CPD Webinar series

A design perspective on condensation management

Speaker | **Tim Law**
PhD (Architecture)
Ric Solutions

12 August 2025

ric. Solutions

ā rbv

Architects
Registration Board
of Victoria

Acknowledgment of Country

We respectfully acknowledge the Traditional Owners of the lands wherever attendees are situated, in particular the Wurundjeri People of the Kulin Nation, and pay our respects to their Elders past and present.

CPD Questionnaire

- Attending this webinar live and submitting this form will qualify you for 1 hour formal CPD.
- Certificates will be sent to the email address used to complete this form, please ensure your name and contact details are correct.
- This form will close 24 hours after the webinar has commenced.
- Certificates will be issued within 1 week of the closure of the quiz.

https://forms.office.com/r/CZ8ecGfkzP

ARBV CPD Webinar: A design pers pective on condensation management

Tim Law

PhD (Architectural Science)
Head of Building Sciences, RIC Solutions

- analysis of building performance and failure
- advocacy for more research into healthy buildings

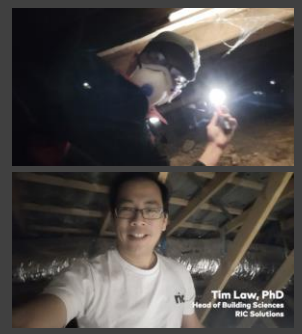
- Senior research fellow University of Melbourne (2024-present)
- Course Chair and Lecturer of Building Surveying, Victoria University (2019-2022)
- UTAS Lecturer of Architecture (2012-2017)

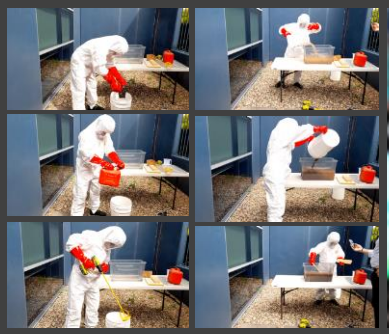
UNIVERSITY of TASMANIA

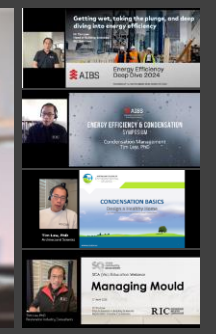
VICTORIA UNIVERSITY

THE UNIVERSITY OF MELBOURNE

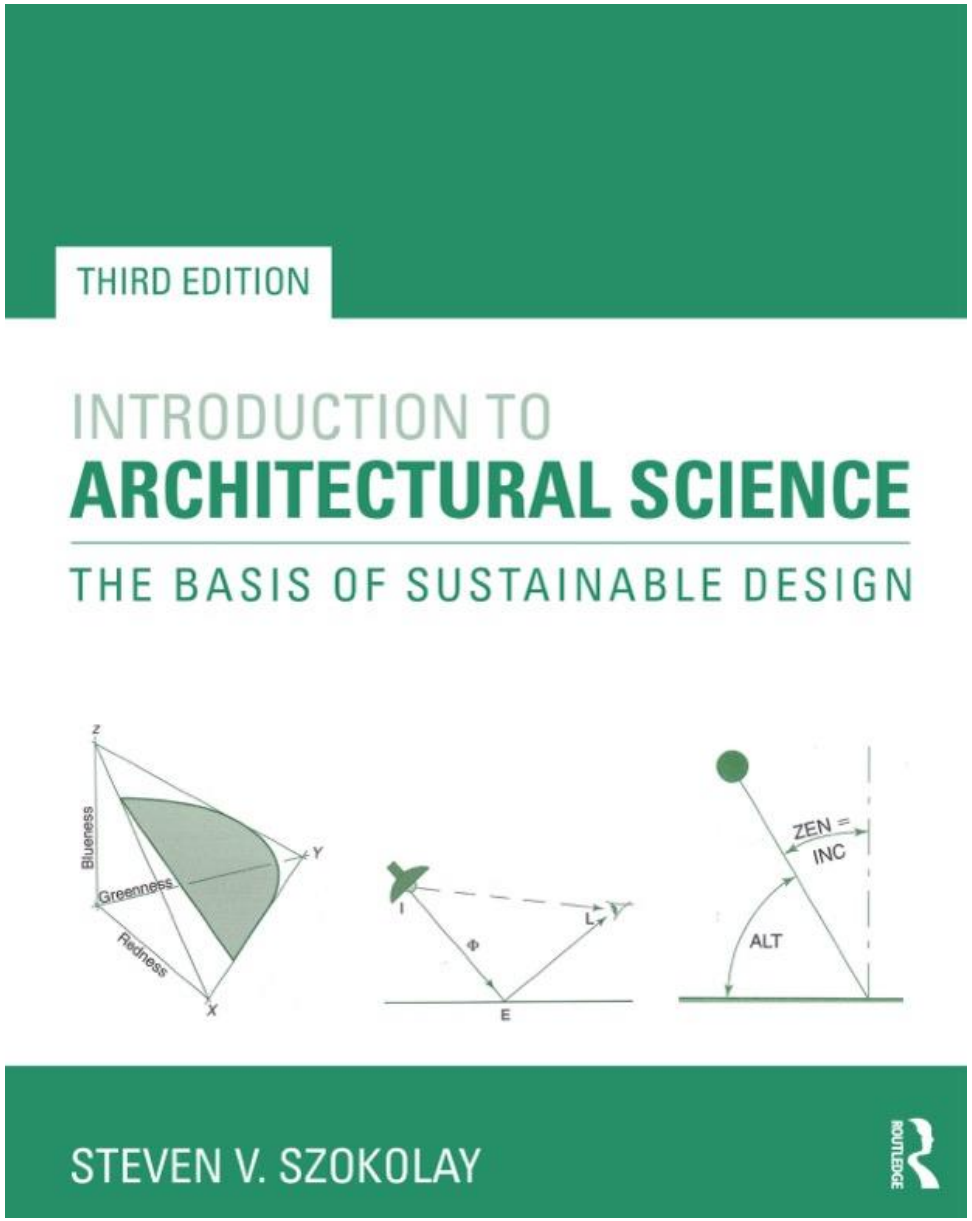
ric. Solutions







Architectural Science



[in 1944] the term 'Architectural Science' was introduced by H. J. Cowan, the first professor of that designation at Sydney University, expressing his intention of providing the scientific basis for architectural design. Initially his main concern was the science of materials, construction and structures. He started the publication of the quarterly Architectural Science Review and founded the Architectural Science Association (ANZAScA) as primarily an informal grouping of teachers of the subject. Originally this association was concerned with the building fabric, with the **physical science aspects of architectural design, later extending the field to include the science of indoor environments, thermal, acoustic and lighting**. During my presidency (1982) we included the relevant areas of social sciences.

Szokolay, S. V. (2014). *Introduction to Architectural Science: The Basis of Sustainable Design* (3rd ed.). Routledge. https://doi.org/10.4324/9781315852409

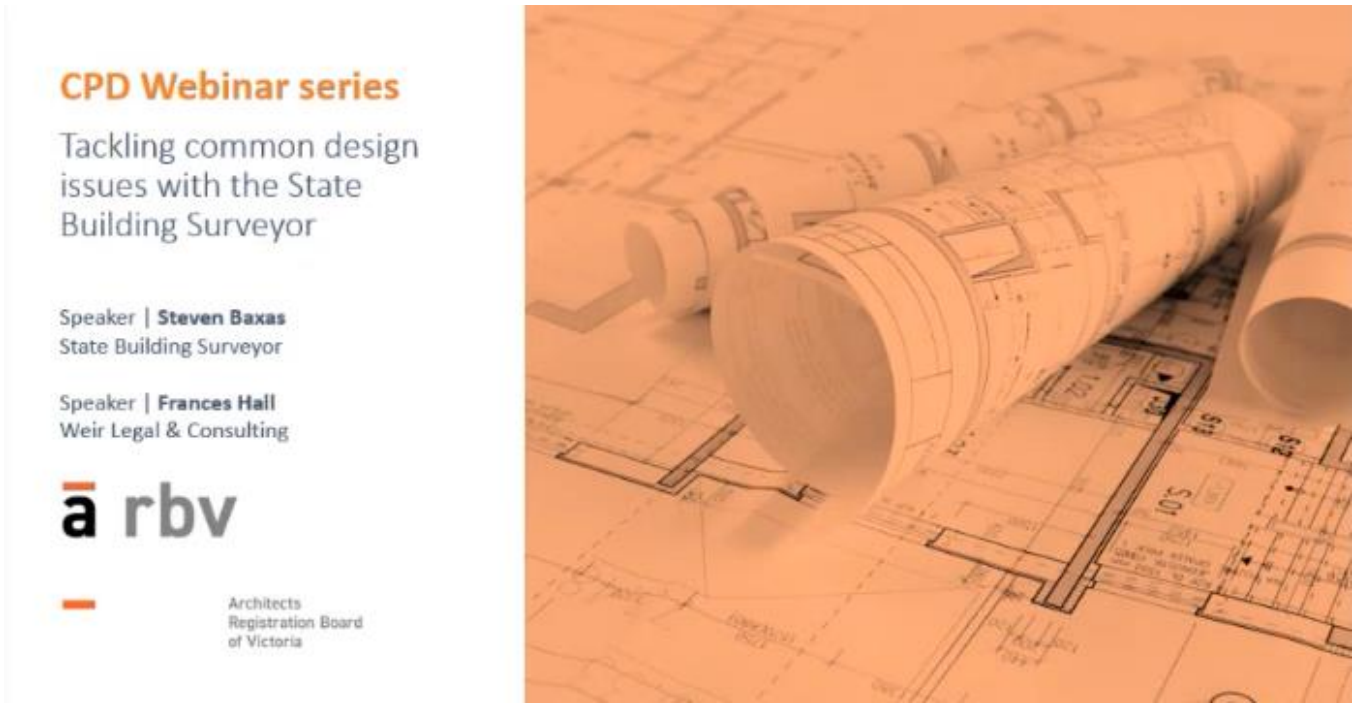
ARCHITECTURAL SCIENCE REVIEW

VOLUME 68 | NUMBER 2 | 2025

ARCHITECTURAL SCIENCE REVIEW

OFFICIAL

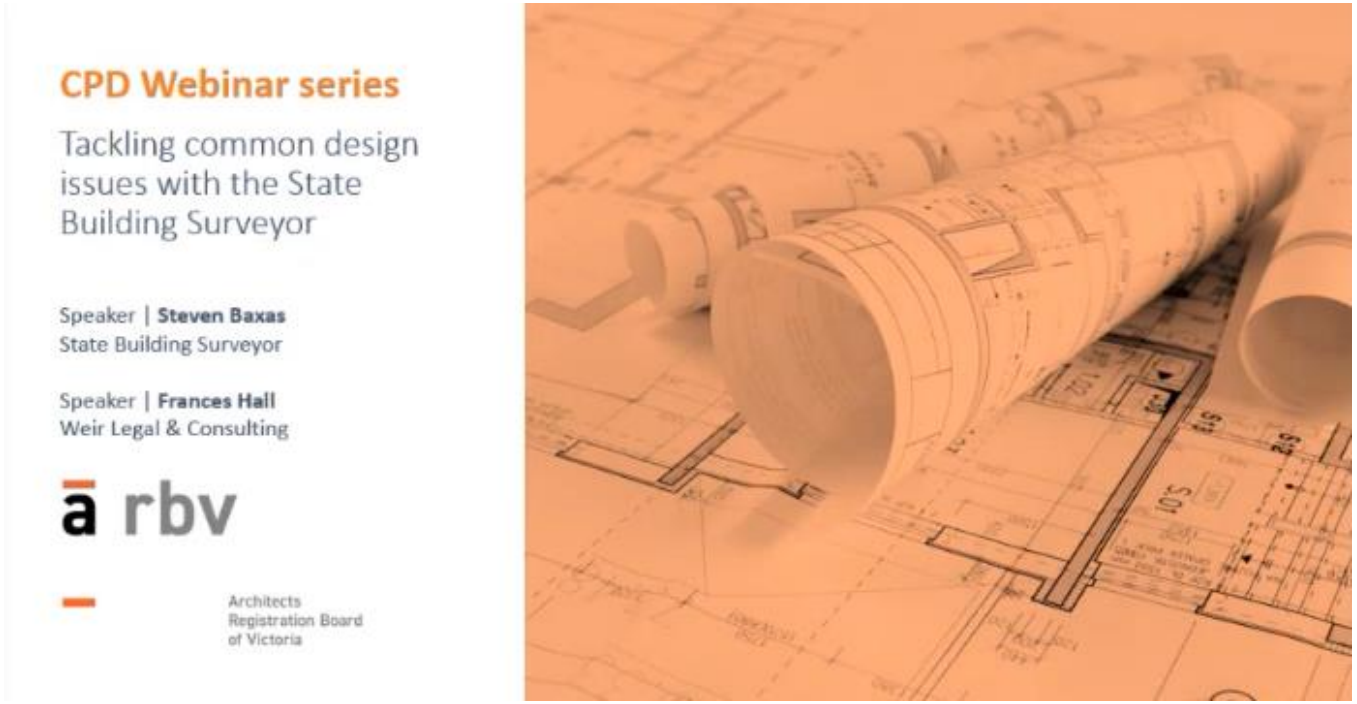
Architectural Documentation



ARBV CPD Webinar (2025) Tackling common design issues with the State Building Surveyor
https://www.arbv.vic.gov.au/media/991778

What I'd like to see. I'd like to see architecture be what it used to be when I first started in this industry, 20 or 30 years ago, maybe a little bit more than that. I see it. There's, it's diminished. The standards have diminished. It's not the architect's fault. They've been driven down by industry.

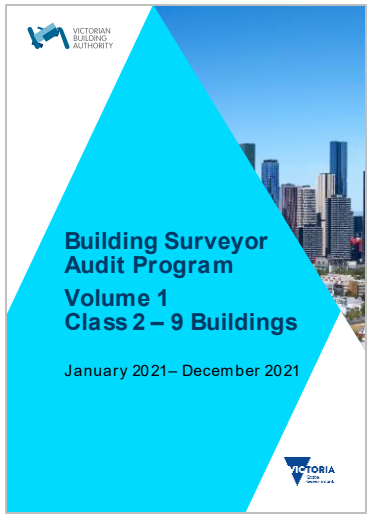
Steve Baxas (VIC State Building Surveyor)



ARBV CPD Webinar (2025) Tackling common design issues with the State Building Surveyor
https://www.arbv.vic.gov.au/media/991778

Poor design, has been has plagued us. There's lots of anecdotal and real evidence that that is the case when we see building defects. So the adequacy of design documentation has been the subject of industry scrutiny with findings suggest that there's a link between poor design documentation and project variations, increased construction costs and potential, construction and noncompliance of building works. So it's not just non-compliant documentation, it's insufficient documentation.

Steve Baxas (VIC State Building Surveyor)



3. DOCUMENTATION INSIGHTS

Documentation insufficiencies across all audits are shown in Figure 2.

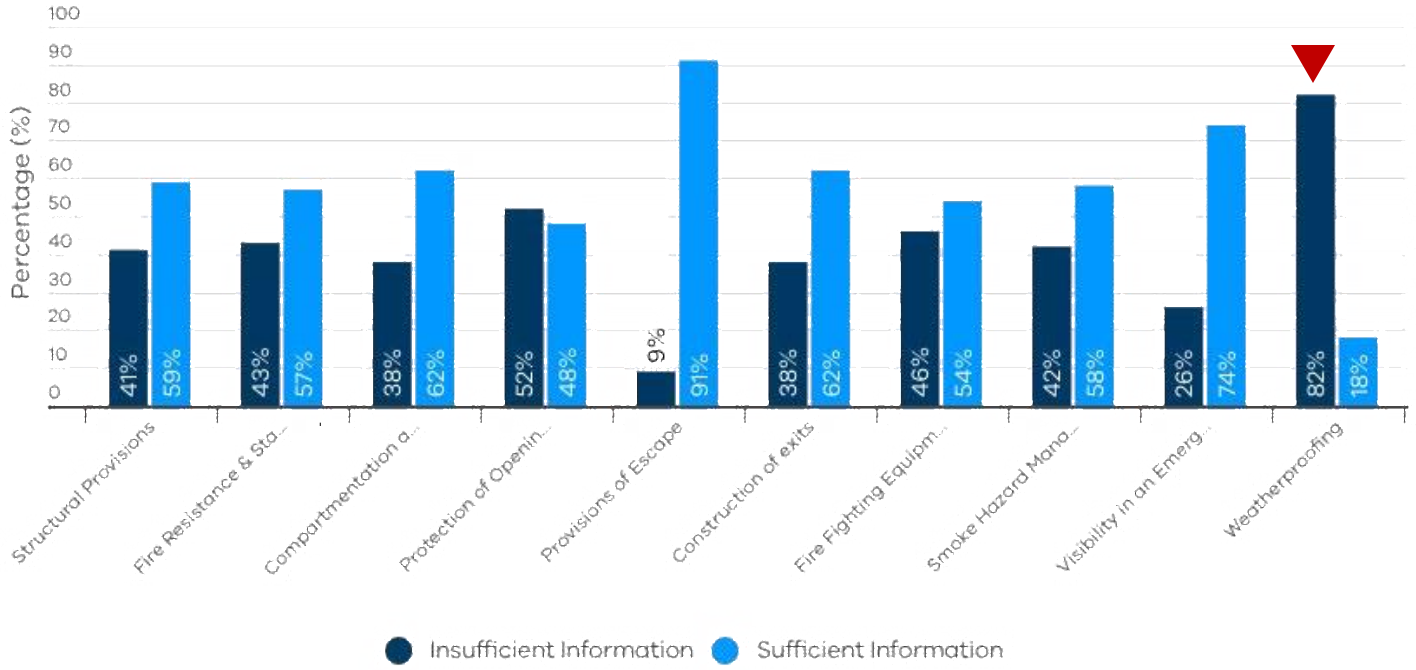


Figure 2. Documentation insufficiencies across all audits, where applicable

VICTORIAN BUILDING AUTHORITY

Building Documentation Audit

Volume 2 - Class 1&
Volume 1- Multi-Disciplinary Audit

March - August 2024

VICTORIA State Government

3. DOCUMENTATION INSIGHTS CLASS 1

Documentation insufficiencies across all audits are shown in Figure 3 for Class 1a buildings.

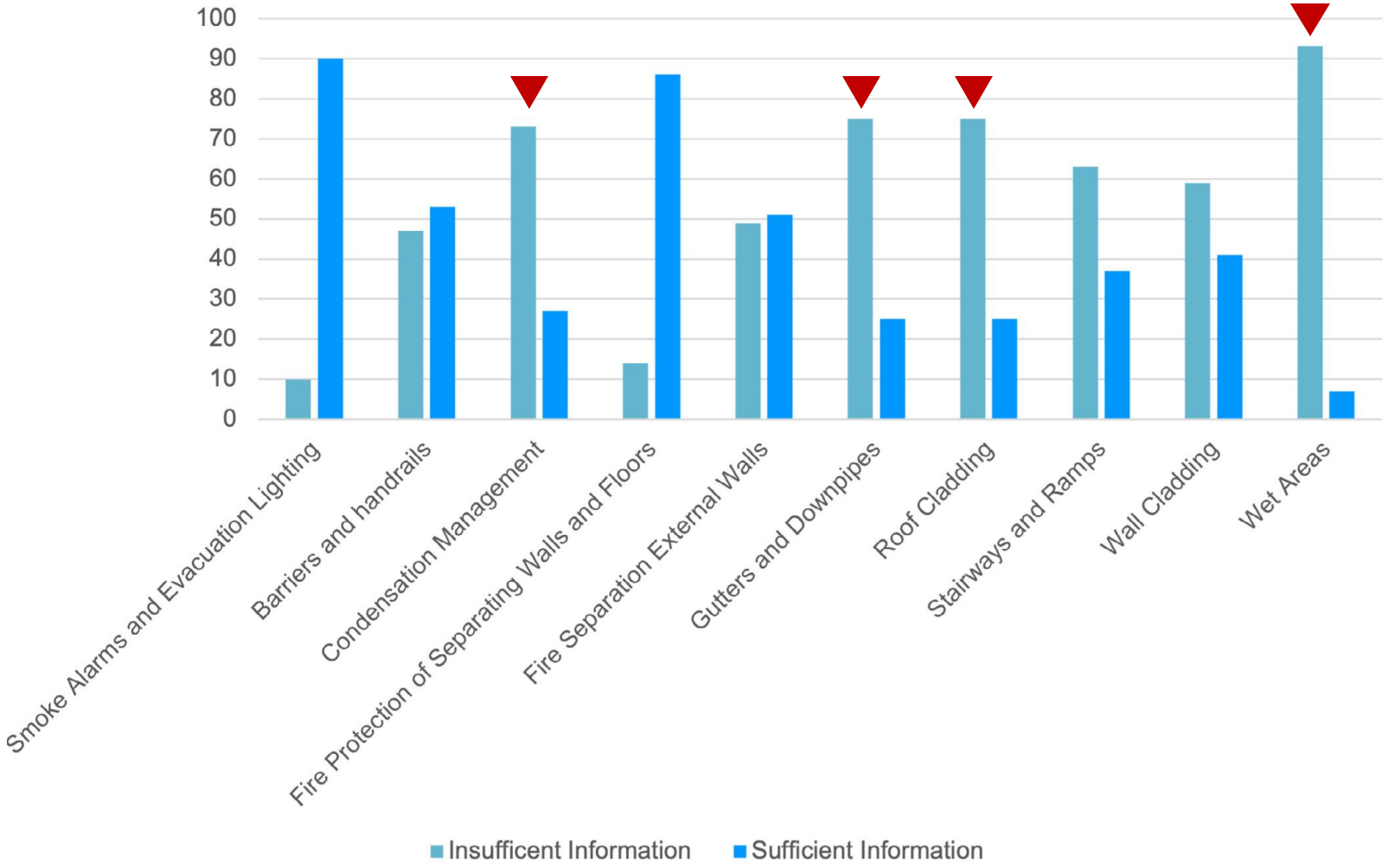


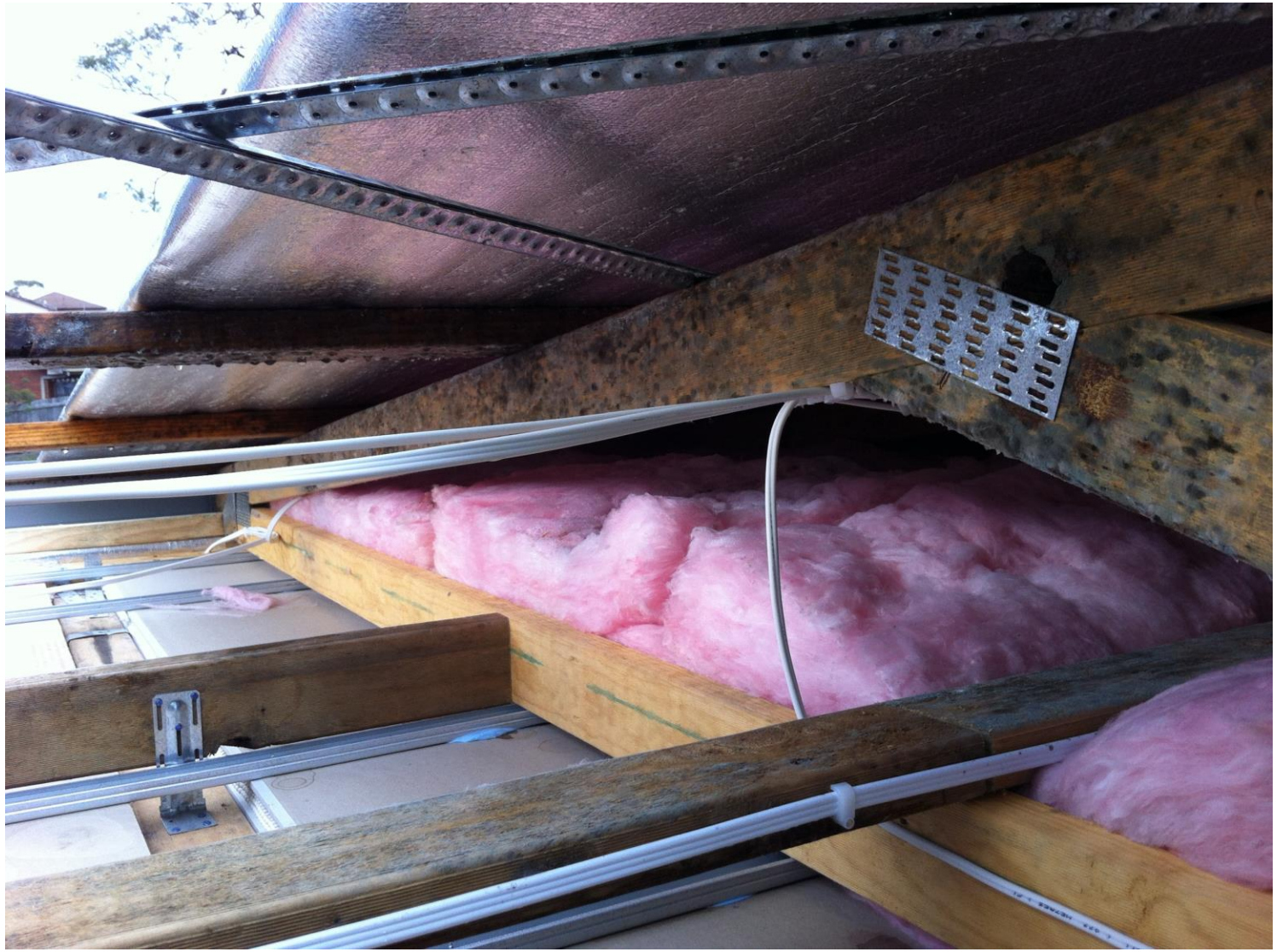
Figure 3. Documentation insufficiencies across all audits, where applicable that shows a comparison of sufficient and insufficient information for each category type.

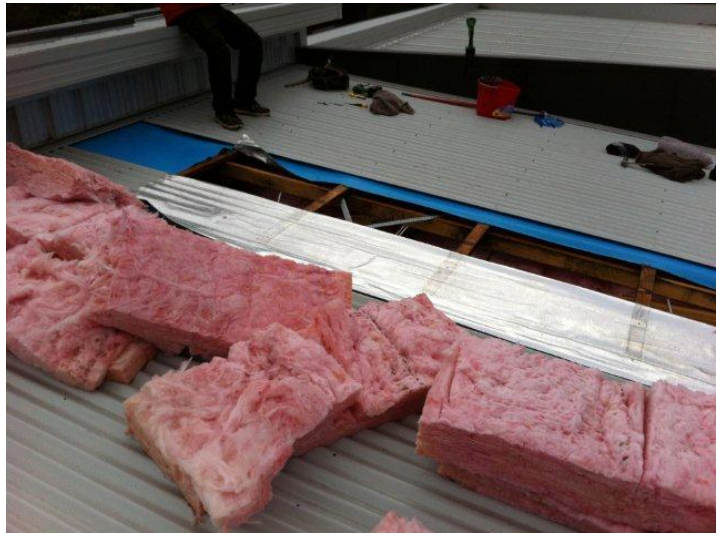
Lack of detail in design documentation

Building surveyors stated that more detail in design documentation could help to avoid defects that can lead to poor client-architect relationships. NSW architects suggested that "under documentation" of standard essential details in design documentation may be a form of risk avoidance for architects as well as a tactic to reduce documentation.

ARBV & NSW ARB (2024) Deep Dive Report into Systemic Risks in the Architecture Sector
https://www.arbv.vic.gov.au/deep-dive-report-systemic-risks-architecture-sector

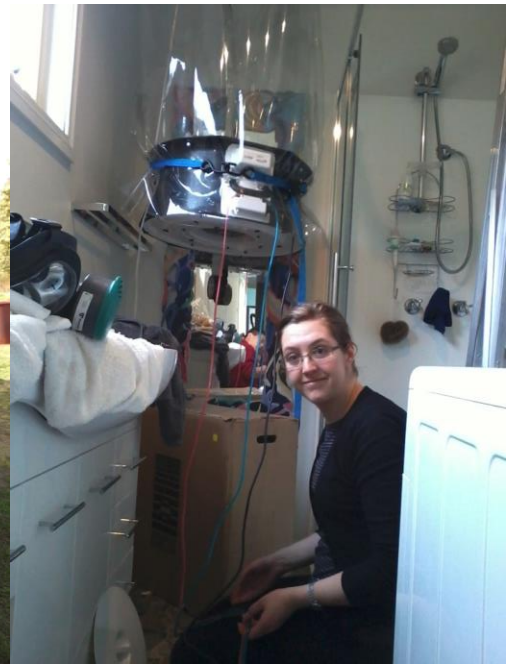
Condensation Timeline

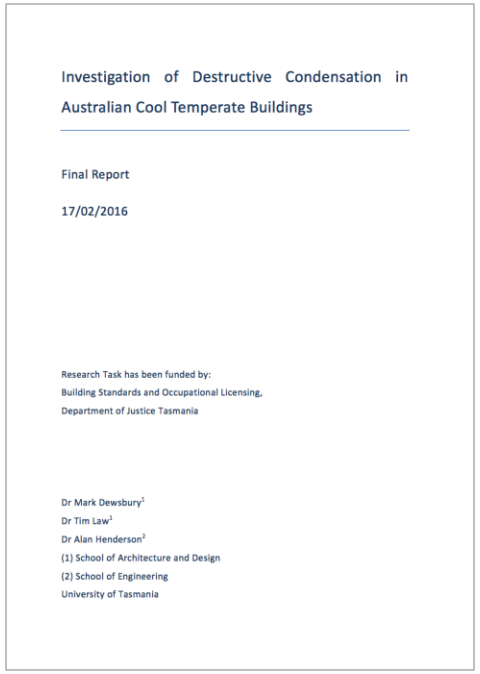




BSOL (Tasmania)

Investigation of Destructive Condensation in Australian Cool-temperate Buildings





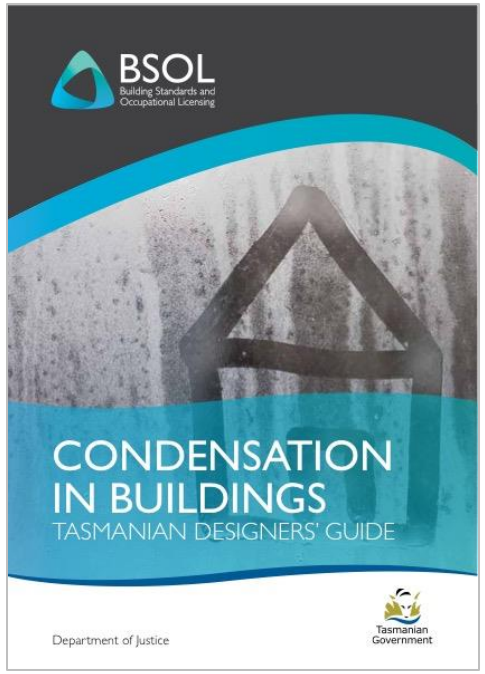
Investigation of Destructive Condensation in Australian Cool Temperate Buildings

Final Report

17/02/2016

Research Task has been funded by:
Building Standards and Occupational Licensing,
Department of Justice Tasmania

Dr Mark Dewsbury[1]
Dr Tim Law[1]
Dr Alan Henderson[2]
(1) School of Architecture and Design
(2) School of Engineering
University of Tasmania



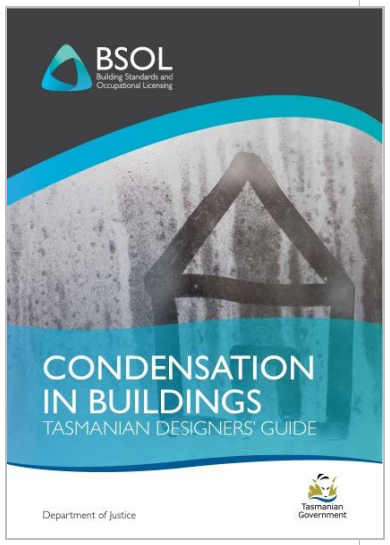


FIGURE 1 - RIDGE DETAIL : IRON ROOF

BUSHFIRE PRONE

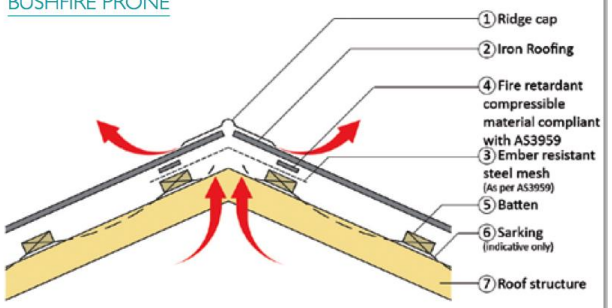
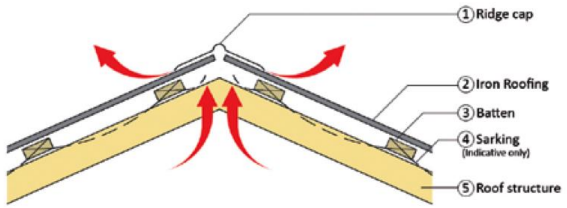


FIGURE 1.1 - RIDGE DETAIL : IRON ROOF

NON-BUSH FIRE PRONE



CONDENSATION IN BUILDINGS TASMANIAN DESIGNERS' GUIDE

FIGURE 2 - EAVES DETAILS : TRUSS & IRON ROOF

BUSH FIRE MESH WHEN REQUIRED TO AS3959

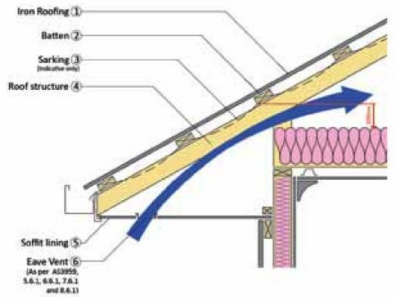
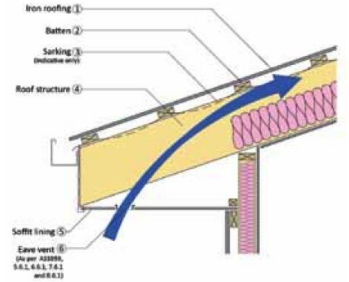


FIGURE 3 - EAVES DETAIL : SKILLON & IRON ROOF

BUSH FIRE MESH WHEN REQUIRED TO AS3959



CONDENSATION IN BUILDINGS TASMANIAN DESIGNERS' GUIDE

FIGURE 4 - RIDGE DETAIL : SKILLON & IRON ROOF

BUSH FIRE MESH WHEN REQUIRED TO AS3959

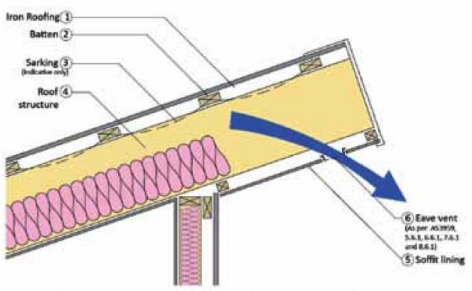
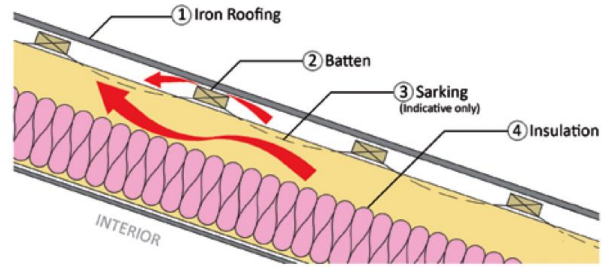
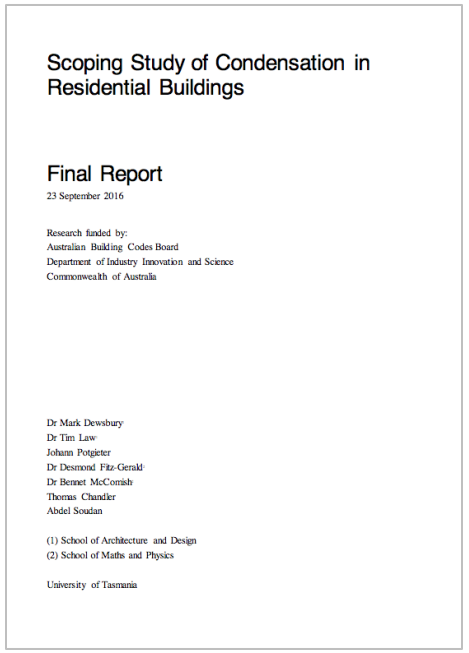


FIGURE 5 - ROOF DETAIL : VENTED SKILLION & IRON ROOF



CONDENSATION IN BUILDINGS TASMANIAN DESIGNERS' GUIDE

ABCB
Scoping study of condensation in residential buildings


Scoping Study of Condensation in Residential Buildings

Final Report

23 September 2016

Research funded by:
Australian Building Codes Board
Department of Industry Innovation and Science
Commonwealth of Australia

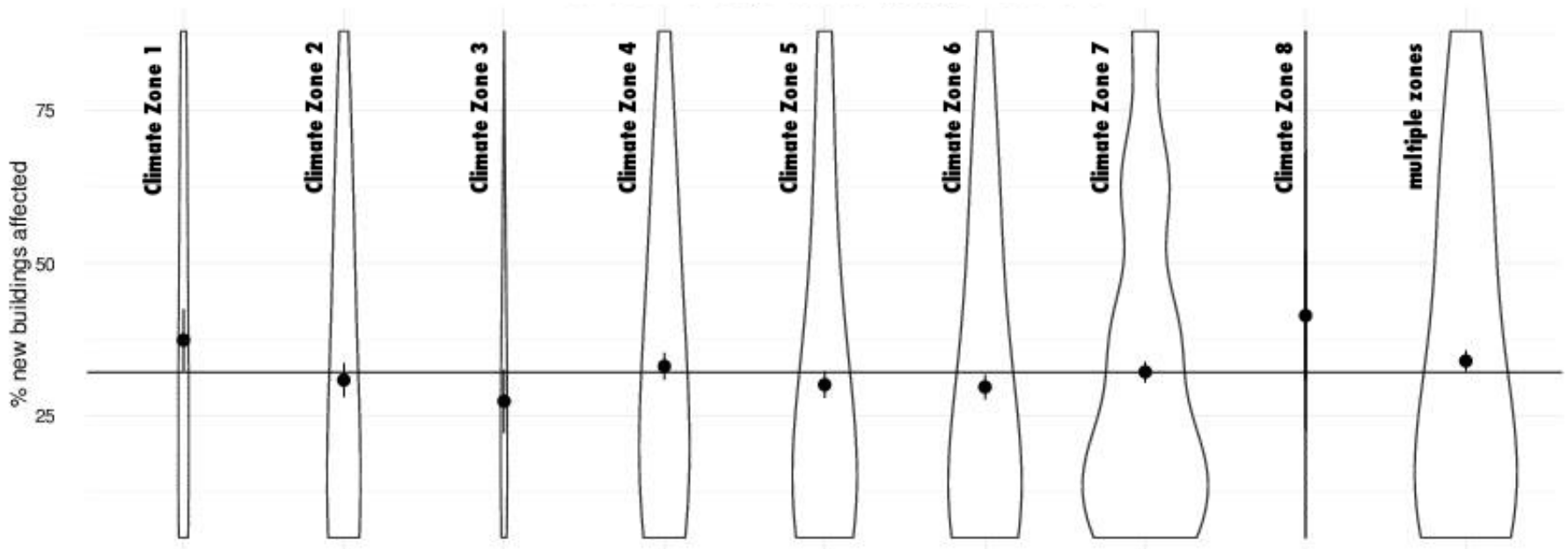
Dr Mark Dewsbury
Dr Tim Law
Johann Potgieter
Dr Desmond Fitz-Gerald
Dr Bennet McComish
Thomas Chandler
Abdel Soudan

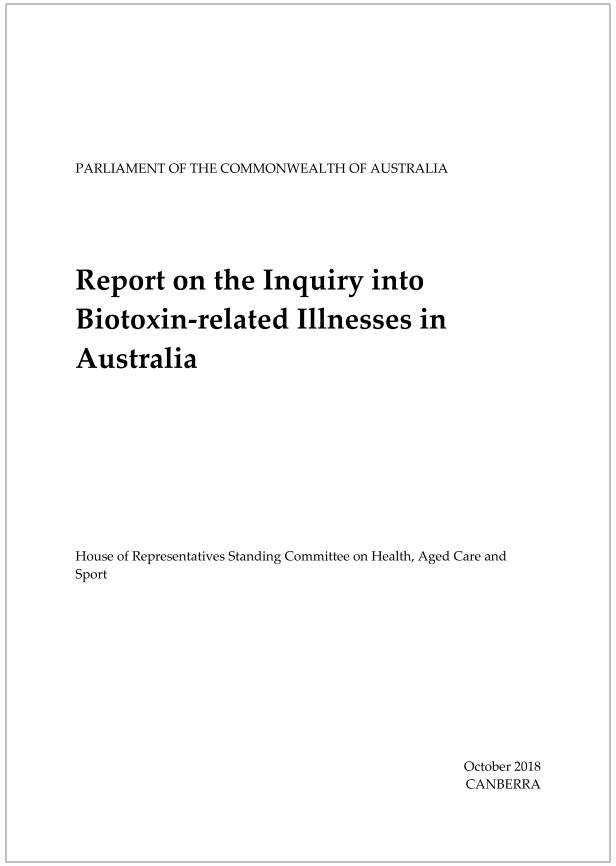
(1) School of Architecture and Design
(2) School of Maths and Physics

University of Tasmania

ABCB (2016) Scoping study of condensation in residential buildings
https://prod.abcb.gov.au/resource/report/scoping-study-condensation-residential-buildings

ABCB Condensation Survey (2015-16)
What do you believe is the overall proportion of new residential buildings (both houses and apartments) affected by condensation?





PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

Report on the Inquiry into Biotoxin-related Illnesses in Australia

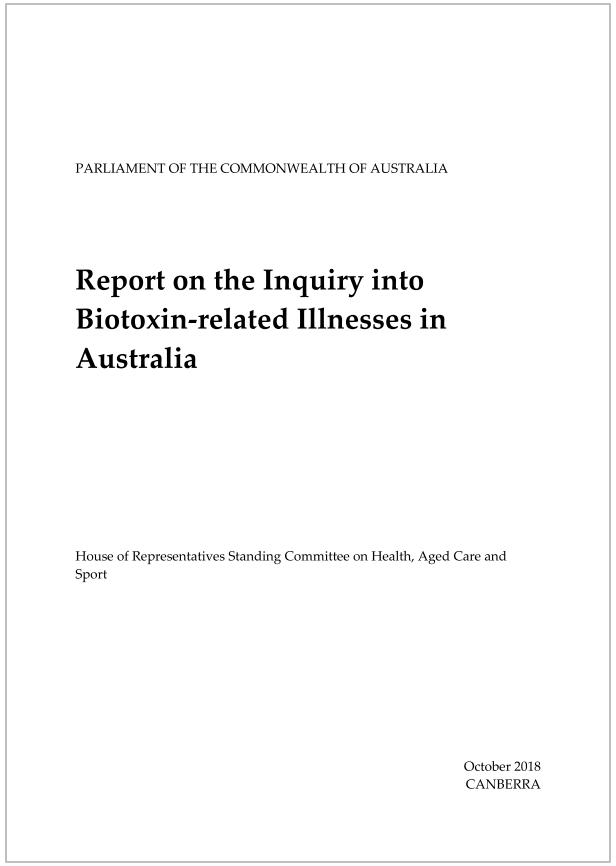
House of Representatives Standing Committee on Health, Aged Care and Sport

October 2018
CANBERRA

Commonwealth Government

Inquiry into Biotoxin-related Illnesses in Australia

Parliament of the Commonwealth of Australia (2018) Inquiry into Biotoxin-related Illnesses in Australia
https://www.aph.gov.au/Parliamentary_Business/Committees/House/Health_Aged_Care_and_Sport/BiotoxinIllnesses/Report



PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

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October 2018
CANBERRA

Parliament of the Commonwealth of Australia (2018) Inquiry into Biotoxin-related Illnesses in Australia
https://www.aph.gov.au/Parliamentary_Business/Committees/House/Health_Aged_Care_and_Sport/BiotoxinIllnesses/Report

Recommendation 4

2.94 The Committee recommends that the Australian Government work with states and territories to conduct further research into the adequacy of current building codes and standards related to the prevention and remediation of dampness and mould in buildings.

Recommendation 6

3.96 The Committee recommends that the Australian Government commission the National Health and Medical Research Council to conduct research into CIRS-like syndromes with a view to assisting in the diagnosis, treatment and management of patients. Research should also examine any links between mould and biotoxins and complex symptoms most commonly reported as typifying CIRS.

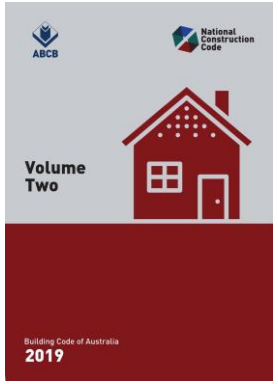
Part F6 Condensation management

Performance Requirements

FP6.1 Condensation and water vapour management

In a *sole-occupancy unit* of a Class 2 building or a Class 4 part of a building, risks associated with water vapour and *condensation* must be managed to minimise their impact on the health of occupants.

Tas FP6.1



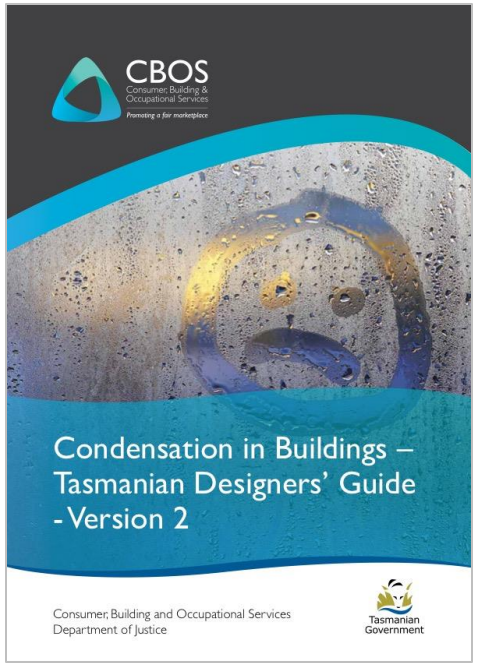
P2.4.7 Condensation and water vapour management

Risks associated with water vapour and *condensation* must be managed to minimise their impact on the health of occupants.

Application:

P2.4.7 only applies to a Class 1 building.

Tasmania



Section F Health and amenity

Part F6 Condensation management

Tas FP6.1 Condensation and water vapour management

After FP6.1 insert the following:

Note:

Refer to the guidance in the "Condensation in Buildings Tasmanian Designers' Guide - Version 2" that should be adhered to where possible.

V2.4.7 Verification of condensation management

Compliance with P2.4.7 is verified when modelling that assesses the effects of—

(a) indoor and outdoor temperature and humidity conditions; and

(b) heating and cooling set points; and

(c) rain absorption; and

(d) wind pressure; and

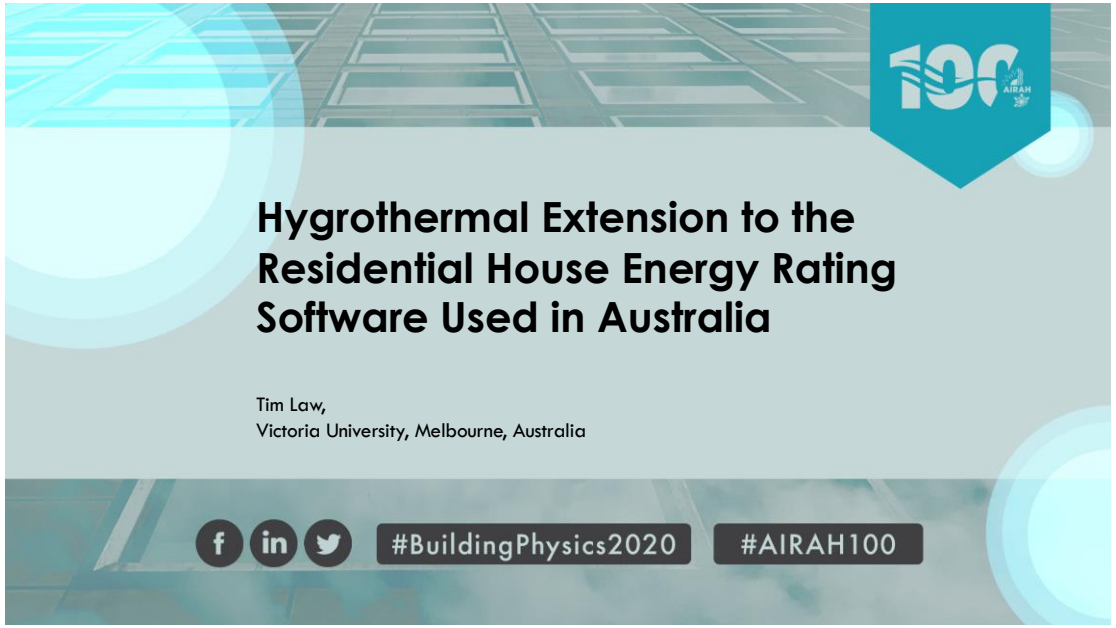
(e) solar radiation; and

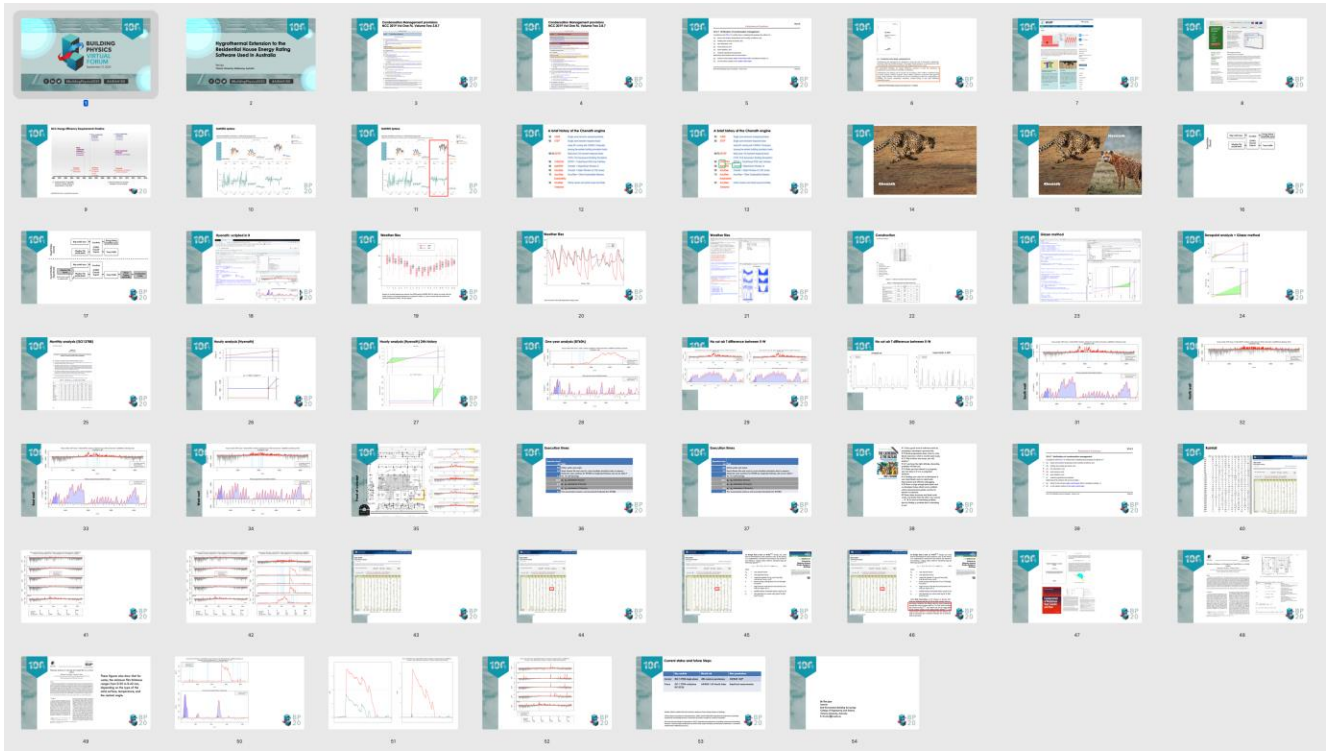
(f) material hygrothermal properties,

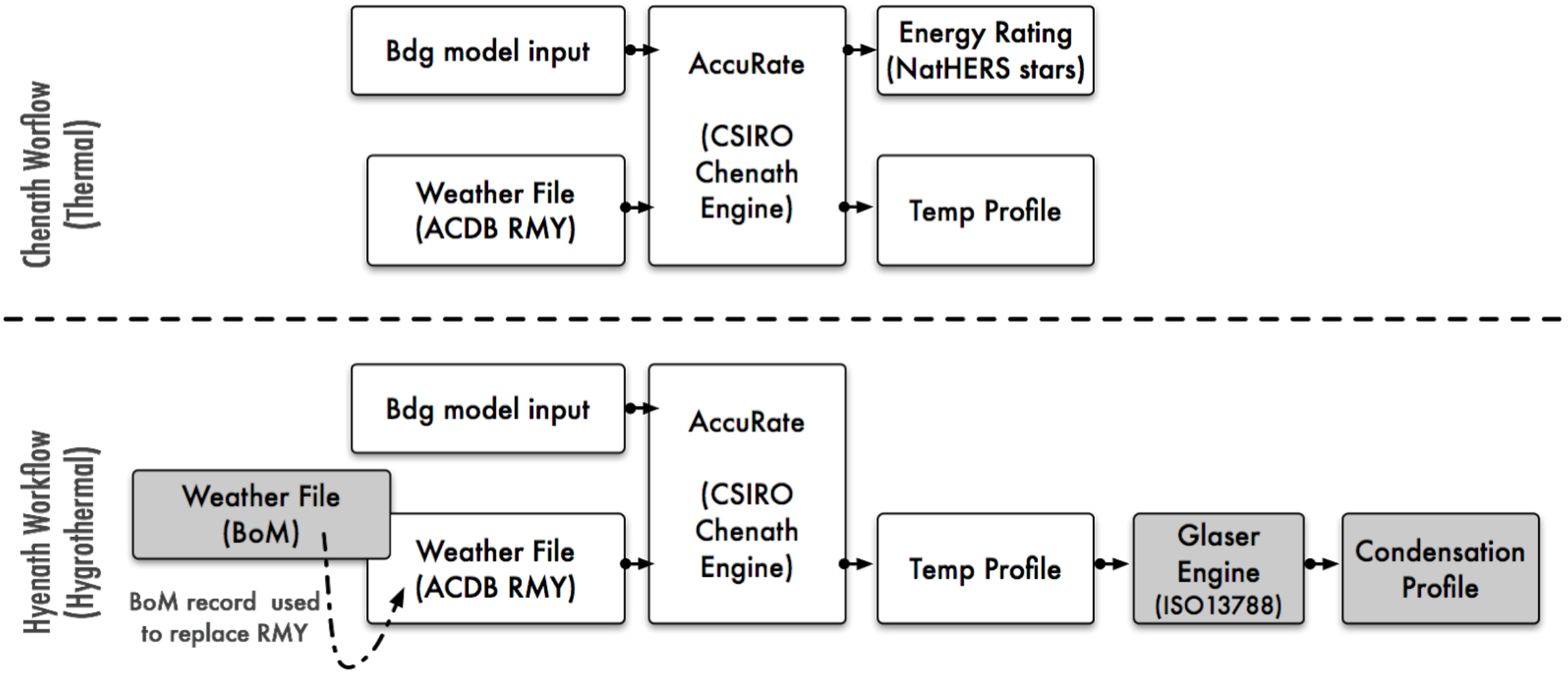
determines that moisture will not accumulate—

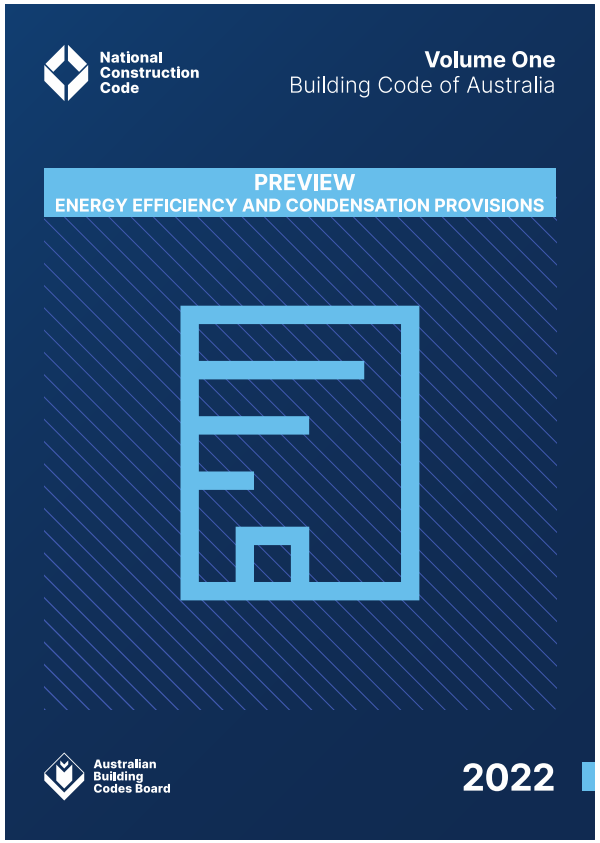
(g) interior to the primary *water control layer* within a building envelope; or

(h) on the interior surface of the *water control layer*.

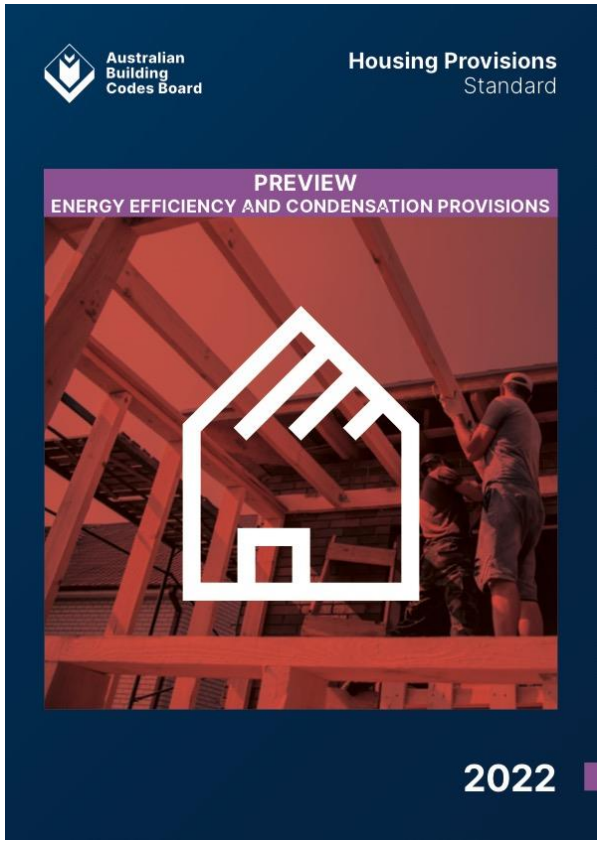

Hygrothermal Extension to the Residential House Energy Rating Software Used in Australia
Tim Law,
Victoria University, Melbourne, Australia
#BuildingPhysics2020
#AIRAH100

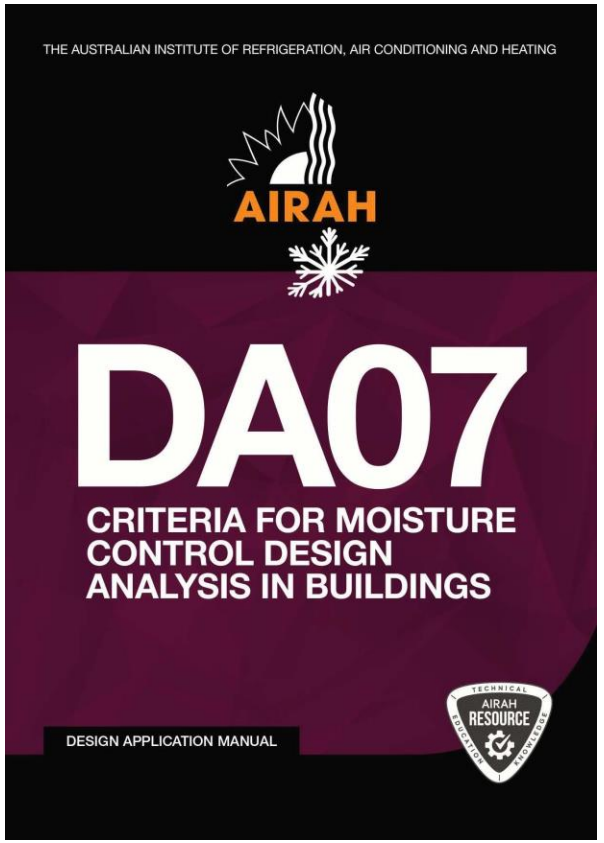


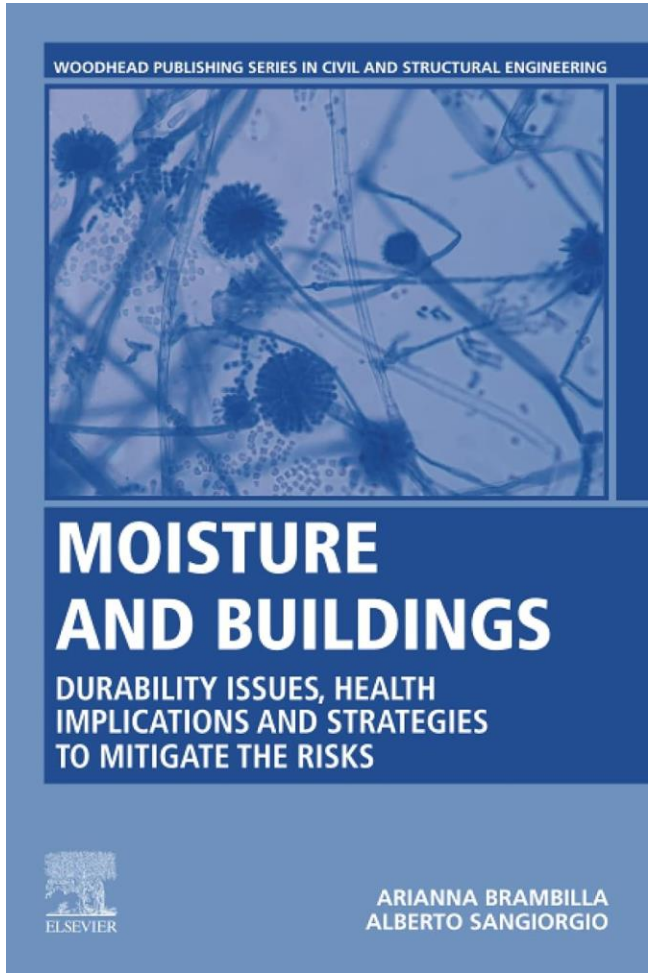

Chenath Worflow (Thermal)
Bdg model input
Weather File (ACDB RMY)
AccuRate (CSIRO Chenath Engine)
Energy Rating (NatHERS stars)
Temp Profile
Hyenath Workflow (Hygrothermal)
Bdg model input
Weather File (BoM)
Weather File (ACDB RMY)
BoM record used to replace RMY
AccuRate (CSIRO Chenath Engine)
Temp Profile
Glaser Engine (ISO13788)
Condensation Profile


National Construction Code
Volume One
Building Code of Australia
PREVIEW
ENERGY EFFICIENCY AND CONDENSATION PROVISIONS
Australian Building Codes Board
2022

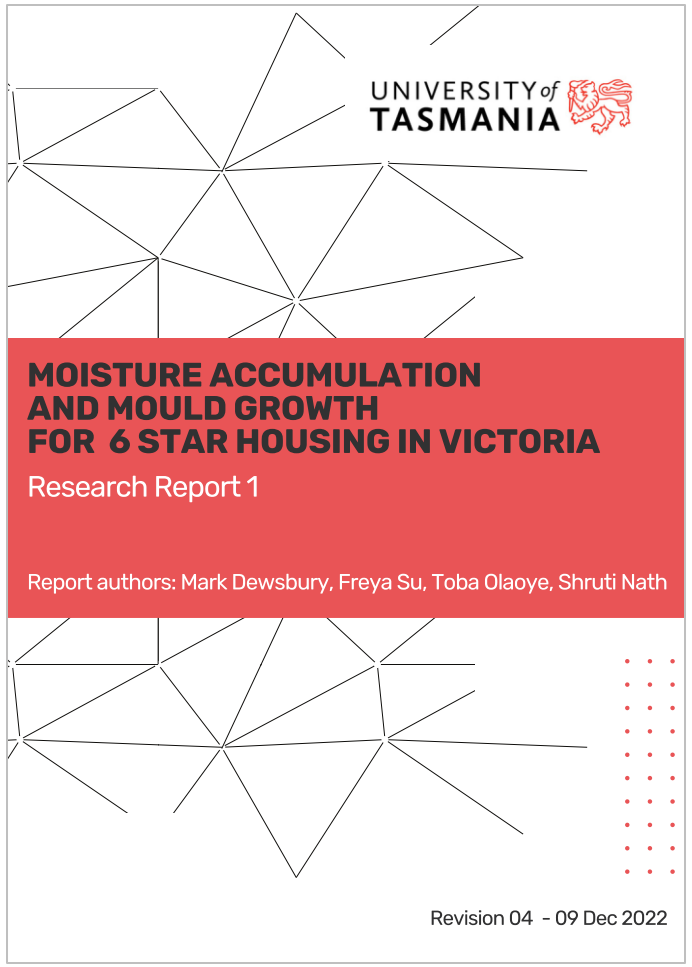

National Construction Code
Volume Two
Building Code of Australia
PREVIEW
ENERGY EFFICIENCY AND CONDENSATION PROVISIONS
Australian Building Codes Board
2022


Australian Building Codes Board
Housing Provisions
Standard
PREVIEW
ENERGY EFFICIENCY AND CONDENSATION PROVISIONS
2022

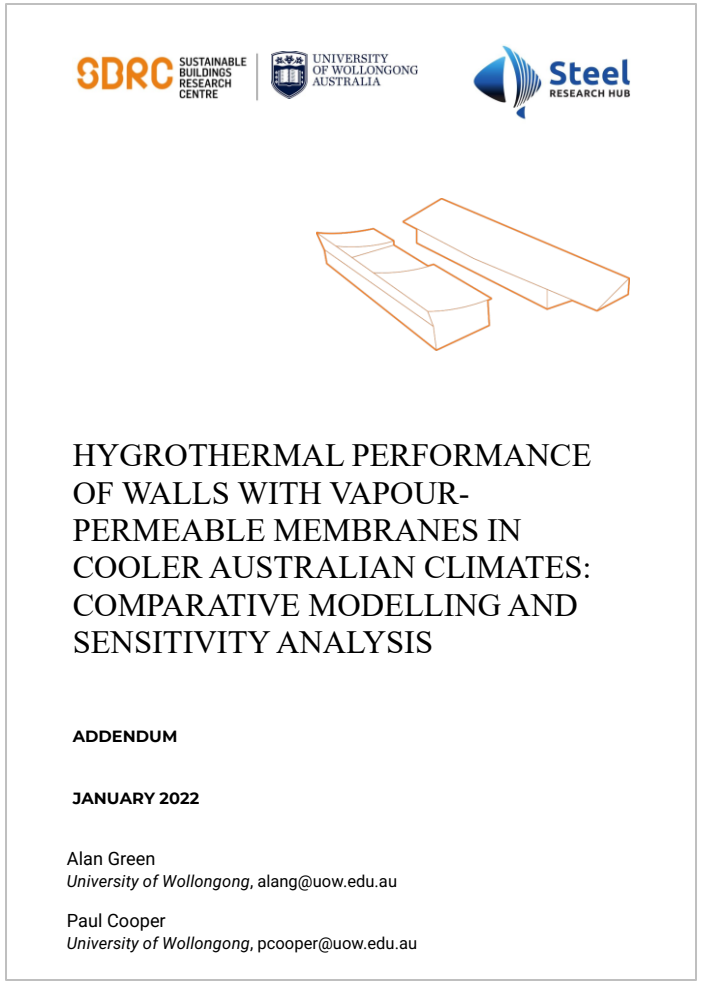

THE AUSTRALIAN INSTITUTE OF REFRIGERATION, AIR CONDITIONING AND HEATING
AIRAH
DA07
CRITERIA FOR MOISTURE CONTROL DESIGN ANALYSIS IN BUILDINGS
DESIGN APPLICATION MANUAL
TECHNICAL
AIRAH RESOURCE



Brambilla and Sangiorgio (2021) Moisture and Buildings: Durability Issues, Health Implications and Strategies to Mitigate the Risks
https://shop.elsevier.com/books/moisture-and-buildings/brambilla/978-0-12-821097-0



UTAS (2022) Assessment of mould growth risk in regulatory compliant 6 and 7 star new homes in Victoria
https://www.vba.vic.gov.au/about/research/assessment-of-mould-growth-risk-in-regulatory-compliant-6-and-7-star-new-homes-in-victoria



University of Wollongong (2022) Hygrothermal Performance of Vapour-Permeable Wall Membranes in Cooler Australian Climates: Comparative Modelling and Sensitivity Analysis
https://ro.uow.edu.au/articles/report/Hygrothermal_Performance_of_Vapour-Permeable_Wall_Membranes_in_Cooler_Australian_Climates_Comparative_Modelling_and_Sensitivity_Analysis_Addendum_January_2022/27778479?file=50549394

Australian Building Codes Board

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Condensation Mitigation Modelling: Final report

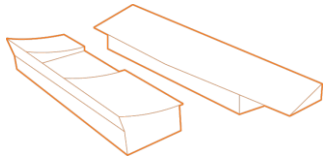
Condensation Mitigation Modelling: Final report

1 May 2024

Technical report for PCD 2025 - Condensation mitigation

Final-Report-Condensation-Mitigation-Modelling.pdf(12.98 MB)

SBRC SUSTAINABLE BUILDINGS RESEARCH CENTRE | UNIVERSITY OF WOLLONGONG AUSTRALIA



CONDENSATION MITIGATION MODELLING: FINAL REPORT

A REPORT FOR THE AUSTRALIAN BUILDING CODES BOARD

OCTOBER 2023

2.2.1 Masonry Veneer Wall

The masonry veneer wall was modelled with the material layers outlined in Table 2-4, as illustrated in Figure 2-1. All cases included a 40 mm ventilated cavity.

Table 2-4: Material layers in the masonry veneer wall.

Layer	Material	Thickness [mm]
A	Extruded clay brick	110
B	Cavity	40
C	Pliable membrane	1
D	Mineral wool insulation	90
E	Plasterboard	10
F	Indoor paint, 3 coats[1]	0.075

[1] *Finish on the interior surface was not included as a material layer in the model, but its influence on vapour diffusion was modelled using a surface resistance.*

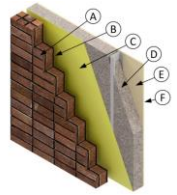


Figure 2-1: Masonry veneer wall.

2.2.2 Cavity Masonry Wall

The cavity masonry wall was modelled with the material layers outlined in Table 2-5, as illustrated in Figure 2-2. All cases included a 40 mm ventilated cavity, therefore the distance between the inner and outer brick leafs was adjusted to accommodate the 40 mm cavity and whatever thickness of insulation was required for the climate zone being simulated.

Table 2-5: Material layers in the cavity masonry wall.

Layer	Material	Thickness [mm]
A	Extruded clay brick	110
B	Cavity	40
C	Rigid foam insulation[2]	0–40[2]
D	Extruded clay brick	110
E	Plasterboard	10
F	Indoor paint, 3 coats[1]	0.075

[1] *Finish on the interior surface was not included as a material layer in the model, but its influence on vapour diffusion was modelled using a surface resistance.*
[2] *Insulation only modelled in some Climate Zones (Table 2-2); thickness depends on required R-value (Table 2-16).*

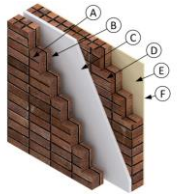


Figure 2-2: Cavity masonry wall.

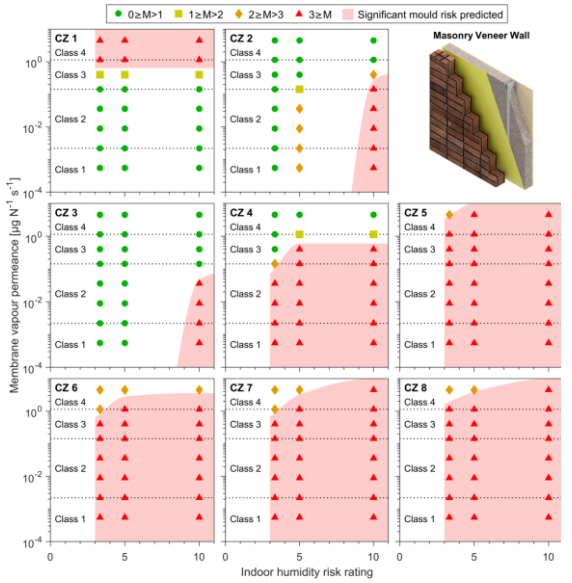


Figure 4-1: Maximum 10-year mould index (M) simulated in masonry veneer walls.

ABCB (2024) Condensation Mitigation Modelling: Final report
https://www.abcb.gov.au/resource/report/condensation-mitigation-modelling-final-report

Australian Government

Approach to Market

To establish Contract for Physical testing to determine condensation risks in buildings within Australia

Reference ID: 005 - ABCB - 2023/24

UNSPSC: 41110000 Measuring and observing and testing instruments

This Approach to Market (ATM) is for the provision of: the ABCB is seeking a Service Provider to develop a testing regime and conduct physical testing on construction systems commonly found in buildings located in tropical and sub-tropical climate zones. The study will analyse the potential risks for condensation to form in typical external wall systems used for compliance with the energy efficiency requirements of the National Construction Code (NCC). This will include wall systems compliant via the Nationwide House Energy Rating Scheme (NatHERS) at a 7-star level and the Deemed-to-Satisfy elemental provisions to identify wall systems most susceptible to condensation within the built system in a given climate region. The study will also investigate design principles that could be used to mitigate condensation in these external wall systems.

NCC Performance Requirement

F8P1 Class 2 or 4
H4P7 Class 1

Part F8 Condensation management

Introduction to this Part

Performance Requirements

TAS F8P1

F8P1 Condensation and water vapour management

[2019: FP6.1]

Risks associated with water vapour and *condensation* must be managed to minimise their impact on the health of occupants.

Applications

F8P1 only applies to a *sole-occupancy unit* of a Class 2 building or Class 4 part of a building.

Risks associated with water vapour and *condensation* must be managed to minimise their impact on the health of occupants.

Condensation: The formation of moisture on the surface of a building element or material as a result of moist air coming into contact with a surface which is at a lower temperature.

Risks associated with water vapour and *condensation* must be managed to minimise their impact on the health of occupants.

Condensation: The formation of moisture on the surface of a building element or material as a result of moist air coming into contact with a surface which is at a lower temperature.

Risks associated with water vapour and *condensation* must be managed to minimise their impact on the health of occupants.

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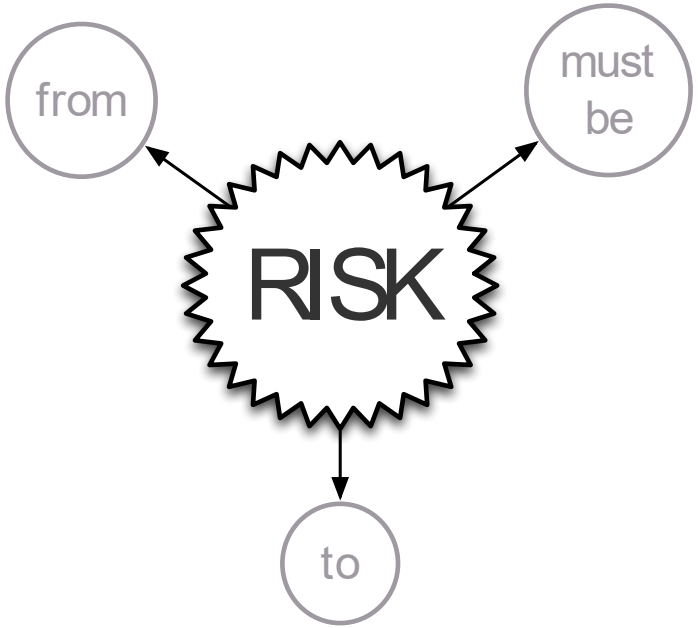
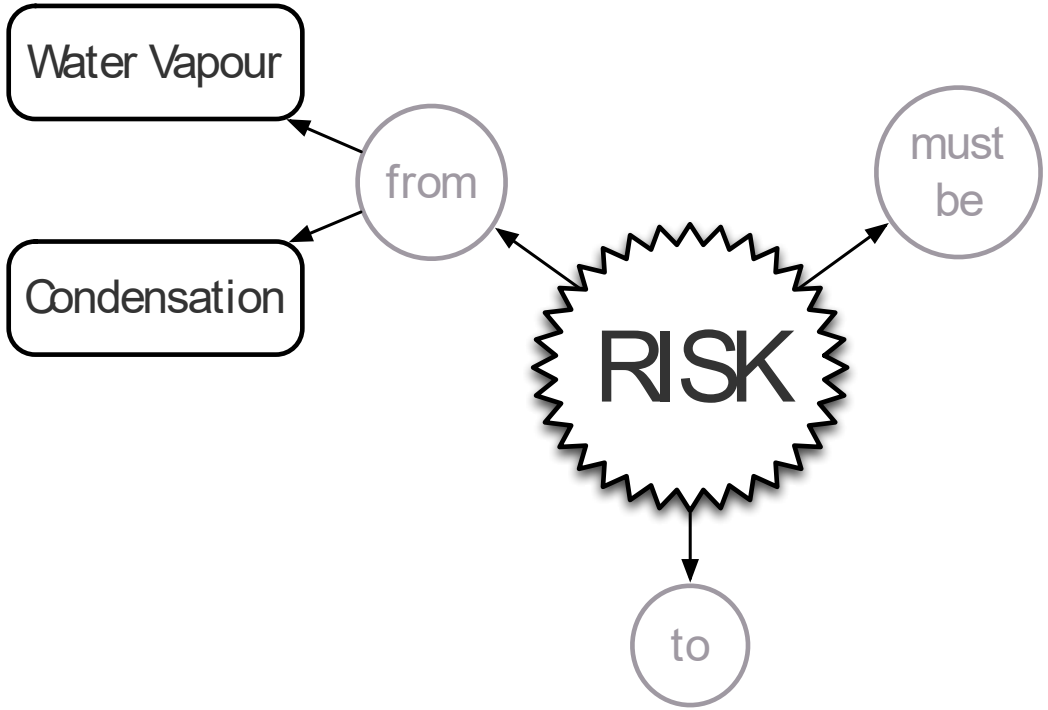


Risks associated with water vapour and *condensation* must be managed to minimise their impact on the health of occupants.

Condensation: The formation of moisture on the surface of a building element or material as a result of moist air coming into contact with a surface which is at a lower temperature.



Risks associated with water vapour and *condensation* must be managed to minimise their impact on the health of occupants.

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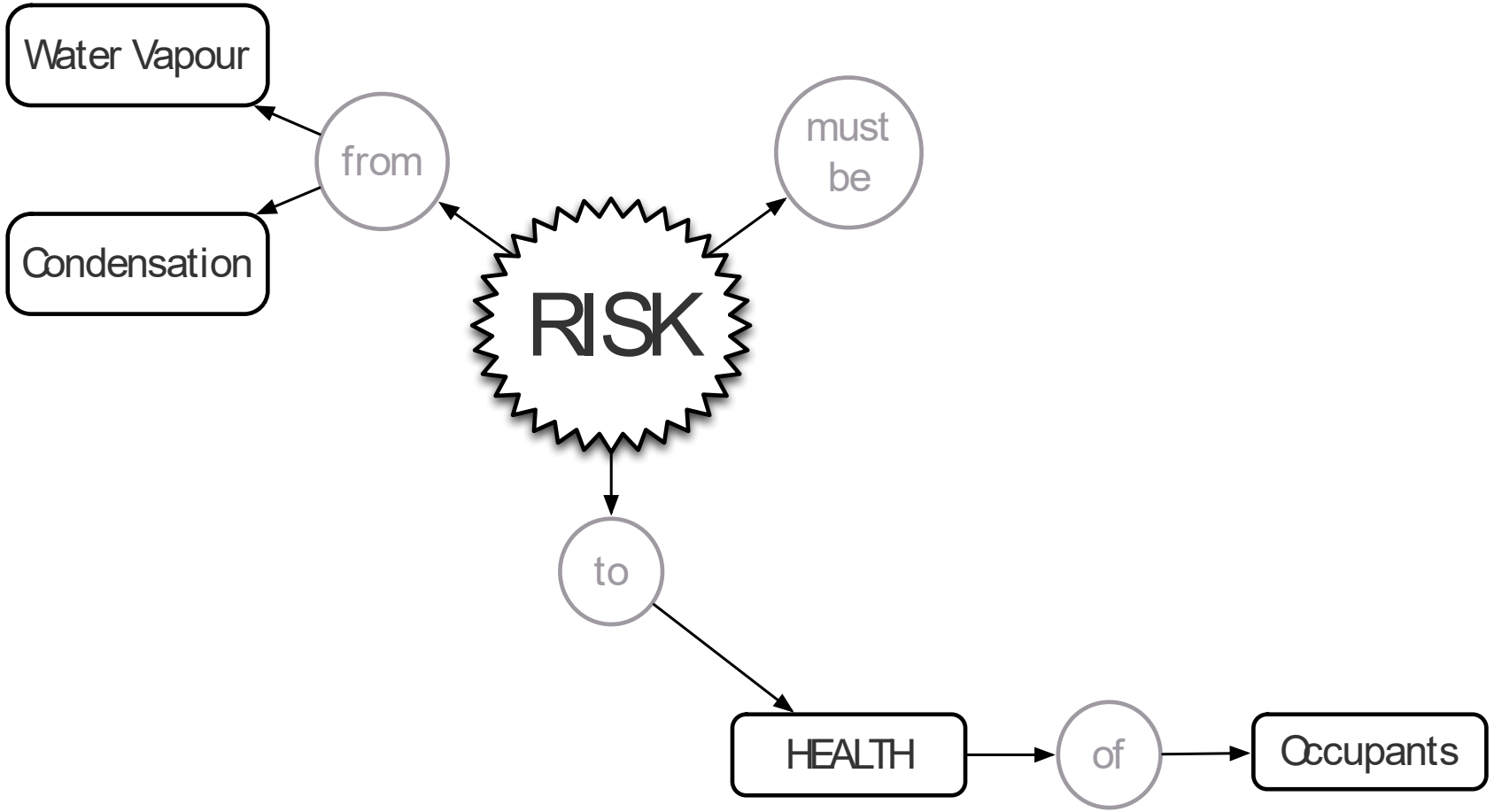
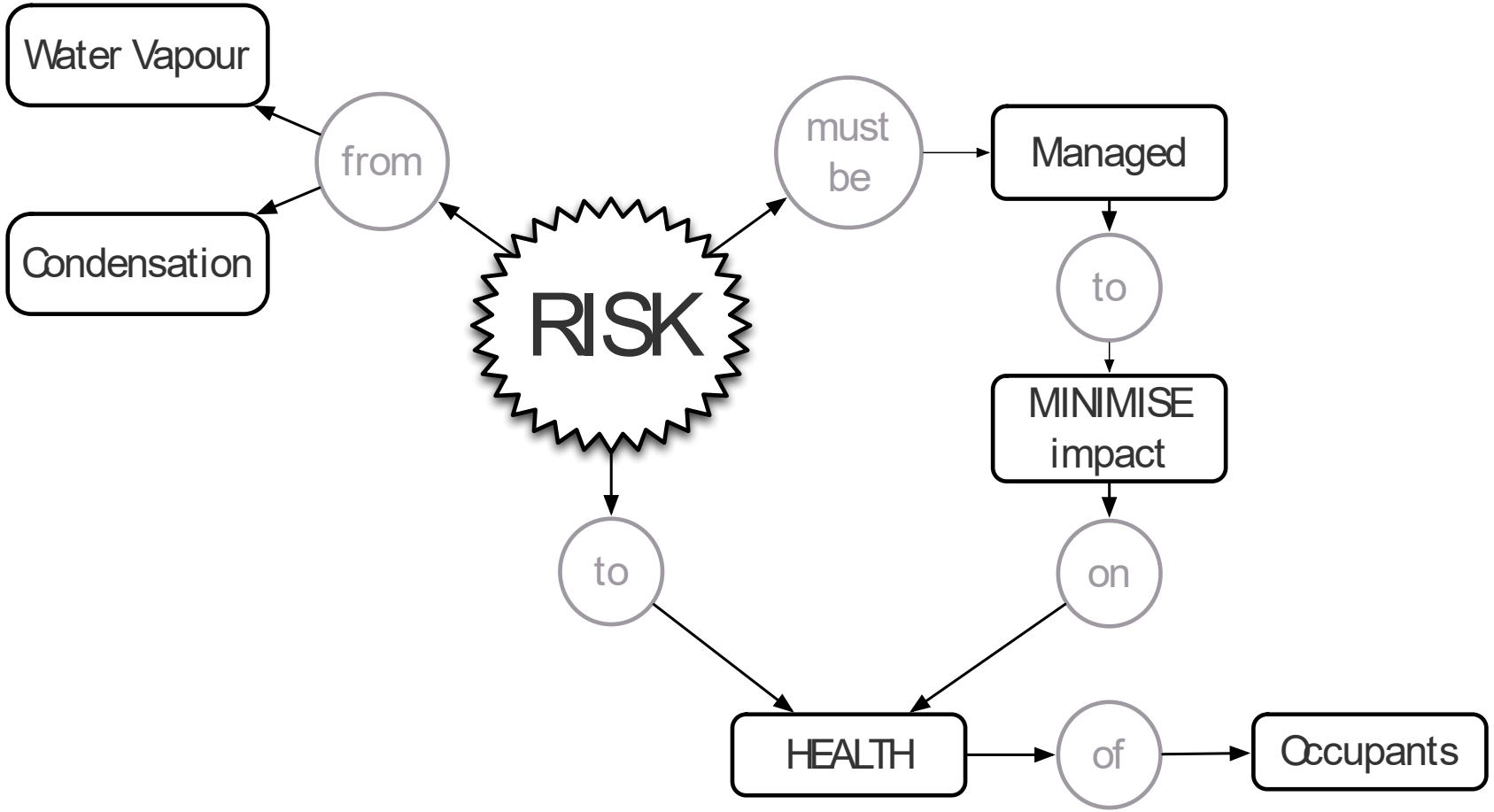


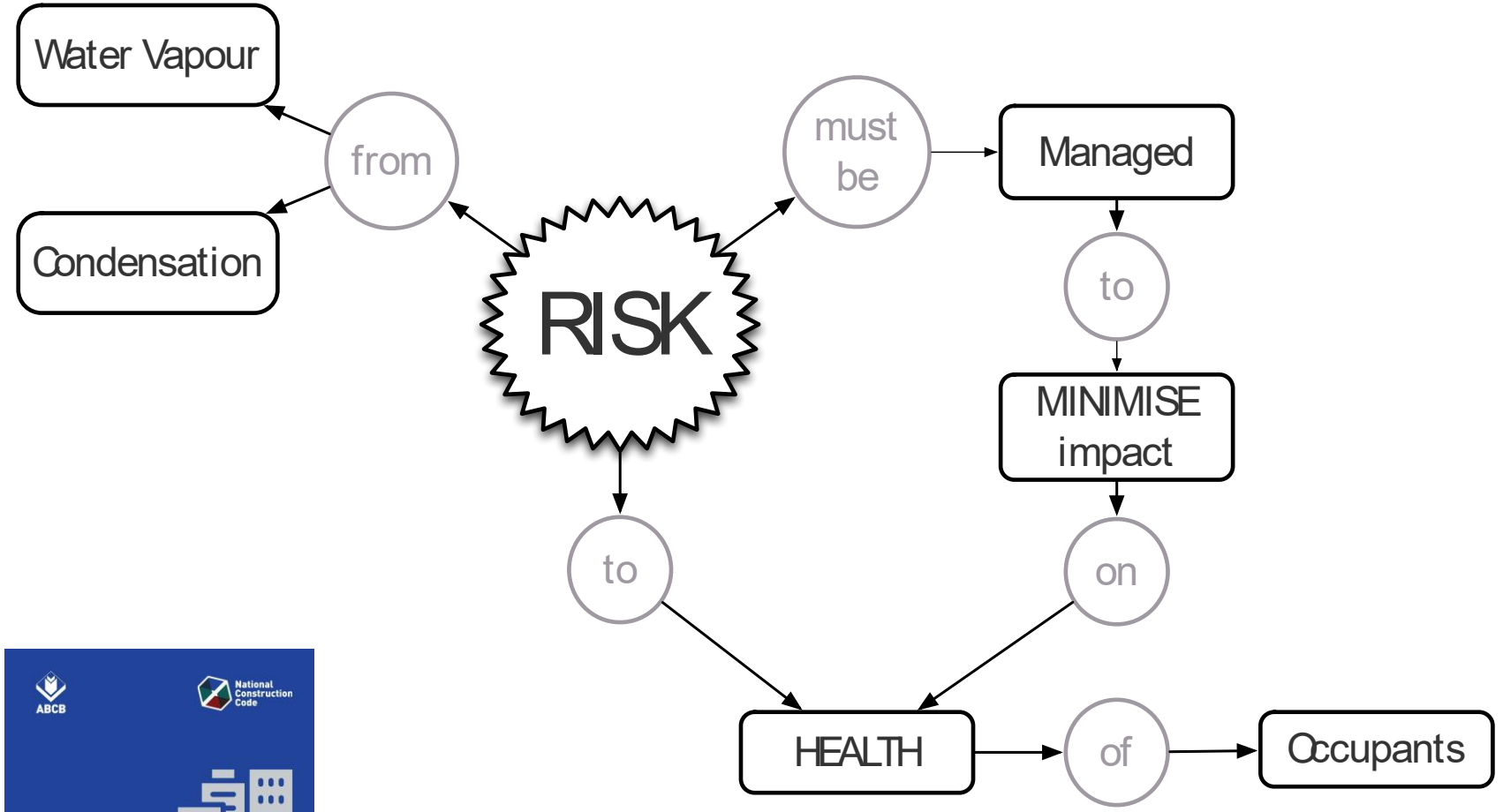
Risks associated with water vapour and *condensation* must be managed to minimise their impact on the health of occupants.

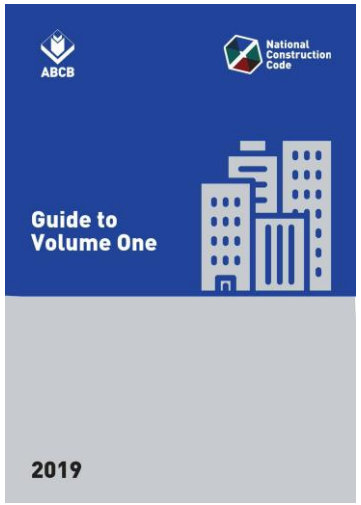
Condensation: The formation of moisture on the surface of a building element or material as a result of moist air coming into contact with a surface which is at a lower temperature.



Risks associated with water vapour and *condensation* must be managed to minimise their impact on the health of occupants.

Condensation: The formation of moisture on the surface of a building element or material as a result of moist air coming into contact with a surface which is at a lower temperature.





Human occupation of a residential building creates approximately 10 litres of water vapour per person per day. In an average family home with two adults and one child this equates to 30 litres of water vapour within the built fabric per day.
(NCC2019 Guide, p303)

F8P1 Class 2 or 4
H4P7 Class 1

F1P4 Rising damp

[2019: FP1.5]

Moisture from the ground must be prevented from causing—

(a) undue dampness or deterioration of building elements; and

(b) unhealthy or dangerous conditions, or loss of *amenity* for occupants.

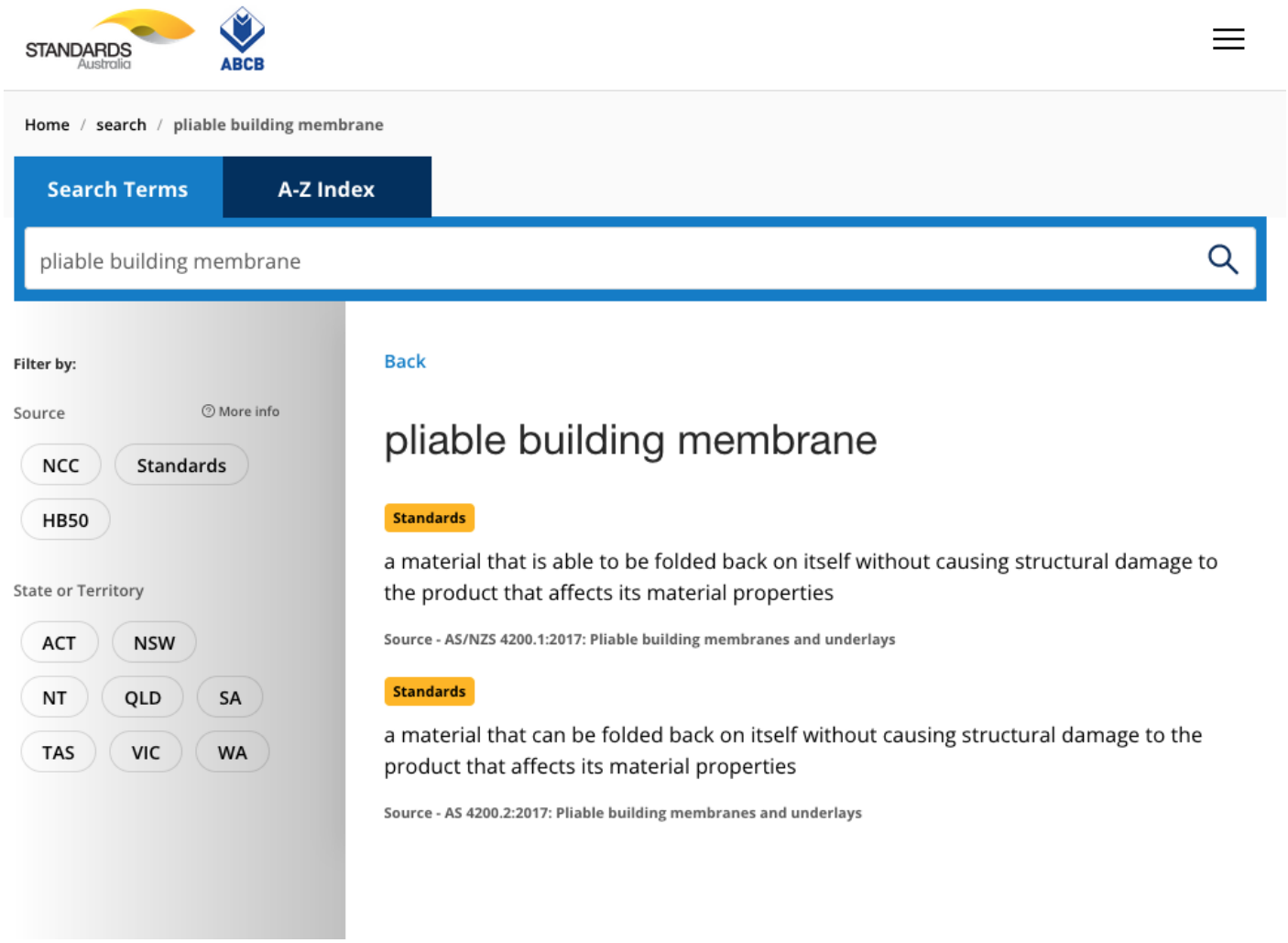
F8P1 Condensation and water vapour management

[2019: FP6.1]

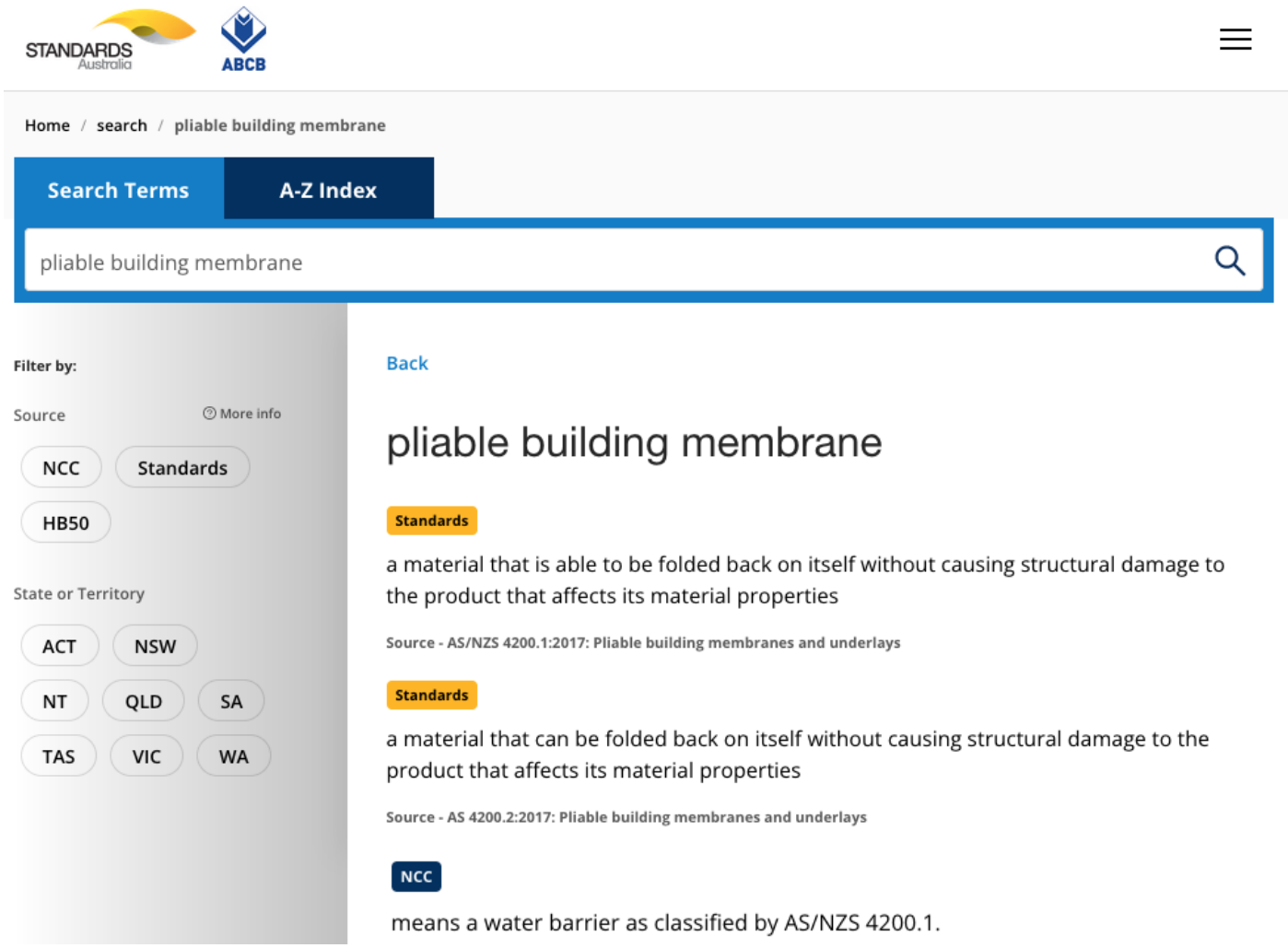
Risks associated with water vapour and *condensation* must be managed to minimise their impact on the health of occupants.

SUBJECT REQUIREMENT CONTROL CRITERIA OBJECT

“Pliable building membranes”



Construction Dictionary
https://www.constructiondictionary.com.au/term/pliable-building-membrane



Construction Dictionary
https://www.constructiondictionary.com.au/term/pliable-building-membrane

NCC DEFINTIONS
Pliable building membrane: A water barrier as classified by AS 4200.1.

5.3.5 *Water control classification*

The water control classifications shall be determined as follows:

(a) *Water barrier*—if the membrane passes the test specified in AS/NZS 4201.4.

(b) *Non-water barrier*—if the membrane fails the test specified in or has not been tested to AS/NZS 4201.4.

Australian/New Zealand Standard®

Pliable building membranes and underlays—Methods of test

Method 4: Resistance to water penetration

METHOD

1 SCOPE This test determines the ability of a pliable building membrane material to resist water penetration.

2 APPARATUS The following apparatus shall be required:

(a) *Cylinder*—cross-sectional area not less than 25 cm^2 with base clamping mechanism.

(b) *Coloured aqueous solution*—distilled water containing a minimum dose of dye, such as methylene blue, which is non-reactive to the test specimen. Temperature 20 ±2°C.

(c) *White filter paper*

3 TEST SPECIMEN The test specimen shall be at least 1000 mm in length in machine direction, and be of full roll width.

4 PROCEDURE The following steps shall be taken:

(a) Cut a circular test piece from the test specimen.

(b) Securely clamp the test piece over the base of the cylinder.

(c) Clamp a filter paper to the underside of the test piece.

(d) Pour the coloured aqueous solution into the cylinder to a depth of 100 mm.

(e) Allow the test apparatus to stand for a period of 24 h in a room at 23 ±5°C.

(f) Remove the filter paper from the underside of the test piece. Visually inspect the filter paper for evidence of staining by coloured solution which has penetrated the test piece.

(g) For materials which are asymmetrical in structure, repeat Steps 3(a) to 3(f) using a second test piece orientated with the reverse face towards the coloured solution.

5 REPORTING The following results shall be reported:

(a) *Pass* If no test pieces exhibit staining, then report the test result as 'Pass'.

(b) *Fail* If any test pieces exhibit staining, then report the test result as 'Fail'.

4 PROCEDURE The following steps shall be taken:

(a) Cut a circular test piece from the test specimen.

(b) Securely clamp the test piece over the base of the cylinder.

(c) Clamp a filter paper to the underside of the test piece.

(d) Pour the coloured aqueous solution into the cylinder to a depth of 100 mm

(e) Allow the test apparatus to stand for a period of 24 h in a room at 23 ±5°C.

(f) Remove the filter paper from the underside of the test piece. Visually inspect the filter paper for evidence of staining by coloured solution which has penetrated the test piece.

(1) Where a *pliable building membrane* is installed in an *external wall*, it must—

(a) comply with AS 4200.1; and

(b) be installed in accordance with AS 4200.2; and

(c) be located on the exterior side of the *primary insulation layer* of wall assemblies that form the external envelope of a building.

(1) Where a *pliable building membrane* is installed in an *external wall*, it must—
(a) comply with AS 4200.1; and
(b) be installed in accordance with AS 4200.2; and
(c) be located on the exterior side of the *primary insulation layer* of wall assemblies that form the external envelope of a building.

1. Foil sarking is not vapour permeable unless perforated
2. Perforated foil sarkings are NOT 'pliable building membranes' (according to NCC definition)
3. Vapour permeable water barriers are made from polyolefin
4. Polyolefin membranes out of scope for AS1530.2

(1) Where a *pliable building membrane* is installed in an *external wall*, it must—
(a) comply with AS 4200.1; and
(b) be installed in accordance with AS 4200.2; and
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3. Vapour permeable water barriers are made from polyolefin
4. Polyolefin membranes out of scope for AS1530.2

Perforated Foil is not a “pliable building membrane”

(1) Where a *pliable building membrane* is installed in an *external wall*, it must—
(a) comply with AS 4200.1; and
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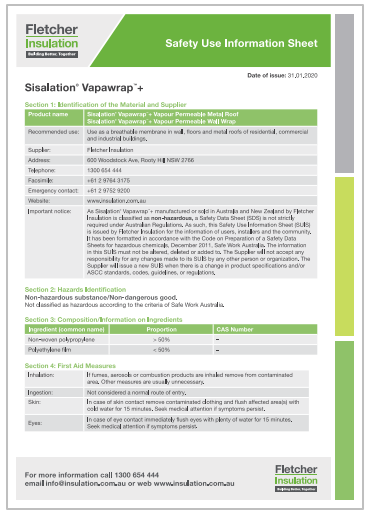
2. Perforated foil sarkings are NOT ‘pliable building membranes’ (according to NCC definition)
3. Vapour permeable water barriers are made from polyolefin
4. Polyolefin membranes out of scope for AS1530.2

PRODUCT DESCRIPTION

Bradford Enviroseal™ RW is a triple layer polyolefin non-woven textile weather barrier that is calendared together. This product is also available with pre-applied integrated tape release liners.

- This product meets the requirements of the AS/NZS 4200.1 and is suitable for use in Australian residential applications.



Section 3: Composition/Information on Ingredients

Ingredient (common name)	Proportion
Non-woven polypropylene	> 50%
Polyethylene film	< 50%

(1) Where a *pliable building membrane* is installed in an *external wall*, it must—
(a) comply with AS 4200.1; and
(b) be installed in accordance with AS 4200.2; and
(c) be located on the exterior side of the *primary insulation layer* of wall assemblies that form the external envelope of a building.

1. Foil sarking is not vapour permeable unless perforated
2. Perforated foil sarkings are NOT 'pliable building membranes' (according to NCC definition)
3. Vapour permeable water barriers are made from polyolefin
4. Polyolefin membranes out of scope for AS1530.2

The Flame Retardation of Polyolefins

Joseph Green

1. Introduction

Polyolefins are flammable and will burn in air with a very hot and clean flame accompanied by melting and dripping like a candle. Essentially no soot is developed in the flame, as normally obtained during the burning of aromatic polymers, and little to no residual char is formed. The present state-of-the-art in polyolefin flame retardation dictates the use of halogen-containing compounds whose effectiveness is enhanced by the use of antimony oxide as a synergist.

Green, J. (1982). The Flame Retardation of Polyolefins. Flame - Retardant Polymeric Materials, 1–37. https://doi.org/10.1007/978-1-4757-0112-8_1

(1) Where a *pliable building membrane* is installed in an *external wall*, it must—
(a) comply with AS 4200.1; and
(b) be installed in accordance with AS 4200.2; and
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1. Foil sarking is not vapour permeable unless perforated
2. Perforated foil sarkings are NOT 'pliable building membranes' (according to NCC definition)
3. Vapour permeable water barriers are made from polyolefin
4. Polyolefin membranes out of scope for AS1530.2

Modified AS1530.3 test on polyolefin VP PBM

(1) Where a *pliable building membrane* is installed in an *external wall*, it must—
(a) comply with AS 4200.1; and
(b) be installed in accordance with AS 4200.2; and
(c) be located on the exterior side of the *primary insulation layer* of wall assemblies that form the external envelope of a building.

1. Foil sarking is not vapour permeable unless perforated
2. Perforated foil sarkings are NOT ‘pliable building membranes’ (according to NCC definition)
3. Vapour permeable water barriers are made from polyolefin
4. Polyolefin membranes out of scope for AS1530.2

(6) The following materials may be used wherever a *non-combustible* material is *required*:
(f) *Sarking-type materials* that do not exceed 1 mm in thickness and have a *Flammability Index* not greater than 5.

(1) Where a *pliable building membrane* is installed in an *external wall*, it must—
(a) comply with AS 4200.1; and
(b) be installed in accordance with AS 4200.2; and
(c) be located on the exterior side of the *primary insulation layer* of wall assemblies that form the external envelope of a building.

1. Foil sarking is not vapour permeable unless perforated
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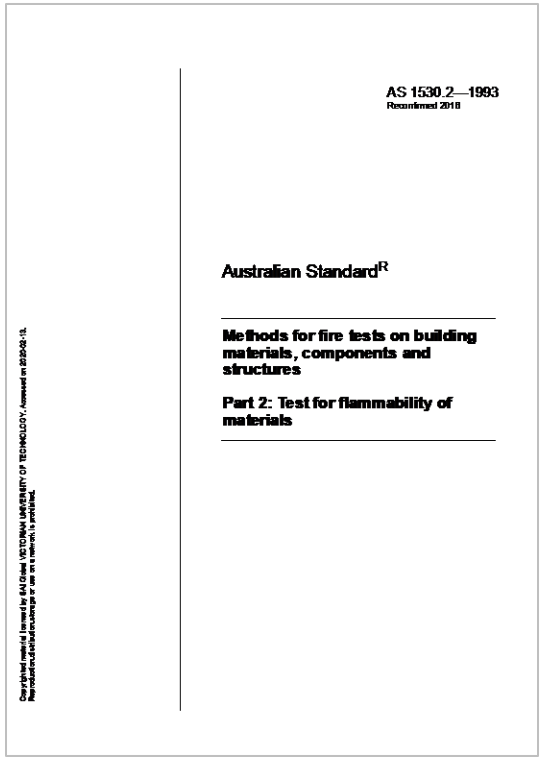
3. Vapour permeable water barriers are made from polyolefin
4. Polyolefin membranes out of scope for AS1530.2



AS 1530.2—1993
Reconfirmed 2018

Australian Standard®

Methods for fire tests on building materials, components and structures

Part 2: Test for flammability of materials

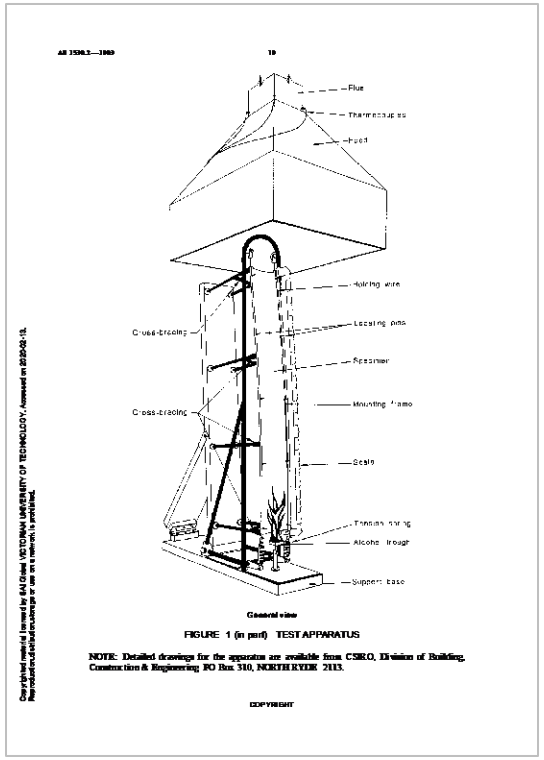


FIGURE 1 (in part) TEST APPARATUS

NOTE: Detailed drawings for the apparatus are available from CSIRO, Division of Building, Construction & Engineering, PO Box 310, NORTH RYDE 2113.

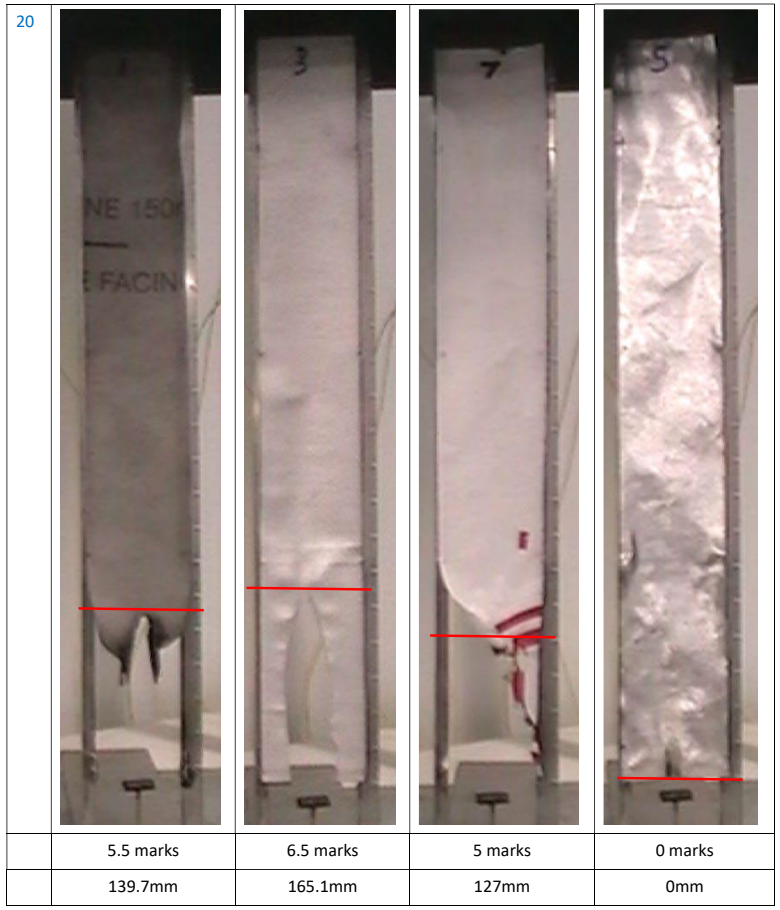
COPYRIGHT

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This method applies to the testing of thin sheet or woven material which is sufficiently pliable to be inserted into the test apparatus by hand without special softening treatment, so that it may be graded according to a flammability index. The test is unsuitable for materials which melt readily or shrink away from an igniting flame.

(1) Where a *pliable building membrane* is installed in an *external wall*, it must—
(a) comply with AS 4200.1; and
(b) be installed in accordance with AS 4200.2; and
(c) be located on the exterior side of the *primary insulation layer* of wall assemblies that form the external envelope of a building.

1. Foil sarking is not vapour permeable unless perforated
2. Perforated foil sarkings are NOT 'pliable building membranes' (according to NCC definition)
3. Vapour permeable water barriers are made from polyolefin
4. Polyolefin membranes out of scope for AS1530.2



(1) Where a *pliable building membrane* is installed in an *external wall*, it must—
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2. Perforated foil sarkings are NOT 'pliable building membranes' (according to NCC definition)
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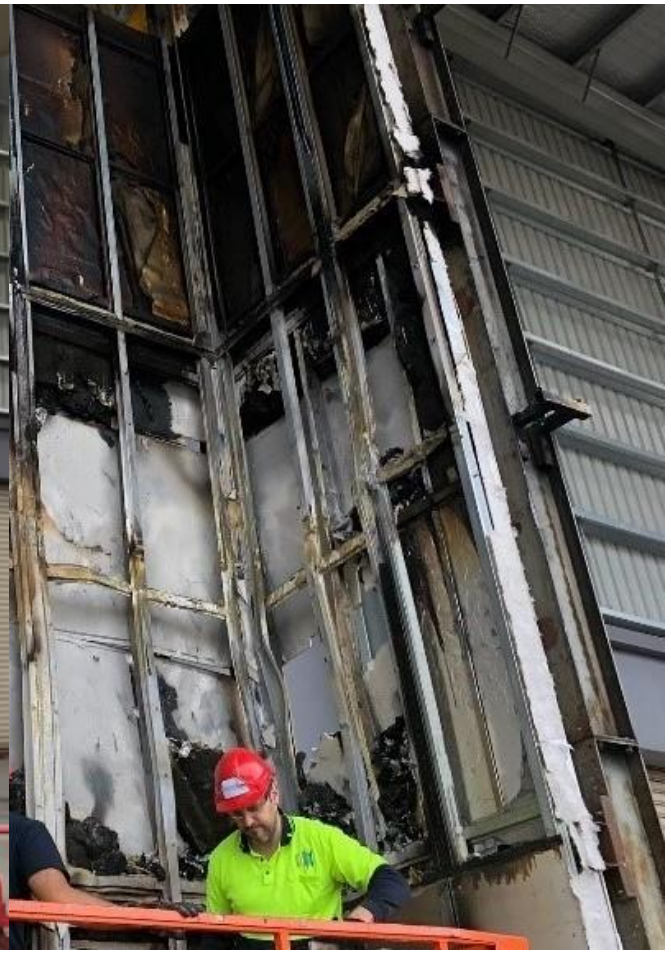
4. Polyolefin membranes out of scope for AS1530.2



During deconstruction of the AS5113 Test Specimen, by acting as a wick, you can see where the combustible sarking has taken the flame, past the cavity barriers at each level from the ground floor, through the 1st floor, right up to the top of the 2nd floor.

Ever wondered how compressed fibre cement sheet cladding and combustible sarking act in an AS5113 facade fire test?
https://www.linkedin.com/pulse/ever-wondered-how-compressed-fibre-cement-sheet-sarking-kempster/

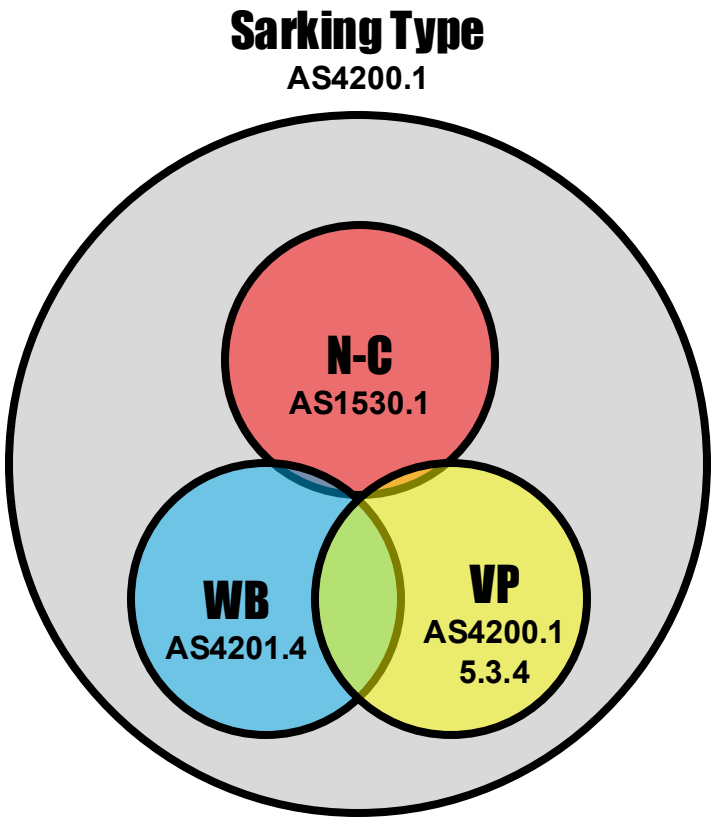
To illustrate the difference between code and legislation, we turn to the latest version of the NCC 2019 (ABCB 2019) with the newly introduced section "Condensation management." One of the requirements was that all buildings in Climate zones 6, 7, and 8 are to have vapor permeable membranes [NCC 2019 (ABCB 2019), Vol. 1, F6.2; and NCC 2019, Vol. 2, 3.8.7.2]. Vapor permeable sarkings are permitted to be used where noncombustible building elements are required if they "do not exceed 1 mm in thickness and have a Flammability Index not greater than 5" [NCC 2019 (ABCB 2019), Vol. 1, C1.9(e)(vi)].

The flammability test [AS 1530.2-1993 (Standards Australia 1993)] is much less rigorous and only requires a flame source in unspecified room conditions, as opposed to a furnace setup in a fire-testing facility for the noncombustibility test [AS 1530.1-1994 (Standards Australia 1994)]. Furthermore, the applicability of this test is questionable for vapor permeable membranes because the test is "unsuitable for materials which melt readily or shrink away from an igniting flame" [AS 1530.2-1993 (Standards Australia 1993), 1.1].

Now, what are vapor permeable membranes made from? From the datasheets of the main Australian manufacturers, they are listed as polypropylene and polyethylene (Fletcher Insulation 2020), or polyolefin (CSR Building Products 2019). Note that polyolefin is the chemical category, which includes polymers such as polyethylene and polypropylene. Importantly, unless treated with chemical fire retardants, all polyolefins are combustible and burn with hot flames (Green 1982).

To summarize by way of application, the NCC now requires that in places such as Melbourne (Climate zone 6) the walls must be wrapped with vapor permeable membranes—sarking that is exempt from the noncombustibility test, and adopting a flammability test method that is ill-suited to plastics—made from the same material found in the cores of combustible cladding that the Victorian government is spending AUD 600 million to replace. Simply put, should vapor permeable membranes be installed in walls that were intended to be noncombustible? In terms of NCC compliance, yes; in terms of public safety, no.

Law (2021) Beyond Minimum: Proposition for Building Surveyors to Exceed the Minimum Standards of the Construction Code
https://ascelibrary.org/doi/pdf/10.1061/%28ASCE%29LA.1943-4170.0000463



(1) Where a *pliable building membrane* is installed in an *external wall*, it must—
(a) comply with AS 4200.1; and
(b) be installed in accordance with AS 4200.2; and
(c) be located on the exterior side of the *primary insulation layer* of wall assemblies that form the external envelope of a building.

(2) Where a *pliable building membrane*, *sarking-type material* or insulation layer is installed on the exterior side of the *primary insulation layer* of an *external wall* it must have a *vapour permeance* of not less than—
(a) in *climate zones* 4 and 5, 0.143 µg/N.s; and
(b) in *climate zones* 6, 7 and 8, 1.14 µg/N.s.

(3) Except for single skin masonry or single skin concrete, where a *pliable building membrane* is not installed in an *external wall*, the primary *water control layer* must be separated from *water sensitive materials* by a drained cavity.

NCC 2019
"Pliable Building Membrane"
(Vol One F6.2; Vol Two 3.8.7.2)

Superseded by

NCC 2022
"External Wall Construction"
(Vol One F8D3; HP 10.8.1)

Climate files for VM (F8V1 and H4V5)

RMY

NIWA
Taihoro Nukurangi

Creation of NatHERS 2016 Reference Meteorological Years

Including Maleny and Christmas Island

Prepared for Australian Federal Government
The Department of Environment and Energy

April 2017

NIWA – enhancing the benefits of New Zealand's natural resources www.niwa.co.nz

6.1 Finkelstein-Schafer statistics

The construction of RMYs from the NatHERS data follows the prescription of Marion and Urban (1995) for Typical Meteorological Years (TMYs), with some refinement as described in Liley et al. (2008). Specifically, the selection depends on Finkelstein-Schafer (F-S) statistics, which can be understood from Figure 21. For each month, the distribution of values for a variable in that month of each year is compared with the overall distribution for that month in all years. The F-S statistic measures total absolute differences in the vertical direction, corresponding to probability rather than physical values, so F-S values of different physical quantities can be compared or combined. The more familiar concept of measuring departure from some average along the horizontal axis of Figure 21 (i.e., in kWh m^{-2} day^{-1}) would require normalisation by standard deviation, interquartile range, or similar measures of dispersion, but they are sensitive to variation in the statistical distribution.

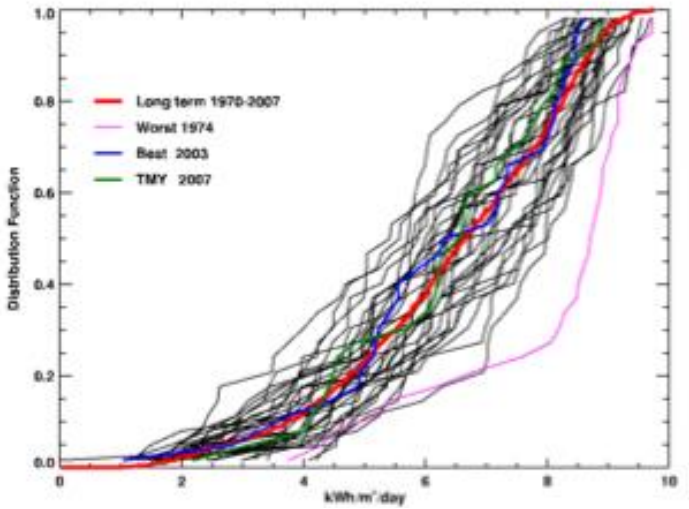


Figure 21. **Distribution functions of January daily global irradiance for Auckland, New Zealand. The best match (2003) to long-term distribution is for irradiance only, whereas the TMY (2007) is chosen on the weighted sum of several parameters, and other considerations as described in the text.**

RMY + Precipitation Dataset in WUFI 7 (2025)

A novel method established to convert Australian climate data for hygrothermal simulation

Shruti Nath[1], Mark Dewsbury[2], Freya Su[3], and Hartwig Kuenzel[4]

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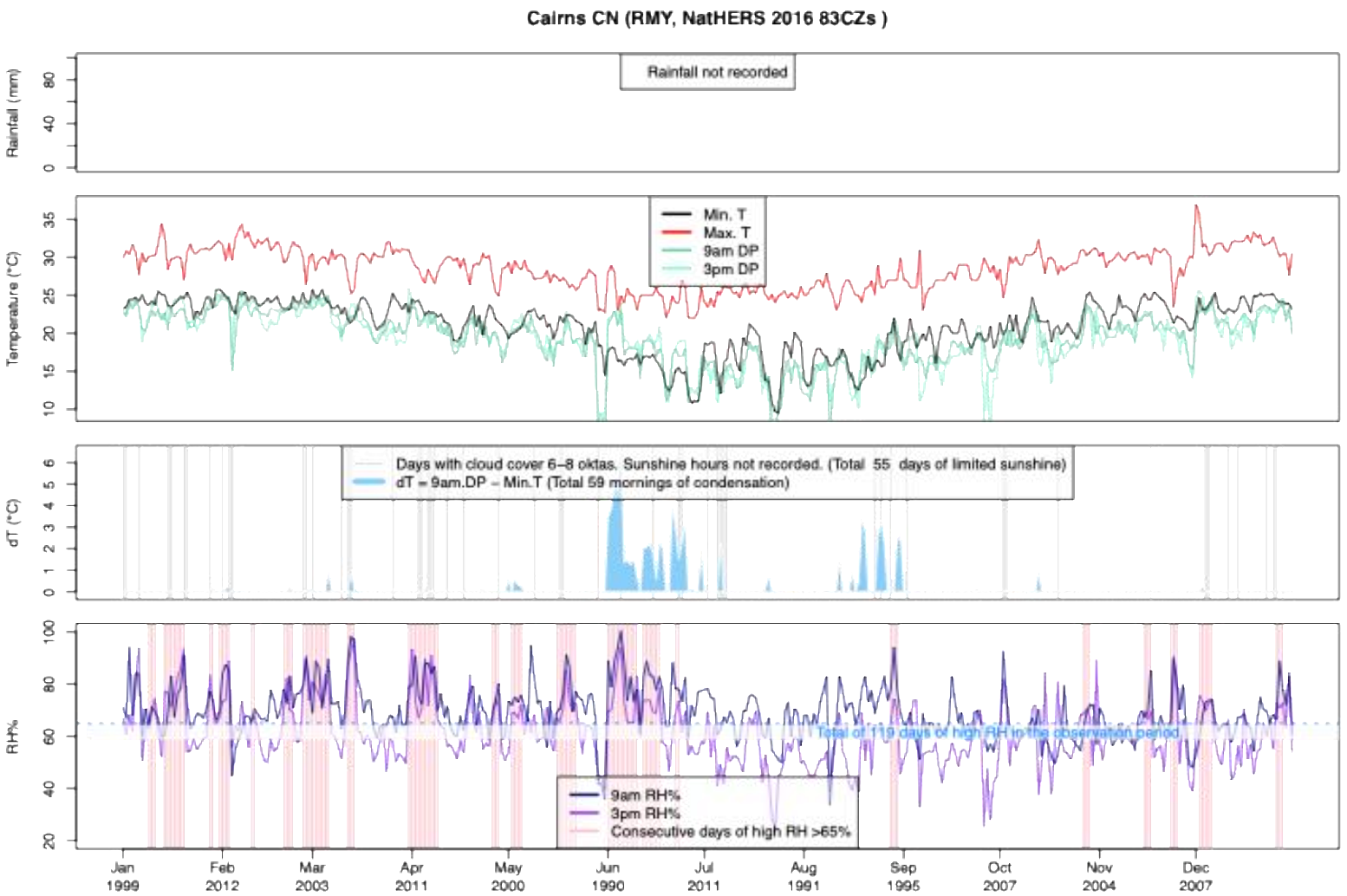
mark.dewsbury@utas.edu.au[2], ORCID-0000-0002-3607-3637[1]
[4] *Fraunhofer Institute of Building Physics, Holzkirchen, Germany*
hartwig.kuenzel@ibp.fraunhofer.de[4], ORCID-0000-0001-8305-0262[4]

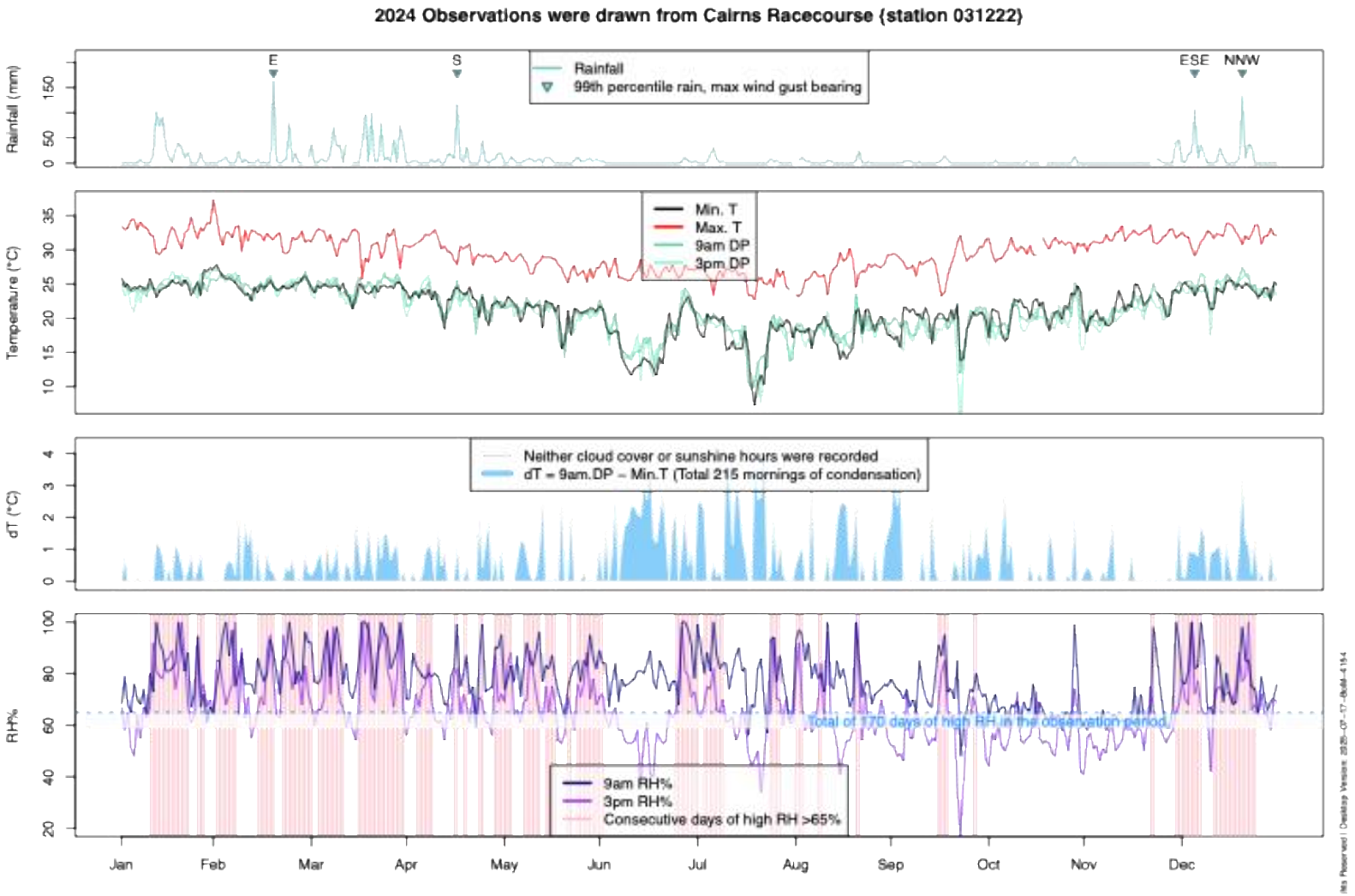
Abstract: The correlation between energy efficient buildings and the increased risk of condensation and mould inside residential and non-residential buildings has been known for some time. Since the 1990's transient calculation methods have been developed to initially calculate the flow of heat and moisture. These tools were then improved to calculate risks associated with mould growth, which causes building decay and affects human health. Internationally, frameworks, standards and guidelines are being developed establishing boundaries and requirements to limit too much user interaction with input and output variables. Key input variables include the exterior and interior climates and the physical attributes of construction materials. In 2018, collaborative research between the Germany and Australia identified a lack of suitably formatted Australian climate data for hygrothermal simulation. Parallel research was also exploring matters regarding water vapour diffusion resistivity properties of Australian construction materials and the development of more appropriate interior climate parameters. This article focusses on the development of a novel method, developed in 2019, to convert Australian government sanctioned climate data into a suitable format for transient hygrothermal simulation. The tool became known as AusHygro 1 and included options for including rain data and hourly interior temperature and relative humidity conditions.

Keywords: Condensation, Mould, Hygrothermal simulation, Climate data.

RMY (NatHERS 2016)



BoM (2024)


2024 Observations were drawn from Cairns Racecourse (station 031222)
Rainfall (mm)
E
S
ESE
NNW
Rainfall
99th percentile rain, max wind gust bearing
Temperature (°C)
Min. T
Max. T
9am DP
3pm DP
dT (°C)
Neither cloud cover or sunshine hours were recorded
dT = 9am.DP – Min.T (Total 215 mornings of condensation)
RH%
Total of 170 days of high RH in the observation period
9am RH%
3pm RH%
Consecutive days of high RH >65%
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

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Data Article

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Arianna Brambilla[a,*], Haniya Javed[a,c], Marcus Strang[b]

[a] School of Architecture, Design, and Planning, The University of Sydney, G04 Wilkinson Building, Camperdown, NSW 2006, Australia
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This dataset contains two different types of data that can be employed for transient hygrothermal analysis: MRYs for 30 locations across Australia completed with the climatic data necessary to generate the file, and 10 consecutive years of hourly climate parameters for Brisbane, Cairns, Melbourne, Darwin, Hobart, Sydney, and Canberra cities, representing those locations where most of the population live. These two types of data provide the input for hygrothermal assessment as defined by the ASHRAE 160-2016. Raw climate

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MRY

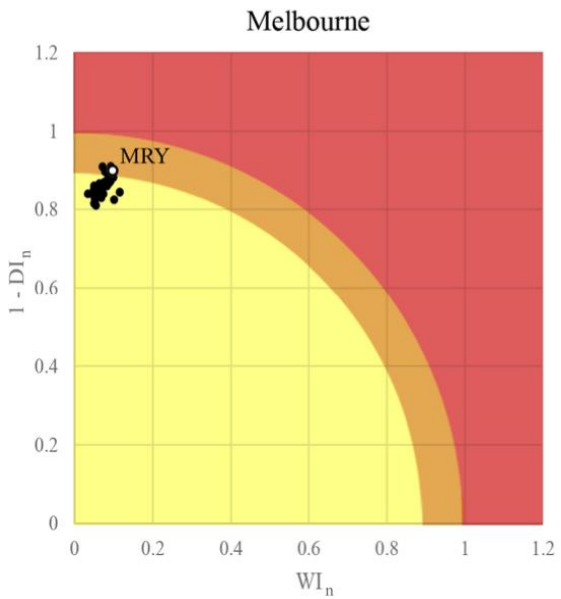
4. Calculation of the Moisture Index

The moisture index MI is a yearly parameter that compares the wetting and drying potential of a climate to indicate the moisture load that the climate holds and the magnitude of moisture risk for the building envelope that is associated with the climate [7].

The MI links the envelope's susceptibility to wetting and the evaporation potential offered by the climate, calculates as [7]:

$$MI = \sqrt{\mathrm{WI_n^2} + (1 - \mathrm{DI_n})^2}$$

The data were used to generate the moisture reference year (MRY) for each city, defined as the 10th-percentile year considered to be the most representative year for severe moisture stress on a building envelope. The 30 MRYs were generated using the moisture index method, further explained below.



MRY

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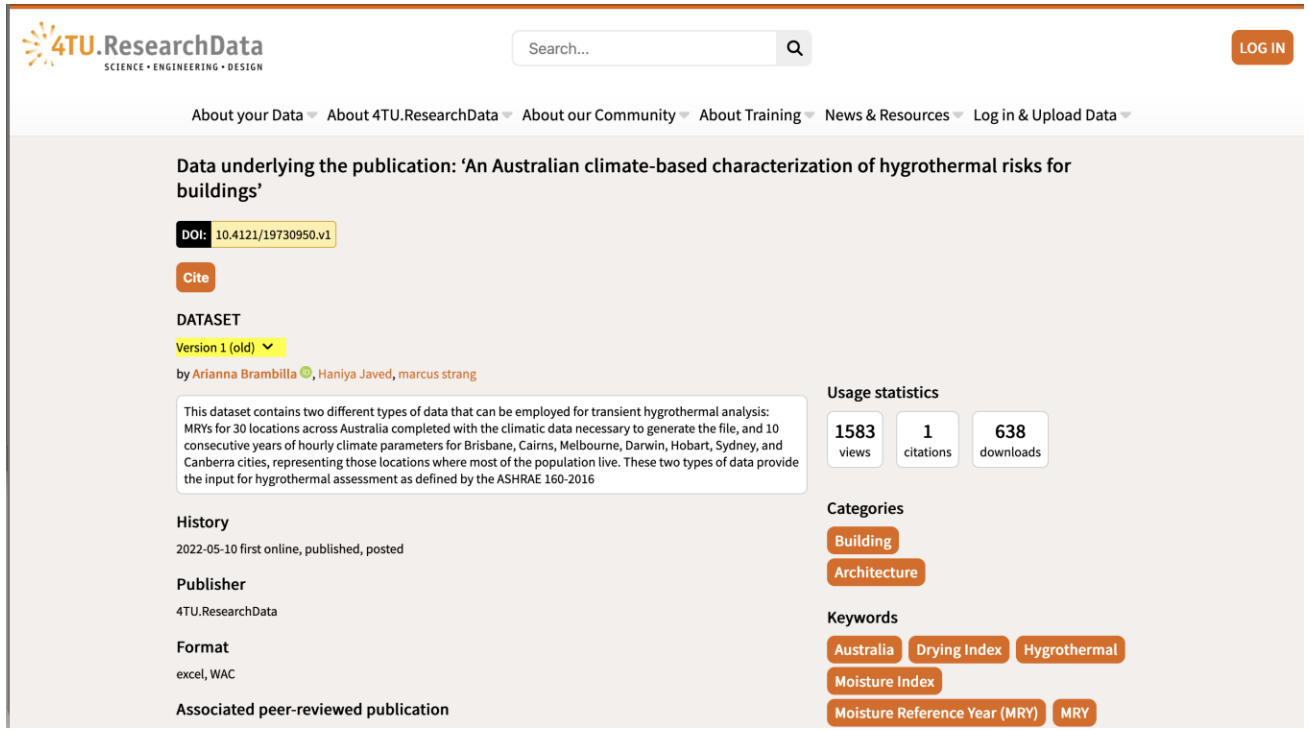
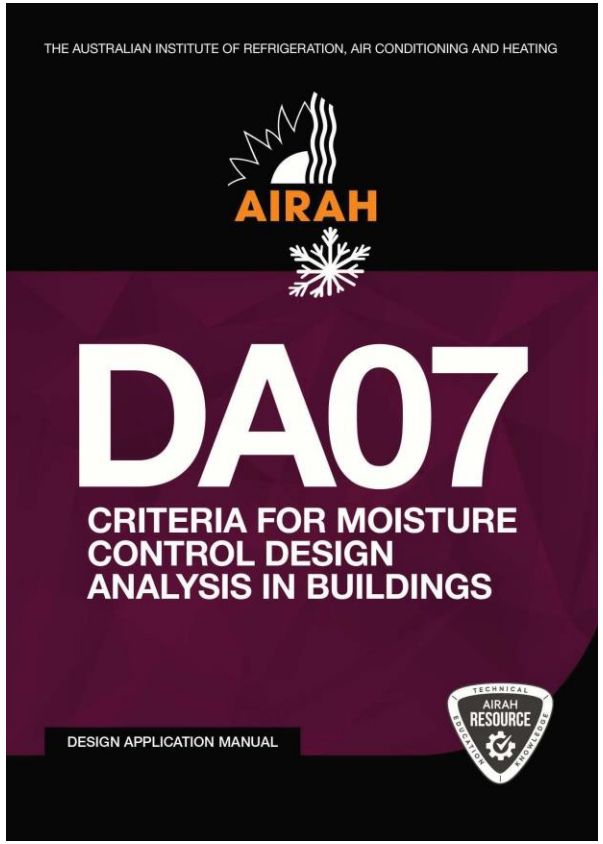


https://data.4tu.nl/articles/dataset/Data_underlying_the_publication_An_Australian_climate-based_characterization_of_hygrothermal_risks_for_buildings_/19730950/1



MDRY

3.1 Definitions

Moisture design reference years: the 10th-percentile warmest and 10th-percentile coldest years from a 30-year weather analysis[B-3].

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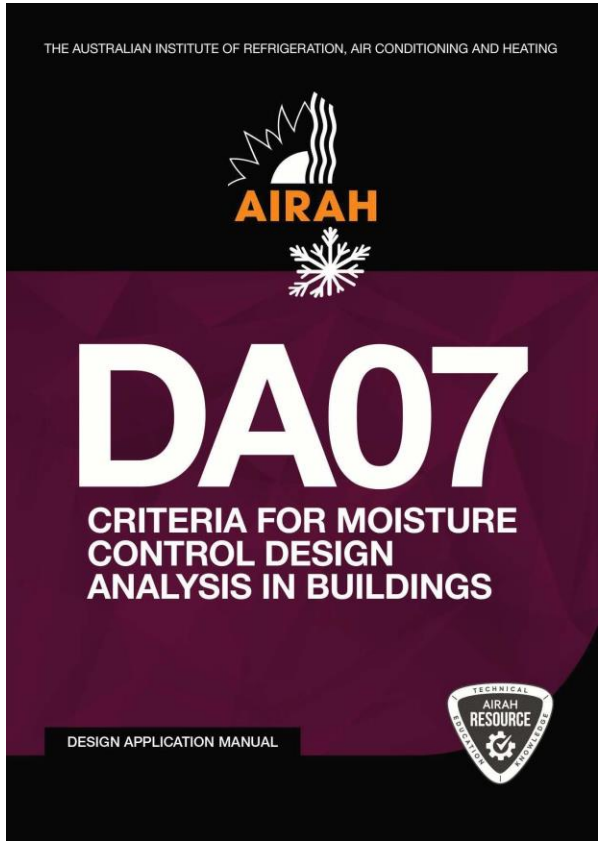
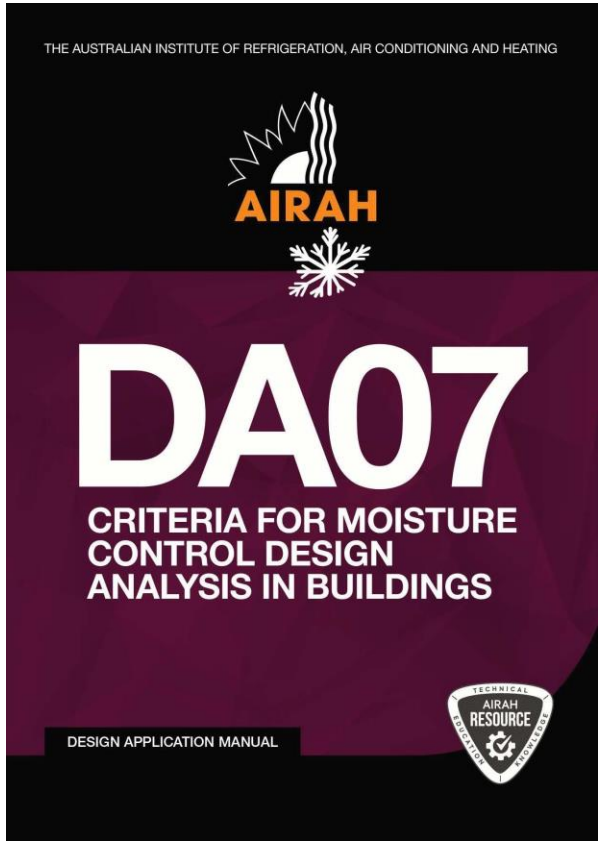


MDRY

1. AIRAH DA07's MDRY definition, based on temperature percentiles, lacks a viable path for practical implementation. No ranking methodology exists for determining what constitutes "warmest" vs "coldest" years. Moreover there are multiple conflicting approaches possible (mean/minimum/maximum selection of daily/monthly/annual temperature? heating/cooling degree days? seasonal weighting?)
2. Even if MDRY could be operationalised, it is inappropriate for hygrothermal simulation. ASHRAE's own research project (RP-1325) abandoned this approach entirely and developed moisture-damage-based ranking instead.
3. Current MRY weather files (not MDRY) use moisture index ranking, contradicting ASHRAE 160's temperature-based definition.
4. Additionally, the NatHERS RMY is based on weighted averages, not 10th-percentiles.



Only "ten consecutive years" of weather data currently meets the explicit legal and standards requirements.

10 consecutive years

3.1 Definitions

Moisture design reference years: the 10th-percentile warmest and 10th-percentile coldest years from a 30-year weather analysis[B-3].

4.5 Moisture Design Weather Data

The analysis shall be performed using a minimum of ten consecutive years of weather data or using the moisture design reference year weather data. The weather data shall include hourly data for the following:

a. Dry-bulb air temperature

b. Vapour pressure, dew-point temperature, wet-bulb temperature, relative humidity, or humidity ratio

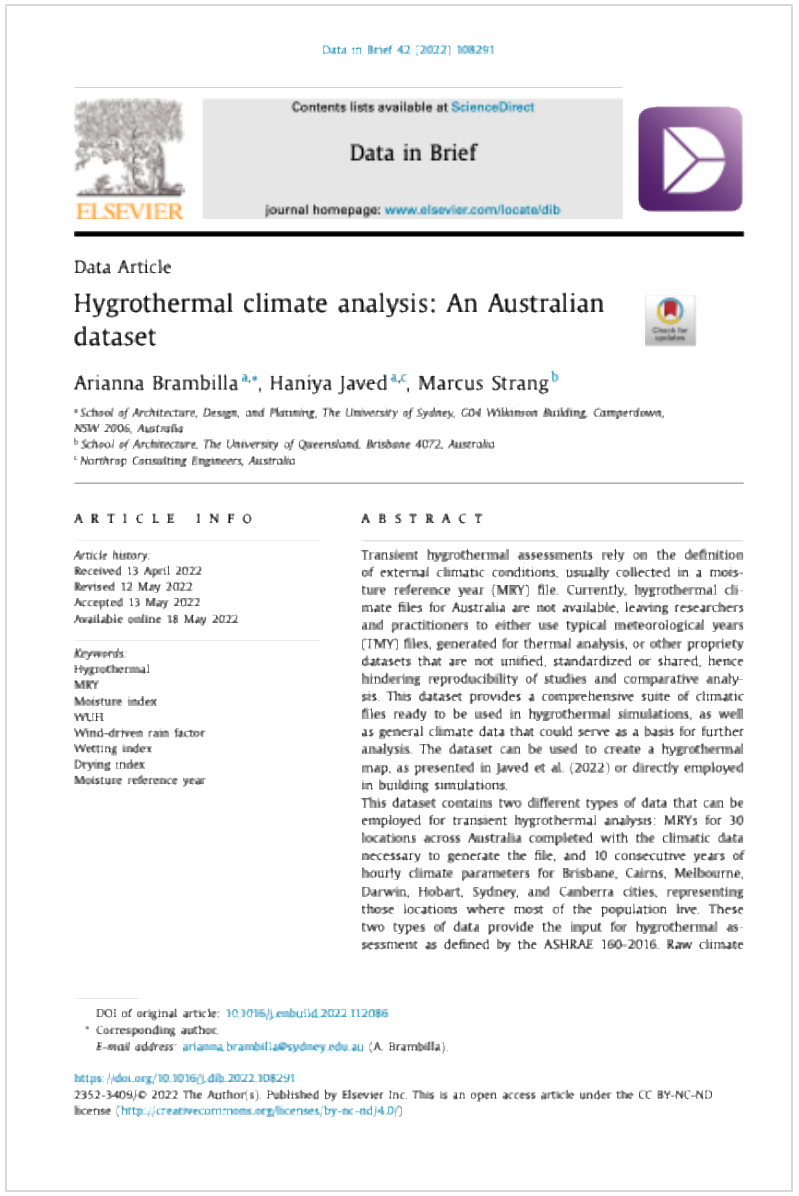
c. Total solar insolation on a horizontal surface

d. Average wind speed and direction

e. Rainfall

f. Cloud index

[B-3] The source for the definition of "moisture design reference years" is IEA Annex 24, Heat, Air and Moisture Transfer in New and Retrofitted Insulated Envelope Parts (IEA 1996) (see Annex C, "Bibliography").



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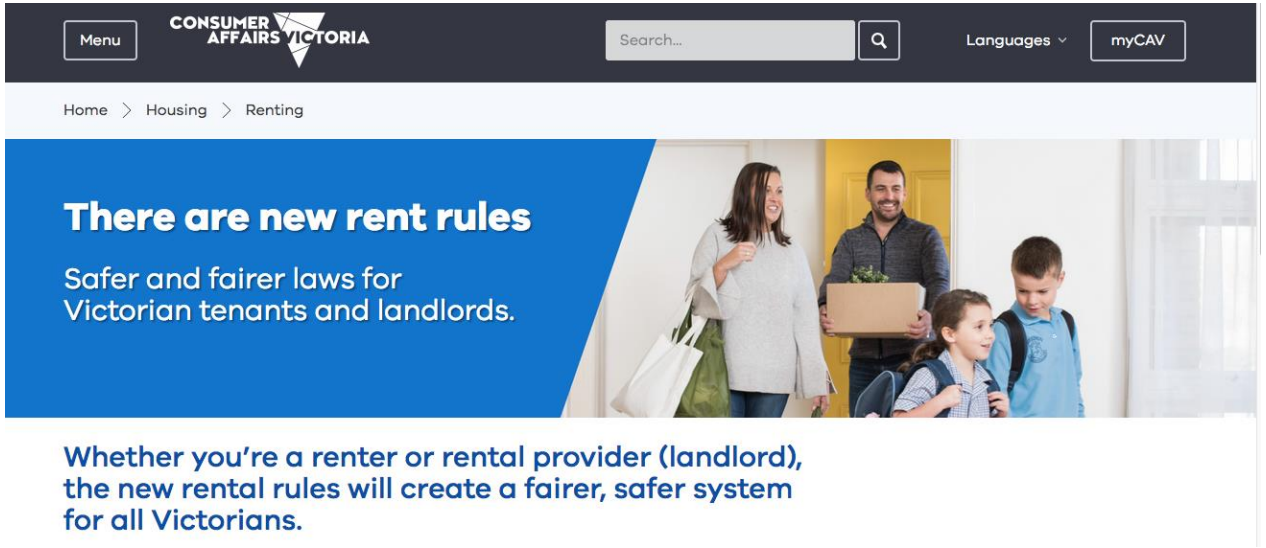
10 consecutive years WAC (WUFI compatible)

10year_wac_files:

- Brisbane10yearWAC.wac
- Cairns10yearWAC.wac
- Canberra10yearWAC.wac
- Darwin10yearWAC.wac
- Hobart10yearAMYWAC.wac
- Melbourne10yearWAC.wac
- Sydney10yearAMYWAC.wac

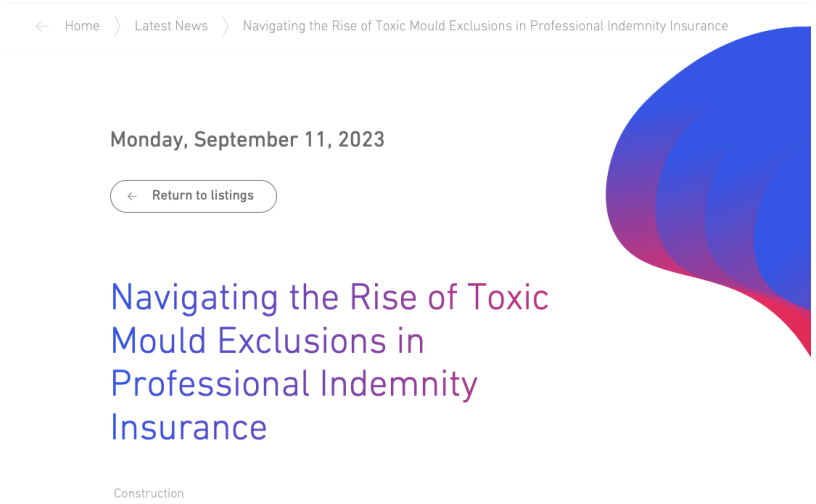
The Architect's Duty of Care



Residential Tenancies Regulations 2021
https://www.legislation.vic.gov.au/as-made/statutory-rules/residential-tenancies-regulations-2021-0

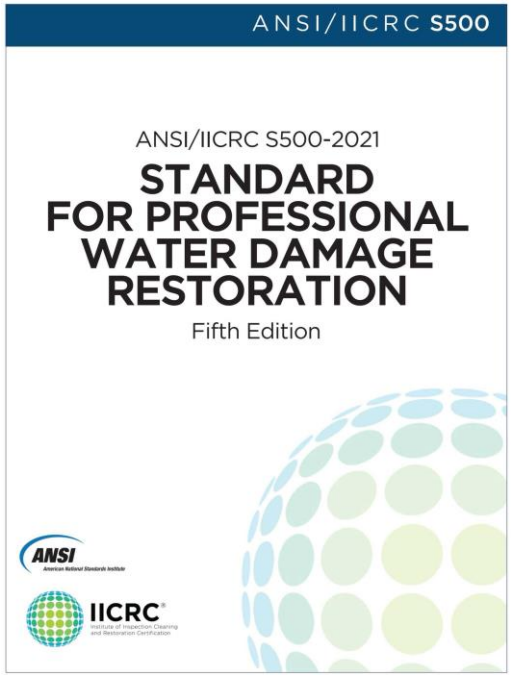
8 Mould and dampness

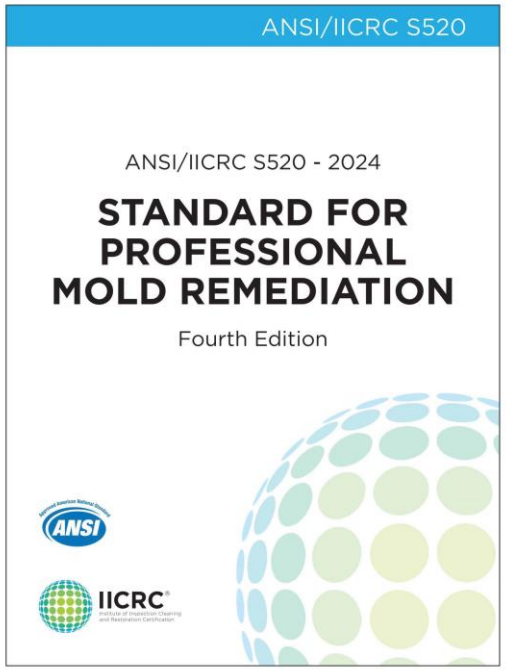
Each room in the rented premises must be free from mould and damp caused by or related to the building structure.

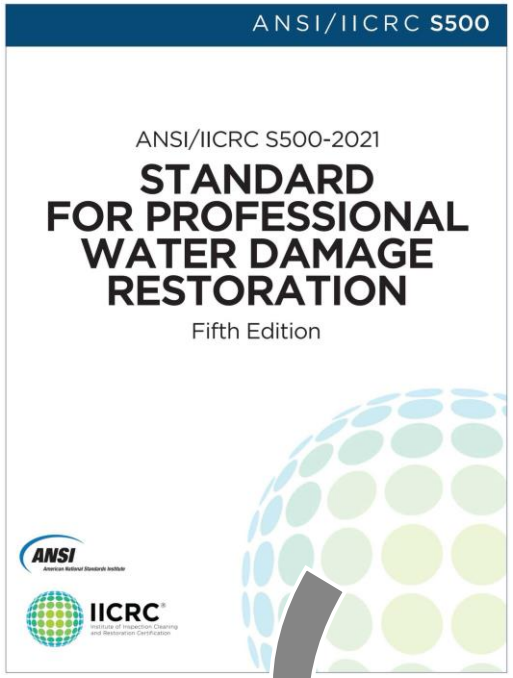


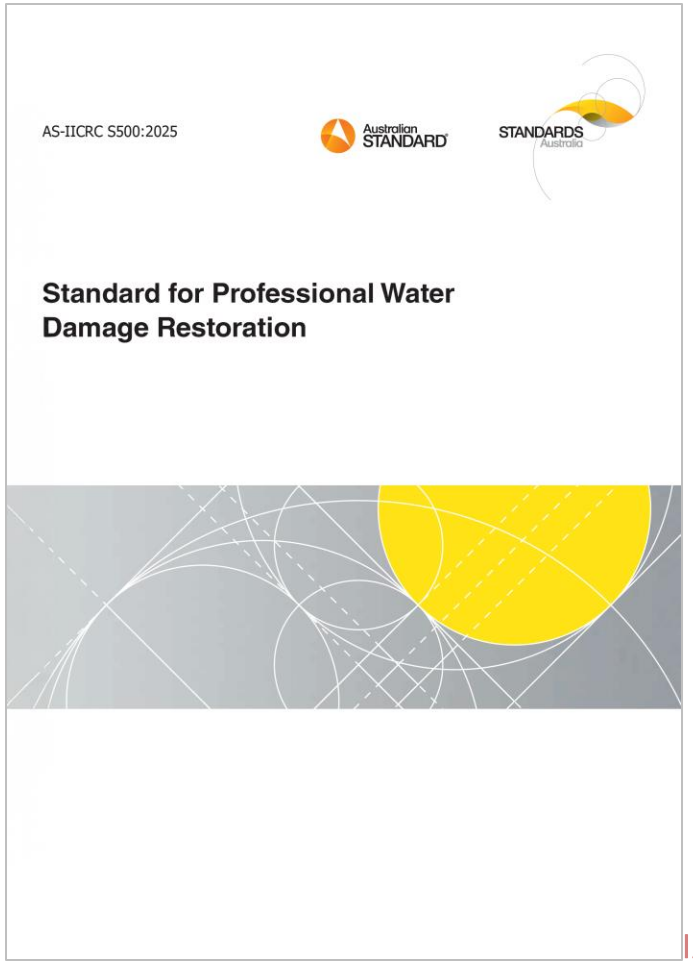
The growing prevalence and severity of mould-related issues in construction projects is a key reason for these exclusions in PI insurance. **Unlike exclusions for rare risks that affect a limited number of professionals, mould can arise in any project, regardless of its scale or complexity.**

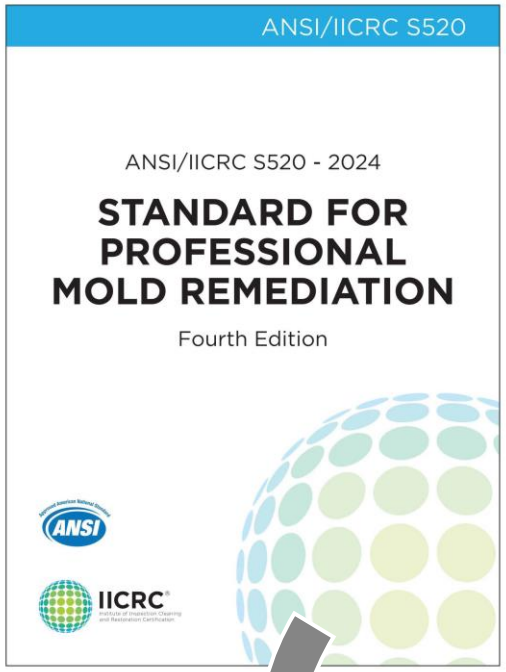
Luke Vumbaca, Honan (2023) Navigating the Rise of Toxic Mould Exclusions in Professional Indemnity Insurance
https://www.honan.com.au/news/navigating-the-rise-of-toxic-mould-exclusions-in-professional-indemnity-insurance





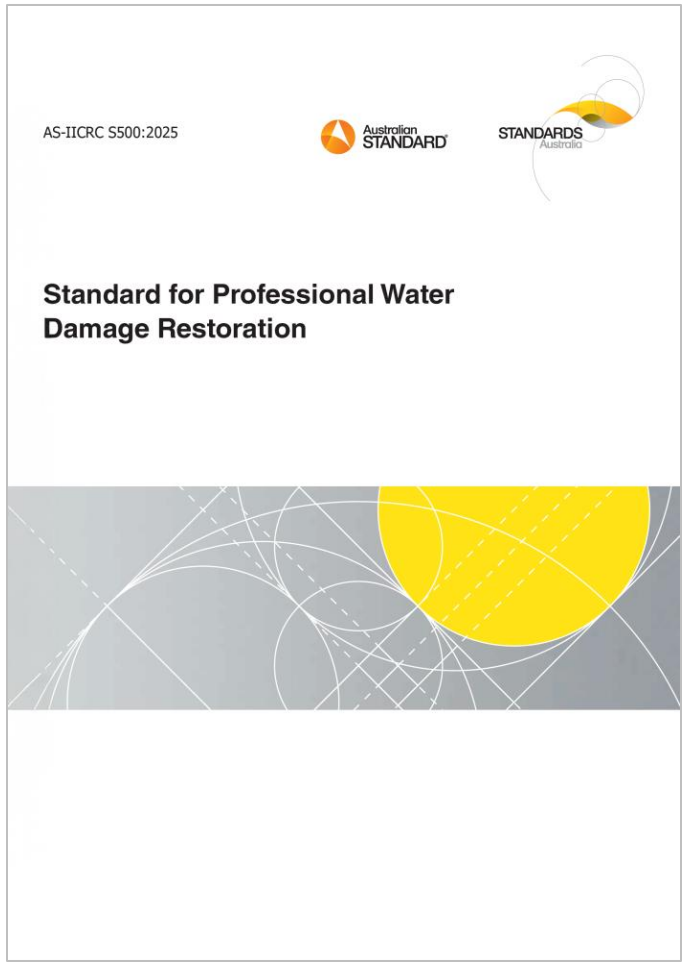






AS-IICRC S520 under adoption process by ME-094

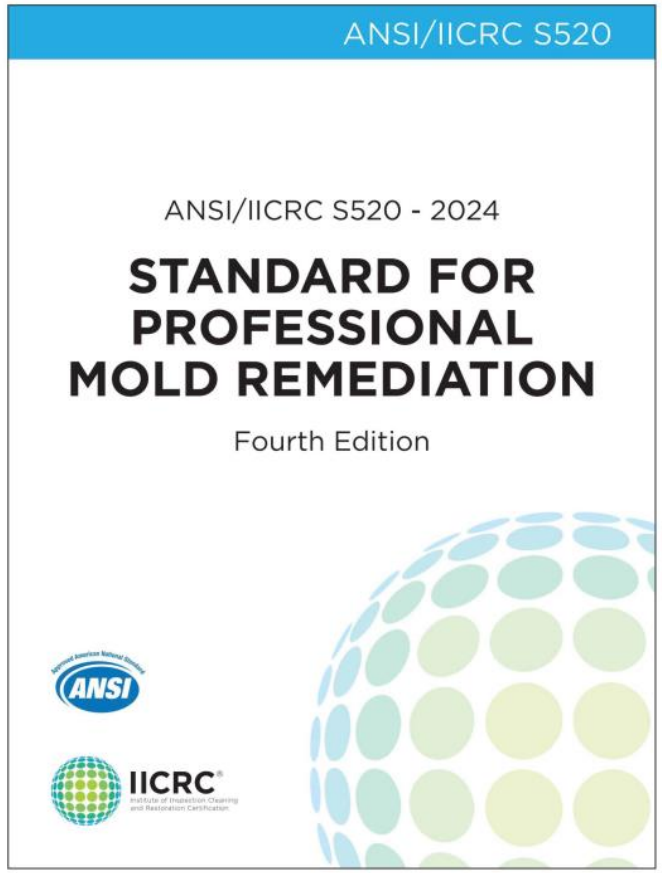
ETA 2025



3 Health Effects from Exposure to Microbial Contamination in Water-Damaged Buildings

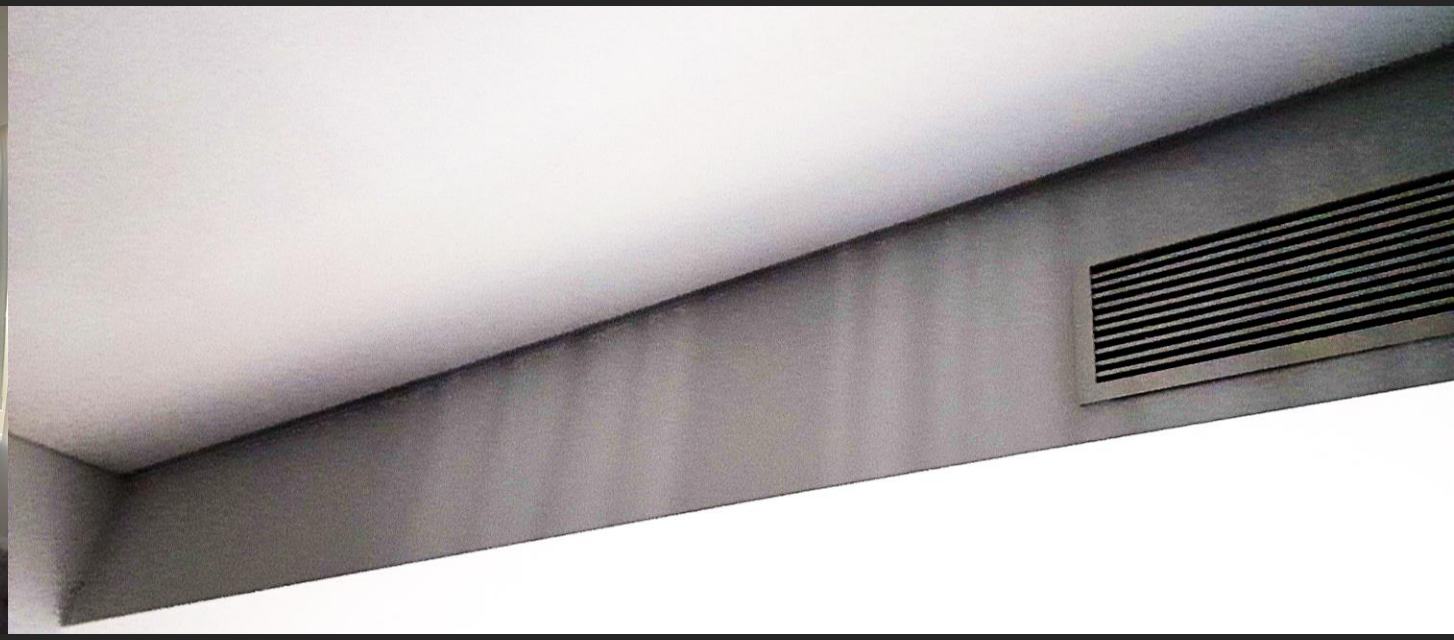
3.1 Introduction

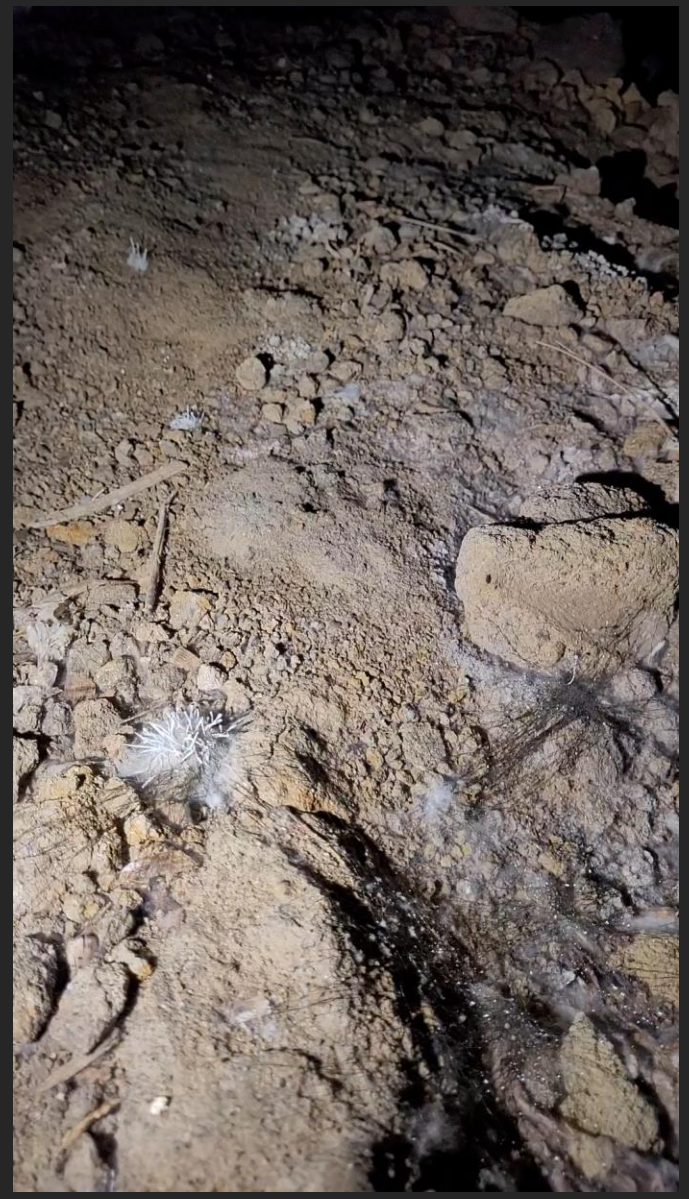
Microbial contamination associated with water damage in indoor environments is a public health problem. It presents a health risk to both occupants and restoration workers, potentially resulting in a variety of illnesses of an inflammatory, allergic, infectious, and toxic nature. Floodwaters carry soil bacteria and fungi whose types, components, and by-products can induce respiratory inflammation and sensitivity, while sewage backflows additionally introduce a variety of infectious disease agents. Moisture accumulation (chronic leaks, condensation), leading to a state of unabated dampness, results in the growth and amplification of molds that can damage valuable materials and adversely affect human health.

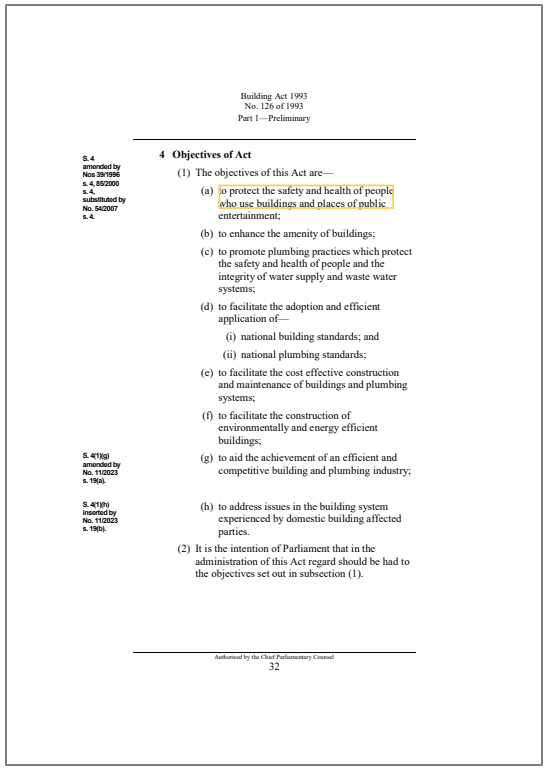


7.3.3 Building Inspection

A physical site inspection or a walk-through of affected premises *should* be performed in order to gather information about the condition of a property that can lead to a preliminary determination about the presence of moisture and mold. The building inspection *should* include but is not limited to looking for: visible mold growth, active water intrusion or condensation, elevated moisture content in materials, water stains, structural damage, HVAC operation, odors, construction materials and assemblies, construction type and methods, previous repairs or remodeling, and structure defects.







Building Act 1993
No. 126 of 1993
Part 1—Preliminary

S. 4 amended by Nos 39/1996 s. 4, 85/2000 s. 4, substituted by No. 54/2007 s. 4.

4 Objectives of Act

(1) The objectives of this Act are—

(a) to protect the safety and health of people who use buildings and places of public entertainment;

(b) to enhance the amenity of buildings;

(c) to promote plumbing practices which protect the safety and health of people and the integrity of water supply and waste water systems;

(d) to facilitate the adoption and efficient application of—

(i) national building standards; and

(ii) national plumbing standards;

(e) to facilitate the cost effective construction and maintenance of buildings and plumbing systems;

(f) to facilitate the construction of environmentally and energy efficient buildings;

S. 4(1)(g) amended by No. 11/2023 s. 19(a).

(g) to aid the achievement of an efficient and competitive building and plumbing industry;

S. 4(1)(h) inserted by No. 11/2023 s. 19(b).

(h) to address issues in the building system experienced by domestic building affected parties.

(2) It is the intention of Parliament that in the administration of this Act regard should be had to the objectives set out in subsection (1).

Authorised by the Chief Parliamentary Counsel
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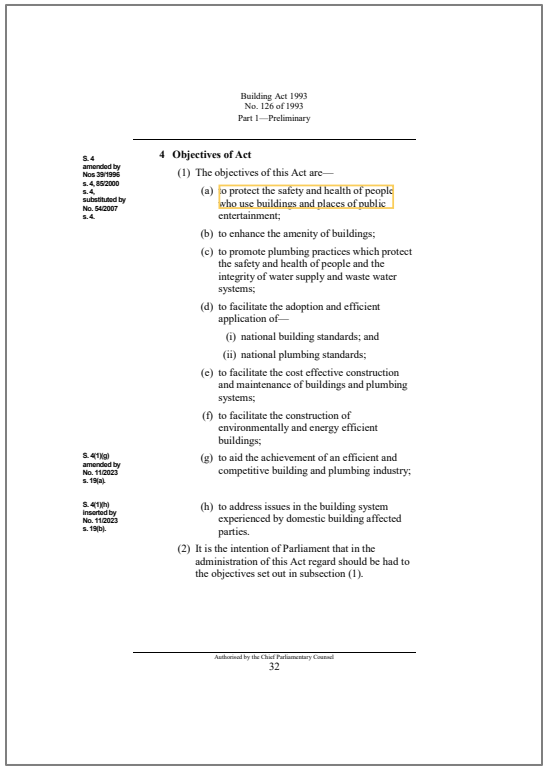

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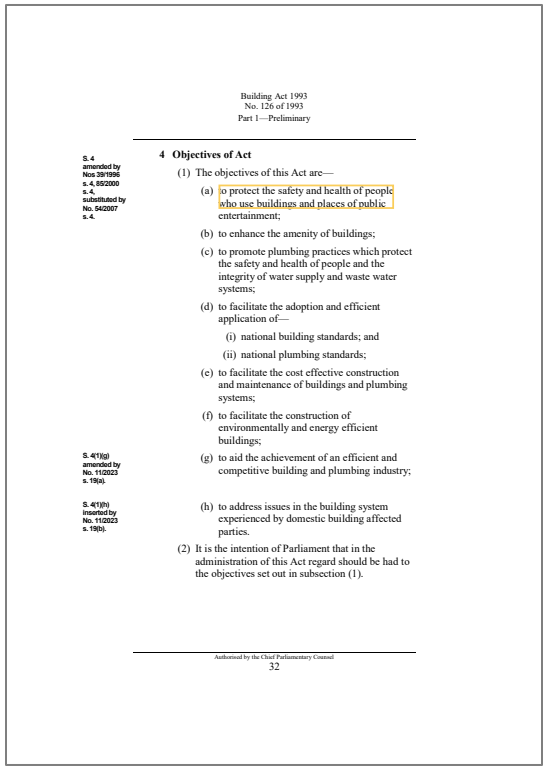
32

Division 2—Building notices and building orders

106 Building notices

Subject to section 107, a municipal building surveyor or a private building surveyor may cause a building notice to be served on an owner of a building, land on which building work is being or is proposed to be carried out or a place of public entertainment if the building surveyor is of the opinion that any one of the following circumstances exists—

(d) the building, land or place or building work on the building, land or place is a danger to the life, safety or health of any member of the public or of any person using the building, land or place or to any property.



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S. 4(1)(g) amended by No. 11/2023 s. 19(a).

(g) to aid the achievement of an efficient and competitive building and plumbing industry;

S. 4(1)(h) inserted by No. 11/2023 s. 19(b).

(h) to address issues in the building system experienced by domestic building affected parties.

(2) It is the intention of Parliament that in the administration of this Act regard should be had to the objectives set out in subsection (1).

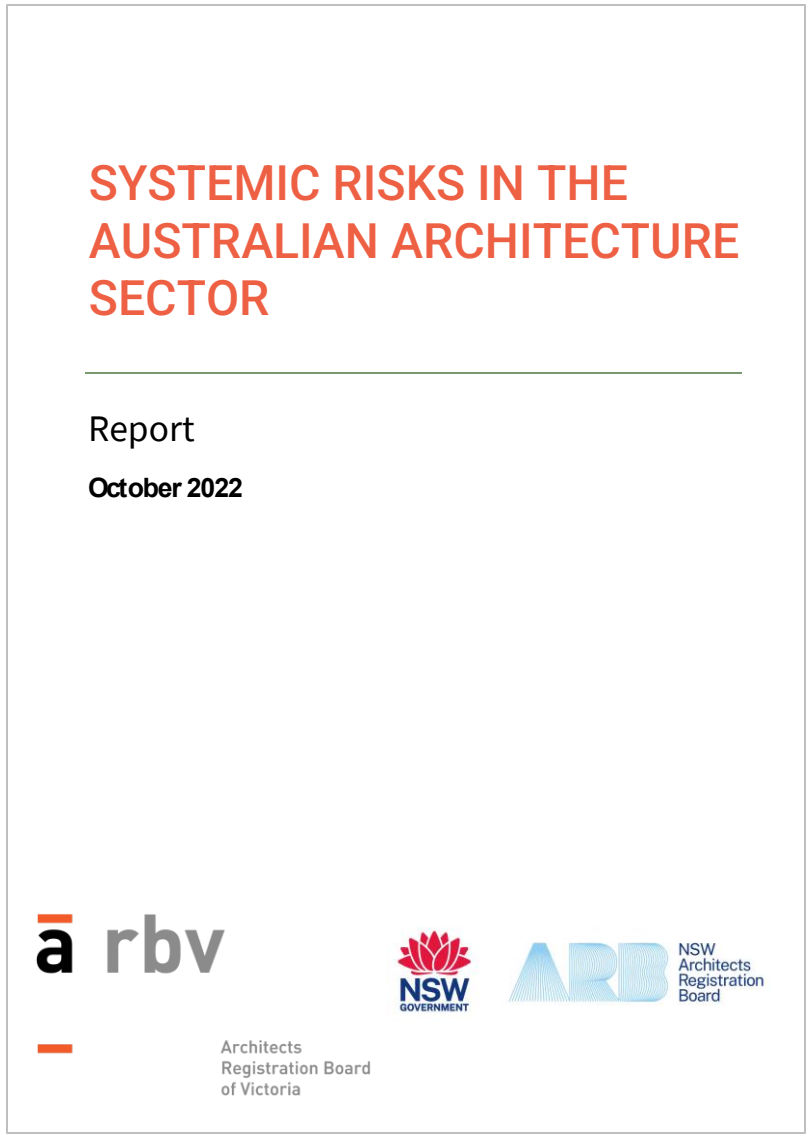
Authorised by the Chief Parliamentary Counsel
32

Building Act 1993
No. 126 of 1993
Part 3—Building permits

24 Refusal of building permit

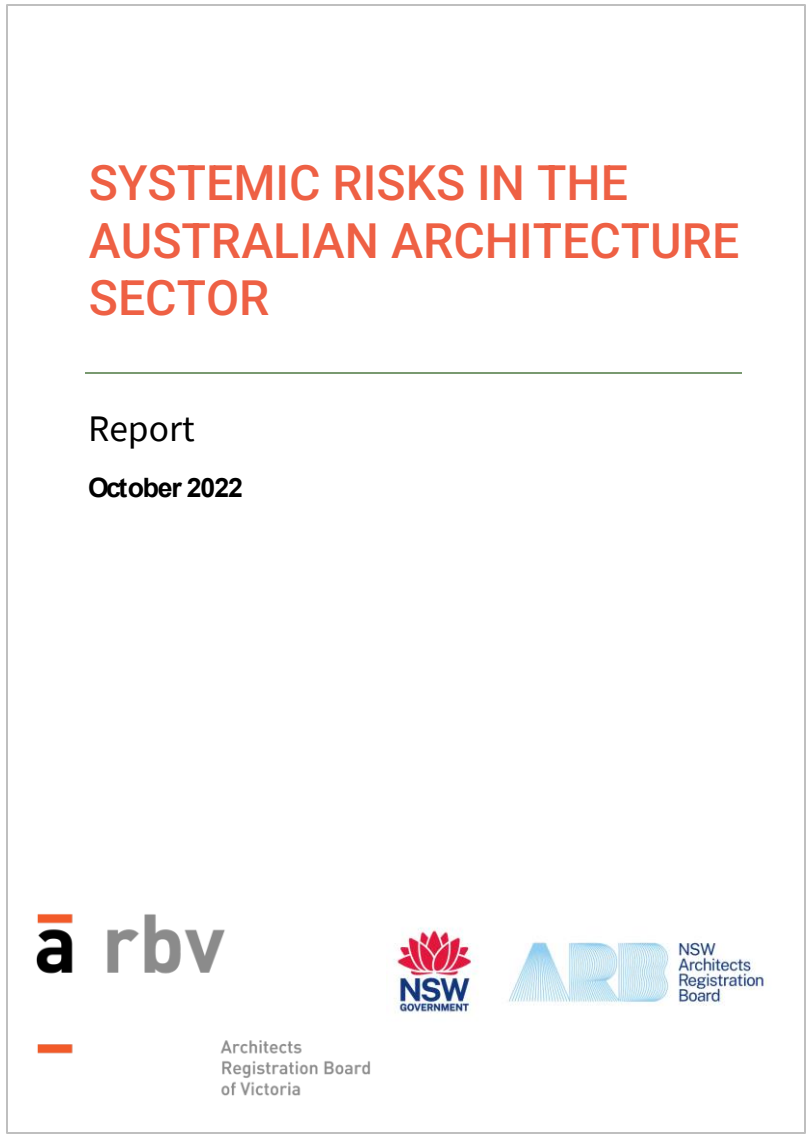
(2) Subject to section 24A and Division 4, the relevant building surveyor must not issue a building permit that imposes on the applicant lesser or greater standards or requirements than those prescribed by this Act or the building regulations, unless permitted to do so by this Act or the building regulations.

S. 24(2) amended by No. 66/2004 s. 5(1).



164. Design professionals, including architects, owe a common law duty of care to their clients that is independent of any duty that may be owed under contract and obligations that are imposed under the regulatory framework. Failure to discharge the duty of care may give rise to claims in negligence. While there is limited available data on this matter, an article published in 2018 on the ACA's website suggests that actions in negligence against architects are on the rise.

ARBV (2022) Risk, liability and insurance
https://www.arbv.vic.gov.au/systemic-risks-australian-architecture-sector/risk-liability-and-insurance



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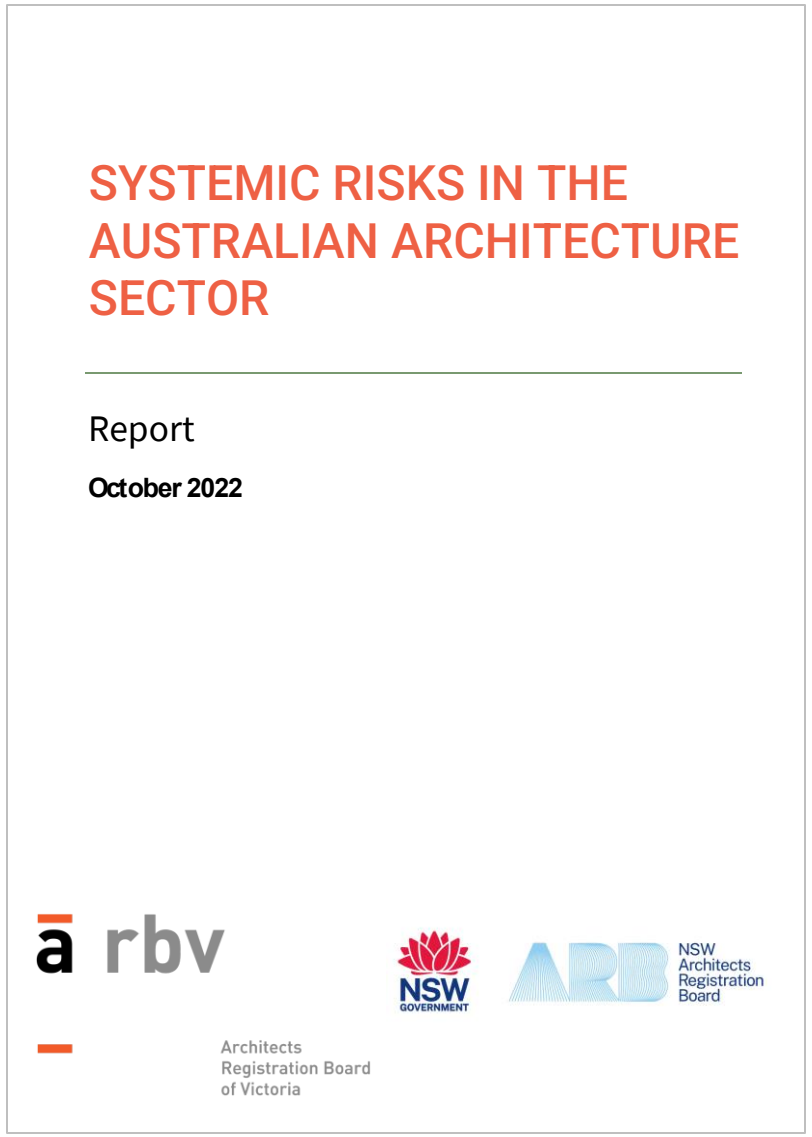

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165. The scope of an architect's duty of care when providing architectural services is broad. Whether or not that duty has been breached will depend upon the particular circumstances of each case, although the following general points can be made:

ARBV (2022) Risk, liability and insurance
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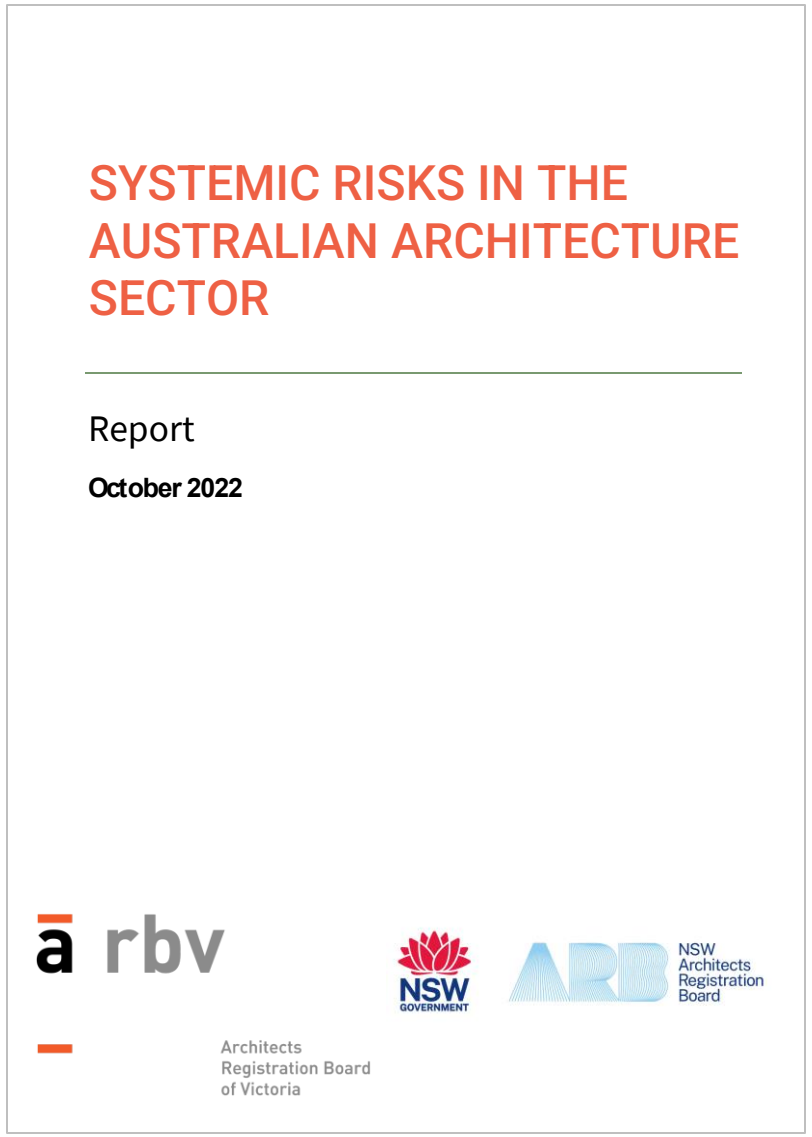

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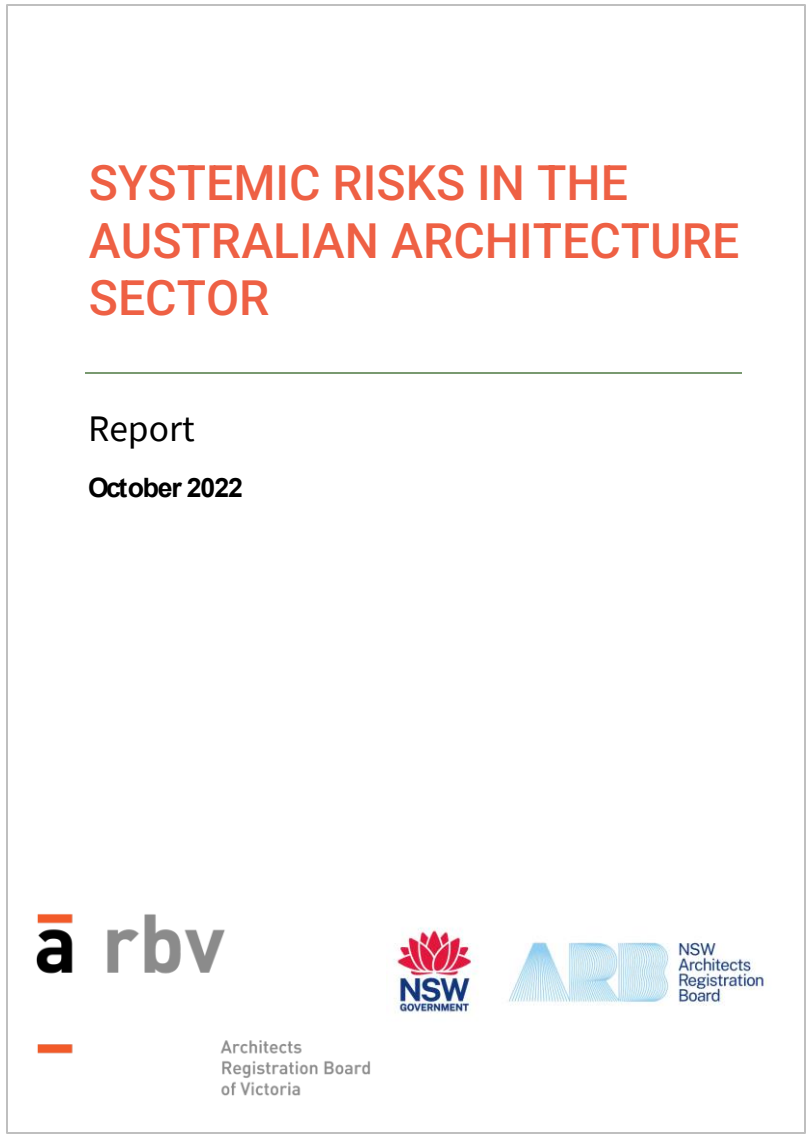
165. The scope of an architect's duty of care when providing architectural services is broad. Whether or not that duty has been breached will depend upon the particular circumstances of each case, although the following general points can be made:

Formulation of design:
Generally, where a project has an inherent element of risk, the architect has an obligation to warn the client of that risk. Where a project calls for judgments to be made outside an architect's area of expertise, they may be negligent in failing to engage the services of a more qualified individual, such as a quantity surveyor or structural engineer.



Third parties: An architect may have a duty of care to a third party who relies on designs and documentation prepared by the architect if that party suffers loss or damage, even if the architect has not entered into a contract with that third party or engaged directly with the party, such as subsequent property owners. A duty of care may also be owed to contractors and their employees.

167. However, it should be noted that the increased exposure to risk may be self-inflicted in some cases. For example, complaints received by the ARBV include cases where architects do not have the skills or experience to know whether and when to engage other specialists if the scope of work extends beyond their sphere of expertise.

ARBV (2022) Risk, liability and insurance
https://www.arbv.vic.gov.au/systemic-risks-australian-architecture-sector/risk-liability-and-insurance

Further Resources

VICTORIAN BUILDING AUTHORITY

In this section

Regulatory Priority: Water

Taking actions to address harms arising from water ingress and water damage that may lead to significant consumer issues such as mould, moisture in buildings and structural deterioration.

Reducing the risk of harms from water supply contamination, and consideration of events like flooding.

1.	Prioritise identifying and addressing systemic issues
2.	Prioritise harms with the greatest impact on community safety
3.	Prioritise harms with the greatest impact on the quality and sustainability of the built environment

Our regulatory priorities

The Authority focuses its resources and activities and use of its regulatory tools on the priorities listed below. We work in collaboration with other regulators, agencies and partners to find optimal strategies to prevent harms that may benefit from joint regulatory effort.

Water

Safe and resilient buildings

Fire Safety

Safe and resilient buildings

Product Safety

Communities reaching their potential

Solvency of building companies

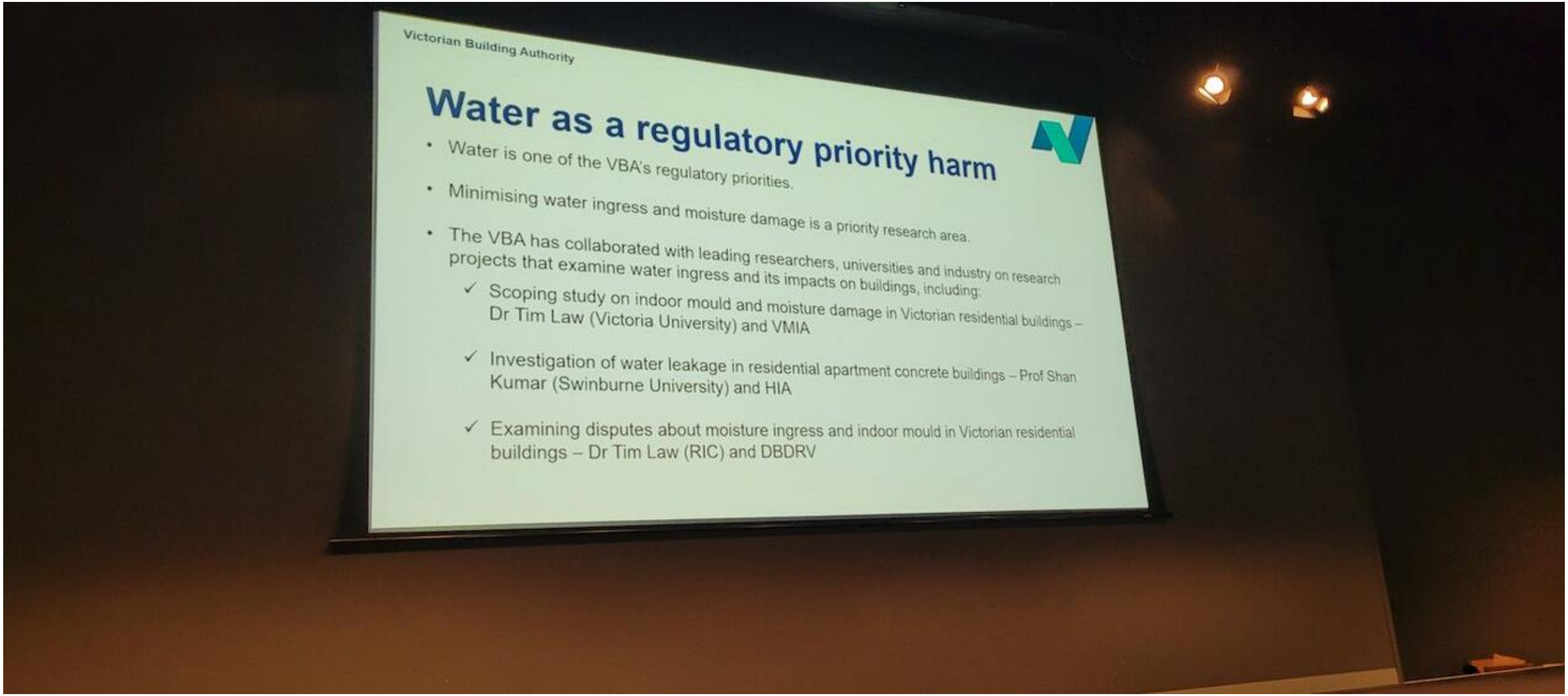
Communities reaching their potential

Practitioner capacity and capability

A confident and thriving industry

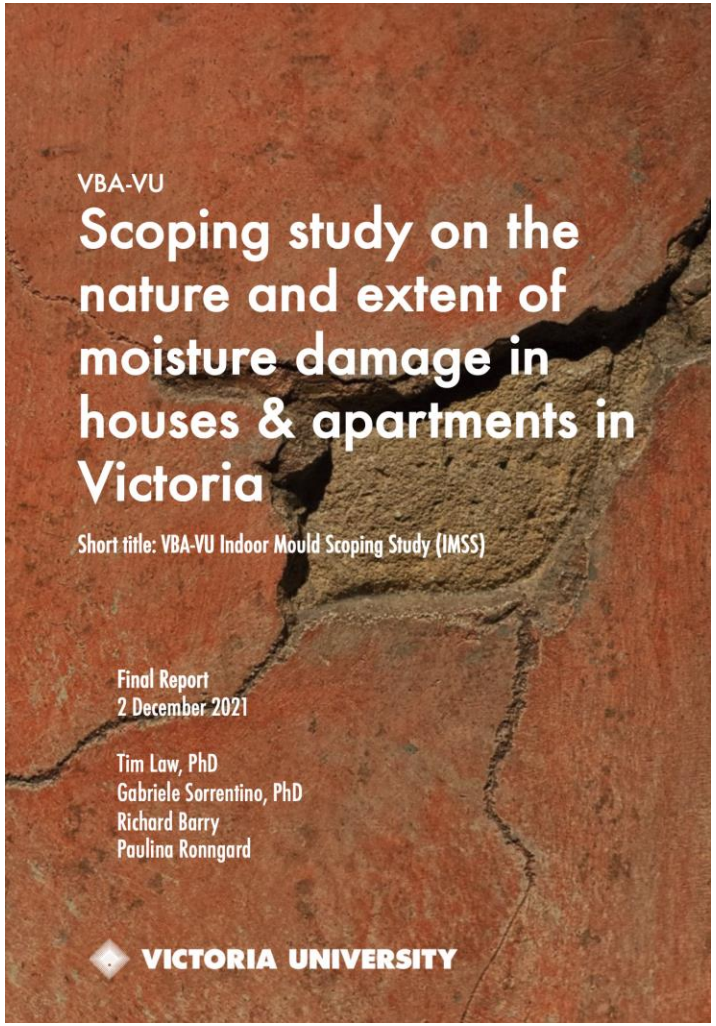
Practitioner competency

A confident and thriving industry

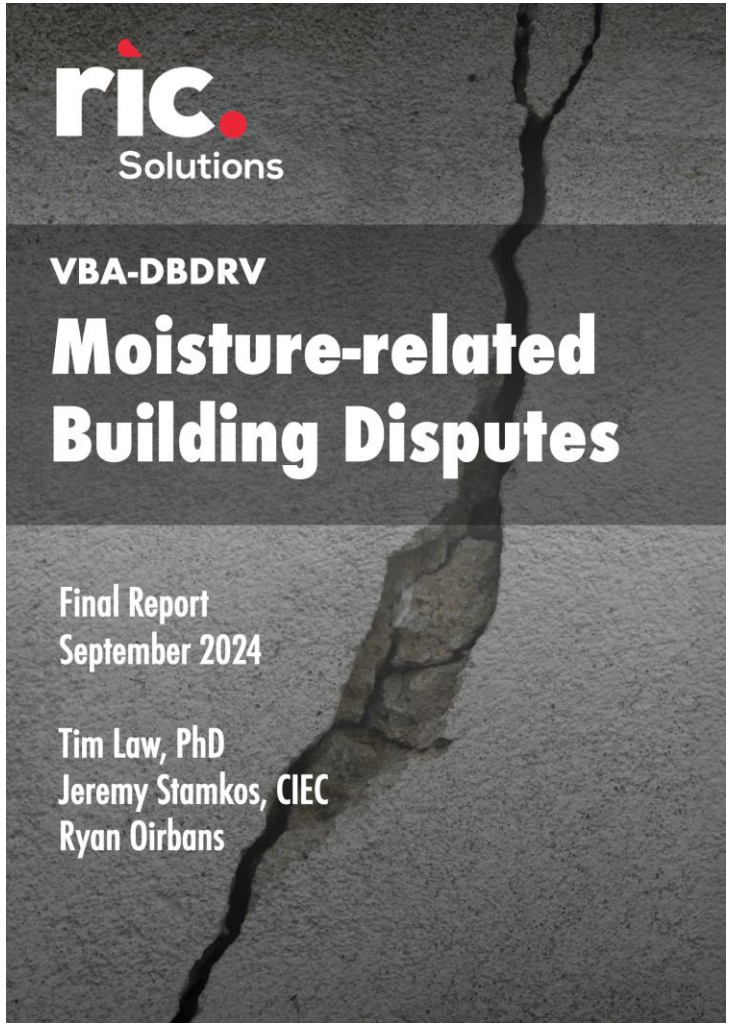


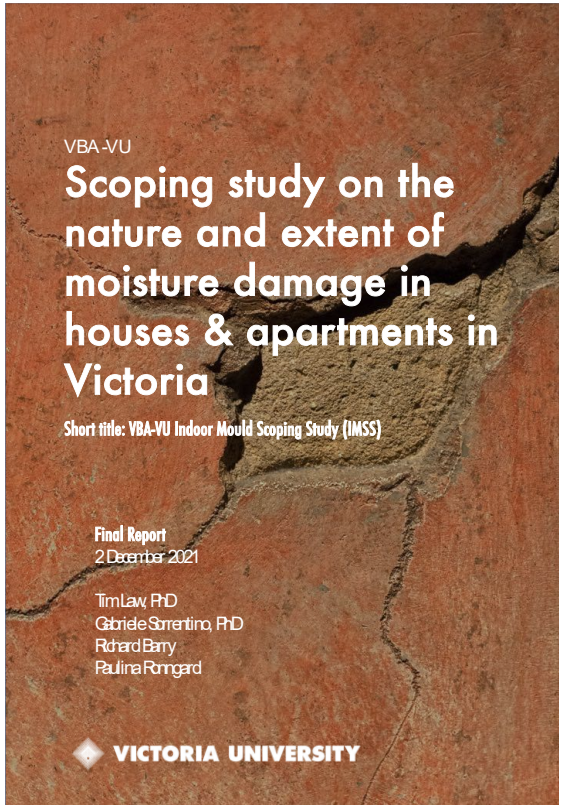
Construction Connect 2024

VMIA dataset

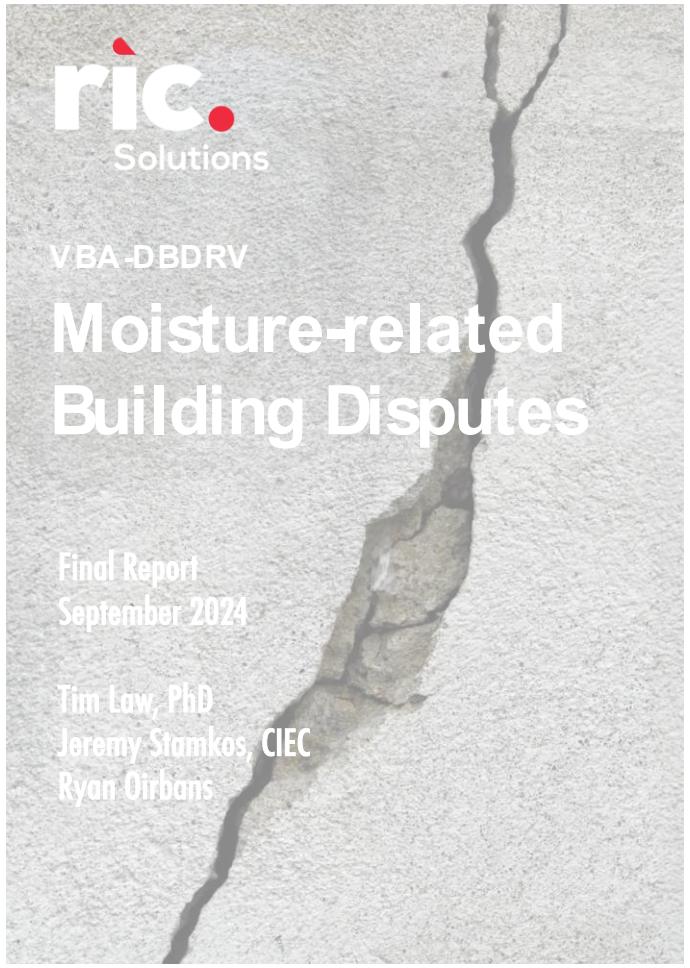


DBDRV dataset

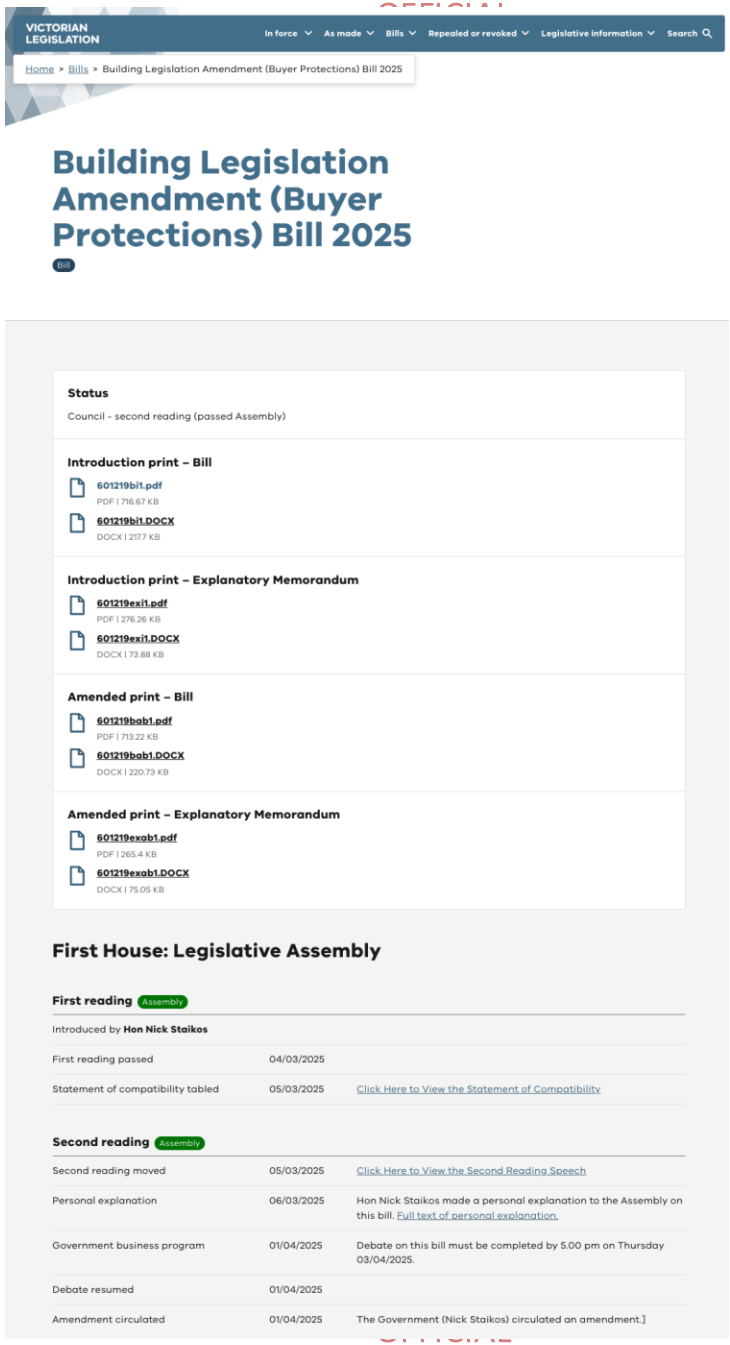




"... the design aesthetic of contemporary dwellings featuring articulated cubes and projected planes compromised a building's first line of defence to water ingress ... planning requirements have introduced building elements, such as balconies which result in geometric complexities ... design aspirations may be exceeding designers' technical abilities to design water-tight buildings, [and] poor design documentation has resulted in non-compliance and poor quality that compromised the watertightness of buildings..."



"Design decisions have consequences that appear in the case studies to be largely neglected by a lack of construction details and written specifications. Typical details in the waterproofing standards do not encompass all possibilities and require adaptation by the design practitioners to incorporate unique considerations for each application."



VICTORIAN LEGISLATION

In force · As made · Bills · Repealed or revoked · Legislative information · Search

Home > Bills > Building Legislation Amendment (Buyer Protections) Bill 2025

Building Legislation Amendment (Buyer Protections) Bill 2025

Bill

Status

Council - second reading (passed Assembly)

Introduction print – Bill

601219bi1.pdf
PDF | 716.67 KB

601219bi1.DOCX
DOCX | 217.7 KB

Introduction print – Explanatory Memorandum

601219exi1.pdf
PDF | 276.26 KB

601219exi1.DOCX
DOCX | 73.88 KB

Amended print – Bill

601219bab1.pdf
PDF | 713.22 KB

601219bab1.DOCX
DOCX | 220.73 KB

Amended print – Explanatory Memorandum

601219exab1.pdf
PDF | 265.4 KB

601219exab1.DOCX
DOCX | 75.05 KB

First House: Legislative Assembly

First reading Assembly

Introduced by **Hon Nick Staikos**

First reading passed	04/03/2025	
Statement of compatibility tabled	05/03/2025	Click Here to View the Statement of Compatibility

Second reading Assembly

Second reading moved	05/03/2025	Click Here to View the Second Reading Speech
Personal explanation	06/03/2025	Hon Nick Staikos made a personal explanation to the Assembly on this bill. Full text of personal explanation.
Government business program	01/04/2025	Debate on this bill must be completed by 5.00 pm on Thursday 03/04/2025.
Debate resumed	01/04/2025	
Amendment circulated	01/04/2025	The Government (Nick Staikos) circulated an amendment.]

75B Issue of rectification order

(1) Subject to subsection (2), the Authority may issue a rectification order in relation to building work to any one or more of the following persons—

(a) a person who carried out the work;

(b) in the case of building work carried out for the construction of a residential apartment building—a developer of the work.

(2) The Authority must not issue a rectification order in relation to building work unless the Authority is satisfied that—

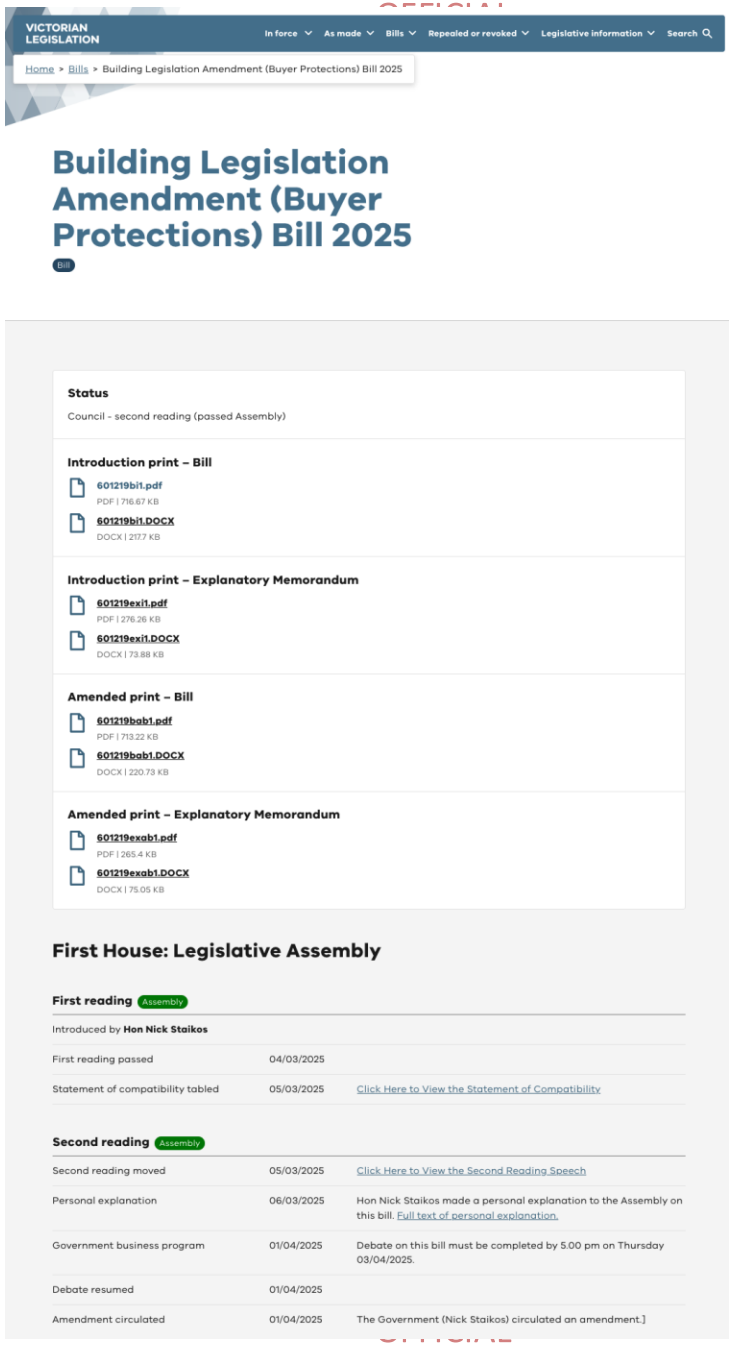
(a) the building work—

(i) is incomplete; or

(ii) is non-compliant; or

(iii) is defective; and

(b) subject to section 75C, not more than 10 years have elapsed since any of the following have occurred in relation to the building work—



serious defect, in relation to building work, means—

(a) a defect in a major building element that is caused by non-compliant work; or

(b) a defect in the building work or in a building product used to construct the building work that—

(i) is attributable to—

(A) defective design; or

(B) defective or non-compliant building work; or

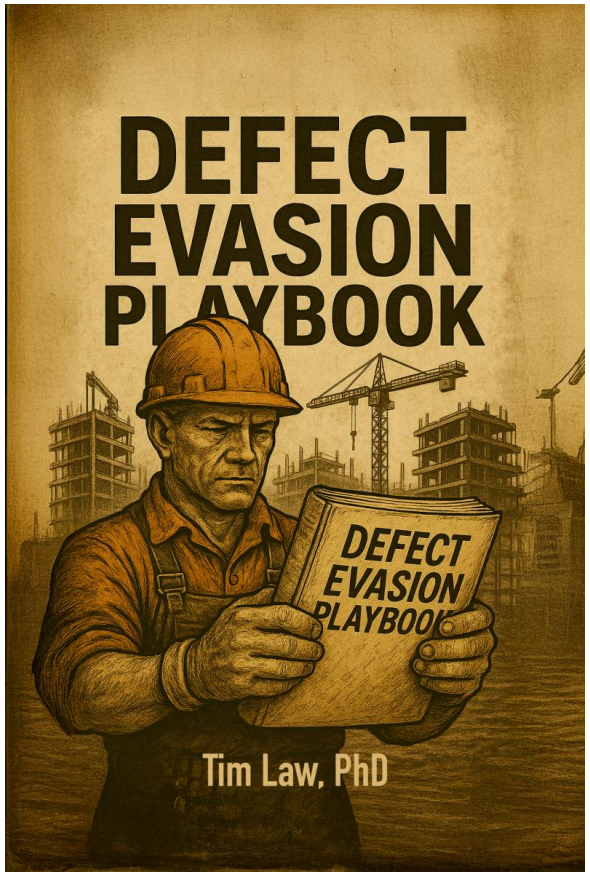
(C) defective materials; and

(ii) has caused or is likely to—

(A) cause the building to be uninhabitable or prevent it from being used for its intended purpose; or

(B) cause the building or a part of the building to be destroyed; or

(C) cause the building or a part of the building to be under threat of collapse; or



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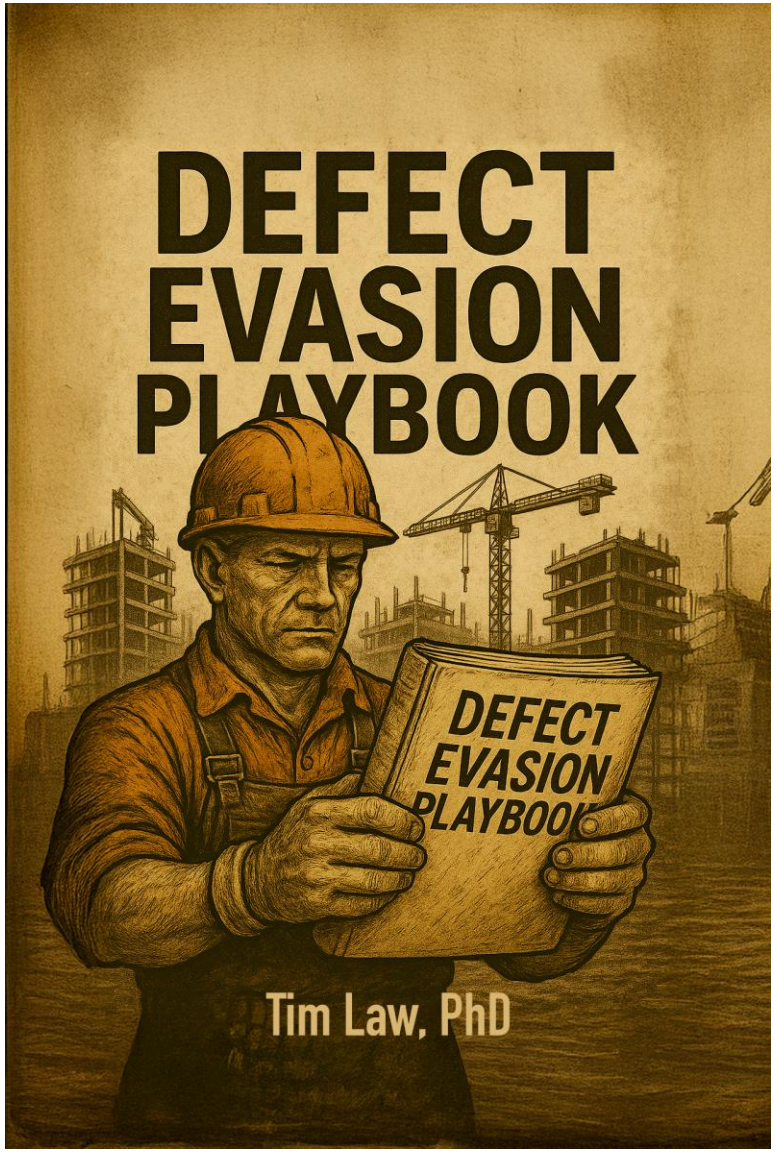
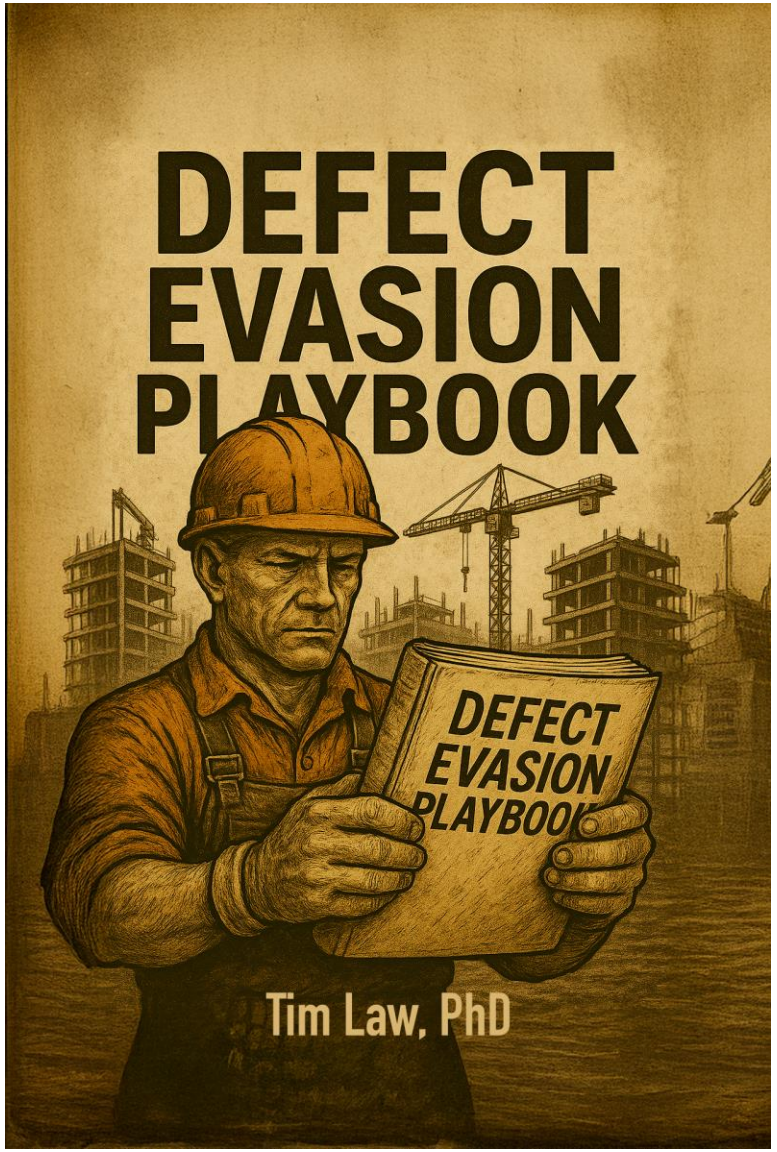


Should some impudent owner, emboldened by a TikTok video or a neighbour's tale, dare to utter the words "defective" or "not in a workmanlike manner," you must treat this as a personal affront to your very throne. You must play the deeply offended professional. Draw yourself up to your full height, let your voice quaver with righteous indignation, and begin your demands. That is your opening position — take umbrage! How dare they question your sovereign authority?



Demand, demand, demand. It is the first step to a prosperous and untroubled reign. The strategic brilliance of Demand is its immediate reversal of roles. The complainant arrives believing themselves the injured party, only to leave feeling they have somehow wronged you. They came seeking redress; they leave seeking forgiveness.

Remember, dear Shonky: in this game, he who demands, commands.

Uncle Dodgy,
Can't the architects simply say, we designed to the code!

In Victoria, the Code is a Bare Minimum—and Everyone Knows It

You architects love referencing the NCC. Maybe a bullet-point on "moisture management," a note about "ventilation as required," and then a flourish of glass, ply, and hope. But here's the truth: the Code's requirements for condensation are just enough to fend off an auditor, not enough to fend off physics. Nearly every audit, ARBV report, and government research paper (and there have been many) says the same: plans are invariably thin, documentation's perfunctory, and the attitude is "she'll be right, mate." We all know it. But now so do the regulators—and worse, so do the judges.

Uncle Dodgy,
But so many other under-document, it isn't just me!

The Culture of Under-Documentation is No Defence

It's been an industry sport: leave the plans vague, lean on "standard practice," let the builder fill in the gaps, and if trouble comes, point the finger at everyone else — builders, surveyors, or the poor sod who lived in the place and had the temerity to hang a towel indoors. Sadly, those old moves aren't landing anymore.

Why not?
Because everyone in the know—tribunals, insurance investigators, even the VBA—now draws a straight, soggy line from under-documentation to defects. When condensation, mould, or rot turns up, the court won't ask about your "signature vision." They'll ask what you did to manage foreseeable risk. Because by now, the risk is as well-known as the price of a smashed avo in Fitzroy.

Uncle Dodgy,
But if 'all' designers under document then surely that should be the normal expectation from the profession!

Legal Reasonableness Has Shifted—Everyone's On the Hook

Back in my day, "common industry practice" was a decent shield. "All the architects do it!" was good for a laugh, and sometimes it'd work. But when the risk becomes common knowledge, that argument becomes a rope. Everyone's doing it wrong? The court says, terrific—now everyone's liable, and you just got picked first.

No matter how much you plead the poverty of fees, the squeeze of a disinterested client, or the industry standard of mediocrity—a professional's duty is to act as a professional. If you know the materials will absorb moisture like a sponge in a brewery (and you do), and if your plans wave vaguely at "manage condensation according to the NCC," then you haven't done enough.

Uncle Dodgy,
Good thing we are in Victoria and not NSW!

Comparison to NSW: Where Architects Can't Dodge Responsibility

Now, let me pour vinegar in the wound. Over the border in NSW, they've wised up. The **Design and Building Practitioners Act** (DBPA) has made it law that architects *must* assess, document, and *declare* their designs comply with every sustainability and moisture provision. They register, they submit compliance declarations, and they're liable directly—not just in theory, but in cold, hard cash—for economic loss caused by defectively designed (or under-documented) buildings. No hiding behind the builder, no "industry practice," no "but the plans were vague!" excuses.

Uncle Dodgy,
Good thing we are in Victoria and not NSW!

So, expect those NSW design regulations to land in Victoria sooner rather than later. The days of plausible deniability, vague notes, and shifting responsibility are numbered. What's compliance in Sydney is about to become mandatory in Melbourne — with the BPC stepping up not just as referee but as the rule-maker. If they haven't started, they soon will. Document boldly and decently, because what's enforceable up north will soon be enforceable here.

Dodgy's Advance Manoeuvres: How to Outflank That Condensation Complaint Before It Even Starts

- Warn the client, in writing, about what's "foreseeable" — that mould food like radiata pine, engineered timber (LVL, particleboard, plywood, OSB, etc) and paper-faced plasterboard hate condensation and moisture as much as a pensioner hates a cold call from the tax office.
- If your budget doesn't stretch to best-practice solutions, say it. Get the owner's signature. Don't let them say you left them in the dark.
- Build your file, not just your building: what you knew, what you told, how you handled it. When the tribunal asks, show that you thought, not just followed.
- If you're "just following the pack," remember — the pack might be heading over a cliff. First over isn't lucky, and the others aren't far behind.

Tim Law · You
Architectural scientist specialising in mould in Australian buildings
1mo ·

Uncle Dodgy pulls back the curtain on Victoria's revolving door of building regulators, revealing why the real problem isn't the fall guy but the rigged system behind the scenes.

Interlude: The Fall Guy

Tim Law

Tim Law · You
Architectural scientist specialising in mould in Australian buildings
1mo ·

Uncle Dodgy warns that when regulators wield too much power without expertise, every fix can backfire — sometimes cutting the hand that swings the axe.

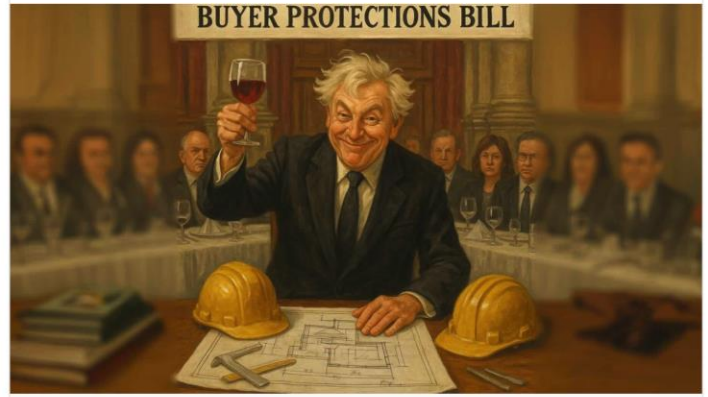
Interlude: The Axe with a Treacherous Handle

Tim Law

Mohammed Ashvak and 23 others 5 comments

Tim Law · You
Architectural scientist specialising in mould in Australian buildings
1mo ·

Uncle Dodgy raises a glass to the government's bold reforms, toasting a future where lawyers and insurers feast on complexity.



Interlude: Dodgy proposes a toast

Tim Law

Tim Law · You
Architectural scientist specialising in mould in Australian buildings
2mo ·

A sobering letter reminds Uncle Dodgy — and us — of the real human cost behind every clever dodge and legal loophole.

Interlude: The cost of decency

Tim Law

Tim Law · You
Architectural scientist specialising in mould in Australian buildings
2mo ·

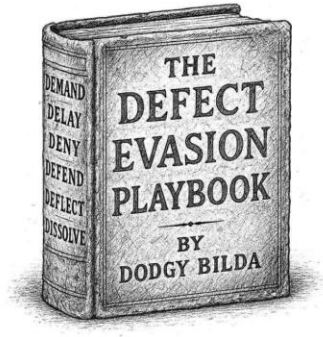
Some architects dream of harmony with nature. Others prefer to let nature right through. Uncle Dodgy steps in with bucket in hand.

DEP Interlude: Drippingwater

Tim Law

Tim Law · You
Architectural scientist specialising in mould in Australian buildings
2mo ·

Following feedback within hours of posting the first chapter, I thought I should write a Preface to explain my motivations for this book.



Preface to the Defect Evasion Playbook

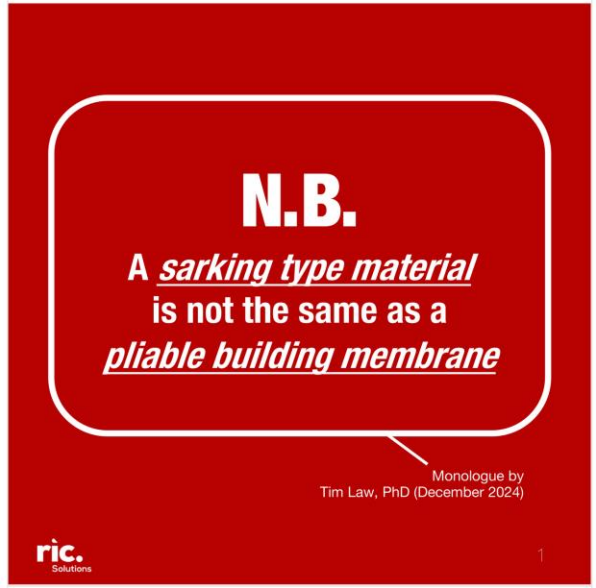
Tim Law

Tim Law · You
Architectural scientist specialising in mould in Australian buildings
5mo · Edited ·

The ANSI/IICRC S520:2015 was recently updated in 2024. The new definition of Condition 1 'normal fungal ecology' is minor (in terms of word changes) but significant in the change of meaning, and ...more

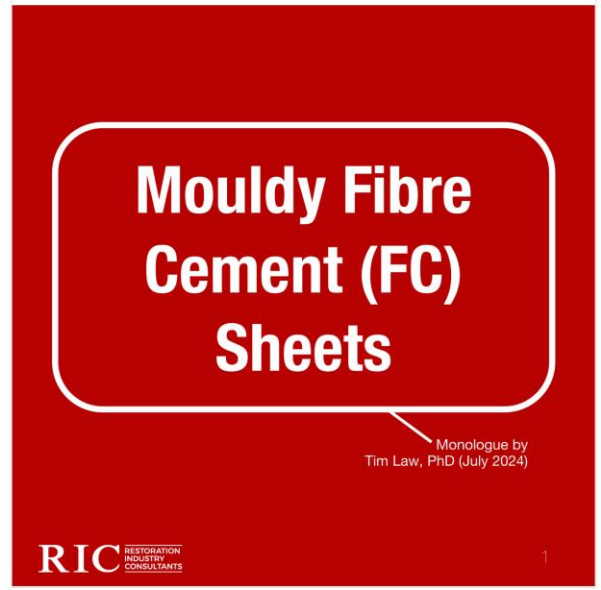
Tim Law · You
Architectural scientist specialising in mould in Australian buildings
7mo · Edited ·

In a recently issued Practice Note GE15 by the Building and Plumbing Commission, I noticed the use of NCC 2019 language and terminology in relation to the NCC 2022 Condensation Management provisions. ...more



Tim Law · You
Architectural scientist specialising in mould in Australian buildings
1yr ·

Asbestos cement sheets, or 'fibro' were once thought to be the wonder material: water resistant, fire resistant and durable. That was until we discovered it cause asbestosis. So fibre-cement sheets were ...more



Tim Law · You
Architectural scientist specialising in mould in Australian buildings
2yr ·

When 'moisture' is not 'water' — because precision in language is critical.

Thanks for sending me down this line of investigation Byron Land ...more

Tim Law · You
Architectural scientist specialising in mould in Australian buildings
4d ·

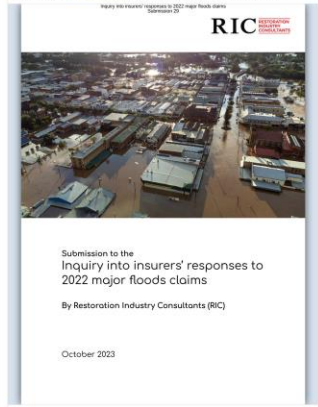
When a Verification Method demands more than the industry can practically deliver, we have to question what compliance really means. AIRAH DA07 defines the rules of the game, even when few can ...more

Moisture Design Reference Years (MDRYs)

Tim Law

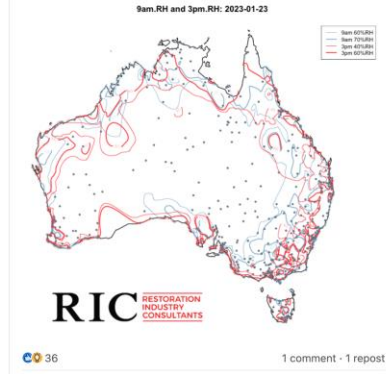
Tim Law · You
Architectural scientist specialising in mould in Australian buildings
1yr · Edited ·

The current floods in central Victoria, as well as those in far north Queensland over Christmas can bring unpleasant flashbacks of the 2022 flood events. RIC Solutions has been in a unique position to ...more



Tim Law · You
Architectural scientist specialising in mould in Australian buildings
2yr · Edited ·

Earlier I asked about using RH contours as a way of determining subfloor ventilation requirements to the National Construction Code. I think I answered my question — I'm fairly convinced that creating RH ...more



36 1 comment · 1 repost

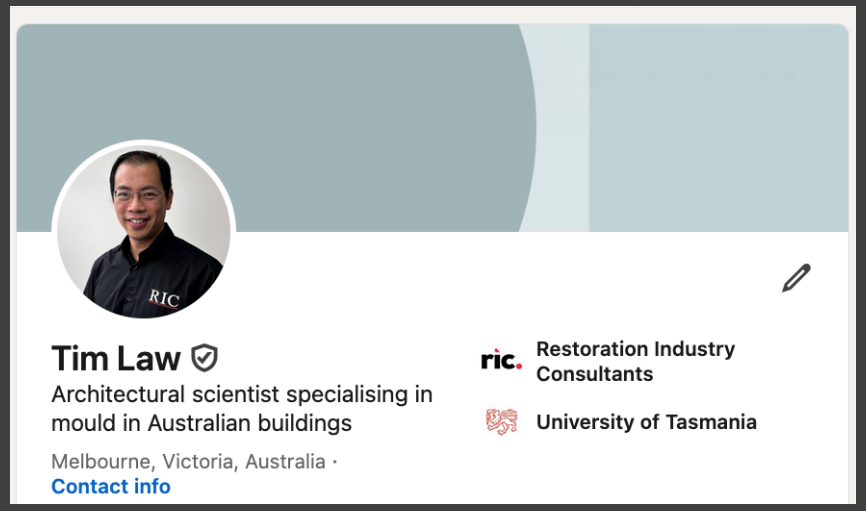
Tim Law · You
Architectural scientist specialising in mould in Australian buildings
1yr ·

Mouldy tenancies, what's there to be concerned about, why is it so prevalent, and what can be done about it. A quick overview of these in an interview I did on ABC News Noon with Ros Childs on ...more

Tim Law · You
Architectural scientist specialising in mould in Australian buildings
9mo ·

I've attempted visual story telling for the upcoming VBA Practitioner Education Series where I speak on water ingress. Here are the first 25 slides, minimal text. See if you can guess the story line, then join ...more

ric. Solutions



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Any questions?

ARBV CPD Webinar: A design pers
pective on condensation
management

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