Architectural Testing

TEST REPORT

Report No.: C7678.02-450-44

Rendered to:

SHEFFIELD METALS INTERNATIONAL
Sheffield Village, Ohio

PRODUCT TYPE: Flush Wall Panel (24 Gauge Galvalume®)
SERIES/MODEL: SMI 100 FWP 1" Seam Height x 12" Coverage

SPECIFICATIONS:

ASTM E 283, *Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen*

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

VINU J. ABRAHAM
LICENSE
No. 53820
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Digitally Signed by: Vinu Abraham

2013.06.11 07:24:22 -04'00'

Test Date: 05/08/13
Report Date: 06/07/13
Test Record Retention Date: 06/07/17

1.0 Report Issued To: Sheffield Metals International
5467 Evergreen Parkway
Sheffield Village, Ohio 44054
1-800-283-5262

2.0 Test Laboratory: Architectural Testing, Inc.
2658 Electronics Way
West Palm Beach, Florida 33407
561-881-0020

3.0 Project Summary:

3.1 Product Type: Flush Wall Panel (24 Gauge Galvalume®)

3.2 Series/Model: SMI 1.0 FWP 1" Seam Height x 12" Coverage

3.3 Compliance Statement: Results obtained are tested values and were secured by using the designated test method(s). The test specimens were tested in accordance with the following:

Test Specimen	Test Frame Construction	ASTM E 283	ASTM E 331
#3	2x4 SYP with two spans at 1219.2mm (4') on center	Pass	Pass

3.4 Test Date: 05/08/2013

3.5 Test Location: Architectural Testing, Inc. test facility in West Palm Beach, Florida.

3.6 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 report completion date.

3.7 Test Specimen Installation: The test specimen was installed by representatives from Sheffield Metals International.

3.8 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 C. Any deviations are documented herein or on the drawings.

3.0 Project Summary: (Continued)

3.9 List of Official Observers:

Name	Company
Steve Grala	Architectural Testing, Inc.
Kristin Nolan, E.I.	Architectural Testing, Inc.
Jeff McGovern	Architectural Testing, Inc.

4.0 Test Specification(s):

ASTM E 283-04 (2012), *Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen*

ASTM E 331-00 (2009), *Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference*

5.0 Test Specimen Description:

5.1 Product Sizes:

Specimen #	Location	Width (in.)	Length (in.)	Overall Area
3	Overall size	73.75	102.00	52.2 ft²
	Panel size	12.00	102.00	

5.2 Test Deck Construction: The test frame was fabricated from 2x4 Southern Yellow Pine with two spans at 4' on center. The double 2x4 purlin was run the 73.75" width.

5.3 Roof System Construction:

Component	Details	Attachment Method
1" x 12" SMI 1.0 FWP	The panels were constructed from 24 Gauge Galvalume® and were 12" wide. Six full width panels were utilized.	The female interlock leg at each panel seam was mechanically attached to the test frame using one #12 x 1" SD Pancake Head screw at each end of the test frame and one per purlin. The male interlock was slid into the female interlock and the seams were stitched using a single row of #12 x 1" SD Pancake Head screws spaced 2" from each end and at 24" on center thereafter. 3/32" x 1/2" butyl tape was used in between the panel seams. All panels were run in the 102" direction.

6.0 Test Results: The test results are tabulated as follows:

Title of Test	Results	Temperature
Air Leakage, Infiltration per ASTM E 283 at 75 Pa (1.57 psf)	0.001 L/s/m² (0.00 cfm/ft²)	25.5°C (78.0°F)
Air Leakage, Infiltration per ASTM E 283 at 300 Pa (6.24 psf)	0.020 L/s/m² (0.00 cfm/ft²)	25.5°C (78.0°F)
Water Penetration, per ASTM E 331 at 431 Pa (9.00 psf)	Pass – no leakage	32.0°C (90.0°F)

7.0 ASTM E 8 Tensile Test Results:

Test Method: The test specimens were evaluated in accordance with ASTM E8/E8M-08, *Standard Test Methods for Tensile Testing of Metallic Materials*. The specimens were tested using the Instron 3369 Testing Machine with the 50kN load cell (ICN005740), at a crosshead speed of 0.2" per minute. Each test specimen measured 8" long x 1/2" wide (reduced section area).

Test Results: The test results for the flush wall panel are shown on the test logs in Appendix A and summarized in the following table.

Specimen #	Base Metal Thickness (in)	Peak Load (lbf)	Modulus of Elasticity (psi)	Tensile Strength (psi)	Yield Strength (psi)	Elongation (%)
3	0.022	789.3	28,310,654	71,192	63,520	18.7

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 specimens tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, Inc.

Digitally Signed by: Angela Abramczyk

Angela Abramczyk
Technical Writer

Digitally Signed by: Vinu Abraham

Vinu J. Abraham, P.E.
Vice President - Southeast Region

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