

PERFORMANCE TEST REPORT

Rendered to:

UNITED STATES ALUMINUM CORPORATION

SERIES/MODEL: 400

PRODUCT TYPE: Aluminum Medium Stile Door

Title	Summary of Results
Uniform Load Deflection Test Pressure	±31.0 psf
Uniform Load Structural Test Pressure	±47.0 psf

Reference should be made to Architectural Testing, Inc. Report No. 84710.01-801-47 for complete test specimen description and data.



PERFORMANCE TEST REPORT

Rendered to:

UNITED STATES ALUMINUM CORPORATION
200 Singleton Drive
Waxahachie, TX 75165

Report No.: 84710.01-801-47
Revision 1: 09/23/08
Test Dates: 07/24/08
Through: 07/24/08
Report Date: 08/21/08
Expiration Date: 07/24/12

Project Summary: Architectural Testing, Inc. was contracted by United States Aluminum Corporation to witness testing on a Series/Model 400, aluminum medium stile door at United States Aluminum Corporation's test facility in Waxahachie, TX. Test specimen description and results are reported herein. Refer to report number 84710.02-801-47 for calibration report.

Test Method: The test specimen was evaluated in accordance with the following:

ASTM E 283-99, Test Method for Determining Rate of Airflow Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen

ASTM E 330-02, Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.

Test Specimen Description:

Series/Model: 400

Product Type: Aluminum Medium Stile Door

Overall Door Opening Size: 48" wide by 98" high

Overall Frame Size: 51-1/2" wide by 99-3/4" high

Daylight Opening Size: 39-13/16" wide by 86-1/2" high

Overall Area: 35.68 ft²

Finish: Anodized Aluminum

Glazing Details: Door leaf was center glazed with 1/4" clear tempered glass (5.7 mm). An aluminum glazing bead was located at the interior and exterior with WS-147 bulb gasket.

Weatherstripping:

<u>Description</u>	<u>Location</u>
BW-200 Single Leaf Vinyl	Applied to bottom rail on interior surface
WS-147 Bulb Gasket	Inserted into each door stop (head and jambs)

Frame Construction: The header and jambs were coped and butted and secured at each corner through four screw boss using #10 x 1" screws (ST-251). The threshold and jambs were secured using one corner clip on each side.

Door Leaf Construction: Top rail had one corner block secured with one 3/8" x 1-1/4" bolt and square nut. Two blocks were at bottom of rail. The top rail, bottom rail, and stile were coped and butted and attached to the shear block using four #10 x 1/2" screws, one at each screw boss. One tack weld was applied to the stile and rail. The hinges were installed into the stile and hinge backer plate using eight #12 x 1/2" screws per hinge. Four #12 x 1/2" screws were used to secure each hinge to the frame and hinge backer plate. The hook bolt lock was attached to the stile using two #12 x 1/2" screws.

Test Specimen Description: (Continued)

Hardware:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
PR-032 Pull Handle	1	Exterior left stile of door leaf, 43" o.c. from bottom of door
PR-034 Push Bar	1	Connected at each stile, 38" from bottom of door
DH-129 Hook Bolt Lock	1	Exterior left stile of door under pull handle (34" from cylinder to bottom of door)
DH-009 Five Barrel Stainless Steel Hinges	4	Exterior right stile and jamb, bottom of first hinge 9" from bottom of jamb, bottom of second hinge 25-7/8" from first hinge, bottom of third hinge 25-7/8" from second hinge, top of top hinge 6" from top of jamb.

Drainage: No drainage was utilized

Reinforcement: No reinforcement was utilized

Installation: Threshold was fastened with #12 x 2-1/2" screws at 4-1/2" from ends and 18-1/2" o.c. thereafter. A continuous bead of sealant was used from the exterior face of the threshold to the ground as well as the sides. Jambs and head of frame had a continuous bead of sealant compound applied at exterior and interior. Jambs and header were secured with #12 x 2-1/2" screws. Screw spacing on jambs was 4" from ends with 18" o.c. spacing thereafter and on header at 4" from ends with 12" o.c. spacing thereafter.

Test Results: The temperature during testing was 84.5°F. The results are tabulated as follows:

<u>Test Method</u>	<u>Title of Test</u>	<u>Results</u>
ASTM E 283	Air Infiltration 75 Pa (1.57 psf)	0.22 cfm/ft ²
ASTM E 283	Air Infiltration 300 Pa (6.24 psf)	0.70 cfm/ft ²
ASTM E 330	Uniform Load Deflection (Deflections reported were taken on the left exterior stile) (Loads were held for 10 seconds) 31.0 psf (positive) 31.0 psf (negative)	0.10" 0.34"
ASTM E 330	Uniform Load Structural (Permanent sets reported were taken on the left exterior stile) (Loads were held for 10 seconds) 47.0 psf (positive) 47.0 psf (negative)	0.00" 0.06"

General Note: All testing was performed in accordance with the referenced standards.

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.

Drawing Reference: The test specimen drawings have been reviewed by Architectural Testing and are representative of the test specimen reported herein. See Drawing # 2008.122

List of Official Observers:

<u>Name</u>	<u>Company</u>
Tom Klein	Architectural Testing, Inc
Terry Hopgood	United States Aluminum Corporation
Michael Brown	United States Aluminum Corporation
Don Willard	United States Aluminum Corporation

Detailed drawings, data sheets, representative samples of test specimens, a copy of this report, or other pertinent project documentation will be retained by Architectural Testing, Inc. for a period of four years from the original test date. At the end of this retention period, such materials shall be discarded without notice and the service life of this report will expire.

Results obtained are tested values and were secured by using the designated test methods. No conclusions of any kind regarding the adequacy or inadequacy of the glass in the 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(s) tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, INC:



Digitally Signed by: Tom Klein

Tom Klein
Technician



Digitally Signed by: Andy Cost

Andy Cost
Laboratory Manager

TK:ac

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix-A: Drawings (2)

Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page</u>	<u>Revision(s)</u>
1	09/23/08	3	Changed hinge location to match drawing