

Granite and Other Natural Stone Countertop Fabrication and Installation

While not manmade, the process from extraction of natural stone to placement as a kitchen countertop is quite extensive. The natural stone industry goes largely unregulated so each stone distribution company and fabricator is free to use their own terminology for grade and color as well as price, adding to the confusion for the average consumer. However, with granite there are some universal or typical colors/patterns that share the same name, such as ubatuba, Baltic brown, absolute black, black galaxy, Santa Cecilia, etc.

After the initial quarrying of the rock, it is cut into manageable blocks and thick slabs. These blocks are cut, inspected and sorted into three or four tiers depending on the mineral composition. The crystalline minerals of granite range in size creating various degrees of porousness, color and movement (pattern and grain). Top tier stone from one manufacturer can vary from another. Largely unverified reports state that some less common granites may contain harmful amounts of radon, which has led some stone providers to recently begin testing for radon and radioactivity and label the stone as safe for consumer use.

The stone is then cut to a thickness ranging from $\frac{3}{4}$ inch (2 cm) to 2 $\frac{1}{4}$ inches (4 cm) with the standard in most places in the United States typically being 1 $\frac{1}{4}$ inch (3 cm). The standard length and width of a granite slab is 4 by 8 feet or 4 by 12 feet, although slab sizes vary because of the nature of the material. Slab cutting is typically done now with high technology machinery, which may high-pressure water streams and diamond-bladed saws. When this cutting is complete, the granite is polished, resined with epoxy or polyester and conditioned in heated ovens. More and more, resining is becoming standard practice for any grade of granite as it increases durability. More fragile slabs may also have a fibrous backing material put on them to keep them from breaking during shipping and storage.

The slabs are then shipped to various stone distributors around the world, ready to be selected by fabricators or individual consumers. Some types of granite and other natural stones are referred to as "exotics" because of their limited availability. That is, in the quarrying process, sometimes a unique section of stone, with an exotic make-up and look, is run across. These highly sought after segments are harvested separately and their rare nature is reflected in their availability and price.

After selecting the type of natural stone to be used in a countertop, before it can be made, a countertop fabricator will visit the installation site and take exacting field measurements of the area to covered, cabinet placement, cabinet tops and leveling of surrounding walls. This process may use everything from tape measurers and strips of thin wood or plastic to more advanced means such as photo telemetry or laser measuring. Once the very exact measurements are taken, a template is created for each countertop either in a hard form (strips of wood or plastic) or in digital form (computer drawings), from which the creation of the actual countertop will be based on.

Natural stone supports a wide variety of edging, cornering and backsplash options. The straight edge, bullnose, full bullnose and ogee edges remain the most popular, but custom profiles can be accommodated by stone (although they may also dramatically affect the price). Backsplashes must also be specified. Partial backsplashes (4 to 8 inches high) of the same thickness are the most popular, as a full height backsplash may require the use of an additional slab, increasing the price and the chances that color and veining will vary.

Sink styles will also have to be known before final cutting. Top mount (self-rimming) and undermount sinks are used more frequently, but use of a "farmhouse" style sink is also possible. The undermount design may require auxiliary framing to support the weight. Typical stone countertops are heavy (up to 600 lbs.) and will require several installers to deliver and set. The final installation can generally be done in 6 to 8 hours, which will include setting a plywood subtop and shims if required and possibly metal support rods.



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