



Farabaugh Engineering and Testing Inc.

Project No. T246-20

Report Date: June 8, 2020

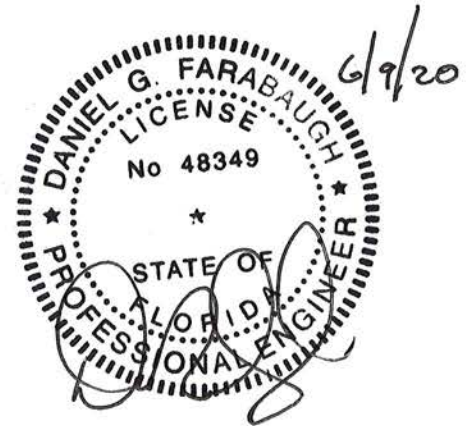
No. Pages: 16 (inclusive)

ASTM E330 UNIFORM LOAD TEST

BOSS PBR METAL PANEL
36" W COVERAGE X 26 GA

FOR

BOSS METALS INC.
1750 FRANKFORD AVE.
PANAMA CITY, FL. 32405



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Approved by:

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ASTM E330 UNIFORM LOAD TEST

Purpose

The purpose of this test is to establish structural loading on the referenced test specimen in accordance with ASTM E-330-02, "Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference "and as provided herein. Note: Only negative pressures were performed on specimen.

Test Date

6/4/20 5 Spans @ 2'-0" o.c.
6/6/20 3 Spans @ 5'-0" o.c.

Test Specimen

Manufacturer: Boss Metals Inc.
 1750 Frankford Ave.
 Panama City, FL. 32405

Test Specimen: Boss PBR Panel 36" wide coverage x 26 ga.

Testing Apparatus

A vacuum test chamber was used with two static pressure taps located at diagonally opposite corners. A controlled blower provided a vacuum to uniformly load the specimen mock-up. Calibrated manometers were used to measure the pressure at each pressure tap. The uniform load pressure was performed in the negative direction to monitor wind uplift on the panel specimen mock-up. Calibrated deflectometers were attached to monitor panel deformation as shown.

Installation

- The panels were installed on to 16 ga supports with using #12-14 x 1-1/4" long, DP2, self drilling fastener with EPDM sealing washer per clip at each support. The panel sidejoint was lap joint. The same panel fasteners were used for stitch fasteners at the lap joint. Stitch fasteners were located at 12" o.c. along the lap. See fastening pattern for location of fasteners at supports and fixed end.
- Plastic (4 mil thick) was employed loosely between the panels and subgirts and in the side joints to create a vacuum seal.

Procedure

- The specimen was checked for proper adjustment and all vents closed in the pressure measuring lines.
- The required deflection measuring apparatus were installed at their specified locations.
- A nominal initial pressure was applied equal to at least four times but not more than ten times the dead weight of the specimen. This nominal pressure was used as the reference zero and initial deflection readings were recorded.
- At each load increment, pressure was maintained for a period of not less than 60 seconds and until the deflection gages indicated no further increase in deflections.
- Successive increments were achieved as above until failure or ultimate load was reached.

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TEST #1

Test Specimen: Boss PBR Panel 36" wide coverage x 26 ga.

Support Spacing: 2' o/c

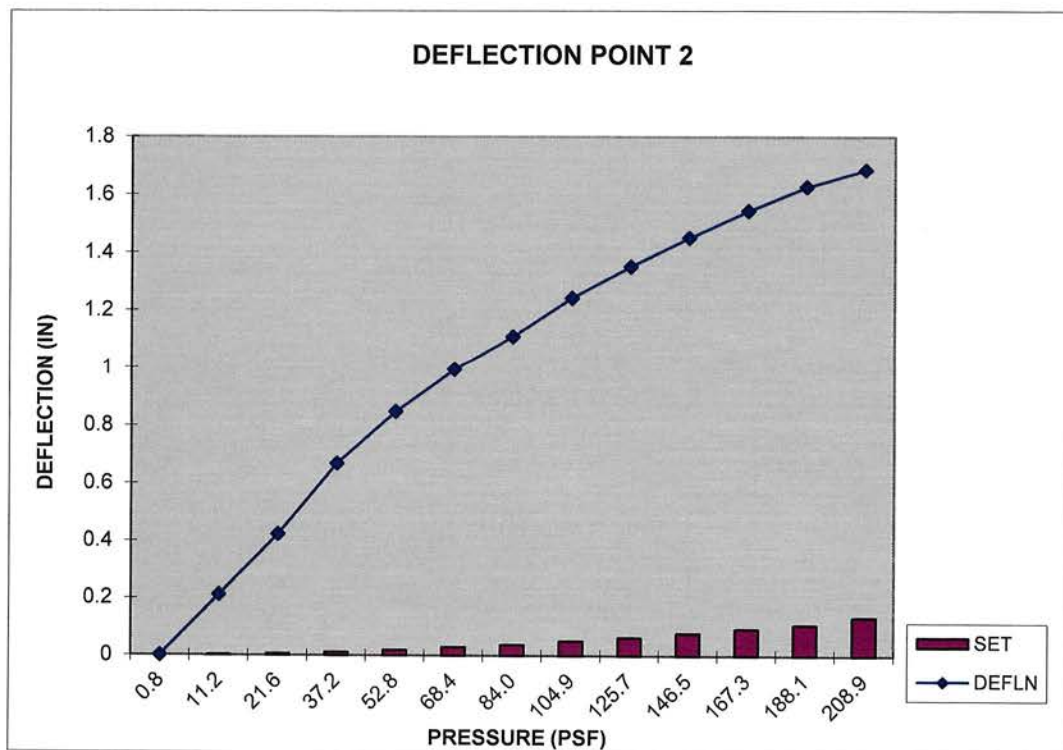
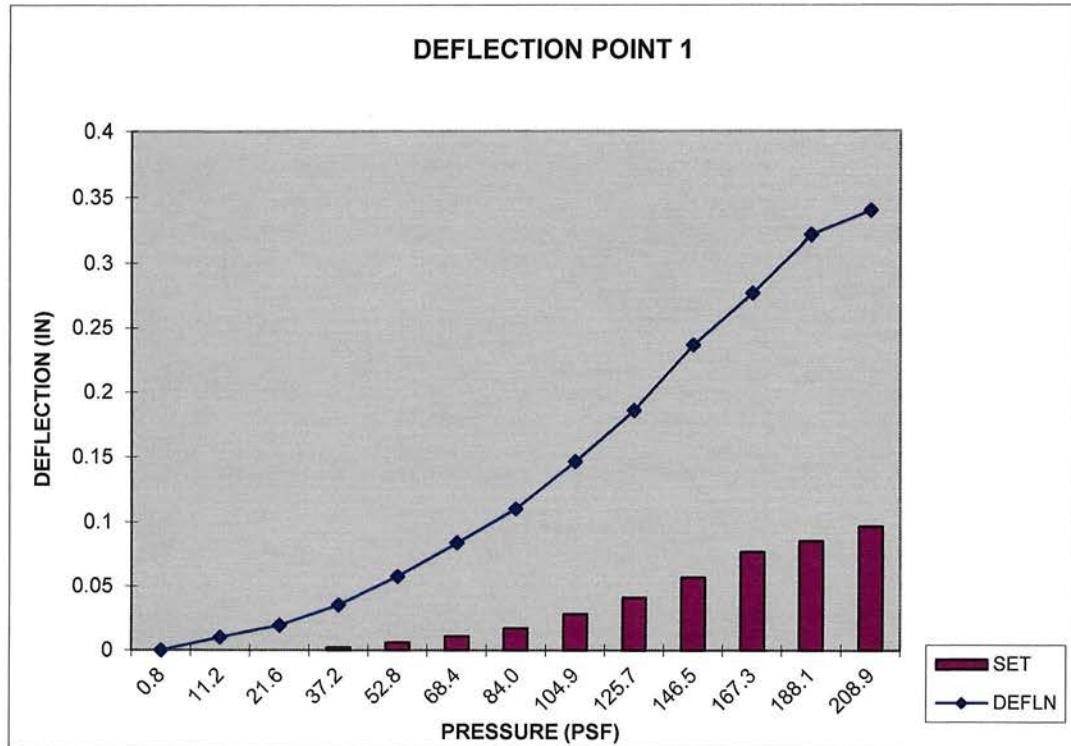
NEGATIVE (UPLIFT) PRESSURE

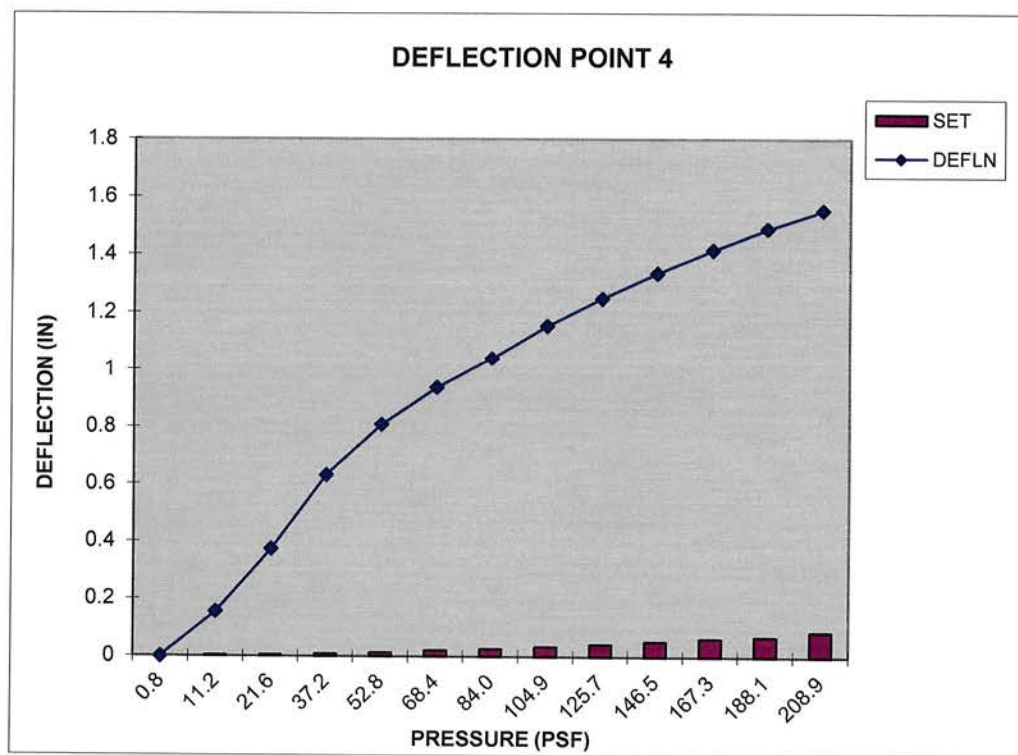
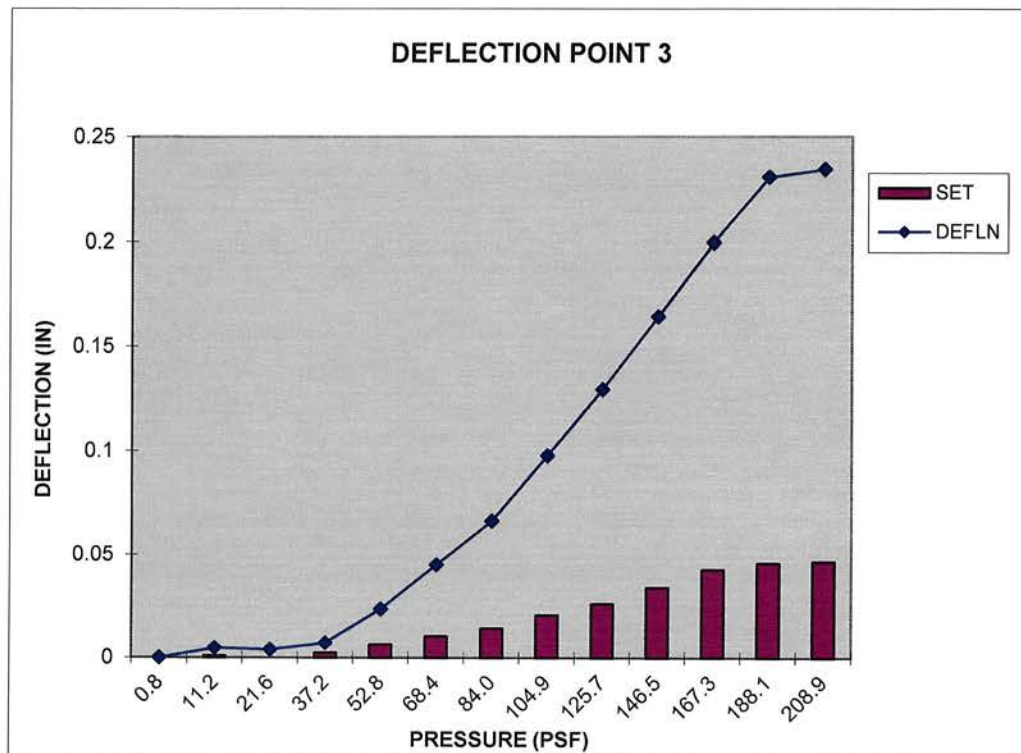
BOSS METALS BOSS PBR PANEL 36" W X 26 GA. STEEL (5 SPANS @ 2')						
DEFLECTION DIAL READINGS (INCHES)						
LOAD (PSF)	D-1	D-2	D-3	D-4	D-5	D-6
0.8	0.000	0.000	0.000	0.000	0.000	0.000
11.2	0.010	0.212	0.005	0.155	0.001	0.138
0.8	0.000	0.002	0.001	0.002	0.000	0.002
21.6	0.020	0.423	0.004	0.373	0.005	0.285
0.8	0.000	0.005	0.000	0.004	0.000	0.003
37.2	0.036	0.669	0.007	0.632	0.008	0.458
0.8	0.002	0.011	0.002	0.008	0.000	0.006
52.8	0.058	0.848	0.024	0.808	0.012	0.589
0.8	0.006	0.018	0.006	0.013	0.001	0.010
68.4	0.084	0.994	0.045	0.938	0.013	0.687
0.8	0.011	0.028	0.010	0.021	0.002	0.016
84.0	0.110	1.111	0.066	1.041	0.013	0.762
0.8	0.017	0.037	0.014	0.025	0.002	0.020
104.9	0.146	1.244	0.098	1.156	0.013	0.841
0.8	0.028	0.050	0.021	0.034	0.002	0.026
125.7	0.186	1.352	0.130	1.250	0.014	0.902
0.8	0.041	0.063	0.026	0.043	0.002	0.032
146.5	0.237	1.452	0.164	1.337	0.014	0.955
0.8	0.057	0.078	0.034	0.052	0.002	0.037
167.3	0.277	1.545	0.200	1.417	0.015	1.002
0.8	0.077	0.094	0.043	0.062	0.003	0.041
188.1	0.321	1.628	0.231	1.490	0.017	1.039
0.8	0.085	0.108	0.046	0.069	0.003	0.050
208.9	0.340	1.686	0.235	1.554	0.018	1.066
0.8	0.097	0.133	0.047	0.087	0.003	0.059

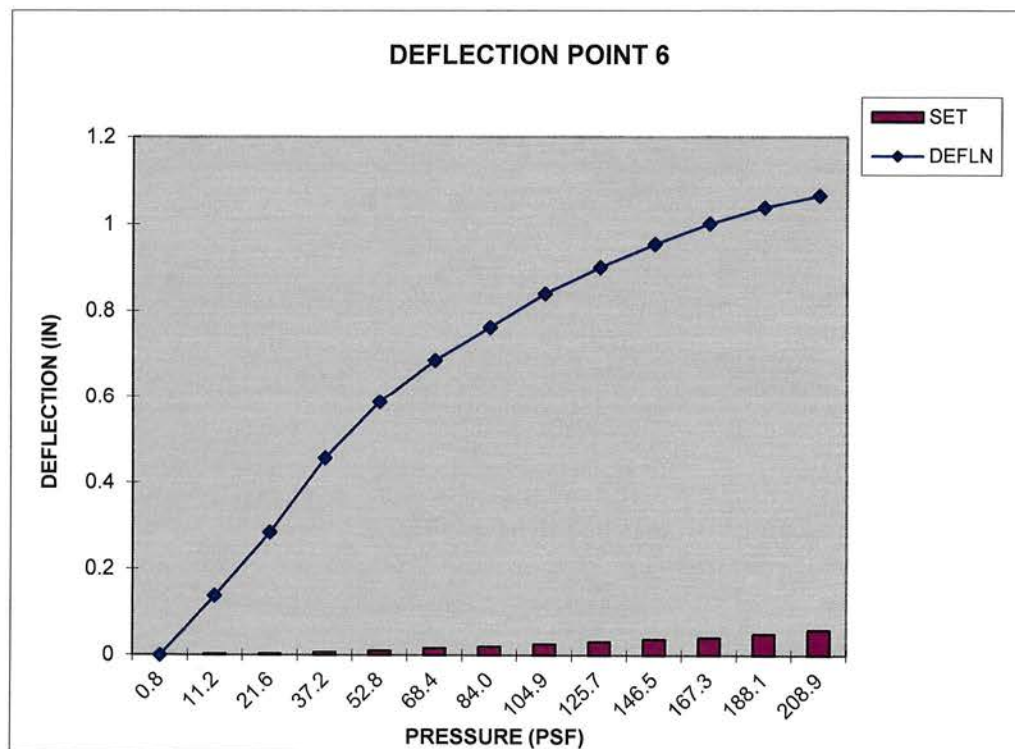
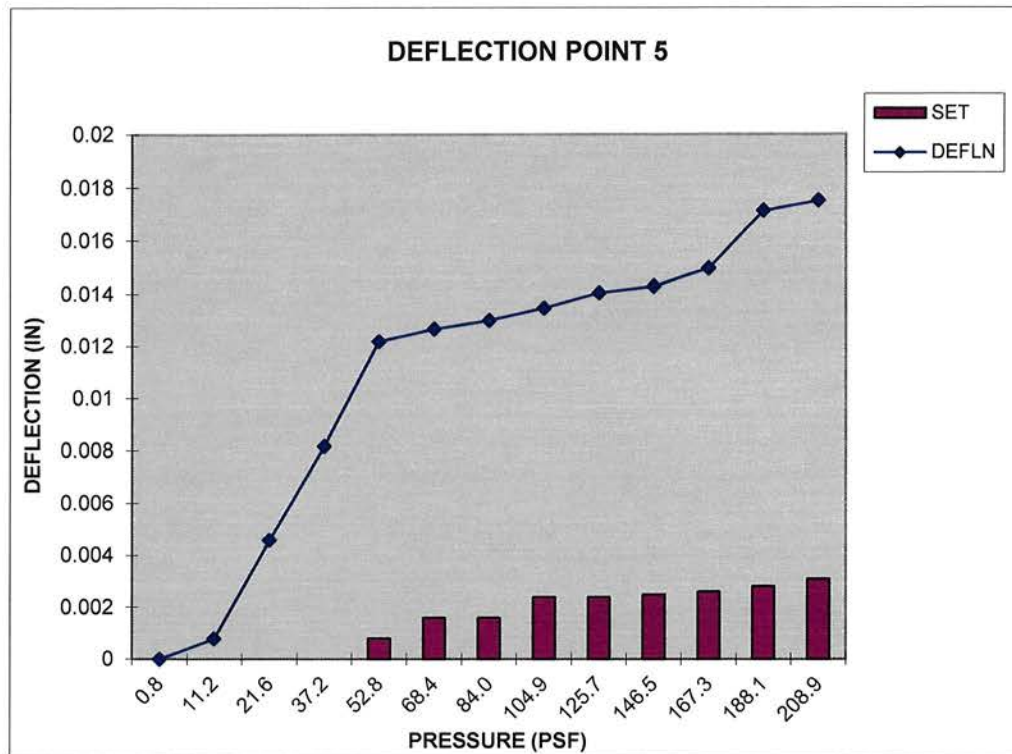
RESULTS:

Load held for 1 minute = 323.1 psf

Maximum Test Load = 329.3 psf (Panel fastener pulled out of support)







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TEST #2

Test Specimen: Boss PBR Panel 36" wide coverage x 26 ga.

Support Spacing: 5' o/c

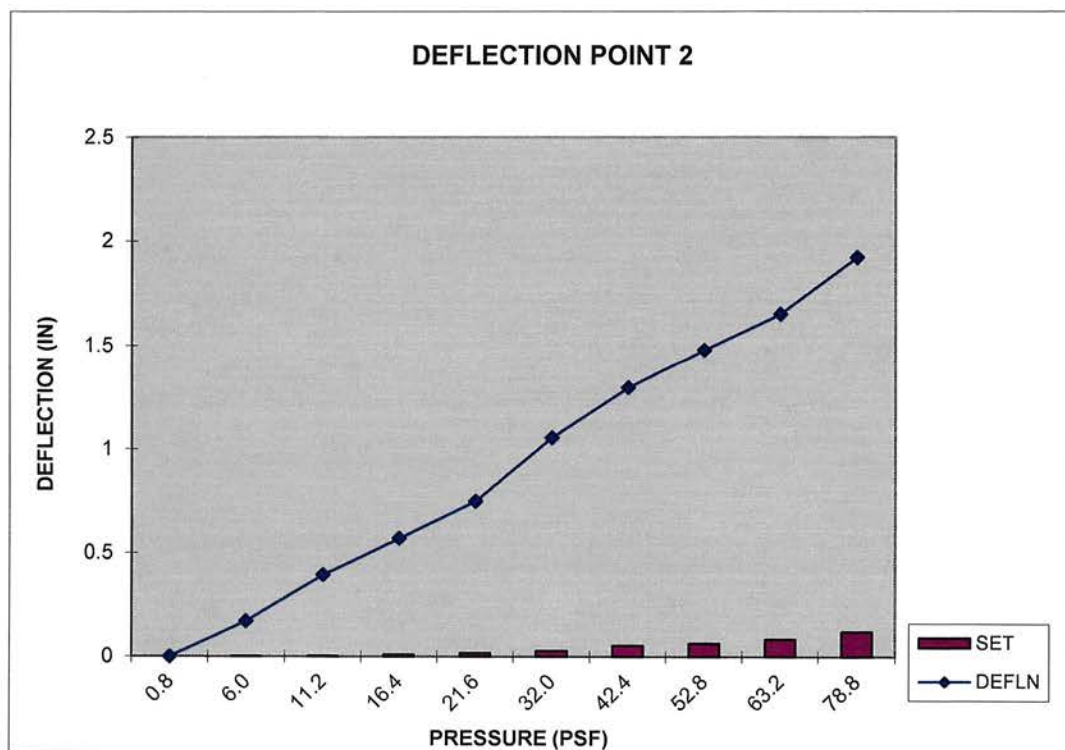
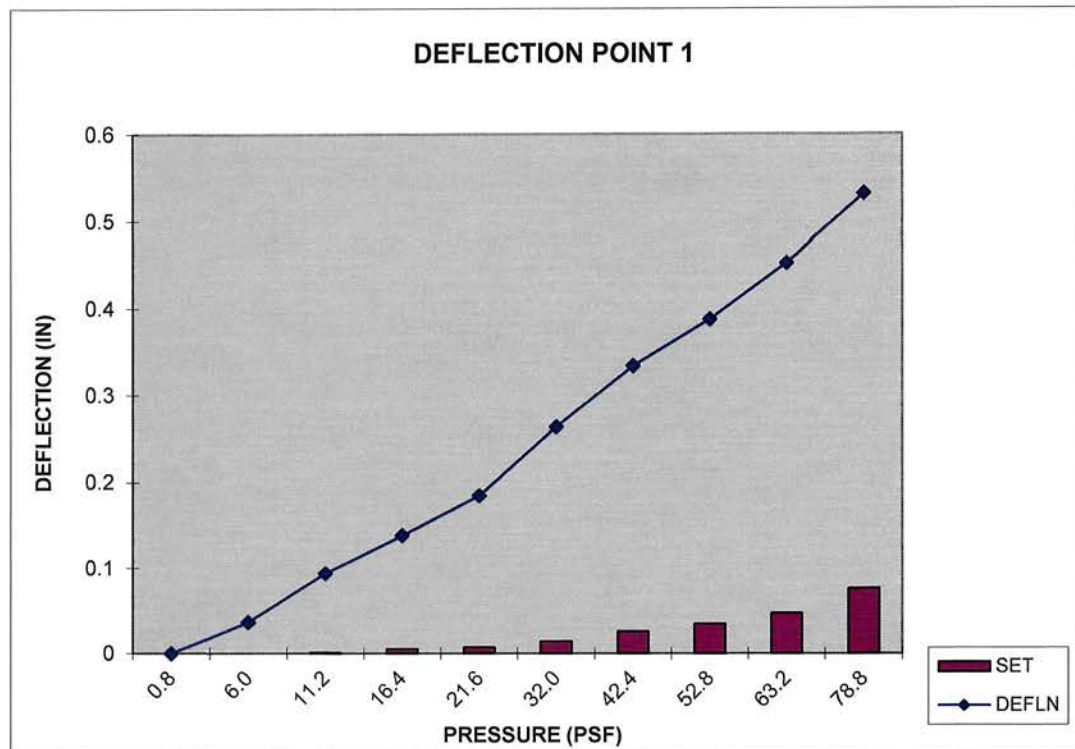
NEGATIVE (UPLIFT) PRESSURE

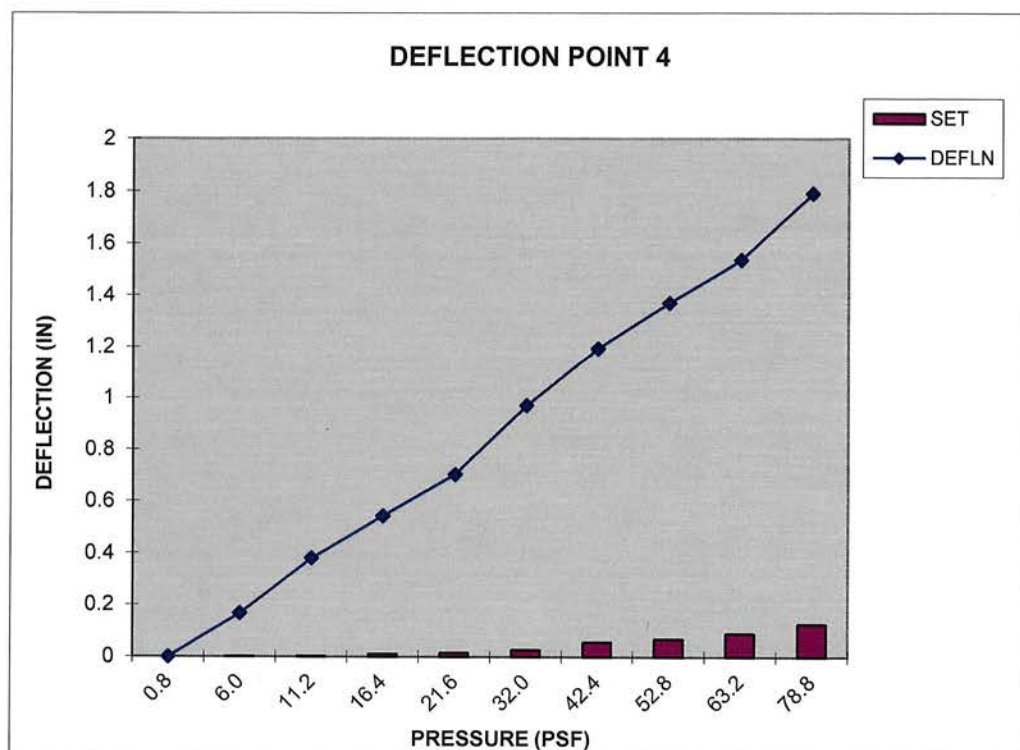
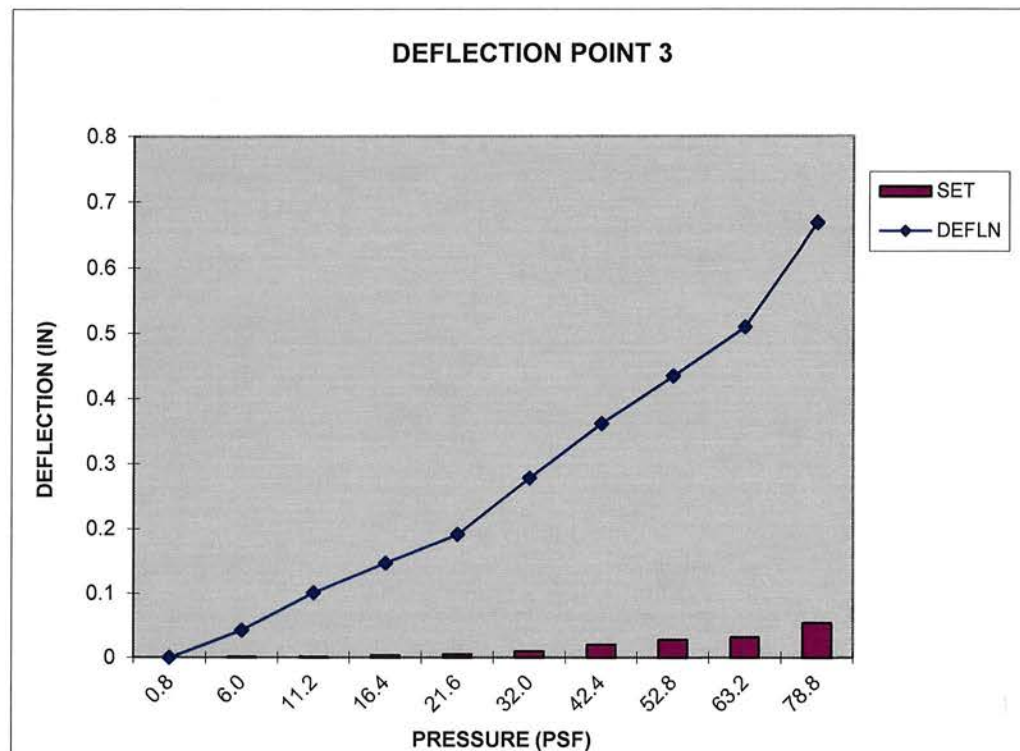
BOSS METALS BOSS PBR PANEL 36" W X 26 GA. STEEL (3 SPANS @ 5')						
DEFLECTION DIAL READINGS (INCHES)						
LOAD (PSF)	D-1	D-2	D-3	D-4	D-5	D-6
0.8	0.000	0.000	0.000	0.000	0.000	0.000
6.0	0.037	0.171	0.043	0.167	0.001	0.070
0.8	0.000	0.002	0.001	0.001	0.000	0.001
11.2	0.094	0.394	0.101	0.381	0.002	0.183
0.8	0.001	0.002	0.001	0.002	0.001	0.001
16.4	0.139	0.571	0.147	0.544	0.003	0.272
0.8	0.005	0.010	0.003	0.010	0.001	0.001
21.6	0.185	0.751	0.191	0.704	0.003	0.370
0.8	0.007	0.016	0.005	0.016	0.001	0.002
32.0	0.264	1.056	0.278	0.972	0.005	0.542
0.8	0.014	0.027	0.009	0.026	0.002	0.001
42.4	0.335	1.298	0.362	1.196	0.006	0.678
0.8	0.026	0.052	0.020	0.056	0.002	0.005
52.8	0.389	1.483	0.435	1.373	0.011	0.778
0.8	0.035	0.063	0.028	0.067	0.002	0.006
63.2	0.454	1.656	0.510	1.538	0.012	0.864
0.8	0.047	0.084	0.032	0.089	0.004	0.011
78.8	0.533	1.923	0.668	1.792	0.016	0.984
0.8	0.076	0.121	0.054	0.126	0.005	0.022

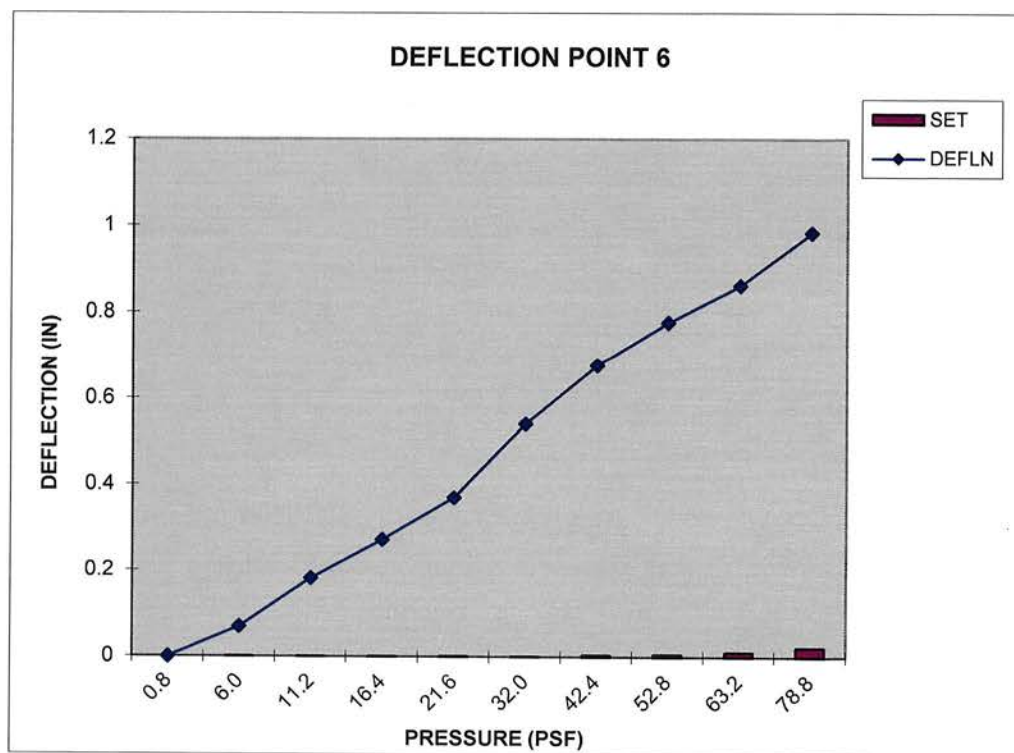
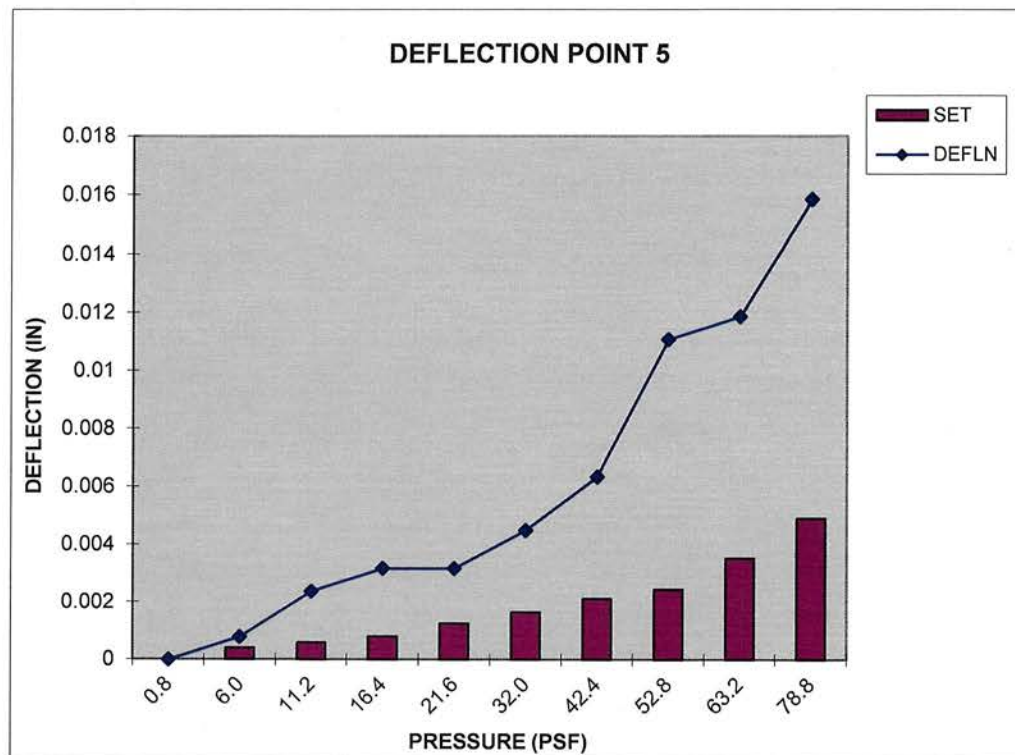
RESULTS:

Load held for 1 minute = 89.1 psf

Maximum Test Load = 91.1 psf (Panel Buckling)

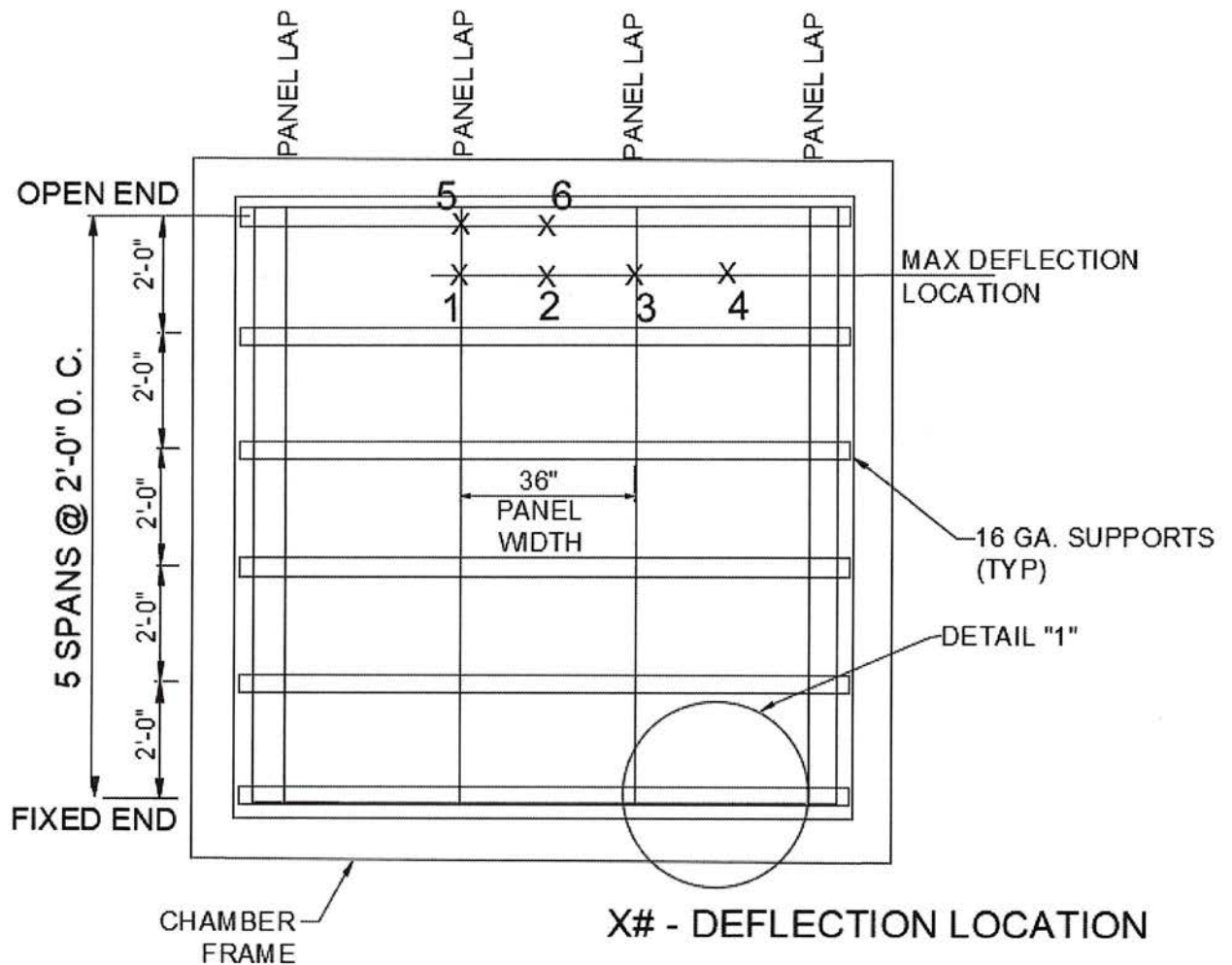




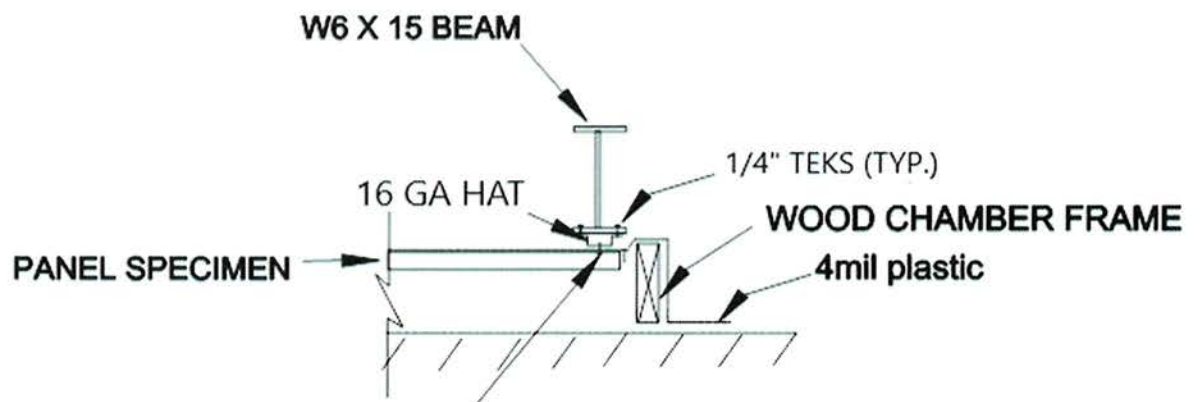


TEST #1

TEST SETUP

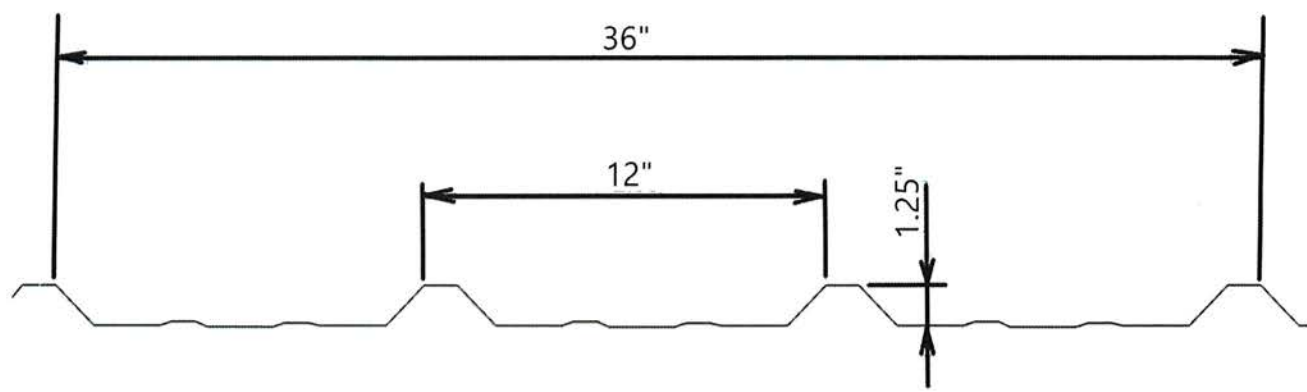


PLAN VIEW

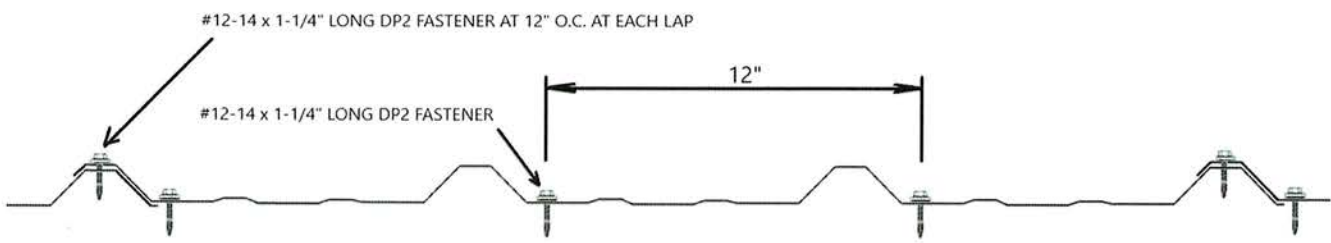


#12 -14 x 1-1/4" LONG, DP2, HEX HEAD FASTENERS
(6 PER PANEL AT FIXED END ONLY)

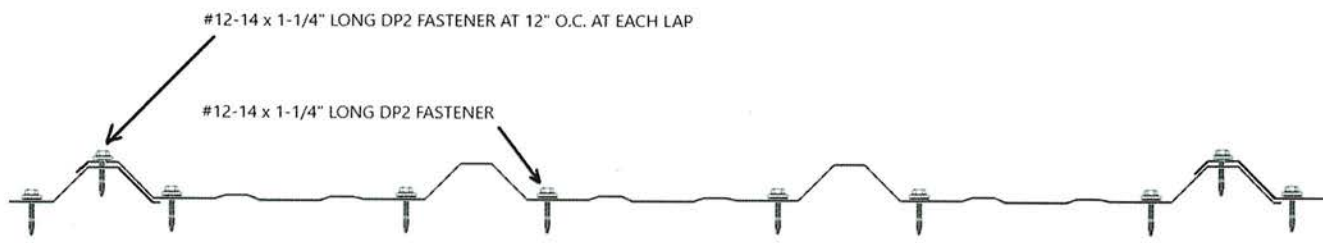
DETAIL "1"



BOSS PBR PANEL PROFILE



FASTENER PATTERN AT 2' OR 5' O.C. AND AT OPEN END INTO 16 GA. SUPPORTS



FASTENER PATTERN AT FIXED END ONLY

Project No. T246-20

TENSILE TEST REPORT

Client: Boss Metals Inc.
1750 Frankford Ave.
Panama City, FL. 32405

Test Date: June 8, 2020

Test Method: ASTM A370-10

Material Description: Boss PBR Panel, 36" wide x 26 ga.

Sample No.	Width (in)	Thickness (in)	Yield Load (lb)	Max. Load (lb)	0.2% Offset Yield Strength (psi)	Tensile Strength (psi)	Elongation (% in 2 inches)
20069 TEST #1 COIL1	0.504	0.019	846.14	846.14	88,140	88,140	0.39
20072 TEST #2 COIL 2	0.500	0.018	832.2	832.2	91,676	91,676	0.17

Equipment Used: Tensile Machine #QT7-061196-020
Caliper #1074379
Extensometer #10311744D
Micrometer #110596927