

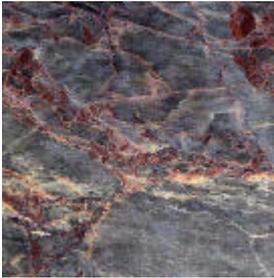
HIRING A STONE RESTORATION PRO

RESTORATION & POLISHING

So your marble is dull, scratched and in major need of help! Out come the Yellow Pages; you call several marble refinishers and set up a few appointments. How hard can it be? You'll get a few estimates, check some references and select a professional to do the job. And then the fun begins. The first professional tells you that your floor needs to be ground flat in order to be fixed properly. The second professional tells you he can hone and polish it—no grinding required. The third professional tells you he only needs to re-crystallize the marble to make it look like new. Now that you're totally confused, how do you determine who's right? What's the difference between grinding and honing? What are polishing and "re-crystallization?" The information provided by Marble Restoration Services Ltd. will arm you with enough knowledge of these terms to help you ask the right questions.

WHY DOES THE STONE SHINE?

When stone becomes dull and scratched, it obviously loses its shine and luster. At this time the stone needs to be refinished and polished to restore the shine it had originally. Why does stone shine, and how can a lost shine be recovered?



All stone is taken from the earth in the form of raw blocks. Explosives, large saws and specialized equipment are used to extract the stone from the earth. The stone blocks are then cut into thinner, more easily handled pieces called slabs. The slab itself is then processed, depending on the intended use of the stone. It may be given a high shine and shipped to a marble fabricator, who will ultimately turn it into a table, vanity top or whatever; or it may be transformed by some very expensive and sophisticated equipment into tiles for installation on floors or walls.

The deep shine we see on polished stone is achieved by rubbing the stone with a series of abrasive materials. The process is very similar to sanding a piece of wood. The stone is rubbed with a coarse abrasive grit, followed by finer and finer grits until the stone becomes smooth. The scratches left behind from one grit are removed by the next, creating finer and finer scratches. The process continues until the scratches are microscopic. The shine on the stone is achieved by abrading the surface to the point at which it becomes extremely smooth and starts to develop some reflectivity. The shine on the stone is thus a product of optics. This same optical property can be observed on a pond. When the wind is blowing and the surface of the pond is wavy, it becomes difficult to see a reflection; when the air is still and the pond is calm, a deep reflection can be observed. So in order to achieve a deep shine on your stone all that really needs to be done is to smooth it until it shines.



Sounds simple enough, doesn't it? Unfortunately, the techniques employed to achieve this degree of smoothness require special knowledge and training. *This is not a friendly territory for the do-it-yourselfer.*

To help clear up the confusion, let's define some terms, and then move on the all-important issue of selecting a stone professional.

GRINDING / LEVELING



Grinding (leveling) is the process by which the surface is aggressively sanded to remove large stocks of the stone. This process is usually recommended when stone tiles are uneven. Lippage is the term given to uneven tiles that are set higher than one another. Grinding is recommended when the lippage exceeds 1/8 inch or if one desires to have a completely flat floor.



There are some very good reasons for grinding a stone floor flat. A flat floor is easier to maintain; since there will be no lips where dirt can accumulate. The grinding process, if performed correctly, will also eliminate depressed grout joints—the grout will be even with the tile's surface so that dirt and grime can't accumulate. A completely flat floor eliminates all unevenness, giving the floor the illusion of being monolithic (one piece).

Note: a stone floor does not necessarily have to be grinded to remove scratching. Skilled Marble Restoration Services Ltd. craftsmen can repair it without grinding.

Just as there are several good reasons for grinding, there are also some disadvantages. Grinding is very time-consuming and expensive; with some hard stones, like granite, it can take an entire day to grind 50 square feet. The grinding process is also very messy. Copious amounts of water are needed to grind a stone floor and produce heavy slurry of stone and water. If adjacent areas such as carpet, wallpaper, baseboards, etc., are not protected properly, water damage may occur.

Before deciding on grinding, all the above considerations must be carefully evaluated.

HONING (OR REHONING)

Honing is the process of smoothing the stone with the use of abrasives. Although not as aggressive as grinding, it does require the use of water, and can also be quite messy. Honing is performed to remove scratches, and will not remove lippage (uneven tiles).



It can, however, round the edges of the stone, giving a smoother finish to the edge.

The honing process is usually achieved with the use of diamond abrasives, although some contractors prefer silicon-carbide bricks or screens. Which abrasive is used is not as important as the skill level of the craftsmen. Honing can leave a stone floor with very little shine, although some stones will acquire a satin-like luster at very high hones.



You may hear the contractor talk about grit sizes when discussing the honing-and-grinding process. The following table will serve as a guide to grit sizes. The lower the number, the more aggressive the grit. Generally, grinding is what takes place using any grit of 60 or below; honing begins at 120 and proceeds upwards. A skilled Marble Restoration Services Ltd. craftsman will generally stop at a 600 or 800 on marble before polishing. With granite, it is usually necessary to proceed through to the highest grit. Some craftsmen may choose to polish with diamond abrasives to the highest grit, producing a very

high polish, while others may choose to switch from a diamond to a powdered abrasive. Whichever method is chosen, the final result is what counts.

POLISHING

As previously mentioned, the high shine observed on stone is the result of smoothing it with fine abrasives. Most craftsmen will use diamond abrasives to hone the stone, and then switch to a powdered abrasive to achieve the final polish. Powdered abrasives contain superfine crystals of aluminum oxide or tin oxide. These powders are usually white, but can be yellow, brown gray or black.



The abrasive powder is worked into the stone with a floor machine (buffer) using water and cloth or polyester fiber pads. The powder is worked into slurry until a polish is achieved. The craftsman removes the slurry with a wet-vac and rinses the floor to remove excess powder. It's a relatively simple procedure, but it requires a good deal of practice for several reasons. Many polishing powders contain a compound known as oxalic acid, which is used to speed the polishing process, and if too much powder is used, the stone can burn. A burned floor has a characteristic dimpled appearance; the stone will have a molten, plastic shine. This burned appearance is commonly called "orange peel," for reasons that are obvious to anyone who sees it. If the craftsmen orange-peels the floor, he will have to re-hone the floor to remove it. On the other hand, if too little powder is used, the final polish may not be achieved. You can be comfortable to know that Marble Restoration Services Ltd. craftsmen are familiar with the powder polishing technique.

RECRYSTALLIZATION

The term re-crystallization has entered the language of the marble polishing field to describe a process used to maintain a shine on marble surfaces. Re-crystallization can also be called "vitrification" or incorrectly called "marble polishing." The procedure has been used in the United States since the 1970s, and has generated some controversy among the experts. Before we discuss the pros and cons of this process, we need to take a look at what it actually entails.

The re-crystallization process consists of spraying a fluid onto the marble floor and buffing it in with steel wool under a standard buffing machine. The steel wool generates heat through abrasion and the chemical reacts with the marble, producing a new compound on the surface of the stone.

Sounds simple enough, so why the controversy? Proponents of the process claim the new compound formed protects the surface of the stone, adds shine and may even harden the stone, increasing its wear. Opponents of the process claim that the new compound that is formed blocks the stone's ability to "breathe," traps moisture and causes the stone to rot.

Both sides have put forward convincing arguments, but at this time, the jury's still out. If you opt for re-crystallization, it is extremely important that the process be carried out only by trained professionals who are thoroughly familiar with it.

One additional note: the re-crystallization process can only be applied to marble and limestone. Re-crystallization cannot be used on granite, quartzite and sandstone.

WHICH PROCESS TO CHOOSE?

It is very difficult for an untrained eye to evaluate your marble floor. Look for advice. It is free, by the way.

Contact Marble Restoration Services Ltd., ask the right questions and, if possible, e-mail us the digital pictures of your stone.



Marble Restoration Services Ltd. is happy to help with as little as help, advice or recommendations over the telephone; or, as much as undertaking major restoration at your property. You can easily contact us 24 hours a day 7 days in a week.