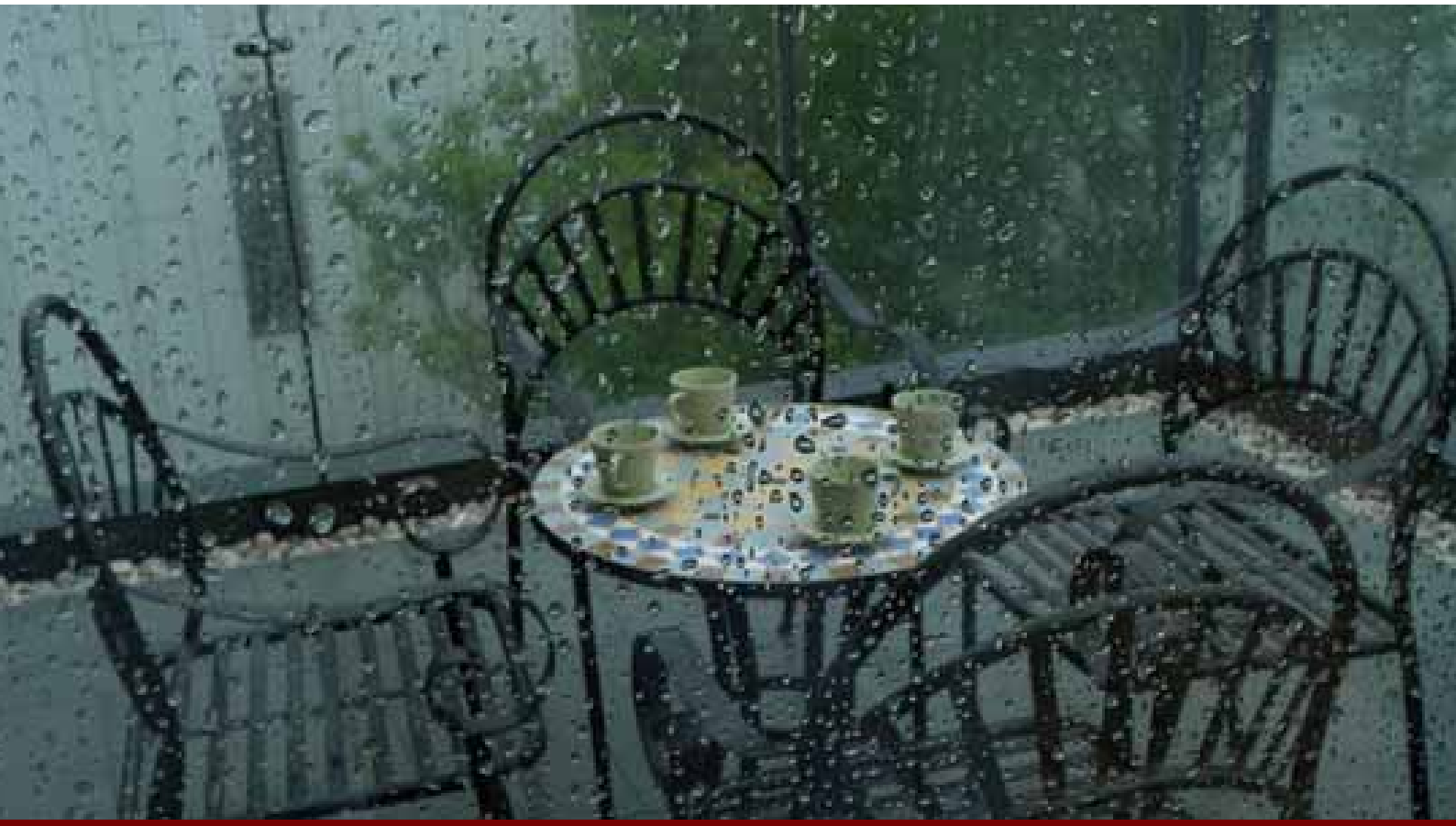

If It Has a Balcony, It Will Leak

This article diving into the question “Why is my balcony leaking” has been supplied by Paul Evans, President – Australian Institute of Waterproofing (AIW).

This unfortunate statement “If it has a balcony, it will leak” was taken from an article titled Melbourne’s high-rise nightmares taking a tall toll on residents and investors from The Age, Melbourne 25th September 2016. Though this article was referring to Melbourne’s booming construction in the apartment sector, many cities across Australia are experiencing similar issues.

There are several key points within this article I would like to emphasize:

- Residential multi-story, multi-dwelling, apartment buildings are experiencing an alarming frequency of building defects, most commonly caused through **waterproofing failure**.
- **Balconies** were identified as a major cause of waterproofing problems.

- Residential multi-story, multi-dwelling, apartment buildings are experiencing an alarming frequency of building defects, most commonly caused through **waterproofing failure**.
- **Balconies** were identified as a major cause of waterproofing problems.
- This has led to the common assumption that for many multi-level balconies "**proper waterproofing membranes are not installed**".
- The market has inconsistencies about Insurance cover, both from building trade cover and the residential owners cover. Resulting in the building owner necessitating to self-fund the corrections to the building.
- The Victorian Government is making new laws to protect consumers whilst also recognizing the 'overwhelming majority of builders' do the right thing.

"Construction methods are always changing and adapting."

I have noticed recently, either for reasons of design and/or cost considerations, changes in balcony construction methods which have a direct impact on the success or otherwise of the waterproofing membrane.

Many balconies are currently being constructed with minimal falls to the substrate; particularly evidenced in multi-level apartments.

This design has a significant effect on the choice of waterproofing product, installation method and tile adhesives used.

The balcony membrane must be capable of "standing water"; as a balcony with minimal fall will have water ingress Through the grout resulting in moisture "ponding" between the membrane and tiles.

If the membrane selected cannot withstand ponding water – and many of the market cannot – over time and together with the normal cyclic thermal contraction and expansion of a building, this will cause the membrane material to break down and/or joint failure and cause water leaks.

Unfortunately, these issues are not always taken into consideration when contractors/specifiers/designers are deciding on waterproofing products and methodology for balconies.

This may result in the owners, investors and owners' corporation having to face the challenges of solving future leaking balconies.

Effects of Water Ingress

Balconies and walkways are exposed to the destructive forces of the elements: rain, wind, sunlight, and freezing conditions.

All too often, penetration of water through the top balcony surface and exposed edges of both reinforced concrete balconies and timber framed balconies, leads to deterioration of the balcony structure and significant defects occur, such as concrete spalling.

Accumulation of calcium crystals and salts, known as “Efflorescence” occurs on balcony surfaces only in the presence of water.

The waterproofing product chosen should have comparable expansion capabilities as the balcony structure itself, strongly adheres all surfaces and create a permanent water tight bond around all balcony edges and surfaces.

Poorly detailed balcony surface transitions, interfaces and penetrations can lead to water ingress into occupied spaces below which in turn may lead to serious structural damage.

Why Waterproofing Membranes Leak

In my experience, there are recurring issues causing waterproofing failure:

- Inadequately waterproof detailing from balcony to wall interfaces.
- Using cheap (inferior) materials to save money.
- Railing post and penetrations causing water ingress due to poor preparation and detailing.
- Failure to pick up building defects through the building surveyors’ inspection process.

To give an opinion on remedial waterproofing works for balconies: re-grouting and surface sealing is not the way to repair a leaking balcony if it has been established there is a defective membrane.

This Band-Aid method may stop or slow down water leaks for a while – that is until the balcony moves and cracks the grout again and inevitably the balcony will start to leak all over again.

Successful remedial waterproofing system for leaking balconies

- Correct waterproof material – selecting cost effective & long life membranes suitable for balcony design and conditions.
- Correct membrane installation i.e. make water tight all balcony surfaces, interfaces, and penetrations.
- Membrane must be capable of bridging cracks and joints.
- Membrane flexibility so the waterproofing will move with the normal contraction & expansion of the balcony envelope.
- Ability to withstand “ponding” water.
- Minimal disruption to building occupants.

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