



BUT CAN I EAT OFF OF IT? A GREEN HOME GUIDE to COUNTERTOPS

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In designing homes, one of the items that gets people excited, believe it or not, is countertops. While most homeowners do not have strong feelings about toilet fixtures, roofing material or exterior siding, their eyes always light up when the subject of countertops comes up for discussion. I think this is because of the visceral connection people have with their counters. Countertops are touched every day, looked at every day, and, in recent years, have become a bit of a status symbol. Invariably, I am asked, "Oh, do you think we can afford granite countertops?!" Granite, for some reason, has become the countertop of choice for high-end builders and, thus, for high-end kitchens.

While granite is both lovely and natural, there are many alternatives equally beautiful. Many of these are environmentally friendly. Below is a list of all of the countertop materials, both green and not, to allow you to compare and make the right choice.

As I often tell my clients, being green is not a black and white issue. All products have some green characteristics and some not so green ones. There is no material with zero impact on our planet. As you look through the list, try to figure out which material works best for your needs.

More about Concrete

Concrete is a natural product and, as such, has a natural beauty. A chemical mixture of cement, sand and water, concrete is durable and will not offgas harmful chemicals. I have also noticed a strange extra benefit of concrete, visitors cannot help but touch the surface. Concrete, being a formed material, can have special features incorporated into the countertop, such as a drain board next to an under-mount sink, or casting metal rods near the stove to create a built-in trivet. With an infinite variety of colors, shapes and textures, concrete is one of the more unique surfaces you will see in a kitchen. The drawback is that it could be expensive depending on the shape.

More about Terrazzo

Terrazzo typically consists of small pieces of marble set into cement and highly polished. Odds are that you have walked on a terrazzo floor. They are everywhere: museums, airports, etc. If glass is used, it is called vetrazzo (from vitreous glass) and reflects light in the most beautiful way. The result is a surface so beautiful you will not notice that this particular glass happens to be made from recycled Snapple bottles. You can choose the colors of the glass and the cement binder, giving you an endless list of possibilities. The surface is durable, heat proof and easy to maintain. The drawback is that it could be expensive depending on the shape (are you noticing a repeated theme here?).

More about Wood

Butcher block countertops and cutting boards are traditionally made of hard maple because it resists nicks and doesn't splinter easily. Anytime you use wood in your house you want to make sure it is either certified to come from sustainable forests (SEE FSC CERTIFIED WOOD) or reclaimed as wood used previously. Maintain your wood with a natural mineral oil so you can put food on it. Natural microbes in the wood will protect it from bacteria.

More about Glass Tile

These gem-like tiles are so gorgeous you will want them even if they weren't made from recycled glass. The glass is from broken, discarded windows, then crushed to a sand-like texture and mixed with other ingredients, including minerals that add color. This mixture is then heated until the glass particles soften and fuse on their edges. This "sintered" glass requires far less energy to produce than standard glass. It also uses far less energy than fired ceramic tile. The fact that these tiles were made from grains of crushed glass can still be detected. Although the surface is smooth, a slight pebbly "texture" appears to be embedded in the interior of the tiles. Tiles are not a great idea for countertops in general, since the grout lines are hard to clean. I recommend using the tiles as a backsplash.

More about Laminate

In the 1950's, plastic laminate was all the rage. By the 1960's, it was beginning to show its age. Strange patterns, toxic glues, and frayed edges began to show the drawbacks of plastic laminate. Despite its drawbacks, people still continue to ask about laminate. The only laminate I will specify is made from recycled plastic and uses nontoxic glues. I also try to detail the countertop to use solid edges of some other material (wood, for instance).

More about Stone

Stone has a natural and timeless quality. There is a misconception that stone is too expensive for the average person. The truth is that stone comes in a wide range of breeds and, thus, prices. That being said, stone also has varying degrees of environmental impact. Marble and granite are mined deep out of the earth, but other stones, such as sandstone, slate and soapstone, can be locally quarried without the same damage. Salvaged stone is widely available, but you will be limited in your color choices.

More about Metal

Stainless steel is a combination alloy of steel, chromium and nickel designed to resist rust. The chromium is highly polluting and toxic. This can be avoided if you choose a steel with a high recycled content, which should be readily available. Both durable and hygienic, metal counters resist heat and staining. Using flat stainless steel sheeting and adding a natural wood edge will reduce your costs and ease your installation. One warning: metal scratches and fingerprints very easily, so be sure you like that look before you buy.

More about Paper Composite Countertops (solid surfacing)

Made from paper and a resin binder, composite countertops have a warm, neutral look that fits well with most decorating styles. This material looks similar to other popular solid-surface countertops like Corian, but because it's only about one-third plastic, it has a more natural look and feel. Many people compare it to soapstone. The material is also very practical. It is not hard enough to dull knives, yet it is dense enough to resist slice marks that can harbor bacteria. As with concrete or any formed surface, special features can be incorporated into the countertops, such as a drain board next to an under-mount sink, or casting metal rods near the stove, creating a built-in trivet.

Sub Category: Name	Description	Eco Benefits	Eco Impact	Relative Cost	Sample Mfr Products
Concrete	Durable, natural and unusual, concrete has grown in popularity. It can be poured into any shape and complex forms are possible, but expensive.	Durable, easy to maintain, made locally	Cement, the main ingredient, has a high impact, but you can reduce the amount of cement by replacing it with fly ash.	Very High: \$80-150/sf	Buddy Rhodes Cheng Design Syndecrete, Syndesis
Terrazzo / Vetrozzo	"Vetrozzo" is a terrazzo made from recycled glass and cast concrete. The glass used is both post consumer as well as post industrial. Surfaces are polished as with terrazzo. The final product contains 80 to 95% post-consumer recycled content.	No glues or chemicals. Both the cement and glass used in this product contain high recycled content. Design - available in a wide variety of colors. As durable as granite and less porous than marble. They also withstand heat, which makes it an excellent choice next to a stove.	Very low, just be sure the glass comes from local sources.	High: \$65-75/sf	Counter Production IceStone Countertops
Wood	Butcher block countertops are made from strips of edgegrain or endgrain maple or oak that is glued together to make a solid surface.	Beautiful, natural, easy to install, easy on glassware and china, reasonably priced, and ideal for cutting surface.	Easily burns, scratches and dents. Bad near the sink or water areas. If left unsealed, can be used for food prep.	Mid: \$35-75/sf	Endura Certified Wood Products, Ltd.

Sub Category: Name	Description	Eco Benefits	Eco Impact	Relative Cost	Sample Mfr Products
Tile	Recycled content ceramic tiles can contain up to 70% recycled glass, are very durable, and often more moisture and stain resistant than traditional tiles.	No glues or chemicals. Both the cement and glass used in this product contain high recycled content. Design - available in a wide variety of colors. As durable as granite and less porous than marble. They also withstand heat, which makes it an excellent choice next to a stove.	Standard ceramic tiles have a high impact in their production. There are tiles in dozens of materials, such as glass and stone. In general, tiles are not a great choice for countertops, given the maintenance required for the grout lines. Choosing the largest tiles available will reduce the number of grout joints - as grout is subject to staining and mold growth. Use a low VOC, water based grout sealant to increase resistance to moisture and staining.	Low: \$5-65/sf	Blazestone - by Bedrock Industries: 100%recycled glass. Environmental Stone - by Environmental Stone Products: 100% post-consumer recycled glass. Decorative Architectural Tiles - by Peak Creations: 100% recycled post consumer waste glass. Terra Stone - by Terra Green Ceramics: 58% recycled aviation glass. UltraGlas
Laminate	Plastic laminate is resin-impregnated paper bonded to a particleboard core. As you might imagine, plastic laminate is relatively inexpensive. It comes in a wide range of colors and textures and bought in ready-made sections called post-formed, making it easy for do-it-yourselfers.	Durable, easy to clean, stain-resistant, moisture-resistant, and inexpensive.	Use a low VOC glue to adhere. Laminate can be easily scratched, scorched and chipped. High-gloss laminate shows dirt and water spots. And the laminate backing can be seen at the seams.	Low: \$5-25/sf	Formica WilsonArt Abek (?)
Stone	Natural stone has a character and beauty unlike anything else.	All natural, durable and salvageable. Marble stains easily, but granite resists nearly everything.	Quarried stone has high eco impact. If choosing granite countertops, use locally quarried and dressed stone. Impact depends on how it was quarried. Salvaged stone is widely available, but you will be limited in color choices.	High to Very High: \$50-150/sf (depending on type of stone)	Use local quarries. In San Francisco: Fox Marble and Granite ASN Natural Stone
Metal	Stainless steel is a combination of steel, chromium and nickel. The chromium is highly polluting and toxic.	Durable and hygienic and resists heat and staining. Using flat stainless steel sheeting and adding a natural wood edge will reduce costs.	Metal is mined out of the earth and is damaging. Use salvaged metal or high recycled content if possible. Scratches and fingerprints very easily, but some people like the look.	Mid: \$65-100/sf	Use local source: Economy Restaurant Supply Caldwells Building Supply

Sub Category: Name	Description	Eco Benefits	Eco Impact	Relative Cost	Sample Mfr Products
Solid Surfacing: Corian	A solid surface material made from aluminum ore (bauxite) and oil byproducts.	Easy to clean, but otherwise, none. Bacteria and mold resistant.	Bauxite mining, oil by-products. Not heat or stain resistant. Contaminates food.	Mid: \$40-90/sf	DuPont Corian
Solid Surfacing: Richlite	This solid surface is made of layers of recycled paper and natural resin.	High recycled content. All natural. Fairly durable.	Requires maintenance of mineral oil regularly. Not heat or stain resistant.	Mid: \$60-80/sf	Richlite PaperStone Recycled-Paper Countertops, All Paper Recycling, Inc. Phenix Biocomposites
Solid Surfacing: Engineered Quartz	Quartz chips in a resin binder produces a natural looking solid surface.	Easy to clean, but otherwise, none.	Bauxite mining, oil by-products.	Mid: \$70-80/sf	Silestone Cosentino DuPont Zodiaq
Solid Surfacing: Recycled Plastic	Recycled plastic countertop material can be obtained in a wide variety of colors, patterns and textures. Some plastic countertop manufacturers provide a product that looks similar to a terrazzo, while another compresses yogurt containers and aluminum to produce a look that is entirely unique. These offer a very durable, moisture resistant alternative to traditional counters. The percentage of recycled content will vary, depending on the manufacturer and your style preference.	High recycled content. Durable, no glues or VOC's used.	Feels like plastic and is made of plastic, a non-biodegradable material.	Mid: \$40-70/sf	Avonite: non-porous solid surface countertop made from a blend of acrylic or polyester resins and a mineral filler. Armstone Splash! - by PermaGrain Products, Inc. is a terrazzo-like cast marble made of waste marble chips and pieces of brightly colored recycled plastic bound in a resin. Yemm and Hart Ltd: recycled plastic countertops

REFERENCE BOOKS

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by John Hermannsson

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Prescriptions for a Healthy House: A Practical Guide for Architects, Builders and Homeowners

by Paula Baker

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