Plasti-Fab Design Manual

Standing Seam Roofing Insulation





Standing Seam Roofing

Metal standing seam roof systems incorporating Plasti-Fab PlastiSpan insulation provide an energy efficient option for a wide range of applications. The exterior metal surface can include a variety of profiles and colours to suit many architectural requirements and the system offers the added advantage of installation at any temperature.

Modern metal roof designs incorporate a number of different design concepts. The standing seams are often roll-formed on the jobsite and include a sealant placed in the seam. The roof system is held down with clips that are incorporated into the standing seams and have a slotted hole for attachment to provide for expansion/contraction of the roof assembly.

The use of PlastiSpan insulation board within the metal roof assembly provides a uniform insulation layer with the required thermal resistance. The insulation can be laid over a light gauge steel deck incorporating a thermal barrier or vapour barrier where required. An air barrier is recommended in the roof system in order to avoid the movement of air through the system. Standing seam roofs are applied to sloped roof construction where the required slope is provided by the roof structure itself.

Typical Section









Application

General application recommendations can be found in the PlastiSpan brochure "Roof & Deck Insulation: Selection, Application and Specification."

The following instructions apply specifically to standing seam metal roofs.

Attach roof retainer clips to nailer or Z-bar with fastener suitable for the purpose

OR

If nailer or Z-bar is not used; Fasten metal bearing plate through insulation to roof deck using a minimum of 2 fasteners per plate.

Fasten roof retainer clip to the bearing plate.

Sample Thermal Resistance Calculation



| Components | Metric (SI) Calculation RSI Through Insulation m ² •°C/W |
|---|--|
| Outside Air Film | 0.03 |
| Standing Seam Roofing | 0.06 |
| EPS Insulation (133 mm x 0.026 RSI/mm) | 3.46 |
| 12.7 mm Wood Fibreboard (12.7 mm x 0.016 RSI/mm) | 0.20 |
| Inside Air Film | 0.12 |
| TOTAL RSI _T | 3.87 |
| Overall Thermal Transmittance | 0.258 W/m ² • °C/ |

Notes to the Table:

- The sample calculation uses principles detailed in the National Energy Code for Buildings 1997, issued by the Canadian Commission on Building and Fire Codes National Research Council of Canada.
- PlastiSpan insulation board meets the requirements of CANVULC-S701, Type 1. To calculate the RSI at any insulation thickness, multiply the specified thickness in millimetres by 0.026 RSI/mm.
- PlastiSpan HD insulation board meets the requirements of CAN/ULC-5701-97, Type 2. To calculate the RSI at any insulation thickness, multiply the specified thickness in millimetres by 0.028 RSI/mm.



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Specification

An outline for a recommended specification section can be found in the PlastiSpan brochure "Roof & Deck Insulation: Selection, Application and Specification."