ASTM E330 - Standard Test Method for
Structural Performance of Exterior Windows, Doors,
Skylights and Curtains Walls by Uniform Static Air Pressure Difference (Procedure B)
Results Summary

Client: Gerald Henderson
Job Number: GHN031811-8
Test Method: ASTM E330, Procedure B

Specimen Description:
Panel Manufacturer: *Unknown*
Trade Name/Description: *Magnesium Oxide Panels (roofing) Colorado Panels*
Support Conditions (L): *33.625-in. oc, continuous over 1 support(s)*

Table A1: Overall Test Results

Specimen Pressure (in-use)[a]	Average Ultimate Pressure (psf)	Factor of Safety	Average Allowable Pressure (psf)	Average Deflection at Allowable Pressure[b] (in.)
Negative	83.4	1.5	55.6	0.054
		2.0	41.7	0.041
		2.5	33.3	0.033
		3.0	27.8	0.028

[a]Pressure differential across specimen under normal installation conditions.
[b] Interpolated from Test Data.

Deflection Criteria[a]

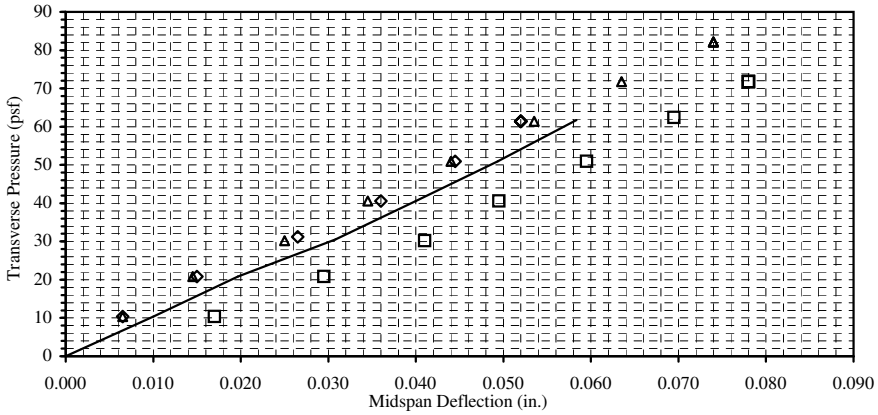
Limit	Deflection (in.)	Pressure[b] (psf)
L/600	0.056	55.7
L/480	0.070	70.6
L/360	0.093	NR
L/240	0.140	NR
L/180	0.187	NR
L/120	0.280	NR
L/90	0.374	NR
L/60	0.560	NR

[a] Interpolated from Test Data.
[b] NR = Deflection Limit Not Reached.

Notes:
Specimen 1: n/a
Specimen 2: n/a
Specimen 3: n/a

Dial Gauge Locations:
Gauge A: Mid span on center stud
Gauge B: Mid span on center of sheathing
Gauge C: Mid span on edge stud
Gauge D: Mid span on top plate, in line with center stud
Gauge E: Mid span on bottom plate, in line with center stud
Gauge F: n/a

Framing: (1) 2x6 #1 SYP 33 5/8-in. oc with 1-1/2 x 30-1/2 x 10ga. AISI 1008 Steel attached to the side of stud contacting the sheathing.
Ext. Sheathing: Magnesium Oxide Panels (roofing) Colorado Panels 0.197-in. Thick Mag Oxide
Fastening: 0.177 x 5-in. Self-drilling washer head screw 33 5/8-in. oc (edge/field) @ panel center
0.1525 x 2-3/4-in. Self-drilling washer head screw 33 5/8-in. oc (edge/field) @ panel edge



Transverse Pressure vs. Deflection

ASTM E330 - (Procedure B)
Specimen 1

Client: Gerald Henderson
Job Number: GHN031811-8
Test Method: ASTM E330, Procedure B

Performed By: Todd Ferguson
Witnessed By: Jacob Yoder

General:
Specimen No.: 38549
Received: 3/21/2011
Test Date: 5/6/2011
Time: 10:22 AM
Test Location: NTA Testing Laboratories, Inc.
Nappanee, Indiana

Apparatus:

	Asset No.
Manometer:	00028
Vacuum Table:	00023
Timing Device:	01374
Moisture Meter:	00173
Balance:	00468
Length Measure:	01385

Ambient Conditions: 62.4 deg. F
Ambient Temp.: 60%
Ambient R.H.: 00587
Senor Asset No.:

Loading Conditions:
Test Variable(s): *n/a*

Siding Material: 2.6 psf

Test Pressure: 40 psf

Chamber Pressure Differential: Negative
Specimen Pressure (in-use): Negative
33.625-in. oc, continuous over 1
Support Conditions (L): support(s)

Table A2: Specimen 1 Test Data

Load Stages	Total Applied Pressure (psf)	Deflection Readings[a] Gauge A	Gauge B	Gauge C	Gauge D	Gauge E	Gauge F
		00078	00677	00646	00645	00652	--
(REF)	0.0	0.000	0.000	0.000	0.000	0.000	--
1/4(Test Load)	10.4	0.012	0.014	0.003	0.005	0.014	--
(REF)	0.0	0.001	0.000	0.000	0.000	0.001	--
1/2(Test Load)	20.8	0.022	0.029	0.007	0.010	0.028	--
(REF)	0.0	0.001	0.002	0.001	0.000	0.001	--
3/4(Test Load)	30.2	0.033	0.046	0.009	0.015	0.042	--
(REF)	0.0	0.002	0.007	0.002	0.001	0.001	--
(Test Load)	40.6	0.045	0.064	0.014	0.020	0.057	--
(REF)	0.0	0.003	0.011	0.002	0.001	0.002	--
1.25(Test Load)	51.0	0.055	0.080	0.017	0.024	0.071	--
(REF)	0.0	0.005	0.014	0.004	0.002	0.004	--
1.5(Test Load)	61.4	0.065	0.096	0.020	0.028	0.085	--
(REF)	0.0	0.006	0.018	0.004	0.002	0.005	--
1.75(Test Load)	71.8	0.073	0.111	0.022	0.031	0.094	--
Dead	0.0	0.007	0.021	0.005	0.003	0.006	--
2.0(Test Load)	82.2	0.080	0.127	0.026	0.034	0.099	--
(REF)	0.0	0.007	0.025	0.006	0.003	0.006	--
2.5(Test Load)	0.0	--	--	--	--	--	--
(REF)	0.0	--	--	--	--	--	--
3.0(Test Load)	0.0	--	--	--	--	--	--

[a] See page 1 for dial gauge location descriptions.

LL Deflection: 0.021-in. at 40.6 psf : Average of (B-[A+C]/2) and (A-[D+E]/2)
Ultimate Uniform Pressure: 91 psf
Failure Mode: *Flexural*

Factor of Safety	1.5	2.0	2.5	3.0
Allowable Pressure (psf) [a]	60.7	45.5	36.4	30.3
Deflection at Allowable Pressure (in.) [b]	0.053	0.039	0.031	0.025

[a] Calculated from Ultimate Uniform Pressure

[b] Interpolated from Test Data.

ASTM E330 - (Procedure B)
Specimen 2

Client: Gerald Henderson
Job Number: GHN031811-8
Test Method: ASTM E330 - 02, Procedure B

Performed By: Todd Ferguson
Witnessed By: Jacob Yoder

General:
Specimen No.: 38550
Received: 3/21/2011
Test Date: 5/6/2011
Time: 2:55 PM
Test Location: NTA Testing Laboratories, Inc.
Nappanee, Indiana

Apparatus:

	Asset No.
Manometer:	00028
Vacuum Table:	00023
Timing Device:	01374
Moisture Meter:	00173
Balance:	00468
Length Measure:	01385

Ambient Conditions: 67.6 deg. F
Ambient Temp.: 41.1%
Ambient R.H.: 00587
Senor Asset No.:

Loading Conditions:
Test Variable(s): *n/a*

Siding Material: 2.6 psf

Test Pressure: 40 psf

Chamber Pressure Differential: Negative
Specimen Pressure (in-use): Negative
33.625-in. oc, continuous over 1
Support Conditions: supports

Table A3: Specimen 2 Test Data

Load Stages	Total Applied Pressure (psf)	Deflection Readings[a] Gauge A	Gauge B	Gauge C	Gauge D	Gauge E	Gauge F
		00078	00677	00646	00645	00652	--
(REF)	0.0	0.000	0.000	0.000	0.000	0.000	--
1/4(Test Load)	10.4	0.004	0.010	0.003	0.003	0.003	--
(REF)	0.0	0.000	0.002	0.000	0.000	0.001	--
1/2(Test Load)	20.8	0.010	0.023	0.006	0.007	0.008	--
(REF)	0.0	0.001	0.006	0.001	0.001	0.002	--
3/4(Test Load)	31.2	0.014	0.038	0.009	0.009	0.011	--
(REF)	0.0	0.002	0.011	0.001	0.001	0.002	--
(Test Load)	40.6	0.019	0.051	0.011	0.012	0.014	--
(REF)	0.0	0.003	0.015	0.002	0.002	0.003	--
1.25(Test Load)	51.0	0.025	0.064	0.014	0.014	0.018	--
(REF)	0.0	0.004	0.019	0.003	0.003	0.004	--
1.5(Test Load)	61.4	0.033	0.077	0.017	0.019	0.020	--
(REF)	0.0	0.008	0.024	0.004	0.005	0.004	--
1.75(Test Load)	0.0	--	--	--	--	--	--
Dead	0.0	--	--	--	--	--	--
2.0(Test Load)	0.0	--	--	--	--	--	--
(REF)	0.0	--	--	--	--	--	--
2.5(Test Load)	0.0	--	--	--	--	--	--
(REF)	0.0	--	--	--	--	--	--
3.0(Test Load)	0.0	--	--	--	--	--	--

[a] See page 1 for dial gauge location descriptions.

LL Deflection: 0.021-in. at 40.6 psf : Average of (B-[A+C]/2) and (A-[D+E]/2)
Ultimate Uniform Pressure: 75.4 psf
Failure Mode: *Sheathing to*

Factor of Safety	1.5	2.0	2.5	3.0
Allowable Pressure (psf) [a]	50.3	37.7	30.2	25.1
Deflection at Allowable Pressure (in.) [b]	0.044	0.033	0.025	0.02

[a] Calculated from Ultimate Uniform Pressure

[b] Interpolated from Test Data.

ASTM E330 - (Procedure B)
Specimen 3

Client: Gerald Henderson
Job Number: GHN031811-8
Test Method: ASTM E330 - 02, Procedure B

Performed By: Todd Ferguson
Witnessed By: Jacob Yoder

General:
Specimen No.: 38551
Received: 3/21/2011
Test Date: 5/6/2011
Time: 1:11 PM
Test Location: NTA Testing Laboratories, Inc.
Nappanee, Indiana

Apparatus:

	Asset No.
Manometer:	00028
Vacuum Table:	00023
Timing Device:	01374
Moisture Meter:	00173
Balance:	00468
Length Measure:	01385

Ambient Conditions: 66.7 deg. F
Ambient Temp.: 41.6%
Ambient R.H.: 00587
Senor Asset No.:

Loading Conditions:
Test Variable(s): *n/a*

Siding Material: 2.6 psf

Test Pressure: 40 psf

Chamber Pressure Differential: Negative
Specimen Pressure (in-use): Negative
33.625-in. oc, continuous over 1
Support Conditions: supports

Table A4: Specimen 3 Test Data

Load Stages	Total Applied Pressure (psf)	Deflection Readings[a] Gauge A	Gauge B	Gauge C	Gauge D	Gauge E	Gauge F
		00078	00677	00646	00645	00652	--
(REF)	0.0	0.000	0.000	0.000	0.000	0.000	--
1/4(Test Load)	10.4	0.009	0.024	0.005	0.007	0.010	--
(REF)	0.0	0.000	0.001	0.000	0.000	0.000	--
1/2(Test Load)	20.8	0.018	0.043	0.009	0.015	0.020	--
(REF)	0.0	0.001	0.002	0.001	0.002	0.001	--
3/4(Test Load)	30.2	0.027	0.061	0.013	0.020	0.030	--
(REF)	0.0	0.003	0.005	0.002	0.004	0.002	--
(Test Load)	40.6	0.034	0.075	0.017	0.024	0.039	--
(REF)	0.0	0.004	0.009	0.003	0.005	0.003	--
1.25(Test Load)	51.0	0.043	0.091	0.020	0.027	0.049	--
(REF)	0.0	0.005	0.013	0.004	0.006	0.004	--
1.5(Test Load)	62.4	0.050	0.106	0.023	0.030	0.058	--
(REF)	0.0	0.007	0.017	0.005	0.007	0.005	--
1.75(Test Load)	71.8	0.057	0.120	0.027	0.032	0.064	--
Dead	0.0	0.009	0.021	0.006	0.008	0.006	--
2.0(Test Load)	0.0	--	--	--	--	--	--
(REF)	0.0	--	--	--	--	--	--
2.5(Test Load)	0.0	--	--	--	--	--	--
(REF)	0.0	--	--	--	--	--	--
3.0(Test Load)	0.0	--	--	--	--	--	--

[a] See page 1 for dial gauge location descriptions.

LL Deflection: 0.026-in. at 40.6 psf : Average of (B-[A+C]/2) and (A-[D+E]/2)
Ultimate Uniform Pressure: 83.7 psf
Failure Mode: *Flexural*

Factor of Safety	1.5	2.0	2.5	3.0
Allowable Pressure (psf) [a]	55.8	41.9	33.5	27.9
Deflection at Allowable Pressure (in.) [b]	0.064	0.051	0.044	0.038

[a] Calculated from Ultimate Uniform Pressure

[b] Interpolated from Test Data.