



# NATIONAL CERTIFIED TESTING LABORATORIES

1464 GEMINI BOULEVARD • ORLANDO, FLORIDA 32837  
PHONE (407) 240-1356 • FAX (407) 240-8882

## IN-PLANT WITNESS STRUCTURAL PERFORMANCE TEST REPORT

Report No: NCTL-310-0005-2.1  
Test Date: 07/14/98  
Report Date: 08/03/98  
Expiration Date: 07/30/02  
Revision Date: 09/29/98

**Client:** Metal Industries Home Products  
650 West Market Street  
Gratz, PA 17030

**Test Specimen:** Betterbilt, Inc.'s Series "BB165/740/744" Fixed Lite Aluminum Prime Window (F-C50 72 x 72). This unit was fin mounted and is "valid for tempered glass only."

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

**Test Site:** Betterbilt, Smyrna, TN, all calibrations were performed before testing.

### TEST SPECIMEN DESCRIPTION

**General:** The test specimen was an aluminum prime window measuring 71-1/4" wide by 71-1/4" high overall. The fixed lite was glazed to the frame members, providing a viewing area of 69" wide by 69" high. The frame was of double screw (#8x5/8) butt-type corner construction. From the interior view the left corners were sealed with small joint sealant and the right corners employed gasket tape.

**Glazing:** The lite was interior glazed using 3/16" clear tempered glass with a butyl tape back-bedding, a vinyl bulb gasket, and an extruded aluminum glazing bead. The glazing bead was fastened with #8x7/8 screws every 8".

**Weatherseals:** No weatherseals employed.

**Weeps:** No apparent weeps employed.

**Interior & Exterior Surface Finish:** Mill finished aluminum.

**Sealant:** The left frame corners were sealed with a small-joint sealant and the right frame corners employed gasket tape.

PROFESSIONALS IN THE SCIENCE OF TESTING



**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)	Pass	Pass / Fail
2.1.3	Water Resistance - ASTM E547 5.0 GPH/FT <sup>2</sup> WTP= 3.0 psf	No Leakage	No Leakage
2.1.4.2 *	Uniform Load Structural - ASTM E330 30.0 psf Exterior 30.0 psf Interior	0.000" 0.000"	0.285" 0.285"
2.1.8	Forced Entry Resistance (see Appendix A for results)	Meets as Stated	

**OPTIONAL PERFORMANCE**

4.3	Water Resistance - ASTM E547 5.0 GPH/FT <sup>2</sup> WTP= 7.50 psf	No leakage	No Leakage
4.4.2 *	Uniform Load Structural - ASTM E330 75.0 psf Exterior 75.0 psf Interior	0.000" 0.000"	0.285" 0.285"
*	No glass breakage or permanent damage causing the unit to be inoperable		

TEST COMPLETED 07/15/98

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 F-C50 72x72 product designation.

A circular stamp from the National Construction Testing Laboratory (NCTL) is located in the bottom right corner. The stamp contains the text "NATIONAL CONSTRUCTION TESTING LABORATORY" around the perimeter and "CERTIFICATE" in the center. Overlaid on the stamp is a handwritten signature and the date "7/13/02".

*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**

*Wayne Breighner  
Manager, Great Lakes*

*Barry Portnoy, P.E.  
5767 Major Boulevard  
Orlando, FL 32819*



A circular stamp with the text "D. PORTNOY" and "CERTIFICATE" around the perimeter. Overlaid on the stamp is a handwritten signature and the date "2/13/02".

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

**Test Method:** ASTM F588-97, "Standard Test Methods 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>
10.2.4.2	N/A	5 Minutes	No Entry	No Entry



A circular stamp with the text "CONTROL" and "CERTIFICATE" is visible. Overlaid on the stamp is a handwritten signature and the date "2/13/02".