Granite 101

Written by: Tony Bolfing

I once heard a builder say that 20 years ago the 3 most important things about buying or selling a home was 'location, location, location!' Now he says that's changed to 'granite, granite, granite!!!' Of course, that may not be entirely true, but it sure does sound good to a granite fabricator!

With so many options to choose from in the stone world, it is not surprising that many of our customers are confused when it comes to picking a countertop that is right for their project. Of course, choosing a material to fit your needs isn't always as easy as picking a color to match your paint. A decorator may tell you the color of your granite is the most important thing (and to most homeowners, that may be true), but from a fabricators viewpoint there are several other factors that need to be addressed. Many homeowners have come through our doors with the idea of replacing their countertops, but they have not done any homework to even know where to begin. Would you like to use a natural stone or engineered quartz? 2cm or 3cm? Laminated edge or single layer profile? What Tier Level? Undermount or Drop-in sink? These are just a few of the questions that often get a 'deer in the headlights look' for an answer.

Ten years ago granite may have only been available to the 'super rich' of Hollywood or royalty, but today's natural stone market has become extremely competitive and affordable for many. From multi-family construction to multi-million dollar custom homes, granite is quickly becoming the norm. Whether an entry-level color with a standard edge is used or a more exotic selection with an intricate laminated edge style is chosen, each application is as different as the next.

What is granite? Remembering back to high-school geology class, granite is an igneous rock that is composed of various components such as quartz, feldspar and silica. Sometimes during the formation process more or less of one of these minerals causes weak spots or voids. Often times, these areas are noted at the quarries and are usually filled in with quartz crystals and a polyester resin. While these weak spots or voids are more common in some stones than others, it is these unique 'imperfections' that actually make the slabs all the more 'perfect' and more desirable. Being a natural product also challenges fabricators and installers when joining pieces together. The length of a slab or particular countertop layout may force the fabricator to place a seam at various places. Normally seams will be in areas where a break in the layout occurs, such as the corner of an L-shaped countertop or the corners of angled kitchen counters. Whenever possible, seams will be lined up with a cabinet or drawer and normally away from dishwashers and sink cutouts. Although some companies choose to have seams located in sink cutouts, many customers would rather move them to one side or the other so they are not looking at the seam while doing dishes or

brushing their teeth. In other countertop materials such as a solid surface, joints and seams are virtually invisible. In the case of natural stones, joints and seams will always be visible and sometimes can even be felt. These joints and seams will be within 3/16" wide (much tighter than a common tile grout line) and will be filled with an appropriate color of polyester epoxy. Granite and other natural stones are porous by nature and will absorb liquids almost immediately. If liquids such as red wine or even Kool-Aid are spilled on granite, the pores act as capillary tubes to draw the moisture into the material which may cause a stain. Common impregnating sealers will help treat the surface of the stone by penetrating the material and physically bonding to the stone. Sometimes, even though the material has been sealed properly, stains may still occur. It is recommended that natural stone be sealed about every 6 months. Natural stone cleaners and revitalizers are other products to help maintain the beauty of stone and are available at major hardware stores. Common kitchen cleaners such as Windex Multi-Task, 409 and Fantastik are all appropriate to clean the counters, but keep in mind that these products will not only clean the surface, over time they will also break down any sealers that have been used (which is why re-application is so important).

This color doesn't look that fancy, why is it so expensive? We are frequently asked why one stone costs more than another even if they look similar. Most fabricators and slab yards work with 'tier levels' for pricing. These different levels are solely based on square footage prices given by various slab yards and have nothing to do with the quality of the stone. The majority of common colors fit into 4 or 5 price levels but, other more exotic or rare colors may be well above any of these levels. While a fabricators list may start at Tier I, likely to include inexpensive colors such as Uba Tuba and Baltic Brown, the list may go up to Tier IV or V that will include more expensive and exotic materials such as Black Galaxy or Juperana Bordeaux. Some of the most expensive colors of granite and marble are actually some of the 'veiniest' and nastiest materials to work with. Some such slabs come from the quarries with a polyester mesh backing to help hold the material together. These types of materials are a fabricator's nightmare and will almost break apart if you look at them wrong!! Sometimes even the mesh fails to keep the product in one piece, resulting in countertops and splash to be installed in several pieces. When this occurs, the installer is forced to align the jagged sections and glue them back together along the natural vein. An experienced installer will be able to make adjustments like this and still keep the veins and fissures appear as natural as possible.

The slab yard told me my selection is not too expensive, why is it so high on your tier level list? One thing that often confuses customers is that a fabricators list of tier levels may not reflect how a slab yard describes their material levels. An easy way of explaining this is that a slab yard will carry hundreds of colors that will vary in price from less than $10 per square foot and may go up to nearly $100 per square foot. When a customer inquires about an exotic stone with a price tag of around $50sf, the

salesman may call that particular material a 'middle of the road' selection. In their eyes, that is true, but after a fabricator adds the labor charges involved with countertops, the square footage price may jump up to $90 or more installed. However, hearing this price and seeing signs posted around town stating 'Granite Countertops Installed for $30sf!' will quickly show the customer that the chosen material is far from a 'middle of the road' color. Most reputable slab yards do not share square footage prices with the general public in order to avoid this type of confusion. Many companies have a list of colors they work with on a fairly regular basis. When shopping around, ask if a list like this is available and you may be able to save money by not buying more material than is needed for your project. For example, if you were to use Uba Tuba for a kitchen with 60 s/f of countertops, 2 slabs would need to be purchased (assuming each slab is around 50 s/f) but, only a portion of the second slab will be used. Knowing that Uba Tuba is a common color and whatever material is leftover will be used up quickly, most companies would charge for only the 60 s/f of material, rather than the 2 full slabs. Of course when choosing a more exotic selection, such as Blue Austral, the material cost might be quoted separately from the labor to fabricate and install because it is a color that is very seldom used. Using an average retail price ($49/sf) for a Tier I selection, this kitchen would cost around $2,940. By adding an undermount sink cutout ($200), the price is just over $3,000.

What 'grade' of granite should I buy? When shopping for granite, some people say be sure to pay close attention to the 'grade' of the granite that you are looking at. Were the slabs you chose a 'builders grade' or 'custom grade'? Were they 'A', 'B' or 'C' grade? Hearing these statements might lead one to believe that God made some higher-quality stones than others. Although this might be true, consumers need to remember that granite is a natural stone and whether or not it might be labeled as a certain 'grade' often times irrelevant, because it is still a rock that took millions of years to form. Even if the chosen slabs are 'A' grade material, there are no flawless slabs. There are no slabs that do not contain small, hairline cracks. There are no non-porous granite slabs like their engineered-quartz-cousins. The bottom line is, granite is a natural product and no matter what the so-called 'grade' is, it will still have the natural qualities of stone: veins, fissures and quartz pockets will still be prominent because they are all part of the material. And while most slab yards that carry different grades of material may disagree with the previous statements, they will all agree that the end result could be rated far from 'A' grade, based on the fabrication. In my opinion, choosing the right 'grade' of fabricator and/or installer is far more important than choosing the right grade of material (being a fabricator, of course I do, right??). When shopping for a fabricator/installer, the cheapest price is not always the best option. I have been wearing glasses or contacts since I was in 8th grade and I have finally decided to have corrective surgery next summer. I have two [less then perfect] eyes, but why would I choose to use the cheapest guy in town to cut on them?? Obviously in the granite world, the end result could not be possibly be life-threatening (or at least we hope not!), but the idea is the same. Why would you spend hundreds,

if not thousands, of dollars on beautiful natural stone slabs only to have them poorly fabricated by a man with a pickup truck, a grinder and a helper. When choosing a fabricator, ask what type of equipment they will use to cut and polish your carefully selected material. Believe me, any company with state-of-the-art equipment would be more than willing to showoff their 'toys' to make a sale!

What type of natural stone should I use? With all the choices of stone to use for countertops, it is best to first think of what the application will be. While some stone may be appropriate for flooring and backsplashes, the same type might be a terrible choice for a kitchen countertop. But, that same stone may be perfect for a bathroom vanity top. Based on the Mohs Scale of Hardness, quartz (granite) is a 7 with only Topaz, Corundum (whatever that is!) and Diamonds higher on the scale. Common kitchen utensils such as pots, pans and knives are not as hard as granite and therefore will not scratch the material. Even though quartz is very scratch resistant, most companies still recommend the use of cutting boards (if for nothing else, just to minimize damage to knife blades!). Aside from granite there are several other choices of natural stone that can be used in various areas of the home. Real marble, travertine and limestone are much softer than granite making them appropriate for bathroom surfaces, but not very practical in the kitchen. Although, in Europe, it is very common to use natural marble for kitchen counters because they are not high traffic areas. Beautiful colors like Perlado, Crema Marfil and Light Emperador may be the norm, but entertaining guests in those same kitchens is certainly not. Aside from the fact that eating out is more common, Europeans have also accepted the fact that those counters will need to be kept up more than other types and are willing to live with stains and etchings from acidic liquids like red wine and lemon juice. Another example of natural stone is natural slate. If you ask me, it is hard to beat the rugged look of slate tiles on an outdoor patio. But after working with slate slabs in several homes, I would advise against using them on countertops. The very nature of slate is an extremely rough, layered material that is very difficult to clean because of its ridges and valleys. A few years ago when a designer and homeowner chose Onyx for some of their bathrooms they were disappointed to see so much resin-filled areas. After they realized it was only part of the stone, we changed out the plywood decking and installed Plexiglas (for support) so the electrician could install halogen lighting inside the cabinet. Then, a so-called 'defective slab' turned into a showcase bathroom.

What thickness of material should I use? After choosing the type of material, something else to think about is the slab thickness. The majority of natural stones come in 2 and 3 centimeter (2cm and 3cm) thicknesses. This equates to roughly ¾" and 1 ¼" slabs and all edge profiles are based on any combination of these. For instance, a 1 ½" bullnose edge is achieved when a strip of ¾" material is glued to the underside of another ¾" slab (this is also called a laminated edge). One reason for using this size edge would be to hide any plywood decking that was used for support. As fragile as natural stones are, 5/8" or 3/4" plywood decking is needed to

minimize cracking and if a ¾" edge profile is selected the deck will either need to be painted or finished with some type of wood trim. Because of the labor involved with laminated edges, these styles will normally be an upgrade from single-layer types. While most laminated edges are 1 ½" thick, I have seen a 6-layer bullnose edge (4 ½" or 12cm). However, an edge like this one could be very costly because even most large fabrication machines cannot handle an edge this thick and the profile would need to be cut and polished by a very skilled hand. However, most 3cm products are installed without laminations because the 1 ¼" profile is already much thicker and more bold than other countertop choices such as a solid-surface material or Formica. Many companies have opted to use more 3cm slabs of marbles and limestones because less breakage occurs with these thicker slabs. As noted before, veins and fissures are very common in these materials, but the thicker slabs often stay intact more than 2cm slabs.

When comparing materials, ask as many questions as you can. So go ahead and ask about the tiny holes in the granite samples you are looking at. And don't be afraid to ask why there is a dark green spot in the middle of that slab of Golden Leaf. Be sure to ask if you can personally choose the slabs for your kitchen or bathroom. Once field measurements are taken, ask if you can layout the drawings on the actual slabs. This is very helpful when a certain section of the slab needs to be kept in one area of the counters or to avoid a dark spot or vein. Dark Emperador is one of the most beautiful marbles available, but if a customer does not select their material, they may end up with a slab that has more quartz and polyester filling than marble itself. In fact, earlier this year, it was difficult to find this beautiful stone because many of the quarries it comes from found themselves at the end of the mountain. Many of the slabs taken out contained too many veins, resulting in ugly batches of Dark Emperador. Since that time, slab yards have once again started to receive nicer looking slabs, but laying out templates on selections such as this or other more exotic stones will certainly help avoid unsightly areas.

A wise man once told me, 'Any information given to a customer before a job begins is EDUCATION, but any information received after the job is complete is nothing more than an EXCUSE'.

For more information on granite or other natural stone countertops, please ask your salesperson.