



Farabaugh Engineering and Testing Inc.

Project No. T177-05

Report Date: July 15, 2005

No. Pages: 9 (inclusive)

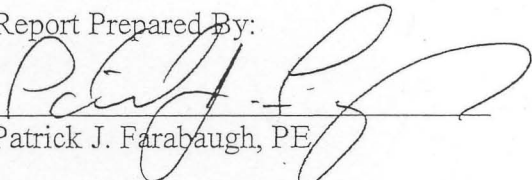
**UL 1897
UPLIFT TESTS FOR ROOF COVERING SYSTEMS**

**PETERSEN ALUMINUM CORP.
SNAP CLAD ROOF PANEL
16" WIDE X 0.040" ALUMINUM**

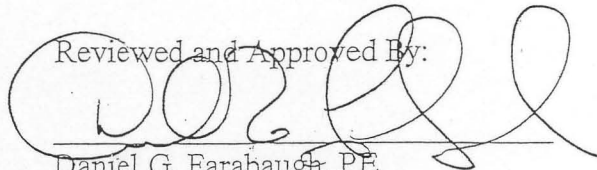
FOR

PETERSEN ALUMINUM CORP.
1005 TONNE RD.
ELK GROVE VILLAGE, IL 60007

Report Prepared By:


Patrick J. Farabaugh, PE

Reviewed and Approved By:


Daniel G. Farabaugh, PE

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UL1897
UPLIFT TESTS FOR ROOF COVERING SYSTEMS

Purpose

The test method specified in this Standard is intended to provide uplift data for the evaluation of the attachment of roof covering systems to roof decks by differential air pressures per UL 1897-98, rev. 1999 and as provided herein.

Test Specimen

Manufacturer: Petersen Aluminum Corp.
1005 Tonne Rd.
Elk Grove Village, IL 60007

Specimen: SNAP CLAD Standing Seam Roof Panel, 0.040"(nom.) aluminum, 16" wide
SNAP CLAD Clips with #10-12 X 1" A-Point fasteners (2 per clip)

Substrate: 19/32" Plywood with Ice and Water Shield Membrane

Summary of Test Results

Clip Spacing = 18" oc
Maximum Uplift Test Pressure = 168.6 psf

Testing Apparatus

Test Chamber: The test chamber consist of three sections: a top section to create a uniform vacuum, a center section in which the roof assembly is constructed, and a bottom section to create a uniform positive pressure (when used).

Pressure Measurement: A static pressure tap was provided to measure the chamber pressure using a calibrated manometer.

Air System: The air pressure system consist of a controllable blower with an adjustable pressure relief capable of providing constant static air pressure differential across the roofing system for the test duration

Test Assembly

- The 19/32" APA Plywood was attached to the wood supports using 8d ring shank nails spaced at 6" oc at the plywood perimeters and 6" oc in the field of the plywood.
- Ice and Water Shield membrane was applied to the plywood per manufacturers instructions.
- The panels were installed onto the chamber frame and interior supports using the attachments as shown on details provided herein. The panels were attached to the plywood deck substrate with clips located at 18" oc. The clips were attached using #10-12 X 1" long A-point fasteners (2 per clip). The panels were attached to the perimeter with #10-12 X 1" long A-point fasteners (4 per panel at ends and 6" oc at the longitudinal sides).
- A plastic barrier was located between the panels and plywood deck.

Test Procedure

- The test assembly was subjected to pressures to form an uplift pressure at the values as shown in the attached table.
- Each pressure increment was held for at least one minute.
- Vertical movement of the assembly during the test was recorded.

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Manufacturer: Petersen Aluminum Corp.

Test Date: 7/6/05

Test Specimen: SNAP CLAD Standing Seam Roof Panel, 0.040" aluminum X 16" wide

Span Condition: Clips located at 18" oc

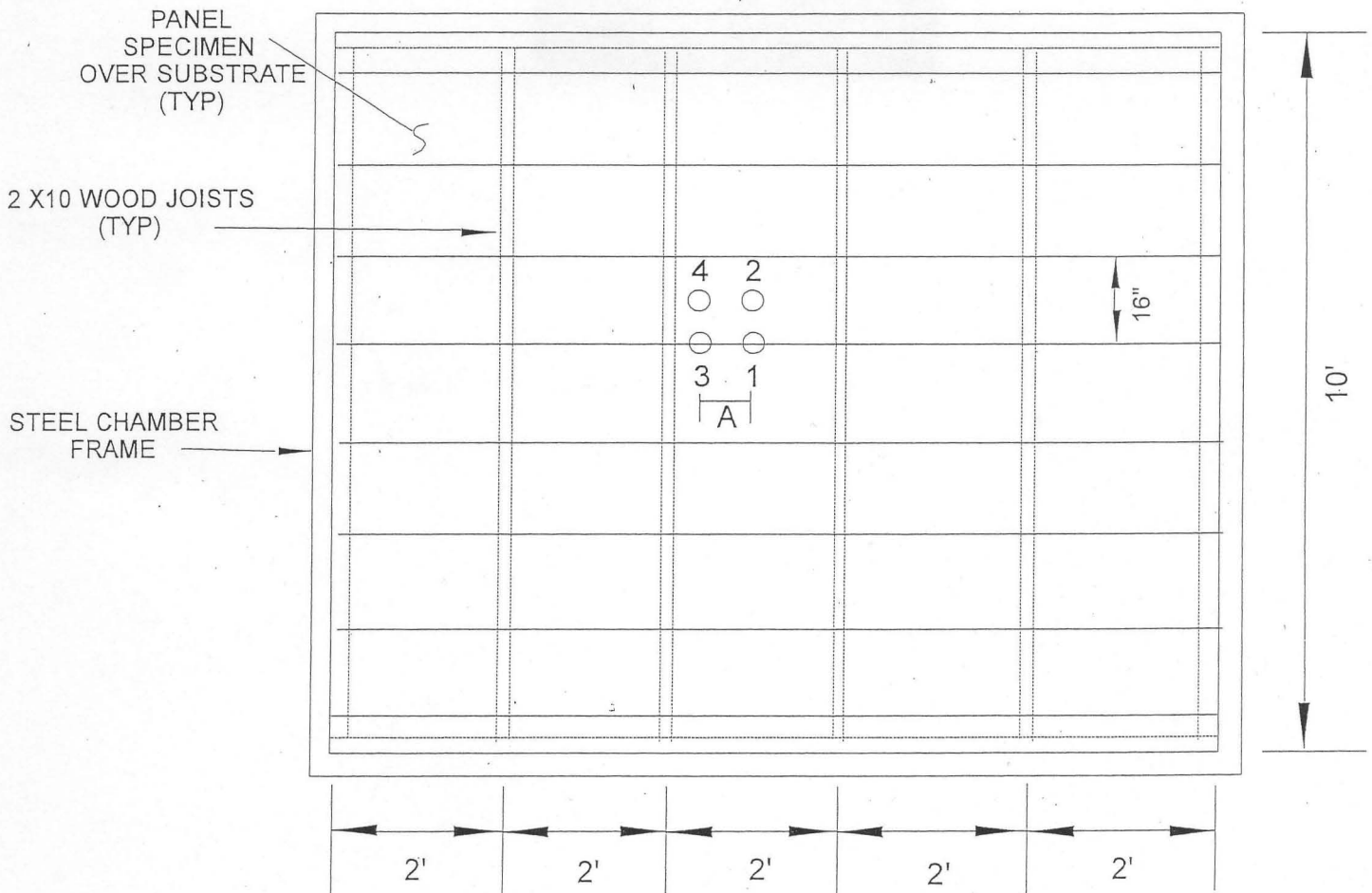
Substrate: Ice and Water Shield Membrane over 19/32" Plywood

Test 1
Deflection Measurements

Positive Uplift Pressure (psf)	Negative Uplift Pressure (psf)	Total Uplift Pressure (psf)	Time Duration (min.)	#1 (in)	#2 (in)	#3 (in)	#4 (in)
0	0	0	0	5-1/4	7	5-9/16	6-7/8
7.5	7.5	15	1	5-3/16	6-9/16	5-9/16	6-1/2
15	15	30	1	5-1/8	6-1/8	5-1/2	6-1/16
22.5	22.5	45	1	5-1/16	5-5/8	5-1/2	5-3/4
30	30	60	1	5	5-1/2	5-7/16	5-1/2
37.5	37.5	75	1	4-15/16	5-1/4	5-3/8	5-1/4
45	45	90	1	4-7/8	5-1/16	5-1/4	5-1/16
48.5	56.5	105	1	4-3/4	4-7/8	5-1/4	4-13/16
48.5	61.4	109.9	1	4-3/4	4-13/16	5-3/16	4-3/4
48.5	66.5	115	1	4-3/4	4-3/4	5-3/16	4-11/16
48.5	71.2	119.7	1	4-11/16	4-11/16	5-1/8	4-9/16
48.5	76.4	124.9	1	4-11/16	4-9/16	5-1/8	4-9/16
48.5	81.5	130	1	4-11/16	4-1/2	5-1/8	4-1/2
48.5	86.3	134.8	1	4-9/16	4-7/16	5-1/16	4-9/16
48.5	91.5	140	1	4-9/16	4-7-16	5-1/16	4-5/16
48.5	96.7	145.2	1	4-9/16	4-5/16	5	4-5/16
48.5	101.9	150.4	1	4-9/16	4-1/4	5	4-1/4
48.5	107.1	155.6	1	4-1/2	4-1/4	4-15/16	4-3/16
48.5	112.3	160.8	1	4-1/2	4-1/8	4-15/16	4-1/8
48.5	117.5	166	1	4-1/2	4-1/8	4-15/16	4-1/16
48.5	120.1	168.6	*	-	-	-	-

*Maximum Total Uplift Test Pressure = 168.6 psf (panel sidejoint disengaged)

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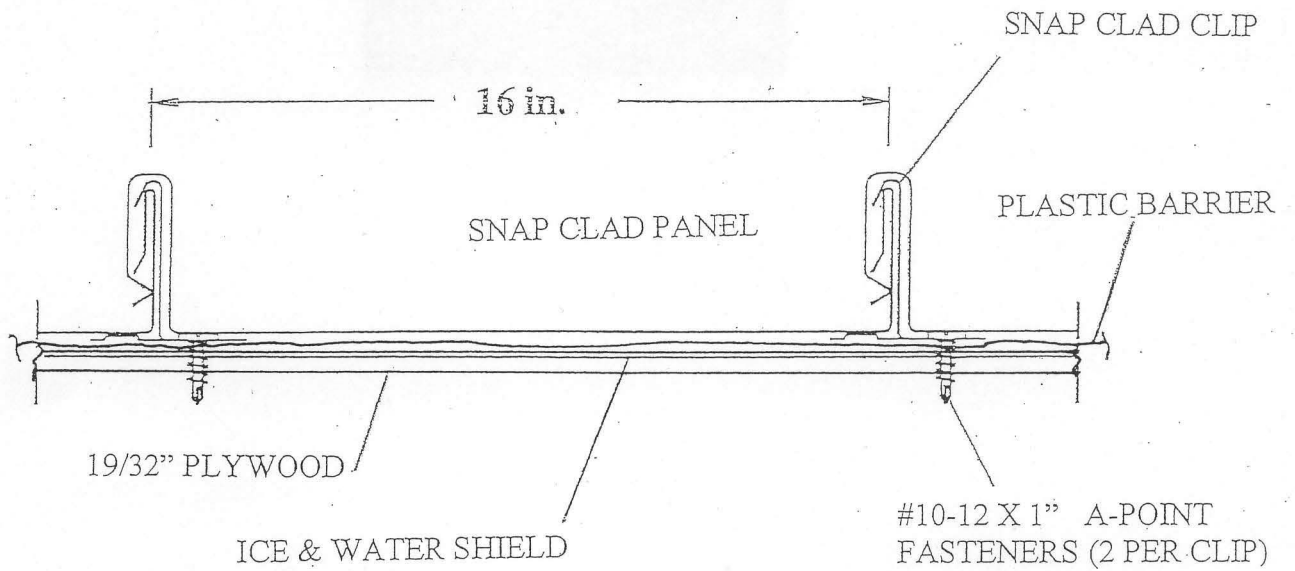


PLAN VIEW

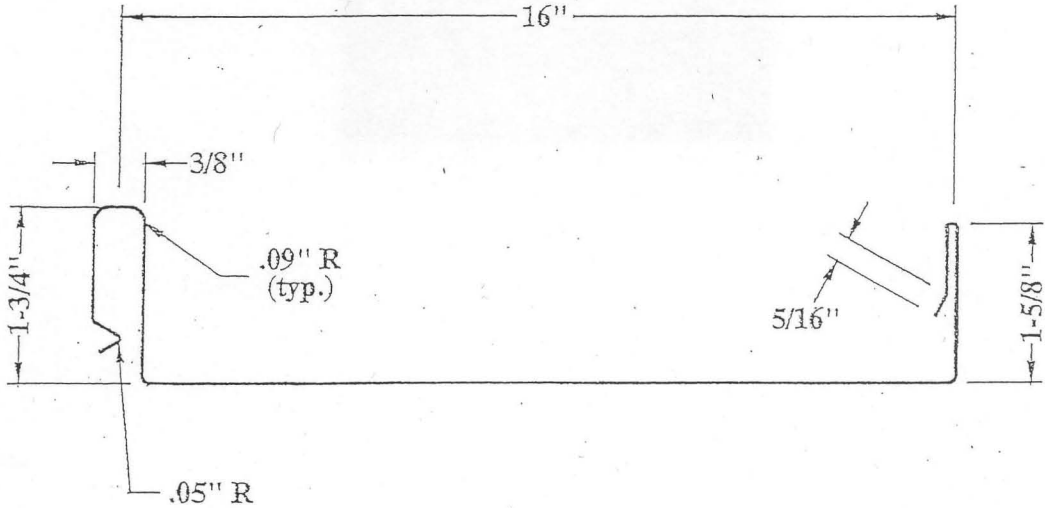
NOTE: DEFLECTION POINT 1
AT CLIP LOCATION
A= CLIP SPACING / 2

○ DEFLECTION POINT

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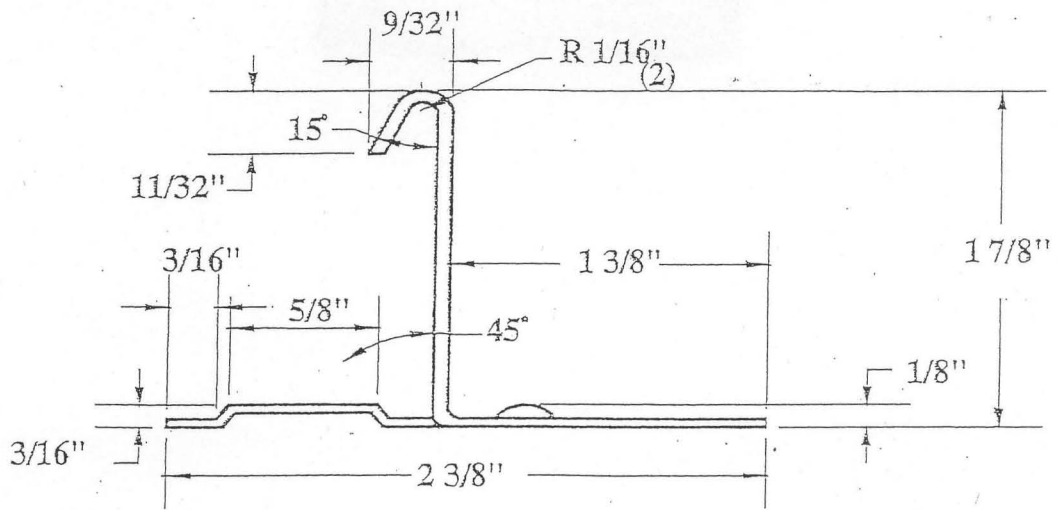


ASSEMBLY DETAIL



SNAP CLAD PANEL DETAIL

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SNAP CLAD CLIP (18 GA)

West Penn Material Evaluation

1010 Industrial Blvd, New Kensington, PA 15068

Voice: (724)334-1900 Fax: (724)334-9785

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Date: 12-Jul-05

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Summary Page: Tensile Strength Testing

Client: Farabaugh Eng. & Testing

PIN #	Dimensions (in.) Width x Thickness	Area (sq.- in.)	Yield Point (lbs.)	Tensile Strength (lbs.)	Yield Strength (psi.)	Tensile Strength (psi.)	Elongation (% in 2 in.)	n-Value
Peterson Alum 16' Snap Clad	0.5106 x 0.0378	0.0193	373	431	19320	22350	7.9	0.055

Test Method: WPME Q2300.04, ASTM E-8 (Yield Point by 0.2 % offset)

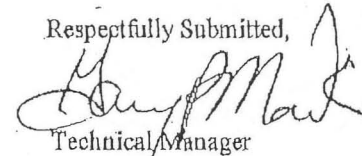
Equipment Used: Satec Vertex/60 HLV #1602, Extensometer # SE2-12.5/12

Test Performed by: S. Baughman

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Respectfully Submitted,



Technical Manager

WEST PENN MATERIAL EVALUATION