

TGKX.308A - 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.

Roof Deck Constructions

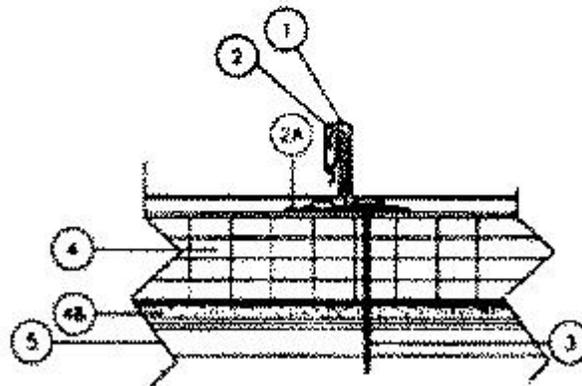
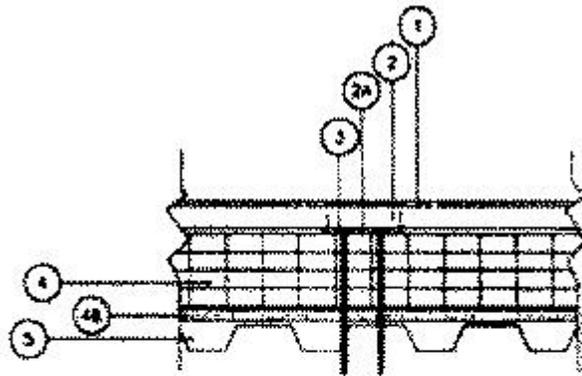
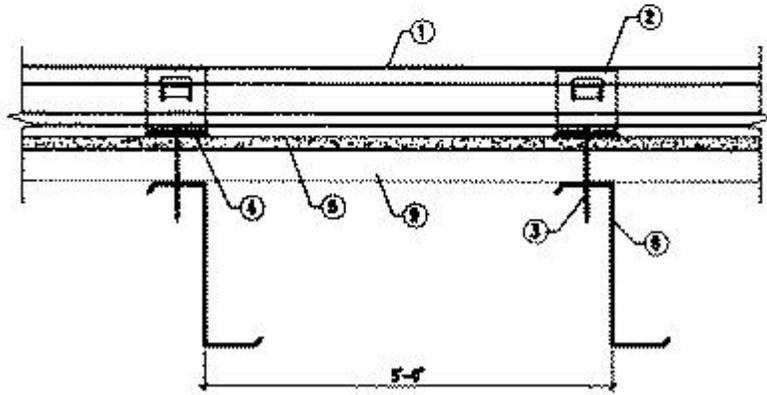
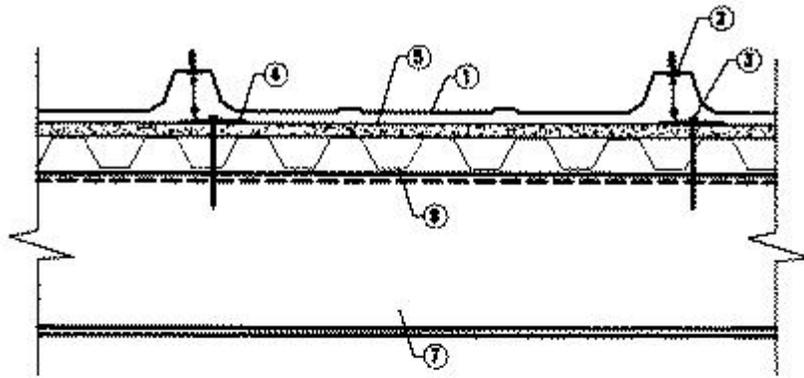
See General Information for Roof Deck Constructions

Construction No. 308A

March 19, 2015

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 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 3).

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

CHIEF INDUSTRIES INC (View Classification) — "MSC Sliding Clip", "STC 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. **Fasteners — (Screws)** — Fasteners used to attach panel clips and bearing plates (Item 2 and 4A) through rigid installation (or optional plywood or OSB when bearing plate not used) and into metal deck (Item 7) to be No. 14 type with Phillips head. Two screws per clip. Fastener length to be min 1/2 in. longer than total thickness of optional plywood or OSB substructure, insulation and metal deck (Item 7).

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 attach optional plywood substructure (Item 4) to metal deck (Item 7) to be No. 14 type with Phillips head. Fastener length to be min of 1/2 in. longer than total thickness of the plywood, insulation and metal deck. Spacing to be 6 in. O. C. at plywood or OSB ends and 12 in. O. C. at 2 ft, 0 in. pattern down length of plywood. (Total of 33 fasteners per 4 by 8 ft plywood sheet).

(Alternate — When bearing plates replace plywood or OSB). An optional No. 10 by 1 in. self-drilling fastener may be used to attach clip to the bearing plate when installer chooses to install rigid board insulation and use bearing plate to hold it in place until clips and panels are installed.

4. **Substructure (Plywood or OSB)** — (Optional) — (Not shown) — Plywood decking to be nom 1/2 in. thick, exposure sheathing span C-D 40/20 plywood or oriented strand board (OSB), nominal 7/16 in. thick, 4X8 ft . To be installed on top of rigid insulation (Item 6) max thickness 4 in. and in lieu of bearing plate (Item 4A).

4A. **Substructure (Bearing Plates)** — (Optional) — To be used in lieu of plywood or OSB (Item 4) with rigid insulation (Item 6) max thickness of 4.4 in. Bearing plates to be 16 MSG min coated steel. Located under each clip (Item 2) for support.

5. **Thermal Spacer** — (Optional) — (Not shown), — Polystyrene, 1 in. max thickness 3 in. wide, cut to fit between panel clips.

6. **Rigid Insulation** — (Optional) — Foamed plastic, min 1 in. thickness, max thickness 4 in. when plywood or OSB is used and 4.4 in. when bearing plates are used. Density to be a min 2 pcf.

6A. **Waterproof Membrane** — (Optional) (Not shown) Used to protect plywood or OSB (Item 4). Installed under panels (Item 1) .

6B. **Gypsum Board** — (Optional) (Not shown) Any 5/8 in. thick gypsum wallboard supplied in sheets 2 x 4 to 4 x 12 ft. Applied perpendicular to steel deck direction with adhesive. End joints to occur over crests of steel roof deck and to be staggered 2 ft. in adjacent rows. The total cumulative thickness of the rigid board (Item 6) and gypsum board may not exceed total thickness shown under Item 6.

6C. **Vapor Barrier** — (Optional) (Not shown) Installed on top of metal deck (Item 7) or on top of gypsum wallboard (Item 6B) if used. Minimum 6 mil plastic sheet.

7. **Metal Deck** — 22 MSG min thickness coated steel. Min depth 1-1/2 in. with ribs at 6 in. O. C. End lap to be 4 in. min and occur over purlin. Metal deck to be welded to purlin in every other low flute, except for the end laps which are welded in every low flute.

8. **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. diam guide holes located in the flat area only.

8A. **End-Lap Assembly (Alternate) (Stud Plate and Cinch Strap) (Not Shown)** — As an alternate to End-Lap Plate Assembly (Item 8). 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 3).

9. **Purlin** — Min 14 MSG 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 2015-03-19

The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL's Follow-Up Service. Always look for the Mark on the product.

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