



TEST REPORT

Report No.: E1595.02-901-44

Rendered to:

UNEEKE FABRICATION INC.
American Fork, Utah

PRODUCT TYPE: Wall Cladding System
SERIES/MODEL: uNeeke Composite Panel Series 4000

Title	Summary of Results
Design Pressure	±2880 Pa (60.15 psf)
Uniform Load Structural Test Pressure	±4320 Pa (90.23 psf)

Reference must be made to Report No. E1595.02-901-44, dated 11/14/14, for complete test specimen description and detailed test results.

1.0 Report Issued To: uNeeke Fabrications Inc.
568 East 1700 South, Suite #5
American Fork, UT 84003

2.0 Test Laboratory: Architectural Testing, Inc.
22155 68th Ave. South
Kent, Washington 98032
253-395-5656

3.0 Project Summary:

3.1 Product Type: Wall Cladding System

3.2 Series/Model: uNeeke Composite Panel Series 4000

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: 10/28/14

3.5 Test Record Retention End Date: All test records for this report will be retained until 10/28/18.

3.6 Test Location: Architectural Testing facility located in Kent, Washington.

3.7 Test Sample Source: The test specimen was provided by the client.

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 the appropriate Appendix. Any deviations are documented herein or on the drawings.

3.9 List of Official Observers:

<u>Name</u>	<u>Company</u>
David Southam	Southam and Associates
Jonathan Alama	Southam and Associates
Brian Rasmussen	Architectural Testing, Inc.

4.0 Test Method:

ASTM E 330-02, Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference

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 (1)	2438	96	1213	47-3/4
Panel size (1)	1918	75-1/2	1213	47-3/4
Panel size (1)	508	20	1213	47-3/4

5.2 Panel Construction: The test specimen was constructed of three 4 mm (0.15") thick aluminum composite panels. Aluminum extrusions were sealed and secured to the panel perimeter with #8 by 1" screws at approximately 406 mm (16") spacing. The bottom of each panel utilized 12.7 mm (1/4") diameter weeps at approximately 406 mm (16") spacing: six across the large panel, five across the medium panel, and 2 across the small panel.

5.3 Test Wall Construction: The 96" wide by 96" high test wall was constructed of 2 x 6 Douglas-fir wood studs. The studs were spaced 16" on center inside a 2 x 8 wood buck. The stud wall was covered with 3/16" thick clear polycarbonate containing 36 evenly spaced 64 mm (2-1/2") diameter holes to allow free airflow behind the panels. The wall panel system was then installed onto the clear polycarbonate in a manner consistent with normal construction procedures for the system.

5.4 Reinforcement: Two extruded aluminum "H" stiffeners, 44 mm x 32 mm (1-3/4" x 1-1/4"), were evenly spaced and adhered to each of the two larger panels with adhesive sealant.

5.5 Installation: Installation of the tested product was performed by the client.

The panels were installed from bottom to top and mounted on 1/4" shims. The sill utilized metal flashing overlapped at the top with an adhesive flexible membrane, which was also adhered to the polycarbonate.

At the horizontal joint, the aluminum extrusions were secured to the studs with #12 by 2-1/2" screws at approximately 813 mm (32") spacing, except that the 508 mm (20") wide panel is secured at the top with two screws at approximately 406 mm (16") spacing. The aluminum panel extrusions interlocked into one another at the vertical and horizontal joints. Around the perimeter of the system, the aluminum extrusions were secured to the 2 x 8 frame with #12 x 2-1/2" screws at approximately 406 mm (16") spacing.

6.0 Test Results: The temperature during testing was 22°C (71°F). The results are tabulated as follows:

Pressure	Results	Note
Taken at central vertical stud +2880 Pa (60.15 psf) -2880 Pa (60.15 psf)	9.0 mm (0.36") 10.8 mm (0.42")	1
Taken at interior horizontal panel edge between studs +2880 Pa (60.15 psf) -2880 Pa (60.15 psf)	0.5 mm (0.03") 1.8 mm (0.07")	1
Taken at panel center +2880 Pa (60.15 psf) -2880 Pa (60.15 psf)	32.0 mm (1.26") 24.0 mm (0.95")	1

Pressure	Results	Note
Taken at central vertical stud +4320 Pa (90.23 psf) -4320 Pa (90.23 psf)	1.0 mm (0.04") 0.5 mm (0.03")	1
Taken at interior horizontal panel edge between studs +4320 Pa (90.23 psf) -4320 Pa (90.23 psf)	0.3 mm (0.01") 0.3 mm (0.01")	1
Taken at panel center +4320 Pa (90.23 psf) -4320 Pa (90.23 psf)	1.5 mm (0.06") 1.8 mm (0.07")	1

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

Note #1: Loads were held for 10 seconds.

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 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: Brian L. Rasmussen

Brian L. Rasmussen
Technician



Digitally Signed by: Jeffrey L. Dideon

Jeffrey L. Dideon
Director – Regional Operations

BLR:pac

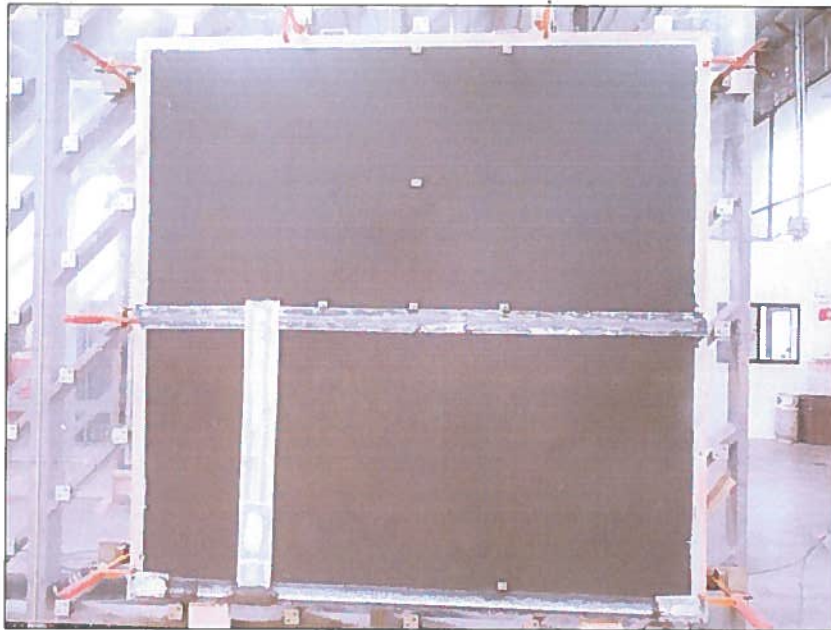
Attachments (pages): This report is complete only when all attachments listed are included.

Appendix-A: Photograph (1)

Appendix-B: Drawings (2)

Appendix A

Photograph



Specimen Exterior



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Appendix B

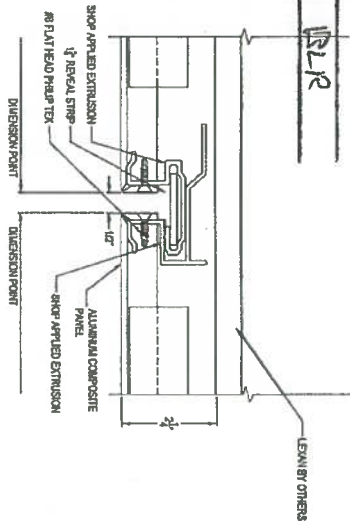
Drawings



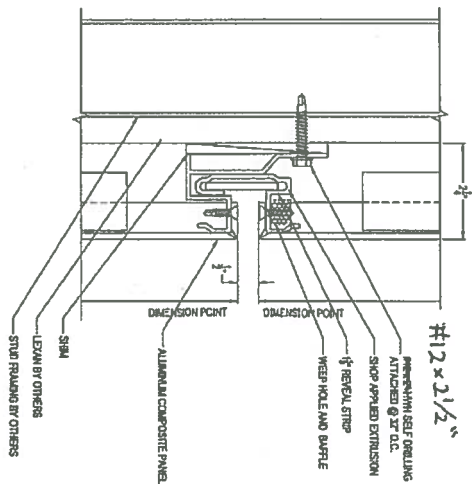
Architectural Testing

Test sample complies with these details.
Deviations are noted.

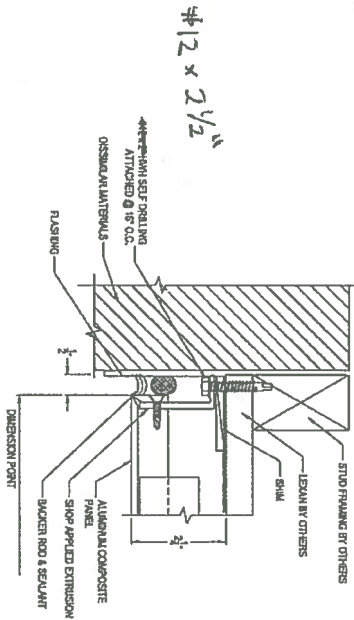
Report# EIS-95
Date 11/11/14 Tech RJR



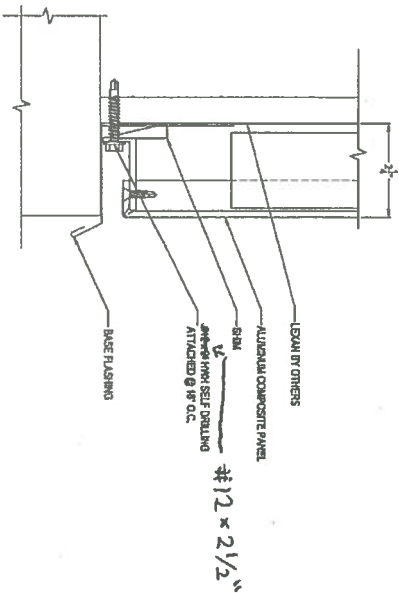
1 VERTICAL JOINT (TYP)
REF:



2 HORIZONTAL JOINT (TYP)
REF:



3 ACM TERMINATION DETAIL
REF:



4 ACM BASE DETAIL
REF:



UNEEKE FABRICATIONS
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UNEEKE AAMA 508 TESTING

NO.	REVISIONS	DATE
1		10/4/14
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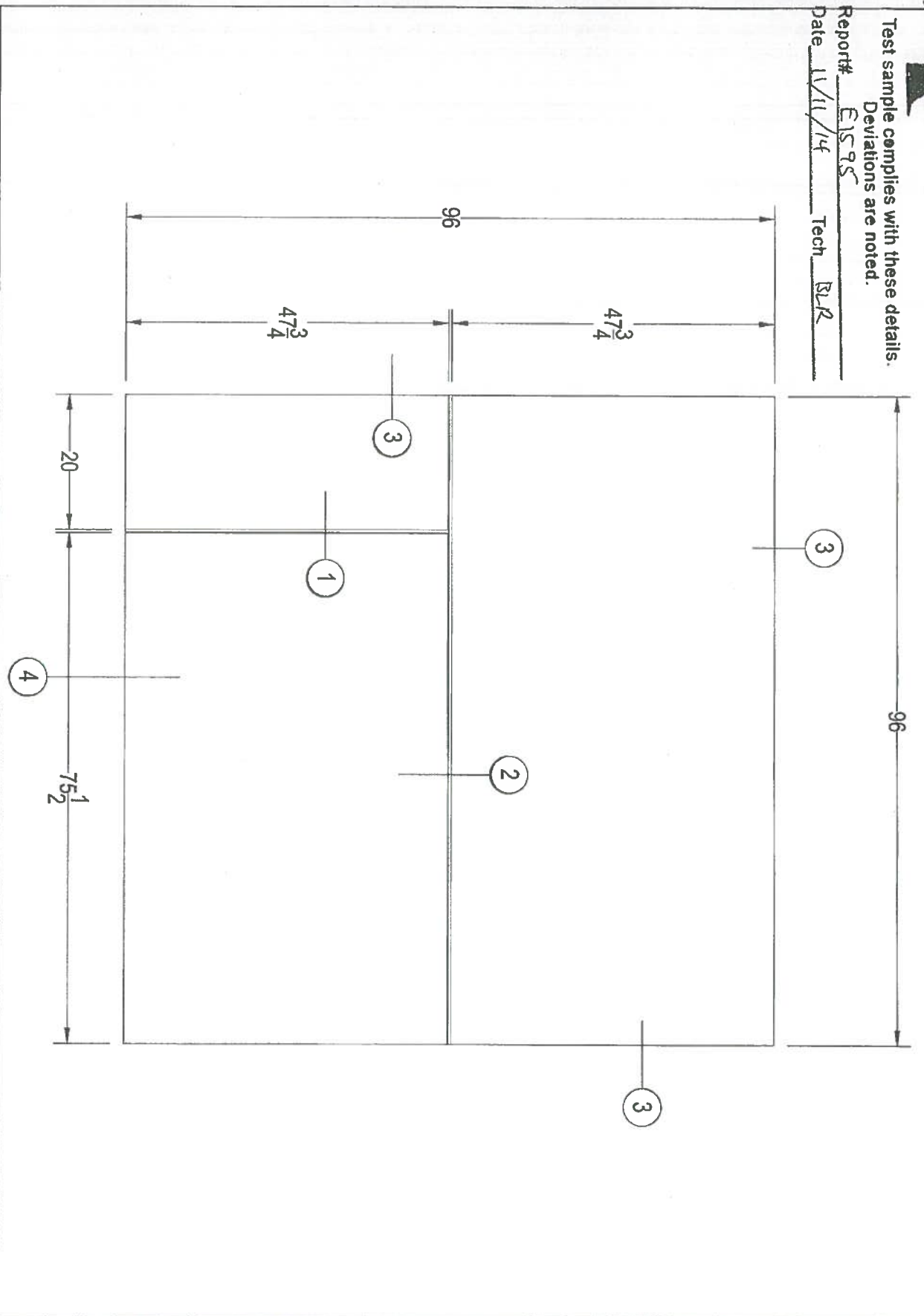
D1



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# E1595
Date 11/11/14 Tech BLR



UNEEKE <small>-21</small> FABRICATIONS <small>P.O. BOX 894 HEBER CITY, UT 84022 www.uneekefab.com</small>		UNEEKE AAMA 508 TESTING		<small>Project:</small> JKA <small>Date:</small> 10/14/14 <small>Drawn by:</small> JKA <small>Checked by:</small> JKA <small>Approved by:</small> JKA
		<small>NO.</small> <small>REVISIONS:</small> <small>DATE:</small>	<small>NO.</small> <small>REVISIONS:</small> <small>DATE:</small>	<small>NO.</small> <small>REVISIONS:</small> <small>DATE:</small>

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