

## **STRUCTURAL PERFORMANCE TEST REPORT**

Report No: NCTL-110-9326-3  
Test Date: 07/22/04  
Report Date: 08/02/04  
Expiration Date: 07/31/08

**Client:** All Seasons Door & Window  
28 Edgeboro Road  
East Brunswick, NJ 08816

**Test Specimen:** All Seasons Door and Window's Series "2500" Project-In-At-Top (P.I.T.) Aluminum Prime Window (AP-C130 48x16)

**Test Specification:** AAMA/NWWDA 101/I.S.2-97, "Voluntary Specifications for Aluminum, Vinyl (PVC), and Wood Windows and Glass Doors."

### **TEST SPECIMEN DESCRIPTION**

**General:** The test specimen was a single vent project-in-at-top (P.I.T.) aluminum prime window measuring 48-1/16" wide by 16-1/8" high overall. The vent measured 46-3/8" wide by 14-5/16" high. The frame and vent were thermally broken using poured urethane thermal barriers debridged to 1/16". A standard four (4) bar hinge was employed at the hinge jambs. One (1) metal lock handle was located at 12" from each end of the top rail. The metal keepers backed by metal washers were located in the head at the lock positions. A metal snubber was located at 11" from each end and at mid-span of the bottom rail. The corresponding metal snubbers were located at the sill. An extruded aluminum interior center vertical sill leg was fastened with five (5) evenly spaced screws at the sill. The frame and vent were of mitered corner construction with staked-in-place metal corners keys.

**Glazing:** The vent was interior glazed using sealed insulating glass with a foam tape/foam filled bulb vinyl back-bedding, an interior glazing gasket and a snap-in extruded aluminum glazing bead. The overall insulating glass thickness was 1" consisting of two (2) lites of double strength tempered glass and one (1) space created by a desiccant-filled aluminum spacer system.

**Weatherseals:** One (1) strip of foam-filled bulb vinyl weatherstrip was located at the frame and vent perimeters.

**Weeps:** One (1) weep hole measuring 1/2" x 1/4" was located at 4" and 12" from each end and at mid-span of the sill.

**Interior & Exterior Surface Finish:** Clear anodized aluminum.

**Sealant:** The glazing perimeter was back filled with a silicone sealant. The frame and vent corners along with all screw points were sealed with a silicone sealant. The length of the interior vertical sill leg was sealed with a silicone sealant.

**Insect Screen:** No screen employed.

### TEST RESULTS

<u>Par. No.</u>	<u>Title of Test &amp; Method</u>	<u>Measured</u>	<u>Allowed</u>
2.1.2	Air Infiltration - ASTM E283 1.57 psf (25 mph)	0.10 cfm/ft <sup>2</sup> (0.01 cfm/ft <sup>2</sup> )	0.30 cfm/ft <sup>2</sup>
2.1.3	Water Resistance - ASTM E547 5.0 gph/ft <sup>2</sup> WTP= 4.5 psf	No Leakage	No Leakage
2.1.4.2 **	Uniform Load Structural - ASTM E330 45.0 psf Exterior 45.0 psf Interior	0.001" 0.001"	0.084" 0.084"
2.1.8	Forced Entry Resistance - ASTM F588 Grade 10 (See Appendix A for test results)	Meets As Stated	
2.2.4.5.2	Vent Torsion - 30 lbf	0.42"	0.65"

### OPTIONAL PERFORMANCE

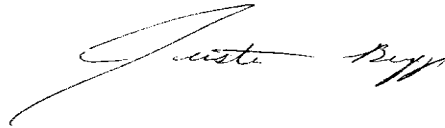
4.3	Water Resistance - ASTM E547 & E331 5.0 gph/ft <sup>2</sup> WTP= 12.0 psf	No Leakage	No Leakage
4.4.2 **	Uniform Load Structural - ASTM E330 195.0 psf Exterior 195.0 psf Interior	0.001" 0.001"	0.084" 0.084"
**	No glass breakage or permanent damage causing the unit to be inoperable		

TEST COMPLETED 07/22/04

The tested specimen meets (or exceeds) the performance levels specified in Table 2.1 of AAMA/ NWWDA 101/I.S.2-97 for air infiltration. The listed results were secured by using the designated test methods and indicate compliance with the performance requirements of the referenced specification paragraphs for the AP-C130 48x16 product designation.

*Detailed drawings were available for laboratory records and compared to the test specimen at the time of this report. A copy of this report along with representative sections of the test specimen will be retained by NCTL for a period of four (4) years. The results obtained apply only to the specimen tested. No conclusions of any kind regarding the adequacy or inadequacy of the glass in the test specimen may be drawn from this test. This report does not constitute certification of the product which may only be granted by a certification program validator.*

**NATIONAL CERTIFIED TESTING LABORATORIES**

A handwritten signature in blue ink that reads "Justin Bupp". The signature is fluid and cursive.

**JUSTIN L. BUPP**  
*Technician*

A handwritten signature in blue ink that reads "Scott Hanlon". The signature is fluid and cursive.

**SCOTT R. HANLON**  
*Manager of Testing Services*

**APPENDIX A**  
*Forced Entry Resistance Test Results*

**Test Method:** ASTM F588-97, "Standard Test Method for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact."

**TEST RESULTS**

<u>Paragraph No.</u>	<u>Loads</u>	<u>Duration</u>	<u>Measured</u>	<u>Allowed</u>
10.1 - Lock Manipulation		5 Minutes	No Entry	No Entry
10.2.2.1-Test B1	L2=75 lbf	1 Minute	No Entry	No Entry
10.2.2.2-Test B2	L1=150 lbf L2=75 lbf interior	1 Minute	No Entry	No Entry
10.2.2.3-Test B3	L1=150 lbf L2=75 lbf exterior	1 Minute	No Entry	No Entry
10.2.2.4 - Lock Manipulation		5 Minutes	No Entry	No Entry