

**Farabaugh Engineering and Testing Inc.**

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Project No. T124-17

Report Date: January 31, 2017

No. Pages: 6 (inclusive)

**ASTM E330 UNIFORM LOAD STRUCTURAL TEST**

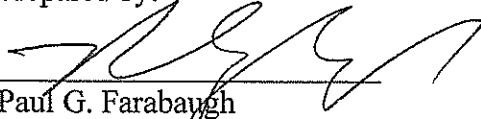
ON

**PRECISION DIAMOND TILE PANEL  
7-1/4" WIDE X 24 GA. STEEL**

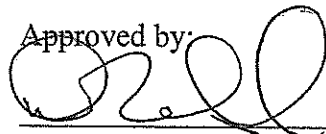
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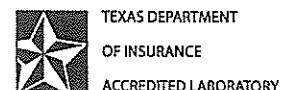
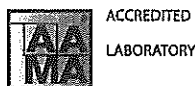
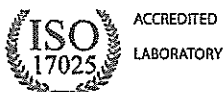
**PETERSEN ALUMINUM CORP.  
10551 PAC ROAD  
TYLER, TX. 75707**

Prepared by:

  
Paul G. Farabaugh

Approved by:

  
Daniel G. Farabaugh



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**Purpose**

The purpose of this test is to establish the air, water and dynamic water infiltration rates and 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**

1/16/17

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

**Product Identification**

*Specimen:* Precision Diamond Tile Panel, 7-1/4" 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) Precision Diamond 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 then 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 Precision Diamond 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 6-3/8" 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.. Specimen was built and tested with the panels running on a 45 degree angle. All fasteners for the panel were the #10-13 x 1" long GP Concealor 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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## ASTM E330 UNIFORM LOAD TEST

Specimen: Precision Diamond Tile Panel, 7-1/4" wide, 24 ga. steel

Panel Fastener Spacing on Nail flange: 6.375" o.c

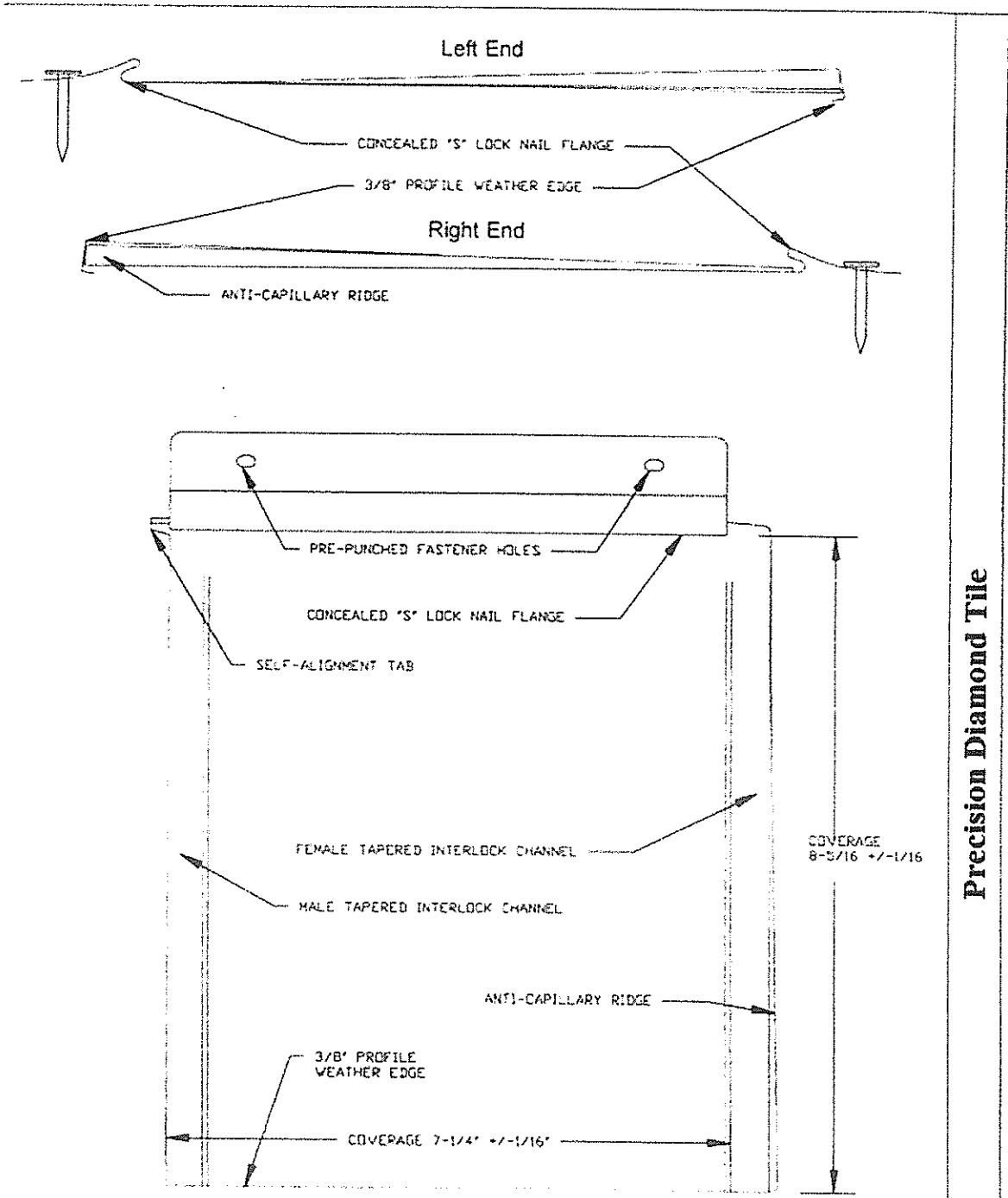
### NEGATIVE PRESSURE

<b>PRESSURE (PSF)</b>	<b>NET DEFLECTION (INCHES)</b>
0	0.000
37.5	0.000
0	0.000
50	0.125
0	0.000
75	0.156
0	0.000
112.5	0.156
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

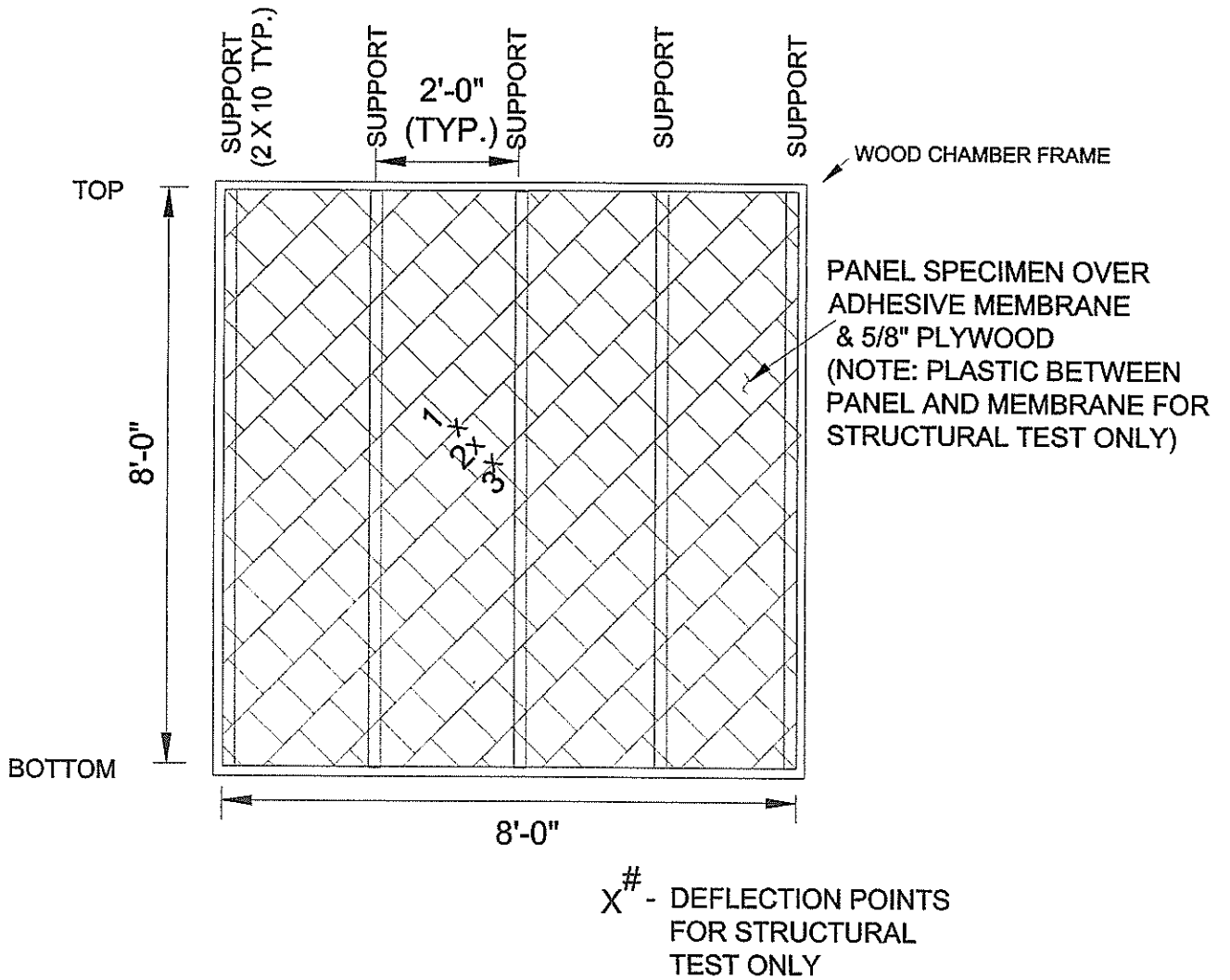


Precision Diamond Tile

**Precision Diamond Tile - Profile Detail**

	*ETHEREAL COLORS NATURAL, PISTACHIO, VERDE, BIRCH, BROWN, BLUE, SLATE, BRONZE-GOLD, SILVER-LINE, PURPLE-BLUE, PEACOCK, BLUE-GREEN, COPPER, (SUSCEPTIBLE TO FRESH OILS)	GA. AVAILABLE 28 GAUGE (24")	MATERIALS STAINLESS STEEL - ZALPICO	FINISH STAINLESS: BRUSH (SAL. 100. 010) ZALPICO: NATURAL, FINE PATINA & FLAME GREEN, BURN BRONZE
	ALL IN AVAILABLE			4' 0" x 7' 0"
	*The play of light transforms Color S&S providing endless conditions avoid from being 100% uniform			

# 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 16, 2017

Test Method: ASTM A370-10

Material Description: Precision Diamond Tile Panel, 7-1/4" 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)
0001-17	0.497	0.023	606.0	678.9	53,017	59,396	27.1

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