

**EVALUATION REPORT OF
CENTRAL STATES MANUFACTURING, INC.
'29 GA. PANEL-LOC PLUS PANEL'**

**FLORIDA BUILDING CODE 5TH EDITION (2014)
FLORIDA PRODUCT APPROVAL
FL 14026.4-R3
ROOFING
METAL ROOFING**

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**This report consists of
Evaluation Report (3 Pages including cover)
Installation Details (4 Pages)**

**Report No. C2047-8
Date: 10.26.2015**



Manufacturer: Central States Manufacturing, Inc.

Product Name: Panel-Loc Plus Panel

Panel Description: 36" wide coverage with (5) 3/4" high ribs

Materials: Min. 29 ga., 80 ksi steel. Galvanized coated steel (ASTM A653) or Galvalume coated steel (ASTM A792) or painted steel (ASTM A755).

Deck Description: Min. 19/32" thick plywood for new and existing constructions. Fasten to joist with 8d x 2.5" long ring shank nails at 12" o.c. in the plywood field and at 6" o.c. at edges. Maximum joist spacing is 24" o.c. Designed and installed as per FBC 2014.

Underlayment: Minimum underlayment as per FBC 2014 Section 1507.4.5.1

Lathing: In lieu of the deck, lathing (nom. 2" x 4" wood, No. 2 or better) may be used. Lathing spaced at max. 24" o.c. and fastened to joists with (2) #8 x 3" long screws at each intersection. Maximum joist spacing is 48" o.c.

Underlayment: Minimum underlayment as per FBC 2014 Section 1507.4.5.1

Slope: In accordance with FBC 2014 Section 1507.4.2

Design Uplift Pressure: 52.5 psf at fastener spacing of 24" o.c. along panel length
(Factor of Safety = 2)

Panel Attachment: #10-14 x 1.5" long wood screws with sealing washer or approved equal. Fastener shall be of sufficient length to penetrate through the deck a minimum of 1/4" and spaced at 9" o.c. across panel width at all locations.

Test Standards: Roof assembly tested in accordance with UL580-06 'Uplift Resistance of Roof'.

Code Compliance: The product described herein has demonstrated compliance with FBC 2014 Section 1507.4.

Product Limitations: Design wind loads shall be determined for each project in accordance with FBC 2014 Section 1609 or ASCE 7-10 using allowable stress design. The maximum fastener spacing listed herein shall not be exceeded. Panels will be installed as per manufacturer's installation guideline. This evaluation report is not applicable in High Velocity Hurricane Zone. Fire classification is not within scope of this Evaluation Report. Refer to FBC 2014 Section 1505 and current

approved roofing materials directory or ASTM E108/UL790 report from an accredited laboratory for fire ratings of this product.

Supporting Documents: UL580 Roof Deck Construction No. 560



Construction No. 560 TGKX.560 Roof Deck Constructions

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Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

Roof Deck Constructions

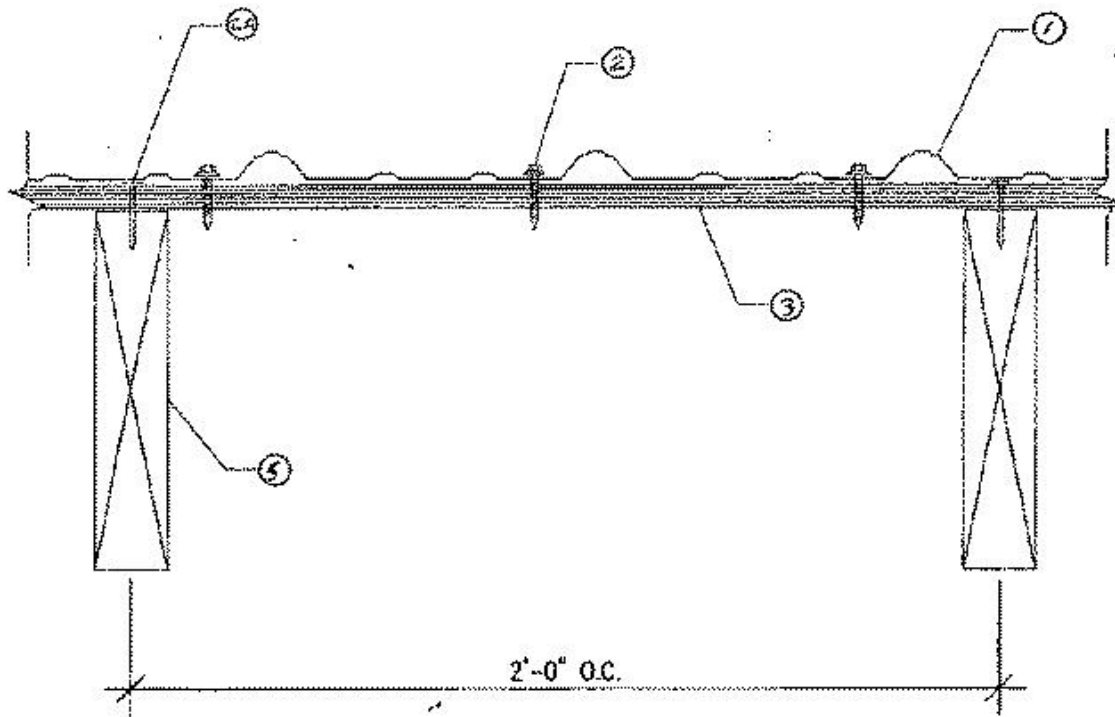
[See General Information for Roof Deck Constructions](#)

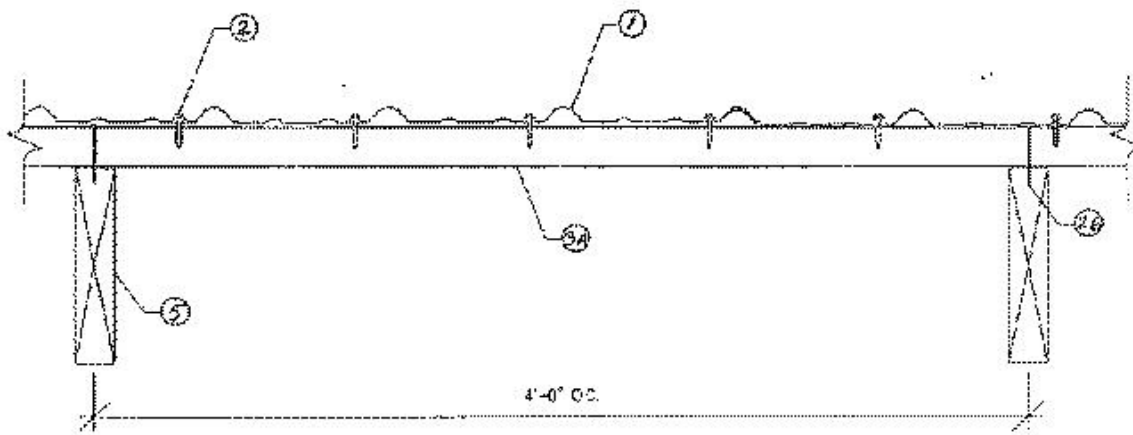
Construction No. 560

August 10, 2015

Uplift - Class 90

Fire Not Investigated





1. **Metal Roof Deck Panels*** — No. 29 MSG min coated steel. Max panel width 36 in Rib height max 3/4 in. Panels continuous over two or more spans. Panels to overlap 6 in. at endlaps and must occur adjacent to a support when plywood decking (Item 3) is not used. A bead of sealant may be used at panel endlaps and sidelaps.

ALL STEEL BUILDINGS & COMPONENTS TUBULAR DIVISION INC ([View Classification](#)) — "Master-Rib"

ALLIANCE STEEL INC ([View Classification](#)) — "Alliance IP"

ALPHA BUILDING CENTER ([View Classification](#)) — "A-Panel"

AMERICAN BUILDING COMPONENTS ([View Classification](#)) — "Imperial Rib"

AMERICAN CONSTRUCTION METALS ([View Classification](#)) — "Perfect Rib"

AIM METALS L L C ([View Classification](#)) — "NAIL-Line 1.5"

BRIDGER STEEL ([View Classification](#)) — "3 ft. tuf-rib"

BBM STEEL BUILDINGS INC ([View Classification](#)) — "Ag-Panel"

BURROW CONSTRUCTION INC ([View Classification](#)) — "Quadra Loc Plus"

CAROLINA CARPORTS INC ([View Classification](#)) — ""Carolina Ridge""

CENTRAL STATES MFG INC ([View Classification](#)) — "Panel-Loc Plus"

CENTRAL TEXAS METAL ROLLFORMING INC ([View Classification](#)) — "Frontier Rib"

BEACON SALES ACQUISITION INC, DBA COASTAL METAL SERVICE ([View Classification](#)) — "Rib Loc"

CONSOLIDATED SYSTEMS INC ([View Classification](#)) — "VR4029", "VG4029"

DAKOTA STEEL & TRIM INC ([View Classification](#)) — "Strong Rib"

DAVIESS COUNTY METAL SALES INC ([View Classification](#)) — "D.C. Rib"

EAST TEXAS ARCHITECTURAL SHEETMETAL L L C, DBA ETAS INC ([View Classification](#)) — "R Panel"

EVERLAST ROOFING INC ([View Classification](#)) — "Everlast II"

FABRAL INC ([View Classification](#)) — "Grandrib 3", "Multi-Purpose", "Shelterguard", "5 Rib" or "Alu-Tuff"

FLAMCO OF TEXAS INC ([View Classification](#)) — "Versa-Rib"

FLATIRON STEEL ([View Classification](#)) — "Tuff-Rib"

GRABER POST BLDS INC ([View Classification](#)) — "G-Rib"

H&H METAL PRODUCTS INC ([View Classification](#)) — "Uni-Panel"

HIXWOOD METAL INC ([View Classification](#)) — "Super Rib 100" or "Super Rib 60"

INDACO METALS L L C ([View Classification](#)) — "Indaco Duraloc"

JNL STEEL COMPONENTS INC ([View Classification](#)) — Type "AG-PANEL"

JOHN FLANERY DBA METAL COUNTRY ([View Classification](#)) — "Max-Panel"

LONG CREEK STEEL ([View Classification](#)) — "Tuff-Rib"

MARLYN METALS INC ([View Classification](#)) — "Mar-Rib"

MBCI ([View Classification](#)) — "Stormproof"

MENARDS/MIDWEST MFG ([View Classification](#)) — "Pro-Rib" or "Premium Pro-Rib"

METALLION INDUSTRIES INC ([View Classification](#)) — "Magna Rib"

METAL PANELS INC ([View Classification](#)) — "Strongseam AG Panel"

METAL SALES MANUFACTURING CORPORATION ([View Classification](#)) — "Classic Rib"

MCELROY METAL MILL INC ([View Classification](#)) — "Max-Rib"

METALMAX L L C ([View Classification](#)) — "Tuffrib Panel"

NCI BUILDING SYSTEMS L P ([View Classification](#)) — "Stormproof"

NORTHLAND STEEL AND TRIM ([View Classification](#)) — "D-Rib"

PARAMOUNT METALS INC ([View Classification](#)) — "Smart Rib Plus"

REEDS METALS OF BENTON ([View Classification](#)) — "Residential"

SAN ANTONIO QUALITY METALS — "AG" Panel

STEEL BUILDING SUPPLY INC ([View Classification](#)) — "Max-Rib" or "AG" Panel

TAYLOR & SONS PIPE & STEEL INC ([View Classification](#)) — "AG-Panel"

TERRY BUILDING CO INC ([View Classification](#)) — "Ag" Panel

TEXOMA STEEL BUILDINGS INC ([View Classification](#)) — "Ag/Tuff-Rib" Panel

TREMCO INC ([View Classification](#)) — "TremLock Ultra-Rib"

WHEELER METALS INC ([View Classification](#)) — "Low Rib Plus"

WHIRLWIND STEEL BUILDINGS INC ([View Classification](#)) — "Sturdi-Rib"

2. **Fasteners - (Screws)** — For panel attachment to wood deck (Item 3), fasteners to be 1/4 in. -14x1-1/2 in. long Type AB of No. 14x1-1/2 in. long Type A when substructure is plywood decking (Item 3). When 2x4 lathing (Item 3A) is used, fasteners may be any of the following: 1/4 in. -14x1-1/2 in. long Type AB, No. 14x1-1/2 in. long Type AB, No. 14x1-1/2 in. long Type A, No. 10x1-1/2 in. long Woodgrip or No. 10-14 x 1-1/2 in. hex-washer head wood screw with bonded neoprene washer. Fasteners to be installed 24 in. OC along the length of the panel. Fastener spacing across the width of panel to 9 in. on center beginning 1-3/4 in. from the center line on one side of each major rib. Fastener spacing at panel ends to be in a 1-3/4 in. from the center line on one side of each major rib. Fastener spacing at panel ends to be in a 1-3/4, 5-1/2, 3-3/4, 5-1/2, 3-3/4, 5-1/2, 3-3/4, 5-1/2 in.

2A. **Fasteners - (Screws and Nails)** — For attachment of plywood deck (Item 3) to joists (Item 5), fasteners to be min. No. 6x1-7/8 in. long bugle head screw or annular ring-shank nails. Spacing to be 6 in. OC at plywood edges and 12 in. OC at intermediate supports.

2B. **Fasteners - (Screws)** — For attachment of 2x4 lathing (Item 3A) to joists (Item 5), fasteners to be min. No. 8x3 in. long bugle head screw, two screws per attachment point.

3. **Substructure - (Plywood)** — Plywood decking to be a nom 5/8 in. thick, exposure sheathing span C-D, 40/20 plywood. All butt joints to be sealed against leakage by using tape and/or caulk or with one- part urethane sealant.

3A. **Substructure - (Lathing)** — Lathing to be nominal 2x4 wood, No. 2 or better, spaced 24 in. on center max.

4. **Moisture Barrier - (Optional) (Not Shown)** — Any suitable membrane to protect substructure (Item 3 or 3A).

5. **Joists** — Joists spaced at 2 ft, 0 in. OC when plywood decking is used and 48 in. on center when 2x4 lathing (Item 3A) is used, may be one of the following:

A. Nom 2 by 10 in. wood joists No. 2 or better.

B. Nom 2 by 4 in. wood when used on a top cord of a wood truss, No. 2 or better.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Refer to general information, Roof Deck Construction, (Roofing Materials and Systems Directory) for Items not evaluated.

Last Updated on 2015-08-10

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