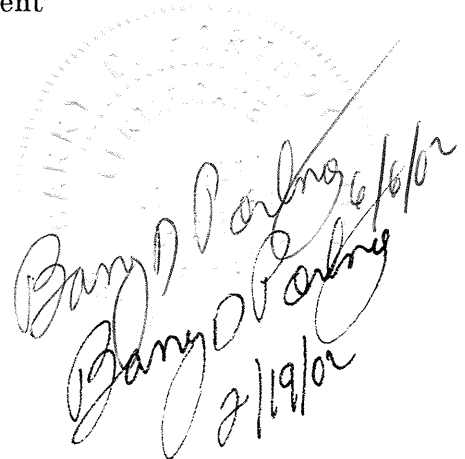


STANEK VINYL WINDOWS

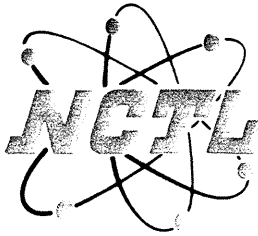
STRUCTURAL PERFORMANCE TEST REPORT

Model "Ultra Series 2000 1 Lite Casement"
Vinyl Casement Prime Window

NCTL-110-6654-4.1



Darryl Perkins 6/6/02
Darryl Perkins
2/19/02



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STRUCTURAL PERFORMANCE TEST REPORT

Report No: NCTL-110-6654-4.1
Test Date: 11/11/99
Report Date: 12/02/99
Expiration Date: 11/30/03
Revised Date: 03/15/00

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

Test Specimen: Stanek Vinyl Windows' Model "Ultra Series 2000 1 Lite Casement" Vinyl Casement Prime Window (C-R65 24x63).

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 vinyl casement prime window measuring 24" wide by 63" high overall. The vent measured 22-1/4" wide by 61-3/16" high. Standard casement hinge hardware was employed at the top and bottom rails. A metal lock handle was located at 4" from the bottom of the lock jamb. A three (3) point integrated locking system was located at the lock jamb. The metal keepers were fastened to the lock stile with four (4) screws at the lock positions. A single bar roto-operator was located on the sill at 8-1/4" from the hinge jamb. A metal snubber was fastened with two (2) screws at midspan of the hinge stile. The metal keeper was fastened to the hinge jamb with two (2) screws at the snubber position. One (1) steel square reinforcement tube (0.045" thick) was fastened with three (3) evenly spaced screws and filled the length of all frame and vent member hollows. The frame and vent were of welded mitered corner construction.

Glazing: The vent was 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 steel spacer system.

Weatherseals: A two (2) leaf dual durometer weatherstrip was located at the vent perimeter. Two (2) strips of bulb vinyl weatherstrip were located at the frame perimeter.

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

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

Sealant: No apparent sealant employed.

Screen: An insect screen measuring 24" wide by 58-5/8" high was of mitered type corner construction with staked-in-place aluminum corner keys. The screen employed fiberglass mesh cloth with a hollow vinyl spline.

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 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 (0.08 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	0.008" 0.011"	0.244" 0.244"
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	0.041"	0.464"
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= 12.0 psf	No Leakage	No Leakage
4.4.2 **	Uniform Load Structural - ASTM E330 97.5 psf Exterior 97.5 psf Interior	0.017" 0.064"	0.244" 0.244"
**	No glass breakage or permanent damage causing the unit to be inoperable		

TEST COMPLETED 11/11/99

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-R65 28x63 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

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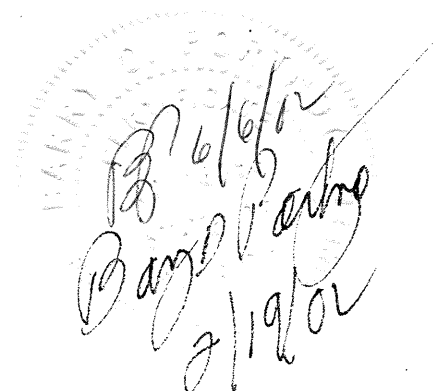
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APPENDIX A
Forced Entry Resistance Test Results

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=200 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



 B. J. ...
 2/19/02