TGKX.352 - ROOF DECK CONSTRUCTIONS

Roof Deck Constructions

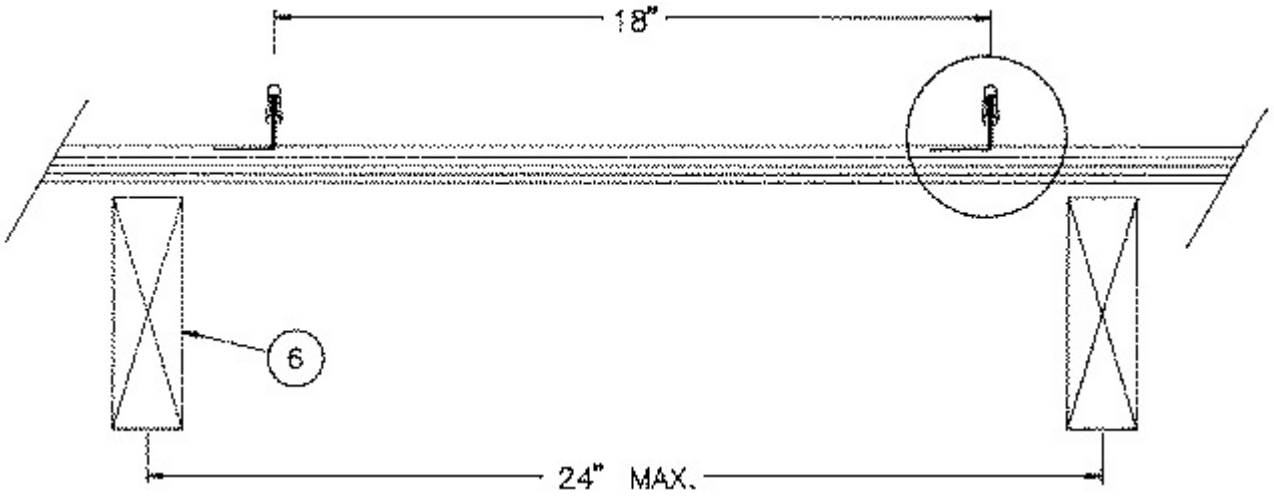
See General Information for Roof Deck Constructions

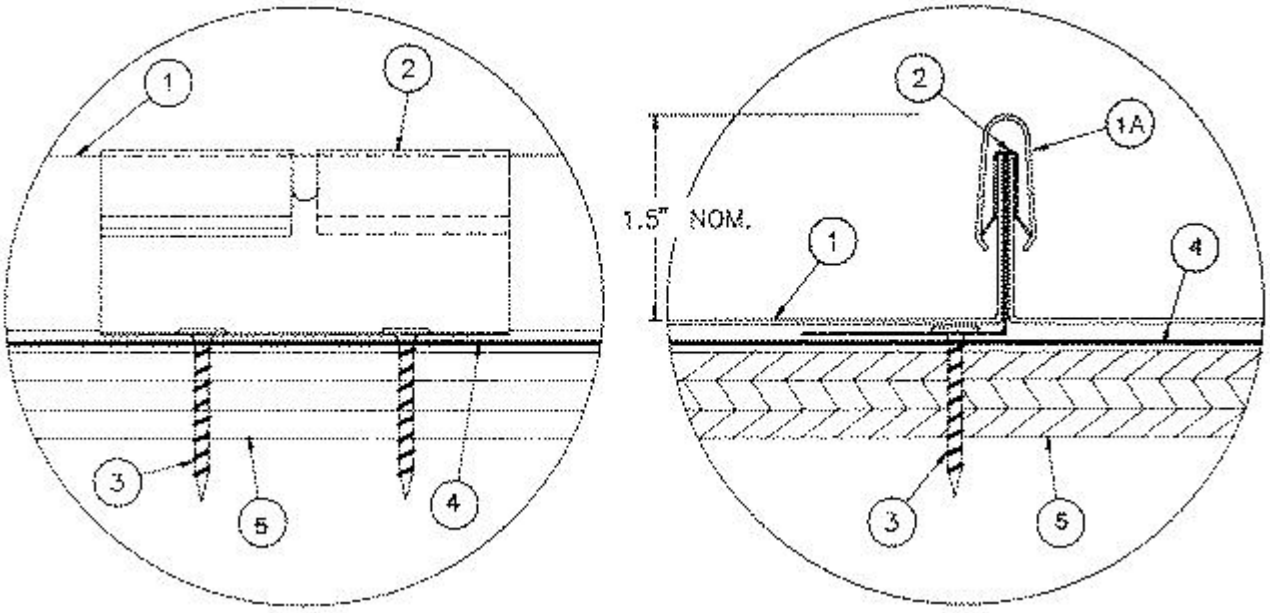
Construction No. 352

July 19, 2010

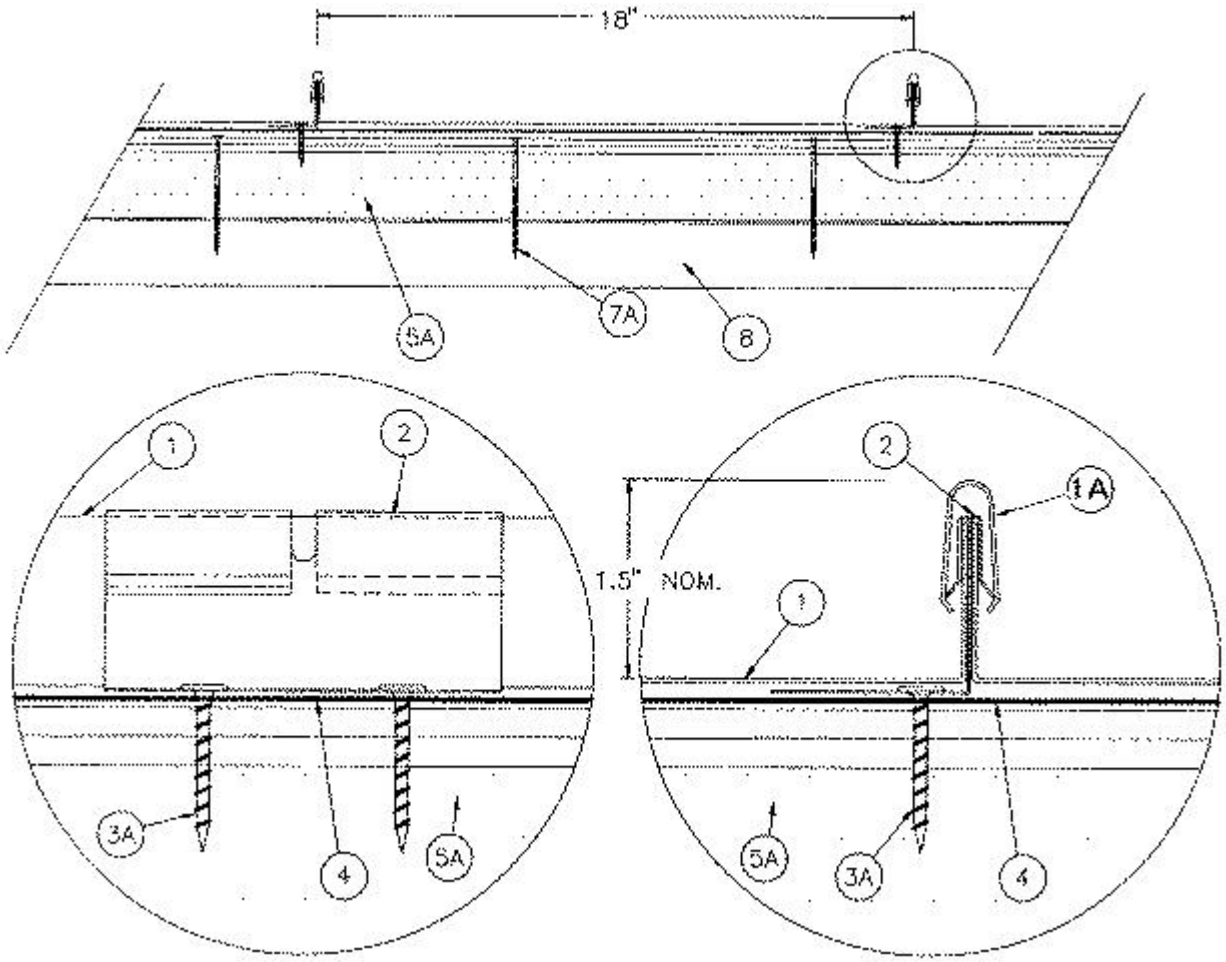
Uplift — Class 90

Fire Not Investigated





Alternate Construction



1. **Metal Roof Deck Panels* —** No. 24 MSG min coated steel panels, 18 in. wide, 1-1/2 in. high at ribs. Panels continuous over three or more clips with no endlaps. A bead of sealant may be used at panel side joints.
PETERSEN ALUMINUM CORP (View Classification) — "High Snap-On Standing Seam-18 in." , "High Snap-On Standing Seam-12 in."

CENTRAL TEXAS METAL ROLLFORMING INC (View Classification) — "BATTLOC 150"

METAL SALES MANUFACTURING CORPORATION (View Classification) — "Mini-Batten 1-1/2 in. Panel"

1A. **Panel Battens* —** No. 24 MSG min coated steel. "U" shaped, 1 in. high formed to snap over panel clips (Item 2).
PETERSEN ALUMINUM CORP (View Classification) — "High Snap-On Standing Seam Cap"

2. **Roof Deck Fasteners* (Panel Clips) —** One piece assembly, 2-1/2 in. wide, 1-5/16 in. high. Min thickness No. 26 MSG. Clips spaced 18 in. OC fastened to plywood deck.
PETERSEN ALUMINUM CORP (View Classification) — "High Snap-On Clip"

3. **Fasteners (Screws) —** Fasteners used to attach panel clips (Item 2) to plywood to be No. 10 by 1-1/4 in. long bugle-head coated steel wood screws with a No. 2 Phillips drive. Min two fasteners per clip to be used.

3A. **Fasteners (Screws) —** Fasteners used to attach panel clip (Item 2) to Nailable Insulation (Item 5A) to be No. 8-8 by 1-1/4 in. long bugle-head coated steel wood screws with a No. 2 Phillips drive. Minimum two fasteners per clip to be used.

4. **Underlayment —** Underlayment used over plywood deck to be type 30 organic felt. Sides overlapped min 2 in., end laps per manufacturer's instructions. Felt nailed to plywood deck with 1 in. long galv steel roofing nails, located per manufacturer's instructions. Nail spacing to be max 12 in. OC at the side lap and max 24 in. OC in interior rows.

5. **Plywood Decking —** Plywood decking to be graded per PS83 specification, 19/32 in. thick, exposure 1, APA Rated 20 in. OC, square edged. Butt ends not blocked.

5A. **Nailable Insulation —** Consisting of 1 in. min to 3-1/2 in. maximum nominal thickness Classified Polysisocyanurate foamed plastic with a factory laminated 7/16 in. thick APA rated O.S.B. Density of foamed plastic to be 2 pcf.

6. **Supports —** Spaced maximum of 24 in. OC. Any of the following types may be used to support the plywood decking:

a) 2 by 6 in. minimum No. 2 grade A.F.P.A. S-P-F Hemlock Fir, Douglas Fir, Douglas Fir or Southern Pine or equivalent.

b) Wood trusses with a nominal 2 by 4 in. upper chord of the same grade as Item a.

c) No. 22 MSG min cold formed coated steel (min yield to be 33,000 psi).

6A. **Supports (Purlins) —** Not Shown — Purlins used for liner panel support to be cold formed steel sections. As alternatives, structural steel components (hot rolled beams, channels, open web joists, etc.) may be used. Min gauge and yield to depend on design considerations for uplift loading. Max spacing to depend on design considerations for uplift loading.

7. **Plywood Fasteners —** Fasteners used to attach the plywood deck to the supports to be as follows:

a) For plywood-to-wood supports No. 8-18 by 1-7/8 in. long bugle-head steel screws with a No. 2 Phillips drive, a "Hi-Low" thread pattern and an "S-Point" .

b) As an alternate to Item a, 8d by 2-1/2 in. long deformed shank common nails may be used.

c) For plywood-to-steel supports for a steel thickness less than No. 20 MSG No. 7-19 by 1-1/4 in. long bugle head steel screws with a No. 2 Phillips head drive "Hi-Low" threads and an "S=Point" . For a steel thickness greater than No. 2 20 MSG to No. 16 MSG, No. 6-20 by 1-1/4 in. long bugle-head steel screws with a No. 2 Phillips drive and an S12 (TEKS/3)® point. Spacing: Fastener spacing for all fastener types to be 6 in. OC at the plywood edges and 12 in. OC in the interior.

7A. **Fasteners (Screws) —** Fasteners used to attach nailable insulation to steel deck (Item 8) to be No. 11-13, No. 3 Phillips drive, truss head, painted steel screws. Length to depend on overall thickness of deck and to penetrate steel deck 1/2 in. min. A 2 in. diameter formed pressure plate fabricated from No. 22 MSG coated steel to be used with each screw. Fasteners located in three rows along the 8 ft. length of the nailable insulation beginning 6 in. from the 8 ft. edges with a row down the center and spaced 21 in. beginning 6 in. from the 4 ft. edges OC. A total of 15 fasteners used for each 4 by 8 ft board.

8. **Liner Panel (Steel Deck) —** No. 22 MSG min thickness coated steel. Min depth 1-1/2 in. max pitch 6 in. fabricated to various profiles. Min yield strength 33,000 psi. Fastened to supports (Item 6A) with fastener type and spacing per liner panel manufacturers instructions for uplift loading.

9. **Gypsum Board (Optional) —** Not shown — Max thickness 5/8 in. supplied in 4 by 8 ft sheets. Butt joints located over crests of steel deck. Fastened to deck with same fasteners used for nailable insulation.
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 2010-07-19