New Zealand Metal Roofing Manufacturers Association

Email admin@metalroofing.org.nz
www.metalroofing.org.nz

BU01 Double laying of Underlay on Re-Roof

19 March 2024 Version 1

When re-roofing with profiled metal, it is important that existing underlay gets replaced.

Underlays are required to perform to Standard AS/NZS 4200.1:2017. This sets performance requirements for a number of criteria, including minimum absorbency, water resistance, and maximum vapour resistance. Laying new underlay over old will potentially increase its absorbency and water resistance, but also increase its resistance to the passage of water vapour.

The consequences of restricting vapour movement can be that water vapour levels can build up in a roof cavity to the point that excessive condensation occurs. Condensation may accumulate on surfaces other than the underlay, the structure and ceiling are also susceptible to mould attack. The added absorbency and restriction of egress of water vapour also means that drying times will be extended, which can lead to durability issues with the roof and structure.

The mechanics of roof space ventilation and condensation are complex. Most roofs perform adequately in this regard, but problems of excessive internal moisture are not rare. New H1 regulations increasing insulation requirements have increased the incidence of this problem. Extra absorbancy is not a cure, the long-term solution is to let more water vapour out of the roof than gets in. Actions that unbalance this equilibrium can cause major issues.

For the above reasons, we recommend that no more than a single layer of compliant underlay (laps excluded) is present on a profiled metal roof.

Rod Newbold
Technical Consultant to NZ Metal Roofing Manufacturers Association
Editor Metal Roofing and Wall Cladding Code of Practice