Project No. T260-15

Report Date: September 14, 2015

Total Pages: 7 (inclusive)

Revision Date: 5/3/16

PERFORMANCE TEST REPORT

ASTM E-283-04 AIR LEAKAGE TEST
ASTM E331-00 WATER PENETRATION TEST

ON

HWP PRECISION SERIES

FOR

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

Report Prepared By:

[Signature]
Paul G. Farabaugh

Reviewed and Approved By:

[Signature]
Daniel G. Farabaugh
Project No. T260-15

**Purpose**
The purpose of this test is to establish air and water infiltration rates on the test specimen mock-up in accordance with the referenced test standards and as provided herein.

**Referenced Test Standards**


- ASTM E 331-00 “Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference”

**Test Specimen**

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

Panel Series: HWP Precision Series

Panel Tested: HWP 12-B Wall Panel, 12”(nominal) Panel Width, 24 Ga. Steel

Panel Clip 20 ga. x 2.5” wide clip.

**Test Specimen**
The test specimen consisted of a HWP Precision Series Panel (12” wide x 24ga.) mock-up. The mock-up measured 8’-0” wide x 8’-0” high which consisted of a 8 panel high system with support spacing of 1’ - 4” o.c. The mock-up consisted of 18 ga. supports with 5/8” plywood, waterproof underlayment and 24 ga. panels. The 18 ga. supports were spaced at 1’-4” o.c. attached to a top and bottom 18 ga. support. The plywood was 5/8” thick’ plywood sheets attached with #14 - 13 X 2” long flat head self drilling fasteners into the 18 ga. supports. The fasteners for the plywood were at 6” o.c. on each vertical supports and horizontal supports. A layer of Grace Ice and Water Shield (waterproof underlayment) covered the plywood and the perimeter was sealed with silicone sealant. The 24 ga. panels were then installed horizontally using a 20 ga clips spaced at 2’-0” o.c.. The clip fasteners were (2) #14 - 13 X 2” long flat head concealer fasteners. The starter panel and final panel was attached with #10 - 14 x 1-1/2” long high low fasteners spaced at approximately 2’-0” o.c. The exposed screw heads were sealed with silicone sealant. The perimeter of the panels were sealed to the buck using silicone sealant. See attached drawing for specimen details.
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HWP PRECISION SERIES

HWP 12-B WALL PANEL MOCK-UP

TEST RESULTS

Date: 9/11/15

Ambient Temperature = 80 deg. F           Barometric Pressure = 29.88”Hg

**ASTM E-283-04**

**AIR LEAKAGE TEST**

<table>
<thead>
<tr>
<th>TEST PRESSURE (PSF)</th>
<th>TOTAL AIR LEAKAGE RATE (CFM)</th>
<th>AIR INFILTRATION RATE (CFM/SF)</th>
<th>AIR INFILTRATION RATE (CFM/LF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.57</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>6.24</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>20.00</td>
<td>0.0042</td>
<td>0.00006</td>
<td>0.00008</td>
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</tbody>
</table>

Based on 64 sq.ft. and 56 lineal feet

**ASTM E-331-00**

**WATER PENETRATION TEST**

<table>
<thead>
<tr>
<th>TEST PRESSURE (PSF)</th>
<th>WATER SPRAY RATE GAL/SF/HR</th>
<th>TEST DURATION (MIN)</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.24</td>
<td>5</td>
<td>15</td>
<td>PASS - NO VISIBLE LEAKAGE</td>
</tr>
<tr>
<td>12.00</td>
<td>5</td>
<td>15</td>
<td>PASS - NO VISIBLE LEAKAGE</td>
</tr>
<tr>
<td>20.00</td>
<td>5</td>
<td>15</td>
<td>PASS - NO VISIBLE LEAKAGE</td>
</tr>
</tbody>
</table>

*NOTE: MOCK-UP WAS IN HORIZONTAL POSITION FOR THE PANELS.*

**Results**

Upon completion of the pressures noted above there were no noticeable failures of the specimen
SILICONE SEALANT AROUND EXTERNAL PERIMETER BETWEEN PANEL AND WOOD BUCK

PANEL SPECIMEN OVER ICE & H2O SHIELD AND 5/8" PLYWOOD DECKING. (2) 4' X 8' DECKING ATTACHED WITH #14 - 13 X 1-1/2" LONG FLATHEAD FASTENERS @ 6" O.C. AT 18 GA VERTICAL AND HORIZONTAL SUPPORTS

WOOD CHAMBER FRAME

PLAN VIEW OF PANELS

#10 - 14 X 1-1/2" LONG SCREW @ 2'-0" O.C. AT TOP & BOTTOM

SILICONE SEALANT AROUND PERIMETER OF PANEL TO BUCK INTERSECTION

WOOD CHAMBER FRAME

SECTION "A - A"

#10 - 14 X 1-1/2" LONG SCREW @ APPROX. 2'-0" O.C. (SILICONE SEALANT ON SCREW HEADS)

SILICONE SEALANT AROUND PERIMETER OF PANEL TO BUCK INTERSECTION

SECTION "B - B"

24 GA. PANEL

(2) #14 - 13 X 2" LG FLAT HEAD FASTENERS PER 20 GA. CLIP

24 GA. PANEL

18 GA SUPPORT

#10 - 14 X 1-1/2" LONG SCREW @ APPROX. 2'-0" O.C. (SILICONE SEALANT ON SCREW HEADS)
CUSTOMER APPROVAL:
My signature on this print indicates
approval of all the information shown
(or as amended hereon) and that
items made to these specifications
will be accepted.

NAME: [Signature]

DATE: 4/2/11

Isometric view
Scale: 1:1

R0.010" Inside

Material:
G-90 Galv.

Material Spec:
Commercial Quality

Surface Treatment:
Painted

Performance:
As Shown Above

Scale:
3:1

Detail A
Scale: 3:1

Detail A

Mat'l Thickness

(.038 +/- .005) 0.038" 0.034"

Front view
Scale: 1:1

0.375" 0.875" 0.875"

1.00"

0.75"

2.50"

0.625"

0.314"

0.250"

Detail B

0.068" Inside

Right view
Scale: 1:1

Ref
Section cut B-B
Scale: 3:1

Petersen Horizontal Well Panel Clip
XP-0235

Drawing No.

Date

4/2/11