

IMPREGNATORS

To determine whether you should seal, you need to understand the definition of what sealing natural stone means. Sealers in the stone industry are called impregnators simply because they impregnate the interior of the stone with silicones and resins that funnel through the pores of the surface.

The main objective of an impregnator is to protect the interior of natural stone from staining. They help prevent fluids from penetrating through the pores. However, impregnators do nothing to protect the top surface of the stone. They do not prevent traffic patterns or scratches, and they will not prevent etching from acid spills on marble. An impregnator will keep the acid out of the stone, but not off of the top surface. There are also some penetrating sealers that can make stone floor surfaces more slip-resistant because they help prevent residues from adhering and forming on the stone surface. In comparison, stone sealers do to stone what exterior wood sealers do to wood. They protect the interior of the surface. The stone industry needs to explain to its quotes customers that stone sealers are not a guarantee from staining or wear.

Impregnator/sealers are preventive measures that provide extra protection to the stone. Even though the stone has been sealed, it still needs to be maintained and cleaned with proper stone care products. It is just like taking care of the paint on your car. If you wax or seal the paint, you still have to wash it regularly. Also, sealers will last longer and work better when the stone is properly cared for. Sealers also need to be reapplied annually because they do not last forever. Over time, the sealer loses its strength and bonding to the stone and eventually evaporates. Just like a penetrating exterior wood sealer, it eventually breaks down and must be reapplied.

A good way to measure the strength of an impregnator/sealer is to apply moisture to the surface. Test for darkening of the color. If the stone darkens, the moisture penetrated, and a fresh coat should be applied. A fact to remember: if the moisture does not bead up on the surface, it does not mean that the impregnator/sealer is not working. Beading usually occurs with fresh application of a sealer. As sealers age, their ability to protect the stone is reduced, and the beading action is less.

The time it takes to break down an impregnator can be accelerated by certain conditions. For example, in a high-traffic floor area, the impregnator wears as the stone surface wears down. This is due to the fact that impregnators only penetrate approximately 1/16 inch (1.6 mm) or less. Some stones are more and less porous than others; therefore, the sealer may go in further or less. Some sealers require one application, while others require two or three applications.

So, how do impregnators work? Impregnators are a mixture of silicone, resins, and usually a mineral spirit which is a solvent. That is why they have a strong odor. Some are water-based. Depending on the manufacturer, some use different types of silicones and resins. The mineral spirit is added to the mixture because it acts as a carrier for the silicones and resins. The mineral spirit rides the resin and silicone into the stone as a liquid form. The mineral spirit evaporates out of the stone and leaves the silicone and resin. The silicone and resin now begin to cure into a solid form, thus forming a fluid repellent membrane in the pores of the stone. This all happens within five to ten minutes. Complete curing time is usually 12 hours - due to the moisture content in natural stone. Most sealers will prevent water and oil, but it is very difficult to stop hot cooking oil from penetrating into the stone because it can melt the resin in the stone. It is imperative to be sure that the stone is completely dry before applying an impregnator is relatively simple. Applying thick coats of an impregnator is not always the answer to sealing stone properly.

Usually, thin coats are sufficient. The reason is because natural stone can only absorb so much. Putting on too much can be detrimental to the stone. Depending on the manufacturer, we have a recommendation for the industry called the five minute rule. If the stone completely absorbs the first coat from the surface within five minutes, you will need to add another coat. If the sealer remains on the surface after five minutes, wipe it off with a dry clean cloth, and no more coats are required. Many times, the surface looks dull or hazed after the sealer dries. This is because some of the resin or silicone remained on the top because the stone could not absorb anymore.

Now that we know how sealers work and what they are supposed to do, the main question is: **Do we seal or not?** The answer is yes! The reason is because we are taking the stone from its natural environment (the earth), and then we saw it, grind it, polish it, eat on it, walk on it, often use improper cleaning products on it and spill things on it. Natural stone needs all the protection it can get. With today's advancement in silicones and resins, the stone industry should take advantage of the sealers that were available yesterday. Penetrating stone sealers are manufactured to protect and preserve the natural color minerals and bonding agents of natural stone. Along with a quality stone care program, natural stone will be protected for life.

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