

How to Care
Porcelain Stone®



CROSSVILLE QUALITY

Our Porcelain Stone® tile is produced utilizing the most advanced equipment under very extensive and exacting process controls. Quality begins with the finest raw materials available in the United States. The ball clays, feldspar and kaolin combined with our innovative research and development program assures every Crossville user of the finest porcelain tile available.

Crossville is focused on maintaining its commitment to quality so our products meet and exceed your expectations. As with every interior surfacing material, our products require nominal care in order to maintain a satisfactory appearance and acceptable sanitation. These guidelines have been prepared so your particular Crossville installation will look beautiful for years.

INITIAL CLEANING AND MAINTENANCE

The single-most important step for future daily maintenance involves the complete removal of grout and construction dirt after Crossville products have been installed. Grout manufacturers print instructions for proper mixing, curing, and cleaning of grout on each container. These directions must be followed. In most cases, Crossville Porcelain Stone can be cleaned successfully by scrubbing the installation with hot water and a neutral detergent, followed by a thorough rinsing, then removing the rinse water with a wet vacuum or dry toweling. If grout residue still remains, further cleaning of the tile should be accomplished in consultation with the grout manufacturer and Crossville.

Some grout manufacturers distribute proprietary products which they recommend for the removal of their particular grout from the surface of tile. These products can be diluted for removal of light deposits of grouting materials with the possibility of using stronger concentrations when more aggressive cleaning is required.

Equipment recommended for more aggressive cleaning are floor scrubbers or floor buffing machines equipped with a nylon pad or brush. A wet vacuum should be used to pick up suspended grout residue and construction dirt completely.

Acid washing is rarely recommended, and is not usually necessary to successfully clean a new installation if the cleaning is done in a timely fashion. Caution should be exercised when using acid, or acid-based cleaners as they can adversely affect the grout.

If a customer insists on use of an acid for cleaning the installation, he or she should be cautioned to use sulfamic acid or phosphoric acid mixed in a solution according to manufacturers' instructions. It is important that before

the acid solution is placed on the floor, the grout joints be thoroughly saturated with water first. Grouts which contain latex can actually bond more strongly to the tile surfaces if cleaned with acid. Latex or polymer modified grouts should be cleaned with a solution recommended by the grout manufacturer. Contractors or installers should also wait until the grout joint has fully cured, usually 7 to 10 days before using acidic cleaners.

Once the initial cleaning has been thoroughly completed, our daily maintenance procedures can be followed for continuous and long-lasting beauty.

Crossville recommends a two-bucket mopping approach as exemplified by the WaveBreak® mopping system offered by Rubbermaid®. For specific details call (800) 347-9800 or go to www.rubbermaidwavebreak.com

SPECIAL GROUTING SITUATIONS

Over the last 2 to 3 years significant changes have occurred to the grout products available in the marketplace.

- polymer enriched grouts
- epoxy grouts
- epoxy emulsion grouts
- polyurethane based grouts
- micro particle technology finely grained sand and glass spheres

Due to these and other factors some rethinking on the traditional non-recommendation of sealer/impregnator applications has become necessary.

This reappraisal has prompted a specific examination of today's new generation of grouts that are integral to all tile installations. Current grouting materials combine very small particle size with adhesion based polymers and resins that provide:

- very effective joint/void filling
- very strong bonding agents

The resulting grout film if allowed to remain on the tile surface can be very difficult to remove!

- These films come at the end of the installation
- Very often this film collects and holds the full variety of construction dirt and debris.
- The "New" tile floor can have a dull appearance.
- Light colored tile, will appear dirty from the start.
- This condition will only get worse, until such films are removed, or better yet, kept from becoming established in the first place.

Before grouting, regardless of the grout color chosen, Crossville strongly recommends that

a test patch be done by the contractor to determine if the grout or grout pigment will contaminate the surface of the tile.

If the test patch shows a tendency for staining or difficulty of removal when following the grout manufacturer's instructions (particularly if the tile is light in color and the grout material is in contrast to the color of the tile or composed of urethanes, epoxies or epoxy emulsions) the application of a penetrating sealer/grout release (Ex: Miracle Sealants 511 Impregnator 800-350-1901 or AquaMix Ultra-Solv 877-278-2311) is recommended.

- Some combinations of polished porcelain tile (micro pores) and these highly formulated/hybrid grouts should be small scale tested and may require more than one coating of protective sealer before proceeding to the entire floor!
- Install the sealer/grout release prior to the grouting process as outlined in the manufacturer's written product usage instructions. Some key points:
 - Allow adequate cure period typically 1 to 4 hours.
 - All excess sealer (do not allow to pond) must be removed at the time of application by wiping or buffing with a clean dry cloth. This is very important for impervious porcelain surfaces.
 - After the grout achieves its set, clean the floor with a solution similar to Aqua Mix Heavy Duty Tile and Grout Cleaner or Miracle Porcelain and Ceramic Tile Cleaner or a product recommended by the grout release manufacturer.

Due to the surface texture of CROSS-SLATE®, CROSS-TREAD®, and other highly textured Crossville Porcelain tile, it is advisable to use a grout release, if only to improve the cleanability of the grout from the surface of the tile.

Properly applied, these methods will provide a clean tile installation free of grout residue while providing significant time savings to the clean-up and maintenance process on polished and unpolished porcelain tile surfaces.

Of course, these are general recommendations. Any specific recommendations suggested by the individual manufacturers should be followed.

In the event grout residue or build-up does happen to occur on newly installed unprotected tile, reclamation of the floor through a timely and aggressive cleaning effort is necessary. Please note the recommended methods and materials listed below:

- Employ a heavy (75 to 90 lb. head weight) swing type floor scrubber

- Equip the unit with a heavy duty Green floor stripping pad
- Grout manufacturer's recommended grout haze remover used in conjunction with the floor machine
- Make note of areas where significant grout residue is visible
- Work the floor in smaller more manageable sections
- Allow the grout haze cleaner adequate dwell (10 to 15 minutes) time prior to floor scrubbing activity
- Using the floor cleaning equipment, thoroughly scrub the section, repeat of this process may be necessary
- Follow promptly with the removal of the dirty slurry through the use of a wet vacuum. DO NOT MOP as this will only serve to redistribute the dirty slurry on the floor
- The cleaned section should now be thoroughly rinsed and revacuumed possibly twice to insure all dirty slurry and cleaning residue has been removed
- Dry buff the finished floor to a dry uniform finish, using the floor scrubber with a soft white pad or fleece pad.

PENETRATING SEALERS

If polished tiles are used in areas which are prone to excessive spills or are light in color and are installed with a dark colored grout or vice versa; use of a penetrating type sealer is required prior to grouting. A penetrating sealer is one that does not leave a coating on top of the tile. Rather, these sealers assist in filling the microscopic surface pores.

The grinding involved in the polishing process produces microscopic surface pores on all polished tile products. Penetrating sealers can fill these pores, making the tile even more impervious to surface staining, resulting in easier maintenance. Penetrating sealers do not alter the appearance of our Crossville products since they are designed only to fill the microscopic pores and not to coat the tile. Slip resistance also should not be affected.

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

1. Surface must be thoroughly clean and free of any foreign matter that may prevent the sealer from penetrating.
2. Apply in a circular motion using a clean rag, an applicator or a dense sponge, working

sealer tightly into tile surface.

3. One thin application should be sufficient.
4. Completely remove excess sealer from the surface within 3 to 4 minutes using a clean cotton cloth, rag or absorbent paper towels. Penetrating-type sealers must not be allowed to dry on tile surface.

Penetrating sealers are applied only once, and generally do not require constant maintenance through reapplication.

TOP FINISHES AND WAXES

Crossville's dense, low-absorptive, porcelain body inhibits the penetration of contaminants and, therefore, is a tile that is easy to maintain. The low absorptive nature of our porcelain tile not only inhibits dirt and stains, but also prevents top finishes and most chemicals from penetrating the surface.

Top finishes, those that become a coating over the tile and grout joints, are not recommended by Crossville for its Porcelain Stone tile. They will change the appearance of the tile by coating the surface and giving matte finished tiles a shiny finish. When a particular type of tile is selected for the coefficient of friction values, the values can be changed by the application of the finish. Rather than improving the ability to maintain the surface, top finishes will increase the maintenance requirement. Top coating finishes also will show traffic patterns as the finish becomes scratched or wears away. Some finishes may even peel off in spots.

Problems most frequently encountered with the use of top coating finishes are:

1. Wear patterns are easily developed over time.
2. Finish applied to a floor which has not been properly cleaned will cause the floor to look hazy.
3. Finishes applied to textured surfaces will wear unevenly on the raised areas as compared to the low areas.
4. Improperly applied finishes can turn a milky white color.
5. Multiple coats of top finish can cause discoloration of the tile surface.

When problems such as these occur, the finish must be stripped off of the tile and a new coat of finish reapplied. This is a costly and unnecessarily repetitive procedure.

PROPER CARE DURING CONSTRUCTION

Since Crossville products are considered to be a finish material, they should not be installed until all heavy construction is completed.

Between the installation and putting the floor into service, it is imperative to properly protect the tile and grout in order to avoid construction-related cleaning problems. Generally, there is a build-up of dirt and debris on every construction site. This dirt and debris may cause the grout, and sometimes the tile, to be adversely affected.

Crossville recommends that a protective cover be put over the tile surface to safeguard the appearance. The cover could include uncolored Kraft paper, cardboard, plywood, or any other clean covering that will not damage the integrity of the installation. Do not use plastic as it may not allow the grout and thin-set to properly cure, and it also may become extremely slippery as construction dust settles. Proper and diligent care must be used to maintain the protective cover during construction. This will insure a quality appearance when the floor is opened for continuous use.

CHEMICAL RESISTANCE

Crossville tiles are chemical resistant to both strongly acidic and strongly alkaline chemical products, with the exception of **hydrofluoric acids or compounds containing fluoride salts and derivatives**. **Hydrofluoric acid** is the only acid which will attack our tiles, due to their molecular structure.

DAILY MAINTENANCE

In keeping with Crossville's longstanding position on sustainability we highly recommend the use of low VOC, non-hazardous, and non-polluting products for cleaning and maintaining your tile and grout.

General maintenance and cleaning of Crossville Porcelain Stone tile will vary depending on the surface texture and soil load. General cleaning should be performed first by sweeping or vacuuming to remove loose soil or other surface contaminants, then lightly damp mopping with clean water.

Depending on the soil load, a more aggressive cleaning process may be required. This could include the use of a neutral cleaner or a general household cleaner, followed by a thorough rinsing. Please refer to the Cleaning Chart for suggested cleaners.

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

1. All spills should be cleaned as quickly as possible.
2. Use only the recommended dilution of detergent. More is not always better; higher concentrations of detergent in the cleaning

solution will only make it more difficult to rinse.

3. Allow the proper dwell (remain on the floor) time. The detergent solution must be given time to act on the soil load. Generally 5-10 minutes is sufficient.
4. Scrub with a nylon pad or bristle brush.
5. Rinse thoroughly with clean, clear water to remove the dirty detergent solution and emulsified soil. Rinsing is a critical step in the maintenance procedure. Remove the rinse water with a wet vacuum, dry mop or towel. 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.

In addition to the above steps, slightly different cleaning techniques should be administered for each of the surface textures offered by Crossville: Unpolished Matte Finish, Polished, CROSS-SLATE®, CROSS-TREAD®, CROSS-SHEEN®, CROSSDOT®, CROSS-GRIP®.

The use of auto-scrubbers and/or wet extraction machinery can make routine cleaning easier and more efficient.

CROSS-SHEEN® AND UNPOLISHED MATTE FINISH TILE

Crossville's CROSS-SHEEN® finish is not a glaze, but rather a special surface preparation sprayed on the tile before firing. CROSS-SHEEN® closes the pores, resulting in a permanent surface finish that has a high degree of stain resistance.

The following represents a simple procedure for maintaining CROSS-SHEEN® and unpolished matte finish tile floors with a moderate soil load. For best results:

1. Sweep or vacuum the floor of all loose dirt and other foreign materials.
2. Saturate the floor with a mild cleaning solution and hot water, agitate, and allow it to dwell (remain on the floor) 5-10 minutes. Do not allow cleaning solutions to dry. It may be best to complete small areas at a time.
3. Remove the dirty cleaning solution and rinse the surface with clean, clear water.
4. Buff with a dry mop or towel.

If the Crossville CROSS-SHEEN® or unpolished finish product is extremely dirty, a more aggressive cleaning method may be necessary:

1. Sweep or vacuum the floor of dirt and other foreign material.
2. If there are difficult-to-remove contaminants on the surface of the tile, first attempt to identify the specific spill or contaminant. Dif-

ferent surface contaminants require different cleaning methods and chemicals (see chart).

3. Saturate the floor with cleaning solution and hot water, agitate, and allow it to dwell (remain on the floor) 5-10 minutes. After the dwell time, scrub the cleaning solution with a floor machine equipped with a nylon pad or bristle brush. For residential applications and small areas, use a hand brush or nylon pad.
4. Remove the dirty cleaning solution and rinse the surface with clean, clear water. This can be accomplished with a mop or a wet vacuum. It may be necessary to rinse the tile several times to thoroughly remove the cleaning agent from the surface.

POLISHED TILE

For Crossville polished porcelain tiles, please follow these instructions 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 thoroughly with a soft cloth or buffing pad to increase the shine and prevent water spots.

CROSS-GRIP®

CROSS-GRIP® is another special-purpose, high coefficient of friction tile designed to maximize safety in food service and similar installations.

The cleaning regimen for CROSS-GRIP® is the same as for CROSS-TREAD® and CROSS-DOT®.

STONE LOOK TILE & CROSS SLATE®

Crossville's natural stone-look and CROSS-SLATE® tile has a subtle textured surface. The cleaning and maintenance procedures for stone-look tile are the same as for CROSS-SHEEN® and unpolished matte finished tile.

The use of cleaning machines and wet-extraction equipment can be used on our various tiles and textures.

CROSS-TREAD® AND CROSSDOT®

When public safety and insurance factors are a concern, Crossville offers its CROSS-TREAD® and CROSSDOT® tile for improved slip resistance. While these tiles are adeptly suited for their requirements, it is necessary to pay additional attention and take adequate care when cleaning these textures. The undulation of the

surface makes it necessary to clean the entire surface, including the low points, which necessitates some additional, practical dirt removal procedures. Standard damp-mopping may not effectively clean these finishes. Also, it is necessary to thoroughly rinse the tile to completely remove all dirty cleaning solution.

For cleaning of CROSS-TREAD® and CROSS-DOT® surfaces, please follow these instructions:

1. Sweep or vacuum floor debris. If sweeping, use a soft-bristle broom. Sweep in two directions. First, follow the direction of the tile, then sweep diagonally to the tile to ensure complete removal of all foreign material.
2. Saturate the surface with a neutral detergent cleaning solution and hot water and agitate. Looped-end, tail-banded mops, such as the Super Stitch Blend Mop from Rubbermaid (800-347-9800), are the most durable for textured surface tile. Allow the cleaning solution to remain on the floor for 5-10 minutes. Scrub the floor with a brush in a circular motion. Dual-surface floor scrub brushes with side bristles by Carlisle SMP (800-654-8210, carlisleSMP.com) are ideal for cleaning textured floor tile and cove base.
3. Rinse the floor with clean, clear water to suspend contaminants and completely remove any soiled cleaning solution.
4. Remove rinse water with a wet vacuum or dry toweling.

In high-traffic areas, or areas where the surface is exposed to a heavy soil load, it may be necessary to scrub the floor once a day and damp-mop at intervals during the business day.

When occasional deep cleaning is required for particularly dirty or stained areas, the use of a wet vacuum in conjunction with a stiff bristled deck brush is recommended (XTRACT melamine floor pads as a replacement for standard floor scrubbing pads on an orbital machine also work well – www.americomfg.com).

There is also an array of power washing and auto scrubbing equipment by that can greatly improve the speed and efficiency of cleaning large commercial, exterior or transitional surface areas available from:

- Windsor (800) 444-7654 – windsorind.com,
- Betco (888) 462-3826 – betco.com
- Tornado (800) VACUUMS – tornadovac.com

Suggested Cleaners For Problem Stains

General household cleaners suggested for cleaning Crossville® Porcelain Stone® tile include: Mr. Clean® Neutral Floor Cleaner, Windex, Lysol, Spic and Span®, Comet, Bon Ami, 409, Fantastic, Soft Scrub, and Soft Scrub with bleach. For specific problem stains, please use the following stain removal chart.

Crossville recommends the use of professional cleaning and maintenance products. If additional information or assistance is required on a contaminant not listed, or if you need to find out where the products are sold, please call us, or contact one of the following:

Custom Building Products, Tilelab & Aquamix

Seal Beach, CA 90740 • 800.272.8786
 custombuildingproducts.com aquamix.com

TEC/H.B. Fuller Construction Products, Inc.

1105 S. Frontenac St. • Aurora, IL 60504
 800.832.9023
 tecspecialty.com

Miracle Sealants Co.

12318 Lower Azusa Rd. • Arcadia, CA 91006-5872
 800.350.1901 ext. 3013
 miraclesealants.com

These products are used by tile and maintenance professionals and may not be readily available in all areas. Most household cleaners are sufficient to clean common stains as long as they conform to the standards set forth in the Daily Maintenance Section. In the case where stain removal becomes a problem, contact a cleaning and maintenance product supplier or your local tile distributor for professional suggestions.

In keeping with its commitment to quality, Crossville will offer its Technical Service Department for individualized assistance. This department can assist you in the proper installation and maintenance of all Crossville Porcelain Stone tiles. Contact Crossville Technical Services at 931.484.2110.

Food Groups	STAIN	TEC	CUSTOM	AQUA MIX	MIRACLE SEALANTS	COMMON
	Mustard Ketchup Mayonnaise Tea Bags Ice Cream Beer/Wine Orange Juice Grape Juice Coffee Coke Soy Sauce	Everyday or SuperClean STG	TileLab Grout & Tile Cleaner	Concentrated Stone & Tile Cleaner or Grout Deep Clean	Porcelain and Ceramic Tile Cleaner or Tile & Stone Cleaner or Liquid Poultice or Finish Sealer Stripper	Mr. Clean® Neutral Floor Cleaner 409 Spic and Span® Fantastic Comet Windex Lysol Soft Scrub Mr. Clean Magic Eraser
Oil & Grease	Vegetable Mineral Petroleum Wax Sealer Meat Grease Hydraulic Oil Trans. Fluid Linseed Oil Lipstick Rubber Shoe Polish Paint (Oil Based)	SuperClean STG	TileLab Heavy Duty Stripper & Cleaner	Heavy-Duty Tile & Grout Cleaner	Porcelain and Ceramic Tile Cleaner or Tile & Stone Cleaner or Liquid Poultice or Finish Sealer Stripper	Mr. Clean Neutral Floor Cleaner 409 Spic and Span Fantastic Comet Windex Lysol Soft Scrub Mr. Clean Magic Eraser
Markers/Graffiti	Felt Tip Ink Water Mrkr Permanent Fluorescent Crayon	Superclean STG or LikeNew	TileLab Heavy Duty Stripper & Cleaner	Sealer & Coating Remover	Porcelain and Ceramic Tile Cleaner or Mira Strip or Tile Restor or Finish Sealer Stripper	Comet Soft Scrub Mr. Clean Neutral Floor Cleaner ZUD Mr. Clean Magic Eraser
Water-Based Agents	Water Base Paint or Stain	SuperClean STG	TileLab Heavy Duty Stripper & Cleaner	Sealer & Coating Remover	Porcelain and Ceramic Tile Cleaner or Finish Sealer Stripper or Tile & Stone Cleaner	Mr. Clean Neutral Floor Cleaner Comet Mr. Clean Magic Eraser
Tile Grout	Cement Latex or Polymer Epoxy	Banish or LikeNew Banish Banish EX	TileLab Sulfamic Acid Cleaner or Grout Haze Remover	Sulfamic Acid Crystals or Phosphoric Acid Substitute or Grout Haze Clean-Up* Sealer & Coating Remover	Heavy Duty Acid Cleaner (HDAC) or Phosphoric Acid or Finish Sealer Epoxy Grout Film Remover	White Vinegar Lime-A-Way Mr. Clean Magic Eraser

For problem stains, it may be necessary to use an abrasive powder compound in conjunction with the above cleaners: With Heavy-Duty Tile & Grout Cleaner* or Grout Haze Clean-Up, use Aqua Mix NanoScrub. Please be careful to follow manufacturers' recommended procedures when using any cleaning product. To download a copy of "How to Care for Porcelain stone tile," be sure to visit our web site CrossvilleInc.com.

Crossville Cross-Sheen®

Cross-Sheen® is a unique proprietary finish that is not a glaze. It is a special surface preparation that is sprayed on to the tile surface prior to firing. The dense porcelain tiles are then fired at 2,200 degree Fahrenheit, the treatment actually lowers the melt point on the top layer (1mm) closing and fusing the surface pores, giving the tiles a permanent and integral surface finish.

Cross-Sheen® (UPS) finish imparts a subtle glow that enhances the color of the tile and also allows graffiti, stains and scuff marks to be easily wiped off the surface. This remarkable finish is on every tile Crossville manufactures*. Cross-Sheen® is recommended for interior floors and walls and exterior walls, including high-traffic areas and areas where a low level of maintenance is desired. Cross-Sheen® is not recommended for exterior paving.

Please check individual series for usage areas.



Cross-Sheen® is recommended for interior floors and walls and exterior walls.

Permanent Marker Graffiti Clean-up



Cross-Sheen® (UPS) finish allows permanent marker and other inks, stains, and scuffs to be removed with water.

Spray Paint Graffiti Clean-up



Even more aggressive graffiti and spray paint can be removed with a mild cleaner.

*Excluding Polished (PO) and Honed (HON) finish tiles