

# Fenestration Testing Laboratory, Inc.

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Control No. : T10-017  
Date : April 5, 2010  
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## TESTED FOR

### **INTERNATIONAL WINDOW CORP.**

5625 East Firestone Boulevard  
South Gate, CA 90280

#### **1.0 PURPOSE**

The purpose of this report is to present the testing methods employed and the test results obtained during the performance testing of one (1) **Aluminum Horizontal Sliding Window** described in paragraph 4.0 of this report.

#### **2.0 TEST REFERENCES**

- 2.1 Standard Specification for Windows, Doors, and Skylights AAMA/WDMA/CSA 101/ I.S.2/A440-05  
**HS- C30: Size Tested 2426 x 1829 (96 x 72)**
- 2.2 CAWM 301 - 90 Forced Entry Resistance Tests for Windows.
- 2.3 ASTM F 588-07 Standard Test Method for Measuring the Forced Entry Resistance of Windows

#### **3.0 SUMMARY**

The test results in paragraphs 5.0 and 6.0 indicate that the test sample described in paragraph 4.0 of this report complied with the performance requirements of the above referenced specifications.

#### **4.0 SAMPLE SUBMITTED**

**SERIES:** 6222 Horizontal Slider

**CONFIGURATION:** XO

**FRAME SIZE:** 2426 mm x 1829 mm (95.51" x 72.01")

**SASH SIZES:** 1219 mm x 1759 mm (47.99" x 69.25")

**FIXED SIZE:** 1156 mm x 1727 mm (45.51" x 67.99") Daylight Opening

**GLASS:** All panels were glazed with 0.75" overall insulated glass unit which contained 3/16" nominal annealed glass on each side and a 9mm metal spacer.

#### **INSULATED**

**GLASS SPACER:** The spacer was an A7-S type.

**GLAZING:** Each panel was channel glazed with vinyl gasket.

**WEEPAGE:**

The sill exterior face contained four (4) 3/4" x 1/8" weep as follows:  
One weep 2" from each end and one 2.5" each way from the fixed interlock. Each weep contained a PVC gated weep cover.

The fixed glazing channel of the sill contained four (4) 3/8" x 3/32" weep slots, 0.5" from each end; and 1.5" on each side of the fixed interlock.

The sill operable channel contained two (2) 3/4" x 3/16" weep slots, 11" from each end of the sill.

**WEATHERING:**

The operable panel contained a strip of 0.220" overall pile with center fin full perimeter facing out.

**HARDWARE:**

At the bottom end, the stiles each contained an adjustable nylon roller in a metal housing fastened with a pair of screws to the stile.

The rails each contained a nylon glide 1" in from each end that fit into a notch in the rails.

Two metal sweep locks incorporated with a pull handle were secured to the interlock 21.5" from each end with a pair of #8 x 3/4" PPH screws and four washers. When closed and locked, the tongue of each lock engaged against an extruded lip in its fixed interlock.

**CONSTRUCTION:**

The frame corners were mechanically joined with a pair of screws.

The operable panel corners were each mechanically joined with one (1) #6 x 9/16" PPH screw.

The mullion was mechanically joined to the frame with a pair of #6 x 3/8" self tapping PPH screws at each end from the exterior. The mullion screws at the head fastened through the frame into an aluminum clip in the mullions.

**CAULKING:**

The following were sealed:

- 1) The frame corners were sealed full profile.
- 2) The mullion to frame joints were sealed from the interior.

**ANCHORING:**

The frame was mounted over a 2" x 6" wood rough opening and fastened through the nail fin with #6 x 1 5/8" PFH screws every 16" on center. Wood furring was applied over the nail fins and screwed to the wooden buck.

**5.0 TEST PROCEDURES AND RESULTS**

**5.1** All testing procedures were performed in accordance with the performance requirements of the test specifications referenced in paragraph 2.0 of this report.

5.2 **TEST RESULTS**  
**PARAGRAPH**

	<b><u>TEST DESCRIPTION</u></b>	<b><u>MEASURED</u></b>	<b><u>ALLOWED</u></b>
5.3.1.1	Operating Force (ASTM E 2068) Breakaway Motion	65 N (14.6 lbf.) 50 N (11.2 lbf.)	N/A 115 N (25 lbf.)
5.3.1.1.3	Latching Device Open and Close Latch Device	4.5 N (1.0 lbf)	100 N (22.5 lbf)
5.3.2.1	Air Infiltration (ASTM E 283) 75 Pa (1.6 PSF) The tested specimen meets the performance levels specified in AAMA/WDMA/CSA 101/1.S.2/A440 for air leakage resistance.	1.5 L/s•m <sup>2</sup> (0.3 CFM/Ft <sup>2</sup> )	1.5 L/s•m <sup>2</sup> (0.3 CFM/Ft <sup>2</sup> )
5.3.3.2	Water Penetration (ASTM E 547) 220 Pa (4.50 PSF) With/without screens	No Leakage	No Leakage
5.3.4.2	Uniform Load Deflection (ASTM E 330) 1440 Pa (30.0 PSF) POS 1440 Pa (30.0 PSF) NEG	13.50 mm (0.53") 13.00 mm (0.51")	Report only Report only
5.3.4.3	Uniform Load Structural (ASTM E 330) 2160 Pa (45.0 PSF) POS 2160 Pa (45.0 PSF) NEG	0.00 mm (0.00") 0.75 mm (0.03")	5.00 mm (0.20" Set) 5.00 mm (0.20" Set)
5.3.6.3	Deglazing (ASTM E 987) 320 N Stiles (70 lbf.) 230 N Rails (50 lbf.)	5% 0%	Less than 100% Less than 100%

6.0 5.3.5 **ASTM F 588 Forced Entry Resistance Test Results For Windows**

1.2.1 Type "A" Operable Window Assemblies

**Table A1.1 Grade 20**

	<b><u>TEST</u></b>	<b><u>RESULTS</u></b>	<b><u>ALLOWED</u></b>
A2.4.1		Passed	No Entry
A2.4.2	A1	Passed	No Entry
A2.4.3	A2	Passed	No Entry
A2.4.4	A3	Passed	No Entry
A2.4.5	A4	Passed	No Entry
A2.4.6	A5	Passed	No Entry
A2.4.8	A7	Passed	No Entry
A2.2.1		Passed	No Entry
A2.3.1		Passed	No Entry
<b>Fixed Panel</b>			
A2.7.1	A2.1	Passed	No Entry
A2.7.3	A2.1	Passed	No Entry

**6.0 TEST RESULTS**

**5.3.5 CAWM 301 - 90 FORCED ENTRY RESISTANCE TEST RESULTS**

2.4.1 Type "I" Window

	<u>TEST</u>	<u>RESULTS</u>	<u>ALLOWED</u>
5.1.1	Disassembly	Passed	No Entry
5.1.2	<b>A</b>	Passed	No Entry
5.1.3	<b>B</b>	Passed	No Entry
5.1.4	<b>C</b>	Passed	No Entry
5.1.5	<b>E</b>	Passed	No Entry
5.1.6.1	<b>D</b>	Passed	No Entry
5.1.7	<b>E</b>	Passed	No Entry
<b>Fixed Panel</b>			
5.4.1	A	Passed	No Entry
5.4.2	B	Passed	No Entry

For a complete description of the tested sample refer to the attached fourteen (14) pages consisting of the bill of materials, cross section drawings, and individual die drawings.

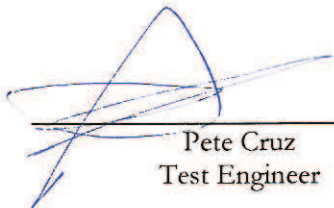
Assembly and die drawings of frame members are on file and have been compared to the sample submitted. Test sample sections, drawings, and a copy of this report will be retained at the test laboratory for four years.

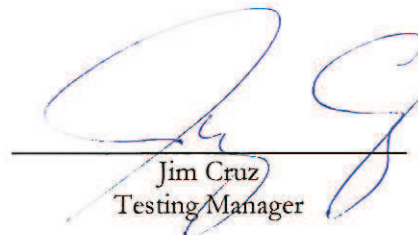
This test report may not be modified in any way without the written consent of Fenestration Testing Laboratory.

The preceding test results were obtained by using the applicable CAWM and ASTM Test Methods. This report does not constitute certification of this product. An approved administrator/validator can only grant certification.

Testing Completed: April 2, 2010

Report Completed: April 5, 2010

  
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Pete Cruz  
Test Engineer

  
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