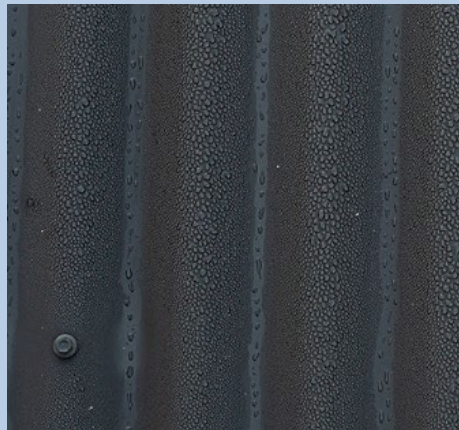


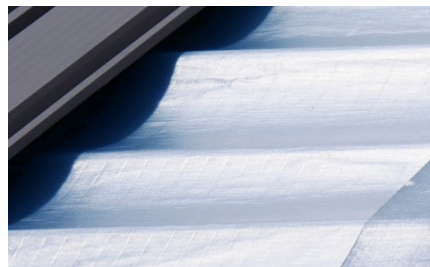
VAPOUR BARRIERS in METAL ROOFING

This Factsheet is INFORMATIVE, describing principles for managing condensation risk in roofing.



Increased insulation levels and more tightly sealed buildings designed to meet increased energy efficiency requirements, have created greater need to manage internal moisture in residential roofing construction. Failure to adequately allow for the escape of water vapour is the primary cause of building related moisture issues in the roof system.

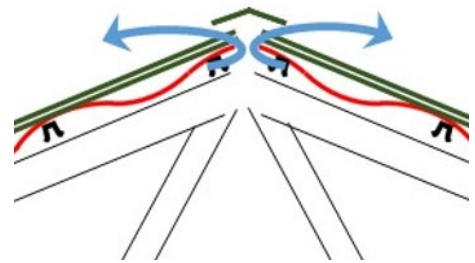
Vapour barrier membranes (typically foil-based) are often used under metal roofs in Australia. The foil membrane is installed primarily as thermal insulation providing protection from Australia's hot summer, whilst it can also help to reduce condensation risk.



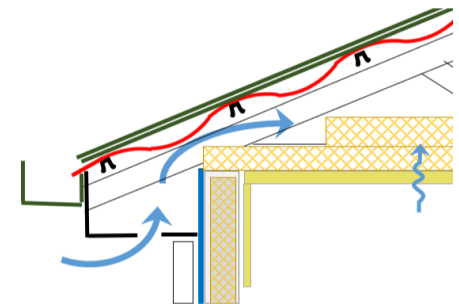
Vapour barrier membranes can be effective in providing condensation risk mitigation in the roof space when installed over roof battens with standard detailing where;

- Draping creates an air gap and provides thermal protection from the roof sheet thereby helping to reduce condensation risk;
- The ability to function as intended relies on the membrane not shrinking at the high temperatures that occur under dark metal roofs;

- The impermeable membrane stops internal moisture moving above the membrane and condensing on the underside of the sheet;
- The removal of moisture from the roof space relies on natural ventilation of the attic¹.



Practices that obstruct natural attic ventilation can lead to increased risk of moisture related issues in metal roofs. In this situation, additional ventilation should be considered.



Impermeable reflective membranes are also used in combination with insulation blanket installed directly beneath metal roofing. The insulation blanket creates greater thermal insulation from the roof sheet, thereby affording protection against condensation in cooler climates.

¹ These principles may not be appropriate where compliance requirements in HB39 or AS4200.2 are applicable and additional consideration of ventilation requirements in bushfire zones, marine and cold climates may be necessary.