

Sealers 101

by David Phillips, Southern Stain and Seal, www.SouthernStainandSeal.com

“Yeah, I need some sealer...” That’s how most of the calls to our office begin.

If you think about it, the word “sealer” is really a lot like the word “car.” Imagine walking onto a used car lot and announcing, “Yeah, I want to buy a car.” Sure, that’s a great place to start, but before the dealer can hand you the keys, you’ve got some decisions to make. Are you looking for an SUV, sedan, or maybe a sports car? Are you on a budget, or is money not an issue? What about color? All of these decisions will play a part in determining which “car” you ultimately take home. Choosing the right sealer for your project is really no different.

Types, Not Brands

There are thousands of different products on the market, and every manufacturer is trying to convince you that their product is the best. So, where do you start?

Successful product selection begins with understanding the fundamental differences between the different types of sealers. Yes, I said *types*, not brands. Don’t get me wrong – brand names are important. They help us to quickly recognize reputable companies whose products, service, and support we know we can trust. On the other hand, brands, marketing and propaganda can also be misleading when it comes to choosing which “car” is right for you. Remember, every job is different and no one product line is perfect for every situation.

There are a lot of great coatings companies who make many unique and different products, but there are also an equal or greater number who actually make nothing at all. They simply private label the same old products over and over, each time with a shiny new label and a new claim to fame. This practice is one of the main reasons why our company is in business today. I just never believed it was fair to the

customer to pay twice as much for a product they have been led to believe is better, when the only thing different is the label.

When it comes to sealing and protecting surfaces like concrete, pavers, brick and stone, you have to remember that every job is unique and every customer has different needs and desires. Likewise, as a professional contractor it is your responsibility to let your customer know when their desires may not be in their best interest.

Example: An elderly couple with 15 grandchildren asks you to seal their hill-side aggregate driveway with a super high gloss shiny sealer because they love the way it looks when they walk to the mailbox in the rain. This would probably be a good time to at least suggest a non-slippery penetrating sealer, just before presenting them with a liability waiver.

Having a good working knowledge of the different types of sealers available will not only help you make better choices, but also help you to educate your customers about these differences as well. Knowledge and experience are what sets a true professional apart from the crowd. Your customer will immediately feel more at ease with your company and view your proposal as a premium service if you take the time to educate them on their options.

As we begin our look at the different types of sealers, it is important for me to point out that this is a very basic overview of sealing products. With the vast number of increasingly advanced products on the market, it would be literally impossible to cover every formulation without something being left out or something overlapping.

All sealers will ultimately fall into one of two distinct categories: penetrating sealers or film-forming sealers. Film-forming sealers

actually physically coat the surface while penetrating sealers work 100 percent below the surface to seal the substrate internally. Both offer protection but they each do it very differently. Film-forming sealers usually add gloss and enhancement, but are often slippery when wet. Penetrating sealers leave a very natural appearance and usually do not change the traction of the surface. As a general rule, penetrating sealers offer better protection outdoors and are less problematic since they cannot flake, peel or chip. For indoor applications or for colored decorative concrete, film-forming sealers are usually the sealer of choice. They enhance the colors, add sheen and the physical coating acts as a sacrificial layer to protect the colored surface from wear and abrasion.

Almost all types of penetrating and film-forming sealers are available in both solvent and water-based formulas. Both have different strengths and weaknesses when it comes to compatibility, application and performance. Your choice between the two will be based

on several factors: What are the V.O.C. regulations in your area? Is there adequate ventilation? Are there compatibility issues with an existing coating? Which will last longer and be more durable? What about maintenance? These are all questions you should discuss with your distributor or supplier. It is your job to apply the product. It is their job to make sure you are successful!

Let's now take a closer look at the characteristics of the four basic types of sealers on the market.

Penetrating Sealers

Description: Penetrating sealers do not form a film or coating over the surface. They work 100% below the surface, creating a chemically bonded barrier against the water, moisture, salts, and other de-icing chemicals. Common types of penetrating sealers include silanes, siloxanes, silicones, silicates, and fluoropolymers. Although most penetrating sealers are water-based, some are also available in solvent-based formulas.

Application: Penetrating sealers offer the



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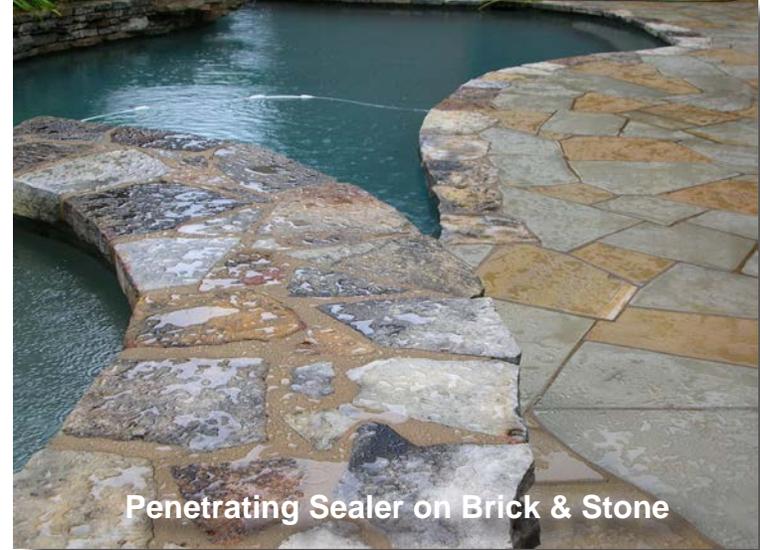
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Penetrating Sealer on Brick & Stone



Pure Acrylic on Exposed Aggregate

easiest application of any type of sealer. Most products can be applied with a sprayer, roller or brush. You simply saturate the surface with the recommended amount of product, and that's it. Except for a few solvent based products that can be applied over existing cure & seals, most penetrating sealers require clean, bare, unsealed surfaces.

Performance: Penetrating sealers provide excellent protection for all types of outdoor concrete, pavers, brick, natural stone and manufactured stone. Most penetrating sealers are also breathable, allowing moisture vapor to escape and not become trapped below the sealer. Since they do not leave a film or coating on the surface, penetrating sealers usually do not change the appearance or traction of the surface. They are a great choice anytime you need excellent protection from the elements, while retaining a completely natural finish.

Acrylics

Description: Acrylics are the most common type of film-forming concrete sealer. They offer easy application, easy maintenance and lower cost than epoxies or urethanes. Acrylic sealers are produced in three common types: styrene acrylic, pure acrylic and modified acrylic. Styrene acrylics, also commonly called cure & seals, are primarily designed for use over "green" or freshly poured concrete. Styrene acrylic is a low-performance resin that will often yellow or degrade in direct sunlight. Pure acrylics are made from high quality resins, contain no styrene, and will not yellow in UV light. Unlike styrene acrylics, they can only be applied to concrete that has fully cured. Modified acrylics are the high performance

acrylics. They are pure resins that have been blended with epoxies or urethanes to improve performance. These are usually used on interior projects since they have very little breathability and can often trap moisture on exterior projects. Although they are often marketed for different applications, acrylics as a whole are usually a very poor choice for any surface other than concrete. All three types of acrylics are available in both water and solvent-based formulas.

Application: Acrylic concrete sealers offer relatively easy application with either a pump-up sprayer or roller. With acrylics, more is not better. They should be applied in thin coats, with a total thickness of no more than 2mils.

Performance: Acrylic concrete sealers offer good protection against water and salts. They are economical, easy to apply, and work well on decorative concrete, exposed aggregate and interior floors. Solvent-based acrylics generally perform better outdoors than do water-based acrylics. Solvent-based acrylics also offer much better color enhancement than water-based acrylics. On the other hand, solvent-based acrylics can darken un-colored broom finished concrete, making it look splotchy.

Polyurethanes

Description: Polyurethane sealers are extremely high-performance film-forming products. Polyurethanes are much more expensive than acrylics, but offer much better chemical and abrasion resistance. They dry crystal clear and are available in a variety of sheen levels. Polyurethanes are non-yellowing and can be used on both interior and exterior projects. Although primarily designed for



Urethane
Photo courtesy of Kevin Ormsby, AeroFlor



Atomic Top Coat Epoxy
Photo courtesy of Kevin Ormsby, AeroFlor

concrete, some specific products can also be used successfully on pavers, brick and stone.

Application: Polyurethane sealers are not as easy to apply as acrylics or penetrating sealers. Most are two component products that must be carefully mixed before application. After mixing, the product immediately begins to cure, and will completely harden within thirty to sixty minutes. Although some products are thin enough to be applied with a pump-up sprayer or roller, most polyurethanes are best applied with a high pressure airless sprayer.

Performance: Polyurethane sealers are UV stable and extremely durable. They offer excellent protection from chemicals and abrasion in high traffic areas. Since most polyurethanes are not breathable, care should be taken not to trap moisture under the sealer. On most surfaces, water-based products tend to be more forgiving if moisture is present below the surface.

Epoxies

Description: Epoxies are also high-build, high performance film-forming sealers. Unlike polyurethanes, most epoxies are not UV stable and are primarily used indoors on commercial or industrial projects. Epoxies come in many different colors and most produce a durable high-gloss finish. Both solvent and water-based formulas are available.

Application: Almost all epoxies are two-component products that must be carefully mixed before application. Once mixed, the epoxy will immediately begin to cure, and will completely harden within thirty to sixty minutes. Epoxy coatings are most often applied with an airless sprayer or notched squeegee, then immediately back-rolled with a lint-free roller.

Performance: Epoxy coatings are extremely hard, durable and long wearing. If properly

upcoming issues we will be looking at each type of sealer more in-depth as we discuss specific applications such as concrete floors, driveways, brick sealing, paver sealing, stone sealing and more! Remember, choosing the right product for each job is always the first step to having a successful project.

David Phillips founded Southern Stain and Seal in 2007 as a service company specializing in wood restoration and concrete sealing. As a manufacturing engineer, Phillips immediately began researching and testing every product and process on the market. After a very successful four years, Phillips decided to follow his passion to help others do what he had done. On July 2, 2011, he shut down the service company and began sharing what he had learned. Phillips' focus is now on bringing both contractors and homeowners the products, training and guidance they need to be successful. To learn more, visit their website at www.SouthernStainandSeal.com, or sign up for their contractor rewards program at www.SprayNPay.com.

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