

## Stone Care as a System

### Step 1: Cleaning



Natural stone is a classic building material that fascinates through its natural beauty. Especially in (high end) residential situations, the aesthetics of this building material are a dominant criterion for choosing natural stone.

It is therefore important to make sure that the stone maintains its properties and appearance and does not look untended after a short period of time. After all any natural stone work piece - whether it is a kitchen work top, a bath or vanity top, a floor or a terrace - always represents an investment that should be protected for the long term.

Reaching this goal is simple as long as some important rules are followed. The first and most important thing is to view and implement stone care as a system. The term stone care encompasses all measures and actions that serve to maintain the natural stone. Generally speaking the stone care system can be broken up into three separate and consequential steps: cleaning, protecting and maintaining.

Correctly and consequently carrying out these three steps ensures that the optical and technical properties of the stone are maintained for the long term.

### Step 1: Cleaning

Residues of grouting materials will always remain on the surface and often inside the capillary system after a natural stone floor is installed. these residues cause the surface to be rougher and therefore

allow dirt particles to attach themselves easier and more stubbornly. This effect therefore makes everyday cleaning more difficult.

An initial deep clean is intended to restore the surface to its original technical properties as well as its original appearance. In addition to the cement residues described above, the initial cleaning is also designed to remove other dirt deposits caused by the construction. Since there are no chemical products that are capable of dissolving all kinds of different types of dirt, several different types of cleaners are required to cover the range possible deposits. The following table provides a brief overview of the most common cleaning products and their field of use:

acid based pH-Value: < 7	alkali based pH-Value: >7	solvent based pH-Value: --
<ul style="list-style-type: none"> <li>▪ cement residues</li> <li>▪ mortar residues</li> <li>▪ lime and calcium</li> <li>▪ efflorescence</li> <li>▪ rust</li> </ul>	<ul style="list-style-type: none"> <li>▪ „normal“ dirt</li> <li>▪ oil and grease</li> <li>▪ (light) wax films</li> </ul>	<ul style="list-style-type: none"> <li>▪ mineral oils</li> <li>▪ resins</li> <li>▪ adhesives</li> <li>▪ tar</li> <li>▪ wax</li> </ul>

### Acid based cleaners



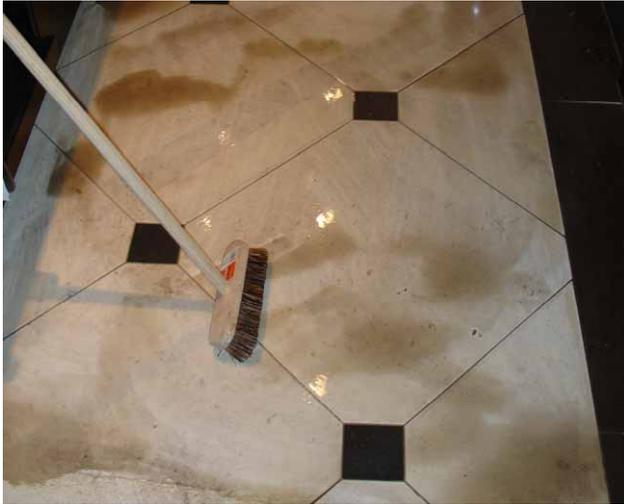
Acidic cleaners are suitable for removing so called anorganic dirt such as cement and mortar residues, lime scale, efflorescence and rust discolourations. These types of cleaner chemically dissolve the dirt deposit and make them easy to wash off. Products that contain high concentrations of hydrochloric acid should be used with caution, since they may cause iron containing natural stones to rust. In addition the vapours of such products may cause metal inside the room to rust as well.

Using acidic cleaners is generally simple... dilute according to the instructions, brush onto the surface and allow to work for several minutes. Completely removing the

dirt-cleaner-solution from the surface by rinsing several times with water is an essential step of the process. Another important step is to wet the surface with water before applying the cleaner in order to keep the active ingredients from penetrating too deeply into the surface. Neutralising the acidic cleaner with an alkaline is usually not required, since the contained acids are neutralised by the alkalinity of the cement.

There is one exception where alkaline products do in fact play a part in removing cement residues. Cement residues on acid sensitive stone such as polished limestone or marble cannot be removed with an acidic product because it would destroy the polish. These surfaces can only be cleaned with a mildly alkaline product and the mechanical help of a white nylon pad.

## Alkali based cleaners



General dirt that is either caused by ongoing construction or the every day use of a surface is removed with a basic cleaning. For this type of cleaning alkaline products are the right choice.

The products available range from mildly alkaline to highly aggressive. The highly alkaline cleaners are often very effective, but they can cause damages on sensitive surfaces. It is therefore advisable to only use products that have been developed specifically for natural stone.

## Solvent based cleaners

Should the water based alkaline cleaners not be sufficient to remove organic dirt deposits, solvent based cleaners are the alternative. These products are not diluted because adding water would greatly reduce their effectiveness; instead they are applied neat to the dry surface. Only when the dirt deposit is dissolved should water be added in order to emulsify the product and make it possible to rinse it off.

A recurring issue when it comes to cleaning are oil and grease stains. These stains can be too deep in the capillary system for liquid products to be effective in removing them. Gel-like oil stain removers allow for long working times, which gives the solvents the chance to penetrate deeply into the stone. The deposit is dissolved and transported to the surface where oil binders absorb the particles.

### Important notes for working with cleaning products:

- read and follow the instructions
- wear protective gloves
- always test the suitability on a left over piece or in an inconspicuous area
- surface temperature should be between 10 and 25°C
- ensure good ventilation during and after use
- rinse well with plenty of water to remove all product residues

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