TEST REPORT

Report No.: G2090.01-301-47

Rendered to:

TOBIN STEEL COMPANY, INC.
Santa Ana, California

PRODUCT TYPE: Fall Protection Security Bar
SERIES/MODEL: Curb Mount Sky Light Guard

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

California Occupational Safety and Health Administration, Title 8, Chapter 4, Subchapter 7, Section 3212(e)(2)

Test Date:	08/22/16
Report Date:	08/26/16
Revision 1 Date:	10/14/16
Test Record Retention Date:	08/22/20

1.0 Report Issued To: Tobin Steel Company, Inc.
817 East Santa Ana Boulevard
Santa Ana, California 92706

2.0 Test Laboratory: Architectural Testing, Inc., an Intertek company ("Intertek-ATI")
25800 Commercentre Drive
Lake Forest, California 92630
949-460-9600

3.0 Project Summary:

3.1 Product Type: Fall Protection Security Bar

3.2 Series/Model: Curb Mount Sky Light Guard

3.3 Compliance Statement: Results obtained are tested values and were secured by using the designated test methods.

3.4 Test Date: 08/22/16

3.5 Test Record Retention End Date: All test records for this report will be retained until August 22, 2020.

3.6 Test Location: Tobin Steel Company, Inc. manufacturing facility in Santa Ana, California.

3.7 Test Specimen Source: The test specimens were provided by the client. Representative samples of the test specimens were returned to the client.

3.8 Drawing Reference: The test specimen drawings have been reviewed by Intertek-ATI and are representative of the test specimens 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:

Name	Company
Jim Tobin	Tobin Steel Company, Inc.
Steve Tobin	Tobin Steel Company, Inc.
Stephen Mapes	Tobin Steel Company, Inc.
Jarod Hardman	Intertek-ATI

4.0 Test Specifications:

Test Specimen #1
Occupational Safety and Health Administration/U.S. Department of Labor Regulations (Standards- 29 CFR) - 1910.23(e)(8).

A 300 lbf weight, fabricated from a bag filled with sand, was placed on the center of the fall protection security bar for a minimum of 60 seconds. The bag was removed and the test unit was inspected for any signs of damage or failure. The bag was then dropped from 4' height above the security bars, permanent visible damage was noted.

Test Specimen #2
California Occupational Safety and Health Administration, Title 8, Chapter 4, Subchapter 7, Section 3212(e)(2).

A 400 lbf weight, fabricated from a steel I-beam with a 1' x 1' base plate, was placed on the center of the security bars. The beam was removed and the test unit was inspected for any signs of damage or failure.

5.0 Test Specimen Description:

5.1 Product Sizes:

Test Specimen #1-2:

Overall Area: 30.5 ft^2	**Width (inches)**	**Length (inches)**
Overall size	47-3/4	92
Curb size	48	94

The following descriptions apply to all specimens.

5.2 Frame Construction:

Frame Member	Material	Description
Curb ledge	Steel	11 gauge, s bend with a 1-1/2" top shelf, 1-1/4" height, and a 7/8" bottom shelf *(see attached drawing Page 3)*
Cross bar	Steel	1" x 1/2" tube with a 1/16" wall thickness *(see attached drawing Page 3)*
Cross bar	Steel	3 gauge wire *(see attached drawing Page 3)*

5.0 Test Specimen Description: (Continued)

5.2 Frame Construction: (Continued)

	Joinery Type	Detail
All curb ledges	Flush	Fillet weld of tube to curb ledge union with tube on top of bottom ledge.
All wire tube unions	Flush	Spot weld of wire to tube with wire on top of the tube.

5.3 Weatherstripping: No weatherstripping was utilized.

5.4 Glazing: No glazing was utilized.

6.0 Installation:

The specimen was installed into a 2" x 8" Douglas-Fir wood curb that was toe nailed to the simulated roof plywood for the testing setup. The rough opening allowed for a 1/8" shim space. The exterior perimeter of the bar assembly was dry fit to the curb.

Location	Anchor Description	Anchor Location
Through curb ledge	10D x 2-1/8" plywood nail	20" on center spacing

7.0 Test Results: The results are tabulated as follows:

7.1 OSHA Safety Test

Test Specimen #1:

Test	Load Location	Results
200 lbf	Center of bars	No visible damage

***Note**: The 200 lbf weight was gently applied perpendicular to the center of bar assembly. After 60 seconds of rest time, there was no visible damage to the bar assembly.*

7.2 OSHA Safety Drop Test

Test Specimen #1:

Test Method	Load Location	Results
200 lbf at rest	Center of bars	No visible damage
800 lbf-ft (4' drop height)	Center of bars	Bending of bars, no break in welds or release from curb mounting

***Note:** Reference Photo Nos. 1-4.*

Test Specimen #2

Test Method	Load Location	Results
200 lbf at rest	Center of bars	No visible damage
800 lbf-ft (4' drop height)	Center of bars	Bending of bars, no break in welds or release from curb mounting

***Note:** Reference Photo Nos. 5-7.*

7.3 CALOSHA Safety Test

Test Specimen #2:

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

***Note**: The 400 lbf weight was gently applied perpendicular to the center of bar assembly. After 60 seconds of rest time, there was no visible damage to the bar assembly. Reference Photo Nos. 8-11.*

Intertek-ATI will service this report for the entire test record retention period. Test records such as detailed drawings, datasheets, 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 specimens tested. This report may not be reproduced, except in full, without the written approval of Intertek-ATI

For ARCHITECTURAL TESTING, Inc.

Digitally Signed by: Jarod Hardman

Jarod S. Hardman
Laboratory Manager

JSH:ss/ms

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix-A: Photographs (6)
Appendix-B: Drawings (3)

Revision Log

Rev. #	Date	Page(s)	Revision(s)
0	8/16/16	-	Original Report Issue.
1	10/14/16	3	Expanded on installation description in section 6.0

Appendix A

Photographs

Photo No. 1
Test Specimen #1 prior to drop test

Photo No. 2
Test Specimen #1 after drop test

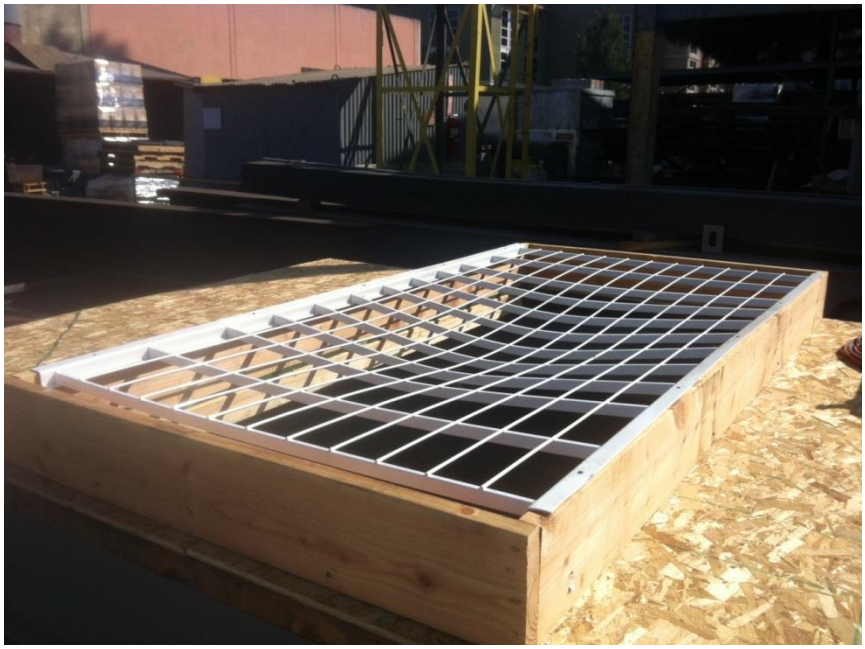


Photo No. 3
Test Specimen #1 deformation after drop test

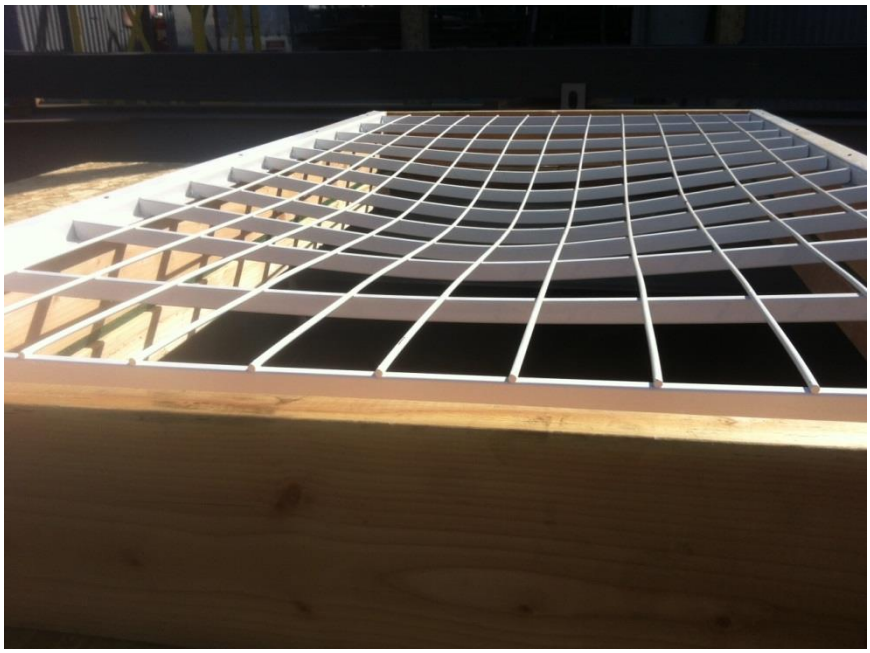


Photo No. 4
Test Specimen #1 deformation after drop test

Photo No. 5
Test Specimen #2 prior to drop test

Photo No. 6
Test Specimen #2 after drop test

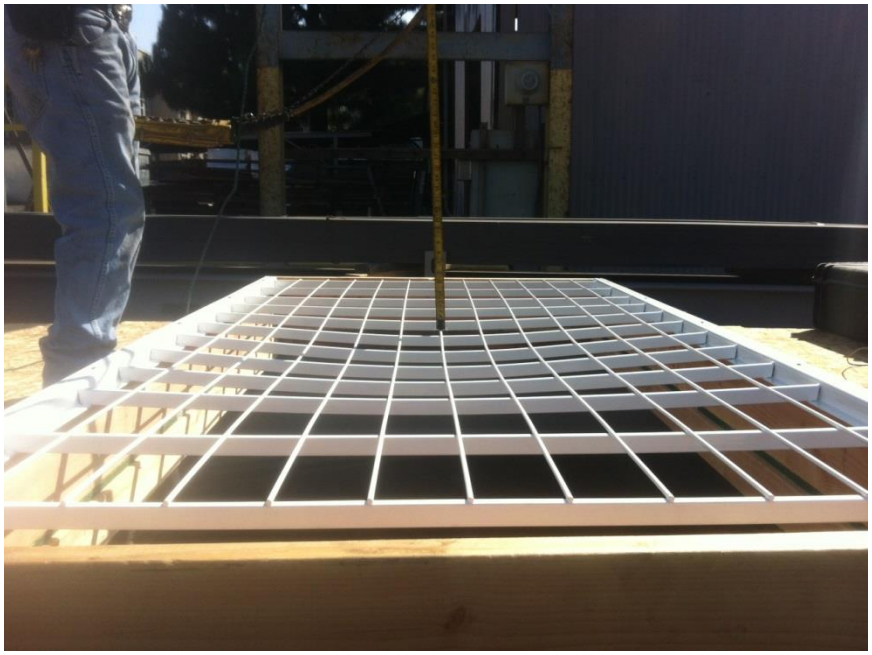


Photo No. 7
Test Specimen #2 deformation after drop test

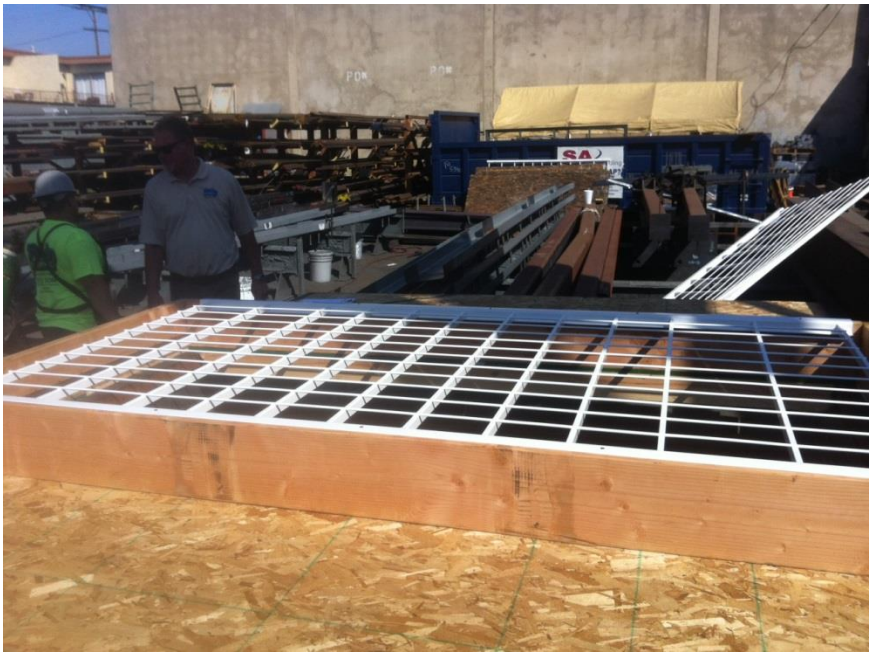


Photo No. 8
Test Specimen #2 prior to load test

Photo No. 9
Test Specimen #2 during load test

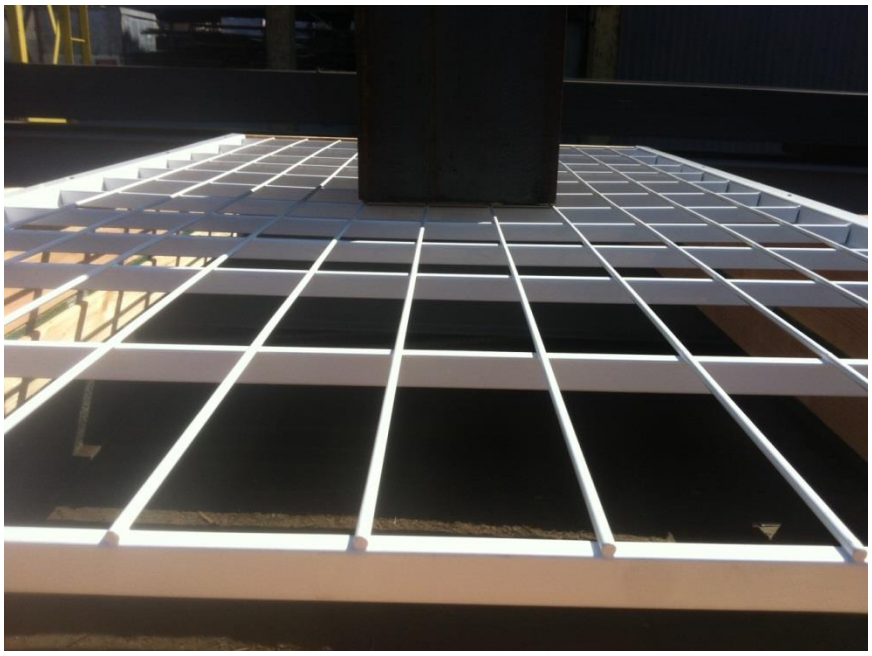


Photo No. 10
Test Specimen #2 during load test

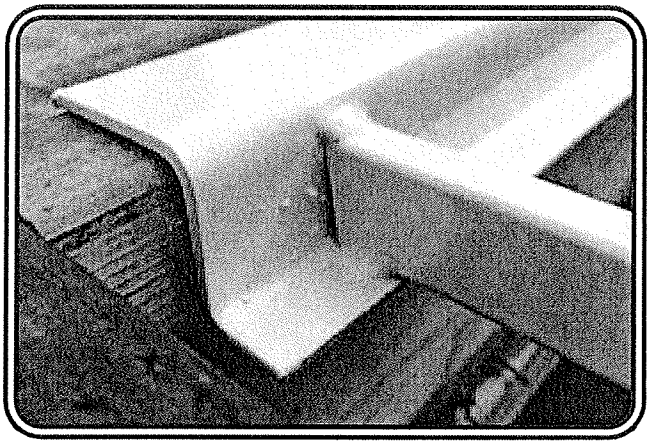
Photo No. 11
Test Specimen #2 after load test

Appendix B

Drawings

Tobin STEEL COMPANY, INC.

SKYLIGHT OPENING PROTECTION



- Curb Mounted permanent skylight fall protection.
- Can be installed to curb on ground to provide protection during construction.
- Installs easily with (10) 10d nails.
- Additional holes provided for Tamper Proof screws so frame can act as burglar protection.
- Powder Coated finish standard white with other color available.
- Sturdy lightweight design (64#)
- Load Tested design with 250# at 3'-0" drop test & 1,200# static test.
- Fits in standard 4x8 skylight opening.

Intertek MT

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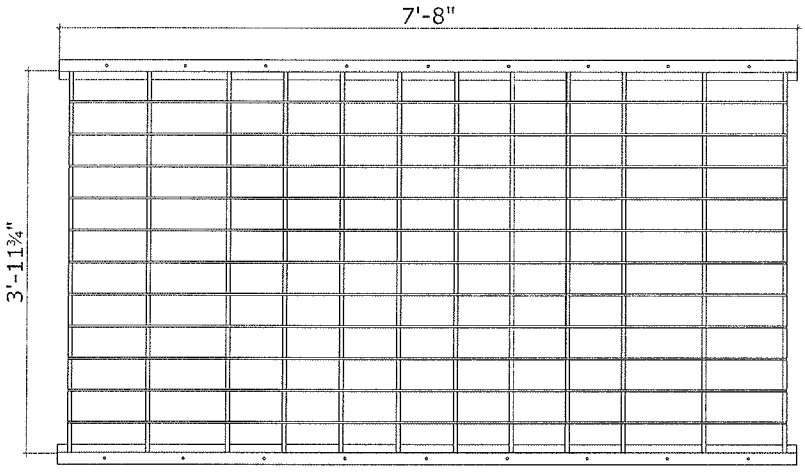

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www.tobinsteel.com

TOBIN STEEL - 817 E. SANTA ANA BLVD. - SANTA ANA - CA - 92702
PHONE (714) 541-2268 - FAX (714) 541-0627

CURB MOUNT SKY LIGHT GUARD

Intertek

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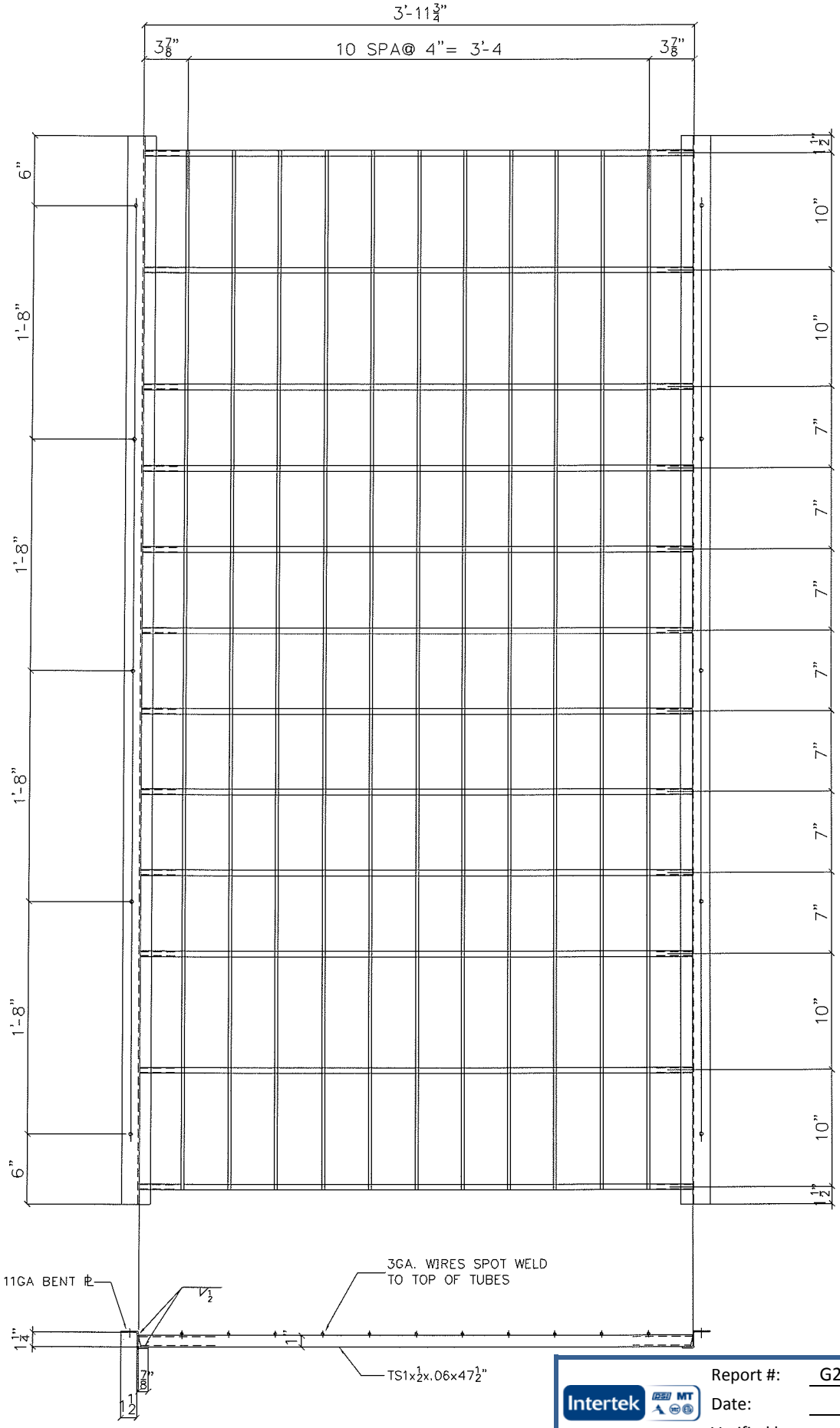

Intertek MT

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CURB MOUNT SKY LIGHT GUARD