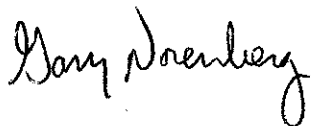
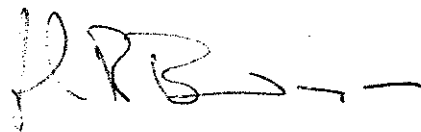


PROJECT NUMBER: 180-6311**Page 1 of 6**
DATE: 12/06/01**STORK® TWIN CITY TESTING**
723 S. 72nd AVE STE B
Wausau, WI 54401**LABORATORY TESTING OF**
72 X 72 VINYL FIXED WINDOW (VSLPDS)
MANUFACTURED BY
HURD MILLWORK COMPANY**Prepared for:**
HURD MILLWORK COMPANY
Attn: Mr. Art Kuss
520 South Whelen Street
Medford, WI 54451

Test Date:	10/23/2001
Expiration Date:	10/23/2005
DP50 Rating: Air	.01 cfm/ft ²
Water	12 psf
Structural	75 psf

Prepared By:

Reviewed By:

Gary Norenberg
Engineering Technician
Product Testing Department
Telephone: (715) 848-3935John R. Bordagaray
Office Manager (Wausau)
Product Testing Department
Telephone: (715) 848-3935

The test results contained in this report pertain only to the specimens tested and not necessarily to all similar products.

LABORATORY TESTING OF 72x72 VINYL FIXED WINDOW (VSLPDS)

INTRODUCTION:

This report presents the results of laboratory testing conducted on a Patio Door Vinyl Sliding Direct Set manufactured by Hurd Millwork Company. This work was requested and authorized by Mr. Art Kuss of Hurd Millwork with testing conducted on October 23, and December 4, 2001.

The purpose of the testing was to determine the performance of the window for air infiltration, water resistance, and structural integrity when tested in accordance with ASTM procedures included in ANSI/AAMA/WDMA 101/I.S.2-97 "*Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors*".

TEST RESULTS SUMMARY:

The window described herein meets performance specifications for ANSI/AAMA/WDMA 101/I.S.2-97 **F-C50 72X72**. Also met the additional requirement of 12psf for water penetration.

Design Pressure Rating: For use in locations adhering to the S.B.C.C.I., S.F.B.C., S.F.B.C. Broward Edition, and where the pressure requirements as determined by ASCE 7 minimum design loads for buildings and other structures does not exceed design pressure ratings listed above.

SAMPLE DESCRIPTION:

Overall Size: 71-1/2" wide by 71-1/2" high
Unit Area: 35.25 sqft
Finish: White vinyl

Glazing: The window utilized nominal 1" insulating glass comprised of two nominal 5/32" clear annealed sheets. The glass was set from the exterior against foam glazing tape, with the corners sealed with silicone and vinyl glazing beads were used on the exterior.

Frame Construction: Frame corners were miter cut and welded.

SAMPLE DESCRIPTION (CON'T):

Drainage:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
3/8" by 1/4" weep hole	2	Sill exterior leg and interior leg cavity, 1-1/2" from each end

Installation: The test specimen was installed within a 1 1/2" by 6" wood buck. The window frame was secured to the wood buck by utilizing the vinyl nailing fin with 2" galvanized roofing nails spaced 4" on center and sealed with a quality silicone sealant. The frame was shimmed.

TEST RESULTS:

	<u>ACTUAL</u>	<u>PERFORMANCE REQUIREMENTS</u>
<u>Air Infiltration</u>		
Chamber Pressure, psf	+1.57	+1.57
Unit Area, ft ²	35.25	
Air Infiltration, cfm	.1	
cfm/ft ²	.01	0.30 maximum
Chamber Pressure, psf	+6.24	+1.57
Unit Area, ft ²	35.25	
Air Infiltration, cfm	.2	
cfm/ft ²	.01	---
<u>Water Penetration Test</u>		
Chamber Pressure, psf	12.00	7.5
Water Flow Rate, gal/hr/ft ²	5.00	5.00 minimum
Pressurized Duration, min.	5.0	5.0
Unpressurized Duration, min.	1.0	1.0
Cycles	4	4
Water Penetration	NONE	No water shall flow over the interior face.
<u>Structural Load Test</u>		
Chamber Pressure, psf	+50.00	---
Duration, sec.	60.00	---
Max Deflection, in.	.007	---
Chamber Pressure, psf	-50.00	---
Duration, sec.	60.00	---

PROJECT NUMBER: 180-6311

Page 4 of 6
DATE: 12/06/01

Max Deflection, in. .023 ---

TEST RESULTS (CON'T):

Chamber Pressure, psf +75.00 +75.00
Duration, sec. 10.00 10.00
Permanent Set, in. .007 <0.4%L = 0.288 maximum

Chamber Pressure, psf -75.00 -75.00
Duration, sec. 10.00 10.00
Permanent Set, in. .001 <0.4%L = 0.288 maximum

Corner Weld Test

Break corners of test unit Pass Breakage not to extend along entire weld line

Forced Entry Resistance

<u>Test</u>	<u>Load (lbs.)</u>	<u>Duration (min)</u>	<u>Performance</u>
Hand Manipulation	---	5	Satisfactory
Tool Manipulation	---	5	Satisfactory

TEST PROCEDURE:

The tests were conducted in accordance with ASTM and ANSI/AMMA/WDMA 101/I.S.2-97 test procedures and the results were compared to the performance requirements.

Air Infiltration

ASTM:E283-91, *Standard Test Methods for Rate of Air Leakage through Exterior Windows, Curtain Walls and Doors*. Testing was conducted at 1.57psf test chamber static pressure.

Water Penetration

ASTM:E547-96, *Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Cyclic Static Air Pressure Difference*. Testing was conducted at 12 psf, test chamber static pressure while water was applied continuously to the entire window at a rate greater than or equal to 5 gal/hr/sq ft for four cycles consisting of 5 minutes pressurized and 1 minute unpressurized.

Physical Load Testing

ASTM:E330-96, *Standard Test Methods for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Differences*. Permanent set measurements were recorded at positive 90 psf and negative 82.50 psf test chamber pressure.

Corner Weld Test

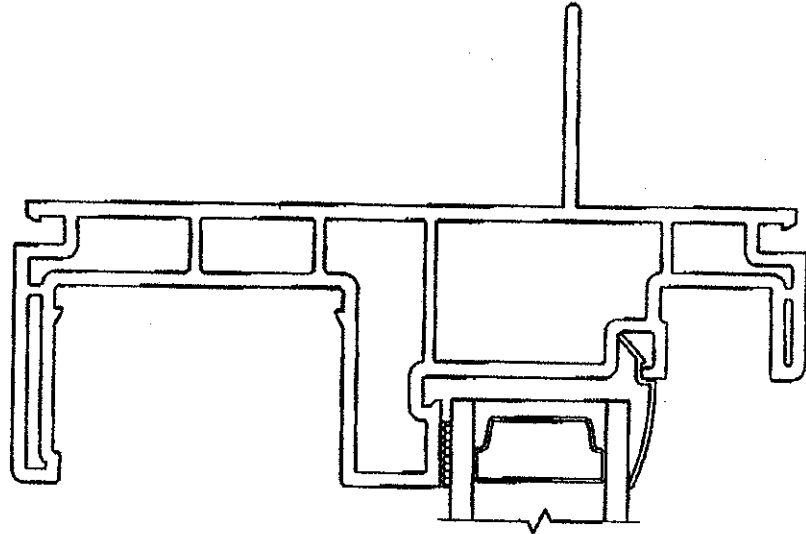
ANSI/AAMA/WDMA 101/I.S.2.97, Section 2.1,7 and APPENDIX A

Forced Entry Resistance

ASTM:F588-97, *Standard Test Methods for Measuring the Forced Entry Resistance of window Assemblies, Excluding Glazing*. Tests were conducted in accordance with Grade 10 requirements for a Type D window

REMARKS:

The tested window remained in the custody of the manufacturer after testing was completed. Twin City Testing will retain detailed drawings and a copy of this report. The above results were obtained by using the designated test methods and they indicate compliance with the performance requirements of the above referenced guidelines. Certification of this product may only be granted by a certification administrator.



SIDE JAMB
SECTION C

