

### Presentation Outline

Building envelope design is not just about keeping out the rain and the wind. We are increasingly faced with the challenge of balancing the need to keep out, or let in the cold or the heat, daylight, fresh air or contaminated air, sound, fire and humidity as appropriate for all seasons, and all times of the day.

Long perceived to be immune from such problems, 'the lucky county' has seen an increase in the occurrence and severity of condensation problems across disparate climate zones as standard designs start to fail.

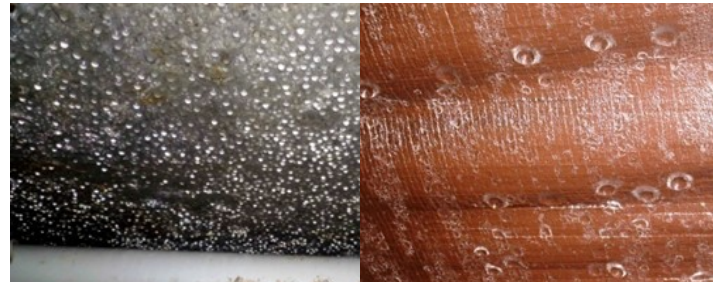
An ABCB nationwide survey estimates that about 40% of new and existing buildings suffer from condensation. The NCC 2019 includes the first version of the code with a dedicated condensation management section under health and amenity.

The presentation considers the role played by various control layers and how they impact design and specification to aid the understanding and effective management of condensation risk.

### About the presenter

Andy Russell has worked in the field of condensation in Europe with UK based building envelope specialists A Proctor Group. Andy also worked in Japan for 7 years including a spell secondment to Daiwa House, Japan's largest housing manufacturer. He also conducted research into the performance of construction membranes at the Kyoto Institute of Technology.

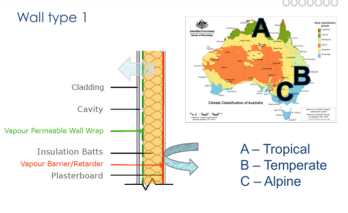
Andy has been in Australia since 2007 and was a member of the group writing the first edition of the "Condensation Handbook" published in 2011 by the ABCB and presented across Australia on the subject to several industry associations and as part of the 2011 Australian Institute of Architects Refuel National Seminar Series.



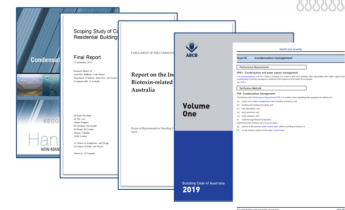
Control layers in the building envelope



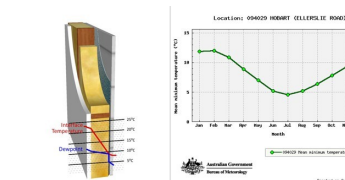
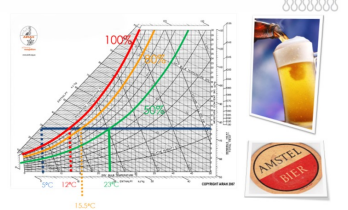
Moisture Management by climate



NCC 2019 – Part F6 (Part 3.8.7)



Beer & Dew Point



### Unit of Competence

Design – an activity involving iterative explorations and appraisals of a range of ideas and concepts, leading towards the development of coherent proposals for a project.

### Learning Outcomes

By the end of this presentation, attendees will be able to:

- Identify and understand the legislative framework and duties and obligations with respect to Condensation Management.
- Explain what condensation is, and why condensation can and does occur in the built environment.

- Identify and explain the functionality and interplay of water, vapour, air, acoustic, thermal and fire control layers.
- Recognise the psychrometric chart and be able to use this to calculate dew point temperature.
- Identify for standard construction details for a given climate zone where there is potential for condensation to form and if this presents a risk.
- Understand the functionality and performance of different types of sarking membranes.
- Understand the role played by effective ventilation in managing condensation risk.
- Know when and where to seek assistance