Building with STEEL

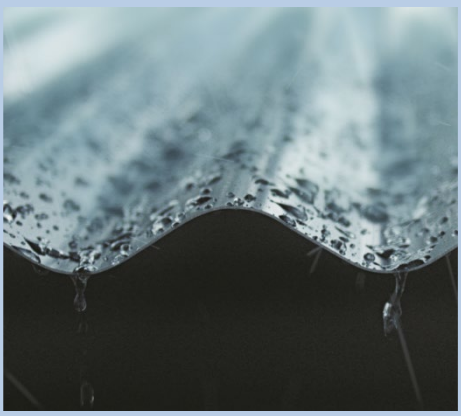
FACTSHEET #1

AUSTRALIAN STEEL INSTITUTE

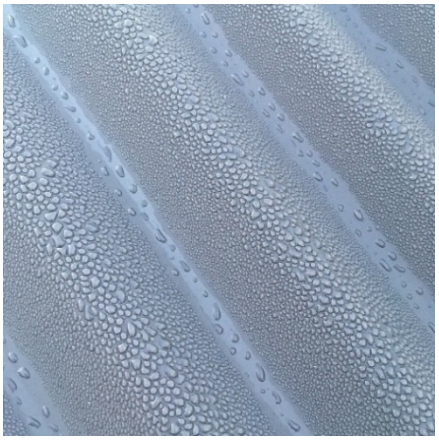
MRCAA Metal Roofing and Cladding Association of Australia

METAL ROOFING and CONDENSATION

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



On cold, clear and still nights across Australia it is common to see condensation form on the top surface of metal roofing.



Exposure to clear night skies can cause the surface temperature of the metal roof to fall below the dew point, and moisture contained in the external air will condense on the roof surface.

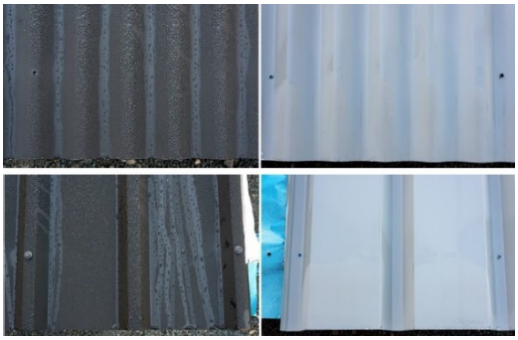
This may raise the question, ***what happens on the underside of metal roofing?***

In the case of metal roof structures such as open sheds, carports, verandas and awnings where the external night air can freely circulate underneath the roof, condensation on the underside of the cold metal roof sheeting is expected.

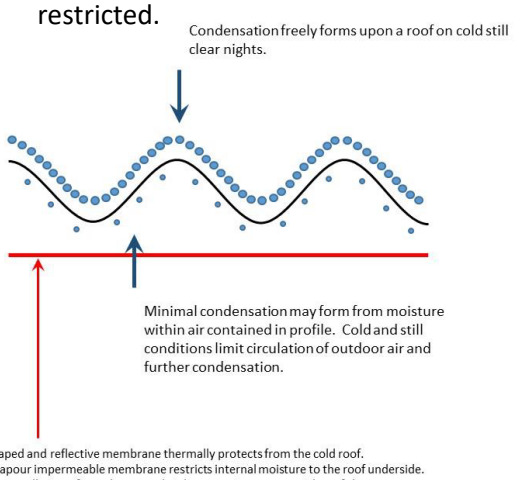
In the case of a metal roof in typical housing construction, the internal roof structure is effectively separated from the moist external air. On cold and still nights when condensation is most likely to occur, the absence of wind and significant thermal stack effect results in very still conditions underneath the metal roofing.

External moist air is very unlikely to circulate under ridge flashings and down along profiled metal sheeting, thereby avoiding a scenario of moisture condensation on the underside of the metal roof.

Steel roofing industry studies and field observations have demonstrated that in typical housing construction, external air is restricted from entering the roof space and thereby avoiding significant levels of condensation formation.



Where a pliable membrane vapour barrier is installed underneath metal roofing and draped to create an air gap to thermally protect from the cold roof sheet, the possibility of internal moisture reaching the underside of the metal roof sheeting is further restricted.



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