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March 21, 2002

To whom it may concern:

The following test reports for General Aluminum Company of Texas issued by Dallas Laboratories, Inc. have been reviewed for completeness and authenticity. Dallas Laboratories, Inc. is accredited by the American Architectural Manufacturers Association (AAMA) to perform window and door structural load testing. Calibration reports for the test equipment used in performing the test have been reviewed and determined to be within the tolerances allowed. Detailed window assembly drawings representative of the test specimens indicating wall thicknesses of all members, corner constructions, and hardware applications are on file and have been compared to the actual test specimen. Corner sections of each window tested are being retained at Dallas Laboratories, Inc.. The results reported were secured by using the designated test methods as specified in AAMA/ NWWDA 101/I.S.2-97 "Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors".

Dallas Laboratories Report Numbers: 31187

Date of Report: September 5, 2001 Reissued May 11, 2002

Product Type: Aluminum Horizontal Sliding Window

Series Model: 1180 / 1480 / 1580 / 1980 (modified)

Frame Size: 6'-1" x 4'-7"

Sash Size: 2'-11⁷/₈" x 4'-2⁷/₈"

Configuration: O/X

Please do not hesitate to contact me should you have any questions.

Sincerely,

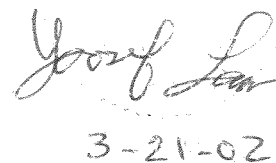


Yoosef Lavi, P.E.

YL/jb

Attachment: Test Report (3 pages total)

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Submitted by: General Aluminum Corp.
P.O. Box 819022
Dallas, TX 75381-9022

Date: September 5, 2001
Reissue Date: 05-11-02

Attn: Ivan Paredes

Report No.: 31187

REPORT

Product Type: Aluminum Horizontal Sliding Window

Specification: AAMA/NWDA 101/I.S. 2-97; HS-R40-73x55

Series Model: 1180/1480/1580/1980 (Modified)

Frame Size: 6'1" x 4'7"

Sash Size: 2'11-7/8" x 4'2-7/8"

Configuration: OX

PRODUCT DESCRIPTION

Weather-stripping: Pile weatherstrip (0.170" thickness) at exterior face of vent interlock stile. Vinyl bulb seal at vent jamb stile. One line of (0.250" thickness) pile weatherstrip with integral plastic fin at sash bottom rail. One line of (0.170" thickness) pile weatherstrip with integral plastic fin at vent top rail. One (.360" thick x 1-5/8" long) pile weatherstrip pad at bottom of fixed interlock stile, second at sill where fixed interlock and sill meet (total of two pads). One (1/16" x 3/8" x 1-1/4") foam pad at top of fixed interlock.

Hardware: Two (2) metal sweep locks at sash interlock stile, each 18 1/2" from each end. Tandem (2) metal rollers in nylon housing with integral spacer at each end of sash bottom rail (part of sash corner assembly). Nylon spacer (integral to corner assembly) at each end of sash top rail.

Glass: Double strength annealed glass.

Glazing: Exterior glazed with back-bedding compound and vinyl snap-in glazing bead.

Weep Arrangement: Two (3/16"x3/4") louvered weeps through exterior face of sill (under fixed panel, one at each end of panel). Two louvered weeps also through roll track of sill. 1/4" half moon weep hole 1" from each end of fixed panel bottom rail (exterior face).

Sealant: Narrow joint sealant at all frame corners and each end of fixed interlock stile. Screws at fixed panel bottom rail caulked.

Installation: Test unit secured to 2" x 4" SPF lumber test buck by twelve (12) #8x1" screws through the countersink pre-punch holes in each jamb and head.. The sill was anchored in place with silicone. The 2" x 4" buck was attached to a 2" x 12" wood frame using bolts at each end and on 20" centers. Silicone was applied full perimeter of frame to buck, exterior only.

Other Features: Nylon spacer button at mid-point (interior face) of sash stiles. Nylon sash guide with spacer button at each end of sash stile (interior face). Frame corner construction by two (2) #6x3/4" screws. Sash corner construction by one (1) #6x3/4" screw. Fixed interlock stile secured by two (2) #6x3/4" screw, one at sill and head respectively.

Date Testing Started: August 15, 2001

Date Testing Completed: September 11, 2001

Test Performed at: General Aluminum Corp. testing facility in Carrollton, Texas.

PERFORMANCE TEST RESULTS

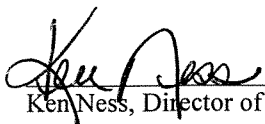
<u>SPECIFICATION PARAGRAPH NO.</u>	<u>TITLE OF TEST</u>	<u>TEST METHOD</u>	<u>MEASURED</u>	<u>ALLOWED</u>
See Dallas Laboratories, Inc. Report #31186 for all other paragraph 2 and 4 test results.				
4.3	Water Resistance @6.0 psf (with and without screen)	ASTM E 547-96	No Leakage	No Leakage
4.4.2	Uniform Load Structural	ASTM E 330-96		
	- Exterior		60.00 psf*	60.00 psf*
	- Interior		60.00 psf*	60.00 psf*
	- Permanent Set		Negligible	0.204"

*No glass breakage, permanent deformation, or other damage causing the unit to be inoperable.

Detailed extrusion and assembly drawings indicating measured wall thickness, corner construction, and hardware application are on file and have been compared to the test sample submitted. Test sample will be retained at the testing laboratory. A copy of this report has been forwarded to ALI.

The above results were secured by using the designated test methods and they indicate compliance with the performance requirements of the above referenced specifications. This report does not constitute certification of this product which may only be granted by ALI.

DALLAS LABORATORIES, INC.
TESTING LABORATORY



Ken Ness, Director of Testing

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