

## Types of Stone Floors

**Metamorphic Stone** has been changed from one form into another. The change comes from increased heat and pressure as well as the introduction of new minerals into the mixture. The color may change. The texture may change. Under sufficient pressure the mineral can take on a crystal structure. Diamond is carbon that has taken on a crystalline structure. The presence of other minerals is responsible for variations in color.

**Sedimentary Stone** is formed of small bits of weathered stone, marine organisms or minerals dissolved in water that form layers and under pressure become sedimentary stone. Formed by molten material deep in the earth known as magma, Igneous Stones are classified in one of two groupings.

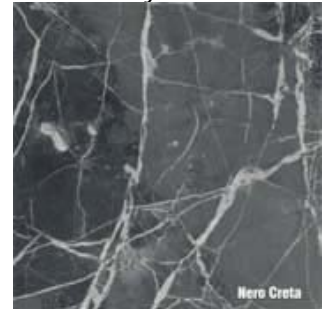
**Extrusive Rock** starts as magma that exits from the surface of the earth, comes in contact with cool ground and much cooler air. The stone hardens quickly leaving little time for crystals to form. Extrusive igneous rock exhibits small crystals.

**Intrusive Rock** is formed when the magma is trapped below the surface of the ground. It cools more slowly and forms larger crystals. Most igneous stone used as flooring material is the intrusive variety.

### Marble

MARBLE is metamorphic stone that contains calcium carbonate. It can often be identified by veins of color running through the stone. Marble will take a high polish resulting in a highly reflective shine. Marble may also be finished by honing to a flat dull shine or tumbling to a soft finish with worn and rounded edges.

How to identify marble: marble will scratch with a knife, granite will not. Marble is affected by most acids, granite is not.



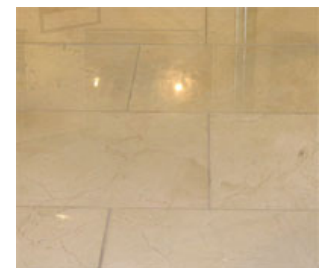
### Serpentine

Serpentine is sometimes classed as marble because of the high shine it can take on. However, it is actually an igneous stone and does not contain calcium. Serpentine often has a green or bluish green coloration predominating. Igneous stone and does not contain calcium.



### Limestone

Limestone is sedimentary - meaning it is formed by the action of water and great pressure. Its characteristic colors include neutrals, off-white, beige, tan, taupe, light blue gray. The look of limestone is created by the interaction of sediment deposits and shells with geological activity. Limestone finishes are usually honed and typically does not hold a high gloss polish.



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### Travertine

Travertine is sedimentary - meaning it is formed by the action of water, pressure and heat. Its characteristic colors include neutrals, off white, beige, tan, and yellow. The look of travertine is created by the interaction of gas, shells and water with geological activity. Travertine finishes are usually honed, but some will hold a polish. Travertine contains voids in the surface that may be filled by plastic resins or grout. Over time such fillers may come out allowing the voids to be filled with soil.



### Granite

Granite is igneous - meaning it is formed by extreme heat and volcanic action. Its characteristic colors include a wide variety and mixes of color. Granite can take a high polish.

Igneous rocks are formed from the solidification of magma deep in the earth. They contain 45 to 66 percent silica (quartz). The remaining minerals are mostly feldspar, mica and iron ores. Granite is the most abundant igneous rock found on Earth. Differences in porosity and thus ease of staining also exist.

Granite is usually not affected by many acids.



### Slate

SLATE is a colorful metamorphic stone showing a fine grained structure containing tiny crystals. It is composed of shales and clays rather than calcium carbonate. Slate has a sheet-like or layered appearance known as foliated



### Ceramic Tile

Ceramic is a broad category that can include all tile that is made from clay and other nonmetallic minerals. In general use, ceramic tile is used to describe tiles that don't fall into one of the other groups. Most ceramic tile goes through a process called "firing" at high temperatures. A key advantage of ceramic flooring is its durability. Ceramic is resistant to alkaline, acids and solvents used in cleaning. Ceramic's abrasion resistance keeps it from being scratched by gritty soil under foot if the grade of tile matches the situation in which it is used. Ceramic flooring is available in a wide variety of styles, colors and patterns.



### Quarry Tile

Quarry tile is fired at 2000°F or higher. The common dark red color comes from the minerals in the clay body. Other colors can be produced by selection of clay or adding pigments. Normally there is no glazing or pattern added. Brick pavers are another type of clay tile similar to quarry tile. They have a rougher texture and often are cut to size so that the floor looks as if it was paved with bricks.



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### Porcelain Tile

Porcelain is a high density ceramic tile made from special clays fired at high temperatures making it highly resistant to abrasion. One qualification to be called porcelain is that the tile must absorb less than .5% of its weight in water.



### Saltillo Tile

True Saltillo tile is produced from clay that is found only in Saltillo, Mexico. Similar tile that is produced elsewhere will be called "Mexican" or "Saltillo style" tile. This tile is made with a low degree of automation. As a consequence, the tiles may not be exactly square or flat. There will be variation in color. Some tiles may exhibit chipped or uneven edges, craters on the surface or even animal footprints.



## Types of Grout

### Sanded Grout

The most common grout used for man-made tiles is Sanded Grout. This is a blend of Portland cement and sand. The presence of the sand helps identify this type of grout. The width of the grout line also aids in identifying the type of grout. Normally sanded grout is used when grout lines are 3/16" or wider.



### Unsanded Grout

Unsanded Grout is commonly used with natural stone flooring. There are two reasons for this. First, as grout wears, particles of sand could scratch and abrade stone surfaces. Second, the unsanded grout is better suited to filling narrow grout lines found in stone installations.



### Epoxy Grout

Epoxy Grout, although not common, resists staining and soil. It can be identified by a plastic like appearance that is frequently rounded on top. NOTE: Cementitious grout with epoxy added is not the same as epoxy grout.



Grout and grout lines may contain additives to provide color, make cleaning easier or extend the life of the grout. Your initial inspection of a job should include examining the grout. Cracks may be present due to movement of the substrate, installation and mixing issues or rarely the quality of the grout itself. Sections of grout that have broken loose due to these cracks can be blasted out by high pressure cleaning.



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