

PRODUCT EVALUATION REPORT
ACI Building Systems, LLC

PBA Panel Through Fastened Wall Panel over Open Framing

Florida Product Approval Number FL16607.1

Category: Structural Components

Sub Category: Structural Wall

Compliance Method: 61G20-3.005 (1)(D)

NON-HVHZ

Product Manufacturer

ACI Building Systems, LLC
10125 Highway 6 West
Batesville, MS 38606

Engineer Evaluator

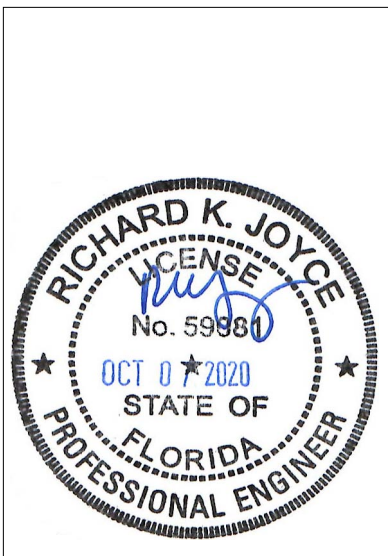
R. Keith Joyce, P.E., Florida 59081

Validator

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Contents

Evaluation Report Pages 1-6 Dated 07-07-2020



Digitally signed by Richard K.
Joyce, P.E.
Date: 2020.10.07 20:45:50 -04'00'

Compliance Statement

The product described in this report has demonstrated compliance with the 2020 (7th Edition) Florida Building Code Sections 1404.5

Product Description

PBA Panel Through Fastened structural panels applied over open framing:

1. 26 Gauge (0.0180 Design Thickness) with a minimum Fy = 80 ksi and Fu = 82 ksi
2. 24 Gauge (0.0227 Design Thickness) with a minimum Fy = 50 ksi and Fu = 65 ksi
3. 22 Gauge (0.0272 Design Thickness) with a minimum Fy = 50 ksi and Fu = 65 ksi

Panel Material Standard

Formed steel in compliance with the 2020 (7th Edition) Florida Building Code Section 1405.2 with optional painted finish.

Panel Fasteners

Approved Structural Panel Fasteners Per Table 1 with sealing washers.

Sidelap Fasteners ¼-14 fasteners at 20 inches on center

Corrosion Resistance: Per Florida Building Code

Table 1

HWH SD #12-14 (5/16 drive) SFS IMPAX

HWH SD #12-14 (5/16 drive) SFS MAC

Dome WH SD #12-14 (3/8 drive) SFS ZAC

Substrate Description

Minimum 16 gauge open framing.

Framing must be designed in accordance with the 2020 (7th Edition) Florida Building Code

Quality Assurance Entity

The manufacturer has established compliance of products in accordance with the 2020 (7th Edition) Florida Building Code as relates to Rule 61G20-3.005(3) for manufacturing under a quality assurance program audited by an approved quality assurance entity.

Insulation

Manufacturer's approved products (optional)

Fire Classification

Fire Classification is outside the scope of this evaluation

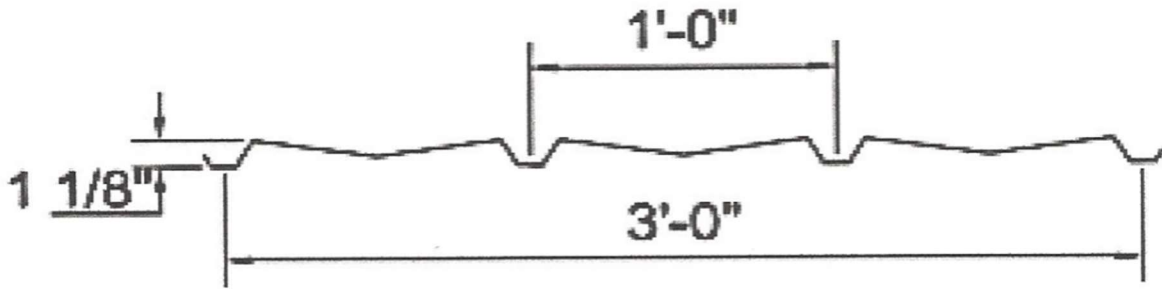
Shear Diaphragm

Shear Diaphragm is outside the scope of this evaluation

Design Procedure

Based on dimensions of the structure, appropriate wind loads are determined using Chapter 16 of the 2020 (7th Edition) Florida Building Code for component roof/wall cladding. These component wind loads are compared to the allowable load listed in the span load tables of this evaluation report. The design professional shall select appropriate fastener pattern and panel gauge to reference in the construction documents for proper installation. Design of support framing must be in compliance with the 2020 (7th Edition) Florida Building Code.

PBA Panel Profile



Section Properties									
Panel Gauge	F_y	F_u	Weight	Negative Bending			Positive Bending		
				I_{xe}	S_{xe}	M_{axo}	I_{xe}	S_{xe}	M_{axo}
	Ksi	Ksi		in ⁴	in ³	Kip-in	in ⁴	in ³	Kip-in
26	60*	61.5*	0.84	0.0227	0.0345	1.237	0.0216	0.0369	1.327
24	50	65	1.06	0.0307	0.0474	1.420	0.0297	0.0483	1.447
22	50	65	1.27	0.0367	0.0584	1.747	0.0367	0.0588	1.760

* = F_y is 80 ksi, F_u is 82 ksi reduced to F_y = 60 ksi, F_u = 61.5 ksi in accordance with the 2016 North American Specification for Cold-Formed Steel Structural Members Section Including A2.3.2

Notes:

1. All calculations for section properties of PBA panels are calculated in accordance with the 2016 edition North American Specification for Cold-Formed Members.
2. I_{xe} is for deflection calculations.
3. S_{xe} is for bending calculations.
4. M_{axo} is for allowable bending moment calculations.
5. All values are for one foot of panel width.

The engineering data contained herein is for the express use of the customers of ACI Building Systems and qualified design professionals.

26 Gauge PBA Panel

26 Gauge (12" centers for attachment to all supporting members) Allowable Loads										
Span Type	Load Type	Span (ft.)								
		1'-0"	2'-0	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"
Single	Negative Wind Load	490	206	91.6	51.5	33.0	22.9	16.8	11.6	8.2
	Positive Wind Load	414	207	98.3	55.3	35.4	24.6	16.6	11.1	7.8
2 - Span	Negative Wind Load	196	98.0	65.3	49.0	34.8	24.3	17.9	13.7	10.9
	Positive Wind Load	553	190	88.3	50.5	32.5	22.7	16.7	12.8	10.1
3-Span	Negative Wind Load	222	111	74.2	55.7	43.2	30.2	22.3	17.1	13.6
	Positive Wind Load	518	230	108	62.5	40.4	28.2	20.8	16.0	12.6

Notes:

1. Allowable loads are based on uniform span lengths and uniformly distributed load.
2. Live Load is limited by bending, shear, combined bending & shear, and web crippling.
3. Negative Wind Load does not include a 33.33% increase and does consider pull-over and pull-out on a minimum 16 gauge supporting member. ($0.06'' - F_y = 55 \text{ ksi}$ and $F_u = 70 \text{ ksi}$ supporting members).
4. Above loads are computed for a maximum total deflection of $L/60$.
5. The weight of panels has already been deducted from the allowable loads shown above.
6. The material is subject to change without notice.
7. These data have been developed in accordance with the 2016 version of the North American Specification for Cold-Formed Steel Structural Members.

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24 Gauge PBA Panel

24 Gauge (12" centers for attachment to all supporting members) Allowable Loads										
Span Type	Load Type	Span (ft.)								
		1'-0"	2'-0	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"
Single	Negative Wind Load	496	236	105	59.2	37.9	26.3	19.3	14.8	11.0
	Positive Wind Load	527	241	107	60.3	38.6	26.8	19.7	15.1	10.7
2 - Span	Negative Wind Load	198	99.2	66.1	49.6	37.9	26.5	19.5	15.0	11.8
	Positive Wind Load	699	215	100	57.7	37.3	26.0	19.2	14.7	11.6
3-Span	Negative Wind Load	225	112	75.1	56.4	45.1	32.9	24.3	18.7	14.8
	Positive Wind Load	659	259	123	71.3	46.2	32.3	23.9	18.3	14.5

Notes:

1. Allowable loads are based on uniform span lengths and uniformly distributed load.
2. Live Load is limited by bending, shear, combined bending & shear, and web crippling.
3. Negative Wind Load does not include a 33.33% increase and does consider pull-over and pull-out on a minimum 16 gauge supporting member. ($0.06'' - F_y = 55 \text{ ksi}$ and $F_u = 70 \text{ ksi}$ supporting members).
4. Above loads are computed for a maximum total deflection of $L/60$.
5. The weight of panels has already been deducted from the allowable loads shown above.
6. The material is subject to change without notice.
7. These data have been developed in accordance with the 2016 version of the North American Specification for Cold-Formed Steel Structural Members.

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22 Gauge PBA Panel

22 Gauge (12" centers for attachment to all supporting members) Allowable Loads										
Span Type	Load Type	Span (ft.)								
		1'-0"	2'-0	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"
Single	Negative Wind Load	496	248	129	72.8	46.6	32.3	23.8	18.2	13.2
	Positive Wind Load	732	293	130	73.3	46.9	32.6	23.9	18.3	13.2
2 - Span	Negative Wind Load	198	99.2	66.1	49.6	39.7	32.2	23.7	18.2	14.4
	Positive Wind Load	847	263	123	70.8	45.8	32.0	23.6	18.1	14.3
3-Span	Negative Wind Load	225	112	75.1	56.4	45.1	37.6	29.5	22.7	18.0
	Positive Wind Load	915	316	151	87.5	56.6	39.7	29.3	22.5	17.8

Notes:

1. Allowable loads are based on uniform span lengths and uniformly distributed load.
2. Live Load is limited by bending, shear, combined bending & shear, and web crippling.
3. Negative Wind Load does not include a 33.33% increase and does consider pull-over and pull-out on a minimum 16 gauge supporting member. ($0.06'' - F_y = 55 \text{ ksi}$ and $F_u = 70 \text{ ksi}$ supporting members).
4. Above loads are computed for a maximum total deflection of $L/60$.
5. The weight of panels has already been deducted from the allowable loads shown above.
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