

Eco-Friendly Foundation

Build a better future and healthier house with these materials

BY MATT ALDERTON



Thanks to *The Three Little Pigs*, one of the first lessons children learn is the importance of choosing good building materials. But modern homes must be able to withstand a lot more than huffs and puffs. Fortunately, homeowners aren't limited to straw, sticks or bricks. Whether you're building a new home or remodeling your current one, green materials can create spaces that are strong, safe and sustainable, both for your family and for the planet. Although you'll need to ensure compliance with local building codes before embracing them, here are some of the latest and greatest:





SIDING AND DECKING

Consider fiber cement panels, which are made with more than 50 percent recycled content, suggests architect Brian Gaudio, co-founder and CEO of [Module](#), a Pittsburgh-based startup that designs and builds eco-friendly modular homes.

Another option is wood-plastic composites made from recycled plastic and wood fibers. “They are resilient to rot, mildew and even termites. They are low-maintenance and do not need to be repainted or restained. And, of course, the best benefit of all: recycling plastic,” says interior designer Kerrie Kelly, creative director at [Kerrie Kelly Design Lab](#) in Sacramento, Calif.

Wood-plastic composites also are ideal for decking, according to Ron Jarvis, vice president of sustainability at Home Depot, where the [Eco Options](#) program includes 25,000 items with a small environmental footprint — including Trex composite decking, which is made using plastic waste from Home Depot stores.



INSULATION

Spray foam insulation is energy-efficient, which is good for the Earth, but it’s typically made from petroleum-based chemicals, which is not. Alternatives include soy-based spray foam, which contains fewer petroleum inputs, and dense-packed cellulose, which typically contains upward of 80 percent recycled material.

Another option is hempcrete, made from water, lime and hemp. Although they’re not load-bearing, hempcrete blocks covered in plaster can replace insulation, drywall and siding, according to Drew Oberholtzer, co-founder and partner at hempcrete startup [Coexist Build](#). “Hempcrete is carbon-negative, as well as fire-, mold- and insect-resistant,” he says. “The thermal insulating quality and acoustic value are really high, and it reduces reliance on heating and cooling by up to 70 percent.”

FRAMING

Jarvis says the framing product of choice has been and continues to be [Forest Stewardship Council](#) (FSC)-certified lumber, which comes from responsibly managed forests. FSC-certified wood also can be found in decking, fencing, molding and millwork, doors, windows, flooring and even furniture.

Dimensional bamboo lumber is another option. “It’s a renewable building material that is also durable and easy to transport,” Kelly says.

ROOFING

Vegetative “green roofs” aren’t just for commercial buildings; with professional help, homeowners also can install them. “Green roofs ... divert waste from landfills, provide stormwater





management by absorbing and filtering rainwater and also absorb heat, contributing not only to a cooler home, but also a cooler city,” Kelly says.

If you have a pitched roof, an easier and more affordable alternative is cool roof asphalt shingles, which contain special pigments designed to reflect sunlight, keeping homes naturally cool. If you have a flat roof, Gaudio says, you can achieve the same effect by painting it with a cool white roof coating.

WINDOWS



Use wood or vinyl frames instead of aluminum, as well as double- or triple-paned glass, low-emissivity coatings and argon filling to achieve peak energy efficiency and maximal comfort, says Jerry Yudelson, CEO of Yudelson Associates, a green building consultancy in Carlsbad, Calif.

FLOORING



Kelly recommends cork flooring. “Cork comes from cork oak trees that don’t have to be cut down to harvest,” she says. “These floors are insect-repellent, fire-retardant and have natural properties that reduce allergens.”

If you prefer carpet, look for GREENGUARD Gold-certified carpeting, which has low chemical emissions, Jarvis advises.

HVAC



Ductless mini-split systems that provide zoned temperature control are the new gold standard in heating, ventilation and air conditioning, according to Yudelson. “Ductless mini-split systems are getting rave reviews because you don’t have to heat or cool a whole house when you just want one room to be comfortable,” he says.

Kelly, meanwhile, likes geothermal systems, which naturally heat and cool homes by transferring heat to and from the Earth. ■

