



TEST REPORT

Report No.: F8974.02-109-44

Rendered to:

VELUX America LLC
Greenwood, South Carolina

PRODUCT TYPE: Welded Wire Mesh Screen

SERIES/MODEL: Security Screen Set on Fabricated Skylight Curb

SPECIFICATION(S): Occupational Safety and Health Administration/U.S. Department of
Labor Regulations (Standards- 29 CFR) - 1910.23(e) (8)

California Code of Regulations, Title 8, Section 3212

Test Date(s): 07/26/16

Report Date: 01/09/18

Test Record Retention Date: 07/26/20

- 1.0 Report Issued To:** VELUX America LLC
1418 Evans Pond Road
P.O. Box 5001
Greenwood, South Carolina 29648-5001
- 2.0 Test Laboratory:** Architectural Testing, Inc., an Intertek company ("Intertek-ATI")
130 Derry Court
York, Pennsylvania 17406-8405
717-764-7700

3.0 Project Summary:

- 3.1 Product Type:** Welded Wire Mesh Screen
- 3.2 Series/Model:** Security Screen Set on Fabricated Skylight Curb
- 3.3 Compliance Statement:** Results obtained are tested values and were secured by using test method(s) intended to address the designated performance specifications.
- 3.4 Test Date(s):** 07/26/16
- 3.5 Test Record Retention End Date:** All test records for this report will be retained until July 26, 2020.
- 3.6 Test Location:** Intertek-ATI test facility in York, Pennsylvania.
- 3.7 Test Specimen Source:** The test specimen(s) was provided by the client. Representative samples of the test specimen(s) will be retained by Intertek-ATI for a minimum of two years from the test completion date.
- 3.8 Drawing Reference:** The test specimen drawings have been reviewed by Intertek-ATI and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Intertek-ATI per the drawings located in Appendix B. Any deviations are documented herein or on the drawings.
- 3.9 List of Official Observers:**

<u>Name</u>	<u>Company</u>
Timothy J. McGill	Intertek-ATI
Richard E. Hartman III	Intertek-ATI

4.0 Test Method (intended to address listed specification(s)):

Occupational Safety and Health Administration/U.S. Department of Labor Regulations (Standards- 29 CFR) - 1910.23(e) (8)

California Code of Regulations, Title 8, Section 3212

A 400 lb. weight, fabricated from a bag filled with lead shot, was placed on the center of the screen for a minimum of 60 seconds. The bag was removed and the test unit was inspected for any signs of damage or failure.

Additional Loading:

The specimen was taken to failure using sandbags placed on the center of the screen for a minimum of 60 seconds. The highest load causing penetration or damage was recorded.

5.0 Evaluation Scope:

Intertek Building & Construction (B&C) was contracted by VELUX America LLC, 1418 Evans Pond Road on December 4, 2017 to evaluate the OSHA fall protection testing to the most recent referenced document. Occupational Safety and Health Administration (OSHA)/U.S. Department of Labor Regulations Standard 29 CFR §1910.29 – Fall protection systems and falling object protection-criteria and practices. Section 1910.29(e)(1) requires a cover to be capable of supporting without failure at least twice the maximum intended load that may be imposed on the cover at any one time.

Intertek Building & Construction (B&C) was contracted by VELUX America LLC, 1418 Evans Pond Road on December 4, 2017 to evaluate the Cal/OSHA fall protection testing to the most recent referenced document. California Code of Regulations, Title 8, Section 3212 §(b), which states, "covers shall be capable of safely supporting the greater of 400 lbs or twice the weight of the employees, equipment and materials that may be imposed on any one square foot area of the cover at any time."

6.0 Test Specimen Description:

6.1 Product Sizes:

Overall Area: 63.4 ft ²	Width (inches)	Length (inches)
Overall size	74-1/2	122-1/2
Screen size	71-1/2	119-1/4

Curb	Width (inches)	Length (inches)	Depth (inches)
Curb size	74-1/2	122-1/2	16-1/4

6.2 Frame Construction:

Frame Member	Material	Description
Screen	Steel wire	3/16" diameter wire, grill assembled with 6" openings
Screen frame	Steel	1" x 1" angle along the perimeter of the screen
Curb	Steel	3/32" sheet metal

	Joinery Type	Detail
Curb corners	Welded	Welded at 90 degree angles with a 1-3/4" by 1-3/4" steel filler welded at the corners

6.3 Weatherstripping: No weatherstripping was utilized.

6.4 Glazing: No glazing was utilized.

7.0 Installation: The specimen was installed into a steel curb.

Location	Anchor Description	Anchor Location
Exterior curb corners	Welded	2" from all corners, 14" on center, and welds at the midspan 1" apart on the long side
Screen	Welded	Each meeting point between the screen frame and the wire

8.0 Test Results: The results are tabulated as follows:

8.1 California (and OSHA) minimum loading:

Test Load	Load Location	Results
400 lbf	Center of screen	No visible damage

Note: The 400 lbf weight was gently applied perpendicular to the center of the screen. After 60 seconds of rest time, there was no visible damage to the screen. There was no curb deflection observed.

8.2 Additional loading (applied on the same unit in the listed order):

Test Load	Load Location	Results
507 lb. at rest	Center of screen	No visible damage
614 lbf at rest	Center of screen	No visible damage
718 lbf at rest	Center of screen	No visible damage
829 lbf at rest	Center of screen	No visible damage
941 lbf at rest	Center of screen	No visible damage
1052 lbf at rest	Center of screen	No visible damage
1164 lbf at rest	Center of screen	No visible damage
1273 lbf at rest	Center of screen	No visible damage
1381 lbf at rest	Center of screen	No visible damage
1490 lbf at rest	Center of screen	No visible damage
1596 lbf at rest	Center of screen	See Note #1

Note #1: At 1596 lbf, the screen deflected 13-1/2" due to the curb rolling towards the interior. The screen did not break; however, due to the deflection, the testing was halted.

9.0 Conclusion:

The specimen was evaluated in accordance with Occupational Safety and Health Administration (OSHA)/U.S. Department of Labor Regulations Standard 29 CFR §1910.29(e)(1) to be capable of supporting twice the maximum intended load, up to (745) ft-lb.

The specimen was evaluated in accordance with California Code of Regulations, Title 8, Section 3212 §(b) to be capable of safely supporting loads exceeding 400 ft-lb.

Intertek-ATI will service this report for the entire test record retention period. Test records such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained by Intertek-ATI for the entire test record retention period.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written approval of Intertek-ATI.

For ARCHITECTURAL TESTING, Inc.

Richard E. Hartman III
Technician

Timothy J. McGill
Manager – Product Testing

REH:asm/abo

Attachments (pages): This report is complete only when all attachments listed are included.

Appendix-A: Photograph(s) (1)

Appendix-B: Drawing(s) (1)

Appendix A
Photograph(s)

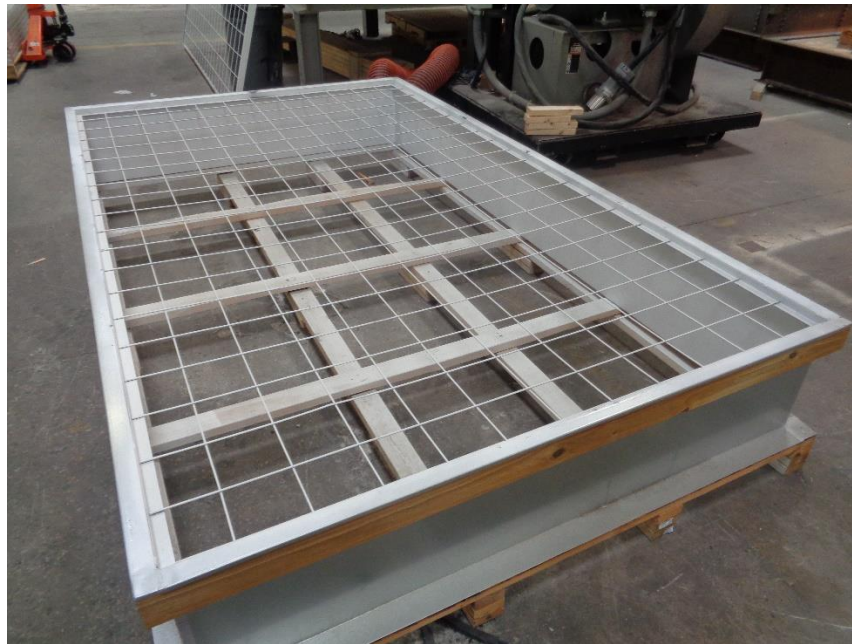


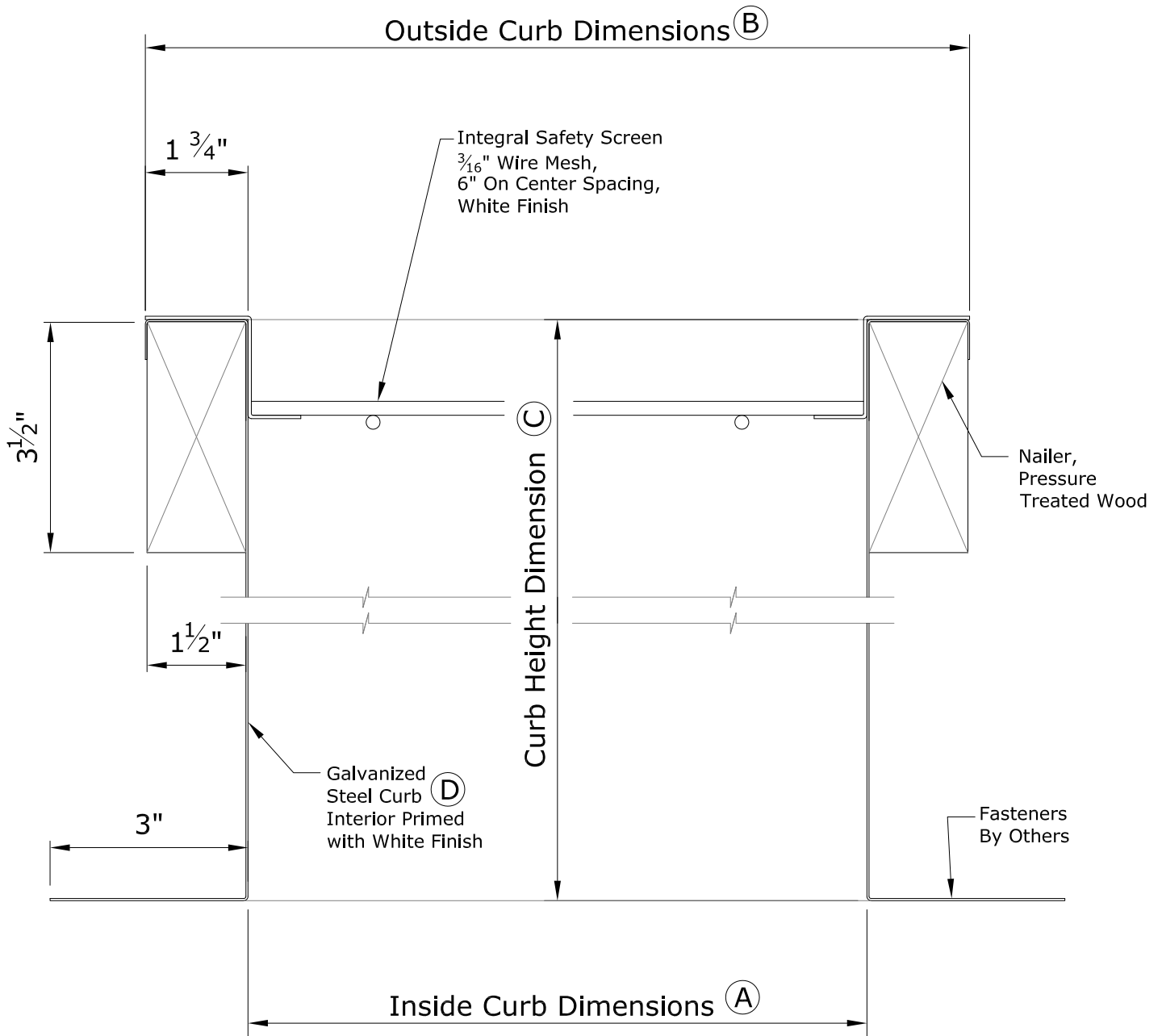
Photo No. 1
View of Tested Specimen



Photo No. 2
Test Specimen During 400 lb. Load

Appendix B

Drawing(s)



CCA6 CURB CROSS SECTION

Curb Details & Measurements

- (A) Inside Curb Dimensions
- (B) Outside Curb Dimensions
- (C) Curb Height
- (D) Steel Curb Thickness