, two (2), screws spaced 3" apart were located approximately 7" from each vertical mull.

**Other Features:** Frame member's thermally broken using polyurethane. Horizontal and vertical members attached using two (2) #10 x 1" HH-SMS per connection.



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 SERIES IT 451 STOREFRONT SYSTEM  
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**4. PERFORMANCE RESULTS**

<u>Title of Test</u>	<u>Test Method</u>	<u>Measured</u>	<u>Allowed</u>
Air Infiltration @ 6.24 PSF	ASTM E 283-04	0.036 CFM/Ft <sup>2</sup>	0.06 CFM/Ft <sup>2</sup>
Water Resistance @ 10.00 PSF	ASTM E 331-00	No Leakage	No Leakage
Uniform Load Deflection @ Vertical Mullion -Positive @ 30 PSF -Negative @ 30 PSF	ASTM E 330-02	0.180" 0.135"	0.505" 0.505"
Uniform Load Structural With Anchor Clips -Positive @ 37.5 PSF -Negative @ 37.5 PSF -Permanent Set	ASTM E 330-02	No Damage No Damage 0.0625"	No Damage No Damage 0.176"
Uniform Load Structural Without Clips – Screws Only -Positive @ 37.5 PSF -Negative @ 37.5 PSF -Permanent Set	ASTM E 330-02	No Damage No Damage 0.0625"	No Damage No Damage 0.176"

Detailed extrusion and assembly drawings indicating measured wall thickness and corner construction are on file and were compared to the test sample submitted. These records will be retained at **CCLI** for a period of four years.


**5. DISCLAIMER**

The test specimen was tested in accordance with the short form requirements of AAMA 501-05. The results were obtained by using the designated test methods.

Respectfully submitted,

**CONSTRUCTION CONSULTING LABORATORY, INTERNATIONAL**

  
 \_\_\_\_\_  
 WESLEY A. WILSON  
 LABORATORY MANAGER

  
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 JEFFREY CRUMP  
 TESTING MANAGER