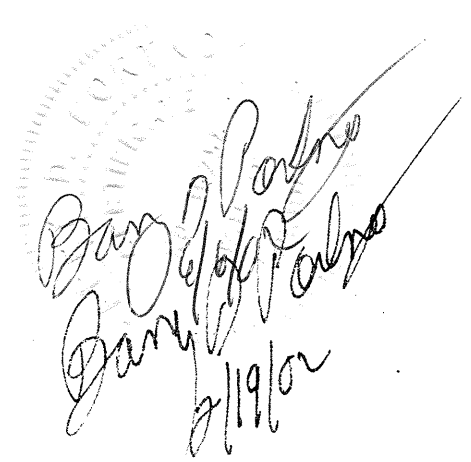


**STANEK VINYL WINDOWS**

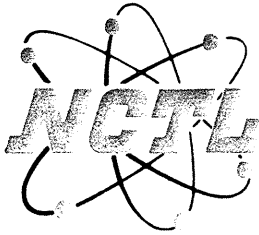
**STRUCTURAL PERFORMANCE TEST REPORT**

Model "Ultra Series 2000 Double Hung Slimline"  
Tilt Double Hung Vinyl Prime Window

NCTL-110-6654-1



A circular stamp is partially visible in the bottom right corner, containing the text "NATIONAL CENTER FOR TESTING & RESEARCH". Overlaid on this stamp is a handwritten signature in black ink that reads "Gary J. Palma" twice. Below the signature, the date "2/19/02" is written.



# NATIONAL CERTIFIED TESTING LABORATORIES

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## STRUCTURAL PERFORMANCE TEST REPORT

REPORT NO: NCTL-110-6654-1  
TEST DATE: 02/16/99  
REPORT DATE: 03/30/99  
EXPIRATION DATE: 02/28/03  
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 Double Hung Slimline" Tilt Double Hung Vinyl Prime Window (H-R60 44x65).

**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 one-over-one tilt double hung vinyl prime window measuring 44" wide by 64-7/8" high overall. The top sash measured 40-1/8" wide by 31-3/8" high. The bottom sash measured 41-1/8" wide by 31-1/4" high. Both sash were removable via a single spiral balance with locking tilt shoe located in each jamb track. One (1) metal cam-type sweep lock was located at 6-1/8" from each end of the interior meeting rail. The metal keepers were located on the exterior meeting rail at the lock positions. One (1) plastic tilt latch was located at each end of the top rail and interior meeting rail. One (1) T-shaped die-cast metal pivot bar was fastened with three (3) rivets at each end of the exterior meeting rail and bottom rail. A rigid vinyl sash stop was snap-fitted at the bottom of each exterior jamb track. A spring-loaded plastic security stop was snap-fitted at 5-1/4" from the exterior meeting rail on the top right sash stile. A rigid vinyl balance cover was snap-fitted into the interior and exterior jamb tracks. A rigid vinyl combination cover/weatherstrip holder/interlock was snap-fitted at the interior and exterior meeting rails. A rigid vinyl combination cover/weatherstrip holder/center vertical head leg was snap-fitted at the exterior head track. A rigid vinyl combination cover/weatherstrip holder/interior vertical sill leg was snap-fitted at the interior sill track. One (1) 22" long steel reinforcement channel (0.050" thick) was fastened with four (4) evenly spaced screws and was housed by the right stile (interior view) hollow of the top sash. One (1) steel reinforcement channel (0.050" thick) was fastened with five (5) evenly spaced screws and filled the length of all other sash member hollows. One (1) steel reinforcement channel (0.050" thick) filled the length of the exterior sill hollow. The frame and sash were of welded mitered corner construction.

**Glazing:** Both sash 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 two (2) lites of double strength annealed glass, a "Heat Mirror" film, and two (2) spaces created by a twin desiccant-filled steel spacer system.

PROFESSIONALS IN THE SCIENCE OF TESTING

*Handwritten signature: Gary Parkway*  
02/16/99

**Weatherseals:** A single strip of center fin weatherstrip (0.290" high) was located at the bottom rail. A single strip of center fin weatherstrip (0.370" high) was located at the sill and both meeting rails. Double strips of center fin weatherstrip (0.270" high) were located at all sash stiles. A single strip of bulb-vinyl weatherstrip was located at the head. A single strip of single leaf bulb-vinyl was located at the bottom rail. A closed cell foam dust plug measuring 1-1/4" x 7/8" x 3/4" was located at the bottom of each interior jamb track. An open cell foam air baffle was located under each dust plug.

**Weeps:** One (1) weep hole measuring 1/32" x 3/4" was located between the dust plug and the end of the interior sill track and drained into the sill hollow. One (1) weep hole measuring 1-1/2" x 1/4" 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 interior sill leg/cover was sealed to the sill with a silicone sealant.

**Screen:** An insect screen measuring 39-1/8" wide by 61-9/16" high was of mitered type corner construction with staked-in-place die cast aluminum corner keys. The screen employed fiberglass mesh cloth with a hollow vinyl spline and two (2) jamb retainers springs. A 3/16" high spacer button was located at each end of the bottom rail.

**TEST RESULTS**

| <u>Par. No.</u>           | <u>Title of Test &amp; Method</u> | <u>Measured</u>  | <u>Allowed</u>          |
|---------------------------|-----------------------------------|--|-------------------------|
| 2.2.1.6.1                 | Operating Force                   |  |                         |
|                           | Top Sash Up                       | 18 lbf   | 30 lbf                  |
|                           | Down                              | 29 lbf   | 30 lbf                  |
|                           | Bottom Sash Up                    | 20 lbf   | 30 lbf                  |
| 2.2.1.6.2                 | Deglazing - ASTM E987             |  |                         |
|                           | Top Sash                          |  |                         |
|                           | Top Rail (70 lbf)                 | 6.8% (0.034")  | <100%                   |
|                           | Meeting Rail (70 lbf)             | 10.0% (0.050")   | <100%                   |
|                           | Left Hand Stile (50 lbf)          | 5.4% (0.027")  | <100%                   |
|                           | Right Hand Stile (50 lbf)         | 12.0% (0.060")   | <100%                   |
|                           | Bottom Sash                       |  |                         |
|                           | Meeting Rail (70 lbf)             | 5.8% (0.029")  | <100%                   |
| Bottom Rail (70 lbf)      | 9.2% (0.046")                     | <100%  |                         |
| Left Hand Stile (50 lbf)  | 6.2% (0.031")                     | <100%  |                         |
| Right Hand Stile (50 lbf) | 4.0% (0.020")                     | <100%  |                         |
| 2.1.2                     | Air Infiltration - ASTM E283      |  |                         |
|                           | 0.57 psf (15 mph)                 | 0.1 cfm/ft <sup>2</sup><br>(0.07 cfm/ft <sup>2</sup> ) | -----                   |
|                           | 1.57 psf (25 mph)                 | 0.1 cfm/ft <sup>2</sup><br>(0.14 cfm/ft <sup>2</sup> ) | 0.3 cfm/ft <sup>2</sup> |

**TEST RESULTS (Cont.)**

| <u>Par. No.</u> | <u>Title of Test &amp; Method</u>   | <u>Measured</u>  | <u>Allowed</u>   |
|-----------------|---|------------------|------------------|
| 2.1.3 *         | Water Resistance - ASTM E547<br>5.0 GPH/FT <sup>2</sup><br>WTP= 2.86 psf          | No Leakage       | No Leakage       |
| 2.1.4.2 **      | Uniform Load Structural - ASTM E330<br>22.5 psf Exterior<br>22.5 psf Interior     | 0.002"<br>0.004" | 0.154"<br>0.154" |
| 2.1.8           | Forced Entry Resistance - ASTM F588<br>Grade 10 (See Appendix A for test results) | Meets As Stated  |                  |

**OPTIONAL PERFORMANCE**

|          |   |                  |                  |
|----------|---|------------------|------------------|
| 4.3 *    | Water Resistance - ASTM E547<br>5.0 GPH/FT <sup>2</sup><br>WTP= 9.0 psf         | No Leakage       | No Leakage       |
| 4.4.2 ** | Uniform Load Structural - ASTM E330<br>120.0 psf Exterior<br>120.0 psf Interior | 0.111"<br>0.127" | 0.154"<br>0.154" |
| *        | Tested with and without screen  |                  |                  |
| **       | No glass breakage or permanent damage causing the unit to be inoperable         |                  |                  |

TEST COMPLETED 02/16/99

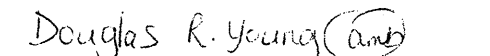
The tested specimen meets (or exceeds) the performance levels specified in Table 2.1 of AAMA/NWDA 101/I.S.2-97 for air infiltration. The listed results were secured by using the designated test methods and indicate compliance with the performance requirements of the referenced specification paragraphs for the H-R60 44x65 product designation.

Handwritten signatures and dates: 2/16/99, 2/19/99. A circular stamp is partially visible in the background.


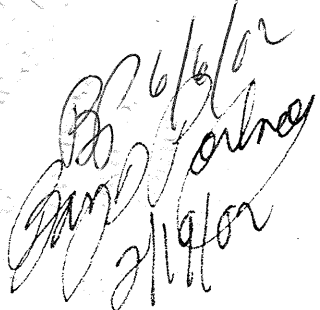
*Detailed drawings were available for laboratory records and comparison to the test specimen at the time of this report. A copy of this report along with representative sections of the test specimen will be retained by NCTL for a period of four (4) years. The results obtained apply only to the specimen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

MAC/raw

  
  
6/6/02  
2/19/02

**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> |
|-------------------------------|--|-----------------|-----------------|----------------|
| 10.1-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<br>L2= 75 lbf interior                        | 1 Minute        | No Entry        | No Entry       |
| 10.2.1.3-Test A3              | L1=150 lbf<br>L2= 75 lbf exterior                        | 1 Minute        | No Entry        | No Entry       |
| 10.2.1.4-Test A4              | L1=150 lbf<br>L2= 75 lbf interior                        | 1 Minute        | No Entry        | No Entry       |
| 10.2.1.5-Test A5              | L1=150 lbf<br>L2= 75 lbf exterior                        | 1 Minute        | No Entry        | No Entry       |
| 10.2.1.7-Test A7              | L1=150 lbf<br>L2= 75 lbf interior<br>L3= 25 lbf interior | 1 Minute        | No Entry        | No Entry       |
| 10.2.1.8<br>Lock Manipulation |  | 5 Minutes       | No Entry        | No Entry       |

*BF 6/6/02*  
*Dany D. Carmona*  
*2/19/02*