

# TGKX.287 - 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

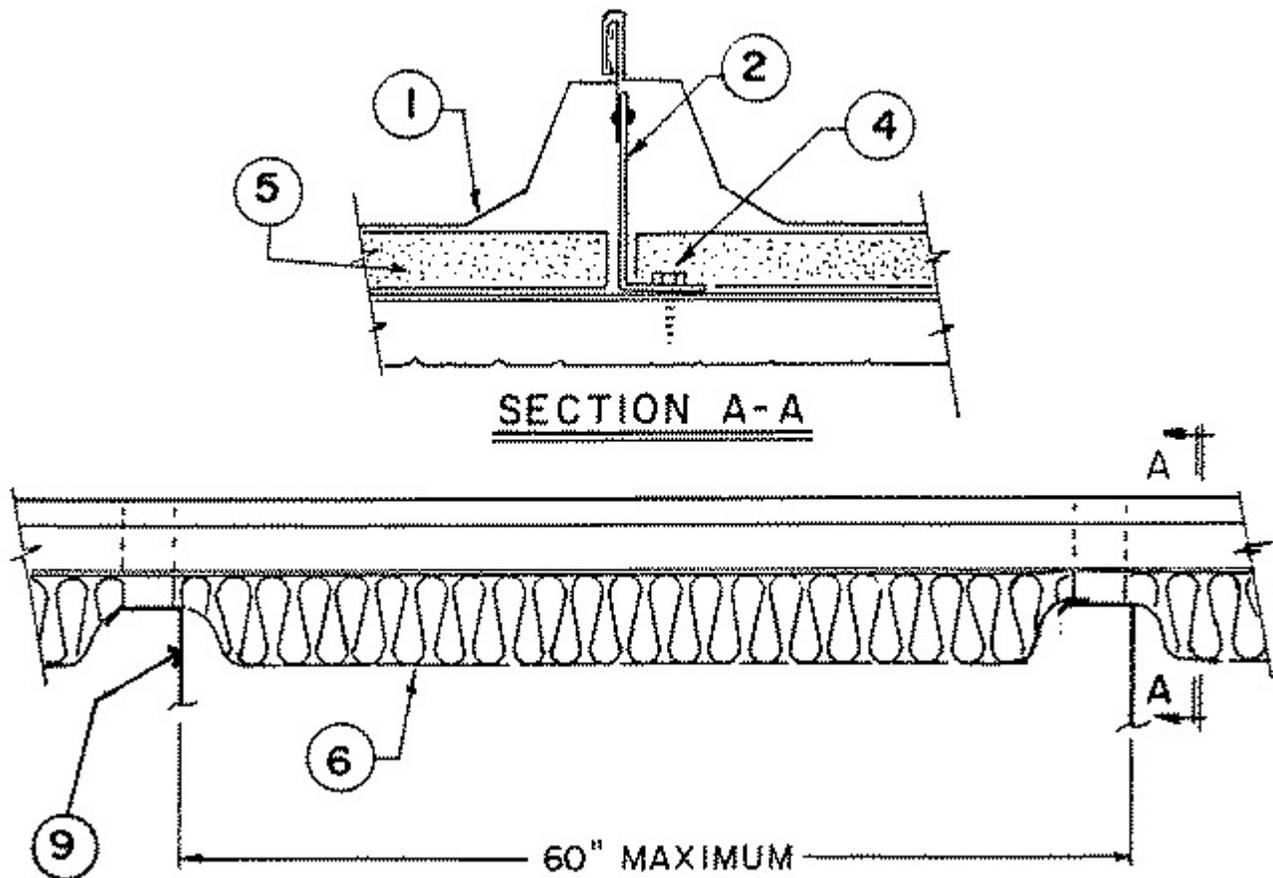
See General Information for Roof Deck Constructions

### **Construction No. 287**

November 20, 2018

**Wind Uplift — Class 90**

**Fire Not Investigated**



1. **Metal Roof Deck Panels\*** — 24 MSG min coated steel. Panels continuous over two or more spans. End laps to occur adjacent to purlin with panels overlapped 3 inches. A line of sealant may be used at panel ends and side laps. Adjacent panels to be seamed together along side using an electric seaming tool. Seaming operation to include panel clip tabs (Item 2).

**A & S BUILDING SYSTEMS L P** (View Classification) — "Double-Lok"

**B C STEEL BUILDINGS INC** (View Classification) — "BCL-MS"

**CENTRAL STATES MFG INC** (View Classification) — "Central-Seam Plus"

**CENTRAL TEXAS METAL ROLLFORMING INC** (View Classification) — "SPANLOC 300"

**CHIEF INDUSTRIES INC** (View Classification) — "MSC"

**CORLE BUILDING SYSTEMS INC** (View Classification) — "Corle Seam Lock"

**GOLDEN EMPIRE MFG INC, DBA GEM BUILDINGS** (View Classification) — "GEM Superior-24"

**KIRBY BUILDING SYSTEMS INC** (View Classification) — "KLM 2100"

**MBCI** (View Classification) — "Double-Lok"

**MESCO METAL BUILDINGS** (View Classification) — "Double-Lok"

**NCI BUILDING SYSTEMS L P** (View Classification) — "Double-Lok" or "Triple-Lok"

**PINNACLE STRUCTURES INC** (View Classification) — "PINNACLE D-LOK"

**SAN ANTONIO QUALITY METALS** (View Classification) — "ML-300 Trapezoidal"

**UNITED STRUCTURES OF AMERICA INC** (View Classification) — "Guardian-Lok"

**WHIRLWIND STEEL BUILDINGS INC** (View Classification) — "Super-Seam Plus"

2. **Roof Deck Fasteners\*** — (Panel Clips) — Articulating 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 (Item 5) 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 sides with guide holes in bottom to accommodate two screw fasteners (Item 4).

**BUILDING PRODUCTS DEVELOPMENT INC** (View Classification) — "NC34501", "NC34502", "NC34701", "NC34702"

**CHIEF INDUSTRIES INC** (View Classification) — "MSC Sliding Clip"

**GOLDEN EMPIRE MFG INC, DBA GEM BUILDINGS** (View Classification) — "GEM Low Superior Clip", "GEM High Superior Clip"

**KIRBY BUILDING SYSTEMS INC** (View Classification) — "Kirbylok 2000-MS Clip" or "Kirbylok 2000-MS Clip II"

**NCI BUILDING SYSTEMS L P** (View Classification) — "Double-Lok Articulating Clip" or "Double-Lok Floating Clip" or "Double-Lok Sliding Clip" or "Triple-Lok Sliding Clip" or "Double-Lok 2" Sliding Hi-Thermal Clip" or "Double-Lok 4" High and Low Sliding Clip".

3. **Building Units** — (Optional) — (Not shown) — Translucent, reinforced plastic panels. Nom thickness, 1/16 in., formed to the same configuration as the metal roof deck panels, with a metal reinforcement cut from a Classified metal roof deck panel ("Double-Lok "). Metal reinforcement attached to translucent, reinforced plastic side segments with aluminum pop rivets. Panels continuous over two spans.

**KIRBY BUILDING SYSTEMS INC** (View Classification) — "Kirbylok 2000-MS"

**NCI BUILDING SYSTEMS L P** (View Classification) — "Double-Lok Light Transmitting Panel"

4. **Fasteners** — (Screws) — Screws used to attach the panel clips to purlin to be two (2) 1/4-14 by 1-1/4 in. long, self-drilling, 5/8 in. hex-head, plated steel screws with a separate 5/8 in. OD neoprene washer. Screws used at end lap are to be 1/4-14 by 1 in. long with 3/8 in. hex-washer head and separate 5/8 in. neoprene steel washer. Five (5) fasteners are to be used in the flat section of the end lap panel with the first fastener located 3 in. from either rib, and then spaced in a 3-6-6-3 in. pattern. An additional fastener is to be located at the second slant segment of the rib on both sides of the end lap panel, and one additional fastener located at the first slanted segment on both sides of one rib. Fasteners used with alternate 16 MSG min thick coated steel upper section to be No. 14 by 1 in. long self-tapping fastener. First fastener located 3/8 in. from first slanted segment in a 4-5-1/2-5-1/2-4 in. pattern.

Screws used to fasten optional Light Transmitting Panel backing plate (Item 8) to be same type as those used at the panel end lap. Screws are located at second slanted segment adjacent to rib with three screws spaced 1-1/2 in. O.C. and at first slanted segment adjacent to rib with two screws spaced 3 in. O.C.

5. **Thermal Spacer** — (Optional) — Polystyrene, 1 in. maximum thickness 3 in. wide, cut to fit between panel clips.

6. **Insulation** — (Optional) — Any compressible blanket insulation, 6 in. max thickness before compression with 3/8 in. thermal spacers or 5 in. max thickness insulation before compression with max 1 in. thermal spacers when installed between thermal spacer (Item 5) and purlin (Item 9). Any compressible blanket insulation, 12 in. max thickness before compression, may be used when NCI Building Systems L P "Double-Lok 2" Sliding Hi-Thermal Clip" is used as a Roof Deck Fastener (Item 2).

7. **End-Lap Plate Assembly** — (Not shown) — Used at panel end laps consisting of a lower section, 5-5/8 in. wide, with a 1/8 in. leg and formed to the general profile of the panel and having four 1 in. wide by 3/4 in. long tabs for sliding over the end panel. Upper section to be 2 in. wide and also formed to the general profile of the panel. Upper section to have ribs formed with reinforcement. Both parts min 18 MSG coated steel. Alternate 16 MSG min thick coated steel upper section 1-1/2 in. wide formed to fit the general profile of the panel. Five 5/16 in. dia guide holes located in the flat area only.

7A. **End-Lap Assembly (Alternate) (Stud Plate and Cinch Strap) (Not Shown)** — As an alternate to End-Lap Plate Assembly (Items 7). Stud Plate (16 MSG Galv.) placed on top of purlin (Item 9) with the first stud located 1-31/32 in. from either rib and then spaced in a 4, 4-1/8, 2-3/8, 4-1/8, 4 in. pattern. Upper and Lower pre-punched metal roof deck panels (Item 1), with pre-cut tape sealer, to accommodate stud locations are positioned to receive Stud Plate. Cinch Strap (0.100 in. thick aluminum) placed over studs that penetrate both lower and upper panels. Flange nut, 1/4 in. dia., hand installed on each stud. Roof Deck Fastener (Panel Clip), Item 2, installed over male leg of panel at purlin location and secured as described in Fasteners (screws) (Item 4).

8. **Light Transmitting Panel Backing Plate (Optional)** — (Not shown) — Min 18 MSG coated steel, 4-7/8 in. wide with two vertical legs on both sides and formed to the configuration of metal roof deck panel (Item 1). Located over purlin and offers support to continuous segment building unit (Item 3).

8A. **Liner Panel** — (Optional) — (Not Shown) — No. 29 MSG minimal thickness coated steel, depth 1 in., width 36 in., sided overlapped one corrugation. Enlap width minimum 2 in., located over purlins.

9. **Purlin** — Min 16 MSG coated steel (55,000 psi min yield strength).

Refer to General Information, Roof Deck Construction, (Roofing Materials and Systems Directory) for Items Not Evaluated.

**\* 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 2018-11-20

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