

TGKX.435 - 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.
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- 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

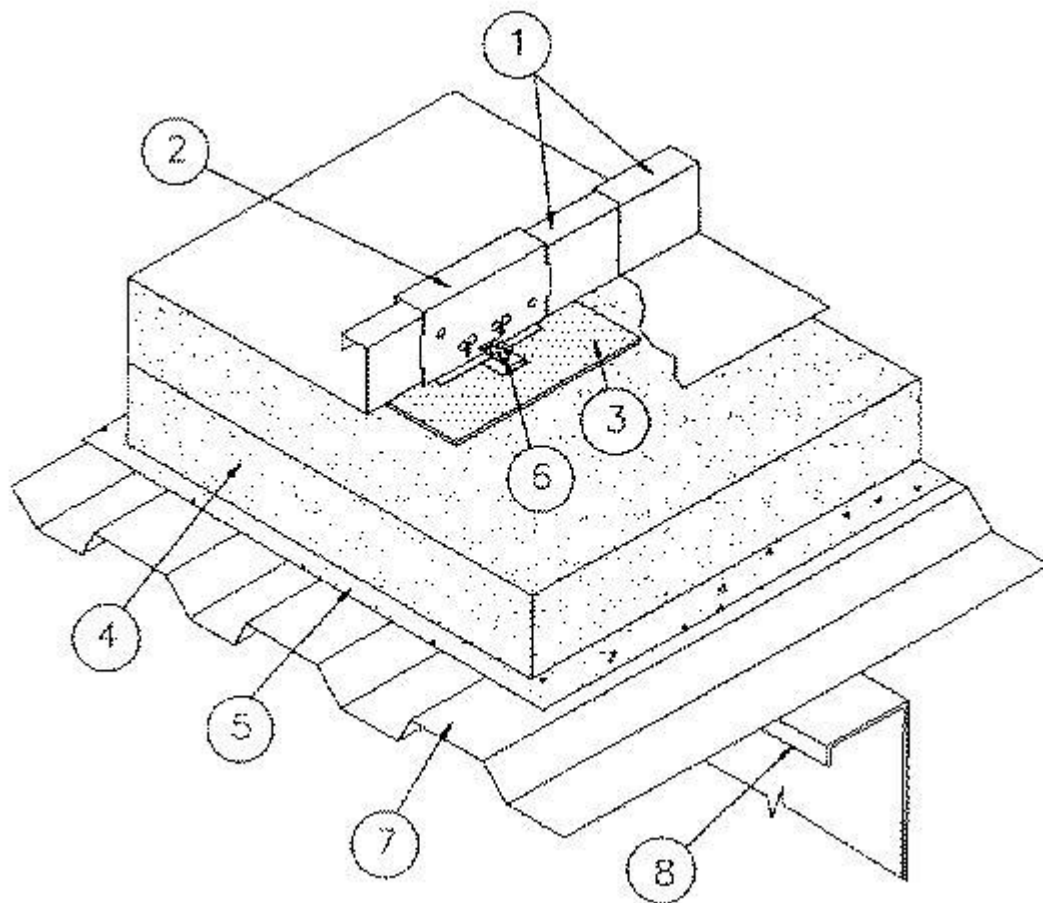
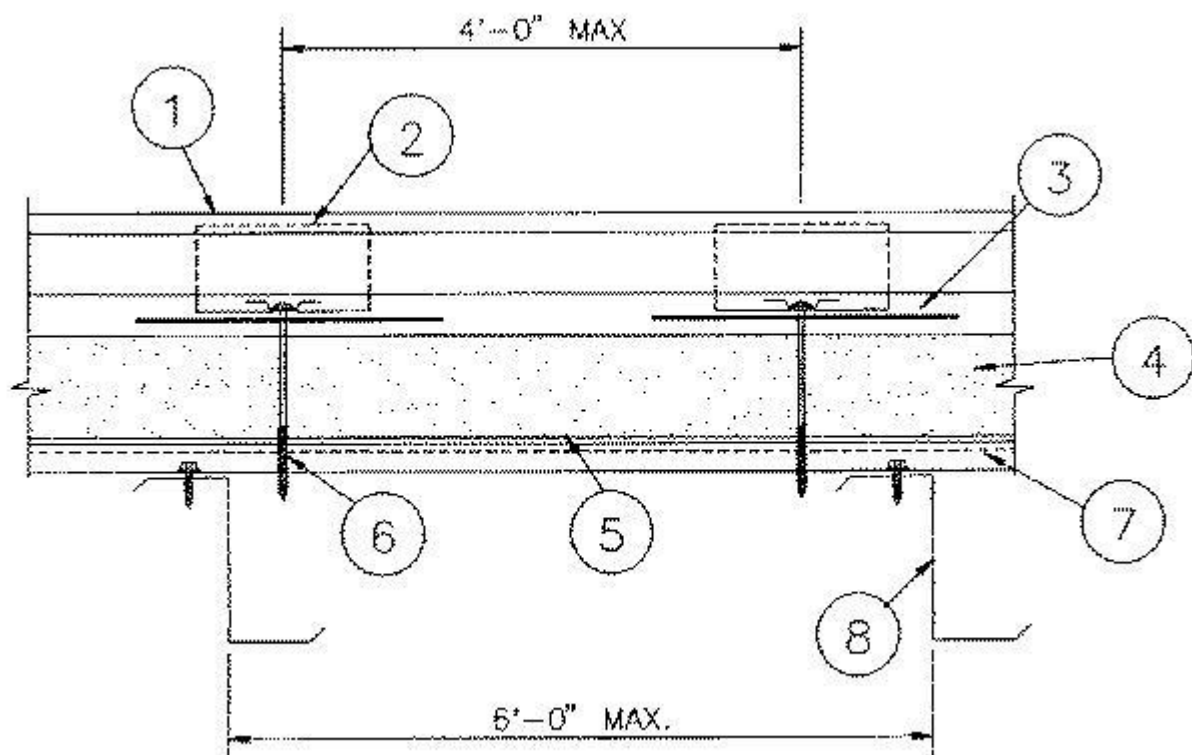
[See General Information for Roof Deck Constructions](#)

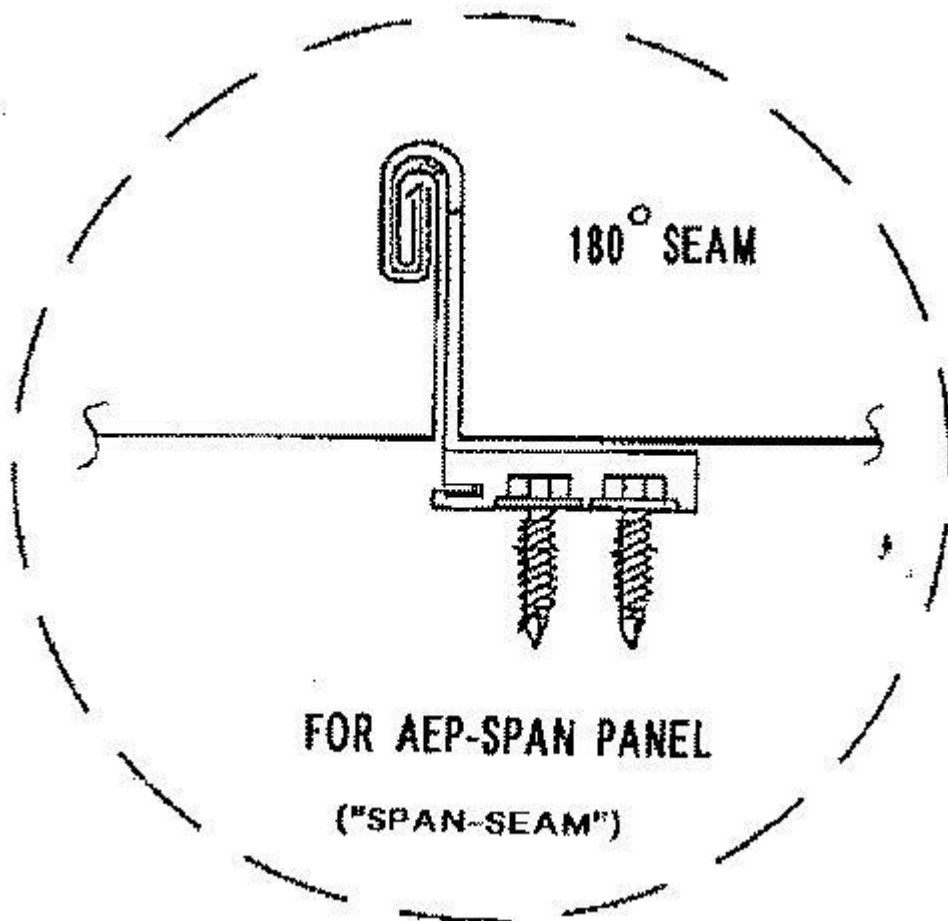
Construction No. 435

August 12, 2019

Uplift — Class 90

Fire Not Investigated





1. Metal Roof Deck Panels* — No. 24 MSG minimum coated steel; 16 in. wide, 2 in. high at female rib. Panels continuous over two or more spans. End laps to occur near purlin supports with end lap back-up-plate (Item 2A) slipped under lower panel, resting on purlin and with a 5 in. lap on up slope side of panel. Up slope panel to have swedged end. Sealant may be used at end lap and side ribs. Adjacent panels seamed with an electric seamer with seaminimumg operation to include the upper tab of the panel clip (Item 2).

AEP SPAN, DIV OF ASC PROFILES ([View Classification](#)). — "Span-Lok" or "Span-Lok HP" (90° Seam) or "SpanSeam" (180° Seam)

AMERICAN BUILDINGS CO ([View Classification](#)). — "Loc-Seam," (90° Seam), "Loc-Seam 360" (180° Seam)

BUTLER MANUFACTURING, DIV OF BLUESCOPE BUILDINGS NORTH AMERICA INC ([View Classification](#)). — "VSR11"

CUSTOM-BILT METALS ([View Classification](#)). — CB-2000

METAL ROOFING SYSTEMS INC ([View Classification](#)). — "MRS System 2500"

NUCOR BUILDING SYSTEMS, DIV OF NUCOR CORP ([View Classification](#)). — "VR16 II-90" or "VR16 II-360"

ROLLFAB METAL BUILDING PRODUCTS ([View Classification](#)). — "MS-200HP/90" and "MS-200HP/180"

TAYLOR METAL INC, DBA TAYLOR METAL PRODUCTS ([View Classification](#)). — "MS200"

VARCO PRUDEN BUILDINGS, DIV OF BLUESCOPE BUILDINGS NORTH AMERICA INC ([View Classification](#)). — "SLR II"

2. **Roof Deck Fasteners* (Panel Clips)** — Two part assembly; base 1-11/16 in. wide, length 1-5/8 in. Fabricated from No. 16 MSG minimum steel and formed to engage lower section of tab. Tab 4-1/4 in. wide and 3-3/8 in. high formed to engage clip base and panel rib. Fabricated from No. 22 MSG minimum coated steel. Spaced maximum of 48 in. OC.

AEP SPAN, DIV OF ASC PROFILES ([View Classification](#)) — "SL-2.5 in. Standard Clip"

BUTLER MANUFACTURING, DIV OF BLUESCOPE BUILDINGS NORTH AMERICA INC ([View Classification](#)) — "VSR11 2.5 Clip"

VARCO PRUDEN BUILDINGS, DIV OF BLUESCOPE BUILDINGS NORTH AMERICA INC ([View Classification](#)) — "SLR11 2.5 Clip"

2A. **Roof Deck Fasteners* (Back-Up Plates)** — (Not shown) — No. 16 MSG minimum coated steel, length 10-1/2 in., width 15-3/4 in. Slipped under lower panel at end-lap. Panels fastened together at end-lap using four No. 1/4-14 by 21-1/8 in. long self-drilling, self-tapping, hex-washer-head, plated steel screws with a 5/8 in. OD steel washer and a sealing washer. Screws spaced 4 in. OC beginning 2 in. from ribs.

2B. **Roof Deck Fasteners (Panel Clips)** — (Not Shown) — No. 24 MSG minimum gauge coated steel with a separately formed base fabricated of No. 18 MSG minimum gauge coated steel. One clip to be used per panel at each purlin.

AMERICAN BUILDINGS CO ([View Classification](#)) — "LSBC-1" or "Loc-Seam Expansion Clip"

NUCOR BUILDING SYSTEMS, DIV OF NUCOR CORP ([View Classification](#)) — "NBS VR16 II BC", "NBS VR16 II Sliding " or "NBS VR16 II MD".

3. **Bearing Plate** — No. 24 MSG minimum coated steel, 4-5/8 in. wide, 6 in. long. Located under each panel clip (Item 2 and 2B) over rigid insulation (Item 4).

AEP SPAN, DIV OF ASC PROFILES — "SL Bearing Plate"

4. **Rigid Insulation** — (Optional) — Any foamed plastic Classified by UL under the Foamed Plastic (TJBX) product category. maximum thickness 4 in.

5. **Vapor Retarder** — One ply 30 lb felt.

6. **Fasteners (Screws)** — Fasteners used to attach panel clips (Item 2) to liner panels (Item 7) to be No. 14-13, No. 3 Phillips drive, truss head, painted steel screws. Length to penetrate liner panel minimum. 1/2 in. Two screws used per clip.

7. **Liner Panel** — Fabricated from No. 22 MSG minimum coated steel; 1-1/2 in. deep, maximum pitch 6 in. (minimum yield strength 33,000 psi). Liner panels attached to structural supports with screws or welds per liner panel manufacturer's instructions for uplift loading.

8. **Supports (Purlins)** — Purlins used for liner panel supports to be cold formed sections or structural steel components (hot-rolled beams, channels, open web joists, etc.). minimum gauge and yield to depend on design considerations for uplift loading. maximum spacing 6 ft, 0 in. OC.

Refer to General Information, Roof Deck Constructions (On-Line Certification 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 2019-08-12

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TGKX.451 - Roof Deck Constructions

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Roof Deck Constructions

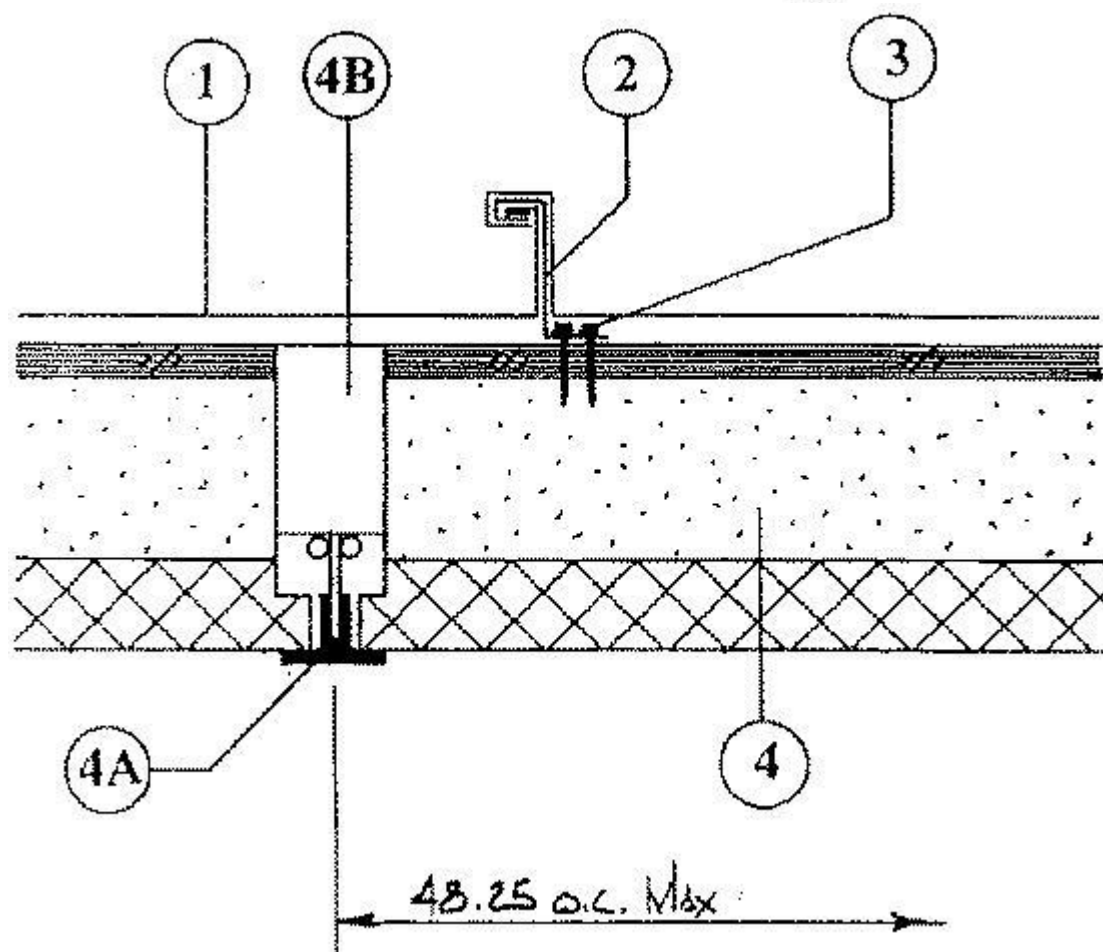
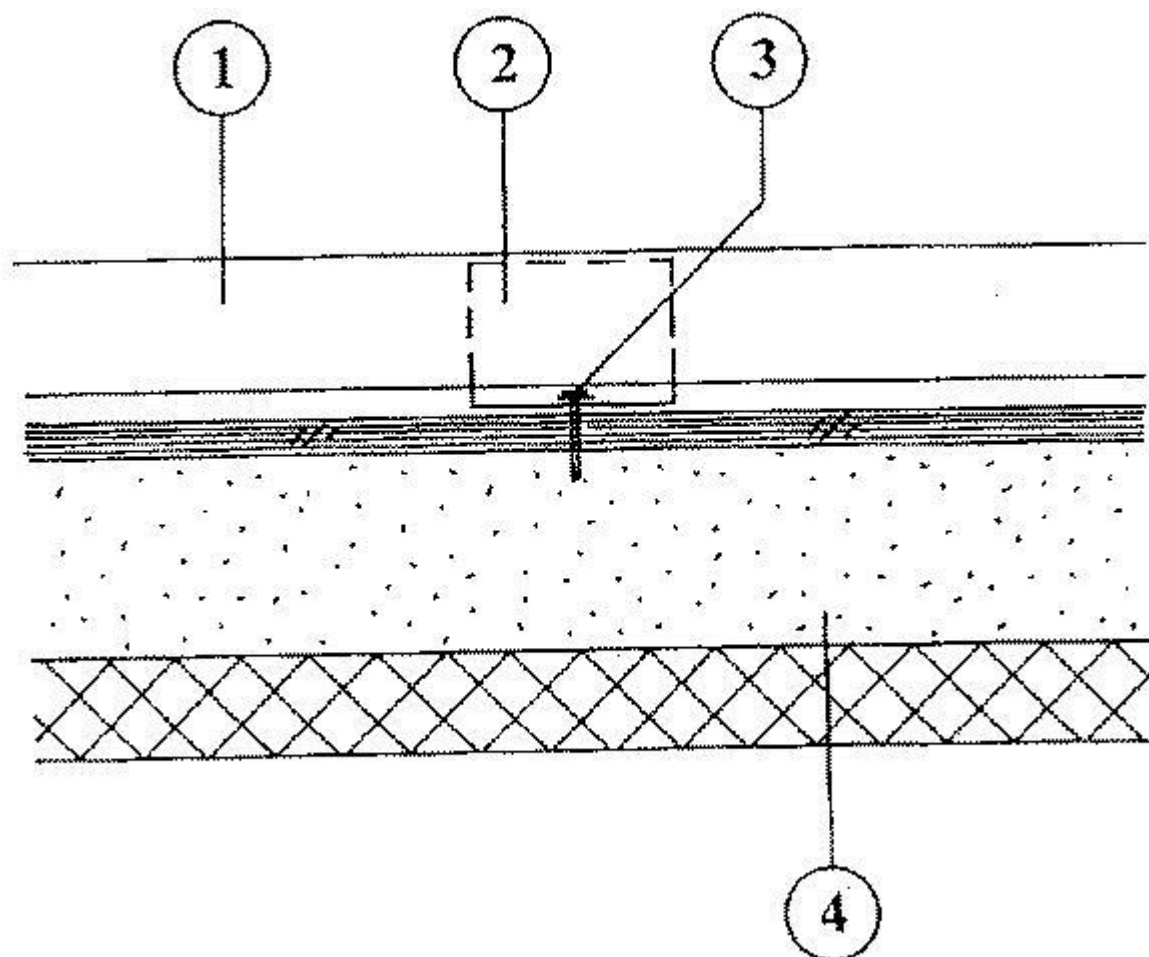
[See General Information for Roof Deck Constructions](#)

Construction No. 451

December 05, 2019

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"

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.

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respectively.

Last Updated on 2019-12-05

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TGKX.487 - Roof Deck Constructions

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Roof Deck Constructions

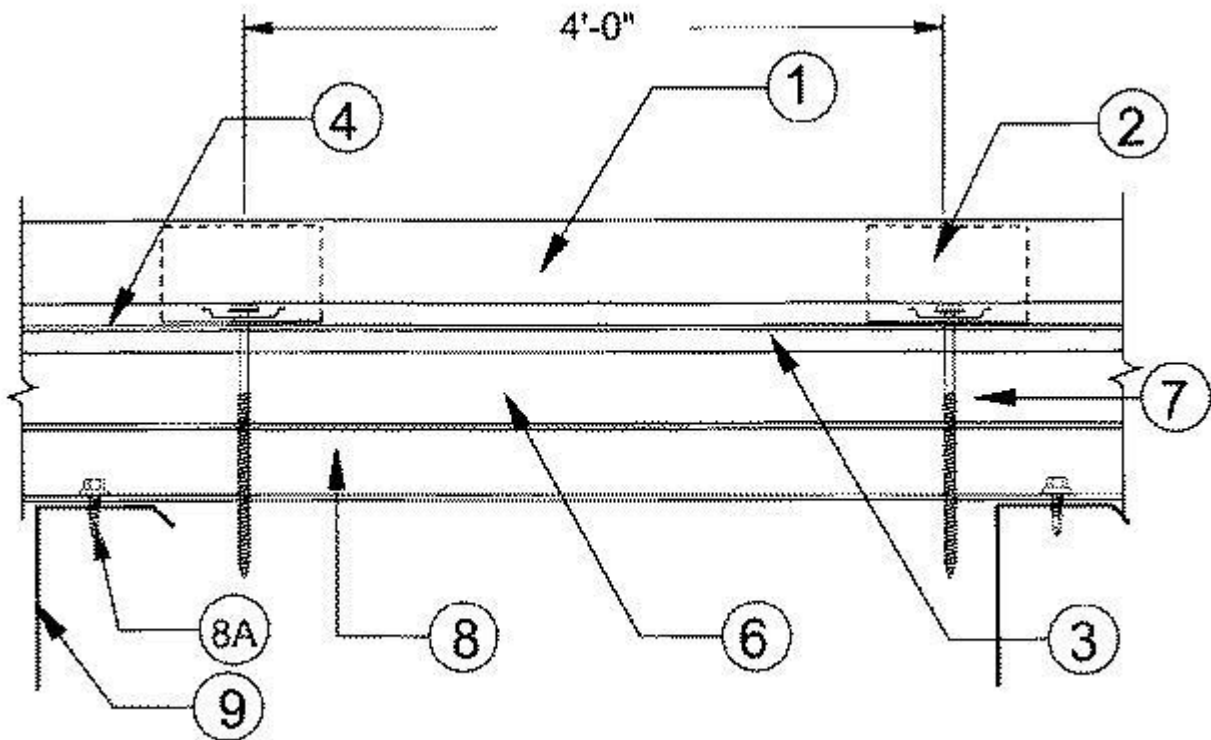
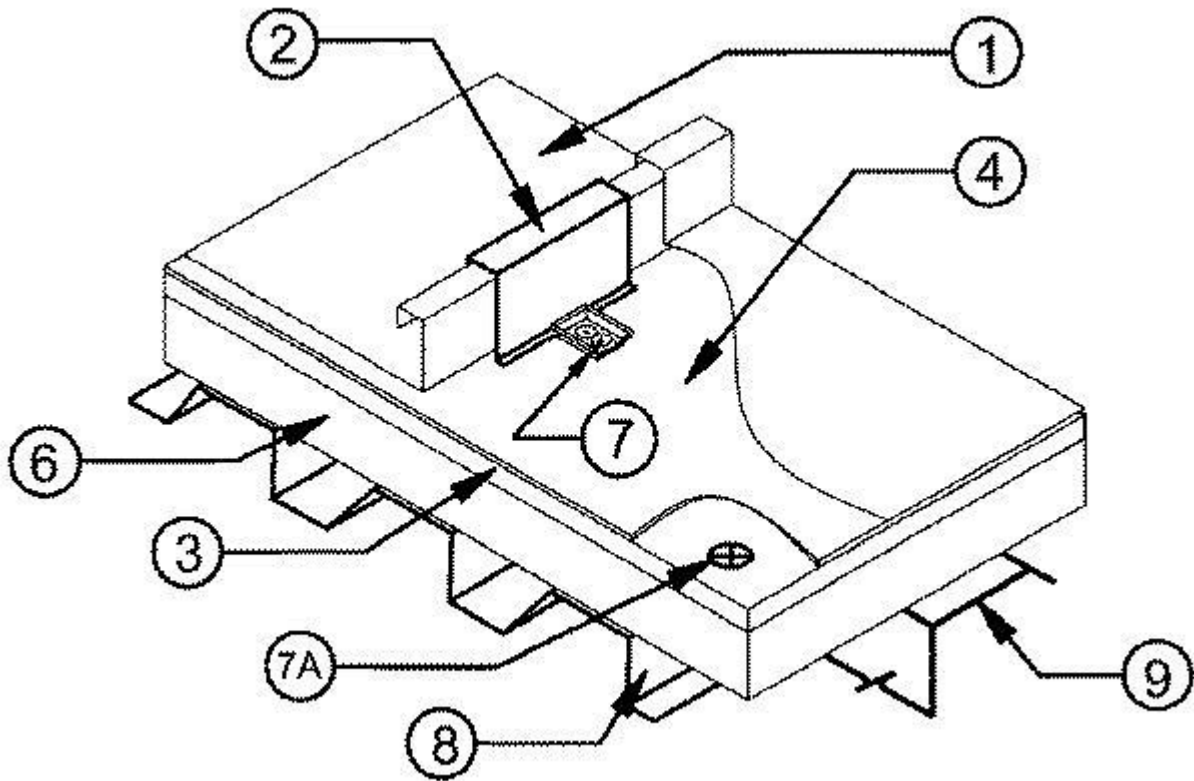
[See General Information for Roof Deck Constructions](#)

Construction No. 487

October 27, 2020

Uplift — Class 90

Fire Not Investigated



1. **Metal Roof Deck Panels*** — No. 24 MSG min coated steel, 16 in. max width. Panels continuous over two or more spans. Endlaps to occur adjacent to purlin with panels overlapped 6 in. and to include endlap back-up plate (Item 2A). A line of sealant may be used at panel ends and sidelaps. Sidelap to be tightened and crimped with an electric seaming machine to an angle of 45 degree maximum unless indicated in the individual panels in this item. Crimping process to include the upper portion of the panel clip (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"

CHIEF INDUSTRIES INC ([View Classification](#)) — "MVF" or "MVP"

MBCI ([View Classification](#)) — "BattenLok", "BattenLok HS" or "SuperLok"

MESCO METAL BUILDINGS ([View Classification](#)) — "BattenLok", "BattenLok HS" or "SuperLok"

METAL ROOFING SYSTEMS INC ([View Classification](#)) — "MRS System 2500"

METAL SALES MANUFACTURING CORPORATION ([View Classification](#)) — T-Span or "T-Span 180" (180° Seam)

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

NUCOR BUILDING SYSTEMS, DIV OF NUCOR CORP ([View Classification](#)) — "VR16 II-90" or "VR16 II-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"

2. Roof Deck Fasteners* — To be either of the following: Fixed Clip - one piece assembly fabricated from No. 22 MSG coated steel, 3 in wide. Floating Clips - Two piece assembly with a base fabricated from No. 16 MSG min coated steel, 1-5/8 in. wide, and a top fabricated from No. 22 MSG min coated steel, 4-1/2 in. wide. Utility Clip — one piece assembly fabricated from No. 22 MSG coated steel, 3 in. wide. Clip spacing to be 4 ft, 0 in. O.C. 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. Endlap Back-Up Plate — (Not Shown) — No. 16 MSG min coated steel. 15-1/2 in. wide with two 1 in. wide by 3/4 in. long tabs for sliding over end of panels.

2B. Roof Deck Fasteners* — (Panels) — (Not Shown) — Two part assembly; A base fabricated from No. 16 MSG min coated steel and upper tab fabricated from No. 22 MSG min coated steel. Clips fastened to purlins using two fasteners per clip. See Item No. 3 for description of fasteners.

METAL SALES MANUFACTURING CORPORATION ([View Classification](#)) — "T-Span"

2C. 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. Gypsum Board*(Mineral Board) — Min thickness 1/2 in. Opposite side edges have a tongue and groove configuration. Butt (end) joints to be staggered and occur over steel deck crests. Wallboard installed perpendicular to steel deck corrugations.

GEORGIA-PACIFIC GYPSUM L L C ([View Classification](#)) — 1/2-in. or 5/8-in. thick "DensDeck® Roofboard", "DensDeck DuraGuard™ Roofboard" or "DensDeck Prime® Roofboard" or 5/8-in. thick "DensDeck® Fireguard® Roofboard" or "DensDeck Prime® Fireguard® Roofboard", "DensDeck DuraGuard® Fireguard® Roofboard" or "DensDeck Prime® STORMX™ Roofboard"

LOADMASTER SYSTEMS INC ([View Classification](#)) — "Duraflex Mineral Board"

4. Vapor Barrier — Single ply used between the wallboard (Item 3) and the metal roof deck panels (Item 1).

5. Joint Tape — (Not Shown) — 2-1/2 in. wide tape supplied by manufacturer to be used at all wallboard joints.

6. Foamed Plastic (Rigid Insulation) — (Optional) — Expanded polystyrene or polyisocyanurate supplied in 4 by 8 ft sheets, min thickness 13/16 in. min density 1.0 pcf. All end joints to be staggered with respect to adjacent rows. All joints to be offset from joints in mineral board (Item 3).

7. Fasteners — Screws used to fasten panel clips (Item 2) to steel deck (Item 8) to be No. 14 Truss head with No. 3 Phillips drive. Length to be min 1/2 in. longer than thickness of wallboard, rigid insulation and metal deck. Two screws per clip. Fasteners used at endlaps to be one of the following: 14x1 in. Type AB self-tapper; 14x1-1/4 in. Hex washer head self-driller; 14x1 Type AB Phillips stainless steel self-tapper.

7A. Fasteners — For attaching in wallboard to steel deck to be min 0.140 in diam threaded shank Phillips, bugle or trumpet head, self-drilling, self-tapping, corrosion resistance coated steel screws supplied by manufacturer. Screws are installed into top corrugations of steel deck through nom 3 by 3 in. corrosion resistant steel roof deck plates, spaced in a pattern as determined by the pitch of the steel deck with a min of 21 fasteners per 4 by 8 ft sheet (Item 3).

8. Steel Deck — Fabricated to various profiles, min yield strength 33,000 psi. Steel deck profile, thickness, support spacing and method of positioning (end and side laps) and fastening deck to supports to be per deck manufacturers requirements for uplift loading.

8A. **Deck Fasteners** — Steel deck panels to be fastened to structural supports and at laps using puddle welds with weld washers or screw fasteners per deck manufactures requirements for uplift loading.

9. **Purlins** — 16 MSG min coated steel, min yield strength 50,000 psi or Type H open web joists.
Refer to General Information, Roof Deck Constructions for Items Not Evaluated.

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Last Updated on 2020-10-27

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TGKX.567 - Roof Deck Constructions

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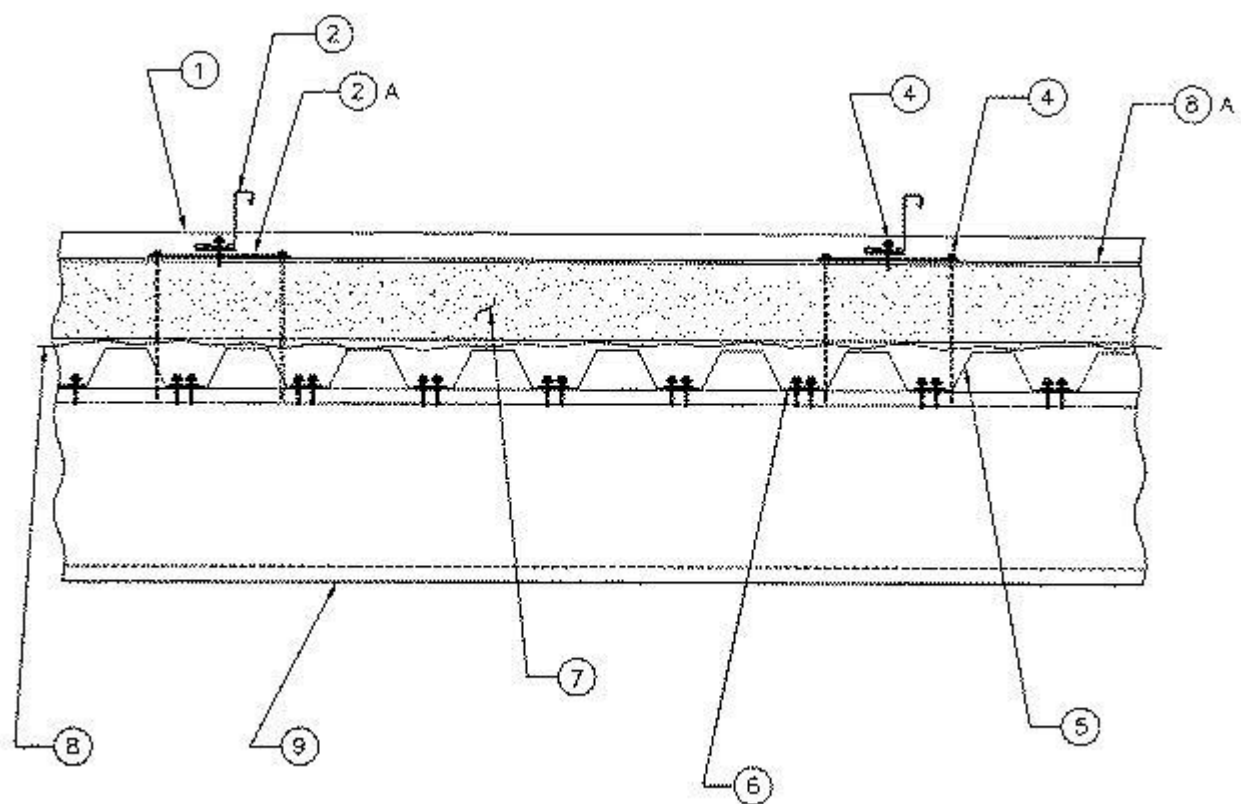
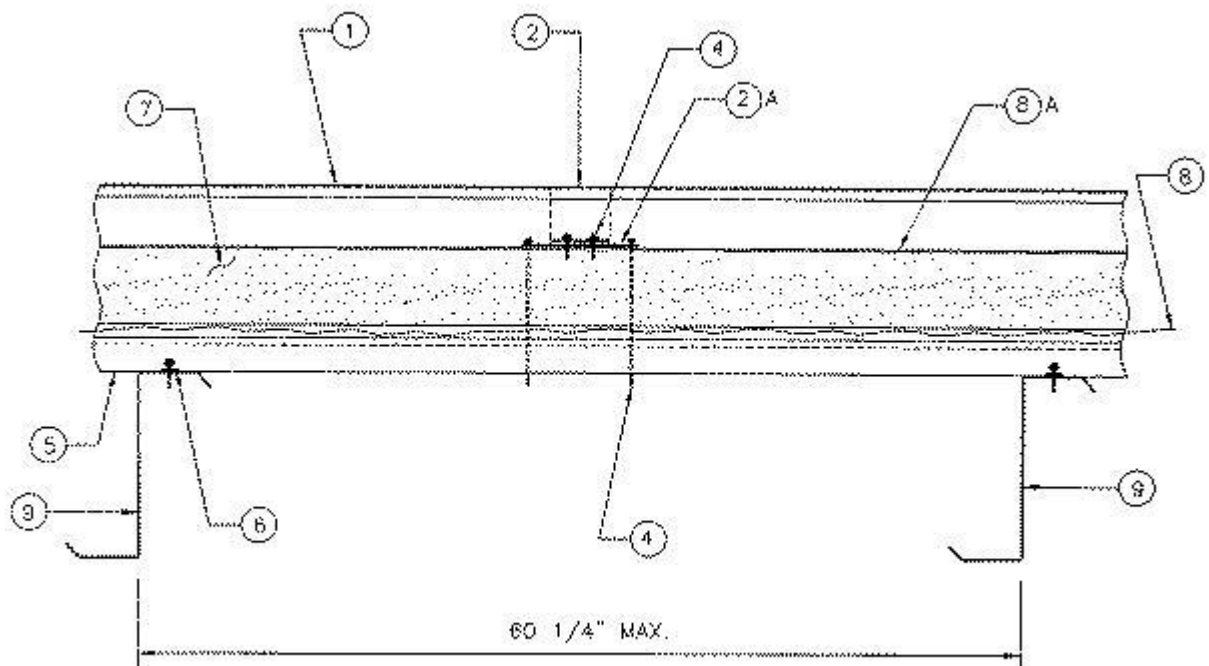
[See General Information for Roof Deck Constructions](#)

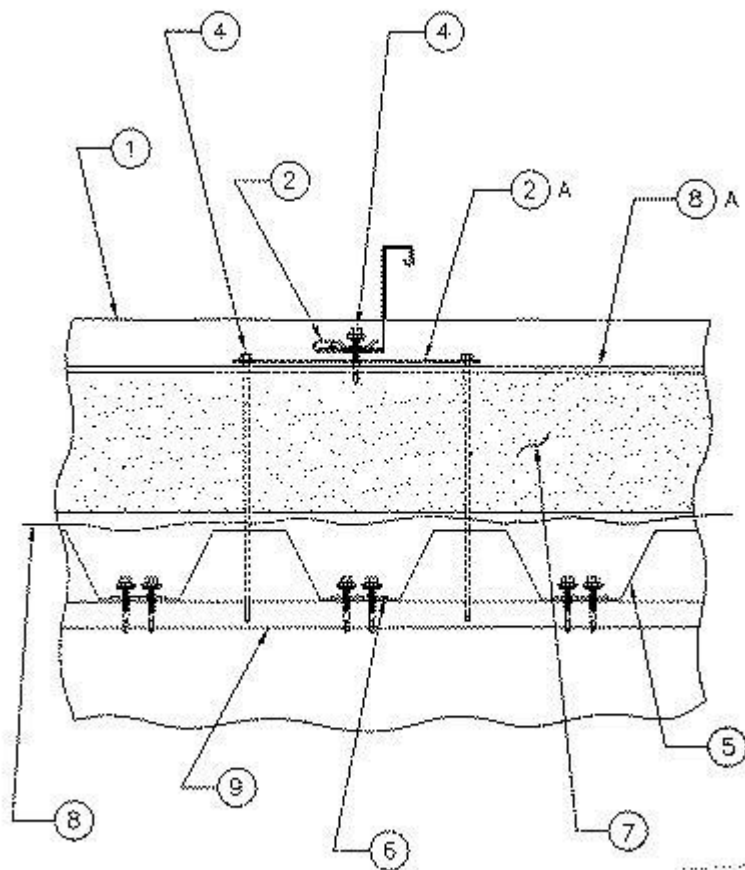
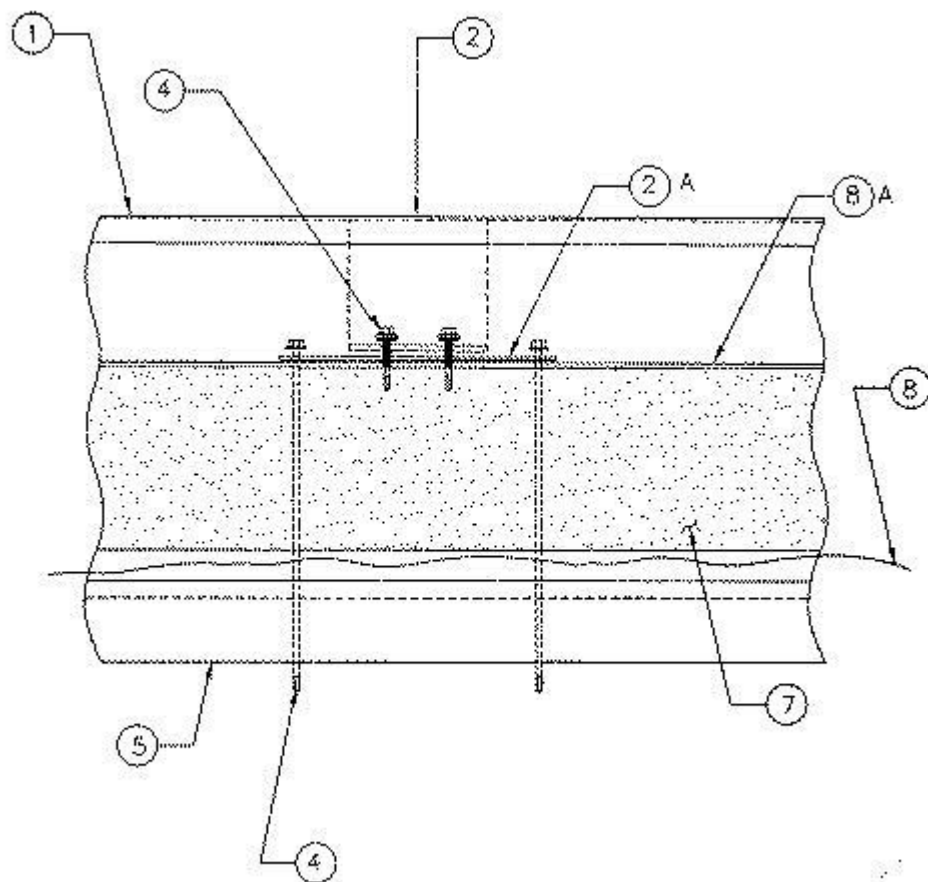
Construction No. 567

August 12, 2019

Uplift — Class 90

Fire Not Investigated





1. **Metal Roof Deck Panels*** — 24 MSG minimum gauge steel. Panels continuous over two or more spans. End lap to occur near panel clip location and to include end lap backing plate (Item 3). Panels shall be overlapped 6 in. Side laps to be tightened and crimped with a special motorized crimping machine. Crimping process to include tabs of panel clips (Item 2). A line of sealant may be used at panel end laps and side joints.

AMERICAN BUILDINGS CO ([View Classification](#)) — "Loc-Seam," (90° Seam) , "Loc-Seam 360." (180° Seam)

NUCOR BUILDING SYSTEMS, DIV OF NUCOR CORP ([View Classification](#)) — "VR16 II-90" or "VR16 II-360"

2. **Roof Deck Fasteners* (Panel Clips)** — 24 MSG minimum gauge coated steel with a separately formed base fabricated of 18 MSG minimum gauge coated steel. Clips spaced 60 in. on center along length of panel ribs. Clips to be fastened to bearing plate (Item 2A).

AMERICAN BUILDINGS CO ([View Classification](#)) — "Loc-Seam Expansion Clip"

NUCOR BUILDING SYSTEMS, DIV OF NUCOR CORP ([View Classification](#)) — "NBS VR16 II Sliding " or "NBS VR16 II MD".

SUPERIOR METAL SYSTEMS INC ([View Classification](#)) — SMS-24SSC

2A. **Panels Clip Bearing Plate** — Located under each Roof Deck Fastener (Item 2). Fabricated from No. 16 MSG minimum gauge steel (50,000 psi minimum yield strength).

3. **End Lap Backing Plate** — Backing plate shall be fabricated from 0.051 in. thick coated steel. End lap plate to be 12-1/2 in. long and approximately the full panel width.

4. **Fasteners (Screws)** — Fasteners used to attach bearing plates (Item 2A) to the liner panels (Item 5) to be No. 12 by minimum 3-3/4 in. long self-drilling, self-tapping, hex-head or Phillips head screws. Four screws to be used for each bearing plate.

Fasteners used to attach roof deck fasteners (panel clips) (Item No. 2) to bearing plate (Item 2A) to be No. 12-14 by 1-1/4 in. long self-drilling, self-tapping, hex-head steel screws. Two screws to be used for each panel clip.

Fasteners used to attach liner panel to the supports shall be No. 12-14 by 1-1/4 in. self-drilling, self-tapping, hex-head, plated steel screws with a separate 9/16 in. diameter metal backed sealing washer. Two fasteners to be used at each support with fasteners located in every valley. Fasteners used at liner panel side laps to be the same as liner panel screws and spaced 20 in. OC.

Fasteners used at panel end laps to be No. 12-14 by 1-1/4 in. long self-drilling, self-tapping, hex-head screws with 1/2 in. O.D. metal backed sealing washers. Spacing to be 1, 3-1/4, 3-1/8, 3-3/4, 2-3/4, 1-7/8 in. pattern.

5. **Liner Panel** — The liner panel to be minimum 1-1/2 in. deep, Type A, B, F or N deck, fabricated from 22 MSG minimum steel. Yield strength to be minimum 33,000 psi. Liner panel to be fastened to support with screws as indicated under Item No. 4 or with welds and weld washers of type indicated by manufacturer of liner panel. Welds to be located in every valley.

6. **Fasteners Reinforcement** — The reinforcements used with the screws attaching the liner panels to be 0.125 in. thick and to have an area of approximately 2-in.².

7. **Foamed Plastic (Rigig Insulation)** — Supplied in 4 ft wide sheets. minimum thickness to be 1 in. Density to be minimum 2.0 lbs/ft.³.

8. **Vapor Barrier (Optional)** — Used between the liner panel and the formed plastic. Barrier to be a 6 mil thick plastic sheeting.

8A. **Underlayment (Optional)** — Used over foam plastic (rigit insulation) to be Type 30 organic felt.

9. **Purlins (Supports)** — 18 MSG minimum gauge steel (minimum yield strength 50,000 psi) or minimum Type H open web joists.

Refer to general information, Roof Deck Construction (On-Line Certification 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 2019-08-12

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