

# Technical Bulletin

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## UL Construction #268A

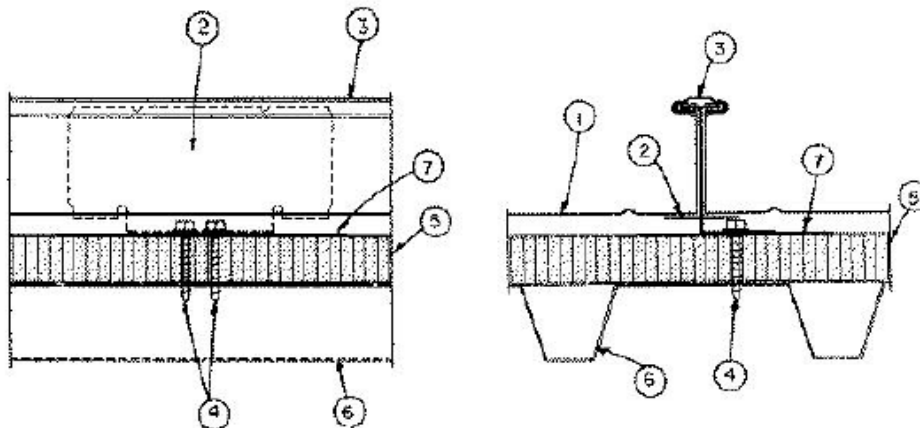
### 238T

#### UL 580 Class 90 Wind Uplift

1. **Metal Roof Deck Panels\*** - Min No. 24 MSG steel or stainless steel or 0.030 in. thick aluminum, nom 18 in. wide, 2-3/8 in. high standing seams. Heavier gauges or narrower panels acceptable. Panels continuous over two or more spans. Floating end laps to occur over purlins with panels overlapped 8 in. End lap to begin 3 in. from purlin web and to extend across purlin flange. A bead of mastic sealant may be used at panel end and side laps.  
**McElroy Metal Mill, Inc.** "238T Roof Panel"
- 2A. **Panel Clips\*** — (Not Shown) - No. 16 MSG min gauge coated steel or stainless steel, 6 in. long by 2.718 in. high. Base to have two or four .281 in. dia. guide holes to accommodate screw fasteners (Item 4). Max spacing 48 in. OC.  
**McElroy Metal Mill, Inc.** "238T Roof Clip"
3. **Cap** — Used at seam, nom 1 in. wide, 1/2 in. deep fabricated from min No. 24 MSG steel, stainless steel or 0.030 in. thick aluminum. Cap continuously seamed over panel seams with a special motorized seaming tool. Seaming process to include panel clips (Item 2).
4. **Fasteners** — (Screws) — Fasteners used to attach panel clips (Item 2) to liner panel to be No. 12 self-tapping, hex-head, plated or stainless steel screws without washers or 1/4 - 13 with No. 3 Phillips head Deck Screw or No. 14-13 self drilling screws. Two fasteners per clip to be used. Fasteners used to attach thermal spacer (Item 9) to purlins to be same type spaced 18 in. OC. Fastener used at end lap to be an expanding bolt type with an aluminum sleeve having a 5/8 in. diam cap with a 1/4-20 by 1-7/16 in. long stainless steel bolt. Spacing at end lap to be 1, 3, 3, 4, 3, 3 in. pattern. Length to depend on thickness of insulation and/or thermal spacers and to be 3/4 in. longer than overall depth of deck assembly.
5. **Foamed Plastic** — (Optional) — Extruded foamed plastic (rigid Insulation) min density 2.00 pcf supplied in min thickness 1 in., max thickness 10 in.
6. **Liner Panel** — Fabricated from No. 22 MSG min thickness coated steel. Min depth 15/16 in., max pitch 7.2 in., min yield strength 33 ksi. or 18/20 MSG thickness (No. 22 MSG min) coated steel, 4-1/2 in. deep, (24 in. coverage), min yield strength 33 ksi. Max span of panel units to be per manufacturer's instructions. Panels attached to structural supports with screws or welds per liner panel manufacturer's instructions.
7. **Bearing Plate** — (Optional) — No. 22 MSG steel, 6 in. by 6 in. Used with rigid insulation only.
8. **Supports (Purlins)** — (Not Shown) Purlins used for liner panels to be cold formed steel sections. As alternates, structural steel components (hot rolled beams, channels, open web joists etc.) may be used. Min gauge and yield to depend on design considerations. Max spacing to depend on design considerations.
9. **Thermal Spacer** — (Optional) — (Not Shown) — Located over liner panel at panel clip locations. Continuous nom wood 2 in. by 4 in. Not used when foamed plastic (Item 5) is used.
10. **Plywood or OSB** — (Optional) (Not Shown) Min APA Rated plywood, nom 1/2 in. thick or oriented strand board (OSB), nom 7/16 in. thick, 4 x 8 ft. Sheets to be installed on top of Foamed Plastic (Item 5) in lieu of bearing plates (Item 7).

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



#### MANUFACTURING LOCATIONS

ADELANTO, CA	ASHBURN, GA	BOSSIER CITY, LA	CLINTON, IL	DIAMOND, MO	HOUSTON, TX	LEWISPORT, KY
MARSHALL, MI	MAUSTON, WI	MERKEL, TX	PEACHTREE CITY, GA	SUNNYVALE, TX	WINCHESTER, VA	