

# TGKX.451 - 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

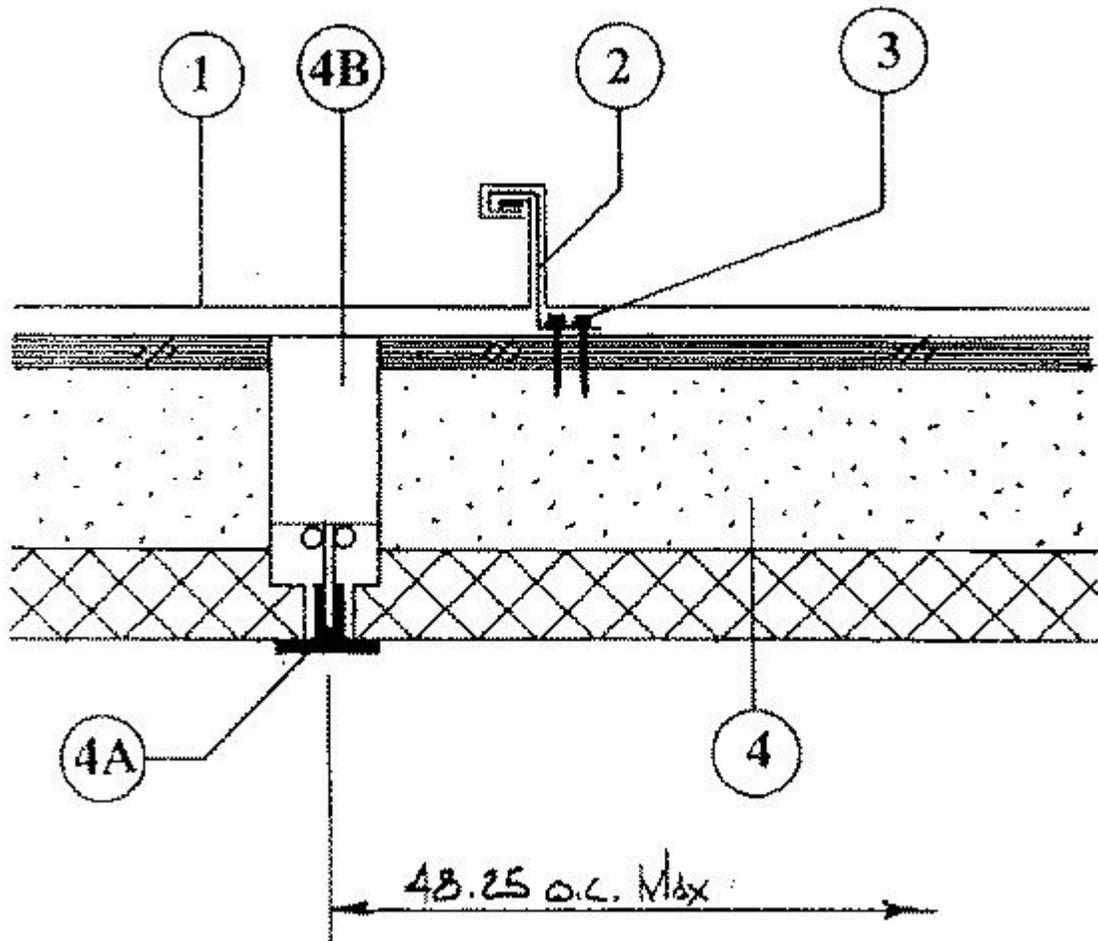
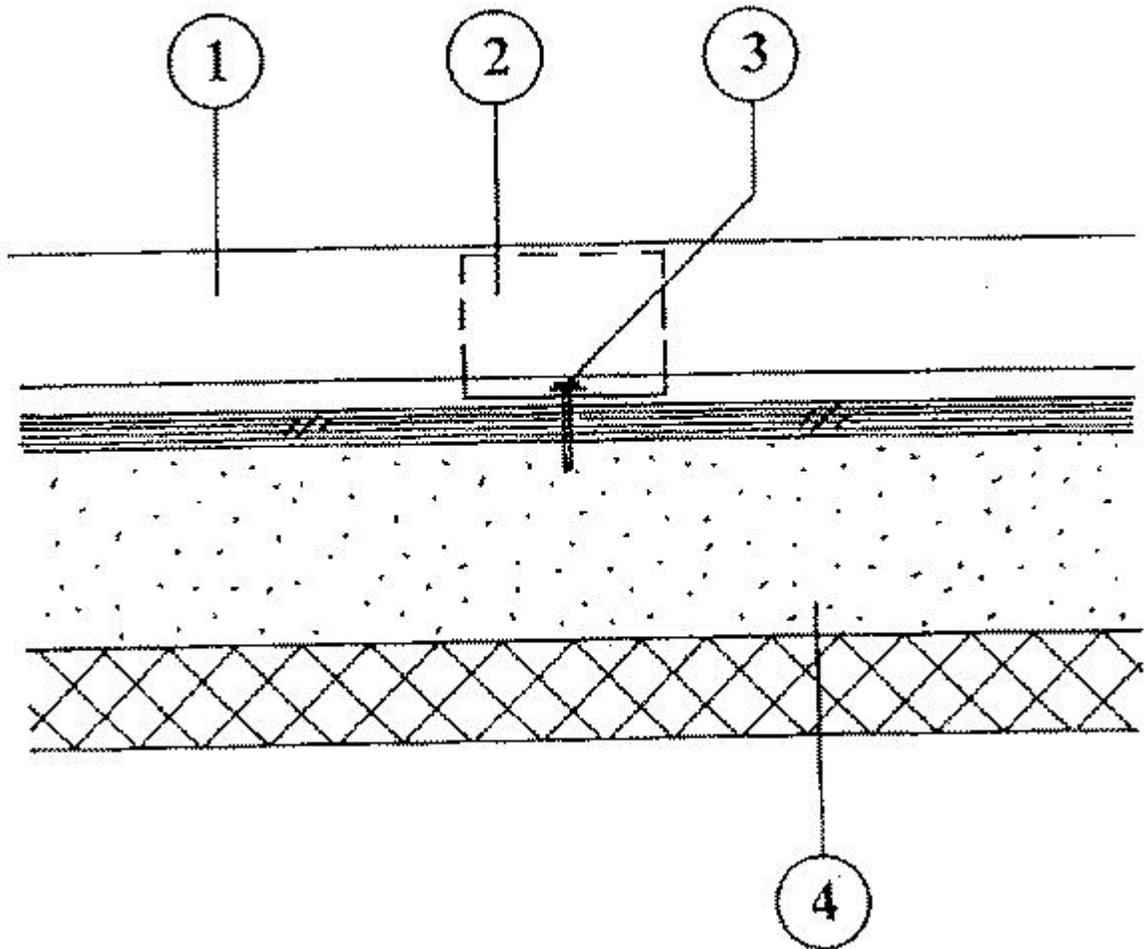
See General Information for Roof Deck Constructions

### **Construction No. 451**

June 28, 2016

**Uplift — Class 90**

**Fire Not Investigated**



1. **Metal Roof Deck Panels\*** — 24 MSG minimum coated steel. Maximum panel width 16 in., and rib height 2 in. Panels continuous over two or more spans. Endlaps to occur with panels overlapped 6 in. A bead of sealant may be used at panel ends and side joints. Side laps to be tightened and crimped with an electric crimping machine to a maximum 45 degree angle unless indicated in the individual panels in this item. Crimping process to include the upper portion of panel clips (Item 2).

**A & S BUILDING SYSTEMS L P** (View Classification) — "BattenLok", "BattenLok HS" or "SuperLok"

**AMERICAN BUILDINGS CO** (View Classification) — "Loc-Seam" (90° Seam), "Loc-Seam 360" (180° Seam)

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

**CENTRIA, A DIVISION OF NCI GROUP, INC** (View Classification) — "SDP 200-12" or "SDP 200-16"

**MBCI** (View Classification) — "BattenLok", "BattenLok HS" or "SuperLok"

**MCELROY METAL MILL INC** (View Classification) — "ABC JSM 200"

**MESCO METAL BUILDINGS** (View Classification) — "BattenLok", "BattenLok HS" or "SuperLok"

**NCI BUILDING SYSTEMS L P** (View Classification) — "BattenLok", "BattenLok HS" or "SuperLok"

**NUCOR BUILDING SYSTEMS, DIV OF NUCOR CORP** (View Classification) — VR16 II "Vice Lock" or VR16II "Vise Lock 360"

**PETERSEN ALUMINUM CORP** (View Classification) — "Tite-Loc" and "Tite-Loc Plus"

**PINNACLE STRUCTURES INC** (View Classification) — "PINNACLE BATTENLOK" and "PINNACLE SUPERLOK"

**ROLLFAB METAL BUILDING PRODUCTS** (View Classification) — "MS-200HP/90" and "MS-200HP/180"

**SAN ANTONIO QUALITY METALS** (View Classification) — "ML-200"

**TAYLOR METAL INC, DBA TAYLOR METAL PRODUCTS** (View Classification) — "MS200"

**TREMCO INC** (View Classification) — "TremLock VP Series II"

**UNITED STRUCTURES OF AMERICA INC** (View Classification) — "Sure-Lok" or "Supreme-Lok"

2. **Roof Deck Fasteners\* (Panel Clips)** — Either of the following: Fixed Clip — One piece clip assembly fabricated from No. 22 MSG minimum steel, 3 in. wide. Floating Clip — two piece assembly with a base fabricated from No. 16 MSG minimum steel, 1 in. wide, and a top fabricated from No. 22 MSG steel, 4 in. wide. Clip spacing 24 in. OC maximum.

**BUILDING PRODUCTS DEVELOPMENT INC** (View Classification) — "NC3300", "NCF-3300", "NCF-3300-SS" Series Clip

**NCI BUILDING SYSTEMS L P** (View Classification) — "BattenLok High or Low, Fixed or Floating Clip"; "BattenLok Utility Clip" — "SuperLok High or Low, Fixed or Floating Clip"; "SuperLok Utility Clip".

2A. **Roof Deck Fasteners\* (Panel Clips)** — (Not Shown) Used with "Tite-Loc" or "Tite-Loc Plus" Panels.

One piece assembly, 3 in. wide, approximately 2 in. high with two or three guide holes in base. Fabricated from No. 22 MSG coated steel.

**PETERSEN ALUMINUM CORP** (View Classification) — "Tite-Loc Utility Clip", "Tite-Loc Plus Utility Clip"

One piece assembly; 3 in. wide, approximately 2-3/8 in. or 3 in. high, with three guide holes in base. Fabricated from No. 22 MSG coated steel.

**PETERSEN ALUMINUM CORP** (View Classification) — "Tite-Loc Low/High Fixed Clip", "Tite-Loc Plus Low/High Fixed Clip"

Two piece assembly; base approximately 2 in. wide, 1-11/16 in. long formed to engage upper tab. Fabricated from No. 16 MSG coated steel. Tab approximately 4-5/16 in. wide; 2-3/8 in. or 2-7/8 in. high, formed to engage base. Fabricated from No. 22 MSG coated steel. Base to have two guide holes.

**PETERSEN ALUMINUM CORP** (View Classification) — "Tite-Loc Sliding Clip", "Tite-Loc Plus Sliding Clip", "Tite-Loc AR Fixed Clip" and "Tite-Loc AR Sliding Clip", "Tite-Loc Plus AR Fixed Clip" and "Tite-Loc Plus AR Sliding Clip".

3. **Fasteners (Screws)** — Screws used to attach the panel clips (Item 2) to substructure (Item 4) to be 1/4 in. -14x1-1/4 in. Type A, hex washer head, without washer. Two screws per clip.

Screws used at endlap (high system only) to be one of the following: 14x1 in. Type AB, Hex Washer Head self-tapping; 14x1 in. Hex Washer Head, self-drilling; 14x1 in. Type AB Phillips Stainless Steel, self-tapping. Five screws per panel in a 1, 3, 4, 4, 3 in. pattern.

Fasteners used to attach Tectum deck (Item 4) to structural support (Item 7) to be minimum 6 in. long, No. 14 screw with 5/8 in. diameter head. Fasteners are spaced a maximum of 12 in. OC at each joist along butt end. Predrilling with a 3/16 in. bit for steel up to 1/8 in. thick or with a 7/32 in. bit for steel greater than 1/8 in. thick when required.

4. **Structural Cement-Fiber Unit\* (Substructure)** — Consists of a minimum 5 in. thick composite structural cement-fiber units with foamed plastic core of a minimum 0.95 PCF density expanded polystyrene and 7/16 in OSB structural use panels on one face. All transverse butt joints are to occur over structural support. Unit will be designated as plank (tongue and groove) when used without truss tees (Item 4A). Unit will be designated as tile (rabbetted) when used with truss tees.

**TECTUM INC** (View Classification) — "Type E"

4A. **Truss Tee** — (Optional) Minimum size to be 5-6-17-2. Maximum spacing to be 48-1/4 in. OC. Tees to be welded to structural support (Item 7) with a 3/4 in. fillet weld on both sides of tee.

4B. **Tectum Grout** — (Optional) Used with truss tee (Item 4A) and tile (rabbetted) type substructure (Item 4). Grout to fill void between substructure tiles around and above truss tee.

4C. **Structural Cement-Fiber Unit\* (Substructure)** — (Not Shown) (May be used in lieu of Item 4) Consists of a minimum 5 in. thick composite structural cement-fiber units with foamed plastic core of a minimum 1.5 PCF density expanded polystyrene 7/16 in OSB structural use panels on one face. All transverse butt joints are to occur over structural support. Unit will be designated as plank (tongue and groove) when used without truss tees (Item 4A). Unit will be designated as tile (rabbetted) when used with truss tees.

**TECTUM INC** (View Classification) — "Type III"

5. **Endlap Back-Up Plate — (High system only)** — (Not Shown) Used at panel endlaps, 16 MSG minimum coated steel, width of back-up plate to correspond to width of panel. Provided with two 1 in. wide by 1 in. long tabs for sliding over end of panel.

6. **Thermal Spacer** — (Optional) (Not Shown) Polystyrene 1 in. maximum thickness; 3 in. wide by 15-7/8 in. long.

7. **Structural Support** — Size and spacing to depend on design considerations.

Refer to General Information, Roof Deck Construction, (Roofing Materials & 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.**

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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