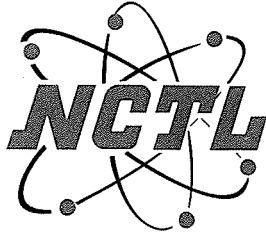


SUPERSEAL MANUFACTURING CO.

STRUCTURAL TEST REPORT

Series "1700" Tilt Horizontal
Sliding Vinyl Prime Window

NCTL-110-8836-2



NATIONAL CERTIFIED TESTING LABORATORIES

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STRUCTURAL PERFORMANCE TEST REPORT

Report No: NCTL-110-8836-2
Test Date: 08/01/03
Report Date: 08/08/03
Expiration Date: 08/31/07

Client: Superseal Manufacturing Co.
125 Helen Street, P.O. Box 795
South Plainfield, NJ 07080

Test Specimen: Superseal Manufacturing Co.'s Series "1700" Tilt Horizontal Sliding Vinyl Prime Window (HS-R30 69x48).

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 69-1/8" wide by 48" high overall. The interior panel measured 33-7/16" wide by 45-5/8" high. The exterior panel measured 33-7/16" wide by 44-5/8" high. Frame and panel members were not thermally broken. One (1) metal cam-type sweep lock was located at 7-1/2" from each end of the interior meeting stile. The metal keepers were located on the exterior meeting stile at the lock positions. A rigid vinyl combination cover/ jamb leg/ weatherstrip holder was snap-fitted at both jambs. A rigid vinyl combination weatherstrip holder/ interlock was snap-fitted at the exterior meeting stile. A metal tilt latch with thumb actuator was located at each end of the exterior panel meeting stile and the interior panel meeting stile. A T-shaped die-cast metal pivot bar was fastened with two (2) screws at each end of the exterior panel jamb stile and the interior panel jamb stile. A locking tilt shoe was located in the interior and exterior head and sill tracks. One (1) steel reinforcement bar (measuring 1/4" x 1") filled the length of all panel members. The frame and panels were of welded mitered corner construction.

Glazing: Both panels were exterior glazed using insulating glass with a foam tape back-bedding and a snap-in dual leaf dual durometer glazing bead. The overall insulating glass thickness was 3/4" consisting of two (2) lites of double strength annealed glass and one (1) space created by a desiccant matrix steel spacer system.

Weatherseals: One (1) strip of center fin weatherstrip (0.240" high) was located at both jambs, the interior and exterior meeting stiles and the snap-on interlock. Two (2) strips of center fin weatherstrip (0.240" high) were located at both panels top and bottom rails. Three (3) strips of center fin weatherstrip (0.240" high) were located at both panel jamb stiles. A polypile dust pad (0.240" high) was located at each end of the snap-on interlock.

Weeps: One (1) weep hole measuring 7/8" x 3/16" was located at 3" from each end of the exterior sill track. One (1) weep hole measuring 1-3/16" x 3/16" and employing a plastic weep cover was located at 3-1/2" from each end of the exterior sill face. One (1) weep hole measuring 3/8" x 3/16" was located at 4-3/4" from each end of the exterior sill face. One (1) weep hole measuring 3/8" x 3/16" was located at 2-1/4" from each end of both panel bottom rails. One (1) weep hole measuring 3/4" x 3/16" was located at 3-1/4" from each end of the screen tracks.

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

Sealant: No apparent sealant applied.

Screen: An insect screen measuring 66-3/16" wide by 45-5/16" high was of butt type corner construction with pressure fitted nylon corner keys. The screen employed fiberglass mesh cloth with a solid vinyl spline, two (2) pull tabs and four (4) plunger type retainers. An extruded aluminum vertical intermediate stile was located at midspan of the top and bottom rail.

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 - ASTM E2068		
	Interior Panel Left	18 lbf	20 lbf
	Right	18 lbf	20 lbf
	Exterior Panel Left	18 lbf	20 lbf
	Right	17 lbf	20 lbf
2.2.2.5.2	Deglazing - ASTM E987		
	Interior Panel		
	Top Rail (50 lbf)	6.6 % (0.033")	<100%
	Bottom Rail (50 lbf)	12.2 % (0.061")	<100%
	Jamb Stile (70 lbf)	14.6 % (0.073")	<100%
	Meeting Stile (70 lbf)	42.2 % (0.211")	<100%
	Exterior Panel		
	Top Rail (50 lbf)	11.2 % (0.056")	<100%
	Bottom Rail (50 lbf)	8.8 % (0.044")	<100%
	Jamb Stile (70 lbf)	64.0 % (0.320")	<100%
	Meeting Stile (70 lbf)	16.6 % (0.083")	<100%
2.1.2	Air Infiltration - ASTM E283		
	1.57 psf (25 mph)	0.1 cfm/ft ² (0.13 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	0.002"	0.173"
	22.5 psf Interior	0.005"	0.173"

TEST RESULTS (Cont.)

<u>Par. No.</u>	<u>Title of Test & Method</u>	<u>Measured</u>	<u>Allowed</u>
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	

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= 4.50 psf	No Leakage	No Leakage
4.4.2	** Uniform Load Structural - ASTM E330 45.0 psf Exterior 45.0 psf Interior	0.014" 0.025"	0.173" 0.173"
	* Tested with and without screen		
	** No glass breakage or permanent damage causing the unit to be inoperable		

TEST COMPLETED 08/01/03

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-R30 69x48 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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JLB/amb

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