



the natural stone & tile specialists

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MARBLE GUIDE

POLISHED

Sealing:

- **Spirit Pre-Seal** can be used on the back of the tiles to prevent moisture stains bleeding through from the glue.
- **Spirit Water-based Premium Seal** or **Spirit Hard Surface Seal** (solvent-based) can be used to final seal the tiles and grout to protect the stone from staining. These products will NOT prevent acid etching.

Cleaning:

- Grout smear should be removed within 3-5 days using **Spirit Neutral Cleaner** or **Spirit Rejuvenate**, if the grout has been left on for too long and hardened **Spirit Porcelain Crème** can be used. Spirit Phosphoric Acid Cleaner or Spirit H.D.C should NEVER be used on Polished Marble.

HONED

Sealing:

- **Spirit Pre-Seal** can be used on all six sides of the stone to prevent water marking during the laying procedure.
- **Spirit Water-based Premium Seal** or **Spirit Premium Seal** (solvent-based) can be used to final seal the tiles and grout to protect the stone from staining. These products will NOT prevent acid etching.
- **Spirit Glossy Seal** can be used on floors internally to achieve a gloss finish; this product should NOT be used in bathrooms where slip resistance is needed. This product will prevent acid etching by leaving a physical barrier on top of the stone.

Cleaning:

- Grout smear should be removed within 3-5 days using **Spirit Neutral Cleaner** or **Spirit H.D.C**, if the grout has been left on for too long and hardened **Spirit Porcelain Crème** can be used. Spirit Phosphoric Acid Cleaner should NEVER be used on Marble.

TUMBLLED OR SANDBLASTED

Sealing:

- **Spirit Pre-Seal** can be used on all six sides of the stone to prevent water marking during the laying procedure.
- **Spirit Water-based Premium Seal** or **Spirit Premium Seal** (solvent-based) can be used to final seal the tiles and grout to protect the stone from staining. These products will NOT prevent acid etching.
- **Spirit Uni-Seal** can be used internally or externally to give the stone a wet glossy look, this should NOT be used on water features or wet areas such as; bathrooms or around swimming pools where slip resistance is needed. This product will prevent acid etching by leaving a physical barrier on top of the stone.
- **Spirit Glossy Seal** can be used on floors internally to achieve a gloss finish. This product should NOT be used in bathrooms where slip resistance is needed. This product will prevent acid etching by leaving a physical barrier on top of the stone.

CLEANER & SEALERS FOR THE TILING INDUSTRY

Cleaning:

- Grout smear should be removed within 3-5 days using **Spirit Neutral Cleaner** or **Spirit H.D.C.**, if the grout has been left on for too long and hardened **Spirit Porcelain Crème** can be used. Spirit Phosphoric Acid Cleaner should NEVER be used on Marble.

MARBLE PRESERVATION TECHNIQUES

MAINTAINING THE POLISH

Marble is durable, practical, and beautiful only if the inherent properties of the stone are understood. Marble is composed primarily of calcium carbonate. It is relatively soft and can be scratched by common silica soils carried by wind and tracked onto floors from outside. It is absorbent to liquids (0.069 to 0.609%), and it is sensitive to chemical attack, especially from acids.

Polished marble has found its way onto commercial, high traffic, and high abrasion floors because owners wish to install in their spaces the sense of beauty, prosperity, and awe that large expanses of stone convey.

However, when polished marble is considered for high traffic public areas, the knowledge of proper maintenance procedures and the associated costs must be kept in mind in order to have the floor meet the clients' and specifies expectations and so that the after-installation maintenance costs can be budgeted.



THE ABRASION FACTOR

When the only maintenance used on a polished marble floor under commercial traffic conditions is washing, then the mirror finish, or very high hone soon becomes dull and loses definition. The floor becomes scratched, the polish disappears, and the stone surface becomes opaque. The higher the abrasive level and the higher the foot traffic, the faster the polish will be "walked off". This process is similar to sanding the polished floor with sandpaper.

The polished stone surface was achieved at the factory by a process of grinding the stone with consecutively finer abrasives until a very fine polish resulted. The polishing process took many steps and is the same process used to grind lenses for telescopes and eyeglasses. It seems obvious that applying sandpaper to glass lenses would damage them, yet people are surprised that the polish disappears when thousands of people walk on polished floors.

Light colored, dense marbles do not show abrasive affects as dramatically or as soon as darker, more colorful stones except in the degree of gloss loss. Some stones should never be specified on commercial floors because of their particular properties. For example, Negro Marquina is black, soft, and difficult to polish. It also scratches white and shows the smallest imperfection or scuff mark. Because it is cost prohibitive to maintain the floor at a degree of high polish in an area prone to high abrasion, the only option available is to replace the stone.

ACID ETCHING

Etch marks on natural stone are caused by acids or strong alkaline liquids coming into contact with your stone. The acid eats the calcium carbonate and other minerals for the stones surface which can create a dull rough surface on the stone. The stronger the acid the faster it will react with the stones surface. Most food and drink items in the kitchen are acidic, and many household cleaning products can etch the finish of your stone. The higher the polish of the stone the more likely you are going to see the etch, and the dark stones will etch to a much lighter color. Most marbles and limestone readily etch but the majority of granites are acid resistant and rarely etch. Penetrating or Impregnating sealers cannot stop this reaction from happening because a true impregnating sealer does not sit on the surface which is where the stone needs the protection from the acid coming in contact with it.



Above picture shows acid etching (dull drip marks from acid used to clean wall tiles)

HIGH POLISH = HIGH COST

Three levels of finish are typically utilized for marble surfaces:

- 1) High polish, mirror finish using tin oxide and oxalic acid.
- 2) High hone, using 1200 - 1500 grit.
- 3) Hone, using 120 - 600 grit.

In general, the more closely the hone resembles a reflective polish, the more expensive the floor will be to maintain. The closer the abrasive finish (hone) matches the wear of the foot traffic, the easier and more economical it is to maintain the floor.

PROTECTING THE POLISH

Polished marble floors must be protected from abrasion in any environment where dust exists, virtually everywhere, and where pedestrian traffic is heavy. There are only two ways to maintain a polished marble floor under high traffic conditions:

- 1) Install a sacrificial coating on the stone, or
- 2) Re-grind and polish the marble surface when the appearance of the stone is no longer acceptable.

Either method may be more suitable than the other, depending on the situation and the preference of the owner.

SACRIFICIAL COATING

Sacrificial coatings are installed on top of the stone surface to act as a physical barrier to the environment. All abrasive wear and staining liquids are physically separated from the polished marble surface by a thin membrane or film coating. When the coated surface is abraded by foot traffic or when liquids are spilled onto the floor, the abrasion or stain never touches the marble surface, and the film is damaged instead of the stone surface itself. The advantage of the film coating is that it is more easily repaired or replaced than the polish on the marble surface.

ACRYLICS

The most practical and typical film coating for high traffic commercial areas is a water-borne acrylic finish. Plastic is softer than stone and scratches relatively easily. However, it can be repaired by applying more acrylic, spray buffing, or burnishing the floor when necessary. Although you cannot grind the stone every night, you can buff a floor finish if needed.

Not all acrylic floor finishes are as good as others. There are many ways to formulate acrylics in existence. For example, many adhesives used on self stick labels are acrylic with soft, gummy properties. Plexiglass windows are acrylic, and many automobile paint finishes are acrylic. Acrylics have a wide range of properties and characteristics.

If an acrylic is to be used as a protective barrier on polished marble, it should exhibit definite properties (hardness, scuff resistance, adhesion, transparency, high gloss, stain resistance), and characteristics (non-yellowing, buff able, strippable, non-hazardous, economical) and, in general, be considered easy-to-use by the wide range of people who must maintain a floor.

NATURAL WAX FINISH

In light-to-medium traffic areas not subject to high levels of abrasion, a natural wax finish may be used to maintain a highly polished marble floor. The advantage of this type of maintenance product is that the cosmetic appearance of the polished, mirror finish is not compromised as it is with an acrylic finish which is physically thicker and visible to the eye. Marble waxes, made from natural waxes, are exceptionally economical and easy to use, and they cosmetically enhance the polished stone surface.

Natural marble wax finishes leave a thin, natural-appearing barrier on the stone. The barrier is much thinner than that achieved with acrylic; therefore it does not leave any apparent coating that detracts from the marble's mirror finish.

Acrylics, because of their thicker film coating, do offer more physical protection for the stone. Natural wax finishes, in general, are also not as slip resistant as acrylic finishes, and they must be maintained by buffing as needed.

PRE-SEALING

Spirit Pre-Seal is a water based seal that works by penetrating into the stone. After drying the seal will stop capillary action in the stone. This will prevent any water or water based staining materials from absorbing into the stone. This is very important in stopping water marking from occurring during the

laying process and assist future stain prevention by providing a foundational product that performs for many years. **Spirit Pre-Seal** will not affect adhesion or interfere with the laying of the stone, but will act as a grout release to assist in the removal of grout haze, this is important as the use of acid products can damage some stones. If the stone is not going to be exposed to oil or food that may contain oil, then pre-seal will act as a final seal with years of performance. If the area is going to be used for entertainment or food areas, the stone should be further sealed with Spirit Water-based Premium Seal. **Spirit Water-based Premium Seal** is an advanced impregnating seal that will penetrate the stone and will give years worth of protection against oils and food stains. If a solvent based product is preferred **Spirit Premium Seal** can be applied.



The above pictures shows the moisture from the glue staining, Pre-Sealing the back of tiles will prevent this from occurring.

FINAL SEALER

Polished Marble generally doesn't need to be Pre-Sealed because the polished face is quite low in porosity however in some situations the back of the stone should be Pre-Sealed to prevent water marks from the glue (shown in the picture above). A final seal such as **Spirit Water-Based Premium Seal** or **Spirit Hard Surface Seal** should be used to prevent the grout and stone against oil and food based stains.

RE-GRINDING

When a polished marble floor has been damaged and has no resemblance to the original finish, the stone must be ground with abrasives by a professional stone finisher. The stone mechanic has specialized equipment for grinding the floor and typically uses diamond abrasives and polishing powders. This process is messy, expensive, and time consuming. It is also very effective and duplicates or exceeds the original polish if done by a professional who knows the hone and his equipment.

This process will remove lippage (uneven tile edges), old sealants, stains, and superficial blemishes. If a polished floor is heavily damaged or stained, this is often the only process that will restore the floor to its original condition.

When floors have been neglected and are heavily damaged by abrasion and stains, frequent grinding and re-polishing is the only remedy.

Please Note: This is a general guide only. For detailed information please contact Spirit www.spiritsealers.com

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