

## Product Pros and Cons: Hardwood Flooring vs. Bamboo

Should you stick with the old or go with the (relatively) new?

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Wood is among one of the most loved flooring material in the home building and buying universe. Prized for its exceptional good looks and warmth, wood is highly versatile and sustainable. In the past 10 years, however, there has been a great disturbance in the force, and now wood has an able and extremely popular challenger: bamboo.

Though bamboo has had a limited history in the U.S. construction market, it has been widely used in East Asia and the South Pacific. One of the oldest building materials known to man, it has been used to build fences, houses, and furniture, and has even been known to hold up suspension bridges.

Bamboo is very much like wood, but it's not wood. Technically speaking, it's a tree-like grass that grows extremely fast, making it among the fastest-growing plants in the world. This rapid growth has made it one of the darlings of the green building world.

"Bamboo has the potential for rapid growth," says [The University of Tennessee College of Agricultural and Natural Resources](#) in Knoxville, Tenn. "Shoots have been observed to grow over 3 feet in a single day." In fact, [The Bamboo Site](#) says the plant grows so fast that it matures to reach market in about four years. With the exception of quick-yield trees, hardwood species take about 60 or 70 years to reach harvesting age.

When it comes to performance, bamboo is often compared to some of the hardest hardwoods, but it depends on the type of flooring, species, and quality of the manufacturing.

"Hardness is the main factor in durability," says [Teragren](#) in Bainbridge Island, Wash. "How hard is the bamboo? Bamboo flooring can be as soft as pine and harder than maple depending on the species of bamboo used and when it was harvested. Teragren specifies only Optimum 5.5 Moso bamboo harvested at maturity (five and a half to six years) when fiber density peaks. As a result, Teragren bamboo averages 25 percent harder than red oak and 12 percent harder than North American maple."



**Teragren says its Portfolio Collection of bamboo flooring is a wide-plank product that's an alternative to tropical hardwoods.**

Mark D. Elwell, owner and operator of [Bamboo Flooring Hawaii](#) in Honolulu, says there are over 1,000 types of

bamboo species, but Moso bamboo is a good one to look out for. "There are some stores selling very cheap, immature bamboo flooring that is coated with only a few coats of finish that are unfortunately giving bamboo flooring a bad name," he says. "We tell people you get what you pay for, and make sure you are comparing apples to apples when you are buying your flooring. Be educated, and ask about the bamboo maturity, finishes, and warranties."

Moso bamboo is indeed good indicator of quality. "Moso bamboo is the most valuable bamboo in Asia, especially China," says [Master Garden Products](#). "It is one of the most highly used plants for economic activities ... . Moso bamboo's strength, flexibility, and ready availability have made it a dominant structural material throughout much of the world for centuries."

Bamboo comes in two types: strand and vertical. Most people in the industry say the strand stuff is much stronger than traditional bamboo flooring. "On a hardness scale a good quality bamboo in either the horizontal or vertical cut is around 1,450 p.s.i. on a [Janka Hardness Scale](#)," Elwell says. "The stranded bamboo is compressed and bonded with resins so is over 3,000 p.s.i. We sell the strand bamboo frequently for high traffic situations such as retail stores, restaurants, galleries, etc."

But bamboo also has drawn attention for its looks, though for a time only natural and caramelized tones were available. Today, manufacturers offer a staggering array of flooring choices with a multitude of stained options and textures including handscraped products that look like wood.

Wood, of course, has nothing to prove. Bamboo has assumed a high profile in home building, but wood's accomplishments are legendary and well-documented. Bamboo is new to U.S. builders and consumers, but wood is very familiar to everyone. It's just as beautiful and durable as bamboo, and just as versatile and green, The University of Kentucky says.

"It is the rapid growth and natural regeneration properties of bamboo that are primarily responsible for the 'green' reputation for bamboo," the university says. "However, many of the environmental benefits of bamboo are shared by wood. Natural regeneration is not limited to bamboo stands; it is a viable and widely used practice in tree forestry also. The longer rotation times for trees compared to bamboo can actually be considered to be an advantage for wood. Some tree species produce as much biomass per year as bamboo, but trees store this production for longer (in the living tree) so fewer harvesting resources (fuel, machinery, labor, etc.) are required for each ton of crop collected."

But which product offers the most benefits and bang for your buck? Which one is more sustainable and aesthetically pleasing? And which one will set you back more money? The answers aren't easy ones, but read on to get a better idea if you should go with the new stuff or stick with the old standby.

### *Hardwood Flooring*

#### Pros for Wood

Desirable. There's a good reason why home builders and agents put hardwood floors prominently in their listings and ads: The perceived (and actual) value of wood is extremely high, and it conveys quality. "In fact, in a national survey of real estate agents, 90 percent said that houses with wood flooring sell faster and for higher prices than houses without wood floors," says [National Wood Flooring Association](#) in Chesterfield, Mo.

Beautiful. A wood floor is inherently beautiful, and it enhances any room. Plus, it only gets better with age and patina. Even wood's idiosyncrasies are highly prized. No two floor boards are the same, but it's this variation in appearance, color, and grain that make the products so attractive and exciting.

**Dependable.** Builders and consumers know and trust wood because they know the material lasts a long time. It's not unusual to see commercial structures with original wood floors dating back 100 years. With the availability of long-lasting finishes, today's flooring—new or salvaged—could well last for another 100 years.

**Wide selection.** Wood is available in countless species, finishes, and textures. In addition, a long list of medallions, exotic species, and decorative inlays makes the category one of the most dynamic in the flooring sector.

**Earth friendly.** As a natural resource, wood is renewable and recyclable. Today's suppliers are salvaging timbers from commercial structures, bridges, and industrial buildings, or finding logs resting on the bottom of rivers and milling new products. Wood also has low embodied energy.

**Affordable.** Once a pricey option, wood floors today can be had for a relatively low price.

#### Cons for Wood

**Does not mix well with moisture.** Wood is a durable material, but unless a moisture-resistant species is chosen it does not handle standing water and constant wetness very well. Though manufacturers have developed finishes and coatings that make this less of a problem, it's a good idea to keep it out of master bathrooms and moisture-prone areas.

**Prone to color changes.** More UV coatings and finishes help prevent discoloration, but constant exposure to the light will eventually affect the finish. The color change is merely aesthetic, but it can be unsightly depending on the location of the floor.

**Use over radiant heat can be problematic.** Using wood floors over radiant heat is possible, but it has to be done very carefully to avoid cupping and extreme contraction. Manufacturers usually recommend narrower flooring strips rather than wide-plank flooring, and engineered wood versus solid planks. Moreover, some species are not recommended over radiant heat at all.

**Low maintenance, but ...** Wood floors are not that hard to maintain, but when it does get damaged the repairs can be problematic. Deep scratches and dents from heavy objects are not easily repaired. Plus, the repaired areas don't often blend seamlessly with the factory finish.

**Can be expensive.** Budget-friendly wood floors are widely available, but truly exotic looks and species or amazing salvaged options can approach \$15 or \$20 per square foot.



**This salvaged wood line of flooring from Fontenay Woods is made from vintage wine barrels.**

## Bamboo Flooring

### Pros for Bamboo

Hard and stable. In general, bamboo falls at about 1,200 to 1,400 on the Janka Hardness Scale, which means it's a little harder than oak and ash. Some manufacturers claim the product is 12 percent harder than North American maple, but that's hard to say. Either way, the material's hardness results in a much more stable floor that better resists expansion and contraction.

Rapidly renewable. Bamboo grows exceptionally fast, so plants reach maturity faster than trees and can be harvested in less than 10 years.

Installs just like wood. Anything wood can do, bamboo can do too—at least where installation is concerned. The two products can be nailed, glued, or set as a floating floor.

Variety. In the old days, you could have any color bamboo you wanted, as long as it was natural or carbonized. Manufacturers have moved way beyond that now, offering products with a variety of stains, colors, and looks. One manufacturer even offers bamboo that looks like typical wood floor.

### Cons for Bamboo

High-embodied energy. Despite its rapidly renewable street cred, most of the bamboo flooring in the U.S. has to be shipped great distances such as from China or some other Asian country. Some green experts say this fact kills the sustainable mojo the product has. The good news is that FSC-certified bamboo does exist.

Not a solid product. Unlike wood, which can be solid or engineered, all bamboo is made from laminated strips that are glued together. While this does not necessarily mean the product is inferior, it opens the possibility for delamination; manufacturers say this is unlikely.

Inconsistent product quality. Bamboo is manufactured in many ways so performance depends on process and varies from product to product and company to company. "Some bamboo floors are more durable than others or emit varying levels of volatile organic compounds such as formaldehyde, depending upon how they are manufactured," Teragren says.

Questionable refinishing data. There probably aren't that many bamboo floors installed in this country over 15 or so years, the data of refinishing such a floor is incomplete. The University of Tennessee says "the hard surface layer of bamboo flooring is relatively thin, so it cannot be sanded and refinished like solid wood." But Elwell says it depends on the product. "The prefinished flooring can be refinished and recoated using finish formulas that are similar to our custom finish," he says. "Depending upon the style purchased the floors can be refinished usually two to three times over the lifetime of the floor."

Relatively pricey. You can find bamboo for about \$4 to \$8 per square foot, which isn't exactly expensive but not exactly cheap either. Plus, many products exceed that.

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**Smith & Fong says Plyboo bamboo flooring is the first nonwood FSC-certified material in history.**