Australian Institute of Waterproofing

Issue 10
July 2019

PRESIDENT'S ADDRESS

Hello again to all AIW Members,

Winter has set in and this usually slows down the waterproofing industry. Cold and wet substrates are our enemy when it comes to laying down a good membrane, but I am not telling anything you done know.

What I do want to say is that please don't be persuaded by builders or the like pushing for a completion date which could compromise your membrane system.

The looser will be you in the end.

Use of your moisture meters and temp gauges and laying down at the best part of the day will ensure you get the best of your application.

I also want to talk about getting paid – it's one of the taboos of most industries and they are not spoken about nearly enough. We all have trouble getting paid at one time or another.

I have been in touch with a gent in NSW who runs a Contractors Debt Recovery business that is not the average debt collector. His name is Anthony Igra and he knows a thing or two about The Building & Construction Industry Securities of Payment Act.

There are some basic rules you need to be aware of with time and paperwork to keep in order – this way if find yourself in the muck with somebody owing you money, you have the right tools at hand to come on heavy with them. I asked him to provide some content for this newsletter (but time was short) so we will put more information in the next newsletter.

What you need to be doing (if not already) is stating in your terms and conditions that this Act will be enforced on overdue payments. Then you need to be aware of the time that you're not being paid as it is critical. I am not going into the whatnots here, but when Anthony has some time, he will send us some critical information which will help. He also runs small workshops across the country so keep an eye out for these dates. If you need to call Anthony with a debt problem, he is contactable on 1300 669 075 or admin@contractorsdebtrecovery.com.au

I would still like to get some feedback from more of our members. Good, bad or indifferent - don't hold back – drop me a line even if it's just to say Gday. My direct contact number is 0418 312 646 or aiwconnect@gmail.com

That's it from my desk for this newsletter. Stay busy and may all your waterproofing be perfect.

Paul Evans
AIW PRESIDENT

WANT TO BE FEATURED IN THE NEXT AIW?

We welcome your submissions whether it is a completed project reference or information regarding an upcoming training course.

It you would like to contribute your content please email **info@waterproof.org.au**

WEBSITE MEMBER DIRECTORY

As you may be aware, one of the benefits of your AIW membership is a complimentary listing for your business in our online directory.

This provides exposure to your brand and can help boost leads from people actively searching for waterproofing services. For members who hadn't already set up a listing, we have now done this for you, comprising your basic information.

To maximise the success of your listing, we recommend adding as much information as possible, including logo, contact details, bio and link to your website.

If you haven't already logged in, please follow these steps in order to edit and enhance your listing:

1. Go to **www.waterproof.org.au/membership-login/password-reset/**

2. Enter your primary email address (the one you specified on your initial membership)

3. Click 'Reset Password'

4. Check your email for the new password.

5. Login to the members section at https://www.waterproof.org.au/membership-login/

6. Scroll down to your Directory Listing and click on 'Edit'.

7. Add/update your information and at the bottom click on 'Complete Listing' to save. Note, if you already have access to your listing you do not need to reset your password.

For any questions regarding this please email our web expert Elliot on **elliot@temeritydigital.com.au**

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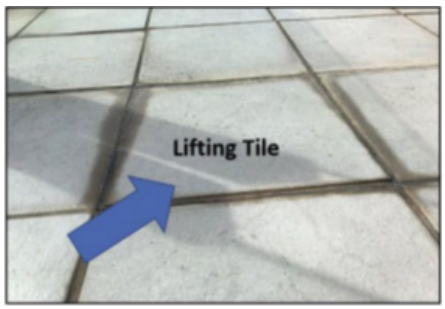
BALCONY WATERPROOFING REPAIRS

Leaking Balconies - Getting It Right - Do It Once



• Leaking balconies, roof & rooftop terraces Can cause catastrophic damage to structures below.
• Water leaks may cause not only aesthetic & superficial damage but can progress to affect the structural integrity of the building envelope itself.
• If a failed waterproofing membrane is the reason for water leaks...then re-grouting or surface sealing is not the way to repair or restore a balcony.
• This is a band-aid method which may stop or slow down water leaks temporarily. However, when the balcony moves, the tiles, grout & membrane will crack & leaks will start again.
• In many cases, when membranes that have failed, the balcony will require a complete stripped off, structural works if needed, waterproofing re-installed & finish surface.

Items to Consider

• Strength of subfloor and screed.
• Presence of substrate dips and hollows
• Balcony design i.e correct balcony slope, fall
• Window/door frame installation
• Door threshold sealing
• Adequate Drainage
• Possibility pipes leak underneath
• Existing tiling & expansion joints – if tiling affecting balcony failure i.e adequate number

Waterproofing Preparation

This is a critical aspect of any waterproofing membrane installation.

• Substrate must be clean of dirt and other contaminants.
• Surfaces prepared, including vacuum cleaning and/or diamond grinding as necessary to leave surface smooth, dry, clean and free of all debris.
• Substrate may need to be washed.

Waterproofing Detailing

Before installing a waterproofing system, construction features which represent discontinuity in the membrane layer must be adequately protected & sealed.

Perimeter Upturns

• Attachment points for railings, balustrades.
• Joints between horizontal and vertical surfaces.
• Structural and expansion joints. Install sealant 15mm wide to all junctions and tool off smooth.
• Reinforce with polyester or fibreglass mat all upturns to a DFT of 1.2mm 100mm above finished floor height or 25mm above water line.
• Make sure membrane system has been installed 200mm onto balcony floor areas.

Door/Window Step Downs

• Install sealant 15 mm wide to all junctions and tool off smooth.
• Reinforce with polyester or 225gsm fiberglass mat to all set downs to a DFT of 1.2mm making sure the membrane system has been installed 200mm onto balcony areas.

Drains & Floor Waste Detail

• All floor wastes shall have a recessed leak control flange installed.
• Prime flange with appropriate primer and allows primer to cure.
• Install membrane system as below and clip flange over membrane when cured.

Waterproofing Installation

Australian Standards

• Installation method of a class 2/3 waterproof membrane system to external concrete in accordance to AS 4654.2

Installation Conditions

• Waterproofing Systems should not be installed in either hot or cold temperatures i.e under 10°C or over 35°C.
• Surface temperatures will present problems to accelerated and decelerated cure times.
• Waterproofing membrane.

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Type of Membrane
• Flexible waterproofing membrane withstand normal cyclic fluctuations.
• Able to withstand ponding water.

Tiling
• Balcony floors are exposed to direct sunlight and, therefore, to very large temperature variations between day and night-time.
• These variations create formation of strains due to different thermal expansion and contraction of the substrate and finished surface.
• It is critical the tiles are laid with joint sufficiently large to absorb thermal movement.
• Adhesive chosen to bond is fundamental.

Paul Evans
MANAGER/DIRECTOR
FINDLAY-EVANS WATERPROOFING

PROJECT REFERENCE

YAMAGEN RESTAURANT

OVERVIEW
Project: Yamagen Restaurant
Address: 7 Staghorn Av, Surfers Paradise QLD
Builder: QT Hotel
Contractor: Xycrete
Application: Bitumen Shingled Roofing System

PRODUCTS SPECIFIED
Roof Area
Base Membrane: Soprema Lastobond Sheild HT, is a self-adhesive roof underlayment and eave protection membrane composed of SBS modified bitumen.
Roof Shingles: Soprema Sopratuile, combines a wide range of bituminous shingles with a double glass reinforcement for roofing application.

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Risk management and planning, why do I need that!!

Risk management and planning are essential tools for any Waterproofing business owner to actively use and utilise. Waterproofing failure is one of the most often mentioned issues facing the building industry today. There are far too many horror stories to ignore. Waterproofing is an essential item in a building program, and let's face it a watertight result is not difficult to achieve but is only one step in a multi-stepped process.

Let's go back in time and look at the construction phase of a balcony.

The waterproofing applicator arrives on site to get on with waterproofing the balcony.

What's the first thing he should do?
Use the 5 x 5 x 5 rule.

Take 5 steps back and 5 minutes to do your site safety review, then, take another 5 minutes to think about what we need to achieve here and review your Project risk mitigation plan. What is the final finish, is it to be tiled or pavers on pedestals perhaps, is the balcony membrane finish to be trafficable? What sort of outlet is to be utilised, and can I apply my waterproofing to it, is there sufficient fall to the outlet or gutter, what height should my membrane upstand be? What are the other building elements to be constructed by other trades around the balcony and what might the impact be on my work and my work on theirs, do I have all the required primers, membranes, topcoats and accessories to do the job. Great, that's sorted.

Your Risk mitigation plan will contain as much information about the project as possible. It will contain all those items noted above as checkboxes to be reviewed by you (as the business owner), your supervisor and staff. It will check that all parts of the project where You are responsible have been reviewed and photographed for Your records.

A great result in any building project is a team event. Take the time to talk to your builder and any other trade working around you that will impact your ability to provide a great result, preferably as part of your risk mitigation strategy before you attend site. You never know how helpful taking a little time to understand the construction process around your part in the project will enhance your ability to provide a watertight result, especially when everyone knows what needs to be achieved and how its to be achieved.

Waterproofing of balconies is an important step in the building process. The waterproofing business owner has now taken the time to assess the risks and plan their work. They have also taken the time to talk with their fellow contractors who are also working on the project around them. Through this process, they have discovered that they need to work with the window and cladding installer. They have both worked out that they now know it is essential to coordinate the installation of the waterproofing membrane with the installation of the sliding doors and cladding to ensure the correct upstand details are to be undertaken BEFORE these items are installed, Great, that's sorted.

Now, they know what details need to work together to stop water entering the unit at a critical junction. Phew! Bob, the builder, is happy that was picked up early in the process.

Proper Planning Prevents Poor Performance!!!

This may appear to be a simplified example, and it is. Building is a complicated business. However, as a business owner and professional waterproofer, you are responsible for minimising the risks to your business. After all, you have invested a large part of yourself and your families future in this enterprise. The point to take from this example is that Risk management and planning can alleviate a lot of your risk. The process of waterproofing (as is any building project) is a team event, and like any team, if we are don't plan and we are not all invested in the outcome, it makes it very difficult to be a winner.

There are a number of regulatory standards available (such as AS4654 parts 1 and 2), and these should be essential reading for every waterproofing business owner in the industry, including ALL of their staff.

Don't see risk management and the planning process as a burden; see it as a risk mitigation strategy for YOUR business and YOUR future.

Karl Wootton
SENIOR TECHNICAL CONSULTANT

Security of Payment for Waterproofing Work?

It is a common question. What is the Security of Payment Act? The most many contractors can say about it is that they refer to it on the bottom of their invoices. But what is it and how does it work?
In short; Security of Payment is a process whereby a dispute over payment gets decided by an external adjudicator based on written submissions only. No hearing, no meeting, no lawyers. Each side makes its submissions in writing and the adjudicator sends out a written decision as to who-owes-who how much.

From claim to decision in about 5-6 weeks. There is a different version of this Act in each state but they all contain the basics. There are three parts to this process;

1.Payment Claim: The party owed money, the Claimant, sends its client a Payment Claim setting out the work done, and the amount claimed for payment.

2.Payment Schedule: Within 10 business days the Client sends back a Payment Schedule which is a document setting out what it is prepared to pay, even if its $0.00, and the reasons for withholding payment.

3.Adjudication Application: Within 10 business days if getting the schedule, the Claimant takes its claim, and the payment schedule, and prepares its written arguments on why it is owed the claimed amount and why the reasons in the payment schedule are wrong. This is wrapped up into an adjudication application and lodged with an Authorised Nominating Authority who will appoint an adjudicator to decide it.

4.Determination: The adjudicator will decide what is owing, if anything. If there is money payable then it is generally due within 5 business days of the determination being released. If the money is not paid the Claimant can register the decision in Court as a judgment. This is not a court hearing. It is done by submitting the paperwork at the court registry.

The process then allows you to get to an enforceable judgment without a lengthy and costly court process. This is its power. We recover about $500,000 every month using this process. So, it's got teeth.

Back in 2006 I could see the benefits of this process, but also saw that it was highly technical and word intensive. Most contractors did not want to deal with it or take the time out to study it. Most did not want to use lawyers, and most were honest about the fact that they were not wordsmiths.

So Contractors Debt Recovery was born in 2006 to run Security of Payment for contractors. We run the process from start to finish for a fixed fee. If the debt is over $20,000 then there is a small success fee based on what you get paid. In Victoria the Act is quite complicated. It is in fact the most complicated version of all the states and often involves further submissions. We do those at no extra charge. As a general calculation the fee is about 8% of the debt give or take.

This provides a secure and simple way to run these matters, and above all it forces the dispute into the open. If your client is not paying then it will have to make its arguments and back it up with evidence. The beauty of this process is that it gives your client a taste of what it would be like to argue the matter in court. If they cannot get the reasons to stack up now it won't get better. We present the Claimant's case with every shred of evidence we can, so if the claim succeeds then it does so by a country mile. This is why the rate of payment after decision is very high.

We have run many claims for waterproofing and so long as you are clear about the scope and rate, you'd have a strong claim. The one regular hole is the quantum. You really need to create ongoing take-offs or have the architecturals or some plan to show the areas you have completed. Often these are missing. Also, variations particularly external ones [planter boxes etc] never get documented properly and are always at the end, they are not treated formerly enough. If you can get basic administration right on your job then the Security of Payment Act can really work for you. Even if a lot of stuff is agreed orally, the Act still applies. There are strict time limits in Victoria on when you can make your claim, so do not wait more than 8 weeks after completion to have the argument. Otherwise you'll miss your chance of using this great process.

Anthony Igra
CONTACTORS DEBT RECOVERY
www.contractorsdebtrecovery.com.au
1300-669-075

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WHY THE MEMBRANE'S CLASSIFICATION DOESN'T MATTER

(at least not the way you think it does)

In the 2016 & 2019 NCC, there is a requirement for the waterproofing membranes used both internally and externally to comply with appropriate Australian Standards.

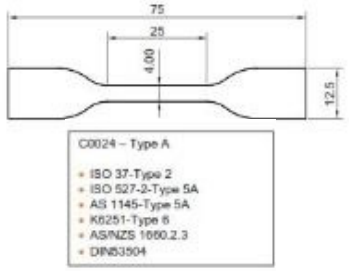
AS 4654.2: Waterproofing membranes for external, above ground use is the standard for complying with Section F1.4: External above ground membranes.

AS 3740: Waterproofing of domestic wet areas is the standard for complying with Section F1.7: Waterproofing of wet areas in buildings.

The associated product testing standards (AS 4654.1 & AS 4858 respectively) have a variety of testing needing satisfactory results to ensure that a waterproofing membrane is fit for purpose.

One of the tests performed in these standards, that has been extrapolated incorrectly and used frequently by the industry to compare waterproofing membranes against one another is the elongation testing and the resulting classification.

For both standards, they classify the waterproofing membrane as a Class I, Class II, or Class III based on the membranes ability to stretch in a "dog bone" shape, per AS 1145 (image below of the specimen sample).



Upon stretching the sample, the membrane will achieve an elongation, and therefore classification, according to the following table requirements.

Class	Elongation at Break
Class I	< 60%
Class II	60 – 299%
Class III	≥ 300%

Most specifiers, builders, certifier and installers are under the (false) assumption that the higher the classification, the better the waterproofing membrane is. That is not an accurate assessment of a product's ability to be a good waterproofing membrane. For example, wet chewing gum would achieve an elongation well in excess of 300% and yet makes a terrible waterproofing membrane.

The reason why is because of the test procedure. It is measuring the ability of the membrane to stretch as a free film, which the product is rarely installed as such. Looking at the diagram above, the specimen is 25 mm wide in its measurement area. For a product that has 300% elongation (Class III), that means 25 mm x 300% = 75 mm, so the membrane that is a free film of 25 mm, can stretch to 75 mm.

However, when the membrane is fully bonded onto a concrete deck, that same equation is 0 mm x 300% = 0 mm. This is seen all too often when the membrane splits on a deck, and the engineer or consultant point to the elongation classification and wonder why the membrane didn't' account for the poorly designed/constructed concrete slab's newly developed crack.

The classification of the membrane per this method has no bearing on how fit a membrane is for a particular application, it is merely to inform the interested party of the detailing requirements associated with the various classifications.

In both AS 3740 and AS 4654, there is the following table, dictating the required floor to wall bond breaker based on the membrane classification.

Class	Elongation at Break	Minimum Bond Breaker
Class I	< 60%	100 mm or 75 mm with backing rod
Class II	60 – 299%	35 mm
Class III	≥ 300%	12 mm

That is the sole purpose of the elongation test value, and resulting membrane class classification.

The entirety of AS 4858 and AS 4654.1 testing is needed to determine if a product is a) a code compliant material and b) the right product for your application.

SIDE NOTE: If you were interested in how a membrane could handle a newly developed crack after the membrane is installed, you are in luck.

A much better determination of the suitability of a waterproofing membrane to handle differential movement is in ASTM C 1305: Standard Test Method for Crack Bridging Ability of Liquid Applied Waterproofing Membrane or Appendix B in AS 4858: Assessment of resistance of waterproofing membranes to cyclic movement.

In either test method, the membrane is clamped with a minimal gap (hairline for ASTM C1305, 2 mm for AS 4858 Appendix B) and then is exposed to cyclic movement to ensure the membrane stays intact and keeps its continuity and therefore water resistance. This is a much better test indicator for determining if a membrane can bridge newly developed cracks after the membrane has been installed.

Peter Musso
TECHNICAL MANAGER
TREMCO AUSTRALIA