

TEST REPORT

Report No.: A9726.02-109-44

Rendered to:

FAIRFIELD METAL
Hoboken, New Jersey

PRODUCT TYPE: AMC Panel System (Wet Seal)
SERIES/MODEL: CFM

Title	Summary of Results
Design Pressure	±3830 Pa (±80.0 psf)
Air Infiltration at 1.57 psf	<0.1 L/s/m ² (<0.01 cfm/ft ²)
Water Penetration Resistance Test Pressure	720 Pa (15.04 psf)
Uniform Load Structural Test Pressure	±5746 Pa (±120.0psf)

Reference must be made to Report No. A9726.02-109-44, dated 05/25/2011 for complete test specimen description and detailed test results.

1.0 Report Issued To: Fairfield Metal
601 Observer Highway
Hoboken, New Jersey 07030

2.0 Test Laboratory: Architectural Testing, Inc.
130 Derry Court
York, Pennsylvania 17406-8405
717-764-7700

3.0 Project Summary:

3.1 Product Type: AMC Panel System (Wet Seal)

3.2 Series/Model: CFM

3.3 Compliance Statement: Results obtained are tested values and were secured by using the designated test method(s). Test specimen description and results are reported herein.

3.4 Test Date: 05/04/2011

3.5 Test Location: Architectural Testing, Inc. test facility in York, Pennsylvania.

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

3.7 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 B. Any deviations are documented herein or on the drawings.

3.8 List of Official Observers:

<u>Name</u>	<u>Company</u>
Luigi Colella, Jr.	Fairfield Metal
Eric Baginski	Fairfield Metal
Darek Bolka	Fairfield Metal
Michael D. Stremmel, P.E.	Architectural Testing, Inc.
Scott A. Garner	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 330-02, *Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.*

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, Curtin Walls and Doors using Dynamic Pressure.*

5.0 Test Specimen Description:

5.1 Product Sizes:

Overall Area: 5.9 m ² (64.3 ft ²)	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	2438	96	2448	96-3/8
Bottom panel	2438	96	1219	48
Left top panel	1219	48	1219	48
Right top panel	1219	48	1219	48

5.2 Base Wall Construction: The test wall was fabricated with 16 gauge 6" galvanized steel studs spaced 16" on center. The steel studs were secured at each end to the top and bottom track using #6 x 3/4" long hex head self-tapping screws. The stud wall was sheathed with 5/8" thick DensGlass™ which was secured to the studs with #6 x 1-1/2" long flat head self-tapping screws. The DensGlass™ was covered with a rubberized vapor barrier. The wall utilized a nominal 2x8 Spruce-Pine-Fir wood wrap around the perimeter, secured to the steel studs with #10 x 3" long flat head self-tapping screws.

5.0 Test Specimen Description: (Continued)

5.3 Panel Construction: The test specimen was constructed of three aluminum composite panels that were 4 mm (0.157") thick. The panels were constructed with a 0.120" thick plastic core and two 0.020" thick aluminum interior and exterior skins, adhered to the plastic core. A 90° bend was utilized on all four sides of the panels. The return leg measured 1-1/2" long on the perimeter panel edges and 7/8" long on the interior joint edges of the panels. The corners utilized a 1/2" wide 1" by 1" aluminum angle to secure the corners, secured to each panel leg with one 1/8" diameter pop rivet. All panel edges utilized aluminum extrusions which were secured to the panels with 1/8" diameter rivets, spaced 12" on center.

5.4 Panel Installation: The panels were installed in a bottom to top and left to right order. The panels were attached to the stud wall using the aluminum extrusions on the panels. The extrusions were secured to the steel stud wall with #10 x 2" hex head self-tapping screws, spaced 16" on center into each stud. The panel joints utilized an aluminum extrusion that was slid into the panel extrusions. The joint extrusion was secured to the stud wall with #10 x 2" hex head self-tapping screws, spaced 16" on center into each stud. All panel joints were sealed with butyl sealant. The perimeter of the wall system was sealed to the wood buck with butyl sealant.

6.0 Test Results: The temperature during testing was 22°C (72°F). The results are tabulated as follows:

Title of Test	Results	Allowed	Note
Air Leakage, per ASTM E 283 at 75 Pa (1.57 psf)	<0.1 L/s/m ² (<0.01 cfm/ft ²)	N/A	
Air Leakage, per ASTM E 283 at 300 Pa (6.27 psf)	0.1 L/s/m ² (0.01 cfm/ft ²)	N/A	
Water Penetration, per ASTM E 331 at 720 Pa (15.04 psf)	Pass	No leakage	
Dynamic Water Penetration per AAMA 501.1 at 720 Pa (15.04 psf)	Pass	No leakage	

6.0 Test Results: (Continued)

Title of Test	Results	Allowed	Note
Uniform Load Deflection, per ASTM E 330 taken at horizontal joint between anchors +5363 Pa (+112.0 psf) -3830 Pa (-80.0 psf)	0.3 mm (0.01") 1.0 mm (0.04")	N/A	1, 2
Uniform Load Deflection, per ASTM E 330 taken on the panel +5363 Pa (+112.0 psf) -3830 Pa (-80.0 psf)	36.6 mm (1.44") 50.5 mm (1.99")	N/A	1, 2
Uniform Load Structural, per ASTM E 330 taken at horizontal joint between anchors +5746 Pa (+120.0 psf) -5746 Pa (-120.0 psf)	<0.3 mm (<0.01") 1.8 mm (0.07")	N/A	1, 2
Uniform Load Structural, per ASTM E 330 taken on the panel +5746 Pa (+120.0 psf) -5746 Pa (-120.0 psf)	38.4 mm (1.51") 45.5 mm (1.79")	N/A	1, 2

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

Note 1: Loads were held for 10 seconds.

Note 2: Tape and film were used to seal against air leakage during structural testing. In our opinion, the tape and film did not influence the results of the test.

The service life of this report will expire on the stated Test Record Retention End Date, at which time such materials as drawings, data sheets, samples of test specimens, copies of this report, and any other pertinent project documentation, shall be discarded without notice.

If test specimen contains glazing, no conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen(s) can be made. 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.

Scott A. Garner
Technician

Michael D. Stremmel, P.E.
Senior Project Engineer

SAG:dem

Attachments (pages): This report is complete only when all attachments listed are included.

Appendix-A: Photographs (1)

Appendix-B: Drawings (3)

Appendix A
Photographs

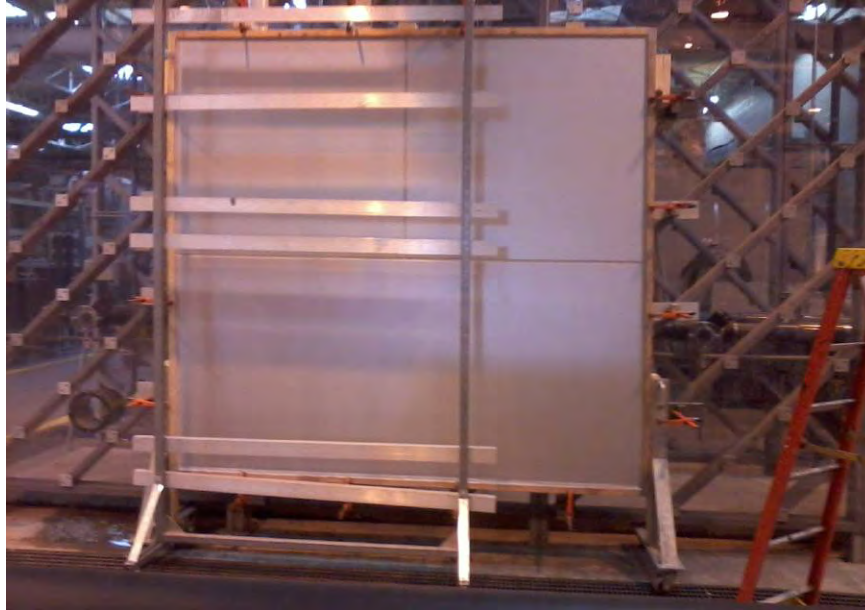


Photo No. 1
ACM Panel System (Wet Seal)



Photo No. 2
ACM Panel System (Wet Seal) Mode of Failure



Test Report No.: A9726.02-109-44
Report Date: 05/25/11
Test Record Retention End Date: 05/04/15

Appendix B

Drawings

COMPOSITE PANEL

CLIP EXTRUSION
FIELD INSTALL

FRAME EXTRUSION
SHOP ATTACHED

SEALANT AND
BACKER ROD

1/4"
10/100

ROUND WASHER HEAD
SELF-DRILL SCREW
NO 10 SIZE, 3/4" L

SHIM AS REQUIRED
BY OTHERS

WATER BARRIER
APPLIED TO FACE OF
SUBSTRATE BY OTHERS

*This is a
Rivet*

1 7/8"

1/4"



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# A9726.0A-109-44

Date 5/11/2011 Tech Garner



Fairfield Metal

601 Observer Highway, Hoboken, NJ 07030
Phone: (201) 798-2800
www.fairfieldmetal.com

Project Name:

CFM-HORIZONTAL DETAIL

Drawing No.

CFM-01.1

Drawn By:

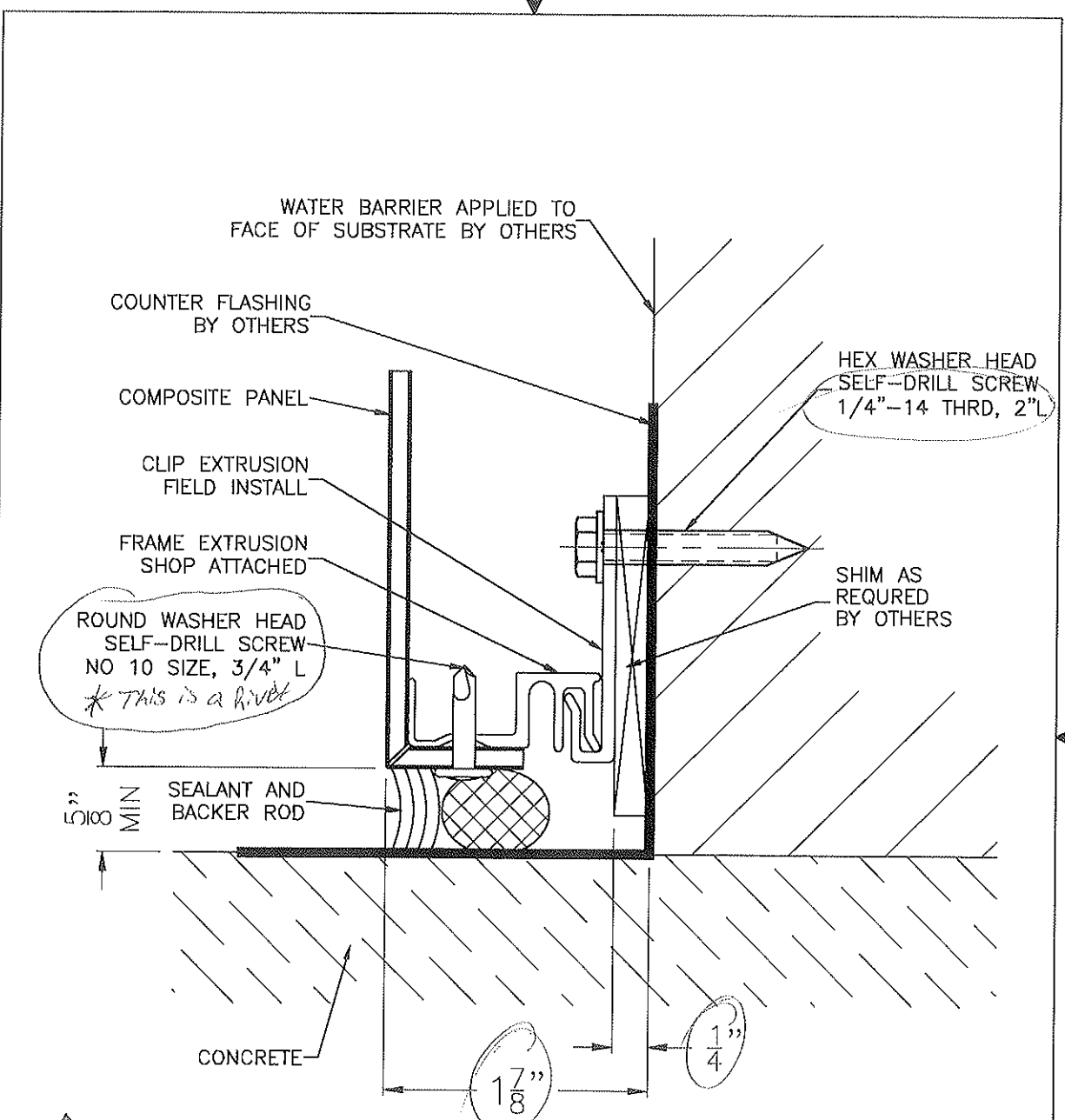
AS

Scale:

NST

Date:


12 JAN 2010



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# A9726-02-109-44
Date 5/11/2011 Tech Carver

 Fairfield Metal 601 Observer Highway, Hoboken, NJ 07030 Phone: (201) 798-2800 www.fairfieldmetal.com	Project Name:	Drawing No.
	CFM-BASE DETAIL	CFM-02.1
Drawn By: AS	Scale: NST	Date: 12 JAN 2010

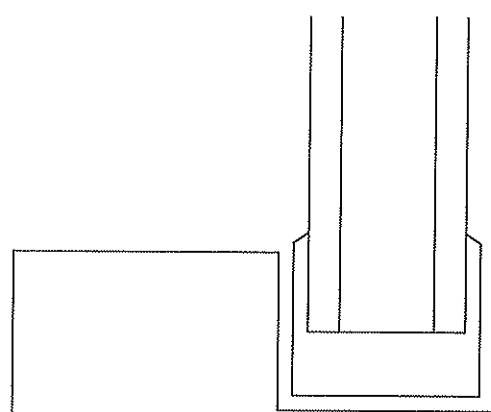


Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# A9726.02

Date 5/11/11 Tech CAWEL



WINDOW SYSTEM
BY OTHERS

SEALANT AND
BACKER ROD

3"
3/4"

This is a Rivet

ROUND WASHER HEAD
SELF-DRILL SCREW
NO 10 SIZE, 3/4" L

HEX WASHER HEAD
SELF-DRILL SCREW
1/4"-14 THRD, 2" L

FRAME EXTRUSION
SHOP ATTACHED

CLIP EXTRUSION
FIELD INSTALL

SHIM AS REQUIRED
BY OTHERS

COMPOSITE PANEL

WATER BARRIER
APPLIED TO FACE OF
SUBSTRATE BY OTHERS

1"
4

1 7/8"



Fairfield Metal

601 Observer Highway, Hoboken, NJ 07030
Phone: (201) 798-2800
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Project Name:

CFM-WINDOW SILL

Drawing No.

CFM-05.1

Drawn By:

AS

Scale:

NST

Date:

12 JAN 2010