



Best Practices in Decorative Concrete

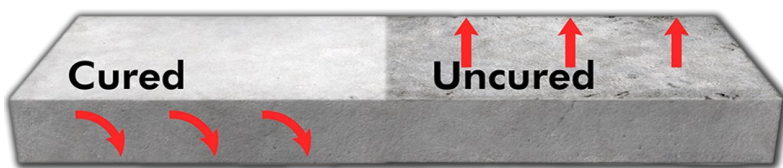
SEALING STAMPED CONCRETE

SEALING STAMPED CONCRETE

The purpose of sealing stamped concrete is to protect it from water intrusion, de-icing compounds, staining, and enhancing the look of decorative stamped concrete. To properly achieve this, at least one of two processes must occur. Either the sealer forms a film and bonds to the surface of the concrete (topical sealer), or the sealer needs to penetrate the pores of the concrete so that the surface becomes water repellent (penetrating sealer). There is also the option of a hybrid-style sealer that would form a film on the surface and penetrate the pores acting as water repellent.

TYPES OF SEALERS

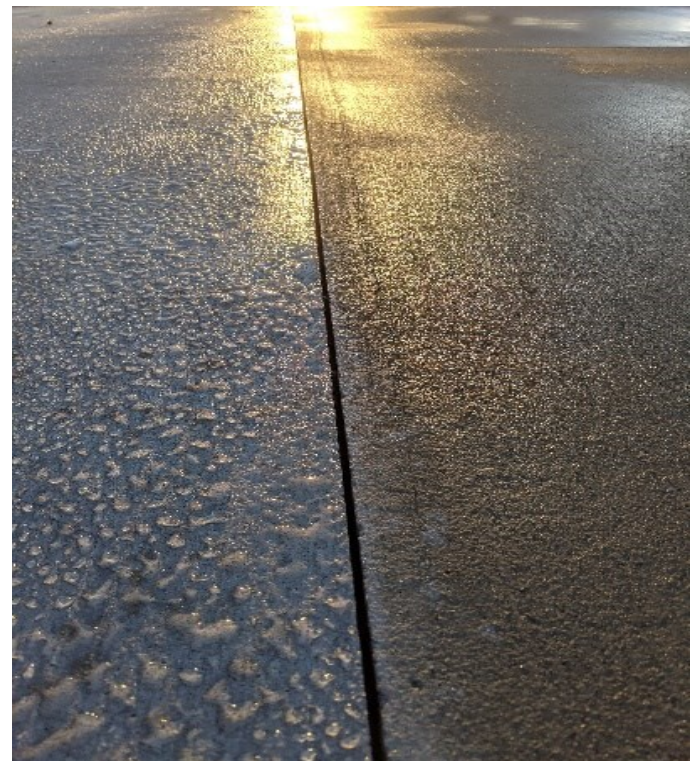
Topical & Hybrid Sealers – Topical film-forming sealers are the most commonly used option for stamped concrete projects due to their color-enhancing properties. Most of these sealers can also act as a curing membrane as they form a film on the surface of the concrete that will minimize the rate of moisture evaporation. Over application and/or applying too soon could cause a negative visual effect to the topical sealer.



Curing Membranes Minimize the Rate of Moisture Evaporation

Please refer to DCC Best Practices sheet on “Curing Stamped Concrete” for recommended products and methods of curing.

Penetrating Sealer – Penetrating water repellent sealers are a great way of protecting concrete from water intrusion and staining; however, most of them do not enhance the color. They can be useful on commercial projects that do not go through routine maintenance. In this case, the most important thing is long-term protection. Penetrating sealers generally



Sealed

Unsealed

require the concrete to be fully cured before application.

SURFACE PREPERATION/PRE APPLICATION

Cure time – To properly seal stamped concrete, it needs to be fully cured or at least cured out to a certain point. The ACI standard for fully cured is 28 days. This number can be misleading however, as it is relative to your geographic location as well as the time of year. The exact cure time needed can also vary depending on what type of sealer you are using. Make sure to follow manufacture recommendations for cure time.

Cleaning- When using decorative concrete sealers, the surface must be clean and completely dry before application. The sealer may not bond or penetrate properly if the surface is not clean or completely dry. A power washer with a minimum of 3,500 psi is the most effective and efficient cleaning method.

Make sure to follow all manufacturer guidelines for adequately cleaning/removing release agents used in the stamping process. If needed, a light phosphoric or



Power Washer



Low-Speed Buffer with Scrubbing Pad

muriatic acid wash may be used to remove excess release agents and open the pores of the concrete. The acid wash must be followed by a neutralizer/degreaser to restore the PH level of the concrete. After neutralizing, rinse immediately with clean water to completely remove all residue and loose particulates. Concrete imprinted with release powder will benefit from this process, ensuring that excess hydrophobic powder release is removed from the surface of the concrete. The use of a low-speed floor buffer machine & scrubbing pad/brush can also be helpful when removing excess powder release. Excess powder release left on the slab can lead to sealer failure.

Immediately following the washing/cleaning process, use a leaf blower to remove all standing water from the slab as well as saw cuts. For best results, allow the slab to dry for 12-24 hr before sealing. If excessive moisture in the concrete is suspected, contact the sealer manufacturer for technical assistance before application.

APPLICATION

Application Method – The preferred application method for most sealers is “Spray & Back Roll.” This method is the most effective way of applying an even coat on textured stamped concrete. Dip & roll methods generally lead to uneven and over-applied coats of sealer. Spray & back roll application is also more time and labor-efficient. Make sure to follow all manufacturer recommendations for spraying equipment & roller covers.



Back Roll Immediately After Spraying

Application Rate – Most sealers designed for stamped concrete need to be applied at a specific rate. These coverage rates can vary from 200-350 sq/ft per gallon, so it's important to understand the manufacturer's recommendations for the product you are using. Applying sealer too thick or applying too many coats affects breathability and bond.

MAINTENANCE

Resealing is the most common form of maintenance on stamped concrete. Reseals should be performed on an "as needed" basis rather than an exact amount of years on a calendar. Loss of water/stain repellency and depth of color are the main reasons for re-application. Trying to maintain a high gloss on the surface by resealing every year can be problematic. Resealing stamped concrete more than necessary leads to build-up on the surface that can be time-consuming and expensive to remove. Treating the surface with solvents is a more efficient way of maintaining shine without adding any additional sealer.

Proper cleaning and prep work are essential for long-term success when resealing stamped concrete. A power wash at a minimum of 3,500 psi is recommended, followed by 24 hours of dry time.

If any remaining sealer is on the surface from a prior application, care must be taken to ensure a compatible sealer is used. Using the exact same sealer as the time before always yields the best results. If this is not possible, work with the manufacturer of the original sealer as well as your local supplier to find the most compatible sealer available. Small test areas can be helpful when determining which sealer to use when resealing stamped concrete.

During reseal application, staying out of direct sunlight helps avoid bubbles and gives the new sealer the best

possible chance of bonding to the existing coat. It is also helpful to avoid direct sunlight for as long as possible after application. This can be challenging during the summer months. A good rule of thumb for resealing stamped concrete is to apply the sealer at a time of day when the slab temperature will be falling instead of rising for 3-4 hours after application. There might be times that evening application is the only way to achieve this.

NOTE:

Test in an inconspicuous area for desired results before applying sealer to new or existing stamped concrete. If applying over an existing solvent-based sealer, test a small area to determine compatibility. Loose, flaky, or discolored acrylic sealers should be removed using one of these methods: sand/soda blast, high-pressure washer, or chemical stripper, all followed by a thorough cleaning before sealers are applied.

Members of the Decorative Concrete Council (DCC), a specialty council of the American Society of Concrete

Contractors (ASCC), will work with owners and architects to develop specifications and establish methods for addressing technical requirements to meet desired final appearance of their decorative concrete projects. For more information, visit www.asconline.org or call the ASCC Decorative Concrete Hotline at (888) 483-5288.



*As published in **Concrete International**, a publication of the American Concrete Institute.*