TESTING • INSPECTION • ENGINEERING

TEST REPORT
for
ASTM E330 Uniform Static Load Test and ASTM E72 Racking Test Method

Rendered to:

Aircrete Mexico

PRODUCT:

Autoclaved Aerated Concrete Non-load-bearing Exterior Wall Panels with Wood Frame and Steel Frame

Report No.:	AMAB042222-31(R0)
Test Date(s):	06/21/2022 - 09/20/2022
Report Date:	11/17/2022
	88 pages

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Test Report

AMAB042222-31(R0)
11/17/2022

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TEST REPORT

Rendered to:

Aircrete Mexico
Calle 3, Numero 7 Parque
Industrial PLATAH Villa de Tezontepec, Hildalgo CP43880

Report No.:	AMAB042222-31(R0)
Test Date:	06/21/2022 - 09/20/2022
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1.0 General Information

1.1 Product

Autoclaved Aerated Concrete Non-load-bearing Exterior Wall Panels with Wood Frame and Steel Frame

1.2 Project Summary

ICC NTA, LLC was contracted by Aircrete Mexico to evaluate *Autoclaved Aerated Concrete Non-load-bearing Exterior Wall Panels with Wood Frame and Steel Frame* in accordance with ASTM E72, Section 14 Racking Load Test and ASTM E330, Uniform Static Pressure Testing in accordance with Procedure B. Results obtained are tested values and were secured by using the designated test methods. Testing was conducted at ICC NTA's facility in Nappanee, IN.

1.3 Product Description

The first shipment of materials arrived with a few minor damages on June 21st, 2022, and the second shipment of materials arrived in a good condition on August 10th, 2022. Product details can be seen in the table below.

Parameter	Value or Description
Manufacturer	Aircrete Mexico
Trade Name	Autoclaved Aerated Concrete (AAC) Non-load bearing Exterior Wall Panels
Product Description	AAC Wall Panels containing Welded-Wire Mesh, Plain Steel Wire, Reinforcement, Portland Cement, Pulverized Lime, and Sand.
	Aircrete Mortar Adhesive. See Appendix B Drawing No 26 for Mixing Proportions.
Nominal Dimensions of the AAC Panel/Cladding	2-ft x 2-ft
	2-ft x 4-ft
	2-ft x 2-ft 8-in. and 2-ft x 1-ft 4-in. were cut from 2-ft x 2-ft and 2-ft x 4-ft respectively.
Nominal Thickness of the AAC Panel/Cladding	2-in.

1.4 Qualifications

ICC NTA in Nappanee, IN has demonstrated compliance with ISO/IEC 17025 and is consequently accredited as a Testing Laboratory. ICC NTA is accredited to perform all testing reported herein.

1.5 Product Sampling

A representative of ICC NTA visited Aircrete Mexico's facility located in Villa of Tezontepec, Hidalgo on 05/20/2022 and 7/27/2022 and selected the materials for the testing reported herein. All test specimens were supplied by Aircrete Mexico. See photograph in Appendix A for typical sampling mark.

1.6 Witnessing

Representatives of Aircrete Mexico were present from 07/25/2022 – 07/29/2022 to witness the construction and a representative of Aircrete Mexico was present from 09/12/2022 – 09/19/2022 to witness the tests reported herein.

1.7 Conditions of Testing

Unless otherwise indicated, all testing reported herein was conducted in ambient laboratory conditions.

2.0 Referenced Standards

ASTM E72-15, Standard Test Methods of Conducting Strength Tests of Panels for Building Construction

ASTM E72-10, Standard Test Methods of Conducting Strength Tests of Panels for Building Construction

ASTM E330/E330M-14, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

3.0 Summary of Results

Standard	Variable		Results		
ASTM E72-15 Section 14 Racking Test	**Panel Type**	**Specimen Height x Width (in.)**	**Average Ultimate Load (plf)[A]**	**Load at 0.200-in. Deflection (plf)[B]**	**Load at 1/8-in. Net Deflection (plf)[B]**
	Aircrete wall with Wood Frame	94-15/16-in. x 96-1/8-in.	427	138	103
	Aircrete wall with Steel Frame	94-15/16-in. x 96-1/8-in.	325	54	38
ASTM E330-14 Procedure-B Uniform Static Air Pressure Test	**Panel Type**	**Pressure Direction (In-Use)**	**Average Ultimate Pressure (psf)**	**Average Pressure at L/180 (psf)**	**Average Pressure at L/120 (psf)**
	Aircrete wall with Wood Frame	Positive	205	63	NR
		Negative	164	48	NR
	Aircrete wall with Steel Frame	Positive	197	NR	NR
		Negative	101	75	NR

NR: Denotes "Not Reached"

[A] Value shown is the average ultimate load divided by the width of the panel.

[B] The value shown is the lowest Load of specimens tested, since at least one specimen varied by more than 15% from average.

4.0 ASTM E72, Section 14: Dry Racking

4.1 General

The purpose of testing was to perform racking loading on panel specimens to determine the ultimate load and key deflections during testing.

4.2 Test Specimens

All the specimens were constructed as per the details provided below and were cured for a minimum of 28 consecutive days.

Construction Details (Wood Studs)

Parameter	Value or Description
Number of Sets	1
Number of Specimens per Set	3
Nominal Specimen Height (in.)	Height of the frame was 96-in. but height of the Aircrete cladding was 95-in.
Nominal Specimen Width (in.)	96
Type of Wood Stud	2x4 #1 SYP
Stud Spacing	16-in. from outside face of edge studs to center of next stud, 16-in. oc in middle studs.
Assembly of the Claddings	See Appendix B Drawing No 1-9 for Specimen Number – 144582 and Appendix B Drawing No 1-5 for Specimen Number – 144583 and 144584.
Construction of the Claddings	See Appendix B. Drawing No 25-26.
Additional Construction	Extra fasteners were added to Specimen Number - 144582 on the day of testing. 1-in. oc from the ends on the sides and See Appendix B Drawing No 6-9 for the spacing in bottom. No fasteners on the top.
Additional Observations during Construction	Specimen Number – 144583, In the bottom layer at the joint of 2x4's the fastening was hindered by the reinforcement, so the fastening location changed from 9-in. to 9-1/2-in. See Appendix B Drawing No 1-5.
	Specimen Number – 144583, Aircrete Mortar Adhesive was used to reapply to a few fastener locations and filled up the gap between Layer 1 and Layer 2 (from bottom) by client after construction. See Appendix B Drawing No 1-5.

Components (Wood Studs)

Component	Description
Studs	Single 2x4 #1 SYP
Top Plate	Single 2x4 #1 SYP
Bottom Plate	Single 2x4 #1 SYP

Fastening Schedule (Wood Studs)

Connection	Fastener	Quantity or spacing
Bottom plate to studs	0.131-in. x 3-in. Smooth Shank Nails	3 per stud
Top plate to studs	0.131-in. x 3-in. Smooth Shank Nails	3 per stud
Cladding to Framing	#10 x 3-1/2-in. Dual coarse thread, Type 17 Point Wood Screw	See Appendix B Drawing No 1-5

Construction Details (Steel Studs)

Parameter	Value or Description
Number of Sets	1
Number of Specimens per Set	3
Nominal Specimen Height (in.)	Height of the frame was 96-in. but height of the Aircrete cladding was 95-in.
Nominal Specimen Width (in.)	96
Type of Stud	600S162-43 (33ksi, CP60) P-Punched
Stud Spacing	24-in. from outside face of edge studs to center of next stud, 24-in. oc in middle studs.
Assembly of the Claddings	See Appendix B Drawing No 15-19.
Construction of the Claddings	See Appendix B. Drawing No 25-26.

Components (Steel Studs)

Component	Description
Studs	S162 (1-5/8-in. flange structural stud)
Top Plate	T125 (1-1/4-in. Leg Structural Track)
Bottom Plate	T125 (1-1/4-in. Leg Structural Track)

Fastening Schedule (Steel Studs)

Connection	Fastener	Quantity or spacing
Bottom plate to studs	#8 x 1/2-in. Truss Head Tek Screws	2 per stud (one on each side)
Top plate to studs	#8 x 1/2-in. Truss Head Tek Screws	2 per stud (one on each side)
Cladding to Framing	#8 x 3-in. Self-Drilling Deck Screws	See Appendix B Drawing No 15-19

Test Parameters

Parameter	Value or Description
Products	Aircrete Cladding Wall with Wood frame Aircrete Cladding Wall with Steel frame
Number of Sets	2
Number of Specimens per set	3
Nominal Wall Size	96-in. wide x 96-in. tall
Preload	None (Except 10% preload on Specimen No 144659)
Hold-downs	Yes
Loading Stages	For Specimen Number – 144659: 800 lbf (pre-load)→ 0 lbf → 2667 lbf → 0 lbf →5333 lbf → 0 lbf → 8000 lbf → 0 lbf → ultimate 790 lbf → 0 lbf → 1580 lbf → 0 lbf →2370 lbf → 0 lbf → ultimate (All except Specimen 144659)

4.3 Test Setup and Procedure

Each test was conducted in accordance with Section 14 (Dry Racking Strength), of ASTM E72. Accordingly, each specimen was placed into the racking fixture with the hold-down rods attached and then loaded in four stages. Each specimen was loaded in three stages to 790, 1580 and 2370 lbf, with each stage uniformly loaded at 395 lbf/min. After stage 1 and stage 2 the specimen was allowed to recover for 5 minutes before proceeding. At each load increment, deflection readings were taken while maintaining the load. The applied load was then removed, and the specimen was allowed to recover. After which, residual deflection readings were taken. The loading and unloading cycles were continued up to the 2360 lbf load stage. After the third recovery period the specimen was loaded at 395 lbf/min. until ultimate or a total deflection of 4-in. was realized. Deflection readings positioned as specified by the test standard, recorded deflection at the same intervals of load as were used for the previous loadings. At ultimate, the peak load and mode of failure were noted. Ultimate was taken as the maximum load sustained by the specimen or the load causing a total deflection of 4-in. Any failure or observations at any point during the test were noted as well. A summary of the test parameters can be seen in the table above.

Deviations from the standard include: Specimen No 144659 was loaded at 30%, 60%, and 80% of the expected maximum load. The Specimen failed early, and the remaining specimens were tested using the loading schedule described above.

4.4 Test Results

Results from testing are provided in the table below.

Panel Type (in.)	Specimen Number	Ultimate Load (lbf)	Load at 0.200-in. Deflection (lbf)	Load at 1/8-in. Deflection (lbf)	Failure Mode
Aircrete Wall with Steel Frame	144659	2,616	623	484	Fastener break out at edges of cladding (top 2/3 of non-loading side, bottom 2/3 of loading side), top corner of cladding opposite loading side broke away at joint
	144660	2,736	1094	889	Fastener break out at edges of cladding (top 2/3 of non-loading side, bottom 2/3 of loading side), top corner of cladding opposite loading side broke away at joint
	144661	2,457	429	302	Fastener break out at edges of cladding (top 2/3 of non-loading side, bottom 2/3 of loading side), top corner of cladding opposite loading side broke away at joint
	Average:	2,603	715	558	--
Aircrete Wall with Wood Frame	144582	3,473	1597	1,234	Fastener break out at edges of cladding (top 2/3 of non-loading side, bottom 2/3 of loading side), top corner of cladding opposite loading side broke away at joint. Diagonal cracks from loading corner to opposite corner.
	144583	3,386	1208	872	Fastener break out at edges of cladding (top 2/3 of non-loading side, bottom 2/3 of loading side), top corner of cladding opposite loading side broke away at joint. Diagonal cracks from loading corner to opposite corner.
	144584	3,376	1108	822	Fastener break out at edges of cladding (top 2/3 of non-loading side, bottom 2/3 of loading side), top corner of cladding opposite loading side broke away at joint. Diagonal cracks from loading corner to opposite corner.
	Average:	3,412	1305	976	--

5.0 ASTM E330 Uniform Static Pressure Testing in accordance with Procedure B

5.1 General

The purpose of testing was to determine the structural performance under uniform static air pressure differences, using a test chamber.

5.2 Test Specimens

All the specimens were constructed as per the details provided below and were cured for a minimum of 28 consecutive days.

Construction Details (Wood Studs)

Parameter	Value or Description
Number of Sets	2
Number of Specimens per Set	3
Nominal Specimen Height (in.)	96
Nominal Specimen Width (in.)	48
Type of Wood Stud	2x4 #1 SYP
Stud Spacing	16-in. from outside face of edge studs to center of next stud, 16-in. oc in middle studs.
Assembly of the Claddings	See Appendix B Drawing No 10-14.
Construction of the Claddings	See Appendix B. Drawing No 25-26.
Additional Observations during Construction	Specimen Number – 144586. 3rd Layer from the bottom of the specimen and to the right end, fastening location changed from 8-in. to 7-in. See Appendix B Drawing No 10-14.

Components (Wood Studs)

Component	Description
Studs	Single 2x4 #1 SYP
Top Plate	Single 2x4 #1 SYP
Bottom Plate	Single 2x4 #1 SYP

Fastening Schedule (Wood Studs)

Connection	Fastener	Quantity or spacing
Bottom plate to studs	0.131-in. x 3-in. Smooth Shank Nails	3 per stud
Top plate to studs	0.131-in. x 3-in. Smooth Shank Nails	3 per stud
Cladding to Framing	#10 x 3 1/2-in. Dual coarse thread, Type 17 Point Wood Screw	See Appendix B Drawing No 10-14

Construction Details (Steel Studs)

Parameter	Value or Description
Number of Sets	2
Number of Specimens per Set	3
Nominal Specimen Height (in.)	96
Nominal Specimen Width (in.)	48
Type of Stud	600S162-43 (33ksi, CP60) P-Punched
Stud Spacing	24-in. from outside face of edge studs to center of next stud, 24-in. oc in middle studs.
Assembly of the Claddings	See Appendix B Drawing No 20-24.
Construction of the Claddings	See Appendix B. Drawing No 25-26.

Components (Steel Studs)

Component	Description
Studs	S162 (1-5/8-in. flange structural stud)
Top Plate	T125 (1-1/4-in. Leg Structural Track)
Bottom Plate	T125 (1-1/4-in. Leg Structural Track)

Fastening Schedule (Steel Studs)

Connection	Fastener	Quantity or spacing
Bottom plate to studs	#8 x 1/2-in. Truss Head Tek Screws	2 per stud (one on each side)
Top plate to studs	#8 x 1/2-in. Truss Head Tek Screws	2 per stud (one on each side)
Cladding to Framing	#8 x 3-in. Self-Drilling Deck Screws	See Appendix B Drawing No 20-24

Test Parameters

Parameter	Value or Description
Products	Aircrete wall with wood frame Aircrete wall with steel frame
Number of Sets	4 (2 sets for wood frame and 2 sets for steel frame)
Pressure Orientation	Positive orientation (1 set for wood/steel frame) Negative orientation (1 set for wood/steel frame)
Number of Specimens per set	3
Procedure	B
Support during Test	Stud framing members fully supported
Wall Size	48-in. wide x 96-in. tall
Design Pressure for Negative and Positive Orientation	50 psf (wood), 60 psf (steel)
Increments	Minimum (4) increments; however, ***additional increments were performed as necessary to obtain the needed deflection data.*** After conclusion of all increments, each specimen loaded until ultimate
Deflection Locations (Steel Frame)	See Appendix A Photo No 8 and 10.
Deflection Locations (Wood Frame)	See Appendix A Photo No 4 and 6.
Deflection Limit	L/180
Poly placement	Positive Orientation (over the wall) Negative Orientation (between the wall and wood/steel studs)
Uniform Load Application	2-mil polyethylene

5.3 Test Setup and Procedure

Testing was performed following the procedures of ASTM E330, Procedure B with following loading procedure. Each specimen was attached to a test chamber, as shown in Appendix A. For in-use positive and negative pressure tests, a 2-mil polyethylene bag was placed as described in the table above and sealed around the perimeter of the chamber to apply the uniform load. Dial gauges were then placed at areas of interest to measure deflections for each test. An initial preload of one-half the specified maximum test pressure was applied and held for 10 seconds prior to being released. A recovery period of 1 to 5 minutes was allowed, after which the dial gauges were zeroed, and testing continued by loading in the number of increments specified up to the maximum specified test pressure. The full pressure was held for at least 5 minutes at each load increment, deflection readings were recorded, and the pressure was released. A recovery period of minimum 5 minutes was again allowed before continuing to the next increment. Once all increments were completed the dial gauges were removed and the specimen was loaded at a continuous rate until ultimate load occurred. The ultimate load and mode of failure were recorded along with any observations during each test.

5.4 Test Results

Results from testing are provided in the table below.

Panel Type	Pressure Direction (In-Use)	Specimen Number	Ultimate Pressure (psf)	Failure Mode
Aircrete wall with wood frame	Positive	144585	199	Stud withdrawal of all studs at top of specimen. Cladding breakage mostly at top.
		144586	213	Stud withdrawal at top of specimen, breakage of end stud, crack and crumbling of cladding all around, but mostly at top.
		144587	202	Stud withdrawal at top of specimen, cladding separation from end stud/fasteners, cladding cracking, and breakage throughout.
	Negative	144588	166	Studs all withdrew at bottom plate.
		144589	169	Stud withdrawal at center studs, split stud at edge, face withdrawal top half of panel.
		144590	157	Stud withdrawal on at top of panel, all studs.
Aircrete wall with steel frame	Positive	145652	197	All cladding blew in and broke apart into mostly larger pieces, but also small. Steel stud in center bent slightly and came off the track on the bottom.
		145653	204	Fastener withdrawal of interior stud to bottom plate.
		145654	191	All cladding blew in and broke apart into mostly larger pieces, but also small. Steel stud in center came off the track on the bottom.
	Negative	145655	101	Steel studs buckled at center of panel cracking face at center seem and cladding breakage at corner/edge of center piece by fasteners.
		145656	101	Steel studs buckled at center of panel, cracking face at multiple points (Center seem across width, lower center vertical, top corner fork split), and cladding breakage at center fastener. There was a crack/pop sound while running 1 1/4 design pressure.
		145657	102	Steel studs buckled at center of panel cracking face at center seem and smaller cracking on lower cladding panel.

6.0 Closing Statement

This report contains only findings and results arrived at after employing the specific test procedures listed herein. It does not constitute a recommendation for, endorsement of, or certification of the product or material tested. Unless differently required, ICC NTA, LLC reports apply the "Simple Acceptance" rule, also called "Shared Risk approach", of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity. ICC NTA makes no warranty, expressed or implied, except that the test has been performed, and a report prepared, based upon the specimen specified by the client. Extrapolation of data, from the test data provided herein, to the batch or lot from which the specimens were obtained may not correlate and should be interpreted with extreme caution. ICC NTA assumes no responsibility for variations in quality, composition, appearance, performance, or other features of similar materials produced by the client, other persons, or under conditions over which ICC NTA has no control. ICC NTA has issued this report for the exclusive use of the client to whom it is addressed. Any use or duplication of this report shall not be made without their consent. This report shall only be reproduced in its entirety.

For ICC NTA, LLC:

Y. Sai Srenika

Sai Srenika Yenugula 11/17/2022
Test Engineer

Lucas Ward

Lucas Ward 11/17/2022
Test Engineer

Appendix A - Photographs

Photo No. 1
Received Materials in Shipment 1

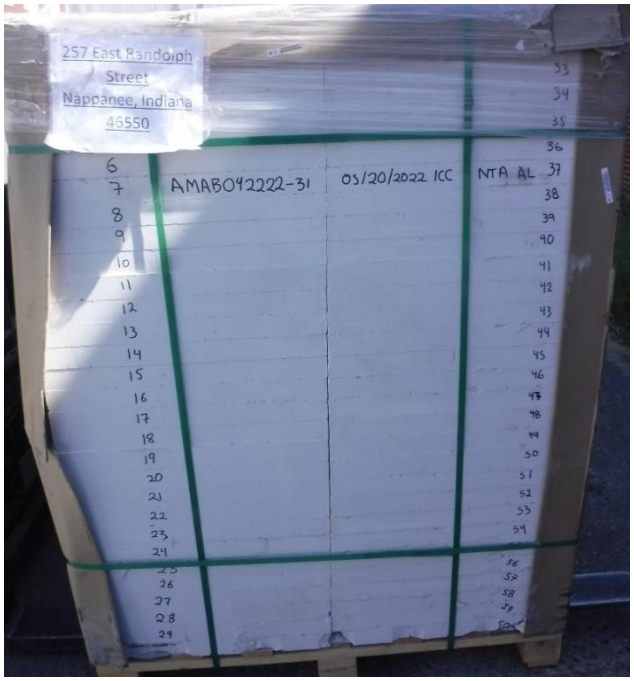


Photo No. 2
Sampling Mark

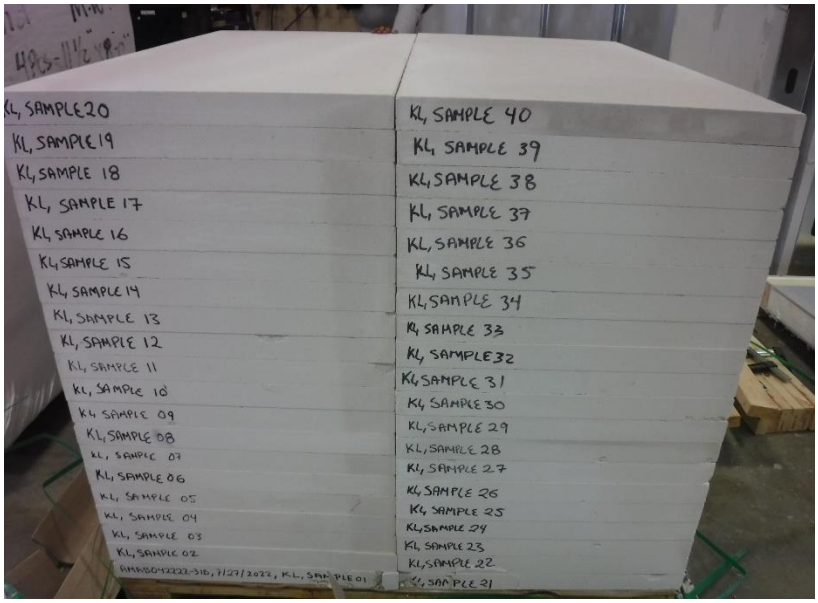


Photo No. 3
Received Materials in Shipment 2

Photo No. 4
Uniform Static Load Test Setup (Wood Frame/Negative Pressure Direction)

Photo No. 5
Example of Uniform Static Load Failure (Wood Frame/ Negative Pressure Direction)

Photo No. 6
Uniform Static Load Test Setup (Wood Frame/Positive Pressure Direction)

Photo No. 7
Example of Uniform Static Load Failure (Wood Frame/ Positive Pressure Direction)

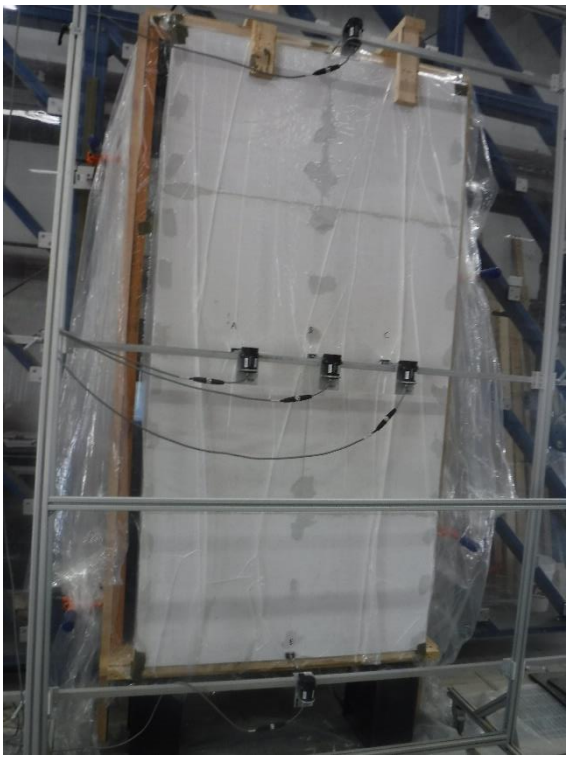


Photo No. 8
Uniform Static Load Test Setup (Steel Frame/Positive Pressure Direction)

Photo No. 9
Example of Uniform Static Load Failure (Steel Frame/ Positive Pressure Direction)

Photo No. 10
Uniform Static Load Test Setup (Steel Frame/Negative Pressure Direction)

Photo No. 11
Example of Uniform Static Load Failure (Steel Frame/ Negative Pressure Direction)

Photo No. 12
Racking Test Setup

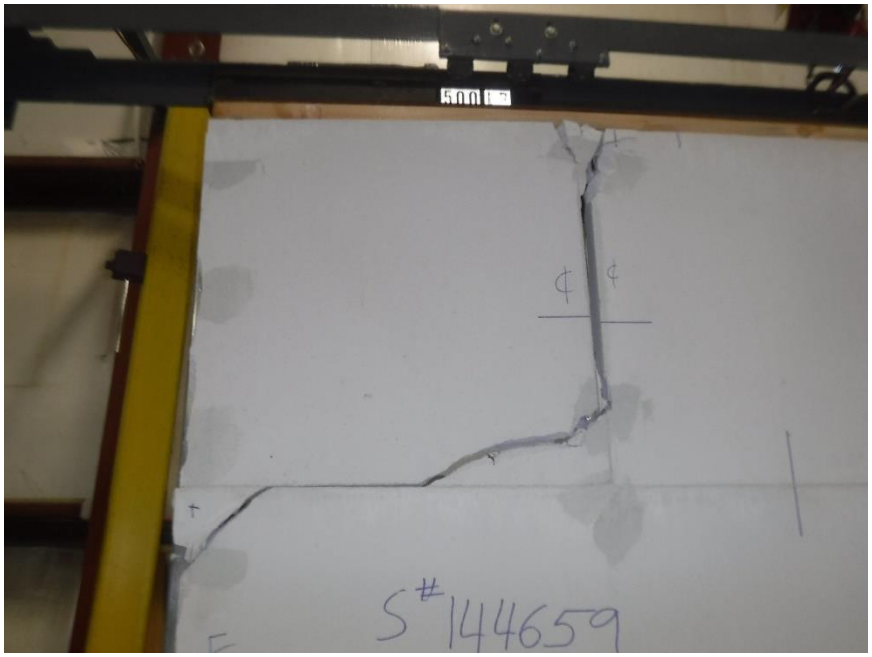


Photo No. 13
Example 1 of Racking Test Failure (Steel Frame)

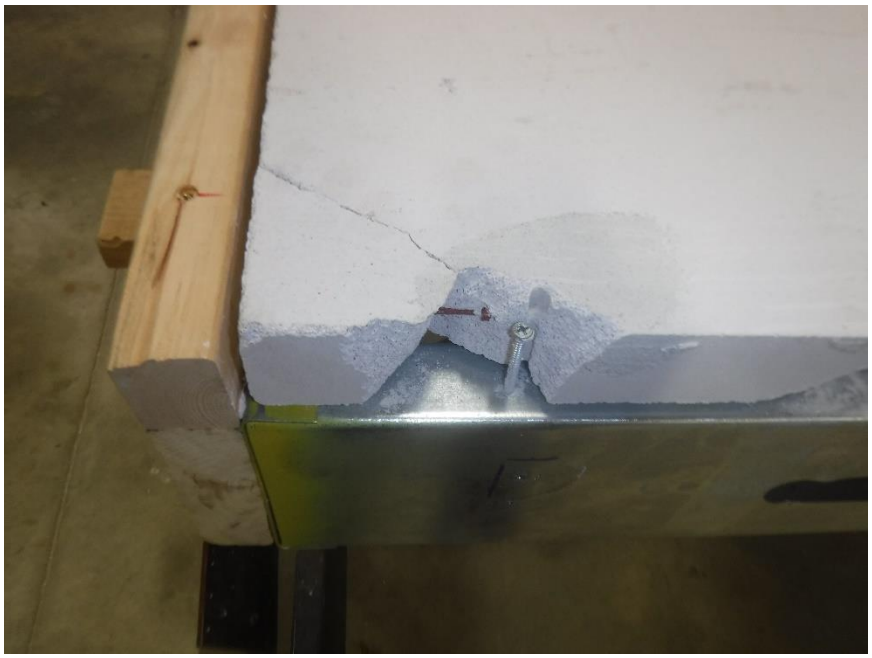


Photo No. 14
Example 2 of Racking Test Failure (Steel Frame)

Photo No. 15
Example 3 of Racking Test Failure (Steel Frame)

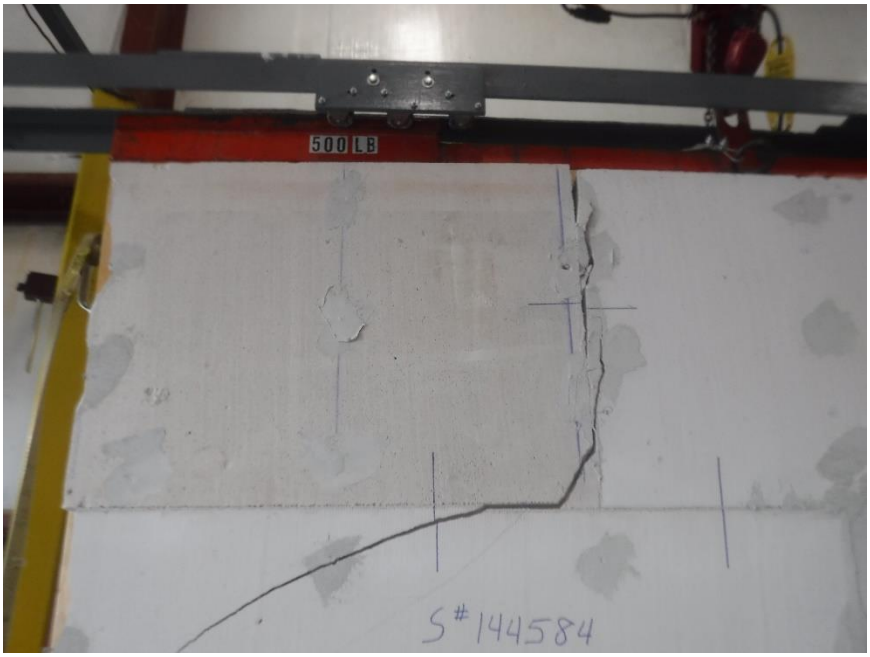


Photo No. 16
Example 1 of Racking Test Failure (Wood Frame)

Photo No. 17
Example 2 of Racking Test Failure (Wood Frame)

ASSEMBLY FOR SHARE WALL 8X8’ WOOD FRAME

ICC OCTOBER 2022

INDEX

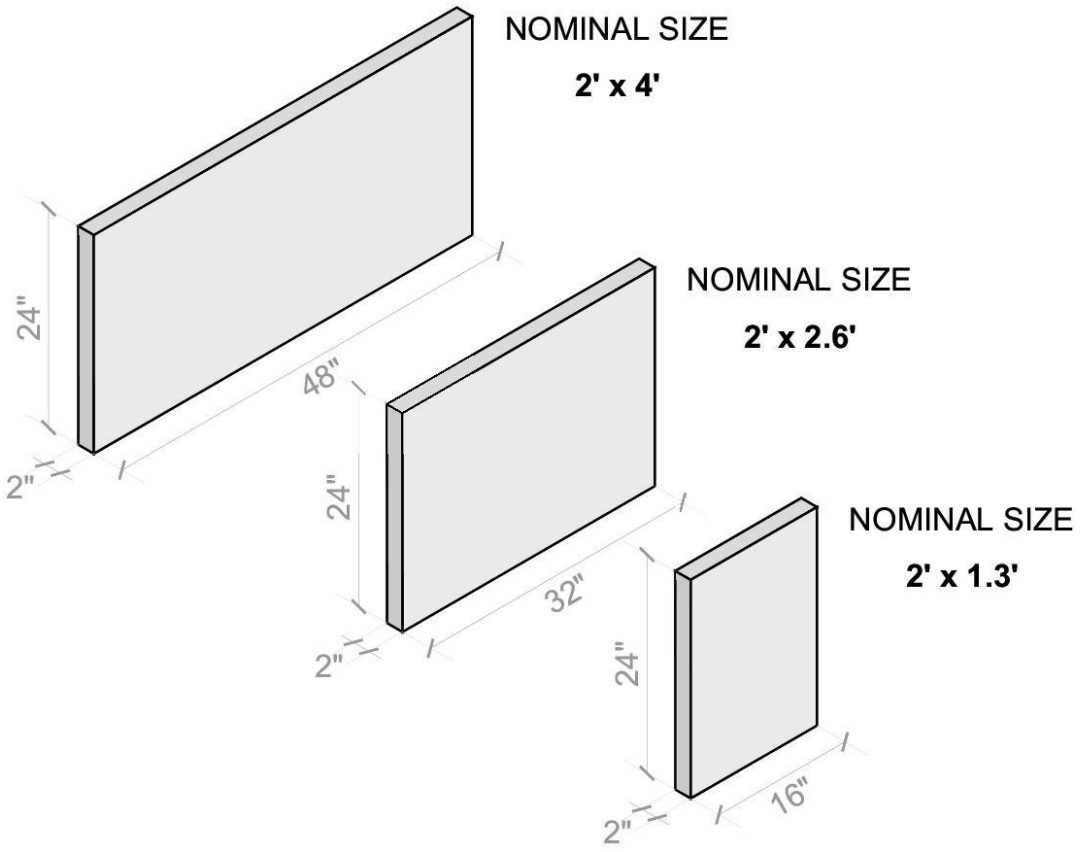
LITECON

CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

PRODUCT: CLADDING PANEL

LITECON CLADDING DIMENSIONS



NOTES

1.- LENGTH CAN BE ADJUSTED TO CUSTOMERS NEEDS (EVERY 0.2 INCHES) UP TO 120".
2.- THE NOMINAL SIZE OF THE LITECON CLADDING IS 2' X 4', THE ACTUAL SIZE IS 23.62" X 48.03".
3.- THE NOMINAL SIZE OF THE LITECON CLADDING IS 2' X 7', THE ACTUAL SIZE IS 23.62" X 80.11".

03

Drawing No. 1
Types of Aircrete Panel/Cladding

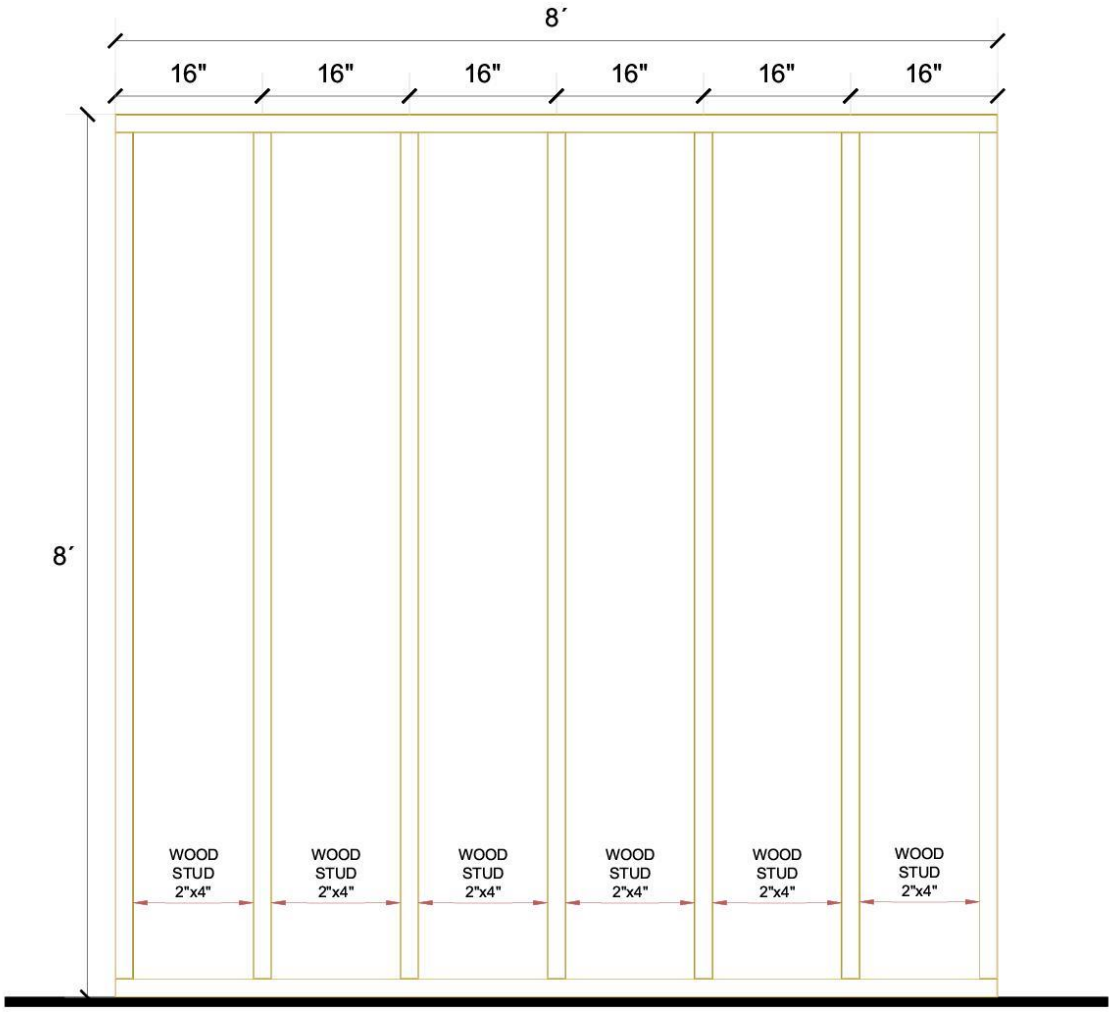
LITECON

CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

PRODUCT: CLADDING PANEL

WOOD FRAME 8´ X 8´



04

Drawing No. 2
Wood Frame (8-ft x 8-ft wall)

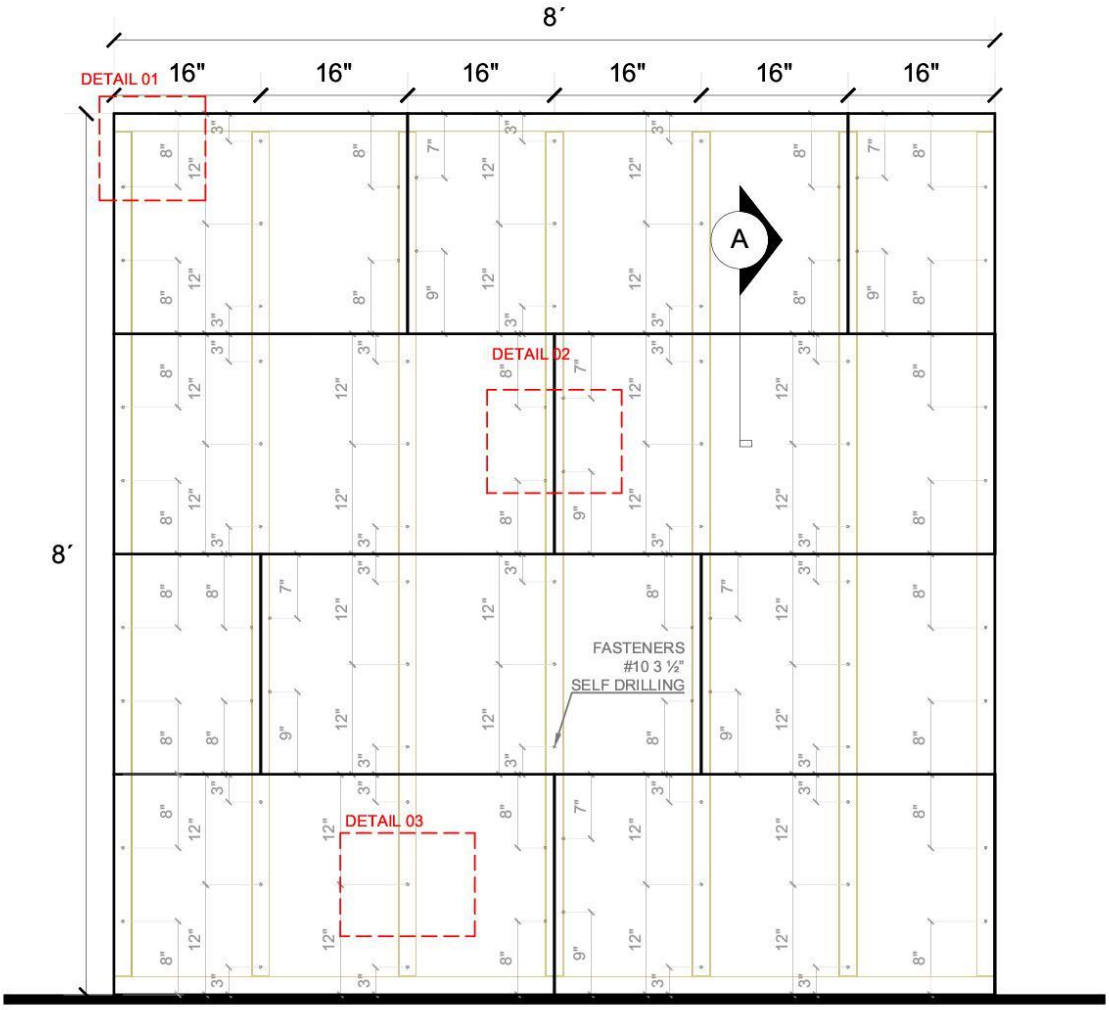
LITECON

CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

PRODUCT: CLADDING PANEL

LITECON CLADDING PANEL INSTALLATION



NOTES

1. THE FASTENERS SHOULD HAVE A COATING THAT PROVIDES CORROSION RESISTANCE.
2. THE FASTENERS SHOULD HAVE A SELF DRILLING POINT FOR STEEL STUD.

05

Drawing No. 3
Assembly of Aircrete Cladding

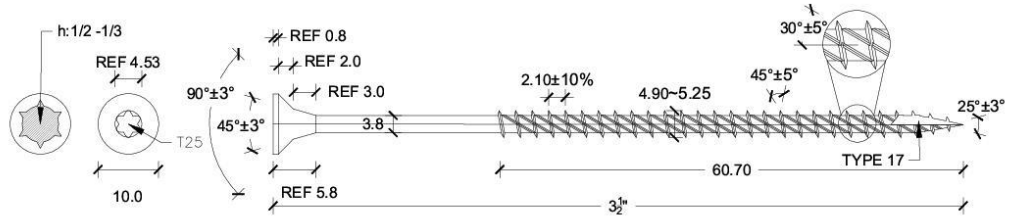
LITECON

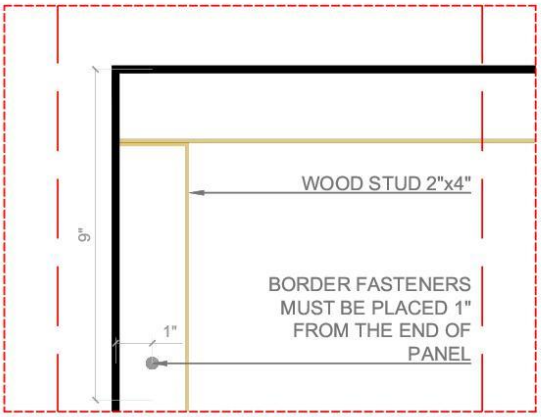
CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

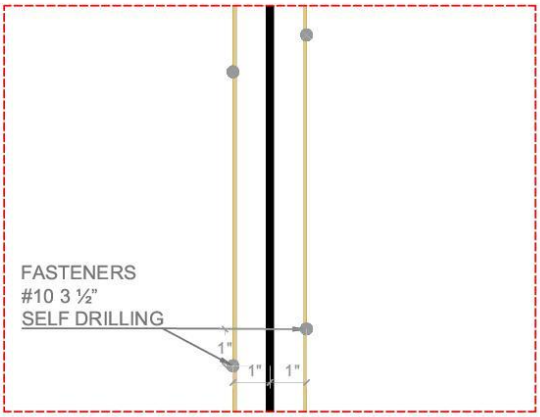
PRODUCT: CLADDING PANEL

PANEL DETAILS

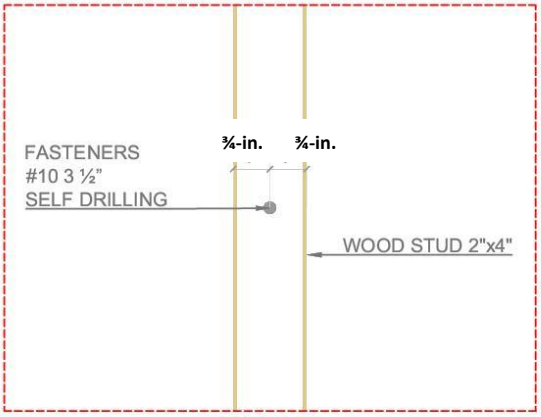




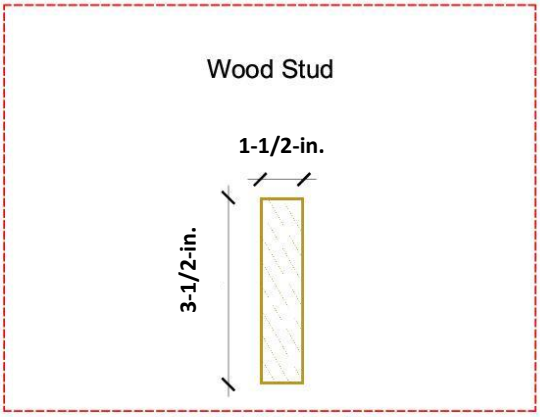
DETAIL 01



DETAIL 02



DETAIL 03



WOOD STUD PROFILE

06

Note - The actual dimensions of the 2x4 wood studs are 1-1/2-inx3-1/2-in. The fasteners were 1-in. away from the center of the wood stud but did not align with the wood stud as shown in detail 02. They are 1/4-in. away from the end of the wood stud.

Drawing No. 4
Fastener Specifications and Spacing

LITECON

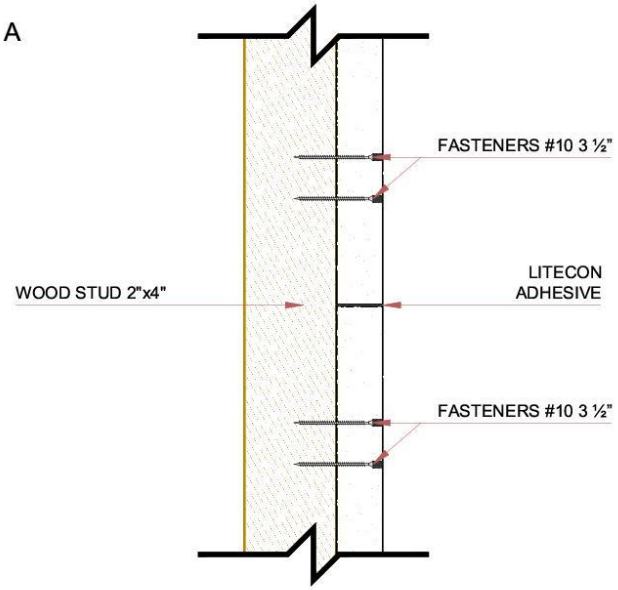
CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

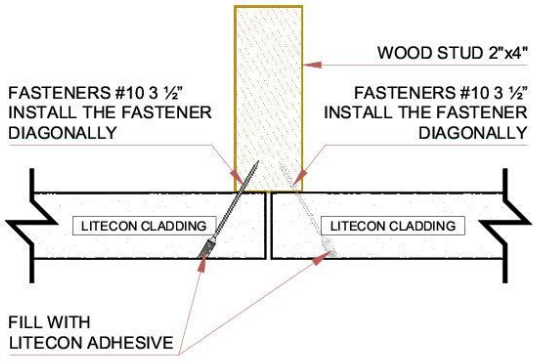
PRODUCT: CLADDING PANEL

SECTION A - DETAIL 02 - DETAIL 03

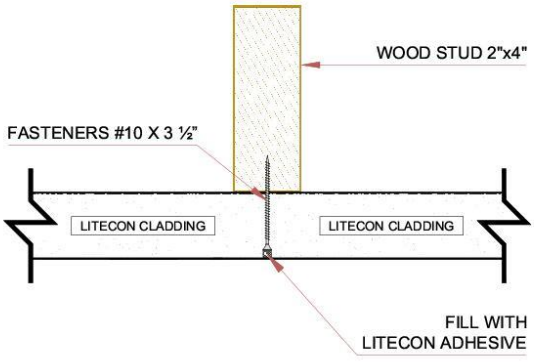
SECTION A



DETAIL 2



DETAIL 3

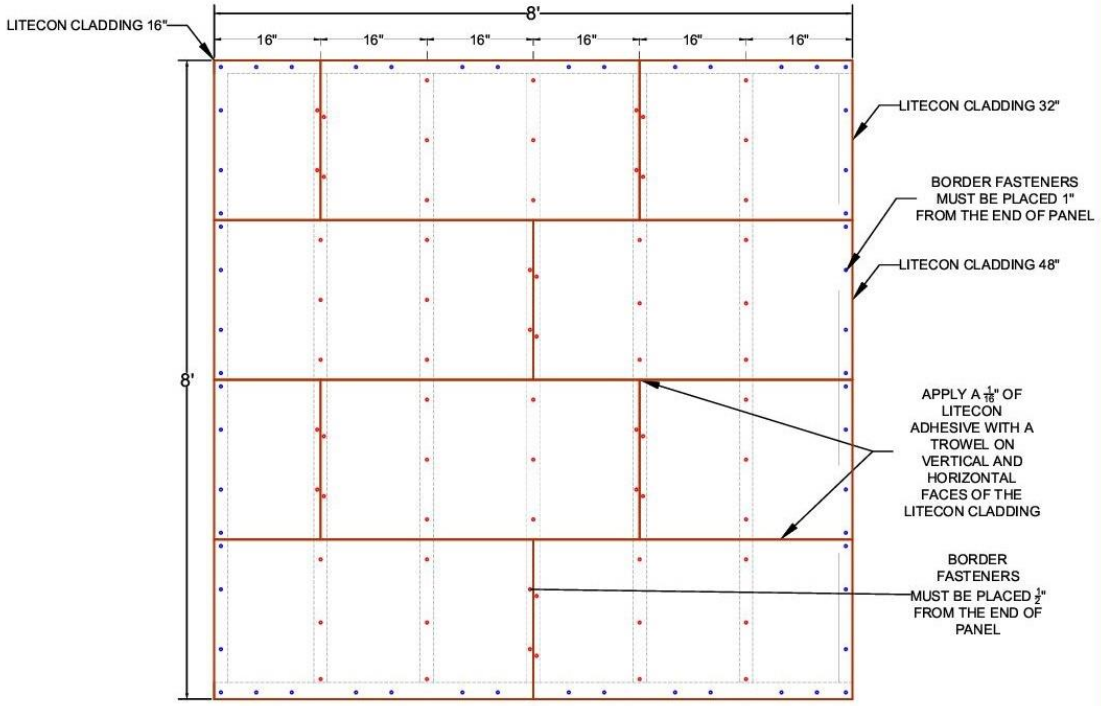


07

Drawing No. 5
Additional Installation Details

PRODUCT: LITECON CLADDING 2"				
AREA: INSTALLATION	ELABORATED: A. A. M. B.	REVISED: C. V. T. S.	VERSION: 2022	PAGE: 3

PANEL INSTALLATION



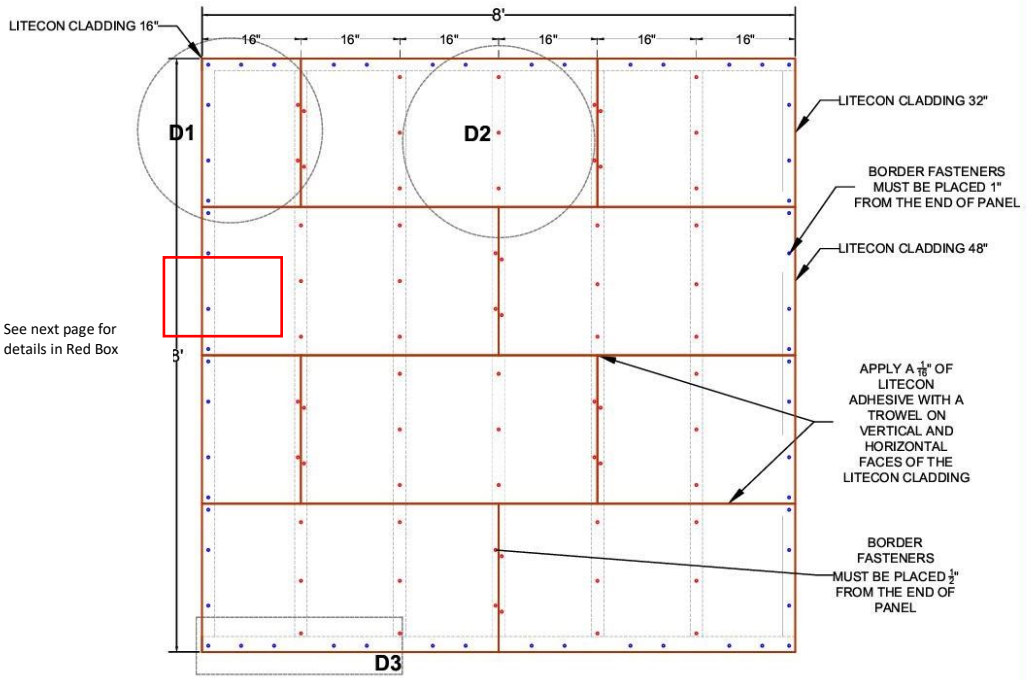
NOTES

Note – Fasteners only installed for Specimen Number 144582. No fasteners were installed on the top of the specimen. The above drawing is just to represent the spacing for additional fasteners. See Drawing No 3 for the Cladding Installation.

Drawing No. 6
Additional Fastener Details

PRODUCT:	LITECON CLADDING 2"			
AREA: INSTALLATION	ELABORATED: A. A. M. B.	REVISED: C. V. T. S.	VERSION: 2022	PAGE: 4

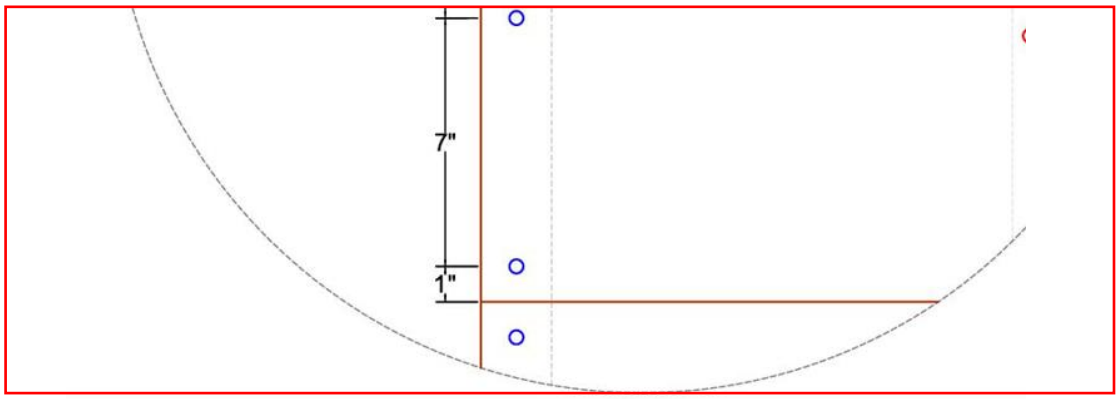
FASTENERS DETAILS



NOTES

Note – Fasteners only installed for Specimen Number 144582. No fasteners were installed on the top of the specimen. The above drawing is just to represent the spacing for additional fasteners. See Drawing No 3 for the Cladding Installation.

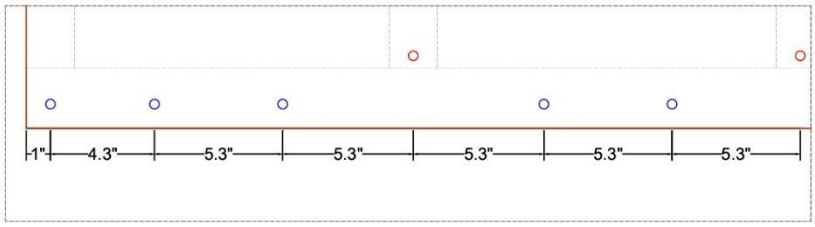
Drawing No. 7
Additional Fastener Details



Drawing No. 8
Fastener Spacing Details

PRODUCT:	LITECON CLADDING 2"			
AREA: INSTALLATION	ELABORATED: A. A. M. B.	REVISED: C. V. T. S.	VERSION: 2022	PAGE: 7

FASTENERS DETAILS



D3

NOTES

Note – Fasteners only installed for Specimen Number 144582. No fasteners were installed on the top of the specimen.

Drawing No. 9
Fastener Spacing Details

ASSEMBLY FOR SHARE WALL 8X4’ WOOD FRAME

ICC OCTOBER 2022

INDEX

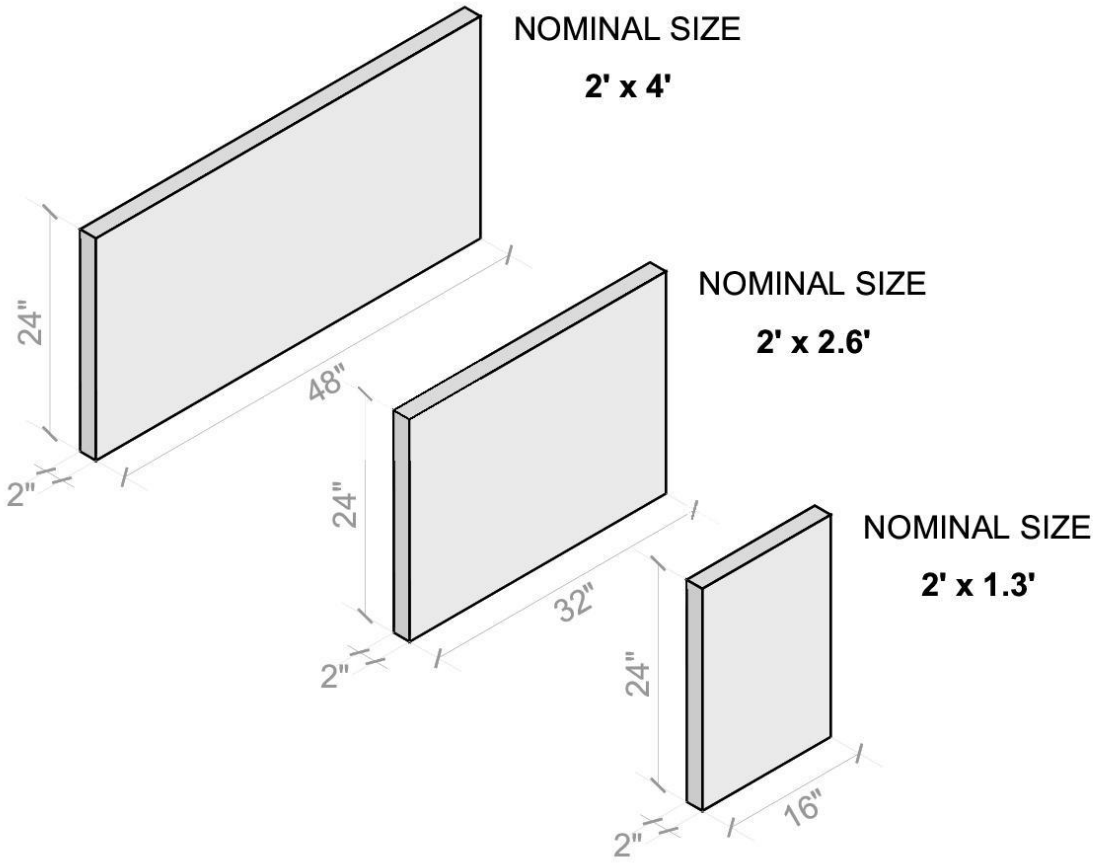
LITECON

CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

PRODUCT: CLADDING PANEL

LITECON CLADDING DIMENSIONS



NOTES

1.- LENGTH CAN BE ADJUSTED TO CUSTOMERS NEEDS (EVERY 0.2 INCHES) UP TO 120".
2.- THE NOMINAL SIZE OF THE LITECON CLADDING IS 2' X 4', THE ACTUAL SIZE IS 23.62" X 48.03".
3.- THE NOMINAL SIZE OF THE LITECON CLADDING IS 2' X 7', THE ACTUAL SIZE IS 23.62" X 80.11".

03

Drawing No. 10
Types of Aircrete Cladding

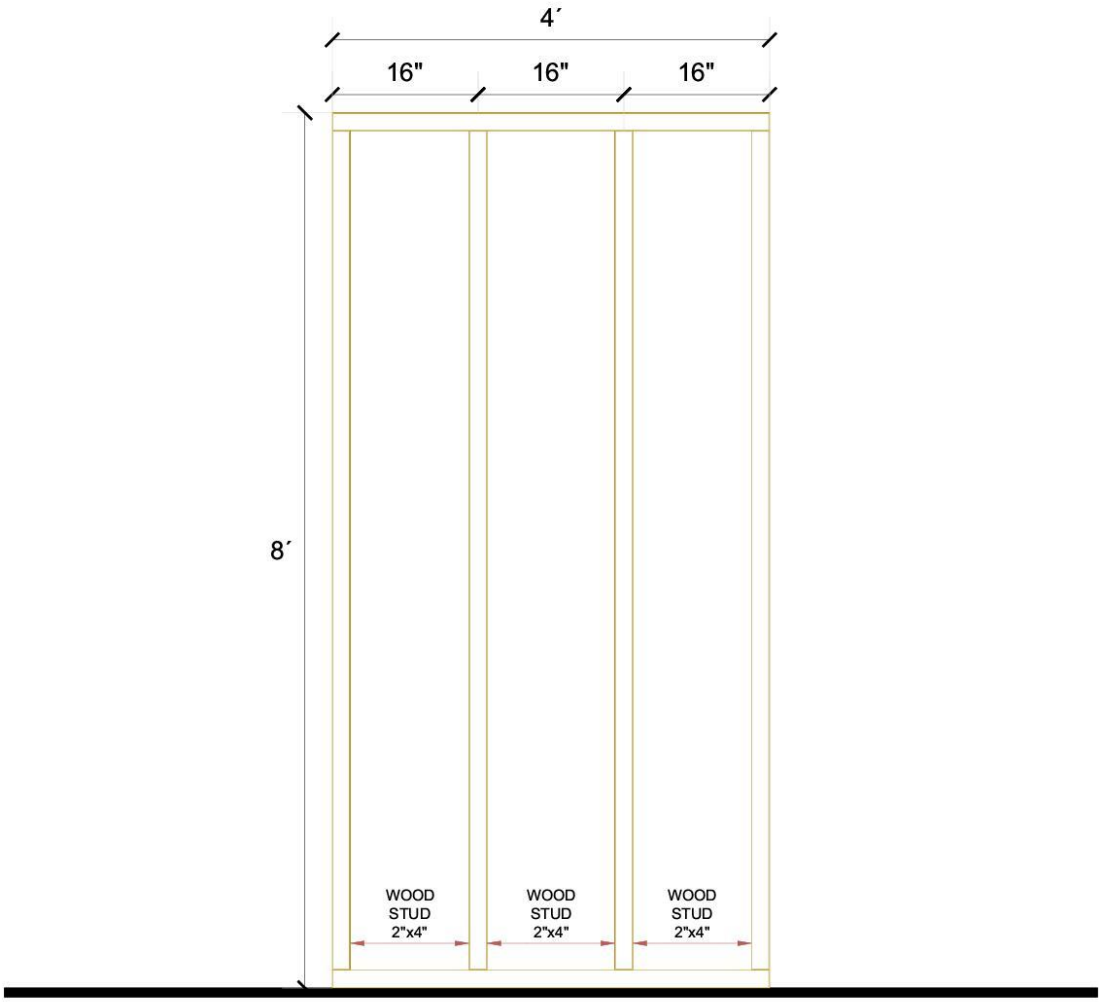
LITECON

CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

PRODUCT: CLADDING PANEL

WOOD FRAME 8´ X 4´



04

Drawing No. 11
Wood Frame (8-ft x 4-ft wall)

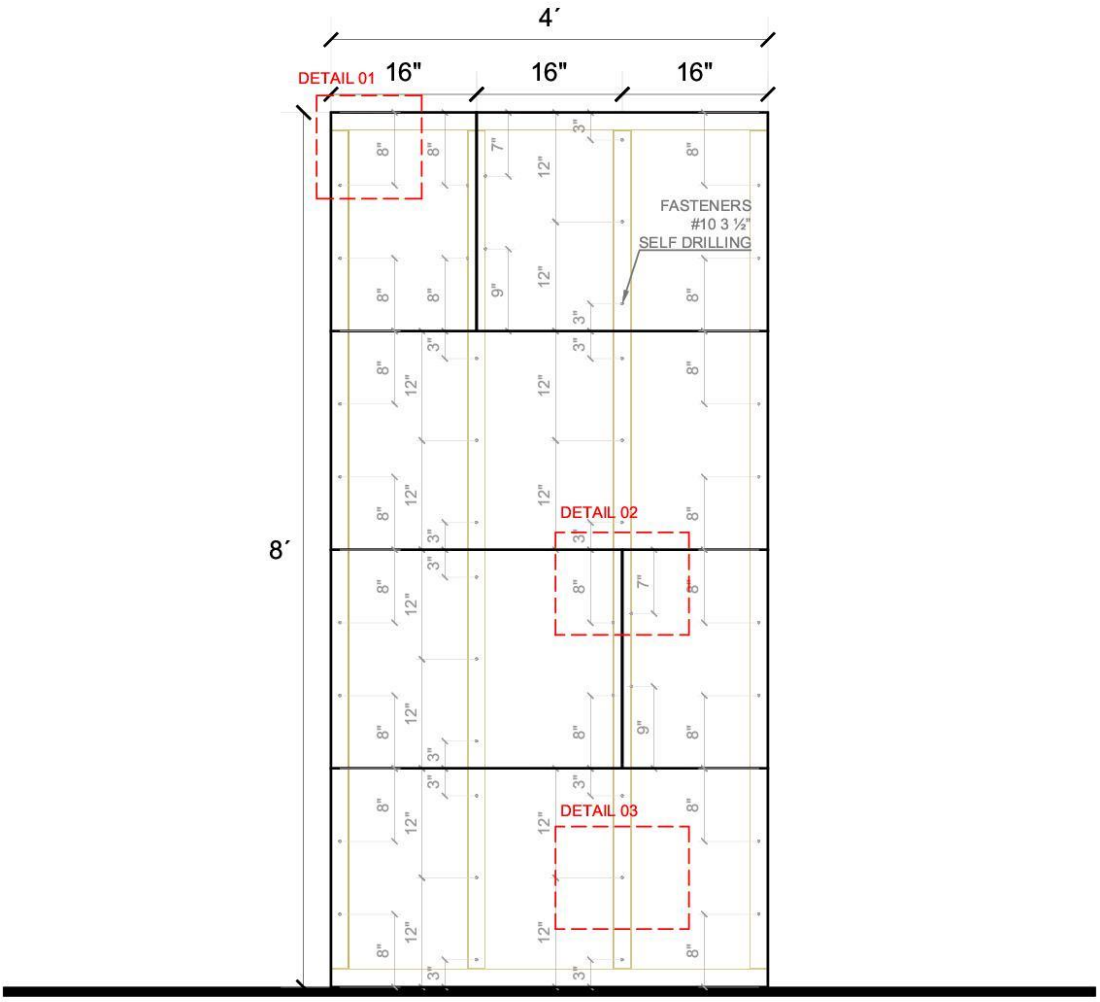
LITECON

CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

PRODUCT: CLADDING PANEL

LITECON CLADDING PANEL INSTALLATION



NOTES

1. THE FASTENERS SHOULD HAVE A COATING THAT PROVIDES CORROSION RESISTANCE.
2. THE FASTENERS SHOULD HAVE A SELF DRILLING POINT FOR STEEL STUD.

05

Drawing No. 12
Assembly of Aircrete Cladding

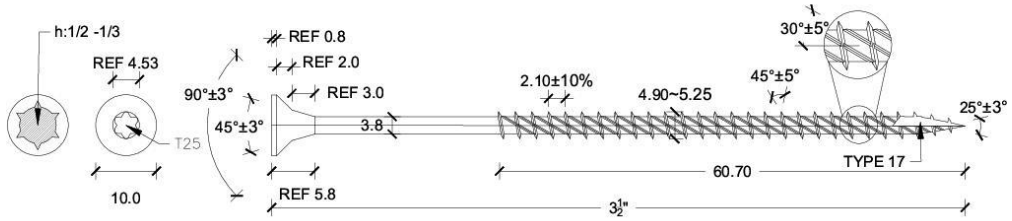
LITECON

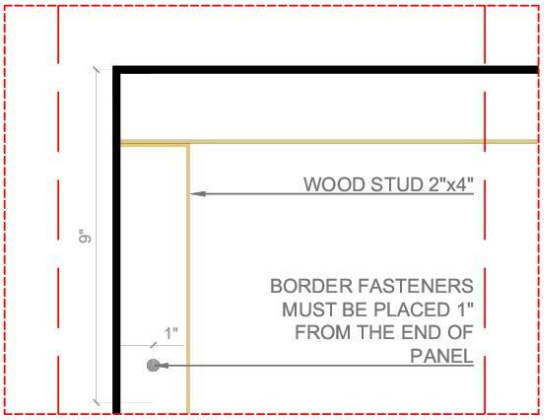
CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

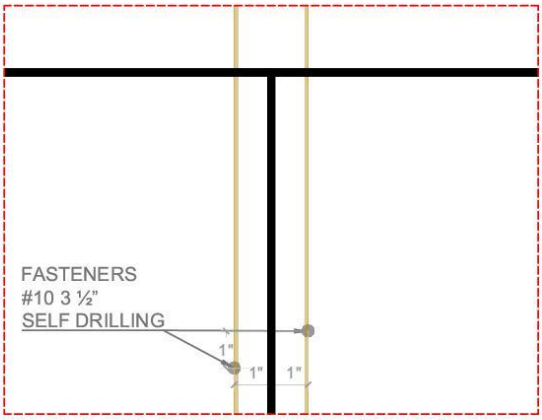
PRODUCT: CLADDING PANEL

PANEL DETAILS

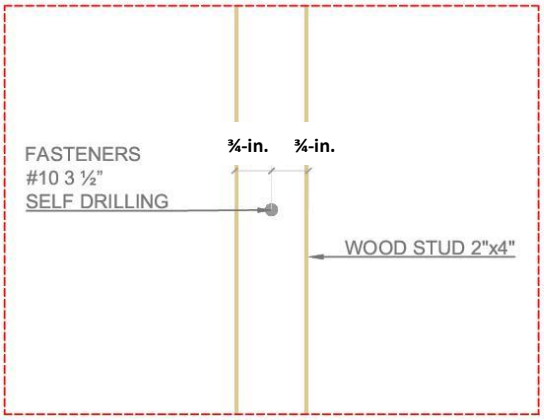




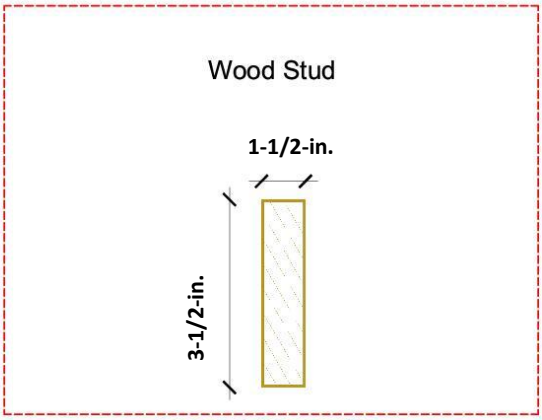
DETAIL 01



DETAIL 02



DETAIL 03



WOOD STUD PROFILE

06

Note - The actual dimensions of the 2x4 wood studs are 1-1/2-inx3-1/2-in. The fasteners were 1-in. away from the center of the wood stud but did not align with the wood stud as shown in detail 02. They are 1/4-in. away from the end of the wood stud.

Drawing No. 13
Fastener Specifications and Spacing

LITECON

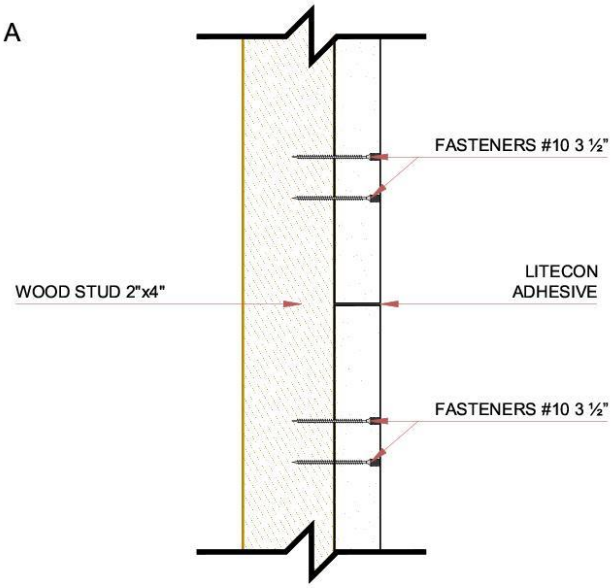
CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

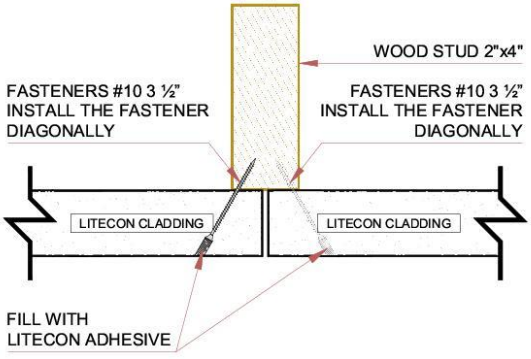
PRODUCT: CLADDING PANEL

SECTION A - DETAIL 02 - DETAIL 03

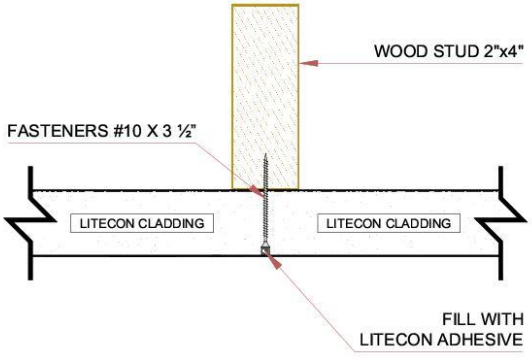
SECTION A



DETAIL 2



DETAIL 3



07

Drawing No. 14
Additional Installation Details

ASSEMBLY FOR SHARE WALL 8X8’ STEEL FRAME

ICC OCTOBER 2022

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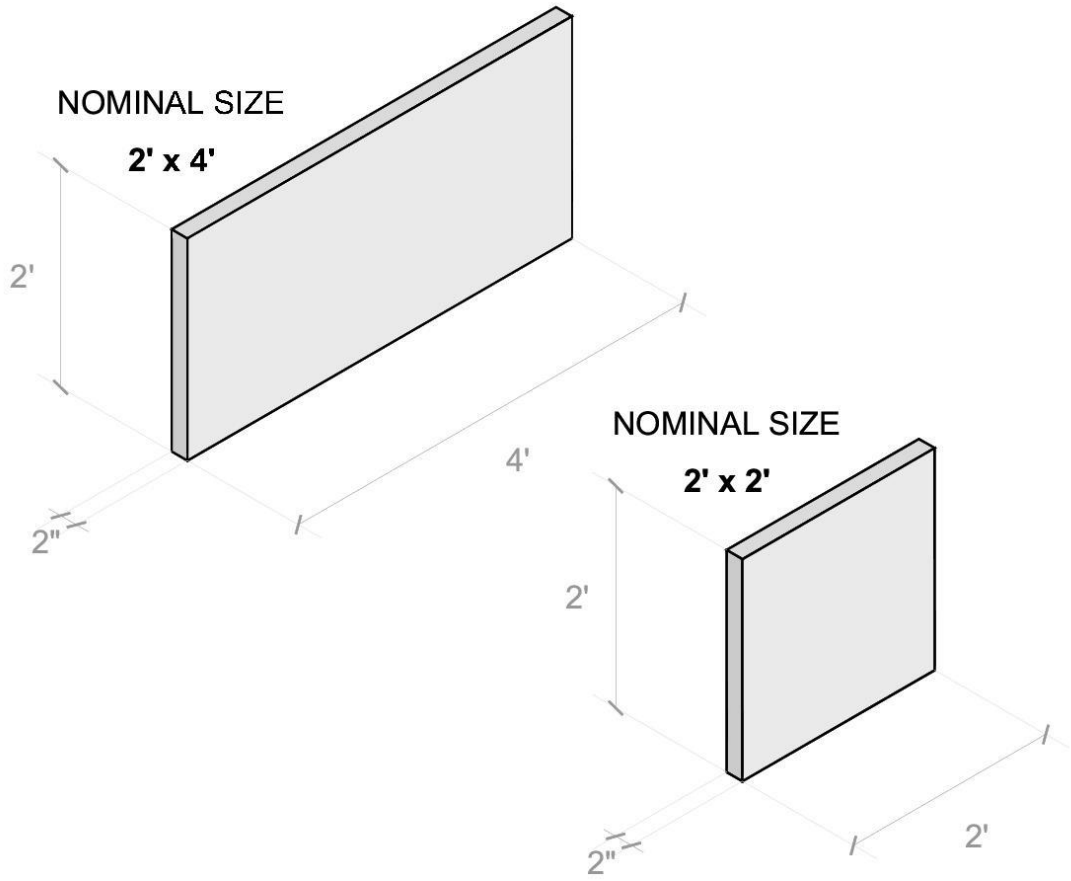
LITECON

CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

PRODUCT: CLADDING PANEL

LITECON CLADDING DIMENSIONS



NOTES

1.- LENGTH CAN BE ADJUSTED TO CUSTOMERS NEEDS (EVERY 0.2 INCHES) UP TO 120".
2.- THE NOMINAL SIZE OF THE LITECON CLADDING IS 2' X 4', THE ACTUAL SIZE IS 23.62" X 48.03".
3.- THE NOMINAL SIZE OF THE LITECON CLADDING IS 2' X 7', THE ACTUAL SIZE IS 23.62" X 80.11".

03

Drawing No. 15
Types of Aircrete Cladding/Panel

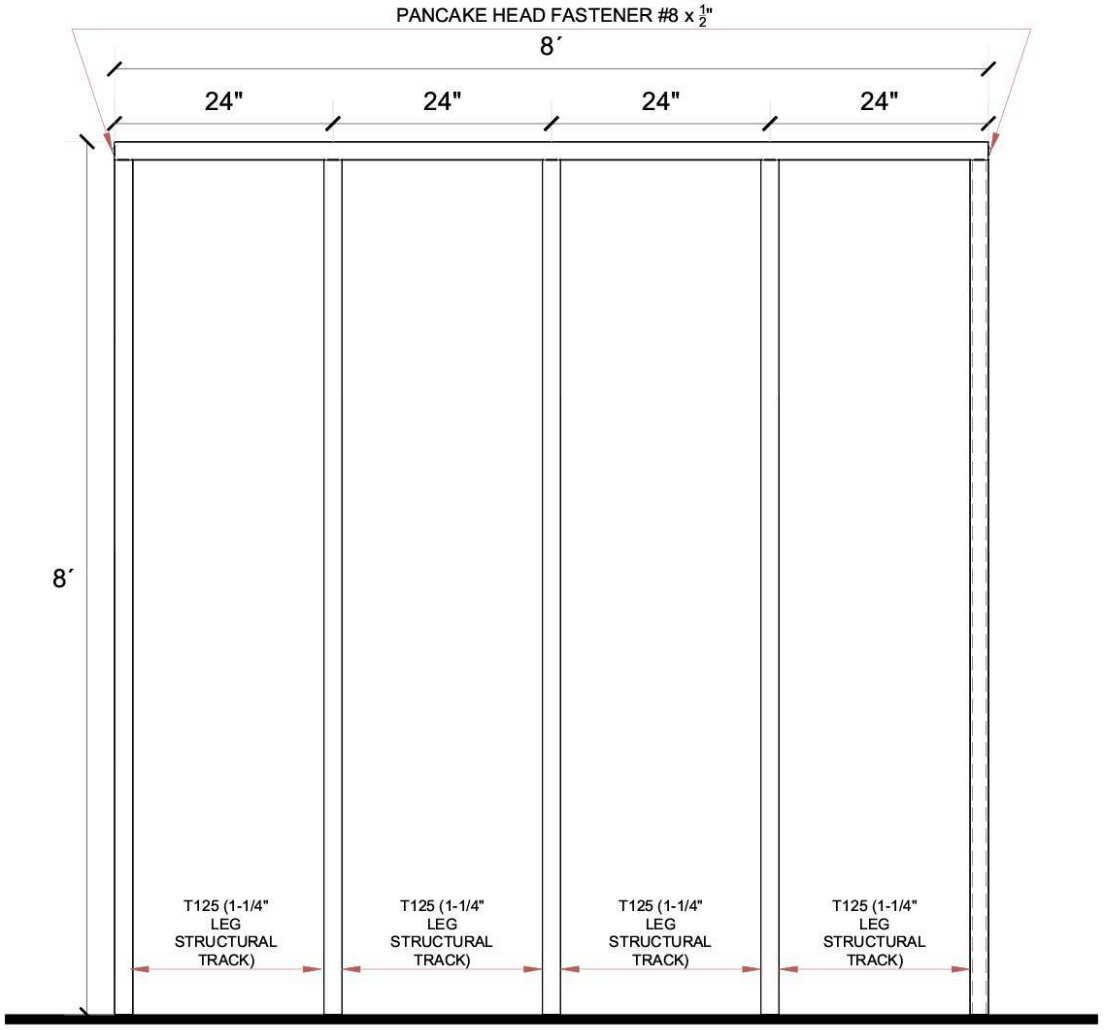
LITECON

CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

PRODUCT: CLADDING PANEL

STEEL FRAME 8´ X 8´



04

Note - #8 x 1/2-in. Truss Head Tek Screws were used instead of Pancake Head Fasteners #8 x 1/2-in.

Drawing No. 16
Steel Frame (8-ft x 8-ft wall)

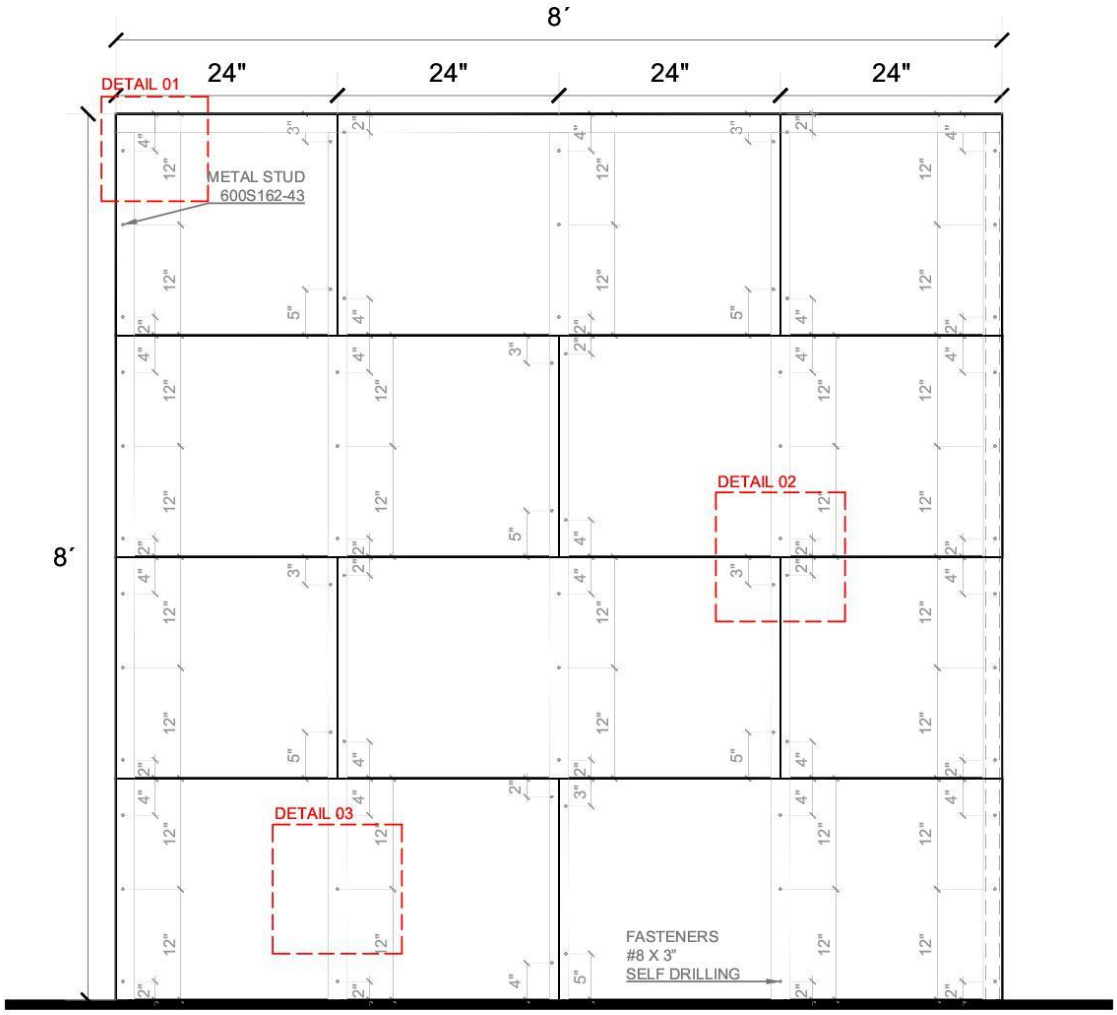
LITECON

CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

PRODUCT: CLADDING PANEL

LITECON CLADDING PANEL INSTALLATION



NOTES

1. THE FASTENERS SHOULD HAVE A COATING THAT PROVIDES CORROSION RESISTANCE.
2. THE FASTENERS SHOULD HAVE A SELF DRILLING POINT FOR STEEL STUD.

05

Drawing No. 17
Assembly of Aircrete Cladding

LITECON

CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

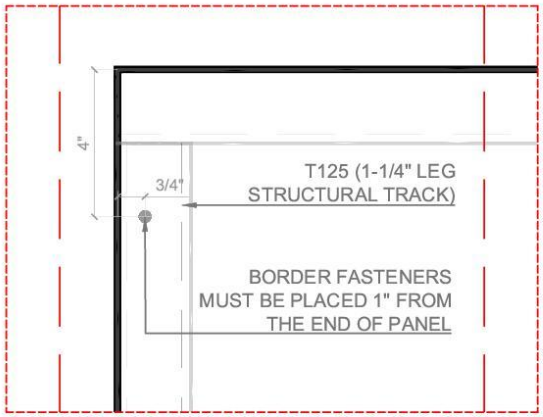
PRODUCT: CLADDING PANEL

PANEL DETAILS

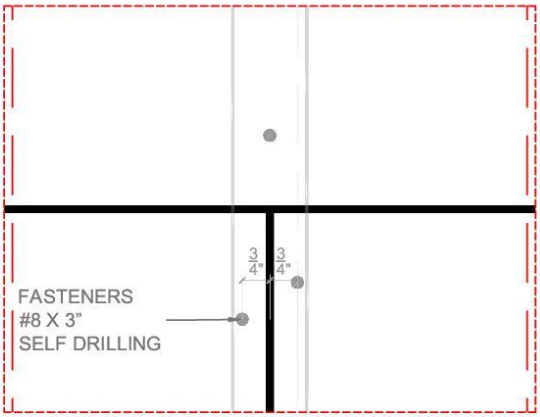
#8 X 3" SELF DRILLING, PHILLIPS COUNTERSUNK

FASTENER FOR METAL STUD

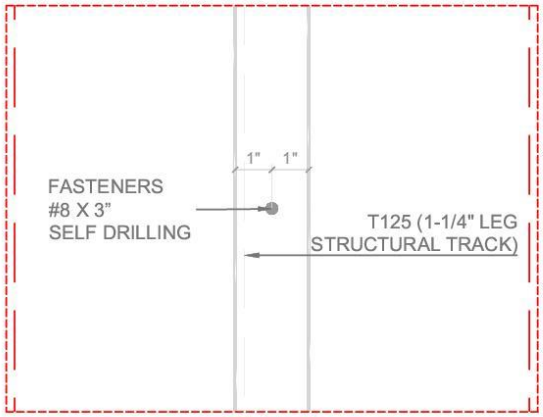
MATERIAL	AISI 1016- 1024
TORSIONAL STRENGHT	61 lb-in min.
SHEAR STRENGHT	1200 lbs min.
PULLOUT (PLYWOOD)	>340 psi.



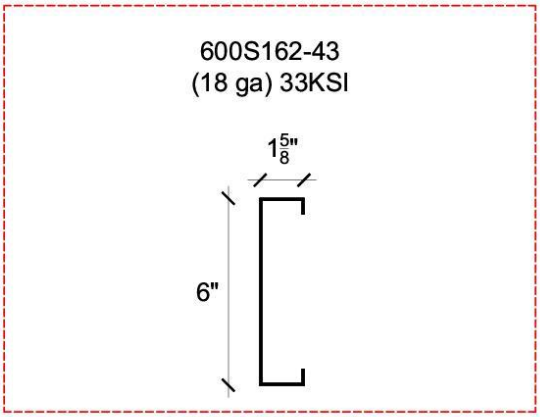
DETAIL 01



DETAIL 02



DETAIL 03



STEEL STUD PROFILE

06

Drawing No. 18
Fastener Specifications and Spacing

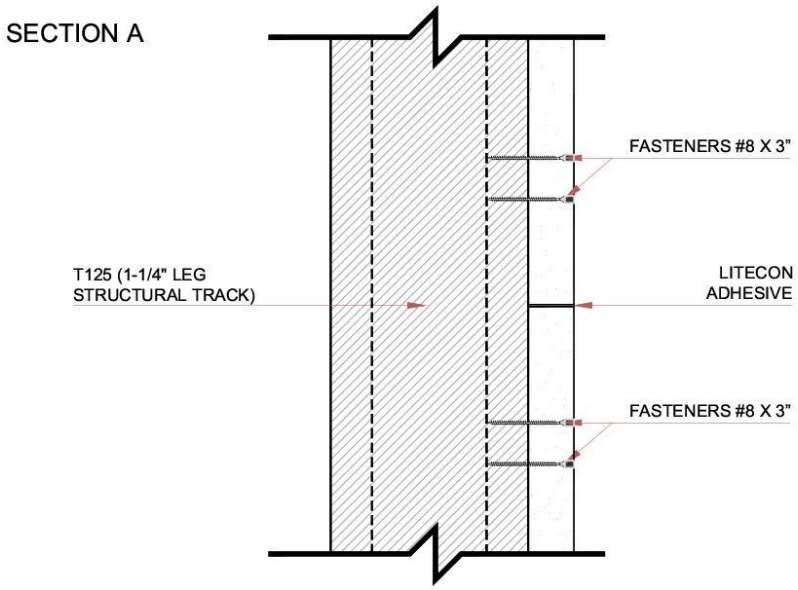
LITECON

CONSTRUCTION DETAILS

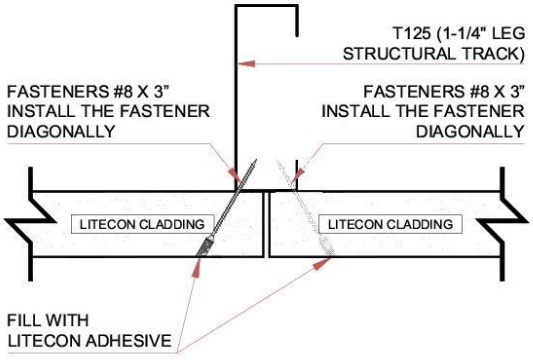
VERSION: OCTOBER 2022

PRODUCT: CLADDING PANEL

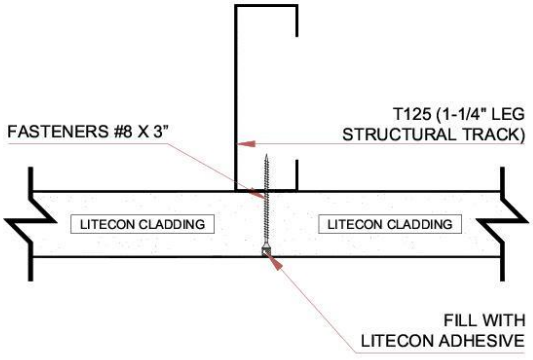
SECTION A - DETAIL 02 - DETAIL 03



DETAIL 2



DETAIL 3



07

Drawing No. 19
Additional Installation Details

ASSEMBLY FOR SHARE WALL 8X4' STEEL FRAME

ICC OCTOBER 2022

INDEX

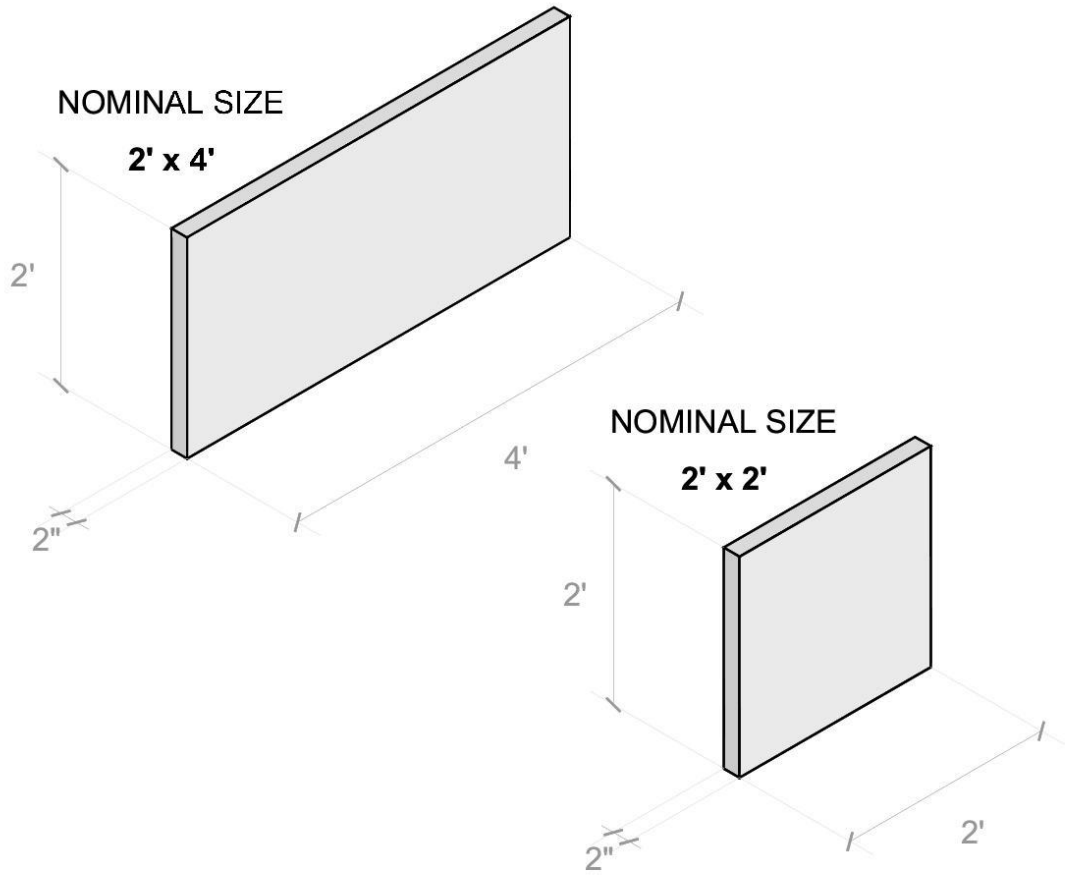
LITECON

CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

PRODUCT: CLADDING PANEL

LITECON CLADDING DIMENSIONS



NOTES

1.- LENGTH CAN BE ADJUSTED TO CUSTOMERS NEEDS (EVERY 0.2 INCHES) UP TO 120".
2.- THE NOMINAL SIZE OF THE LITECON CLADDING IS 2' X 4', THE ACTUAL SIZE IS 23.62" X 48.03".
3.- THE NOMINAL SIZE OF THE LITECON CLADDING IS 2' X 7', THE ACTUAL SIZE IS 23.62" X 80.11".

03

Drawing No. 20
Types of Aircrete Cladding

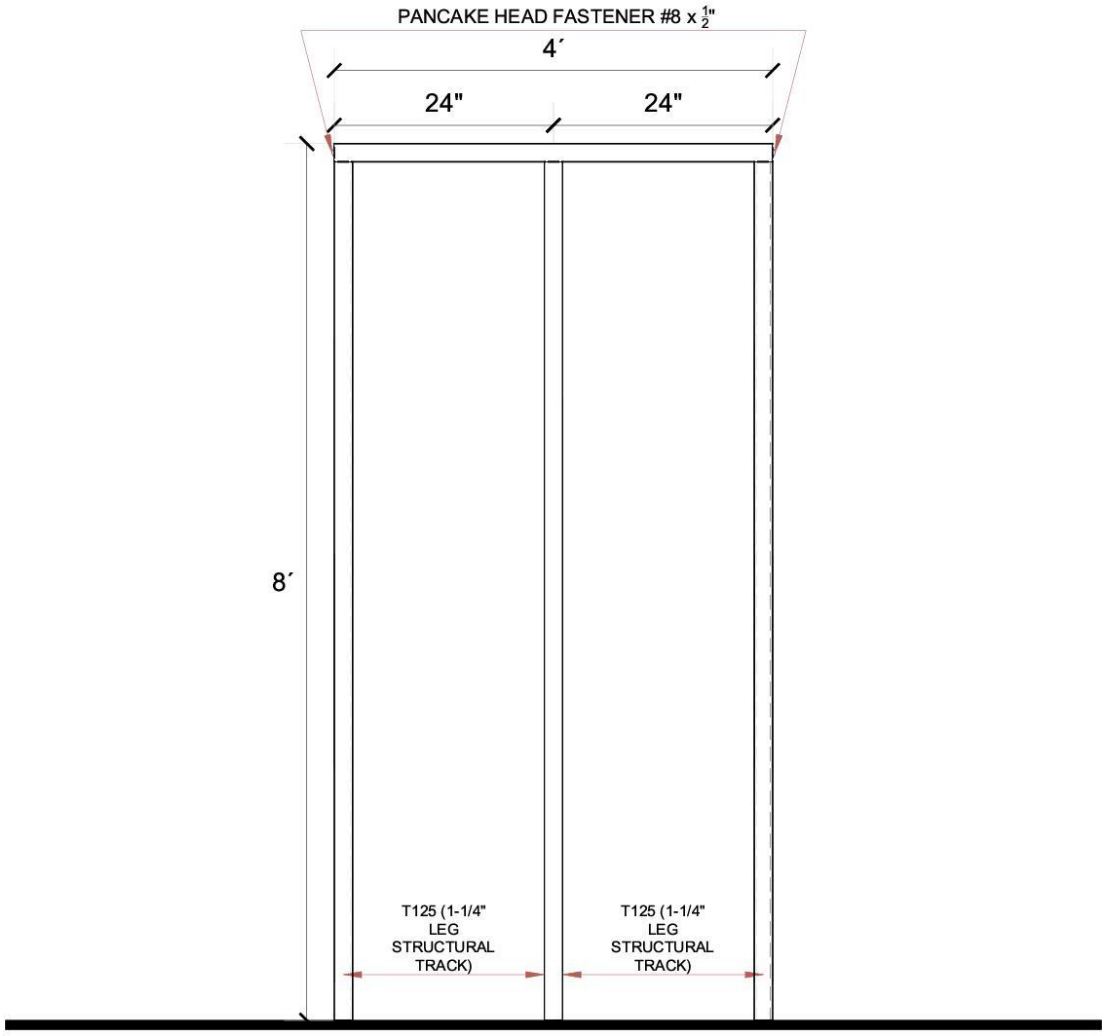
LITECON

CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

PRODUCT: CLADDING PANEL

STEEL FRAME 8´ X 4´



04

Note - #8 x 1/2-in. Truss Head Tek Screws were used instead of Pancake Head Fasteners #8 x 1/2-in.

Drawing No. 21
Steel Frame (8-ft x 4-ft wall)

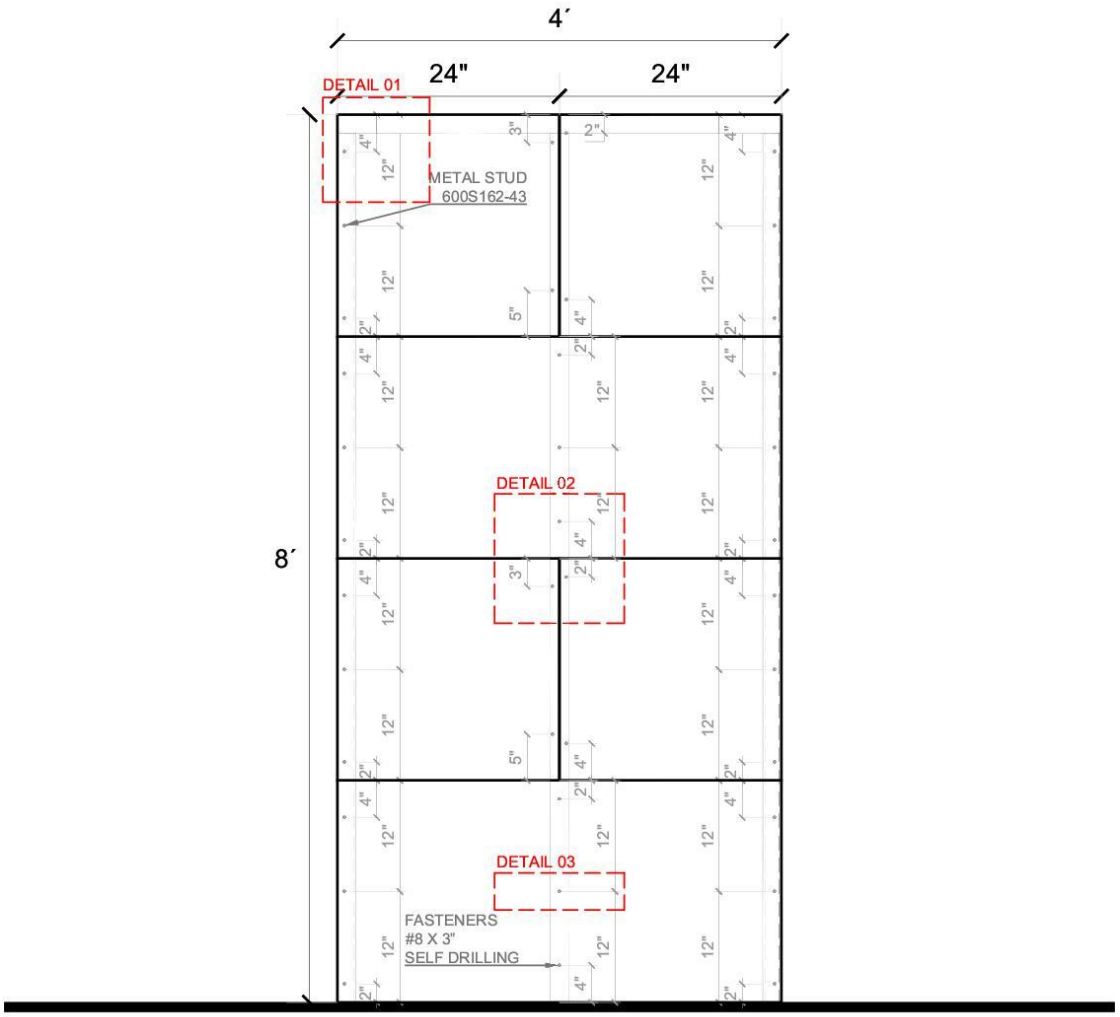
LITECON

CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

PRODUCT: CLADDING PANEL

LITECON CLADDING PANEL INSTALLATION



NOTES

1. THE FASTENERS SHOULD HAVE A COATING THAT PROVIDES CORROSION RESISTANCE.
2. THE FASTENERS SHOULD HAVE A SELF DRILLING POINT FOR STEEL STUD.

05

Drawing No. 22
Assembly of Aircrete Cladding

LITECON

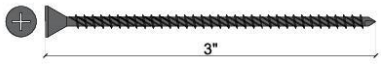
CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

PRODUCT: CLADDING PANEL

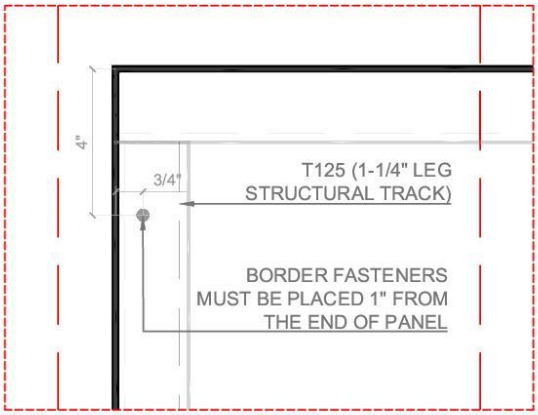
PANEL DETAILS

#8 X 3" SELF DRILLING, PHILLIPS COUNTERSUNK

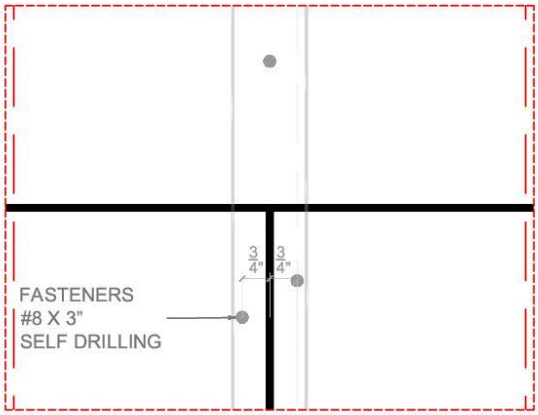


FASTENER FOR METAL STUD

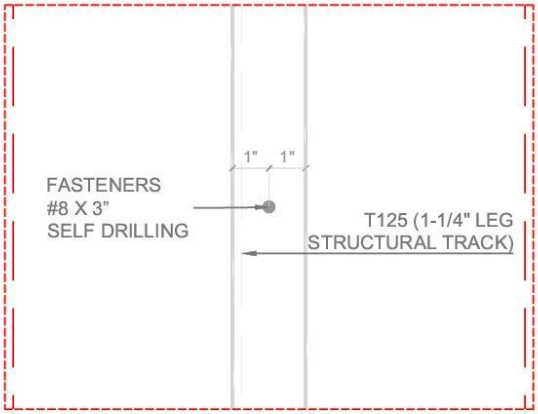
MATERIAL	AISI 1016- 1024
TORSIONAL STRENGHT	61 lb-in min.
SHEAR STRENGHT	1200 lbs min.
PULLOUT (PLYWOOD)	>340 psi.



DETAIL 01

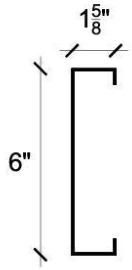


DETAIL 02



DETAIL 03

600S162-43
(18 ga) 33KSI



STEEL STUD PROFILE

06

Drawing No. 23
Fastener Specifications and Spacing

LITECON

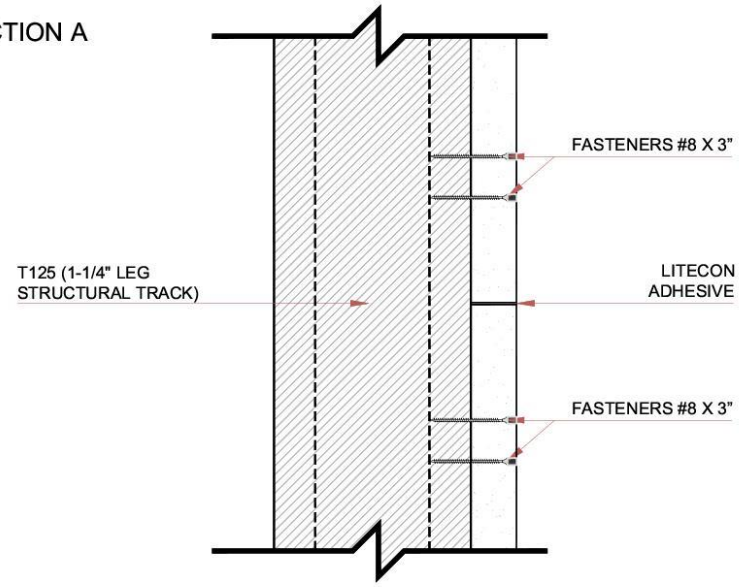
CONSTRUCTION DETAILS

VERSION: OCTOBER 2022

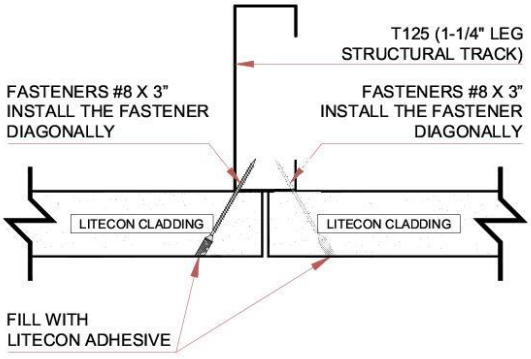
PRODUCT: CLADDING PANEL

SECTION A - DETAIL 02 - DETAIL 03

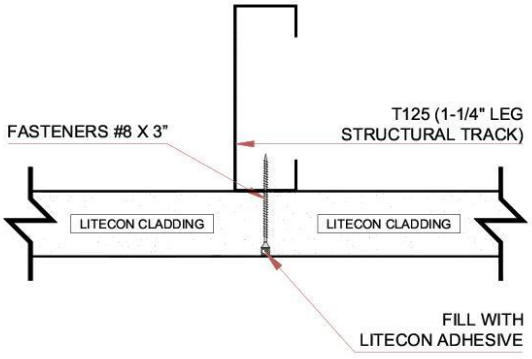
SECTION A



DETAIL 2



DETAIL 3



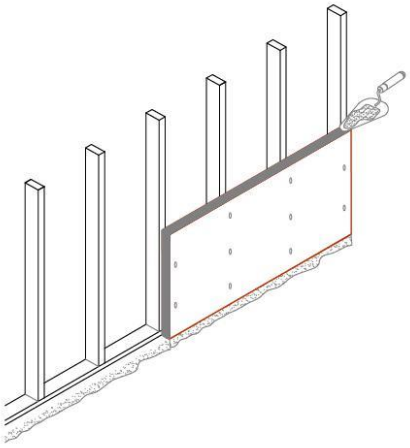
07

Drawing No. 24
Additional Installation Details

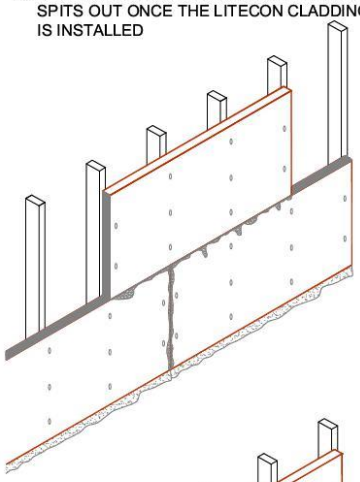
	CONSTRUCTION DETAILS				
LITECON	PRODUCT: CLADDING				
	AREA: ENGINEERING	ELABORATED: V.G.C.	REVISED:	VERSION: V11 220117	PAGE: 11

WALLS
SUBSEQUENT ROWS

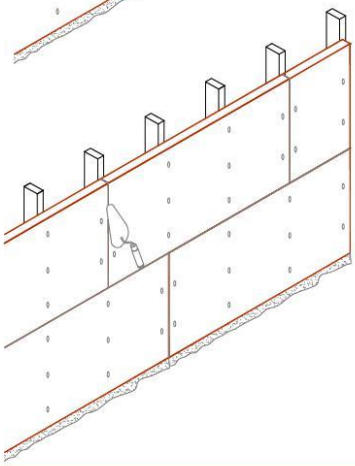
1.- APPLY AIRCRETE ADHESIVE BETWEEN THE MATING FACES



2.- APPLY ENOUGH AIRCRETE ADHESIVE SO THAT IT SPITS OUT ONCE THE LITECON CLADDING IS INSTALLED



3.- AFTER THE LITECON CLADDING IS INSTALLED SMOOTHEN THE AREA WHERE THE ADHESIVE SPAT OUT



NOTES

1.- THE FIRST ROW CAN ALSO BE LEVELED WITH TRADITIONAL TYPE S MORTAR OR A MIX OF MORTAR AND AIRCRETE ADHESIVE

2.- THE $\frac{1}{2}$" GAP GENERATED BY THE FASTENER MUST BE FILLED WITH ADHESIVE MORTAR TO PREVENT WATER INTRUSION TO THE STUD

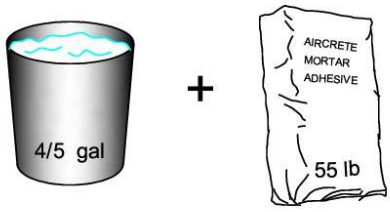
3.- $\frac{1}{16}$" THIN AIRCRETE MORTAR ADHESIVE BETWEEN PANELS

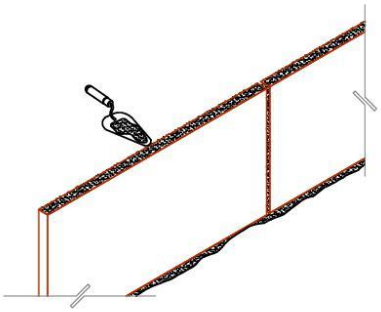
Drawing No. 25
Installation Instructions

CONSTRUCTION DETAILS				
LITECON	PRODUCT: CLADDING			
AREA: ENGINEERING	ELABORATED: V.G.C.	REVISED:	VERSION: V11 220117	PAGE: 25

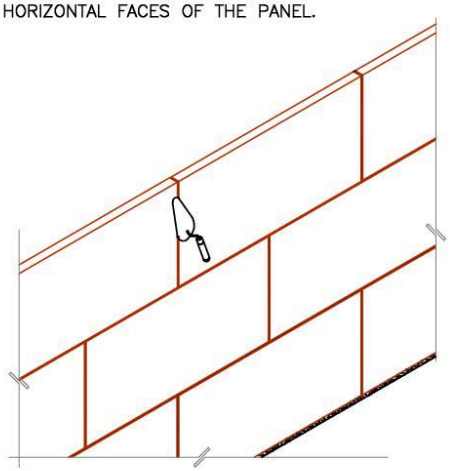
AIRCRETE MORTAR ADHESIVE

1.– MIX 4/5 gal OF WATER FOR EACH 55 lb OF AIRCRETE ADHESIVE.
MIX TO OBTAIN A UNIFORM WORKABLE CONSISTENCY WITH NO CLUMPS.
LET REST FOR 5 MINUTES, MIX AGAIN AND APPLY.





2.– APPLY 1/2" THICK OR AS NEEDED TO LEVEL FOUNDATION.
3.– APPLY A 1/16" LAYER WITH A TROWEL ON VERTICAL AND HORIZONTAL FACES OF THE PANEL.



4.– LEVEL AND SMOOTH JOINTS BETWEEN PANELS USING A THIN LAYER OF THE MORTAR

NOTES
1.- ALLOW AIRCRETE MORTAR TO DRY FOR A MINIMUM OF 24 HOURS PRIOR TO APPLYING ANY LOAD

Drawing No. 26
Aircrete Mortar Preparation and Installation

Appendix C - Data

SUMMARY DATA
ASTM E72-15 Section 14
Standard Test Methods of Conducting Strength Tests of Panels for Building Construction

Client: Aircrete Mexico
Job Number: AMAB042222-30

Test Location: ICC NTA
Nappanee, Indiana

General:
Date Received: 6/21/2022
Constructed By: Dave Lane

Apparatus: Asset No.
Hand-Held Moisture Meter: 00830
Balance: 00000
Timing: 00000
Tape Measure: 02463
Balance: 00000

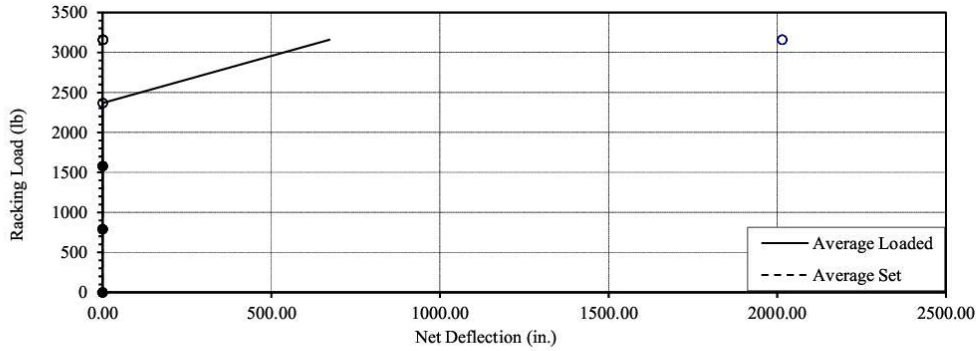
Summary Results:

Specimen No.	Ultimate Load (lb)	Percent Difference From Avg.	Shear Stiffness (kip/in.)[B] Factor of Safety 2.0	2.5	3.0	Overturning Moment (in-lb)
144582	**3,473**	2%	5.94	7.17	8.61	329,829
144583	**3,386**	-1%	3.76	4.69	5.13	321,640
144584	**3,376**	-1%	2.96	3.54	4.37	320,612
Average	**3,412**		4.22	5.13	6.04	324,027

Shear Strength:
For Ultimate Load/FOS[A]:
FOS=2.0: **211-plf**
FOS=3.0: **140-plf**
For Load at 1/8 in.
Deflection: **103-plf**
For Load at 0.200 in.
Deflection: **138-plf**

[A]Factor of Safety = FOS
[B]Calculated based on 1.4*Ultimate Load/FOS

Specimen No.	1/8-in. Load (lb)	Percent Difference From Avg.	0.200-in. Load (lb)	Percent Difference From Avg.	Deflection at Ult. Load / 2 (in.)	Percent Difference From Avg.
144582	1234	26%	1597	22%	0.2148	-35%
144583	872	-11%	1208	-7%	0.3515	7%
144584	822	-16%	1108	-15%	0.4232	28%
Average	**976**		**1305**		**0.3298**	



SUMMARY DATA
ASTM E72-15 Section 14
Standard Test Methods of Conducting Strength Tests of Panels for Building Construction

Sample Description:

General: 94-15/16-in. x 96-1/8-in. wall constructed with 96-in. 2 x 4 SYP wood top & bottom plates and 93-in. 2 x 4 SYP wood studs 16-in. OC, with 2 x 6 S-P-F lumber bottom plate. Alternating 24-in. x 24-in. and 24-in. x 48-in. 2-in.

Test Variable: Tested Aircrete cladding on 2 x 4 wood frame

Procedure Modifications: Oven dry moisture content and specific gravity were not taken.

Bracing Description:

Component	Description, Size, Span Rating, Grade	Application	Spec. No.	Nominal Thickness (in.)	Actual Thickness (in.)
Sheathing A	Aircrete Cladding Panel, 2' x 4' x 1.97"	Horizontal	144578	1.97	N/A
Sheathing B	Aircrete Cladding Panel, 2' x 2.6' x 1.97"	Horizontal	144580	1.97	N/A
Sheathing C	Aircrete Cladding Panel, 2' x 1.3' x 1.97"	Horizontal	N/A	1.97	N/A

Fastening Schedule:

Mechanical Fastening: Connection	Fastener Type	Nominal (in.) Dia./Gauge	Length	QTY	Spacing[A]	Spec. No.	Edge Dist. (in.)
Top plate-to-stud	Nail	0.131	3	3	16 OC	108149	--
Bottom plate-to-stud	Nail	0.131	3	3	16 OC	108149	--
Top plate-to-top plate							--
Stud-to-stud (chords)							--
Sheathing A (mechanical)	Deck Screw	#10	3-1/2-in.	42	9 OC	144658	1
Sheathing B (mechanical)	Deck Screw	#10	3-1/2-in.		9 OC	144658	1

Adhesive Fastening: Connection	Adhesive Trade Name	Bead Diameter (in.)
Sheathing A (adhered)	None	N/A
Sheathing B (adhered)	N/A	N/A

[A]Edge/field spacing (ex: 6/12) or oc spacing (ex: 6 oc). Units are inches.

SUMMARY DATA
ASTM E72-15 Section 14
Standard Test Methods of Conducting Strength Tests of Panels for Building Construction

Moisture Content of lumber receiving perimeter fasteners (per ASTM D4442):

	Member	Top Plate	Bottom Plate	Studs	0	0	0	Average
Spec. 1	1	12.1%	14.3%	13.3%				12.9%
	2			12.7%				
	3			12.7%				
	4			13.0%				
	5			13.4%				
	6			12.3%				
	7			12.0%				
	8							
Spec. 2	1	11.7%	13.2%	10.7%				11.6%
	2			11.9%				
	3			11.7%				
	4			10.9%				
	5			11.5%				
	6			11.8%				
	7			10.8%				
	8							
Spec. 3	1	11.8%	13.2%	11.1%				11.8%
	2			12.1%				
	3			11.8%				
	4			11.5%				
	5			11.6%				
	6			11.3%				
	7			12.1%				
	8							

SUMMARY DATA
ASTM E72-15 Section 14
Standard Test Methods of Conducting Strength Tests of Panels for Building Construction

Test Results:
Specimen No.: 144582
Construction Date: 7/25/2022
Test Start: 9/14/2022
Test Performed By: Dave Lane
Test Witnessed By: Sai Yenugula

Lab Conditions:
Temperature (°F): 69.1
RH (%): 70.5

Apparatus:	Asset No.
Shear wall rack:	00022
Load Cell (Specimen):	00932
Load Cell (Uplift):	745, 746
Signal Conditioner:	00757
Timing Device:	00757
Sensor:	00576
Dial Gauge #1:	00057
Dial Gauge #2:	00458
Dial Gauge #3:	00055
Dial Gauge #4:	00153

Test Results Table

	Load	Deflection (in.)				Net
	Stages (lb)	Gauge #1	Gauge #2	Gauge #3	Gauge #4	Deflection
REF	0	0.000	0.000	0.000	0.000	0.000
Pre-Load	0	0.000	0.000	0.000	0.000	0.000
	0	0.000	0.000	0.000	0.000	0.000
First	790	0.119	0.009	0.024	0.015	0.071
	0	0.025 (21%)	0.005 (55%)	0.002 (8%)	0.004 (26%)	0.014
Second	1580	0.285	0.013	0.055	0.027	0.190
	0	0.056 (20%)	0.006 (47%)	0.003 (6%)	0.007 (27%)	0.039
Third	2370	0.560	0.018	0.083	0.039	0.420
	3160	2015.000	0.022	0.108	0.049	2014.821
	3950	--	--	--	--	--
	4740	--	--	--	--	--
	5530	--	--	--	--	--
	6320	--	--	--	--	--

Note: The percent shown in parentheses is calculated as
[(Residual Deflection/Loaded Deflection) x 100] for each load stage.

Average Load Rate (lb/min.): 296
Ultimate Load (lbf): 3473
Load at 1/8 in. Deflection (lbf): 1234
Load at 0.200 in. Deflection (lbf): 1597
Deflection at Ultimate Load/2 (in): 0.215
Total Test Time (mm:ss): 23:46

Mode of Failure:
Fastener break out at edges of cladding (top 2/3 of non loading side, bottom 2/3 of loading side), top corner of cladding opposite loading side broke away at joint. Diagonal cracks from loading corner to opposite corner.

SUMMARY DATA
ASTM E72-15 Section 14
Standard Test Methods of Conducting Strength Tests of Panels for Building Construction

Test Results:
Specimen No.: 144583
Construction Date: 7/25/2022
Test Date: 9/14/2022
Test Performed By: Dave Lane
Test Witnessed By: Sai Yenugula

Lab Conditions:
Temperature (°F): 79.7
RH (%): 45.7

Apparatus:	Asset No.
Shear wall rack:	00022
Load Cell (Specimen):	00932
Load Cell (Uplift):	745, 746
Signal Conditioner:	00757
Timing Device:	00757
Sensor:	00576
Dial Gauge #1:	00057
Dial Gauge #2:	00458
Dial Gauge #3:	00055
Dial Gauge #4:	00153

Test Results Table

	Load Stages (lb)	Deflection (in.) Gauge #1	Gauge #2	Gauge #3	Gauge #4	Net Deflection
REF	0	0.000	0.000	0.000	0.000	0.000
Pre-Load	0	0.000	0.000	0.000	0.000	0.000
	0	0.000	0.000	0.000	0.000	0.000
First	790	0.154	0.002	0.020	0.015	0.117
	0	0.045 (29%)	0.001 (57%)	0.011 (55%)	0.005 (35%)	0.027
Second	1580	0.442	0.007	0.074	0.038	0.323
	0	0.111 (25%)	0.005 (67%)	0.022 (30%)	0.008 (20%)	0.076
Third	2370	0.864	0.013	0.114	0.054	0.683
	3160	1.549	0.021	0.152	0.050	1.326
	3950	--	--	--	--	--
	4740	--	--	--	--	--
	5530	--	--	--	--	--
	6320	--	--	--	--	--

Note: The percent shown in parentheses is calculated as
[(Residual Deflection/Loaded Deflection) x 100] for each load stage.

Average Load Rate (lb/min.): 296
Ultimate Load (lbf): 3386
Load at 1/8 in. Deflection (lbf): 872
Load at 0.200 in. Deflection (lbf): 1208
Deflection at Ultimate Load/2 (in): 0.352
Total Test Time (mm:ss): 21:49

Mode of Failure:
Fastener break out at edges of cladding (top 2/3 of non loading side, bottom 2/3 of loading side), top corner of cladding opposite loading side broke away at joint. Diagonal cracks from loading corner to opposite corner.

SUMMARY DATA
ASTM E72-15 Section 14
Standard Test Methods of Conducting Strength Tests of Panels for Building Construction

Test Results:
Specimen No.: 144584
Construction Date: 7/25/2022
Test Date: 9/15/2022
Test Performed By: Dave Lane
Test Witnessed By: Sai Yenugula

Lab Conditions:
Temperature (°F): 68.0
RH (%): 69.5

Apparatus:	Asset No.
Shear wall rack:	00022
Load Cell (Specimen):	00932
Load Cell (Uplift):	745, 746
Signal Conditioner:	00757
Timing Device:	00757
Sensor:	00576
Dial Gauge #1:	00057
Dial Gauge #2:	00458
Dial Gauge #3:	00055
Dial Gauge #4:	00153

Test Results Table

	Load	Deflection (in.)				Net
	Stages (lb)	Gauge #1	Gauge #2	Gauge #3	Gauge #4	Deflection
REF	0	0.000	0.000	0.000	0.000	0.000
Pre-Load	0	0.000	0.000	0.000	0.000	0.000
	0	0.000	0.000	0.000	0.000	0.000
First	790	0.185	0.007	0.025	0.028	0.125
	0	0.049 (26%)	0.004 (59%)	0.004 (14%)	0.008 (27%)	0.034
Second	1580	0.531	0.013	0.075	0.062	0.382
	0	0.116 (22%)	0.008 (63%)	0.008 (11%)	0.015 (23%)	0.085
Third	2370	1.059	0.020	0.113	0.098	0.828
	3160	1.787	0.025	0.150	0.119	1.493
	3950	--	--	--	--	--
	4740	--	--	--	--	--
	5530	--	--	--	--	--
	6320	--	--	--	--	--

Note: The percent shown in parentheses is calculated as
[(Residual Deflection/Loaded Deflection) x 100] for each load stage.

Average Load Rate (lb/min.): 296
Ultimate Load (lbf): 3376
Load at 1/8 in. Deflection (lbf): 822
Load at 0.200 in. Deflection (lbf): 1108
Deflection at Ultimate Load/2 (in): 0.423
Total Test Time (mm:ss): 21:18

Mode of Failure:
Fastener break out at edges of cladding (top 2/3 of non loading side, bottom 2/3 of loading side), top corner of cladding opposite loading side broke away at joint. Diagonal cracks from loading corner to opposite corner.

SUMMARY DATA
ASTM E72-15 Section 14
Standard Test Methods of Conducting Strength Tests of Panels for Building Construction

Client: Aircrete Mexico
Job Number: AMAB042222-30

Test Location: ICC NTA
Nappanee, Indiana

General:
Date Received: 6/21/2022
Constructed By: Dave Lane

Apparatus: Asset No.
Hand-Held Moisture Meter: 00000
Balance: 00000
Timing: 00000
Tape Measure: 02463
Balance: 00000

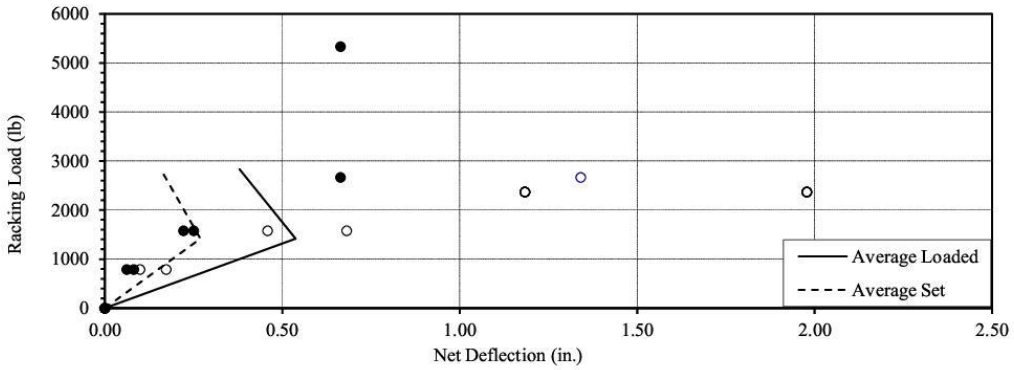
Summary Results:

Specimen No.	Ultimate Load (lb)	Percent Difference From Avg.	Shear Stiffness (kip/in.)[B] Factor of Safety 2.0	2.5	3.0	Overturning Moment (in-lb)
144659	**2,616**	1%	2.09	2.34	2.31	248,252
144660	**2,736**	5%	2.66	3.73	4.63	259,639
144661	**2,457**	-6%	1.27	1.53	1.78	233,132
Average	**2,603**		2.01	2.53	2.91	247,008

Shear Strength:
For Ultimate Load/FOS[A]:
FOS=2.0: **154-plf**
FOS=3.0: **102-plf**
For Load at 1/8 in. Deflection: **38-plf**
For Load at 0.200 in. Deflection: **54-plf**

[A]Factor of Safety = FOS
[B]Calculated based on 1.4*Ultimate Load/FOS

Specimen No.	1/8-in. Load (lb)	Percent Difference From Avg.	0.200-in. Load (lb)	Percent Difference From Avg.	Deflection at Ult. Load / 2 (in.)	Percent Difference From Avg.
144659	484	-13%	623	-13%	0.5504	4%
144660	889	59%	1094	53%	0.3217	-39%
144661	302	-46%	429	-40%	0.7197	36%
Average	**558**		**715**		**0.5306**	



SUMMARY DATA

ASTM E72-15 Section 14

Standard Test Methods of Conducting Strength Tests of Panels for Building Construction

Sample Description:

General: 94-15/16-in. x 96-1/16-in. wall constructed with 96-in. 2 x 6 steel c channel and 96-in. 2 x 6 steel studs 24-in. OC, with 2 x 6 S-P-F lumber top and bottom plates. Alternating 24-in. x 24-in. and 24-in. x 48-in. 2-in. thick

Test Variable: Tested steel frame walls with lumber top and bottom plates.

Procedure Modifications: None

Bracing Description:

Component	Description, Size, Span Rating, Grade	Application	Spec. No.	Nominal Thickness (in.)	Actual Thickness (in.)
Sheathing A	Aircrete Cladding Panel, 2' x 4' x 1.97"	Horizontal	144578	1.97	0.000
Sheathing B	Aircrete Cladding Panel, 2' x 2' x 1.97"	Horizontal	144580	1.97	0.000

Fastening Schedule:

Mechanical Fastening: Connection	Fastener Type	Nominal (in.) Dia./Gauge	Length	QTY	Spacing[A]	Spec. No.	Edge Dist. (in.)
Top plate-to-stud	Truss Head Tek Screw	#8	2-Jan	10	24 OC	108149	--
Bottom plate-to-stud	Truss Head Tek Screw	#8	2-Jan	10	24 OC	108149	--
Top plate-to-top plate							--
Stud-to-stud (chords)							--
Sheathing A (mechanical)	Deck Screw	#8-18	3			144690	1
Sheathing B (mechanical)	Deck Screw	#8-18	3			144690	1

Adhesive Fastening: Connection	Adhesive Trade Name	Bead Diameter (in.)
Sheathing A (adhered)	None	N/A
Sheathing B (adhered)	N/A	N/A

[A]Edge/field spacing (ex: 6/12) or oc spacing (ex: 6 oc). Units are inches.

SUMMARY DATA
ASTM E72-15 Section 14
Standard Test Methods of Conducting Strength Tests of Panels for Building Construction

Test Results:
Specimen No.: 144659
Construction Date: 7/25/2022
Test Start: 9/12/2022
Test Performed By: Dave Lane
Test Witnessed By: Sai Yenugula

Lab Conditions:
Temperature (°F): 69.8
RH (%): 54.5

Apparatus:	Asset No.
Shear wall rack:	00022
Load Cell (Specimen):	00932
Load Cell (Uplift):	745, 746
Signal Conditioner:	00757
Timing Device:	00757
Sensor:	00576
Dial Gauge #1:	00057
Dial Gauge #2:	00458
Dial Gauge #3:	00055
Dial Gauge #4:	00153

Test Results Table

	Load Stages (lb)	Deflection (in.) Gauge #1	Gauge #2	Gauge #3	Gauge #4	Net Deflection
REF	0	0.000	0.000	0.000	0.000	0.000
Pre-Load	800	0.343	0.010	0.076	0.133	0.125
	0	0.162 (47%)	0.007 (73%)	0.014 (18%)	0.059 (45%)	0.082
First	2667	1.910	0.028	0.190	0.351	1.341
	0	0.921 (48%)	0.014 (49%)	0.020 (11%)	0.223 (64%)	0.664
Second	5333	0.000	0.000	0.000	0.000	0.000
	0	--	--	--	--	--
Third	8000	--	--	--	--	--
	10667	--	--	--	--	--
	13333	--	--	--	--	--
	16000	--	--	--	--	--
	18667	--	--	--	--	--
	21333	--	--	--	--	--

Note: The percent shown in parentheses is calculated as
[(Residual Deflection/Loaded Deflection) x 100] for each load stage.

Average Load Rate (lb/min.): 1330
Ultimate Load (lbf): 2616
Load at 1/8 in. Deflection (lbf): 484
Load at 0.200 in. Deflection (lbf): 623
Deflection at Ultimate Load/2 (in): 0.550
Total Test Time (mm:ss): 03:48

Mode of Failure:
Fastener break out at edges of cladding (top 2/3 of non loading side, bottom 2/3 of loading side), top corner of cladding opposite loading side broke away at joint

SUMMARY DATA
ASTM E72-15 Section 14
Standard Test Methods of Conducting Strength Tests of Panels for Building Construction

Test Results:
Specimen No.: 144660
Construction Date: 7/25/2022
Test Date: 9/13/2022
Test Performed By: Dave Lane
Test Witnessed By: Sai Yenugula

Lab Conditions:
Temperature (°F): 69.9
RH (%): 55.8

Apparatus:	Asset No.
Shear wall rack:	00022
Load Cell (Specimen):	00932
Load Cell (Uplift):	745, 746
Signal Conditioner:	00757
Timing Device:	00757
Sensor:	00576
Dial Gauge #1:	00057
Dial Gauge #2:	00458
Dial Gauge #3:	00055
Dial Gauge #4:	00153

Test Results Table

	Load Stages (lb)	Deflection (in.) Gauge #1	Gauge #2	Gauge #3	Gauge #4	Net Deflection
REF	0	0.000	0.000	0.000	0.000	0.000
Pre-Load	0	0.000	0.000	0.000	0.000	0.000
	0	0.000	0.000	0.000	0.000	0.000
First	790	0.318	0.006	0.073	0.140	0.099
	0	0.173 (54%)	0.003 (55%)	0.025 (34%)	0.083 (59%)	0.062
Second	1580	0.768	0.010	0.122	0.178	0.459
	0	0.353 (46%)	0.001 (13%)	0.026 (21%)	0.104 (58%)	0.222
Third	2370	1.585	0.014	0.178	0.210	1.184
	3160	--	--	--	--	--
	3950	--	--	--	--	--
	4740	--	--	--	--	--
	5530	--	--	--	--	--
	6320	--	--	--	--	--

Note: The percent shown in parentheses is calculated as
[(Residual Deflection/Loaded Deflection) x 100] for each load stage.

Average Load Rate (lb/min.): 394
Ultimate Load (lbf): 2736
Load at 1/8 in. Deflection (lbf): 889
Load at 0.200 in. Deflection (lbf): 1094
Deflection at Ultimate Load/2 (in): 0.322
Total Test Time (mm:ss): 23:31

Mode of Failure:
Fastener break out at edges of cladding (top 2/3 of non loading side, bottom 2/3 of loading side), top corner of cladding opposite loading side broke away at joint

SUMMARY DATA
ASTM E72-15 Section 14
Standard Test Methods of Conducting Strength Tests of Panels for Building Construction

Test Results:
Specimen No.: 144661
Construction Date: 7/25/2022
Test Date: 9/13/2022
Test Performed By: Dave Lane
Test Witnessed By: Sai Yenugula

Lab Conditions:
Temperature (°F): 67.2
RH (%): 70.7

Apparatus:	Asset No.
Shear wall rack:	00022
Load Cell (Specimen):	00932
Load Cell (Uplift):	745, 746
Signal Conditioner:	00757
Timing Device:	00757
Sensor:	00576
Dial Gauge #1:	00057
Dial Gauge #2:	00458
Dial Gauge #3:	00055
Dial Gauge #4:	00153

Test Results Table

	Load	Deflection (in.)				Net
	Stages (lb)	Gauge #1	Gauge #2	Gauge #3	Gauge #4	Deflection
REF	0	0.000	0.000	0.000	0.000	0.000
Pre-Load	0	0.000	0.000	0.000	0.000	0.000
	0	0.000	0.000	0.000	0.000	0.000
First	790	0.302	0.002	0.072	0.054	0.173
	0	0.110 (37%)	0.001 (39%)	0.017 (23%)	0.011 (20%)	0.082
Second	1580	0.945	0.004	0.159	0.101	0.681
	0	0.300 (32%)	0.003 (79%)	0.026 (16%)	0.021 (21%)	0.250
Third	2370	2.384	0.007	0.243	0.156	1.978
	3160	--	--	--	--	--
	3950	--	--	--	--	--
	4740	--	--	--	--	--
	5530	--	--	--	--	--
	6320	--	--	--	--	--

Note: The percent shown in parentheses is calculated as
[(Residual Deflection/Loaded Deflection) x 100] for each load stage.

Average Load Rate (lb/min.): 394
Ultimate Load (lbf): 2457
Load at 1/8 in. Deflection (lbf): 302
Load at 0.200 in. Deflection (lbf): 429
Deflection at Ultimate Load/2 (in): 0.720
Total Test Time (mm:ss): 13:00

Mode of Failure:
Fastener break out at edges of cladding (top 2/3 of non loading side, bottom 2/3 of loading side), top corner of cladding opposite loading side broke away at joint

SUMMARY DATA

ASTM E0330-02, -02(2010), and -14

Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)

Client: Aircrete Mexico
Job Number: AMAB042222-28

Test Location: ICC NTA
Nappanee, Indiana

Specimen Information:

Panel Manufacturer: Aircrete Mexico
Product Trade Name: Aircrete Cladding Panels

Facing Material: Aircrete Cladding Panels - 2' x 4' x 1.97" Lot # 18DA 4/18/22 & #11D3 4/20/22 (3mm Steel Reinforcing Wire, Republic Steel Wire Mexico. San Luis, SLP, MX Lot #210007171 4/25/2022), (Portland Cement, Cementos Fortaleza. El Palmer, HGO, MX Lot #06 CPC 40-2022 7/1/2022), (Pulverized Lime, Caleras Beltran. Hidalgo, CP, MX Lot #CVP-13072022 7/13/2022), (Sand, Covia. Monterrey Lab Lot #20221734-PP)

Nom. Thickness (in.): 1.97
Strong Axis Orientation: No Strength Direction
Certification Body N/A
Certification: N/A

Core Material: N/A

Certification Body: N/A
Certification: N/A

Adhesive Material: Aircrete Mortar Adhesive (55lbs bags) Lot# 10478 4/23/22, Expiration 4/23/23 SN:144579

Certification Body: N/A
Certification: N/A

Endplate Material: 2 x 4 #1 SYP
Spline Material: N/A
Fastener Material: Screw, #10-in. x 3.5-in.
Fastening Schedule: 8 OC-in. oc, .5-in. edge distance

Nom. Specimen Size: 48 in. wide x 96 in. long x 5.5 in. thick
Average Measured Thickness (in.): 5.44
Average Specimen Dead Weight (psf): 7.91

General Observations: No additional observations.

Support Conditions: 95 in., single span
Bearing Width (in.): N/A
Deflection Analysis Method: Support deflections are subtracted from midspan deflections to determine deflection limits

Table A1: Overall Test Results

Specimen No.	Ultimate Pressure[b] (psf)	Percent Difference From Avg	Pressure[a] at L/180 (psf)	Percent Difference From Avg	EI (lb-in^2/ft)
144585	199	-2.8%	60	-4.9%	9,370,000
144586	213	4.0%	64	2.3%	9,710,000
144587	202	-1.3%	64	2.6%	9,770,000
Average:	**205**	**Average:**	**63**		

[a] NR = Pressure not reached

[b] Ultimate Pressure includes the weight of the specimen

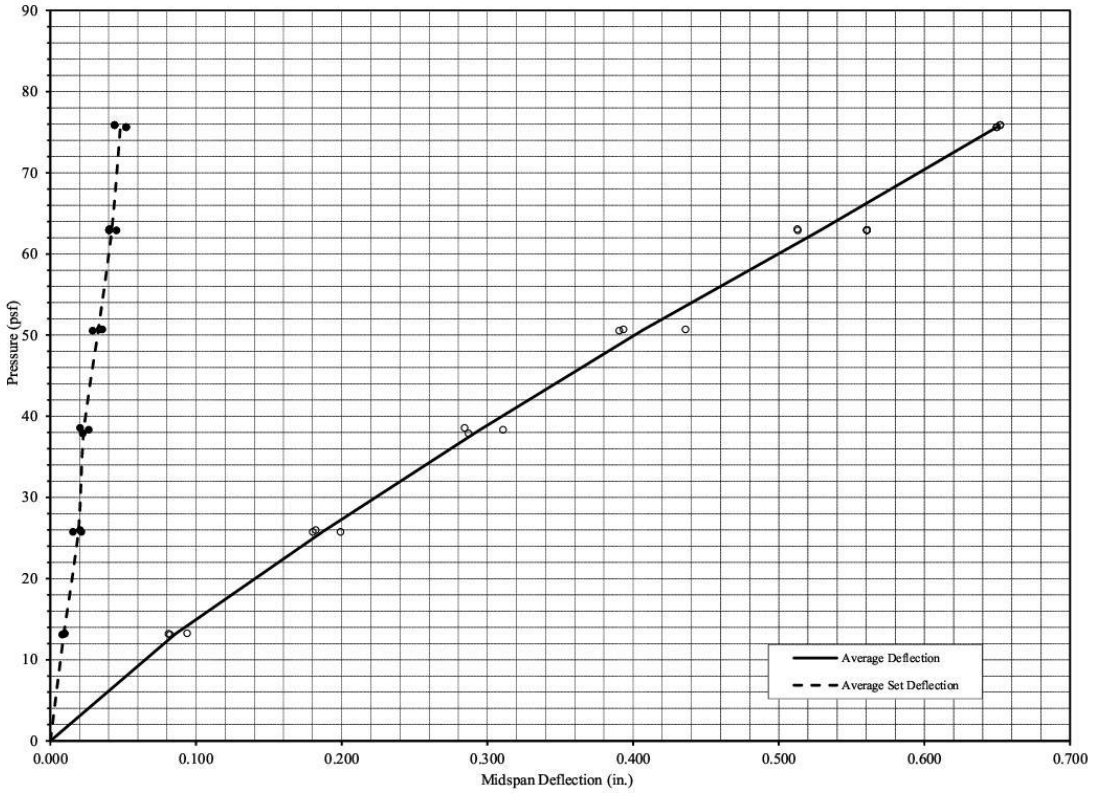
Deflection Criteria[c]					
Limit	Deflection (in.)	Pressure, Specimen #144585 (psf)	Pressure, Specimen #144586 (psf)	Pressure, Specimen #144587 (psf)	Average Pressure (psf)
L/600	0.158	21	23	23	22
L/480	0.198	26	28	28	27
L/360	0.264	33	36	35	35
L/240	0.396	47	51	51	50
L/180	0.528	60	64	64	63
L/120	0.792	--	--	--	--
L/90	1.056	--	--	--	--

[c] Interpolated from test data.

Average EI/width= 9.62E+06 lb-in^2/ft Width

This summary contains only data arrived at after employing the specific test procedures listed herein. This summary data might not include all reporting requirements of the test standard. The data herein does not constitute a recommendation for, endorsement of, or certification of the product or material tested. ICC NTA makes no warranty, expressed or implied, except that the test has been performed, and data prepared, based upon the specimen furnished by the client. Extrapolation of data, from the test data provided herein, to the batch or lot from which the specimens were obtained may not correlate and should be interpreted with extreme caution. ICC NTA assumes no responsibility for variations in quality, composition, appearance, performance, or other features of similar materials produced by the client, other persons, or under conditions over which ICC NTA has no control. ICC NTA has issued this data summary for the exclusive use of the client to whom it is addressed. Any use or duplication of this summary shall not be made without their consent. This summary shall only be reproduced in its entirety.

SUMMARY DATA
ASTM E0330-02, -02(2010), and -14
Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)



Dial Gauge Locations:

Gauge	Location
A	Mid-span on stud between center and left edge stud
B	Mid-span center (stud), mid-width
C	Mid-span on stud between center and right edge stud
D	Top support mid-width, over support
E	Bottom support mid width, over support

SUMMARY DATA

ASTM E0330-02, -02(2010), and -14

Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)

Specimen 1

General Information

Parent No.: 144577
Specimen No.: 144585
Specimen Constructed By: Dave Lane
Test Performed By: Ken Severs
Test Witnessed By: Sai Yenugula

Date of Material Receipt: 6/21/2022
Date of Construction: 7/25/2022
Date of Testing: 9/19/2022

Ambient Conditions:

Temp. (°F): 82.5
R.H. (%): 50.7
Sensor Asset No.: 00576

Apparatus: Asset No.

Calipers:	02653
Tape Measure:	01693
Balance:	01780
Manometer	02180
Vacuum Table:	02176
Timing Device:	02652
Wood Moisture Meter:	00830

Test Conditions:

Target Design Pressure, "DP" (psf): 50
Direction of Loading: Positive
Test Variable: None

Procedure Modifications: None

Table A2: Specimen 1 Deflection Data

	Load Stages (psf)	Gauge A Mid-Span Panel Edge Asset # 02365	Gauge B Mid-Span Center Asset # 02185	Gauge C Mid-Span Panel Edge Asset # 02186	Gauge D Top Support Asset # 02187	Gauge E Bottom Support Asset # 02189	Stage Duration (mm:ss) Asset # N/A
PreLoad	**3**	0.010	0.011	0.011	0.001	0.000	N/A
	0	0.013	0.015	0.014	0.001	0.001	6:30
REF	**0**	0.000	0.000	0.000	0.000	0.000	0:00
1/4 DP	**13**	0.103	0.105	0.104	0.015	0.005	5:27
	0	0.011	0.011	0.012	0.002	0.001	6:41
1/2 DP	**26**	0.221	0.223	0.221	0.033	0.012	5:41
	0	0.026	0.024	0.026	0.008	0.000	6:30
3/4 DP	**38**	0.341	0.346	0.346	0.049	0.018	5:46
	0	0.033	0.031	0.033	0.011	0.001	7:03
DP	**51**	0.469	0.481	0.484	0.063	0.021	6:13
	0	0.043	0.043	0.045	0.015	0.001	7:07
1-1/4 DP	**63**	0.602	0.620	0.625	0.083	0.027	0:05
	0	0.053	0.053	0.057	0.026	0.002	0:05
1-1/2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
3 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	

Ultimate Load: **199** **psf**

Failure Mode: Stud withdrawal of all studs at top of specimen. Cladding breakage mostly at top.

Observations during Test: Cracking started in cladding in last stage.

Duration of Specified Maximum Pressure: 27 seconds

Tape Use: *Tape and film were used to seal the specimen.*
Tape Influence: *The tape and or film did not influence the test results.*

SUMMARY DATA

ASTM E0330-02, -02(2010), and -14

Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)

Specimen 2

General Information

Parent No.: 144577
Specimen No.: 144586
Specimen Constructed By: Dave Lane
Test Performed By: Ken Severs
Test Witnessed By: Sai Yenugula

Date of Material Receipt: 6/21/2022
Date of Construction: 7/25/2022
Date of Testing: 9/16/2022

Ambient Conditions:

Temp. (°F): 78.9
R.H. (%): 65.4
Sensor Asset No.: 00576

Apparatus: Asset No.

Calipers:	02653
Tape Measure:	01693
Balance:	01780
Manometer	02180
Vacuum Table:	02176
Timing Device:	02652
Wood Moisture Meter:	00830

Test Conditions:

Target Design Pressure, "DP" (psf): 50
Direction of Loading: Positive
Test Variable: None

Procedure Modifications: None

Table A3: Specimen 2 Deflection Data

	Load Stages (psf)	Gauge A Mid-Span Panel Edge Asset # 02365	Gauge B Mid-Span Center Asset # 02185	Gauge C Mid-Span Panel Edge Asset # 02186	Gauge D Top Support Asset # 02187	Gauge E Bottom Support Asset # 02189	Stage Duration (mm:ss) Asset # N/A
PreLoad	**3**	0.013	0.013	0.014	0.004	0.000	N/A
	0	0.015	0.015	0.016	0.004	0.000	6:50
REF	**0**	0.000	0.000	0.000	0.000	0.000	0:00
1/4 DP	**13**	0.100	0.098	0.095	0.026	0.007	5:32
	0	0.016	0.013	0.011	0.005	0.002	6:20
1/2 DP	**26**	0.236	0.221	0.205	0.053	0.024	5:42
	0	0.048	0.033	0.021	0.011	0.016	6:20
3/4 DP	**39**	0.354	0.335	0.313	0.072	0.027	5:41
	0	0.048	0.033	0.021	0.011	0.016	6:28
DP	**51**	0.480	0.454	0.425	0.089	0.030	5:33
	0	0.075	0.054	0.039	0.025	0.019	5:36
1-1/4 DP	**63**	0.614	0.583	0.548	0.104	0.033	0:05
	0	0.090	0.070	0.053	0.032	0.019	0:07
1-1/2 DP	**76**	0.767	0.732	0.688	0.119	0.035	0:05
	0	0.084	0.066	0.050	0.028	0.017	0:05
2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
3 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	

Ultimate Load: **213** **psf**

Failure Mode: Stud withdrawal at top of specimen, breakage of end stud, crack and crumbling of cladding all around, but mostly at top.

Observations during Test: Cracking started in cladding in last stage.

Duration of Specified Maximum Pressure: 26 seconds

Tape Use: *Tape and film were used to seal the specimen.*

Tape Influence: *The tape and or film did not influence the test results.*

SUMMARY DATA

ASTM E0330-02, -02(2010), and -14

Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)

Specimen 3

General Information

Parent No.: 144577
Specimen No.: 144587
Specimen Constructed By: Dave Lane
Test Performed By: Ken Severs
Test Witnessed By: Sai Yenugula

Date of Material Receipt: 6/21/2022
Date of Construction: 7/25/2022
Date of Testing: 9/19/2022

Ambient Conditions:

Temp. (°F): 77.1
R.H. (%): 67.5
Sensor Asset No.: 00576

Apparatus: Asset No.

Calipers: 02653
Tape Measure: 01693
Balance: 01780
Manometer 02180
Vacuum Table: 02176
Timing Device: 02652
Wood Moisture Meter: 00830

Test Conditions:

Target Design Pressure, "DP" (psf): 50
Direction of Loading: Positive
Test Variable: None

Procedure Modifications: None

Table A4: Specimen 3 Deflection Data

	Load Stages (psf)	Gauge A Mid-Span Panel Edge Asset # 02365	Gauge B Mid-Span Center Asset # 02185	Gauge C Mid-Span Panel Edge Asset # 02186	Gauge D Top Support Asset # 02187	Gauge E Bottom Support Asset # 02189	Stage Duration (mm:ss) Asset # N/A
PreLoad	**3**	0.036	0.028	0.018	0.025	0.004	N/A
	0	0.038	0.029	0.019	0.025	0.004	6:15
REF	**0**	0.000	0.000	0.000	0.000	0.000	0:00
1/4 DP	**13**	0.131	0.118	0.103	0.054	0.016	5:34
	0	0.008	0.010	0.011	0.000	0.003	6:33
1/2 DP	**26**	0.234	0.227	0.216	0.063	0.028	5:33
	0	0.018	0.020	0.021	0.002	0.006	7:42
3/4 DP	**38**	0.356	0.345	0.336	0.077	0.040	5:59
	0	0.027	0.029	0.030	0.005	0.008	6:55
DP	**51**	0.461	0.462	0.453	0.086	0.050	5:36
	0	0.033	0.036	0.036	0.002	0.010	7:37
1-1/4 DP	**63**	0.593	0.600	0.590	0.098	0.065	0:05
	0	0.046	0.051	0.050	0.006	0.011	0:06
1-1/2 DP	**76**	0.737	0.750	0.741	0.116	0.070	0:05
	0	0.061	0.068	0.069	0.014	0.014	0:05
2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
3 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	

Ultimate Load: **202** **psf**

Failure Mode: Stud withdrawal at top of specimen, cladding separation from end stud/fastners, cladding cracking and breakage throughout.

Observations during Test: Cracking starts last stage.

Duration of Specified Maximum Pressure: 26 seconds

Tape Use: *Tape and film were used to seal the specimen.*
Tape Influence: *The tape and or film did not influence the test results.*

SUMMARY DATA

ASTM E0330-02, -02(2010), and -14

Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)

Client: Aircrete Mexico
Job Number: AMAB042222-28

Test Location: ICC NTA
Nappanee, Indiana

Specimen Information:

Panel Manufacturer: Aircrete Mexico
Product Trade Name: Aircrete Cladding Panels

Facing Material: Aircrete Cladding Panels - 2' x 4' x 1.97" Lot # 18DA 4/18/22 & #11D3 4/20/22 (3mm Steel Reinforcing Wire, Republic Steel Wire Mexico. San Luis, SLP, MX Lot #210007171 4/25/2022), (Portland Cement, Cementos Fortaleza. El Palmer, HGO, MX Lot #06 CPC 40-2022 7/1/2022), (Pulverized Lime, Caleras Beltran. Hidalgo, CP, MX Lot #CVP-13072022 7/13/2022), (Sand, Covia. Monterrey Lab Lot #20221734-PP)

Nom. Thickness (in.): 1.97
Strong Axis Orientation: No Strength Direction
Certification Body N/A
Certification: N/A

Core Material: N/A

Certification Body: N/A
Certification: N/A

Adhesive Material: Aircrete Mortar Adhesive (55lbs bags) Lot# 10478 4/23/22, Expiration 4/23/23 SN:144579

Certification Body: N/A
Certification: N/A

Endplate Material: 2 x 4 #1 SYP
Spline Material: N/A
Fastener Material: Screw, #10-in. x 3.5-in.
Fastening Schedule: 8 OC-in. oc, .5-in. edge distance

Nom. Specimen Size: 48 in. wide x 96 in. long x 5.5 in. thick
Average Measured Thickness (in.): 5.47
Average Specimen Dead Weight (psf): 7.90

General Observations: No additional observations.

Support Conditions: 94.5 in., single span
Bearing Width (in.): N/A

Deflection Analysis Method: Support deflections are subtracted from midspan deflections to determine deflection limits

Table A1: Overall Test Results

Specimen No.	Ultimate Pressure[b] (psf)	Percent Difference From Avg	Pressure[a] at L/180 (psf)	Percent Difference From Avg	EI (lb-in^2/ft)
144588	166	1.3%	48	0.0%	6,600,000
144589	169	3.1%	NR	NR	6,110,000
144590	157	-4.3%	NR	NR	7,120,000
Average:	**164**	**Average:**	**48**		

[a] NR = Pressure not reached

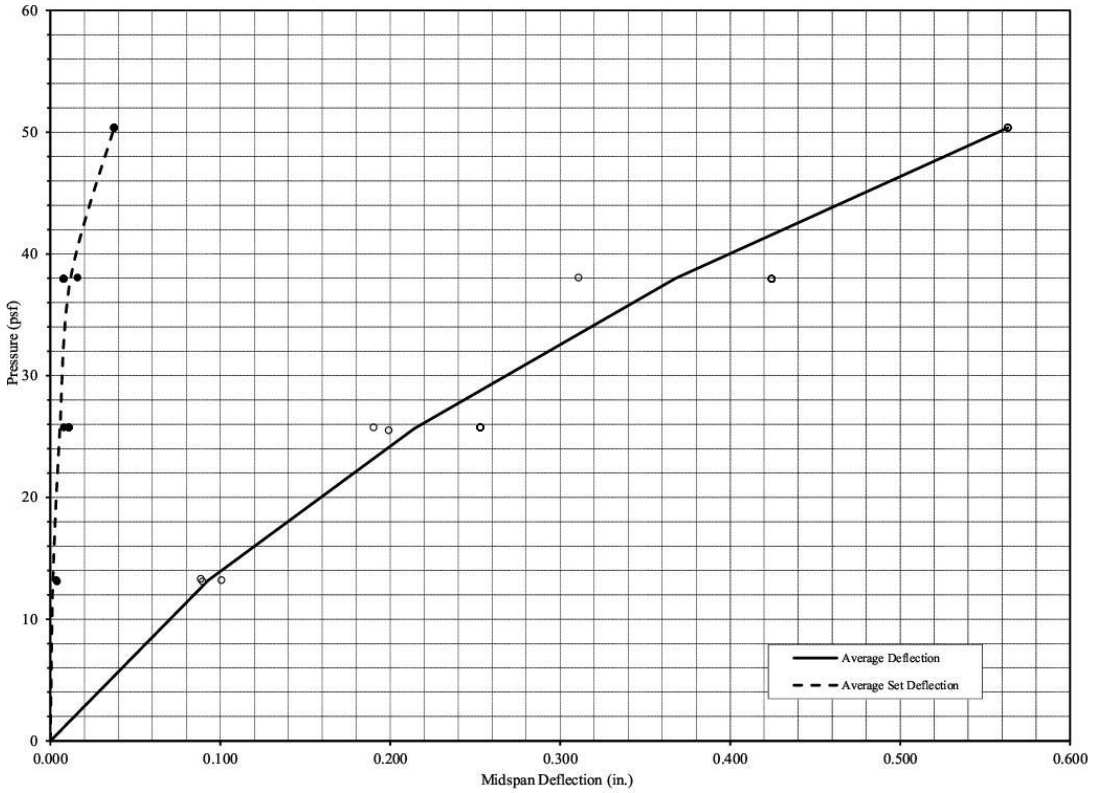
[b] Ultimate Pressure includes the weight of the specimen

Deflection Criteria[c]					
Limit	Deflection (in.)	Pressure, Specimen #144588 (psf)	Pressure, Specimen #144589 (psf)	Pressure, Specimen #144590 (psf)	Average Pressure (psf)
L/600	0.158	22	21	18	20
L/480	0.197	26	25	21	24
L/360	0.263	33	29	--	--
L/240	0.394	42	36	--	--
L/180	0.525	48	--	--	--
L/120	0.788	--	--	--	--
L/90	1.050	--	--	--	--

[c] Interpolated from test data.

Average EI/width= 6.61E+06 lb-in^2/ft Width

SUMMARY DATA
ASTM E0330-02, -02(2010), and -14
Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)



Dial Gauge Locations:

Gauge	Location
A	Mid-span on stud between center and left edge stud
B	Mid-span center, mid-width
C	Mid-span between center and right edge stud
D	Top support mid-width, over support
E	Bottom support mid width, over support

SUMMARY DATA

ASTM E0330-02, -02(2010), and -14

Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)

Specimen 1

General Information

Parent No.: 144577
Specimen No.: 144588
Specimen Constructed By: Dave Lane
Test Performed By: Ken Severs
Test Witnessed By: Sai Yenugula

Date of Material Receipt: 6/21/2022
Date of Construction: 7/25/2022
Date of Testing: 9/15/2022

Ambient Conditions:

Temp. (°F): 79.5
R.H. (%): 55.1
Sensor Asset No.: 00576

Apparatus: Asset No.

Calipers:	01693
Tape Measure:	02653
Balance:	01780
Manometer	02180
Vacuum Table:	02176
Timing Device:	02652
Wood Moisture Meter:	00830

Test Conditions:

Target Design Pressure, "DP" (psf): 50
Direction of Loading: Negative
Test Variable: None

Procedure Modifications: None

Table A2: Specimen 1 Deflection Data

	Load Stages (psf)	Gauge A Mid-Span Panel Edge Asset # 02365	Gauge B Mid-Span Center Asset # 02185	Gauge C Mid-Span Panel Edge Asset # 02186	Gauge D Top Support Asset # 02187	Gauge E Bottom Support Asset # 02188	Stage Duration (mm:ss) Asset # N/A
PreLoad	**3**	0.024	0.024	0.024	0.003	0.004	N/A
	0	0.024	0.024	0.024	0.004	0.004	6:25
REF	**0**	0.000	0.000	0.000	0.000	0.000	0.00
1/4 DP	**13**	0.109	0.110	0.110	0.017	0.023	5:36
	0	0.009	0.008	0.007	0.001	0.007	6:42
1/2 DP	**26**	0.230	0.231	0.231	0.042	0.039	5:40
	0	0.018	0.017	0.016	0.009	0.009	6:26
3/4 DP	**38**	0.367	0.369	0.372	0.064	0.053	5:35
	0	0.031	0.030	0.029	0.017	0.011	6:28
DP	**50**	0.645	0.655	0.642	0.097	0.071	5:33
	0	0.065	0.063	0.061	0.036	0.015	5:00
1-1/4 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
1-1/2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
3 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	

Ultimate Load: **166** **psf**

Failure Mode: Studs all withdrew at bottom plate.

Observations during Test: N/A

Duration of Specified Maximum Pressure: 26 seconds

Tape Use: *Tape and film were used to seal the specimen.*
Tape Influence: *The tape and or film did not influence the test results.*

SUMMARY DATA

ASTM E0330-02, -02(2010), and -14

Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)

Specimen 2

General Information

Parent No.: 144577
Specimen No.: 144589
Specimen Constructed By: Dave Lane
Test Performed By: Ken Severs
Test Witnessed By: Sai Yenugula

Date of Material Receipt: 6/21/2022
Date of Construction: 7/25/2022
Date of Testing: 9/16/2022

Ambient Conditions:

Temp. (°F): 0.0
R.H. (%): 0.0
Sensor Asset No.: 00576

Apparatus: Asset No.

Calipers:	01693
Tape Measure:	02653
Balance:	01780
Manometer	02180
Vacuum Table:	02176
Timing Device:	02652
Wood Moisture Meter:	00830

Test Conditions:

Target Design Pressure, "DP" (psf): 50
Direction of Loading: Negative
Test Variable: None

Procedure Modifications: None

Table A3: Specimen 2 Deflection Data

	Load Stages (psf)	Gauge A Mid-Span Panel Edge Asset # 02365	Gauge B Mid-Span Center Asset # 02185	Gauge C Mid-Span Panel Edge Asset # 02186	Gauge D Top Support Asset # 02187	Gauge E Bottom Support Asset # 02188	Stage Duration (mm:ss) Asset # N/A
PreLoad	**3**	0.015	0.015	0.015	0.001	0.002	N/A
	0	0.015	0.016	0.016	0.003	0.002	8:51
REF	**0**	0.000	0.000	0.000	0.000	0.000	0.00
1/4 DP	**13**	0.095	0.099	0.100	0.007	0.012	5:26
	0	0.002	0.001	0.000	0.006	0.002	7:34
1/2 DP	**26**	0.211	0.215	0.215	0.005	0.024	5:29
	0	0.004	0.003	0.002	0.008	0.002	7:01
3/4 DP	**38**	0.447	0.466	0.455	0.022	0.041	5:30
	0	0.012	0.015	0.016	0.008	0.005	5:00
DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
1-1/4 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
1-1/2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
3 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	

Ultimate Load: **169** **psf**

Failure Mode: Stud withdrawal at center studs, split stud at edge, face withdrawal top half of panel.

Observations during Test: N/A

Duration of Specified Maximum Pressure: 38 seconds

Tape Use: *Tape and film were used to seal the specimen.*
Tape Influence: *The tape and or film did not influence the test results.*

SUMMARY DATA

ASTM E0330-02, -02(2010), and -14

Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)

Specimen 3

General Information

Parent No.: 144577
Specimen No.: 144590
Specimen Constructed By: Dave Lane
Test Performed By: Ken Severs
Test Witnessed By: Sai Yenugula

Date of Material Receipt: 6/21/2022
Date of Construction: 7/25/2022
Date of Testing: 9/16/2022

Ambient Conditions:

Temp. (°F): 78.4
R.H. (%): 58.4
Sensor Asset No.: 00576

Apparatus: Asset No.

Calipers: 01693
Tape Measure: 02653
Balance: 01780
Manometer 02180
Vacuum Table: 02176
Timing Device: 02652
Wood Moisture Meter: 00830

Test Conditions:

Target Design Pressure, "DP" (psf): 50
Direction of Loading: Negative
Test Variable: None

Procedure Modifications: None

Table A4: Specimen 3 Deflection Data

	Load Stages (psf)	Gauge A Mid-Span Panel Edge Asset # 02365	Gauge B Mid-Span Center Asset # 02185	Gauge C Mid-Span Panel Edge Asset # 02186	Gauge D Top Support Asset # 02187	Gauge E Bottom Support Asset # 02188	Stage Duration (mm:ss) Asset # N/A
PreLoad	**3**	0.020	0.018	0.017	0.004	0.002	N/A
	0	0.022	0.021	0.020	0.005	0.002	8:03
REF	**0**	0.000	0.000	0.000	0.000	0.000	0.00
1/4 DP	**13**	0.129	0.122	0.114	0.025	0.017	5:30
	0	0.009	0.007	0.005	0.001	0.006	6:44
1/2 DP	**26**	0.312	0.299	0.271	0.048	0.034	5:32
	0	0.020	0.016	0.013	0.003	0.008	5:00
3/4 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
1-1/4 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
1-1/2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
3 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	

Ultimate Load: **157** **psf**

Failure Mode: Stud withrwawal on at top of panel, all studs.

Observations during Test: *N/A*

Duration of Specified Maximum Pressure: 26 seconds

Tape Use: *Tape and film were used to seal the specimen.*
Tape Influence: *The tape and or film did not influence the test results.*

SUMMARY DATA

ASTM E0330-02, -02(2010), and -14

Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)

Client: Aircrete Mexico
Job Number: AMAB042222-28

Test Location: ICC NTA
Nappanee, Indiana

Specimen Information:

Panel Manufacturer: Aircrete Mexico
Product Trade Name: Aircrete Cladding Panels

Facing Material: Aircrete Cladding Panels - 2' x 4' x 1.97" Lot # 18DA 4/18/22 & #11D3 4/20/22 (3mm Steel Reinforcing Wire, Republic Steel Wire Mexico. San Luis, SLP, MX Lot #210007171 4/25/2022), (Portland Cement, Cementos Fortaleza. El Palmer, HGO, MX Lot #06 CPC 40-2022 7/1/2022), (Pulverized Lime, Caleras Beltran. Hidalgo, CP, MX Lot #CVP-13072022 7/13/2022), (Sand, Covia. Monterrey Lab Lot #20221734-PP)

Nom. Thickness (in.): 1.97
Strong Axis Orientation: No Strength Direction
Certification Body N/A
Certification: N/A

Core Material: N/A

Certification Body: N/A
Certification: N/A

Adhesive Material: Aircrete Mortar Adhesive (55lbs bags) Lot# 10478 4/23/22, Expiration 4/23/23 SN:144579

Certification Body: N/A
Certification: N/A

Endplate Material: 2 x 6 Steel Track #600T125-43 U
Spline Material:
Fastener Material: Truss Head Tek Screw, #8-18-in. x 3-in.
Fastening Schedule: -in. oc, -in. edge distance

Nom. Specimen Size: 48 in. wide x 96 in. long x 5.5 in. thick
Average Measured Thickness (in.): 8.00
Average Specimen Dead Weight (psf): 7.91

General Observations: No additional observations

Support Conditions: 94.5 in., single span
Bearing Width (in.): N/A
Deflection Analysis Method: Support deflections are subtracted from midspan deflections to determine deflection limits

Table A1: Overall Test Results

Specimen No.	Ultimate Pressure[b] (psf)	Percent Difference From Avg	Pressure[a] at L/180 (psf)	Percent Difference From Avg	EI (lb-in^2/ft)
145652	197	-0.1%	NR	NR	29,810,000
145653	204	3.4%	NR	NR	31,950,000
145654	191	-3.3%	NR	NR	30,160,000
Average:	**197**	**Average:**			

[a] NR = Pressure not reached

[b] Ultimate Pressure includes the weight of the specimen

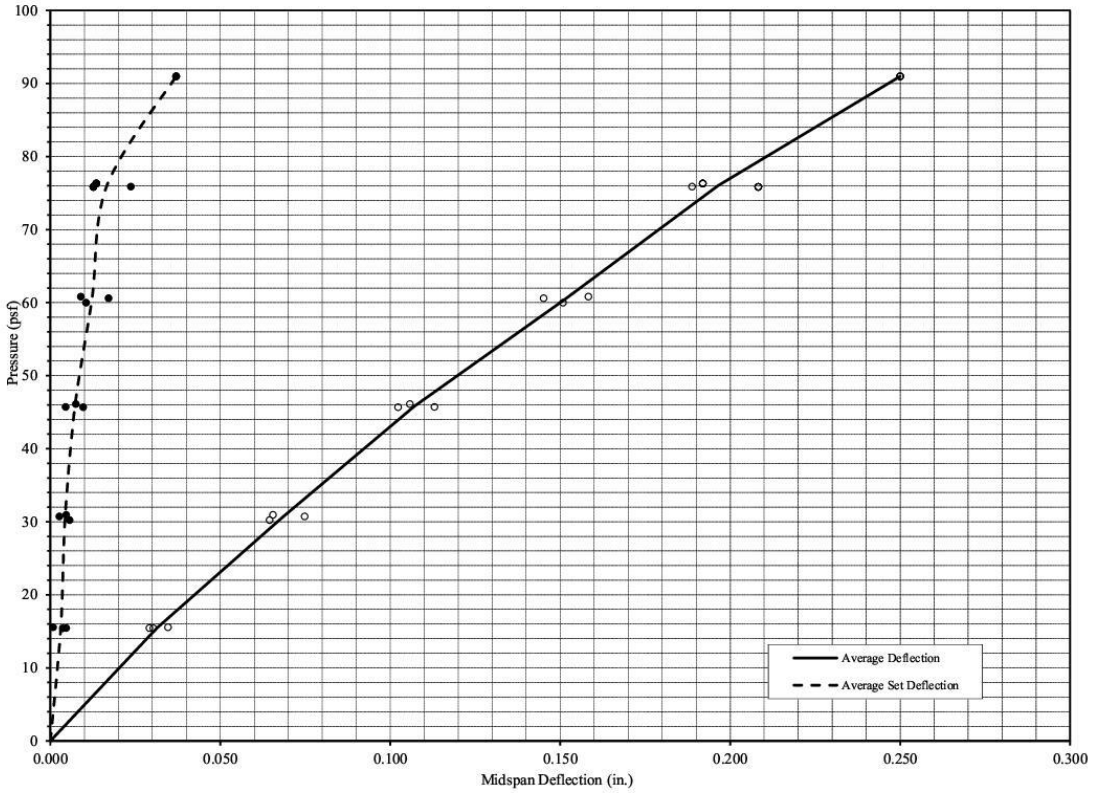
Deflection Criteria[c]

Limit	Deflection (in.)	Pressure, Specimen #145652 (psf)	Pressure, Specimen #145653 (psf)	Pressure, Specimen #145654 (psf)	Average Pressure (psf)
L/600	0.158	65	63	61	63
L/480	0.197	78	--	72	--
L/360	0.263	--	--	--	--
L/240	0.394	--	--	--	--
L/180	0.525	--	--	--	--
L/120	0.788	--	--	--	--
L/90	1.050	--	--	--	--

[c] Interpolated from test data.

Average EI/width= 3.06E+07 lb-in^2/ft Width

SUMMARY DATA
ASTM E0330-02, -02(2010), and -14
Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)



Dial Gauge Locations:

Gauge	Location
A	Mid-span between center and left edge stud
B	Mid-span center (stud), mid-width
C	Mid-span between center and right edge stud
D	Top support mid-width, over support
E	Bottom support mid width, over support

SUMMARY DATA

ASTM E0330-02, -02(2010), and -14

Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)

Specimen 1

General Information

Parent No.: 144577
Specimen No.: 145652
Specimen Constructed By: Dave Lane
Test Performed By: Ken Severs
Test Witnessed By: Sai Yenugula

Date of Material Receipt: 6/21/2022
Date of Construction: 8/11/2022
Date of Testing: 9/14/2022

Ambient Conditions:

Temp. (°F): 72.6
R.H. (%): 67.4
Sensor Asset No.: 00576

Apparatus: Asset No.

Calipers:	01693
Tape Measure:	02653
Balance:	01780
Manometer	02180
Vacuum Table:	02176
Timing Device:	02652
Wood Moisture Meter:	00830

Test Conditions:

Target Design Pressure, "DP" (psf): 60
Direction of Loading: Positive
Test Variable: None

Procedure Modifications: None

Table A2: Specimen 1 Deflection Data

	Load Stages (psf)	Gauge A Mid-Span Panel Edge Asset # 02365	Gauge B Mid-Span Center Asset # 02185	Gauge C Mid-Span Panel Edge Asset # 02186	Gauge D Top Support Asset # 02187	Gauge E Bottom Support Asset # 02188	Stage Duration (mm:ss) Asset # N/A
PreLoad	**3**	0.005	0.005	0.006	0.001	0.003	N/A
	0	0.007	0.006	0.006	0.001	0.006	7:33
REF	**0**	0.000	0.000	0.000	0.000	0.000	0.00
1/4 DP	**15**	0.091	0.076	0.057	0.011	0.080	5:25
	0	0.057	0.039	0.020	0.000	0.068	6:44
1/2 DP	**31**	0.143	0.132	0.112	0.029	0.098	5:38
	0	0.057	0.039	0.020	0.000	0.068	6:32
3/4 DP	**46**	0.195	0.186	0.166	0.046	0.114	5:29
	0	0.070	0.053	0.035	0.005	0.081	6:28
DP	**61**	0.254	0.248	0.226	0.067	0.128	5:33
	0	0.083	0.066	0.048	0.010	0.087	6:37
1-1/4 DP	**76**	0.312	0.308	0.284	0.085	0.140	0:05
	0	0.094	0.077	0.059	0.014	0.092	0:10
1-1/2 DP	**91**	0.390	0.391	0.362	0.105	0.157	0:05
	0	0.105	0.090	0.072	0.006	0.098	0:05
2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
3 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	

Ultimate Load: **197** **psf**

Failure Mode: Failure: All cladding blew in and broke apart into mostly larger pieces, but also small. Steel stud in center bent slightly and came off the track on the bottom.

Observations during Test: Cracking started in cladding in last stage.

Duration of Specified Maximum Pressure: 30 seconds.

Tape Use: *Tape and film were used to seal the specimen.*
Tape Influence: *The tape and or film did not influence the test results.*

SUMMARY DATA

ASTM E0330-02, -02(2010), and -14

Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)

Specimen 2

General Information

Parent No.: 144577
Specimen No.: 145653
Specimen Constructed By: Dave Lane
Test Performed By: Ken Severs
Test Witnessed By: Sai Yenugula

Date of Material Receipt: 6/21/2022
Date of Construction: 8/11/2022
Date of Testing: 9/14/2022

Ambient Conditions:

Temp. (°F): 79.7
R.H. (%): 43.7
Sensor Asset No.: 00576

Apparatus: Asset No.

Calipers:	01693
Tape Measure:	02653
Balance:	01780
Manometer	02180
Vacuum Table:	02176
Timing Device:	02652
Wood Moisture Meter:	00830

Test Conditions:

Target Design Pressure, "DP" (psf): 60
Direction of Loading: Positive
Test Variable: None

Procedure Modifications: None

Table A3: Specimen 2 Deflection Data

	Load Stages (psf)	Gauge A Mid-Span Panel Edge Asset # 02365	Gauge B Mid-Span Center Asset # 02185	Gauge C Mid-Span Panel Edge Asset # 02186	Gauge D Top Support Asset # 02187	Gauge E Bottom Support Asset # 02188	Stage Duration (mm:ss) Asset # N/A
PreLoad	**3**	0.003	0.004	0.005	0.001	0.000	N/A
	0	0.003	0.004	0.005	0.002	0.000	6:28
REF	**0**	0.000	0.000	0.000	0.000	0.000	0.00
1/4 DP	**15**	0.041	0.045	0.044	0.015	0.011	5:20
	0	0.005	0.006	0.006	0.001	0.003	6:12
1/2 DP	**30**	0.086	0.094	0.093	0.027	0.026	5:19
	0	0.010	0.012	0.013	0.002	0.010	11:07
3/4 DP	**46**	0.142	0.153	0.150	0.041	0.044	5:36
	0	0.017	0.021	0.022	0.005	0.020	6:27
DP	**60**	0.199	0.214	0.209	0.056	0.057	5:31
	0	0.023	0.028	0.030	0.007	0.026	6:41
1-1/4 DP	**76**	0.250	0.268	0.262	0.070	0.066	10:45
	0	0.029	0.034	0.036	0.009	0.030	0:05
1-1/2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
3 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	

Ultimate Load: **204** **psf**

Failure Mode: Fastener withdrawal of interior stud to bottom plate

Observations during Test: Cracking started in cladding in last stage.

Duration of Specified Maximum Pressure: 46 seconds

Tape Use: *Tape and film were used to seal the specimen.*
Tape Influence: *The tape and or film did not influence the test results.*

SUMMARY DATA

ASTM E0330-02, -02(2010), and -14

Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)

Specimen 3

General Information

Parent No.: 144577
Specimen No.: 145654
Specimen Constructed By: Dave Lane
Test Performed By: Ken Severs
Test Witnessed By: Sai Yenugula

Date of Material Receipt: 6/21/2022
Date of Construction: 8/11/2022
Date of Testing: 9/15/2022

Ambient Conditions:

Temp. (°F): 68.7
R.H. (%): 73.6
Sensor Asset No.: 00576

Apparatus: Asset No.

Calipers: 01693
Tape Measure: 02653
Balance: 01780
Manometer 02180
Vacuum Table: 02176
Timing Device: 02652
Wood Moisture Meter: 00830

Test Conditions:

Target Design Pressure, "DP" (psf): 60
Direction of Loading: Positive
Test Variable: None

Procedure Modifications: None

Table A4: Specimen 3 Deflection Data

	Load Stages (psf)	Gauge A Mid-Span Panel Edge Asset # 02365	Gauge B Mid-Span Center Asset # 02185	Gauge C Mid-Span Panel Edge Asset # 02186	Gauge D Top Support Asset # 02187	Gauge E Bottom Support Asset # 02188	Stage Duration (mm:ss) Asset # N/A
PreLoad	**3**	0.004	0.005	0.005	0.001	0.002	N/A
	0	0.005	0.006	0.006	0.002	0.002	6:57
REF	**0**	0.000	0.000	0.000	0.000	0.000	0.00
1/4 DP	**16**	0.048	0.049	0.046	0.014	0.012	5:20
	0	0.003	0.002	0.002	0.001	0.002	6:47
1/2 DP	**31**	0.101	0.106	0.103	0.031	0.026	5:29
	0	0.007	0.009	0.010	0.007	0.005	6:37
3/4 DP	**46**	0.149	0.157	0.153	0.044	0.036	5:25
	0	0.013	0.014	0.015	0.011	0.008	6:47
DP	**61**	0.210	0.219	0.211	0.061	0.049	5:29
	0	0.025	0.023	0.021	0.015	0.013	5:38
1-1/4 DP	**76**	0.275	0.284	0.273	0.078	0.060	0:05
	0	0.034	0.030	0.025	0.017	0.017	0:05
1-1/2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
3 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	

Ultimate Load: **191** **psf**

Failure Mode: Failure: All cladding blew in and broke apart into mostly larger pieces, but also small. Steel stud in center came off the track on the bottom.

Observations during Test: Cracking started in cladding in last stage.

Duration of Specified Maximum Pressure: 28 seconds

Tape Use: *Tape and film were used to seal the specimen.*
Tape Influence: *The tape and or film did not influence the test results.*

SUMMARY DATA

ASTM E0330-02, -02(2010), and -14

Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)

Client: Aircrete Mexico
Job Number: AMAB042222-28

Test Location: ICC NTA
Nappanee, Indiana

Specimen Information:

Panel Manufacturer: Aircrete Mexico
Product Trade Name: Aircrete Cladding Panels

Facing Material: Aircrete Cladding Panels - 2' x 4' x 1.97" Lot # 18DA 4/18/22 & #11D3 4/20/22 (3mm Steel Reinforcing Wire, Republic Steel Wire Mexico. San Luis, SLP, MX Lot #210007171 4/25/2022), (Portland Cement, Cementos Fortaleza. El Palmer, HGO, MX Lot #06 CPC 40-2022 7/1/2022), (Pulverized Lime, Caleras Beltran. Hidalgo, CP, MX Lot #CVP-13072022 7/13/2022), (Sand, Covia. Monterrey Lab Lot #20221734-PP)

Nom. Thickness (in.): 1.97
Strong Axis Orientation: No Strength Direction
Certification Body N/A
Certification: N/A

Core Material: N/A

Certification Body: N/A
Certification: N/A

Adhesive Material: Aircrete Mortar Adhesive (55lbs bags) Lot# 10478 4/23/22, Expiration 4/23/23 SN:144579

Certification Body: N/A
Certification: N/A

Endplate Material: 2 x 6 Steel Track #600T125-43 U
Spline Material: N/A
Fastener Material: Truss Head Tek Screw, #8-18-in. x 3-in.
Fastening Schedule: -in. oc, -in. edge distance

Nom. Specimen Size: 48 in. wide x 96 in. long x 5.5 in. thick
Average Measured Thickness (in.): 7.99
Average Specimen Dead Weight (psf): 7.92

General Observations: No additional observations.

Support Conditions: 94.5 in., single span
Bearing Width (in.): N/A
Deflection Analysis Method: Support deflections are subtracted from midspan deflections to determine deflection limits

Table A1: Overall Test Results

Specimen No.	Ultimate Pressure[b] (psf)	Percent Difference From Avg	Pressure[a] at L/180 (psf)	Percent Difference From Avg	EI (lb-in^2/ft)
145655	101	-0.6%	NR	NR	13,580,000
145656	101	-0.4%	75	0.7%	10,790,000
145657	102	1.0%	74	-0.7%	10,250,000
Average:	**101**	**Average:**	**75**		

[a] NR = Pressure not reached

[b] Ultimate Pressure includes the weight of the specimen

Deflection Criteria[c]

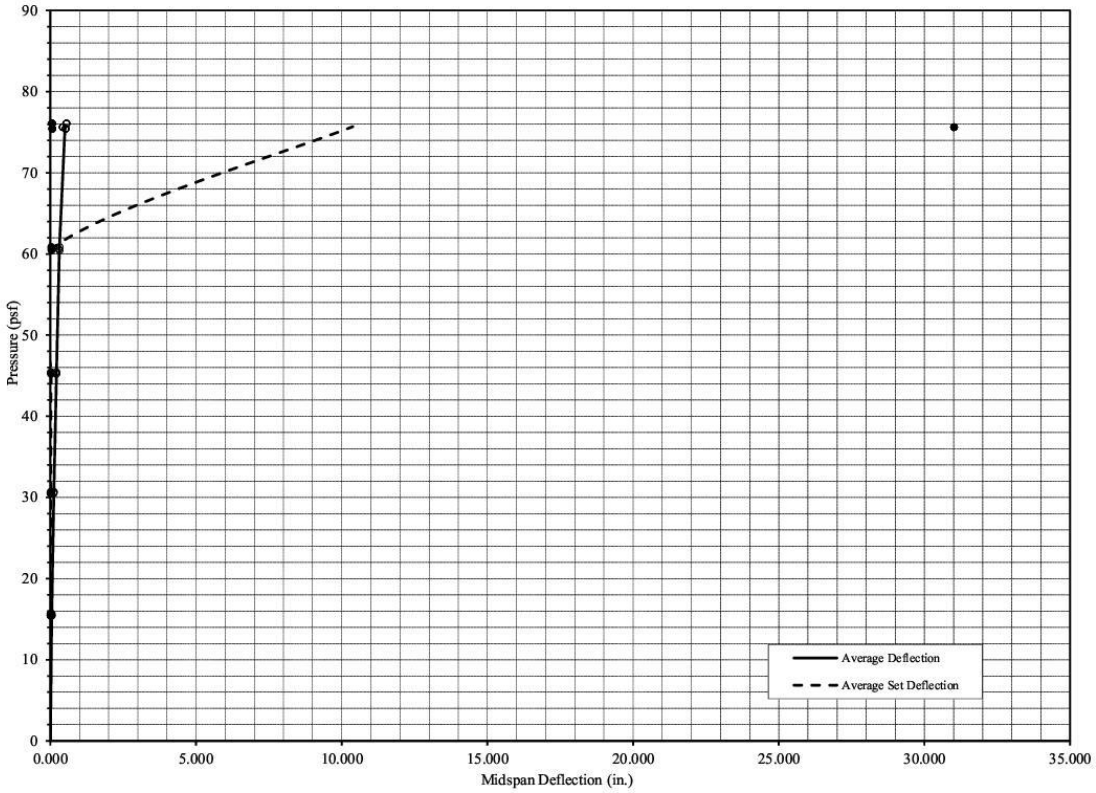
Limit	Deflection (in.)	Pressure, Specimen #145655 (psf)	Pressure, Specimen #145656 (psf)	Pressure, Specimen #145657 (psf)	Average Pressure (psf)
L/600	0.158	38	36	37	37
L/480	0.197	46	42	43	44
L/360	0.263	56	52	53	54
L/240	0.394	71	66	66	68
L/180	0.525	--	75	74	--
L/120	0.788	--	--	--	--
L/90	1.050	--	--	--	--

[c] Interpolated from test data.

Average EI/width= 1.15E+07 lb-in^2/ft Width

This summary contains only data arrived at after employing the specific test procedures listed herein. This summary data might not include all reporting requirements of the test standard. The data herein does not constitute a recommendation for, endorsement of, or certification of the product or material tested. ICC NTA makes no warranty, expressed or implied, except that the test has been performed, and data prepared, based upon the specimen furnished by the client. Extrapolation of data, from the test data provided herein, to the batch or lot from which the specimens were obtained may not correlate and should be interpreted with extreme caution. ICC NTA assumes no responsibility for variations in quality, composition, appearance, performance, or other features of similar materials produced by the client, other persons, or under conditions over which ICC NTA has no control. ICC NTA has issued this data summary for the exclusive use of the client to whom it is addressed. Any use or duplication of this summary shall not be made without their consent. This summary shall only be reproduced in its entirety.

SUMMARY DATA
ASTM E0330-02, -02(2010), and -14
Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)



Dial Gauge Locations:

Gauge	Location
A	Mid-span between center and left edge stud
B	Mid-span center (stud), mid-width
C	Mid-span between center and right edge stud
D	Top support mid-width, over support
E	Bottom support mid width, over support

SUMMARY DATA

ASTM E0330-02, -02(2010), and -14

Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)

Specimen 1

General Information

Parent No.: 144577
Specimen No.: 145655
Specimen Constructed By: Dave Lane
Test Performed By: Ken Severs
Test Witnessed By: Sai Yenugula

Date of Material Receipt: 6/21/2022
Date of Construction: 8/11/2022
Date of Testing: 9/12/2022

Ambient Conditions:

Temp. (°F): 69.9
R.H. (%): 55.3
Sensor Asset No.: 00576

Apparatus: Asset No.

Calipers:	01693
Tape Measure:	02463
Balance:	01780
Manometer	02180
Vacuum Table:	02176
Timing Device:	02652
Wood Moisture Meter:	00830

Test Conditions:

Target Design Pressure, "DP" (psf): 60
Direction of Loading: Negative
Test Variable: None

Procedure Modifications: None

Table A2: Specimen 1 Deflection Data

	Load Stages (psf)	Gauge A Mid-Span Panel Edge Asset # 02365	Gauge B Mid-Span Center Asset # 02185	Gauge C Mid-Span Panel Edge Asset # 02186	Gauge D Top Support Asset # 02187	Gauge E Bottom Support Asset # 02188	Stage Duration (mm:ss) Asset # N/A
PreLoad	**3**	0.009	0.008	0.009	0.001	0.002	5:17
	0	0.001	0.010	0.011	0.010	0.002	7:19
REF	**0**	0.000	0.000	0.000	0.000	0.000	0.00
1/4 DP	**16**	0.067	0.080	0.076	0.014	0.030	5:27
	0	0.013	0.016	0.016	0.003	0.020	7:06
1/2 DP	**30**	0.154	0.172	0.162	0.039	0.052	5:28
	0	0.028	0.025	0.032	0.005	0.030	6:31
3/4 DP	**45**	0.251	0.273	0.254	0.058	0.069	5:29
	0	0.042	0.032	0.045	0.006	0.035	7:34
DP	**61**	0.370	0.400	0.372	0.086	0.087	5:28
	0	0.062	0.046	0.065	0.011	0.039	8:23
1-1/4 DP	**76**	0.522	0.565	0.513	0.101	0.103	0:05
	0	92.999	0.063	0.092	0.016	0.042	0:05
1-1/2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
3 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	

Ultimate Load: **101** **psf**

Failure Mode: Failure: steel studs buckled at center of panel cracking face at center seem and cladding breakage at corner/edge of center piece by fastners.

Observations during Test: Cracking started in cladding in last stage.

Duration of Specified Maximum Pressure: 17 seconds

Tape Use: *Tape and film were used to seal the specimen.*
Tape Influence: *The tape and or film did not influence the test results.*

SUMMARY DATA

ASTM E0330-02, -02(2010), and -14

Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)

Specimen 2

General Information

Parent No.: 144577
Specimen No.: 145656
Specimen Constructed By: Dave Lane
Test Performed By: Ken Severs
Test Witnessed By: Sai Yenugula

Date of Material Receipt: 6/21/2022
Date of Construction: 8/11/2022
Date of Testing: 9/13/2022

Ambient Conditions:

Temp. (°F): 70.3
R.H. (%): 57.3
Sensor Asset No.: 00576

Apparatus: Asset No.

Calipers:	01693
Tape Measure:	02463
Balance:	01780
Manometer	02180
Vacuum Table:	02176
Timing Device:	02652
Wood Moisture Meter:	00830

Test Conditions:

Target Design Pressure, "DP" (psf): 60
Direction of Loading: Negative
Test Variable: None

Procedure Modifications: None

Table A3: Specimen 2 Deflection Data

	Load Stages (psf)	Gauge A Mid-Span Panel Edge Asset # 02365	Gauge B Mid-Span Center Asset # 02185	Gauge C Mid-Span Panel Edge Asset # 02186	Gauge D Top Support Asset # 02187	Gauge E Bottom Support Asset # 02188	Stage Duration (mm:ss) Asset # N/A
PreLoad	**3**	0.008	0.010	0.009	0.002	0.003	5:12
	0	0.009	0.011	0.009	0.001	0.002	7:36
REF	**0**	0.000	0.000	0.000	0.000	0.000	0.00
1/4 DP	**15**	0.066	0.077	0.072	0.018	0.021	5:31
	0	0.009	0.010	0.010	0.001	0.010	6:23
1/2 DP	**31**	0.146	0.170	0.162	0.034	0.038	5:35
	0	0.028	0.024	0.027	0.003	0.018	7:29
3/4 DP	**45**	0.258	0.283	0.280	0.061	0.054	5:35
	0	0.048	0.034	0.046	0.008	0.021	6:36
DP	**60**	0.372	0.407	0.402	0.084	0.068	5:23
	0	0.069	0.048	0.065	0.012	0.024	7:24
1-1/4 DP	**75**	0.593	0.637	0.638	0.108	0.085	0:05
	0	0.098	0.067	0.094	0.014	0.026	0:05
1-1/2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
3 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	

Ultimate Load: **101** **psf**

Failure Mode: Failure: steel studs buckled at center of panel, cracking face at multiple points(Center seem across width, lower center verticle, top corner fork split), and cladding breakage at center fasnter. There was a crack/pop sound while

Observations during Test: Cracking started in cladding in last stage.

Duration of Specified Maximum Pressure: 21 seconds

Tape Use: *Tape and film were used to seal the specimen.*
Tape Influence: *The tape and or film did not influence the test results.*

SUMMARY DATA

ASTM E0330-02, -02(2010), and -14

Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)

Specimen 3

General Information

Parent No.: 144577
Specimen No.: 145657
Specimen Constructed By: Dave Lane
Test Performed By: Ken Severs
Test Witnessed By: Sai Yenugula

Date of Material Receipt: 6/21/2022
Date of Construction: 8/11/2022
Date of Testing: 9/13/2022

Ambient Conditions:

Temp. (°F): 71.6
R.H. (%): 68.6
Sensor Asset No.: 00576

Apparatus: Asset No.

Calipers:	01693
Tape Measure:	02463
Balance:	01780
Manometer	02180
Vacuum Table:	02176
Timing Device:	02652
Wood Moisture Meter:	00830

Test Conditions:

Target Design Pressure, "DP" (psf): 60
Direction of Loading: Negative
Test Variable: None

Procedure Modifications: None

Table A4: Specimen 3 Deflection Data

	Load Stages (psf)	Gauge A Mid-Span Panel Edge Asset # 02365	Gauge B Mid-Span Center Asset # 02185	Gauge C Mid-Span Panel Edge Asset # 02186	Gauge D Top Support Asset # 02187	Gauge E Bottom Support Asset # 02188	Stage Duration (mm:ss) Asset # N/A
PreLoad	**3**	0.009	0.009	0.007	0.004	0.001	5:13
	0	0.012	0.012	0.009	0.006	0.001	6:29
REF	**0**	0.000	0.000	0.000	0.000	0.000	0.00
1/4 DP	**15**	0.076	0.086	0.083	0.026	0.038	5:47
	0	0.009	0.018	0.025	0.000	0.029	7:23
1/2 DP	**31**	0.168	0.177	0.166	0.047	0.052	5:25
	0	0.024	0.026	0.039	0.005	0.033	6:39
3/4 DP	**45**	0.279	0.286	0.268	0.071	0.066	5:36
	0	0.044	0.040	0.058	0.010	0.038	8:20
DP	**61**	0.412	0.420	0.393	0.091	0.081	5:41
	0	0.063	0.052	0.076	0.014	0.039	8:35
1-1/4 DP	**76**	0.672	0.666	0.642	0.117	0.101	0:05
	0	0.089	0.074	0.101	0.020	0.042	0:05
1-1/2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
2 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	
3 DP	**--**	--	--	--	--	--	
	--	--	--	--	--	--	

Ultimate Load: **102** **psf**

Failure Mode: Failure: steel studs buckled at center of panel cracking face at center seem and and smaller cracking on lower caldding panel.

Observations during Test: Cracking started in cladding in last stage.

Duration of Specified Maximum Pressure: 23 seconds

Tape Use: *Tape and film were used to seal the specimen.*

Tape Influence: *The tape and or film did not influence the test results.*

Appendix D - Revision Log

Rev. #	Date	Page(s)	Revision(s)
0	11/17/2022	N/A	Original report issue