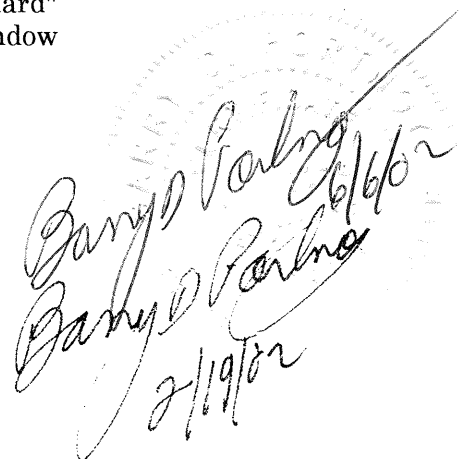


STANEK VINYL WINDOWS

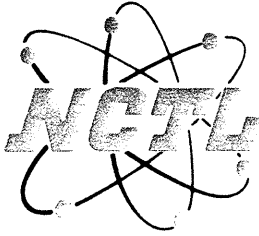
STRUCTURAL PERFORMANCE TEST REPORT

Model "Ultra Series 2000 2 Lite Slider Standard"
Type XX Horizontal Sliding Vinyl Prime Window

NCTL-110-6654-6



Handwritten signatures and dates over a circular stamp. The signatures appear to be "Danyo Parlo" and "Danyo Parlo". The dates are "6/6/02" and "2/19/02".



NATIONAL CERTIFIED TESTING LABORATORIES

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STRUCTURAL PERFORMANCE TEST REPORT

REPORT NO: NCTL-110-6654-6
TEST DATE: 04/21/99
REPORT DATE: 05/10/99
EXPIRATION DATE: 04/30/03
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 2 Lite Slider Standard"
Type XX Horizontal Sliding Vinyl Prime Window (HS-R60 72 x 60).

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 type XX horizontal sliding vinyl prime window measuring 72" wide by 60" high overall. The interior panel measured 35" wide by 57" high. The exterior panel measured 35" wide by 56" high. One metal cam-type sweep lock was located at 8-1/8" from each end of the interior meeting stile. The metal keepers were located on the exterior meeting stile at the lock positions. One plastic tilt latch was located at the top of all sash stiles. A spring loaded plastic security stop was snap-fitted at 4-1/2" from the exterior meeting stile on the exterior panel top rail. A rigid vinyl cover was snap-fitted at both jamb stiles. A rigid vinyl combination cover weatherstrip holder/interlock was snap-fitted at both meeting stiles. A rigid vinyl combination roller track/weatherstrip holder/interior vertical sill leg was snap-fitted and cemented at the interior sill track. A rigid vinyl combination roller track/weatherstrip holder/center vertical sill leg was snap-fitted and cemented at the exterior sill track. A rigid vinyl combination liner/weatherstrip holder/jamb leg was snap-fitted at the interior and exterior jamb tracks. A metal roller/nylon housing was located at each end of both panel bottom rails. One (1) steel reinforcement channel (0.050" thick) filled the length of all panel member hollows. The frame and panels were of welded mitered corner construction.

Glazing: Both panels 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 steel spacer system.

Weatherseals: A single strip of center fin weatherstrip (0.390" high) was located at the left jamb and both meeting stiles. Double strips of center fin weatherstrip (0.290" high) were located at all panel rails. Double strips of center fin weatherstrip (0.350" high) were located at both jambs. Triple strips of center fin weatherstrip (0.350" high) were located at the sill. An adhesive backed center fin dust pad (0.270" high) measuring approximately 1-1/4" x 1/2" was located at midspan of the center head and sill legs. An open cell foam air baffle measuring 3" x 1-3/8" x 9/16" was located at each end of both sub-sill tracks.

Weeps: One (1) weep hole measuring 1/4" x 1/4" was located at each end of both roller tracks. One (1) weep hole measuring 3/4" x 3/16" was located at each end of the center sub-sill vertical wall. One (1) weep hole measuring 1" x 3/16" was located at 1/2" from each end of the exterior sub-sill track horizontal surface. One (1) weep hole measuring 1-1/2" x 5/16" and employing a plastic weep cover with aluminum weep flap was located at 2-7/8" from each end of the exterior vertical sill face.

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

Sealant: The head and sill inserts were sealed to the frame with an elastomeric sealant.

Screen: An insect screen measuring 67-1/4" wide by 55" high was of mitered type corner construction with stacked-in-place die cast aluminum corner keys. The screen employed fiberglass mesh cloth with a hollow vinyl spline and two (2) jamb retainer springs.

TEST RESULTS

<u>Par. No.</u>	<u>Title of Test & Method</u>	<u>Measured</u>	<u>Allowed</u>		
2.2.2.5.1	Operating Force Exterior Panel	Left	18 lbf	20 lbf	
		Right	18 lbf	20 lbf	
	Interior Panel	Left	18 lbf	20 lbf	
		Right	16 lbf	20 lbf	
	2.2.2.5.2	Deglazing - ASTM E987 Exterior Panel	Top Rail (50 lbf)	3.4% (0.017")	<100%
			Bottom Rail (50 lbf)	4.4% (0.022")	<100%
Jamb Stile (70 lbf)			6.6% (0.033")	<100%	
Meeting Stile (70 lbf)			6.2% (0.031")	<100%	
Interior Panel			Top Rail (50 lbf)	3.8% (0.019")	<100%
			Bottom Rail (50 lbf)	5.6% (0.028")	<100%
			Jamb Stile (70 lbf)	5.8% (0.029")	<100%
			Meeting Stile (70 lbf)	7.6% (0.038")	<100%

Handwritten signatures and dates:
 8/6/02
 Gary [unclear]
 2/19/02

TEST RESULTS (Cont.)

<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 (0.09 cfm/ft ²)	
	1.57 psf (25 mph)	0.2 cfm/ft ² (0.17 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" 0.012"	0.218" 0.218"
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	

OPTIONAL PERFORMANCE

<u>Par. No.</u>	<u>Title of Test & Method</u>	<u>Measured</u>	<u>Allowed</u>
4.3 *	Water Resistance - ASTM E547 5.0 gph/ft ² WTP = 9.0 psf	No Leakage	No Leakage
4.4.2 **	Uniform Load Structural - ASTM E330 90.0 psf Exterior 90.0 psf Interior	0.043" 0.048"	0.218" 0.218"
*	Tested with and without screen		
**	No glass breakage or permanent damage causing the unit to be inoperable		

TEST COMPLETED 04/21/99

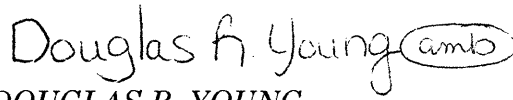
The tested specimen meets (or exceeds) the performance levels specified in Table 2.1 of AAMA/NWWDA 101/I.S.2-97 for air infiltration. The listed results were secured by using the designated test methods and indicate compliance with the performance requirements of the referenced specification paragraphs for the HS-R60 72 x 60 product designation.

[Handwritten Signature]
6/6/99
2/19/00

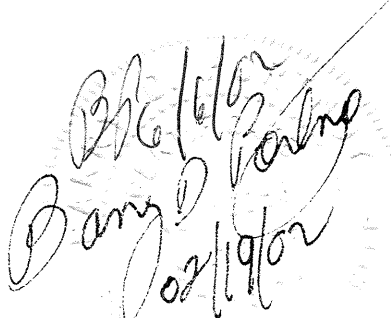
Detailed drawings were available for laboratory records and compared to the test specimen at the time of this report. A copy of this report along with representative sections of the test specimen will be retained by NCTL for a period of four (4) years. The results obtained apply only to the specimen 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


MARC A. CRAMER
Technician


DOUGLAS R. YOUNG
Acting Manager of Testing Services

DRY/clc

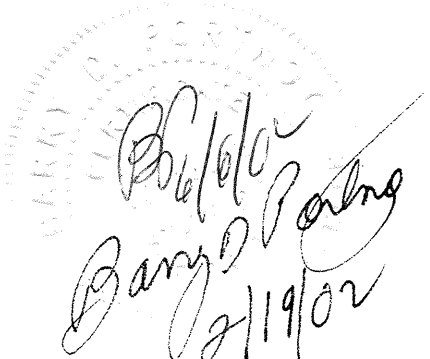

Gary D. Perkins
02/11/02

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
10.2.1.1-Test A1	L1=150 lbf	1 Minute	No Entry	No Entry
10.2.1.2-Test A2	L1=150 lbf L2= 75 lbf interior	1 Minute	No Entry	No Entry
10.2.1.3-Test A3	L1=150 lbf L2= 75 lbf exterior	1 Minute	No Entry	No Entry
10.2.1.4-Test A4	L1=150 lbf L2= 75 lbf interior	1 Minute	No Entry	No Entry
10.2.1.5-Test A5	L1= 150 lbf L2= 75 lbf exterior	1 Minute	No Entry	No Entry
10.2.1.7-Test A7	L1=150 lbf L2= 75 lbf interior L3= 25 lbf interior	1 Minute	No Entry	No Entry
10.2.1.8 Lock Manipulation		5 Minutes	No Entry	No Entry
10.2.4.1 Fixed Lite Lock Manipulation		5 Minutes	No Entry	No Entry


 Bob [Signature]
 Gary [Signature]
 2/19/02