

Report No.: 1
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Date Issued: September 23, 1985
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Description

Witness Test of Hollaender Manufacturing Company's "*Interna-Rail*"® Component Handrail System

Client

Hollaender Manufacturing Company
10285 Wayne Avenue
Cincinnati, Ohio 45215
Attention: Doug Hollaender

Test Summary

Pittsburgh Testing Laboratory witnessed testing of the Hollaender "*Interna-Rail*"® system in Birmingham, Alabama.

Purpose

To determine whether the *Interna-Rail*® aluminum handrail system meets OSHA strength requirements of **200 pounds applied at any point along the top rail**, which is **42 inches high**.

Material and Method of Fabrication

A standard handrail section was fabricated using:

- 1-1/2 inch round Schedule 40 extruded aluminum pipe
- Alloy 6063-T6
- Hollaender Manufacturing Company cast aluminum-magnesium fittings ("Interna-Rail"®)

Assembly details:

- Fittings were joined to the pipe using stainless steel bolts
 - Aluminum blind thread inserts were used
 - Completed rail height: 42 inches
 - Post spacing: 6 feet on center
 - Mid-rails installed at the midpoint of posts
 - Mounted to No. 45 mount bracket
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Method Used to Accomplish Test

- The handrail was mounted horizontally
- Loads were applied at the intersection of a post and the top rail to create maximum stress on a single fitting

Testing procedure:

1. Loads were applied incrementally in stages
 2. Deflection measurements were recorded at each stage
 3. After each load, measurements were repeated with the load removed
 4. Observations were made to determine if any posts or fittings yielded or loosened
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Results of Test – Summary

After loading to **400 lbs**, there was **no permanent set in the post**, and the fittings remained tight.

See attached sheet for detailed load test results.

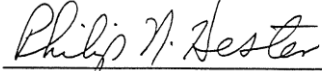
Inspector: Grover Dement

Detailed Test Results

Load (lbs)	Deflection (in.)	Permanent Set (in.)
200	0.843	0.000
250	1.468	0.000
300	2.312	0.000
350	2.718	0.000
400	3.312	0.000
450	4.093	0.094

Certification

PROFESSIONAL SERVICE INDUSTRIES, INC.



Philip M. Hester, Manager
Birmingham Division

Distribution

- 1 Client
 - 1 Thompson Fabrication
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Location

Pittsburgh Testing Laboratory
3721 Ball Street
Birmingham, Alabama 35234
Phone: (205) 849-5447

End of Report