WHAT TO CONSIDER WHILE CHOOSING A CONCRETE SEALER

In general, picking a sealer to use on concrete is a balance of aesthetics and performance, along with what you are willing to pay to get that performance. Keep in mind that choosing the right sealer and applying it properly will extend the life of your concrete and keep it looking great for years to come, so you should buy the best product you can afford. Here is an overview of important information you should know about concrete sealers:

Why you should use a sealer- Concrete, in general, doesn't have to be sealed to perform well, but the additional benefits of applying a high-quality sealer will be worth the extra pennies per square foot the sealer will cost. Here are the reasons why:

- Sealing concrete not only extends its service life, it will also improve the appearance of decorative concrete by enhancing the color and gloss.
- Applying sealer to concrete is not difficult, and in most cases can be performed in one day.

- **Types of concrete sealers-** The most common types of film-forming sealers are acrylic-resin based. Acrylic sealers provide the best performance characteristics for the cost, and they often are blended with epoxies, polyurethanes or silicones to improve performance, durability and water resistance. Acrylics, themselves, are also available in different forms, with some types delivering better performance than others. Styrene acrylic, for example, is a lower-performance acrylic resin that may yellow and degrade when exposed to direct sunlight. The best type of acrylic is a virgin or pure acrylic resin. These sealers will last longer than styrene acrylics, with no yellowing.

Buying tips- Before buying any sealer, read the technical data sheet as well as the product label. Most suppliers will have technical data available on their websites, and it can tell you a lot about what you're getting. Key words or phrases to look for are *non-yellowing*, *waterproofing*, *dust proofing*, *breathability* and *resistance to oil, grease, and acids*. The product should have detailed instructions on how to apply it as well as recommendations for maintenance and re-application.

It's always better to spend a few extra dollars on a concrete sealer with proven performance than to go with a cheaper product that may fail early and require stripping and removal

- Other types of typical sealers are polyurethanes, epoxies and penetrating resins. Generally, epoxy or polyurethane sealers cost considerably more than acrylics and they tend to be higher build, and thus more slippery. They also don't allow for moisture vapor to move out of the concrete. It's important that sealers used on exterior concrete allow the passage of both air and moisture. If a sealer does not allow for this movement, especially moisture, white hazing or fogging can occur between the sealer and concrete.
- Penetrating sealers are made of specialty resins (silicones, siloxanes and silanes) that penetrate into the concrete and form a chemical barrier to water, oil and other common contaminants.
- **Factors to consider when choosing a sealer-** To simplify the selection process, We have broken down the most important factors to consider into three categories: Safety, Appearance and Performance. Just remember the acronym SAP.

- **Safety**
  The key consideration when sealing concrete is safety. You want the surface to be slip resistant once the sealer is dry. Most sealers designed for use on driveways will meet federal standards for slip resistance (also known as the coefficient of friction) when the surface is dry. But this doesn't account for how slippery the sealed surface is when wet.

- Slipperiness is determined by the amount of texture in the concrete, combined with the thickness of the sealer. Typically, the more sealer resin that's on the surface and the shinier the surface is, the greater the potential for a slippery surface. For example, a smooth concrete surface with a thick "wet-look" film-forming sealer will be very slippery when wet, while a stamped or heavily broom-finished concrete surface with that same wet-look sealer will not be as slippery. If you use a lower-gloss or thinner sealer, the surface will be even less slippery.
- For the ultimate in safety, consider using a penetrating waterproofing sealer rather than a film-forming product. A penetrating sealer produces no gloss and will not contribute to the slipperiness of the concrete surface. Always test the sealer in a small, inconspicuous area on your driveway, in both dry and wet conditions, to ensure that it meets your safety needs.

- **Appearance**
  What do you want your concrete to look like after it's sealed, in terms of gloss level and color enhancement? Like paints, driveway sealers come in many gloss levels, including no-gloss, matte, satin, semi-gloss, gloss and high-gloss. Sealer manufacturers use a standardized test to measure gloss on a scale of 1 to 100, with 100 being the highest level of gloss (see the table below). Most sealer manufactures provide this gloss level measurement on the product packaging and in the technical data sheets. But to be sure

you are getting the level of gloss you want, it's best to test the sealer in an inconspicuous area of your driveway.

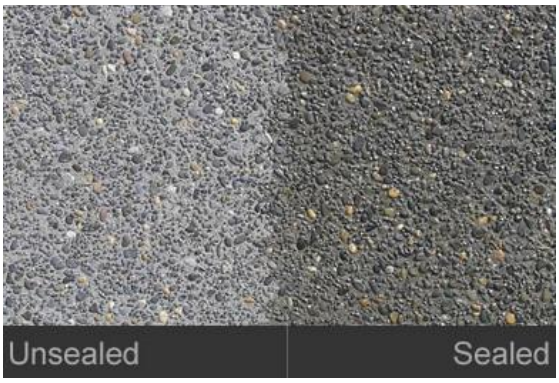
Sealer Type	Gloss Level	Finish
Solvent based	80 -100	Glossy to high gloss
Water based	50 - 80	Matte to semi-gloss
Penetrating sealer	0	No gloss

- In terms of color, solvent-based film-forming sealers tend to darken or enhance the color of the concrete more than water-based sealers. Sealers with a higher solids content will also result in more darkening or color enhancement, giving the surface that wet look some people find desirable. The higher the solids content of a sealer, the higher the level of gloss. For example, an 18% solids content usually provides a semi-gloss finish while a 30% solids content will impart a high gloss. Penetrating sealers do nothing to change or enhance the color of the concrete.
- If you're looking for a more realistic and natural stamped driveway, high gloss sealers should be avoided. Sealers that provide color enhancement without producing a wet or glazed appearance can be found. These new-generation sealers for stamped concrete come in both solvent- and water-based versions, and they are gaining wider acceptance in the industry. You can also use penetrating sealers, which were rarely used in years past, but are also starting to gain mainstream acceptance.
- **Performance**
  Not all sealers are alike (even those in the same product category), and no sealer will last forever. Depending on the type of sealer used and exposure conditions, a sealer may last anywhere from 1 to 3 years. The type and quality of the resin makes a big difference in how long the sealer will last and how well it will perform during its life cycle.
- Let's just say that you typically get what you pay for. Lower-cost sealers bought at your local hardware store usually can't match the quality and performance of commercial professional-grade sealers bought at a concrete materials supply house.
- **How to apply sealers-** The two most common methods of applying sealers to concrete surfaces are by roller or sprayer. Always refer to the manufacturer's recommended application guidelines. As a general guide, solvent-based sealers are best spray applied while water-based sealers are best applied by roller.
- Whether you are rolling or spray applying a sealer, always strive for maximum coverage. The typical coverage rate is 250 to 300 square feet per gallon. It's best to apply two thin coats, making sure the sealer doesn't puddle or form uneven, thick areas.

- Once you seal your concrete, you are still committed to some regular maintenance. This usually consists of nothing more than a good soap and water cleaning, followed by a light re-application of the same sealer if needed.

EXPOSED AGGREGATE SEALERS

Sealing and Protecting Exposed Aggregate Finishes



Applying a transparent concrete sealer to an exposed aggregate surface can improve both its performance and appearance. These sealers-typically film-forming acrylic resins-can help protect against spalling, dusting, efflorescence, freeze-thaw damage, stains, deicing salts, and abrasion. A sealer will also enhance the color of the aggregate, accentuating its depth and richness.

When selecting an exposed aggregate sealer, look for a product that:

- Is non-yellowing and UV resistant
- Will provide a high-gloss wet look that deepens and enriches the color of the aggregate
- Repels oil, grease, water, and stains
- Is re-coatable

When applying the sealer to fresh concrete, make sure all cement paste residue from the exposure process has been thoroughly removed to avoid sealing the milky-looking white paste on the surface. On existing exposed-aggregate concrete, thoroughly clean the surface from oil, grease, dirt, and stains before applying a sealer.

Whichever brand of concrete sealer you use, be sure to follow the specific instructions for the product, both for surface preparation and application, and make sure the sealer is recommended for use on exposed-aggregate concrete.