Change is Upon the Insulation Industry

May 2020 marks a significant milestone for change in the Australian Insulation industry as it is the drop dead date for compliance to the revised insulation standard AS/NZS 4859.1.2018 under NCC2019 and according to the Australian trade association Insulation Australasia there are significant changes required to how products are tested and declared.

Insulation Australasia represents a "broad church" of insulation industry participants and warns manufacturers, specifiers and the broader construction industry that the transition period for change concludes on May 1st 2020 after which all manufacturers are expected under NCC 2019 to be complying with the amended Standard AS/NZS4859.1:2018.

Thermal requirements for insulation materials are called up under NCC 2019 Vol. 1 Part J1.2 Thermal construction – general and Vol.2 Part 3.12.1.1 *Building fabric thermal insulation*. These parts call up the requirement for thermal insulation materials to comply with AS/NZS 4859.1 Thermal insulation materials for buildings – *General criteria and technical provisions*.

"The amended AS/NZS4859.1:2018 includes considerable change on the previous standard impacting both the way product is tested and how thermal performance by way of an R-value shall be both calculated and declared with particular focus on bulk insulation, reflective foil insulation and rigid foam insulations", according to Insulation Australasia's executive officer Andrew Arblaster.

Insulation Australasia's Technical Committee outlines the following as the most significant of these changes within the amended standard AS/NZS 4859.1:2018 with respect to thermal testing and formal declarations of performance labelling:

Changes to Thermal Testing:

- A statistical assessment of at least 10 test results is required for each material assessed under the standard.
- This statistical assessment must determine the R-value and thermal conductivity for the products tested from the statistically adjusted mean values representing a 50% fractile with 90% confidence for a one sided tolerance interval. To be expressed as $R_{50/90}$ or $\lambda_{50/90}$.
- The same statistical assessment is applicable for all insulation materials, with the exception of vacuum insulation panels.
- The adopted heat aging methods required for determination of long term thermal values for rigid foam insulation materials are now aligned with European standards and are more stringent than before to more accurately represent long term in-situ performance :
    - Phenolic foam (PF) insulation is now included with an accelerated aging requirement for aging for 14 days at 110°C, or for 175 days at 70°C, or aged using a prescribed slicing method.

PO Box 576, Crows Nest NSW 1585

T: +61 2 9431 8665

E: info@insulationaustralasia.org **W:** www.insulationaustralasia.org

- Polyisocyanurate(PIR) and Polyurethane (PUR) insulations are now required to be heat aged for 175 days at 70°C, or aged using a prescribed slicing method.
- Extruded Polystyrene (XPS) insulation is now required to be aged for up to 90 days at 23°C, depending on product thickness and composition, i.e. whether faced or unfaced with foil.
- Expanded Polystyrene (EPS) is not required to be aged before testing.

Changes to Thermal Declarations and Labelling

- The 'Declared R-value' or 'Declared λ-Value' must not be higher or lower than the $R_{50/90}$ or $\lambda_{50/90}$ respectively.
- Additional requirements for labelling are:
  - Location of the manufacturing plant
  - The relevant temperature for the declared thermal values (23°C for Australia and 15°C for New Zealand) must be consistently applied across the relevant markets.
- It should be noted that Total R-values are no longer acceptable for product labelling

NCC 2019 represents the most significant change in the compliance landscape for insulation from both a fire testing and thermal testing perspective in over a decade.

Insulation Australasia advises insulation manufacturers, building certifiers, specifiers and builders to be diligent and ensure they are across these changes with specific reference to the fire testing requirements under Specification C1.10 Clause 7 of NCC 2019 Vol 1.and the reference to compliance with AS/NZS4859.1:2018 under NCC 2019 Vol. 1 Part J1.2 Thermal construction – general and Vol.2 Part 3.12.1.1 *Building fabric thermal insulation*.

Note that the NCC is available free for practitioners off the ABCB Website at: **https://ncc.abcb.gov.au/**

For more information or specific questions in respect to insulation compliance please email the IA Technical Committee at: info@insulationaustralasia.org

PO Box 576, Crows Nest NSW 1585

T: +61 2 9431 8665

E: info@insulationaustralasia.org **W:** www.insulationaustralasia.org