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PETERSEN ALUMINUM CORPORATION
TEST REPORT

SCOPE OF WORK
TAS 125 UPLIFT RESISTANCE TESTING OF 0.032" ALUMINUM PAC150 MECHANICAL SEAM OVER STEEL B-DECK

REPORT NUMBER
S9866.01-450-18 R0

TEST DATE(S)
03/06/26 – 03/14/26

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04/09/26

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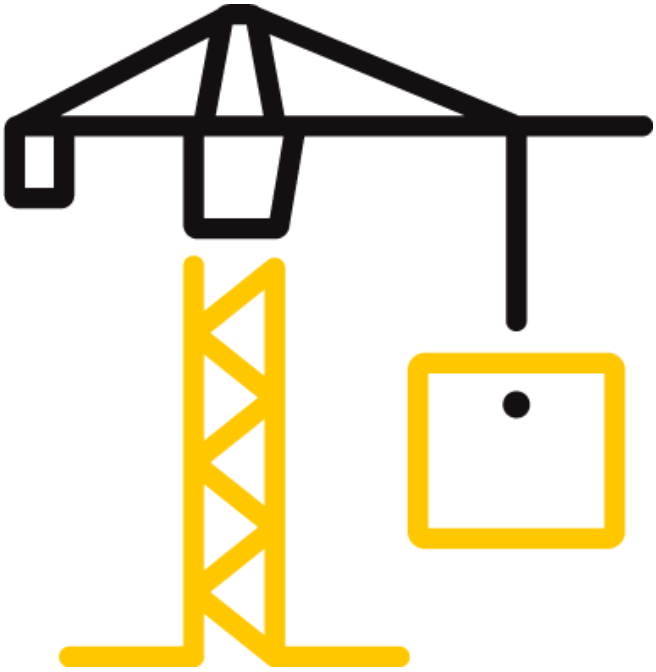

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TEST REPORT FOR PETERSEN ALUMINUM CORPORATION

Report No.: S9866.01-450-18 R0
Date: 04/09/26

REPORT ISSUED TO

PETERSEN ALUMINUM CORPORATION
102 Northpoint Parkway
Building 106
Acworth, GA 30102

SECTION 1

SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by Petersen Aluminum Corporation to perform testing in accordance with TAS 125, *Standard Requirements for Metal Roofing Systems*, on their 0.032" Aluminum PAC150 Mechanical Seam over B-Deck. Results obtained are tested values and were secured by using the designated test method(s). Uplift testing was conducted at the Intertek B&C test facility in West Palm Beach, FL. Tensile testing was conducted at Intertek B&C test facility in Lithia Spring, GA.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. Intertek B&C will service this report for the entire test record retention period. The test record retention period ends ten years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained for the entire test record retention period.

TANYA A. DOLBY
LICENSE
No. 93536
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

For INTERTEK B&C:

COMPLETED BY:	Seth Allen	**REVIEWED BY:**	Tanya Dolby, P.E.
TITLE:	Project Lead	**TITLE:**	Engineering Manager – Engineering Services
SIGNATURE:	Seth Allen Digitally Signed by: Seth Allen	**SIGNATURE:**	Tanya A Dolby Digitally Signed by: Tanya Dolby Date: 2026.04.13 08:46:11 -04'00'
DATE:	04/09/26	**DATE:**	04/09/26

SA:sar

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SECTION 2
SUMMARY OF TEST RESULTS

Product Type: Metal Roof Panels
Series/Model: PAC 150 Aluminum Mechanical Seam
Specimen 1 - Ultimate Test Load Achieved: -217 psf
Specimen 2 - Ultimate Test Load Achieved: -217 psf
Specimen 3 - Ultimate Test Load Achieved: -442 psf

SECTION 3
TEST METHOD(S)

The specimens were evaluated in accordance with the following:

TAS 125-03, *Standard Requirements for Metal Roofing Systems*

SECTION 4
MATERIAL SOURCE/INSTALLATION

Test specimens were provided by the client

Installation of the tested product was performed the client.

SECTION 5
EQUIPMENT

Cycling and Static Load Mechanism: Computer controlled centrifugal blowers with electronic pressure measuring device.

Deflection Measuring Device: Linear Transducers

SECTION 6
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Seth Allen	Intertek B&C
Charles Gilbert	Intertek B&C

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SECTION 7
TEST PROCEDURE

This test evaluates the comparative resistance of roof assemblies to positive and negative pressures by simulating the effects of wind gusts by use of oscillating exterior pressure and constant interior pressures. Three assemblies were tested per TAS 125 at each class rating. (Reference Chart No. 1 for test pressures and load durations.) The measurements were taken via linear transducers.

		NEGATIVE PRESSURE		POSITIVE PRESSURE	
TEST PHASE	**DURATION minutes**	**POUNDS PER SQUARE FOOT psf (kPa)**	**INCHES OF WATER inches (mm)**	**POUNDS PER SQUARE FOOT psf (kPa)**	**INCHES OF WATER inches (mm)**
Class 30					
1	5	16.2 (0.79)	3.1 (79)	0.0 (0.00)	0.0 (0)
2	5	16.2 (0.79)	3.1 (79)	13.8 (0.66)	2.7 (69)
3	60	8.1 - 27.7 (0.39 - 1.33)	1.5 - 5.3 (38 - 135)	13.8 (0.66)	2.7 (69)
4	5	24.2 (1.16)	4.7 (119)	0.0 (0.00)	0.0 (0)
5	5	24.2 (1.16)	4.7 (119)	20.8 (1.00)	4.0 (102)
Class 60					
1	5	32.3 (1.55)	6.2 (157)	0.0 (0.00)	0.0 (0)
2	5	32.3 (1.55)	6.2 (157)	27.7 (1.33)	5.3 (135)
3	60	16.2 - 55.4 (0.79 - 2.66)	3.1 - 10.7 (79 - 272)	27.7 (1.33)	5.3 (135)
4	5	40.4 (1.94)	7.8 (198)	0.0 (0.00)	0.0 (0)
5	5	40.4 (1.94)	7.8 (198)	34.6 (1.66)	6.7 (170)
Class 90 (maximum combined uplift pressure of 105 psf)					
1	5	48.5 (2.33)	9.3 (236)	0.0 (0.00)	0.0 (0)
2	5	48.5 (2.33)	9.3 (236)	41.5 (1.99)	8.0 (203)
3	60	24.2 - 48.5 (1.16 - 2.33)	4.7 - 9.3 (119 - 236)	41.5 (1.99)	8.0 (203)
4	5	56.5 (2.71)	10.9 (277)	0.0 (0.00)	0.0 (0)
5	5	56.5 (2.71)	10.9 (277)	48.5 (2.33)	9.3 (236)

Chart No. 1
TAS 125 Load Table Test Pressures

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SECTION 8
TEST SPECIMEN DESCRIPTION

Product Type: Metal Roof Panels
Series/Model: PAC 150 Aluminum Mechanical Seam

Product Size(s):

All Test Specimens

OVERALL AREA:	**WIDTH**		**HEIGHT**	
9.3 m² (100.0 ft²)	**millimeters**	**inches**	**millimeters**	**inches**
Overall Size	3048	120	3048	120
Panel Size	457	18	3048	120

The following description applies to all specimens.

Test Deck Construction:
The 10' 0" wide by 10' 0" long by 1' 3" deep test frame was fabricated from C15 by 33.9 steel channels. Two W6 x 12 steel purlin was located 32” from each end of the test frame (purlin spacing of 5' on center). The purlin was welded to the test frame at each end. Continuous 2" by 2" by 3/16" thick L-shaped steel angle was welded around the interior perimeter of the test frame. The deck was sheathed with 22-gauge 33ksi steel B-decking and secured with # 12 x 3" long hex head screws spaced 6" on center through the deck and into the purlins. 4” Iso foam was placed on top of the 22Ga decking becoming flush with the top of the test deck.

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Specimen #1 & 2 Roof System:

COMPONENTS	DETAILS	ATTACHMENT METHOD
Peel & Stick Underlayment	A single layer was used with a 3" overlap between adjacent sheets.	Self-adhered.
Clip	The 2” long clips were constructed from 24Ga galvanized steel.	The clips were spaced at 24" on center and attached using two #12 x 7" pan head fasteners per clip.
1.5” 90° Mechanical Seam	The panels were constructed from 0.032” Aluminum and had a 18" coverage width. Six full and two partial width panels were tested.	The male leg of the panels were secured with clips spaced 24” on center. The female leg of the panels was placed over the male leg of the panel and mechanically seamed 90°. The perimeter was secured with #12 x 7" pan head fasteners spaced 2” on center at the ends and 2” on center at the sides.

Specimen #3 Roof System:

COMPONENTS	DETAILS	ATTACHMENT METHOD
Peel & Stick Underlayment	A single layer was used with a 3" overlap between adjacent sheets.	Self-adhered.
Clip	The 2” long clips were constructed from 24Ga galvanized steel.	The clips were spaced at 6" on center and attached using two #12 x 7" pan head fasteners per clip.
1.5” 90° Mechanical Seam	The panels were constructed from 0.032” Aluminum and had a 18" coverage width. Six full and two partial width panels were tested.	The male leg of the panels were secured with clips spaced 6” on center. The female leg of the panels was placed over the male leg of the panel and mechanically seamed 90°. The perimeter was secured with #12 x 7" pan head fasteners spaced 2” on center at the ends and 2” on center at the sides.

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SECTION 9

UPLIFT TEST RESULTS

The temperature during testing was 25°C (77°F). The results are tabulated as follows.

Test Specimen #1

TEST TITLE	OBSERVATIONS	DEFLECTION MEASUREMENTS	RESULTS
Class 30, Phases 1-5	No visible damage to system	Reference Table No. 1	PASSED
Class 60, Phases 1-5	No visible damage to system	Reference Table No. 1	PASSED
Class 90, Phases 1-5	No visible damage to system	Reference Table No. 1	PASSED
Supplemental Loads -112 psf to -217 psf	No visible damage to system	Reference Table No. 2	PASSED
Supplemental Loads -232 psf	Fastener Failure	Reference Table No. 2	FAILED

Test Specimen #2

TEST TITLE	OBSERVATIONS	DEFLECTION MEASUREMENTS	RESULTS
Class 30, Phases 1-5	No visible damage to system	Reference Table No. 3	PASSED
Class 60, Phases 1-5	No visible damage to system	Reference Table No. 3	PASSED
Class 90, Phases 1-5	No visible damage to system	Reference Table No. 3	PASSED
Supplemental Loads -112 psf to -217 psf	No visible damage to system	Reference Table No. 4	PASSED
Supplemental Loads -232 psf	Fastener Failure	Reference Table No. 4	FAILED

Test Specimen #3

TEST TITLE	OBSERVATIONS	DEFLECTION MEASUREMENTS	RESULTS
Class 30, Phases 1-5	No visible damage to system	Reference Table No. 5	PASSED
Class 60, Phases 1-5	No visible damage to system	Reference Table No. 5	PASSED
Class 90, Phases 1-5	No visible damage to system	Reference Table No. 5	PASSED
Supplemental Loads -112 psf to -442 psf	No visible damage to system	Reference Table No. 6	PASSED
Supplemental Loads -457 psf	Fastener Failure	Reference Table No. 6	FAILED

Notes:

Reference Chart No. 1 for test pressures and load durations.
Reference Sketch No. 1 for location of deflection measurement devices.
A loose fitting, pleated 4-mil plastic film was utilized to assist in obtaining uniform pressure on the roof system. The plastic film was located between the moisture barrier and the roof panels to facilitate testing. In our opinion, this did not influence test results.

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SECTION 10
TENSILE TEST RESULTS

Tensile tests were conducted on Three coupons. The test specimens were evaluated in accordance with the most recent revision of ASTM E8, *Standard Test Methods for Tensile Testing of Metallic Materials*. The tensile coupons were machined from the metal members to the dimensions of the sheet-type 0.5" wide specimen given in Figure 1 of ASTM E8. Elongation was measured after fracture.

Test Method:	ASTM E8-22			
Orientation:	Longitudinal			
Specimen No.	**Yield Strength @ 0.2% Offset (psi)**	**Yield Point Elongation (%)**	**Tensile Strength (psi)**	**Elongation in 2" (%)**
1	24472.28	6.05	24482.03	12.00
2	23794.81	5.53	23806.37	12.00
3	21476.07	5.79	21515.51	8.00
Average	**23247.72**	**5.79**	**23267.97**	**10.67**

SECTION 11
CONCLUSION

The PAC 150 Aluminum Mechanical Seam tested per TAS 125 achieved an ultimate test load of:
Specimen 1: -217 psf
Specimen 2: -217 psf
Specimen 3: -442 psf

Unless differently required, Intertek reports apply the "Simple Acceptance" rule, also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.

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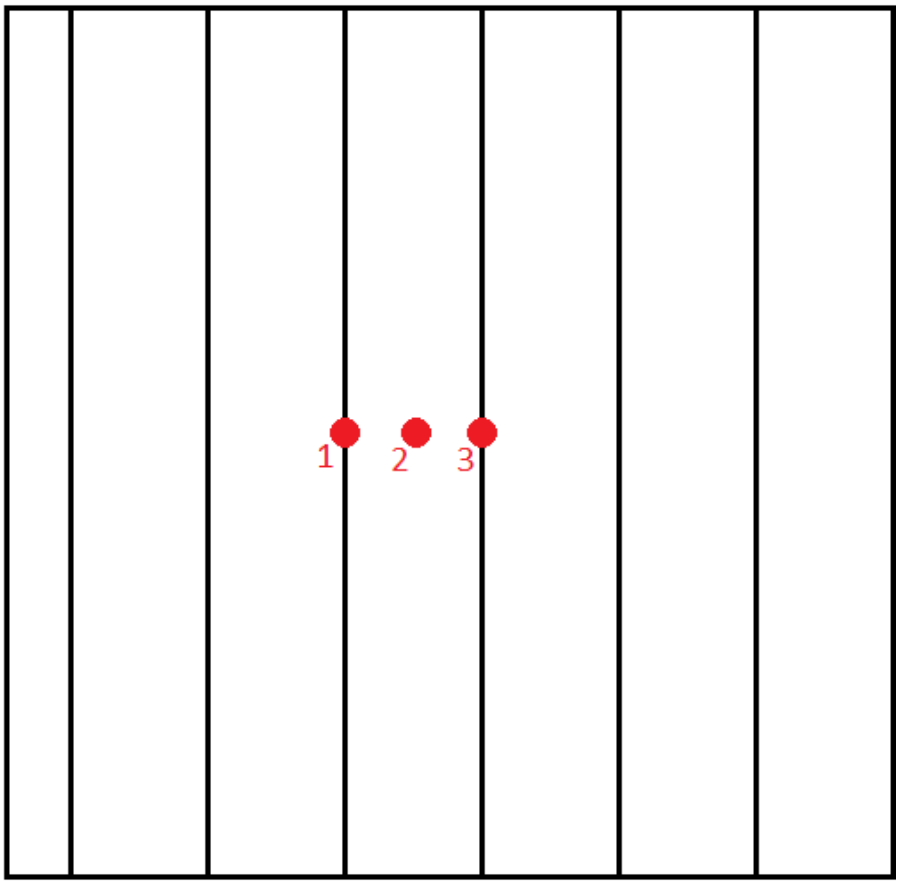
SECTION 12
SKETCH



Sketch No.1
Deflection Measurement Device Locations

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SECTION 13
TABLES

CLASS	PHASE	DEFLECTION MEASUREMENTS (inches) INDICATOR #1	#2	#3
30	1	**0.05**	**0.55**	**0.06**
	2	**0.11**	**0.76**	**0.12**
	3 Minimum	**0.11**	**0.70**	**0.12**
	3 Maximum	**0.15**	**0.76**	**0.17**
	4	**0.18**	**0.84**	**0.15**
	5	**0.24**	**1.00**	**0.22**
	Final (0.0 psf)	**0.13**	**0.58**	**0.09**
60	1	**0.20**	**0.87**	**0.18**
	2	**0.32**	**1.28**	**0.29**
	3 Minimum	**0.34**	**1.36**	**0.31**
	3 Maximum	**0.44**	**1.49**	**0.42**
	4	**0.35**	**1.36**	**0.31**
	5	**0.47**	**1.55**	**0.44**
	Final (0.0 psf)	**0.23**	**0.31**	**0.17**
90	1	**0.39**	**1.32**	**0.35**
	2	**0.55**	**1.62**	**0.54**
	3 Minimum	**0.51**	**1.57**	**0.49**
	3 Maximum	**0.56**	**1.64**	**0.54**
	4	**0.47**	**1.63**	**0.45**
	5	**0.67**	**1.86**	**0.67**
	Final (0.0 psf)	**0.30**	**0.58**	**0.25**

Table No. 1
Deflection Measurements – Test Specimen #1

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VACUUM (psf)	UPLIFT (psf)	LOAD (psf)	SUPPLEMENTAL DEFLECTION MEASUREMENTS (inches) INDICATOR #1	#2	#3
-63.5	-48.5	-112.0	**0.71**	**1.84**	**0.72**
-78.5	-48.5	-127.0	**0.78**	**2.04**	**0.81**
-93.5	-48.5	-142.0	**0.87**	**2.20**	**0.92**
-108.5	-48.5	-157.0	**0.96**	**2.33**	**1.02**
-123.5	-48.5	-172.0	**1.07**	**2.52**	**1.15**
-138.5	-48.5	-187.0	**1.47**	**2.93**	**1.41**
-153.5	-48.5	-202.0	**1.86**	**3.09**	**1.65**
-168.5	-48.5	-217.0	**1.86**	**3.11**	**1.98**
-183.5	-48.5	-232.0	**Failure**		

Table No. 2
Supplemental Deflection Measurements – Test Specimen #1

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CLASS	PHASE	DEFLECTION MEASUREMENTS (inches) INDICATOR #1	#2	#3
30	1	**0.15**	**0.69**	**0.15**
	2	**0.21**	**0.99**	**0.27**
	3 Minimum	**0.21**	**0.98**	**0.32**
	3 Maximum	**0.25**	**1.16**	**0.37**
	4	**0.21**	**1.00**	**0.36**
	5	**0.18**	**1.24**	**0.45**
	Final (0.0 psf)	**0.15**	**0.24**	**0.27**
60	1	**0.24**	**1.14**	**0.41**
	2	**0.33**	**1.42**	**0.54**
	3 Minimum	**0.33**	**1.49**	**0.56**
	3 Maximum	**0.24**	**1.65**	**0.58**
	4	**0.31**	**1.43**	**0.55**
	5	**0.41**	**1.66**	**0.70**
	Final (0.0 psf)	**0.19**	**0.45**	**0.32**
90	1	**0.34**	**1.49**	**0.60**
	2	**0.47**	**1.75**	**0.78**
	3 Minimum	**0.42**	**1.69**	**0.74**
	3 Maximum	**0.47**	**1.74**	**0.79**
	4	**0.38**	**1.82**	**0.69**
	5	**0.54**	**1.86**	**0.91**
	Final (0.0 psf)	**0.22**	**0.65**	**0.43**

Table No. 3
Deflection Measurements – Test Specimen #2

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VACUUM (psf)	UPLIFT (psf)	LOAD (psf)	SUPPLEMENTAL DEFLECTION MEASUREMENTS (inches) INDICATOR #1	#2	#3
-63.5	-48.5	-112.0	**0.58**	**1.91**	**0.95**
-78.5	-48.5	-127.0	**0.67**	**2.02**	**1.06**
-93.5	-48.5	-142.0	**1.12**	**2.20**	**1.18**
-108.5	-48.5	-157.0	**1.42**	**2.37**	**2.05**
-123.5	-48.5	-172.0	**1.62**	**237**	**2.42**
-138.5	-48.5	-187.0	**1.77**	**2.37**	**2.65**
-153.5	-48.5	-202.0	**1.79**	**2.37**	**2.73**
-168.5	-48.5	-217.0	**1.79**	**2.37**	**2.85**
-183.5	-48.5	-232.0	**Failure**		

Table No. 4
Supplemental Deflection Measurements – Test Specimen #2

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CLASS	PHASE	DEFLECTION MEASUREMENTS (inches) INDICATOR #1	#2	#3
30	1	**0.04**	**0.25**	**0.04**
	2	**0.08**	**0.63**	**0.09**
	3 Minimum	**0.08**	**0.66**	**0.11**
	3 Maximum	**0.11**	**0.72**	**0.14**
	4	**0.11**	**0.58**	**0.13**
	5	**0.17**	**0.90**	**0.20**
	Final (0.0 psf)	**0.09**	**0.04**	**0.05**
60	1	**0.15**	**0.77**	**0.17**
	2	**0.21**	**1.08**	**0.26**
	3 Minimum	**0.21**	**1.14**	**0.25**
	3 Maximum	**0.28**	**1.25**	**0.34**
	4	**0.21**	**1.02**	**0.25**
	5	**0.29**	**1.31**	**0.36**
	Final (0.0 psf)	**0.14**	**0.28**	**0.14**
90	1	**0.23**	**1.13**	**0.29**
	2	**0.34**	**1.45**	**0.42**
	3 Minimum	**0.31**	**1.37**	**0.37**
	3 Maximum	**0.35**	**1.44**	**0.42**
	4	**0.29**	**1.27**	**0.37**
	5	**0.41**	**1.61**	**0.53**
	Final (0.0 psf)	**0.17**	**0.29**	**0.21**

Table No. 5
Deflection Measurements – Test Specimen #3

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VACUUM (psf)	UPLIFT (psf)	LOAD (psf)	SUPPLEMENTAL DEFLECTION MEASUREMENTS (inches) INDICATOR #1	#2	#3
-63.5	-48.5	-112.0	**0.43**	**1.68**	**0.56**
-78.5	-48.5	-127.0	**0.49**	**1.79**	**0.61**
-93.5	-48.5	-142.0	**0.51**	**1.91**	**0.67**
-108.5	-48.5	-157.0	**0.56**	**2.03**	**0.73**
-123.5	-48.5	-172.0	**0.61**	**2.16**	**0.79**
-138.5	-48.5	-187.0	**0.66**	**2.25**	**0.86**
-153.5	-48.5	-202.0	**0.70**	**2.34**	**0.92**
-168.5	-48.5	-217.0	**0.74**	**2.41**	**0.98**
-183.5	-48.5	-232.0	**0.79**	**2.56**	**1.03**
-198.5	-48.5	-247.0	**0.83**	**2.63**	**1.08**
-213.5	-48.5	-262.0	**0.88**	**2.71**	**1.14**
-228.5	-48.5	-277.0	**0.93**	**2.83**	**1.21**
-243.5	-48.5	-292.0	**1.00**	**2.96**	**1.31**
-258.5	-48.5	-307.0	**1.12**	**3.05**	**1.42**
-273.5	-48.5	-322.0	**1.22**	**3.13**	**1.54**
-288.5	-48.5	-337.0	**1.33**	**3.17**	**1.69**
-303.5	-48.5	-352.0	**1.47**	**3.17**	**1.85**
-318.5	-48.5	-367.0	**1.58**	**3.17**	**1.98**
-333.5	-48.5	-382.0	**1.67**	**3.17**	**2.14**
-348.5	-48.5	-397.0	**1.72**	**3.17**	**2.21**
-363.5	-48.5	-412.0	**1.76**	**3.17**	**2.28**
-378.5	-48.5	-427.0	**1.76**	**3.17**	**2.28**
-393.5	-48.5	-442.0	**1.76**	**3.17**	**2.28**
-408.5	-48.5	-457.0	**Failure**		

Table No. 6
Supplemental Deflection Measurements – Test Specimen #3

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SECTION 14
PHOTOGRAPHS

Photo No. 1
Aluminum Deck After Testing

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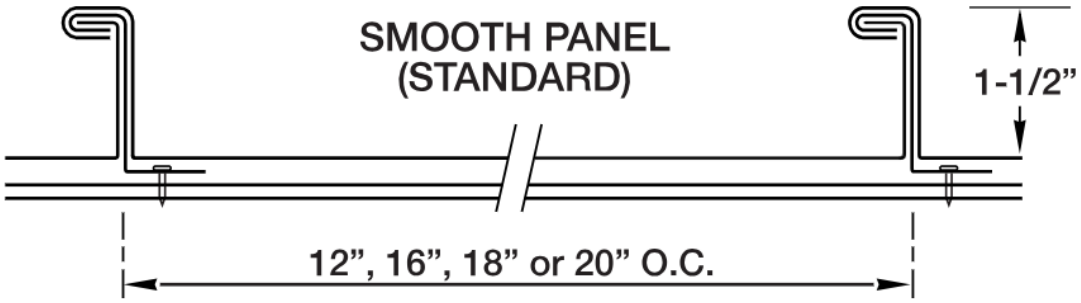
SECTION 15
DRAWINGS

The test specimen drawings have been reviewed by Intertek B&C and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Intertek B&C per the drawings included in this report. Any deviations are documented herein or on the drawings.



Drawing No. 1
Panel Detail

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SECTION 16
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	04/09/26	N/A	Original Report Issue