

New NCC thermal bridging requirements, Section J of Volume 1 – effective 1 May 2020

The National Construction Code (NCC) 2019 outlines new energy efficiency requirements, calling for thermal bridging between building elements to be fully accounted for in thermal computations for most Australian building classifications, impacting Total R-Value. NCC 2019 directly refers to NZS 4214:2006, used in New Zealand's Building Code to determine thermal resistance of building elements.

Thermal bridging occurs when insulation is broken or reduced; or interrupted by an element with higher thermal conductivity. As thermal bridges form 'paths of least resistance' for heat escape or entrance in the building envelope, introducing thermal bridging into the thermal computation process will influence Australia's predominant building methods.

'This amendment to calculating thermal performance will significantly impact the traditional wall systems made up of batt insulation bridged by metal or timber studs. The new requirement will lead to improved energy efficiency of new buildings, influencing specification of materials and the installation process, but overall, a far better outcome for our future building stock,' says Andrew Arblaster, Executive Officer, Insulation Australasia.

'Total R-Value was formerly calculated by adding R-Values of all materials comprising the system. The reference to NZS 4214:2006 mandates calculation of Isothermal Planes Pathways, accounting for heat leakage through repeating thermal bridges in construction. These leaks negatively impact on the system's overall thermal performance. To meet the new NCC 2019 requirement, building designers and architects have the option to create thicker wall areas or choose continuous insulation systems to return higher R-Values.

'Achieving the necessary R-Values for walls will be arduous if designers don't reconsider their processes and move on from conventional insulating systems,' Andrew notes. 'To achieve the required Total R-Value, more architects and designers will need to consider specifying continuous insulation systems.'

The transition period for the NCC 2019 concluded on 1 May 2020.

[Click here](#) to learn more about the new requirements.