

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

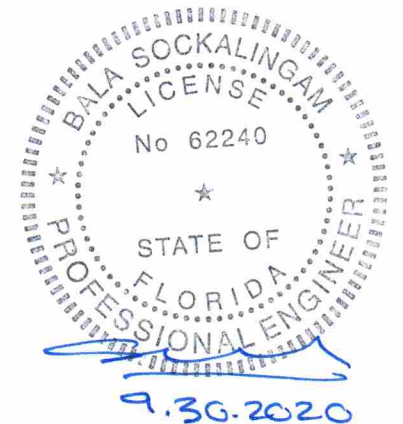
**FLORIDA BUILDING CODE 7TH EDITION (2020)  
FLORIDA PRODUCT APPROVAL  
FL 14016.3-R4  
STRUCTURAL COMPONENTS  
ROOF DECK**

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**This report consists of  
Evaluation Report (2 Pages including cover)  
Installation Details (6 Pages)**

**Report No. C2398-3  
Date: 9.30.2020**



# TGKX.534 - Roof Deck Constructions

## 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.

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## Roof Deck Constructions

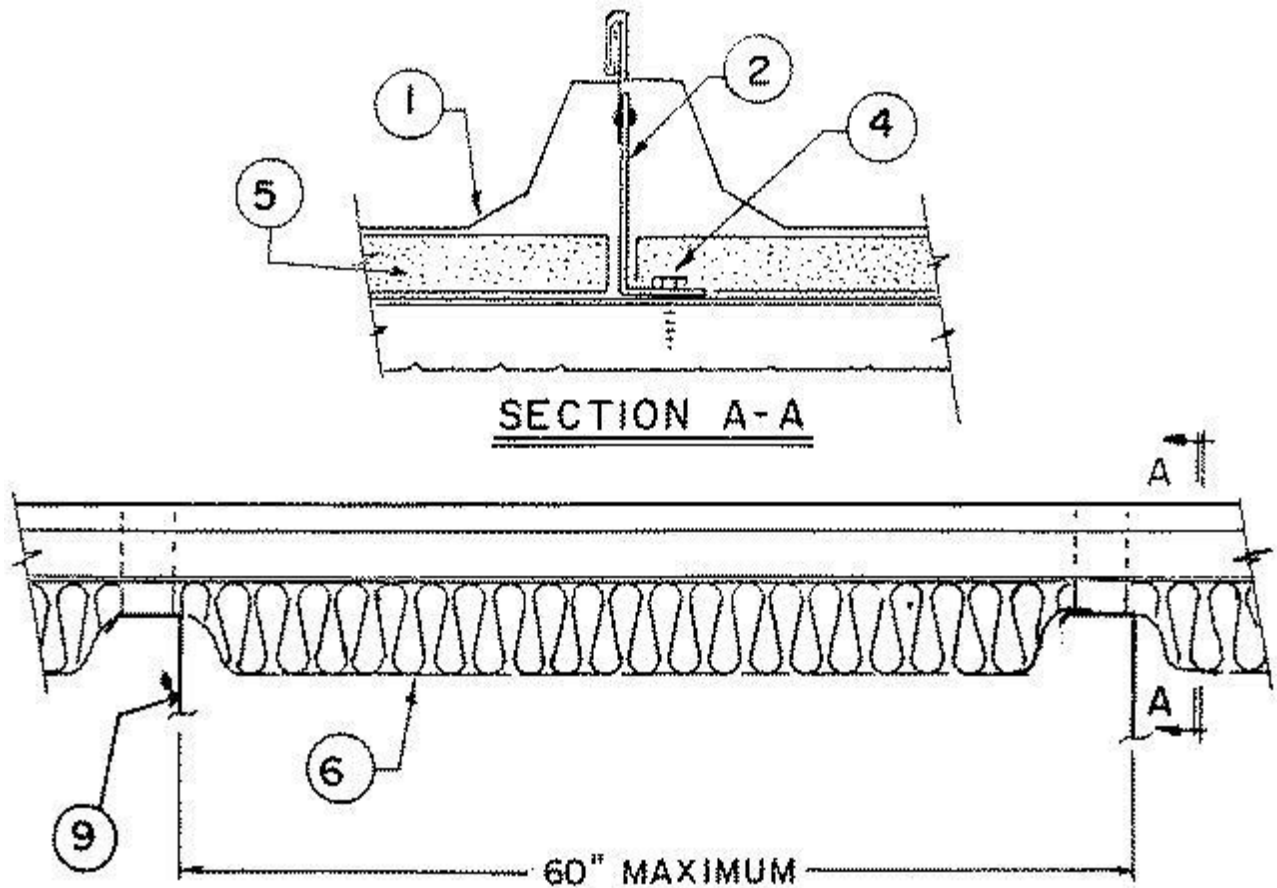
[See General Information for Roof Deck Constructions](#)

### **Construction No. 534**

December 02, 2019

**Uplift — Class 90**

**Fire Not Investigated**



**1. Metal Roof Deck Panels\*** — For class 90-No. 24 MSG coated steel, for class 30-No. 26 MSG min. Coated steel, steel. Panels continuous over two or more spans. End laps to occur adjacent to purlins with panels overlapped 3 inch max. A line of sealant may be used at panel end and side laps.

**A & S BUILDING SYSTEMS L P** ([View Classification](#)) — "Ultra-Dek"

**B C STEEL BUILDINGS INC** ([View Classification](#)) — "BCL-SD"

**CENTRAL STATES MFG INC** ([View Classification](#)) — "Central-Loc"

**CENTRAL TEXAS METAL ROLLFORMING INC** ([View Classification](#)) — "Shurloc 300"

**MBCI** ([View Classification](#)) — "Ultra-Dek"

**MESCO METAL BUILDINGS** ([View Classification](#)) — "Ultra-Dek"

**NCI BUILDING SYSTEMS L P** ([View Classification](#)) — "Ultra-Dek"

**PINNACLE STRUCTURES INC** ([View Classification](#)) — "PINNACLE U-DEK"

**TEXAS BUILDING AND ROOFING SUPPLIES INC** — "Standing Seam" Panel

**WHIRLWIND STEEL BUILDINGS INC** ([View Classification](#)) — "Super-Seam II".

**2. Roof Deck Fasteners\*—(Panel Clips)** — Clip used with an upper tab clip formed to engage the metal roof deck panel rib (Item 1). The height of the clip to be 3-3/8 in. when no thermal spacer is used, and 4-3/8 in. when a thermal spacer is used

(Item 5). Clips are spaced 5 ft. OC max along length of panels, located at the panel sides with guide holes in bottom to accommodate two screw fasteners (Item 4).

**BUILDING PRODUCTS DEVELOPMENT INC** ([View Classification](#)). — "NC34503", "NC34504"

**NCI BUILDING SYSTEMS L P** ([View Classification](#)). — "Ultra-Dek Articulating Clip " or "Ultra-Dek Floating Clip" or "Ultra-Dek Sliding Clip".

3. **Building Units\*** — (optional)-(not shown)-Translucent reinforced plastic panels. Nominal thickness 1/16 inch, formed to the same configuration as the metal roof deck panels, with metal reinforcement cut from a classified metal roof deck panel (Item No. 1). Metal reinforcement attached to translucent reinforced plastic side segments with aluminum pop rivets. Panels continuous over two or more spans.

**NCI BUILDING SYSTEMS L P** ([View Classification](#)). — "Ultra-Dek Light Transmitting Panel"

4. **Fasteners—(Screws)** — Fasteners for panel clip to purlin to be 1/4-14 by 1-1/4 inch long self-drilling, self-tapping, 3/8 inch hex-head, plated steel screw with separate 5/8 inch O.D. neoprene washer. Two (2) screws used per clip. At the endlap, Fasteners are to be 1/4-14 by 1-1/4 inch long, self-drilling, self-tapping, plated steel screws with a 5/8 inch OD washer. Six (6) fasteners are to be used in the flat section of the end lap panel with the first fastener located 3-1/4 inches from either rib and then spaced in a 3-1/2, 3-1/2, 3-1/2, 3-1/2, 3-1/2 inch pattern. An additional fastener is to be located at the second slanted segment of the rib on both sides of the endlap panel .

5. **Thermal Spacer** — (optional)-Polystyrene, 1 inch max thickness, 3 inches wide, cut to fit between panel clips.

6. **Insulation** — (optional)-Any compressible blanket insulation, 6 inches max. thickness when located between panel (Item No. 1) and purlin (Item No. 9) before compression.

7. **End-Lap Plate Assembly** — (not shown)-Used at panel end laps; Consisting of a lower section, 5-5/8 inches wide, with a 1/8 inch vertical leg, formed to the general profile of the panel and having four 1 inch wide by 3/4 inch long tabs for sliding over the panel end. Upper section (optional) to be 1-1/2 inches wide 24 inches long and also formed to the general profile of the panel with one end formed to fit over the side rib. Five 5/16 inch diameter guide holes located in the flat with 3 holes located at rib location. Both parts to have ribs formed for reinforcement. Both parts fabricated from No. 16 MSG thick coated steel.

8. **Light Transmitting Panel Backing Plate** — (optional)-(not shown)-When skylight panel is used, backing plate is required. Minimum 18 MSG galv. Steel, 6 inches wide two vertical legs on both sides and formed to the configuration of the metal roof deck panel (Item No. 1). Located over the middle purlin and offers support to the continuous segment building unit (Item No. 3).

9. **Purlin** — No. 16 MSG min. gauge steel (55,000 psi min. yield strength).

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

Last Updated on 2019-12-02

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# TGKX.535 - Roof Deck Constructions

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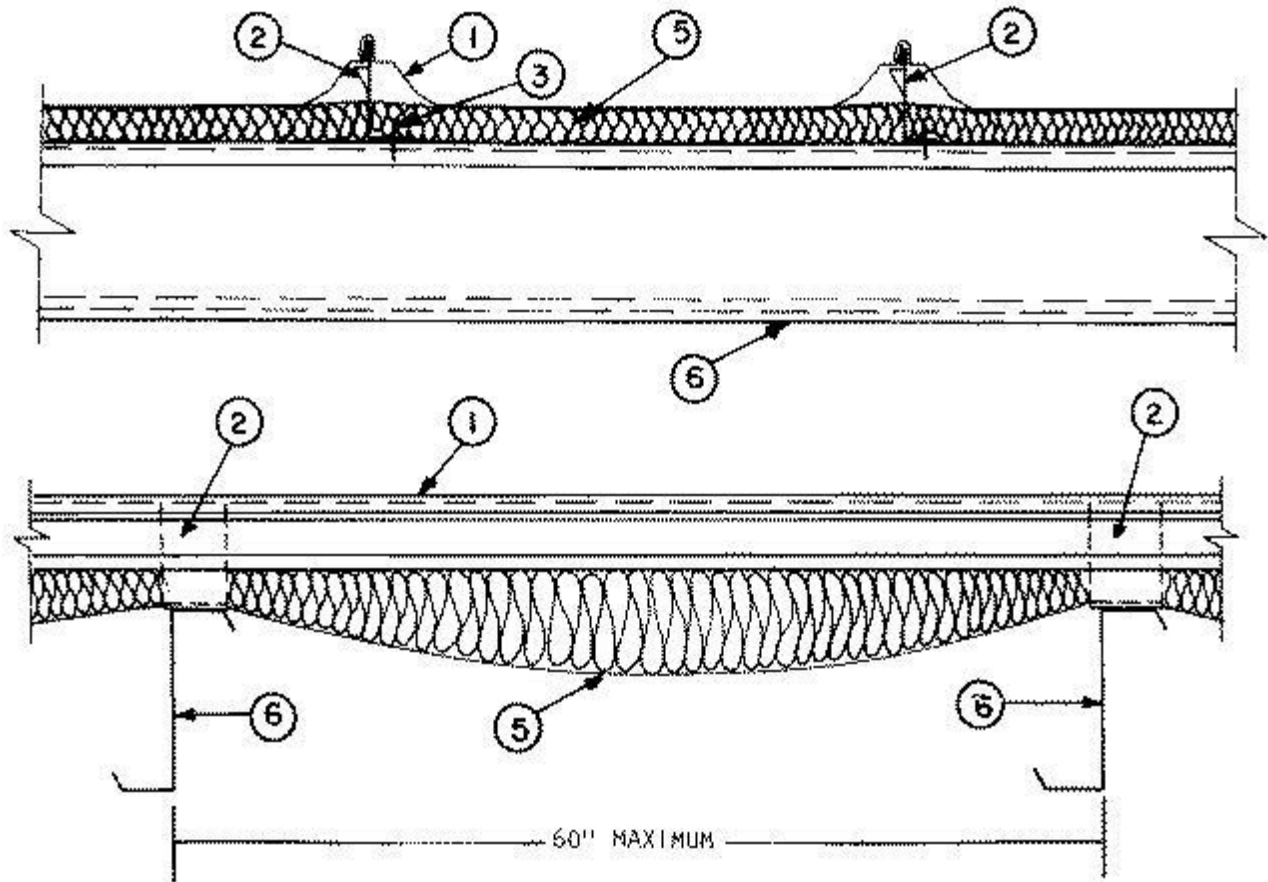
[See General Information for Roof Deck Constructions](#)

### **Construction No. 535**

December 02, 2019

**Uplift — Class 90**

**Fire Not Investigated**



**1. Metal Roof Deck Panels\*** — For class 90—No. 24 MSG coated steel, for class 30—No. 26 MSG min. Coated steel. Panels continuous over two or more spans. End laps to occur adjacent to purlins with panels overlapped 3 inch max. A line of sealant may be used at panel end and side laps.

**A & S BUILDING SYSTEMS L P** ([View Classification](#)) — "Ultra-Dek"

**B C STEEL BUILDINGS INC** ([View Classification](#)) — "BCL-SD"

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**TEXAS BUILDING AND ROOFING SUPPLIES INC** — "Standing Seam" Panel

**WHIRLWIND STEEL BUILDINGS INC** ([View Classification](#)) — "Super-Seam II"

**2. Roof Deck Fasteners\*** — Clip to engage the metal roof deck panel rib (Item 1). Height to be 3-3/8 in. when no thermal spacer (Item 4) is used and 4-3/8 in. when a thermal spacer is used. Clips are spaced 5 ft OC max along length of panels,

located at the panel ribs with three guide holes in the bottom to accommodate screw fasteners (Item 2A).

**BUILDING PRODUCTS DEVELOPMENT INC** ([View Classification](#)) — "NC34503", "NC34504"

**NCI BUILDING SYSTEMS L P** ([View Classification](#)) — "Ultra-Dek Fixed Clip" or "Ultra-Dek Floating Clip" or "Ultra-Dek Sliding Clip".

3. **Fasteners (screws)** — Fasteners for panel clip to purlin to be No. 12-14 by 1-1/4 inch long self-drilling, self-tapping, hex-headed screw with separate 5/8 inch O.D. neoprene washer. Two screws used for fixed clips and one screw used for sliding clips. Fasteners used at end lap are the same type spaced in a 3-1/4, 3-1/2, 3-1/2, 3-1/2, 3-1/2, 3-1/4 inch pattern with an additional fastener located at the second slanted segment of the rib on both sides of the end lap panel (Total of 8 fasteners required). Fasteners used with alternate 16 MSG min. thick coated steel upper section to be No. 14 by 1 inch long self-tapping fastener. First fastener is located 3/8 inch from first slanted segment in a 4, 5-1/2, 5-1/2, 4 inch pattern. One additional fastener located 1/2 inch from first slanted segment on opposite side of same rib where first fastener is located (Total of 5 fasteners required).

4. **Thermal Spacer** — (optional)—(Not Shown)—Polystyrene, 1 inch max thickness, 3 inches wide, cut to fit between panel clips.

5. **Insulation** — (optional)—Any compressible blanket insulation, 6 inches max. thickness when located between thermal spacer (Item No. 4) and purlin (Item No. 6) before compression.

6. **Purlin** — No. 16 MSG min. gauge steel (55,000 psi min. yield strength).

7. **Splice Plate Assembly** — (not shown)—Used at panel end laps; Consisting of a lower section, 6 inches wide, with a 1/8 inch vertical leg, formed to the general profile of the panel and having four 1 inch wide by 3/4 inch long tabs for sliding over the panel end. Upper section (optional) to be 1-1/2 inches wide 24 inches long and also formed to the general of the panel with one end formed to fit over the side rib. Six 5/16 inch diameter guide holes located in the flat with 3 holes located at rib location. Both parts to have ribs formed for reinforcement. Both parts fabricated from No. 16 MSG thick coated steel.

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

Last Updated on 2019-12-02

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Manufacturer: Central States Manufacturing, Inc.

Product Name: Central-Loc Panel

Panel Description: Standing seam panel with 12", 18" or 24" wide coverage and 3" high ribs

Materials: 24 or 22 ga., 50 ksi steel. Galvanized coated steel (ASTM A653) or Galvalume coated steel (ASTM A792) or painted steel (ASTM A755). Corrosion resistant as per FBC 2020 Section 1507.4.3.

Support Description: Min. 16 ga., 55 ksi steel section (Must be designed by others)

Slope: 1/4:12 or greater in accordance with FBC 2020 Section 1507.4.2.

Design Uplift Pressure: 52.5 psf at clip spacing of 60" o.c.

Panel Attachment: Articulating, floating, sliding or fixed clip with (2) #12-14 or 1/4"-14 HWH self-drilling screws per clip. Clips and fasteners are corrosion resistant as per FBC 2020 Section 1506.7 and 1507.4.4, respectively.

Test Standards: Roof assembly tested in accordance with UL580-06 'Uplift Resistance of Roof Assemblies' and FM 4471 Section 5.4 'Resistance to Foot Traffic'.

Code Compliance: The product described herein has demonstrated compliance with FBC 2020 Section 1507.4.

Product Limitations: Design wind loads shall be determined for each project in accordance with FBC 2020 Section 1609 or ASCE 7-16 using allowable stress design. The maximum support spacing listed herein shall not be exceeded. The design pressure for reduced clip spacing may be computed using rational analysis prepared by a Florida Professional Engineer. This evaluation report is not applicable in High Velocity Hurricane Zone. Fire classification is not within scope of this Evaluation Report. Refer to FBC 2020 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: UL Roof Deck Construction Numbers 534 & 535

FM 4471 Test Report  
Force Engineering & Testing, Inc.  
Report No. 07-0258T-11, Dated 11/18/2011