

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



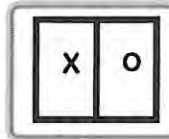
Report No.:
AI-03534-A4 Rev.1

Product Manufacturer:

PH TECH INC.
8650 DE LA RIVE-SUD BLVD
LEVIS, QUEBEC
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418-833-3231

Test Report Summary:

Product type: PVC Sliding Door
Product series/model: S-800 Series Sliding Door, Mechanical sash with coex



Primary product designator: **Class R-PG60-SD Size tested 1800 x 2080 (72 x 82)**

Optional secondary designator: Positive Design pressure (DP) = 2880 Pa (60.0 psf)
Negative design pressure (DP) = -2880 Pa (-60.0 psf)
Water penetration resistance test pressure = 440 Pa (9.0 psf)
Canadian air infiltration / exfiltration level = A3 Level

Test completion date: 08/18/2010
Report date: 09/07/2010
Revision date: 05/24/2012
Number of pages: 10

CAN/CGSB-82.1-M89 ratings: A3 / B4 / C3 / E3 / F2

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

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5.0 RESULTS OF PERFORMANCE TESTS

5.1 TEST SPECIMEN PRIMARY TESTING

TEST	<div style="border: 1px solid black; padding: 5px; display: inline-block; font-size: 2em; font-weight: bold; margin-right: 10px;">R</div> CLASS SPECIFICATIONS	TEST RESULTS	GRADE OR COMMENT
Operating Force Test	<i>U.S. (only) requirements:</i> Force to initiate motion < 135 N (30 lbf) Force to maintain motion < 90 N (20 lbf) Force to latch < 100 N (22.5 lbf) AAMA/WDMA/CSA 101/I.S.2/A440-08 par. 5.3.1.1 & ASTM-E2068-00	Measured to initiate = 33 N (7.4 lbf) Measured to maintain = 25 N (5.5 lbf) Measured to latch = 9 N (2 lbf)	Passed
	<i>Canadian (only) requirements:</i> Force to initiate motion < 135 N (30 lbf) Force to maintain motion < 90 N (20 lbf) Force to latch < 100 N (22.5 lbf) AAMA/WDMA/CSA 101/I.S.2/A440-08 par. 5.3.1.1 & ASTM-E2068-00	Measured to initiate = 33 N (7.4 lbf) Measured to maintain = 25 N (5.5 lbf) Measured to latch = 9 N (2 lbf)	Passed
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: 3.76 m ² (40.43 ft ²) $Q_{inf} = 0.19 \text{ l/s-m}^2 @ 75 \text{ Pa}$ $(0.04 \text{ cfm/ft}^2 @ 1.57 \text{ psf})$	Passed
	Canadian air infiltration/exfiltration level: A2: $Q_{inf \& \text{exf}} \leq 1.5 \text{ l/s-m}^2 @ 75 \text{ Pa}$ $(\leq 0.3 \text{ cfm/ft}^2 @ 1.57 \text{ psf})$ A3: $Q_{inf \& \text{exf}} \leq 0.5 \text{ l/s-m}^2 @ 75 \text{ Pa}$ $(\leq 0.1 \text{ cfm/ft}^2 @ 1.57 \text{ psf})$ AAMA/WDMA/CSA 101/I.S.2/A440-08 par. 5.3.2.2 & ASTM-E283-04	$Q_{inf} = 0.19 \text{ l/s-m}^2 @ 75 \text{ Pa}$ $(0.04 \text{ cfm/ft}^2 @ 1.57 \text{ psf})$ $Q_{exf} = 0.42 \text{ l/s-m}^2 @ 75 \text{ Pa}$ $(0.08 \text{ cfm/ft}^2 @ 1.57 \text{ psf})$ $Q_{avg} = 0.31 \text{ l/s-m}^2 @ 75 \text{ Pa}$ $(0.06 \text{ cfm/ft}^2 @ 1.57 \text{ psf})$	A3 level
Water Resistance Test	No water infiltration under a minimum pressure differential of 140 Pa (2.90 psf) AAMA/WDMA/CSA 101/I.S.2/A440-08 par. 5.3.3.2 & ASTM-E547-00	No water infiltration under a pressure differential of 440 Pa (9.00 psf)	60
Uniform Load Deflection Test	Deflection at 720 Pa (15.00 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	Net deflection measured on the meeting stile: 6.30 mm @ -720 Pa (0.24 " @ -15.00 psf) 5.99 mm @ +720 Pa (0.23 " @ +15.00 psf) 25.78 mm @ -2880 Pa (1.01 " @ -60.00 psf) 25.29 mm @ +2880 Pa (0.99 " @ +60.00 psf) Allowed: Not applicable for this performance class	Reported only

Performance Evaluation: S-800 Series Wood/PVC Sliding Door



<p>Uniform Load Structural Test</p>	<p>Permanent deformation $\leq 0.4\%$ of the member span at minimum class level of 1080 Pa (22.50 psf) and at optional Structural Test Pressure (STP) levels. <i>AAMA/WDMA/CSA 101/I.S.2/A440-08</i> <i>par. 5.3.4.3 & ASTM-E330-02</i></p>	<p>Permanent deformation measured on the meeting stile:</p> <p>0.68 mm @ -1080 Pa (0.02 " @ -22.50psf) 0.68 mm @ +1080 Pa (0.02 " @ +22.50 psf) 6.12 mm @ -4320 Pa (0.24 " @ -90.00 psf) 7.48 mm @ +4320 Pa (0.29 " @ +90.00 psf)</p> <p>Allowed ≤ 7.58 mm (0.29 ")</p>	<p>60</p>
<p>Forced- Entry Resistance Test</p> <p>All sliding doors shall be tested according to ASTM F842-04 minimum performance level 10. <i>AAMA/WDMA/CSA 101/I.S.2/A440-08</i> <i>par. 5.3.5</i></p>	<p>Surface lock/ keeper:</p> <p><i>With #8 x 3/4" screws on lock and with #8 x 1 1/4" screws on keeper:</i></p> <p>Grade 20 of ASTM F842-04</p> <p><i>T₁=5 min., L₁=2224 N (500 lbf), L₂=890 N (200 lbf), L₃=222 N (50 lbf), L₄=222 N (50 lbf) + panel weight</i></p>	<p>Passed</p>	<p>Passed</p>
	<p>1-point mortise lock/ keeper:</p> <p><i>With #8 x 3/4" screws on lock and with #8 x 1 1/4" screws on keeper:</i></p> <p>Grade 20 of ASTM F842-04</p> <p><i>T₁=5 min., L₁=2224 N (500 lbf), L₂=890 N (200 lbf), L₃=222 N (50 lbf), L₄=222 N (50 lbf) + panel weight</i></p>	<p>Passed</p>	<p>Passed</p>
	<p>2-point mortise lock/ keeper:</p> <p><i>With #8 x 3/4" screws on lock and with #8 x 1 1/4" screws on keeper:</i></p> <p>Grade 25 of ASTM F842-04</p> <p><i>T₁=5 min., L₁=3559 N (800 lbf), L₂=890 N (200 lbf), L₃=222 N (50 lbf), L₄=222 N (50 lbf) + panel weight</i></p>	<p>Passed</p>	<p>Passed</p>
	<p>2-point mortise lock/ keeper:</p> <p><i>With #8 x 3/4" screws on lock and with #8 x 2 1/2" screws on keeper:</i></p> <p>Grade 30 of ASTM F842-04</p> <p><i>T₁=10 min., L₁=3559 N (800 lbf), L₂=1779 N (400 lbf), L₃=445 N (100 lbf), L₄=222 N (50 lbf) + panel weight</i></p>	<p>Passed</p>	<p>Passed</p>

Performance Evaluation: S-800 Series Wood/PVC Sliding Door



5.2 TEST SPECIMEN AUXILIARY TESTING

TEST	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-right: 5px;">R</div> CLASS SPECIFICATIONS	TEST RESULTS	GRADE OR COMMENT
Welded Corner Test	When loaded to failure, the break shall not extend along the entire weld line. <i>AAMA/WDMA/CSA 101/I.S.2/A440-08 par. 5.3.6.2</i>	Not applicable for mechanical assemblies.	N/A
Deglazing Test	Deglazing < 90% of original glazing bite. The load for vertical sash members is 320 N (70 lbf) and 230 N (50 lbf) for all other rails. <i>AAMA/WDMA/CSA 101/I.S.2/A440-08 par. 5.3.6.3</i>	Allowed: 13.25 mm (0.52")/ 90 % Measured: 1.34 mm (0.05")/ 9 % for stiles Measured: 1.17 mm (0.05") / 8 % for rails	Passed



6.0 CONCLUSION

Based on the tests results, the door 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.