Australian Institute of Waterproofing

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August 2020

PRESIDENT'S ADDRESS

From where I sit, the construction industry seems to be going strong in the light of the pandemic. Good "on-site" and obviously off-site distancing and mask wearing etc. is for mostly working very well. Our northern members will be enjoying more freedom than us southerners at the moment but don't become complacent (like we did in Melb) as this rotten bug will grab back at any chance. It does go to show that if the precautions are taken the bug can be mostly avoided.

On to another topic that seems to be gaining more and more ground...

Apartment buildings that are being waterproofed by contractors and clearly the systems being used are either not what they do regularly and are "having a crack" just to get the job, then mucking it up.

This would usually be due to a specification being sent for a quote and the products being nominated or a builder says – I used this stuff before and it worked, so use this again. Not considering if the contractor being asked can install it correctly or not!

Or, in many cases, price dictates what is going to be used. Sure, the builder/developer will get the waterproofing done cheaper so he/she has a bigger bottom line at the end. Sadly, the system is designed to allow the profit makers to run away. It has always been a wonderment to me why the bigger "commercial jobs" have much, much less warranty than the domestic market.

The people buying into these developments are mostly first-time buyers and many have no experience on what to look out for. Most of the time it takes 5 or 6yrs. before problems start to arise, but now that time seems to be diminishing rapidly as more developments are being pushed through the system for fast builds.

I was appalled to see a 2yr old building that looked very architecturally pleasing only to have enormous leaking issues from a TPC roof membrane installed on an apartment block in Melbourne that had not been turned up anywhere or turned down for that matter. Anywhere there was supposed to be a transitional junction it had been dressed, using that term loosely, with a liquid membrane designed for internal use. Result- complete failure and a massive cost to the mostly young first home (apartment) buyers. The builder has gone broke (heard that one so many times this year!) so these guys must find large sums of cash to fix it.

They will be chasing down the waterproofer to take their compensation claim further. What is the message here?

If you are being asked to install something you do not know about, don't do it. See if they will accept what you really know will work and you can uphold a min of 10yrs. warranty on your products and your application, otherwise, walkaway from it as it will most probably cost you a lot of cash or even your livelihood down the track.

Stay true to yourself and stay safe.

Paul Evans
AIW PRESIDENT

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Different Waterproofing requirements between shower floors and walls

In AS 3740 'Waterproofing of domestic wet areas' has the floor of a shower recess needing to be waterproof while the general area of the walls as water-resistant. The reason for this difference is that water flows across the floor during operation but the walls only get water splash. When finishing showering water pools on the floor being held in place by surface tension as shown in Figure 1, while on the walls only beads as shown in Figure 2.

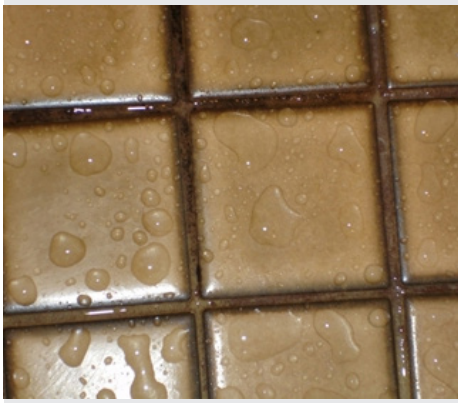

Figure 1 - Water held in pools by surface tension

Figure 2 - Water beading on wall tile

While water proofing is required across the floor it also needs to be turned up the walls to a height dependent on how deep the water can be retained on the floor of the shower in the event of the waste outlet becoming blocked. The height varies depending on if the shower recess has a hob and/or a door screen track, both of which can retain water within the shower area. Even without any height retention by either of these two installations the waterproofing is required to be turned up 150mm on the walls of the shower recess to prevent leakage at the wall/floor junction.

There is also a requirement to waterproof the internal junctions of the wall sheeting of the shower recess to a width of 40 mm each side of the junction. The reason for this is to prevent water entering through any crack that develops at this junction. With fine cracks there is the potential for water to be pulled through the crack by capillary action. Capillary action is where water is pulled through an opening by surface tension of the water.

The other issue that can occur by water seaping through the wall tiles, especially with preformed shower bases, is where the tile adhesive has been left with vertical grooves. These grooves create channels for small amounts of water to flow down onto the top of the preformed shower base.

The Tiling Standard has a requirement that the adhesive is applied horizontally. This will stop this flow from occurring. While it is much easier to use gravity to assist the application of the adhesive by running it vertically, it takes little time or effort to run the trowel horizontally. An example of such an application of tile adhesive is shown in Figure 3, where the application by trowel is horizontal.

Figure 3 - Application of tile adhesive

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How are we going to stop it?

A rant by Paul Evans - AIW President

I feel it necessary to call out those in the construction industry who are building defective buildings right from the 'get go' and walking away, leaving a massive trail of distress, destruction, disheartened public. As a remedial builder and specialist waterproofer we are seeing more and more building with defects that are younger than ever before. An example of this is a $7mill house that is less than 2yrs old and is leaking like a sieve. The simplicity of properly tanking a retaining wall would have prevented a massive strip down to get to the walls and the subsequent expense that the owner has to fund many hundreds of thousands of dollars. Yep, you guessed it, the builder has liquidated (heard that one a few hundred times recently!). I am not privy to the details of the contract, etc, so can't say how or why the builder has disappeared. I see this problem as one of lack of knowledge on what water can do and relying on concrete to be a barrier for water ingress prevention.

It is also lack of respect for waterproofing in general. This show up right from the concept - it is often disregarded in specifications and a simple note on drawings to say " waterproofing as per manufactures requirements" which just a another way of stating "I don't know what it will take to waterproof this building so I'll handpass it to the builder and it's his/her problem then.
This is not always the case now that this issue is getting some traction. The specifiers, engineers, architects, surveyors are all now being focused on to take responsibility for their part in the design process. If it's wrong or not dealt with properly then the repercussions are starting to come back and hit them.

All too often waterproofers are requested to carry out works with products that may be unsuitable or poor quality and then they are required to uphold a warranty on their works. Do you tell the garage what brand of oil or grease, coolant, brake pads, clutch plates they should buy to put in your car? NO. There are recommendations as to the correct types of grades and capabilities of service, but the actual product is left to the garage to buy. Why then is it different in the waterproofing game? Who is the best judge of what works and does not work in a particular situation to achieve a long-term durable membrane, then what might be suitable in the vastly various climate condition we experience across Australia? Who has their finger on the pulse as to what is available and what backup should they receive when planning or purchasing products for waterproofing? Who knows what will bond and stay bonded (if that's the system chosen)? Who is the very last person in the line that is asked about all the above questions? I almost don't need to write it...do I...the waterproofer.

As industry professionals we need to turn the tide of "oh-that's the way it been for years" attitude and see what we can do to change it.

That's my little rant, but I hope someone is reading this and will take some notice.

PLANTER BOX REMEDIAL WORKS

One of the most popular design features in multi-dwelling residential construction is the use of planter boxes around liveable spaces. Unfortunately, the majority of installations in Melbourne are not constructed to comply with AS4654.2; section 2.13 Planter Boxes and as a result they fail. All AIW Members will have received technical drawings which clarify Australian Standard's, one excellent reference is diagram number 023B – PLANTER BOX CONSTRUCTION.

We see so many numerous failures, that planter boxes in good working order are the exception, not the rule. The photos attached are a recent example in the seaside suburb of Elwood. This example typifies common errors:

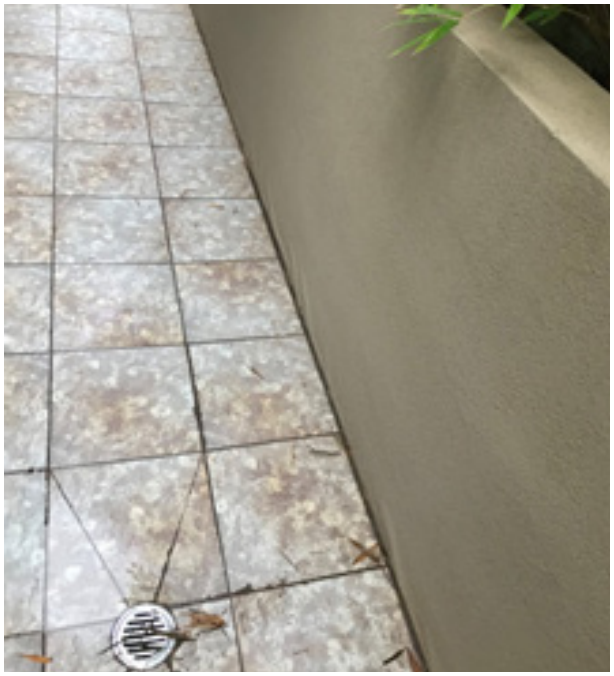
- Construction substrate choice of using block work masonry with very low water tightness
- Poor internal drainage system
- Lack of ventilation to take water out of drains
- No provision for overflow
- Poor choice of plants for root damage to membrane
- Soil fill level too high, without consideration for mulch
- External exposed walls of the planter box not waterproofed to prevent internal wall membrane damage
- Flashings inadequate

Ask your materials supplier for products to cover a comprehensive multi defence strategy.

David Hepworth
AIW SECRETARY

1. Planter Boxes bordering the balcony over car park ceiling. Photo shows blistered render from water exiting from wall / slab joint. Entrance to building.

2. Planter box at opposite end to photo 1 showing same failure at wall / slab joint.



3. Planter box on balcony bordering neighbour's property showing render 'popping' from saturated substrate. Also shows slab exit drain position.

4. Shows underside of Planter Box with drainage outlets from within the planter box and the balcony drains. Suspect planter box drains blocked.

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GREAT LEADERSHIP IN TIMES OF CRISIS

With thanks to Ron Caruana from Danrae Group

The men and women in charge of our organizations are now faced with uncharted challenges: leading their organization through a global pandemic. In this time of crisis, most leaders are doing their best to step up and inspire people to do their best. And they're doing a great job.

One of the challenges is the evolving new normal. Rapidly changing guidelines, mandates, and infrastructure require continual monitoring and adjustments. Leaders are in a constant state of discovery, decision making, designing, and implementation. This requires resilience, collaboration, and great communication.

Those who are able to adapt quickly and wisely are best positioned to lead their organization, and in many cases, their entire nation, in novel ways. Great leadership in times of crisis will see us through to the other side.

BUSINESS CONTINUITY

Business continuity management is more important than ever. Based on the conversations I've had with leaders, developing, refining, and implementing contingency plans is well underway. With careful attention to employee safety and preparedness, leaders can minimize risk, and in some cases, position themselves for post-crisis growth. Below are a few leadership best practices. Are you taking these steps?

LEGAL OBLIGATIONS

First, and foremost, focus on employee safety. Review policies, and then identify actual practices. (What happens in the field may not be the actual procedures management recommends.) Ensure you have adequate communicable-illness plans and practices in place.
Credible Authorities and Resources
Depending on the size and reach of your organization, these may need to be local, regional, national, and global, and could include CDC, WHO, Department of Health and ATO.

CONTINGENCY PLANS

If you haven't mapped out or developed contingency plans, take a look at the tools and resources developed by the International Federation of the Red Cross and Red Crescent Societies (IFRC), here. While they are designed for Red Cross organizations and volunteers, they offer any leader elements to consider in a pandemic.

Identify a crisis management team with the authority and autonomy to work through bottlenecks. Identify cross-functional alternates in different scenarios to: stabilize supply chain, monitor and test financials, protect the workforce, engage customers, and coordinate communication.

Review your absence policies, including when/how employees can return to work. Some employers have been forced to reduce their work force. Review your benefits policies.

Empower and equip remote/telecommute work. A member of your crisis-management team should work closely with IT, HR, communications, and facilities to identify resources and requirements for remote workers.

If you haven't already, ask every team leader and manager to identify tasks that can be completed remotely, and who is capable of completing the tasks.

Identify data-security issues and resolutions Establish communication protocol. In my next post, I'll dive into this a bit deeper, but for now, ensure that employee contact information is up to date, and the crisis-management team has the current information.

Determine measurable performance metrics to improve efficiencies and enhance future change.

Companies in China can teach us a great deal about leadership in a time of crisis. Smart policies, the anticipation and mitigation of operational roadblocks, and most importantly, the care of our employees and clients will help us through.

Peter Samios

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MEMBER PROFILE

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Tell us where you started?

Danlaid was founded from a single office in Melbourne in 1997. Since then Danlaid has expanded its operations to provide a national capability across Australia. We now have operations across Melbourne, Sydney, Brisbane, Adelaide, Hobart, Darwin, Canberra, Geelong, Central Victoria, Gold Coast, Newcastle, Mackay and Townsville.

What do you specialise in?

We offer a wide range of specialist services across construction, infrastructure and surfaces but specialise in all forms of waterproofing from below-grade sub-structures such as lift pits, retaining walls and water tanks to standard above-grade waterproofing like podium stabs, planter boxes, wet areas and roof structures utilising our experience in loose-laid sheet membranes, torch-applied, self-adhesive, roller and spray applied systems including polyurea. We have substantial experience in the preparation and protection of concrete in commercial and civil construction. Services include but are not limited to epoxy coatings, floor levelling and screeds, scarrifying, diamond grinding, removal of coverings and topping screeds, captive shot blasting, concrete repair and expansion joint installation.

What project are you particularly proud of?

We recently completed the waterproofing to the entire Hobart Hospital for John Holland, one of our largest and most complicated projects.

Who's in your team?

We are very proud of all our dedicated staff.
• Angela Stevenson - Managing Director *(top left)*
• Jason Blundell - QLD State Construction Manager *(bottom right)*

What's new in your business?

Our company recently opened a new office in Western Sydney. Based in Homebush, Danlaid Western Sydney will provide the full range of services, focussing on the supply of commercial and industrial flooring and waterproofing to the ever growing western suburbs region.