



**TEST REPORT**

**Report No.:** C5105.02-801-44

**Rendered to:**

Design Dynamics, Inc.  
Dallas, Texas

**PRODUCT TYPE:** Metal Roof Panel System  
**SERIES/MODEL:** 16" Wide TITE-LOC PLUS

<b>Title</b>	<b>Summary of Results</b>
Water Resistance to Static Water Pressure Head	Pass

Reference must be made to Report No. C5105.02-801-44, dated 04/24/2015 for complete test specimen description and detailed test results.

**1.0 Report Issued To:** Design Dynamics, Inc.  
17772 Preston Road  
Dallas, Texas 75252

**2.0 Test Laboratory:** Architectural Testing, Inc.  
2865 Market Loop  
Southlake, Texas 76092  
(817) 410- 7202

### 3.0 Project Summary:

**3.1 Product Type:** Metal Roof Panel System

**3.2 Series/Model:** 16" Wide TITE-LOC PLUS

**3.3 Compliance Statement:** Architectural Testing, Inc. was contracted by Design Dynamics, Inc. to perform testing on a Series/Model 16" Wide TITE-LOC PLUS roof panel system mockup at the Architectural Testing, Inc. test facility in Southlake, TX. Test specimen description and results are reported herein. The sample was provided by the client.

**3.4 Test Date:** 04/10/2015

**3.5 Test Record Retention End Date:** All test records for this report will be retained until April 10, 2019.

**3.6 Test Location:** Architectural Testing, Inc. test facility in Southlake, Texas.

**3.7 Test Sample Source:** The test specimen was provided by the client. Representative samples of the test specimen will be retained by Architectural Testing for a minimum of four years from the test completion date.

**3.8 Drawing Reference:** The test specimen drawings have been reviewed by Architectural Testing and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Architectural Testing per the drawings located in Appendix A. Any deviations are documented herein or on the drawings.

### 3.9 List of Official Observers:

<u>Name</u>	<u>Company</u>
Tom Shingler	Design Dynamics, Inc.
Allen Kipp	Architectural Testing, Inc.

**4.0 Test Method(s):**

ASTM E 2140-01, *Standard Test Method for Water Penetration of Metal Roof Panel Systems by Static Water Pressure Head.*

**5.0 Test Specimen Description:**

**5.1 Product Sizes:**

**Test Specimen**

Overall Area: 4.6 m <sup>2</sup> (50 ft <sup>2</sup> )	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	1524	60	3048	120
End Panels (2)	152	6	3048	120
Interior Panels (3)	406	16	3048	120

Material thickness	Inches	Millimeters
Panel skin thickness	0.04	1
Tite-Loc Plus AR Clip	0.03	1

**5.2 Roof Panel System Construction:** The roof panel had five individual panels. The two end panels were 6" wide x 120" long. The three interior panels were 16" wide x 120" long. The outer perimeter of the roof panel system was anchored into the 2 x 6 wood buck with a #14 x 1-1/2" self-tapping screw with a combination washer spaced every 6" full perimeter of the roof panel system. The panels were crimped and sealed full length of the panel. A TITE-LOC PLUS AR clip was anchored into the intermediates and crimped into each panel joint 25" from each end of each individual panel. The clips were anchored into the intermediates with two #10 x 1-1/2" phillips head screws. Flashing tape was applied full perimeter of the buck with steel flashing angle anchored into the top of the buck with #10 x 1" phillips head wood screws spaced every 17" full perimeter. The roof panel was installed on top of a bead of polyurethane sealant. The perimeter joint of the roof panel and the screw heads were completely sealed with polyurethane sealant.

**6.0 Installation:**

The specimen was installed into a 2 x 6 Spruce-Pine-Fir wood buck. . The wood buck was completely sealed full perimeter.

**7.0 Test Results:** The temperature during testing was 21°C (70°F). The results are tabulated as follows.

<b>Title of Test</b>	<b>Results</b>	<b>Allowed</b>
<b>ASTM E 2140</b> (Maintain 6" water pressure head for a period of 6 hours)	No leakage	No leakage

## 7.0 Test Results: (Continued)

*General Note: All testing was performed in accordance with the referenced standard(s).*

Architectural Testing will service this report for the entire test record retention period. Test records that are retained such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation will be retained by Architectural Testing, Inc. for the entire test record retention period.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, Inc.

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Clint Barnett  
Technician

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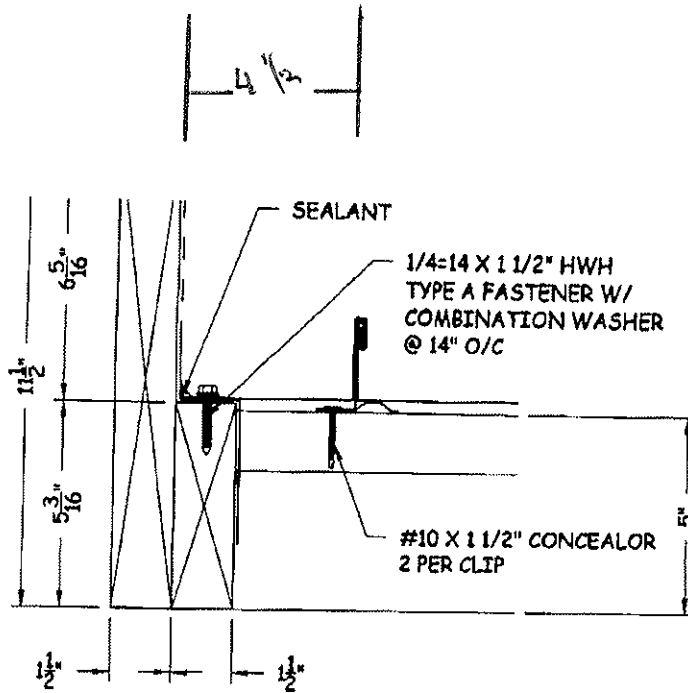
Andy Cost  
Laboratory Manager

CAB:hd

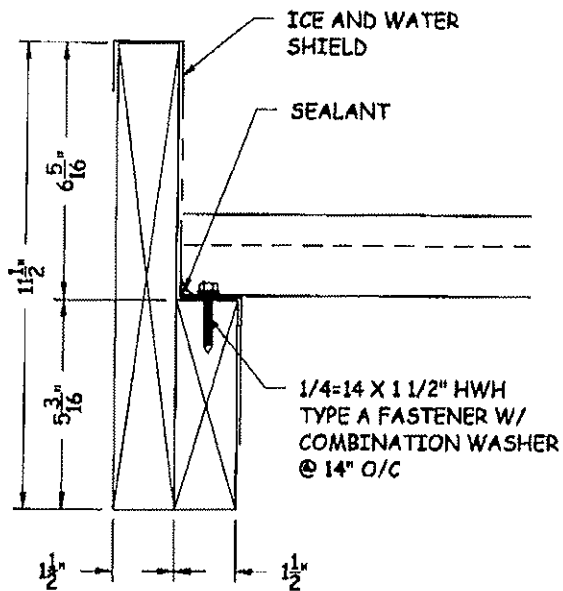
Attachments (pages): This report is complete only when all attachments listed are included.  
Appendix-A: Drawings (6)

## **Appendix A**

### **Drawings**



1  
3



2  
3

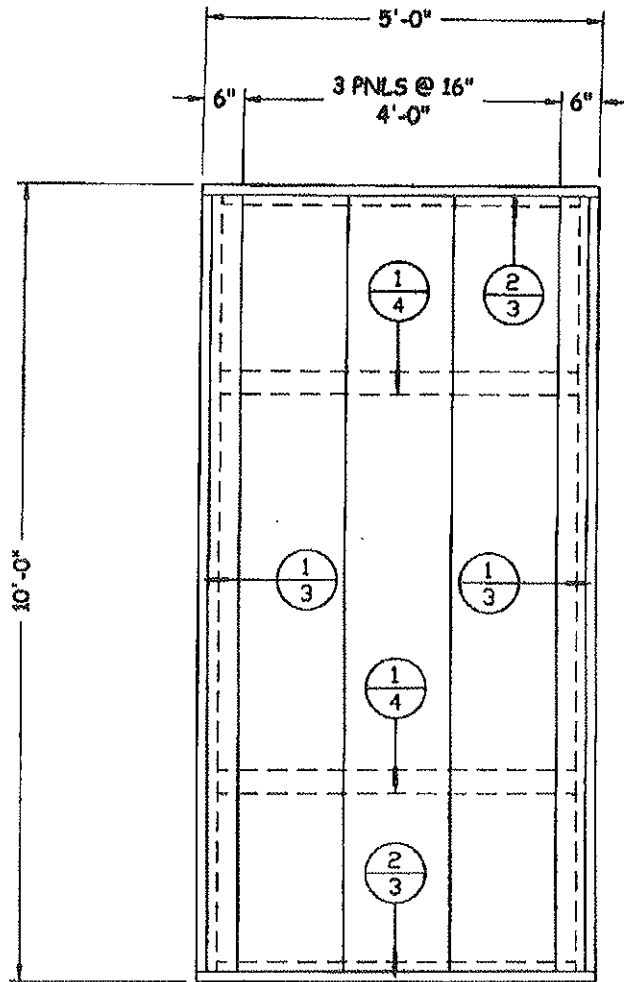
design dynamics, Inc.

17772 Preston Rd., Suite 204  
Dallas, Texas 75252  
Phone: (972) 740-5580  
www.designdynamicsinc.org

DETAILS

ASTM E2140 CHAMBER  
16" WIDE TITE-LOC PLUS  
PETERSEN ALUMINUM CORPORATION

DRAWN BY: D8N	DATE: 9/23/2013	DRAWING NO.:	3	REV.:	0
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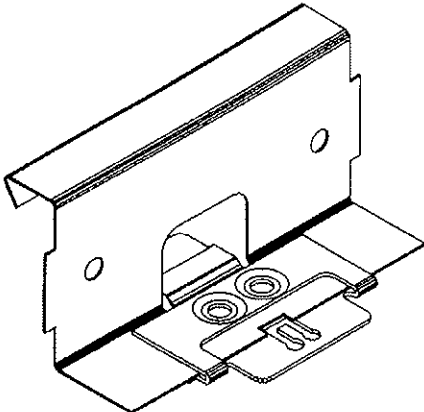
TEST PANEL ARRANGEMENT

ASTM E2140 CHAMBER  
 16" WIDE TITE-LOC PLUS  
 PETERSEN ALUMINUM CORPORATION

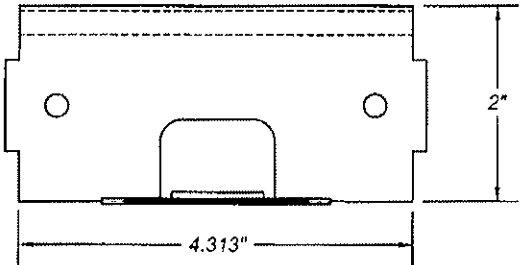
DRAWN BY: DBN	DATE: 9/23/2018	DRAWING NO.:	REV.:
		2	0



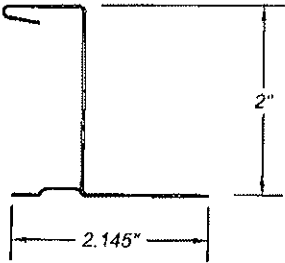
TITE-LOC PLUS AR CLIP



ISOMETRIC VIEW



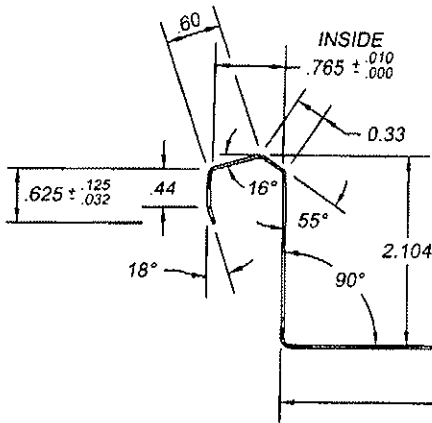
SIDE VIEW



FRONT VIEW

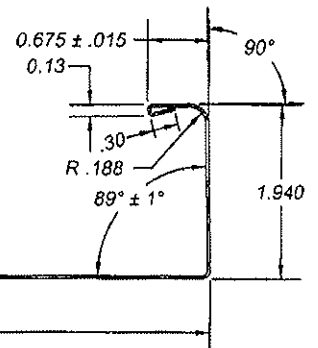
# TITE-LOC PLUS PANEL

OUTBOARD (OPERATOR) SIDE [MOVEABLE]

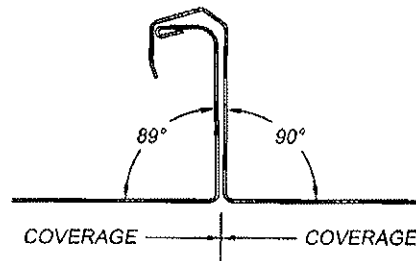


COVERAGE	DIM. "A"	STRIP WIDTH
12.00	11.975	18.00
16.00	15.975	22.00
18.00	17.975	24.00

INBOARD (DRIVE) SIDE [STATIONARY]



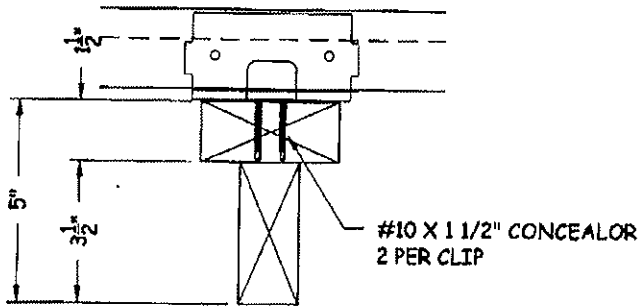
TITE-LOC PLUS PANEL - PROFILE VIEW



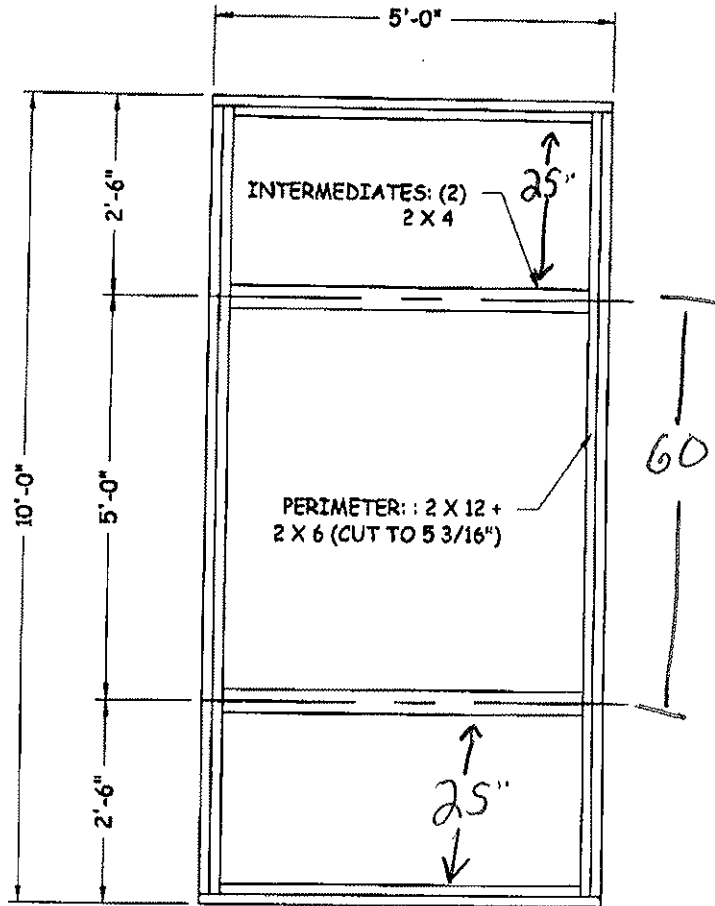
LAP DETAIL

**NOTES:**

1. ALL INSIDE BEND RADII ARE .063 UNLESS OTHERWISE NOTED.
2. MATERIAL: 24 (.024) & 22 GA.(.032) PAINTED, GALV. STEEL, SMOOTH AND STUCCO EMBOSSED TO A MAX. THICKNESS OF .039, 50-65 KSI YIELD, AND .032 ALUMINUM SMOOTH AND STUCCO EMBOSSED TO A MAX. THICKNESS OF .039, 33-40 KSI YIELD.
3. PART IS FORMED LEGS UP AS SHOWN.
4. 18" PANEL IS CENTERED IN THE 30" ROLLSPACE. WITH THE MALE LEG, INBOARD (DRIVE) SIDE, HELD STATIONARY FOR ALL PANEL WIDTHS.
5. ALL DIMENSIONS SHOWN ARE NOMINAL AND ARE USED FOR CALCULATION OF STRIP WIDTH ONLY.



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	<b>ASTM E2140 CHAMBER</b> <b>16" WIDE TITE-LOC PLUS</b> PETERSEN ALUMINUM CORPORATION			
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DBN	9/23/2013		4 0	



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**FRAME CONSTRUCTION**

**ASTM E2140 CHAMBER**  
**16" WIDE TITE-LOC PLUS**  
 PETERSEN ALUMINUM CORPORATION

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