MBCI®
Metal Roof and Wall Systems

PRODUCT EVALUATION REPORT

PBR Panel

State of Florida Professional Engineer:
Terrence E. Wolfe, P.E. # 44923
19530 Ramblewood Drive
Humble, TX 77338

Validator:
Shawn Collins, P.E.
18046 Glastonbury Lane
Land O Lakes, FL 34638

State of Florida
C.O.A.
26778

DEC 0 9 2011

Manufacturer:

MBCI, L.P. *a division of NCI, L.P.*

Houston
14031 West Hardy
Houston, TX 77064

Lubbock
5711 FM-40
Lubbock, TX 79401

Oklahoma City
7000 S. Eastern Ave.
Oklahoma City, OK 73149

San Antonio
8677 I-10 East
Converse, TX 78109

Atlanta
2280 Monier Ave.
Lithia Springs, GA 30057

Tampa
402 N. Frontage Road
Plant City, FL 33563

Richmond
801 South Ave.
Colonial Heights, VA 23834

Indianapolis
1780 McCall Drive
Shelbyville, IN 46176

Omaha
1011 Ellison Ave.
Omaha, NE 68110

Memphis
300 Highway 51 North
Hernando, MS 38632

Rome
6168 State Route 233
Rome, NY 13440

Adel
1600 Rogers Road
Adel, GA 31620

Phoenix
660 South 91th street
Tolleson, AZ 85353

Salt Lake City
1155 West 2300 North
Salt Lake City, UT 84116

Jackson
201 Apache Dr.
Jackson, MS 39272

Midland Metals
515 13th Ave E.
Oskaloosa, IA 52577

State of Florida
C.O.A.
26776

TERRENCE E. WOLFE
LICENSED
No. 44923
STATE OF FLORIDA
PROFESSIONAL ENGINEER

DEC 09 2011

Big Rapids
560 North Bronson Ave
Big Rapids, MI 49307-9311

Atwater
550 Industry Way
Atwater, CA 95301

Ennis
1804 Jack McKay Blvd.
Ennis, TX 75119

Nicholasville
6975 Danville Rd.
Nicholasville, KY 40340

SUBJECT:

Structural Component, Roof Deck.

DESCRIPTION:

PBR – a 36", wide, through fastened, structural, metal roof panel, available in 29-ga. (.015), 26-ga. (.019), 24-ga. (0.023"), or 22-ga. (0.029") ga. PBR is typically applied over open framing.

CODE CRITERIA:

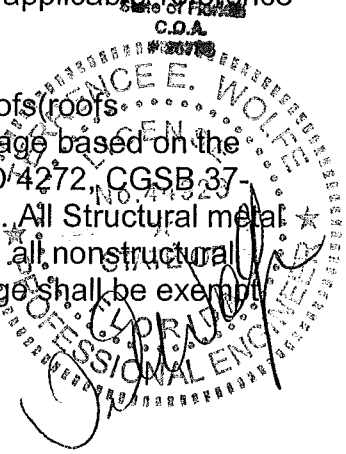
CHAPTER 15, FLORIDA BUILDING CODE 2010, ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

SECTION 1504
PERFORMANCE REQUIREMENTS

1504.1 Wind resistance of roofs. Roof decks and roof coverings shall be designed for wind loads in accordance with Chapter 16, Sections 1504.2,1504.3, and 1504.4.

1504.3.2 Metal panel roof systems. Metal panel roof systems through fastened or standing seam shall be tested in accordance with UL580 or ASTM E 1592 or TAS 125.
Exception: Metal roofs constructed of cold-formed steel, where the roof deck acts as the roof covering and provides both weather protection and support for structural loads, shall be permitted to be designed and tested with accordance with the applicable reference structural design standard in section 2209.1

1504.7 Impact Resistance. Roof coverings installed on low-slope roofs(roofs slope<2:12) in accordance with Section 1507 shall resist impact damage based on the results of tests conducted in accordance with ASTM D 3746, ASTM D 4272, CGSB 37-GP-52M or the "Resistance to Foot Traffic" in Section 5.5 of FM 4470. All Structural metal roofing systems having a thickness equal or greater that 22 gage and all nonstructural metal roof systems having a thickness equal to or greater than 26 gage shall be exempt from test listed above.



DEC 09 2011

SECTION 1505
FIRE CLASSIFICATION

1505.1 General. Roof assemblies shall be divided into the classed defined below. Class A, B, and C roof assemblies and roof coverings required to be listed by this section shall be tested in accordance with ASTM E 108 or UL 790.

SECTION 1506
MATERIALS

1506.1 Scope. The requirements set forth in this section shall apply to the application of roof-covering materials specified herein. Roof coverings shall be applied in accordance with this chapter and the manufacturer's installation instructions.
See attached installation details.

1506.3 Material specifications and physical characteristics.

1506.4 Product identification. Roof covering materials shall be delivered in packages bearing the manufacturer's identifying marks and approved testing agency labels required in accordance with 1505.

1506.6 Screws. Wood Screws shall conform to ANSI/ASME B 18.6.1. Screws shall be corrosion resistant by coating, galvanization, stainless steel, nonferrous metal or suitable corrosion-resistant material. Corrosion resistance shall be equivalent to ASTM A641, Class1; TAS114, App E; or exhibit not more than 5 percent rust after 1000 hrs. exposure IAW ASTM B 117.

SECTION 1507
REQUIREMENTS FOR ROOF COVERINGS

1507.4 Metal roof panels. The installation of metal roof panels shall comply with the provisions of this section.

State of Florida
C.O.A.
26778

1507.4.1 Deck requirements. Metal roof panel roof coverings shall be applied to a solid or closely fitted deck, except where the roof covering is specifically designed to be applied to spaced supports.
See attached limits of use.

1507.4.2 Deck slope. The minimum slope for lapped, nonsoldered seam metal roof panels with applied lap sealant shall be one-half unit vertical in 12 units horizontal (4-percent slope).

TERRENCE MOORE
LICENSE
No.41020
STATE OF FLORIDA
PROFESSIONAL ENGINEER

DEC 09 2011

See attached limits of use.

1507.4.3 Material standards. Metal-sheet roof covering systems that incorporate supporting structural members shall be designed in accordance with Chapter 22. Metal-sheet roof coverings installed over structural decking shall comply with Table 1507.4.3(2).

Table 1507.4.3(2) Metal Roof Coverings

Roof Covering Type	Minimum Application Rate
55% Aluminum-Zinc Alloy Coated Steel	ASTM A 792 AZ 50
5% Aluminum Alloy Coated Steel	ASTM A 875 GF60
Galvanized Steel	ASTM A 653G-90
Prepainted Steel	ASTM A 755

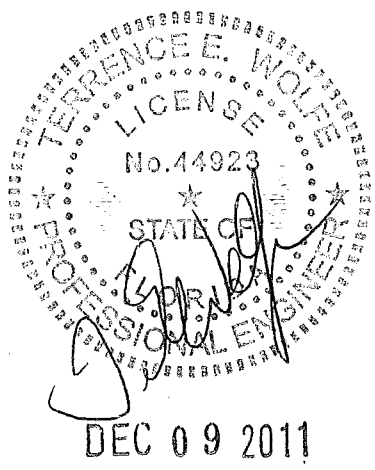
1507.4.4 Attachment. Metal roof panels shall be secured to the supports in accordance with the manufacturer's fasteners. In absence of manufacturer recommendations, the following fasteners shall be used.
1. Galvanized fasteners shall be used for steel roofs.
3. Aluminum-zinc coated fasteners are acceptable for aluminum-zinc coated roofs.
4. Stainless-steel fasteners are acceptable for all types of metal roofs.
See attached Installation instructions.

CHAPTER 22
STEEL

SECTION 2209
COLD-FORMED STEEL CONSTRUCTION

2209.1 Regular cold-formed steel. The design of cold-formed carbon and low-alloy steel structural members shall be in accordance AISI-NAS.

State of Florida
C.O.A.
28776



DEC 09 2011

LIMITATIONS OF USE FOR NON-HIGH VELOCITY HURRICANE ZONES

Minimum Slope:	1/2:12
Substrate:	Steel
Substrate Description:	Purlins or FL P.E. designed equal.
Substrate Attachment:	Designed by FL P.E. per FBC 2010.
Fire Barrier:	Class A fire exposure rating in accordance with FBC Section 1505.1 with UL 790.
Insulation:	(Optional) Vinyl or reflective foil faced fiberglass batten insulations that have a flame spread rating of no more than 25 and a smoke development rating of not more than 450.
Minimum Substrate Thickness:	16-ga purlins or FL P.E. designed equal per FBC 2010.

Documentation Supporting the Compliance Statement:

The product has been tested in accordance with:

- ASTM E 1592-01: Test Report 07-0045T-07 A, B, E, F dated 4-03-07 by Force Engineering & Testing, Inc. located in Humble, TX 77338
- UL 580 Testing through UL construction # 542 located in Northbrook, IL 60062.
- UL 790 Class A documentation for PBR panel under Section 1505.1, located in Northbrook, IL 60062.
- FM 4471 "Foot Traffic" documentation for roof slopes 2:12 or less per Section 1504.7. FM Approvals Report 3005245, dated July 24, 2000 located in Norwood, MA 02062.

Maximum Uplift Pressure:	See Attached Section Properties & Load Tables
Application:	Install PBR Panel per the manufacturers approved details.

Test Pressures:

29 ga. PBR -55 psf @ 4 ft o.c. spans
26 ga. PBR -80 psf @ 4 ft o.c. spans
24 ga. PBR -90 psf @ 4 ft o.c. spans
22 ga. PBR -142.5 psf @ 4 ft o.c. spans

Max Deflections:

29 ga. PBR: L/122 or .492" @ -55 psf
26 ga. PBR: L/61 or .789" @ -80 psf
24 ga. PBR: L/68 or .709" @ -90 psf
22 ga. PBR: L/76 or .627" @ -142.5 psf

State of Florida
C.O.A.
28778

TERRENCE E. WOLFE
LICENSE
No. 44923
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

DEC 15 2011