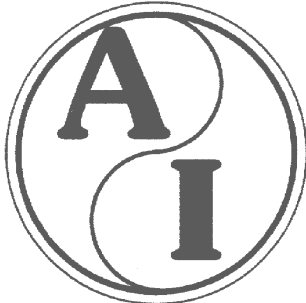


**PERFORMANCE TESTS IN ACCORDANCE WITH
AAMA/WDMA/CSA 101/I.S.2/A440-08**



Report No.:

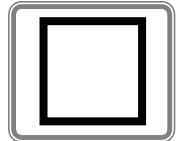
AI-03820-S2 (Reissue-10)

Manufactured under licence by:

**DOMINION DOORS AND WINDOWS LTD.
130 PENNSYLVANIA AVE. UNIT 8
CONCORD, ONTARIO
L4K 4A8**

Test Report Summary:

Product type:	PVC Fixed Window
Product series/model:	GP356 & GP390 Series Fixed Window
Primary product designator:	Class CW-PG70-FW Size tested 1500 x 1500 (59 x 59)
Optional secondary designator:	Positive Design pressure (DP) = 3360 Pa (70.0 psf) Negative design pressure (DP) = -3360 Pa (-70.0 psf) Water penetration resistance test pressure = 730 Pa (15.0 psf) Canadian air infiltration / exfiltration level = Fixed Level



Test completion date:	11/24/2011
Report date:	11/22/2012
Reissue date:	08/22/2013
Number of pages:	6

CAN/CSA A440-00 ratings: **FIXED / B7 / C5**

Note: Reference must be made to Air-Ins Inc. complete report for test specimen description and detailed test results.

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PERFORMANCE TESTS IN ACCORDANCE WITH AAMA/WDMA/CSA 101/I.S.2/A440-08

1.0 INTRODUCTION

Air-Ins Inc. laboratory was retained by "**Acrylon Plastics.**" to test a window according to the performance levels in the AAMA/WDMA/CSA 101/I.S.2/A440-08 Standard. The original report issued to "**Acrylon Plastics**" is hereby reissued to "**Dominion Doors and Windows Ltd**" for their use as an under licence product manufacturer. The sample components and manufacturing are documented in section 2.0.

Note concerning the use of units of measurement in this report:

According to the AAMA/WDMA/CSA 101/I.S.2/A440-08 Standard, the use of SI (metric) units is the standard, while IP (Imperial) values given in parentheses are for reference purposes only, and are inexact rounded values. Section 5.0 contains testing results converted to IP units for the sake of convenience only. The only exception to using SI values is in the Performance Grade (PG) portion of the product designation.

Note concerning drawings:

The drawings reviewed for the production of this report are stamped and are on file at Air-Ins Inc. The availability of individual drawings will be at the discretion of the client.

2.0 DESCRIPTION OF THE SPECIMEN TESTED

Type: Fixed Window of AAMA/WDMA/CSA 101/I.S. 2/A440-08.

Model: GP356 & GP390 Series Fixed window

Assembly drawings:

- GP356 (3 – 1/4") – Picture Sash Window
- Fixe PVC 1 Section Dimension 1500 x0 1500 Liste des composantes

Performance Evaluation: GP356 & GP390 Series Fixed Window



Drawings reviewed: Part nos.: GP356 and GP329

Date of CSA audit: 11/02/2011

Date(s) of sample reception: 11/15/2011

Date(s) of testing: 11/23/2011 and 11/24/2011

For items marked with *, please refer to Section 3.0, for detailed alterations

Test specimen installation (test buck):

- Material: Pine (2" x 6")
- Rough opening clearances: 3 mm (0.12")
- Fastening: #8 x2" screws; (4) per side, through wood test buck frame into PVC.
- Sealing detail: Sealant between test buck and specimen on exterior side only.

Frame:

- Material: Extruded PVC
- Joinery type: Thermally welded mitre joints
- Perimeter: Part nos. GP356 & GP390
- Glazing stop: Part no. GP329
- Reinforcement: None
- Weatherstripping: None
- *Sealant: Sealant between glazing and lower rail, full width and up 152 mm (6") each stile. Sealant at each corner before horizontal glazing stops installation. Sealant each corner on top of horizontal glazing stops before installing vertical glazing stops.
- Drainage: (2) holes 4.4 mm (0.17") Ø under the horizontal wall of the frame.
- Overall dimensions: 1500 mm (59.06") W x 1500 mm (59.06") H

Performance Evaluation: GP356 & GP390 Series Fixed Window



Glazing: (Legend: C= Clear, Tt= Tinted, LE= Low-E, S= Surface #, A= Annealed, T= Tempered)

- Type: Double glazed sealed unit
- Total thickness: 21.2 mm (0.83")
- Glass thickness: Ext:3.9 mm (0.15")/ N/A/ Int:3.9 mm (0.15")
- Air space gap width: 13.8 mm (0.54")
- Type of glass: Ext: C-A / Int: C-A
- Type of spacer: *Inex*
- Type of sealant: Dual-sealed
- Type of filling gas: Air
- Glass retention: Glazing stops
- Glazing seals: Exterior face (Dry sealed): (1) coextruded fin and (1) nub. Interior face (Dry sealed): (2) coextruded fins.
- Grid description: None
- Setting blocks: (5) blocks at sill and (4) blocks at jambs
- Daylight opening: 1343 mm (52.87") W x 1343 mm (52.87") H

3.0 ALTERATION(S)

Alteration(s) performed in the laboratory on tested specimen to meet the reported performances:

Air Leakage Resistance & Water Leakage Resistance Tests:

- (1) Sealant at each corner before horizontal glazing stops installation. Sealant each corner on top of horizontal glazing stops before installing vertical glazing stops.



4.0 **TEST BENCH INFORMATION**

Information regarding the Test Bench and related instrumentation used for testing:

Testing was performed on Air-Ins Inc. test bench identified as TB01-PC. The calibration of this test bench was done as per Article 9.0 of *ASTM E283, Standard Test Method for Rate of Air Leakage through Exterior Windows, Curtain Walls and Doors*, and *ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference* and *ASTM E547 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Cycling Static Air Pressure Difference*. Latest calibration of this test bench and related equipment dates to July 2011.



5.0 RESULTS OF PERFORMANCE TESTS

TEST	<div style="border: 1px solid black; padding: 5px; display: inline-block; font-weight: bold; font-size: 1.2em;">CW</div> CLASS SPECIFICATIONS	TEST RESULTS	GRADE OR COMMENT
Air Leakage Resistance Test	$Q_{inf} \leq 1.5 \text{ l/s-m}^2 @ 75 \text{ Pa}$ $(\leq 0.3 \text{ cfm/ft}^2 @ 1.57 \text{ psf})$ AAMA/WDMA/CSA 101/I.S.2/A440-08 par. 5.3.2.1 & ASTM-E283-04	Surface: $2.25 \text{ m}^2 (24.21 \text{ ft}^2)$ $Q_{inf} = 0.05 \text{ l/s-m}^2 @ 75 \text{ Pa}$ $(0.01 \text{ cfm/ft}^2 @ 1.57 \text{ psf})$	Passed
	Canadian air infiltration/exfiltration level: Fixed: $Q_{inf} \& \text{ exf} \leq 0.2 \text{ l/s-m}^2 @ 75 \text{ Pa}$ $(\leq 0.04 \text{ cfm/ft}^2 @ 1.57 \text{ psf})$ AAMA/WDMA/CSA 101/I.S.2/A440-08 par. 5.3.2.2 & ASTM-E283-04	$Q_{inf} = 0.05 \text{ l/s-m}^2 @ 75 \text{ Pa}$ $(0.01 \text{ cfm/ft}^2 @ 1.57 \text{ psf})$ $Q_{exf} = 0.04 \text{ l/s-m}^2 @ 75 \text{ Pa}$ $(0.01 \text{ cfm/ft}^2 @ 1.57 \text{ psf})$ $Q_{avg} = 0.05 \text{ l/s-m}^2 @ 75 \text{ Pa}$ $(0.01 \text{ cfm/ft}^2 @ 1.57 \text{ psf})$	Fixed Level
Water Resistance Test	No water infiltration under a minimum pressure differential of $220 \text{ Pa} (4.50 \text{ psf})$ AAMA/WDMA/CSA 101/I.S.2/A440-08 par. 5.3.3.2 & ASTM-E547-00 (2009)	No water infiltration under a pressure differential of $730 \text{ Pa} (15.00 \text{ psf})$	100
Uniform Load Deflection Test	No member shall deflect more than $1/175$ of its span at $1440 \text{ Pa} (30.00 \text{ psf})$ minimum class level and at optional Design Pressure (DP) performance level. AAMA/WDMA/CSA 101/I.S.2/A440-08 par. 5.3.4.2 & ASTM-E330-02 (2010)	Net deflection measured on the jamb: $1.10 \text{ mm} @ -1440 \text{ Pa} (0.04" @ -30.00 \text{ psf})$ $1.21 \text{ mm} @ +1440 \text{ Pa} (0.05" @ +30.00 \text{ psf})$ $2.61 \text{ mm} @ -3360 \text{ Pa} (0.10" @ -70.00 \text{ psf})$ $2.92 \text{ mm} @ +3360 \text{ Pa} (0.11" @ +70.00 \text{ psf})$ Allowed $\leq 8.11 \text{ mm} (0.32")$	70
Uniform Load Structural Test	Permanent deformation $\leq 0.3\%$ of the member span at minimum class level of $2160 \text{ Pa} (45.00 \text{ psf})$ and at optional Structural Test Pressure (STP) levels. AAMA/WDMA/CSA 101/I.S.2/A440-08 par. 5.3.4.3 & ASTM-E330-02 (2010)	Permanent deformation measured on the jamb: $0.32 \text{ mm} @ -2160 \text{ Pa} (0.01" @ -45.00 \text{ psf})$ $0.29 \text{ mm} @ +2160 \text{ Pa} (0.01" @ +45.00 \text{ psf})$ $0.90 \text{ mm} @ -5040 \text{ Pa} (0.04" @ -105.00 \text{ psf})$ $0.73 \text{ mm} @ +5040 \text{ Pa} (0.03" @ +105.00 \text{ psf})$ Allowed $\leq 4.26 \text{ mm} (0.17")$	70
Forced-Entry Resistance Test	All windows shall be tested according to ASTM F588-07 performance level 10. AAMA/WDMA/CSA 101/I.S.2/A440-08 par. 5.3.5	Grade 10 of ASTM F588-07 $T_1=5 \text{ min.}$	Passed
Welded Corner Test	When loaded to failure, the break shall not extend along the entire weld line. AAMA/WDMA/CSA 101/I.S.2/A440-08 par. 5.3.6.2	For each corner detail (sash and frame) the breakage does not extend along the entire weld line.	Passed

Performance Evaluation: GP356 & GP390 Series Fixed Window



6.0 CONCLUSION

Based on the tests results, the window described in this report meets the requirements of the AAMA/WDMA/CSA 101/I.S.2/A440-08 Standard regarding performance testing (article 5.0).

Detailed assembly drawings showing wall thickness of all members, corner construction and hardware application are on file and have been compared to the sample submitted.

The above results were secured by using the designated test methods and they indicate compliance with the performance requirements of the referenced specification. The test records from this evaluation will be retained for a minimum of four (4) years from the date of report issuance. This report does not constitute certification of this product, which may only be granted by a certification agency.

Note on the Limitation of Liability:

Due care was taken in performing the testing sequence and in reporting the results related to the test specimen received for evaluation. Through acceptance of this report, the Client agrees to exempt Air-Ins Inc. employees and owners from all liability claims and demands arising from any matter related to or concerning the quality and execution of the performance evaluation contained in this report.

7.0 REVISION LOG

Rev. #	Date	Page(s)	Revision(s)