NCTL

NATIONAL CERTIFIED TESTING LABORATORIES

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STRUCTURAL PERFORMANCE TEST REPORT

Report No: NCTL-210-3213-1
Test Date: 11/03/05
Report Date: 12/12/05

Client: *A.F.G. Glass*
P O Box 929
Kingsport, Tennessee 37662

Test Specimen: *Series "FG450" Aluminum Full Lite Double Doors with MS Hardware (91.5"x 97.75") Design Pressure Positive 20 Negative 20*

Test Method: *ASTM E283-91, "Test Method for Determining the Rate of Air Leakage through Exterior Windows, Curtain Walls, and Doors under Specified Pressure Differences across the Specimen." ASTM E330-02, "Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference."*

TEST SPECIMEN DESCRIPTION

General: *The specimen tested was an extruded aluminum full lite double doors measuring 91.5" x 97.75" overall. The main frame was coped and butted corner construction each corner secured with two (2) # 12 x 1" Phillips pan head screws and a THR-100 aluminum threshold was used. The full glazed door panels measured 44.0" x 96.0" with a 8" bottom rail coped and butted corner construction each corner was secured with an aluminum corner bracket and four (4) # 10 x 0.750" Phillips flat head screws. There were three (3) die cast aluminum offset pivot hinges on each door located 1", 47", and 94 .25" measuring from top to bottom and attached with three (3) # 10 x 0.5 Phillips flat head screws. One (1) mortise hook bolt lock was attached to the active door panel lock stile with a key cylinders and a BF168 8" push and pull set. The inactive door panel had two (2) zinc die cast face and mechanism flush extension bolts with 0.500" round steel tip and nylon guide. A 4" long shear plate was snap fitted to the exterior of frame at each anchor location.*

Glazing: *1/4" Clear Tempered Glass.*

Glazing Method: *All lites were glazed using interior and exterior glazing stop and flush glaze gasket.*

Daylight Opening: *Two (2) lites 38.0" wide x 84.0" high*

Weatherseals: *One (1) strip of aluminum with a neoprene strip was located on the bottom rail interior and attached with # 6 x 0.750" stainless steel screws. One (1) adjustable aluminum strip with two (2) strips of (0.220") high single fin weatherstrip was attached to the active lock stile with # 6 x 0.625" Phillips flat head screws.*

Weeps: *N/A*

Sealant: *A small joint sealant was used at each frame joint. Dow Corning 795 silicone sealant was used to seal the exterior perimeter of the specimen to the wooden test buck.*

Interior & Exterior Surface Finish: *Anodized Aluminum.*

Insect Screen: *N/A*

Installation: *The specimens were secured to the wooden test buck with twenty three (23) # 12 x 3" long Phillips flat head wood screws located in the head and jambs. The sill was attached with four (4) # 12 x 2" long Phillips flat head wood screws.*

Header: *Seven (7) located at 8" from each end 14.0" on center thereafter*

Jambs: *Eight (8) located at 6" from each end 14" on center thereafter*

Sill: *Four (4) located at 4" from each end 28" on center thereafter*

TEST RESULTS

	Title of Test & Method	*Measured*	*Allowed*
	Air Infiltration - ASTM E283		
	1.57 psf (25 mph)	*0.025 cfm/ft²*	*0.3 cfm/ft²*
	***Uniform Load Structural - ASTM E330*	*Set*	*Set*
D/ P + 20 psf – 20 psf			
	20.0 psf Exterior	*0.034"*	*0.384"*
	20.0 psf Interior	*0.042"*	*0.384"*
Test Load	*30.0 psf Exterior*	*0.196"*	*0.384"*
	30.0 psf Interior	*0.136"*	*0.384"*

Deflection and Set measurement taken at mid-span of active door.

Loc # 1 Maximum Allowable Permanent Set (0.4% of 96" span) = 0.384"

** *No glass breakage or permanent damage causing the unit to be inoperable*
* *Specimen passed all specification*

FORCED ENTRY RESISTANCE TEST RESULTS

All Specimens

Forced Entry Resistance

Forced Entry Resistance - Florida Building Code Section 1707.4.2 *Meets as Stated*

The specimen tested meets the criteria of Chapter 36 of the South Florida Building Code for Forced Entry Resistance.

Observers – *Mr. Daniel Ocasio (NCTL)*
Mr. Rick Moffett (NCTL)
Mr. Jim Stropoli (PTC Engineering, Inc.)
Mr. Joe Lewis (PTC Engineering, Inc.)
Mr. David McComas (AFG Glass)
Mr. Ivan Zuniga (AFG Glass)

TEST COMPLETED 11/03/05

Detailed drawings were available for laboratory records and comparison to the test specimen at the time of this report. A copy of this report along with representative sections of the test specimen will be retained by NCTL. The results obtained apply only to the specimen tested. No conclusions of any kind regarding the adequacy or inadequacy of the glass in the test specimen may be drawn from this test. This report does not constitute certification of the product, which may only be granted by a certification program validator.

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