
INSTALLING STONE COUNTERTOPS

*Pay close attention to seams and cutouts if you want
stone countertops to be trouble free*



Installing stone counters calls for a big crew. Typical 1 1/4-inch-thick granite counters weigh about 25 pounds per square foot, so a sizeable slab can easily weigh 300 pounds or more.

It's one of those extras that customers ask for. Like asking, "How much for two more skylights?" or "Can I afford a whirlpool bath?" — they want to know what it will cost to make the kitchen counters out of stone, usually either marble or granite. This article will give you the background you need to help your clients make the right choices. The more you know about the characteristics of stone, the better you will be able to set realistic expectations about durability, appearance, and design constraints.

Materials

Marble and granite are the most popular stones for countertops. Finished price per linear foot of countertop runs from \$80 to \$180 for both types of

stone. But granite is the best choice. It's stronger, tougher to damage, and resists stains better than marble. (For more information about marble, see "Protecting Marble".) Once people know the facts, they usually select granite for kitchen counters. Therefore, this article will focus on issues specific to granite.

You can find granite in almost any color (see Figure 1) or pattern you desire: repeating patterns, solid colors, or patterns with lots of movement. ("Movement" refers to the pattern of colors and variations across the face of the slab. A slab with a complicated pattern is described as having lots of movement; a simple pattern, little movement; and a uniform color with no variations, no movement.)

by Anita Aikey

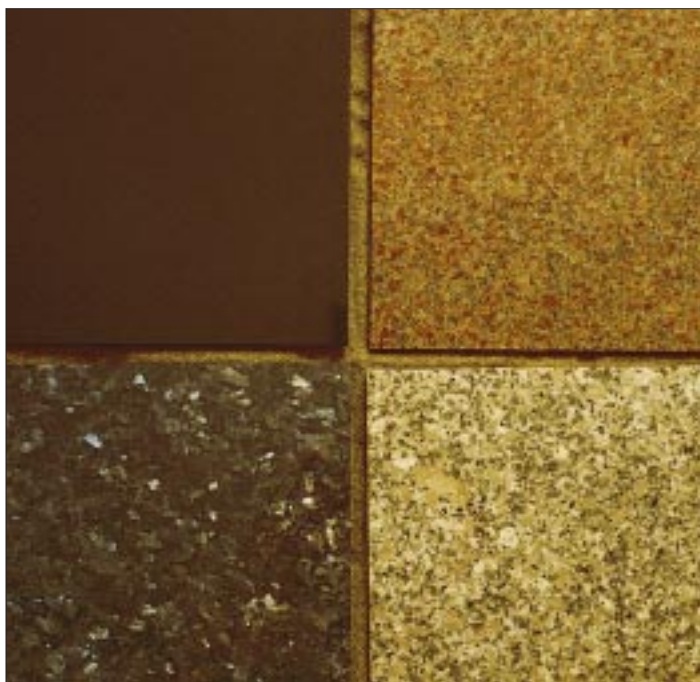


Figure 1 Granite is available in almost any color. Some widely used types are (from upper left, clockwise) Absolute Black, Mountain Rose, Deer Island, and Blue Pearl.



Figure 2 Suction cup handles, much like the ones used in the glass handling industry, make final positioning easier.

Granite countertops are usually 1 $\frac{1}{4}$ inches thick and weigh about 25 pounds per square foot.

Handling granite on site calls for lots of hands — and lots of handholds. We use suction cup handles (Figure 2) to make the job easier.

Design

Designing with stone is unlike designing with other countertop materials. Some particular patterns and colors come only from a single quarry, and since maximum slab size depends on how stable the stone is, the first limitation on your design is how big a slab you can get. Twelve-foot lengths are available with some granites, though 8- and 9-foot lengths are more common. Some Asian granites are even smaller — 6 feet or so. In kitchens with many running feet of countertop, you have to plan carefully to make the best use of the slabs and to avoid seams in the wrong places.

Seams. Any large countertop is going to have seams. We try to keep them out of sight as much as possible. We design the countertop to keep seams away from sink cutouts, both to increase the counter's stability and to keep water from getting into the cabinets.

Seams often end up in corners, where we use simple butt joints. Customers sometimes want a mitered

corner, but the high price of getting this joint to look right almost always discourages them. Because the walls are almost never exactly at right angles, it's next to impossible to get a tight mitered seam and still be tight against the walls. If your customer really wants this type of a seam, make sure they understand that it will add \$100 to \$150 to the bill.

We seal all seams with G.E. Silicone II Clear Window and Door Sealant (260 Hudson River Rd., Waterford, NY 12188; 800/255-8886) so that liquids can't seep down into the cabinets. A small bead on one surface of the joint before the two pieces of granite are pushed together is usually all it takes.

Cutouts. Any hole you put in the slab weakens it. This is mostly a problem during transportation — once the slab is in place, the cabinets give it full support. For this reason, we usually wait until the counter is in place to make the final cuts. We predrill the corners of cutouts with a diamond-tipped core bit back at the shop, then finish the cutout with a modified Skil 77 wormdrive saw at the site (Figure 3).

Overhangs. Granite is strong stuff, but even with 1 $\frac{1}{4}$ -inch-thick counters, you shouldn't have more than 14 inches projecting into space. Granite can span about 30 inches from cabinet to cabinet — over a space for a dishwasher, for

example — but even then it should be supported by cleats along the back wall.

If the granite you're using has a high-movement pattern, then the grain of the stone is weaker and more likely to crack. In these cases, we use steel supports at 18-inch intervals along the counter. The supports are $\frac{1}{4}$ inch thick, 1 inch wide, and about 14 inches long. These cantilevers are not attached to the stone, but merely support it.

Standard cabinets from home supply houses usually provide enough support for granite countertops. Just be sure to install the cabinets dead-level and all in the same plane. Anything more than $\frac{1}{8}$ inch off will really show against the perfectly flat countertop, especially where two pieces come together. As long as the granite is touching the cabinets at all support points and is riding on a good bead of silicone, it's safe from cracking (Figure 4).

When installing a dishwasher, we usually screw it to the cabinets on either side. If this is not possible, we drill shallow holes in the underside of the countertop with a small diamond core bit, then insert a threaded lead anchor into the hole. A screw spreads the anchor, which locks it into the stone.

Edge Treatments

Several standard edge profiles are possible with granite (Figure 5). These



Figure 3. To avoid cracking granite counters during transport, the author waits to make sink cutouts until the slab is installed. She prepares the cutout in the shop by drilling holes at the corners and scoring the cut (upper left). She makes the final cut on site using a Skil 77 wormdrive saw fitted with a water shroud (upper right). The corners are cleaned up with a diamond blade on a grinder (lower left). With the cutout complete, sink installation is a straightforward task (lower right).

treatments are created using hand-guided grinding tools, and they're priced by the linear foot. The price ranges from \$14 to \$34 per foot. More expensive options, such as an ogee profile, cost around \$42 per lineal foot.

Inlaid strips of contrasting stone are also possible. Inlays vary from simple borders to intricate designs. A dining or conference table, for example, can be enhanced with a different-colored bar all the way around the edge. The work is usually done with a water jet

machine. This treatment runs from \$50 to \$100 per foot.

Backsplash Details

The gap between a backsplash and counter is really not noticeable because the stone is perfectly flat. We use silicone to seal the counter to the backsplash, and to attach the backsplash to the wall. Full-height backsplashes with receptacle cutouts are quite common.

The exposed edges of the backsplash are usually ground to match the coun-

tertop edge: If the counters are half bullnose, the backsplash edges would be half bullnose as well.

Scratches and Stains

Granite is very resistant to scratching. If you do happen to scratch it, it can be repaired on site. We use diamond-embedded disks to grind out the scratch, and blend it back into the surrounding stone. These repairs can be almost invisible, depending on the extent of the damage and the skill of the repair person.



Figure 4. The author spreads silicone on the top of an end cabinet. The sealant is used more for uniform weight distribution than for adhesion — the stone's weight keeps it in place.



Figure 5. Edge treatments include (from the top down) flat eased, 1/4-inch x 1/4-inch bevel, half bullnose, pencil round, and full bullnose. Prices for edge treatments range from \$14 to \$34 per foot.

Protecting Marble

Marble comes from U.S. quarries as well as from 40 countries, which export nearly 10,000 tons of marble to the U.S. monthly. You can find almost any color or pattern you desire — marble with a repeating pattern, one solid color, or with lots of movement.

Marble is used in a variety of applications: Fireplace surrounds, bathroom vanities, walls, and some flooring applications call for 3/4-inch marble. Marble flooring usually comes as 3/8-inch-thick tiles.



While not recommended for counters, marble is often used on walls and floors. Some popular styles are (from upper left, clockwise) Rojo Alicante, Vermont Verde Antique, Russo Nuovo, and Classic Travertine.

The Marble Institute of America doesn't recommend marble for use in kitchens because it is very absorbent and stains easily. I have worked with several sealers that can make the stone repel water on the surface. Some sealers like Lithofin Premium Silicone Impregnator penetrate deeply into the stone.

Besides being absorbent, marble also scratches easily. A marble floor can be damaged by grit on the bottom of shoes or boots — I would allow only bare feet or stocking feet on a marble floor.

If you use marble in your kitchen you need to treat it as fine furniture and remember that even when sealed, it can scratch easily. All furniture should have felt pads on the bottom of the feet. If you're using marble that is highly polished, you need to be extremely careful of what you allow to contact it.

Some people have purchased old marble slabs salvaged from bathroom partitions and tried to make countertops out of them. Unfortunately, the type of marble used for those partitions is very absorbent and completely inappropriate for kitchens. Even with lots of sealing, you can never be sure that it won't absorb stains. — A.A.

All types of stone can be sealed to prevent absorption of liquids. We use Lithofin Premium Silicone Impregnator, available from VIC Industrial Corp. (P.O. Drawer 12610, Knoxville, TN 37912; 800/423-1634). Another good sealer is 511 Porous Plus (Miracle Sealants & Abrasives Co., 12806 Schabarum Ave., Bldg. A, Irwindale, CA 91706; 800/350-1901), which works with all porous stones. Yearly sealing is recommended, along with a monthly maintenance polish. These sealers are all safe for food contact once they have dried.

Costs

The cost of stone varies depending on the availability. Granite pricing is generally less volatile than marble, although there are always exceptions — Black Galaxy or Blue Bahai Granite are a couple of examples. The cost of granite is competitive with solid-surface products like Corian or Avonite on a square-foot basis, but since granite requires a high-quality polished finish, the overall price is higher than solid surfacing. Polishing costs are the same for marble and granite.

The true value of a granite counter is that it will never need to be replaced, and will never be "out of style." ■

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