

Fenestration Testing Laboratory, Inc.

Report Date: Completion Date: Expiration Date: 6/23/2015 6/2/2015 6/2/2019

Page No.

Page **1** of **12**

Lab. Number: Project Number: 8473 15-5705

OFFICIAL TEST REPORT

CLIENT:

Aluminco S.A.

SPECIFICATIONS:

Florida Building Code

Concentrated Load Test, ANSI Z-97.1,

ASTM E1996

ADDRESS:

Inofita, Viotia Greece, 32011

PROJECT:

Aluminco S.A.

Table of Contents

Sample A-1		Page	Rev
Description of Test Sample		2	
Glazing		2	
Additional Information		2	
Test Sample Installation		2	
Results Sample A-1			
Concentrated Load Test	FBC section 1607.7.1	3	
Concentrated Load Test	FBC section 1607.7.1.1	3	
Concentrated Load Test	FBC section 1607.7.1.2	4	
Drop Test	ANSI Z97.1	5	
Large Missile Impact	ASTM E1996	6	
Sample B-1			
Description of Test Sample		7	
Glazing		7	
Additional Information		7	
Test Sample Installation		7	
Results Sample B-1			
Concentrated Load Test	FBC section 1607.7.1	8	
Concentrated Load Test	FBC section 1607.7.1.1	8	
Concentrated Load Test	FBC section 1607.7.1.2	9	
Drop Test	ANSI Z97.1	10	
Large Missile Impact	ASTM E1996	11	
Revision Table		12	1
Notes Table		12	
Remarks Table		12	



Fenestration Testing Laboratory, Inc.

Report Date: Completion Date: 6/23/2015

Completion Date: Expiration Date:

6/2/2015 6/2/2019

Page No.

Page **2** of **12**

Lab. Number:

8473

Project Number:

15-5705

OFFICIAL TEST REPORT

DESCRIPTION OF SAMPLE			
Model Designation:	Series: Crystalline Type C Glass Railing		
Overall Size:	9'-10 1/2" (118 1/2") by 3'-6" (42") high		
Sample A-1			

Glazing						
Glazing Location	Glazing Mate	erial	Glazing Compound	Compound Color		
All three lites of	*11/16" nom	inal laminated glass composed	None	N/A		
glass	of (2) 5/16" h	neat strengthened glass				
Interlaying Film: *0.090" **DuPont SentryGlas			Laminator: **Tecnoglass			
Glazing Method: Pocket glazed with a *4.511" glazing penetration using a full length nylon U shaped setting						
block on the bottom and a 1/8" thick by full length plastic shim interior and exterior.						
Overall size of each lite of glass: 39 3/8" by 41 1/16" high						

Additional Information

The sample was tested using a single row of 11 13/16" long extruded aluminum shoe bases located one at each end, one at mid span of each lite of glass and one at the glass joints.

The sample was tested using one 118 1/2" long aluminum hand rail secured to glass with clear silicone.

The sample was tested using one 5/8" by 1/8" thick by 118 1/2" long aluminum flat bar below the shoe bases.

Sample Installation

The shoe bases were installed onto a concrete test slab using three 1/2" by 4" wedge bolt per shoe base located 1.5/8", 5.3/8" and 10.1/4" from left of each shoe base.



Fenestration Testing Laboratory, Inc.

8148 N.W. 74th Avenue Medley, FL 33166 Phone: (305) 885-3328 Fax: (305) 885-3329 (888) 819-7877 e-mail: clientservices@ftl-inc.com www.ftl-inc.com

Report Date: Completion Date: 6/23/2015

Completion Date: Expiration Date: 6/2/2015 6/2/2019

Page No.

Page **3** of **12**

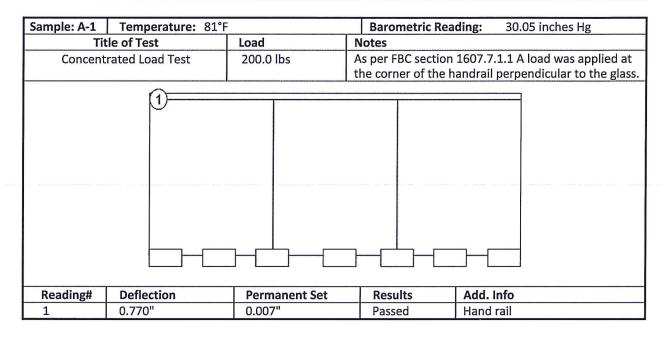
Lab. Number:

8473

Project Number:

15-5705

Sample: A-1	Temperature: 81°F		Barometric Rea	iding: 30.05 inches Hg		
Ti	tle of Test	Load	Notes			
Concen	trated Load Test	495.0 lbs	As per FBC sectio	n 1607.7.1 A load was applied at		
			the center of the	handrail perpendicular to the glass.		
	1 The center of the nandrall perpendicular to the glass					
Reading#	Deflection	Permanent Set	Results	Add. Info		
1	1.250"	0.087"	Passed	Hand rail		
2	0.025"	0.002"	Passed	Shoe base		





Fenestration Testing Laboratory, Inc.

Report Date: Completion Date: 6/23/2015 6/2/2015

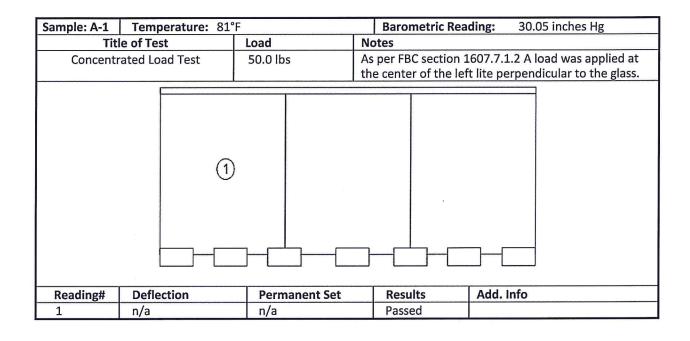
Expiration Date:

6/2/2019

Page No.

Page 4 of 12

Lab. Number: Project Number: 8473 15-5705





Fenestration Testing Laboratory, Inc. 8148 N.W. 74th Avenue Medley, FL 33166 Phone: (305) 885-3328 Fax: (305) 885-3329 (888) 819-7877

e-mail: clientservices@ftl-inc.com www.ftl-inc.com

Report Date: Completion Date: 6/23/2015

Expiration Date:

6/2/2015 6/2/2019

Page No.

Page 5 of 12

Lab. Number:

8473

Project Number:

15-5705

Sample: A-	-1 T	emperature: 84	°F	Barometric Readin	g: 30.05 inches Hg
	Title of T	est	Notes		
	Drop Te	st	As per FBC section 2	407.1.4.1	
		1	2	3	
Drop #	Results	Ac	ld. Info		1
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.			



Fenestration Testing Laboratory, Inc. 8148 N.W. 74th Avenue Medley, FL 33166 Phone: (305) 885-3328 Fax: (305) 885-3329 (888) 819-7877

e-mail: clientservices@ftl-inc.com www.ftl-inc.com

Report Date: Completion Date: 6/23/2015

Expiration Date:

6/2/2015 6/2/2019

Page No.

Page 6 of 12 8473

Lab. Number: Project Number:

15-5705

Sample: A-1 To	emperature: 83°F		Baron	netric Reading: 2	9.98 inches Hg	
Title of Test						
Large Missile Impa	act Test	As per FBC sec	tion 2407.1.4	.2		
Missile Weight						
9.25 pounds		2" by 4" by 96	2" by 4" by 96" long			
			(4)			
	1		(3)	(5)		
				•		
		(2)		(6)	1	
				0		
Impact	Speed	Results	Add. In	fo		
1	49.9 ft/sec	Passed				
2	50.0 ft/sec	Passed		hamatana dababan da baran da b		
3	49.8 ft/sec	Passed				
4	50.1 ft/sec	Passed				
5	50.1 ft/sec	Passed				
6	50.0 ft/sec	Passed				



Fenestration Testing Laboratory, Inc.

8148 N.W. 74th Avenue Medley, FL 33166 Phone: (305) 885-3328 Fax: (305) 885-3329 (888) 819-7877 e-mail: clientservices@ftl-inc.com www.ftl-inc.com

Report Date:
Completion Date:
Expiration Date:

6/2/2015 6/2/2019 Page **12** of **12**

6/23/2015

Lab. Number: Project Number:

Page No.

8473 15-5705

OFFICIAL TEST REPORT

Revision	Description	Author	Effective Date
0	Initial Release	Ms. Iliana Sanchez	6/23/2015
1	Renamed the report as per manufactures instructions	Ms. Lusinda Delgado	12/15/2015

Notes

Drawings referenced in this document are an integral part of this report, therefore, are required when distributing this test report. Test results obtained represent the actual value of the tested specimens and do not constitute opinion, endorsement or certification by this laboratory.

This test report is considered the exclusive property of the client named herein and is applicable to the sample tested. This report may not be reproduced without the approval of Fenestration Testing Laboratory, Inc.

At conclusion of above tests, there was no apparent damage to the concrete slab or fasteners and after the impact the glass did break, but remained in place and there wasn't any apparent tear in the inter layer film.

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 (2010) concentrated load test sections 1607.7.1, 1607.7.1.1 and 1607.7.1.2.

This product was tested in accordance with ANSI Z-97.1-09 (FBC section 2407.4.1).

This product was tested in accordance with the ASTM E1996-09 (FBC section 2407.1.4.2).

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

Witnessed by:

Technicians:

Ms. Idalmis Ortega, P.E.

Mr. Manny Sanchez

FENESTRATION TESTING LABORATORY, INC.

Mr. Harold Ancona

Chief Executive Officer

^{*} designates measurements by laboratory

^{**} as per manufacturer