

difference between penetrating sealer and impregnating sealer

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could you tell me diff. between penetrating sealer and impregnating sealer for granite Thanks

Dear Richard:

They are one and the same. If you also care to know what it is and if your stone can take it, read this, which is something that you're never gonna read from any other manufacturer of impregnating sealers:

DEFINITION OF SEALER FOR STONE For starters, when referred to stone the word sealer is wrong. Well, technically it is not, but the reason why I said that's wrong is because sealers for stone are totally different from any other sealer that most people are familiar with. A sealer is perceived like a topical coating of sorts that's meant to protect the surface of the sealed object from traffic and spills, to produce a finish (polished, or matt, or satin) and to fill all little nicks, fissures and other surface imperfections.

A sealer for stone is none of that â€“**None!**

And that is why I said that the word sealer is wrong when referred to stone. The right word is **impregnator**.

An impregnator is a below-the-surface (of the stone) sort of sealer. It's a product made of two major components: a resin of sorts that could be silicone, siloxane, silane, ester epoxy, aliphatic fluorochemicals, acrylics, etc., plus a carrier, that could be a petroleum-based solvent or simply water. The resin is dissolved by and within the carrier.

What does an impregnator do, and how does it work?

The only thing that an impregnator does is reducing dramatically the natural absorbency rate of the stone by somehow filling the spaces between the single molecules of minerals composing the stone, which are known as **pores** - End of the list of performances. This reduction of absorbency rate (or porosity) of the stone will make so that possible staining agents that may get spilled on the stone will be kept at bay on the surface of the stone for a period of time much longer than if the stone was not sealed.

The way it works is that the solution goes inside the stone, the carrier (solvent or water) evaporates and the resin stays in and cures, thus partially clogging the pores of the stone.

The most important phase of the application of an impregnator is the total and thorough removal of its residue that was not absorbed by the stone from its surface, before it has a chance to dry, so that at the end of the sealing job the surface of the stone is as bare as it were before the sealing procedure was started.

The immediate, obvious consequence of that is we're not talking about a coating, but rather an application.

Next, the question is: how does an impregnator go inside the stone?

Quite simply, by being absorbed by it.

So far we've learned a couple of important things: 1. That a sealer for stone only help preventing deeply imbedded

stains by delivering a reaction time, which is how much time you'll have to blot the staining agent off of the stone surface before it begins to sink in. (The better the quality of the impregnator in relation to the stone to be sealed, the longer the reaction time will be.) 2. That because of the way it was designed and works it cannot "and in fact does not" offer any protection or improvement whatsoever to the stone surface.

Next, we have now to talk about the natural absorbency of stone.

This side of single-crystal rocks (i.e.: gemstones), every multi-mineral stone is somehow porous. However, while there are stones that absorb liquids like sponges, there are stones that are naturally so dense that no liquid is thin enough to be absorbed by them. The latter types of stones "which are quite a few" can't be technically sealed, because no impregnator will ever stand a chance of being absorbed by them. On the other hand, since they won't absorb any liquid, it is pretty intuitive that they will never get stained.

What is interesting noticing is that while certain stones have an absorbency rate that indicates their ability to absorb liquids (above 0.2%), in fact they don't absorb anything due to their dramatically increased surface tension once polished. For example, travertine is rated at 0.4% to 1.0%. In its rough form it does absorb liquids, though slowly; but if you polish it, it effectively will not absorb a single drop of anything. In fact, nobody ever reported any stain on a polished piece of travertine. (In its hone-finished form, however, travertine may "and just may" absorb something.)

In conclusion, only a certain number of stones can be sealed and, more importantly, the performance of an impregnator is only limited to the reduction of the stone natural absorbency rate if it is "even when polished" above the 0.2% cut off point.

How does the average consumer know if their stone could be possibly sealed without that kind of information? It is quite simple and down to earth: spill some water in a couple of spots of the stone to be tested, let it dwell for 10 minutes or so, wipe it dry and observe if the areas under which the water has been sitting have become (temporarily) any darker than the rest. If so, if the stone is installed in an environment where staining spills are likely (i.e.: a kitchen) the application of a good-quality impregnator is recommended. If not, or if the stone is to be installed where the likelihood of spillage is minimal or nil altogether, it would be a totally useless exercise that will only help to put the kids of the impregnator's maker (including myself) and its distributors through college and, in the case of stones that can't be sealed, even created unforeseen problems in the form of hard-to-remove "ghost stains".

Also keep in mind that when you talk about granite in 98% of the instances you're not talking about granite. In fact, of the over 2700 stones traded as granite world-wide (approximately 1700 are estimated being available in the USA), only 2% of them are true geological granite and next of kin. All the rest (98%) are stones with very little relation to no relation whatsoever to granite and to each other. Welcome to stone industry, where the law of the land is broken every day and nobody cares!

And now that you know the bare truth about impregnators and "granite", try to get the information that really counts about stone care, because **The issue of what you'll be doing day in and day out to your stone is "as it should be intuitive" vastly more important than its sealing** (if and when possible and/or advisable) and it's all too often neglected. As you can tell by reading many of this site's postings, you're not likely to get good information about routine care from your dealer or installer. Don't become another statistic! By logging into the Helpful Hints section of our website at: http://www.mbstone.com/HH_promo/helpful_hints.htm, you will be able to get the short version of our maintenance guidelines at no charge. The full version of it "a 10-page document considered by many as an industry benchmark" is available in pay-per-download format in our Educational Literature section at: <http://www.mbstone.com/literature/literature.htm>. Among a well of valuable information, in there you will also find priceless tips on how to properly install stone in a bathroom.

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Thank you

Ciao and good luck,

Mauri zio Bertoli

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