Quality Accuracy Assurance

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@fenlab.com www.ftl-inc.com

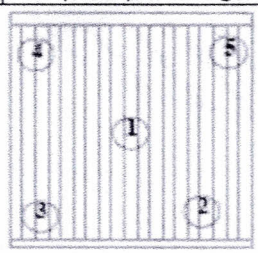
September 25, 2012

West Coast Aluminum
23274 Moorhead Avenue
Port Charlotte, FL 33954
Attention: Ms. Dawn Stover

Re: Laboratory Number: 7105
Project Number: 12-4245
Model Designation: 0.043 HVIII Aluminum Accordion Shutter
Overall Size: 6'-5/8" (72 5/8") by 13'-2 1/4" (158 1/4") high

Dear Ms. Stover,

This letter is regarding the testing that has been completed on the above referenced laboratory number. The results of testing are as follows:

Sample: A-1	**Temperature:** 81.5°	**Barometric Reading:** 30.09inches Hg	
Title of Test		**Notes**	
Large Missile Impact Test			
Missile Weight		**Missile**	
9.5 pounds		2" by 4" by 84" long	
			
Impact	**Speed**	**Results**	**Add. Info**
1	50.1 ft/sec	Passed	
2	49.7 ft/sec	Failed	
3	50.1 ft/sec	Failed	
4	50.0 ft/sec	Failed	
5	50.0 ft/sec	Failed	

Thank you for testing at our facility. We appreciate your business and look forward to serving you again. If you have any questions or if we can be of further assistance to you, please do not hesitate to contact us at (305) 885-3328 or clientservices@fenlab.com

Sincerely,
Fenestration Testing Laboratory, Inc.

Ms. Iliana Sanchez

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Report Date: 10/23/2012
Completion Date: 9/20/2012
File Number: 12-826
Lab Number: 7105
Project Number: 12-4245

OFFICIAL TEST REPORT

MANUFACTURER: West Coast Aluminum
ADDRESS: 23274 Moorhead Avenue
Port Charlotte, FL 33954

SPECIFICATIONS: Large Missile Impact Test
PROJECT: Clients Use

DESCRIPTION OF SAMPLE	
Model Designation:	Aluminum Accordion Shutter
Overall Size:	6'-5/8" (72 5/8") by 13'-2 1/4" (158 1/4") high
Number and Size of Slats:	Twenty four solid extruded interlocking aluminum slats, each with a white coated finish. Size of slats are as follows: starter slats, 156" long by 1.506" wide by 0.058" thick, hardness reading indicates a 6063-T5 aluminum; slats, 156" long by 4.904" wide by 0.040" thick, hardness reading indicates a 6063-T5 aluminum; lock stile slats, 156" long by 4.705" wide by 0.060" thick, hardness reading indicates a 6063-T5 aluminum.
Mount Type:	Wall Mount
Frame Construction:	Size of frame members are as follows: top track, 72 5/8" long by 2.300" wide by 2.400" high by 1.370" high by 0.075" thick, hardness reading indicates a 6063-T6 aluminum; bottom track, 72 5/8" long by 4.405" wide by 1.024" high by 0.081" thick, hardness reading indicates a 6063-T5 aluminum. Frame members are solid extrusions with a white coated finish.
Sample A-1	

Hardware			
Quantity	**Description**	**Location**	**Method of Attachment**
Nine	dual nylon wheels with a nylon and metallic washer with a 0.440" outside diameter by 0.665" long nylon guide, with no I.D. marks	at top of interior slats	each fastened with one No. 10 by 3" hex head lead point screw
Thirty two	0.482" outside diameter by 0.955" long nylon guides, with no I.D. marks,	at top on the exterior slats and at bottom on all slats	each fastened with one No. 10 by 3" hex head lead point screw
Two	0.435" outside diameter by 0.609" long nylon guides, with no I.D. marks,	at top of the start slat	each fastened with one No. 10 by 3" hex head lead point screw
One	cylinder key operator lock	78" from bottom of left lock stile slat	two 1/4-20 by 1/2" flat head machine screws

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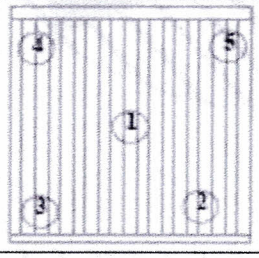
SAMPLE INSTALLATION
Sample was tested in a 2" by 10" wood test buck. Top track was installed using a single row of 1/4" by 1 3/4" long hex head Tapcon fasteners. Bottom track was installed using a single row of 1/4" by 1 3/4" long flat head Tapcon fasteners. Starter slats were installed using a single row of 1/4" by 1 3/4"long hex head Tapcon fasteners. Location of installation fasteners are as follows: top track at 5 1/2" on center; bottom track at 3 1/2" on center; starter slats at 12" on center.

Sample: A-1	**Temperature:** 81.5°	**Barometric Reading:** 30.09inches Hg
Title of Test	**Notes**	
Large Missile Impact Test		
Missile Weight	**Missile**	
9.5 pounds	2" by 4" by 84" long	



Impact	Speed	Results	Add. Info
1	50.1 ft/sec	Passed	
2	49.7 ft/sec	Failed	slats disengaged track, damage occurred to the nylon guides and 1 1/2" long opening on the third and fourth slat from right
3	50.1 ft/sec	Failed	slats disengaged track and damage occurred to the nylon guides
4	50.0 ft/sec	Failed	slats disengaged track and damage occurred to the nylon guides and nylon wheels
5	50.0 ft/sec	Failed	slats disengaged track and damage occurred to the nylon guides, nylon wheels and 1 1/2" long opening on the third and fourth slat from right

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OFFICIAL TEST REPORT

REPORT REVISION HISTORY			
Rev	**Description of Change**	**Author of Report**	**Effective Date**
0	Initial Release	Ms. Iliana Sanchez	10/23/2012

REMARKS

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.

Test results obtained represent the actual value of the tested specimens and do not constitute opinion, endorsement or certification by this laboratory.

At conclusion of above tests, there was apparent damage to sample, wheels and nylon guides.

Testing was conducted as per instructions received from your company representative.

Technician:
Mr. Harold Anacona

FENESTRATION TESTING LABORATORY

Mr. Manny Sanchez
Chief Executive Officer