

**EVALUATION REPORT OF
KIRBY BUILDING SYSTEMS
'STANDING SEAM 360 PANEL'**

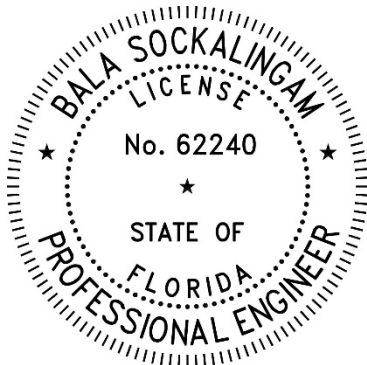
**FLORIDA BUILDING CODE 8TH EDITION (2023)
FLORIDA PRODUCT APPROVAL
FL 47041.1
STRUCTURAL COMPONENTS
ROOF DECK**

**Prepared For:
Kirby Building Systems
124 Kirby Drive
Portland, TN 37148
Telephone: (615) 745-6007**

**Prepared By:
Bala Sockalingam, Ph.D., P.E.
Florida Professional Engineer #62240
1216 N Lansing Ave., Suite C
Tulsa, OK 74106
Telephone: (918) 492-5992**

**This report consists of
Evaluation Report (3 Pages including cover)
Installation Details (5 Pages)**

**Report No. C2837-2
Date: 9.26.2024**



This item has been digitally signed and sealed by Bala Sockalingam, PE, on the date indicated.

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Manufacturer:	Kirby Building Systems
Manufacturing Locations:	124 Kirby Drive, Portland, TN 37148 200 Whetstone Road, Swansea, SC 29160 600 Apache Trail, Terrell, TX 75160
Product Name:	Standing Seam 360 or SS360 Panel
Panel Description:	Standing seam panel with 24" wide coverage and 3" high ribs. Mechanical seaming operation required for SS360.
Materials:	Min 24 ga. with galvalume coated steel (ASTM A792) ($F_y = 50$ ksi). Corrosion resistant as per FBC 2023 Section 1507.4.3.
Support Description:	Min. 16 ga., 50 ksi steel section (Must be designed by others)
Slope:	1/4:12 or greater in accordance with FBC 2023 Section 1507.4.2
Design Uplift Pressure: (Factor of Safety = 2)	52.5 psf @ maximum support spacing of 60'-3/16" o.c.
Panel Attachment:	SS360 or Shur-Lok 360 clips Fastened to min. 16 ga. supports with (1) #12-14 x 1-1/4" long SDS Clips and fasteners are corrosion resistant as per FBC 2023 Section 1506.7 and 1507.4.4, respectively.
Optional Attachment:	May be fastened to supports through bearing plate, rigid insulation and liner panel with #12-14 or #14-14 Type AB self-drilling, self-tapping hex head screws. Minimum length must be equal to combined thickness of liner panel and rigid insulation plus 3/4". Fasteners are corrosion resistant as per FBC 2023 Section 1507.4.4.
Test Standards:	Roof assembly tested in accordance with UL580-06 'Uplift Resistance of Roof Assemblies' and FM 4471 Section 5.4 'Resistance to Foot Traffic'.
Code Compliance:	The product described herein has demonstrated compliance with FBC 2023 Section 1507.4.
Product Limitations:	Design wind loads shall be determined for each project in accordance with FBC 2023 Section 1609 or ASCE 7-22 using allowable stress design. The maximum support spacing listed herein shall not be exceeded. The design uplift pressure for reduced support spacing may be computed using rational analysis prepared by a Florida Professional Engineer. This product is not approved for use in the High Velocity Hurricane Zone. Fire classification is not within the scope of this

Evaluation Report. Refer to FBC 2023 Section 1505 and current approved roofing materials directory for fire ratings of this product.

Supporting Documents: UL 580 Roof Deck Construction No. 93

(Kirby Building Systems is authorized to use Nucor Building Group's Test Reports)

Design/System/Construction/Assembly Usage Disclaimer

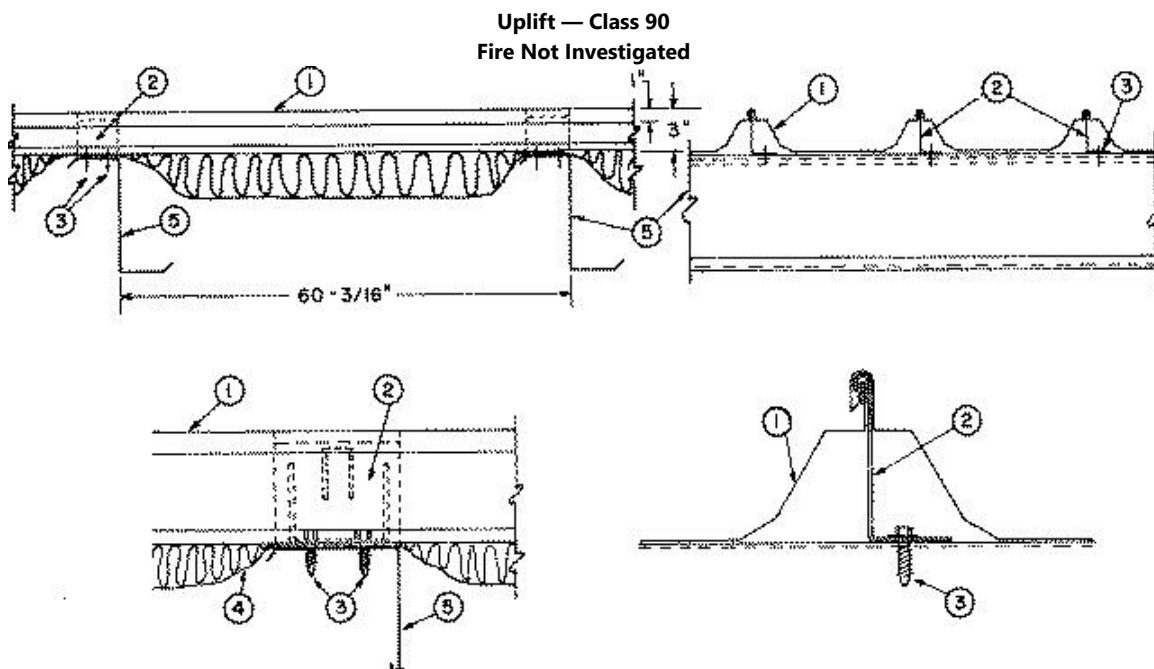
- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies 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.

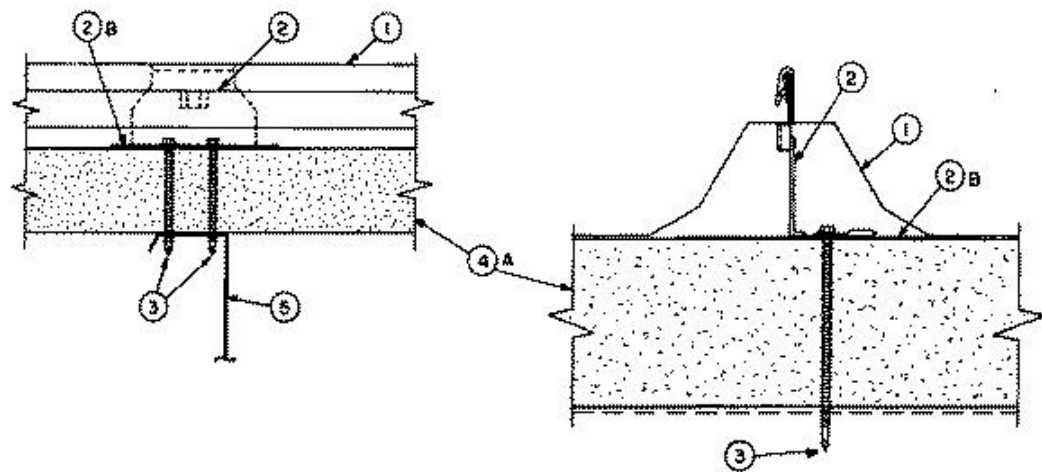
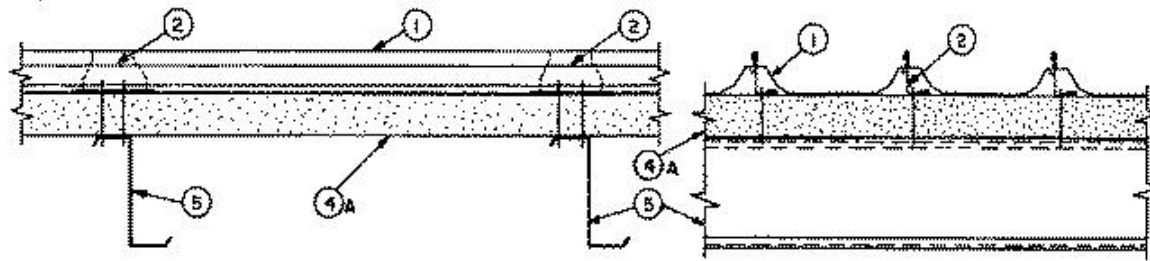
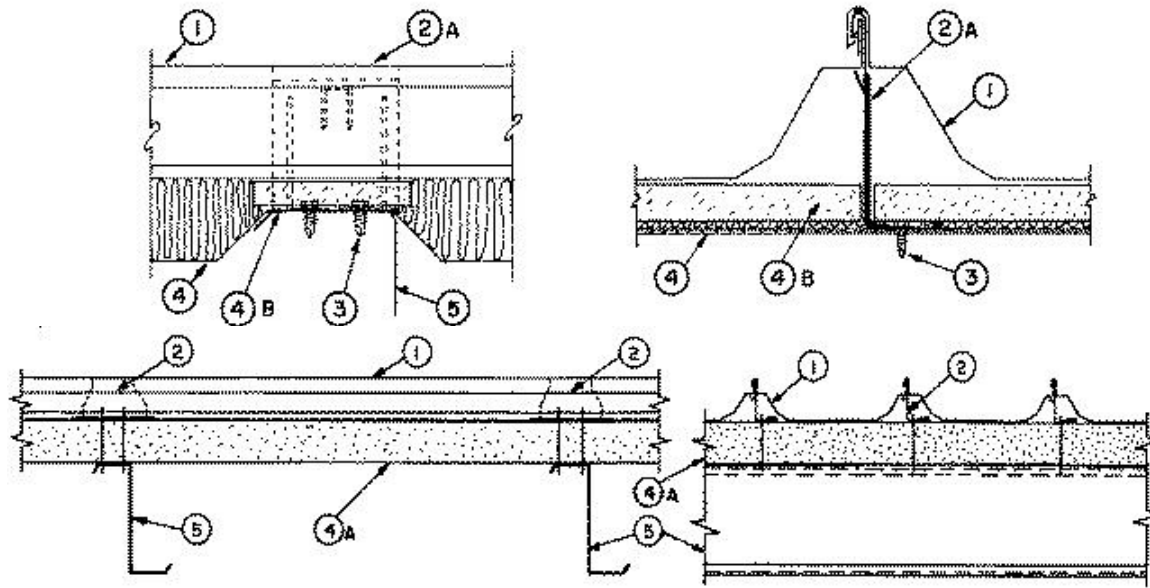
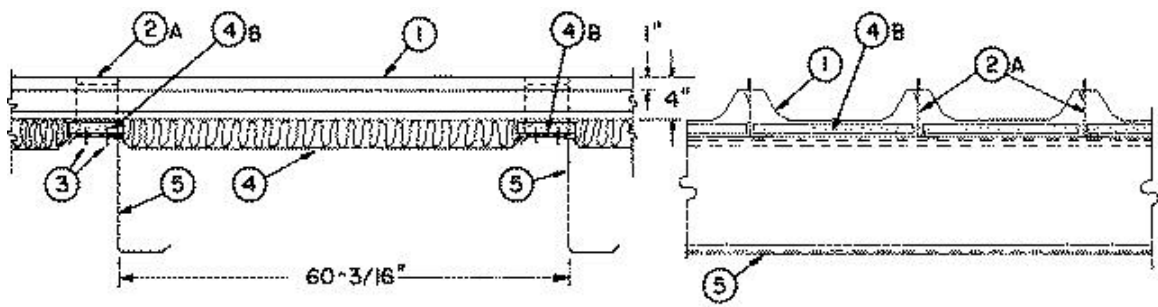
Roof Deck Constructions

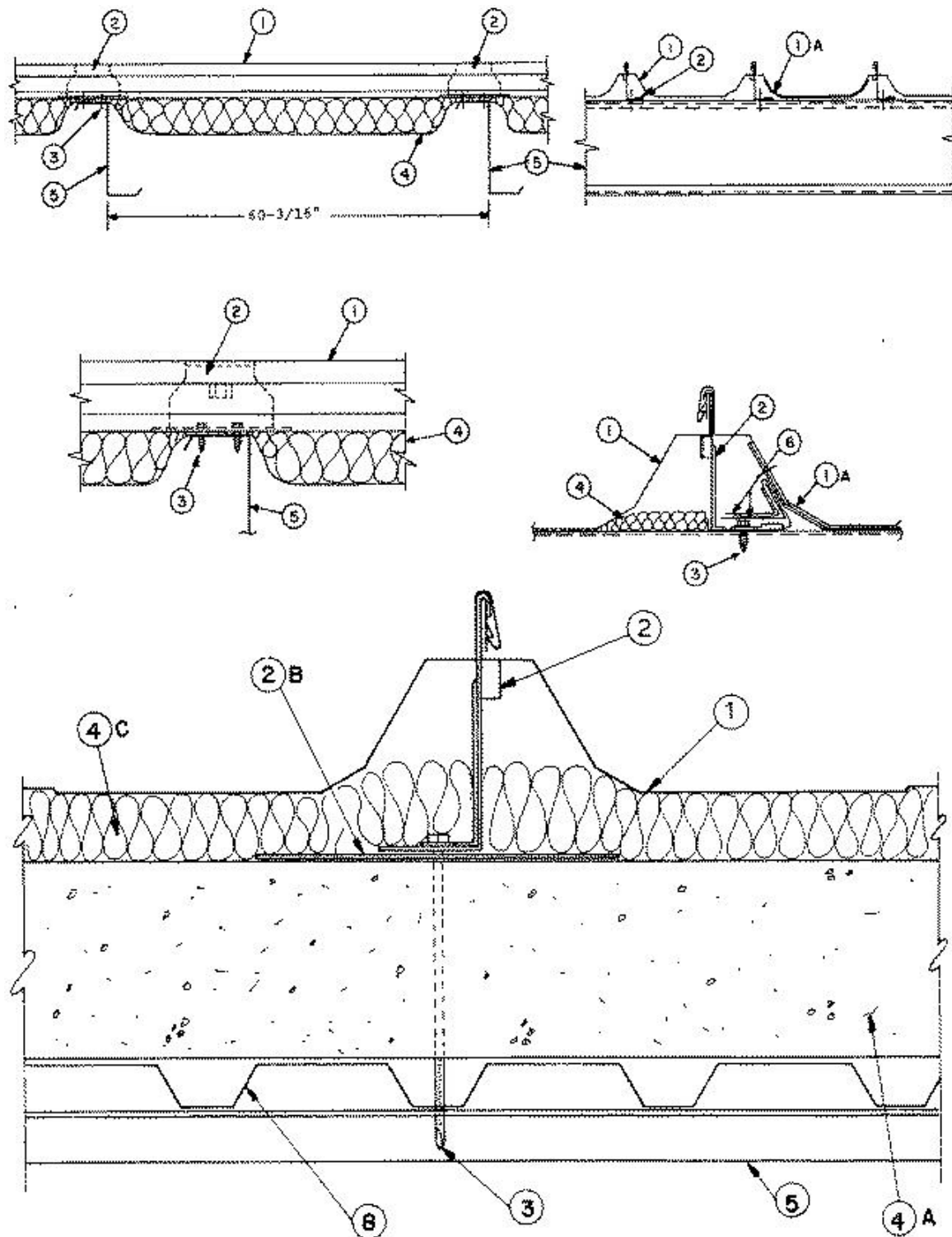
See General Information for Roof Deck Constructions

Construction No. 93

December 4, 2023







1. **Metal Roof Deck Panels*** — No. 24 MSG minimum gauge coated steel. Panels continuous over two or more spans. Panels to be joined at side ribs by snapping adjacent interlocking sides together. Mechanical seaming operation optional for "SSII" panel and required for "SS360" panel. End laps to occur over purlins with panels overlapped 6 in. with laps centered over purlin upper flange. A line of sealant may be used at panel end laps and side joints.

AMERICAN BUILDINGS CO ([View Classification](#)) — "SSII" or "SS360"

CBC COMMERCIAL BUILDING COMPONENT INC ([View Classification](#)) — "SSII" or "SS360"

KIRBY BUILDING SYSTEMS INC ([View Classification](#)) — "SSII" or "SS360"

NUCOR CORP. (NUCOR BUILDINGS GROUP) ([View Classification](#)) — "R-Panel"

1A. Building Units* — (Optional) Translucent, glass fiber reinforced plastic panels with metal rib sides. Plastic thickness nominal 1/16 in. formed to basic configuration of metal panels. A lower skin is attached to the upper skin using an adhesive. A foamed plastic is located between the skins. Panels continuous over two or more spans.

AMERICAN BUILDINGS CO ([View Classification](#)) — "Standing Seam II Skylight" or "Standing Seam 360 Skylight".

F & F ASSEMBLIES INC ([View Classification](#)) — "SKY-BRITE", "American Building Company", "Nucor Building System", "UltraDek/DoubleLok", "Schulte Building Systems" or "BRS style Panel"

KIRBY BUILDING SYSTEMS INC ([View Classification](#)) — "Standing Seam 360 (SS360) Skylight"

2. Roof Deck Fasteners* — (Not shown) — Two piece clip. Upper tab aluminized or galvanized steel 0.033 in. thick. Base No. 12 MSG Coated steel. Minimum height 3-3/16 in. (nominal) when no spacer block is used (Item 4B). height 4-5/8 in. or 5-1/2 in. (nominal) when spacer block (Item 4B) or when liner panel (Item 8) is used.

AMERICAN BUILDINGS CO ([View Classification](#)) — "Standing Seam 360 Clips"

KIRBY BUILDING SYSTEMS INC ([View Classification](#)) — "Standing Seam 360 (SS360) Clips" or "Shur-Lok 360 Clips"

2A. Roof Deck Fasteners* (Panel Clips) — Two piece clip. Upper tab SAE High Carbon Spring Steel 0.031 in. thick. Base 12 Ga. Galvanized Steel, ASTM A446 Grade D (50 KSI Minimum) Min. height 3-3/16 in. (nominal) when no spacer block is used. Max height 4-5/8 in. (nominal) when spacer block is used.

AMERICAN BUILDINGS CO ([View Classification](#)) — "Standing Seam II Clips"

KIRBY BUILDING SYSTEMS INC ([View Classification](#)) — "Shur-Lok Snap Clips"

2B. Panel Clip Bearing Plate — Used with rigid insulation. Located under the Roof Deck Fasteners (Item 2 or 2A), over rigid insulation (Item 4A); 5-1/2 in. square, fabricated from 0.043 in. thick minimum coated steel.

3. Fasteners — (Screws) — Fasteners, used to attach panel clips (Item 2 or 2A) to purlins when using compressible blanket insulation to be No. 12-14 by 1-1/4 in. minimum self-drilling, self-tapping, hex-head, plated steel screws, 1/4-14 x 1 1/4" SDST into Purlins, or 12-24 x 1 1/2" SDST into Joists. Length to be 1-1/4 in. minimum for insulation up to 3 in. and 1-1/2 in. minimum for insulation over 3 in. thick or when using thermal spacers (Item 4B). Two fasteners per clip inserted into preformed holes to be used.

Fasteners used to attach the panel clips (Item 2 or 2A) to the purlins when using rigid insulation (Item 4A) to be same type. Length to vary with thickness of rigid insulation with minimum penetration to be 3/4 in. Two fasteners per clip to be used inserted into guide holes.

Fasteners used to attach panel clips (Item 2 or 2A) to purlins when using liner panel (Item 8) to be No. 12-14 self-drilling, self-tapping, hex-head, plated steel screws. Minimum length to be equal to combined thickness of liner panel depth and foamed plastic thickness plus 3/4 in. Two fasteners per clip to be used inserted into guide holes.

Fasteners used to attach liner panel to purlins to be No. 12-14 by 1 in. minimum long self-drilling, self-tapping, hex-head, plated steel screws with a separate 1/2 in. OD steel washer and a neoprene sealing washer or 1/4-14 x 1 1/4" SDST. Spacing to be 12 in. OC. Fasteners used at liner panel side laps to be 1/4-14 x by 7/8" long, Type A plated steel screws. Spacing to be 24 in. OC.

Endlap fasteners to be 1/4-14 x 1 1/4" Self-Drilling, Self-Tapping Plated Steel Screw with a EPDM Sealing Washer. Spacing at end laps to be in a 3-4-4-4-3 in. pattern driven through optional upper strap into lower plate (Item 6). Pattern to be 2-3/4-2-1/4-2-7/8-2-1/4-2-7/8-2-1/4-2-3/4 when optional end lap strap not used.

For panel clips and end lap connections: As an alternate fastener, No. 1/4-14 by 1 in. minimum Type A plated steel screws with a separate 9/16 in. OD steel washer and a bonded neoprene sealing washer may be used. Pilot holes to be 3/16 in. diameter or

17-14 x 1 1/4" type AB Self-tapping with a EPDM Sealing Washer, or No. 14-14 by 1 in. minimum Type AB self-drilling, self-tapping, hex-head, plated steel screws with a separate 1/2 in. OD formed steel washer and a separate neoprene sealing washer may be used. Spacing to be same for all types.

3A. Fasteners used to attach the liner panels (Item 8A) to the purlins to be No. 12-14 by 1 in. minimum long self-drilling, self-tapping, hex head plated steel screws or 1/4-14 x 1 1/4" SDST. (Liner panel to joists use No. 12-24 by 1-1/2 in. minimum long self-drilling, self-tapping, hex head plated steel screws). Spacing of fasteners to purlins or joists to be 12 in. O.C. at intermediate supports. Fasteners spaced at 6 in. OC. at liner panel end laps.

Fasteners used at liner panel side laps to be No. 12-14 by 7/8 in. minimum long hex head plated steel stitch screws, or 1/4-14 x 1 1/4" SDST. Spacing of liner panel side lap fasteners to be maximum 30 in. when liner panel supports are 5 ft-0 in. OC. and maximum 36 in. OC for 6 ft -6 in. OC or 6 ft -0 in. OC support spacing.

4. Insulation — (Optional) — Any compressible blanket insulation 12 in. maximum thickness before compression.

4A. Foamed Plastic* — (Rigid Insulation)(Optional) — maximum thickness 8 in. supplied in 4 ft widths.

4B. **Spacer Block** — (Optional) — Used with compressible insulation (Item 4) only — 3 in. by 24 in. by 1 in. (nominal) thick polystyrene foam.

4C. **Insulation** — Used when liner panel (Item 8) is used. Any compressible blanket insulation 1 in. maximum thickness before compression. Located between metal roof deck panel (Item 1) and foamed plastic (Item 4A).

4D. **Insulation*** — (Optional) - Rigid Type (Foamed Plastic) — Supplied in 4 ft wide sheets; minimum thickness 1/2 in., maximum thickness 8 in.

THE DOW CHEMICAL CO ([View Classification](#)) — Types Thermaximum Sheathing, Thermaximum Light Duty Insulation, Thermaximum Heavy Duty Insulation, Thermaximum Metal Building Board, Thermaximum White Finish Insulation, Thermaximum ci Exterior Insulation, Thermaximum XARMOR, TUFF-R™ ci Insulation, Thermaximum IH Insulation, Type Thermaximum Plus Liner Panel and Thermaximum Heavy Duty Plus (HDP)

5. **Purlin** — No. 16 MSG minimum gauge steel (50,000 psi minimum yield strength) or Type H or J open web joists. Spacing to be maximum 60-3/16 in.

5A. **Purlins** — When liner Panel (Item 8A) used No. 16 MSG minimum gauge steel (50,000 psi minimum yield strength) or hot rolled shapes or open web joists. **Spacing** - For No. 16 minimum gauge steel. For all classes - 60 in. maximum **Spacing** - For open web joists or hot rolled shapes. For Class 90- 78 in. maximum (1.5B Deck) 72 in. maximum (1.5F Deck).

6. **End Lap Strap (Optional) and Plate** — (Not shown) — Lower plate used at the end lap to be 12-1/2 in. long and approximately the full panel width, fabricated from 0.051 in. thick coated steel. Upper strap to be 1-1/2 in. long and approximately the full panel width. Optional upper strap fabricated from 0.122 in. thick aluminum and to have eight guide holes for screw fasteners. Both pieces formed to the general profile of the panels with lower plate to have three guide holes.

7. **Insulation Trim** — (Not shown) — Used at skylight location, (see Item 1A) to consist of a lower angle having a 1-9/16 in. wide horizontal leg and a 1 in. leg slanted to a 50 degree angle. Fabricated from 0.050 in. thick coated steel. Upper angle to have a 1-1/8 in. horizontal leg and a 9/16 in. thick leg slanted to a 50 degree angle. Fabricated from 0.026 in. thick coated steel.

8. **Liner Panel** — (Optional) — No. 26 MSG minimum thickness coated steel depth 3/4 in., pitch 6 in., or 1-3/16 in. depth with major ribs located 12 in. O/C. and 3/32 in. deep minimum ribs located 3-1/2 in. O/C. in the flat section of panel, width 36 in. Sides overlapped one corrugation. End lap width minimum 2 in., located over purlins.

8A. **Liner Panel** — 1.5B Deck (Panels 36 in. wide and 1-1/2 in. deep with 3-1/2 in. wide crests spaced 6 in. O.C) or 1.5F Deck (Panels 36 in. wide and 1-1/2 in. deep with 4-1/4 in. wide crests spaced 6 in. O.C) Panels fabricated from No. 22 MSG thick steel having a yield strength of 33,000 psi minimum.

8B. **Liner Panel** — minimum thickness No. 22 MSG coated steel (33,000 PSI minimum yield strength). minimum depth 1-1/2, maximum pitch 6 in. fabricated to various profiles. Fastened to supports (Item 9) with fastener type and spacing per liner panel manufacturer's instructions for uplift loading.

9. **Supports (Not Shown)** — Used to support liner panels (Item 8B), to be cold formed or hot rolled sections. Gauge, yield strength and spacing to be per liner panel manufacturer's specifications for uplift loading.

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 2023-12-04

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