



METAL ROOFING: USE OF STRUCTURAL INSULATED PANEL (SIP) QUESTIONS & ANSWERS

Here are some important answers to frequently asked questions.

1. *Can I install a metal roof directly over top of the SIPs? Yes. Here are some important considerations:*
 - ✓ **Air Tightness:** SIP panels must be air and watertight. Make certain to tape seal ALL panel joints.
 - ✓ **Panel Joints:** Ensure that panel joints are level to one another as variations in panel height can cause deflection in the roofing material that may be visible from the exterior of the home. Deflection caused by 1/8" – 1/4" variations in height is purely an aesthetic concern and will not compromise the performance of the metal roof panel.
 - ✓ **Roof Underlayment:** It is important that SIP roof panels have a watertight drainage plane between the underside of the final roof covering (metal, asphalt shingle, etc) and the top of the SIP. To avoid damage caused by condensation forming on the back side of the metal roof, use a recommended and self-sealing underlayment for metal roofing such as Grace Ice & Water Shield or Titanium UDL (unless the SIP panel has a factory applied underlayment that is deemed to be self-sealing around nail / screws – Caution: Close attention must be paid to the taping of seams in this case as tape sealant will be unprotected on the upslope edge).
 - ✓ **Fastening Metal Panel To SIPs:**
 - i. **Best Method:** Install first vertical and then horizontal strapping over top of SIP assembly to create vertical air movement (eave to ridge) between SIPs and metal roof. This will ensure ventilation of moisture build-up through vented ridge assembly.
 - ii. **Accepted Method:** Fasten metal roof panel directly through accepted self-sealing roof underlayment (it is important that the underlayment be self-sealing around nail and screws). Note: Although this is an accepted method and recommended by many SIP manufacturers, it does not allow for uniform drainage of condensation which could lead to metal roof corrosion from the



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underside. As the roof pitch decreases, opportunity for trapped moisture increases.

- ✓ **Moisture Control:** In the same way that the top side of the SIP must be protected from moisture, consideration must be given to the underside of the panel. Appropriate moisture control practices must be used on the interior of the home. Give careful consideration to interior roof / wall/ living space air flow / venting, moisture removal systems and the use of a vapor barrier on the warm side of the building envelope (wall and ceiling). For homes located in winter climates, the type of heating system used is particularly important as non-vented gas heaters exhaust significant quantities of moisture into the building envelope.

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