

What Makes a Deck Board “Green”?

by Greg Burnet

Marketers regularly invoke the term “green” today to sway consumers who are conscious of how their purchases impact the environment. The construction industry in particular seems to be full of “green” products. But what is green, and who determines how green a product is? The answers are: There is no agreed-on definition of what’s green, and until a uniform standard is created, you’ll need to judge for yourself where a product ranks on the green scale.

I found that out recently when asked to rebuild a 20-year-old deck whose cedar surface was at the end of its lifespan. The customer was an environmentalist, and she’d heard a lot of claims made by decking manufacturers touting their products as environmentally friendly. She asked me to investigate the available products and help her select the greenest way to resurface the deck.

I looked at over a dozen different products, including wood, composites, and PVC. I read; I sought the advice of other professionals with green building experience; I visited manufacturer Web sites; and I went to chat rooms affiliated with trade publications and environmental groups.

While I’ve been working at building green for years and have taken classes on it at various construction conferences, it was this research that made me aware of all that goes into evaluating how green a product is. I ended up focusing on sustainability, environmental impact, embodied energy, lifespan, and what happens to the worn-out product (see sidebar, right).

Plastic Lasts, But Wood Grows Back

Based on my research, PVC and composite decking have it all over wood in terms of lifespan. Though PVC and composite materials haven’t been around the decking industry for very long, it seems reasonable to expect them to last for decades.

By contrast, most wood can be expected to last 20 years or so, depending on the species and how it was installed and maintained. That applies even to pressure-treated lumber. It probably won’t rot in two decades, but in my experience, customers still want to replace it — for aesthetic reasons, as treated decking rarely gets the maintenance necessary to prevent it from cracking and splintering.

Maintenance is also something to look at when assessing the long-term impact a particular product can have on the environment. Most manufacturers of PVC or composite products claim their products need no ongoing maintenance other than washing, while most wood products benefit from regular refinishing. Depending on its chemical composition, the finish that will be reapplied down the road may be another element that should be evaluated.

I came down in favor of naturally rot-resistant wood when considering both environmental impact and sustainability. Particularly when the lumber

comes from plantations or managed forests, wood’s sustainability can be extremely high. In general, most lumber is harvested in a much more controlled and environmentally sensitive way today than in recent decades. Stricter logging rules and the fact that timber companies usually don’t clear cut forests anymore have minimized the effects of logging. It would be a stretch to call logging “earth friendly,” but at least the scars it leaves — when done properly — are less severe

Shades of Green

Sustainability

Are the resources used in fabricating the product renewable?

Environmental Impact

What environmental damage is done gathering raw materials and fabricating the product?

Embodied Energy

How much energy is needed to produce and transport the product? How heavy is it, and how far does it have to travel?

Lifespan

How durable is the product? Not needing replacement for, say 50 years, might justify other compromises.

Deconstruction and Afterlife

What happens to the material when it’s worn out? Can it be recycled, or does it end up in a landfill forever?

than those left by drilling for oil.

With PVC or composites, sustainability is more of a question, as petroleum is the primary ingredient in those products. Additionally, I found that timber processing uses less energy than does producing a PVC product of similar size and shape.

The final consideration, what happens to the worn-out product, seemed to be overlooked by many manufacturers. Naturally rot-resistant wood species, like all vegetable matter, can be recycled or at worst, eventually will revert back to soil. PVC can also be recycled. In fact, I found there's at least one manufacturer that produces decking material that is 100 percent recycled PVC.

On the other hand, composite materials can't currently be recycled. Many of them start out with high

recycled content, but the individual components cannot then be readily separated, which is required to recycle them. Currently, I find only one thing being done with the scrap or demolition debris from these products: It's trucked to a landfill.

Weighing the Evidence

My customer chose a tropical hardwood product, Tiger Deck (503/625-1747, tigerdeck.com). It's harvested in Central America and South America, which means it must be shipped several thousand miles, so it does contain a fair amount of embodied energy.

On balance, however, other features outweighed that negative one. According to an engineer I spoke with at a wholesale lumber distributor, "tiger wood" is a member of the cashew-tree family, and is very fast

growing (sustainable) and extremely decay resistant (long life cycle). It's said to be grown on plantations and harvested with a minimum of negative environmental impact, and it can be recycled at the end of its lifespan.

It was also mostly a pleasure to work with. The stock was fairly straight and very uniform. It machined easily and was far lighter than ipe, but still dense.

Even though we took great care in evaluating the products, the process was subjective. It will likely remain so until a uniform standard is established that grades products in each of the areas mentioned here. ♦

Greg Burnet is a remodeling contractor and deck builder in Berwyn, Ill.