

# TGKX.309 – 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

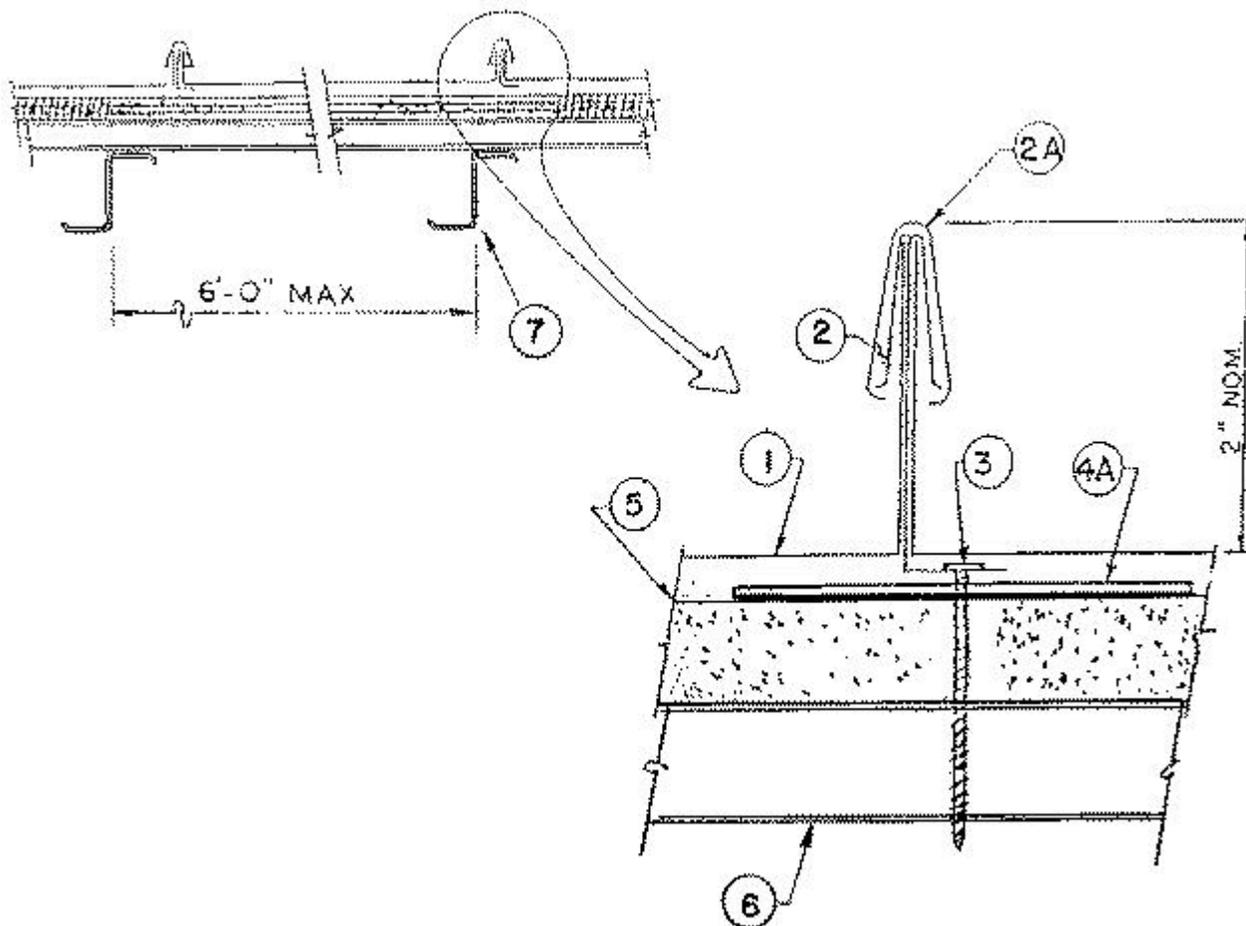
See General Information for Roof Deck Constructions

### **Construction No. 309**

November 21, 2005

**Uplift — Class 90**

**Fire Not Investigated**



1. **Metal Roof Deck Panels\*** — 24 MSG min coated steel. Max panel width 16-1/2 in. and rib height 1-7/8 in. Endlaps to occur adjacent to supports with panels overlapped 4 in. min.

**CENTRAL TEXAS METAL ROLLFORMING INC** (View Classification) — "BATTLOC 200"

**MBCI** (View Classification) — "Craftsman Series HB".

**NCI BUILDING SYSTEMS L P** (View Classification) — "Craftsman Series HB"

**BEACON SALES ACQUISITION INC, DBA COASTAL METAL SERVICE** (View Classification) — "Classic Batten".

1A. **Metal Roof Deck Panels\* (Battens)** — Battens covering panel ribs and clips to be 3/8 in. wide and 7/8 in. high, formed from same type and thickness material as that used to fabricate metal panels (Item 1).

**MBCI** (View Classification) — "Small Batten".

**NCI BUILDING SYSTEMS L P** (View Classification) — "Small Batten"

2. **Roof Deck Fasteners\* (Panel Clips)** — One piece clip, 1-7/8 in. high, 1 in. wide by 2 in. long. Clips are spaced max 24 in. OC and located at panel sides. Guide holes in bottom of clip to accommodate screw fasteners (Item 4).

**NCI BUILDING SYSTEMS L P** (View Classification) — "HB Clip".

**BEACON SALES ACQUISITION INC, DBA COASTAL METAL SERVICE** (View Classification) — "Classic Batten Clip".

3. **Fasteners (Screws)** — Screws used to attach plywood or OSB substructure (Item 4) to metal deck 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. OC at plywood or OSB ends and 12 in. OC at 2 ft 0 in. pattern down length of plywood. (Total of 33 fasteners per 4 by 8 ft plywood sheet).

Screws used to attach panel clips to plywood or OSB to be No. 10 by 1 in. long pancake head wood screw with No. 2 Phillips head size. One screw per clip.

(Alternate — When bearing plates replace plywood or OSB ). Screws used to attach panel clips through bearing plate into metal deck to be No. 14 type with Phillips head. Fastener length to be min of 1/2 in. longer than the total thickness of the insulation and metal deck. One per clip. 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. **Plywood or OSB** — (Optional) — (Not shown).

Min APA Rated plywood, exposure sheathing span C-D 40/20, nominal 1/2 in. thick or oriented strand board (OSB), nominal 7/16 in. thick, 4 x 8 ft. Sheets to be installed on top of Rigid Insulation (Item 5) in lieu of bearing plates (Item 4A ) to be used with rigid insulation (Item 5) max thickness 4 in.

4A. **Substructure** — Bearing Plates (Optional) — To be used in lieu of plywood or OSB (Item 4) with rigid insulation (Item 5) up to a max thickness of 6 in. Bearing plates to be 16 MSG min coated steel. Located under each clip (Item 2) for support.

5. **Rigid Insulation** — (Optional) — Foamed plastic, max thickness 4 in. when plywood or OSB (Item 4) is used 6 in. when bearing plates (Item 4A) are used. Compressive strength to be 2 PCF.

5A. **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 be staggered 2 ft. in adjacent rows. The total cumulative thickness of the rigid board (Item 5) and gypsum board may not exceed total thickness shown under Item 5.

5B. **Waterproof Membrane** — (Optional) (Not Shown) — Used to protect plywood or OSB (Item 4). Installed under panels (Item 1).

5C. **Vapor Barrier** — (Optional)(Not Shown) — Installed on top of metal deck (Item 6) or on top of gypsum wallboard (Item 5A) if used. Minimum 6 mil plastic sheet.

6. **Metal Deck** — 22 MSG min thickness coated steel. Min depth 1-1/2 in. with ribs at 6 in. OC. 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 end laps which are welded in every low flute.

7. **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 2005-11-21

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