

Gateway Performance Test Results

<i>Specification Paragraph</i>	<i>Title of Test</i>	<i>Results</i>	<i>Allowed</i>
5.3.2	<u><i>Air Leakage Resistance – ASTM E 283</i></u> Test Pressure - 75 Pa (1.60 psf)	0.05 L/sec/m ² (0.01 scfm/ft ²)	1.50 L/sec/m ² (0.30 scfm/ft ²)
	The tested specimen meets (or exceeds) the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440 for air leakage resistance.		
5.3.3	<u><i>Water Penetration Resistance – ASTM E 547</i></u> 204 L/hr/m ² (5 gal/hr-ft ²) - 4 Test cycles - 24 Minutes Design Pressure - 720 Pa (15.00 psf) Note: Pressures started higher than Gateway		
5.3.4.2	<u><i>Uniform Load Deflection - ASTM E 330</i></u> Design Pressure - 720 Pa (15.00 psf) Note: Pressures started higher than Gateway		
5.3.4.3	<u><i>Uniform Structural Load - ASTM E 330</i></u> Design Pressure - 720 Pa (15.00 psf) Note: Pressures started higher than Gateway		
5.3.5	<u><i>Forced Entry Resistance – ASTM F 588</i></u> Grade: 10 Type D Disassembly Test	Pass	No Entry

Optional Performance Test Results

<i>Specification Paragraph</i>	<i>Title of Test</i>	<i>Results</i>	<i>Allowed</i>
--------------------------------	----------------------	----------------	----------------

The product specified herein has successfully achieved all the required criteria in section 5 of the referenced specification for the Gateway size of the achieved Performance Rating and has been further successfully tested the product to higher performance levels as indicated below.

4.4.2.6	<u>Water Resistance - ASTM E 547</u> 204 L/hr/m ² (5 gal/hr-ft ²) - 4 Test cycles - 24 Minutes Design Pressure - 2400 Pa (50.00 psf) Test Pressure - 360 Pa (7.50 psf)	Pass	No Leakage
	<u>Uniform Load Deflection - ASTM E 330</u> Design Pressure -2400 Pa (50.00 psf) Test Pressure Positive Load - 2400 Pa (50.00 psf) Negative Load - 2400 Pa (50.00 psf) Note: Measurements per AAMA Guidelines: Fasteners on jamb	1.04 mm (0.041 in.) 1.52 mm (0.060 in.)	N/A N/A
	<u>Uniform Structural Load - ASTM E 330</u> Design Pressure – 2400 Pa (50.00 psf) Test Pressure Positive Load – 3600 Pa (75.00 psf) Negative Load – 3600 Pa (75.00 psf) Note: Measurements per AAMA Guidelines: Fasteners on jamb	0.10 mm (0.004 in.) 0.08 mm (0.003 in.)	0.89 mm (0.035 in.) 0.89 mm (0.035 in.)

Product Description of Test Specimen**Specimen Item****Laboratory Verification**Frame:

Size	72 in. W. x 72 in. H. x 2-1/2 in. D.
Daylight opening	70 in. W. x 70 in. H.
Material	Aluminum
Corner construction	Butted
Corner fastening	[2] #8 x 1 in. L. pan head screws driven from end of ea. jamb
Corner sealing	Acrylic seam sealer

Glazing:

Overall IG thickness	5/8 in. (0.620 in. actual)
Thickness of glass	5/32 in. (0.152 in. actual)
Heat treatment	Annealed
Number of lights	2
Spacer ID	(CU-D)

Glazing Method:

Type	Laid-in from interior
Sealing	Wet glazed with silicone, aluminum glazing beads with T-slot rubber gasket against IG. Glazing beads are fastened with #6 x 1 in. L. screws, 3 in. from the corners with [3] more equally spaced on all frame members
Bite depth	1/2 in.
Setting blocks	[2] 1/8 in. thick rubber all around for a total of [8]

Drainage:

None

Test Buck:

Mounting Gap	3/16 in. at the head, sill and jambs
Shims	None
Sealant	Silicone
Material	2 x 10 wrapped around a 2 x 4, SYP, #2

Anchorage of Frame to Test Buck:

Type	Pan head screws, #8 x 1 in. L.
Quantity	[9] ea. on head, sill and jambs, [36] total
Location	2 in. from all corners, 8-5/8 in. o.c. thereafter through nailing fin
Type	Perimeter stops
Size	1-1/2 in. W. or H. x 1-1/4 in. D.
Location	Full perimeter of exterior, over nailing fin, fastened with #8 x 1-3/4 in. L. flat head screws, 3-1/2 in. from ends with [1] additional centered between each, [12] total

Product Description of Test Specimen

Specimen Item

Laboratory Verification

Review of Bill of Materials – As Supplied

Review of Assembly and Detail Drawings – BOM, assembly, 1209, 1210, 1211, 4032.

Components changed or altered during testing to achieve stated results – NONE

This report, in its original form contains product drawings and a Bill of Materials.

Conditions, Terms, and General Notes Regarding These Tests

The product tested **Has Been** compared to the detailed drawings, bill of materials and fabrication information supplied by the client so named herein. Our analysis, which includes dimensional and component description comparisons, indicate the tested product and engineering information supplied by the client "**Are Equivalent**". The report and representative samples will be retained for four years from the date of initial test.

These test results were obtained by employing all requirements of the designated test methods with no deviations. The test results and specimen supplied for testing are in compliance with the referenced specifications. The test results are specific to the product tested by this laboratory and of the sample supplied by the client named herein, and they relate to no other product either manufactured by the client, a Fabricator of the client or of installed field performance.

This report does not constitute a certified product. The program administrator may only grant product certification.

ETC Laboratories makes no opinions or endorsements regarding this product and its performance. This report may not be reproduced or quoted in partial form without the expressed written approval of ETC Laboratories.

No conclusions of any kind regarding the adequacy of the glass in the test specimen may be drawn from the test. Procedure "A" in ASTM E330 was used for this test.

ETC Laboratories letters, reports, its name or insignia or mark are for the exclusive use of the client so named herein and any other use is strictly prohibited. The report, letters and the name of ETC Laboratories, its seal or mark shall not be used in any circumstance to the general public or in any advertising.

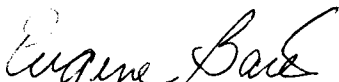
Limitation of Liability: Due diligence was used in rendering this professional opinion. By acceptance of this report, this client agrees to hold harmless and indemnify ETC Laboratories, its employees and offices and owners against all claims and demands of any kind whatsoever, which arise out of or in any manner connected with the performance of work referred to herein.

Revision History

<u>Date</u>	<u>Rev. #</u>	<u>Pages Affected</u>	<u>Revisions</u>
09/15/2009	.0	N/A	Original report issue
09/16/2009	.1	1	Corrected tempered glass to annealed glass
09/29/2009	.2	1, 3	New unit (no changes from original) tested, improved performance grade and data added

For ETC Laboratories

Josh Reindl, Testing Technician


 Eugene Baier, AWS Supervisor