Farabaugh Engineering and Testing Inc.

Project No. T125-17

Report Date: January 31, 2017

No. Pages: 6 (inclusive)

ASTM E330 UNIFORM LOAD STRUCTURAL TEST

ON

LARGE PRECISION TILE PANEL
14-1/2" WIDE X 24 GA. STEEL

FOR

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

Prepared by:

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Approved by:

Daniel G. Farabaugh

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Purpose

The purpose of this test is to establish the structural loading on the test specimen mock-up in accordance with the referenced test standards and as provided herein.

Referenced Test Standards

1. ASTM E-330-02 "Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference"

Test Completion Date

1/26/17

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

Product Identification

Specimen: Large Precision Tile Panel, 14-1/2" wide, 24 ga. steel

Substrate: 5/8" plywood decking / W. R. Grace Ice & Water Shield roof underlayment membrane

Test Specimen Assembly

The test mock-up was a 8' wide X 8' high (nominal) Large Precision Tile System mock-up. The mock-up frame was a wood frame comprised of 2 x 10 perimeter supports with intermediate 2 x 10 supports at 2'-0" o.c. 5/8" plywood was attached to 2 x 10 wood structural framing supports using 8d x 2-1/2" long ring shank nails. The nail pattern is 6" o.c. in the field and 6" o.c. around the perimeter. A layer of Self Adhering Waterproof Membrane was on top of the plywood sheathing substrate and wrapped around the perimeter sides of the wood buck. The Large Precision Tile Panels were attached thru the top layer of underlayment membrane and into the plywood substrate using (2) #10 -13 x 1" long GP Concealor screws. Fasteners were located at the pre-punched fasteners holes spaced at 12-7/8" o.c. on the top nail flange for each panel. Additional screws were added around perimeter of the mock-up at top and bottom of panel when needed to secure perimeter panels to plywood. All fasteners for the panel were the #10-13 x 1" long GP Concealer screws.

- NOTE: For Structural Test only - A plastic barrier was located between the panels and the underlying substrate.

Test Procedure

The tests were conducted using the test procedures per the referenced test standards. Tests were performed at the given test pressures and test data was recorded as shown on the attached data sheets.

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TEST RESULTS

ASTM E330 UNIFORM LOAD TEST

Specimen: Large Precision Tile Panel, 14-1/2" wide, 24 ga. steel

Panel Fastener Spacing on Nail flange: 12.875" o.c

NEGATIVE PRESSURE

PRESSURE (PSF)	NET DEFLECTION (INCHES)
0	0.000
37.5	0.219
0	0.000
75	0.250
0	0.031
112.5	0.344
0	0.063

Maximum Net Deflection is D2 - (D1 + D3)/2 = Net Deflection of Panel

RESULTS

Upon completion of the testing at the negative pressures noted above there were no noticeable failures of the specimen

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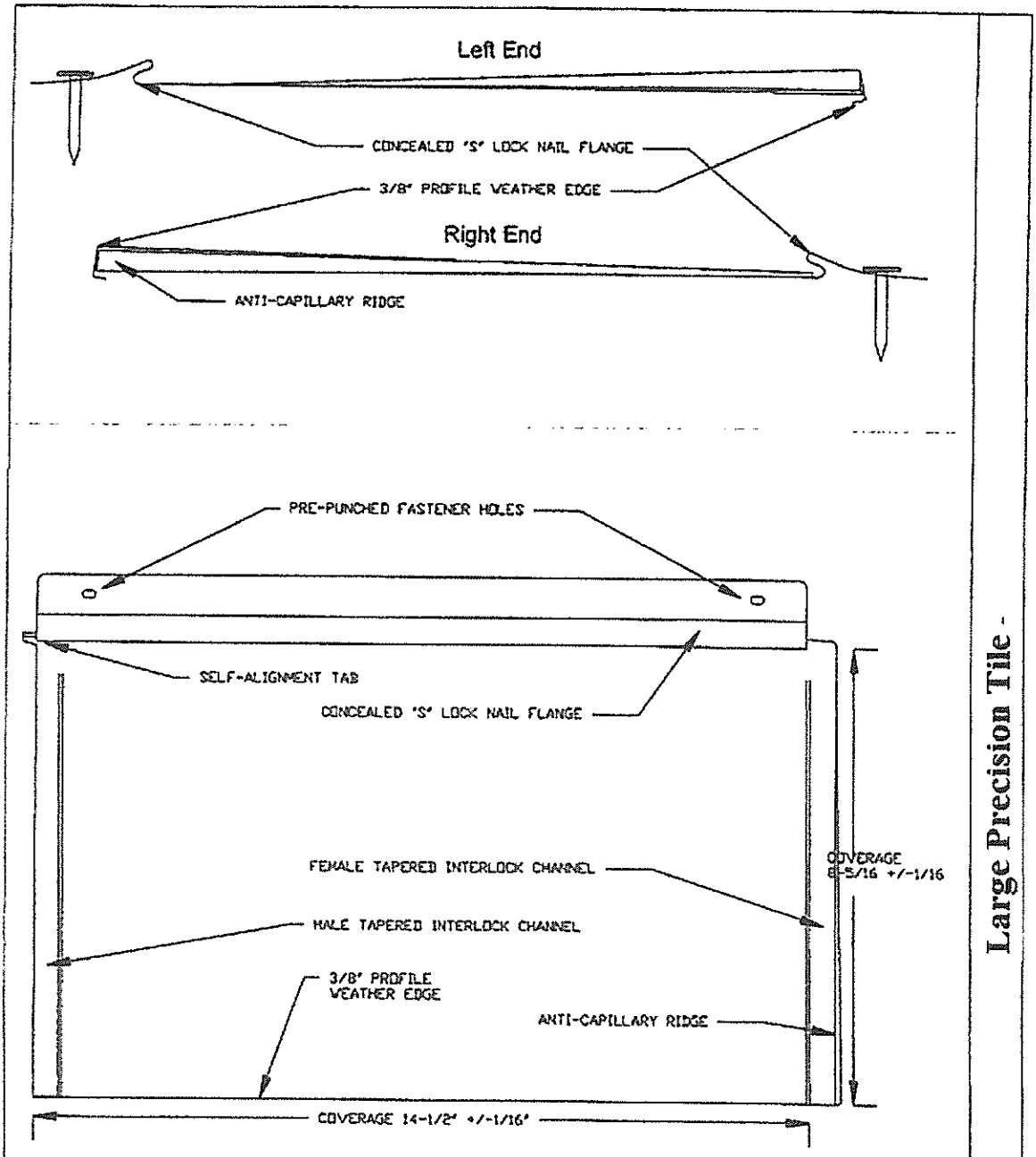

Large Precision Tile - Profile Details

Millennium tiles	*STANDARD COLORS	GA. AVAILABLE	MATERIALS	FINISH
	SIZES AVAILABLE			

PG. 1

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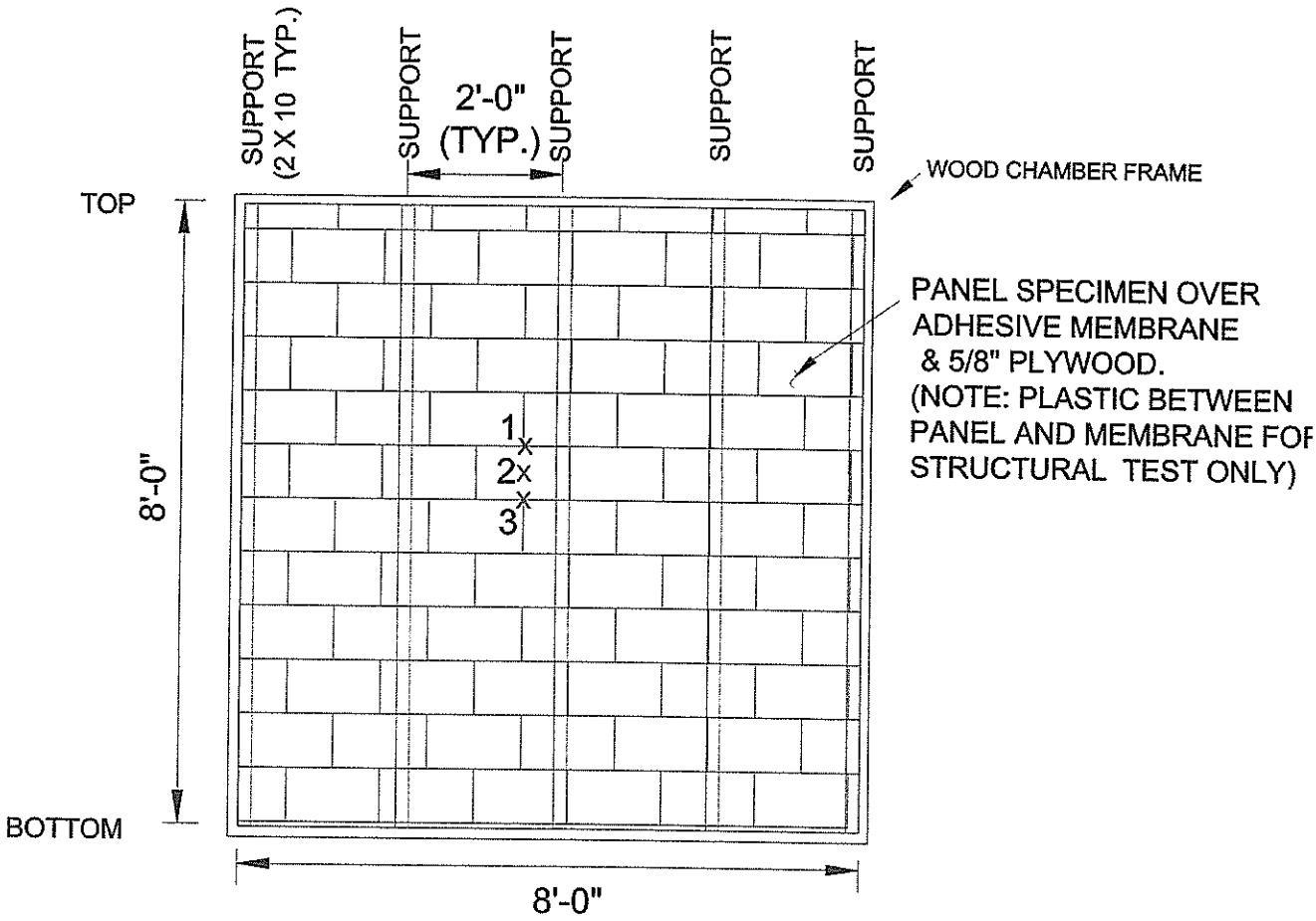
TEST SETUP



PLAN VIEW OF PANELS

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TENSILE TEST REPORT

Client: Petersen Aluminum
10551 PAC Rd.
Tyler, TX. 75707

Test Date: January 31, 2017

Test Method: ASTM A370-10

Material Description: Large Precision Tile Panel, 14-1/2" wide, 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)
0012-17	0.498	0.023	540.7	677.4	47,204	59,140	28.9

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