

## Wax Removal from Porcelain Tiles

Wax has been applied to the surface of ceramic tiles for many years by some manufacturers. Spanish tile companies have done this for years. They use a small spot of natural wax on each corner to separate the tiles so that they do not get damaged during transit. Many people forget that glass (glaze) and ceramic materials are most easily scratched by other ceramic materials hence stacked tiles can move during transit and in doing so damage the glaze of the finished surface. Wax prevents this from happening.

However in more recent times the use of preventative wax has increased and moved to the use of complete wax coatings as opposed to the easily removed spot wax method. Why is this?

As we all know more and more porcelain tile is being produced. This is available in a number of finishes - unpolished, polished and glazed. Due to the stability of the more inert white clays used to manufacture porcelain, they can be made much flatter than traditional glazed ceramic tiles. Traditional glazed tile is made so that the body and glaze are under compression. The result being a tile that is slightly convex. This is done so that the glaze fits (does not craze) the body once installed. If this was not done, the expansion of the more porous ceramic body would create crazing in the glaze.

Porcelain's lower porosity body does not have this problem to any where near the same degree and hence can be made flatter. This however means that when stacked and boxed, more of the surface is in contact with other tiles and hence an increased risk of scratching. This is one of the reasons why manufacturers are moving to full wax coatings.

With this extra protection however comes the problem of wax removal. In many instances it is becoming a real issue.

### So how do you successfully remove these wax coatings?

These waxes are usually synthetic. They can in many cases be chemically removed using alkaline chemicals. **Aqua Mix Heavy Duty Tile and Grout Cleaner** is ideal. Depending on the concentration & application of wax, usually a 2:1 dilution with water will remove most wax coatings. For heavy coatings, a dilution of 1:1 or neat will do the job. By adding **Aqua Mix Poulitice** to the solution just prior to scrubbing, you ensure that no traces of wax will be left in the micro pores of the tile ensuring a clean tile ready for sealing.

However in some cases alkaline chemicals will not work. Synthetic waxes become much more durable when they are applied in thin section and with heat. In many cases the technique used by the tile factories is a thin application. However it is also quite often applied just after the tile has left the kiln where it is still some 45 to as much as 65 degrees Celsius. The heat makes the already thin coat cure and bond even more aggressively. This not only makes the coat more difficult to remove but also more chemical resistant to alkaline cleaners. In these instances a solvent must be used to remove the coating. **Aqua Mix Sealer and Adhesive Remover** is the perfect cleaner for these situations.

When working with either an alkaline or solvent cleaner the complete removal of a thin wax coating can be difficult without some type of abrasion.

The cleaner will re-emulsify the coating but not completely remove it from the surface. Abrasion helps to remove this final thin residue. The best abrasive to use is one that will not scratch and has some ability to absorb the coating.

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Aqua Mix Poultrice makes the ideal partner to the appropriate cleaner. The last issue regarding thin wax coatings is how they can affect sealing.

Many of the lower cost porcelains have higher water absorption. Coupled with this is the use of a plastic dye to press the body. These low cost dyes not only result in lower compressive strength but also a slightly textured surface.

This texture when combined with higher porosity makes the complete removal of the wax coating very difficult, as the coating is more easily

trapped. If it is not completely removed the sealer will have difficulty penetrating and bonding to the tile surface.

In most cases penetrating type sealers are used on porcelains and therefore having the ability to penetrate the tile surface is a pre-requisite to their performance. The trick is to make sure that the wax is removed and to make an extra cleaning effort when plastic dye tile or textured tile are the issue.

The use of an abrasive such as Poultrice becomes even more important in the latter case.

There is also one further recommendation.

In general use, a solvent based sealer for tile coated with wax. Wax is a great water repellent and therefore any wax that is not removed will definitely repel any water-based sealer. However a solvent based sealer such as Aqua Mix Ultra Solv or Pro Solv 10 have a much greater chance of getting through any wax residue missed in the cleaning process as the solvent will

dissolve the wax.



In conclusion the advent of wax application to packaged tile is here to stay for the foreseeable future. However the different wax application techniques do require different cleaning methods and chemicals and need to be understood to insure the finished tile performs to its full potential.

#### For more information contact

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