

QUICKPANEL SYSTEMS INC. TEST REPORT

SCOPE OF WORK

AAMA 508 TESTING ON ACM QUICKPANEL PRESSURE EQUALIZED RAINSCREEN SYSTEM BY EASYTRIM REVELAS

REPORT NUMBER

H6574.01-109-44

TEST DATE(S)

01/17/18

ISSUE DATE

05/21/18

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01/17/22

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TEST REPORT FOR QUICKPANEL SYSTEMS INC.

Report No.: H6574.01-109-44

Date: 05/21/18

REPORT ISSUED TO

QUICKPANEL SYSTEMS INC.

4115 72 Ave S.E.

Calgary, Alberta T2C 2G5

CANADA

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by QuickPanel Systems Inc., to perform testing in accordance with AAMA 508 on their ACM QuickPanel, Pressure Equalized RainScreen System by EasyTrim Reveals. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at Intertek B&C test facility in York, Pennsylvania. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. This report is not intended as a comprehensive evaluation of the system regarding performance and application to specific buildings.

SECTION 2


SUMMARY OF TEST RESULTS

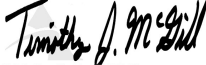
Product Type: Pressure Equalized RainScreen System by EasyTrim Reveals

Series/Model: ACM QuickPanel

TITLE	RESULTS	PASS/FAIL
Air Infiltration	0.6 L/s/m ² (0.12 cfm/ft ²)	PASS
Pressure Cycling (Cycle lag time)	0.02 sec.	PASS
Pressure Cycling (Cycle pressure difference)	91 Pa (1.91 psf)	PASS
Static Water Penetration	No Leakage	PASS
Dynamic Water Penetration	0.02 m ² (0.25 ft ²)	PASS

For INTERTEK B&C:

COMPLETED BY: Robert J. Beatty
Technician – Product
TITLE: Testing
SIGNATURE: 
Digitally Signed by: Robert Beatty
DATE: 05/21/18

REVIEWED BY: Timothy J. McGill
TITLE: Manager – Product Testing
SIGNATURE: 
Digitally Signed by: Timothy J. McGill
DATE: 05/21/18

RJB:abo

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SECTION 3

TEST METHOD(S)

The specimen was evaluated in accordance with the following:

AAMA 508-14, *Voluntary Test Method and Specification for Pressure Equalized Rain Screen Wall Cladding Systems*

AAMA 501.1-05, *Standard Test Method for Water Penetration of Windows, Curtain Walls, and Doors Using Dynamic Pressure*. Testing was conducted with a dynamic pressure equivalent of 300 Pa (6.24 psf) for a 15-minute duration. Water was applied to the mock-up at a minimum rate of 5 gal/hr/ft².

ASTM E283-04(2012), *Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen*. Testing was conducted at 75 Pa (1.57 psf) positive static air pressure difference.

ASTM E331-00(2016), *Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference*. Testing was conducted at 300 Pa (6.24 psf) positive static air pressure difference for a 15-minute duration. Water was applied to the mock-up at a minimum rate of 5 gal/hr/ft².

ASTM E1233/E1233M-14, *Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Cyclic Static Air Pressure Differential*. Testing was conducted for 100, three-second cycles from 240 Pa (5.0 psf) to 1200 Pa (25.0 psf) to 240 Pa (5.0 psf).

SECTION 4

MATERIAL SOURCE/INSTALLATION

Test specimen was provided by the client. Representative samples of the test specimen(s) will be retained by Intertek B&C for a minimum of two years from the test completion date.

Installation of the tested product was performed by the client. The specimen was installed utilizing an aluminum extruded interlocking stud and rail system. The interlocking rails were located along the perimeter and the horizontal and vertical midspans. The vertical rails were secured into the studs utilizing #10 x 3/4" self-tapping hex head screws 16" on center. The horizontal rails were secured into the studs with # 10 x 1-1/2" hex head screws 16" on center. The panels were interlocked into the rail system. A 3" high continuous aluminum flashing was installed underneath the horizontal rails at the head, sill and midspan. The flashing was secured into the studs with #10 x 1-1/2" hex head screws 16" on center. A 1-1/4" wide by 1/2" by 48" long U-shaped PVC support was utilized at each steel stud where the interlocking rail system was not located. The PVC support was secured into the studs with #10 x 3/4" self-tapping hex head screws 16" on center. Polyurethane panel support blocks were utilized at the top edge of each panel. The panel support blocks were spaced 8" from the vertical edge of the panel and spaced 8" on center and secured into the lexan with #10 x 3/4" self-tapping hex head screws.

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SECTION 5 EQUIPMENT

Computerized control panel to run positive pressures, cyclic pressures, and measure air leakage rates.

Structural test chamber to mount the test wall, as to evaluate the performance of the wall panel system for static and cyclic pressures, as well as water penetration. The wall was situated such that the interior side of the test wall was accessible to observe air and water leakage.

Dynamic wind generator to create a wind pressure to test the wall panel system for dynamic water penetration.

Computerized data management equipment to read, log, and graph differential pressures.

SECTION 6 LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Jeremie Green	QuickPanel Systems Inc.
Tyler J. Holland	Intertek B&C
Timothy J. McGill	Intertek B&C
Robert J. Beatty	Intertek B&C

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SECTION 7

TEST SPECIMEN DESCRIPTION

Product Type: Pressure Equalized RainScreen System by EasyTrim Reveals

Series/Model: ACM QuickPanel

Product Size(s):

OVERALL AREA:	WIDTH		HEIGHT	
	millimeters	inches	millimeters	inches
5.9 m ² (64.0 ft ²)				
Overall size	2438	96	2438	96
Top right panel size	1219	48	1219	48
Top left panel size	1219	48	1219	48
Bottom right panel size	1219	48	1219	48
Bottom left panel size	1219	48	1219	48

Panel Construction: The panels were comprised of a 0.11" thick composite core with a 0.024" aluminum skin.

Test Wall Construction: The 96" wide by 96" high test wall was constructed of 16 gauge, 6" galvanized steel studs. The steel studs were spaced 16" on center inside a 2x10 wood buck. The stud wall was covered with 3/16" thick clear lexan, sealed, and secured to the exterior of the wall to simulate an air/water barrier. The wall panel system was then installed onto the clear polycarbonate in a manner consistent with normal construction procedures for the system. The clear lexan was calibrated to a pre-determined air leakage rate by drilling 1/8" diameter holes on the backside in a uniform pattern, making sure to create an even pressure drop and leakage rate across the wall and in each quadrant. The exterior of the test unit was sealed to the wood buck with silicone.

Cavity Depth: 14.3 mm (9/16")

Air Cavity Volume to Vent Area Ratio: 595.5 m³/m² (1953.9 ft³/ft²)

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SECTION 8

TEST RESULTS

The temperature during testing was 16°C (61°F). The results are tabulated as follows:

Air Leakage (Infiltration per ASTM E283)

PRESSURE	RESULTS	ALLOWED	PASS/FAIL	NOTE
75 Pa (1.57 psf)	0.6 L/s/m ² (0.12 cfm/ft ²)	0.6 L/s/m ² (0.11 cfm/ft ²) min. 0.7 L/s/m ² (0.13 cfm/ft ²) max.	PASS	1

Pressure Cycling (per ASTM E1233)

100 cycles from 240 Pa (5 psf) to 1200 Pa (25 psf) to 240 Pa (5 psf)

	RESULTS	ALLOWED	PASS/FAIL	NOTE
Cycle Time Lag	0.02 sec.	0.08 sec. max.	PASS	2, 3
Cycle Pressure Difference	91 Pa (1.91 psf)	600 Pa (12.5 psf) max.		

Static Water Penetration (per ASTM E331)

PRESSURE	RESULTS	ALLOWED	PASS/FAIL	NOTE
300 Pa (6.24 psf)	No leakage	0.30 m ² (3.20 ft ²)	PASS	4, 5

Dynamic Water Penetration (per AAMA 501.1)

PRESSURE	RESULTS	ALLOWED	PASS/FAIL	NOTE
300 Pa (6.24 psf)	0.02 m ² (0.25 ft ²)	0.30 m ² (3.20 ft ²)	PASS	4, 5

Note 1: The calibrated leakage was achieved with 55, 1/8" diameter holes drilled through the polycarbonate. All holes were evenly distributed in each stud cavity and were located 6" above the bottom and midspan of the wall.

Note 2: Pressure tap was attached through the air barrier at the center of the specimen.

Note 3: Reference Pressure Cycling graph in Appendix A.

Note 4: Water percolated at the bottom of the panel at the weeps. Water was visibly present on the polycarbonate.

Note 5: Water on the polycarbonate air/water barrier surface was in the form of mist or droplets.

SECTION 9

CONCLUSION

The specimen met the specified performance requirements.



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York, Pennsylvania 17406

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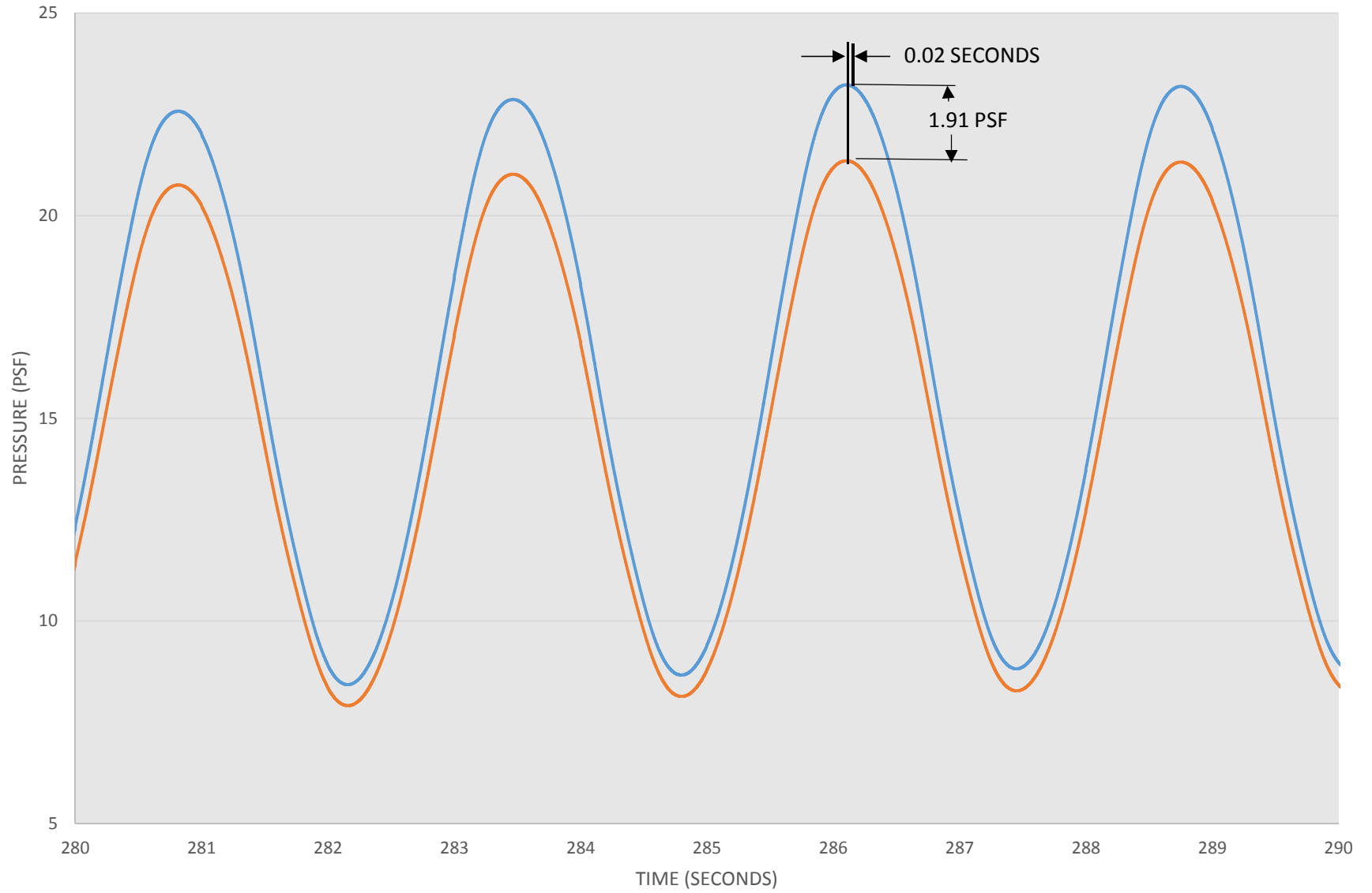
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SECTION 10
GRAPH

AAMA 508 PRESSURE CYCLING

— Exterior Pressure — Cavity Pressure



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SECTION 11 PHOTOGRAPHS



Photo No. 1
Test Specimen



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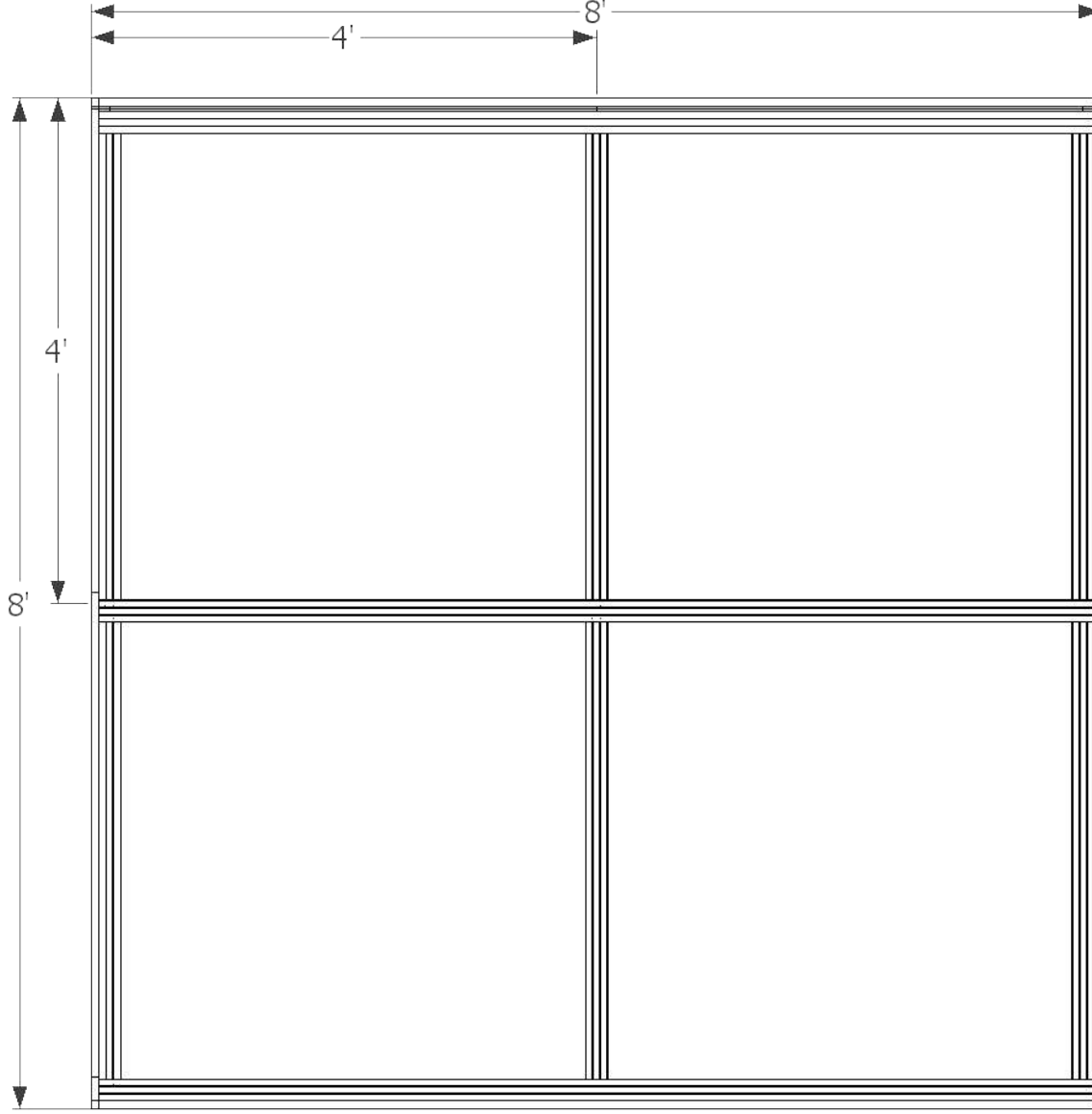
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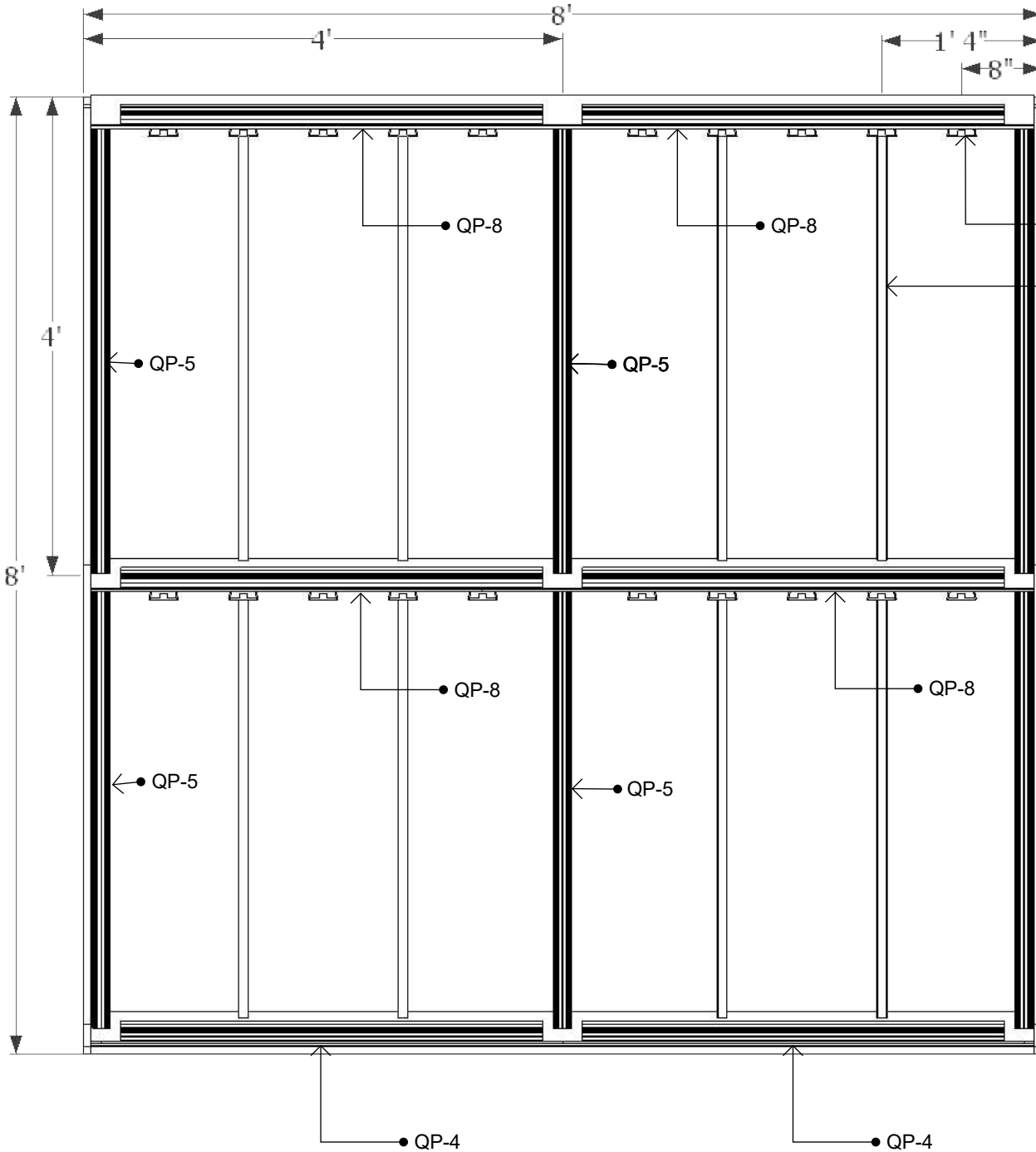
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SECTION 12 DRAWINGS

The test specimen drawings have been reviewed by Intertek B&C and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Intertek B&C per the drawings included in this report. Any deviations are documented herein or on the drawings.





• Panel support block along top edge of panel @ 8" O.C.

• <QP-6 @ 16" O.C.>

• QP-5

Fasteners:
 All fasteners are #10 hex head rustpert bonded washer wood screws @16" O.C. and 1" from any profile end point.

Silicone adhesive:
 1/4" round x 2" long dashes of silicone adhesive @16" O.C. in all panel platforms and locking engagements.



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PROJECT NO. V1
 PROJECT AAMA 508
 Test wall

DRAWN BY JG
 DESCRIPTION Base Grid

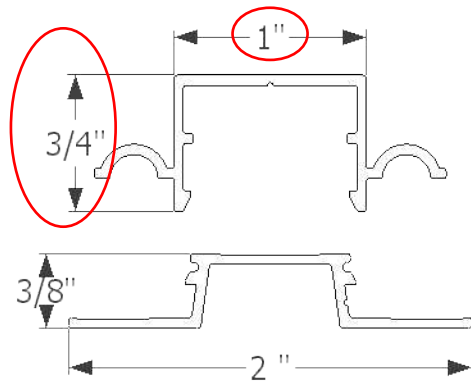
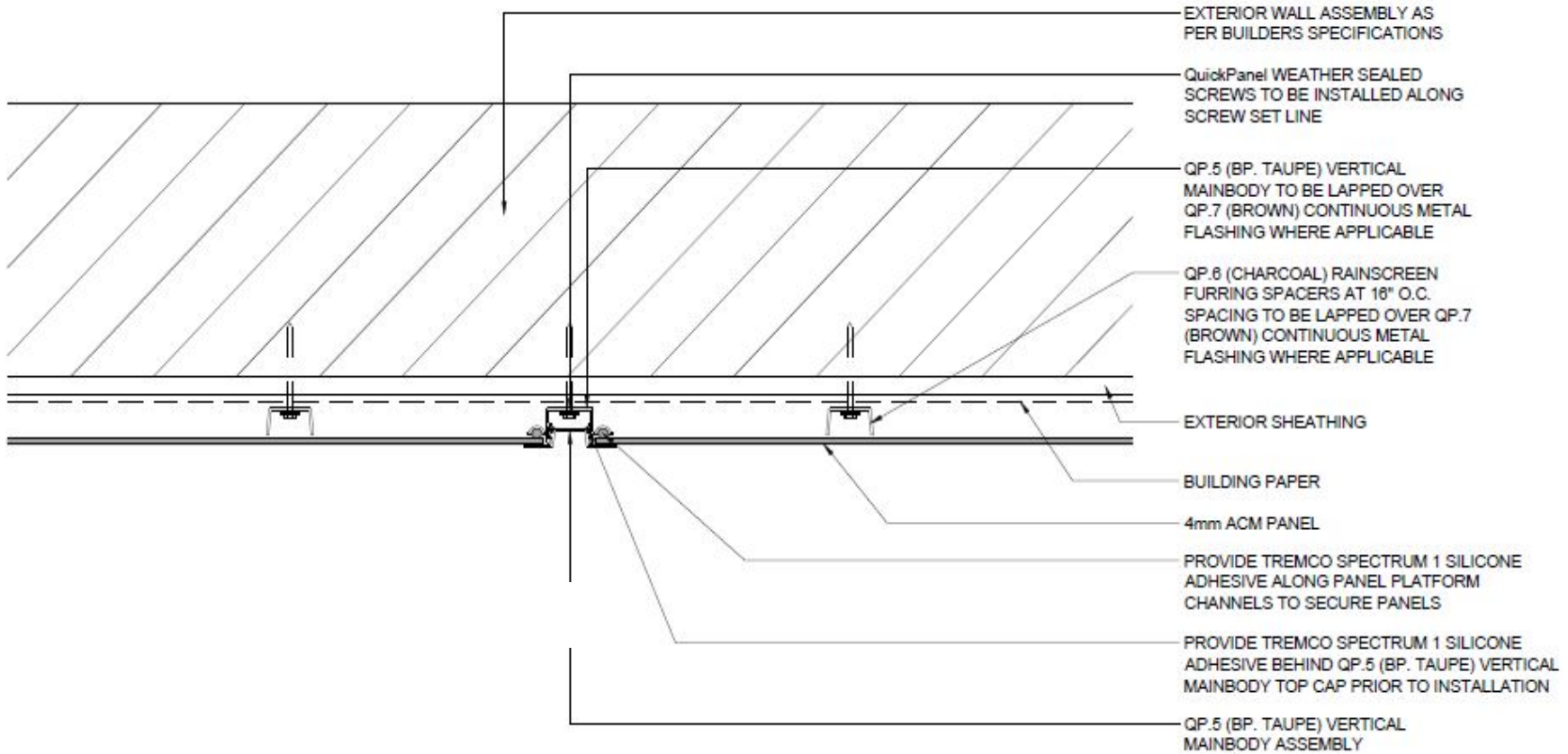




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PROJECT NO. V1
PROJECT AAMA 508
Test wall

DRAWN BY JG
DESCRIPTION QP-5 assembly



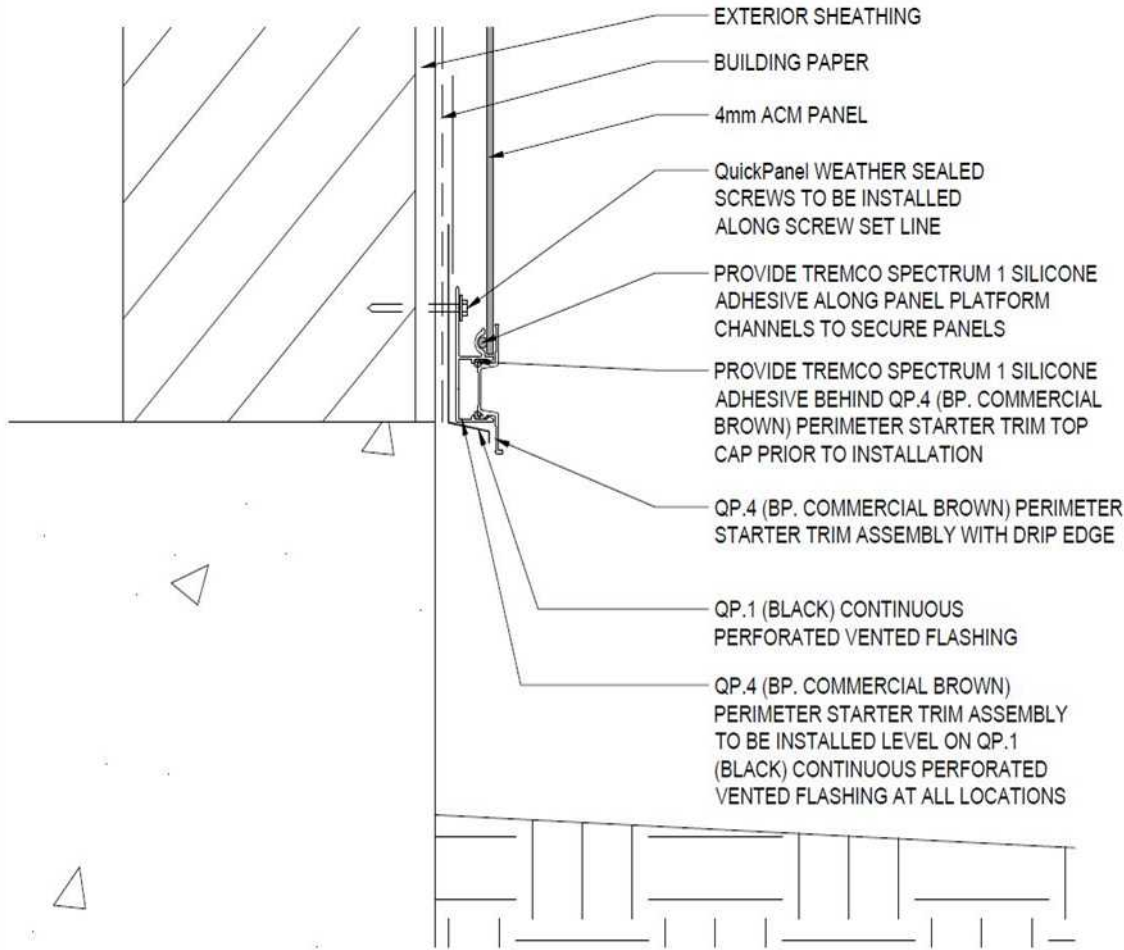
QP-5 assembly



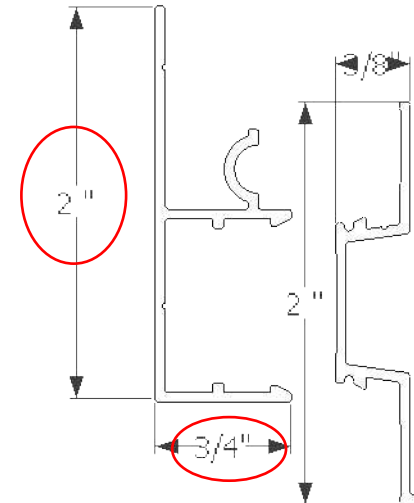
Report #: H6574

Date: 2/5/2018

Verified by: *[Signature]*



QP-4 assembly



10 QuickPanel TYPICAL BASE SECTION

A3 SCALE: 3" = 1'-0"

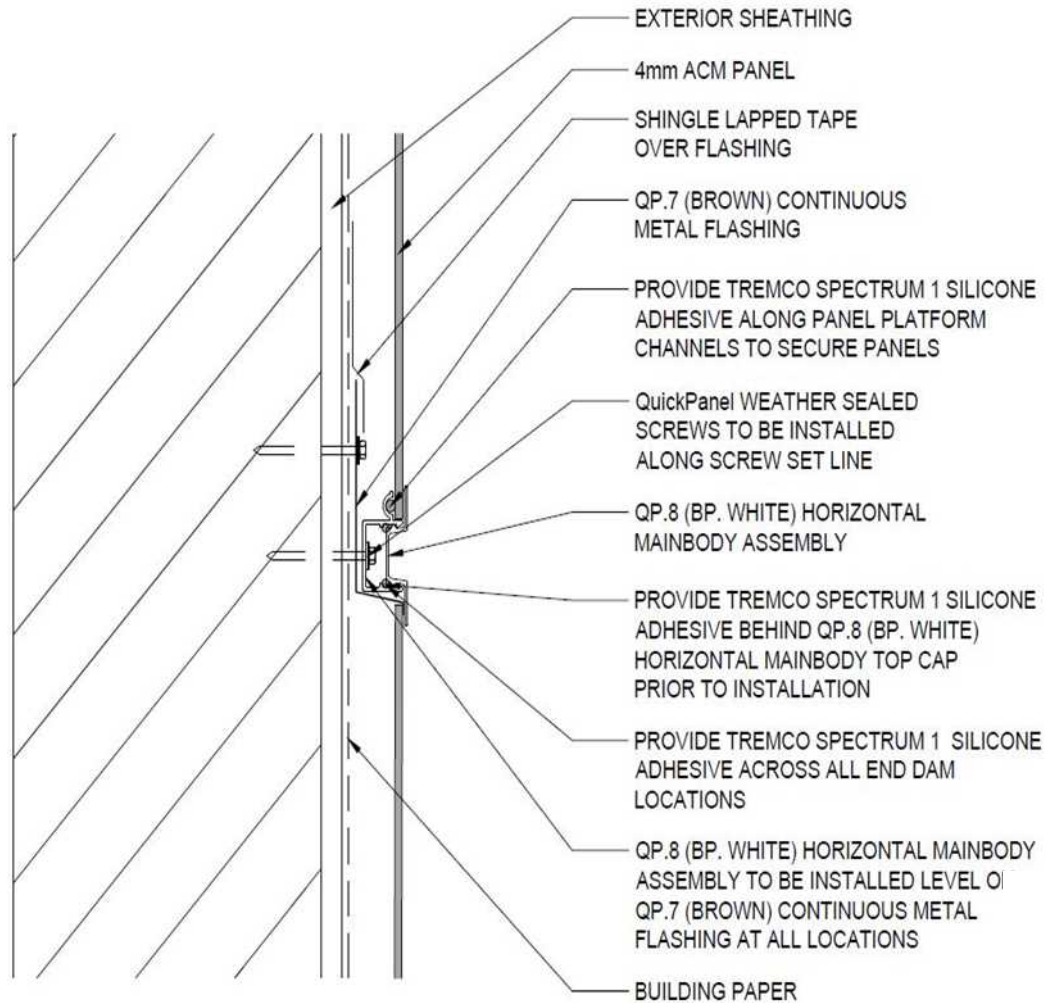


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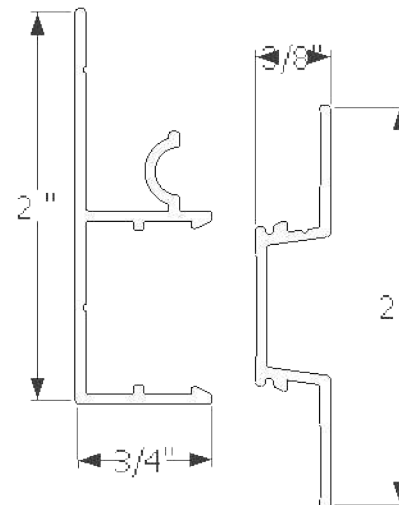
PROJECT NO. V1
PROJECT AAMA 508
Test wall

DRAWN BY JG
DESCRIPTION QP-4 assembly





QP-8 assembly



4
A1

QuickPanel TYPICAL HORIZONTAL SECTION

SCALE: 3" = 1'-0"

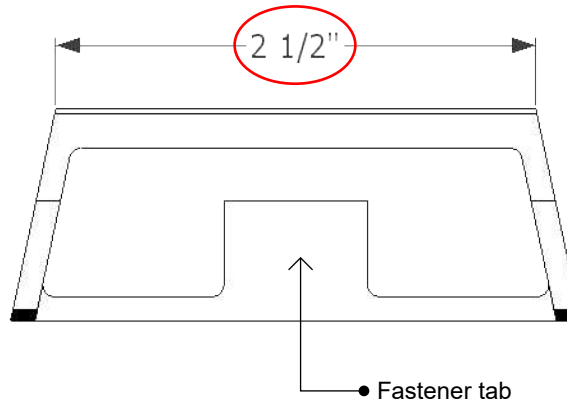
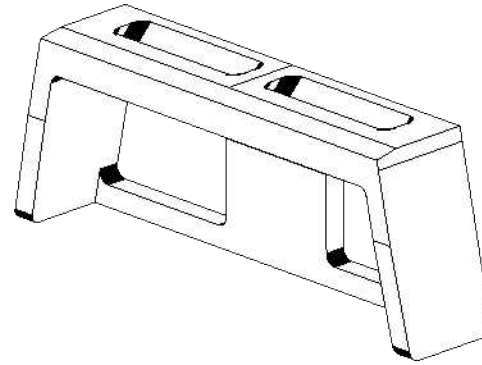
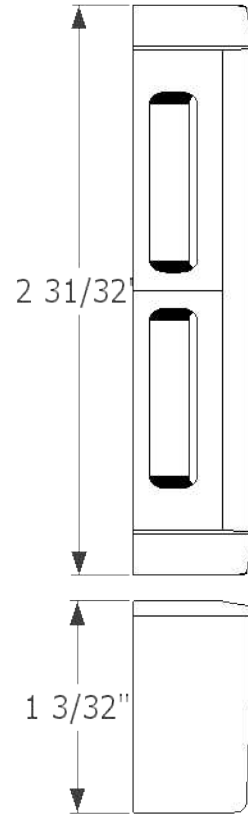


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PROJECT NO. V1
PROJECT AAMA 508
Test wall

DRAWN BY JG
DESCRIPTION QP-8 assembly





Panel Support Block P.S.B.

The P.S.B. is a single moulded piece from polyurethane



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Test wall

DRAWN BY JG
DESCRIPTION P.S.B.





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SECTION 13

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	05/21/18	N/A	Original Report Issue