METRO-DADE COUNTY
PERFORMANCE TEST REPORT

Rendered to:

FLEETWOOD ALUMINUM PRODUCTS

03-31366.02

Test Date:	12/27/01
thru:	01/22/02
Report Date:	12/20/02
Expiration Date:	01/22/12

METRO-DADE COUNTY PERFORMANCE TEST REPORT

Rendered to:

Fleetwood Aluminum Products
P.O. Box 1086
Corona, California 92880

Report No.:	03-31366.02
Test Date:	12/27/01
thru:	01/22/02
Report Date:	12/20/02
Expiration Date:	01/12/12

Series/Model: "Yukon 5000T"

Type: Mulled Fixed Window

Project Summary: Architectural Testing, Inc. (ATI) was contracted by Fleetwood Aluminum Products to perform testing per Metro-Dade County Protocols PA 202-94, PA 201-94 and PA 203-94. The tests were performed upon one (1) test sample. The sample tested met the performance requirements set forth in each of the protocols for a ± 65 psf *Design Load* rating.

Test Procedure: The test specimens were evaluated in accordance with the following Metro-Dade County Building Code Compliance Office Protocols:

PA 202-94, *Criteria for Testing Impact and Non Impact Resistance Building Envelope Components Using Uniform Static Air Pressure Loading*.

PA 201-94, *Impact Test Procedures*.

PA 203-94, *Criteria for Testing Products Subject to Cyclic Wind Pressure Loading*.

Test Specimen Description:

Overall Size: 7' 11-1/4" wide by 6' 0" high

D.L.O. Size: 3' 7-1/2" wide by 5' 8-1/8" high

Finish: All aluminum was painted white

Glazing Details: The fixed units were exterior glazed using laminated against a vinyl hollow bulb and a silicone bedding. An aluminum glazing bead with a vinyl hollow bulb was employed at the exterior. The overall thickness of the laminate sheet of glass is 1/2" and consisted of two pieces of 3/16" heat strengthened glass and 0.125" interlayer.

Weatherstripping:

Description	Quantity	Location
0.250" vinyl hollow bulb	2 Rows	The interior vertical sill leg and the glazing bead
0.250" vinyl hollow bulb	4 Rows	The mullion

Panel Construction: All members were aluminum. The corners were mitered, butted, siliconed and held together with a staked in place aluminum corner key. The two fixed windows were mulled together with an "I" shaped vertical mullion. The mullion was attached to the right fixed window (exterior view) with five (5) # 10 by 2-1/2" PPHSMS located from top to bottom at 4-1/2", 19", 35-1/2", 51-1/2", and 65-1/2". The left fixed window was attached to the mullion with five (5) # 10 by 2" PPHSMS located from top to bottom: at 3-5/8", 19-1/2", 36-1/2", 52-1/2", and 66-1/2".

Drainage:

Description	Quantity	Location
1" x 3/16" weep slot	4	On the exterior sill face from left side 4", 32", 40-1/4" and 91"

Installation: The window was installed into a nominal 2" x 8" Douglas Fir wood test buck with a rough opening 7' 11-3/8" wide by 6' 0-1/8" high. The unit was attached with shims and # 10 by 2" PPHSMS as follows:

(5 ea) five head and sill, 5-1/4", 22-1/4", 40-1/2", 52-1/4", 70-3/4", and 88".
(5 ea) five both jambs 6-1/4", 22-1/4", 38-1/4", 54-1/4", and 67-1/4".

Test Results: (Continued)
Protocol PA 202-94 ***"Static Air Pressure Tests"***

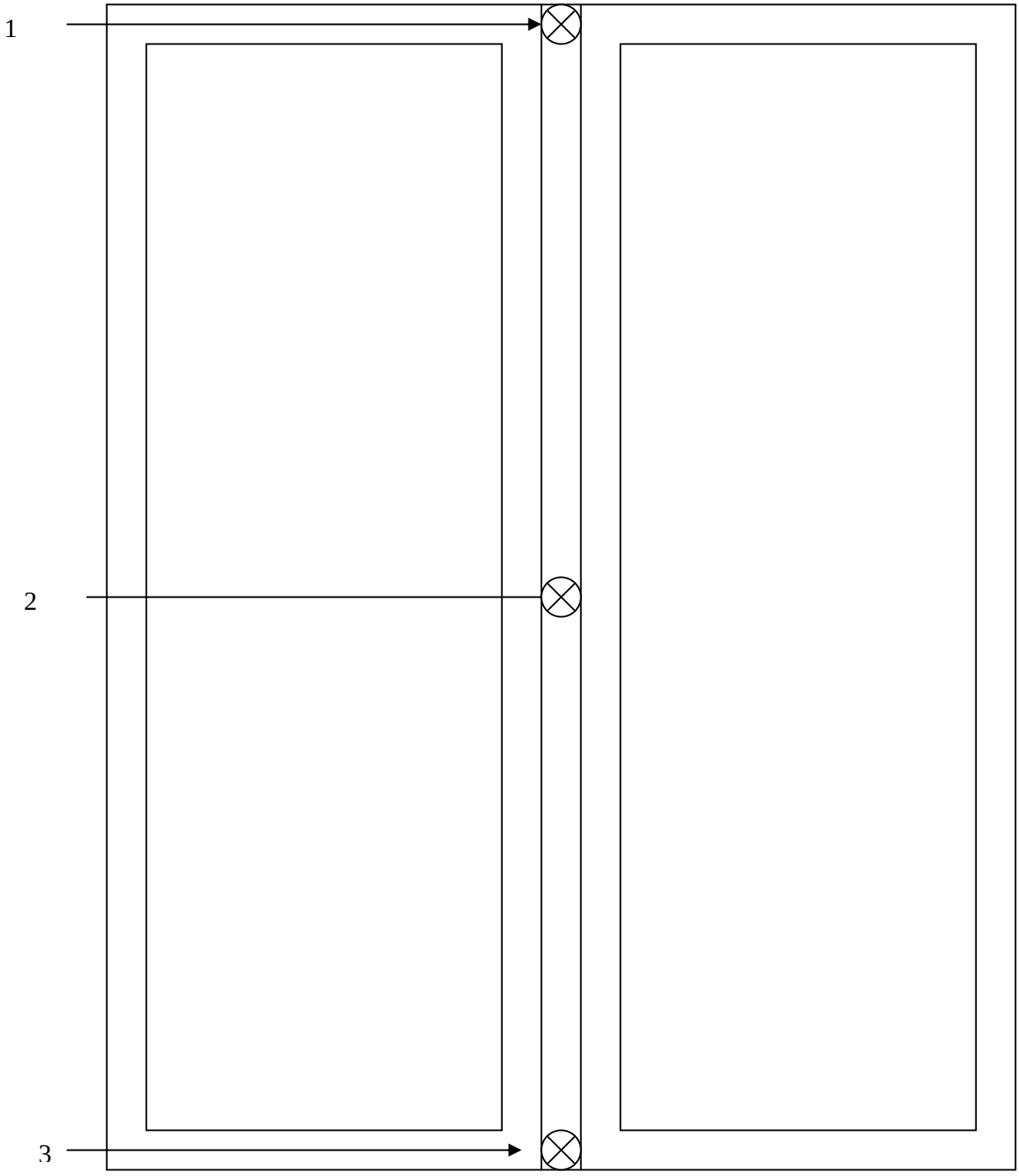
Test Unit 1	Title of Test	Results[1]		
	Air Infiltration @ 1.57 psf (mph)	0.00 cfm/ft^2		
		Indicators[2]		
		#1	#2	#3
	Structural Loads (Positive) @ 50% of Test Pressure (48.75 psf)			
	Maximum Deflection	0.120"	0.250"	0.060"
	Permanent Set	0.020"	0.020"	0.010"
	Structural Loads (Positive) @ Design Pressure (65.0 psf)			
	Maximum Deflection	0.150"	0.340"	0.080"
	Permanent Set	0.010"	0.010"	0.010"
	Structural Loads (Negative) @ 50% of Test Pressure (48.75 psf)			
	Maximum Deflection	0.160"	0.240"	0.100"
	Permanent Set	0.020"	0.020"	0.010"
	Structural Loads (Negative) @ Design Pressure (65.0 psf)			
	Maximum Deflection	0.300"	0.440"	0.200"
	Permanent Set	0.020"	0.040"	0.050"
	Water Infiltration @ 15% Design Pressure (9.75 psf)	No Penetration		
		Indicators[2]		
		#1	#2	#3
	Structural Loads (Positive) @ Test Pressure (97.5 psf)			
	Maximum Deflection	0.350"	0.640"	0.240"
	Permanent Set	0.030"	0.050"	0.030"
	Structural Loads (Negative) @ Test Pressure (97.5 psf)			
	Maximum Deflection	0.470"	0.700"	0.370"
	Permanent Set	0.020"	0.030"	0.030"

[1]*"Doors and windows shall be operable after this test." (Reference PA 202-94, Section 5.1.3). "Specimen and fasteners, when used, shall not become disengaged during test procedure." (Reference PA 202-94, Section 5.1.4).*

[2]*Reference ATI Drawing No. 2 for specific locations.*

Drawing No. 2

Dial Indicator Locations



Test Results: The following results have been recorded:

Protocol PA 201-94 ***"Impact Test Procedures"***
Missile Weight: 9.2 lbs
Muzzle Distance from Test Specimen: 17 ft.
Test Unit # 1

Impact #1: Missile Velocity: 49 fps
Impact Area[1]: Lower right corner
Observations[2]: No tear
Results: Pass

Impact #2: Missile Velocity: 50 fps
Impact Area[1]: Midspan of right panel
Observations[2]: No tear
Results: Pass

Impact #3: Missile Velocity: 50 fps
Impact Area[1]: Midspan of the mullion
Observations[2]: No damage
Results: Pass

Impact #4: Missile Velocity: 49 fps
Impact Area[1]: Lower right corner of the left fixed unit
Observations[2]: No tear
Results: Pass

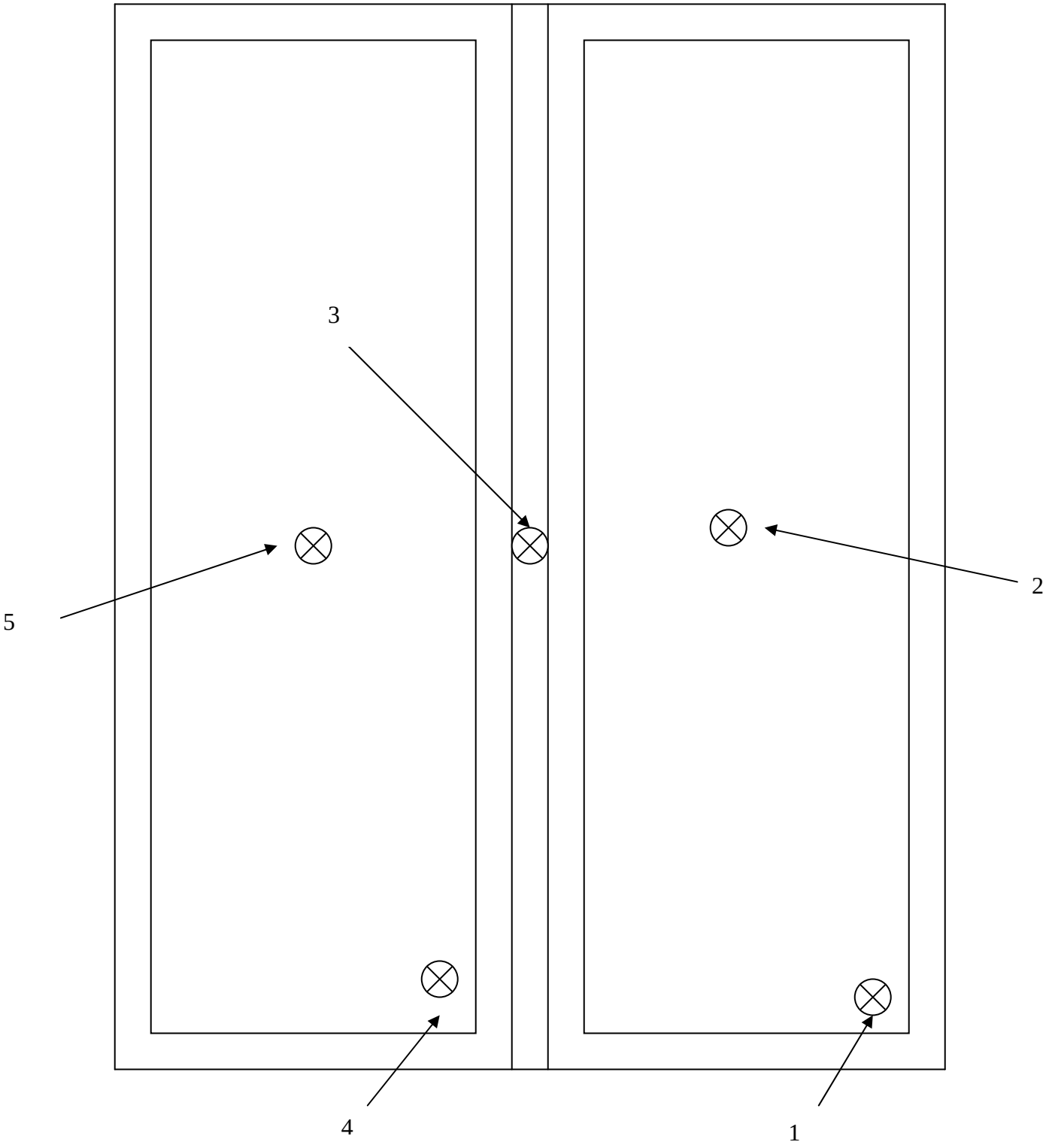
Impact #5: Missile Velocity: 50 fps
Impact Area[1]: Midspan of left panel
Observations[2]: No tear
Results: Pass

[1]*Refer to ATI Drawing No. 1 for specific location areas.*

[2]*A particular system of construction shall be deemed to comply with this recommended practice if three test specimens reject the two missile impacts without penetration and resist the cyclic pressure loading with no crack forming longer than 5" and 1/16" wide through which air can pass. (Reference SFBC; Section 2315.2, Paragraph h).*

Drawing No. 1

Impact Locations



Test Results: (Continued)

Protocol PA 203-94 ***"Cyclic Wind Pressure Loading"***

Design Load: 65psf **Test Unit**: 1

Table 23F *"Fatigue Loading Sequence"* Section 2314.5, South Florida Building Code.

Table 1 *"Cyclic Wind Pressure Loading"* Section 2315, South Florida Building Code.

POSITIVE LOADING

Pressure Range	No. of Cycles	Average Cycle Time (sec.)	Maximum Deflection (in.)		
			1	2	3
13 to 32.5	3500	2.62	0.100"	0.310"	0.160"
0.0 to 39.0	300	2.96	0.130"	0.440"	0.220"
32.5 to 52.0	600	2.74	0.150"	0.510"	0.250"
19.5 to 65.0	100	2.85	0.200"	0.600"	0.320"
Permanent Set[1]:			0.050"	0.270"	0.200"

NEGATIVE LOADING

Pressure Range	No. of Cycles	Average Cycle Time (sec.)	Maximum Deflection (in.)		
			1	2	3
19.5 to 65	50	2.99	0.590"	0.625"	0.470"
32.5 to 52.0	1050	2.59	0.520"	0.510"	0.450"
0.0 to 39.0	50	2.99	0.450"	0.430"	0.400"
13.0 to 32.5	3350	2.51	0.400"	0.400"	0.340"
Permanent Set[1]:			0.120"	0.130"	0.230"

Result: Pass/Fail

[1] *"Doors and windows shall be operable after this test." (Reference PA 203-94, Section 5 4).*

Test Equipment:

Cannon: Constructed from steel piping utilizing compressed air to propel the missile(s)

Missile(s): 2 by 4 Southern Pine, #6 Aggregate

Timing Device: Electronic Beam Type

Cycling Mechanism: Computer controlled centrifugal blower with electronic pressure measuring device.

Deflection Measuring Device:

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.

Representative samples of the test specimen and a copy of this report will be retained by ATI for a period of six years. This report is the exclusive property of the client so named herein and is applicable to the sample tested. Results obtained are tested values and do not constitute an opinion or endorsement by this laboratory.

For ARCHITECTURAL TESTING, INC.

Hector Lara Technician	Leaton Kirk Regional Manager

HL:lg
00-31366.02

DOCUMENT CONTROL ADDENDUM #03-31366.02

Current Issue Date: 12/31/02

Report No.: 03-31366.01

Requested by: Mr. Eric Perez
Purpose: Dade County Performance Test Report
Issued Date: 11/11/11
Comments: First Issue

Report No.: 03-31366.02

Requested by: Mr. Eric Perez
Purpose: Dade County Performance Test Report
Issued Date: 12/31/02
Comments: Fixed Unit