

Report 7440-13-FBC

26 April 2013

Tested: 26 April 2013

TESTING OF SAFTY RAILING

Client:

SÄFTRON

SÄFTRON Manufacturing, LLC

6012 33rd St E

Bradenton, FL 34203- USA

Phone: (305) 233-5511, Fax: (941) 751-2802

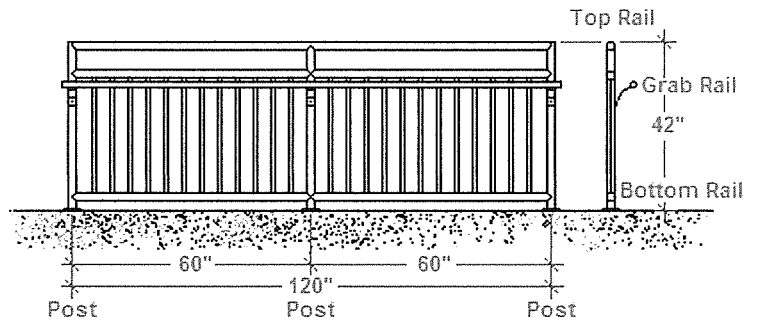
General: Load tests on Aluminum / PCV Plastic Safety Railings to show conformance to requirements the Florida Building Code, FBC-2010.

Witness to Testing:

Robert Weise, SÄFTRON Manufacturing, LLC
George Dotzler, CRL Director of Operations

Yamil G. Kuri, P.E., Official Witness
Robert Vilan, CRL Test Engineer

Description of Specimen: The test specimen consisted of a composite structure of PVC pipe and aluminum pipe as shown in the below referenced drawings. The test specimen was also of the nominal dimensions as shown at right (as viewed from interior side, all diagrams are similar).



Statement of Conformance: The specimen is in conformance with drawings provided by the manufacturer. These drawings have been marked to indicate the portions descriptive of these tests.

Labeled:

2400 SERIES ALUMINUM TEST RAIL, PLATE MOUNT

Date: 4/22/2013 Sheet 1 of 1

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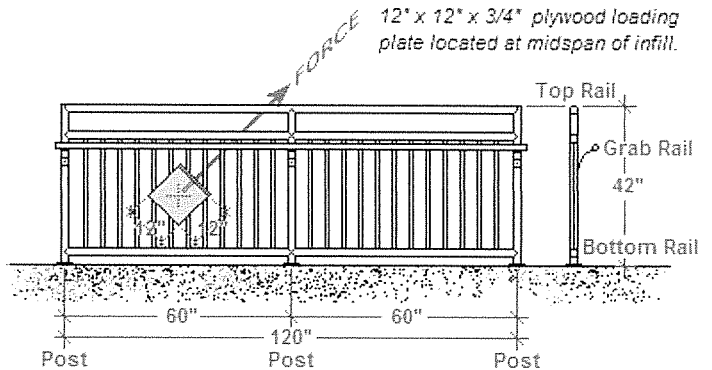
7600 N.W. 79TH AVENUE MIAMI, FLORIDA 33166 Phone : 305-592-9222 FAX : 305-594-9148 crlmiami@bellsouth.net

Test I – Load on Baluster:

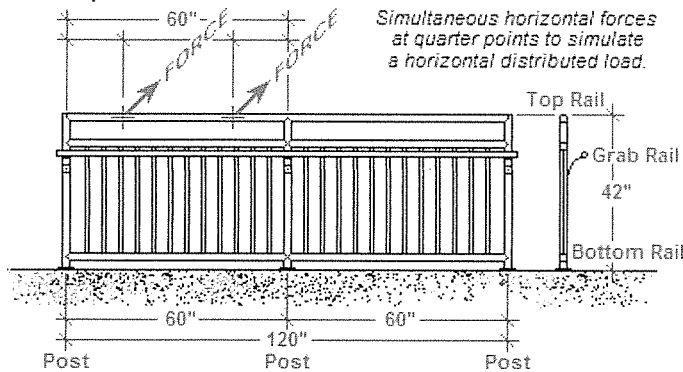
A horizontal load was applied, for sixty seconds, to a 12" x 12" piece of 3/4" plywood positioned at the mid-height of the baluster (as shown in the diagram at right). Results as follows:

Code	Load (Lbs.)	Results
FBC-2010	50.0	No Failure / Passed

Tests upon Components



Tests upon Handrails and Guards



Test II – Distributed Horizontal Load : Top Rail:

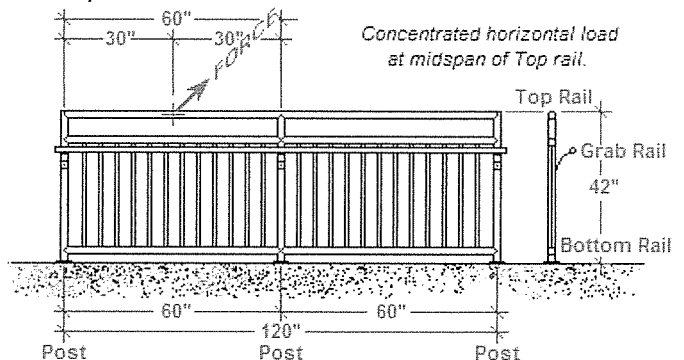
Two equivalent and simultaneous loads were applied, for sixty seconds, to the top rail of the specimen (as shown in the diagram at right) at quarter points to simulate statically the equivalent conditions as a distributed load. Deflection Gauges were placed at the top of each post adjacent to the load and at the center of the Top Rail between the load points to record deflections. Gauges were zeroed before each subsequent load. Results as follows:

Code	Dist. load (PLF)	Load (Lbs.)	Total Load (Lbs.)	Defl'n / Set (In.) Top of post Lt.	Defl'n / Set (In.) Top Rail Center	Defl'n / Set (In.) Top of post Rt.
	0.0	0.0	0.0	0.000 / NA	0.000 / NA	0.000 / NA
FBC-2010	50.0	125.0	250.0	0.855 / 0.000	1.410 / 0.040	0.900 / 0.000

Test III – Horizontal Point Load on Top Rail:

A single load was applied, for sixty seconds, to the mid-span of the top rail of the specimen (as shown in the diagram at right). Deflection Gauges were placed at the top of each post adjacent to the load and at the center of the Top Rail between the load points to record deflections. Gauges were zeroed before each subsequent load. Results as follows:

Tests upon Handrails and Guards



Code	Load (Pounds)	Defl'n / Set (In.) Top of post Lt.	Defl'n / Set (In.) Top Rail Center	Defl'n / Set (In.) Top of post Rt.
	0.0	0.000 / NA	0.000 / NA	0.000 / NA
FBC-2010	200 Pounds @ mid rail	0.635 / 0.000	1.390 / 0.020	0.780 / 0.000

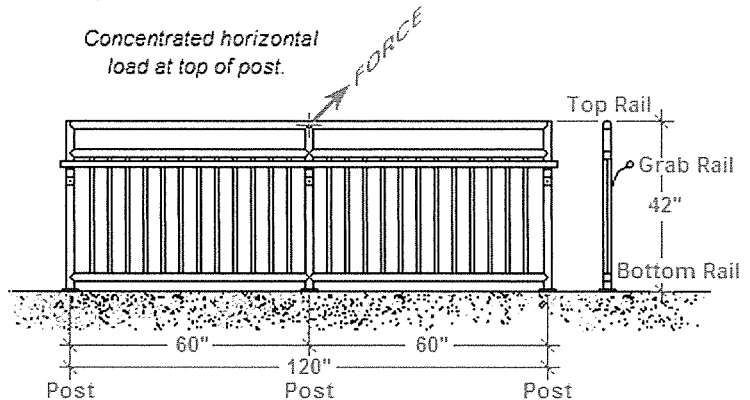
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Tests upon Posts

Concentrated horizontal load at top of post.



Test IV – Horizontal Point Load on Post:

A single load was applied, for sixty seconds, to the top of the central post of the specimen (as shown in the diagram at right). Deflection Gauges were placed at the top of this post to record deflections. Gauges were zeroed before each subsequent load. Results as follows:

Code		Load (Pounds)	Defl'n / Set (Inches) Top of post.
		0.0	0.000 / NA
FBC-2010	Top Rail on Post	200.0	1.220 / 0.020
		0.0	0.000 / NA
FBC-2010	Rail req. 5 Ft x 50 PLF	250.0	1.580 / 0.025

Summary: Tests were conducted in accordance with the requirements of the Florida Building code with a safety factor of two and residual deflections at recovery of greater than or equal to 80% in all cases.

Respectfully submitted,

CONSTRUCTION RESEARCH LABORATORY, INC.

Report by George Dotzler:

Test witnessed & report reviewed
by Yamil G. Kuri, P.E.:

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