



CARING FOR YOUR NATURAL STONE

STAIN MANAGEMENT

From the stone and tile care experts at

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ARIZONA TILE

Caring For Your Natural Stone

STAIN MANAGEMENT

Since 1976 Beyond Stone Solutions has been a trusted source for stone and tile care services and products. In tandem with Arizona Tile, Beyond Stone Solutions presents this guide to arm you with expert stone care information and resources. This guide offers professional tips to help you prevent and manage stains and surface damage on your natural stone, including a step-by-step “how-to” for treating virtually every kind of stain.

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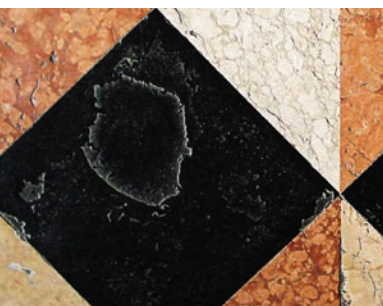
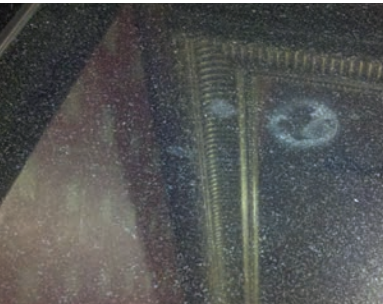
Important note: The following stain removal instructions are for natural stone, NOT Quartz Surfaces, which is a man-made material. Do not poultice Quartz with any solvent as it will cause a solvent burn (damage to the resin that the top is made with – looks like etching). If there is a solvent burn on Quartz, refinishing will be needed.

The information provided in this guide is intended to be helpful and informative. However, it's important to note that individual circumstances may vary. Always exercise caution, conduct a test in inconspicuous areas, and prioritize safety measures, especially when dealing with chemicals or unfamiliar materials. The users of the information are encouraged to take appropriate safety precautions and seek professional advice if needed.

LET'S TALK ABOUT STAINS

An Important Rule of Thumb About Stains on Natural Stone

A true stain is always darker than the surrounding material. If it appears as a lighter color, it is not a stain, but either a mark of corrosion (etching) made by an acid or a caustic mark (bleaching) made by a strong base (alkali). In other words, a lighter color "stain" is **always** surface damage and has no relation whatsoever with the absorbency rate of the damaged material—stone or otherwise. ***There is not a single exception to this rule.***



These images show what are commonly, but mistakenly referred to as water marks or stains, but they are not stains.

Let's start by saying that a stain is a discoloration. So far, so good. The fact is, however, that not all discolorations are stains. To illustrate the point, let's take, for example, a piece of common fabric. Fabric is typically absorbent. Therefore, if we spill some liquid onto it, the material will absorb it. If it is only water, it will leave a temporary "stain." Once the water evaporates, the fabric will go back to its original color. But, if coffee or cooking oil is spilled on the fabric, a stain will occur, because the fabric will absorb the staining agent and change its color in a permanent way—unless we do something to remove the agent from the fabric.

On the other hand, if bleach is spilled on that same fabric, a discoloration will occur, but it can hardly be defined as a stain, because it is actually permanent damage to the dye that originally gave the fabric its color.

Some 'stains' are not stains at all but rather damage on the surface of the stone.

As with the fabric example, when it comes to natural stone there are stains that are true stains and there are "stains" that are actually discolorations caused by something else. A stain is a discoloration of the stone produced by a staining agent that was actually absorbed by the stone.

Other "discolorations" have nothing to do with the porosity (absorbency) of the stone, rather they are a result of damage to the stone surface. All those "stains" that look like "water spots" or "water rings" are actually marks of corrosion (etches) created by some chemically active liquid (mostly—but not necessarily limited to—acids), which had a chance to come in contact with the stone. All calcite-based stones, such as marble, limestone, onyx, travertine, etc., are sensitive to acids. Therefore, they can etch readily (within a few seconds). Many slates will also etch, and so will a few "granites" (those that instead of being a 100% silicate rock are mixed with a certain percentage of calcite).



Etching and “Water Stains” or “Rings”

Sometimes, marks of corrosion (etch marks) that an acidic substance leaves behind may look like water stains or rings, but they are neither stains, nor were they generated by water. The surface damage is exclusively related to the chemical makeup of the stone, which has nothing to do with how porous or absorbent the stone is.

Marble, travertine, onyx, limestone, etc., are all calcite-based stones that chemically react with acidic substances. Once acid makes contact with the calcite in the stone, a mark of corrosion appears on the surface. The mark may look like a water stain or ring, but it is actually etch damage. Do not try to remove the “stain” by applying a poultice. This would be a useless exercise, since the blemish is not a stain.

So, how do you remove a chemical etch-mark, which as previously mentioned, is not a stain but surface damage? You don’t. In fact, an etch mark can be effectively compared to—and defined as—a shallow chemical scratch. A scratch is something missing, like a groove in the stone, and nobody can remove something that is already missing. It would be like trying to remove a hole from a doughnut! To resolve this problem, the material around the groove must be removed and made level with the deepest point of the scratch.

Technically, this is a small stone restoration project. Is this a task for the non-professional? The answer is maybe. If your stone is polished marble, travertine or onyx, then there’s hope. If your stone is marble or travertine that has a honed or soft matte finish, hone-finished slate (like a chalkboard), or mixed “granite,” you probably should hire a professional stone restoration contractor. If your stone has a cleft-finish, for example, slate with a rippled surface texture, then nobody can actually do anything about the etch damage, other than attempting to mask it by applying a good-quality stone color enhancer.

While marble and other calcite-based stones are vulnerable to acids, granite is much more resistant. In fact, the only acid that will etch polished granite is hydrofluoric acid, commonly found in rust removers.

If the etch is light (the depth is undetectable by the naked eye and it looks and feels smooth), then a polishing compound for marble will work quite well—without requiring the experience of a professional. In this case, no specific tools are needed other than a piece of terry cloth.



A quality marble polishing compound can be effectively used to erase light etching on POLISHED marble and other calcite-based stone surfaces.

Combination “Stains”

You may have a combination of a stain with etching. For example, if some red wine is spilled on an absorbent polished limestone, then the acidity of the wine (acetic acid) may have etched (corroded) the surface on contact, while the dark color of the wine will stain the stone by being absorbed by it.

In such a case, the stain can be removed by applying a poultice made with hydrogen peroxide (see page 5) and then the etch damage can be repaired by refinishing the surface. (See above.)



HOW TO REMOVE A STAIN

First, Try Cleaning With a Quality Cleaner

Before resorting to poulticing to remove the stain, try cleaning the area with a quality stone-safe cleaner such as EASY OXY or EASY SCRUB DEEP CLEANING CREAM from Beyond Stone Solutions (available from Arizona Tile or shop.beyondstonesolutions.com). Apply the cleaner and allow it to dwell. Let the product do the work! If that doesn't remove the stain, it's time to create a poultice.

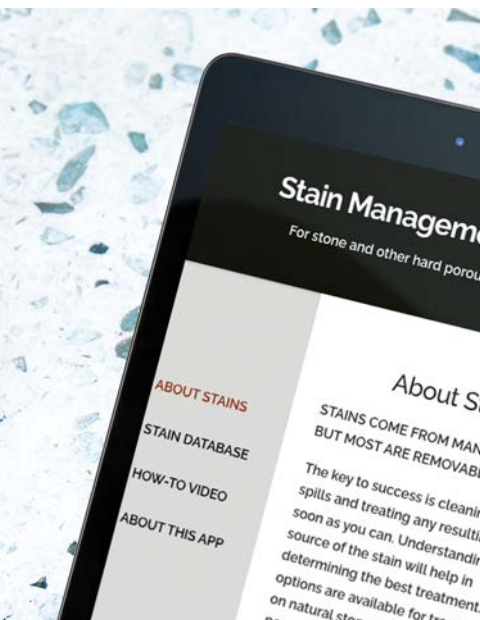


The Poulticing Method

What's a poultice? It is the combination of a very absorbent medium (it must be more absorbent than the stone) mixed with a chemical. Since the chemical will be interacting with the stain, selecting the appropriate chemical for the type of stain to be removed is important. The concept is to re-absorb the stain out of the stone. The chemical will attack the stain inside the stone, and the absorbent agent will pull both the chemical and the stain out together. The absorbent agent can be the same all the time, regardless of the nature of the stain to be removed, but the chemical will be different, depending on the nature of the staining agent.

There Are Five Major Classifications of Stains:

1. Organic stains (i.e. coffee, tea, coloring agents of dark sodas and other drinks, gravy, mustard, etc.)
2. Inorganic stains (i.e. ink, color dyes, dirt-water spilling over from flower or plant pots, etc.)
3. Oily stains (i.e. any type of vegetable oil, certain mineral oils—motor oil, butter, margarine, melted animal fat, etc.)
4. Biological stains (i.e. mildew, mold, etc.)
5. Metal stains (i.e. rust, copper, etc.)



How-To Video

For an interactive stain app featuring a how-to video and detailed, step-by-step instructions to treat virtually every kind of stain you may encounter, visit the **Caring For It** section at www.beyondstonesolutions.com



Materials to Create a Poultice

The absorbent part of a poultice could be (in order of preference): talcum powder (baby powder), household flour, or even a paper towel (see below), and for larger projects, diatomaceous earth (the white stuff inside your swimming pool filter).

As we said before, the chemical must be selected in accordance with the nature of the staining agent.

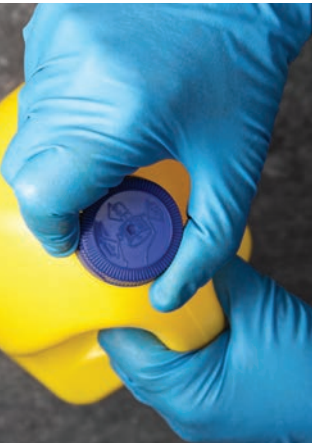
The chemical of choice for both organic and inorganic stains is hydrogen peroxide, but not the kind you might buy in a drugstore, which is too weak at 3.5 volume. Use 30/40 volume hydrogen peroxide, the clear type. It is available at your local beauty salon (sold as developer) or you can order it online.

Sometimes, in the case of ink stains, denatured alcohol (or rubbing alcohol) may turn out to be more effective.

For oily stains, our favorite is acetone, which is available at any hardware or paint store. Do not use nail polish remover, because it may contain other chemicals or no acetone whatsoever.

For biological stains, use regular household bleach or a mildew stain remover designated safe for stone.

For metal/rust stains, our favorite is **MAR GEL**, a product used and recommended by restoration contractors.



Preparing Your Poultice

You will be creating a poultice which is a paste made up of a chemical and your absorbent medium. Be sure to wear rubber gloves at all times while handling chemicals!

1. Using a metal spatula or spoon, mix the chemical and the absorbent medium in a glass or stainless steel bowl. The idea is to form a paste that is just a tad thinner than peanut butter, but not runny. Add more water if your mixture is too thick or more absorbent medium if it is too runny. If you are attempting to remove a metal (rust) stain with MAR GEL, be sure to follow the directions on the product.

**You can use a paper towel as your absorbent material. Fold it 8 to 10 times to make a "pillow" that is a little wider than the stain, soak it with the chemical to a point that is wet through but not dripping, apply it on the stain and tap it with your gloved fingertips to insure full contact with the surface of the stone. Then skip to step 4.*

2. Apply the poultice onto the stain, going past the edge of the stain on all sides by approximately 1/2 inch and keeping it as thick as possible (at least 1/4 inch).
3. Cover the poultice with plastic wrap, tape it down using painter's masking tape, and poke a few holes in the plastic.
4. Leave the whole thing alone for at least 24 hours, then remove the plastic wrap. If it is dry proceed to step 6.



5. Allow the poultice to dry thoroughly. It may take from 24 hours to a couple of days or better, depending on the chemical. Do NOT peek! This is the phase during which the chemical that was forced into the stone, together (hopefully) with the staining agent, is being re-absorbed by the absorbing agent. You do NOT want to interrupt this process.
6. Once the poultice is completely dry, scrape it off the surface of the stone with a plastic scraper or the flat edge of a straight razor blade. Clean the area with a little squirt of EASY OXY MULTI-SURFACE CLEANER or neutral cleaner, then wipe it dry with a clean rag or a sheet of paper towel.
7. If the stain is gone, your mission is over! If some of it is still there, repeat the whole procedure (especially in the case of oily stains, that can take up to 4 or 5 attempts). There are several reasons why a stain will not lighten at all after poulticing. You may have made a mistake while evaluating the nature of the stain and consequently used the wrong chemical). The stain may be too old and permanently set. **It is also possible that the spot is not actually a stain but some other type of discoloration.**

Basic Do's and Don'ts To Prevent Staining and Surface Damage

- DO** clean your stone surfaces regularly with a stone-safe, soap-free neutral cleaner such as EASY OXY MULTI-SURFACE CLEANER, an oxygenated, non-abrasive cleaner that is safe to use on stainless steel, stone, other hard surfaces, and fabrics as well. Removes soils such as grease, ink, crayon, lipstick, coffee, soda, tea, Kool-Aid, blood, pet accidents, juice, grass stains, red wine and more.
- DON'T** use any cleaning products unless the label specifies it is safe for natural stone.
- DON'T** let any spills sit too long on the surface of your stone. Clean spills up as soon as you can. But, if you do have dried-on spills . . .
- DON'T** use any green or brown scouring pads for dried-on spills. The presence of silicon carbide grits in them may scratch even the toughest granite. You can safely use the sponges lined with a silvery net or other plastic scouring pads. **REMEMBER:** It's very important to spray the cleaner and let it sit for a while to moisten and soften the soil before scrubbing. **LET THE CLEANING AGENT DO THE WORK!** It will make your job much easier and will be more effective.
- DO** make sure your stone is adequately sealed. A quality impregnating sealer will fill the pores in the stone to inhibit staining agents from being able to penetrate into the stone. Keep in mind that an impregnating sealer does not protect the surface from etching and chemical damage. State-of-the-art treatments are available today from certified applicators that protect stone from staining and acid etching. Talk to the folks at Beyond Stone Solutions for more information.
- DON'T** treat stains on Quartz Surfaces the same way as natural stone. Quartz is a man-made material and does not typically stain. Instead it may be the microscopic peaks and valleys that are holding onto color from the spill and in most cases can be cleaned with EASY SCRUB or EASY OXY. Attempting to remove stains with any solvent on Quartz Surface material may result in damage that will require professional refinishing.



THE SEALER TEST

When is it time to reseal? Here's an easy test.

To find out if your stone is perfectly sealed, pour some water on it and wait for approximately 5-10 minutes, then wipe it dry and wait for a minute or two. If the surface of the stone did not darken, it means that the stone is still perfectly sealed. But if a dark spot remains, your stone should be re-sealed. Be sure to test various areas, especially those areas that get more use.

Questions? Need Services or Support?

Reach out to us: Call or text: (602) 830-5861

For Stone Care Products: shop.beyondstonesolutions.com



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