

# Bamboo Basics

Know these facts before working with bamboo flooring

By Dan Harrington

As the focus on environmental responsibility gains strength among consumers and the wood flooring industry, bamboo flooring continues to be in the spotlight. Love it or hate it, it's something most contractors will have to deal with sooner or later. Of course, bamboo is technically a grass. "Solid" bamboo is

constructed of rectangles of bamboo glued together, either horizontally or vertically. Engineered bamboo is constructed like any engineered floor, with wood layers below a bamboo wear layer. The newest type of bamboo construction is strand-woven, a process in which bamboo strands are saturated with an adhesive and fused

together under enormous pressure, resulting in a product much harder than traditional bamboo flooring. Bamboo can be a great floor, but there are some caveats to take into consideration. Following are some things I wish every customer would understand about bamboo. (These are general guidelines; always follow the manufacturers' directions for the specific product you are installing).

## TALES FROM THE FRONT

### Ugly in Every Way Job takes unexpected turn

Contractor Matt Morgan, owner at Denver-based Western Floor Company, recalls a job he'll never forget. He had gotten a call from a man who said he needed new floors done in his house right away because he was putting the home on the market. The man wanted a really rustic floor and decided on a mix of red oak and white oak with a little walnut thrown in. The choice didn't suit the style of the newer home—Morgan says it was the ugliest floor he's ever seen—but Morgan gave the customer the estimate and got a deposit for half of the job. Then he and his crew removed the carpeting and began installation. They were almost on the last row when a BMW pulled up in the driveway. A woman got out and asked Morgan what he was doing there. He told her he was putting in the wood floor and asked her what she was doing there. "She said, 'I own the house,' and I said, 'Excuse me?!'" Morgan recalls. "She walked in the door and about fell over." As it turns out, the couple were in the middle of a nasty divorce. She told Morgan he had to rip out the floor, but he said he couldn't without her paying him. "I felt sorry for her, but on the other hand, I didn't do anything wrong," Morgan says. "She was on the phone with her attorneys, and I thought, 'I don't want to get in the middle of this,' so I packed up my stuff and left."



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### 1) Let it Expand

Many installers are in the habit of leaving expansion at the sides of boards but not at the ends. That's usually fine for a typical hardwood floor, but bamboo does expand and contract along its length. Horizontal solid bamboo will expand and contract more than vertical bamboo, and strand-woven bamboo will expand and contract just like solid wood flooring.

### 2) Understand Janka

People should have realistic expectations of how a bamboo floor will perform. Sometimes the Janka numbers lead people to think a bamboo floor will be more durable than it actually is in real-life situations. Bamboo fibers are strong, but the lignins bonding them together are weak. In a Janka test, a smooth, round ball is pressed into the material. With bamboo, the fibers are springy and tend to resist the ball. However, if you hit bamboo with a sharp object—like a stiletto

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heel or a small rock in the sole of your shoe—it will cut into a bamboo floor more than it would in an oak floor. An exception to this is strand-woven bamboo, for which Janka tests accurately predict performance.

### 3) Watch The RH

With engineered products, it's important to keep bamboo's biological structure—strong fibers and weak bonding material between them—in mind. When a bamboo wear layer is exposed to very low relative humidity (RH), the fibers want to shrink and pull away from each other, but the fibers are held in place by the cross-ply structure of the engineered product, so they can't move. The weak bonding lignins can then break, creating cracks in the wear layer. If there's a situation where the RH is likely to get very low, well-acclimated solid bamboo may be a safer option.

### 4) Measure MC Accurately

Make sure the manufacturer of your moisture meter has done the proper testing for bamboo so you know what the correct adjustment is on your moisture meter. If you're using a pin meter, as you poke into the floor, make sure the prongs don't cross a glue line of the little rectangles glued together to form the floor, because you'll get a faulty reading. When you're buying bamboo, look for kiln drying that meets typical American standards: within 6 to 8 percent moisture content (MC). Lots of product coming in from overseas is imported with a MC of up to 12 percent.

### 5) Acclimate as Necessary

Because solid bamboo flooring is made up of lots of little pieces of bamboo glued together, people often assume it doesn't need to be acclimated to the job site. Not true—even though there are many small pieces, they are all oriented in the same direction and will expand and contract. Solid bamboo flooring tends to acclimate quickly (three to seven days is typical), but it does need to ac-

## WHAT'S WRONG WITH THIS PICTURE?



Answer: The boards are showing end lifting.

climate. Strand-woven bamboo also requires acclimation, and it acclimates very slowly. In extreme climates, it can take up to 30 days for a strand-woven bamboo floor to acclimate to a job site. As with most engineered products of any species, engineered bamboo may not require acclimation (check with the manufacturer).

### 6) Know Your LEED Points

With the LEED (Leadership in Energy and Environmental Design) certification system, products may garner points under different categories. Under the “Rapidly Renewable Materials” credit, any solid and strand-woven bamboo flooring earns points, but engineered bamboo does not, since it contains wood. Under the “Certi-

**It can take up to 30 days for a strand-woven bamboo floor to acclimate.**

fied Wood” credit, bamboo flooring may earn points if it is FSC (Forest Stewardship Council)-certified, but the value of FSC-certified bamboo cannot be applied to both the “Certified Wood” and “Rapidly Renewable” credits—you have to choose one.

Another credit rewards products with no added urea-formaldehyde. Traditionally, the adhesives used to glue bamboo flooring together have been urea-formaldehyde adhesives, which tend to off-gas long after being installed in a customer’s home. Some bamboo products are now constructed with different adhesives, so they qualify for this credit. Strand-woven products are not constructed with urea-formaldehyde and all qualify. ■

*Dan Harrington is director of product development at Richmond, Calif.-based EcoTimber.*

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