

Chemical Residue and Impact on Your Floor

by Barry Wells (AutoStone Floor Systems)

Excessive floor cleaning chemicals when not properly removed, as part of a floor cleaning procedure(s) can create obstacles to future and ongoing floor cleaning practices of the operating dealership. The most common problem seen relates to floor cleaning chemicals used in high acidic concentration and left behind as a residue both on tile surface and in grout joint.

When high concentration chemicals are used they remain behind on the tile surface after the water evaporates, this is a residue on the tile surface. The best cleaning practices should include the following standards:

1. Do not over-apply cleaning chemical, read instructions for the correct amount of chemical to use as part of your cleaning practice.
2. Use a quality floor-scrubber-sweeper machine with good "lifting" or "suction" power to pull-up the liquids which are part of the cleaning process.
 - a. Make sure your floor-scrubber-sweeper machine has a good squeegee blade which is fully intact, is properly shaped (not bent) and engages the floor snugly. This is an inexpensive and disposable component which should be replaced frequently to assure your floor is cleaned properly.
3. Use a flood rinse of clean water between applications of chemical on your floor.

Here is the science

When acidic residue is left behind, it makes cleaning your floor more difficult and over time darkens the appearance of your tile. Acidic residue (and even alkaline residue) attracts and holds on to rubber from tires, cart wheels, shoes, etc. In these situations, dealers often say, *"the floor looks dirty and shows foot marks immediately after cleaning."* If you find yourself in this situation, we recommend you test the PH levels of your floor (ask for AutoStone directions on PH testing assistance).

Acidic residue and the impact on your tile surface

Porcelain tiles have micropores. These are very small surface pores in your porcelain tile which result from the manufacturing process. Both natural|matte and polished tiles have micropores. However, a polished finished surface has a greater amount of micropores and is the result of the honing process. Fine grit is used to hone the surface of a tile which results in a highly polished finish. This honing process actually opens-up the surface micropores and makes polished tiles more susceptible to staining and other poor cleaning practices.

When cleaning chemicals are applied in excessive amounts and not properly removed, the acid residue sinks into these surface micropores and form an acidic crystal. Each time excessive cleaner is applied, the moisture re-activates the crystals and grow larger. This cycle will create greater larger surface pores which fill with dirt and contaminants and leads to tiles becoming darker over time.

When polished floors are improperly cleaned, the result will lead to a negative appearance with traits such as:

- Darkened tile appearance.
- Tiles look dirty all times.
- Optical hazing because the high polished factor of the tile is compromised.
- Burnished appearance in the high polished tile surface.
- Milky, cloudy appearance because of damage done by the acidic crystals in micropores.

Comparative PH levels:

PH scale is from 0 to 14 (rating system).

Acidic content:

Battery acid has a PH level of 1.

Hydrochloric acid has a PH level of 0 to 1.

Lemon juice or vinegar (non-diluted) has a PH level of 2.2 to 2.8.

Tooth enamel wears away at any PH level of 4 or less.

Orange juice has a PH level of 4.2.

A weak acid, like vinegar, measures a PH level of 4 or 5.

Boric acid has a PH level of 5.0.

PH neutral range:

Floor goal is between: 6.8 to 8.0 – acceptable for porcelain tile surface.

Water is normally has a PH level of 7.

A PH level of 7.0 to 7.6 is the ideal range, because rubber, foot marks or most things won't stick to the surface when there is not excessive acidic or alkaline residue.

High alkaline content:

Baking soda has a PH level of 8.4.

Ammonia has a PH level of 11.5.

Drano has a PH level of 11.

Bleach has a PH level of 12.6.

AutoStone steps to support GC and Dealers

AutoStone documents the post-grouting process and documents the PH levels in various locations throughout your facility. Our PH testing records are forwarded to your GC so their final clean can result in a better facility being turned over to the operating dealership.

Once the dealership moves into the facility, the success of the previous steps will assure that their floors have the best chance to be cleaned with regular cleaning practices.

1. Tile contractor, post grout installation floor clean.
2. General Contractor's final clean.
3. Dealership general maintenance clean.

For more information, contact AutoStone today for more assistance: 800-772-1473 (toll free) or hello@autostoneusa.com