

BUILDING PRODUCTS

hanley wood

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SPECIAL ISSUE



Greener Pastures

Building a Sustainable, Energy-Efficient Home Is Easier Than You
Might Think—and More Important Than You Might Imagine

So Why Aren't You Doing It?

WATER-CONSERVING TOILETS • ENERGY-SAVING INSULATION • SUSTAINABLE BAMBOO FLOORING • AND MUCH MORE



Bamboo flooring makes a powerful impression and a positive environmental impact.

Who knew that grass would be the next big flooring product?

As a member of the grass family, bamboo shares some of your lawn's amazing growth abilities, making it a rapidly renewable product that's becoming a favorite among environment-conscious homeowners.

Whereas hardwood trees can take 15 to 80 years to reach harvestable height, bamboo reaches its maximum height in less than a year, and becomes dense enough to harvest within four to six years. Like grass, it quickly regenerates (it grows up to 3 feet a day) and can be cut without harming the plant, meaning the world's bamboo supply won't be swiftly depleted.

But professionals are also quick to praise bamboo's performance and aesthetics. Unlike grass, bamboo has a density and hardness rivaling or even exceeding hardwoods like maple and oak, so it can stand up to the same everyday wear and tear as other wood floors. Bamboo's unique look is also appealing to homeowners who find it soothing, clean, or even exotic.

"They're excited about bamboo because bamboo is somewhat tropical," says Philip Yoder, owner of Rainforest Carpentry in Sarasota, Fla., which concentrates on environmental products. "It has a distinctive pattern and color. We're not repeating something they have seen before."

For those reasons, bamboo is being installed in some of the chic-est residential developments around the country, and it's one of the fastest growing environmentally friendly flooring products. According to U.S. customs data prepared for bamboo flooring manufacturer Teragren, bamboo flooring imports grew 56 percent from 2004 to 2005 and 67 percent through the first nine months of 2006, while hardwood flooring imports as a whole grew only 8 percent.

In short, bamboo flooring is hitting the mainstream.

"People don't think of bamboo as this very exotic species anymore," says Sven Eberlein, marketing director for Smith & Fong, maker of Plyboo flooring. "It appeals both to

Smith & Fong, Plyboo bamboo flooring is available in edge grain or flat grain in natural or amber colors. Unfinished or prefinished with aluminum oxide, the flooring measures 3/8 inch thick by 3 3/4 inches wide by 75 inches long. The company also offers strand bamboo flooring. 866-835-9859. www.plyboo.com. Circle 240.

BAMBOO!

By Jeffrey Lee

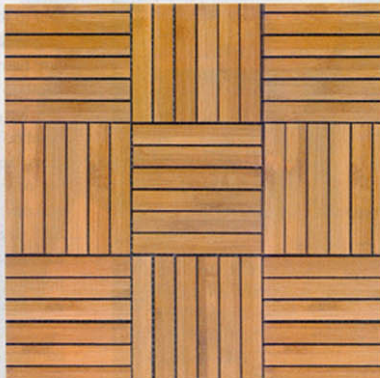


Wood Flooring International. The Bamtex collection is available in solid and engineered formats as well as in solid strand. It includes a nine-layer high-wear aluminum oxide finish and meets the European E-1 standard for low formaldehyde. All three formats are offered in natural or carbonized colors. 856-764-2501. www.wflooring.com. Circle 241.

Bamboo Mountain. The 6-foot Long Strip bamboo flooring is constructed with near-zero VOC content. The 6-foot-by-6-inch Wideplank bamboo flooring is constructed from solid Moso bamboo. Fuse Strand woven bamboo flooring is nearly twice as strong as regular bamboo, the maker says. 877-700-1772. www.bamboo-mountain.com. Circle 242.



Duro-Design. Bamboo flooring is available in 54 colors with a unique MP765 water-based urethane, giving it great durability and making it easier to finish, according to the company. The flooring comes in three-ply horizontal or vertical cut with a matte or satin finish and measures 75 inches by 3 3/4 inches by 5/8 inch. 888-528-8518. www.durodesign.com. Circle 244.



Walker Zanger. The Sobu collection of bamboo mosaics adds warmth and depth to a room, the manufacturer says, and can be used just like tile. It is available in straight, basketweave, herringbone, or random planking mosaic patterns that showcase the bamboo's delicate veining and subtle variations of texture and hue. It comes in gold, sable, or espresso. 818-252-4000. www.walkerzanger.com. Circle 243.



homeowners who want to tread a little more lightly on the planet and designers wanting to do beautiful, hip, and modern kind of stuff."

LEED-ING THE WAY?

As bamboo gains attention as a sustainable product, builders are finding it advantageous to become familiar with the product. "Homeowners are always looking for different ways to utilize green building techniques," says Stephen Stauss, project manager for Van Matre Construction in Boulder, Colo. "If your client is in tune to these [green] kinds of products, they're impressed if you show a portfolio with past applications. It's a good selling point if you're familiar with it."

Using bamboo provides builders with tangible benefits as well. Because it's a rapidly renewable resource, bamboo flooring is worth one point in LEED's (Leadership in Energy and Environmental Design) commercial Green Building Rating System, a voluntary, consensus-based national standard for developing high-performance, sustainable commercial buildings. Builders can also get credit for using bamboo flooring in LEED for Homes, which is still in the pilot stage.

"Especially now, with green building certifications, it helps with green building points," says Rainforest Carpentry's Yoder, a biologist.

But some in the industry say that bamboo may be getting more "green" credit than it deserves. "The rapidly renewable thing is not the be-all and end-all of sustainability," says Jason Grant, marketing director for Wood Floor Resource Group, which represents Bamtex bamboo flooring to architects and builders. "It can be a part of the larger sustainability equation, but you need to look at how it's grown, labor conditions, and the chemicals used to process it."

He says that selectively logged forests can play a larger role than bamboo plantations in providing a habitat for forest-dwelling species and that like wood producers, bamboo growers should be held to a certified standard. Nadav Malin, co-editor of the *GreenSpec* green products source book and chair of the Materials and Resources Technical Advisory group for LEED, which plays a role in examining bio-based materials, agrees that certification would help.

"The biggest issue is there is nobody we could find that is certifying the management of bamboo growth or the manufacturing process," he says. "There is some concern as there is more pressure to put more land into production ... the process could be less ecologically sound."

In the manufacturing process, he says

JMX Bamboo. The manufacturer offers bamboo flooring, but specializes in molding and accessories that complement bamboo floors. Like flooring, the maker's bamboo stair treads are offered in carbonized or natural in horizontal or vertical grain. They measure 1 inch thick by 11 inches wide by 7 feet long. The company's newest products are a chair rail and crown molding. 866-272-6773. www.jmxbamboo.com. Circle 245.



formaldehyde off-gassing is an issue because bamboo is not a milled solid product, but pieces glued together, often with urea-formaldehyde binders. Many manufacturers submit their own VOC test results to the *GreenSpec* guide showing their formaldehyde levels are well below OSHA standards, but Malin says a third-party certification like GreenGuard would be the most reliable way to allay off-gassing concerns.

BUYER BEWARE

Industry insiders also caution builders to be wary of inferior products coming from less-than-reputable manufacturers. "It has a great environmental story, and the visual is great," says Steven May, vice president for marketing and purchasing at distributor T&A Supply in Kent, Wash., "but the quality coming in at the cheap price points—they're not all bad, but they're not good either."

He learned from experience: Some lower-priced products he purchased from Chinese manufacturers delaminated or checked. With few methods of recourse, the warranties on those products basically meant nothing, he says. Customer claims ended up being around 15 percent of his total business. "That's why we got out of the low-end bamboo market," he says.

Van Matre Construction's Stauss recommends finding a manufacturer that has a solid reputation. "With any growing market, people are going to jump on the bandwagon and try to make some money," he says.

On the bright side, homeowners won't have to stretch their budget to afford quality bamboo flooring. Top-of-the-line products are \$6 to \$8 per square foot, plus an additional \$3 to \$4 for installation, which compares favorably to the highest-end wood floors. Less expensive bamboo flooring falls within the bottom of the price range for hardwood floors, dealers and manufacturers say.

WOVEN TOUGH

While top manufacturers are confident they're producing a healthy, low-emitting product, they're also leading the way in technological innovation. One of the products builders and manufacturers are most excited about is strand,



Chin Kun Flooring. The manufacturer offers bamboo flooring in horizontal or vertical grain and in natural or coffee colors. Flooring can be unfinished or have a matte or glossy finish. UV urethane and aluminum-oxide finishes also are available. Standard and custom sizes are available. (88)6-4-7776868. www.ckbambooflooring.com. Circle 248.

BamStar. Bamboo flooring is offered in solid strip flooring, random-length strip flooring, and "value" solid flooring in natural or carbonized colors and vertical or horizontal grain. The maker also offers engineered bamboo flooring and solid bamboo parquet flooring in random, English embroidery, or basketweave patterns. Strand woven and hand-scraped flooring is available by special order. 216-839-0900. www.bamstar.com. Circle 246.



Bamboo for Beginners

Bamboo flooring is available in several common varieties. Here are the most important things you need to know:

- **Solid bamboo.** Rather than a solid plank, solid bamboo is made up of smaller bamboo slats that are glued together in either a vertical or horizontal grain. Vertical-grain flooring stands each of the slats on edge and glues them together, creating a stronger board. Horizontal grain glues the slats in three flat layers for a more traditional appearance.
- **Natural or carbonized.** Unstained bamboo is usually offered in two colors, natural or "carbonized." The lighter shade is bamboo's natural color. Baking the slats caramelizes the bamboo's sugars, creating the darker color.
- **Engineered bamboo.** A wear layer of bamboo is glued to a core of solid wood or other material.
- **OSB, strand, or woven bamboo.** Made of smaller strands of bamboo bound with resin in a heat and pressure process, strand bamboo can be twice as hard as traditional bamboo.—J.L.



Wellmade Floor Coverings. Red Arowana bamboo flooring is available in vertical and horizontal construction, and in natural and carbonized colors. The most popular size is 5/8 inch by 3 3/4 inches by 37 3/4 inches with tongue-and-groove and micro-bevel edges. The flooring is prefinished using the Treffert system, an eight-layer, acrylated urethane with aluminum oxide that is UV cured. 866-582-0848. www.bamboofloorings.com. Circle 247.



Central Floors. Avanti brand bamboo flooring is grown for at least six years, according to the manufacturer, and features six layers of premium quality aluminum oxide that create a highly durable and scratch-resistant surface. It is available in a variety of patterns, colors, and finishes, including vertical, horizontal blocked, and horizontal random. 408-943-8599. www.centralfloors.com. Circle 249.



Teragren. The manufacturer offers five types of bamboo flooring: Synergy Strand; Signature Naturals, with a traditional random-length look; Signature Colors, in espresso, cherry, charcoal, and walnut stains; Craftsman, which features a wider, longer plank look; and Studio, which features TeraLoc, a patented self-locking system that requires no adhesive. The maker says it uses only Optimum 5.5 Moso bamboo to produce flooring 25 percent harder than oak. 800-929-6333. www.teragren.com. Circle 250.

Bamboo Hardwoods. Premium engineered bamboo flooring includes a bamboo wear layer above a solid rubberwood core with an aluminum-oxide finish and square edges. It is offered in vertical or horizontal grain, in carbonized or amber colors, or with a cherry or fruitwood stain. The manufacturer also offers engineered Moso flooring, prefinished or unfinished solid Moso flooring, woven strand flooring, and other options. 800-607-2414. www.bamboohardwoods.com. Circle 251.



Yanchi Flooring. This bamboo flooring from BuildDirect is finished with six coats of satin-finish UV-cured urethane with aluminum oxide. It carries a lifetime structural and 10-year finish warranty. The flooring complies with the European E1 standard for safe levels of formaldehyde emissions. Strand-woven flooring is also available. 877-631-2845. www.builddirect.com. Circle 252.

woven, or OSB bamboo that compacts small strands of bamboo fiber with resin to create a composite type of floor board that is about twice as hard as standard bamboo flooring.

"The product I like most is the strand-woven," says Rainforest Carpentry's Yoder. "It's crushed and compacted, so it's denser and higher quality." He says it can be glued directly to concrete slab or with several types of insulation or barrier. "It's what I install most now because I don't have to charge much more and it's a better product."

While traditional bamboo flooring may be too repetitive or "perfect-looking" for some tastes, the strand bamboo has a more random pattern and a unique look. "It's different, it doesn't look like bamboo," says John Dale, product manager for wood and laminate at Memphis, Tenn.-based distributor Building Plastics. "It looks like an exotic wood species, but it gives you the same advantages of bamboo."

LOOK AGAIN

The woven look isn't the only way manufacturers are expanding the variety of bamboo options. Homeowners can choose their own aesthetic with a variety of scrapes, stains, and colors.

"People are applying the same sorts of methods or techniques that are being applied to wood to bamboo," Bantex's Grant says. His company's hand-scraped bamboo, for example, has a more uneven surface with a rustic character.

Smith & Fong's woven Neopolitan bamboo flooring combines strands of different colors to create a unique look like zebra wood. "It's a very design-y, hip, fancy-looking thing," Eberlein says.

Even stains are available in more distinctive colors. For example, Teragren's Signature Colors series is available in espresso, walnut, cherry, or chocolate, and Smith & Fong has shades such as cinnamon red. More importantly, homeowners are buying into the unique, brightly colored hues.

"It's niche-y. It's becoming more popular," says May. He worries these colors may go the way of lime green tiles in the 1960s, but says the purple and red stains constitute a trend. **BP**



Sustainable Flooring. Strandwoven bamboo flooring is a compressed and densified bamboo composite. The maker says it does not use aluminum oxide in its prefinished coating because it scratches white. Colored Strandwoven has color infused into the wear layer before compression. Traditional bamboo flooring also is available in two shades of carbonized or natural. 303-544-6076. www.sustainableflooring.com. Circle 253.