Farabaugh Engineering and Testing Inc.

Project No. T169-25

Report Date: March 26, 2025

No. Pages: 9 (inclusive)

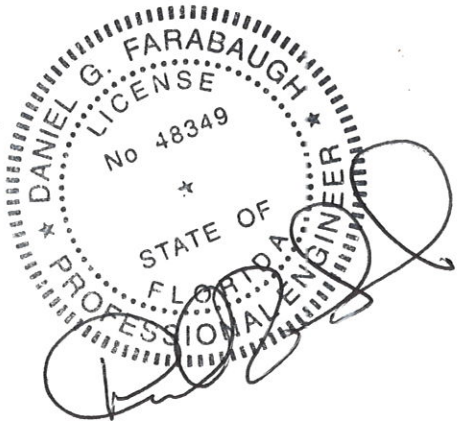
PERFORMANCE TEST REPORT
TAS 202 & 203

BOX RIB 1 WALL PANEL
12`" WIDE X 24 GA.

FOR

PETERSEN ALUMINUM CORP.
10551 PAC RD.
TYLER, TX 75707

3/26/25



Prepared by:

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PERFORMANCE TEST REPORT

Test Specimen

Manufacturer: Petersen Aluminum Corp.
10551 PAC Rd.
Tyler, TX 75707

Specimen: Box Rib 1 Panel, 12" wide (Coverage), 24 ga. steel (w/ Clip Leg)

Panel Clip: One Piece Stainless Steel Clip – 2-1/2" Long X 20 ga. Thick

Substrate: 23/32" APA plywood (3/4" nominal)
Span Rating: 40/24
Exposure 1
Number of Plys: 5 ply

Test Date Completion: 3/26/2025

Design Pressure

SPECIMEN A, B, C, D = +75 PSF / -75 PSF SPAN: 2'-0"

Test Witness:
Daniel G. Farabaugh, PE (Florida PE. #0048349)
255 Saunders Station Road
Trafford, PA. 15085

Test Assembly

- The 3/4" APA plywood was attached to the wood joist (2x10) supports (spaced at 16" o.c.) using 8d ring nails at 6" o.c. around the perimeter and at interior supports.

- DuPont Tyvek HomeWrap WRB was attached to the exterior plywood sheathing with 1" ring shank plastic cap nails, 6" o.c. around the perimeter edges and intermediate studding. The DuPont Tyvek HomeWrap was applied creating one vertical joint with 3" overlaps. The vertical joint was sealed with DuPont Tyvek self-adhered tape.

- Four full vertical metal panels were attached into the wood deck substrate using #14-13 X 1-1/2" long, DP1, Concealor, self drilling fasteners (2 fasteners per clip). The panel sidejoints were a interlocking sliding seam. The outer perimeter of the assembly was attached and sealed as required to maintain a periphery seal

- A plastic barrier was located between the panels and the underlying substrate.

See attached drawing for dimensions details and installation of panels. The mock-up was tested in the vertical position.

Test Procedure

The tests were conducted in accordance with the following test methods:

- Testing Application Standard (TAS) 202-94 Criteria for Testing Impact and Non Impact Resistant Building Envelope Components Using Static Air Pressure.
- Testing Application Standard (TAS) 203-94 Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.

TAS 203-94
CYCLIC WIND PRESSURE LOADING

TEST SPECIMENS: A, B, C

DESIGN PRESSURE: +75 PSF / - 75 PSF

TEST SPAN: 5 SPANS @ 2'-0"

INWARD (+) ACTING PRESSURE

RANGE	TEST PRESSURE (PSF)	NUMBER OF CYCLES
0 TO 0.5P	0 TO 37.5	600
0 TO 0.6P	0 TO 45	70
0 TO 1.3P	0 TO 97.5	1

SPECIMEN	MAX NET. DEFLECTION (IN)	MAX. NET PERMANENT SET (IN)
A	0.052	< 1/16"
B	0.044	< 1/16"
C	0.047	< 1/16"

OUTWARD (-) ACTING PRESSURE

RANGE	TEST PRESSURE (PSF)	NUMBER OF CYCLES
0 TO 0.5P	0 TO 37.5	600
0 TO 0.6P	0 TO 45	70
0 TO 1.3P	0 TO 97.5	1

SPECIMEN	MAX NET. DEFLECTION (IN)	MAX NET. PERMANENT SET (IN)
A	0.279	< 1/16"
B	0.350	< 1/16"
C	0.182	< 1/16"

RESULTS: Upon completion of the cycles at the pressures noted above, there were no noticeable failures of the specimens.

TAS 202-94
UNIFORM STATIC AIR PRESSURE TEST

SPECIMEN "D"

DESIGN PRESSURE = +75 psf / - 75 psf

TEST SPAN: 5 SPANS @ 2'-0"

AIR INFILTRATION TEST (ASTM E283-04)

Test Pressure (psf)	Specimen Air Leakage Rate (cfm/sf)
1.57	.004
6.24	.004

UNIFORM STATIC AIR PRESSURE TEST AT DESIGN LOAD

Test Load (psf)	Max. Net Deflection (in)
+75	.002
-75	.111

WATER PENETRATION TEST (ASTM E331-00)

Test Pressure (psf)	Water Spray Rate (gph/sf)	Test Period (min)	Specimen Water Leakage
11.25	5	15	None
15	5	15	None

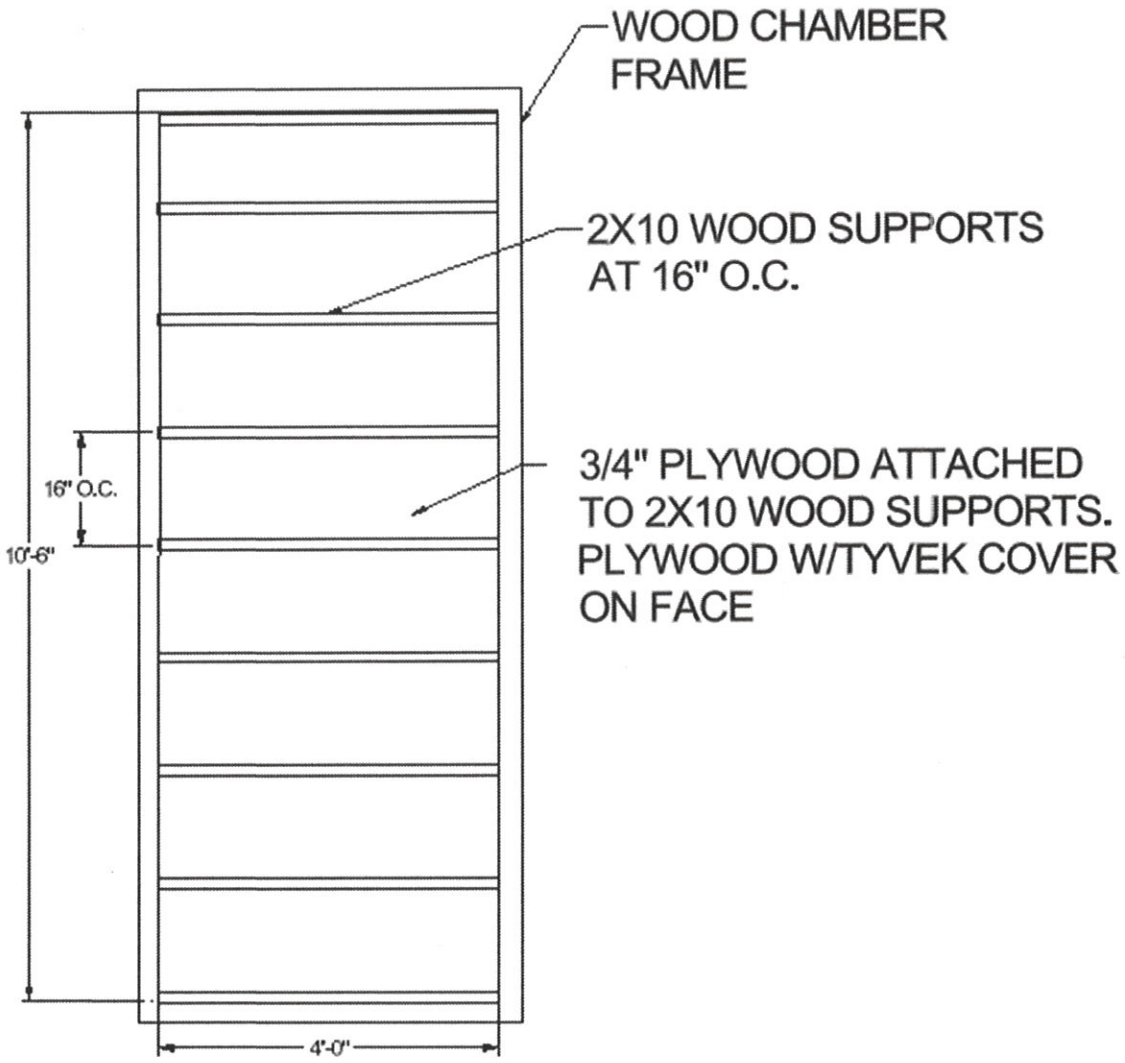
UNIFORM STATIC AIR PRESSURE TEST AT 1.5 X DESIGN LOAD

Test Load (psf)	Max. Net Permanent Set (in)
+112.5	.001
-112.5	.012

Results

Upon completion of the pressures noted above there were no noticeable failures of the specimen.

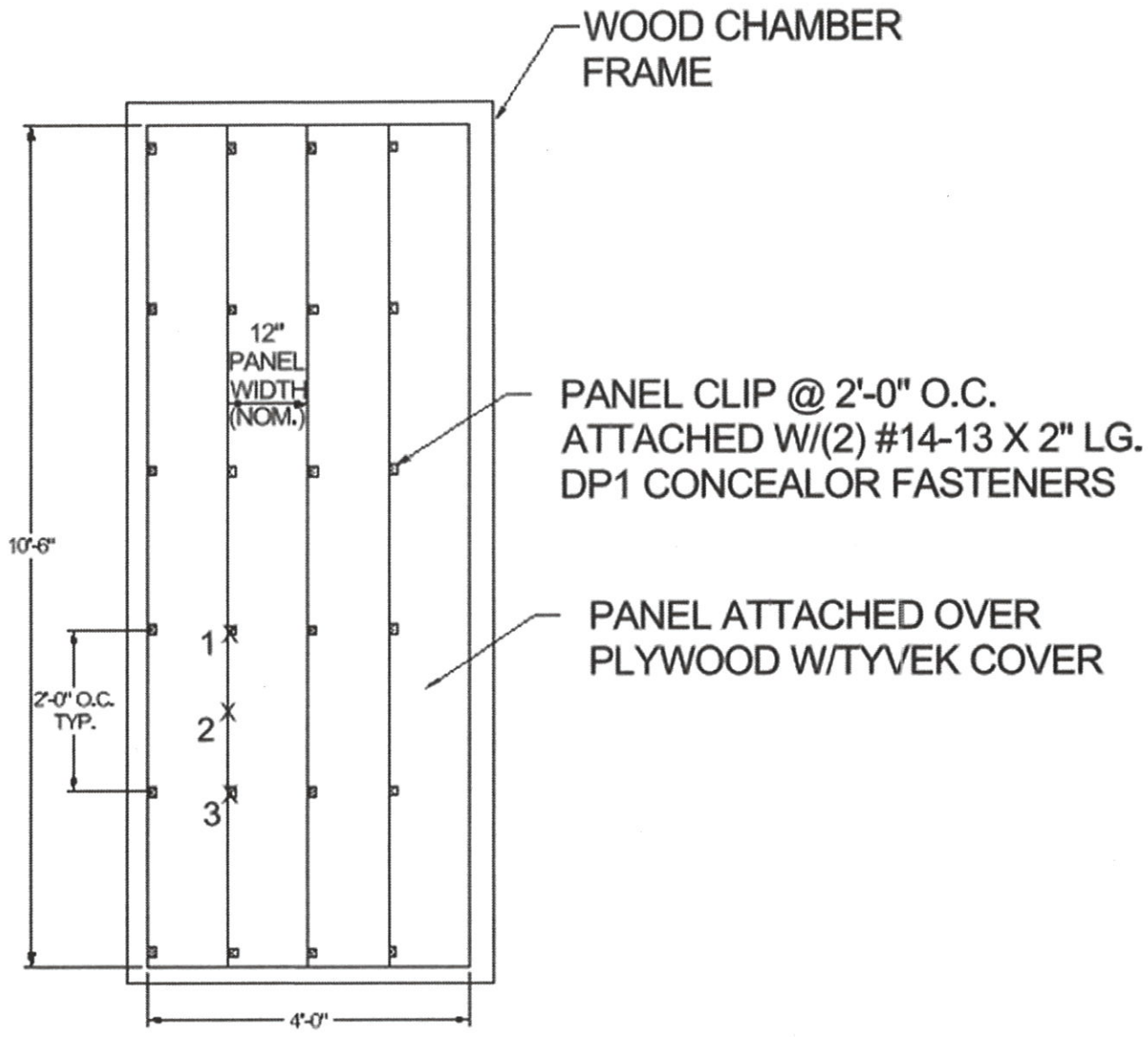
SPEC. MOCK-UP



PLAN VIEW

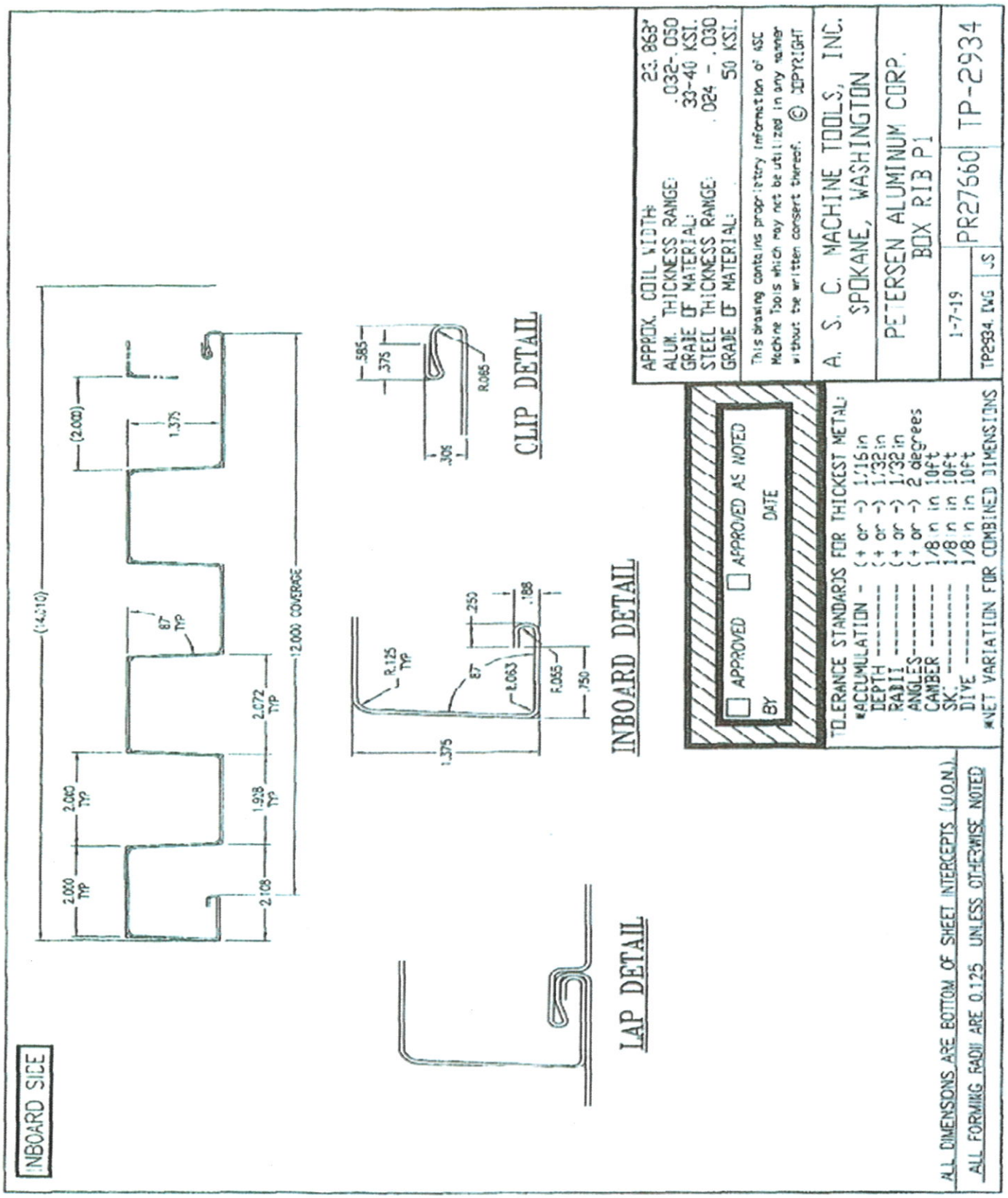
TAS 202 & TAS 203 DEFLECTOMETER LOCATIONS

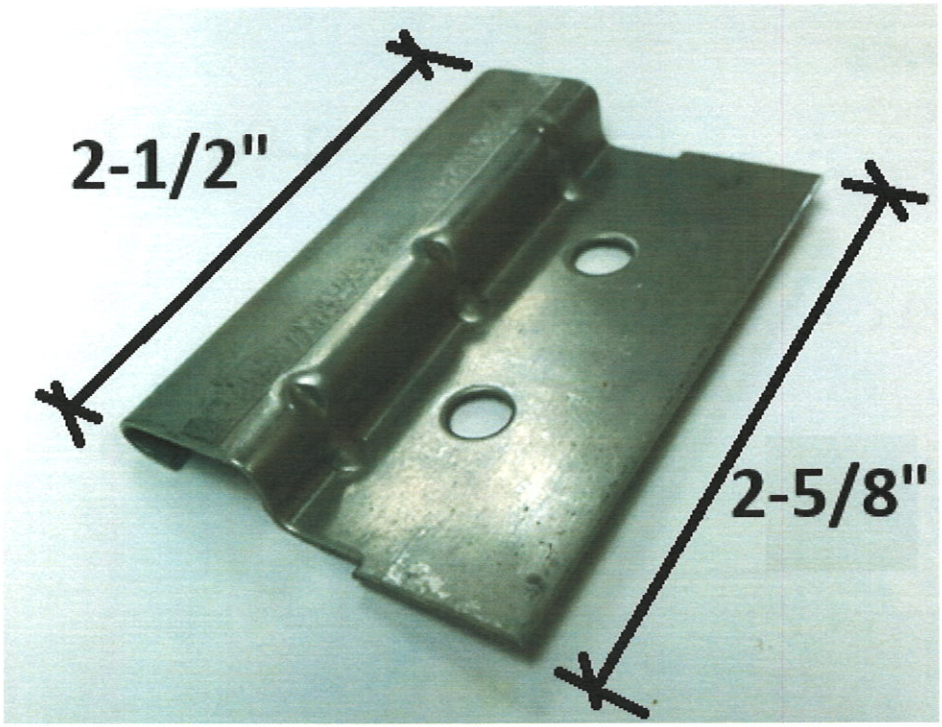
TEST SET UP



X# - DEFLECTION LOCATION

PLAN VIEW


INBOARD SIDE
(14.010)
2.000 TYP
2.000 TYP
(2.000)
1.375
.87 TYP
1.938 TYP
2.072 TYP
2.108
12.000 COVERAGE
LAP DETAIL
.585
.375
R.085
.305
CLIP DETAIL
R.125 TYP
.250
.87
.188
1.375
R.063
R.055
.750
INBOARD DETAIL
APPROX. COIL WIDTH: 23.863"
ALUM. THICKNESS RANGE: .032-.050
GRADE OF MATERIAL: 33-40 KSI.
STEEL THICKNESS RANGE: .024 - .030
GRADE OF MATERIAL: 50 KSI.
This drawing contains proprietary information of ASC Machine Tools which may not be utilized in any manner without the written consent thereof. © COPYRIGHT
APPROVED
APPROVED AS NOTED
BY
DATE
TOLERANCE STANDARDS FOR THICKEST METAL:
*ACCUMULATION - (+ or -) 1/16 in
DEPTH ---------- (+ or -) 1/32 in
RADII ---------- (+ or -) 1/32 in
ANGLES---------- (+ or -) 2 degrees
CAMBER ---------- 1/8 in in 10ft
SK. ---------- 1/8 in in 10ft
DIVE ---------- 1/8 in in 10ft
*NET VARIATION FOR COMBINED DIMENSIONS
A. S. C. MACHINE TOOLS, INC.
SPOKANE, WASHINGTON
PETERSEN ALUMINUM CORP.
BOX RIB P1
1-7-19
PR27660
TP-2934
TP2934.DWG
JS
ALL DIMENSIONS ARE BOTTOM OF SHEET INTERCEPTS (U.O.N.).
ALL FORMING RADII ARE 0.125 UNLESS OTHERWISE NOTED



20 GA. STAINLESS STEEL CLIP

TENSILE TEST REPORT

Manufacturer: Petersen Aluminum Corp.
10551 PAC Rd.
Tyler, TX 75707

Test Date: March 14, 2025

Test Method: ASTM A370-10

Material Description: Box Rib 1 Wall Panel, 12" wide (Coverage), 24 ga steel

Sample No.	Width (in)	Thickness (in)	Yield Load (lb)	Max. Load (lb)	0.2% Offset Yield Strength (psi)	Tensile Strength (psi)	Elongation (% in 2 inches)
25118	0.495	0.023	633.51	732.37	55,644	64,329	23.9

Equipment Used: Tensile Machine #QT7-061196-020
Caliper #1074379
Extensometer #10311744D
Micrometer #110596927

Revision Log

Rev. #	Date	Page(s)	Revision(s)
0	3/26/25	N/A	Original report issue.