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YSP Podcast Transcript: Episode 234. Your guide to waterproofing membranes -  
with Daniel Caruana

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**Intro:** Welcome to Your Strata Property, the podcast for property owners looking for reliable, accurate and bite-sized information from an experienced and authoritative source. To access previous episodes and useful strata tips, go to [www.yourstrataproperty.com.au](http://www.yourstrataproperty.com.au).

**Amanda Farmer:** Hello and welcome. I'm Amanda Farmer, your Podcast Host, and this week I'm delighted to be bringing you a waterproofing expert. I'm chatting to Daniel Caruana, the CEO of Danrae Group, a name that will be well known to many of you in our strata sector. Danrae protects buildings and structures from water leaks, very important work.

Danrae is a family-owned and operated company servicing the strata, civil, commercial and government sectors. With a diverse background and skills shaped from the ground up, Daniel says he is well experienced in everything from hands on waterproofing to business strategy. With over 10 years in the IT industry, Daniel has brought Danrae into the 21st century using technology to implement systems and processes.

When entering the family business, he started from the ground up working on the tools as a waterproofer, obtaining his waterproofing license, builders license, and finally, his master's in business administration. With over 15 years experience in the building industry, Daniel has now taken Danrae Group to new heights in the remedial waterproofing industry, becoming one of our most known brands, particularly in our strata sector.

We are going to dive straight into Daniel's answer to my first question, why do our strata owners, our strata committees, even our Strata Managers, need to pay attention to waterproofing issues, even if there is no apparent waterproofing problem?

**Daniel Caruana:** The main issue is, unfortunately with a lot of waterproofing, the actual membranes, and the waterproofing often aren't seen. So, if there is a leak, or if there is a problem, you won't see much until it becomes a problem itself and it becomes quite costly.

For example, if you have a roof leak, it can actually be leaking into the structure for a long time before it actually ... you see it come through say, in the penthouse below or something. But the problem is, is that often that starts degrading the concrete slab, you'll get resultant concrete cancer, for example, so then it becomes very, very costly, so that's the problem with waterproofing leaks, and water ingress into the building.

**Amanda Farmer:** And let's talk about roofs, because I'm sure many of our listeners will be nodding away saying, "Yes, it's happened in my buildings." Strata Managers managing buildings where that has occurred, it's a big problem when the symptoms finally show themselves. What should our buildings be doing to avoid the costly fix? Is there a recommendation for maintenance for our roofs, a lifespan for our membranes? Can you fill us in on that?

**Daniel Caruana:** Yes, so unfortunately with a lot of new build that's based, it's a very cost driven market. So roofing membranes, or all types of membranes, they're often looked at as a minimal cost to the build. And unfortunately, not the best membranes are being used on new builds, especially in strata.

So the life span of, for example, life spans of your general liquid membrane that might be used on a roof, the manufacturer will probably give you about 10 years.

Unfortunately, the actual lifespan, sometimes it's not as long as that, depending on the heat, how it's been applied, all that sort of stuff. So, what owners really need to look out for is, in engaging a contractor to maybe do a regular inspection, to ensure that you don't get a leak in the future, and then that might mean then planning for an upgrade, so installing some form of sheet membrane rather than a liquid.

The differences between the 2 are dramatic, you'll get a sheet membrane that could last you 50, 60 years compared to a liquid. So,

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**with Daniel Caruana**

doing those types of investigations is quite important. So really getting the roof inspected, and making sure that you've got a decent membrane on the roof, and then regularly then cleaning the areas, making sure that the drains are clear and all that as part of a maintenance plan because, waterproofing really is part of a draining system on the roof.

So, if you're relying solely on waterproofing, and haven't got good draining et cetera, you're definitely going to run into issues, and that's what we find a lot is that it's almost like a set and forget type of attitude, and then you've got all sorts of issues happening on the roofs and they can definitely be avoided.

**Amanda Farmer:** And we have so many buildings with flat roofs, and that's always seemed strange to me that we would construct these buildings, knowing that we have to drain water from the roof, then construct buildings with flat roofs, and then wonder why we have a problem. How does a flat roof effectively drain water?

**Daniel Caruana:** Well, basically you really need to have falls. So yes, it's called in inverted commas, yes, but it has to be designed correctly, so you do need falls. And, what we've found now in some of our projects is we're actually upgrading them with insulation, so flat roof insulation and then the membrane.

**Amanda Farmer:** Right.

**Daniel Caruana:** So, we're not only correcting the falls, but we're also increasing the energy efficiency of the building, so it's actually been very successful on a few strata complexes we've upgraded the roofing membrane on.

**Amanda Farmer:** Two for one, by the sounds of it.

**Daniel Caruana:** Yes.

**Amanda Farmer:** I am wondering if it is as much a surprise to our listeners as it is to me, that the waterproof membrane should be expected to last potentially less than 10 years. I have in my head 20 years, 25 years, is that maybe a view that comes from older buildings where they might have a sheet membrane rather than a liquid? Is there a difference between the old and new, the lifespan of a roof membrane for a building that may have been constructed in the 60s or 70s is different to those being constructed 10 years ago?

**Daniel Caruana:** Yes, I think a lot of that actually comes from the legislation, so if you look at the current legislation now, you've got the builders warranty. So, the builder's warranty is 6 years on a residential building, and then you've also got the waterproofer, or waterproofing is considered a structural item on a building, so we have to match the builder. So, we're also considered, as a minimum on residential, will be 6 years.

Now, when you say the life expectancy of a membrane, generally speaking, like I said with liquids, generally 10 years. However, like yourself, I would expect a membrane to last a lot longer than that. So, generally in the industry, a builder might opt for a liquid, because it will last the 6 years warranty. So, it's like a catch 22, so he's only allowing what's necessary for his budget and costs as well.

But unfortunately for the owners, they're almost left holding the bag of defects after the 6 years. So, unfortunately in the new build environment, and that's the whole point of legislation now, will be to really ensure that our owners are protected with a longer life span type of waterproofing, hence sheet membranes, et cetera, so I think the changes are coming.

**Amanda Farmer:** Yes. And there is something, Daniel, you filled me in, in this raft of reforms in New South Wales, that building commissioner David Chandler has championed and made happen essentially, that is unique to waterproofing or waterproofing plays a role in those reforms. What is that exactly? Can you share that with our listeners?

**Daniel Caruana:** Yes. So the building commissioner will now have powers to actually halt building, so he'll be able to walk onto a

**Publication Date: 06 October 2020**  
**YSP Podcast Transcript: Episode 234. Your guide to waterproofing membranes -**  
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site and actually stop building, stop the site if he sees one of 3 areas of an issue. One being waterproofing, the other one will be structural defects, and the other will be fire certification.

So, he's actually going on to class 2 buildings, which are essentially high risers now, and he will actually be inspecting certain builders and ensuring that everything is to code. So for example, if a waterproofing membrane is specified for a project, does the builder have all the data sheets required, and understand the detail required to install that membrane, and ensure that he's monitoring the contractor? So, there're certain things that he is looking out for, and waterproofing is one of the three of the big ones.

**Amanda Farmer:** And that, of course being included because water, water leaks, water ingress, was identified as one of the major, if not the major issue in the academic research that was being done around building defects last year and being released last year, so it's good to see that, that's found its unique place in those reforms.

**Daniel Caruana:** Yes, 100%.

**Amanda Farmer:** All right, so that is the need to know on roofs, thank you, Daniel. What about balconies? That's another area where I see owners, buildings, Managers really struggling. Tell us about balcony waterproofing, and what we can do to try and ease the burdens and the pain there.

**Daniel Caruana:** Yes, balcony waterproofing, another big one, we see a lot of leaks happening there, especially what we term as salting or efflorescence, that's when you see the white salting come through on balconies. That is considered a defect now, whereas before it wasn't required to waterproof the tile screed.

So, if you think of the build up of a balcony, you would have the concrete slab, the waterproofing, the tiling, your screed, so the floors to the balcony and then you'd have the tiles.

So, what would happen is you'd get moisture into the tiling screed, which then starts to react with the cement in the tile bed, which then brings out the salting from the cement, and then you'd see all the white salts come through. So, we see a lot of that happening, and then also the actual leaks are occurring often because of movement, so either the membrane hasn't been applied correctly, or the wrong type of membrane has been used. So, we would definitely advise some form of sheet membrane on a balcony as well, because it's external, it's exposed to the weather.

And, often the detailing around the door entry from the balcony into the living space is not detailed correctly. Or, the way the building's been built, you'll get a crack or cracking along that door threshold, which causes a leak into the apartment as well.

So, top tips there would be definitely the right membrane, or a sheet membrane to use. And often what we're finding is, if possible, try to steer away from the quick fix, because then you'll be reapplying the membrane again anyway, probably after 12 months.

**Amanda Farmer:** And the cost of digging up all the tiles is major.

**Daniel Caruana:** All the tiles, correct, yes correct.

**Amanda Farmer:** Did you say though Daniel, that unless the screed is waterproofed, then that's a building defect? Does that mean that there's 2 layers of waterproofing, or the waterproofing is just in a different area?

**Daniel Caruana:** Well, it's actually both. You can have waterproofing on top of the screed, so we can use special membranes that you can install on top of the screed, and then bond the tiles directly to the membrane, so we can do that option and that provides 2 benefits. One, obviously the balconies waterproofed with a better membrane, but also you're not allowing moisture into the tile screed, so that pretty much stops the efflorescence coming out.

**Publication Date: 06 October 2020**  
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In your standard install, generally you'd install a membrane based on the concrete slab, and then we install what's called a moisture barrier membrane. So, like a liquid that gets painted on, but then just stops the efflorescence coming through the tile bed as well, so there are both options.

**Amanda Farmer:** Good. Why do we have these problems with incorrect installation of membranes, particularly when it comes to balconies? We see the same thing happen in bathrooms, bathroom renovations. Is there a problem here when it comes to the qualifications? The experience of waterproofers? What qualification, if any, is required?

**Daniel Caruana:** Very, very good question. In the waterproofing industry, there is currently a traineeship, which is 2 years, and then you can get your license. The unfortunate thing with the trade at the moment is, there's just not enough experience in 2 years, you simply cannot get enough knowledge of waterproofing in the 2 years. So we have, internally, we actually have almost like a 4 year apprenticeship within our business. However, in industry itself, if you're doing enough, say bathrooms, and any guy with a brush can pick it up, paint on a liquid, do his 2 year traineeship and pretty much coming out with a waterproofer's license.

**Amanda Farmer:** And if you have that license, you can then provide the certificate that says this waterproofing's been done correctly?

**Daniel Caruana:** Correct, yes. That's just how the industry is, unfortunately, at the moment, there are measures being taken to improve that. However, what we're finding is that is partly the reason why remediation is growing 10% year on year is the figures I've read.

So, being a remediation contractor ourselves, we've obviously taken waterproofing quite seriously, but we're also builders. So, we understand what's important I think, with the industry at the moment, is a lot of waterproofers don't actually understand building combined with waterproofing, and what the effects have in getting that waterproofing right, so I think that's a big component of it.

**Amanda Farmer:** And I do see Strata Managers in particular and committees struggle to be comfortable that the certificate that they're getting, that the contractor who is apparently licensed is properly experienced, properly qualified to be doing such important work.

**Daniel Caruana:** Correct.

**Amanda Farmer:** So, hopefully that's something that we see change down the track, maybe similar to what we've seen with our Fire Safety Professionals, and that's something that we've talked about on the podcast with there being now an accreditation system, and a more rigorous system for training and education. Maybe that's on the horizon for our waterproofers too?

**Daniel Caruana:** Agree. I'd like to see a 4 year apprenticeship, like a proper trade, and at least a year working for an accredited waterproofing company to get the apprenticeship complete. I think that's very important.

**Amanda Farmer:** Sounds sensible. Now Daniel, you are working with buildings, Managers regularly, what do you see is the big challenge that owners are facing when it comes to waterproofing projects? And, how do you help them overcome that challenge?

**Daniel Caruana:** We see the biggest challenge being knowledge, and owners, Building Managers, Strata Managers, they're not Builders. So unfortunately, what we see, is owners will have a waterproofing, major waterproofing problem. The strata will go out to tender, and they'll get 3 different quotes, 3 different types of membranes, 3 different ways to fix the problem.

**Amanda Farmer:** Right.

**Daniel Caruana:** And often, the choice that gets made is, let's go for the cheapest, so let's not have to raise as much money in our special levy, we'll go for the cheapest. I think from what we can see, yes, he is warranting the work, it's going to be waterproof, then let's do that.

**Publication Date: 06 October 2020**  
**YSP Podcast Transcript: Episode 234. Your guide to waterproofing membranes -**  
**with Daniel Caruana**

So then, what we find is, one again, the wrong solution's proposed, the wrong membrane, and they're just not getting what they're paying for, they're not getting the longevity out of the installation. So that's, I would say, one of the biggest issues we find.

The other issue, what we find also, is an owner will contact strata and say, "*My balcony is leaking.*" There's a work order that gets released to the Contractor, the balcony's leaking, fix it. Contractor goes out, fixes the balcony, the balcony wasn't the cause of the leak, so things like that.

So, the investigative process has to be done up front. Yes, it will cost a little bit of money upfront, but the costs of rectification of an area that doesn't need it. I mean, it goes without saying, right? So they're the 2 major issues we see.

**Amanda Farmer:** I can see how taking the time and indeed spending the money on that investigative process on what I understand would be a technical specification, a proper scope of work, having that prepared, so that then when you are seeking tenders for the actual work, you're comparing apples with apples, rather than getting, as you said, three different quotes for actually three different things. I see buildings make that mistake time and again, thinking that they're saving money, when really at the end of the day, they're just causing themselves another headache.

**Daniel Caruana:** Exactly right. So, what would we recommend, or how would we overcome these issues would be, well, the first thing is, we actually work with Building Consultants and Waterproofing Consultants.

**Amanda Farmer:** Right.

**Daniel Caruana:** So, there has been times where a strata company would approach us and say, "*Listen, we've got 30 balconies that need remediation.*" So, we would actually refer them to trusted Building Consultants to give him a scope of works, and look, that may be seen as we're throwing away work, but in our mind, it's not really. We're actually giving the owners the best chance of actually getting the job done correctly. So yes, we're trusting consultants, and we would likely be involved in the tender process. However, it gives the owners the opportunity to get 3 quotes, compare apples for apples, and they know that they're working with a trusted Engineer basically, that is going to recommend the right solution.

So, in that respect, that's what we would do, and then we're all working to providing a solution long term, rather than just the cheapest, which is exactly what we want to do.

**Amanda Farmer:** Sounds like a sensible approach, and a really good tip there for our owners corporations to go about this project, and these kinds of projects in the right way. Daniel, can you share a client story with us, a win perhaps that our listeners might be able to learn from?

**Daniel Caruana:** Yes, definitely. We took on a job for an apartment block in Cooper Street.

**Amanda Farmer:** Surry Hills in Sydney?

**Daniel Caruana:** Surry, Hills that's the one. They had quite an interesting roof actually, this roof had a tennis court, a pool, and a decking around the pool, they had massive issues. They had pooling water in areas, membrane leaking into the units below everywhere, they had rubbish on the roof, lots of stuff going on.

We were actually the third contractor to look at this roof. They had a scope drawn up by a consultant, which was very good. And then, what we did was we then installed a new torch on membrane around the edge of the building. And then we installed what's called a PVC membrane, so it's a little bit thinner type of membrane under the tennis court. So that way you wouldn't get, with a torch on, unfortunately it's quite thick, so we installed a PVC under the tennis court, so you wouldn't get your tennis balls bouncing everywhere every time it hit a joint.

So, we re-did that for them, and we were able to get new membrane underneath their pool decking, so we actually were able to

**Publication Date: 06 October 2020**  
**YSP Podcast Transcript: Episode 234. Your guide to waterproofing membranes -**  
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jack up the pool deck, and slide the torch on membrane under the pool deck.

Then to finish off, we actually installed new decking as well, and also a new tiling paver system over the torch on. So, because we're licensed Builders, we can actually project manage the whole job, and have the in-house waterproofing knowledge as well. The peace of mind for them was obviously they're just dealing with one contractor that could do the lot, pretty much.

One point I will make is the finishes of the membrane. We find in these types of scenarios on this job, they use these areas as entertainment, or, they go up on the roof and they watch fireworks, have parties, things like that, and that's okay. It's just that you need to ensure that you've got the right finishes on the roof.

So, if your joist has got an exposed membrane, the owners have to be aware of that. Do we put tiles over it? Do we pave the system, all that kind of thing, for the foot traffic and all that. Because, you don't want to be installing a membrane where, with all the foot traffic, you're actually damaging it, obviously.

**Amanda Farmer:** Yes.

**Daniel Caruana:** So, they're the types of things you've got to consider in the design of the solution. So in this case, it worked out perfectly and the owners were over the moon, because they could use the whole area once they had all the pavers in place and the new decking, so they were over the moon with it.

**Amanda Farmer:** Yes. And there's a good lesson, or perhaps warning there for residents in buildings where you might think it's a great idea to start making use of your rooftop area. You think, it's nice and sunny up there, we have access, there's a good view, we can put a table and chair, we can start using it for socialising. Is it actually designed for that purpose? Have you got the right membrane? Are you damaging a membrane that shouldn't be used in that way? So, something that I doubt many think about when they have these bright ideas.

**Daniel Caruana:** Very true. Very true.

**Amanda Farmer:** And you mentioned there Daniel, with this building, you were the third contractor. Were you the third contractor to do work on the waterproofing? Because I see that a lot with waterproofing, that buildings get so frustrated, this is the second or third time they've tried to stop their roof leaking, and it's not working and they don't understand why.

**Daniel Caruana:** Yes. So we were the third contractor to actually, not only, so this is the thing, they'd already spent hundreds of thousands of dollars. So this was a project, so they had 2 other contractors do project work on the waterproofing, and we were the third contractor to actually come in and remediate the issue.

**Amanda Farmer:** Yes, very frustrating for owners. I think the recognition that this is a complex component of our buildings, and that you need the right people with the right qualifications and experience. And it's one of those jobs that, done on the cheap, never a good idea. I would think if you're going to spend some money, this is where you'd want to spend it.

**Daniel Caruana:** Agree. Just think about what you're protecting is the key, waterproofing will protect the building, so just have a think about it.

**Amanda Farmer:** So true. Excellent, well thank you so much for joining us, Daniel, and sharing all of your knowledge with us. Do let us know how our listeners can find out more about you and about Danrae, and if there's anything you want to add before we wrap up, go ahead.

**Daniel Caruana:** Well, thanks Amanda. I suppose the best place to start is our website, so [www.danraegroup](http://www.danraegroup.com.au), that's D-A-N-R-A-E [group.com.au](http://www.danraegroup.com.au). Or, give us a call 1800 326 723. And really, just the last tip is, don't be afraid to involve the contractor or bring them in and meet the owners or the OC, and really help you understand what they're doing, so don't be afraid to do that.

**Publication Date: 06 October 2020**  
**YSP Podcast Transcript: Episode 234. Your guide to waterproofing membranes -  
with Daniel Caruana**

**Amanda Farmer:** Yes, and explain why perhaps it might be costing a little bit more than they expected, or than they want it to cost, but it is money well spent.

**Daniel Caruana:** Definitely, definitely.

**Amanda Farmer:** Thanks so much, Daniel. I will chat to you again soon hopefully.

**Daniel Caruana:** Thanks again, Amanda.

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