

## DALLAS LABORATORIES, INC.

CONSULTANTS AND TECHNOLOGISTS  
ANALYTICAL AND RESEARCH CHEMISTS —

CHEMICAL ENGINEERS — PETROLEUM ENGINEERS

P. O. BOX 152837  
1323 WALL ST.

DALLAS, TEXAS 75315

## MEMBERS

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS  
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS  
TEXAS SOCIETY OF PROFESSIONAL ENGINEERS  
ASM INTERNATIONAL  
SOCIETY OF PETROLEUM ENGINEERS OF AIME

## MEMBERS

AMERICAN CHEMICAL SOCIETY  
AMERICAN SOCIETY FOR TESTING MATERIALS  
AMERICAN NATIONAL STANDARDS INSTITUTE  
AMERICAN SOCIETY FOR QUALITY CONTROLSubmitted By: United States Aluminum Corp.  
200 Singleton Dr.  
Waxahachie, TX 75165

Attn: Mr. Doug Ellerbrock

Date: April 5, 1994  
(Reissued: May 9, 1994)

Report No. 20932-R

REPORT

Subject: Performance testing in accordance with ASTM E 283-91 (Air Infiltration), ASTM E 331-86 (Water Resistance) and ASTM E 330-90 (Uniform Load Deflection and Uniform Load Structural).

PRODUCT DESCRIPTIONProduct Type: Store-frontSeries Model: FF450 Flush Front Exterior GlazedOverall Size: 8'1/2" x 7'11-3/16"Configuration: 0  $\frac{0}{0}$ Glass: 1/4" tempered.Glazing: Exterior glazed using NP-225 gasket at interior and exterior perimeter of glass.Weep Arrangement: 1-1/4"x3/16" weep slot, approx. 2-1/2" from each vertical member - two under each lite (total of 4).

Sealant: Silicone sealant and foam backer rod used at full exterior perimeter of main frame. Silicone sealant at interior and exterior of sub-sill #FF400 to sill #FF482 full span, at each corner of sub-sill #FF400 to wood test buck and aluminum angle end cap to sub-sill #FF400. Silicone sealant applied to head of sill anchor bolts and vertical joints of mullion at head and sill of main frame.

Other Features: Frame corner construction by two (2) #10x1" screws. Snap-in glazing strip #M-473 at frame top rail. 1/4" dia. lag bolts employed to attach frame to wood test buck - one 2" from each vertical member and one at mid-point between mullion and frame jambs on frame head and frame sill. Horizontal member attached to mull and frame jamb with four (4) 10x1" screws at each corner (total of 8).

Date Testing Started: March 16, 1994Date Testing Completed: March 16, 1994

RECEIVED  
MAY 17 1994  
UNITED STATES ALUMINUM  
TEXAS

PERFORMANCE TEST RESULTS

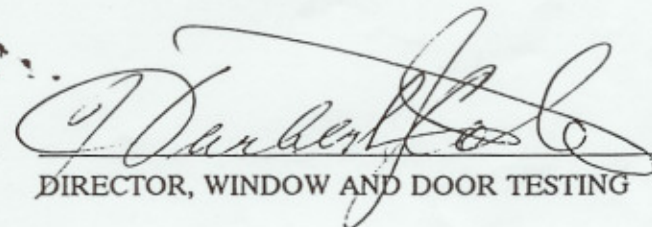
<u>TITLE OF TEST</u>	<u>TEST METHOD</u>	<u>MEASURED</u>	<u>ALLOWED</u>
Air Infiltration @ 1.57 psf	ASTM E 283-91	0.008 CFM/Ft <sup>2</sup>	0.06 CFM/Ft <sup>2</sup>
Air Infiltration @ 6.24 psf	ASTM E 283-91	0.02 CFM/Ft <sup>2</sup>	0.06 CFM/Ft <sup>2</sup>
Water Resistance @ 6.24 psf	ASTM E 331-86	No Leakage	No Leakage
Water Resistance @ 8.00 psf	ASTM E 331-86	No Leakage	No Leakage
Water Resistance @ 10.00 psf	ASTM E 331-86	No Leakage	No Leakage
Uniform Load Deflection	ASTM E 330-90		
- Exterior 30.0 psf		0.218"	0.546"
- Interior 30.0 psf		0.259"	0.546"
Uniform Load Structural	ASTM E 330-90		
- Exterior		45.0 PSF *	45.0 PSF *
- Interior		45.0 PSF *	45.0 PSF *
- Permanent		Negligible	0.386"

\* No glass breakage, permanent deformation, or any other condition exists that caused any damage to the unit.

The above results were secured by using the designated test methods and they indicate compliance with the performance requirements of the above referenced specifications.

DALLAS LABORATORIES, INC.  
TESTING LABORATORY

  
TECHNICIAN

  
DIRECTOR, WINDOW AND DOOR TESTING

AW:td