



Architectural Testing

**AAMA/NWWDA 101/I.S. 2-97  
TEST REPORT SUMMARY**

**Rendered to:**

**GREAT LAKES WINDOW, INC.**

**SERIES/MODEL: GLW-SL-120**

**TYPE: PVC XX Horizontal Sliding Window**

| <b>Test Results</b>      |                          |                    |
|--------------------------|--------------------------|--------------------|
| <b>Title of Test</b>     | <b>Specimen #1</b>       | <b>Specimen #2</b> |
| Rating                   | HS-LC25 96 x 63          | HS-LC40 69 x 54    |
| Overall Design Pressure  | 25.0 psf                 | 40.0 psf           |
| Operating Force          | 10 lbs.                  | N/A                |
| Air Infiltration         | 0.02 cfm/ft <sup>2</sup> | N/A                |
| Water Resistance         | 9.00 psf                 | N/A                |
| Structural Test Pressure | +37.5 psf                | +60.0 psf          |
| Deglazing                | Passed                   | N/A                |
| Forced Entry Resistance  | Pass Level 10            | N/A                |

Reference should be made to Report No. 07-30222.01 for complete test specimen description and data.

For ARCHITECTURAL TESTING, INC.:

Larry D. Mankin, Technician 587 First Street SW  
New Brighton, MN 55112  
phone: 651.636.3835  
fax: 651.636.3843  
www.testati.com



**AAMA/NWWDA 101/I.S. 2-97 STRUCTURAL TEST REPORT**

Rendered to:

GREAT LAKES WINDOW, INC.  
30499 Tracy Road  
P.O. Box 1896  
Toledo, Ohio 43603-1896

Report No: 07-30222.01  
Test Date: 12/17/01  
Report Date: 12/19/01  
Expiration Date: 12/17/05

**Project Summary:** Architectural Testing, Inc. (ATI) was contracted to witness tests on two Series/Model GLW-SL-120 horizontal sliding windows by Great Lakes Window at their test facility in Toledo, Ohio. The specimens tested successfully met the performance criteria for the following ratings: Test Specimen #1: HS-LC25 96 x 63 XX and Test Specimen #2: HS-LC40 69 x 54 XX. Test specimen descriptions and results are reported herein

**Test Procedures:** The test specimen was evaluated in accordance with AAMA/NWWDA 101/I.S. 2-97, "*Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors.*"

**Test Specimen Description:**

**Test Specimen #1:** HS-LC25 96 x 63 XX

**Series/Model:** GLW-SL-120

**Type:** PVC XX Horizontal Sliding Window

**Overall Size:** 7' 11-1/2" wide by 5' 2-1/2" high

**Sash Size (2):** 3' 11-3/8" wide by 4' 10-1/2" high

**Screen Size (1):** 4' 10-5/8" wide by 3' 10-1/4" high

**Glass Type:** Nominal 7/8" thick insulating glass fabricated from two 1/8" thick annealed sheets with a spacer system.

**Reinforcement:** Fiberglass pulltrusion reinforcement was utilized in meeting stiles. See Great Lakes drawing #HS00214.



## Test Specimen Description

### Test Specimen #1 HS-LC25 96 x 63 (Continued)

**Glazing Details:** Each panel was interior wet glazed and secured against silicone back bedding with dual durometer snap-in PVC glazing beads.

### Test Specimen #2: HS-LC40 69 x 54 XX

**Series/Model:** GLW-SL-120

**Type:** PVC XX Horizontal Sliding Window

**Overall Size:** 5' 9" wide by 4' 6" high

**Sash Size (2):** 2' 10-1/8" wide by 4' 1-15/16" high

**Screen Size:** None

**Glass Type:** Nominal 7/8" thick insulating glass fabricated from two 3/32" thick annealed sheets with a spacer system

**Reinforcement:** Fiberglass pulltrusion reinforcement was utilized in meeting stiles. See Great Lakes drawing #HS00214.

**Glazing Details:** Each panel was interior wet glazed and secured against silicone back bedding with dual durometer snap-in PVC glazing beads.

*The following descriptions apply to all specimens.*

**Finish:** All PVC was white.

### Weatherstripping:

| <u>Description</u>                                    | <u>Quantity</u> | <u>Location</u>                         |
|---|-----------------|---|
| 0.290" high by 0.187" backed polypile with center fin | 2 Rows          | Jambs, head, sill, keeper meeting stile |
| 0.290" high by 0.187" backed polypile with center fin | 1 Row           | All rails, lock stile and jamb stiles   |



## Test Specimen Description

### Weatherstripping (Continued)

| <u>Description</u>                     | <u>Quantity</u> | <u>Location</u>          |
|--|-----------------|--------------------------|
| Finseal dust plugs (pads)<br>(IWOO181) | 2               | Top sash interlock notch |
| Finseal dust plugs (pads)<br>(IWOO108) | 2               | Top sash interlock notch |

**Frame Construction:** All frame members were constructed of PVC. All corners were miter cut and thermally welded.

**Panel Construction:** All panel members were constructed of PVC. All corners were mitered and thermally welded.

**Screen Construction:** The screen was fabricated with aluminum and aluminum keyed corners. The fiberglass mesh cloth was secured with a hollow vinyl spline.

### Hardware

|                                 |   |  |
|---------------------------------|---|--|
| Metal cam locks<br>with keepers | 2 | Interior meeting stiles, 11" from<br>head, 37" apart |
| Brass rollers                   | 4 | On bottom rails, two pair per<br>sash                |

### Drainage:

|  |   |  |
|--|---|--|
| 1-1/4" by 1/4" weep slot<br>with cover | 2 | On face, 4-1/4" from jambs   |
| 2" by 1/8" weep slot                   | 2 | Interior sash track draining into<br>bottom face cavity                                |
| 2" by 3/16" weep slot                  | 2 | Exterior sash track draining into<br>bottom face cavity                                |
| 3/16" hole                             | 2 | Screen track   |
| 3/16" hole                             | 8 | Bottom rails, in glazing pocket,<br>and bottom rail pocket draining<br>to the exterior |

**Test Specimen Description (Continued)**

**Installation:** The test units were secured to the 2" by 8" #2 Southern pine wood, exterior grade, test buck with #8 by 2-1/2" steel screws into jambs, 6" down from head, 6" up from sill, and at midpoint. Head was secured with #8 by 2-1/2" steel screws, 6" from jambs, 27" from jambs and at midpoint (total 11). The sill was bedded with silicone. The exterior perimeter was sealed with silicone.

**Test Results:** The results are tabulated as follows.

**Test Specimen #1: HS-LC25 96 x 63**

| <u>Paragraph</u>   | <u>Title of Test - Test Method</u>  | <u>Results</u>   | <u>Allowed</u>   |
|--|---|--|--|
| 2.2.2.5.1  | Operating Force   | 10 lbs   | 30 lbs max.  |
| 2.1.2  | Air Infiltration per ASTM E 283-91 (See Note #1)<br>@ 1.56 psf (25 mph)   | 0.02 cfm/ft <sup>2</sup>   | 0.3 cfm/ft <sup>2</sup> max.   |
| <i>Note #1: The tested specimen meets (or exceeds) the performance levels specified in AAMA/NWDA 101/I.S. 2-97 for air infiltration.</i> |   |  |  |
| 2.1.3  | Water Resistance per ASTM E 547-96<br>(with and without screen)<br>WTP = 3.75 psf   | No leakage   | No leakage   |
| 2.1.4.2  | Uniform Load Structural per ASTM E 330-97<br>(Measurements taken on the exterior meeting stile)<br>(DP load held for 52 seconds, PSF load held for 10 seconds)<br>@ 37.5 psf (exterior)<br>@ 37.5 psf (interior)  | 0.04"<br>0.04"   | 0.23" max.<br>0.23" max.   |
| 2.2.2.5.2  | Deglazing Test per ASTM E 987-97<br>In operating direction at 70 lbs<br>Interior pulls<br>Interior meeting stile<br>Exterior meeting stile<br>Exterior pull stile<br>In remaining direction at 50 lbs<br>Interior top rail<br>Interior bottom rail<br>Exterior top rail<br>Exterior bottom rail | 0.00"/0%<br>0.01"/2%<br>0.06"/12%<br>0.06"/12%<br>0.00"/0%<br>0.00"/0%<br>0.00"/0%<br>0.00"/0% | 0.50"/100%<br>0.50"/100%<br>0.50"/100%<br>0.50"/100%<br>0.50"/100%<br>0.50"/100%<br>0.50"/100%<br>0.50"/100% |
| 2.1.7  | Welded Corner Test  | Meets as stated  | Meets as stated  |



**Test Results:**

**Test Specimen #1: HS-LC25 96 x 63 (Continued)**

| <u>Paragraph</u> | <u>Title of Test - Test Method</u>   | <u>Results</u> | <u>Allowed</u> |
|------------------|--|----------------|----------------|
| 2.1.8            | Forced Entry Resistance per ASTM F 588-97<br>(Testing was conducted on single lock and double locks)<br>Type A<br>Grade 10 |                |                |
|                  | Lock Manipulation Test   | No entry       | No entry       |
|                  | Test A1 thru A7  | No entry       | No entry       |
|                  | Lock Manipulation Test   | No entry       | No entry       |

Optional Performance

|     |   |            |            |
|-----|---|------------|------------|
| 4.3 | Water Resistance per ASTM E 547-96<br>(with and without screen)<br>WTP = 9.00 psf | No leakage | No leakage |
|-----|---|------------|------------|

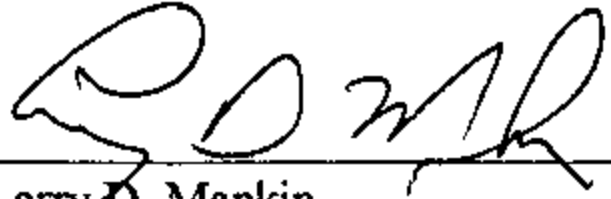
**Test Specimen #2: HS-LC40 69 x 54**

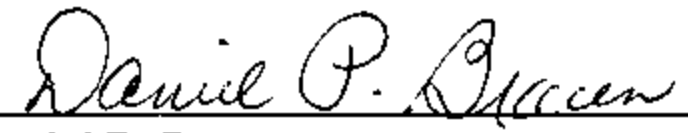
Optional Performance

|         |  |       |             |
|---------|--|-------|-------------|
| 2.1.4.3 | Uniform Load Structural per ASTM E 330-97<br>(Measurements taken on the exterior meeting stile)<br>(DP load held for 52 seconds, PSF load held for 10 seconds) |       |             |
|         | @ 60.0 psf (exterior)  | 0.02" | 0.195" max. |
|         | @ 60.0 psf (interior)  | 0.18" | 0.195" max. |

Detailed drawings, representative samples of the test specimen, and a copy of this report will be retained by ATI for a period of four years. The above results were secured by using the designated test methods and they indicate compliance with the performance requirements of the above referenced specification. This report does not constitute certification of this product which may only be granted by the certification program administrator.

For ARCHITECTURAL TESTING, INC:

  
\_\_\_\_\_  
Larry D. Mankin  
Technician

  
\_\_\_\_\_  
Daniel P. Braun  
Regional Operations