

Designing and building waterproofed balconies

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With innovative designs and the ability for builders to construct homes with elevated balconies to maximise views, waterproofed balconies are becoming the preferred option in the construction process. Often these waterproofed balconies are situated over habitable rooms or garages.

Over recent years, the VBA has seen an increase in disputes between owners and builders which involve failed waterproofed balconies resulting in major damage to homes throughout Victoria.

There are many reasons why waterproofed balconies may fail, and identifying the cause and rectifying the problems can be difficult and expensive.

It is important for builders to understand that they may be liable for a failed waterproofed balcony for up to 10 years from the date of the Occupancy Permit or Certificate of Final Inspection. If an Occupancy Permit or Certificate of Final Inspection was never issued, the builder may be liable for longer than the usual 10-year liability period.

To assist building practitioners, the VBA has developed a list of important points to remember when designing, assessing, approving and building waterproofed balconies.

-  **Don't** design a waterproofed balcony without the necessary details and information a builder will need to successfully construct the balcony.
-  **Do** provide a detailed design of the waterproofed balcony system including section details on critical areas such as step downs, upstands, product information on the membrane to be used, drainage, substrates, falls, etc. It's also important to do your homework on the type of membrane that will be used and ensure it has a test report demonstrating compliance with *AS 4654.1:2012 Waterproofing membranes for external above-ground use – materials*. This information should be included in the plans and should be submitted to the building surveyor when an application is made for a building permit.
-  If you're a building surveyor, **don't** approve a waterproofed balcony without all the necessary evidence that the system will meet Part 3.8.1.3 of the Building Code of Australia (BCA), specifically *AS 4654 Parts 1 and 2*;
-  **Do** ask all the relevant questions to ensure the proposed waterproofed balcony will comply with Part 3.8.1.3 of the BCA, specifically *AS 4654 Parts 1 and 2*. Also ensure the plans and specifications are fully detailed to demonstrate compliance, including section details on critical areas such as step downs, upstands, product information on the membrane to be used, drainage, substrates, falls, etc. If a system is proposed that does not meet the requirements of *AS 4654*, then acknowledge this as an Alternative Solution and request the necessary documentation to demonstrate full compliance with BCA Performance Requirement P2.2.2. This Alternative Solution should be fully documented on the approved plans and should be listed as an Alternative Solution on the building permit.

- ✘ **Don't** use chipboard substrates, tile underlay or slate underlay as part of the waterproof system.
- ✔ **Do** use a concrete, compressed fibre cement or marine-grade structural floor substrate and make sure it is compatible with the waterproofed membrane system being used.
- ✘ **Don't** use bathroom-grade waterproof membranes.
- ✔ **Do** only use a waterproofing membrane that has been tested and certified as compliant with AS 4654.1. If unsure, ask for the test report and show it to the relevant building surveyor for clarification. This should have already been reviewed and approved as part of the building permit process.
- ✘ **Don't** assume all waterproofed membranes perform the same.
- ✔ **Do** check the waterproof membrane certification for limitations such as maximum floor areas and suitable substrates to ensure you are meeting the necessary installation requirements.
- ✘ **Don't** have the balcony floor levels at the same level as the internal floor.
- ✔ **Do** ensure the vertical upward termination heights of the membrane is not less than that specified in Table A1 of AS 4654.2, as the minimum height above the finished floor level varies between 40mm and 180mm, depending on the wind class/speed for the site. Also pay particular attention to doors and windows interrupting the minimum vertical upward termination heights.
- ✘ **Don't** let the water drain down the face of the building, this causes staining and moss build up and often leads to disputes.
- ✔ **Do** ensure water drains to the stormwater drain via a strip drain or floor waste.
- ✘ **Don't** solely rely on the drainage system to protect the dwelling from flooding.
- ✔ **Do** plan for a worst case scenario that the drainage will fail at some point in time. Ensure adequate overflow provisions are built in to the construction to ensure any rising water does not enter the dwelling.
- ✘ **Don't** think that water will find its own way to the drainage point.
- ✔ **Do** construct the balcony floor with correct grades, taking into account future building movement, to ensure water will not flow in the wrong direction or pond on the balcony floor.