

ECO SUPPLY TEST REPORT

SCOPE OF WORK

AAMA/WDMA/CSA 101/I.S.2/A440 TESTING ON
IV79 BILDAU & BUSSMANN, FIXED WINDOW

REPORT NUMBER

I4837.01-109-44

TEST DATE(S)

05/24/18 - 05/30/18

ISSUE DATE

09/19/18

RECORD RETENTION END DATE

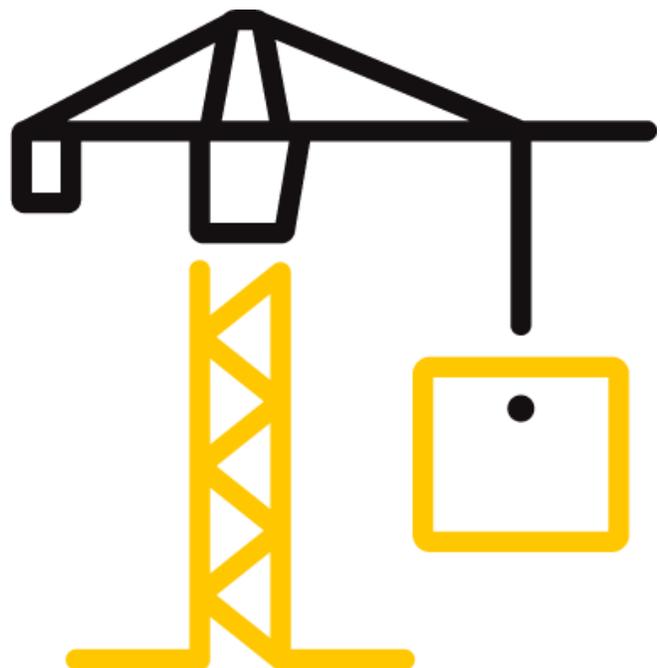
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TEST REPORT FOR ECO SUPPLY

Report No.: I4837.01-109-44

Date: 09/19/18

REPORT ISSUED TO

ECO SUPPLY

2115 Westmoreland Street
Richmond, Virginia 23230

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by ECO Supply to perform testing in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 on their IV79, Buildau & Bussmann Fixed Window. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at Intertek B&C test facility in York, Pennsylvania. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

SECTION 2

SUMMARY OF TEST RESULTS

TITLE	RESULTS
Primary Product Designator	Class AW - PG70 2388 x 2588 (94 x 102)-FW
Design Pressure	±3360 Pa (±70.18 psf)
Air Infiltration	<0.1 L/s/m ² (<0.01 cfm/ft ²)
Water Penetration Resistance Test Pressure	580 Pa (12.11 psf)

For INTERTEK B&C:

COMPLETED BY:	Richard E. Hartman III
TITLE:	Technician – Product Testing
SIGNATURE:	
DATE:	09/19/18

REVIEWED BY:	Timothy J. McGill
TITLE:	Manager – Product Testing
SIGNATURE:	
DATE:	09/19/18

REH:wnl

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SECTION 3

TEST METHOD(S)

The specimens were evaluated in accordance with the following:

AAMA/WDMA/CSA 101/I.S.2/A440-17 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights

AAMA 910-16, Voluntary "Life Cycle" Specifications and Test Methods for AW Class Architectural Windows and Doors

ASTM E283-04(2012), Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen

ASTM E330/E330M-14, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference

ASTM E331-00(2016), Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference

ASTM E547-00(2016), Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference

ASTM F588-14, Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact

SECTION 4

MATERIAL SOURCE/INSTALLATION

Test specimen(s) was provided by the client. Representative samples of the test specimen(s) will be retained by Intertek B&C for a minimum of two years from the test completion date.

The specimen was installed into a double Spruce-Pine-Fir wood buck. The rough opening allowed for a 1/4" shim space. The exterior perimeter of the door was sealed with sealant. Installation of the tested product was performed by the client.

LOCATION	ANCHOR DESCRIPTION	ANCHOR LOCATION
Head, sill, and jambs	1" wide by 6-1/4" long by 0.060" thick galvanized steel strap. Secured to the frame using one #8 x 1-5/8" drywall screw through the strap and into the frame. Secured to the buck using one #10 x 1-1/2" pan head screw through the strap and into the wood buck.	3-1/4" from each corner and spaced 6" on center

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SECTION 5 EQUIPMENT

Control Panel: 003921

Weather Station: 63316

Spray Rack: 003956-A, 003956-B, 003956-D, 003956-E

Thermal Tenney: INT00000

Transducers: 64307, 64378, 64306

SECTION 6 LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Matt Berk	ECO Supply
Ken R. Stough	Intertek B&C
Timothy J. McGill	Intertek B&C
Richard E. Hartman III	Intertek B&C

SECTION 7 TEST SPECIMEN DESCRIPTION

Product Type: Fixed Window

Series/Model: IV79, Bildau & Bussmann

Product Size(s):

OVERALL AREA:	WIDTH		HEIGHT	
	millimeters	inches	millimeters	inches
6.2 m ² (66.5 ft ²)				
Overall size	2388	94	2588	101-7/8

Frame Construction:

FRAME MEMBER	MATERIAL	DESCRIPTION
Head, sill, and jambs	Wood	Milled

	JOINERY TYPE	DETAIL
All corners	Finger jointed	Adhered and sealed

Reinforcement: No reinforcement was utilized.

Weatherstripping: No weatherstripping was utilized.

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Glazing: *No conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen(s) can be made.*

GLASS TYPE	SPACER TYPE	INTERIOR LITE	INTERMEDIATE LITE	EXTERIOR LITE	GLAZING METHOD
1-5/8" IG	Plastic box spacer (2)	1/4" annealed	1/4" annealed	1/4" annealed	The glazing was set from the interior onto a bead of sealant against the frame. The glazing was secured with a wood glazing stop with a bead of sealant against the glazing. The glazing stop was secured using 3D finish nails 2" from the corners and spaced 2 to 4" on center

LOCATION	QUANTITY	DAYLIGHT OPENING		GLASS BITE
		millimeters	inches	
Fixed window	1	2229 x 2477	87-3/4 x 97-1/2	1/2"

Drainage: No drainage was utilized.

Hardware: No hardware was utilized.

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SECTION 8
TEST RESULTS

The temperature during testing was 23° - 27°C (73° - 80°F). The results are tabulated as follows:

TITLE OF TEST	RESULTS	ALLOWED	NOTE
LIFE CYCLE per AAMA 910			
Air Leakage, Infiltration per ASTM E283 at 300 Pa (6.27 psf)	<0.1 L/s/m ² (<0.01 cfm/ft ²)	0.5 L/s/m ² (0.10 cfm/ft ²) max.	1, 2
Air Leakage, Exfiltration per ASTM E283 at 75 Pa (1.57 psf)	<0.1 L/s/m ² (<0.01 cfm/ft ²)	0.5 L/s/m ² (0.10 cfm/ft ²) max.	1, 2
Water Penetration, per ASTM E547 and ASTM E331 at 580 Pa (12.11 psf)	Pass	No leakage	3
Thermal Cycling, per AAMA 501.5 six cycles from 0°F to 180°F	Reference Chart 1 for Thermal Cycling		
Uniform Load Deflection, per ASTM E330 Deflections taken between fasteners +3360 Pa (+70.18 psf) -3360 Pa (-70.18 psf)	0.3 mm (0.01") 0.3 mm (0.01")	0.8 mm (0.03") max. 0.8 mm (0.03") max.	5, 6, 7
Air Leakage, Infiltration per ASTM E283 at 300 Pa (6.27 psf)	<0.1 L/s/m ² (<0.01 cfm/ft ²)	0.5 L/s/m ² (0.10 cfm/ft ²) max.	1, 4
Air Leakage, Exfiltration per ASTM E283 at 75 Pa (1.57 psf)	<0.1 L/s/m ² (<0.01 cfm/ft ²)	0.5 L/s/m ² (0.10 cfm/ft ²) max.	1, 4
Water Penetration, per ASTM E547 and ASTM E331 at 580 Pa (12.11 psf)	Pass	No leakage	3
Uniform Load Structural, per ASTM E330 Permanent set taken between fasteners +5040 Pa (+105.26 psf) -5040 Pa (-105.26 psf)	<0.3 mm (<0.01") 0.3 mm (0.01")	0.3 mm (0.01") max. 0.3 mm (0.01") max.	6, 7

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TITLE OF TEST	RESULTS	ALLOWED	NOTE
Forced Entry Resistance, per ASTM F588, Type: D - Grade: 10	Pass	No entry	

Note 1: The tested specimen meets (or exceeds) the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440 for air leakage resistance.

Note 2: Test Date 05/24/18 / Time: 3:05 PM

Note 3: Without insect screen.

Note 4: Test Date 05/29/18 / Time: 11:00 AM

Note 5: The deflections reported are limited by AAMA/WDMA/CSA 101/I.S.2/A440 for this product designation.

Note 6: Loads were held for 10 seconds.

Note 7: Tape and film were not used to seal against air leakage during structural testing.

General Note: *The window was tested in accordance with the non-venting use classification.*

SECTION 9 ALTERATIONS

No alterations were required.

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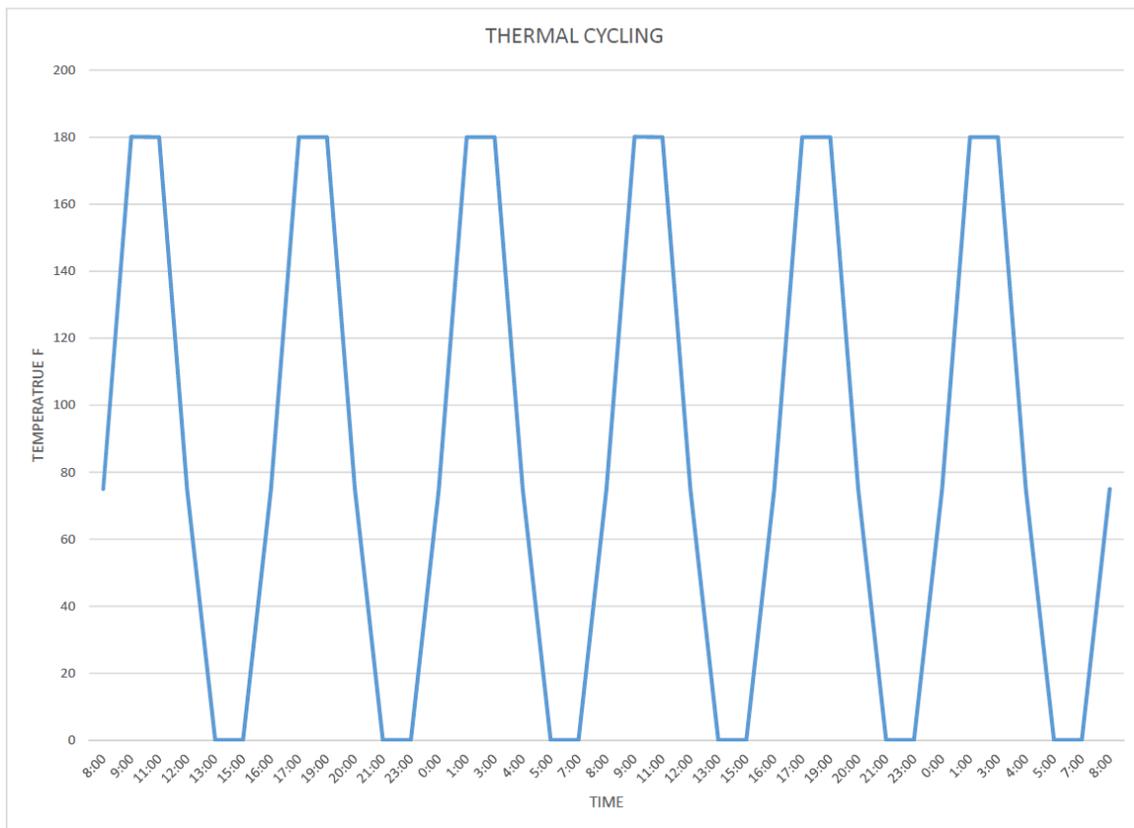
Date: 09/19/18

SECTION 10 CONCLUSION

The specimen tested successfully met the performance requirements for a **Class AW – PG70 2388 x 2588 (94 x 102)-FW** rating.

SECTION 11 CHART(S)

Chart 1



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SECTION 12

PHOTOGRAPH



Photo No. 1
Test Specimen



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130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

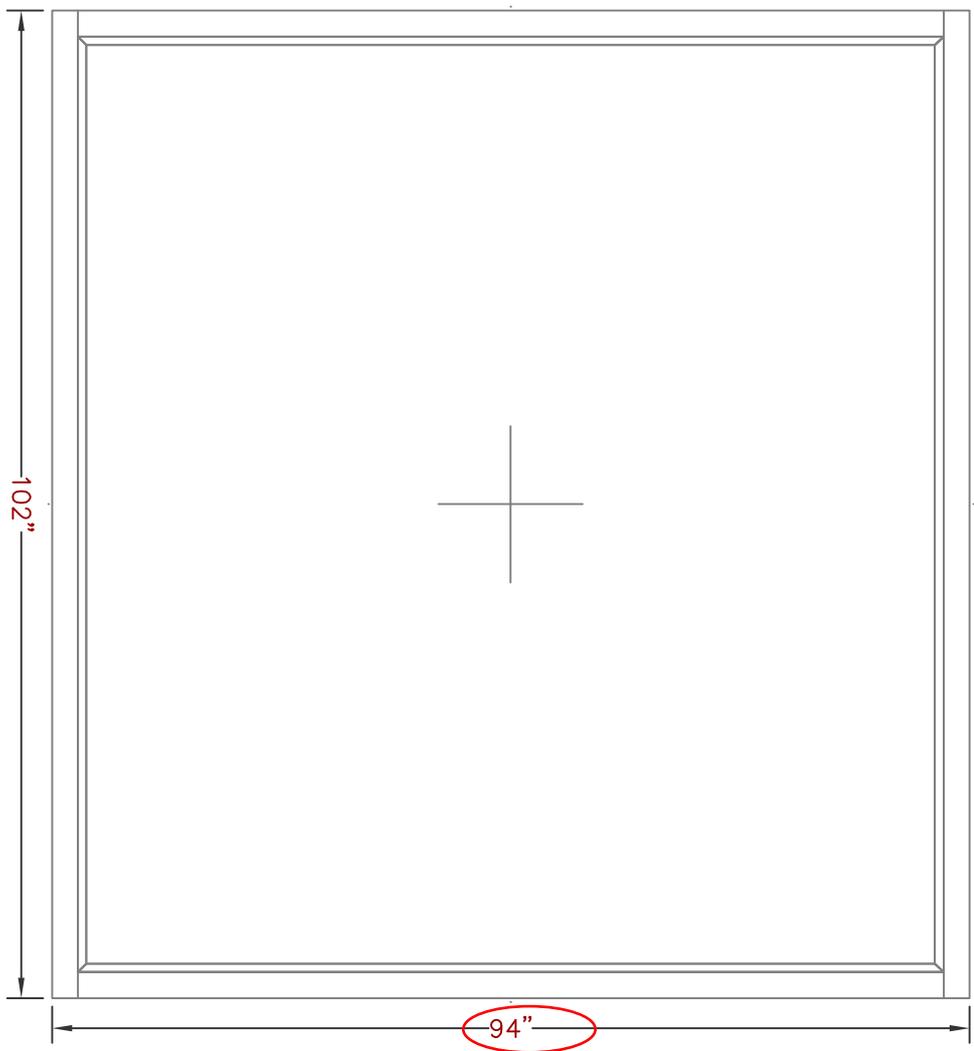
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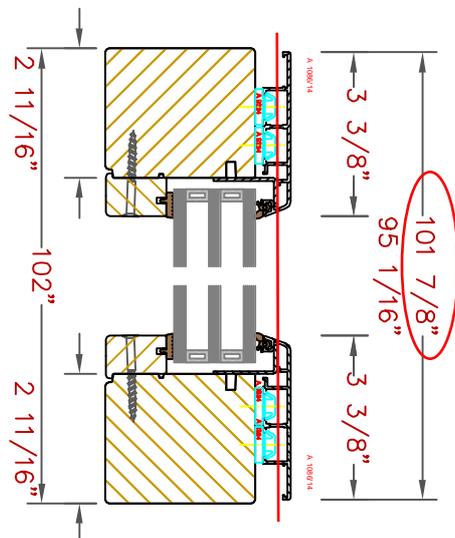
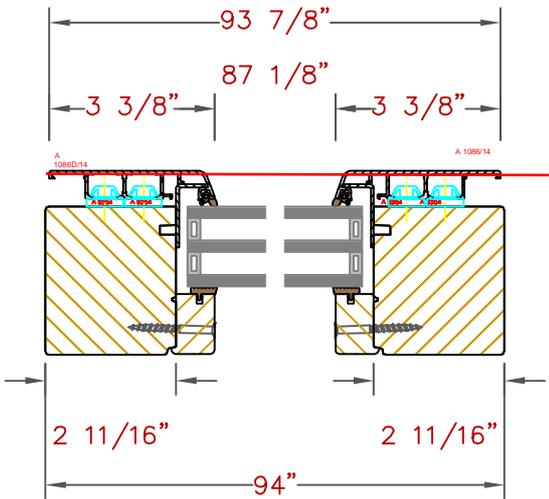
SECTION 13 DRAWINGS

The test specimen drawings have been reviewed by Intertek B&C and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Intertek B&C per the drawings included in this report. Any deviations are documented herein or on the drawings.



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Report #: 14837.01
Date: 9/19/2018
Verified by: *Richard E. H. [Signature]*



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Projekt/ Project/ Projet	*
Datum/ Date/ Date	14.09.2018
Pos/ Item/ Poste	3
Kd.-Pos./ Werk/ Reparé Client	<
Stk/ Qty/ Qts	>
Änderung/ Last Rev./ Revision Name/ Name/ Nom	Linda Bildau
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York, Pennsylvania 17406

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SECTION 14

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	09/19/18	N/A	Original Report Issue