



CERNY & IVEY ENGINEERS, INC.

CONSULTING ENGINEERS – TESTING LABORATORY
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September 12, 2008

Roger Rock
Rock Lock Fastening Systems, Inc.
6519 Rock Creek Drive
Lake Worth, FL 33467

TEST REPORT NUMBER:
28210

DATE OF TESTING
9/8/2008

MANUFACTURE PLANT
N/A

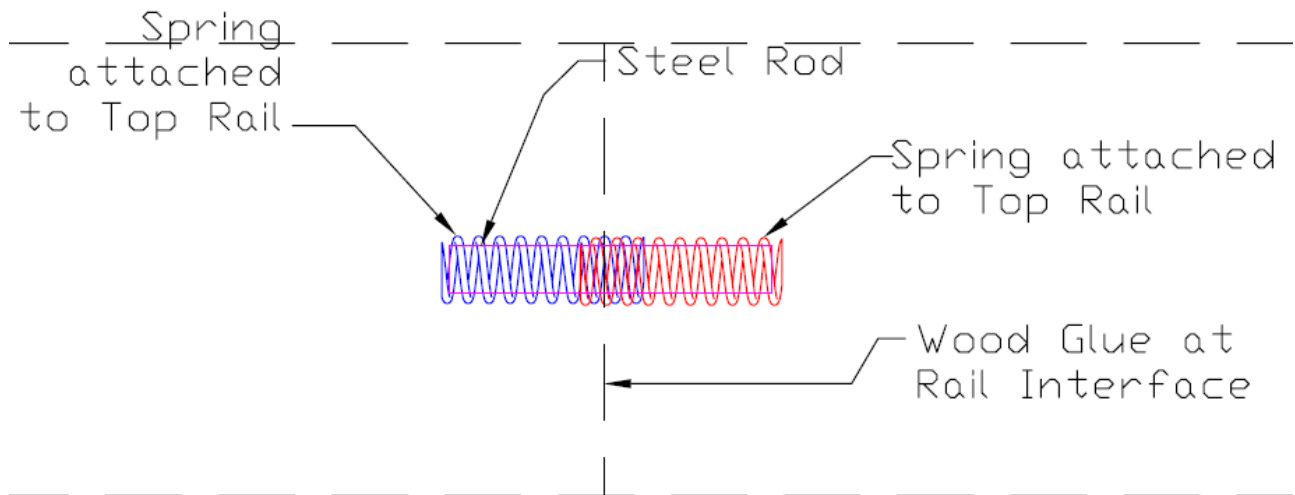
SCOPE OF TESTING
Ultimate Load Strength Testing

PRODUCT IDENTIFICATION
▪ Spring Bolt Connection System
▪ Tite-Bond Wood Glue

PROCEDURE

The test specimen was delivered to Cerny and Ivey Engineers, Inc. by the client on 9/2/2008. The test specimen consisted of two (2) sections of hardwood top rail secured together using the client's proprietary Spring Bolt system and wood glue. The Spring Bolt system used 9/16in. outside diameter springs and a 5/16in. steel rod. Wood glue was applied at the interface of the two (2) sections.

Figure 1: Top Rail Attachment



National Society of Professional Engineers®

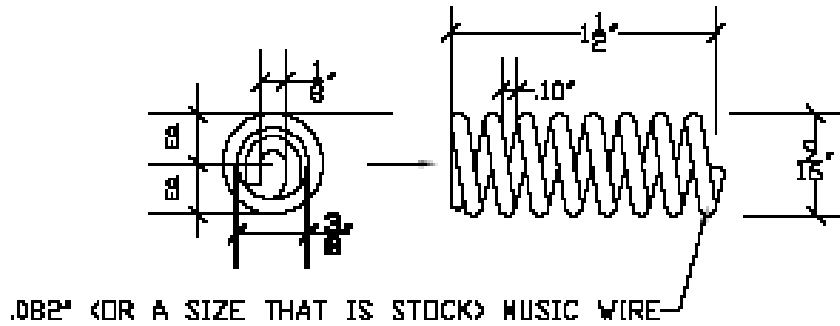
American Society of Civil Engineers
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Amer. Society of Heating, Refrig & A/C Engineers

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Society for Experimental Mechanics
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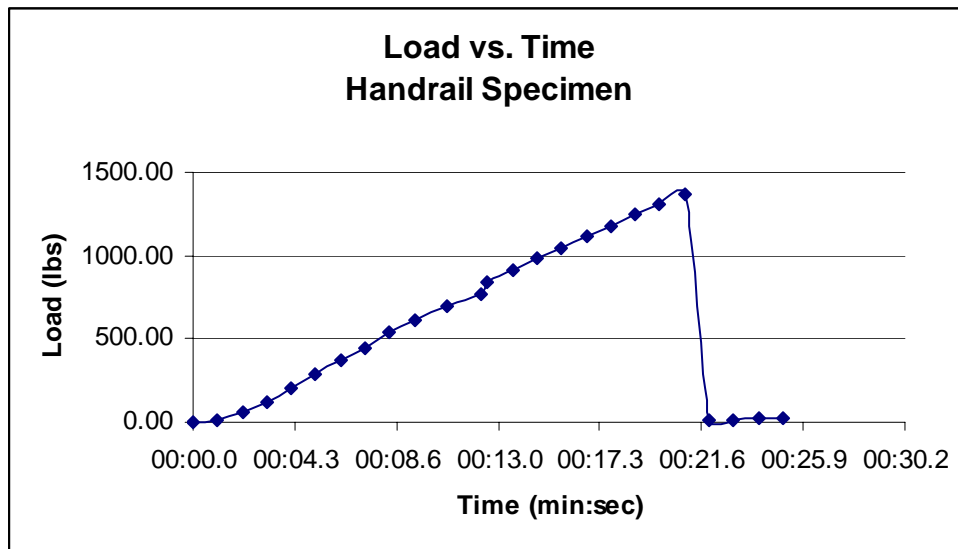


Figure 2: Top Rail Spring Dimensions (provided by client, verified by C&I)



The total length of the specimen was 12-1/8in. The supports of the ultimate load machine were spaced 5-3/4in. from the interface of the two (2) rail sections at the railing bottom edge. The load was applied perpendicular to the rail length directly at the interface using a 2in. outer diameter, 1in. inner diameter steel tube. The ultimate load machine crosshead was moved a constant rate of 0.183in/min with loads being recorded every 1 second by load cell CI-LC-01.

RESULTS



CONCLUSION

The maximum load held by the test specimen was 1368 lbs. Failure was due to the glue joint breaking.

If you have any questions please do not hesitate to contact us.

Respectfully submitted,

Charles G. Lester IV
Laboratory Manager

Christopher B. Shiver, PE
Vice President – Principal Engineer