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Testing. Advising. Assuring.

**PERFORMANCE EVALUATION OF THE
“WINDSPEC 925RS DUAL GLAZED FIXED WINDOW”
IN ACCORDANCE WITH CSA A440.2-14, SECTION 11 FOR CONDENSATION RESISTANCE**

Report to:	Windspec Inc. 1310 Creditstone Road Concord, Ontario L4K 5T7
Attention:	Mr. Oren Anava
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Report No.:	15-06-M0204-1 5 Pages, 1 Appendix
Proposal No.:	15-006-369967
Date:	April 10, 2016

1.0 INTRODUCTION

At the request of Windspec Inc., Exova Canada Inc. was retained to conduct a condensation resistance evaluation of a fixed aluminum window unit identified as the "Windspec 920RS Dual Glazed Fixed Window" in accordance with CSA A440.2-14, Section 11 (Condensation Resistance) as outlined in Proposal Number: 15-006-369967.

Exova Specimen No.:	15-06-M02014-1
Type:	Aluminium Fixed Window
Model:	920RS Dual Glazed Fixed Window
Overall Window Size:	1,200 mm (wide) x 1,500 mm (high) – 47.24 x 59.06 inches
Glazing:	6 mm Clear / 13 mm Argon / 6 mm Clear (Tempered) – 1" Overall with Warm Edge Spacer, 13 mm Overall Spacer Width
Glazing Type:	Double Sided Glazing Tape with Silicone at corners.
Glazing Stop Method:	Interior Aluminium Compression Glazing Stop
Weatherstripping:	EPDM Seals
Frame Material:	AT (Aluminium with Thermal Breaks)
Thermal Break:	Extruded Aluminium (6" depth by 1" height) with Thermal Break
Reinforcement:	Flexible PVC Thermal Break
Drainage:	None
	Bottom of window unit, 1.25" wide by 0.25" high weep gates located Approximately 50 mm O/C from edge of frame.

Weather-stripping Configuration:

<u>Type:</u>	<u>Quantity Installed & Size:</u>	<u>Location:</u>
EPDM	1 Row	Frame to IGU
EPDM	1 Row	Glazing Stop to IGU

Note: Details and drawings as provided by the manufacturer for the above unit have been included in Appendix A.

2.0 PROCEDURE

The Building Performance Centre at Exova evaluated the above window in accordance with the procedures outlined in CSA A440.2-14, Section 11, Fenestration Energy Performance, Condensation Resistance test standard.

3.0 RESULTS

Table 1- Summarized Testing Results in Accordance with CSA-A440.2-14, Section 11, Condensation Resistance Exova Specimen No.: 15-06-M0204-1 Test Date: February 16, 2016	
Temperature Locations	Test Results
Coldest Glazing Temperature (T _g)	6.7 °C
Coldest Frame Temperature (T _f)	8.5 °C
Weather-side Temperature (T _c)	-18.1 °C
Room-side Temperature (T _h)	20.3 °C
Room-side Humidity	<10 %RH
I-Value (Glazing)	64
I-Value (Frame)	69
Calculated Total I-Value	64

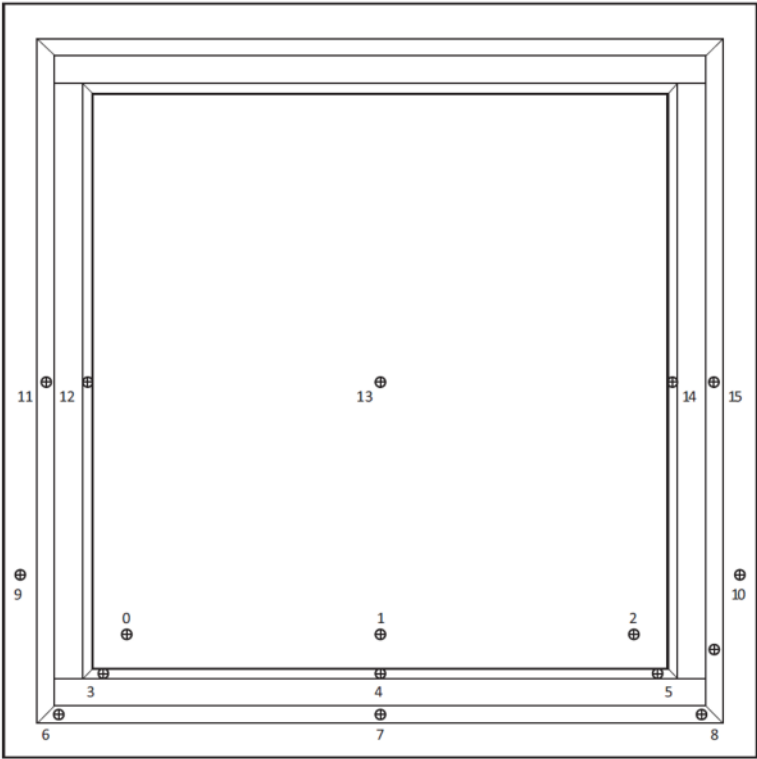


Figure A.3
Thermocouple locations for condensation resistance
test for fixed windows

Figure 1 – Thermocouple Layout for Fixed Windows (CSA A440.2-14, Figure A.3)

Table 2 – Average Measured Temperatures at Various Thermocouple Locations CSA-A440.02-09, Section 11, Condensation Resistance Exova Specimen No.: 15-06-M0204-1			
Thermocouple Location	Temperature (°C)	Thermocouple Location	Temperature (°C)
0	7.1	8	11.9
1	8.3	9	10.0
2	6.7	10	13.0
3	9.7	11	13.8
4	8.5	12	14.5
5	9.9	13	11.8
6	10.3	14	12.2
7	8.6	15	10.1

4.0 MODIFICATIONS

No modifications were made to Exova Specimen No.: 15-06-M0204-1 prior or during testing.

5.0 CONCLUSIONS

Based on the results of the testing summarized in Table 1, the Windspec "920RS Dual Glazed Fixed Window", Exova Specimen No.: 15-06-M0204-1 achieved the following condensation resistance performance criteria as outlined in CSA A440.2-14, Section 11:

<u>Performance Criteria</u>	<u>Rating</u>
• I-Value	64

6.0 REPORT REVISION SUMMARY

Revision No:
Original

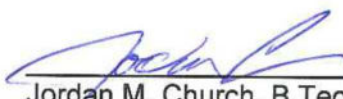
Date:
2016-April-10

Description of Revisions:
Original Document

Reported by:

Reviewed & Authorized by:


Sunny Ling, C.E.T., Ext. 11412
Supervisor, Building Systems
Products Testing Division


Jordan M. Church, B.Tech, Technologist, Ext. 11546
Operations/Technical Manager, Products Division
Products Testing Division

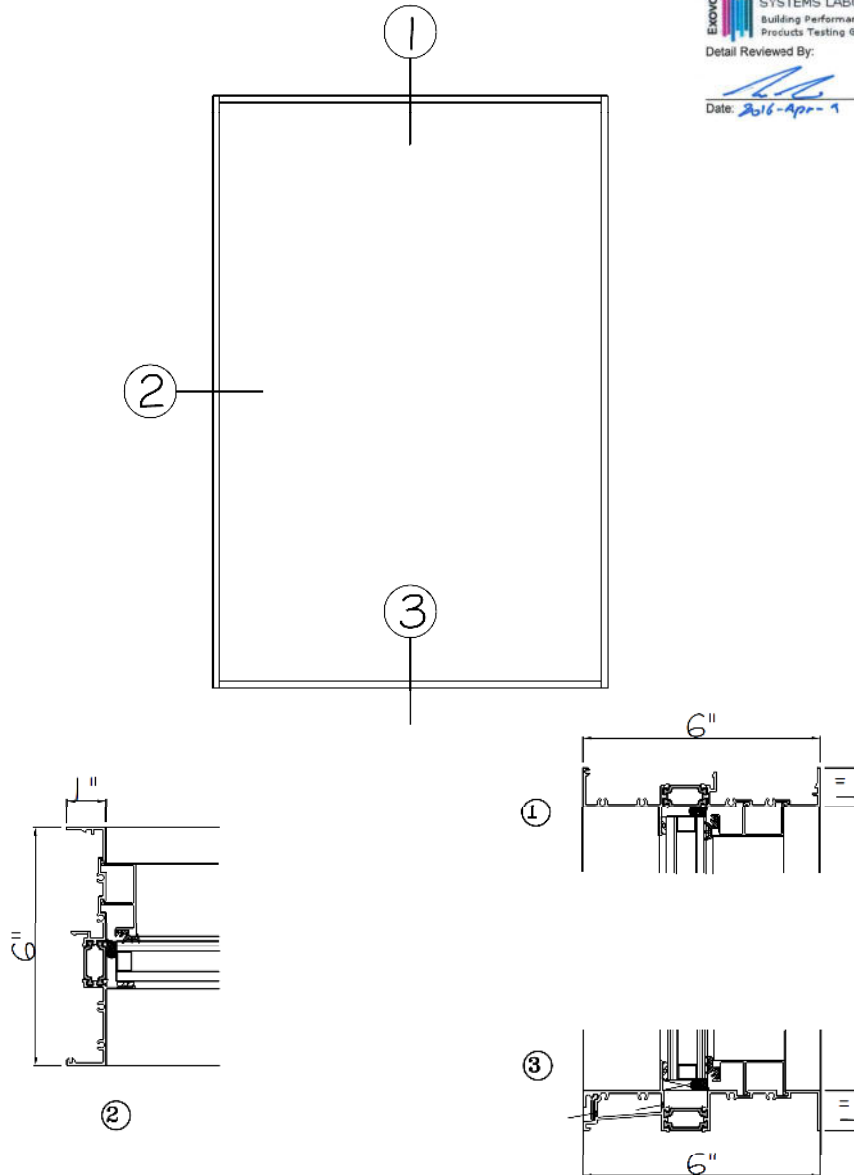
APPENDIX A

Specimen Detail Drawings
(As Provided by Windspec Inc.)

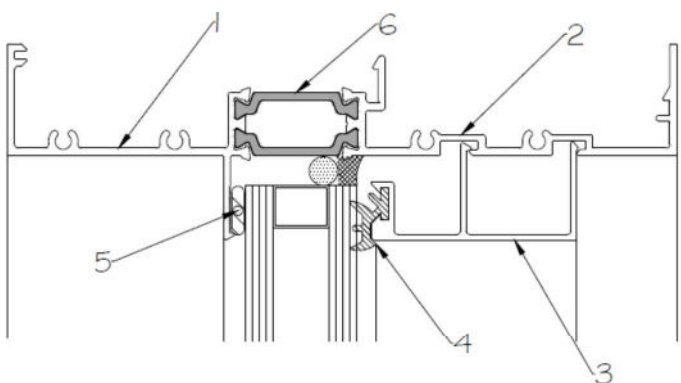
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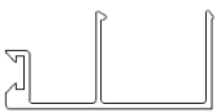
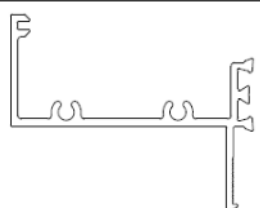
925 RAIN SCREEN PHYSICAL TESTING DOUBLE GLAZED

EXOVO SYSTEMS LABORATORY
Building Performance Centre,
Products Testing Group
Detail Reviewed By:
Date: 2016-Apr-9



MANUFACTURERS OF HIGH PERFORMANCE 'WINDSPEC' WINDOWS
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925R.S. HEAD/JAMB		① EXTERIOR PERIMETER	
  SYSTEMS LABORATORY Building Performance Centre, Products Testing Group Detail Reviewed By:  Date: 2016-Apr-9		② INTERIOR PERIMETER	
		③ GLASS STOP	
		④ GLAZING SPLINE	
		⑤ 1/8" POLYSHIM	
		⑥ GLASS REINFORCED NYLON	
		⑦	
		⑧	
		⑨	
		⑩	
		⑪	
		10	

3	9	6	8
			
	2	4	
			
5	1	7	11
			

925R.S. SILL			
1 RAIN SCREEN SILL EXTERIOR			
2 RAIN SCREEN SILL INTERIOR			
3 GLASS STOP			
4 GLAZING SPLINE			
5 1/8" POLYSHIM			
6 GLASS REINFORCED NYLON			
7 GLAZING BLOCK SUPPORT (PVC)			
8 SETTING BLOCK			
9			
10			
11			
10			
3	9	6	8
5	2	4	
	1	7	11

[illegible]