



ISO 17025 Accredited Computer Controlled Product Testing
Wind Load Design, Analysis & Evaluation

MIAMI-DADE COUNTY
APPROVED

Static Wind Load Test

ASTM E 72-14a

Strength Test of Panels for Building Construction
Transverse Load-Horizontal Specimen

May 5, 2015

REPORT NUMBER: **HETI-15-5003**

MANUFACTURER: PROJECT CLASSIC STRUCTURAL ENGINEERING
7318 Texas Trail, Boca Raton, Florida 33487.

TEST LOCATION: Hurricane Engineering & Testing Inc.
6120 NW 97th Avenue, Doral, Florida, 33178

NOTIFICATION NUMBER: HETI14025 (MIAMI-DADE COUNTY, FLORIDA)
LAB. CERTIFICATION No.: 10-1117.07 (MIAMI-DADE COUNTY, FLORIDA)
IAS. CERTIFICATION No.: TL-296 (ISO 17025-05)
FBC ORGANIZATION No: TST1691
FBPE Certificate of Authorization Number: 6905

PRODUCT: Non-Composite Panels
(See Hurricane Engineering & Testing, Inc. marked Drawing).

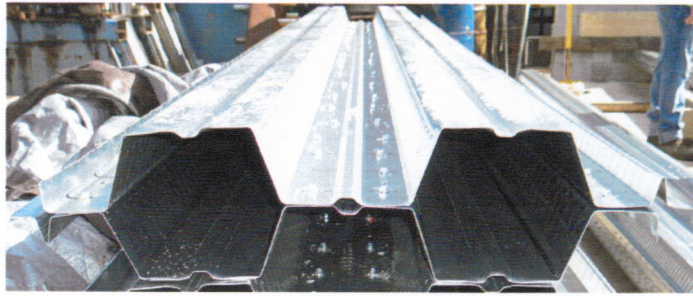
PRODUCT SIZE: Test #1 (samples 1-3): 51 5/8" w x 248 1/2" long x 6 1/8" deep (20'-8" Span)
Test #2: 51 5/8" w x 284 1/2" x 6 1/8" deep (23'-8" Span)
Test #3: 51 5/8" w x 368 1/2" x 6 1/8" deep (30'-8" Span)

PRODUCT DESCRIPTION: (Reference Material Tensile Test Report No. HETI-15-T303, HETI-15-T304, HETI-15-T305)

DRAWING NO.: S1 by Project Classic Structural Engineering, dated 1/12/15
S2 by Project Classic Structural Engineering, dated 1/13/15
S3 by Project Classic Structural Engineering, dated 1/14/15

TEST WITNESSED BY: Syed Waqar Ali, Ph.D. (HETI)
Nasreen K. Ali, E.I. (HETI)
Eugenio Rivera (HETI)
Mr. Rafael E. Droz-Seda, P.E. (HETI)





20'-8" Product Description

Each sample was constructed by attaching (2) separate panel halves on top of each other to create the hexagon shaped steel frame. The panels were setup to create a 1 1/2" camber at the center. The (2) panels were attached with (4) rows of (31) #10 x 3/4" Hex Head Self Drilling Screws (HH SDS) located at 1 1/2", 6 5/8", 12 3/4", 19 1/2", 24 1/8", 30 5/8", 37", 44 3/4", 52 1/4", 64 5/8", 75 5/8", 85", 96 1/8", 104 1/2", 111 1/2", 124", 132 1/2", 142 1/4", 151 5/8", 162 1/2", 172 1/4", 182 3/4", 193 1/4", 201 3/8", 209 1/2", 216 3/8", 222 1/2", 228 3/4", 235 1/8", 240 1/2", and 245 5/8" from the left end.

Individual Panel Size:	25 1/2" w x 248 1/2" long x 3 1/16" deep
Single Finished Panel Size:	27" w x 248 1/2" long x 6 1/8" deep
Double Finished Panel Size:	51 5/8" w x 248 1/2" long x 6 1/8" deep
Corrugated Panel Thickness:	16ga (0.060" with coating)
Concrete:	None
Test Procedure:	Tested as per ASTM E 72 – 14a, Section 11.3.1.1

23'-8" Product Description

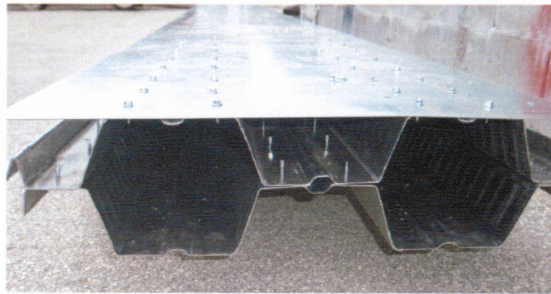
Each sample was constructed by attaching (2) separate panel halves on top of each other to create the hexagon shaped steel frame. The panels were setup to create a 1 7/8" camber at the center. The (2) panels were attached with (4) rows of (39) #10 x 3/4" Hex Head Self Drilling Screws (HH SDS) located at 2", 6", 9 1/2", 14 1/4", 20 1/2", 22 3/8", 26 3/8", 32 1/2", 39", 47", 55 1/2", 61", 65 3/4", 74 1/4", 84 1/4", 95 1/4", 105 3/4", 114 3/4", 125", 134 3/4", 145 1/4", 155 1/2", 165 3/4", 175 1/2", 179", 189 1/2", 199", 209", 218 3/4", 229", 238", 245 3/4", 252", 258 1/4", 264 1/4", 270", 274", 277 1/2", and 282" from the left end. Next, an 18 gauge x 24 1/8" x 284 1/4" flat galvanized steel sheet was placed on top of the panel and was attached using (4) rows of (37) # 10 x 3/4" HH SDS located at 1 5/8", 5 3/4", 9 1/4", 12 3/4", 19 1/8", 25", 33", 41", 49 5/8", 59 3/8", 69", 78 1/4", 88 3/8", 99 1/8", 109", 118 5/8", 129", 139", 142 1/2", 148 3/4", 157 1/2", 167 1/2", 179 1/4", 189 3/4", 200", 209", 220", 230 3/4", 239 3/8", 246 7/8", 253", 258 3/4", 265", 269 3/4", 275", 278 3/4", and 282 1/2" from the left end.

Individual Panel Size:	25 1/2" w x 284 1/2" long x 3 1/16" deep
Single Finished Panel Size:	27" w x 284 1/2" long x 6 1/8" deep
Double Finished Panel Size:	51 5/8" w x 284 1/2" long x 6 1/8" deep
Corrugated Panel Thickness:	18ga (0.048" with coating)
Reinforcement:	(1) 18ga (0.048" with coating) galv. steel flat sheet (24 1/8" w x 284 1/4")
Concrete:	None

30'-8" Product Description

Each sample was constructed by attaching (2) separate panel halves on top of each other to create the hexagon shaped steel frame. The panels were setup to create a 3 1/2" camber at the center. The (2) panels were attached with (4) rows of (52) #10 x 3/4" Hex Head Self Drilling Screws (HH SDS) located at 2", 6 1/2", 10 1/2", 15", 21", 26 1/4", 32", 39", 47", 54 1/2", 66", 74", 81 1/4", 88 1/8", 94", 100 1/2", 106 3/4", 110 1/2", 114", 118", 125", 135 1/2", 145 1/2", 155 1/4", 165 1/4", 174 3/4", 185 1/4", 193 1/2", 198 1/4", 202 1/4", 208 1/4", 214 1/4", 220", 227 1/2", 235 1/4", 243 1/2", 253", 263", 273 1/4", 283 3/4", 293 3/8", 303 3/8", 314 3/8", 322 1/4", 329", 336 3/8", 342 1/2", 348 1/4", 354 1/4", 358", 362 3/8", and 366 1/4" from the left end. Next, (2) 18 gauge x 24 1/8" x 368 1/4" flat galvanized steel sheets were placed on top of the panel and were attached using (4) rows of (45) # 10 x 3/4" HH SDS located at 2", 5 1/2", 14", 21", 27", 32 1/2", 40 1/4", 46 3/4", 55 1/4", 65 1/2", 75 1/2", 86", 95 1/2", 105", 115 1/2", 125 1/2", 135", 145 1/4", 156", 166 1/4", 175 1/2", 184 3/4", 193", 203 5/8", 214 1/2", 224 1/2", 234 1/4", 243", 254 3/4", 264", 274", 284 1/2", 295 1/4", 303 1/4", 315 1/2", 323 1/2", 330 1/2", 336 1/2", 342 3/4", 349 1/2", 355", 359", 363 1/4", and 366" from the left end.

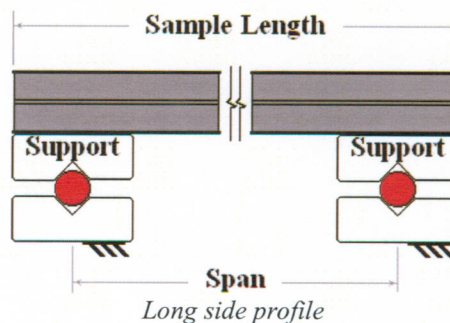
Individual Panel Size:	25 1/2" w x 368 1/2" long x 3 1/16" deep
Single Finished Panel Size:	27" w x 368 1/2" long x 6 1/8" deep
Double Finished Panel Size:	51 5/8" w x 368 1/2" long x 6 1/8" deep
Corrugated Panel Thickness:	16ga (0.048")
Reinforcement:	(2) 18ga (0.048" with coating) galv. steel flat sheet (24 1/8" w x 368 1/4")
Concrete:	None
Test Procedure:	Tested as per ASTM E 72 – 14a, Section 11.3.1.1



Sample showing connection of (1) or (2) galv. flat steel sheets to the finished single panel for 23'-8" and 30'-8" samples. (Sample was flipped over to show connection. Flat sheet is installed on bottom of sample.)

Apparatus: Uniformly distributed loading by vacuum pump acting below the specimen, a 2 mil plastic sheathing above the specimen and an airtight chamber as per section 11.3.1.3 of ASTM E 72 – 14a. The pressure was read with a water column manometer and a pressure transducer.

Supports: The samples were supported by rollers as per diagram below:



Deflection Gage: The deflection was measured using linear variable differential transformers (LVDT HETI-0172).

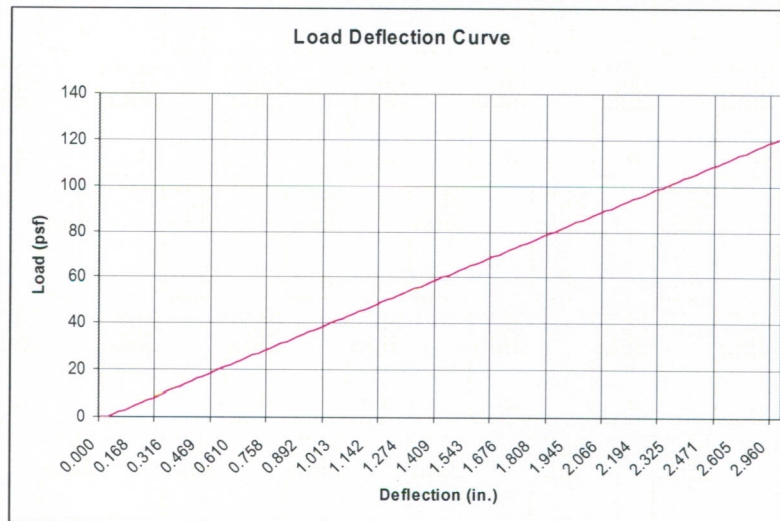
TEST RESULTS



Test # 1 PRODUCT SIZE: 20'-8"

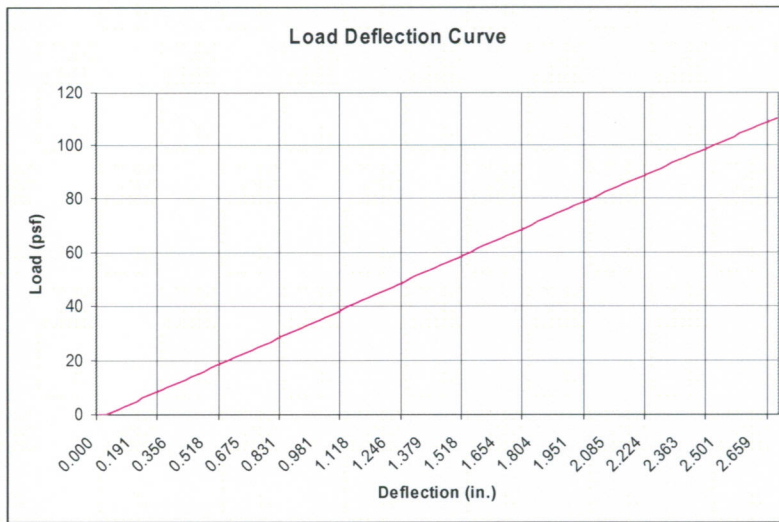
Sample # 1 (Test Reference No. HETI-15-5003) (Test Date: January 12, 2015)

	Pressure (psf)	Deflection Location 1 (inches)	Deflection Location 2 (inches)	Deflection Location 3 (inches)	Set Loc.1 /Loc. 2/Loc.3	Recovery Loc. 1 (%)	Duration (seconds)
Starting Load	0.0	0.00	0.00	0.00	0.000/0.000/0.000	100	300
Load	20	0.57	0.11	0.16	0.000/0.016/0.023	100	300
Load	40	1.07	0.19	0.23	0.005/0.010/0.025	99	300
Load	60	1.52	0.28	0.29	0.043/0.020/0.023	96	300
Load	80	2.03	0.36	0.34	0.097/0.029/0.024	94	300
Load	100	2.54	0.46	0.40	0.199/0.045/0.039	90	300
Load	120	2.96	0.56	0.43	0.091/0.042/0.017	96	300
Failure Load	Failed at 130 PSF, top surface buckled at center.						



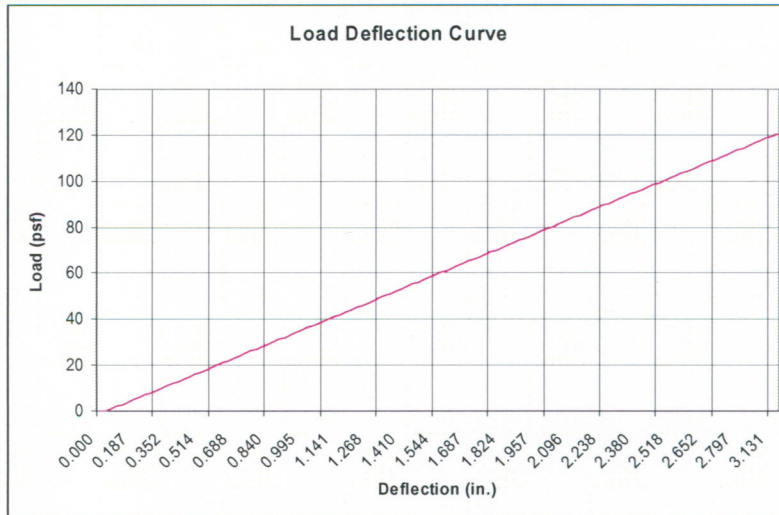
Sample # 2 (Test Reference No. HETI-15-5003) (Test Date: January 13, 2015)

	Pressure (psf)	Deflection Location 1 (inches)	Deflection Location 2 (inches)	Deflection Location 3 (inches)	Set Loc.1 /Loc. 2/Loc.3	Recovery Loc. 1 (%)	Duration (seconds)
Starting Load	0.0	0.00	0.00	0.00	0.00/0.00/0.00	100	300
Load	60	1.70	0.32	0.38	0.07/0.02/0.04	96	300
Load	80	2.17	0.41	0.48	0.11/0.02/0.02	95	300
Load	100	2.70	0.50	0.52	0.18/0.04/0.03	93	300
Load	110	2.83	0.55	0.57	0.10/0.04/0.03	96	300
Failure Load	Failed at 120 PSF, top surface buckled at center						



Sample # 3 (Test Reference No HETI-15-5003) (Test Date: January 13, 2015)

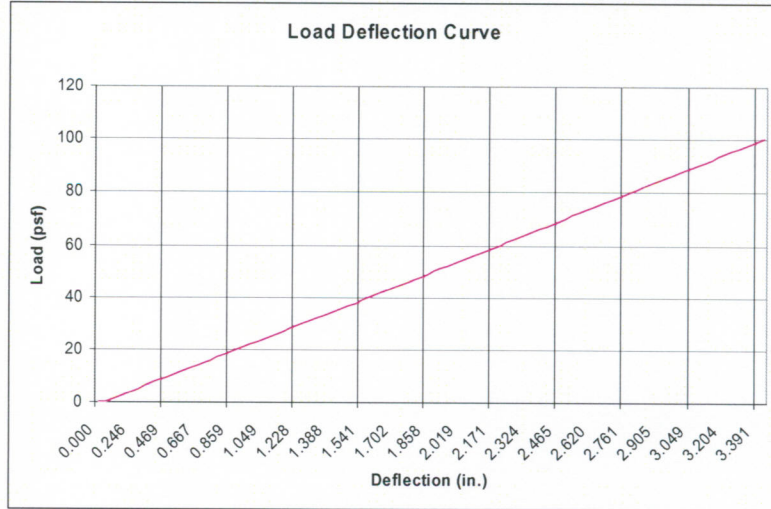
	Pressure (psf)	Deflection Location 1 (inches)	Deflection Location 2 (inches)	Deflection Location 3 (inches)	Set Loc.1 /Loc. 2/Loc.3	Recovery Loc. 1 (%)	Duration (seconds)
Starting Load	0.0	0.00	0.00	0.00	0.00/0.00/0.00	100	300
Load	60	1.82	0.37	0.20	0.08/0.04/0.03	96	300
Load	80	2.17	0.43	0.16	0.09/0.02/0.02	96	300
Load	100	2.72	0.54	0.19	0.11/0.04/0.02	96	300
Load	110	2.90	0.53	0.24	0.13/0.03/0.02	96	300
Load	120	3.13	0.57	0.43	0.16/0.04/0.03	95	300
Failure Load	Failed at 130 PSF, top surface buckled at center						



Test # 2
Product Size: 23'-8"

Sample # 1 (Test Reference No. HETI-15-5004) (Test Date: January 13, 2015)

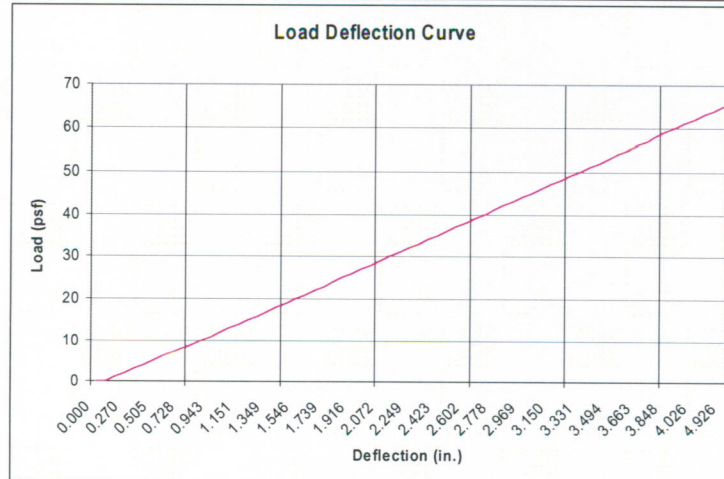
	Pressure (psf)	Location 1 (inches)	Location 2 (inches)	Set Loc.1 /Loc. 2	Recovery Loc. 1 (%)	Duration (seconds)
Starting Load	0.0	0.00	0.00	0.000/0.000	100	300
Load	60	2.52	0.32	0.022/0.063	99	300
Load	80	2.97	0.33	0.097/0.026	97	300
Load	90	3.18	0.34	0.054/0.017	98	300
Load	100	3.49	0.36	0.059/0.012	98	300
Failure Load	Failed at 110 PSF, top surface buckled at center.					



Test # 3
Product Size: 30'-0"

Sample # 1 (Test Reference No. HETI-15-5005) (Test Date: January 14, 2015)

	Pressure (psf)	Location 1 (inches)	Location 2 (inches)	Set Loc.1 /Loc. 2	Recovery Loc. 1 (%)	Duration (seconds)
Starting Load	0.0	0.00	0.00	0.000/0.000	100	300
Load	40	2.94	0.30	0.183/0.071	94	300
Load	60	4.24	0.34	0.349/0.049	92	300
Load	65	4.92	0.34	0.569/0.028	88	300
Failure Load	Failed at 70 PSF, top surface buckled at center.					



Conclusion

The samples were structurally intact at the conclusion of this test.

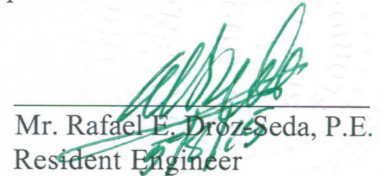
NOTE: The above results were obtained using the designated test methods that indicates compliance with the performance requirements of the referenced specifications. This report does not constitute certification of the specimens tested.

STATEMENT OF INDEPENDENCE

The Hurricane Engineering & Testing, Inc., does not have, nor does it intend to acquire or will acquire, a financial interest in any company manufacturing or distributing products tested or labeled by the Hurricane Engineering & Testing, Inc. Hurricane Engineering & Testing, Inc., is not owned, operated or controlled by any company manufacturing or distributing products it test or labels.



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Vice President



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Resident Engineer