

## Concrete & Stone Sealers

**Andrew Pace:** Welcome to the Non Toxic Environments podcast. My name is Andrew Pace and every week my cohost Jay Watts and I will discuss healthier home improvement, ideas and options. Thank you for finding us and please enjoy the show.

Hey folks is Andy Pace here. I am actually on my own this week. Jay's taken some time off and he will be back with us next week. So we actually tried to do this last week, an episode on water repellent sealers and coatings and for some reason, technology just didn't work and I'm back at it again this week, because it is a very not only interesting topic, but timely topic. This time of year, we have a lot of folks looking to add water repellency, either to interior, exterior, concrete, natural stone, brick, whole host of applications. What I thought I'd do is go through the different kinds of water repellent, coatings, sealers. I'll describe that in a bit and relate them to the materials that we actually sell so that hopefully it'll make things a little bit easier for you and answer some of those questions you may have. Now when somebody calls up Green Design Center and asks the question, I'm looking to seal my concrete, what do you have? Everybody here that answers the phone is trained to ask the question right back at you, which is, what are you trying to seal in or seal out? This makes a big difference. Are you trying to seal out moisture in the form of vapor? Are you trying to seal the concrete so that moisture doesn't soak into the concrete from the top side? What about salts? What about oils and standing and so forth? So we ask these questions because we want to make sure you're getting the right material.

There's nothing worse than buying product, having it shipped in three days later, you're ready to do your project and you realize that you're using the wrong product. This is actually one of

the big reasons why we advocate against buying product on Amazon. Because unfortunately, when you buy materials on Amazon, there's no way to interact with the retailer. Years ago, we used to sell product through Amazon ourselves, but we got out of it a couple of years ago. It was too problematic, too many complaints, too many customers buying the wrong product and no way to check them. So we got out of it. Matter of fact, AFM as a company, I believe they're starting to really push the narrative that official dealer selling is only through a retailer that has a brick and mortar store or a web presence. But we want individuals to interact with a salesperson.

We want to be able to ask these questions. We want to make sure you're getting the right product. Of course, we want you to be happy with your choice. So this is why we really want to talk about these materials today. So the interior or exterior application, let's just go through some of these and let's say that before we even get into a specific application, let me describe the different types of what are called water repellent, sealers, or coatings.

So first you have what are called your penetrating type sealers. These are sealers that's when you apply it to a surface, the only way they work is if they're allowed to penetrate into the substrate concrete or natural stone and react within that substrate to create some type of a barrier for water, salt oil, you name it. One style of penetrating sealer is called silicates.

Now part of what makes concrete, such a strong material is the buildup of what's called calcium silicate hydrate. Silicate sealers react chemically with the minerals present in the concrete to create more of this calcium silicate hydrate, which makes the concrete stronger. At the same time, it blocks out the passage of water salts and gases through the concrete. Where does this make a difference? Well, we work with a product called Radon Seal and Radon Seal is a silicate

sealer. It's colorless, odorless, does not leave any residue. So it makes it perfect for basement floors and walls, interior concrete slab on grade construction, anywhere where you're trying to keep moisture vapor or water vapors, the gases of water from traveling through the concrete and entering into the livable space. It also will block radon in the same way. Very popular here in the Midwest. Silicate type sealers are really good for densifying and hardening the concrete. So if it's an industrial application and you wanted to polish the concrete, these are the types of materials that you would use and other methods that we can talk about on a different show, it's fairly entailed, but this is the type of sealer penetrating sealer you would use for that.

Another type of penetrating that we do not work with, and I'll explain why is what's called a silane are known as the building blocks of glass, the individual singular monomers, these silane particles work to create a hydrophobic barrier that will block out water and moisture from the top side, not from the underside, like a silicate. Silane water appellants will penetrate into the concrete and react chemically with the calcium hydroxide to form this hydrophobic water repellent resin, essentially within the pores. Silane are formulated for concrete and masonry. They're not effective in sealing other things like natural stone or clay brick or wood, that's why we use other materials. It's perfect for a concrete driveway. However, these are really only available for commercial construction projects and the reason for that is silanes have to be blended with some really bad solvents, really aromatic solvents in order to get it to not only penetrate into the concrete, but to keep it active before it dries, it can dry out really fast. And if you're silane dries out fast before it actually has a chance to react, then it's useless. I used to sell these years and years ago before I started Green Design Center, I was into industrial coatings and waterproofing materials for large commercial projects worldwide. Silane sealers were a big part of what I did. I would never use them interior residentially. I would rarely now use them exterior residentially, just because of the nature of working with these materials.

The next part on the next type of penetrating sealer is actually a hybrid, it's called a siloxane blend or a silicone blend. These are larger particles. We talked about silane being very, very small monomers, siloxane and silicones are larger and they're considered a controlled penetration sealer. Think of AFM Watershield, a controlled penetration sealer is good for both interior and exterior water repellency situations, brick walls, natural stone showers, exterior concrete that may have been stained already. The reason why these are better for those applications is they don't rely on reacting with any particles in the concrete in order to actually form your water resistant or water repellent barrier. They react with themselves. Actually they react with what's called atmospheric moisture in the air to create the film. Some of it is actually in the concrete and some sits on the surface. This is why when you use Watershield, sometimes it looks like it may leave little bits of shiny surfaces, darkening of the concrete, darkening of like the limestone or so forth that you're using it on. I mentioned before, this makes a good coating for a bathroom shower, and this is something we get all the time. What do you use to seal up natural stone in a residential shower?

First thing I would say is we recommend you use a porcelain tile in lieu of natural stone, porcelain tile doesn't require sealing. Therefore you won't have that constant work that you have to do on the natural stone to keep it looking good and keep it sealed. But let's say you already have the stone there and you're looking to seal it. Watershield is our choice. Watershield, part of it soaks into the natural stone part of it sits on the surface. It reacts with moisture in the air to create that hydrophobic barrier. It may darken the color of the stone a little bit, so I always recommend you test it for your own aesthetic properties to see how you like it before

you go and finish the entire project. That would be a nightmare If you didn't like the way it looked, because now it's difficult to get off.

Some people believe that you can use a hard coating or a topical coding over interior stone for showers. AFM produces a product called Mexeseal, which is not, I repeat, is not what we'd recommend for interior showers. The reason for that is it's completely a surface coating. It doesn't penetrate at all. And due to that, it actually creates a film on the surface that eventually will block moisture vapor completely. However, if you're using this over tile or natural stone tile, there's always going to be a very, very small crack. I mean, not even visible to the human eye where the tile meets the grout. Well, that's where moisture gets in. Every time you shower, that's where water gets into the grout and eventually into the sides of the tile that you didn't seal. And what happens is over time, that moisture constantly soaking into the tile, the constant heating up of the tile because of the water and cooling down after you're done, this causes potential de-lamination of a surface coating. It causes it to turn white, maybe even gummy, and this becomes a mess. At that point, you really have no choice than to strip it all off. Maybe even using some pretty nasty strippers in order to get it off. And then you would start from scratch.

If you're using Mexeseal or any coating, any clear coating for slate, but this time on floors, just a general floor, your entry for your home, I have absolutely no problem. Matter of fact, Mexeseal is the number one product for that application. If you've ever heard of Gap stores or Banana Republic stores all over the US, every slate floor and concrete warehouse floor for the Gap is sealed with AFM Mexeseal. It's a wonderful product. And just because it's a low toxin, low VOC free of off gassing sealer, don't think that it's a lightweight. I've been on jobs before where the crew accidentally applied Mexeseal in an area they weren't supposed to. They didn't look at the blueprints properly and they sprayed it in a couple of thousand feet that was

supposed to receive a different type of coating and they had to remove it. Their only choice was to use diamond grinding wheels to get it off. This material is unbelievably durable, very, very good product. We've used it in warehouses, subject to fork truck traffic- holds up beautifully. So that is a hard durable coating for concrete and slate. It does give you water repellency, of course, but you never want to use it in a shower. You never want to use it outside. Remember what I said about water getting into the stone and essentially soaking it constantly. If you use it outside, you'll have the exact same situation, and then add in UV rays, which caused even more problems with topical coatings.

So far we've talked about, silicates like the Radon Seal. Silanes, which we do not sell because of the inherent toxicity of them. Siloxane or silicone blends, such as AFM Watershield that can be used for a variety of applications that are not cementitious and cementitious means made of cement or cement like, so what are some other masonry services that are not cement? Brick, natural stone, shower, walls, and floors, clay, stucco. These are things that don't rely on having any cement particles that would react to create that resin. You don't need it with a siloxane or silicone blend. And then you have your topical coatings and we talked about Mexeseal.

Now I want to talk a little bit about some other materials that are considered hard, durable coatings, as long as we have time here today, I know we're talking about water repellent sealers, and so far, everything we've talked about that we work with is not only water based, but completely solvent free. So let's continue on that for a moment.

AFM also produces a product called Acrylacq and another one called Polyureseal BP and Polyureseal EXT for exterior. Acrylacq is not considered a water repellent coating. It's actually a furniture and cabinetry finish that happens to repel water. Same with Polyureseal. The reason

why I make this distinction is that I don't want somebody to apply Acrylacq or Polyureseal on an inside floor, in a bathroom thinking they're going to get great water resistance. These are designed for cabinetry and furniture. The Polyureseal BP is designed for a hardwood floor. Now a little caveat here is Polyureseal EXT or Poly EXT that AFM came out with about two years ago, this material, it's a clear, hard coating that you can use in wet applications. You can use it outside on furniture and wood furniture. You can use it on exterior wood doors. If you have a stain door, you want to put a hard, clear coating on. This is a very unique product. Typically you'd have to buy a very nasty, what's called a marine grade varnish in order to finish these things. And I wouldn't recommend these to anybody. The Poly EXT is a wonderful material. I think it's really an unsung hero in the AFM line. We don't talk about it much, but I'll tell you what it really solves a lot of problems, and it wouldn't surprise me if AFM really steps up the marketing on this product and tries to work it in more of their projects. It's just a wonderful, wonderful material.

Couple of other things that we don't get involved with, but I want to touch on... Epoxies and what's called polyaspartics. These are almost always industrial only. You will hear about somebody putting an epoxy floor in a garage, but you have to hire professionals to do it well, very toxic application. Polyaspartics are essentially a type of polyurethane that is extremely, extremely UV solvent and acid resistant. These are something that we would maybe put into an airplane hanger or into a print shop where you need resistance to a lot of nasty chemicals. Wouldn't be done inside of the home.

All right. So you've got your hard durable coatings we talked about, and I guess, as long as we have a little bit of time, let me just wrap it up with the sealers that AFM has called Hard Seal

and Safe Seal. And it's interesting because I get calls all the time from customers saying, I want to put a water resistant coating on my sub floor. Can I use Safe Seal?

Well, Safe Seal is designed specifically to seal up formaldehyde off gassing in raw particle board, plywood and OSB. That's really all it's for. If you have laminate countertops and the underside of that countertop is particle board, you can use it to seal up the off gassing from that. If you have particle board sub floors, you can use it to seal that up. Hard Seal is similar to Safe Seal however, we only use it on already finished surfaces that are still off gassing. Hard Seal contains a little bit of ethyl alcohol and has a tendency to flush the odors on the surface, making it seem like it has a very strong smell, which it doesn't, it just flushes the surface odors. Hard Seal I would use on a previously painted cabinetry, woodwork. It's a product that I would say it's good for a lot of things, but it's not great for anything.

If you're going to put a hard, clear finish on cabinetry, you're better off with an Acrylacq. If you're going to put a hard, clear, finish out over a previously finished hardwood floor well, by all means, you'd be better off with a Polyureseal BP after you do some prep work, you can't just put it right on there. All right?

So with all the different sealers that are available AFM, and some of the other product lines we work with, whether it's the Radon Seal or TimberOx, or, or even some of the chemical products we work with, we have materials that can help in these different situations, but it really makes a lot of sense to learn about the different types. And I'm hoping that today's episode does this so that you do get the right material. We don't want you to be disappointed. We don't want you to get in touch with us a year later and say help! My shower is peeling. What did I do wrong? I find out you used Mexeseal and you bought it off of Amazon and nobody had a chance to tell



you that was the wrong product. Okay? As everything that we deal with, we tell people please do your best in sampling materials. That's why we offer samples of all the products on the website. We want you to make sure you're comfortable with the material itself, from a health and safety standpoint, you do your own personal tolerance testing. We want to make sure that it's going to adhere to the surface that you're planning on using it on. Materials that we sell materials that are sold across the country a lot of these things are sold as do it yourself products. And believe me, I've done it myself with all of these. However, if you've never used these types of products before, and you're trying to do this yourself, because you've got time on your hands right now, or you're trying to save the labor dollars, I always ask that you ask us, what's all involved in the process because you don't want to get a third of the way into the job and realize that this is just not going to work. Then you have to hire somebody and now it might be too late. Okay? These materials might be do it yourself, but if you want it done, right, if you want it done quickly and you want it done without issue without problems, and maybe you should hire somebody who has experience with that.

So I think that'll do it for this week's episode of Non Toxic Environments. You know, I wanted to say it's kind of a dry subject, although we're talking about water. So that's a little counterintuitive, but you know, it's an important topic. It's something that we deal with here on a regular basis probably once every hour of the day, somebody calls up asking about sealers, specifically water repellent sealers, and we want to make sure you're using the right one for the right application.

I want to thank you again for listening to nontoxic environments. I apologize this week it was on my own, but next week, Jay will be back with us so we can have a good regular old conversation like he and I always have. If you have any comments or questions, please send

me an email [andy@degreeofgreen.com](mailto:andy@degreeofgreen.com). I can't thank you all enough for being loyal listeners to the show. This is the highlight of my week is to be able to record, with or without Jay, hopefully with, but it's really the highlight of my week to be able to put down on this recording things that I get asked about all week long, and I can share them with all of you.

I appreciate the questions that are sent to us. I appreciate every phone call comes in here from clients looking for assistance. I'm really, really happy that I have this platform to be able to give back to everybody who listens. So if you'd like to show, do me a favor and go to iTunes, and I hope if you can log in through iTunes, that's really the best for us because that's how you can leave ratings and reviews. If you can take a moment, please just take a moment and log into iTunes, leave us a rating and a review by doing that. It actually helps others who are searching for shows on this topic. Find Non Toxic Environments that bumps us up in the search engines. We greatly appreciate that. We don't sell advertising on the show. We don't get compensated at all for doing the show, but the more people that are listening, the more that it, it tells me that what we're doing is making a difference. We are still the fastest growing show on the entire iTunes platform, in the realm of healthy building, alternative health building related issues. And it just tells me that there's a growing need for this information. We're a hundred and some episodes in folks! And we're just getting started. So with that, we'll talk to you again next week, have an excellent weekend and enjoy these summer days. Thanks a lot.