

TEST REPORT

Report No.: C5106.01-801-44

Rendered to:

DESIGN DYNAMICS, INC.
Dallas, Texas

PRODUCT TYPE: Metal Wall Panel System
SERIES/MODEL: Flush-Panel 12", 24 Gauge Steel
Manufacturer: Peterson Aluminum Corporation

Title	Summary of Results
Air Infiltration	0.3 L/s/m ² (0.06 cfm/ft ²)
Static Water Penetration Resistance Test Pressure	968 Pa (20.22 psf)
Dynamic Water Penetration Resistance Test Pressure	968 Pa (20.22 psf)

Reference must be made to Report No. C5106.01-801-44, dated 05/06/13 for complete test specimen description and detailed test results.

Test Dates: 04/22/13
Report Date: 05/06/13



1.0 Report Issued To: Design Dynamics, Inc.
17772 Preston Road, Suite 204
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 Wall Panel System

3.2 Series/Model: Flush-Panel 12", 24 Gauge Steel

3.3 Manufacturer: Peterson Aluminum Corporation

3.4 Compliance Statement: Results obtained are tested values and were secured by using the designated test methods. Test specimen description and results are reported herein.

3.5 Test Dates: 04/22/2013 – 04/22/2013

3.6 Test Record Retention End Date: All test records for this report will be retained until May 06, 2017.

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

3.8 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.

3.9 Drawing Reference: The test specimen drawings have been reviewed by Architectural Testing and are representative of the test specimen 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.

3.10 List of Official Observers:

<u>Name</u>	<u>Company</u>
Tom Shingler	Design Dynamics, Inc.
Tony Brown	Architectural Testing, Inc.



4.0 Test Method(s):

ASTM E 283-04, *Test Method for Determining Rate of Airflow Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.*

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

AAMA 501.1-05, *Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure.*

5.0 Test Specimen Description:

5.1 Product Sizes:

Overall Area: 5.9 m ² (64.0 ft ²)	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	2438	96	2438	96
Panel size	305	12	2438	96

5.2 Weatherstripping: No weatherstripping was utilized.

5.3 Drainage:

Drainage Method	Size	Quantity	Location
Drip ledge	96" wide	1	Under panel bottom full length

5.4 Hardware: No hardware was utilized.

5.5 Reinforcement: No reinforcement was utilized.

5.6 Metal Thicknesses:

	Material	Thickness
Subgirt	Steel	0.049"
Jamb angle	Steel	0.052"
Drip ledge	Steel	0.033"
Panel	Steel	0.050"
End-wall trim	Steel	0.035"

5.0 Test Specimen Description: (Continued)

5.7 Panel Construction:

Horizontal subgirts at top, bottom and midpoint were anchored to stud wall with #10 x 1-1/2" hex head screws 1" from ends and 12" on center thereafter. Top and bottom subgirt wrapped onto exterior side of top plate and sol plate and anchored with #10 x 1" hex head screws 2" from corners, and 12" on center thereafter. Steel angles were lapped over the subgirt ends along jambs full length, and anchored with 12" x 1" flat head screws at each subgirt, and to the exterior side of the stud wall with #10 x 1" hex head screws 2" from corners, and 12" on center thereafter. A steel drip ledge was anchored to bottom subgirt with a 12" x 1" flat head screw 1" from ends and 12" on center thereafter. Panels were anchored to subgirts with #12 x 1" flat head screws. Panels were installed sequentially from left jamb as viewed from exterior. Subsequent panels were inserted into previous panels in a vertical standing seam and anchored along trailing lip to subgirts. A vertical steel end-wall trim was installed along jamb full length. The end-wall trim was anchored to the edge panel with a #14 x 7/8" hex head screw with gasketed washer 2" from corners and 12" on center thereafter. A horizontal steel end-wall trim was installed along head full length and lapping over jamb end-wall trim. The angle was anchored to the top ends of panels with a #14 x 7/8" hex head screw with gasketed washer 2" from corners and 12" on center thereafter. The end-wall trim was anchored to the lateral face of the buck with #14 x 1" hex head screw with gasketed washer 2" from corners and 12" on center thereafter along jambs and head.

6.0 Installation:

The specimen was installed onto a Spruce-Pine-Fir 2 x 6 nominal stud wall. Stud wall was sheathed with 5/8" plywood, and then covered with ice & water barrier. Assembled wall specimen was set into steel test chamber rough opening with a 1/2" shim space full perimeter. Specimen was sealed exterior full perimeter with polyurethane. Shim cavity filled with expanding foam interior full perimeter.

Location	Anchor Description	Anchor Location
Jambs	3/8" x 4" lag screws	10" from end and 12" on center thereafter

7.0 Test Results: The temperature during testing was 19°C (67°F). The results are tabulated as follows:

Title of Test	Results	Allowed
Air Leakage, per ASTM E 283 at 300 Pa (6.2 psf)	0.3 L/s/m ² (0.06 cfm/ft ²)	Report only
Water Penetration, per ASTM E 331 at 968 Pa (20.22 psf)	No leakage	No leakage
Water Penetration, per AAMA 501.1 at 968 Pa (20.22 psf)	No leakage	No leakage

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.

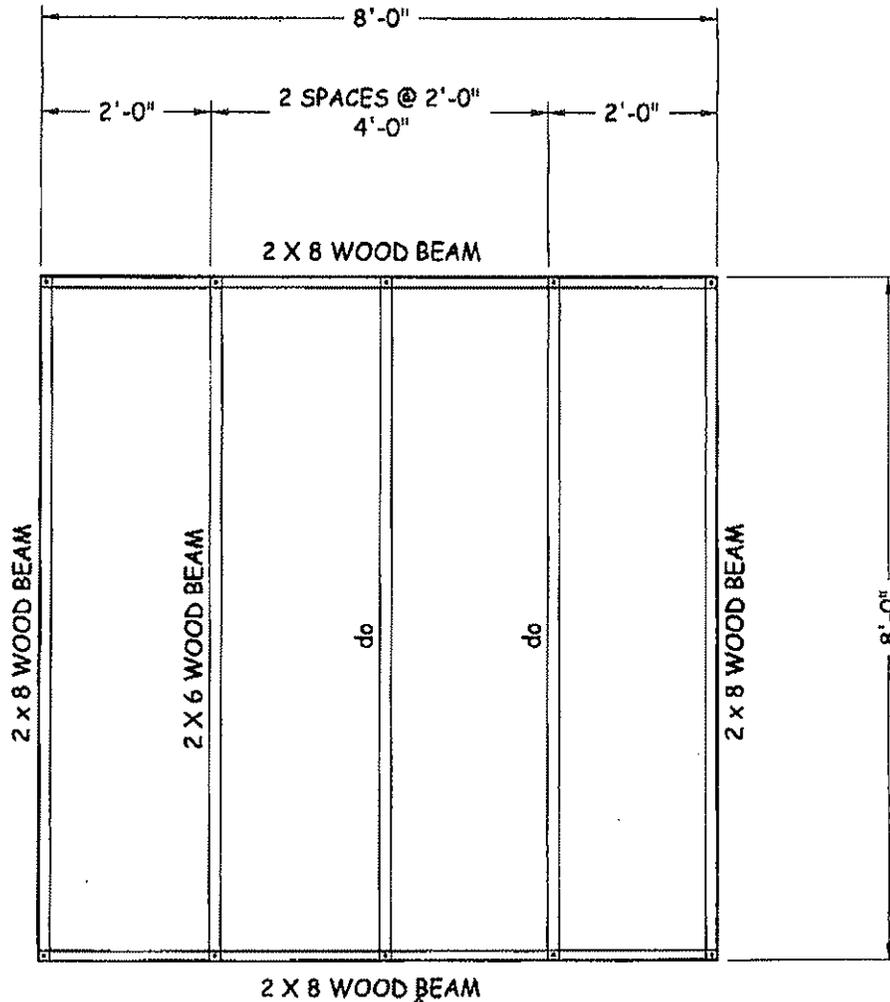
Tony Brown
Technician

Andy Cost
Laboratory Manager

TB:hd

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix-A: Drawings (9)

Appendix A
Drawings



Architectural Testing

Test sample conditions with these details.
 Deviations are noted.

Report# CS106.0
 Date 5/8/13 Tech TB

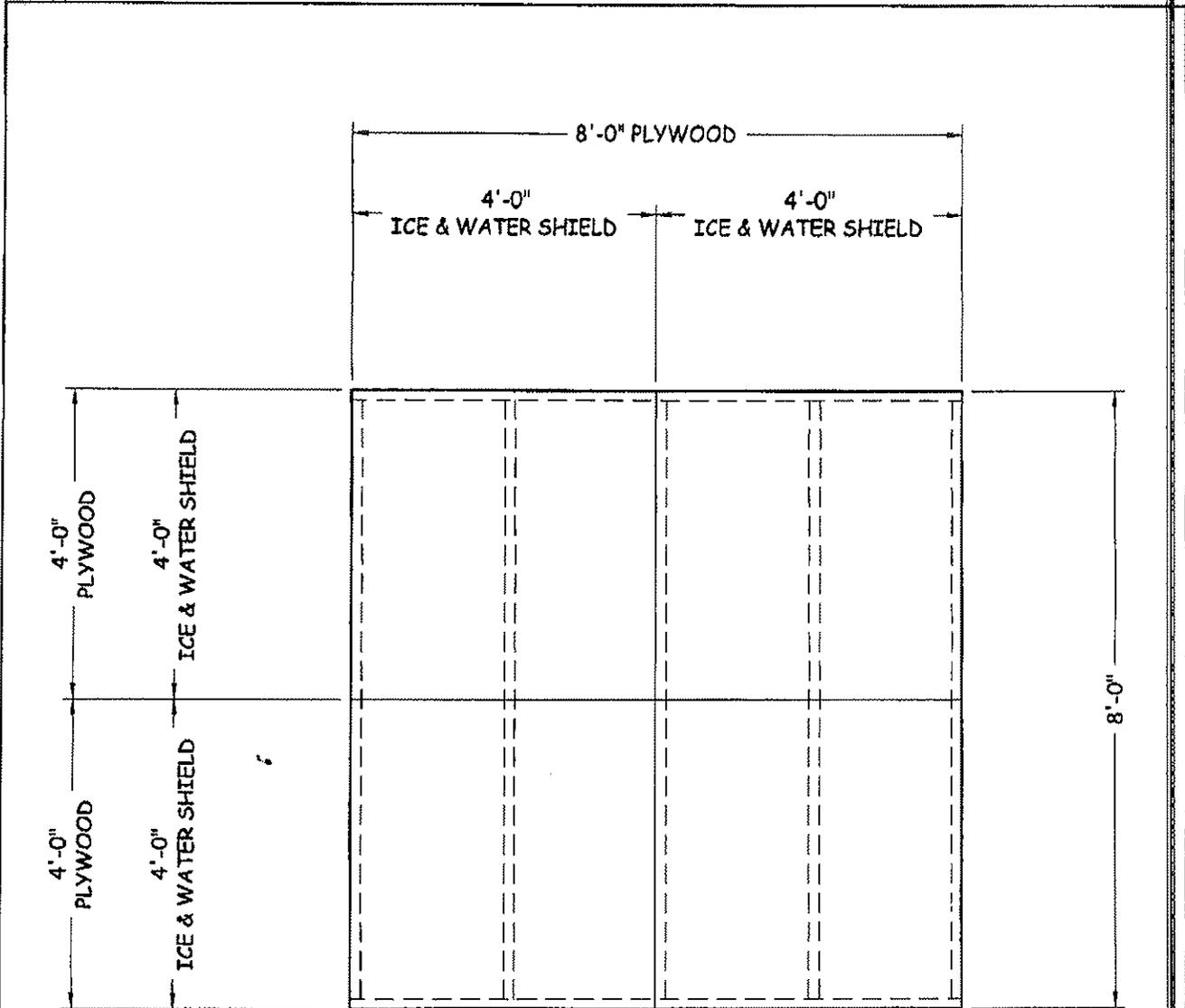
design dynamics, Inc.

17772 Preston Rd., Suite 204
 Dallas, Texas 75252
 Phone: (972) 740-5580
 designdynamics04@aol.com

TEST CHAMBER BASE

**PETERSEN ALUMINUM CORPORATION
 ATI TEST CHAMBERS**

DRAWN BY: C.NEWCOMB	DATE: 2-6-2013	DRAWING NO.:	REV.:
		1	1



Architectural Testing

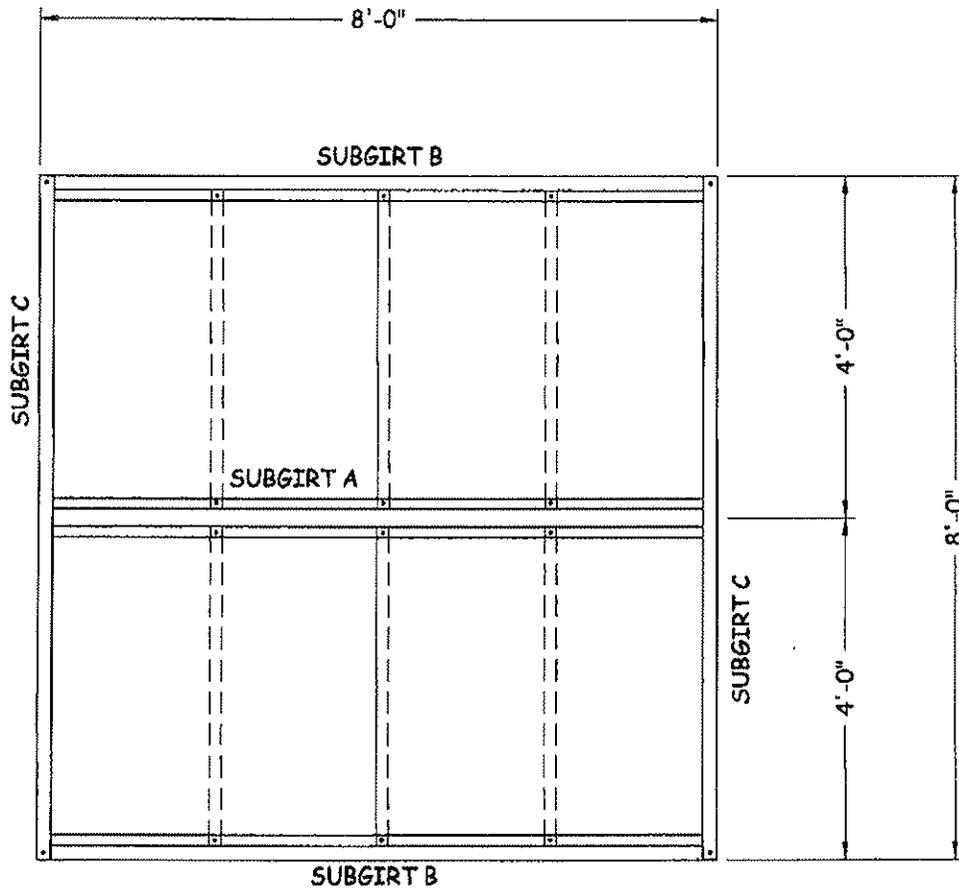
Test sample complies with these details.
Deviations are noted.

**APPLICATION OF 5/8" PLYWOOD W/
30 MIL WR GRACE ICE AND WATER SHEILD**

Report# C5106.01
Date 5/8/13 Tech TB

<i>design dynamics, Inc.</i> 17772 Preston Rd., Suite 204 Dallas, Texas 75252 Phone: (972) 740-5580 designdynamics04@aol.com	
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TEST CHAMBER BASE PETERSEN ALUMINUM CORPORATION ATI TEST CHAMBERS			
DRAWN BY: C.NEWCOMB	DATE: 2-11-2013	DRAWING NO.:	REV.:
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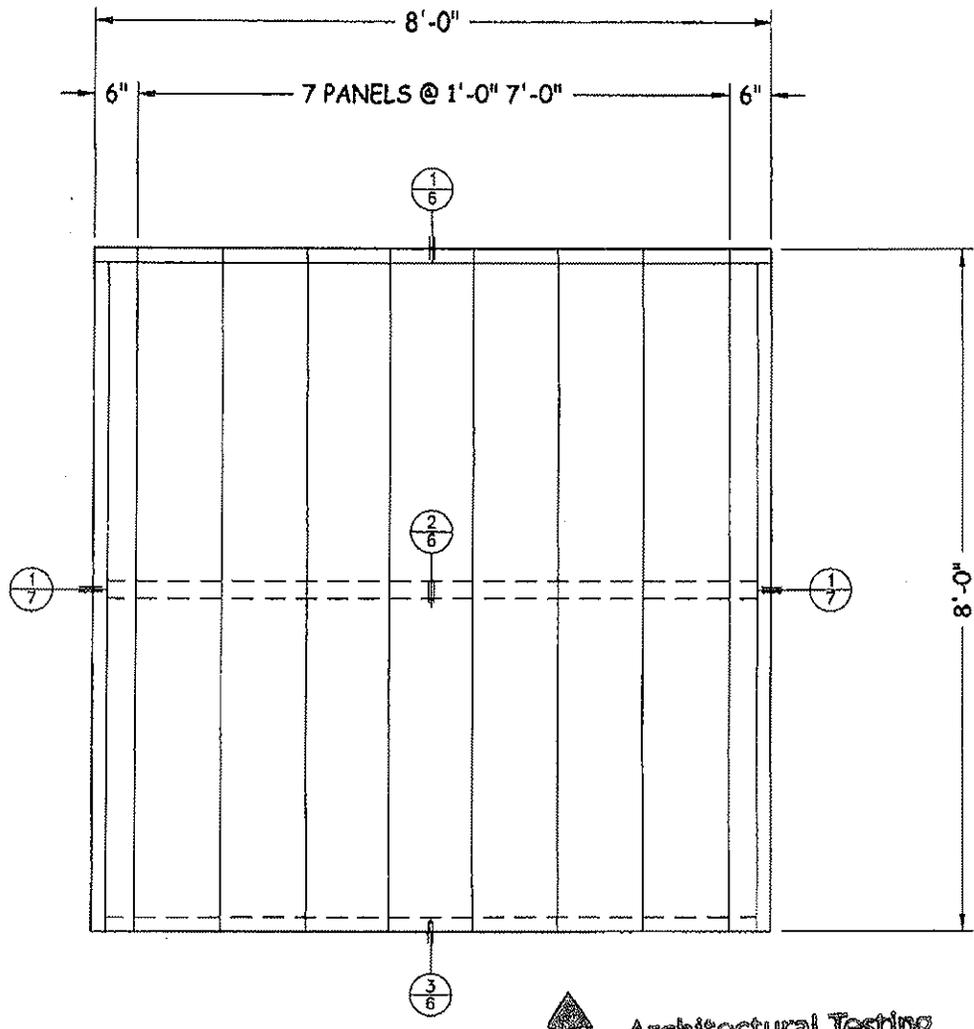


Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# C.5106.01
Date 5/8/13 Tech TD

<i>design dynamics, Inc.</i> 17772 Preston Rd., Suite 204 Dallas, Texas 75252 Phone: (972) 740-5580 designdynamics04@aol.com	SUBGIRT LAYOUT		
	PETERSEN ALUMINUM CORPORATION ATI TEST CHAMBERS		
DRAWN BY: C.NEWCOMB	DATE: 2-6-2013	DRAWING NO.:	REV.:
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Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# C5106.01

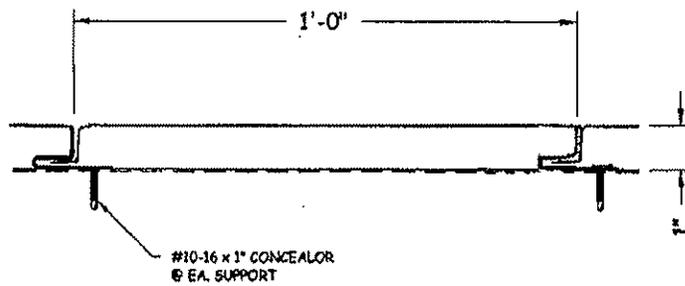
Date 5/8/13 Tech TB

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12" FLUSH PANEL SETUP

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DRAWN BY: C.NEWCOMB	DATE: 2-6-2013	DRAWING NO.:	REV.:
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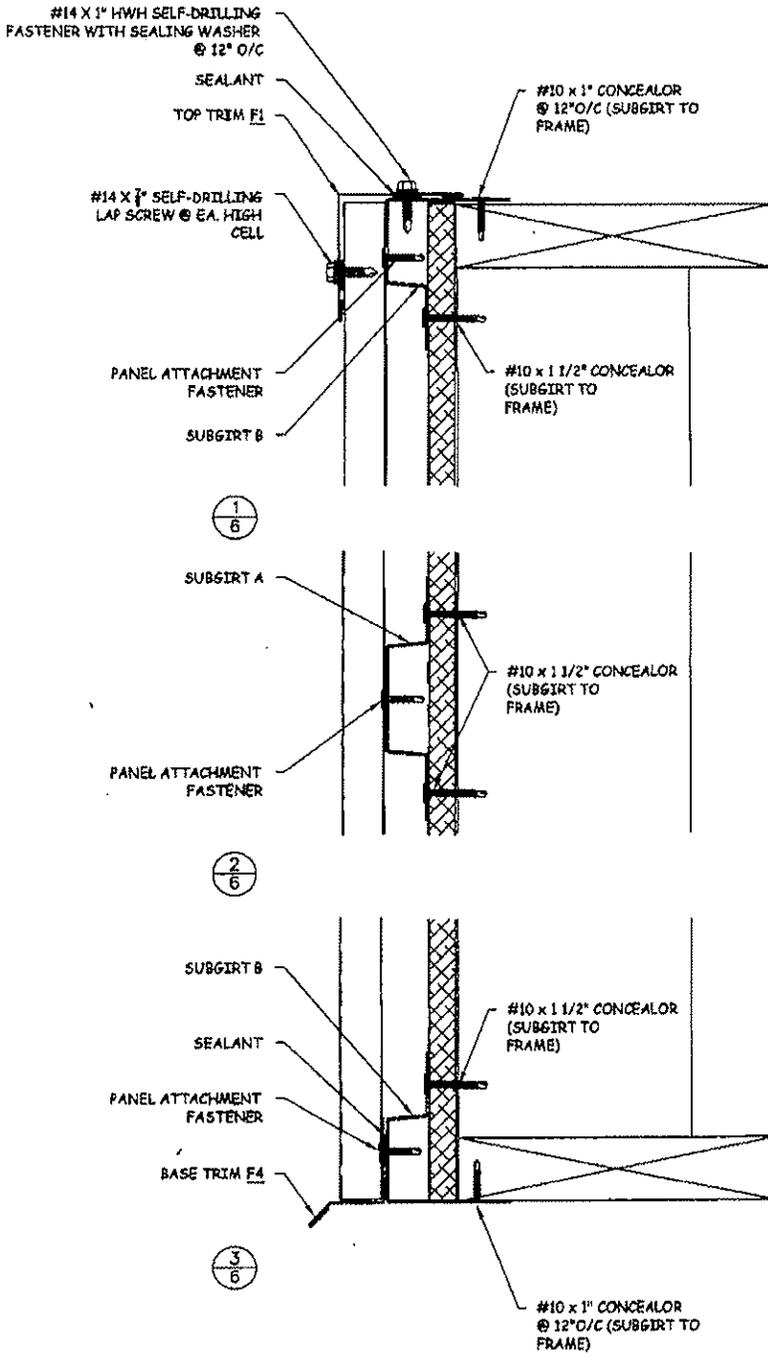
Architectural Testing

Test sample complies with these details.
Deviations are noted.

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Date 5/8/13 Tech TP

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12" FLUSH PANEL SETUP			
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Test sample complies with these details.
Deviations are noted.

Report# C5106.01

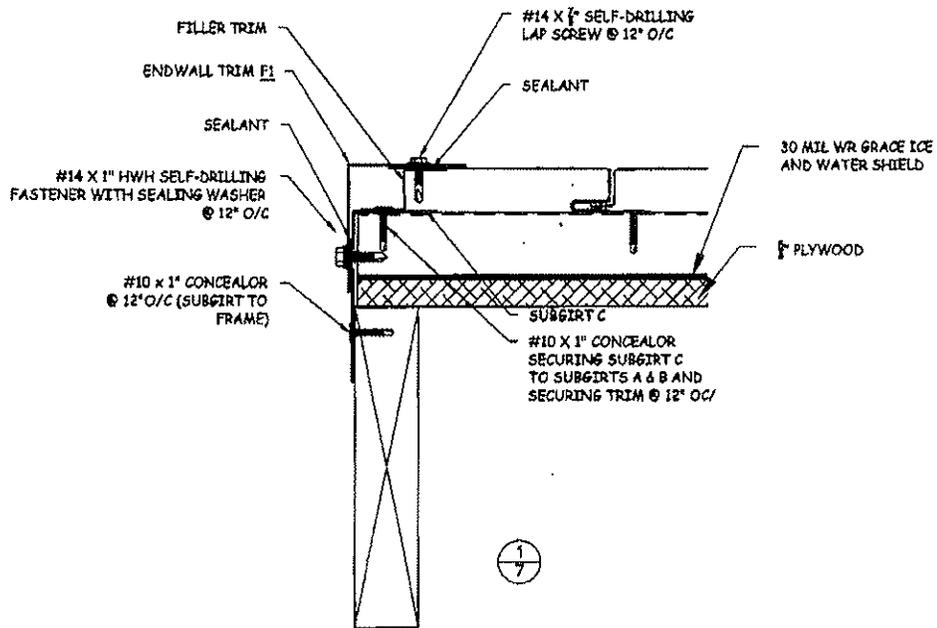
Date 5/8/13 Tech IR

12" FLUSH PANEL DETAILS

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DRAWN BY: C.NEWCOMB	DATE: 2-6-2013	DRAWING NO.:	REV.:
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Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 05106.01
Date 5/3/13 Tech TB

12" FLUSH PANEL DETAILS

**PETERSEN ALUMINUM CORPORATION
ATI TEST CHAMBERS**

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C.NEWCOMB

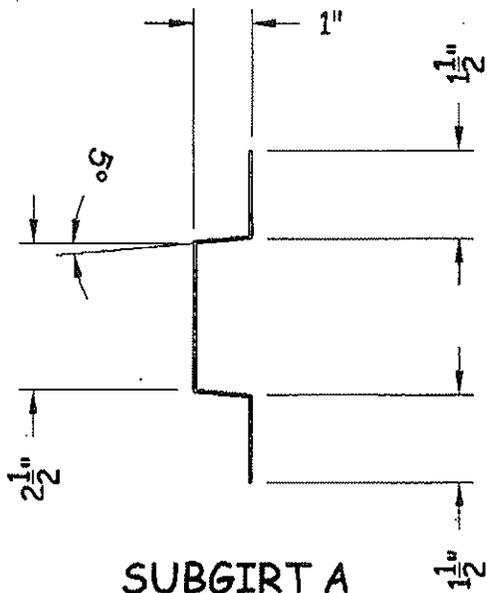
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2-6-2013

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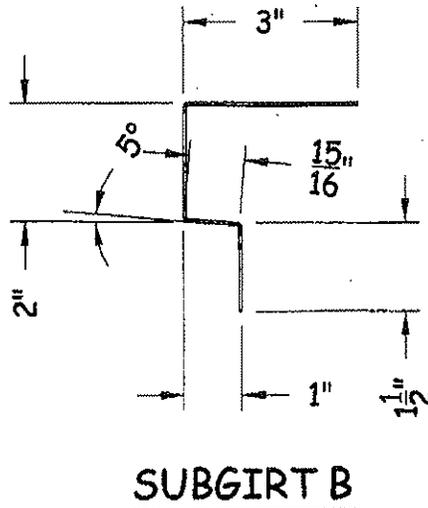
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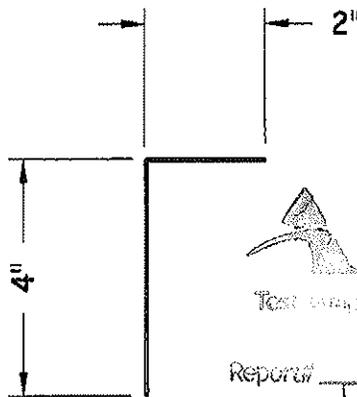
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SUBGIRT A



SUBGIRT B



SUBGIRT C



Architectural Testing

Test made in compliance with these details.
The drawing is not scaled.

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SUBGIRT DETAILS

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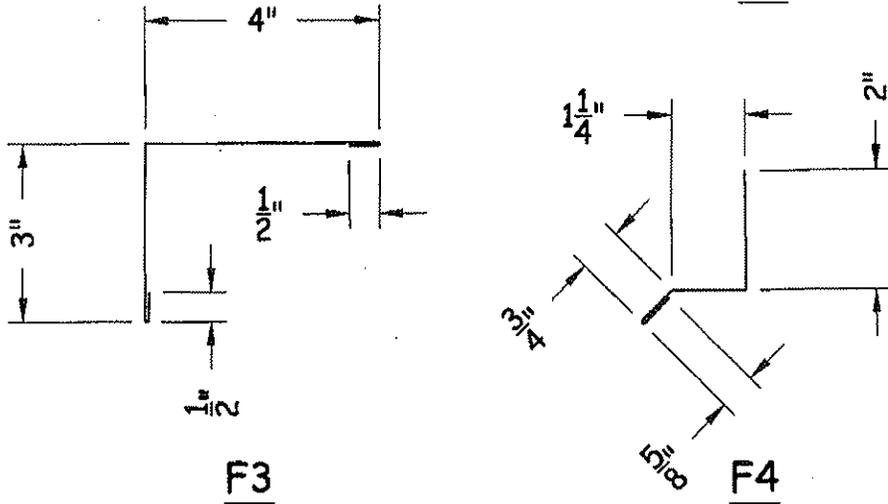
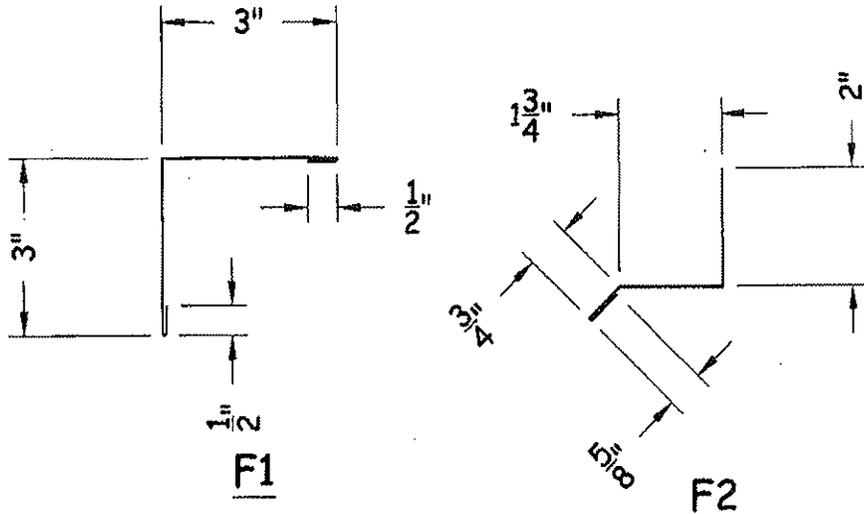
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2-6-2013

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12

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Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# CS106.07
Date 5/8/13 Tech TR

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TRIM DETAILS			
PETERSEN ALUMINUM CORPORATION ATI TEST CHAMBERS			
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		REV.:	0