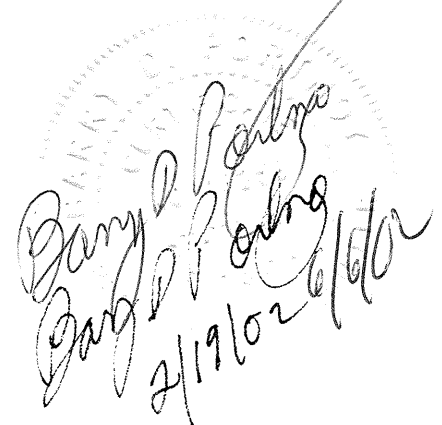


STANEK VINYL WINDOWS

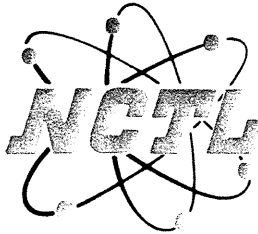
STRUCTURAL PERFORMANCE TEST REPORT

Model "Ultra Series 2000 3 Lite Casement"
XOX Fixed Panel Flanked By Two Casements
Vinyl Prime Window

NCTL-110-7012-4



Darryl R. Perkins
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2/19/02



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STRUCTURAL PERFORMANCE TEST REPORT

Report No: NCTL-110-7012-4
Test Date: 11/11/99
Report Date: 12/03/99
Expiration Date: 11/30/03
Revised Date: 01/11/00

Client: Stanek Vinyl Windows
4582 Willow Parkway
Cuyahoga Heights, OH 44125

Test Specimen: Stanek Vinyl Windows' Model "Ultra Series 2000 3 Lite Casement" XO
Fixed Panel Flanked By Two Casements Vinyl Prime Window
(C-R50 122x66).

Test Method: 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 vinyl fixed panel prime window flanked by two vinyl casement windows. The overall frame measured 121-1/2" wide by 65-1/2" high. The vents measured 29-1/8" wide by 63-3/4" high. The fixed panel measured 59-5/16" wide by 63-13/16" high. The panel was fastened to the frame with eight (8) evenly spaced screws located at all panel members. Standard casement hinge hardware was located at the head and sill of both casement vents. A metal lock handle was located at 3-1/2" from the bottom of both lock jambs. A three (3) point integrated locking system was located at both lock jambs. The metal keepers were fastened to both lock stiles with four (4) screws at the lock positions. A roto-operator was located at 8-1/2" from each end of the interior sill face. A metal snubber was fastened with two (2) screws at 14-1/2" from each end and at midspan of the hinge stiles of both vents. The metal keepers were fastened to both hinge jambs with two (2) screws at the snubber positions. One (1) steel square reinforcement tube (0.045" thick) was fastened with two (2) evenly spaced screws and filled the length of all fixed panel and vent members, both jambs and the head and sill hollows. One (1) aluminum square reinforcement tube (0.052" thick) was fastened with one (1) screw at midspan and filled the length of both intermediate frame jambs. The intermediate frame jambs were each located at 28-3/8" from each main frame jamb and were fastened to the head and sill with four (4) screws.

Glazing: The fixed panel and both vents were interior glazed using sealed insulating glass with a two (2) leaf dual durometer back-bedding and a snap-in two (2) leaf dual durometer glazing bead. The overall insulating glass thickness was 7/8" consisting of a "Heat mirror" film suspended between two (2) lites of double strength annealed glass and two (2) spaces created by a twin desiccant-filled Bayform Warm Edge spacer system.

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Weatherseals: A two (2) leaf dual durometer weatherstrip was located at the perimeter of the fixed panel and both vents. Two (2) strips of dual durometer bulb weatherstrip were located at all frame members.

Weeps: One (1) weep hole measuring 5/8" x 1/8" was located at each end of the bottom rail glazing channel of the fixed panel and both vents. One (1) weep hole measuring 1" x 1/8" was located at 1" from each end of the horizontal exterior surface of the bottom rail of the fixed panel and both vents.

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

Sealant: All glazing corners were sealed with a silicone sealant.

Insect Screen: An insect screen measuring 26-11/16" wide by 61-1/16" high was of mitered corner construction with staked-in-place aluminum corner keys. The screen employed a fiberglass mesh cloth with a hollow vinyl spline.

TEST RESULTS

<u>Par. No.</u>	<u>Title Of Test</u>	<u>Measured</u>	<u>Allowed</u>
2.1.2	Air Infiltration - ASTM E283 0.57 psf (15 mph)	0.1 cfm/ft ² (0.01 cfm/ft ²)	-----
	1.57 psf (25 mph)	0.1 cfm/ft ² (0.03 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	0.004" 0.007"	0.116" 0.116"
2.1.7	Welded Corner	Meets as Stated	
2.1.8	Forced Entry Resistance - ASTM F588 Level 10 (See Appendix A for test results)	Meets as Stated	
2.2.5.6.1	Vertical Deflection - 45 lbf	0.105"	0.604"
2.2.5.6.2	Hardware Load - 5.00 psf	Meets as Stated	

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OPTIONAL PERFORMANCE

4.3	Water Resistance - ASTM E547 5.0 gph/ft ² WTP = 10.5 psf	No Leakage	No Leakage
4.4.2	** Uniform Load Structural - ASTM E330 75.0 psf Exterior 75.0 psf Interior	0.018" 0.025"	0.116" 0.116"
**	No glass breakage or permanent damage causing the unit to be inoperable		

TEST COMPLETED 11/11/99

This test 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 122x66 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.

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APPENDIX A
Forced Entry Resistance Test Results

Test Method: *ASTM F588-85 (94), "Standard Test Method for Resistance of Window Assemblies to Forced Entry, Excluding Glazing."*

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	1 Minute	No Entry	No Entry
10.2.2.3-Test B3	L1=150 lbf L2=75 lbf	1 Minute	No Entry	No Entry
10.2.2.4-Lock Manipulation		5 Minutes	No Entry	No Entry



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2/19/02