



**TEST REPORT**

**REPORT No:** SV30563-20160311-Report

**PROJECT No:** 4787314282

**CLIENT:**

LIVEWALL, LLC  
Spring Lake , MI

**SPECIFICATION: TESTING APPLICATION STANDARD (TAS) 202-94-10:**

**Criteria For Testing Impact & Nonimpact Resistant Building Envelope Components Using  
Uniform Static Air Pressure (Structural Only)**

**Section 1620 of 2010 Florida Building Code**

**Test Date:** 3/4/2016

**Report Date:** 3/11/2016

Scope of work: UL test lab was used for structural testing on wall system in accordance with TAS 202-94-10

Reference to be made to Report No. SV30563-20160311-Report, dated 3/11/2016 for complete test specimen description and detailed test results.



**1.0 Report Issued To:** LiveWall, LLC  
PO Box 533  
Spring Lake, MI 49456

**2.0 Test Laboratory:** UL LLC  
750 Anthony Trail Drive  
Northbrook, Illinois 60062

**3.0 Project Summary:**

**3.1 Product Type:** All three specimens were tested at the location indicated in Section 2.0.

**3.2 Compliance Statement:** Results obtained are tested values and were secured by using the designated test method(s): (TAS) 202-94-10 (Structural Only), Section 1620 of the Florida Building Code.

**3.3 Test Date:** 03/04/16, 03/11/16

**3.4 Test Location:** UL LLC 750 Anthony Trail Drive Illinois 60062

**3.5 Test Sample Source:** The test specimens were determined and identified by the client. The life of this report will expire on the Test Record Retention End Date

**3.6 Drawing Reference:** Not Applicable

**3.7 List of Official Observers:**

- Cesar Rosales- UL LLC
- Christopher Mitok- UL LLC
- John Haadsma- LiveWall LLC
- Amber Ponce- LiveWall LLC

**4.0 Test Specifications:**

**(TAS) 202-94-10 "CRITERIA FOR TESTING IMPACT AND NONIMPACT RESISTANT BUILDING ENVELOPE COMPONENTS USING UNIFORM STATIC AIR PRESSURE"**

**5.0 Test Specimen Description:**

Specimen #	Test Specimen Description
Specimen #1, 2, 3	<p>The test assembly consisted of an extruded aluminum framing irrigation system to be anchored to the building envelope.</p> <p>The entire unit measured approximately 82 1/8" wide x 99" high, with the entire unit being comprised of an upper and lower unit, the upper unit measuring 82 1/8" X 40 7/8" and approximately a 7 inch gap and then a 82 1/8" X 51-1/2" lower unit with the Vetirail oriented 180 degrees to the opposite direction. The specimen was bagged with plastic sheets in between the wooden frame and the specimen and duct taped and spray adhesive was used to make an airtight seal to allow pressure to build and act upon the specimen.</p>

**6.0 Installation:**

Specimen was installed onto a 100"X104" frame built with 4" by 4" pressure treated lumber secured with post strap ties between frame members. Each member was 16 inches apart with the right end member being 7' 1/2" and the left end member being 6-1/2" from the end. The testing unit was then installed onto the frame with 16 hex head 7/16 diameter by 1/4" by 1-1/2" threads set screws from Vetirail into wooden substrate nominally spaced 12 inches.

**7.0 Test Results:** The results are tabulated as follows with the conditions being 56.4° Fahrenheit and 41% relative humidity.

**Test Specimen #1**

<b>Title of Test</b>	<b>Results</b>	<b>Allowed</b>	<b>Note</b>
<b>Uniform Static Air Pressure</b> TAS 202-94-10	Pass	A change in condition of the specimen indicative of deterioration under repeated load or incipient failure.	1

Note 1 – Specimen passed

**Specimen 1**

<b>Line 1, 12 inch span</b>	Exterior Pressure (Positive)	Interior Pressure (Negative)
Design Pressure	<b>105.26 psf</b>	<b>105.26 psf</b>
Peak Deflection (30 sec)	0.013	0.079
Overload Pressure	<b>157.89 psf</b>	<b>157.89 psf</b>
Permanent Set (30 sec)	0.023	0.008
<b>Line 2, 77 inch span</b>	Exterior Pressure (Positive)	Interior Pressure (Negative)
Design Pressure	<b>105.26 psf</b>	<b>105.26 psf</b>
Peak Deflection (30 sec)	0.576	0.013
Overload Pressure	<b>157.89 psf</b>	<b>157.89 psf</b>
Permanent Set (30 sec)	0.13	0.008
<b>Line 3, 16 inch span</b>	Exterior Pressure (Positive)	Interior Pressure (Negative)
Design Pressure	<b>105.26 psf</b>	<b>105.26 psf</b>
Peak Deflection (30 sec)	0.023	0.002
Overload Pressure	<b>157.89 psf</b>	<b>157.89 psf</b>
Permanent Set (30 sec)	0.072	0.002

(Specimen was held for 30 seconds under load and then allowed a rest time of between 1 minute and 5 minutes, no deformation or noticeable destruction of the product occurred)

**Specimen 2**

<b>Line 1, 12 inch span</b>	Exterior Pressure (Positive)	Interior Pressure (Negative)
Design Pressure	<b>105.26 psf</b>	<b>105.26 psf</b>
Peak Deflection (30 sec)	0.007	0.036
Overload Pressure	<b>157.89 psf</b>	<b>157.89 psf</b>
Permanent Set (30 sec)	0.001	0.000
<b>Line 2, 77 inch span</b>	Exterior Pressure (Positive)	Interior Pressure (Negative)
Design Pressure	<b>105.26 psf</b>	<b>105.26 psf</b>
Peak Deflection (30 sec)	0.596	0.69
Overload Pressure	<b>157.89 psf</b>	<b>157.89 psf</b>
Permanent Set (30 sec)	0.027	0.029
<b>Line 3, 16 inch span</b>	Exterior Pressure (Positive)	Interior Pressure (Negative)
Design Pressure	<b>105.26 psf</b>	<b>105.26 psf</b>
Peak Deflection (30 sec)	0.007	0.005
Overload Pressure	<b>157.89 psf</b>	<b>157.89 psf</b>
Permanent Set (30 sec)	0.001	0.001

(Specimen was held for 30 seconds under load and then allowed a rest time of between 1 minute and 5 minutes, no deformation or noticeable destruction of the product occurred)

**Specimen 3**

<b>Line 1, 12 inch span</b>	Exterior Pressure (Positive)	Interior Pressure (Negative)
Design Pressure	<b>105.26 psf</b>	<b>105.26 psf</b>
Peak Deflection (30 sec)	0.004	0.001
Overload Pressure	<b>157.89 psf</b>	<b>157.89 psf</b>
Permanent Set (30 sec)	0.003	0.001
<b>Line 2, 77 inch span</b>	Exterior Pressure (Positive)	Interior Pressure (Negative)
Design Pressure	<b>105.26 psf</b>	<b>105.26 psf</b>
Peak Deflection (30 sec)	0.035	0.004
Overload Pressure	<b>157.89 psf</b>	<b>157.89 psf</b>
Permanent Set (30 sec)	0.006	0.009
<b>Line 3, 16 inch span</b>	Exterior Pressure (Positive)	Interior Pressure (Negative)
Design Pressure	<b>105.26 psf</b>	<b>105.26 psf</b>
Peak Deflection (30 sec)	0.003	0.002
Overload Pressure	<b>157.89 psf</b>	<b>157.89 psf</b>
Permanent Set (30 sec)	0.003	0.013

(Specimen was held for 30 seconds under load and then allowed a rest time of between 1 minute and 5 minutes, no deformation or noticeable destruction of the product occurred)



UL LLC did not select the samples, determine whether the samples were representative of production samples, witness the production of the test samples, or were we provided with information relative to the formulation or identification of component materials used in the test samples. The test results apply only to the actual samples tested. If any 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.

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

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

- Appendix-A: Revision Records
- Appendix-B: Figures

For UL LLC:

Very truly yours,

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## **Appendix A Revision Records**

<b>Date of Revision</b>	<b>Revision</b>



## Appendix B FIGURES

**Exterior view of specimen**



**View of installation  
anchors on specimen**



**Specimen prepared for  
structural load testing**



**Structural load testing  
conducted on specimen**



### Deflection Locations

