



TEST REPORT

Date	2026-02-19
Report Number	0093-45-1-6040
Client	Engage Building Products Inc.
Address	101-4441 76th Ave SE, Calgary, AB T2C 2G8

SUBJECT

Summary conclusion and application of test results derived from ASTM E330/E330M-14, *Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference*, completed for installations of Board and Batten.

TEST SUMMARY

Twelve (12) representative wall assemblies have been tested in accordance with ASTM E330/E330M-14, *Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference*, at Engage Building Products Inc. in Calgary, Alberta.

TESTING PROCEDURE

The FastPlank Systems Board and Batten (B&B) cladding specimen was tested in accordance with ASTM E330/E330M-14(21) to evaluate structural performance under uniform static air pressure. The assembly walls were securely mounted in a sealed test chamber, and deflection measurement devices were positioned on the Board planks and support members as specified in the attachments. A uniform static air pressure equal to the target load was applied in the negative pressure direction and maintained for 10 seconds. Deflection was recorded during peak loading, and permanent deformation was assessed 1 to 5 minutes after unloading. The test load began at 15 psf and was increased in increments of 15 psf until ultimate failure of the specimen or framing. The specimen was monitored for structural deformation, fastener integrity, and overall performance, with results evaluated against the standard's allowable limits.

PRODUCT DESCRIPTION

FastPlank Systems Board and Batten planks are aluminum siding planks with fastening clips and trim accessories, serving as an exterior cladding. Planks are extruded 3/64" thick aluminum, 6063-T6 grade alloy with a V-Notch™ profile, available in lengths of 16-ft. Board planks are available in widths of 4-in and 6-in. Batten planks are available in widths of 1 3/4-in and 2 1/2-in. The plank exterior surface is typically finished with a powder-coat paint in a variety of colors.

ASSEMBLY DESCRIPTION

The framed walls were 60" wide and 120" tall using SPF No.2 dimensional lumber or 1-5/8" x 6" 33 ksi 18 ga. steel studs at 16" O.C. A variation of sheathing, wood blocking, strapping, and Z-girt were used as specimen substrates, per Table 1 details. Sheathing materials include 5/8" Plywood and 1/2" Exterior Gypsum with 2" rigid insulation. Clips were placed vertically and fastened into wood and steel studs with #10-1 1/2" self drilling HWH Tek screws or #10-16 x 3/4" Tek screws into Z-girts, per Table 1 details.

Board and Batten planks were installed with a starter track at the base of the wall, and side and top trim on other sides to secure the planks. Planks were locked into pre-mounted clips, and with V-Notch™ interlocking between planks, ensuring a tight interlock throughout installation.



Table 1: Test Assembly Configurations for Board and Batten Planks.

Test Series	Configuration ^{1,2}	Clip Fastener Substrate	Framing ³	Clip Fastener	Sheathing
B&B 2	Clips @ 32" O.C. Staggered	Sheathing	2"x6" SPF No. 2 Wood Stud @ 16" o/c	#10 - 1-1/2" Self Piercing Screw	5/8" Plywood
B&B 3	Clips @ 32" O.C. Staggered	Wood Blocking	1-5/8"x6" 18 GA 33 KSI Steel Stud @ 16" o/c	#10 - 1-1/2" Self Piercing Screw	1/2" Ext. Gypsum
B&B 4	Clips @ 32" O.C. Straight	1.5"x2" 33 KSI 18 GA Z-Girt	1-5/8"x6" 18 GA 33 KSI Steel Stud @ 16" o/c	#10 - 1-1/2" Self Drilling HWH Tek Screw into Studs #10 - 16x3/4" Tek Screw into Z-Girts	1/2" Ext. Gypsum with 2" Rigid Insulation
B&B 5	Clips @ 16" O.C. Straight	18 GA Steel Strapping	1-5/8"x6" 18 GA 33 KSI Steel Stud @ 16" o/c	#10 - 1-1/2" Self Drilling HWH Tek Screw into Strapping	1/2" Ext. Gypsum

1. A straight configuration consists of clips aligned along each plank separation with clips at each plank spaced as dimensioned.
2. A staggered configuration consists of clips aligned along every plank separation with the clip starting locations alternating between the first and second plank to create a staggered appearance. Clips at each plank spaced as dimensioned.
3. Test wall frames are 60" x 120", unless noted otherwise.

Table 2: Board and Batten Planks ASTM E330 Testing Results

Test	Load Data					Allowable Deflection at Deflection Service Load				
	Max Load (psf)	Avg. Max Load (psf)	Deviation from Ave.	< 15% Variance	Allowable Deflection Service Load (ASD) (psf)	L/180 Limit (in.)	Measured Deflection (in.)	L/60 Limit (in.)	Measured Deflection (in.)	Measure < Limit
						Wall		Panel		
B&B 02-1	90	94	-4.14%	OKAY	32	0.667	0.160	0.267	0.109	OKAY
B&B 02-2	100		6.04%	OKAY	35	0.667	0.135	0.267	0.149	OKAY
B&B 02-3	93		-1.91%	OKAY	32	0.667	0.112	0.267	0.102	OKAY
B&B 03-1	160	157	1.91%	OKAY	56	0.667	0.174	0.267	0.150	OKAY
B&B 03-2	146		-7.01%	OKAY	51	0.667	0.127	0.267	0.113	OKAY
B&B 03-3	165		5.10%	OKAY	58	0.667	0.160	0.267	0.172	OKAY
B&B 04-1	145	142	2.35%	OKAY	51	0.667	0.023	0.533	0.408	OKAY
B&B 04-2	148		4.47%	OKAY	52	0.667	0.057	0.533	0.401	OKAY
B&B 04-3	132		-6.82%	OKAY	46	0.667	0.067	0.533	0.312	OKAY
B&B 05-1	91	88	2.57%	OKAY	32	0.667	0.213	0.267	0.106	OKAY
B&B 05-2	76		-13.98%	OKAY	27	0.667	0.071	0.267	0.175	OKAY
B&B 05-3	98		11.41%	OKAY	34	0.667	0.234	0.267	0.093	OKAY

1. Allowable deflection service load determined using test load divided by a safety factor of 2, and multiplied by 0.7 in accordance with IBC Table 1604.3 *Deflection Limits* and ASCE 7-22 Chapter 30, *Wind Loads: Components and Cladding*.
2. A linear trendline was created for each data set and used to calculate the wall/plank deflection at the allowable deflection service load of the test series.



Table 3: Board and Batten Planks Failure Modes

Test	Max Load (psf)	Failure Modes
B&B 02-1	90	Sheathing tore apart
B&B 02-2	100	Sheathing tore apart
B&B 02-3	93	Clip fastener pulled out from sheathing
B&B 03-1	160	Studs twisted, wall failed
B&B 03-2	146	Clip fastener pulled out of wood blocking
B&B 03-3	165	Clip fastener pulled out of wood blocking
B&B 04-1	145	Board and batten disengaged with each other
B&B 04-2	148	Board and batten disengaged with each other
B&B 04-3	132	Wall failed, batten clip fasteners pulled out of z-girts
B&B 05-1	91	Clip fastener pulled out from strapping
B&B 05-2	76	Clip fastener pulled out from strapping
B&B 05-3	98	Clip fastener pulled out from strapping

Table 4: Board and Batten Planks Allowable Design Load

Test	Allowable Design Load (ASD) (psf)
B&B 2	47
B&B 3	79
B&B 4	71
B&B 5	44

1. Allowable design load is lesser of:
 - i. Average max test load divided by safety factor of 2.
 - ii. Test load divided by 0.7 when plank reaches service deflection limit.
 - iii. If data set has samples that exceed 15% tolerance, lowest result divided by safety factor of 2.

CONCLUSION

This test report includes 12 of 12 scheduled ASTM E330/E330M-14 tests.

The listed tested assemblies have been tested in conformance with the criteria of ASTM E330/E330M-14, *Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference*).

The testing results in Table 3 have been evaluated by engineering design methodology in general accordance with ASCE 7-22 and Table 2 has been prepared in a format with design information that is suitable to publish in engineering code compliance report documents based on the IBC and NBCC Codes.

The testing has considered negative wind pressure direction only.



SIGNED

This report has been prepared and reviewed on behalf of BOCA by:

Christina Chen, Eng. Tech.

2026-02-19

Date

Chris Bowness, P.Eng., P.E.

2026-02-19

Date



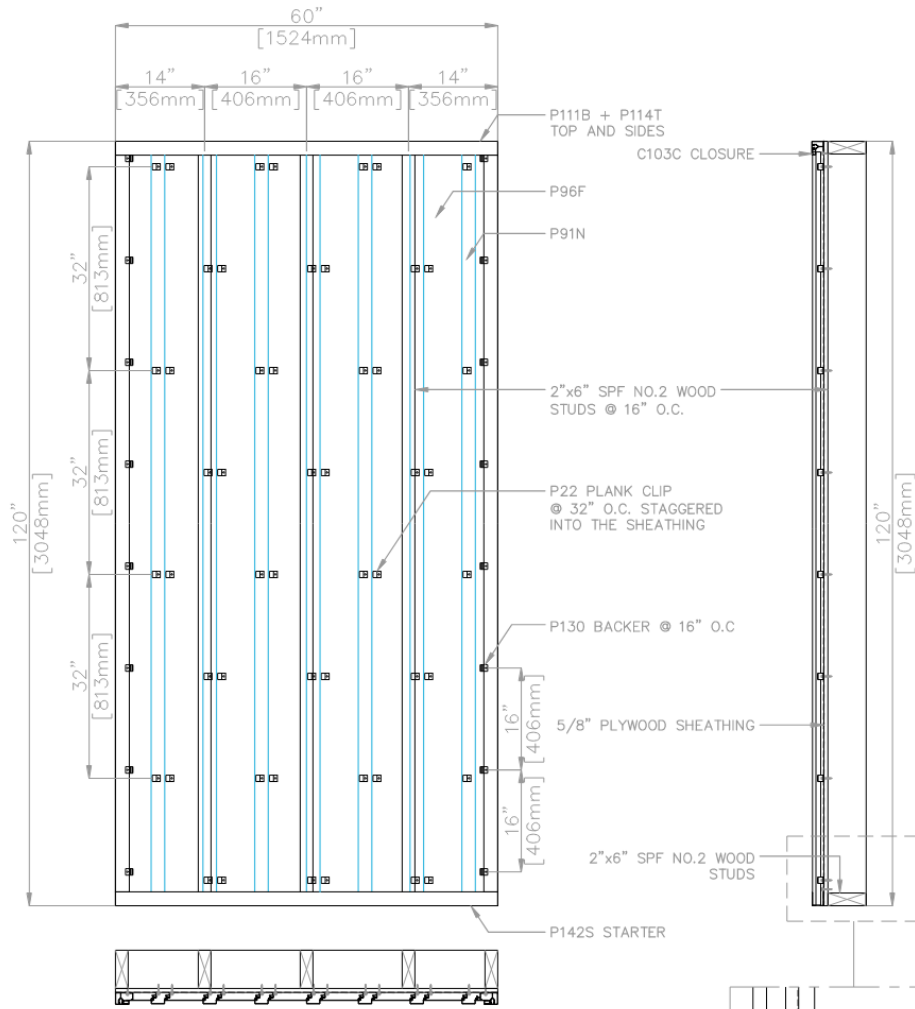
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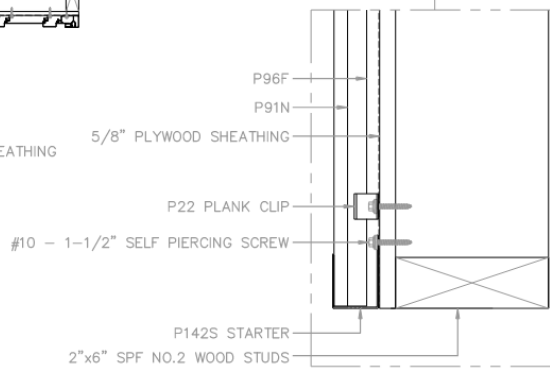
ATTACHMENTS:

1. Test Assembly Drawings	Pg. 6 – 9
2. B&B-02-01 Test Results	Pg. 10 – 11
3. B&B-02-02 Test Results	Pg. 12 – 13
4. B&B-02-03 Test Results	Pg. 14 – 15
5. B&B-03-01 Test Results	Pg. 16 – 17
6. B&B-03-02 Test Results	Pg. 18 – 19
7. B&B-03-03 Test Results	Pg. 20 – 21
8. B&B-04-01 Test Results	Pg. 22 – 23
9. B&B-04-02 Test Results	Pg. 24 – 25
10. B&B-04-03 Test Results	Pg. 26 – 27
11. B&B-05-01 Test Results	Pg. 28 – 29
12. B&B-05-02 Test Results	Pg. 30 – 31
13. B&B-05-03 Test Results	Pg. 32 – 33

B&B2 TEST WALL



2"x6" SPF WOOD STUDS @ 16" O.C. W/ 5/8" PLYWOOD SHEATHING
 #10 - 1-1/2" SELF PIERCING SCREW
 CLIPS @ 32" O.C. STAGGERED INTO SHEATHING

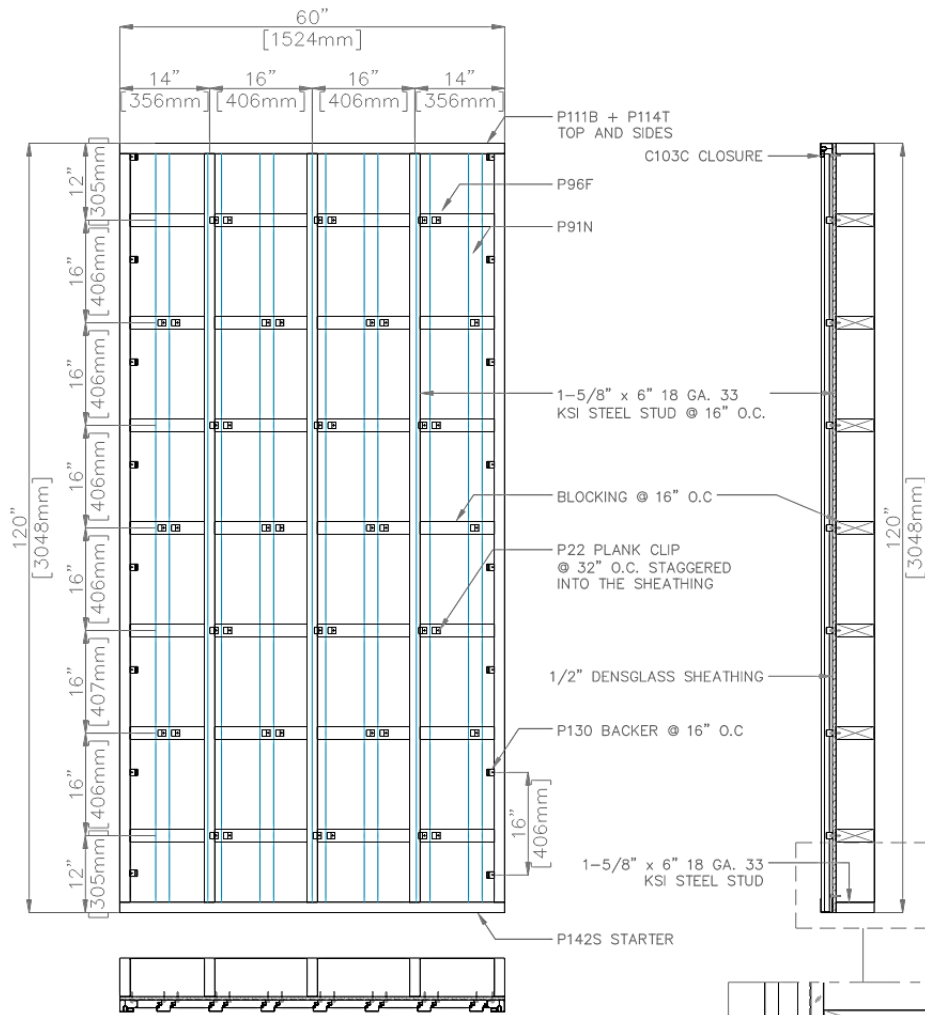


DETAIL

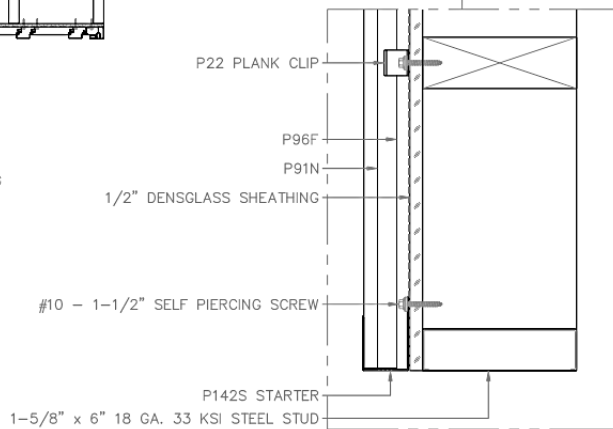
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ASTM E330 ASSEMBLY 2 FOR BOARD + BATTEN			
	SCALE	NTS	DRAWING NUMBER
	DATE	07MAY2025	BB2.0
	DRWN BY	JB	
	CHK BY	AS	

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B&B3 TEST WALL



1-5/8" x 6" 18 GA. 33 KSI STEEL STUD @ 16" O.C.
 W/ BLOCKING @ 16" O.C & 1/2" DENSGLOSS SHEATHING
 #10 1-1/2" SELF PIERCING SCREW
 #10 - 1-1/2" SELF PIERCING SCREW
 P22 PLANK CLIPS @ 32" O.C. STAGGERED INTO WOOD BLOCKING

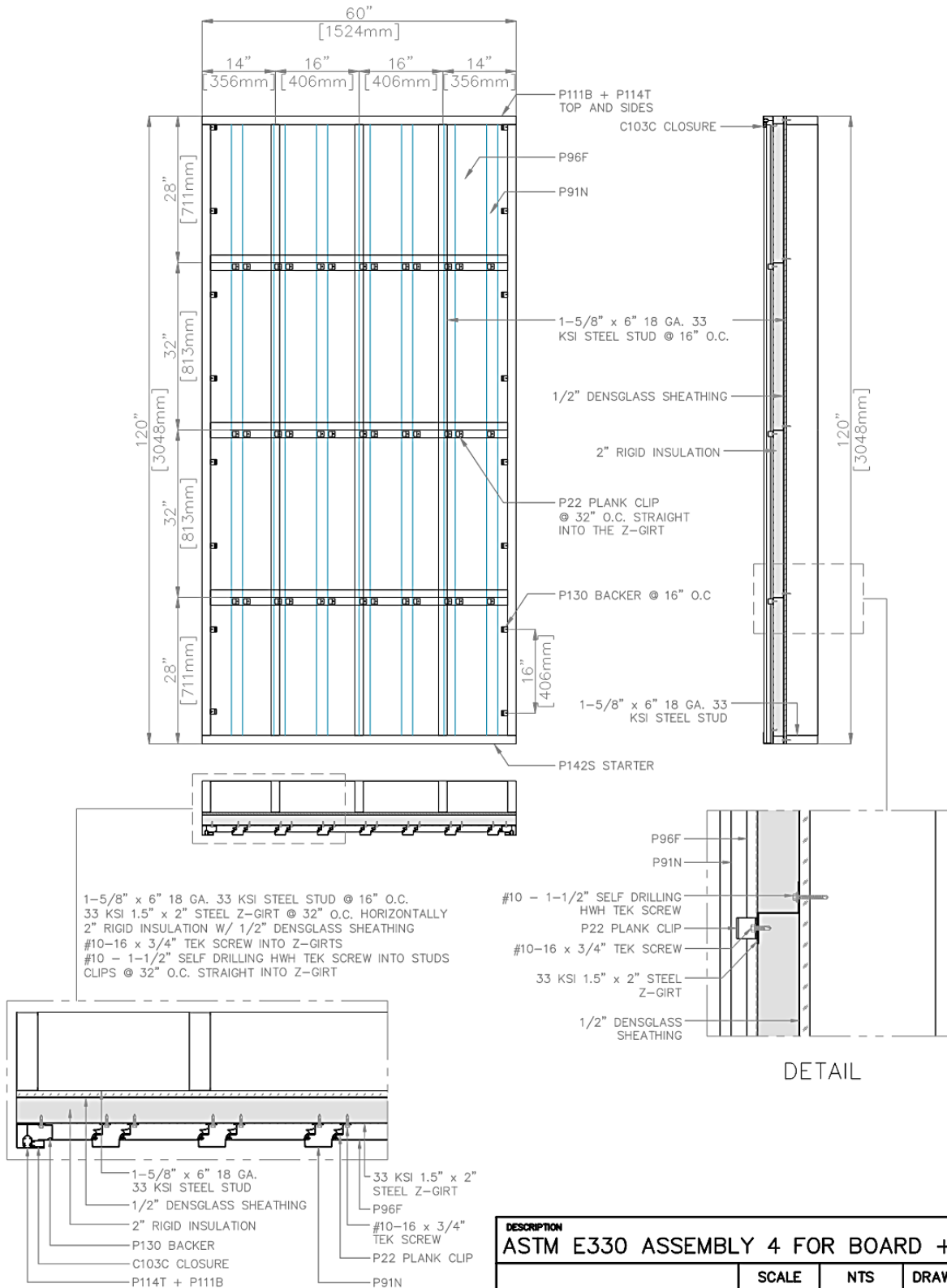


DETAIL

DESCRIPTION			
ASTM E330 ASSEMBLY 3 FOR BOARD + BATTEN			
	SCALE	NTS	DRAWING NUMBER
	DATE	07MAY2025	BB3.0
	DRWN BY	JB	
	CHK BY	AS	

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B&B4 TEST WALL

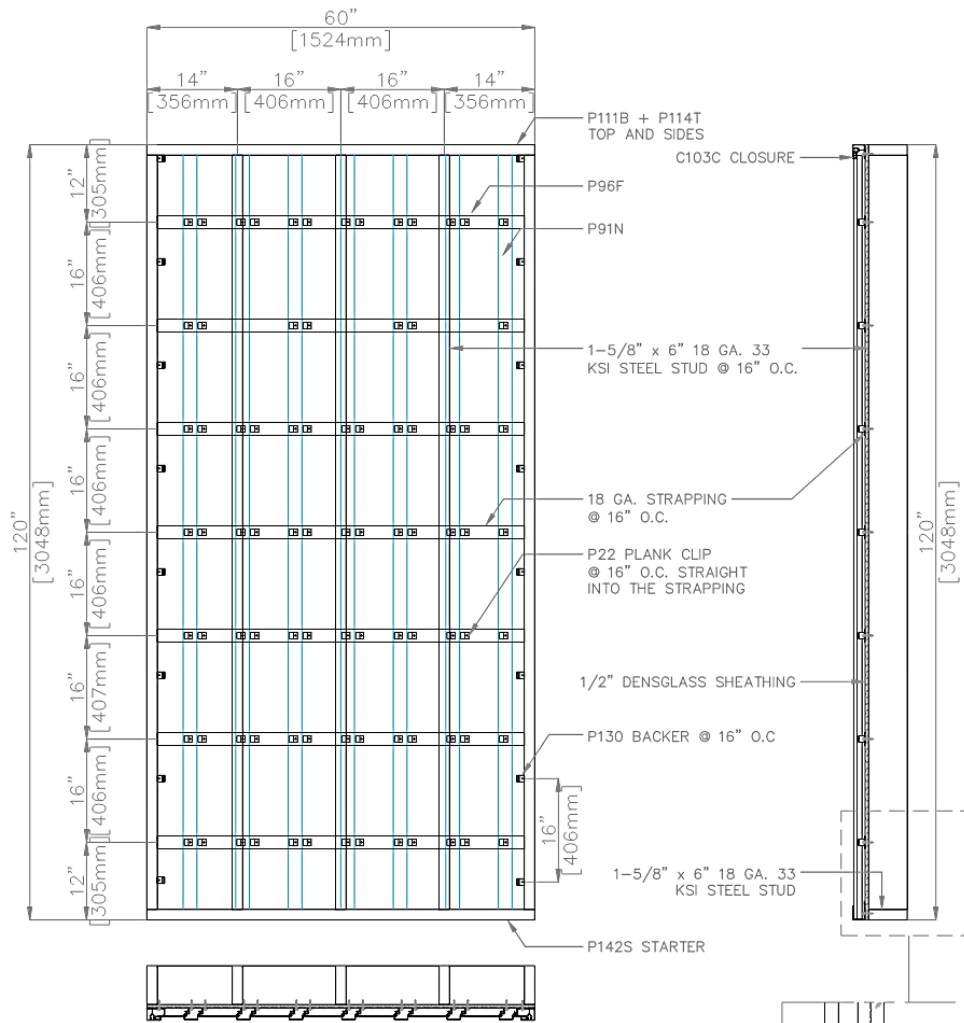


1-5/8" x 6" 18 GA. 33 KSI STEEL STUD @ 16" O.C.
 33 KSI 1.5" x 2" STEEL Z-GIRT @ 32" O.C. HORIZONTALLY
 2" RIGID INSULATION W/ 1/2" DENSGLOSS SHEATHING
 #10-16 x 3/4" TEK SCREW INTO Z-GIRTS
 #10 - 1-1/2" SELF DRILLING HWH TEK SCREW INTO STUDS
 CLIPS @ 32" O.C. STRAIGHT INTO Z-GIRT

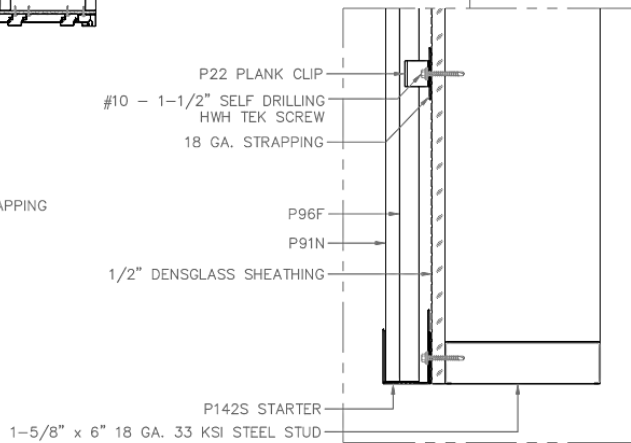
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DRWN BY	JB		
CHK BY	AS		

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B&B5 TEST WALL



1-5/8" x 6" 18 GA. 33 KSI STEEL STUD @ 16" O.C.
 W/ 18 GA. STRAPPING @ 16" O.C.
 1/2" DENSGLOSS SHEATHING
 #10 - 1-1/2" SELF DRILLING HWH TEK SCREW INTO STRAPPING
 CLIPS @ 16" O.C. STRAIGHT INTO STRAPPING



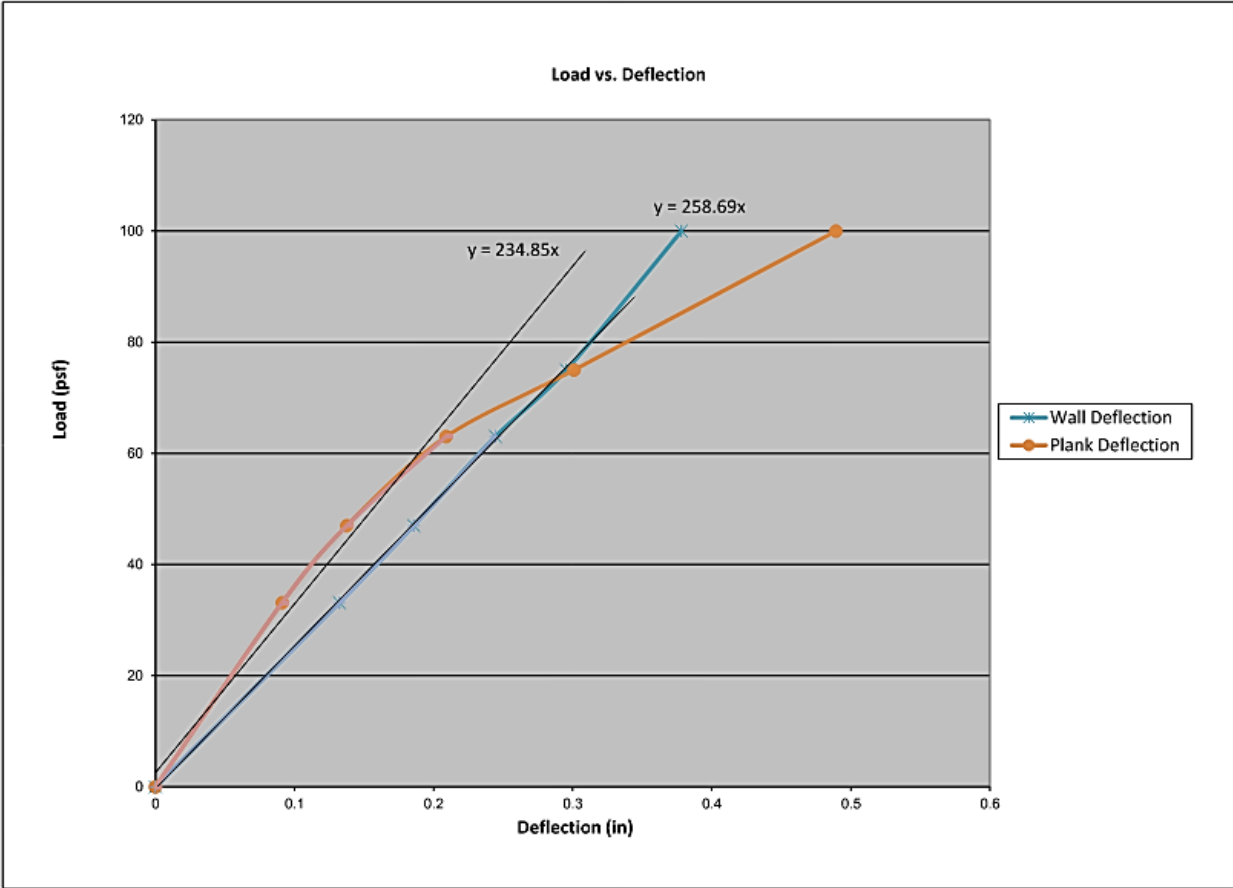
DETAIL

DESCRIPTION			
ASTM E330 ASSEMBLY 5 FOR BOARD + BATTEN			
	SCALE	NTS	DRAWING NUMBER
	DATE	07MAY2025	BB5.0
	DRWN BY	JB	
	CHK BY	AS	

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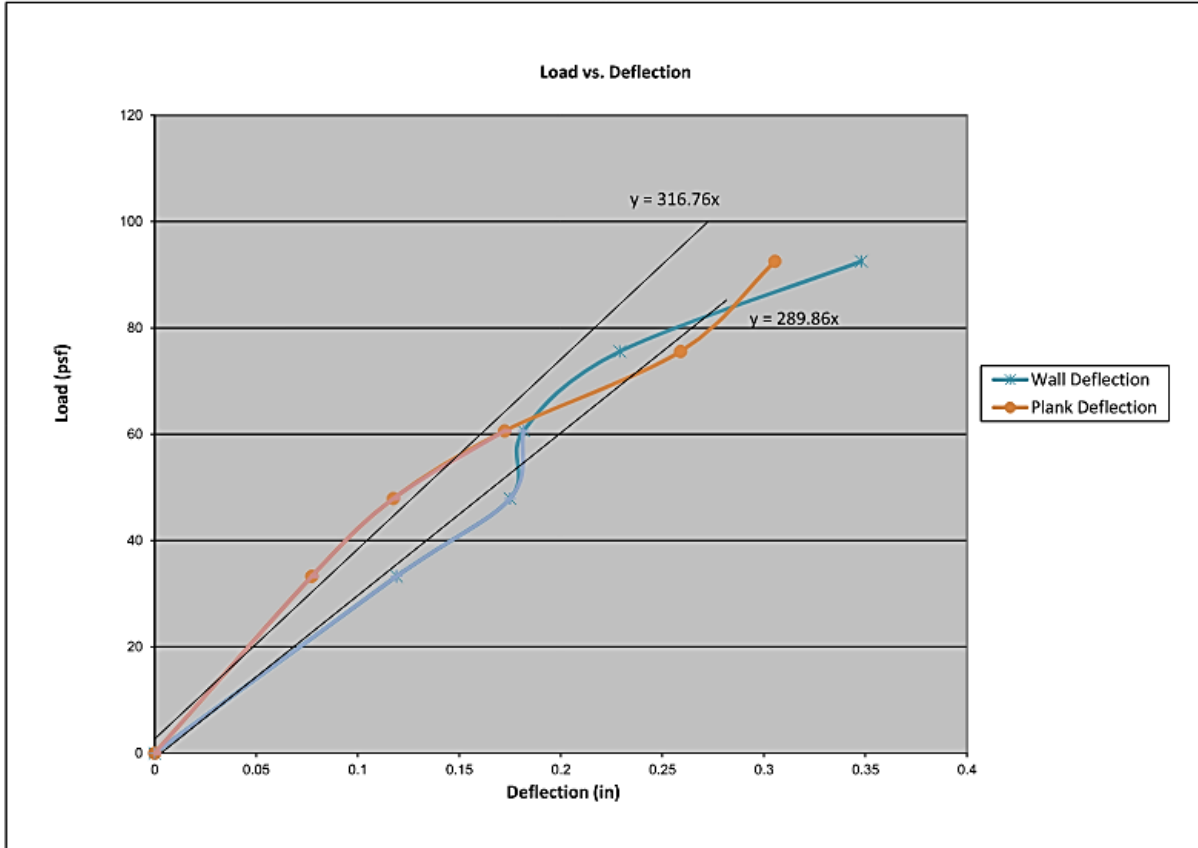
Test#: B&B-02-2	
Max Load	100.0 psf
Allowable Design Load (ASD) = Max Load / 2	50.0 psf
Deflection Service Load (ASD) = Allowable * 0.7	35.0 psf
Wall Deflection limit = L / 180 of wall height	0.667 in
Plank Deflection limit = L / 60 of Plank anchor (clip) span	0.267 in
Wall Deflection @ Deflection Service Load (ASD)	0.1353 in
Plank Deflection @ Deflection Service Load (ASD)	0.1490 in
Max Load @ Wall Deflection Limit	172 psf
Max Load @ Plank Deflection Limit	62.6 psf



Target Load (psf)	Wall Deflection (= ga 3 - (ga 1 + ga 2)/2) (in)	Plank Deflection (= ga 4 - (ga 3 + ga 5)/2) (in)
0.0	0.000	0.000
33.2	0.132	0.091
47.0	0.186	0.138
63.0	0.245	0.209
75.0	0.296	0.301
100.0	0.378	0.489



Test#:	B&B-02-3
Max Load	92.5 psf
Allowable Design Load (ASD) = Max Load / 2	46.3 psf
Deflection Service Load (ASD) = Allowable * 0.7	32.4 psf
Wall Deflection limit = L / 180 of wall height	0.667 in
Plank Deflection limit = L / 60 of Plank anchor (clip) span	0.267 in
Wall Deflection @ Deflection Service Load (ASD)	0.1117 in
Plank Deflection @ Deflection Service Load (ASD)	0.1022 in
Max Load @ Wall Deflection Limit	193 psf
Max Load @ Plank Deflection Limit	84.5 psf



Target Load (psf)	Wall Deflection (= ga 3 - (ga 1 + ga 2)/2) (in)	Plank Deflection (= ga 4 - (ga 3 + ga 5)/2) (in)
0.0	0.000	0.000
33.3	0.119	0.077
47.9	0.175	0.118
60.6	0.182	0.172
75.6	0.229	0.259
92.5	0.348	0.306

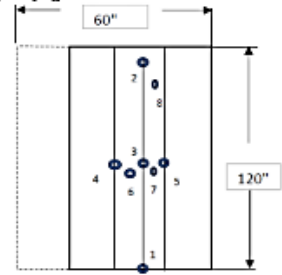
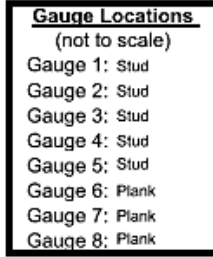


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Test: **Transverse Load - Negative Wind Load** Test#: **B&B-03-1** Project#: 0093
 Client: Engage Building Products Technician(s): Ali, Jordan
 Date: 22-Dec-25 Reviewer: Chris
 Product: **Board & Batten** Location: 101-4441 76 Ave. SE Calgary AB T2C2G8
 Test Method(s): ASTM E330/E330M-14, *Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference*

Installation:
 Configuration: 16" O.C. studs, Clips @ 32" O.C. Staggered into wood blocking
 Framing: 2x6 Steel Stud, 1/2" GA 33 KSI
 Fastener: #10-1-1/2 Self Piercing Screw
 Sheathing: 1/2" Densglass
 Air Seal: Tape used to air seal gaps and will not influence test results

Equipment:
 Pressure Chamber Deflection Gauges(Phidget potentiometers)
 Motor: Core Sensors Model: CS10 - 240C Sensor 1: S/N - F29B
 Press. Controller: S/N - G205141344 Sensor 2: S/N - 9BFA
 Pressure Sensors: Sensor 3: S/N - B7CE
 (-)100 Inches of H2O Sensor 4: S/N - F16B
 100 Inches of H2O Sensor 5: S/N - F14E
 Output 4 - 20mA Sensor 6: S/N - F28I
 S/N - 5015249240311 Sensor 7: S/N - F174
 Sensor 8: S/N - F282



*Gauge Locations not to scale

	Description	Taken [✓]
Photo 1:	Before test, back of wall	✓
Photo 2:	Before test, front of wall	✓
Photo 3:	After test, back of wall	✓
Photo 4:	After test, front of wall	✓
Photo 5:		

Time/Temp/RH:			
Start:	9:40	Temp:	20.3
Finish:	10:25	%RH	20

Test Assembly		
Width (in)	Length (in)	Clip Spacing (in)
60.0	120.0	16

Target Load (psf)	Actual Load (psf)	Time	Gauge 1 (in.)	Gauge 2 (in.)	Gauge 3 (in.)	Gauge 4 (in.)	Gauge 5 (in.)	Gauge 6 (in.)	Gauge 7 (in.)	Gauge 8 (in.)	Observations
0		immed.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
15	15.0	10 sec.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
0		1-5mins									
30	30.0	10 sec.	0.126	0.065	0.164	0.151	0.157	0.228	0.254	0.177	
0		1-5mins	0.014	0.003	0.001	0.013	0.010	0.013	0.012	0.015	
45	45.0	10 sec.	0.190	0.106	0.267	0.236	0.245	0.348	0.382	0.220	
0		1-5mins	0.028	0.006	0.003	0.025	0.020	0.027	0.025	0.022	
60	61.4	10 sec.	0.265	0.158	0.394	0.335	0.358	0.498	0.542	0.269	
0		1-5mins	0.048	0.016	0.008	0.040	0.035	0.047	0.045	0.028	
75	76.4	10 sec.	0.347	0.216	0.521	0.432	0.469	0.634	0.713	0.306	
0		1-5mins	0.066	0.025	0.020	0.051	0.049	0.064	0.065	0.033	
90	91.6	10 sec.	0.427	0.271	0.646	0.525	0.579	0.768	0.868	0.343	
0		1-5mins	0.090	0.039	0.040	0.068	0.072	0.085	0.098	0.036	
105	105.0	10 sec.	0.503	0.324	0.761	0.614	0.679	0.888	1.003	0.380	
0		1-5mins	0.116	0.053	0.065	0.089	0.097	0.111	0.131	0.038	
120	125.0	10 sec.	0.616	0.397	0.938	0.757	0.835	1.080	1.204	0.434	
0		1-5mins	0.148	0.074	0.100	0.113	0.131	0.146	0.215	0.013	
135	145.0	10 sec.	0.708	0.475	1.106	0.895	0.970	1.258	1.395	0.485	
0		1-5mins	0.178	0.101	0.135	0.141	0.164	0.184	0.271	0.025	
160	160.2	10 sec.	0.850	0.566	1.663	1.178	1.185	1.742	1.859	0.537	
0		1-5mins	0.273	0.137	0.650	0.340	0.358	0.621	0.690	0.067	

Mode of Failure		
Max Load (psf)	160.0	The studs twisted and wall failed while going to 170 PSF.



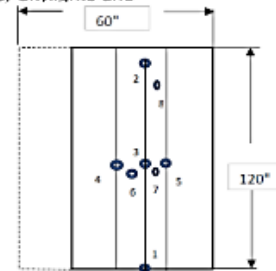
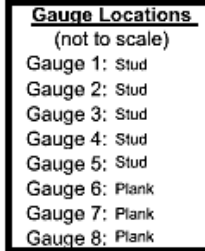
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Test: **Transverse Load - Negative Wind Load** Test#: **B&B-03-2** Project#: 0093
 Client: Engage Building Products Technician(s): Ali
 Date: 22-Dec-25 Reviewer: Chris
 Product: **Board & Batten** Location: 101-4441 76 Ave. SE Calgary AB T2C2G8
 Test Method(s): ASTM E330/E330M-14, *Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference*

Installation:
 Configuration: 16" O.C. studs, Clips @ 32" O.C. Staggered into wood blocking
 Framing: 2x6 Steel Stud, 1/2" GA 33 KSI
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 Sheathing: 1/2" Densglass
 Air Seal: Tape used to air seal gaps and will not influence test results

Equipment: Pressure Chamber Deflection Gauges(Phidget potentiometers)

Motor: Core Sensors Model: CS10 - 240C	Sensor 1:	S/N - F29B
Press. Controller: S/N - G205141344	Sensor 2:	S/N - 9BFA
Pressure Sensors:	Sensor 3:	S/N - 87CE
(-)100 Inches of H2O	Sensor 4:	S/N - F16B
100 Inches of H2O	Sensor 5:	S/N - F14E
Output 4 - 20mA	Sensor 6:	S/N - F28I
S/N - 5015249240311	Sensor 7:	S/N - F174
	Sensor 8:	S/N - F282



*Gauge Locations not to scale

Time/Temp/RH:	
Start: 11:38	Temp: 20.9
Finish: 12:00	%RH: 22

	Description	Taken [✓]
Photo 1:	Before test, back of wall	✓
Photo 2:	Before test, front of wall	✓
Photo 3:	After test, back of wall	✓
Photo 4:	After test, front of wall	✓
Photo 5:		

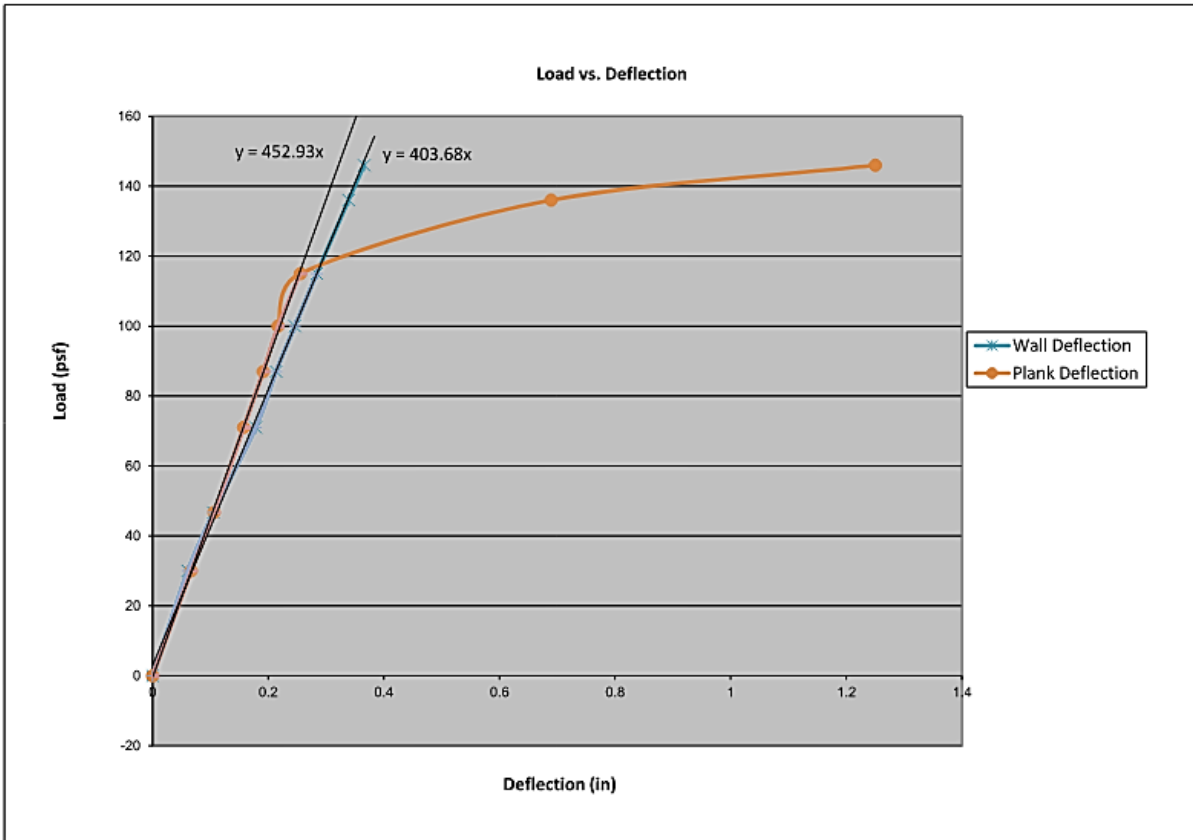
Test Assembly		
Width (in)	Length (in)	Clip Spacing (in)
60.0	120.0	16

Target Load (psf)	Actual Load (psf)	Time	Gauge 1 (in.)	Gauge 2 (in.)	Gauge 3 (in.)	Gauge 4 (in.)	Gauge 5 (in.)	Gauge 6 (in.)	Gauge 7 (in.)	Gauge 8 (in.)	Observations
0		immed.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
15	15.0	10 sec.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
0		1-5mins	Zero Deflection Gauges								
30	30.0	10 sec.	0.099	0.062	0.170	0.120	0.134	0.208	0.208	0.165	
0		1-5mins	0.009	0.004	0.009	0.008	0.007	0.010	0.009	0.007	
45	46.7	10 sec.	0.170	0.103	0.289	0.210	0.226	0.348	0.348	0.221	
0		1-5mins	0.024	0.010	0.024	0.022	0.018	0.026	0.024	0.018	
60	71.0	10 sec.	0.251	0.177	0.466	0.349	0.362	0.557	0.543	0.275	
0		1-5mins	0.031	0.025	0.050	0.048	0.037	0.052	0.048	0.027	
75	87.0	10 sec.	0.305	0.229	0.571	0.425	0.446	0.680	0.664	0.307	
0		1-5mins	0.047	0.037	0.068	0.064	0.050	0.071	0.068	0.038	
95	100.0	10 sec.	0.343	0.269	0.657	0.488	0.512	0.776	0.763	0.337	
0		1-5mins	0.058	0.050	0.081	0.076	0.061	0.086	0.084	0.048	
110	115.0	10 sec.	0.393	0.319	0.762	0.565	0.593	0.897	0.894	0.372	
0		1-5mins	0.066	0.065	0.099	0.089	0.075	0.117	0.334	0.294	
130	136.0	10 sec.	0.468	0.394	0.918	0.679	0.714	1.065	1.855	0.914	
0		1-5mins	0.086	0.090	0.130	0.110	0.095	0.153	0.420	0.292	
150	146.0	10 sec.	0.505	0.424	0.989	0.730	0.773	1.142	2.081	0.955	
0		1-5mins	0.098	0.103	0.153	0.123	0.108	0.175	0.378	0.295	

Mode of Failure	
Max Load (psf)	146.0
The cladding was pulled out of wood blocking at 156 PSF.	



Test#:	B&B-03-2
Max Load	146.0 psf
Allowable Design Load (ASD) = Max Load / 2	73.0 psf
Deflection Service Load (ASD) = Allowable * 0.7	51.1 psf
Wall Deflection limit = L / 180 of wall height	0.667 in
Plank Deflection limit = L / 60 of Plank anchor (clip) span	0.267 in
Wall Deflection @ Deflection Service Load (ASD)	0.1266 in
Plank Deflection @ Deflection Service Load (ASD)	0.1128 in
Max Load @ Wall Deflection Limit	269 psf
Max Load @ Plank Deflection Limit	172.5 psf



Target Load (psf)	Wall Deflection (= ga 3 - (ga 1 + ga 2)/2) (in)	Plank Deflection (= ga 4 - (ga 3 + ga 5)/2) (in)
0.0	0.000	0.000
30.0	0.061	0.067
46.7	0.105	0.106
71.0	0.178	0.158
87.0	0.214	0.191
100.0	0.246	0.217
115.0	0.284	0.256
136.0	0.339	0.690



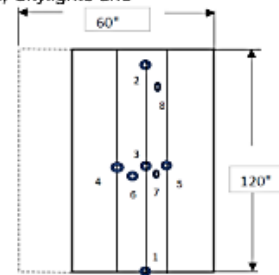
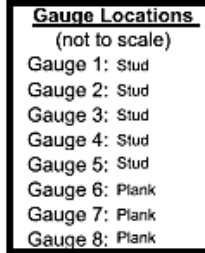
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Test: **Transverse Load - Negative Wind Load** Test#: **B&B-03-3** Project#: 0093
 Client: Engage Building Products Technician(s): Ali, Jordan
 Date: 22-Dec-25 Reviewer: Chris
 Product: **Board & Batten** Location: 101-4441 76 Ave. SE Calgary AB T2C2G8
 Test Method(s): ASTM E330/E330M-14, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference

Installation:
 Configuration: 16" O.C. studs, Clips @ 32" O.C. Staggered into wood blocking
 Framing: 2x6 Steel Stud, 1/2" GA 33 KSI
 Fastener: #10-1-1/2 Self Piercing Screw
 Sheathing: 1/2" Densglass
 Air Seal: Tape used to air seal gaps and will not influence test results

Equipment:
 Pressure Chamber Deflection Gauges(Phidget potentiometers)

Motor: Core Sensors Model: CS10 - 240C	Sensor 1:	S/N - F29B
Press. Controller: S/N - G205141344	Sensor 2:	S/N - 9BFA
Pressure Sensors:	Sensor 3:	S/N - 87CE
(-)100 Inches of H2O	Sensor 4:	S/N - F16B
100 Inches of H2O	Sensor 5:	S/N - F14E
Output 4 - 20mA	Sensor 6:	S/N - F28I
S/N - 5015249240311	Sensor 7:	S/N - F174
	Sensor 8:	S/N - F282



*Gauge Locations not to scale

	Description	Taken [✓]
Photo 1:	Before test, back of wall	✓
Photo 2:	Before test, front of wall	✓
Photo 3:	After test, back of wall	✓
Photo 4:	After test, front of wall	✓
Photo 5:		

Time/Temp/RH:	
Start:	3:20 Temp: 22
Finish:	3:41 %RH: 22

Test Assembly		
Width (in)	Length (in)	Clip Spacing (in)
60.0	120.0	16

Target Load (psf)	Actual Load (psf)	Time	Gauge 1 (in.)	Gauge 2 (in.)	Gauge 3 (in.)	Gauge 4 (in.)	Gauge 5 (in.)	Gauge 6 (in.)	Gauge 7 (in.)	Gauge 8 (in.)	Observations
0		immed.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
15	15.0	10 sec.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
0		1-5mins	Zero Deflection Gauges								
30	31.0	10 sec.	0.087	0.062	0.166	0.131	0.133	0.225	0.224	0.111	
0		1-5mins	0.008	0.005	0.009	0.009	0.007	0.011	0.010	0.004	
45	47.0	10 sec.	0.193	0.099	0.273	0.217	0.219	0.366	0.370	0.164	
0		1-5mins	0.018	0.010	0.022	0.019	0.018	0.025	0.025	0.008	
60	71.0	10 sec.	0.221	0.155	0.435	0.343	0.351	0.585	0.585	0.242	
0		1-5mins	0.032	0.019	0.041	0.033	0.033	0.045	0.046	0.017	
90	87.0	10 sec.	0.270	0.187	0.528	0.419	0.427	0.707	0.706	0.286	
0		1-5mins	0.045	0.025	0.058	0.050	0.046	0.066	0.066	0.023	
100	100.0	10 sec.	0.323	0.221	0.635	0.497	0.503	0.841	0.833	0.323	
0		1-5mins	0.057	0.033	0.078	0.065	0.059	0.088	0.090	0.028	
115	115.8	10 sec.	0.383	0.260	0.753	0.585	0.594	0.982	0.992	0.372	
0		1-5mins	0.071	0.040	0.095	0.080	0.074	0.112	0.111	0.035	
130	130.0	10 sec.	0.428	0.287	0.839	0.647	0.660	1.091	1.107	0.405	
0		1-5mins	0.078	0.046	0.106	0.088	0.082	0.124	0.125	0.040	
145	145.0	10 sec.	0.489	0.326	0.958	0.730	0.748	1.235	1.259	0.447	
0		1-5mins	0.104	0.061	0.135	0.110	0.103	0.159	0.160	0.054	
160	165.0	10 sec.	0.559	0.372	1.132	0.842	0.860	1.430	1.457	0.495	
0		1-5mins	0.132	0.078	0.227	0.147	0.139	0.235	0.235	0.069	

Mode of Failure	
Max Load (psf)	165.0
The cladding was pulled out of wood blocking at 156 PSF.	



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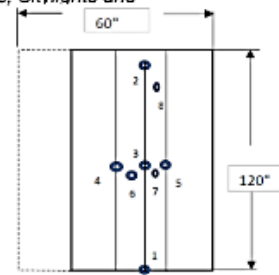
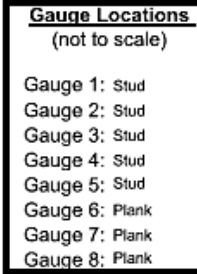
Test: **Transverse Load - Negative Wind Load**
Client: Engage Building Products
Date: 23-Dec-25
Product: **Board & Batten**

Test#: **B&B-04-3**

Project#: 0093
Technician(s): Ali
Reviewer: Chris
Location: 101-4441 76 Ave. SE Calgary AB T2C2G8

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

Installation:
Configuration: 16" O.C. studs, Clips @ 32" O.C. Staggered into 18 gauge Z-girts
Framing: 2x6 Steel Stud, 1/2" GA 33 KSI
Fastener: #10 - 1-1/2" Self Drilling HWH Tek Screw into Studs
Fastener: #10 - 16x3/4" Tek Screw into Z-Girts
Width (in) 1/2" Densglass
Air Seal: Tape used to air seal gaps and will not influence test results



*Gauge Locations not to scale

Equipment:

Pressure Chamber

Motor: Core Sensors Model: CS10 - 240C
Press. Controller: S/N - G205141344
Pressure Sensors:
(-)100 Inches of H2O
100 Inches of H2O
Output 4 - 20mA
S/N - 5015249240311

Deflection Gauges(Phidget potentiometers)

Sensor 1:	S/N - F29B
Sensor 2:	S/N - 9BFA
Sensor 3:	S/N - 87CE
Sensor 4:	S/N - F16B
Sensor 5:	S/N - F14E
Sensor 6:	S/N - F28I
Sensor 7:	S/N - F174
Sensor 8:	S/N - F282

	Description	Taken [✓]
Photo 1:	Before test, back of wall	✓
Photo 2:	Before test, front of wall	✓
Photo 3:	After test, back of wall	✓
Photo 4:	After test, front of wall	✓
Photo 5:		

Time/Temp/RH:			
Start:	15:46	Temp:	23.5
Finish:	16:00	%RH	19

Test Assembly		
Width (in)	Length (in)	Clip Spacing (in)
60.0	120.0	16

Target Load (psf)	Actual Load (psf)	Time	Gauge 1 (in.)	Gauge 2 (in.)	Gauge 3 (in.)	Gauge 4 (in.)	Gauge 5 (in.)	Gauge 6 (in.)	Gauge 7 (in.)	Gauge 8 (in.)	Observations
0		immed.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
15	15.0	10 sec.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
0		1-5mins	Zero Deflection Gauges								
30	30.0	10 sec.	0.001	0.005	0.002	0.001	0.001	0.120	0.136	0.076	
0		1-5mins	0.001	0.001	0.002	0.001	0.001	0.004	0.005	0.009	
45	45.0	10 sec.	0.001	0.010	0.006	0.001	0.003	0.209	0.234	0.114	
0		1-5mins	0.002	0.001	0.006	0.000	0.001	0.012	0.019	0.011	
60	60.4	10 sec.	0.002	0.018	0.006	0.004	0.005	0.316	0.350	0.147	
0		1-5mins	0.004	0.000	0.010	0.004	0.009	0.031	0.046	0.014	
75	85.0	10 sec.	0.005	0.040	0.028	0.050	0.091	0.546	0.572	0.206	
0		1-5mins	0.005	0.001	0.014	0.012	0.054	0.085	0.109	0.023	
90	109.0	10 sec.	0.004	0.074	0.136	0.014	0.197	0.825	0.889	0.264	
0		1-5mins	0.009	0.001	0.017	0.013	0.039	0.192	0.224	0.040	
130	132.0	10 sec.	0.020	0.128	0.349	0.156	0.406	1.218	1.344	0.331	
0		1-5mins	0.011	0.006	0.018	0.010	0.052	0.408	0.468	0.050	

Mode of Failure		
Max Load (psf)	132.0	Wall failed while doing up to 145 psf. The battens were pulled out of z-girts.

