



MATERIALS

Best Uses, Care, and Creation

Silica-based Stones

GRANITE - Some stones considered granite by the stone industry are not granite by geological definition; for example, veined granites are technically 'gneiss' (pronounced "nice"). Within the industry, performance generally dictates the description more than origin.

Common uses: Residential countertops, fireplace faces, commercial flooring, and exterior cladding.

Care: Sealing granite is still recommended. Number of coats will depend on the density of that particular slab. Granite is not acid sensitive, is very hard and durable, and very heat resistant (some more than others). Honed or satin granite, if sealed properly, has no significant difference in maintenance or performance from polished.

Creation: Homogeneous movement (true granite): Intrusive igneous rock formed from cooling and solidification of molten magma. It is comprised of mica, feldspar, and quartz. The slower the stone cools, the larger the mineral crystals within become.

Veined movement (gneiss): Metamorphic stone composed of granite or a silica based-sedimentary stone. When the original (protolith) stone is subjected to temperature greater than 150° C and pressure, it undergoes a physical and/or chemical change resulting in gneiss. Similar minerals band together, forming veins.

Finishes: Polishing uses a 20 head polishing line. Honed only goes to 13th head, slower speed. When creating satin or brushed slabs, stone is honed and then diamond-tipped wire bristle brush is used. Bristles scoop out softer parts of stone, leaving only the hardest parts and create a slight texture.

Other notes: Some stones are honed and then coated with a resin that is cured at a high heat. This is to fill any micro-fractures in the slabs. At that point, the slabs are polished. The polishing process should remove the resin from the face of the slab, leaving it only in any micro-fractures. All resin used must comply with FDA rules for food contact. This assures food prep safety. Granite is generally between 6 and 8 on the Mohs hardness scale.

QUARTZITE -

Common uses: Residential countertops, shower walls, cladding, floors.

Care: Sealing is recommended. Quartzite is quite heat resistant, generally not acid sensitive and generally very hard. Honed or satin quartzite, if sealed properly, has no difference in maintenance or performance.

Creation: Metamorphic stone composed of quartz sandstone. Quartz is compressed until it does not show crystal structure.

Finishes: Most commonly available in polished, but may sometimes be available in honed or satin.

Other notes: Quartzite can sometimes look like calcium carbonate-based but has much easier care, making it highly desirable to many people. Many quartzite materials contain other minerals that may affect their behavior, such as acid sensitivity or hardness.

SANDSTONE -

Common uses: Commercial countertops in dry areas, fireplace faces, cladding.

Care: Sealing is recommended. Sandstone is not acid sensitive. Has very large particles that allow moisture to move through, thus not a good stone for wet applications. Soft and can show wear patterns when installed on floors. Sometimes, moisture from thinset will darken tile after installation. In that case, sealing should wait until the tile is completely dry.

Creation: Sedimentary stone composed of particles 1/16mm to 2mm in size. These particles are then compressed. Quartz sandstone is the most common, often coming from beach sand. As granite breaks down, it becomes quartz crystals that can become sandstone.

Finishes: Generally only available in honed in slab. Sometimes available in antiqued in tile or cladding. Certain sandstone tiles can be found in polished, though the polished finish may wear off in floor applications.

SCHIST -

Common uses: Residential countertops.

Care: Sealing is recommended. Schist is heat resistant and most are not acid sensitive, though Pietra Del Cardosa (and others that look like that) can be. Schist is often foliated, meaning that grains of minerals can flake away. Thus, though generally hard, it can be sensitive to impact and sometimes somewhat more difficult to fabricate. Honed or Satin schist, if sealed properly, has no difference in maintenance or performance.

Creation: Metamorphic stone composed of Quartz Sandstone.

Finishes: Most commonly available in polished or satin.

Other notes: Schist can sometimes be more difficult to fabricate, due to its foliated nature. There are many different types of schist and they have different properties, for example Pietra Del Cardosa, which may contain some acid sensitive minerals, and Orion, which has a high mica content.

SLATE -

Common uses: Hearths, fireplace faces, floors.

Care: Sealing is recommended. Not acid sensitive. Heat resistant. Slate is sometimes enhanced to bring out the color. Slate is a relatively soft stone, so it is not recommended for areas where impact or cutting on the surface may occur. When installed in the natural cleft finish, small pieces may come off when sweeping or mopping shortly after install. Some color may also show up in mop water in slates with gold, such as Honey Tan. Only quartzitic slates such as Oyster and Gold Green should be installed outdoors.

Creation: Very fine grained metamorphic stone composed of shale or siltstone. It commonly exhibits layering and usually splits easily.

Finishes: Most commonly available in natural cleft or honed.

Other notes: Slate is often available in tile and is frequently referred to as gauged or semi-gauged. This refers to the material being planed down to a consistent thickness. However, some slate will still lose

lose layers, typically prior to install.

SOAPSTONE -

Common uses: Residential countertops.

Care: Very acid and heat resistant. Generally much softer than granite and can be scratched, but scratches can often be buffed out. Sealing is recommended, but the method will vary by the material. Depending on their density and mineral content, soapstone will either be treated with a mineral oil or a soapstone enhancer wax (Original PA, Silver Soapstone, Barocca, Beleza, Grigio Santi) or a standard sealer (Green Iron and Soapstone Classico).

Creation: Soapstone is a metamorphic stone created by heat and pressure applied to minerals such as peridotites, dunites, and serpentines. Often, a soapstone quarry will have a high quantity of talc at the top and may be accompanied by serpentine.

Finishes: Most commonly available in honed or satin.

Other notes: The hardest soapstone slabs are low talc and will often have a green tone (Architectural Soapstone). Very light or solid grey soapstone colors (Artistic Soapstone) are generally the softest and most easily scratched; for that reason, we do not stock this.

Sometimes Pietra Del Cardosa will be referred to as a soapstone. It is not. While it can look similar, it is formed differently and can be acid sensitive.

Calcium Carbonate-based Stones

MARBLE -

Common uses: Because marble is softer and more sensitive to acids than granite, many people opt to use it for areas such as bathroom vanities, residential flooring, shower walls, backsplashes, and architectural details. White marble such as Calacatta, Carrara, or Danby are often used in kitchen countertops.

Care: Marble should be sealed. Care should be taken to keep acids off marble, as they will etch the surface. Sealing will help stone resist staining, but will not prevent etching. Marble can be scratched by steel. Generally, white marble such as Calacatta, Carrara, or Danby are harder and denser than other marble and more resistant, meaning that it will etch more slowly than other marble. Etches appear as honed marks. Thus, honed marble generally hides wear over time and is more ideal for use where some acids will be present.

Creation: Non-foliated metamorphic stone made from compressed and heated limestone. This process crushes and destroys fossils. As it undergoes higher temperatures and levels of pressure in creation, marble is the hardest in the calcium carbonate based family of stone.

Finishes: Marble is most commonly polished or honed. Occasionally, it may be brushed/satin. Being on the harder side of the scale marble can take a polish, but etching from acids or wear (such as what a floor may receive) can remove that polish over time. Marble is generally cross-cut, but may also be vein-cut to show the layers.

LIMESTONE -

Common uses: Because limestone is softer than granite and more sensitive to acids, many people opt to use it for areas such as bathroom vanities. Also often used in residential flooring, backsplashes, and shower walls.

Care: Limestone should be sealed. Care should be taken to keep acids off limestone, as they will etch the surface. Sealing will help stone resist staining, but will not prevent etching. Limestone is softer and less dense than Marble; can be scratched by steel. Princess Yellow limestone is as soft as some travertine.

Creation: Sedimentary rock formed underground and underwater. Limestone is comprised of calcium deposits of shell and bone. Generally from coastal regions and lakebeds, fossilized shellfish are often visible in the stone.

Finishes: Most limestone is available only in honed finish. Occasionally, brushed/satin can be found. Some limestone on the harder side of the scale (Seagrass) can take a polish, but etching from acids or wear (such as what a floor may receive) will remove that polish over time. Limestone is generally cross-cut, but may also be vein-cut to show the layers.

TRAVERTINE -

Common uses: Because travertine is softer and more sensitive to acids than granite, marble, and limestone, many people opt to use it for areas such as bathroom vanities. Also often used in residential flooring, shower walls, and walls.

Care: Travertine should be sealed. Care should be taken to keep acids off travertine, as they will etch the surface. Sealing will help stone resist staining, but will not prevent etching. Travertine is softer and less dense than marble and limestone; can be scratched by steel. Travertine from the Andes region is generally harder and may be somewhat similar to some limestone.

Creation: Formed in mineral springs, travertine is a form of limestone that is less dense and softer than traditional limestone. It is a terrestrial sedimentary rock formed by particles of calcium carbonate as they are carried to the surface by the water of the spring. Thus, they usually have concentric rings or waves of movement when crosscut.

Finishes: Most travertine is available only in honed finish, as it usually will not hold a polish. The main exception is dense travertine from the Andes Region. Even when they can take a polish, etching from acids or wear (such as what a floor may receive) will remove that polish over time. Travertine is generally cross-cut to show waves and rings, but may also be vein-cut to show the layers.

Other notes: Typically, travertine is filled as it is cut. Sometimes, unfilled travertine is available but if filled by grout in installation.

ONYX -

Common uses: Because onyx is the softest in the calcium carbonate based family of stone and more sensitive to acids, many people opt to use it for areas where it can be displayed without encountering acids or things that might scratch it. An example would be conference room walls or behind a front desk where it could be backlit, shower walls, or water features.

Care: Onyx should be sealed and treated with caution. Care should be taken to keep acids off it, as they will etch the surface. Sealing will help stone resist staining, but will not prevent etching. Onyx is generally the softest in the Calcium Carbonate-based family; it can be scratched by steel. Thus, only neutral cleaners should be used and abrasive materials should be avoided.

Creation: Onyx is a sedimentary stone. Formed in caves, onyx is the meeting of stalactites and stalagmites. As the minerals seep down to fill the cave, they are deposited until the cave has filled.

Finishes: Most onyx is available in a polished finish. Tiles can sometimes be found in a tumbled finish, which tends to show less wear over time.

Other notes: Onyx is often translucent and can be backlit.

	SEDIMENTARY	METAMORPHIC	IGNEOUS
Calcium Carbonite Based	Limestone Travertine Onyx	Marble	
Silica Based	Sandstone	Slate Quartzite Soapstone	Granite

Man-made Materials

QUARTZ -

Common uses: Residential countertops, shower walls. It can be made to look like many types of stone and thus is often used as a low maintenance replacement for those looks.

Care: Sealing is not needed. Cleaning is done with soap and water and Magic Erasers can be used in moderation for difficult marks.

Creation: Quartz is typically by combining particles of the natural mineral (also called quartz) with a binder and pigment and then heat and or pressure are applied to create a solid material. PentalQuartz contains 90-97% stone, depending on the color. It is then fused together on Breton machinery.

Finishes: Most commonly available in polished. Brushed or satin may sometimes also be available. Honed is less common, as it requires more effort to keep looking pristine. PentalQuartz is a lower polish than most polished granite, giving it the benefits of honed and polished.

Other notes: Due to the pigments and binders used, quartz is not appropriate for outdoor and is not typically ideal for fireplaces.

CERAMIC -

Common uses: Residential backsplashes, shower walls, decorative elements.

Care: Sealing is helpful in wet installations. Cleaning is done with soap and water.

Creation: Clay is formed into shapes and then fused with heat in a kiln. Most of the time, it is then glazed and then goes through the kiln again. Hardness and level of absorbency vary depending on the type of clay, pressure used to form, and the heat of the kiln.

Finishes: Typically matte or polished

Other notes: Because of resistance to acids, heat, scratching, and UV, porcelain is one of few materials that is appropriate for many types of installation. As the color is typically only applied for the second firing, a wider number of colors can be created in ceramic than porcelain. Also, since it is more economical to make in small batches of ceramic than porcelain, it can sometimes be possible to do custom sizes or colors.

PORCELAIN -

Common uses: Residential or commercial floors, backsplashes, shower walls, fireplaces.

Care: Sealing is not needed. Cleaning is done with soap and water. Textured tiles can be cleaned using a Magic Eraser Mop to ease cleaning.

Creation: Porcelain is a subset of ceramics- the hardest and least absorbent tiles. Clay of primarily feldspar particles are pressed and then fused with heat in a kiln. The resulting material is harder than standard ceramic tiles and is considered impervious.

Finishes: Matte, polished, and some textures such as strutturato or brushed.

Other notes: Because of resistance to acids, heat, scratching, and UV, porcelain is one of few materials that is appropriate for almost any type of installation. It is used widely in every situation from light residential to heavy commercial.