

TGKX.343 - 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.

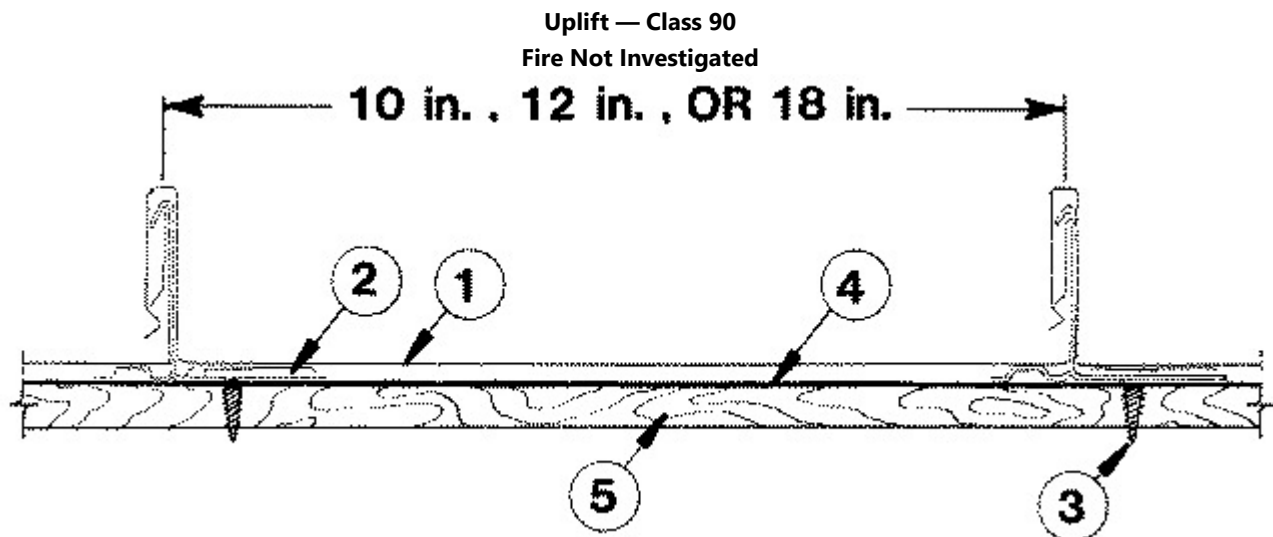
Roof Deck Constructions

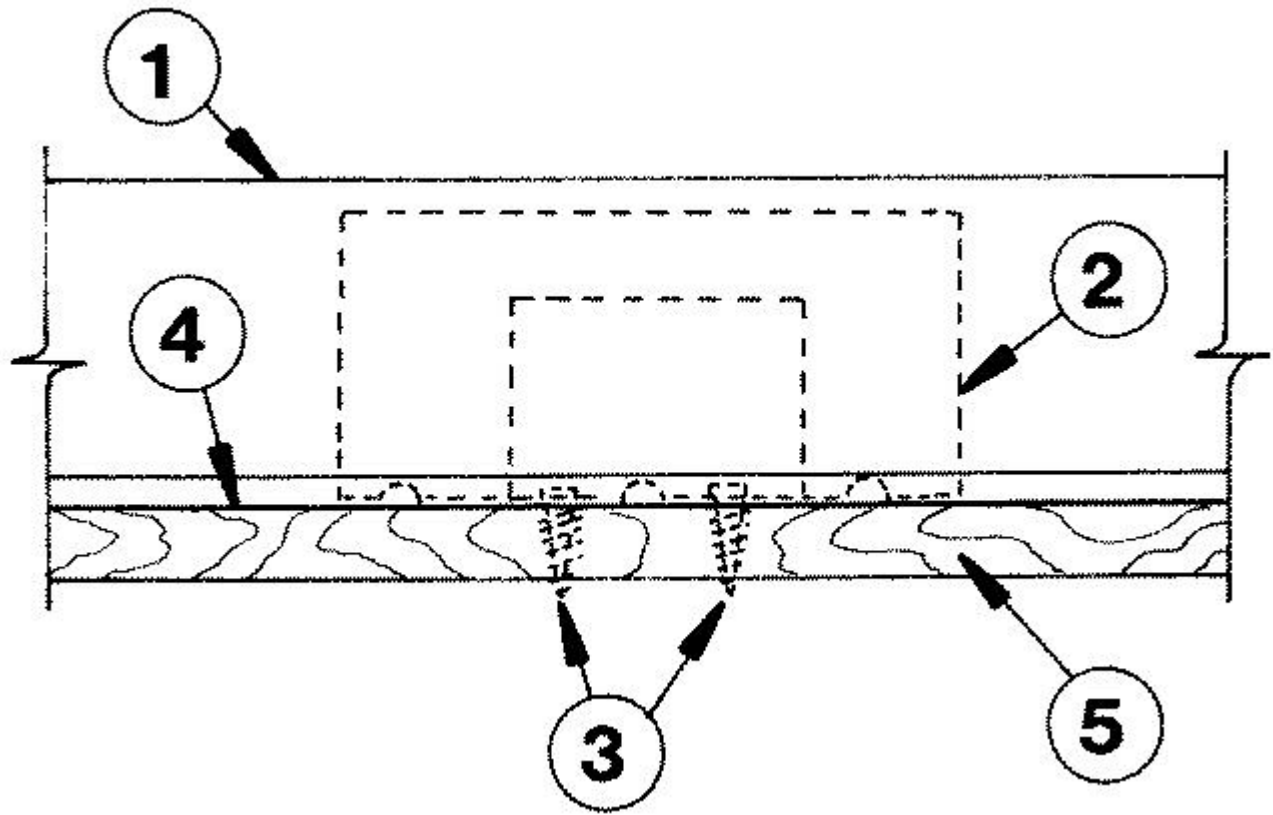
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[See General Information for Roof Deck Constructions](#)

Construction No. 343

February 3, 2023





1. Metal Roof Deck Panels* — No. 24 MSG min coated steel. Panel width 18 in. max., 10 in. min. Rib height 1-3/4 in. at female side. Panels continuous over three or more clips with no endlaps. A bead of sealant may be used at panel side joints.

A & S BUILDING SYSTEMS L P ([View Classification](#)) — "LokSeam"

ACI BUILDING SYSTEMS INC ([View Classification](#)) — "SnapLok"

ALLIANCE STEEL INC ([View Classification](#)) — "NFS16"

AMERICAN BUILDINGS CO ([View Classification](#)) — "SeamLoc 12, 16, 18"

AMERICAN BUILDING COMPONENTS ([View Classification](#)) — "LokSeam"

ARCHITECTURAL METAL SOLUTIONS ([View Classification](#)) — "Snap-Lock"

ATAS INTERNATIONAL INC ([View Classification](#)) — "MRS Panel"

BEACON SALES ACQUISITION INC, DBA COASTAL METAL SERVICE ([View Classification](#)) — "EZ Loc"

BERRIDGE MFG CO ([View Classification](#)) — "Snaplock Panel"

BORGA STEEL INC ([View Classification](#)) — "Vertical Lock"

CENTRAL STATES MFG INC ([View Classification](#)) — "Central Snap"

CENTRAL TEXAS METAL ROLLFORMING INC ([View Classification](#)) — "Shurloc 175"

CENTRIA, A DIVISION OF NCI GROUP, INC ([View Classification](#)) — "SDP 175-12, -16, -18"

COATED METALS GROUP ([View Classification](#)) — "Ultra-Snap 1.75SL"

CUSTOM-BILT METALS ([View Classification](#)) — "SL-1750"

DIMENSIONAL METALS INC ([View Classification](#)) — "Ultra-Lock 20"

DREXEL METALS INC ([View Classification](#)) — "DMC 175S"

FABRAL INC ([View Classification](#)) — "Thin Seam"

FIRESTONE METAL PRODUCTS, A DIV OF FIRESTONE BUILDING PRODUCTS CO LLC ([View Classification](#)) — "UC-14"

FLATIRON STEEL ([View Classification](#)) — "Snap Lock 1.75"

GIDEON STEEL PANEL CO L L C ([View Classification](#)) — "G175s"

H&H METAL PRODUCTS INC ([View Classification](#)) — "Uni-SnapLoc"

HPM BUILDING SUPPLY ([View Classification](#)) — "Sur-Lock"

INTEGRIS METALS INC ([View Classification](#)) — "Integris System 4"

LAWMAN HEATING & COOLING INC ([View Classification](#)) — "SS675"

MADDOX ROOFING & CONSTRUCTION INC ([View Classification](#)) — "SS675 SNAP-LOK"

MASTERPIECE METALS ([View Classification](#)) — "SS675"

MBCI ([View Classification](#)) — "LokSeam"

MCELROY METAL MILL INC ([View Classification](#)) — "Medallion-Lok" or "Metalogic-2000" or "ABC Permaseam Panel"

METAL FORMING INC ([View Classification](#)) — "1.75 Snap Lock Steel Panel"

METAL ROOFING SYSTEMS INC ([View Classification](#)) — "MRS System 2000"

METAL PANELS INC ([View Classification](#)) — "StrongSeam SL175"

METAL PANEL SYSTEMS INC ([View Classification](#)) — "MP-175" or "UC14"

METAL SALES MANUFACTURING CORPORATION ([View Classification](#)) — "Vertical Seam"

METALLION INDUSTRIES INC ([View Classification](#)) — "Clip Lock"

METALMAX L L C ([View Classification](#)) — "SSP 675 Panel"

MIDWEST METAL ([View Classification](#)) — "SS 675"

MID-SOUTH METAL PRODUCTS ([View Classification](#)) — "MSMP Structural Snap Lock"

MORIN CORP ([View Classification](#)) — "SWL-12", "SWL-16", "SWL-18"

NCI BUILDING SYSTEMS L P ([View Classification](#)) — "LokSeam"

NEW TECH MACHINERY CORP ([View Classification](#)) — "SS675"

NORTHWEST ROOF TILE & METAL L L C ([View Classification](#)) — "LT175"

P S M L V INC DOING BUSINESS AS PENN SHEET METAL ([View Classification](#)) — "PSM175SL"

PETERSEN ALUMINUM CORP ([View Classification](#)) — "Snap-Clad"

REEDS METALS OF BENTON ([View Classification](#)) — "Secure-Seam"

RLS METAL SYSTEMS INC ([View Classification](#)) — "RLS 175S"

ROLLFAB METAL BUILDING PRODUCTS ([View Classification](#)) — "SL-175" or "1.75 Snap Lock Steel Panel"

RPR INC, DBA RAIN PROOF ROOFING ([View Classification](#)) — "RP175"

SHEET METAL WORKS OF ARIZONA ([View Classification](#)) — "SL175"

SHEFFIELD METALS INTERNATIONAL ([View Classification](#)) — "SMI 1-3/4" SnapLock"

SOUTHEASTERN METALS MANUFACTURING CO INC ([View Classification](#)) — "Verti-Lok"

STANDARD STRUCTURES INC ([View Classification](#)) — "SnapSeam"

STREAMLINE ROOFING & CONSTRUCTION INC ([View Classification](#)) — "175SL"

TAYLOR METAL INC, DBA TAYLOR METAL PRODUCTS ([View Classification](#)) — "Versa Span"

THE BRYER CO ([View Classification](#)) — "TBC-ULTRA"

THREE DIAMOND FAB LLC ([View Classification](#)) — "TDF-SL175"

TREMCO INC ([View Classification](#)) — "TremLock SL"

UNION CORRUGATING CO ([View Classification](#)) — "SL175"

U S METALS L L C ([View Classification](#)) — "US-175LS"

V & R SHEET METAL LLC ([View Classification](#)) — "SS675 Panel"

VOGLER SHEET METAL COMPANY ([View Classification](#)) — "VSM Snap-Tite"

WHIRLWIND STEEL BUILDINGS INC ([View Classification](#)) — "Weather Snap-12" or "Weather Snap-16"

ZIMMERMAN METALS INC ([View Classification](#)) — "SL1750"

2. **Roof Deck Fasteners* — (Panel Clips)** — One piece assembly, 3-1/2 in. wide, 1-7/8 in. high. Min thickness No. 18 MSG. Clips spaced 36 in. OC, max, fastened to plywood deck.

AMERICAN BUILDING COMPONENTS ([View Classification](#)) — "LokSeam UL 90 Clip"

ARCHITECTURAL METAL SPECIALTIES INC ([View Classification](#)) — "178-SLU-18-G(S)", "178-SLUP-18-G(S)" and "175-SLUZ-18-G(S)".

ATAS INTERNATIONAL INC ([View Classification](#)) — "MRS Clip"

BEACON SALES ACQUISITION INC, DBA COASTAL METAL SERVICE ([View Classification](#)) — "EZ Loc Panel Clip"

CENTRIA, A DIVISION OF NCI GROUP, INC ([View Classification](#)) — "C175"

ENGLERT INC ([View Classification](#)) — "Series 2000 Clip"

EXCEL STAMPING & MFG INC ([View Classification](#)) — "LS-178-18 Clip"

FIRESTONE METAL PRODUCTS, A DIV OF FIRESTONE BUILDING PRODUCTS CO LLC ([View Classification](#)) — "UC-14 Clip"

LOGAN STAMPINGS INC — "Snap Lock Clip No. 675"

MCELROY METAL MILL INC ([View Classification](#)) — "Medallion-Lok Clip" or "ABC Peramseam Clip"

METAL PANEL SYSTEMS INC ([View Classification](#)) — "MP-175 Clip"

METAL SALES MANUFACTURING CORPORATION ([View Classification](#)) — "Vertical Seam Clip"

NCI BUILDING SYSTEMS L P ([View Classification](#)) — "LokSeam UL 90 Clip"

PETERSEN ALUMINUM CORP ([View Classification](#)) — "Snap-Clad Clip"

VICWEST INC ([View Classification](#)) — "AP Clip"

3. **Fasteners (Screws)** — Fasteners used to attach panel clips (Item 2) to plywood to be No. 10-12 by 1 in. long pancake head, No. 2 Phillips drive, A-point, coated steel screw. Min two fasteners per clip to be used. When Items 5A (Rigid Insulation) and 5B (Bearing Plate) are used, No. 12 Dekfast fastener to be used and installed through clip (Item 2), bearing plate (Item 5B), rigid insulation (Item 5A) and plywood decking (Item 5A). Length of fastener to be equal to total thickness plus 7/8 in.

4. **Underlayment** — Underlayment used over plywood deck to be Type 15 or 30 organic felt. Sides overlapped min 2 in., end laps per manufacturer's instructions. Felt nailed to plywood deck with 1-1/4 in. long steel cap 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. **As An Alternate** — A self-adhering modified bitumen water proofing membrane (self-adhering underlayment) may be used, installed per manufacturer's instructions. Note - when alternate is used the plywood joints need not be sealed.

5. **Plywood Decking** — Plywood decking to be graded per PS83 specifications, 19/32 in. thick, exposure 1, APA Rated Sheathing (42/20) square edged. Butt ends not blocked. All butt and side joints to be sealed with a one part urethane caulk sealant applied with a caulking gun and feathered outward from the joint. (Note exception under Item No. 4, Alternate.)

5A. **Rigid Insulation** — (Optional) — (Not Shown) — Maximum thickness 1-1/2 in. Any rigid type having a minimum compressive strength of 25 psi or minimum density of 2 pcf. Supplied in 4 ft. wide sheets.

5B. **Bearing Plate** — (Optional) — (Not Shown) — To be used with Item 5A. Bearing plates to be minimum 16 MSG coated steel. Located under each clip (Item 2) for support.

5C. **Oriented Strand Board (OSB)** — (Not Shown) — As an alternate decking, nom. 5/8 in. thick (19/32 in. actual) APA rated OSB may be substituted for plywood decking (Item 5). Installation procedures to be same as for plywood.

6. **Supports** — (Not Shown) — Spaced max of 24 in. OC. Any of the following types may be used to support the plywood decking:

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

b) Wood trusses with a nom 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).

7. **Plywood Fasteners** — (Not Shown) — Fasteners used to attach the plywood deck or OSB 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 common ring shanked 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. 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 a S12 (TEKS/3) supR point.

Spacing: Fastener spacing for all fastener types to be 6 in. OC at the plywood edges and 12 in. OC in the interior.

The following items may be used in conjunction with the "K-Lok Structural Panel" (Item 1).

A. **Batten Clips*** — Slipped over ribs formed by roof deck panels. One piece assembly formed to engage ribs of "K-Lok Structural Panels" (Item 1) and Batten Cap (Item B). Spaced 48 in. O.C.

ATAS INTERNATIONAL INC ([View Classification](#)) — "MRS Batten Clip"

B. **Batten Cap*** — Slipped over batten clip (Item A) and formed to snap and engage batten clip.

ATAS INTERNATIONAL INC ([View Classification](#)) — "MRS Batten"

The following items may be used in conjunction with the "Design-Lok" panel (Item 1).

A. **Batten Clips*** — Slipped over ribs formed by roof deck panels. One piece assembly formed to engage ribs of "Design-Lok" panels (Item 1) and "Design-Lok Batten Cap" (Item B) spaced 48 in. OC.

METAL SALES MANUFACTURING CORPORATION ([View Classification](#)) — "Vertical Seam Batten Clip"

B. **Batten Cap*** — Slipped over batten clip (Item A), formed to snap over and engage batten clip.

METAL SALES MANUFACTURING CORPORATION ([View Classification](#)) — "Vertical Seam Batten Cap"

The following items may be used in conjunction with the "Structural Standing Seam" panel and a Classified Batten Clip as described in this construction.

A. **Snap-on-Batten*** — Slipped over a Classified Batten Clip, formed to snap over and engage batten clip.

The following items may be used in conjunction with the "LokSeam 18, 12 or 10 in." panel (Item 1).

A. **Batten Clips** — Slipped over ribs formed by roof deck panels. One piece assembly, 1-3/4 in. high, 1-3/4 in. max width, with four legs and two arms. Formed to engage ribs of panels and Batten Cap. Clips spaced 48 in. OC.

The following items may be used in conjunction with the "SDP 175-12, -16, -18" panels. (Item 1).

A. **Batten Clips*** — Slipped over ribs formed by roof deck panels. One piece assembly formed to engage ribs of "SDP-12, -16, -18" panels (Item 1) and "SDP 175B" battens (Item B). Spaced 48 in. OC.

CENTRIA, A DIVISION OF NCI GROUP, INC ([View Classification](#)) — "175B"

B. **Batten Cap** — Slipped over batten clip. (Item A) and formed to snap and engage batten clip.

CENTRIA, A DIVISION OF NCI GROUP, INC ([View Classification](#)) — "SDP 175B"

Refer to General information, Roof Deck Construction 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.**

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