The NATURAL STONE AND TILE *Care Guide*

BIO Tile & Grout Restoration

ACKNOWLEDGMENTS

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Each PRO Partner company is vetted, has signed a pledge to professional integrity, and has earned the right to be designated as a Certified Surface Care PRO Partner.

When it comes to floor and surface care look for the badge of excellence.

Welcome

Natural stone and tile surfaces bring lasting beauty and value to your home or property. From marble and granite countertops to travertine floors and ceramic tile showers, these surfaces are both functional and elegant—but only when properly maintained. Unfortunately, there's a lot of misinformation out there about how to care for them.

This guide was developed by seasoned surface care professionals to cut through the confusion and provide accurate, expert advice. Inside, you'll find trusted tips for routine cleaning, sealing, protecting against stains and etching, troubleshooting common issues, and more.

Keep this guide on hand, share it with friends and family, and when professional services are needed, reach out to us. We're here to help you protect and preserve your surfaces for years to come.

BiO Tile & Grout Restoration

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The Natural Stone and Tile
Care Guide

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CARING FOR NATURAL STONE

Natural stone–especially calcite-based stones such as marble, travertine, limestone and many slates–may have a delicate chemical composition that could potentially interact in "strange" (damaging) ways with cleaning solutions that were not specifically formulated for the task. In fact, one of the most common reasons stone restoration services are required for both residential and commercial applications is that the wrong cleaning products were used. We often get calls from frantic customers telling us they followed the advice of someone who is not a professional and used vinegar and water to clean their marble, and now they have rough white spots where they cleaned. Or, they used some bathroom cleaner that etched their stone. Many natural stones are porous, which means if left unprotected, they can become stained.

Tile and grout, especially the grout lines, can also become stained, making the whole floor or surface look dirty, dingy and dated.

FLOORS

A cleaning task–any cleaning task–is never a matter of using a cleaning product only. The implements (cleaning rag, paper towel, scrubbing pad, squeegee, etc.) are important considerations, as well. A good quality mop and the proper mopping bucket are critical to obtaining the best results when mopping your highly polished stone or porcelain floor.

We found that sponge mops are not the best choice for polished stone floors. A better choice is a good-sized, closed-loop cotton string or micro-fiber mop.

Always make certain that buckets, brushes, mops, rags, etc., are free from any grit or residues that might scratch or otherwise mar the floor's surface. It is also advisable to use only white or colorfast cloths. You don't want any dyes in colored cloths or sponges to be left behind on your floor.

Floor Care Do's and Don'ts

DO dust mop floors frequently.

DO clean surfaces with a good neutral cleaner.

DO blot up spills immediately.

DO protect floor surfaces with non-slip mats or area rugs.

DON'T use cleaners that contain acid on marble, limestone, travertine or onyx. This includes vinegar and lemon juice.

DON'T use vacuum cleaners that are worn. The metal or plastic attachments or the wheels may scratch the stone's surface.

Are You Having New Polished Stone Floors Installed?

The best thing to have done to a brand-new polished stone floor is a detailing job by the installer, properly trained maintenance contractor, or a professional stone restorer/refinisher. Detailing means deep-cleaning the entire floor thoroughly, removing all possible grout residue or film and adhesive, and perhaps addressing minor factory flaws or possible small damages left behind by installers. Following are recommended instructions for the initial cleaning.

A new stone or tile floor may have a slight film due to dust settling from construction or an inadequate cleanup of the grout residue. It is very important that excess grout be removed before it has a chance to dry, within 24 hours for cement grout and one hour for epoxy grout. If excess cement grout is left on the surface for more than 24 hours then use the following procedure:

Excess Grout Cleanup

1. Remove any large chunks of grout with a plastic scraper or the flat edge of a straight razor blade. On polished stone, take care not to scratch the surface.

2. Sweep or dust mop floor to remove all loose debris.

3. Rinse the floor several times with plain water. Apply water with a string mop, wrung tightly. Avoid flooding the tile, as excessive water may cause discoloration of the grout. If too much water is applied, pick up excess with a wrung string mop or wet vacuum.

4. If grout residue still remains after several rinses it will be necessary to use a grout removing chemical as follows:

For marble and stone: Add 3-4 oz. of household ammonia to water and rinse the floor several times. There are also several non-acidic grout removers available.

For glazed ceramic/ porcelain: Mix a mild solution of 2-4 oz. of sulfamic acid and water. Rinse the floor several times. Repeat rinsing with ammonia and water solution to remove acid residue. Do NOT use any other acids besides sulfamic acid. There are several grout cleaners available which contain sulfamic acid. Ask us for recommendations.

Epoxy Grout Cleanup

Epoxy grouts are made from 100% epoxy resins. They have excellent chemical resistance properties and are highly recommended for tile in kitchens and baths, as well as countertops and shower walls. If you choose to have epoxy grout installed, make sure your tile installer has experience working with these grouts.

One of the biggest problems with epoxy grouts is failing to clean up the grout residue. Unlike cement-based grouts that can sit for 24 hours, epoxy grout needs to be thoroughly cleaned within one hour or cleanup may prove difficult to impossible, depending on the surface type. If epoxy residue remains, the following procedure is recommended:

1. Carefully scrape any large pieces of epoxy from the surface using a plastic scraper or the flat edge of a straight razor blade. Wetting the area first will help prevent scratching.

2. Mix a solution of hot water (the hotter the better) and several drops of dish washing detergent free of colored dyes (Ivory, Dove, etc.). Apply the solution to the residue and scrub with a sponge lined with a silvery net or other plastic scouring pad.

3. If the soap solution does not remove the residue, try wiping the surface with a clean white rag and acetone. (Be very careful to use all safety precautions when using acetone or other strong chemicals.)

4. If these methods fail, the residue will have to be removed with a stronger solvent. This is the time to contact your stone and tile PRO.

COUNTERTOP CARE

Using vinegar and water, glass cleaner or water with a little dish soap are common but erroneous recommendations that you may hear. Vinegar, being acidic, will etch many stone types. Some glass cleaners may turn out to be too harsh to both the stone and the sealer (if one has been applied). Water and dish soap can leave a film that will build up. (Wash your hands with dish soap and then rinse them under running water; observe how long and how much water it will take to rinse properly. To get the same rinsing result–which is the only one acceptable–for your counter tops, you would have to rinse them with a garden hose!)

Your stone countertops may need to be sealed. To see if yours do, see **When is it time to reseal? The simple DIY sealer test** on page 17.

Caring for your countertops is really quite simple. Just refer to the Do's and Don'ts on the next page.

Countertop Care Do's and Don'ts

DO use coasters under drinking glasses–particularly those containing alcohol or citrus juices–to avoid etching.

DON'T place hot items directly on the stone surface. Use trivets or mats under hot dishes. Many stones can withstand the heat, but some stone, especially if it has been resined, can be damaged. Play it safe.

DO use place mats under china, silver or other objects that can scratch the surface.

DO clean your kitchen countertop regularly with an appropriate stone-safe cleaner. Use a higher concentration near cooking and eating areas and diluted with water for less demanding situations, such as areas of the countertop far from cooking and eating areas.

DON'T use any care products unless the label specifies it is safe for natural stone.

DON'T let any spills sit too long on the surface of your countertop. Clean spills up (by blotting only) 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 have your countertops sealed, as needed. For marble and other acid-sensitive stones, ask us about anti-etch treatment solutions.

BATH & SHOWER

The water-rich environment of baths and showers creates unique cleaning challenges, such as hard water deposits, soap film buildup, mold, and mildew. Here are some suggestions for keeping baths and showers in top condition.

Bath and Shower Care Do's and Don'ts

DO clean your vanity tops regularly with a stone-safe, soap-free neutral cleaner. (Cultured marble is man-made and is basically a plastic material.)

DON'T take chances with cleaning your mirrors over your marble vanity tops with a regular glass cleaner. The over-spray could spill onto the marble surface and may damage it.

DO clean your mirror with a neutral cleaner. Even if you over-spray it, nothing bad is going to happen to your marble. TIP: Rubbing alcohol works wonders for cleaning mirrors and won't harm marble.

DON'T use any powder cleanser or–worse yet–any cream cleanser on your stone.

DON'T do your nails on your marble vanity top or color or perm your hair near it.

DON'T place any wet bottles on it (perfume, after-shave, etc.). Keep your cosmetics and fragrances in one of those pretty mirror trays (be sure that the legs of the tray have felts tips) or other appropriate container.

DO make sure your stone tops are properly sealed and protected. (See page 17.)

DO monitor your grout and caulk lines periodically and address any problem immediately.

DON'T use any soap film remover on your polished stone shower stall unless it expressly states it is safe for natural stone.

DO use a soap film remover specifically formulated to be effective at doing the job of cleaning soap scum and hard mineral deposits, while not negatively interacting with the chemistry of natural stone.

DON'T use any mildew stain remover on your polished stone shower stall unless it expressly states it is safe for natural stone.

DO clean mildew stains that appear on the grout lines of your shower enclosure with a mildew stain remover that has been formulated to be safe on natural stone, while being very effective at removing mildew and other biological stains.

DON'T use any self-cleaners, such as SCRUBFREE® and the like, or any harsh disinfectant, such as LYSOL®.

DO clean your shower stall daily, after everybody in the home has taken a shower for the day. The easiest and most effective way is to spray the walls and floor of the stall with an appropriate cleaner and then squeegee.

DON'T use any regular toilet bowl cleaners if your toilet bowl is placed on a marble or other natural stone floor. They are highly acidic. Possible spills will dig holes in your marble. Clean your bowl with a non-acidic toilet bowl cleaner.

OUTDOOR HARDSCAPES

Outdoor Care Do's and Don'ts

DO keep outdoor surface free of debris and soiling by periodically sweeping and washing with water.

DO clean surfaces with a good neutral cleaner or other cleaners if the label specifies safe for natural stone.

DON'T use cleaners that contain acid on marble, limestone, or travertine.

DO clean mildew and other biological stains with a stone-safe mildew stain remover or use a mild bleach solution to remove algae or moss.

DO blot up spills immediately, but if you have dried on spills, spray a stone-safe cleaning agent, allow ample dwell time, and scrub with a soft brush.

DON'T use a pressure washer to clean most stone surfaces. Consult with your stone PRO.

DO use outdoor floor protector glides under chair legs, table legs, or other objects that can damage the deck surface or leave rust stains.

DO have your outdoor hardscape professionally cleaned and serviced periodically. Your PRO can determine whether a sealer is needed, depending on the type and location of material.

DO adjust sprinkler heads to avoid spraying on your pool and patio area floors and hardscape.

DON'T use sunscreen spray, suntan oil spray, or bug spray near your pool and patio area floors and hardscapes.

DO monitor your surfaces periodically and address any problem immediately.

DON'T allow pool chemicals, outdoor kitchen cleaners, and other substances that could negatively interact with the chemistry of natural stone to come into contact with your surfaces.

SEALING AND PROTECTING STONE

Stone is Porous

All stones are, more or less, absorbent. One may say that diamonds or gemstones are not absorbent. That's right, but a gemstone is not actually a stone. It is actually made of one crystal of one single mineral.

Other (less noble) stones are a composition of many crystals, either of the same mineral, or of different minerals bonded together. The "space" in between these molecules of minerals is mostly what determines the porosity of a stone. The porosity of stone varies greatly, and so does, of course, their absorbency. Some of them are extremely dense, therefore their porosity is minimal. What this translates into is the fact that the absorbency of such types of stone is so marginal that–by all practical intents and purposes–it can be considered irrelevant. Some other stones present a medium porosity, and others at the very end of the spectrum are extremely porous. Because of their inherent porosity, many stones can absorb liquids, if not sealed, and if such liquids are staining agents, a true stain will occur.

There are a variety of sealers and protective treatments available for stone. Some reduce porosity with no visible change to the look of the stone. Some enhance color. All of them inhibit staining. Anti-etch treatments are available for acid-sensitive stone countertops. Contact us to learn more about which type of sealing and protective treatments will fit your needs.

Impregnating sealer

All stone is porous, some more than others. For most stone–especially very porous stones like hone-finished limestone or certain granites–sealing is highly recommended. The application of an impregnating sealer to highly-polished marble and travertine, or polished high-density granites, may not be necessary–but when in doubt, consider this: it doesn't hurt to have it sealed. If it turns out that sealing the stone does, in fact, prevent some staining, you've saved yourself the cost of a stain removal service.

What does an impregnating sealer do?

Contrary to what your perception may be when you hear the word sealer, impregnating sealers are below-surface products that will not alter in any way, shape or form the original finish produced by the factory or offer protection from etching. They will only go inside the stone by being absorbed by it (assuming that the stone is porous enough to allow this to happen) and will clog its pores, thus reducing its natural absorbency rate. This will help prevent possible accidental spills of staining agents from being absorbed by the stone.

How many applications are needed?

For some stones that are more porous than others, one application of impregnator/sealer may not be enough. But how will you know?

When sealer can no longer be absorbed by the stone, the stone is adequately sealed. On granites that need sealing, at least two applications are recommended. Very porous granites, sandstone, quartzite, etc., may require three or more applications.

How long will it last?

There is no absolute rule of thumb when it comes to the durability of any sealer. Generally speaking, in an interior environment, most quality impregnating sealers will last 2-5 years or more. Environment and usage plays a big role. Stones exposed to intense heat or direct sunlight, as well as surfaces that are subject to a lot of use or abuse, will probably need to be re-sealed more often. Some "granites" are so porous that no sealer will do a satisfactory job sealing them 100% for an extended amount of time.

When is it time to reseal? The simple DIY sealer test

To find out if your stone is perfectly sealed, pour some water on it and wait for approximately 20 minutes to half an hour, 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 adequately sealed. Be sure to test various areas, especially those areas that get more use.

Etch Protection Treatments

Specialty treatments are available now for acid-sensitive stone, which means you can have the most elegant marble in places that would otherwise not be recommended.

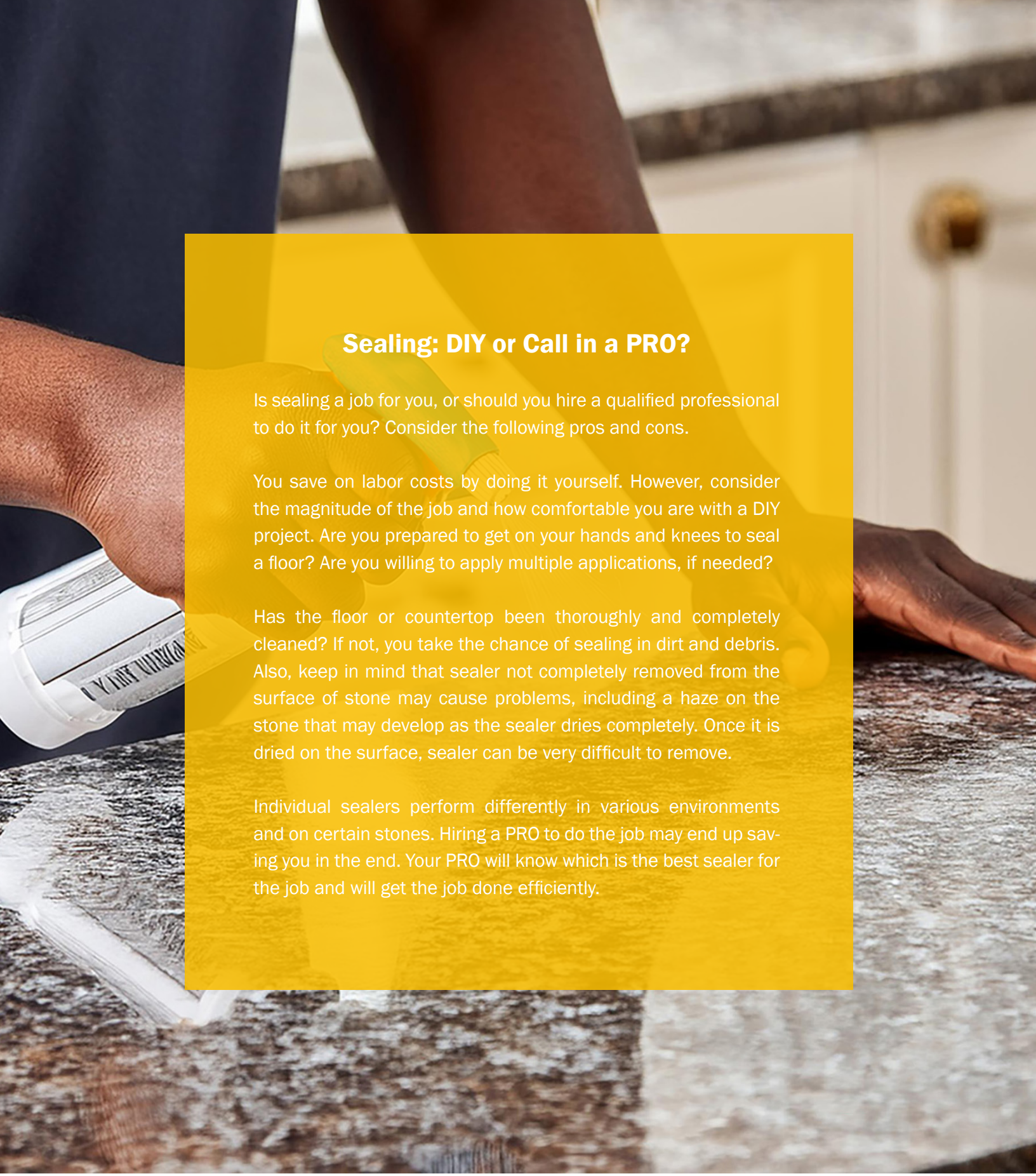
The calcium in marble and certain other stone types undergoes a chemical reaction when coming into contact with acidic substances–lemon juice, vinegar, wine or mixed drinks, cleaners, and the like. The damage is referred to as etching and typically appears as a dull spot on the stone finish. It is frequently, but erroneously, referred to as water spots. Stone countertops, bar tops, restaurant tables, vanity tops, desks and similar surfaces that see a lot of use are especially subject to etching. Today, very effective high-tech treatments are available for even the most acid-sensitive stones that provide an invisible barrier to protect the surface of the stone while still allowing the stone to breathe. These treatments also have the added benefit of providing protection from stains. Ask your stone PRO for more information.

Color Enhancing Sealing

While impregnating sealers will not alter the appearance of your stone, a color-enhancing (impregnating) sealer will protect the stone while bringing out its color, giving it a wet (i.e. darker, not glossy) look. It will, at the same time, provide good protection from water-based staining. Color enhancing sealers are typically used on tumbled marble, low-honed limestone and travertine, honed (black) granite, etc.

Avoid Waxes and Other DIY Coatings

Stay away from do-it-yourself topical coatings. They may look great at first, but can quickly begin showing unsightly signs of wear, scratches, and dullness and can also act like magnets, trapping contaminants.



Sealing: DIY or Call in a PRO?

Is sealing a job for you, or should you hire a qualified professional to do it for you? Consider the following pros and cons.

You save on labor costs by doing it yourself. However, consider the magnitude of the job and how comfortable you are with a DIY project. Are you prepared to get on your hands and knees to seal a floor? Are you willing to apply multiple applications, if needed?

Has the floor or countertop been thoroughly and completely cleaned? If not, you take the chance of sealing in dirt and debris. Also, keep in mind that sealer not completely removed from the surface of stone may cause problems, including a haze on the stone that may develop as the sealer dries completely. Once it is dried on the surface, sealer can be very difficult to remove.

Individual sealers perform differently in various environments and on certain stones. Hiring a PRO to do the job may end up saving you in the end. Your PRO will know which is the best sealer for the job and will get the job done efficiently.

GROUT SEALING AND COLOR SEALING

Grout is porous and will absorb liquids, which can permanently discolor grout and create a haven for bacteria growth. Sealing your grout provides a protective barrier that not only protects grout from stains, it makes routine cleaning and maintenance easier. Grout can be sealed with a clear sealer or it can be "color sealed," which is truly a game changer.

Clear Sealing

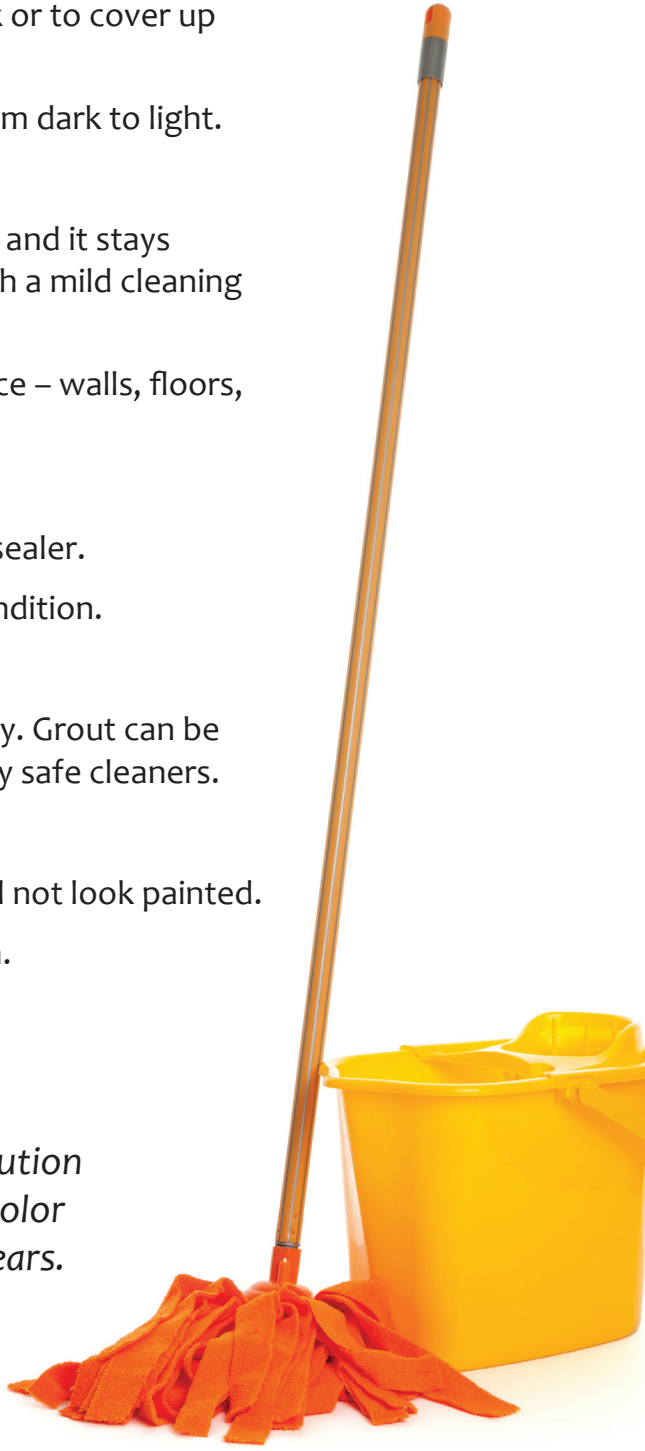
Having your grout sealed with a clear sealer makes it less porous and provides some degree of protection, assuming a good-quality sealer is used and is applied correctly. In this case, spills and stains will be less likely to permanently stain the grout. A common misconception that consumers have is that clear sealers are bulletproof. Although this is not the case, clear sealers will make daily maintenance easier, future restorations more effective, and will allow a little time to catch a spill before the grout is penetrated. Re-sealing grout lines will typically need to be done every six months to one year, depending on traffic and wear.

Color Sealing

On the other hand, color sealing typically protects the grout lines for years and makes the grout completely waterproof. If a high-quality color seal product is used and is applied correctly, the grout will look natural, not painted, and provide the highest level of protection available. For example, if you have a floor that has been color sealed, you can spill black coffee on white grout and let it completely dry. The seal is so effective that it can be wiped off of the grout with mild cleaner, without leaving a trace of any stain. A professional quality grout color seal product has anti-microbrial properties so mold and mildew stains on shower walls can be prevented, and keeping the grout looking great is so much easier.

WHY GROUT COLOR SEALING IS A GAME CHANGER

- Color sealing allows you to completely change the color of your grout, whether it is just for a new look or to cover up stained or discolored grout.
- Can change to virtually any color – even from dark to light.
- Grout will be uniform in color.
- Cleaning a color sealed tile surface is easier and it stays looking great for years. Damp mopping with a mild cleaning solution is generally all that is needed.
- Can be installed on any tile and grout surface – walls, floors, showers, and countertops, etc.
- Grout will no longer be porous.
- Stain resistant – spills will lie on top of the sealer.
- Old grout will be restored to a like-new condition.
- Anti-microbial properties.
- Aggressive cleaners are no longer necessary. Grout can be maintained effectively with environmentally safe cleaners.
- Will not chip, flake, or peel.
- Maintains the natural look of the grout; will not look painted.
- Looks better for longer vs any other option.



Damp mopping with a mild cleaning solution is generally all that is needed to keep color sealed grout floors looking great for years.

LET'S TALK ABOUT STAINS

An Important Rule of Thumb About Stains

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.***

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.

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 (absor-

bency) 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 will 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.

Polished 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.

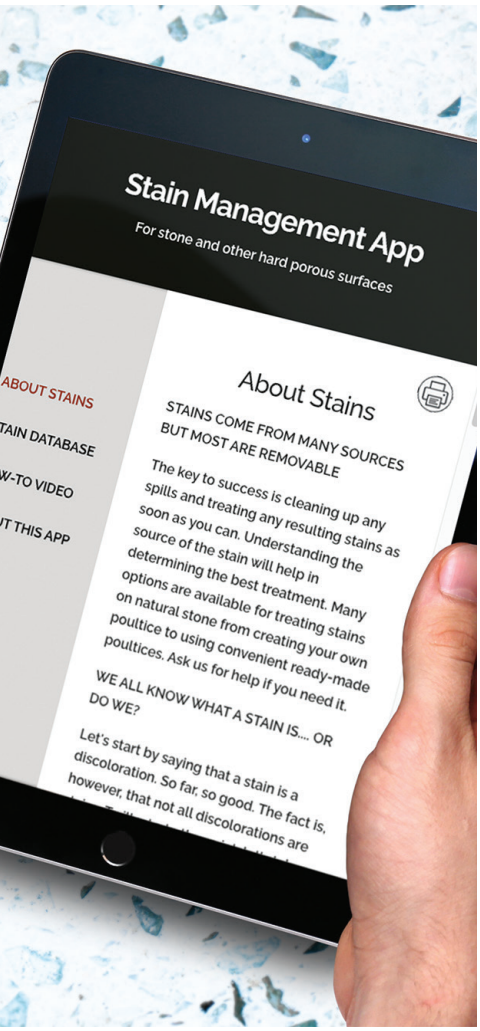
Technically, this is a small stone restoration project. Is this a task for the non-professional? The answer is maybe. If your stone is polished marble, travertine or onyx, then there's hope. If your stone is marble or travertine that has a honed or soft matte finish, hone-finished slate (like a chalkboard), 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.

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) will etch (corrode) 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 (learn more on page 23), and then etch damage can be repaired by refinishing the surface.



Video How-to

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 on our website.

HOW TO REMOVE A STAIN

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.

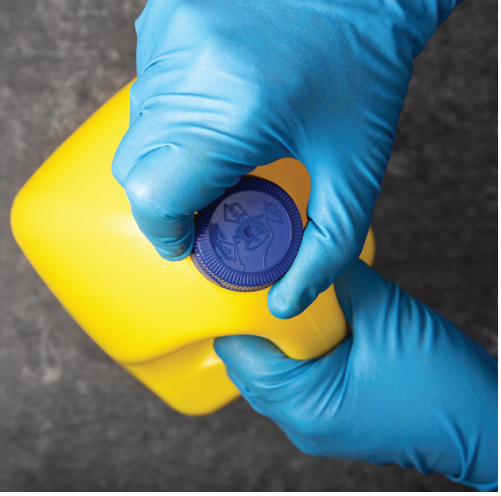
The absorbent part of a poultice could be (in order of preference): talcum powder (baby powder), paper towel, and for larger projects, diatomaceous earth (the white stuff inside your swimming pool filter), or household flour.

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

Important note: The following stain removal instructions are for natural stone, NOT Quartz Surface, which is a man-made material. Do not poultice Quartz with any solvent as it may 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.

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.)

Choose the Right Chemical

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 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 a white powder (to be dissolved in water) called Iron-out™, which can be found in any hardware store. There is also a product called RSR-2000 from Alpha Tools that is used and recommended by restoration contractors.

Preparing Your Poultice

Wear rubber gloves at all times while handling chemicals!

You will need a chemical and an absorbent medium.

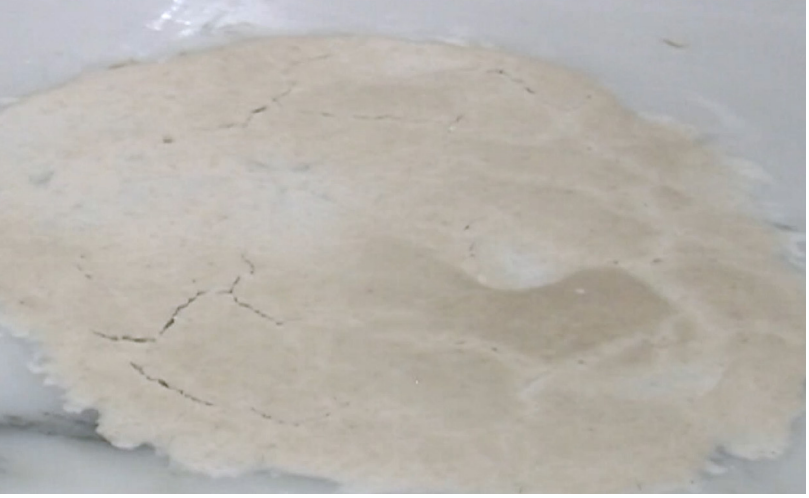
1. Using a metal spatula or spoon, mix the chemical and the absorbent medium in a glass or stainless steel bowl. The idea is to form a paste that is just a tad thinner than peanut butter, but not runny. If you are attempting to remove a metal (rust) stain, first dissolve the Iron-out™ with water according to the directions on the container, then mix with an equal amount of your abWsorbent medium*. Add more water if your mixture is too thick or more absorbent medium if it is too runny.

**If you are using 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 go to step 3.*

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 the poultice is completely dry, proceed to step 6. If it is not yet completely dry, leave it uncovered until it dries completely.



5. Allow the poultice to dry thoroughly. It may take from a couple of hours to a couple of days or better, depending on the chemical. 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 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.

10 POTENTIAL STONE PROBLEMS
AND WHAT TO DO ABOUT THEM

Marble, granite, limestone and other decorative stones are durable materials that will last a lifetime. However, if stone is not installed correctly or properly cared for, problems may result that will shorten its life. The following are the most common problems that may occur:

1. Loss of Shine

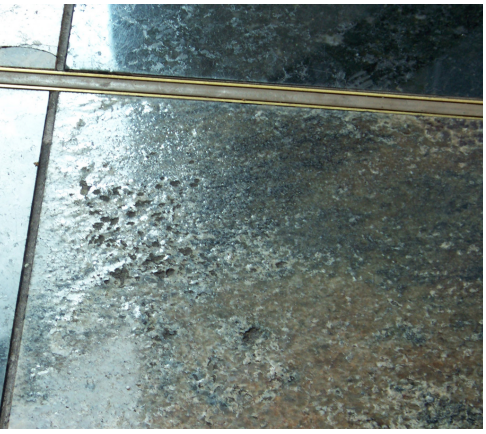
The loss of the high polish on certain marble and granite can be attributed to wear. This is especially true of marble, since it is much softer than granite. Dirt and sand tracked in on the bottoms of the shoes can act like sandpaper on a stone floor surface and will wear the polish off over time. A stone restoration professional can restore the polish using a number of different techniques.

2. Etching

The dull, whitish spot created when liquids containing acids are spilled on marble is called etching. Marble and limestone etch very easily. Granite is very acid-resistant and will rarely etch. To prevent etching, avoid using cleaners and chemicals that contain acids. Light etching can be removed with a little effort and a good marble polishing compound. Deep etching or large areas will require the services of a restoration professional.

3. Stains

Some stone surfaces can become stained easily if they are not properly sealed. Many foods, drinks, ink, oil and rust can cause stains. Most stains on stone can be removed. For some more difficult stains, professional techniques by a stone restoration provider may be the only hope. Permanent stains can occur. For more information, see the Stain Management section in this guide.



4. Efflorescence

Efflorescence appears as a white powdery residue on the surface of the stone. It is a common condition on new stone installations or stone that has been exposed to a large quantity of water, such as flooding.This powder is a mineral salt from the setting bed. To remove efflorescence do not use water. Buff the stone with a clean polishing pad or #0000 steel wool pad. The stone will continue to effloresce until it is completely dry. This drying process can take several days to as long as one year. Do not seal the stone until all efflorescence is gone.

5. Spalling, Flaking and Pitting

If your stone is developing small pits or small pieces of stone are popping off the surface (spalling), then you have a problem. This condition is common on stone exposed to large amounts of water or de-icing salts. Like efflorescence, mineral salts are the cause for spalling. Instead of the salts depositing on the surface (efflorescence) they deposit below the surface of the stone, causing pressure within the stone, which, in turn, causes stone spalls, flakes or pits. Unfortunately, once a stone begins to spall, it is almost impossible to repair. It is recommended that the stone be replaced.

6. Yellowing

Embedded dirt and grime can give stone a yellow, dingy look. Waxes and other coatings can yellow with age. Certain stones will naturally yellow with age as a result of oxidation of the iron within the stone. This is especially problematic with white marbles. If the yellowing is caused by dirt or wax build-up, have the stone cleaned with an alkaline cleaner or wax stripper. This may be a job best left to professionals. If the yellowing is the result of aged stone or iron oxidation, it is impossible to remove.

7. Uneven Tile (Lippage)

Lippage is the term given to tiles that are set unevenly. In other words, the edge of one tile is higher than the next. Lippage is the result of a poor installation.If the lippage is higher than the thickness of a nickel, it is considered excessive. A restoration contractor can grind the tile to flatten the floor.

8. Water Rings/Spots

Water rings and spots are very common on marble and other natural stone surfaces. They are either areas that have become etched or are created from hard water minerals such as calcium and magnesium that are left behind when water evaporates. To remove either type of these spots, use a marble polishing compound. Moderate to severe etching or larger damaged areas will require professional honing by a stone restoration contractor.

9. Cracks and Chips

Cracks in stone can be caused by settling, poor installation, inadequate underlying support or excessive vibration. Chips can result from a bad installation or when a heavy object falls on a vulnerable corner. Repairs can be done by your professional stone restoration contractor by filling with a color-matched polyester or epoxy.

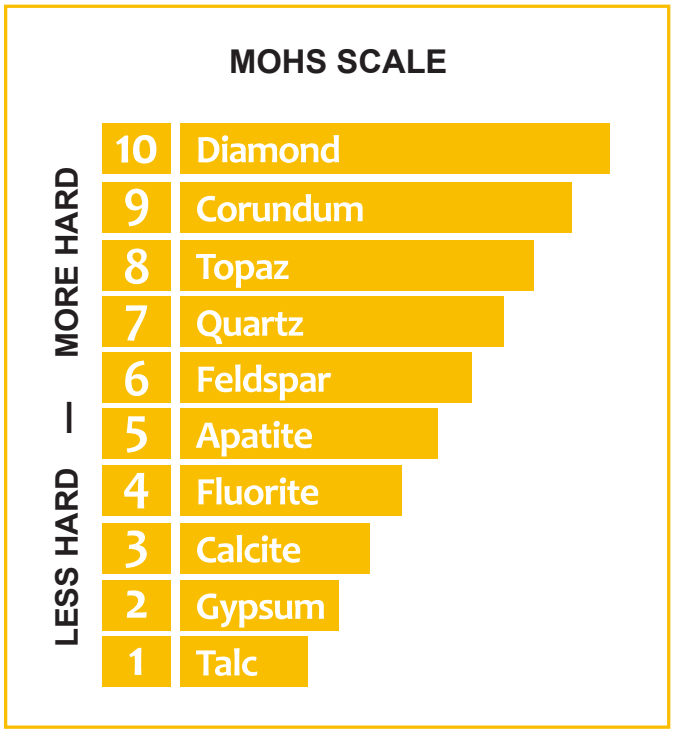
10. White Stun Marks

Stun marks appear as white marks on the surface of the stone and are common in certain types of marble. These stuns are the result of tiny explosions inside the crystal of the stone. Pin-point pressures placed on the marble cause these marks. Women's high heels or blunt pointed instruments are common reasons for stun marks. Stun marks can be difficult to remove. Professional grinding and/or honing can reduce the number of stuns, but some travel through the entire thickness of the stone.

ABOUT STONE

Practicality with enduring beauty... Natural stone is a timeless and versatile material that has been used in construction and design for centuries. Renowned for its durability, unique textures, and rich colors, natural stone adds both aesthetic value and functionality to any space. Each type of stone, from the robust granite to the elegant marble, brings its own set of characteristics, making it suitable for a variety of applications, whether in flooring, countertops, or architectural features. The natural beauty of stone lies in its variation, as no two pieces are exactly alike, offering a one-of-a-kind look that can elevate the design of both residential and commercial spaces.

Different stones possess unique properties that influence their care and maintenance requirements. For instance, some stones are acid-sensitive and will react negatively when exposed to acidic spills, potentially leading to etching or discoloration. Additionally, certain stones are softer and more delicate, making them more prone to scratching and wear compared to harder stones. The Mohs Scale of Mineral Hardness is a widely used tool to assess a stone's hardness, providing a reference point to determine its durability and resistance to scratching.



In 1812 the Mohs scale of mineral hardness was devised by the German mineralogist Frederich Mohs (1773-1839), who selected the ten minerals because they were common or readily available. The scale is not a linear scale, but somewhat arbitrary. An item with a higher Mohs value can scratch an item with a lower Mohs value. A lower-rated item cannot scratch a higher-rated one.

When sediment and grit are harder than the surface, they will scratch and harm the stone.

Marble

Marble is a metamorphic rock known for its elegant, smooth surface and distinctive veining patterns. Formed from limestone subjected to heat and pressure, marble is prized for its beauty and is widely used in sculpture, architecture, and interior design. Commonly found in shades of white, gray, and beige, marble can also feature a range of other colors depending on mineral impurities. While it offers a luxurious appearance, marble is softer and more porous than other stones like granite, requiring maintenance to preserve its polished finish and prevent staining.

Marble, as well as other calcite-based stones will etch when acid comes in contact with them. Special care will need to be taken if marble or other stones containing calcium carbonate are installed in kitchens or other places where the spilling of acidic liquids is highly likely. However, new topical treatments are available that provide an etch-resistant protective barrier allowing even the most delicate marble to be used worry-free in kitchens and bars. Marbles and other calcite-based stones are relatively soft stones, typically around 3-5 on the Mohs Scale, so care should be taken to avoid scratching.

Granite

Granite is a durable and dense igneous rock primarily composed of quartz, feldspar, and mica. Its resistance to acids, heat, and scratches makes it an excellent choice for kitchen countertops, where both functionality and aesthetics are key. Known for its speckled appearance and wide range of colors, granite is highly valued in both residential and commercial settings. With a hardness of around 7 on the Mohs scale, granite is exceptionally resistant to scratches, ensuring its longevity and maintaining its ristine look over time. The natural beauty and elegance of granite not only add prestige but also provide a practical, long-lasting stone.

Limestone

Limestone is a sedimentary rock composed mainly of calcium carbonate, often formed from the remains of marine organisms like coral and shells. It typically has a soft, earthy texture and can range in color from white and gray to tan and even blue. Limestone is widely used in construction for building materials, flooring, and decorative elements due to its natural beauty and ease of shaping. However, it is more porous and less dense than stones like granite and marble, making it more susceptible to weathering and requiring careful maintenance when used in outdoor or high-traffic areas. Limestone typically ranks around 3 to 4 on the Mohs Scale.

Onyx

Onyx is a calcite-based stone. It is characteristically translucent and is known for its rich, layered bands of color that can range from soft pastels to deep, vibrant hues. Due to its delicate nature and distinct aesthetic, onyx is typically used in decorative applications, such as countertops, furniture tops, wall panels, and statement pieces like vases and lighting fixtures. While visually captivating, onyx is softer and more brittle than other natural stones requiring careful handling and maintenance to prevent scratches and damage. Onyx typically ranks around 6.5 to 7 on the Mohs Scale. This makes it relatively durable, though still softer than many other natural stones like granite or quartz. Its hardness is sufficient for decorative and low-traffic applications, but it requires careful handling to avoid scratching or damage.

Quartzite

Quartzite is a natural stone. Sandstone that is subjected to heat and pressure forms quartzite. Quartzite's appearance can be veined like marble, have more solid coloring, look like crushed crystals, or a combination of these features. On the Mohs Scale, quartzite is usually around a 7 or 8. Quartzite is very durable, but subject to staining or etching like most natural stones. Since quartzite is porous, sealing it can help inhibit staining, but regular impregnating sealers cannot prevent etching. There are new treatments available for quartzite countertop etch protection. Maintenance requirements include frequent cleaning with a stone-safe, pH-neutral cleaner and periodic professional restoration services, which may include honing, polishing, cleaning, and re-sealing.

Sandstone

Sandstone is a porous, durable sedimentary rock composed of cemented sand-sized grains, predominantly quartz. It is categorized by the most popular bonding agents such as silica, calcium, clay, and iron oxide. It is commonly used for flooring, countertops, and vertical surfaces in both interior and exterior environments. It is known for its warm, earthy tones, which can range from pale beige and gold to rich reds and browns, often with subtle striations and patterns that add natural beauty to any setting. Sandstone's porous texture makes it an excellent material for outdoor applications such as patios, walkways, and garden walls, where it blends seamlessly with natural surroundings. While it is sturdy and weather-resistant, sandstone may require sealing to protect it from moisture and wear, ensuring its lasting appeal in both indoor and outdoor spaces. Sandstone typically ranks around 6 to 7 on the Mohs Scale. This range can vary depending on the specific composition of the sandstone, particularly the proportion of quartz, which is a primary component and has a Mohs Scale hardness of 7. The presence of other minerals can slightly lower the overall hardness, but generally, sandstone is considered to have moderate hardness.

Slate

Slate is a fine-grained, metamorphic rock known for its layered structure and distinctive texture. It ranks around 4 on the Mohs Scale. Typically ranging in color from gray and black to green, red, and purple, slate is valued for its durability and natural beauty. Its unique ability to be split into thin, flat sheets makes it an ideal material for roofing, flooring, and wall cladding. Slate is also resistant to moisture, temperature fluctuations, and wear, making it suitable for both indoor and outdoor applications. Its rich, earthy tones and natural cleft surface add a rustic yet refined look to any space.

Soapstone

Soapstone is a soft, smooth, and non-porous natural stone known for its rich, deep colors, typically ranging from light gray to dark charcoal, with subtle veining patterns. Composed primarily of talc, which is a 1 on the Mohs Scale, soapstone has a unique, almost soapy feel, which gives it its name. This stone is prized for its durability and resistance to heat, stains, and acids, making it an excellent choice for kitchen countertops, sinks, and fireplaces. Unlike other natural stones, soapstone develops a beautiful patina over time, darkening and gaining character with age and use, which enhances its rustic charm and appeal.

Travertine

Travertine is a type of limestone, but differs from other forms in that it is formed in hot springs called karst. The water movement in these karst erodes the travertine, creating holes in the stone.

It is characterized by its porous surface and unique, earthy colors, ranging from ivory and beige to warm browns and rusts. The stone often displays a fibrous or concentric texture, giving it a distinct, natural appearance that adds warmth and elegance to both indoor and outdoor spaces. Travertine is commonly used in flooring, wall cladding, and countertops, as well as in outdoor landscaping for patios and pool surrounds. While it is durable, its porous nature requires sealing to protect against stains and moisture, making regular maintenance important to preserve its beauty.

Dolomite

Dolomite is a versatile and durable natural stone characterized by its stunning range of colors, from soft whites and grays to light beige, often featuring delicate veining and subtle patterns that add visual interest. Composed primarily of the mineral dolomite, it ranks between 3.5 and 4 on the Mohs Scale, giving it a moderate level of hardness and making it slightly more resistant to scratches than marble. Dolomite's dense, fine-grained structure provides a smooth, consistent texture that is both pleasing to the touch and highly functional. Its resistance to heat and moderate porosity make it a suitable choice for a variety of applications, including kitchen countertops, bathroom vanities, and flooring.

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WHO YOU HIRE MATTERS

When it comes to natural stone and tile care—whether inside your home or outdoors—not all service providers deliver the same level of craftsmanship, protection, and long-term value. Homeowners should never settle for anything less than personalized service, a strong reputation for excellence, proper insurance, and affiliations with respected industry organizations. Anything less is a gamble with your home, your investment, and the lasting beauty of your surfaces.

A true professional takes the time to understand your specific needs, assess the condition and challenges of your stone or tile, and recommend the right care solutions. It's not just about cleaning, restoring, or sealing—it's about doing it correctly, with proven methods and high-quality products that protect your surfaces from wear, moisture, weather, and time.

There's a big difference between a true stone care professional and someone simply offering the service. Without the proper knowledge and hands-on expertise, poor workmanship can result in substandard outcomes—or irreversible harm to your surfaces.

As Consumer Reports warns, one of the most common mistakes homeowners make is "being seduced by price alone." A low quote may seem appealing, but

it often comes at the expense of quality workmanship, appropriate materials, and lasting results.

You wouldn't trust the cheapest contractor with your home's foundation—your stone and tile surfaces deserve that same level of respect and consideration. The old saying is true: "Some of the most expensive work you'll ever pay for is cheap work." Poor-quality service can lead to costly repairs, replacements, or even safety hazards in the future.

Real value isn't about the lowest price—it's about investing in expert care, durable solutions, and peace of mind. Choose a provider who prioritizes long-term protection, understands the materials, and delivers results that preserve the beauty and integrity of your stone and tile for years to come.

> *Not all stone and tile restoration providers are created equal. Never settle for less than personalized service, professional industry affiliations, proper insurance, and proven methods. Anything less is a gamble. Low prices may tempt, but real value lies in skilled care and lasting results.*

WHAT IS STONE AND TILE RESTORATION?

Stone Restoration

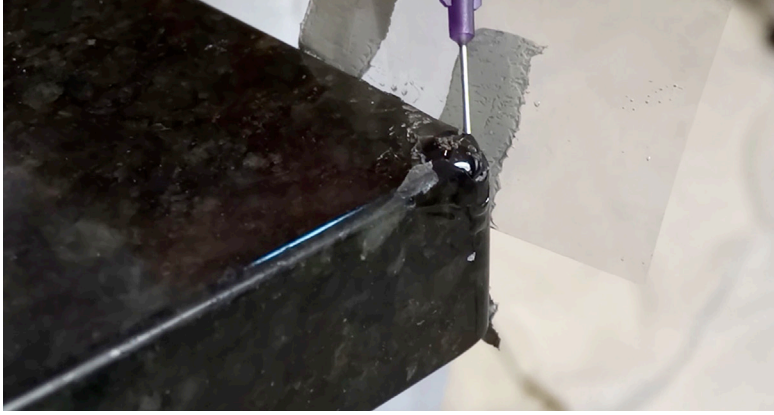
Generally speaking, restoration of stone is the restoring of worn stone to the state in which it was installed. It may also entail the altering of the stone's original factory finish to match a desired finish of the installation's owner or management. In some cases an owner may desire a polished surface to be honed or vice versa.

Restoration is a process that can only be done by a professional stone restoration company. Your typical maintenance/janitorial or tile and grout cleaning company will not have the proper tools or training to restore natural stone. Do not compare bids on cost alone. You must have confidence that the restoration contractor understands the stone and has the proper equipment and experience to meet reasonable expectations.

What is Involved?

Restoration of marble, granite, limestone, travertine or other natural stone involves the removal of scratches and/or other damage from the surface of the stone. The optimal method is mechanical abrasion using artificial diamond infused pads made specifically for this purpose. Diamond grinding or honing gives better clarity and reflectivity than other methods, such as the use of sanding screens, honing powders or crystallization. A stone floor that has been restored with diamonds will also retain its look longer than it will with the use of these other methods. While the use of diamonds may cost you more in the beginning, having your floors redone every 3-5 years compared to every 1-2 years (as with other methods) will cost you less and protect your investment better in the long run.

Natural stone reflects light and therefore does not need a topical coating or wax to achieve this desired finish. It only needs a series of diamond grits used in the proper or-



der by a craftsman who is experienced in their use. This is followed by a careful polishing technique that can only be mastered through experience. A restoration professional will also take care to protect the surrounding surfaces from damage. The diamond grinding technique involves using water and this could be damaging to wood and carpet if measures are not properly taken to protect these surfaces, walls, baseboards, appliances, etc.

Honing–Honing will remove minor scratches and wear from everyday foot traffic. This process is also done by machine with diamond abrasive pads and water that creates no dust.

Polishing–Gives marble or natural stone the sheen you want, enhances the veining in marble and protects the marble or stone from everyday traffic and spills. The same compounds that are used in the fabricating process are utilized.

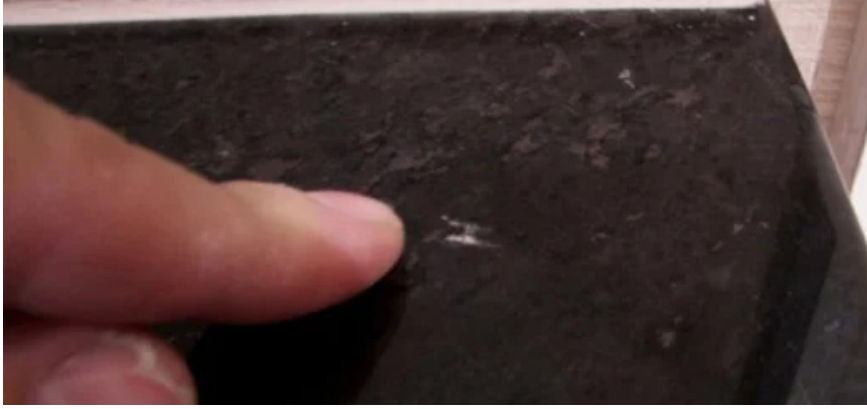
Alter a Finish–A stone's finish can be changed. For example, a honed finish can be changed to a polished finish and vice versa. Special brushes and techniques allow for additional decorative finishes.

Cleaning–Removes dirt, stains, bacteria and also removes waxes and polymers that have become embedded. (Cleaning alone will not remove dullness from etch marks and scratches.)

Sealing and Protecting–To protect the surface from stains and etching. May also provide additional surface benefits.

Color Enhancing–The use of penetrating sealers / impregnators formulated to enhance or enrich the color of certain types of stone.

Crack and Chip Repair–Cracks and chips in stone can be filled.



Reparing Breaks– Repairing breaks involves reattaching cracked or broken pieces of stone with specialized adhesives, filling any gaps, and blending or polishing the area so the repair is as seamless and structurally secure as possible.

Fill Pits and Blemishes–Both limestone and travertine imperfections are filled at the factory. Unsightly blemishes that occur when factory fill fails or new ones develop can be filled.

Grinding–Grinding will remove deep scratches and lippage (uneven tile edges). This process is done by special floor machines with diamond abrasive pads and water that creates no dust.

Seam Polishing–Very visible seams in countertops can be filled and mechanically polished to appear less noticeable.

Stripping–Removes coatings that can block a stone's ability to breathe, which causes spalling (when the stones crack, pop and shale). Some examples of common coatings are crystallization, janitorial waxes and polyurethane.

Tile and Grout Cleaning, Sealing, and Repair

Regular cleaning and janitorial services may clean tile and grout floors and surfaces, but their methods, equipment, and solutions are very limited compared to those of a professional tile and grout cleaning and sealing contractor. To state it plainly, mops and scrub brushes simply cannot achieve the dramatic results many home and business owners need.

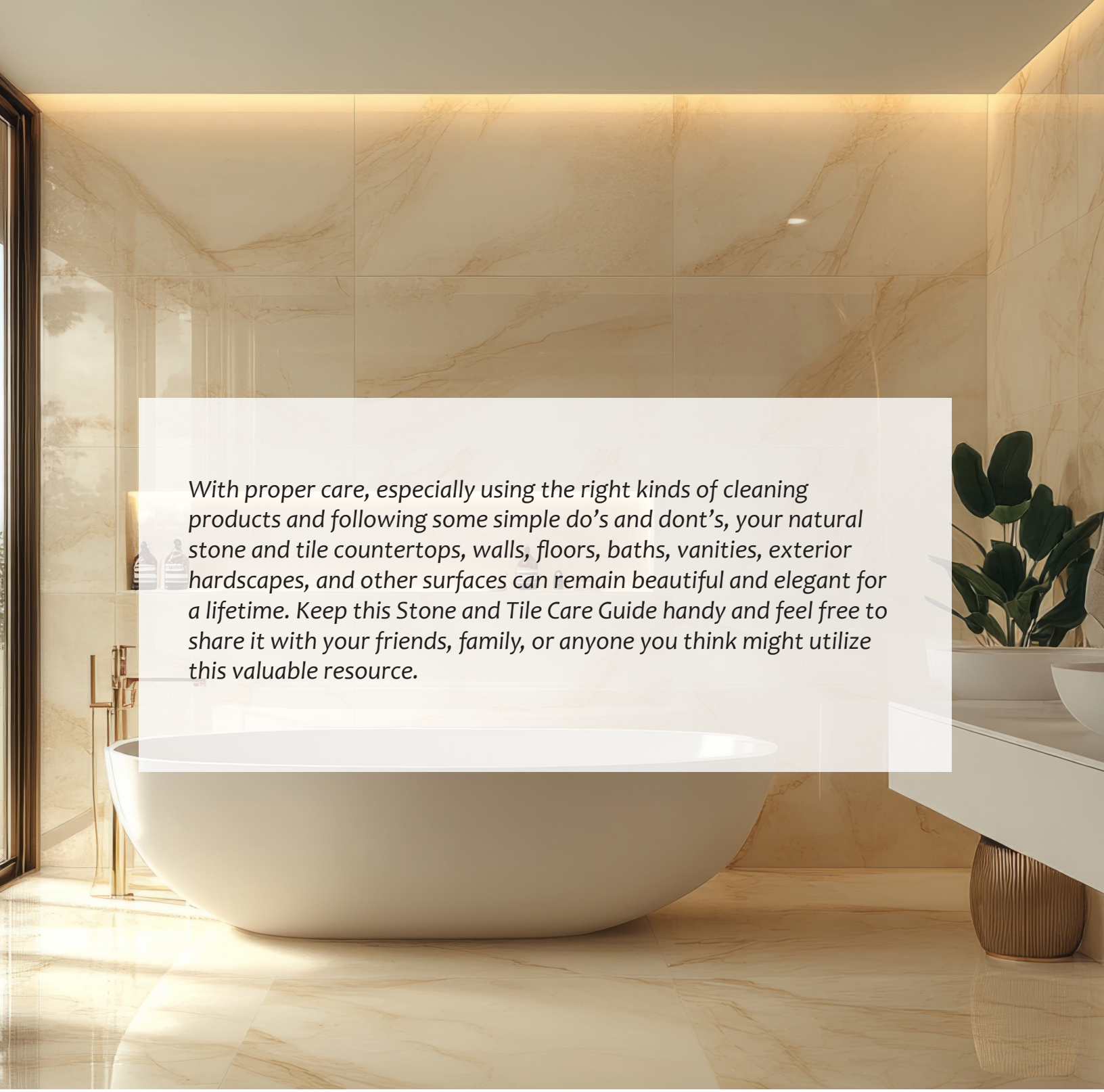
Grout lines inevitably become dark. Tile grout can get little dings and stains over the course of time with regular use and traffic. With some intense scrubbing, grout lines can be sanitized, but keeping grout clean longer than a week or two can be an especially challenging and time-consuming task that never ends. Even extremely clean, sanitized tile and grout can look as if it were poorly maintained if the grout lines have become discolored. Professional tile and grout cleaning, sealing, and restoration contractors can

provide long lasting solutions to such common problems.

A professional tile and grout cleaning and sealing contractor will use effective methods to deep clean and sanitize tile and grout floors and surfaces, leaving them fresh, clean, and inviting. They will also provide grout sealing options.

Grout Cleaning and Sealing–Dirt loves to hide in grout. Brushes cannot penetrate into the micro pores to get all of the contaminants out. Grout can be cleaned to like-new, and then sealed to facilitate easier ongoing maintenance. Grout color sealing gives grout a like-new, uniform appearance and provides numerous advantages over clear grout sealer.

Repairs–Tile and grout repair and restoration services includes fixing grout cracks or filling in missing grout, as well as tile replacement.



With proper care, especially using the right kinds of cleaning products and following some simple do's and dont's, your natural stone and tile countertops, walls, floors, baths, vanities, exterior hardscapes, and other surfaces can remain beautiful and elegant for a lifetime. Keep this Stone and Tile Care Guide handy and feel free to share it with your friends, family, or anyone you think might utilize this valuable resource.

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