

*Each stone, created by the earth itself, upholds its own unique properties and geological composition. Because of this, some stones require greater maintenance than others. By following these simple guidelines, you can keep your stone looking beautiful for years to come.*

### **General Care**

Preventative maintenance is essential in keeping your stone looking its best. Use coasters or napkins under all glasses, particularly those containing alcohol or citrus juices. Many common foods and beverages contain acids that can etch or dull the surface polish of many stones. Cosmetics, such as shaving cream, lotion, makeup and perfumes, can damage or stain stone. All spills should be wiped up immediately, especially those that are alcoholic, acidic (citrus juices, vinegar, wine, tomatoes) or oil-based (cooking oils, grease, butter, margarine). Plumber's putty can also damage stone. Make sure to inform your plumber of this potential hazard. To preserve the structural integrity of your stone and prevent it from cracking, do not stand or place excessive weight on the surface, especially on or near overhangs.

### **Daily Cleaning & Spills**

As with all countertop surfaces, stone should be washed and dried thoroughly with a soft cloth after contact with food or other substances to help prevent staining and bacteria growth. Paper towels and other disposable cloths are ideal for drying because they do not harbor and spread bacteria from previous uses.

For everyday cleaning, natural stone cleaners are best. Keystone Marble & Granite recommends and inventories DuPont™ StoneTech® Professional Revitalizer® Cleaner and Protector. If a stone cleaner is not used, a few drops of mild, pH-neutral liquid dishwashing detergent, such as Ivory Dish Liquid, and warm water is recommended. Too much cleaner or soap may leave behind a filmy residue that can cause streaking on the surface.

General household products not specifically designed for natural stone are not recommended. Do not use tub and tile cleaners, window cleaners, degreasers, scouring powders and creams or any cleaner containing ammonia. These products contain abrasives that may scratch or dull the surface. Products containing lemon, vinegar or other acids are not recommended for marble, limestone, travertine or onyx.

### **Procedure to clean up a spill:**

1. Blot spill with a paper towel immediately. Avoid wiping or rubbing the area as that will spread the spill.
2. Flush the area with water and mild soap and rinse several times.
3. Dry area thoroughly with a soft cloth.
4. Repeat as necessary.<sup>1</sup>

### **Stain Removal**

It is important to identify the source of a stain for successful removal of it. If you are unsure what caused the stain, play detective. Where is the stain located? Is it near a food service area or where cosmetics are used? What color is it? What shape of pattern does it have? The sooner stains are detected and treated, the more likely they will be completely removed.

The following sections describe the types of stains, their sources and the procedures that can be used to remove a permeated stain:

#### **Oil-based (butter, grease, cooking oil, milk, cosmetics, tar)**

Oil-based stains darken stone. Normally, the source of the stain must be chemically dissolved with soft, liquid cleanser with bleach **OR** household detergent **OR** ammonia **OR** mineral spirits **OR** acetone, then flushed the area with water.

**WARNING! NEVER MIX AMMONIA WITH BLEACH TOGETHER. THEY PRODUCE A TOXIC GAS THAT CAN CAUSE CHOKING AND SERIOUS BREATHING PROBLEMS.**

#### **Organic (coffee, tea, fruit, food, tobacco, paper, urine, leaves, bark)**

Organic stains tend to be pinkish brown in color and may disappear after the source of the stain has been removed. Outdoors, normal sun and rain generally bleach out organic stains. Indoors, clean stained area with 12% hydrogen peroxide (hair bleaching strength) and a few drops of ammonia.

#### **Metal (iron, rust copper, bronze)**

Iron or rust stains are orange to brown in color. They follow the shape of the staining object such as nails, bolts, screws, cans, flower pots and metal furniture. Copper and bronze stains are green to muddy-brown in color and result from moisture on nearby or embedded bronze, copper or brass items. Metal stains must be removed with a poultice (see section on how to make a poultice). Deep-seated, rusty stains are extremely difficult to remove and may permanently stain stone.

#### **Biological (algae, mildew, lichens, moss, fungi)**

Clean with diluted (1/2 cup in a gallon of water) ammonia **OR** bleach **OR** hydrogen peroxide.

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#### **Ink (magic marker, pen, ink)**

For light colored stones, clean with bleach **OR** hydrogen peroxide. For dark colored stones, clean with lacquer thinner **OR** acetone.

#### **Paint**

Small amounts can be removed with lacquer thinner or scraped off carefully with a razorblade. Heavy paint coverage should be removed only with a commercial "heavy liquid" paint stripper available at hardware and paint stores. These strippers normally contain caustic soda or lye. Do not use acids or flame tools to strip paint from stone. Paint strippers can etch the surface of the stone; repolishing may be necessary. Follow the manufacturer's directions for use of these products. After, flush the area thoroughly with water. Protect yourself with rubber gloves and eye protection and work in a well-ventilated area. Only use wood or plastic scrapers for removing the sludge and curdled paint. Normally, latex and acrylic paints will not cause staining. Oil-based paints, linseed oil, putty, caulks and sealants may cause oily stains. Refer to the section on oil-based stains.

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**Water Spots and Rings (surface accumulation of hard water)**

Buff with dry 0000 steel wool.

**Fire and Smoke Damage**

Older stones and smoke or fire stained fireplaces may require a thorough cleaning to restore their original appearance. Commercially available “smoke removers” may save time and effort.

**Etch Marks**

Etch marks are caused by acids left on the surface of the stone. Some materials will etch the finish but not leave a stain. Others will both etch and stain. Once the stain has been removed, wet the surface with clear water and sprinkle on marble polishing powder, available at hardware or lapidary stores. Rub the powder onto the stone with a damp cloth or use a buffing pad with a low-speed power drill. Continue buffing until the etch mark disappears and the marble surface shines. Call a professional stone restorer for refinishing or repolishing etched areas that you cannot remove.

**Efflorescence**

Efflorescence is a white powder that may appear on the surface of the stone. It is caused by water containing mineral salts from below the surface of the stone rising through the stone and evaporating. When the water evaporates, it leaves a powdery substance. If the installation is new, dust mop or vacuum the powder. You may have to do this several times as the stone dries out. Do not use water to remove the powder; it will only temporarily disappear. If the problem persists, contact a professional to help identify and remove the cause of the moisture.

**Scratches and Nicks**

Slight surface scratches on granite may be buffed with dry 0000 steel wool. Deeper scratches and nicks in the surface of the stone should be repaired and repolished by a professional.

**Poultices**

**Making and Using a Poultice**

A poultice is a liquid cleaner or chemical mixed with a white absorbent material to form a paste to the consistency of peanut butter. The poultice is spread over the stained area to a thickness of about ¼ to ½ inch with a wood or plastic spatula, covered with plastic and left to sit for 24 to 48 hours. The liquid cleaner or chemical will draw out the stain into the absorbent material. Poultice procedures may have to be repeated to thoroughly remove a stain, but some stains may never be completely removed.

**Poultice Materials**

Poultice materials include kaolin, fuller’s earth, whiting, diatomaceous earth, powdered chalk, white molding plaster or talc. Approximately one pound of prepared poultice material will cover one square foot. Do not use whiting or iron-type clays such as fuller’s earth with acidic chemicals. The reaction will cancel the effect of the poultice. A poultice can also be prepared using white cotton balls, whitepaper towels or gauze pads.

**Cleaning Agents or Chemicals**

**Oil-based Stains**

Poultice with baking soda and water **OR** one of the powdered poultice materials.

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### **Organic Stains**

Poultice with one of the powdered poultice materials and 12% hydrogen peroxide solution (hair bleaching strength) **OR** use acetone instead of the hydrogen peroxide.

### **Iron Stains**

Poultice with diatomaceous earth and a commercially available rust remover. Rust stains are particularly difficult to remove. You may need to call a professional.

### **Copper Stains**

Poultice with one of the powdered poultice materials and ammonia. These stains are difficult to remove. You may need to call a professional.

### **Biological Stains**

Poultice with dilute ammonia **OR** bleach **OR** hydrogen peroxide.

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### **Procedure to make and use a poultice:**

1. Prepare the poultice. If using powder, mix the cleaning agent or chemical to a thick paste consistency of peanut butter. If using paper, soak in the chemical and let drain. Don't let the liquid drip.
2. Wet the stained area with distilled water.
3. Apply the poultice to the stained area about ¼ to ½ inch thick and extend the poultice beyond the stained area by about one inch. Use a wood or plastic scraper to spread the poultice evenly.
4. Cover the poultice with plastic and tape the edges to seal it.
5. Allow the poultice to dry thoroughly, usually about 24 to 48 hours. The drying process is what pulls the stain out of the stone and into the poultice material. After about 24 hours, remove the plastic and allow the poultice to dry.
6. Remove the poultice from the stain. Rinse with distilled water and buff dry with a soft cloth. Use the wood or plastic scraper if necessary.
7. Repeat the poultice application if the stain is not removed. It may take up to five applications for difficult stains.
8. If the surface is etched by the chemical, apply polishing powder and buff with burlap or felt buffing pad to restore the surface.<sup>1</sup>

### Sealing

A quality sealer protects stone against everyday dirt and spills. It absorbs into the surface of stone and acts as a barrier to other substances that could result in a stain. Resealing is determined by the frequency of use, staining tendency of the particular stone and time lapsed between sealing. It is time to reseal when water and other moisture migrates into the granite instead of beading up or running off of the surface. Do not use general household cleaners or products containing lemon, vinegar or other acids; these products may break down sealer and etch stone. Keystone Marble & Granite recommends and inventories DuPont™ StoneTech® Professional BulletProof® Sealer.

### Procedure to seal your stone:

1. Mask any surface not intended to be treated.
2. Clean surface with natural stone cleaner or a few drops of mild, pH-neutral liquid dishwashing detergent and warm water and dry well.
3. Liberally apply an even coat of sealer using a paint pad, roller, brush or rubber glove. Do not use anything absorbent cloth or towel to spread the sealer, as it will absorb into the cloth or towel before it has a chance to penetrate the stone.
4. Allow sealer to penetrate the surface for 15 to 30 minutes. During this time, distribute sealer over entire area to ensure even penetration. Remove excess sealer by wiping entire surface thoroughly with clean, dry towels.
5. A second coat may be needed for porous, absorbent surfaces and should be applied 30 to 40 minutes after initial application as directed in steps 2 and 3.
6. 15 to 30 minutes after final application, wipe entire surface with clean dry towels to remove any excess sealer. To remove residue, reapply a thin coat of sealer, allow to dwell for 2 to 3 minutes, agitate with a white nylon pad and dry thoroughly with clean, dry towels.
7. A full cure is achieved after 24 to 72 hours; foot traffic may begin in 6 to 8 hours. If foot traffic must resume sooner, cover the floor with red rosin paper to protect it until full cure has been achieved.
8. Clean tools with water.<sup>2</sup>

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<sup>1</sup> "Natural stone care and cleaning". Marble Institute of America. Retrieved December 16, 2009 from <http://www.marble-institute.com/consumerresources/care.cfm>.

<sup>2</sup> "DuPont™ StoneTech® Professional BulletProof® Sealer". DuPont. Retrieved December 16, 2009 from [http://www2.dupont.com/Stone\\_Tech\\_Professional/en\\_US/products/Protect/bullet\\_proof\\_sealer.html](http://www2.dupont.com/Stone_Tech_Professional/en_US/products/Protect/bullet_proof_sealer.html).