



Tiles with Style

Making tiling easy

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MAINTENANCE OF POLISHED PORCELAIN TILES

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The advent of the porcelain tile in the last decade has ushered in a new era in hard floor coverings. These tiles usually have water absorption of less than 0.05%, with some less than 0.01%, they are highly abrasion resistant with the colour going all the way through the tile. They are thin, hard and precision made, fired at high temperatures, sometimes exceeding 1200C. They are now produced by most of the major floor tile manufacturers and are available in unglazed, profiled and highly polished finish.

While the unglazed porcelain tiles are almost impervious to stains and require only a minimum of maintenance, the polished porcelain tile has, in some cases, become stained. This staining can almost always be avoided by one application of a penetrating sealer.

The polished finish is attained through a grinding and polishing process much the same as that in which marble, granite and other stones are polished. This process leaves the polished tile approximately 2mm thinner than when it started.

In simple terms, the polishing process cuts through some of the porcelain clay particles exposing their inner core. While the porcelain ware remains relatively impervious, the inner core of the clay particles may, in some cases, accept a stain. Penetrating sealers can fill the exposed pores, making the tiles highly resistant to surface staining. This also makes general maintenance easier. Penetrating sealers do not generally alter the appearance of polished porcelain products since they are designed to only fill the microscopic pores and not coat the tile, nor should they affect the slip resistance of the tile.

PENETRATING SEALERS

In general, the use of a penetrating sealer is recommended for polished porcelain tiles. Some manufacturers seal their tiles prior to them leaving the factory. If the tiles are to be used in areas which are prone to excessive spills or are light in colour, use of a penetrating type sealer is strongly recommended.

A penetrating sealer is one that does not leave a coating on top of the tile. Always try the sealer in an inconspicuous test area first.



TYPES OF PENETRATING SEALERS

Water based and solvent based sealers are available, both perform satisfactorily. The water based products are the newer technology, they're more environmentally friendly as they contain no ozone depleting solvents and are less dangerous to use as they are not flammable.

APPLICATION OF PENETRATING SEALERS

Proper application of penetrating sealers is important. Follow the manufacturer's application guidelines. If you have questions prior to application, contact the manufacturer direct. The following is a suggested application procedure for a penetrating sealer.

- 1) Surface must be thoroughly clean and free of any material that may prevent the sealer from penetrating.
- 2) Apply sealer using a dense sponge, working the sealer into tile surface in a circular motion. Avoid having excess sealer run down into the tile joints.
- 3) One thin application should be sufficient.
- 4) Completely remove excess sealer from the surface after 3 minutes using a clean cotton cloth, rag, etc.

Penetrating sealers are applied only once, and generally do not require re-application.

SPECIAL GROUTING SITUATIONS

Before grouting any polished porcelain products, regardless of the grout colour chosen, it is strongly recommended that a test patch be done by the contractor to ensure the grout pigment will not contaminate the surface of the tile. Special care and testing should be done when light coloured tiles are to be grouted with a dark coloured grout.

If no grout discolouration occurs, proceed with grouting, taking care to follow the manufacturer's instructions. If the grout pigment discolours the surface of the tile, a proprietary grout release should be used or the surface should be treated with a penetrating sealer prior to grouting.

INITIAL CLEANING OF POLISHED PORCELAIN TILES

Before routine maintenance begins, it is important to completely remove grout and construction dirt left over from the installation process. Grout manufacturers print instructions for proper mixing, curing, and cleaning of grout on their packaging. These directions should be followed. In most cases, polished porcelain tiles can be cleaned successfully by scrubbing the installation with hot water and detergent, followed by a thorough rinsing.

Only if grout residue still remains, further cleaning of the tile should be carried out with Phosphoric acid in a ratio of 1 part acid to 5 parts water (23%), or sulfamic acid in a solution no

stronger than 250g of sulfamic acid crystals to 10 litres of cool water, or according to the manufacturer's instructions. Hydrochloric acid is not recommended as problems arise if it is stronger than 10 to 1, if it is not rinsed off thoroughly or is left on the surface too long. This may result in the tile surface becoming permanently stained, with a dull, blotchy appearance. It may also damage adjoining materials and cementations grout joints.

It is important that, before the acid solution is placed on the floor, the grout be thoroughly saturated with water first. Some grouts which contain latex can actually bond more strongly to the tile surfaces if treated with acid. Cleaning should not take place until the grout has fully cured, usually 2 to 7 days.

Acid-based cleaners should not be used to clean coloured grouts. Acid washing of dark-coloured grouts will most likely lock the colour pigment into the surface pore structure and make the tile much more difficult to clean, acid may also cause discolouration of the coloured grout joints.

Once the initial cleaning has been thoroughly completed, daily maintenance procedures can be followed.

TOP SEALERS AND WAXES

These products should not be applied to polished porcelain tiles. The low absorptive nature of polished porcelain tile not only inhibits dirt and stains, but also prevents top-sealers and most chemicals from penetrating the surface. Top sealers and waxes create a coating over the tile and grout joints, they will change the appearance of the tile, they will also show traffic patterns as the sealer becomes scratched or wears away. They may also discolour or "yellow" when exposed to Ultra Violet light.

PROPER CARE DURING CONSTRUCTION

Polished porcelain tiles should not be installed until heavy construction is completed. In between the installation and putting the floor into service, it is important to properly protect the tile and grout in order to avoid construction related cleaning problems. A protective cover should be put over the tile surface to safeguard the appearance. The cover could include building paper, cardboard, plywood, or any other covering that will not damage the integrity of the installation. Do not use plastic as it may induce sweating and discolouration by not allowing the grout and bedding material to dry properly.

ROUTINE MAINTENANCE

General maintenance and cleaning of porcelain tile varies depending on the surface texture and soil load. General cleaning should be performed with a neutral cleaner diluted to the manufacturer's recommendations. Non-oil, non-acidic, and non-soap base cleaners should be used. Porcelain tile has a dense, low absorptive body that inhibits the penetration of contaminants, harsh cleaners and aggressive scrubbing will not harm the tile. The grout joints, however, may be adversely affected by harsh cleaners and aggressive scrubbing. They could become weak and discoloured over time. Test all cleaning materials and techniques in an inconspicuous area whenever you are selecting or changing your cleaning materials.

If the cleaning agent does not affect the appearance of the installation, please follow these procedures. Frequency and duration of the maintenance procedure will depend entirely on the soil load.

There are four steps that are critical and should always be remembered for the successful maintenance of porcelain tiles:

- 1) All spills should be cleaned up as quickly as possible.
- 2) Use only the recommended dilution of neutral detergent. More is not always better; the higher concentration of detergent in the cleaning solution will only make it more difficult to rinse. If the floor is exposed to excessive spills, large amounts of traffic, or if the floor is textured, a stronger cleaning agent may be necessary. These stronger cleaning agents should be on the alkaline side of the pH scale and generally have a pH of 9 or higher in the concentrated form. Follow the manufacturer's recommendation at all times when using these products.
- 3) Allow the proper dwell (remain on the floor) time. The detergent solution must be given time to act on the soil load. Generally five to ten minutes is sufficient.
- 4) Rinse thoroughly with clean, clear water to remove the dirty detergent solution and emulsified soil. Rinsing is a critical step in the maintenance procedure. If dirty detergent solution is not removed and is allowed to dry on the surface, a coating will form which is very difficult to remove.

POLISHED TILE

For general cleaning:

- 1) Sweep or vacuum the floor of loose dirt. An untreated, dry dust mop may be more effective than a soft-bristle broom.
- 2) Mop with a mild cleaning solution. Use 50% less detergent concentrate than one would use on an unpolished floor.
- 3) Rinse the floor thoroughly with clean, clear water.
- 4) Dry the floor thoroughly to increase the shine and prevent water spots