



# Fixing a Leaking Roof

This article discussing fixing a leaking roof has been supplied by Paul Evans, President – Australian Institute of Waterproofing (AIW).

Costly and extensive damage to buildings are often the end result of a leaking roof and associated structural water ingress. As a Registered Building Practitioner who is also a specialist in waterproofing installation, I have witnessed the devastating consequences of not fixing a leaking roof in a timely manner.

*“What is the best remedial action to fix roof leaks?”*

In many instances, there may be several available remedial actions possible and of course the cost component is a significant consideration.

Being both a builder and waterproofing specialist throws a different light – a structural angle – on solving complex water ingress problems.

And I do consider that solving water ingress very often involves issues beyond waterproofing alone.

I have witnessed the diagnosis of roof water leaks as being a waterproofing issue, when in fact the origin of water ingress is a plumbing problem or a structural design element.



**Extensive concrete damage to underground car park due to water leaks from rooftop above.**

Unfortunately, in these cases installing a new waterproof membrane doesn't solve the water problem.

So, we come to the big question – how do you decide on the correct and best rectification method to resolve water leaks?

*“Fixing roof water leaks is similar to forensic investigation.”*

Fixing a leaking roof may involve older buildings and structures.

Very often existing these roof membranes have been patched up over many years to stem intermittent water leaks.

Sometimes it is possible to carry out temporary rectification works and move the actual fix date to a later time due to lack of funding or weather preventing a desired outcome.

Eventually though, it becomes unviable and unmanageable to keep spending money on fix ups.

Way before you decide which rectification pathway to go down, the cause of water ingress needs to be determined.

Knowing the root cause of water leaks goes a long way to helping establish a course of action – this is where my so called “roof forensics and assessment” comes into play.

Water can track a significant distance from the point of roof entry, making the problem of solving water leaks challenging.

This is particularly relevant with “busy” commercial roofs, i.e. with HVAC & mechanical installations, rooftop plant deck equipment etc.



**Rooftop deck with water ponding causing catastrophic structural damage to the building.**

There comes a time when money must be spent and spent well – this means waterproofing rectification works should provide a solution that meets performance criteria in terms of lifetime service, permanent leak resistance, weather resilience.

## *Roof membranes should incorporate the following properties*



Selection of the correct waterproofing materials is a tough decision particularly as there are so many different products on the market. There are a broad range of solutions to meet current demands.

I would not be so bold as to suggest there is any one product for roof restorations, in general they all reasonably good – otherwise they wouldn't or shouldn't be on the market. Roof membranes should have at the minimum the following properties:

- Robust Adherence – membrane requires strong bond to existing leaking roof surface.
  - Contours to Shape – rooftops often involve utilities, air conditioning utilities etc. Roof membranes must seal and make water tight around all roof penetrations & services.
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- Flexibility – membrane needs to move with normal climatic fluctuations of roof substrate i.e expansion and contraction.
  - UV Stable – roof membranes need to be not just UV resistance but UV stable for longevity.

Whatever waterproofing product is chosen, methodical & meticulous application and installation technique is critical to a successful outcome.

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