



Quality Accuracy Assurance

# Fenestration Testing Laboratory, Inc.

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Report Date: 9/25/2015  
 Completion Date: 9/3/2015  
 Expiration Date: 9/3/2019  
 Page No. Page 1 of 18  
 Lab. Number: 8483  
 Project Number: 15-5706

## OFFICIAL TEST REPORT

**MANUFACTURER:** Aluminco S.A.

**SPECIFICATIONS:** Florida Building Code  
 Concentrated Load Test  
 ANSI Z97.1

**ADDRESS:** Inofita, Viotia Greece, 32011

**PROJECT:** Aluminco S.A.

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DESCRIPTION OF SAMPLE	
Model Designation:	Series: F50 Horizon Glass Railing
Overall Size:	10'-6" (126") by 3'-6" (42") high
Size and Location of Post:	Four 43 3/4" high vertical post located 4 1/2", 43 1/2", 82 5/8", and 121 7/8" from left
Sample C-1	

MATERIAL CHARACTERISTICS			
Members	Material**	Part Number**	Joint Type
Hand Rail	6060-T6	F50-200	N/A
Vertical Post	6060-T6	F50-107	N/A
Saddle	6060-T6	4314	N/A
Two Piece Glass Clamps	6060-T6	4168	N/A

Glazing			
Glazing Location	Glazing Material	Glazing Compound	Compound Color
All three lites of glass	*13/32" nominal laminated glass composed of (2) 5/32" heat strengthened glass	None	N/A
Interlaying Film: *0.090" **DuPont SentryGlas		Laminator: **Tecnoglass	
<b>Glazing Method:</b> Interior glazed with a *1.058" glazing penetration using two two-piece aluminum glass clamps (part No. 4168) with a rubber gasket between glass and clamps. The glass clamps were at each side of each lite of glass located 4 1/2" and 36" from bottom of the vertical post (total of twelve glass clamps). The glass clamps were fastened to the vertical post using two No. 10 by 1 1/4" FH SDS. The glass clamps were fastened together using two 1/4-28 by 5/8" FH MS.			
Daylight Opening:	36 1/4" by 32 5/8" high		

Additional Information
The sample was tested using one 126" long extruded aluminum hand rail (part No. F50-200). The hand rail was fastened to the vertical post using one saddle (part No. 4314) per post. The saddle slides into the vertical post and is secured with epoxy and the saddle is fastened to the hand rail using two No. 8 by 3/4" FH SMS.

Sample Installation
Vertical posts were set into a 6" diameter hole using **Quikrete Concrete Mix (minimum **2,500 psi after seven days cure time per specification) with a 4 1/2" embedment into a 3,000 psi concrete test slab.



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## OFFICIAL TEST REPORT

<b>Sample: C-1</b>		<b>Temperature: 85°F</b>		<b>Barometric Reading: 30.12 inches Hg</b>	
<b>Title of Test</b>			<b>Load</b>		<b>Notes</b>
Concentrated Load Test			525.0 lbs		As per FBC section 1607.8.1. A horizontal load was applied at the center of the hand rail.
<b>Reading#</b>	<b>Deflection</b>	<b>Permanent Set</b>	<b>Results</b>	<b>Add. Info</b>	
1	3.375"	0.375"	Passed		

<b>Sample: C-1</b>		<b>Temperature: 85°F</b>		<b>Barometric Reading: 30.12 inches Hg</b>	
<b>Title of Test</b>			<b>Load</b>		<b>Notes</b>
Concentrated Load Test			200.0 lbs		As per FBC section 1607.8.1.1. A horizontal load was applied at the corner of the hand rail.
<b>Reading#</b>	<b>Deflection</b>	<b>Permanent Set</b>	<b>Results</b>	<b>Add. Info</b>	
2	2.062"	0.250"	Passed		



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<b>Sample: C-1</b>		<b>Temperature: 85°F</b>		<b>Barometric Reading: 30.12 inches Hg</b>	
<b>Title of Test</b>			<b>Load</b>		<b>Notes</b>
Concentrated Load Test			50.0 lbs		As per FBC section 1607.8.1.2. A load was applied at the center of the left lite perpendicular to the glass.
<b>Reading#</b>	<b>Deflection</b>	<b>Permanent Set</b>		<b>Results</b>	<b>Add. Info</b>
3	n/a	n/a		Passed	

<b>Sample: C-1</b>		<b>Temperature: 88.3°F</b>		<b>Barometric Reading: 30.01 inches Hg</b>	
<b>Title of Test</b>			<b>Notes</b>		
Drop Test			As per FBC section 1618.4.6.3		
<b>Drop #</b>	<b>Results</b>	<b>Add. Info</b>			
1	Passed	Impacted center of lite. After impact the glass did break but remained in the place and there wasn't any apparent tear in the inter layer film.			
2	Passed	Impacted center of lite. After impact the glass did break but remained in the place and there wasn't any apparent tear in the inter layer film.			
3	Passed	Impacted center of lite. After impact the glass did break but remained in the place and there wasn't any apparent tear in the inter layer film.			



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### OFFICIAL TEST REPORT

#### Remarks

Detailed drawings and test report will be retained by Fenestration Testing Laboratory for a period of four years from the original test date. Due to the code cycle change of four years, it is recommended that this report be evaluated during the lifespan of this document.

This product was tested and meets the requirement set forth by the Florida Building Code (2014) concentrated load test sections 1607.8.1, 1607.8.1.1 and 1607.8.1.2.

This product was tested in accordance with ANSI Z-97.1-09 (FBC section 1618.4.6.3) with no deviations.

Testing was conducted as per instructions received from the manufacturers company representative.

Witnessed by:  
Ms. Idalmis Ortega, P.E.

Technicians:  
Mr. Harold Anacona

**FENESTRATION TESTING LABORATORY, INC.**

**Mr. Manny Sanchez**  
Chief Executive Officer