



TEST REPORT

Report No.: G6910.01-303-47

Rendered to:

C.R. LAURENCE CO., INC.
Vernon, California

PRODUCT TYPE: Side Hinged Door - Outswing
SERIES/MODEL: 925

Title	Summary of Results
Design Pressure	±2640 Pa (±55.14 psf)
Air Infiltration	0.4 L/s/m ² (0.07 cfm/ft ²)
Water Penetration Resistance Test Pressure	220 Pa (4.59 psf)

Test Completion Date: 02/20/14

Reference must be made to Report No. G6910.01-303-47, dated 02/02/17 or complete test specimen description and detailed test results.

1.0 Report Issued To: CR Laurence Co., Inc.
2100 East 38th Street
Vernon, California 90058

2.0 Test Laboratory: Architectural Testing, Inc., an Intertek company ("Intertek-ATI")
25800 Commercentre Drive
Lake Forest, California 92630
949-460-9600

3.0 Project Summary:

3.1 Product Type: Side Hinged Door - Outswing

3.2 Series/Model: 925

3.3 Compliance Statement: Results obtained are tested values and were secured by using the designated test methods. The specimen tested successfully met the performance requirements of test specifications.

3.4 Test Dates: 02/12/2014 – 02/20/2014

3.5 Test Location: C.R. Laurence Co., Inc.'s test facility in Vernon, California.

3.6 Test Sample Source: The test specimen was provided by the client. Representative samples of the test specimen will be retained by Intertek-ATI for a minimum of four years from the test completion date.

3.7 Drawing Reference: The test specimen drawings are located in Appendix C.

3.8 List of Official Observers:

<u>Name</u>	<u>Company</u>
Ron Wooten	CR Laurence Co., Inc.
Jarod S. Hardman	Intertek-ATI

4.0 Test Specifications:

ASTM E283-04 (2012), *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, *Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference*

4.0 Test Specifications: (Continued)

ASTM E331-00 (2009), *Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference*

ASTM E547-00 (2009), *Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference*

ASTM E2068-00 (2008), *Standard Test Method for Determination of Operating Force of Sliding Windows and Doors*

AAMA 910-10, *Voluntary "Life Cycle" Specifications and Test Methods for AW Class Architectural Windows and Doors*.

AAMA 1304-02, *Voluntary Specification for Forced Entry Resistance of Side-Hinged Door Systems*

5.0 Test Specimen Description:

5.1 Product Sizes:

Overall Area: 2.97 m ² (32.0 ft ²)	Width		Height	
	millimeters	inches	millimeters	inches
Overall Size	1219	48	2438	96
Panel	1185	46.65	2414	95.04

5.2 Frame Construction:

Frame Member	Material	Description
Head	Aluminum	Thermally broken assembly of extrusion Die #HE450 and Die #HT450
Jambs	Aluminum	Thermally broken assembly of extrusion Die #JE450 and Die #JI450
Sill	Aluminum	Threshold extrusion Die #TH830

	Joinery Type	Detail
All Corners	Coped	One #12 x 1" hex head sheet metal screw through interior extrusion of the jambs and into the head/sill

5.0 Test Specimen Description: (Continued)

5.3 Panel Construction:

Panel Member	Material	Description
Top and Jambs	Aluminum	Thermally broken assembly of extrusion Die #HE300 and Die #HI300
Bottom	Aluminum	Thermally broken assembly of extrusion Die #DE030

	Joinery Type	Detail
All Corners	Mitered	Secured at corner joints with aluminum corner key that is secured to rails/stiles with three dimples in the aluminum to retain key

5.4 Weatherstripping:

Description	Quantity	Location
Bulb Gasket Part #WN342	1 row	Head and jambs of panel in weather strip channel of Extrusion # HE300
Bulb Gasket Part #NP257	1 row	Inserted into frame full perimeter of interior Extrusion #'s JI450, HT450, and TH830
Finger Gasket Part #NP810	1 row	Inserted into bottom channel of Extrusion #DE030

5.5 Glazing:

Glass Type	Spacer Type	Interior Lite	Exterior Lite	Glazing Method
1" IG	1/2" A1-D	1/4" tempered	1/4" tempered	0.150" x 0.375" butyl tape at interior and snap in glass stop Die #WN429 with wedge gasket Part #WH344

Location	Quantity	Daylight Opening		Glass Bite
		millimeters	inches	
Door Panel	1	981 x 2230	38.62 x 87.80	3/4"

5.0 Test Specimen Description: (Continued)

5.6 Drainage:

Drainage Method	Size	Quantity	Location
Weep Notch	3/4" x 1/8"	2	4" from corner in bottom rail of panel notched out of top of rail beneath glass stop
Trimmed Weather Strip	10" hold back	4	Located at both corners of bottom rail of panel on weather strip Part #NP810 and at top corners of vertical stiles of panel on weather strip Part #WH342

5.7 Hardware:

Description	Quantity	Location
Butt Hinge	3	One hinge 6-1/2" from sill, 6-1/2" from head, and mid-span of frame, Part #WH751 with 4 fasteners into the frame and 4 into the stile
Hoppe HLS-7 Multipoint Lock	1	Handle assembly located 31" from sill in panel stile
Strike Plates	3	Located directly opposite handle assembly in panel and swing hooks (35" below head and 12" above sill in frame) secured with two #12 x 1/2" Phillips flat head sheet metal screws

5.8 Reinforcement: No reinforcement was utilized.

5.9 Screen Construction: No screen was utilized.

6.0 Installation:

The specimen was installed into a Pine wood buck. The rough opening allowed for a 0" shim space. The exterior perimeter of the door was sealed with silicone sealant.

Location	Anchor Description	Anchor Location
Full perimeter	#12 x 2" Flat Head screw	6" from corner and 18" on center with one screw added to the center of the top and bottom hinge

7.0 Test Results: The temperature during testing was 19°C (66°F). The results are tabulated as follows:

Title of Test	Results	Allowed	Note
Operating Force, Force to latch test procedure, per ASTM E 2068	Force to Latch: 36 N (8.0 lbf) Deadbolt: 0.2 N/m (2.0 lbs/in) Force to Panel for Deadbolt: 0 N (0.0 lbf) Force to Handle for Deadbolt-Secondary: 138 N (31.0 lbf)	Report Only Report Only Report Only Report Only	
Air Leakage, Infiltration per ASTM E 283 at 75 Pa (1.57 psf)	<0.1 L/s/m ² (<0.01 cfm/ft ²)	Report Only	
Air Leakage, Infiltration per ASTM E 283 at 300 Pa (6.27 psf)	<0.1 L/s/m ² (<0.01 cfm/ft ²)	Report Only	
Water Penetration, per ASTM E 547 and ASTM E 331 at 220 Pa (4.59 psf)	Pass	No leakage	
Water Penetration, per ASTM E 547 at 220 Pa (4.59 psf)	Pass	No leakage	

7.0 Test Results: (Continued)

Title of Test	Results	Allowed	Note
Uniform Load Deflection, per ASTM E 330 taken at top rail +2640 Pa (+55.14 psf) -2640 Pa (-55.14 psf)	3.8 mm (0.15") 2.0 mm (0.08")	Report Only	1, 2
Uniform Load Structural, per ASTM E 330 taken at top rail +3960 Pa (+82.71 psf) -3960 Pa (-82.71 psf)	0.3 mm (0.01") 0.5 mm (0.02")	Report Only	1, 2
Forced Entry Resistance, per AAMA 1304	Pass	No entry	
Life Cycle per AAMA 910/ Misuse Testing: per AAMA 910			
Door Leaf Cycling, (First half) per AAMA 910 12500 cycles	Sash/Vent: Pass Sash/Vent: Pass	No damage No damage	
Locking Hardware Cycling, (First half) per AAMA 910 2000 cycles	Lock/Handle/Latch: Pass Lock/Handle/Latch: Pass	No damage No damage	
Door Leaf Vertical Load at 890 N (200 lbf)	Pass	No damage	
Door Leaf Corner Block at 334 N (75 lbf)	Pass	No damage	
Door Leaf Cycling, (Second half) per AAMA 910 12500 cycles	Sash/Vent: Pass Sash/Vent: Pass	No damage No damage	
Locking Hardware Cycling, (Second half) per AAMA 910 2000 cycles	Lock/Handle/Latch: Pass Lock/Handle/Latch: Pass	No damage No damage	

Note 1: Loads were held for 10 seconds.

Note 2: Tape and film were used to seal against air leakage during structural testing. In our opinion, the tape and film did not influence the results of the test.

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

The service life of this report will expire on the stated Test Record Retention End Date, at which time such materials as drawings, data sheets, samples of test specimens, copies of this report, and any other pertinent project documentation, shall be discarded without notice.

If test specimen contains glazing, no conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen can be made. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen tested. This report may not be reproduced, except in full, without the written approval of Intertek-ATI.

For INTERTEK-ATI.

Jarod S. Hardman
Laboratory Manager

JSH:ms

Attachments (pages): This report is complete only when all attachments listed are included.

Appendix-A: Alteration Addendum (1)

Appendix-B: Photographs (2)

Appendix-C: Drawings (2)

Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
0	01/04/17	N/A	Original Report Issue.
1	02/02/17	Cover	Remove reference to AAMA 101 specification on cover sheet
1	02/02/17	2	Include AAMA 910 and AAMA 1304 test standard description
1	02/02/17	5-6	Revise operating force standard, include AAMA 910 cycling and misuse test results

Appendix A

Alteration Addendum

Note: *No alterations were required.*



Test Report No.: G6910.01-303-47
Report Date: 01/04/17
Revision 1 Date: 02/02/17
Test Record Retention End Date: 02/20/18

Appendix B

Photographs



Photo No. 1
Door Cycling Set-Up – Interior



Photo No. 2
Door Cycling Set-Up – Exterior



Photo No. 3
Door Cycling – Completion of First Half



Photo No. 4
Door Cycling – Completion of Second Half



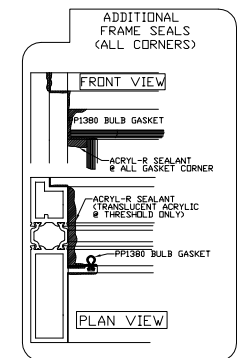
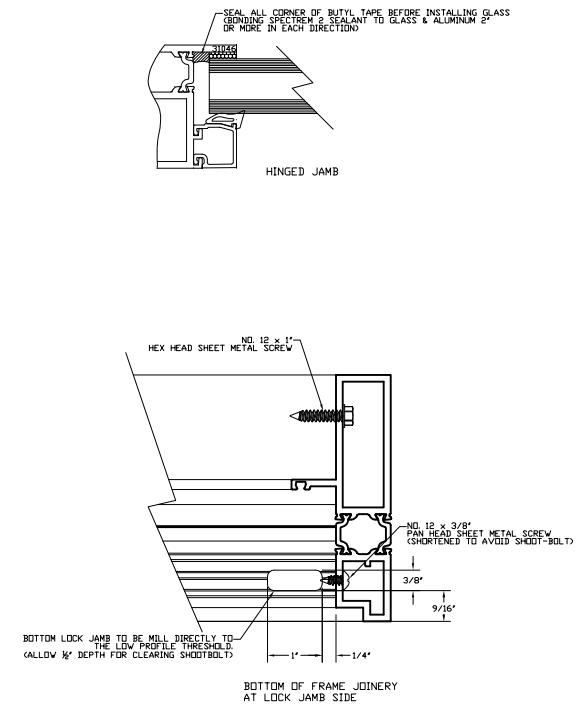
Test Report No.: G6910.01-303-47
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Appendix C

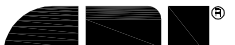
Drawings

SEAL END AT HORIZONTALS
(TOP)

SEAL END AT HORIZONTALS
(BOTTOM)



ACTIVE TONGUE / SHOOTBOLT VERSION
HLS-7 SERIES MULTIPOINT LOCK SYSTEM

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				DRAWN BY: MR	TITLE: 925 OUT-SWING SINGLE PATIO DOOR W/ LOW PROFILE THRESHOLD MOCK-UP DRAWING	DRAWING NO. 925 PATIO DOOR			
				DATE: 12.6.16					
REV.	DESCRIPTION	DATE	BY	SCALE: 3/4"=1'-0"		Sheet No. 2 of 2			