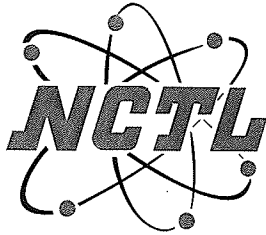


SUPERSEAL MANUFACTURING CO.

STRUCTURAL TEST REPORT

Series "1650" Outswinging
Casement Vinyl Prime Window

NCTL-110-8836-9



NATIONAL CERTIFIED TESTING LABORATORIES

FIVE LEIGH DRIVE • YORK, PENNSYLVANIA 17402 • TELEPHONE (717) 846-1200
FAX (717) 767-4100
www.nctlinc.com

STRUCTURAL PERFORMANCE TEST REPORT

Report No: NCTL-110-8836-9
Test Date: 08/12/03
Report Date: 09/30/03
Expiration Date: 08/31/07

Client: Superseal Manufacturing Co.
125 Helen Street, P.O. Box 795
South Plainfield, NJ 07080

Test Specimen: Superseal Manufacturing Co.'s Series "1650" Outswinging Casement Vinyl Prime Window (C-R50 24x48).

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, outswinging casement vinyl prime window measuring 24" wide by 48" high overall. The vent measured 21-3/4" wide by 45-3/4" high. A metal snubber fastened with two (2) screws was located at midspan of the hinge jamb and hinge stile. One (1) roto-operator assembly was located on the sill at 7-3/4" from the hinge jamb. A single bar hinge fastened with four (4) screws was located at the top and bottom rails. A single metal locking handle with three (3) point locking system was located on the lock jamb. The metal keepers fastened with two (2) screws were located on the lock stile at the lock positions. The frame and vent corners were of welded mitered corner construction. One (1) extruded aluminum L-shaped reinforcement bar 0.100" thick filled the length of the top and bottom rail hollows.

Glazing: The vent was interior glazed using sealed insulating glass with an adhesive foam tape back-bedding and a snap-in dual leaf dual durometer rigid vinyl glazing bead. The overall insulating glass thickness was 3/4" consisting of two (2) lites of double strength annealed glass and one (1) space created by a desiccant matrix steel spacer system.

Weatherseals: A single strip of bulb-vinyl weatherstrip was located at the frame and vent perimeters.

Weeps: One (1) weep hole measuring 3/8" x 3/16" was located at 1-3/4" from each end of the bottom rail glazing channel. One (1) weep hole measuring 3/8" x 3/16" was located 1/4" from each end of the bottom rail exterior horizontal surface.

Interior & Exterior Surface Finish: White vinyl (PVC).

Sealant: No apparent sealant applied.

Screen: An interior mounted aluminum insect screen measuring 19-1/2" wide by 43-1/2" high was of butt-type corner construction with pressure-fitted plastic corner keys. The screen employed fiberglass mesh cloth with a solid vinyl spline and four (4) plunger type retainers.

TEST RESULTS

<u>Par. No.</u>	<u>Title of Test & Method</u>	<u>Measured</u>	<u>Allowed</u>
2.1.2	Air Infiltration - ASTM E283 1.57 psf (25 mph)	<0.1 cfm/ft ² (0.02 cfm/ft ²)	0.3 cfm/ft ²
2.1.3	Water Resistance - ASTM E547 5.0 gph/ft ² WTP= 2.86 psf	No Leakage	No Leakage
2.1.4.2 **	Uniform Load Structural - ASTM E330 22.5 psf Exterior 22.5 psf Interior	0.001" 0.002"	0.092" 0.092"
2.1.7	Welded Corner	Meets As Stated	
2.1.8	Forced Entry Resistance - ASTM F588 Grade 10 (See Appendix A for test results)	Meets As Stated	
2.2.5.6.1	Vertical Deflection - 45 lbf	0.459"	0.460"
2.2.5.6.2	Hardware Load - 5.00 psf	Meets As Stated	

OPTIONAL PERFORMANCE

4.3	Water Resistance - ASTM E547 5.0 gph/ft ² WTP= 7.5 psf	No Leakage	No Leakage
4.4.2 **	Uniform Load Structural - ASTM E330 75.0 psf Exterior 75.0 psf Interior	0.003" 0.002"	0.092" 0.092"

** No glass breakage or permanent damage causing the unit to be inoperable

TEST COMPLETED 08/12/03

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 C-R50 24x48 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



DANIEL W. ZEIDERS

Technician



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	L1=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