

When cleaning and maintenance products for natural stone are chosen, it is of the utmost importance to know if the natural stone contains lime (**marble or limestone**) or not (**granite**). Natural stones containing lime are not acid-resistant and many cleaning products are acid-based. It is important to use **as less water as possible** when cleaning natural stone, since too much water can possibly damage the stone.

Maintenance of a floor or kitchen top is influenced by different factors:

- the texture of the surface: smooth surfaces can be more easily cleaned than rough surfaces. For rough surfaces, it can be interesting to put a coating in order to ease the maintenance.
- absorbing surfaces: the way a surface absorbs has a large influence on the effect of staining on the surface. Absorption can be influenced by using a coating or impregnation product for more absorbing natural stone types (see further).
- The amount of dirt to be expected: intensively used floors will become more quickly dirty than sporadically used floors.

The choice of maintenance and cleaning products must be adapted to the type of natural stone and its surface roughness, and the amount of dirt to be expected. For the use of the products mentioned in the following text, we refer to the product information from the suppliers (see bottom of text).

A) FLOORS IN NATURAL STONE:


1. Cleaning in the first three to six months

During installation, care has to be taken to avoid the formation of a cement veil. To remove such a cement veil after installation and jointing, adapted products can be used. **Attention: never use acid products on natural stone containing calcite (limestone, marble, sandstone,...)**. The first cleaning can be done about 1 week after the jointing of the floor. For granites, Lithofin MN BUILDERS CLEAN (acid-based !!) can be used for example. For lime containing natural stone, Lithofin MN POWER CLEAN (not acid-based) can be used. After removing the cement veil, the floor needs to dry out sufficiently before applying possible protection products.

The first months, cleaning will be mainly vacuuming or using a very well wrung out cloth with clear tap water. This period corresponds to the mean period of drying. The more water used for the installation of the floor, the longer this drying period will be. **Do not use protective products during this period; they will slow down or block the drying process.** An adapted maintenance product can be added to the cleaning water (for example Lithofin WASH&CLEAN) to give the stone the necessary patina. For **non-polished, more porous** limestones (e.g. Combe Brune), neutral flake soap (Marseille type soap) can be used. It gives the surface a light, matt patina. It is extremely important that this soap is used in the correct proportion of soap and water (30 cm³ or 1 handful per 10 liters of water), because soap remains can cause irregular stains on the surface. That is why this product is neither used on polished surfaces nor on very compact natural stone. During the dehydration period, matt spots, lime veils may appear on lime-containing stone. They disappear gradually according to the amount of moisture in the subsoil. The use of cleaning water during this period will only deteriorate the problem. It is recommended to use the minimum amount of water.

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2. Protective products

When the natural stone surface is completely dry (3 to 6 months after jointing, depending on the method of installation), the stone can be treated in humid spaces (e.g. bath rooms) and spaces sensitive to staining (e.g. kitchen). Protective products are meant to reduce the penetration of dirt and the risk of staining. Some products may improve the gloss and wear resistance, or will protect the surface against graffiti. Different types of protective products exist: waxes, soaps, coatings, impregnation products,...

Impregnation products have the advantage that they penetrate into the pores of the natural stone and thus wear off less easily for floor applications. Impregnation products can make the surface water-repellent (hydrophobic), but also water- and oil-repellent (hydro- and oleo phobic). Such protective products need to be applied on a dry and clean surface. Depending on the type of natural stone, following impregnation products are recommended to make a surface water- and oil-repellent:

- marble / white limestone / sandstone: Lithofin STAINSTOP MN
- polished granite: Lithofin STAINSTOP MN or Lithofin STAINSTOP W
- honed granite or rough surface (flamed, bush-hammered, Anciento,...): Lithofin STAINSTOP W or Lithofin STAINSTOP MN (darkens the surface a little bit)
- honed / flamed / Anciento basalt: Lithofin STAINSTOP W or Lithofin STAINSTOP MN (darkens the surface a little bit)
- bluestone (NOT POLISHED): Lithofin STAINSTOP W
- slate: Lithofin STAINSTOP MN or Lithofin STAINSTOP W

Color intensifiers are mostly impregnation products that will only render the surface water-repellent. But they will create a “wet-look” and will accent the colors of the stone, without giving it a glossy effect. They are only applicable on non-polished surfaces. Color intensifying products must only be applied on surfaces that are clean and are not yet treated with another product. These products need to be applied homogeneously.

3. Daily maintenance

After the drying period and the possible application of protective products, the cleaning/maintenance is done with clear tap water and an adapted maintenance product. The use of water needs to be limited to the minimum. Products suitable for the maintenance of natural stone are available on the market, for example Lithofin WASH&CLEAN. **These and all preceding and following products need to be adapted and tested for use with the specific type of natural stone. The guidelines and instructions of the supplier need to be followed. Acid products are prohibited.**

The frequency of regular cleaning/maintenance depends on the amount of dirt that reaches the floor and the admissible degree of “pollution”. The visibility of dirt depends on the aspect and the color of the stone. The way dirt sticks to the surface or penetrates the surface depends on its porosity and surface-roughness.

Loose particles of dirt must be removed in a dry way (vacuum-cleaning). Dirt sticking to the floor must be cleaned with a minimum amount of water and adapted cleaning products. A cleaning product must remove the dirt and cannot be harmful to the natural stone tiles and their surface finishing, the joints and possible coatings or other treatments. Neutral products (pH 7) are fitted for the regular cleaning of natural stone. Always ask more information about the applicability, the method of applying,... of more aggressive products to the supplier. A product for the regular cleaning should be tested first on a sample to check if the surface will not be damaged.

4. Stain removal

Removing stains on natural stone is very delicate and the success depends on knowledge of some basic principles and following these:

- when choosing an effective stain remover, one needs to know the type and origin of the stain;

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- avoid the use of arbitrary products and especially the use of such products in an arbitrary way. This could only deteriorate the stain and prevent the final removal of the stain;
- react as fast as possible, from the origin of the stain. The more recent the stain, the easier it can be removed;
- dab the stain (and do not rub it out) with an absorbing paper;
- always start with an orientation test to evaluate the efficiency of the stain remover;
- do not use acids on non acid-resistant natural stone types (such as marbles and limestones).

In the next table, a list of the most occurring stains and how to remove them from natural stone is presented.

Type of stain	Possible household remedies	Lithofin-products
algae	bleaching water	Lithofin ALGEX
blood	bleaching water or oxygen water	Lithofin MN POWER CLEAN
rubber		Lithofin LÖSEFIX
different types of grease	all-purpose cleaner, gasoline on cloth	Lithofin LÖSEFIX or Lithofin OIL-EX (deeper oil or grease)
coffee - tea	ammonia or oxygen water dissolved in water	Lithofin WEXA
lime deposits	vinegar*	Lithofin MN BUILDERS CLEAN*
oil	all-purpose cleaner or gasoline on cloth	Lithofin LÖSEFIX or OIL-EX
cement veil		Lithofin MN BUILDERS CLEAN*
fruit stains	bleaching water	Lithofin OUTDOOR CLEANER
plant stains	bleaching water	Lithofin OUTDOOR CLEANER
red wine	all-purpose cleaner	Lithofin MN POWER CLEAN
soot		Lithofin MN POWER CLEAN
mould		Lithofin OUTDOOR CLEANER
soap remnants	all-purpose cleaner	Lithofin MN POWER CLEAN
ink		Lithofin MN POWER CLEAN
urine-deposits	sanitary cleaner*	Lithofin MN BUILDERS CLEAN*
wax		Lithofin LÖSEFIX
rust	rust remover*	Lithofin MN BUILDERS CLEAN* or Lithofin BERO*
tire marks	thinner	Lithofin LÖSEFIX scrub; or Lithofin LACKEX
latex	thinner	Lithofin LÖSEFIX
varnish	White Spirit	Lithofin LACKEX
linseed oil	all-purpose cleaner	Lithofin LÖSEFIX
silicon remnants		Lithofin LÖSEFIX scrub
tar		Lithofin LÖSEFIX
* ATTENTION: never use acid products on non-acid resistant stony surfaces (such as marble and limestone)!		

5. Renovation of floors

After construction works or after intensive use, a floor could become (locally) dull, dirty or damaged. Specialized companies can solve these problems mostly by re-polishing / grinding or re-crystallization (the latter is only for lime-containing natural stones).

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1. Grinding, re-polishing

Grinding can repair small irregularities, differences in height, damage and a dull aspect. The old floor looks like new after grinding, with an even gloss and without local differences in height. The floor can obtain a grinded, a honed or a polished surface.

Originally, this treatment was meant for softer types of natural stone, such as marbles or limestones. The gloss that can be obtained with such natural stone is comparable with the gloss of tiles in production in the factory. Nowadays, machines exist to re-polish also harder types of natural stones, like gneiss and granites. For those types of natural stones, the gloss that can be obtained is somewhat lower than the tiles produced in a factory.

With a machine, a small layer is grinded off the floor (using mostly a **lot of water** to cool down the grinding pads). With more and more fine grinding heads, more and more gloss is given to the surface. Less accessible places are treated with smaller hand tools. Experienced workers should execute this treatment.

2. Crystallization (only for lime-containing natural stones)

Dry floors consisting of limestone or marble that became dull (by its use), can regain a gloss by crystallization. The degree of gloss after crystallization depends on the original surface finishing (honed or polished) and the degree it became dull. This treatment repairs also very superficial scratches. Deeper damages stay visible.

With the aid of chemicals and a floor-polishing machine, a chemical reaction is caused in the top-layer of the lime-containing natural stone. By this treatment, the surface becomes polished ("shiny") and "harder".

When the gloss of a crystallized floor after some time becomes dull again, the floor could be re-crystallized again. A floor can be crystallized a limited number of times. Crystallizing too fast and/or too often can damage the floor. Grinding the floor could be a solution in these cases. Experienced and specialized workers should execute this crystallization.

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B) KITCHEN TOPS IN NATURAL STONE

For kitchen tops, the dirt impact is even larger, since a lot of possible stain forming products are used in kitchens. That is why it is certainly interesting to treat the surface preventively (make them water- and oil repellent).

1. First cleaning

After installation one can better clean the surface with a strong cleaner (for example Lithofin MN POWER CLEAN) before applying an impregnation product. Possible silicon stains from installation can be removed with Lithofin LÖSEFIX (see table above). Possible oil or grease stains can be removed with Lithofin LÖSEFIX or Lithofin OIL-EX.

2. Protective treatments

Impregnation products enter the pores of the stone and make the surface only water-repellent (hydrophobic), but also water- and oil-repellent (hydro- and oleo phobic). The product must be applied in a homogeneous manner on a **dry and clean surface**. Depending on the type of natural stone, following impregnation products are recommended to create a water- AND oil-repellent surface:

- polished granite: Lithofin STAINSTOP MN or Lithofin STAINSTOP W
- honed granite or granite with a rough surface (flamed, bush-hammered, Anciento...): Lithofin STAINSTOP W or Lithofin STAINSTOP MN (darkens the surface somewhat)
- honed / flamed / Anciento basalt: Lithofin STAINSTOP W or Lithofin STAINSTOP MN (darkens the surface somewhat)

It is important that the surface is **completely saturated**. This can be easily checked putting some water on the surface 24 hours after impregnating. When the surface becomes darker after 15-20 minutes, the surface is not yet fully saturated, and extra impregnation is necessary.

Color intensifying impregnation products (for example Lithofin STAINSTOP PLUS) need to be applied in a **homogeneous way** on a surface that is **not yet treated with another product** (a dry and clean surface).

3. Removing stains

Stains entering the surface of the kitchen top (when it was not yet sufficiently saturated with impregnation products) are mostly oil stains. These are best removed using for example Lithofin OIL-EX (oil-removing paste). For other types of stains, see table above.

4. Regular maintenance

On polished surfaces and surfaces with a limited absorption, it is not recommended to maintain with greasy products (for example certain types of soaps for doing the dishes). These create rather quickly a greasy layer on top of the surface, where ring marks of glasses,... are visible. When this "greasy" layer would be present, it can be removed with for example Lithofin MN POWER CLEAN (or CIF Cream for non-polished surfaces).

The maintenance of kitchen tops can be done with a maintenance product that is not too greasy, like for example Lithofin EASY CLEAN, a spray for the maintenance-protection-cleaning of kitchen tops.

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C) KITCHEN TOPS IN COMPOSITE MATERIAL

For kitchen tops in composite material, generally the same rules apply as for kitchen tops in natural stone. Composite material is nevertheless more compact, and therefore it is much harder to put an extra impregnation product on polished surfaces. On honed and “rougher” surfaces, an extra impregnation product is recommended as preventive treatment against stains.

Since composite material consists of a mixture of resin and aggregate-grains, it is very important NOT to use strong solvents on such surfaces!

1. First cleaning

After installation it is better to clean the whole surface with a strong cleaner (for example Lithofin MN POWER CLEAN) before applying an impregnation product. With acetone, the surface can be cleaned from more greasy stains or stains from installation products (silicones,...).

2. Protective treatments

Impregnation products enter the pores of the surface and make the surface only water-repellent (hydrophobic), but also water- and oil-repellent (hydro- and oleo phobic). The product must be applied in a homogeneous manner on a **dry and clean surface**.

- For **polished composite surfaces** it is mostly not necessary to put an extra impregnation product since the surface is very compact. When an impregnation product is wanted, one can better use Lithofin STAINSTOP W.
- For **honed, Letano,... composite surfaces** it is recommended to use an extra impregnation product, for example Lithofin MN PROTECTOR for Composite or Lithofin STAINSTOP W.

For such compact surfaces it is very important to remove the surplus of impregnation product from the surface (see also instructions on the packaging of the supplier).

It is important that the surface is **completely saturated**. This can be easily checked putting some water on the surface 24 hours after impregnating. When the surface becomes darker after 15-20 minutes, the surface is not yet fully saturated, and extra impregnation is necessary.

3. Removal of stains and regular maintenance

Lots of “stains” on composite material are stains ON TOP of the surface (since the material is so compact). Such stains can mostly be removed with CIF Cream or VIM (the latter is not suited for polished surfaces), or with for example Lithofin MN POWER CLEAN. More stubborn stains can eventually be removed with Lithofin WEXA (ATTENTION: let the latter product max. 5 minutes in contact with the surface and afterwards well rinsing with water!).

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