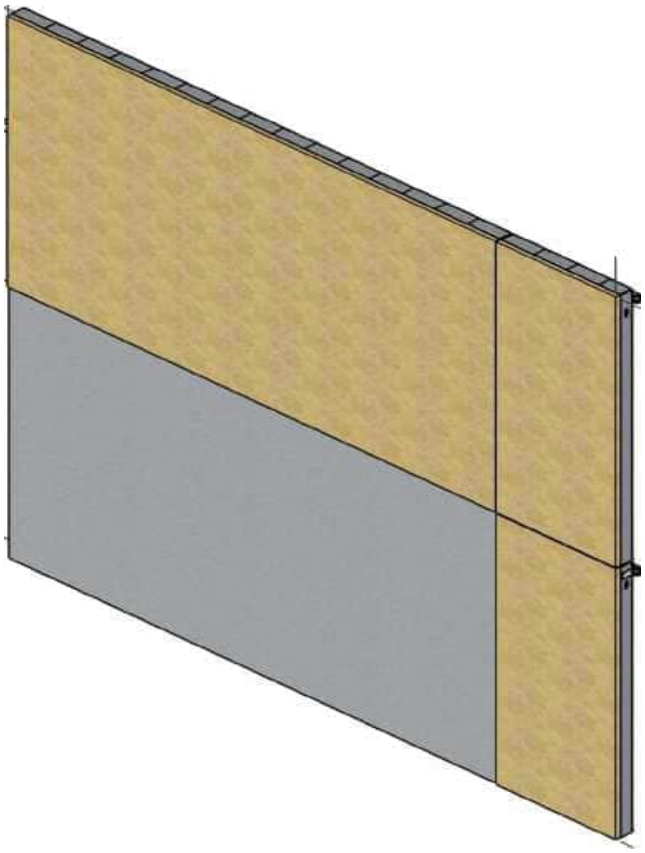

LABORATORY PMU TEST REPORT FOR THE MOCK-UP WALL SYSTEM

ISEAL EP SYSTEM MOCK-UP

Submitted to:
MR. MIKE STRICKLAND
Invent to Build Inc.

File:
AC-00300-A

Prepared by:

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Prepared by CLEB laboratory Inc:

Toronto, Date: February 5, 2020

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APPENDICES

LABORATORY PMU TEST REPORT FOR THE MOCK-UP WALL SYSTEM

1. INTRODUCTION

This report covers the laboratory performance mock-up (PMU) testing performed between December 4th, 2019 and December 5th, 2019 of a full scale wall system for the *ISEAL EP SYSTEM PMU* project. The tests were conducted in accordance with the architectural specification requirements (see the testing procedure in Appendix D). Photographs documenting the assembly and testing can be reviewed in the Appendices A and B at the end of this report.

2. PROJECT PARTICIPANTS

Owner: Invent to Build
EIFS Panel System: Sto Panel Technology by PEER Engine Services

3. WITNESSES

The following witnesses were present for the totality or a part of the testing sequence:

Mr. Peter Adams	Morrison Hershfield	Mr. Adrian Muntean	UL CLEB
Ms. Michaela Ashford	Invent to Build	Mr. David Granic	UL CLEB
Mr. Chris Norris	BPL Enclosure	Mr. Sunny Ling	UL CLEB
Mr. Thomas Remmele	Sto Corporation	Ms. Haya Soghrati	UL CLEB
Mr. Mike Strickland	Invent to Build		

4. DESCRIPTION OF THE TESTING PROTOTYPE

Testing was conducted on a wall assembly. The overall nominal dimensions are approximately 25 ft wide and 24 ft high. Figure 1 shows the prototype nominal dimensions.

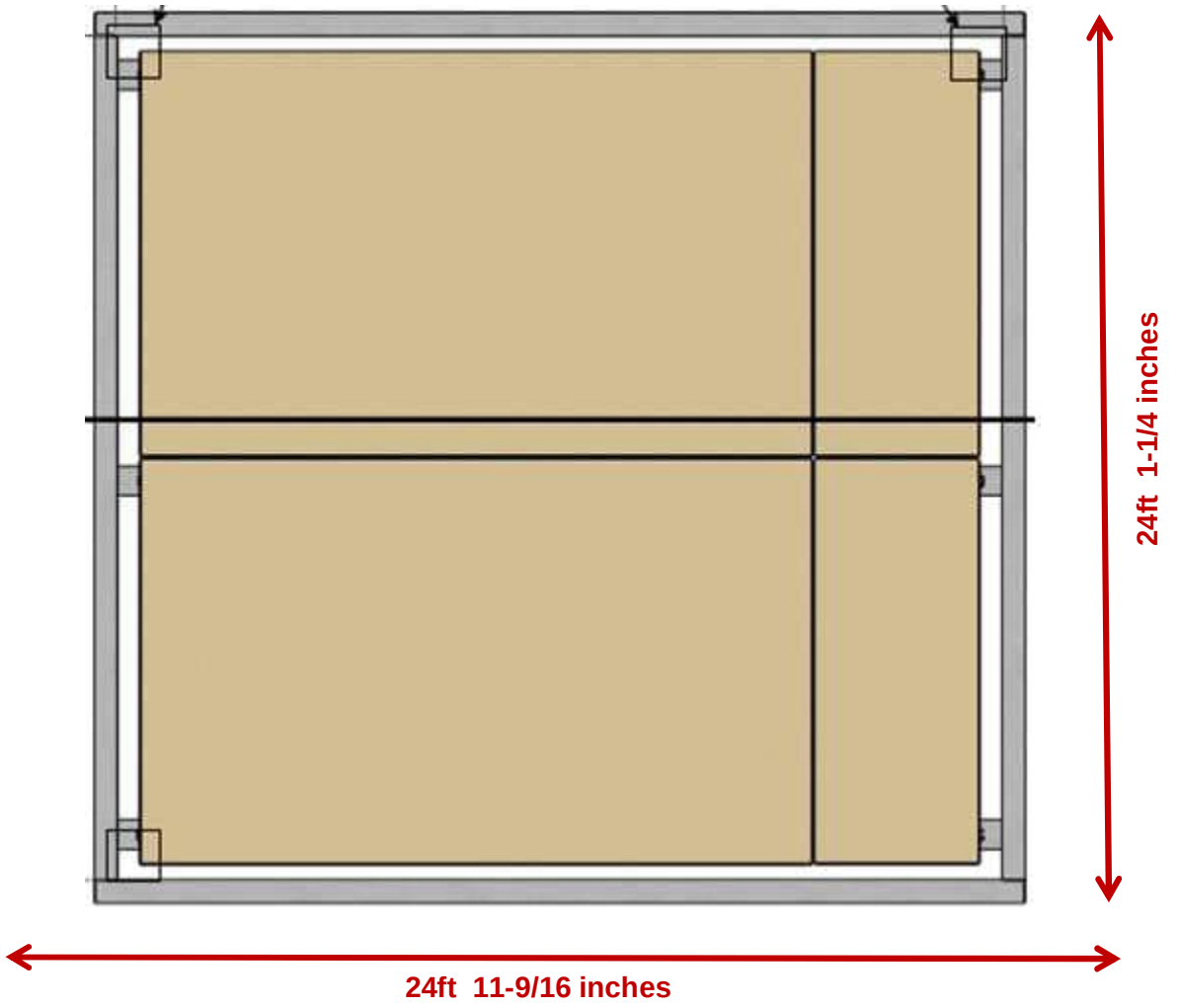


Figure 1 : Dimensions of the prototype (Elevation view)

The prototype components and fabrication details are described in the *Invent to Build* drawings included in Appendix E.

5. TESTING DETAILS AND RESULTS

Refer to the testing procedure in Appendix E for the architectural specification requirements and description of the tests. The numbers below are referring to the testing procedure in categories as follow:

A - (2.1) Pre-load 50% of design
(2.2) Air inf/exf. test
(2.3) Water penetration test (static)
(2.4) Water penetration test (dynamic)
B - (2.5) Interstory horizontal movement test LEFT/RIGHT
(2.6) Water penetration test (static)
C - (2.7) Interstory horizontal movement test IN/OUT
(2.8) Water penetration test (static)
D - (2.9) Interstory Vertical movement test UP/DOWN
(2.10) Air inf/exf. test
(2.11) Water penetration test (static)
E - (2.12) Structural performance test at 100% design pressure
(2.13) Water penetration test (static)
(2.14) Water penetration test with Sealant Defect (static)
F - (*2.15) Structural performance test at 150% design pressure
(*2.16) Interstory horizintal movement test left/right
(*2.17) Interstory horizintal movement test in/out

*Note: These three tests were not performed.

TEST	REQUIREMENTS	RESULTS
A - (2.1-A) Pre-load 50% of design pressure *ASTM E330-14* Date: December 4th, 2019	Design load: 25 psf	N/A
(2.2-A) Air infiltration test *ASTM E283-04 Reapproved 2012* *Flow meter: EQ-FM-14* Date: December 4th, 2019	Q_{inf}=0.04 cfm/ft^2 @ 6.24psf Q_{exf}= 0.04 cfm/ft^2 @ 6.24 psf	Q_{inf}= 0.000 cfm/ft^2 @ 6.24 psf Q_{exf}= 0.005 cfm/ft^2 @ 6.24 psf **PASSED**
(2.3-A) Water penetration test (static) *ASTM E331-00 Reapproved 2016* *Manometer : EQ-EM-42* Date: December 4th, 2019	No water leakage allowed under a pressure differential of 15.0 psf. Water leakage shall be defined as any uncontrolled water that appears on any normally exposed interior surfaces that is not contained or drained back to the exterior.	Water infiltration observed **FAILED**

Observation:

- Water leakage was observed through the four-way joint. **(See figure B4).**

Remediation:

- The four-way joint was resealed with Dow 995 sealant at the interior face **(See figure B5 and B6).**
- The upper panels were lowered by 1/4" to compress the horizontal expansion joint.
- Prior to pre-load test, additional support brackets were added to each panel's receiving connection at the horizontal joints and fastened to each existing support bracket **(See figure B7).**
- The upper panels were lowered by an additional 1/2" to further compress the horizontal expansion joint.

TEST	REQUIREMENTS	RESULTS
A - (2.1-B) Pre-load 50% of design pressure *ASTM E330-14* Date: December 5th, 2019	Design load: 25 psf	N/A
(2.2-B) Air infiltration test *ASTM E283-04 Reapproved 2012* *Flow meter: EQ-FM-14* Date: December 5th, 2019	Q_{inf}=0.04 cfm/ft^2 @ 6.24psf Q_{exf}= 0.04 cfm/ft^2 @ 6.24 psf	Q_{inf}= 0.001 cfm/ft^2 @ 6.24 psf Q_{exf}= 0.006 cfm/ft^2 @ 6.24 psf **PASSED**
(2.3-B) Water penetration test (static) *ASTM E331-00 Reapproved 2016* *Manometer : EQ-EM-42* Date: December 5th, 2019	No water leakage allowed under a pressure differential of 15.0 psf. Water leakage shall be defined as any uncontrolled water that appears on any normally exposed interior surfaces that is not contained or drained back to the exterior.	No water infiltration **PASSED***
(2.4) Water penetration test (dynamic) *AAMA 501.1-17* *Aircraft engine: EQ-WM-04* Date: December 5th, 2019	No water leakage allowed under a pressure differential equivalent to 15.0 psf. Water leakage shall be defined as any uncontrolled water that appears on any normally exposed interior surfaces that is not contained or drained back to the exterior.	No water infiltration **PASSED***

***Note**: During static and dynamic water penetration tests (Test procedures 2.3b and 2.4), water leakage was observed

- Along the left (from exterior) transition membrance sealed joint.
- Over the sill at the mid span of the full size panel. (See Figure B8 and B9).
- No water penetration was observed along the horizontal and vertical panel to panel joints.

Upon further investigation the observed water penetrations were deemed outside the scope of test area as determined by the client..

TEST	REQUIREMENTS	RESULTS
B - (2.5) Interstory horizontal movement (3 cycles) *AAMA 501.4-09* - 1.45'' to the left - Back to initial position - 1.45'' to the right - Back to initial position Date: December 5th, 2019	There shall be no failure or gross permanent distortion of anchors. Interior seal joints shall not experience adhesive or cohesive failure along the frame or panel edge.	See Appendix B for pictures **PASSED**
(2.6) Water penetration test (static) *ASTM E331-00 Reapproved 2016* *Manometer : EQ-EM-42* Date: December 5th, 2019	No water leakage allowed under a pressure differential of 15.0 psf. Water leakage shall be defined as any uncontrolled water that appears on any normally exposed interior surfaces that is not contained or drained back to the exterior.	No water infiltration **PASSED**
C - (2.7) Interstory horizontal In and Out movement (3 cycles) *AAMA 501.7-09* - 1.45'' inwards - Back to initial position - 1.45'' outwards - Back to initial position Date: December 5th, 2019	There shall be no failure or gross permanent distortion of anchors. Interior seal joints shall not experience adhesive or cohesive failure along the frame or panel edge.	See Appendix B for pictures **PASSED**
(2.8) Water penetration test (static) *ASTM E331-00 Reapproved 2016* *Manometer : EQ-EM-42* Date: December 5th, 2019	No water leakage allowed under a pressure differential of 15.0 psf. Water leakage shall be defined as any uncontrolled water that appears on any normally exposed interior surfaces that is not contained or drained back to the exterior.	No water infiltration **PASSED**

TEST	REQUIREMENTS	RESULTS
C - (2.9) Interstory vertical movement (3 cycles) *AAMA 501.7-09* - 0.75'' upward - Back to initial position - 0.75'' downward - Back to initial position Date: December 5th, 2019	There shall be no failure or gross permanent distortion of anchors, frame or panel. Structural silicone shall not experience adhesive or cohesive failure along any, frame or panel edge.	See Appendix B for pictures **PASSED**
(2.10) Air infiltration test *ASTM E283-04 Reapproved 2012* *Flow meter: EQ-FM-14* Date: December 5th, 2019	Q_{inf}=0.04 cfm/ft^2 @ 6.24psf Q_{exf}= 0.04 cfm/ft^2 @ 6.24 psf	Q_{inf}= 0.001 cfm/ft^2 @ 6.24 psf Q_{exf}= 0.008 cfm/ft^2 @ 6.24 psf **PASSED**
(2.11) Water penetration test (static) *ASTM E331-00 Reapproved 2016* *Manometer : EQ-EM-42* Date: December 5th, 2019	No water leakage allowed under a pressure differential of 15.0 psf. Water leakage shall be defined as any uncontrolled water that appears on any normally exposed interior surfaces that is not contained or drained back to the exterior.	No water infiltration **PASSED**

TEST	REQUIREMENTS	RESULTS
D - (2.12) Structural performance test at 100% design pressure (DP) *ASTM E330-14* *Data acquisition: EQ-DM-03* 50% DP: 25 psf 100% DP: 50 psf 50% DP: - 25 psf 100% DP: - 50 psf Date: December 5th, 2019	**Allowed deflections** • Panel center: L/360 • Steel stud members: L/360	See Appendix C for results **PASSED**
(2.13) Water penetration test (static) *ASTM E331-00 Reapproved 2016* *Manometer : EQ-EM-42* Date: December 5th, 2019	No water leakage allowed under a pressure differential of 15.0 psf. Water leakage shall be defined as any uncontrolled water that appears on any normally exposed interior surfaces that is not contained or drained back to the exterior.	No water infiltration **PASSED**
(2.14) Water penetration test with Sealant Defect (static) *ASTM E331-00 Reapproved 2016* *Manometer : EQ-EM-42* Date: December 5th, 2019	No water leakage allowed under a pressure differential of 15.0 psf. Water leakage shall be defined as any uncontrolled water that appears on any normally exposed interior surfaces that is not contained or drained back to the exterior.	See Appendix B for pictures No water infiltration **PASSED**
***Note**: Test procedures (2.14) water penetration test: At 32 inches above the horizontal joint two 1/8 inch shims were inserted into the vertical joint seal at 4.5 inches apart to simulate a defect in the outter weather seal.		

6. CONCLUSION

The performance mock-up for the *ISEAL EP SYSTEM MOCK-UP* project meets the performance requirements with the corrective measures presented in section 5 of this report.

The results presented in this report confirm only the performance of the mock-up wall system tested at our laboratory and as described in Section 5, per the *Invent to Build* drawings included in Appendix D. Results obtained are tested values and do not constitute an opinion or endorsement by this laboratory.

7. REVISION LOG

Rev. #	Date	Page(s)	Revision(s)

Note on the Limitation of Liability:
Due care was taken in performing the testing sequence and in reporting the results related to the test specimen received for evaluation. Through acceptance of this report, the Client agrees to exempt CLEB laboratory Inc. employees and owners from all liability claims and demands arising from any matter related to or concerning the quality and execution of the performance evaluation contained in this report.

APPENDIX A - PHOTOGRAPHS OF THE WALL ASSEMBLY

Photo A1: Steel structure prior to wall mock-up installation

Photo A2: Mock-up horizontal left/right and in/out movement beam

Photo A3: Mock-up vertical movement beam

Photo A4: Reception of test samples

Photo A5: “DriftTrack®” installation along horizontal members

Photo A6: “DriftTrack®” Installation with rivet nails at nominal 178mm (7”) C/C

Photo A7: First panel installed onto test chamber

Photo A8: “DriftTrack®” support plate

Photo A9: Panel assembly secured with 6 #14 x 1-1/4” self taping screws per each support plate

Photo A10: Pre-installed panel to panel gasket sealed with Dow 795 sealant detail

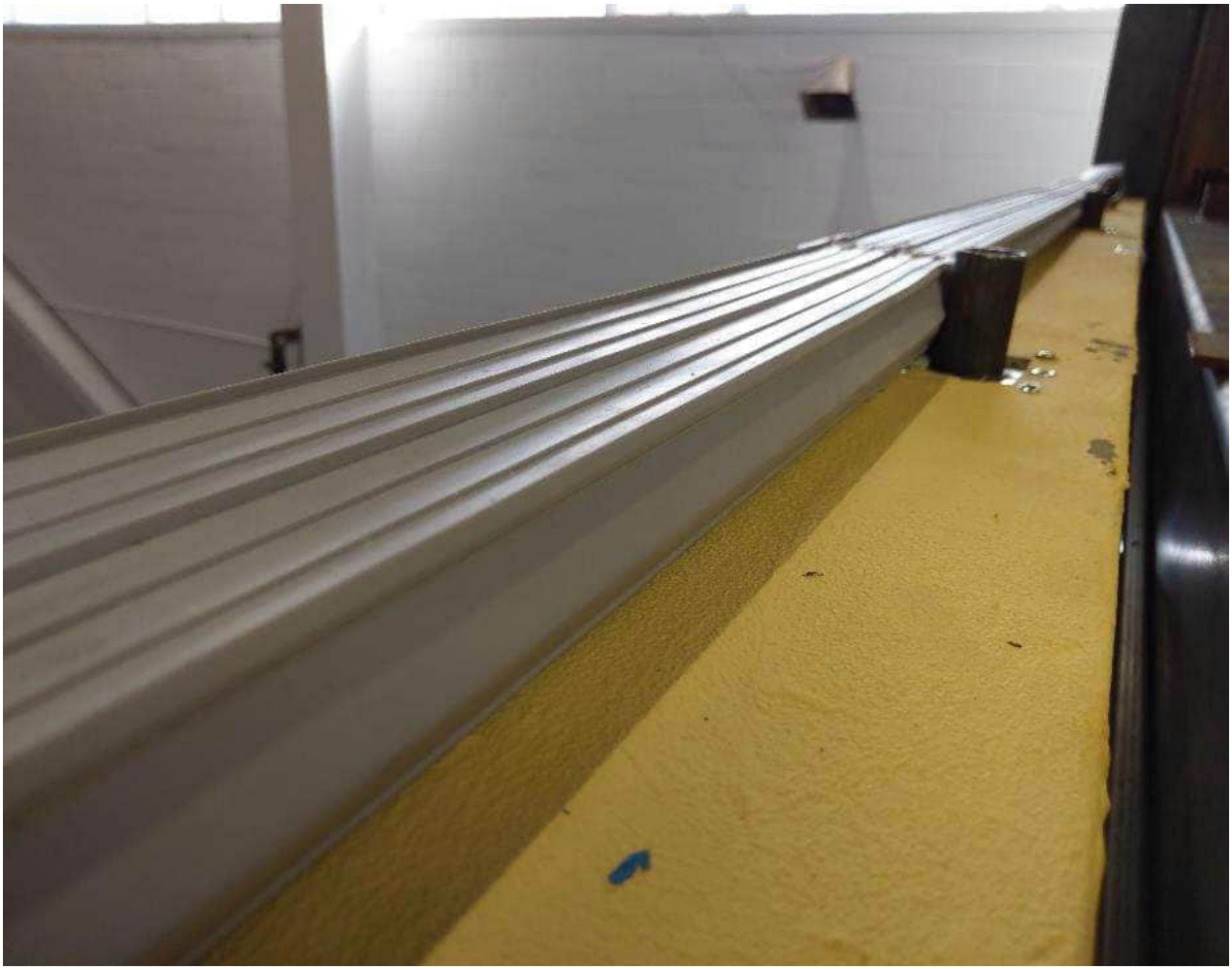


Photo A11: Pre-installed horizontal panel to panel gasket

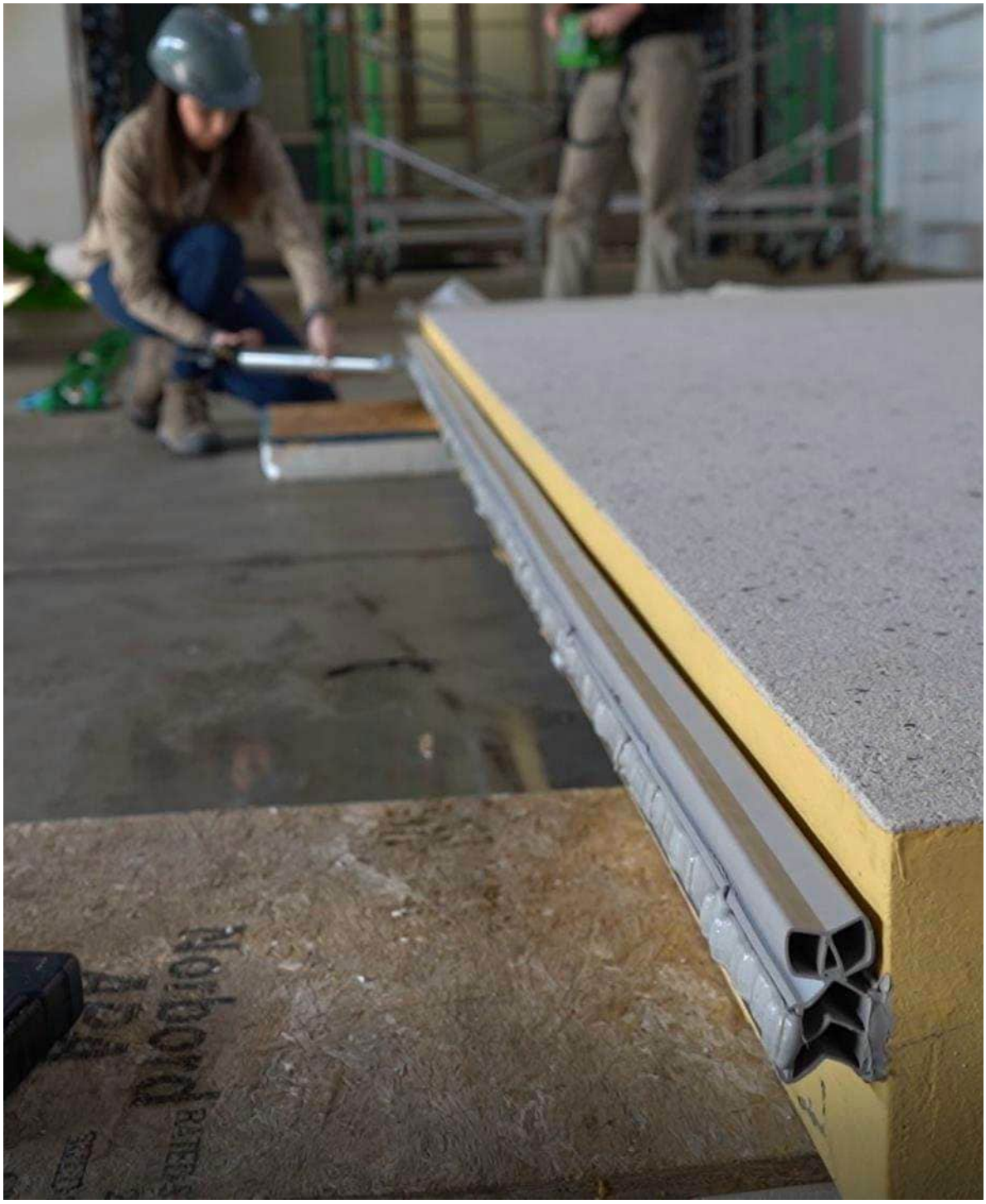


Photo A12: Pre-installed vertical panel to panel gasket sealed with additional Dow 795 sealant application on open side prior to installation

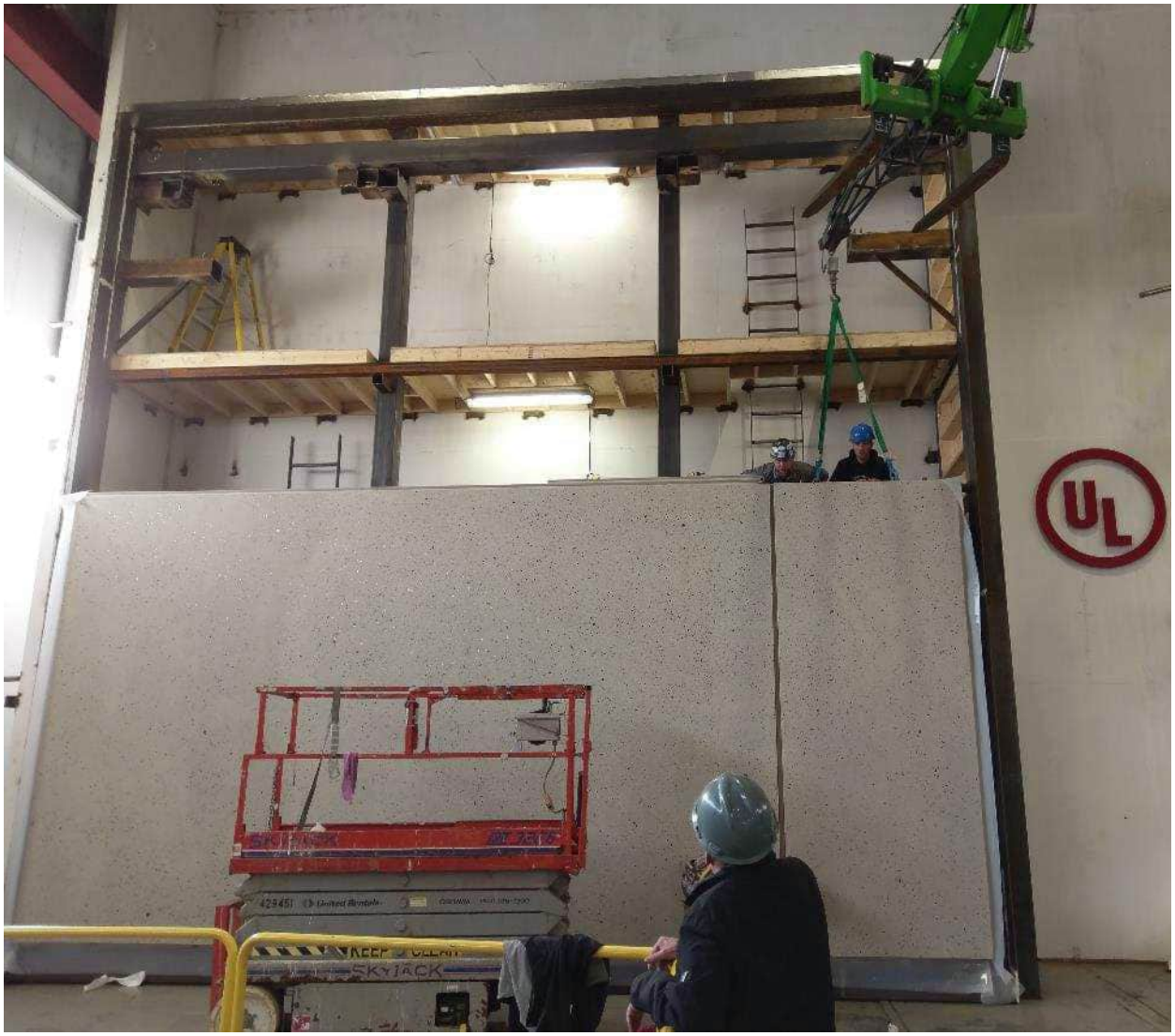


Photo A13: First row of panels installed as shown from exterior side

Photo A14: First row of panels as shown from interior side

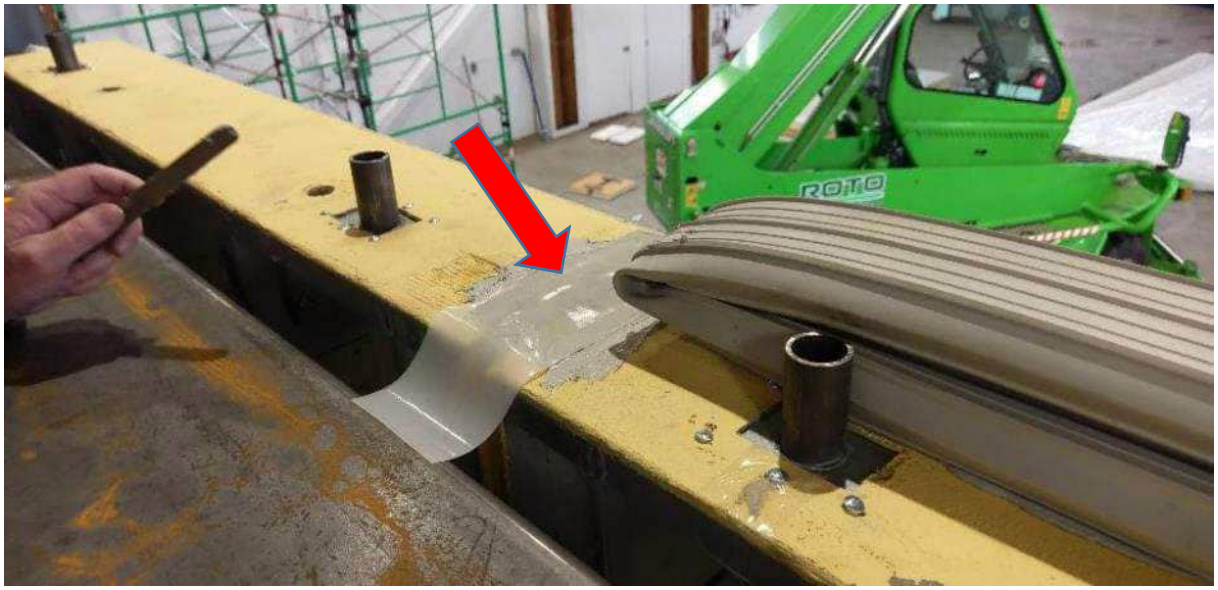


Photo A15: Four-way joint treatment with Dow 123 membrane buttered in place with Dow 795 sealant

Photo A16: Sealant application at the horizontal panel to panel gasket

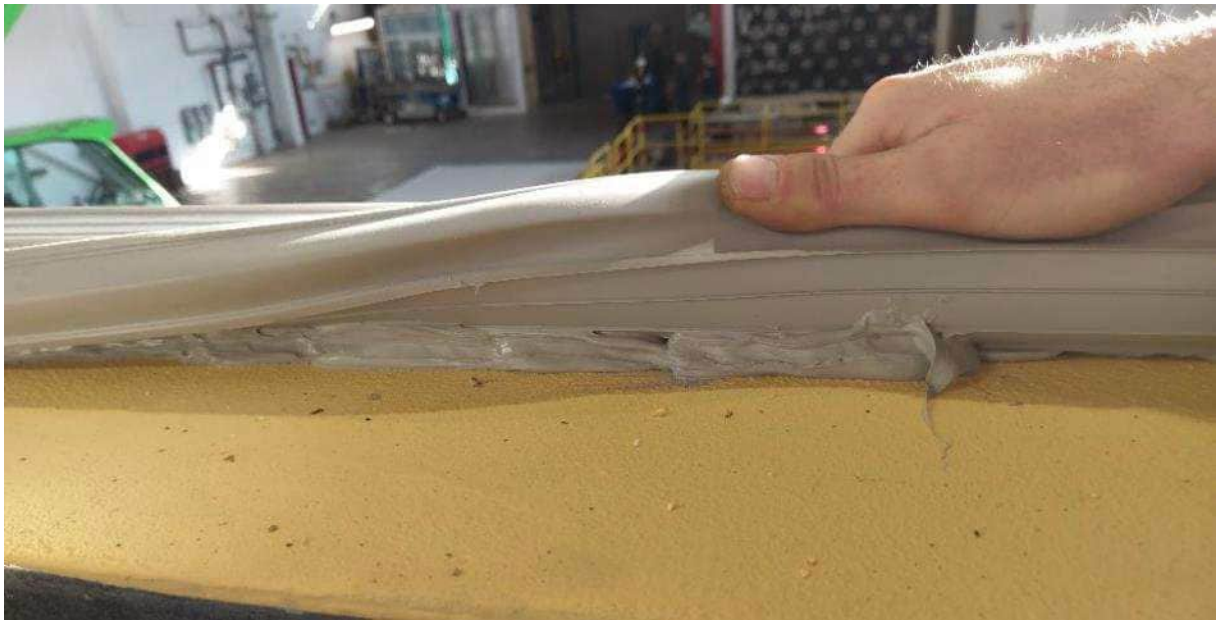


Photo A17: Additional Dow 795 sealant applied beneath the horizontal panel to panel joint gasket

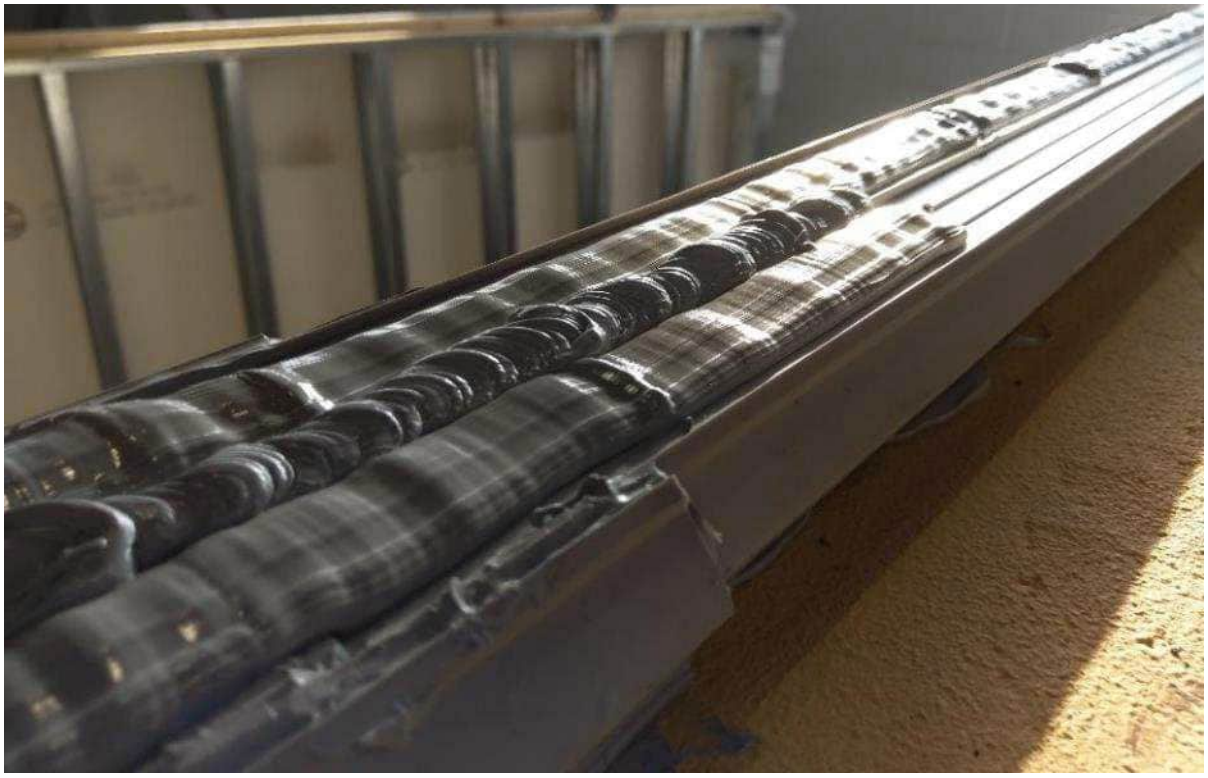


Photo A18: Dow 795 sealant application on top the horizontal panel to panel joint gasket prior to installation of the next panel above

Photo A19: Guide pin installation at the horizontal panel to panel joint

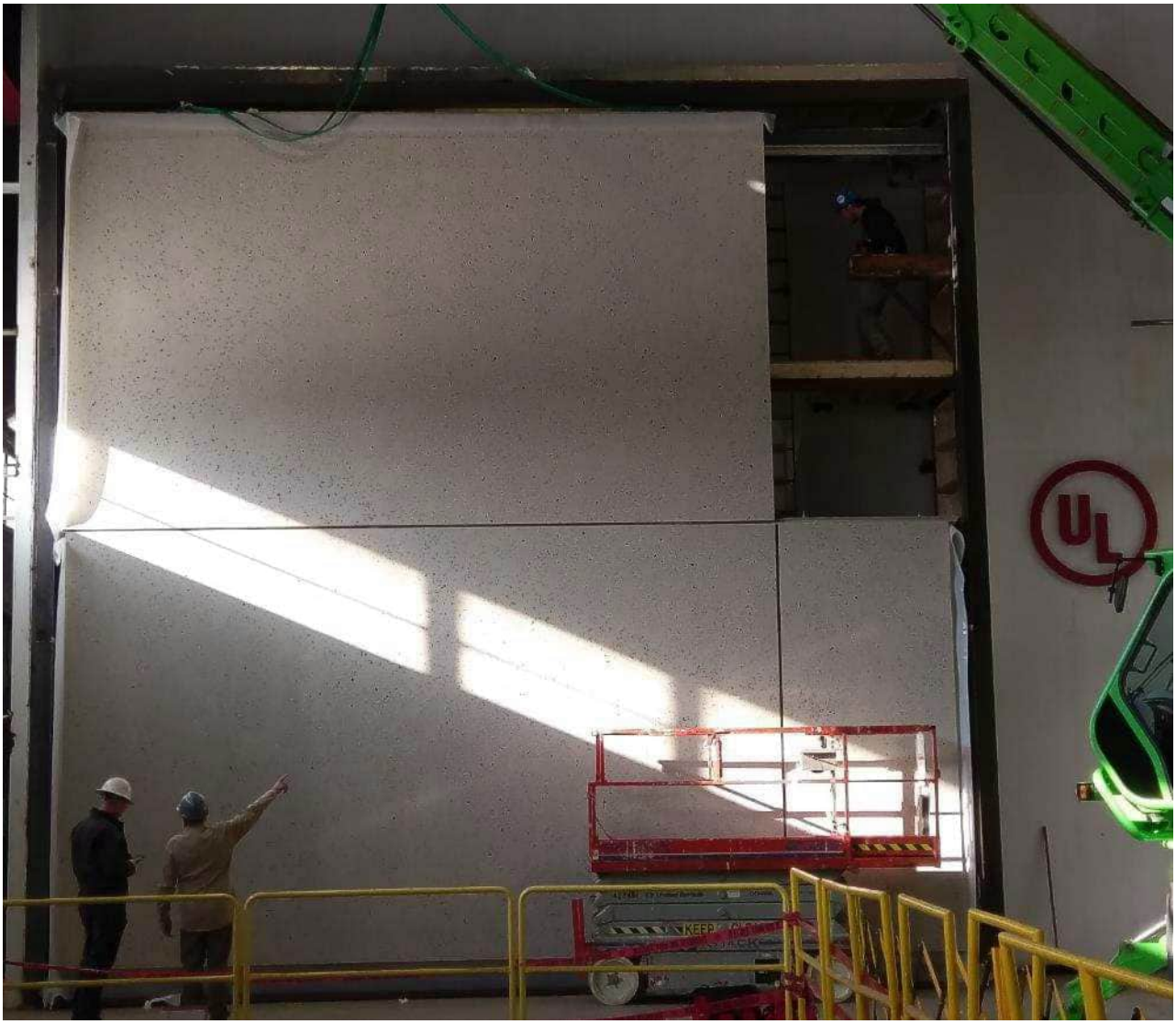


Photo A20: Second row of panel installed

Photo A21: Final panel installation sealant application at vertical panel to panel joint

Photo A22: Completion mock-up wall installation

APPENDIX B - PHOTOGRAPHS OF TESTING

Photo B1: Application of plastic film for the chamber tare (Extraneous Air Leakage)

Photo B2: Air infiltration/exfiltration testing equipment

Photo B3: Static water penetration test set-up

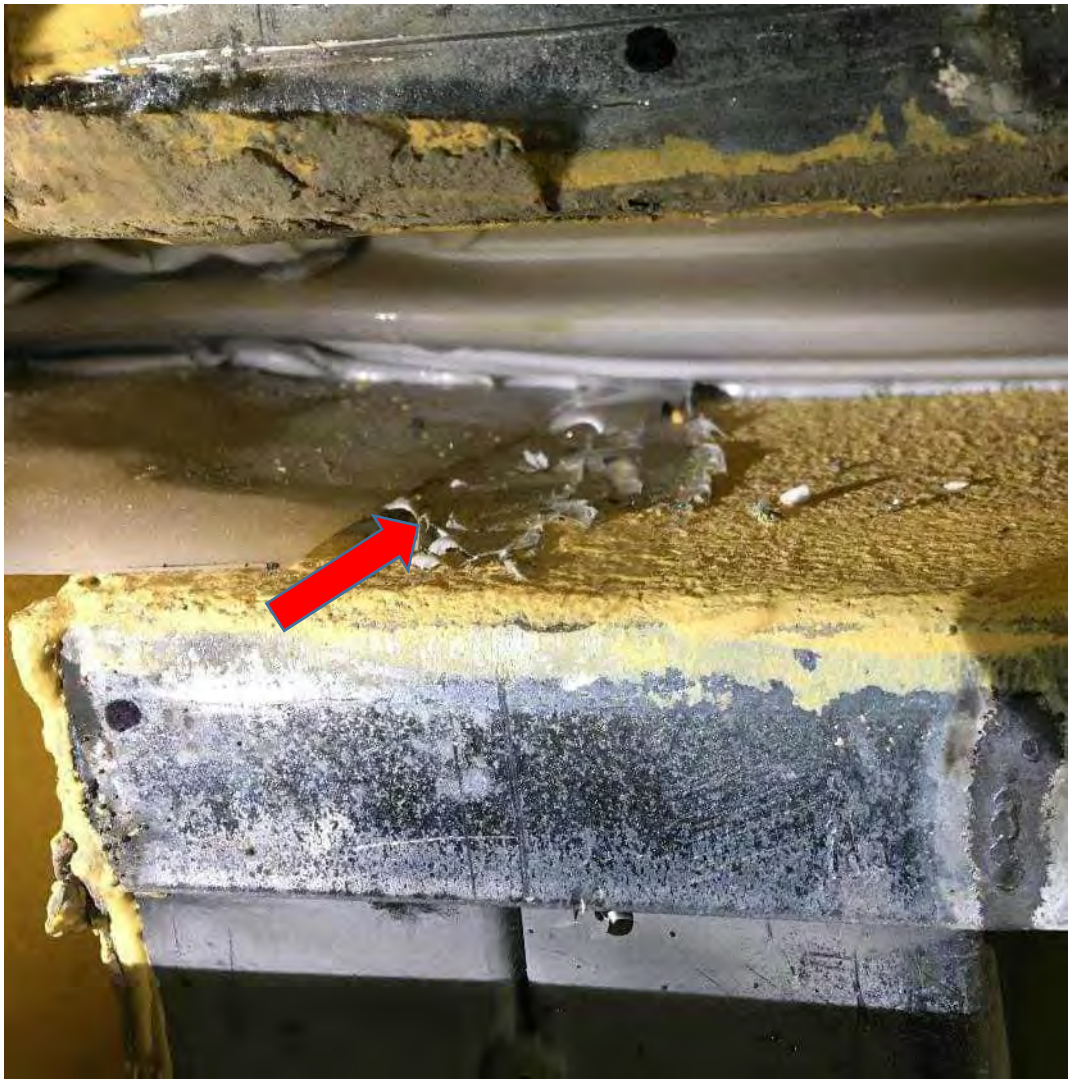


Photo B4: Water penetration through four-way joint during static water penetration test (Test procedure 2.3a).

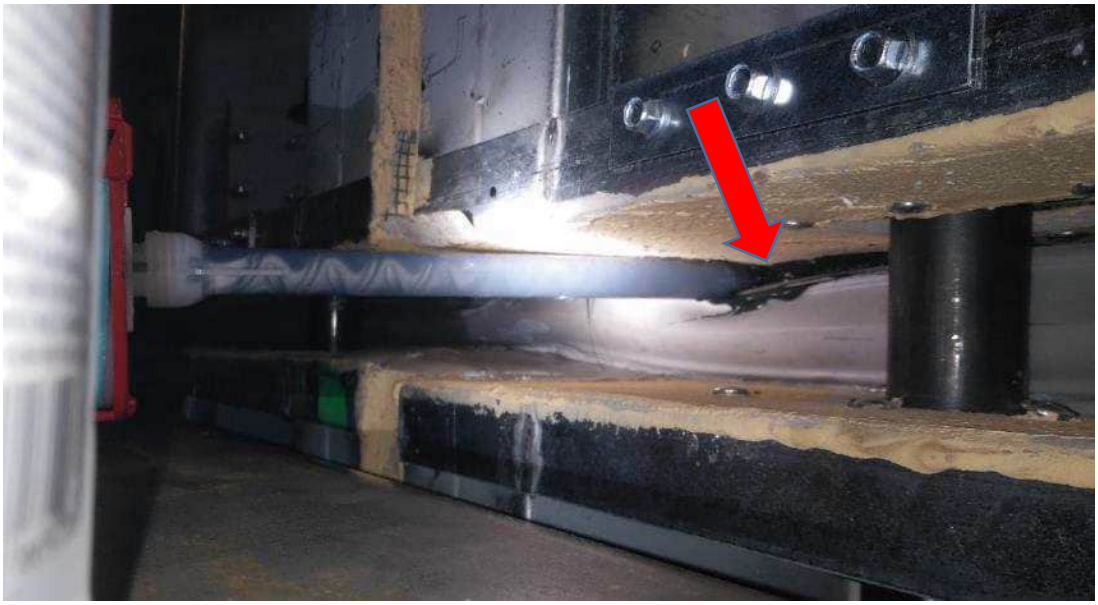


Photo B5: Remediation: Four-way joint was resealed with Dow 995 sealant from the interior side "Prior to section 2.1B, Preload"

Photo B6: Remediation: Four-way joint was resealed with Dow 995 sealant from the interior side "Prior to section 2.1B, Preload"

Photo B7: Remediation: Additional safety support brackets for each panel to panel sliding pin connection at the horizontal panel to panel joint. Fastened at each existing support bracket.

Photo B8: Water Leakage along the left (from exterior) transition membrance sealed joint.

Photo B9: Water penetration over the sill at the mid span of the lower full size panel.

Photo B10: Dynamic water penetration test set-up

Photo B11: Interstory horizontal (left/right) movement equipment set-up

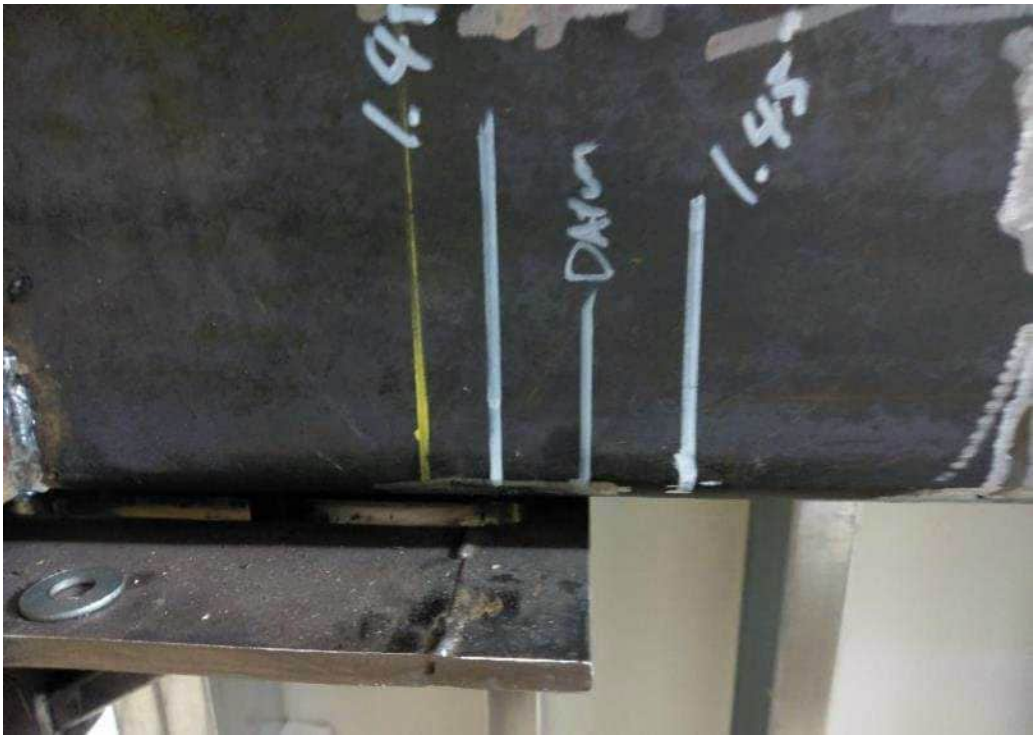


Photo B12: Interstory horizontal (left/right) movement test reference datum

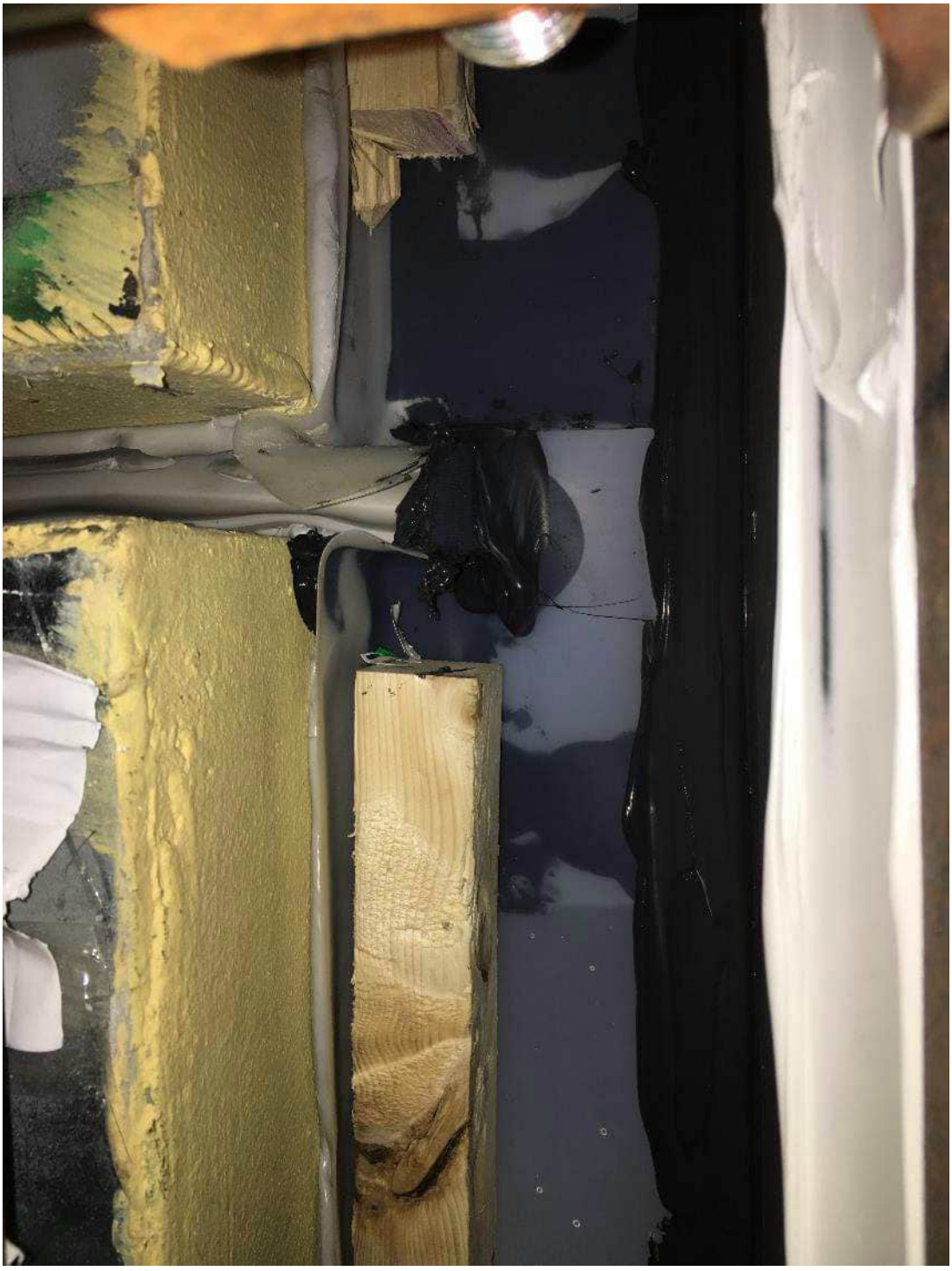


Photo B13: Interstory horizontal (left/right) movement test, 1.45” to the right.

Photo B14: Interstory Horizontal (in/out) movement equipment set-up

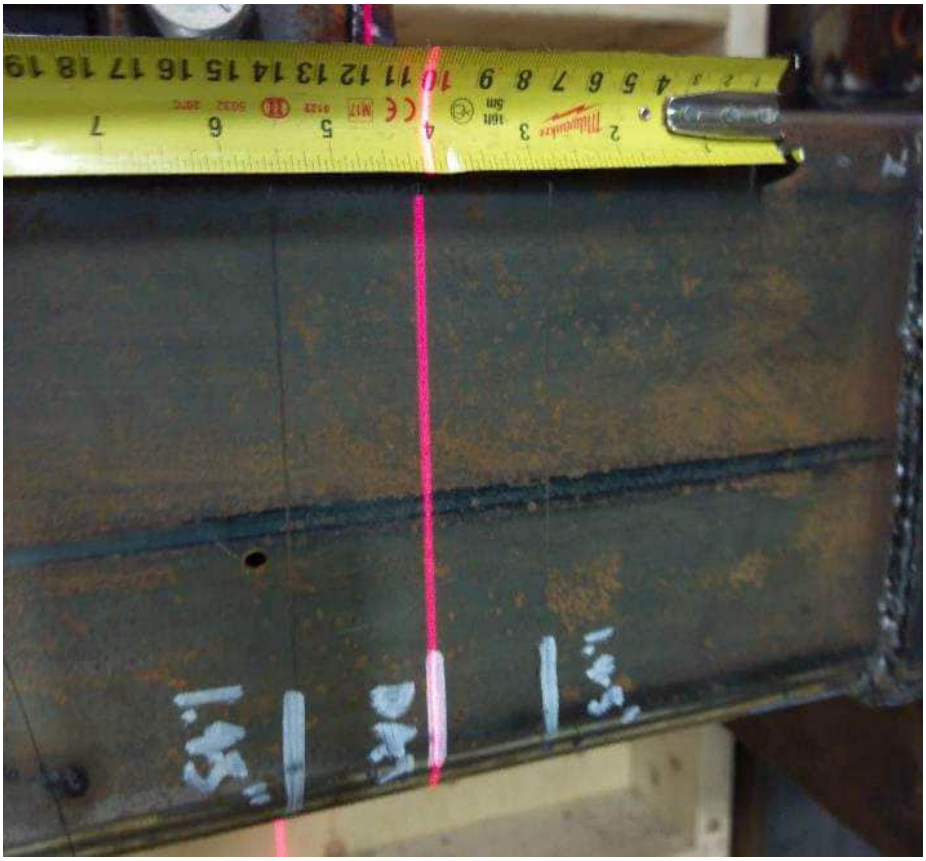


Photo B15: Interstory horizontal (in/out) movement test reference datum

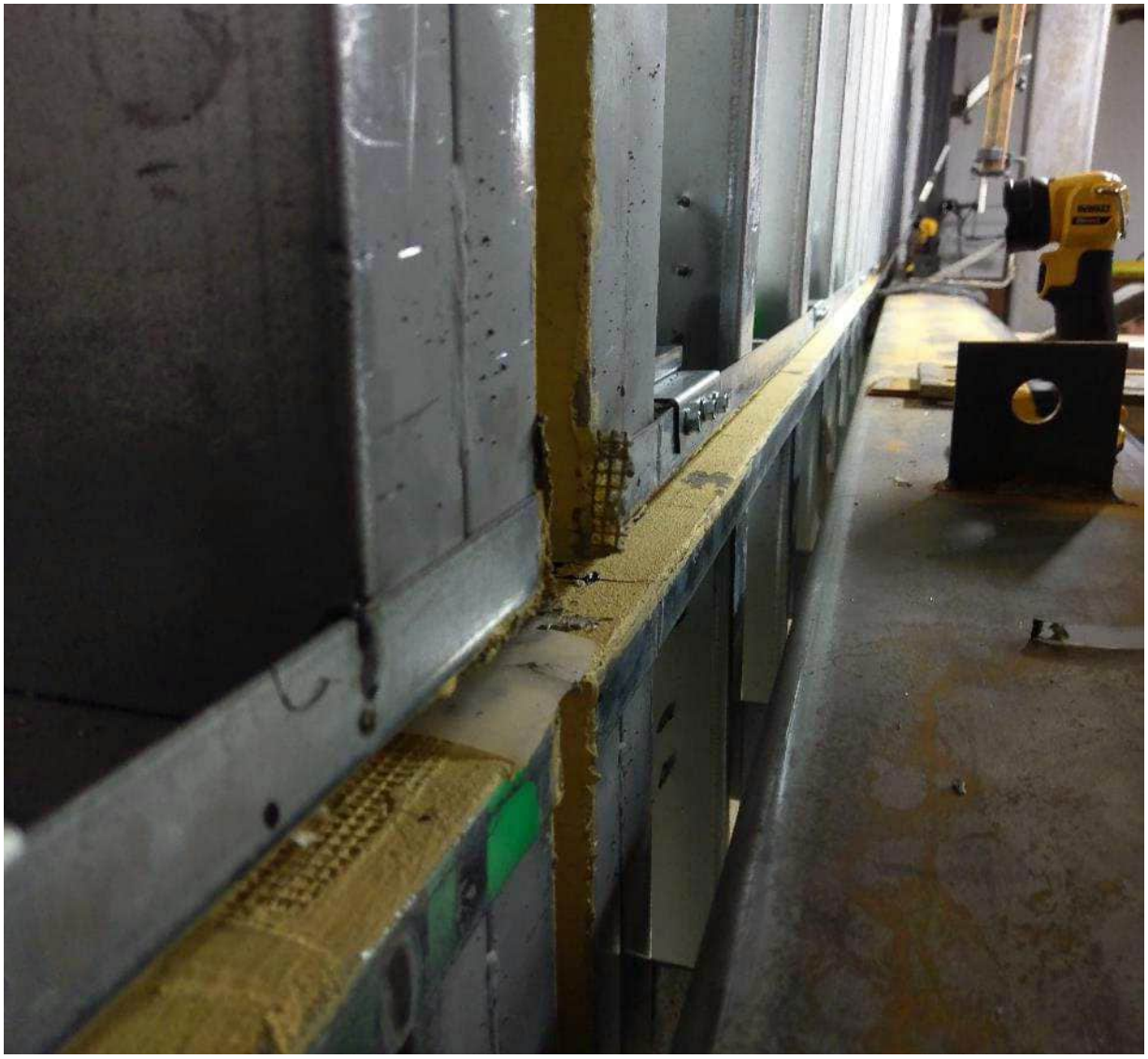


Photo B16: Interstory horizontal (in/out) movement test, 1.45” outwards

Photo B17: Interstory Vertical (up/down) movement equipment set-up reference datum

Photo B18: Interstory vertical (up/down) movement test, 0.75” upwards

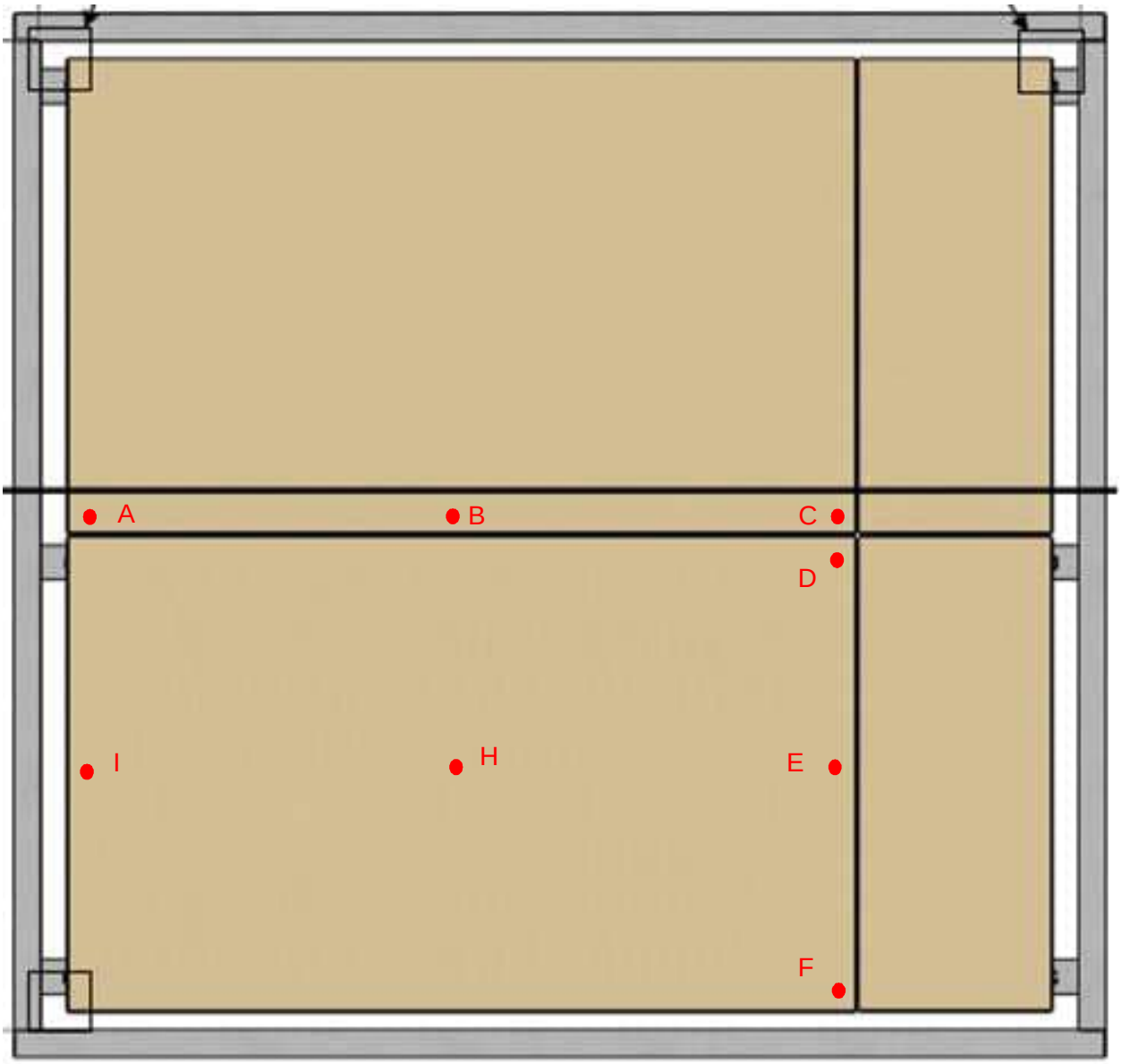
Photo B19: Interstory vertical (up/down) movement test, 0.75” downwards

Photo B20: Linear displacement transducer location for structural testing

Photo B21: At 32 inches above the horizontal expansion joint two 1/8 inch shims were inserted into the vertical extpansion joint seal at 4.5 inches apart to simulate a defective seal
"Prior to section 2.14 Water Penetration Test "

APPENDIX C - STRUCTURAL TESTING RESULTS

LOCATION OF DIAL GAGES



Deflection gauge locations:

- A-B-C : Horizontal joint (Sill of top panel)
- D-E-F : Vertical joint (Jamb of bottom panel)
- E-H-I : Horizontal of middle panel (Mid span of bottom panel)

STRUCTURAL TESTING RESULTS AT 100% OF DESIGN LOAD

Table C 1: Horizontal joint (Sill of top panel)

Pressure (Psf)	Displacement (in)			Deflection (in)	Allowed deflection (in)		Span (in)
	A	B	C				
50	0.440	0.243	0.273	0.113	L/ 360	0.79	283.000
50	0.399	0.285	0.267	0.048			

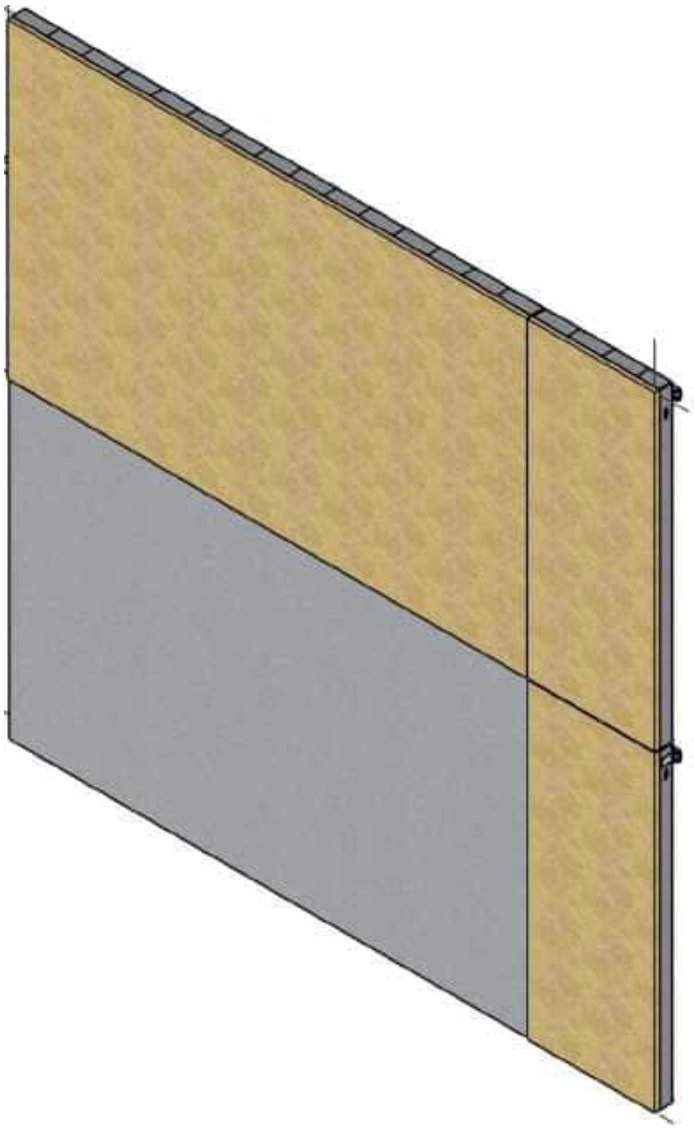
Table C 2: Vertical joint (Jamb of bottom panel)

Pressure (Psf)	Displacement (in)			Deflection (in)	Allowed deflection (in)		Span (in)
	D	E	F				
50	0.103	0.065	0.044	0.009	L/ 360	0.31	112.000
50	0.051	0.183	0.005	0.155			

Table C 3: Horizontal of middle panel (Mid span of bottom panel)

Pressure (Psf)	Displacement (in)			Deflection (in)	Allowed deflection (in)		Span (in)
	E	H	I				
50	0.065	0.146	0.107	0.060	L/ 360	0.79	283.000
50	0.183	0.074	0.073	0.054			

APPENDIX D – TESTING PROCEDURE



LABORATORY PMU TEST PROCEDURE FOR THE MOCK-UP WALL SYSTEM

ISEAL MOCK-UP

Submitted to:
MR. MIKE STRICKLAND
Invent to Build

File:
AC-00300-A

Prepared by:

Electronically signed by:
Haya Soghrati, B.Arch. Sc.
Manager
Toronto Laboratory Testing Services
CLEB laboratory Inc.

Approved by:

Electronically signed by:
Dominic Massie, P. Eng.
Manager
Laboratory Mock-up Testing
CLEB laboratory Inc.

Toronto, Date: November 4, 2019
Revision 2 Date: December 5, 2019

LABORATORY TESTING PROCEDURE FOR THE MOCK-UP WALL SYSTEM

1. SCOPE OF TEST

The following document covers the testing procedure for the laboratory evaluation of wall system for the *ISEAL* project. The schedule proposed is based on a non-failure of the system.

2. TESTING PROCEDURE

Based on the architectural specifications of the *ISEAL* project**:**

2.1. **Preloading** according to ASTM E330 at 50% of pressure design load: 25 psf (1200 Pa) for positive and negative wind load.

2.2. **Test for air infiltration only (static pressure)**, under 6.24 psf (300 Pa), in accordance with ASTM E283 (including chamber calibration). The maximum allowable air infiltration is 0.04 cfm/ft^2 (0.2 L/s.m^2).

2.3. **Test for water penetration (static pressure)** in accordance with ASTM E331, maintaining test pressure for 15 minutes, under 15.0 psf (720 Pa) with a water rate of 5 gal/ft^2*h. No water leakage permitted on interior face of wall or trim. (Water infiltration is defined by water that is found on an inner surface of the prototype that is not contained or drained to the exterior).

2.4. **Test for water penetration (dynamic pressure)** in accordance with AAMA Standard 501.1. Maintaining for 15 minutes the pressure under equivalent to 15.0 psf (720 Pa) with a water rate of 5 gal/ft^2*h. No water leakage permitted on interior face of wall or trim. (Water infiltration is defined by water that is found on an inner surface of the prototype that is not contained or drained to the exterior).

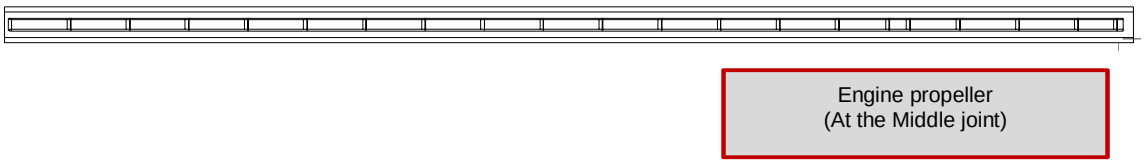


Figure 1: Proposed location of motor for dynamic water penetration (top view).

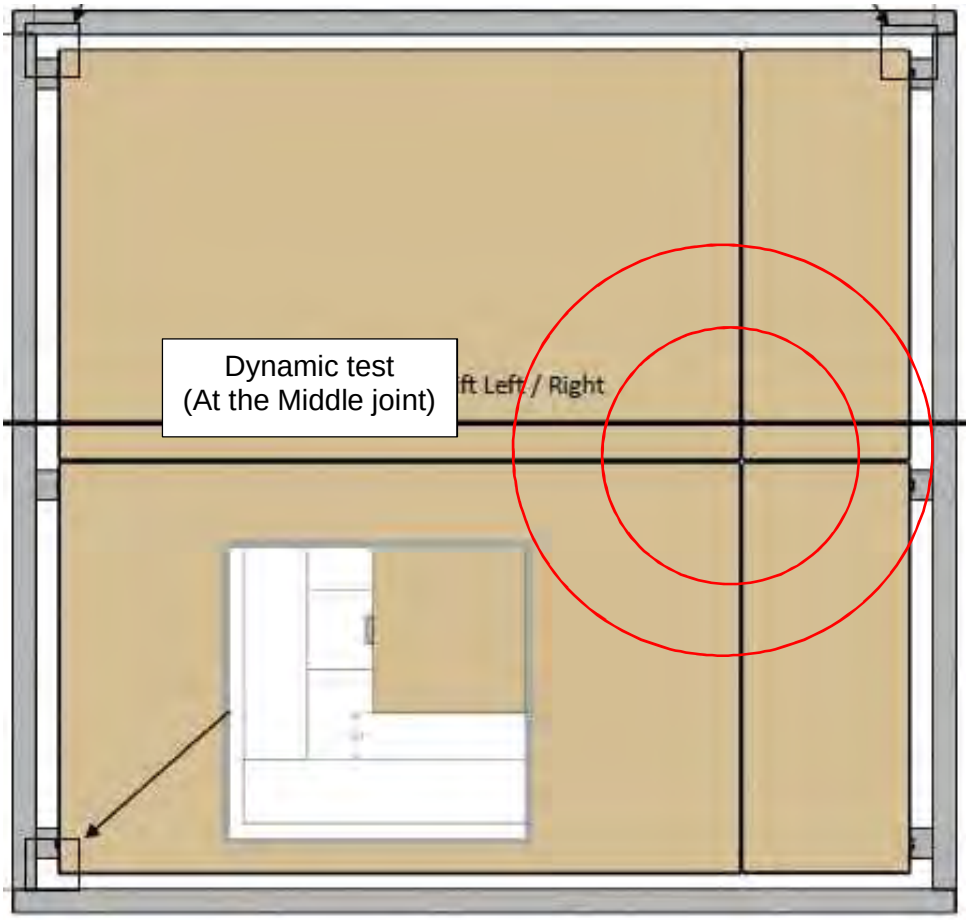


Figure 2: Proposed location of motors for dynamic water penetration (elevation view).

2.5. **Interstory horizontal left and right movement** as per AAMA 501.4. The structure simulating the entire level floor will be moved as the following sequence, (**only the middle beam will be moved**):

a) 1% of panel height (1.45 inch) to the left
b) Back to initial position
c) 1% of panel height (1.45 inch) to the left
d) Back to initial position

The above sequence will be repeated 3 times. Visual inspection of the specimen will be made at each displacement. There shall be no failure or gross permanent distortion of anchors, Interior Seal joints shall not experience adhesive or cohesive failure along the frame or panel edge.

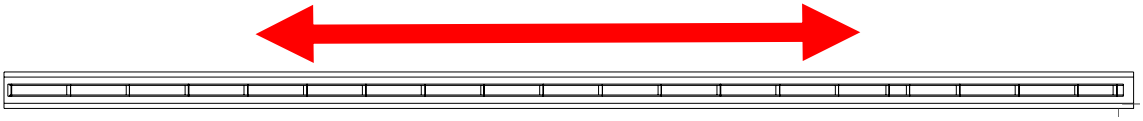


Figure 3: Direction of horizontal left & right movement (top view).

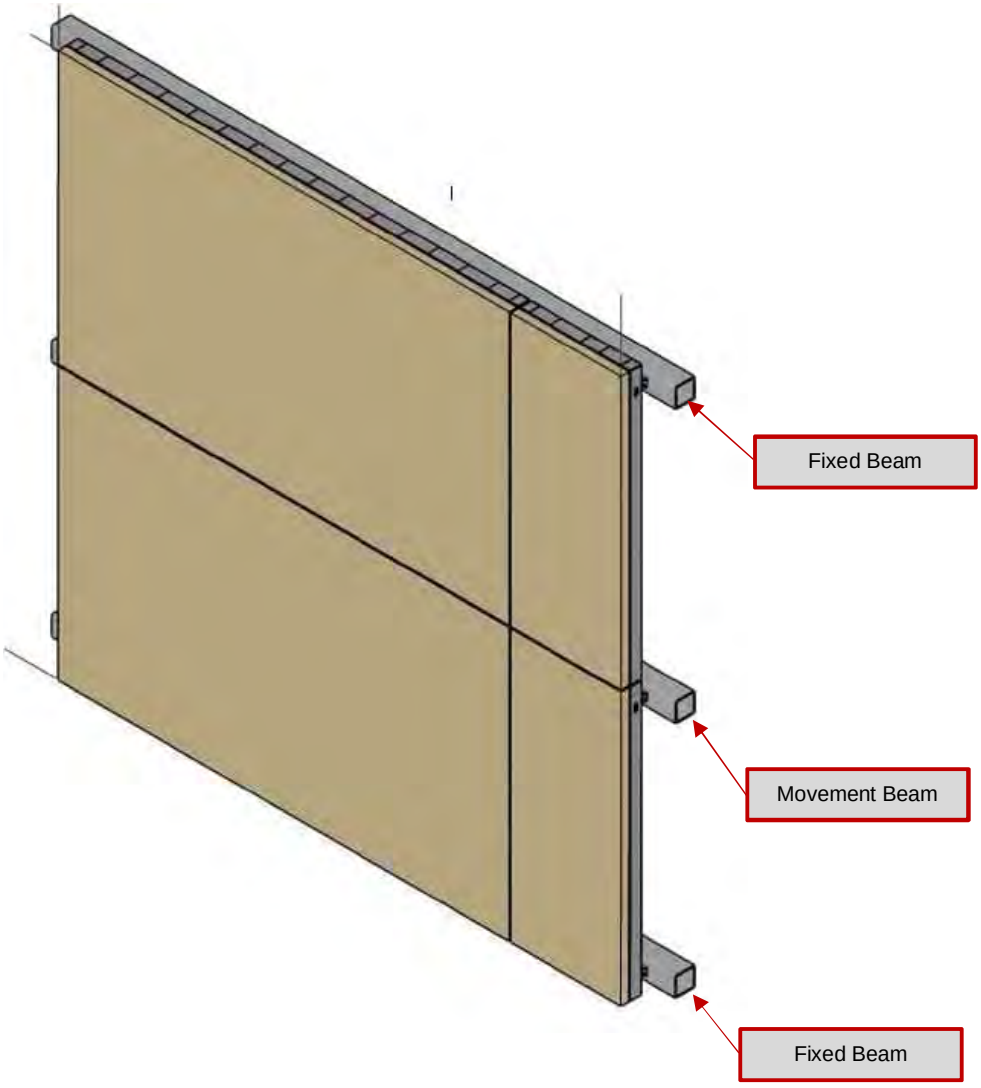


Figure 4: Location of horizontal left & right movement (elevation view).

2.6. **Test for water penetration (static pressure)** in accordance with ASTM E331, maintaining test pressure for 15 minutes, under 15.0 psf (720 Pa) with a water rate of 5 gal/ft^2*h. No water leakage permitted on interior face of wall. (Water infiltration is defined by water that is found on an inner surface of the prototype that is not contained or drained to the exterior).

2.7. **Interstory horizontal in and out movement** as per AAMA 501.4. The structure simulating the entire level floor will be moved as the following sequence:

a) 1% of panel height (1.45 inch) inward
b) Back to initial position
c) 1% of panel height (1.45 inch) outward
d) Back to initial position

The above sequence will be repeated 3 times. Visual inspection of the specimen will be made at each displacement. There shall be no failure or gross permanent distortion of anchors, Interior Seal joints shall not experience adhesive or cohesive failure along the frame or panel edge.

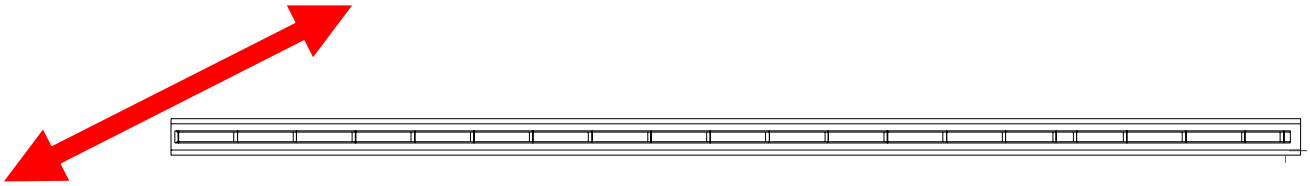


Figure 5: Direction of horizontal in & out movement (top view).

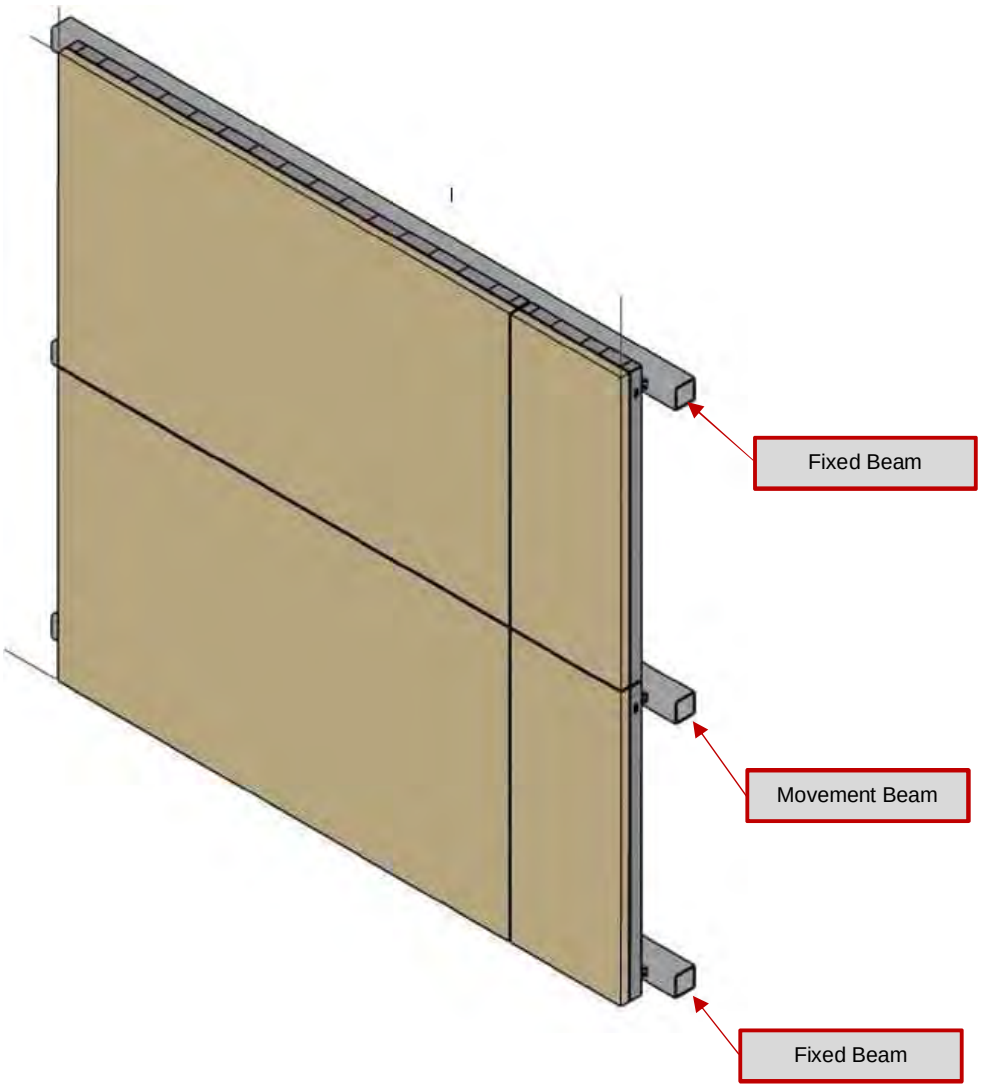


Figure 6: Location of horizontal in & out movement (elevation view).

2.8. **Test for water penetration (static pressure)** in accordance with ASTM E331, maintaining test pressure for 15 minutes, under 15.0 psf (720 Pa) with a water rate of 5 gal/ft^2*h. No water leakage permitted on interior face of wall. (Water infiltration is defined by water that is found on an inner surface of the prototype that is not contained or drained to the exterior).

2.9. **Interstory vertical up and down movement** as per AAMA 501.7. The structure simulating the entire level floor will be moved as the following sequence:

a) 0.75 inch up
b) Back to initial position
c) 0.75 inch down
d) Back to initial position

The above sequence will be repeated 3 times. Visual inspection of the specimen will be made at each displacement. There shall be no failure or gross permanent distortion of anchors, frame, glass or panel. Structural silicone shall not experience adhesive or cohesive failure along any glass, frame or panel edge.

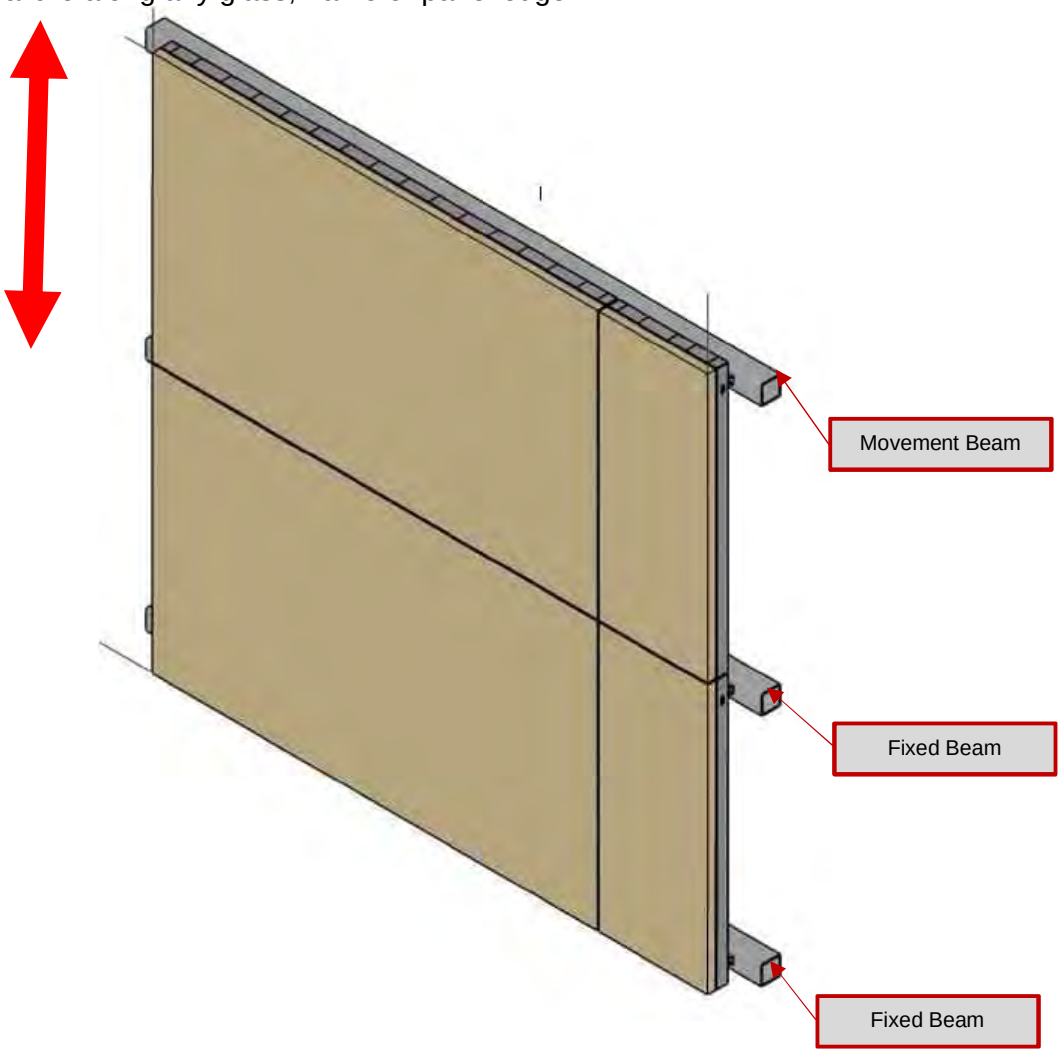


Figure 7: Location and direction of vertical up and down movement (elevation view).

2.10. Test for air infiltration only (static pressure), under 6.24 psf (300 Pa), in accordance with ASTM E283 (including chamber calibration). The maximum allowable air infiltration is 0.04 cfm/ft^2 (0.2 L/s.m^2).

2.11. Test for water penetration (static pressure) in accordance with ASTM E331, maintaining test pressure for 15 minutes, under 15.0 psf (720 Pa) with a water rate of 5 gal/ft^2*h. No water leakage permitted on interior face of wall or trim. (Water infiltration is defined by water that is found on an inner surface of the prototype that is not contained or drained to the exterior).

2.12. Test for structural performance in accordance with ASTM E330. Structural performance at 100% of pressure design load in positive and in negative wind load. The uniform load will be maintained for 10 seconds.

- Positive wind load of 50% of the design load, 25.0 psf (1,200 Pa), 10 sec (preload)
- Positive wind load of 100% of the design load, 50.0 psf (2,400 Pa), 10 sec
- Negative wind load of 50% of the design load, -25.0 psf (-1,200 Pa), 10 sec (preload)
- Negative wind load of 100% of the design load, -50.0 psf (-2,400 Pa), 10 sec

Allowed deflections:

- Aluminum members: L/360
- Panel center: L/360

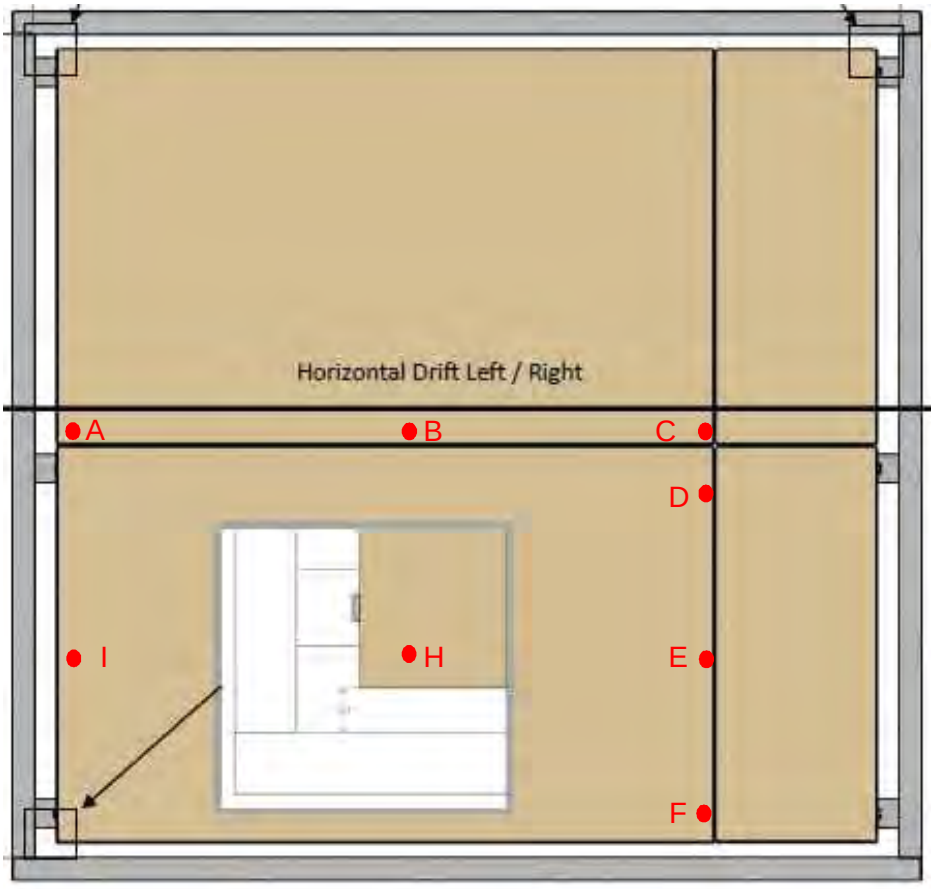


Figure 8: Proposed dial gauges location for structural testing

2.13. Test for water penetration (static pressure) in accordance with ASTM E331, maintaining test pressure for 15 minutes, under 15.0 psf (720 Pa) with a water rate of 5 gal/ft^2*h. No water leakage permitted on interior face of wall or trim. (Water infiltration is defined by water that is found on an inner surface of the prototype that is not contained or drained to the exterior).

2.14. Test for water penetration with Sealant Defect (static pressure) in accordance with ASTM E331, maintaining test pressure for 15 minutes, under 15.0 psf (720 Pa) with a water rate of 5 gal/ft^2*h. No water leakage permitted on interior face of wall or trim. (Water infiltration is defined by water that is found on an inner surface of the prototype that is not contained or drained to the exterior).

Client to introduce 6 in opening(s) in exterior weather seal to test drainage and interior seal.

2.15. Test for structural performance in accordance with ASTM E330. Structural performance at 150% of pressure design load in positive and in negative wind load. The uniform load will be maintained for 10 seconds.

- Positive wind load of 75% of the design load, 37.50 psf (1,796 Pa), 10sec (preload)
- Positive wind load of 150% of the design load, 75.0 psf (3,600 Pa), 10sec
- Negative wind load of 75% of the design load, -37.50 psf (-1,796 Pa), 10sec (preload)
- Negative wind load of 150% of the design load, -75.0 psf (-3,600 Pa), 10sec

Permanent deformations will be recorded 1 minute after both positive and negative loading. No fastener failures, component disengagement or breakage.
The permanent set shall not exceed:

- Aluminum members: L/1000
- Panel center: L/1000

2.16. Interstory inelastic horizontal left and right movement as per AAMA 501.4. The structure simulating the entire level floor will be moved as the following sequence:

a) 2.5% of panel height (3.6 inch) to the left
b) Back to initial position
c) 2.5% of panel height (3.6 inch) to the left
d) Back to initial position

The above sequence will be repeated 3 times. Visual inspection of the specimen will be made at each displacement. At the conclusion of the test, deformation of framing components may occur, however, no component should dislodge and fall from the building.

2.17. Interstory inelastic horizontal in and out movement as per AAMA 501.4. The structure simulating the entire level floor will be moved as the following sequence:

a) 2.5% of panel height (3.6 inch) inward
b) Back to initial position
c) 2.5% of panel height (3.6 inch) outward
d) Back to initial position

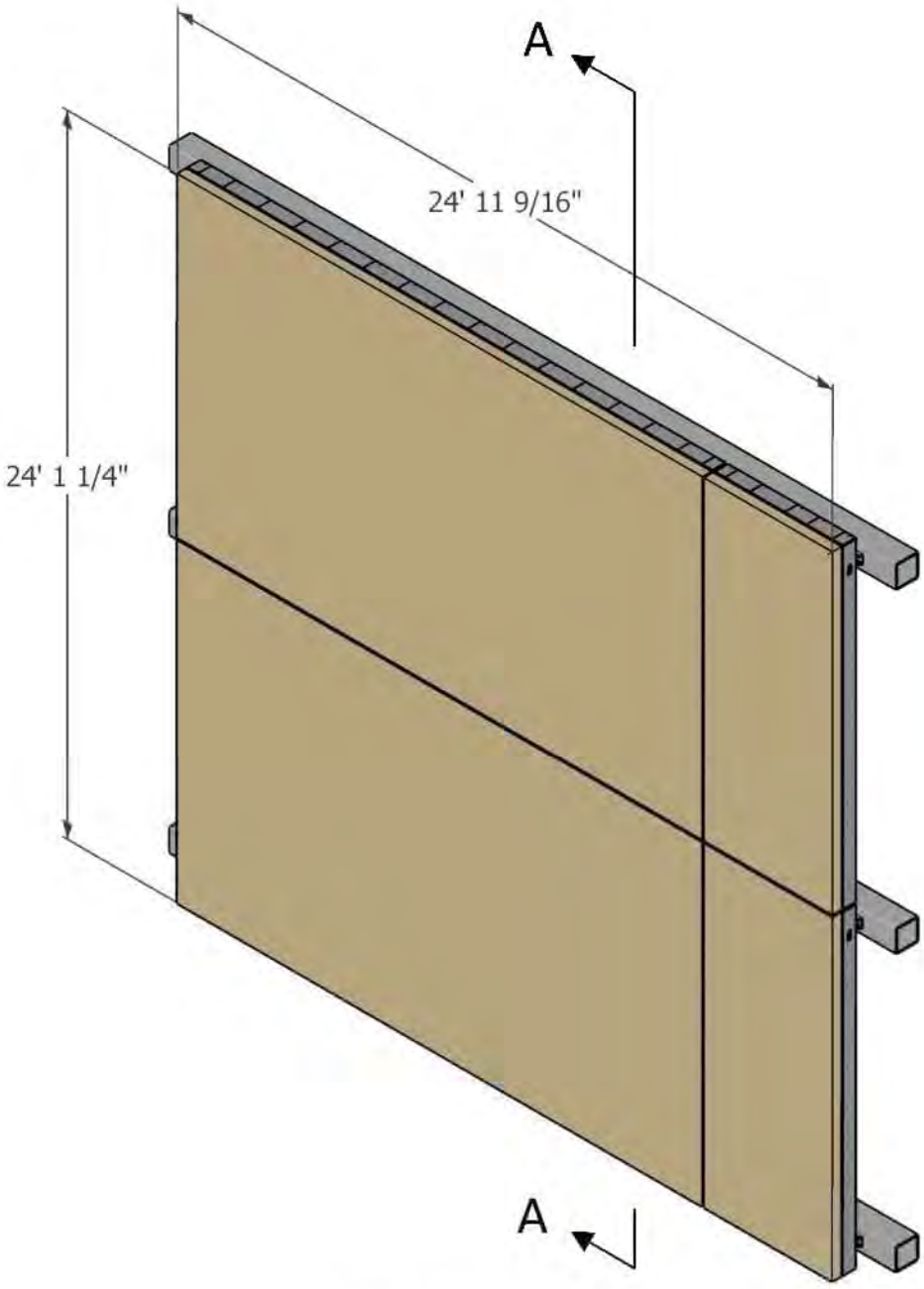
The above sequence will be repeated 3 times. Visual inspection of the specimen will be made at each displacement. There shall be no failure or gross permanent distortion of anchors, Interior Seal joints shall not experience adhesive or cohesive failure along the frame or panel edge.

Safety rules

******Safety glasses and hard hat should be worn at all times in the laboratory / It is strictly forbidden to smoke on UL CLEB property.******

1. Air infiltration/exfiltration test. *Unless authorized by UL CLEB crew member, nobody is allowed to stay in the chamber while pressurized for testing* ***2. Static water penetration test.*** *Chamber door must be closed for the entire duration of the test (usually 15 minutes). People are allowed in the chamber, but nobody will be allowed to get out unless in case of an emergency.* ***3. Dynamic water penetration test.*** *Dynamic water test is done with a plane engine, therefore, it is dangerous to circulate around it. For this reason, we ask everyone to respect the security perimeter in place. Chamber door must be closed (but not locked) for the heating of the engine, for the entire duration of the test (usually 15 minutes) and until propeller has completely stopped. People are allowed in the chamber, but nobody will be allowed to get out unless in case of an emergency. If this were to happen, UL CLEB crew will be in charge of evacuation. Keep safety glasses at all times. Earplugs are recommended, don't hesitate to request a pair.* ***4. Test for structural performance****. Nobody is allowed inside the chamber during the test. No circulation in front of the mock-up or too close of the perimeter is allowed. Always wear safety glasses.* ***5. Thermal cycling and condensation resistance test.*** *Unless authorized by a UL CLEB crew member, nobody is allowed to stay in the chamber during thermal cycling. Wear a gas detector at all times when in the chamber.* ***6. Horizontal, vertical or out of plane movement.*** *UL CLEB crew will only allow a very small group of people to stay in the chamber during the test. Never stand under the moving beam in case a piece falls. UL CLEB crew only will be allowed to control the hydraulic pumps.* ***7. Intermittent stabilization anchor pull test.*** *Unless authorized by a UL CLEB crew member, they are the only ones allowed to control the crank. Always stay at a safe distance of the cable in case of breakage.*

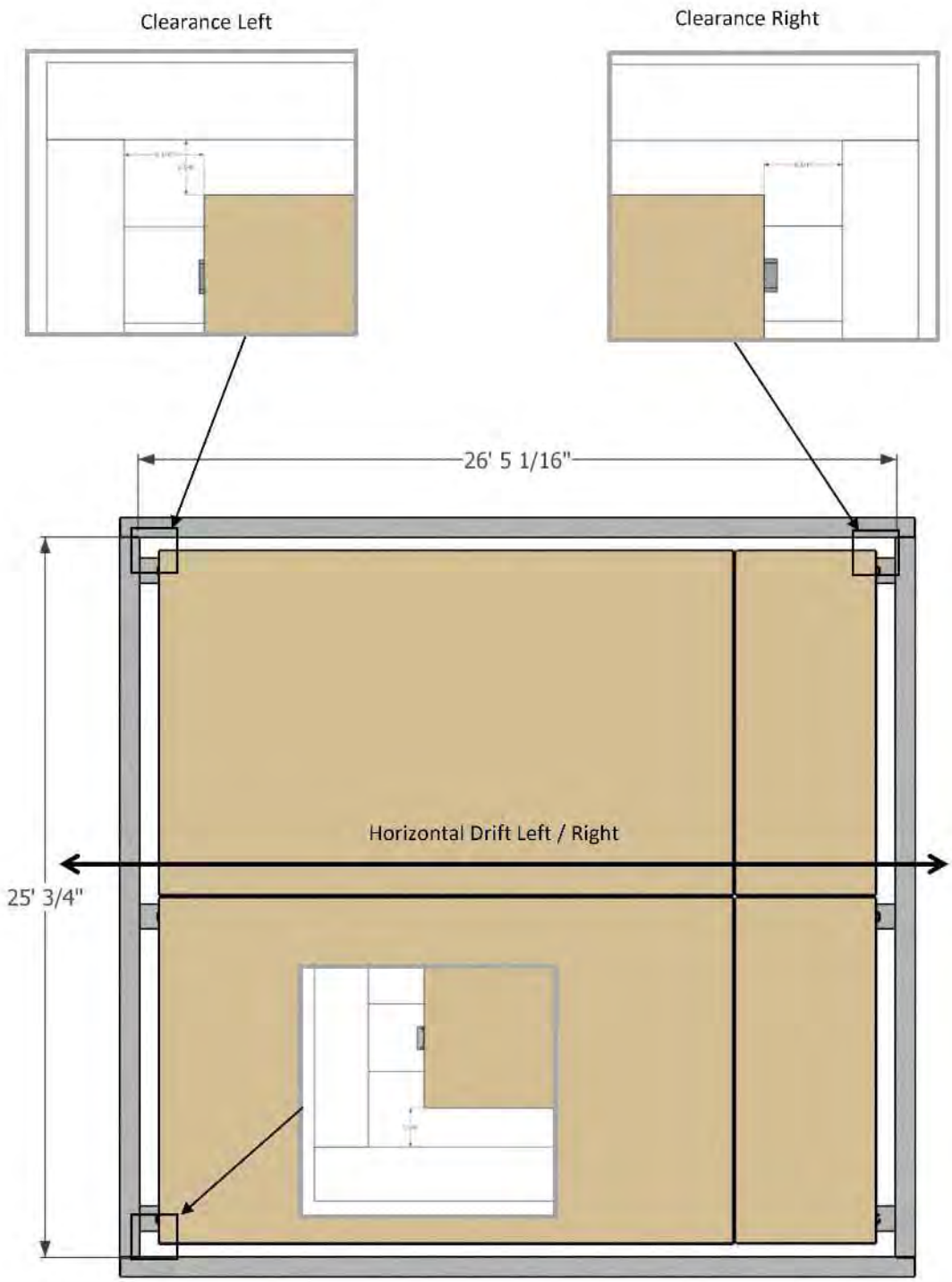
APPENDIX E – DRAWINGS



HSS SUPPORT MEMBERS,
SUPPORTING WALL PANELS CLAD WITH EIFS
Perimeter Frame not Shown

ISEAL EP ™

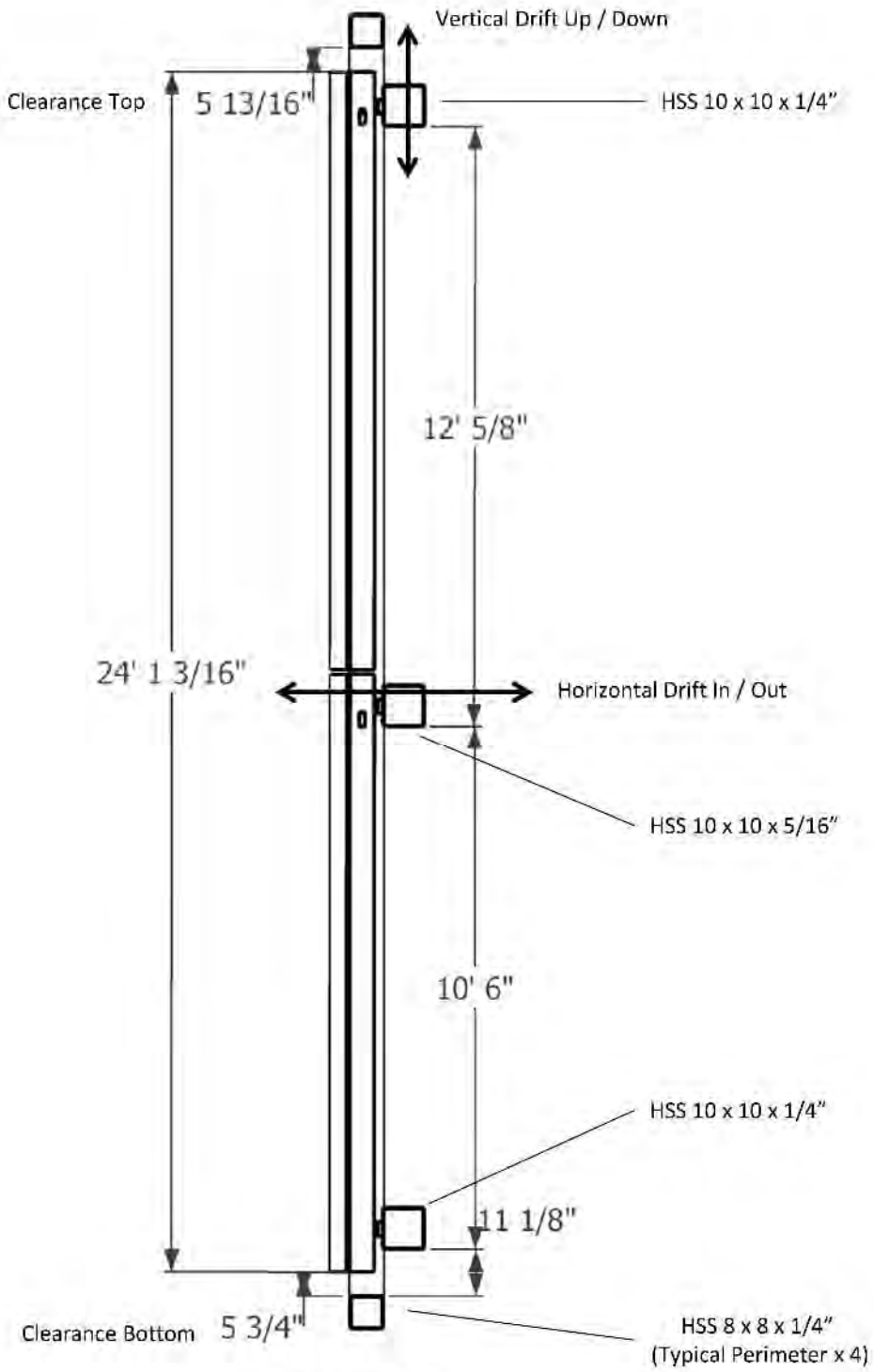
SK 1



WALL PANELS CLAD WITH EIFS
Shown in Perimeter Frame

ISEAL EP ™

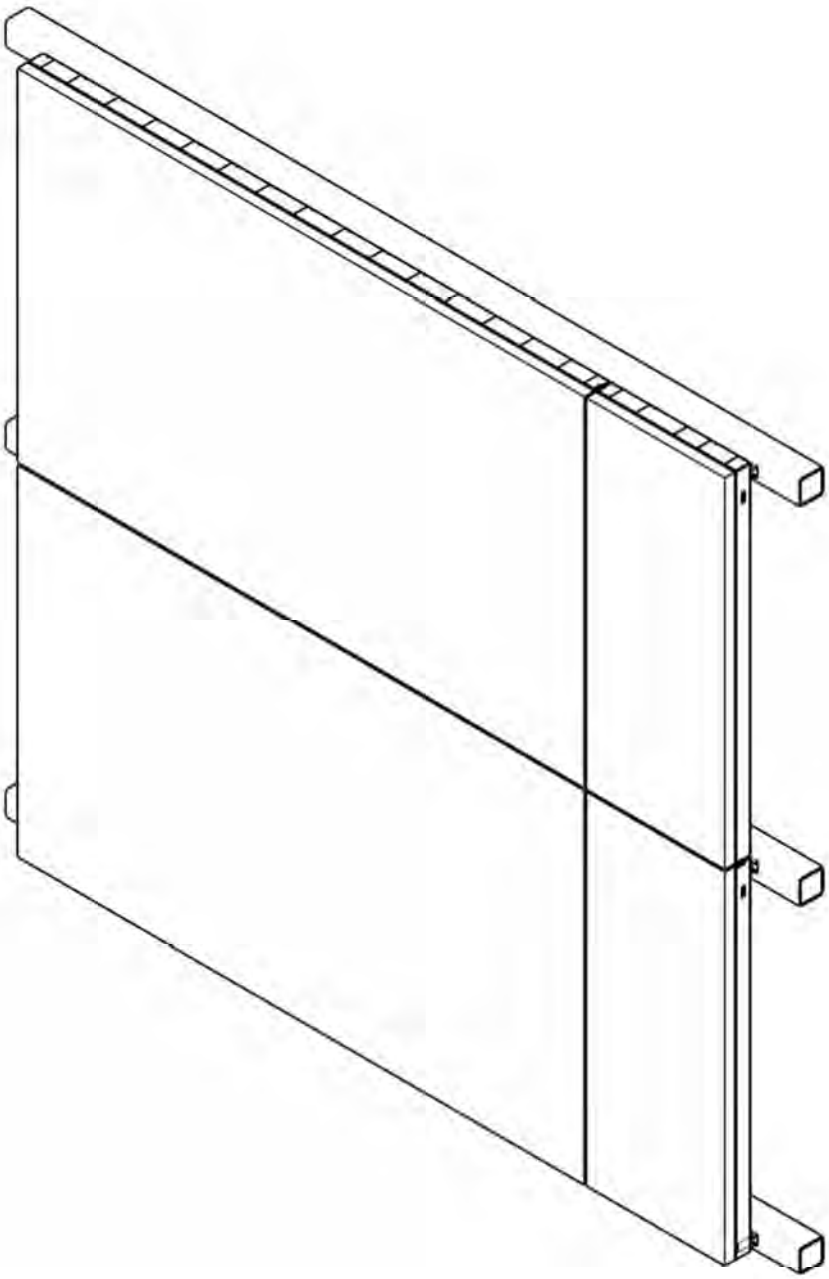
SK 2



SECTION A - A
of WALL PANELS CLAD WITH EIFS
Shown in Test Frame

ISEAL EP ™

SK 3



HSS SUPPORT MEMBERS
SUPPORTING WALL PANELS CLAD WITH EIFS
Perimeter Frame not Shown

ISEAL EP ™

SK 1