

## TEST REPORT:

Load Testing of Four (4)  
Handrail Samples: Colonial Rail  
System 10' x 42", 10' x 36", 8' x 42",  
8' x 36" Sections, Extended Picket

### REPORT TO:

Age Craft Manufacturing, Inc.  
45 Madison Avenue  
Greensburg, PA 15601

### ATTENTION:

Mr. Ben J. Policastro, III

### REPORT DATE:

March 21, 2007

REPORT TO: Age Craft Manufacturing, Inc. PROJECT: Load Testing of  
45 Madison Avenue One (1) Handrail  
Greensburg, PA 15601 Sample

ATTENTION: Mr. Ben J. Policastro, III PSI PROJECT NO.: 823-76038

DATE: March 21, 2007 PSI LAB NO.: SPT-70065

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Professional Service Industries, Inc. (PSI) has performed testing on the referenced project. The results of our tests are presented in the accompanying report.

Our services for this project were performed in accordance with PSI Proposal No. 823-6172, dated January 23, 2007. The proposal included a proposed scope of services, estimated costs, unit rates, and PSI's General Conditions. Authorization to perform this project was in the form of signed acceptance of the aforementioned proposal dated March 9, 2007.

The results contained in this report are related only to the item(s) tested. The pages of this report (including attachments) shall not be reproduced, except in full, without written approval of PSI. All testing was conducted by and under the continuous, direct supervision of Professional Service Industries, Inc.

Please contact us should you have any questions concerning this report.

Respectfully submitted,  
*Professional Service Industries, Inc.*

  
Paul B. Medwig  
Manager, Electrical/Special Test

## SCOPE OF SERVICES

### *General*

On March 9, 2007, Professional Service Industries, Inc. (PSI) received one (1) handrail sample, identified below, from Age Craft Manufacturing, Inc. for the purpose of load testing. Testing was performed March 13, 2007 through March 20, 2007.

### *Sample Identification*

- ◆ Colonial Rail System – Extended Picket 10' Section – 125½" overall x 42" height. Base flanges secured to concrete using four (4) ¼" x 2¼" blue tip wedge bolts on each end post.
- ◆ Colonial Rail System – Extended Picket 10' Section – 125½" overall x 36" height. Base flanges secured to concrete using four (4) ¼" x 2¼" blue tip wedge bolts on each end post.
- ◆ Colonial Rail System – Extended Picket 8' Section – 101½" overall x 42" height. Base flanges secured to concrete using four (4) ¼" x 2¼" blue tip wedge bolts on each end post.
- ◆ Colonial Rail System – Extended Picket 8' Section – 101½" overall x 36" height. Base flanges secured to concrete using four (4) ¼" x 2¼" blue tip wedge bolts on each end post.

### *Test Equipment*

- ◆ Dillon 0-1000 lb. Dynamometer, S/N D27127
- ◆ Chatillon 0-100 lb. Force Gauge, PSI Control # SPT-31

### *Test Procedure*

Testing was performed in general accordance with International Building Code Section 1607.7.1-03, "Handrails and Guards". The handrail was anchored to a concrete floor in accordance with the manufacturer's instruction using ¼" pilot holes and ¼" x 2¼" wedge bolt screw anchors manufactured by Powers Fastners. A load was applied up to eight hundred (800) pounds on the two (2) 10' sections and one thousand (1,000) pounds on the two (2) 8' sections.



## RESULTS

**Extended Picket 10' Section – 125½" overall x 42" height:**

**Horizontal Uniformly Distributed Load: Meets requirement.** An eight hundred (800) pound load was applied to a 118½" bearing plate located along the top rail. The rail bent but withstood the load. No visible signs of damage were detected.

**Extended Picket 10' Section – 125½" overall x 36" height**

**Horizontal Uniformly Distributed Load: Meets requirement.** An eight hundred (800) pound load was applied to a 118½" bearing plate located along the top rail. The rail bent but withstood the load. No visible signs of damage were detected.

**Extended Picket 8' Section – 101½" overall x 42" height**

**Horizontal Uniformly Distributed Load: Meets requirement.** A one thousand (1,000) pound load was applied to a 94½" bearing plate located along the top rail. The rail bent but withstood the load. No visible signs of damage were detected.

**Extended Picket 8' Section – 101½" overall x 36" height**

**Horizontal Uniformly Distributed Load: Meets requirement.** A one thousand (1,000) pound load was applied to a 94½" bearing plate located along the top rail. The rail bent but withstood the load. No visible signs of damage were detected.

\* IBC Section 1607.7.1-03: Requires four (400) pound load applied to the eight (8') foot sections and five (500) pound load applied to the ten (10') foot sections.