CREEP PERFORMANCE
TEST REPORT

Rendered to:

TREX COMPANY LLC

Seclusions Composite Privacy Fence System
TYPE: Composite Fence System
CREEP PERFORMANCE
TEST REPORT

Report No.: 63565.01-116-20
Test Dates: 3/28/06 - 6/30/06
Report Date: 07/06/06
Expiration Date: 06/30/10

Project Summary: Architectural Testing, Inc. (ATI) was contracted to evaluate the performance of two fence assemblies with a concentrated load and while exposed to a constant high temperature for a period of 90 days. The purpose of testing was to evaluate the amount of creep on both fence system configurations due to the exposure to a constant high temperature condition and an applied load over the designated testing period.

Test Specimen Descriptions:

Series/Model: Seclusions Composite Privacy Fence System

Type: Composite Fence System without panel nails at the top rail
Composite Fence System with panel nails at the top rail

Size:
Overall fence dimensions including corner posts:
102-1/2" wide by 93" high

Fence dimensions:
91-3/4" wide by 70-3/4" high

Corner posts:
5-3/8" wide (square) by 93" high

Fence panels:
5-7/8" wide by 66-3/4" high
(19 total panels tested per fence system)
Test Setup:
The two fence systems were constructed, as specified by the manufacturers instructions, and secured with two 1/2" thick steel angles per corner post with two bolts through each of the corner posts and two lag screws per angle into the insulated test chamber base. An insulated box was then constructed around the samples to encapsulate the two fence systems for high temperature conditioning. Viewing ports were installed into the insulated box for visual inspection and reading of the dial indicators. The fence systems were monitored and instrumented with four dial indicators per sample to measure the creep of the upper and lower rails and the lateral deflection of the fence panels. Each of the dial indicators were mounted to 1/4" thick steel angles which were secured to the corner posts. Circulation fans were utilized to ensure uniform temperatures throughout the insulated box. It should be noted that one fence system was nailed, by Trex Company LLC personnel, through the top rail to pin the fence panels to the top rail. A complete set of photographs have been provided in Appendix A illustrating the test setup and installation.

Test Procedure:
With the test setup completed, the fence systems were loaded with 100 pounds at the centers and deflection measurements were recorded along both upper and lower rails and for lateral deflection at ambient conditions to get a baseline reading for each of the dial indicators. The heating was then turned on and deflection measurements were recorded once the insulated chamber was at the 125°F ± 5°F test condition temperature range. The frequency for deflection measurements can be found in Appendix B of this test report inclusive of all deflections recorded at that time.

Test Results:

Composite Fence System without panel nails at the top rail:

- Actual weight hung from fence system: 103.54 lbs.
- Tested steady state temperature average: 124.4°F
- Top rail creep from loading and temperature: 0.158 inches
- Bottom rail creep from loading and temperature: 0.039 inches
- Lateral panel deflection from loading and temperature: 0.115 inches
Test Results (continued):

Top Rail Deflection:

![Top Rail Deflection Graph]

Bottom Rail Deflection:

![Bottom Rail Deflection Graph]

Lateral Panel Deflection:

![Lateral Panel Deflection Graph]
Test Results (continued):

Composite Fence System with panel nails at the top rail:

- Actual weight hung from fence system: 103.62 lbs.
- Tested steady state temperature average: 124.4°F
- Top rail creep from loading and temperature: 0.069 inches
- Bottom rail creep from loading and temperature: 0.062 inches
- Lateral panel deflection from loading and temperature: 0.019 inches

Top Rail Deflection:

![Top Rail Deflection Graph]

Bottom Rail Deflection:

![Bottom Rail Deflection Graph]
Test Results (continued):

Lateral Panel Deflection:

These test results apply to the tested samples and specified conditions only. Other conditions that may influence creep are beyond the scope of this testing. A copy of this report will be retained by ATI for a period of four years. The above results are the exclusive property of the client so named herein and are applicable to the samples tested. This report does not constitute an opinion or endorsement by this laboratory. This report may not be reproduced except in full without the approval of ATI.

For ARCHITECTURAL TESTING, INC.:

TESTED BY:  
Kevin S. Louder  
Project Engineer

REVIEWED BY:  
Michael J. Thoman  
Director - Simulations & Thermal Testing  
Simulator-In-Responsible Charge

Attachments (pages):
  Appendix A: Test Setup Photographs (5)
  Appendix B: Creep Data (1)
  Appendix C: Product Drawings and Installation Instructions (14)
## Revision Log

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Test Setup Photographs
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Notes:  
* No load at ambient conditions  
** Loaded with 100 lbs., closed chamber, and at ambient conditions with the heating initialized
Step - 1

Stakes

Property Line
Step-2

- 12in

30in

Gravel - 6in
Step - 3

Insert post into ground.
Step 4

68in

Trex express installation tool
Steps - 5&6

Insert bottom rail onto lower brackets.

Slide bottom rails over bottom rail inserts.
Step - 7

Notch first and last picket.

Interlocking Pickets

Alternate their orientation, so that they interlock.
Step - 8

Place the top rail onto upper Brackets.

Secure top rail with Fasteners.
Step - 9

Place post caps onto post.

Secure with adhesives.
Finished Trex Fence!