

# Cleaning Unsealed and UngROUTed Tumble Marble - Post of the decade!

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Hope You Can Help. I had some tumbled marble tile installed in my shower and the installer never came back to grout or seal the tiles. It has been about 8 months since the tiles were layed and they now have hard water stains on them. I want to get this tile grouted and sealed but not with the hard water stains on the tiles. How can I clean these tiles without damaging them.

Dear Peter:

I can hardly believe this, but I've gotta ask: are you telling me that you used that shower stall for a month without any grout?!?!...

And now you are concerned about some stupid sealer?!?!...

I hope you're gonna tell me that it is not true!!

First off, let me tell you for a sealer could have done to prevent those "hard water stains" that you see: Nothing. Nada. Nil. Zilch. Zip. Zero. (Did I forget any?)

Now read what a sealer for stone is all about to understand what I meant.

## 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 "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 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 and its distributors through college.

Now we made this crystal clear: let me tell you what those "hard water stains" are all about: they are about the damage that the water has been doing to your stone for a whole month by going behind and under it, due to the lack of grout. We're talking about a severe case of efflorescence that I don't know if it can be reversed.

What can you do now?

Get hold of a reputable stone restoration company and consult with them to see if there's any hope to rescue your stall.

May I ask you now to please read and e-sign our Statement of Purpose at: <http://www.marblecleaning.org/purpose.htm>?

Ciao and good luck,

Maurizio Bertoli

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