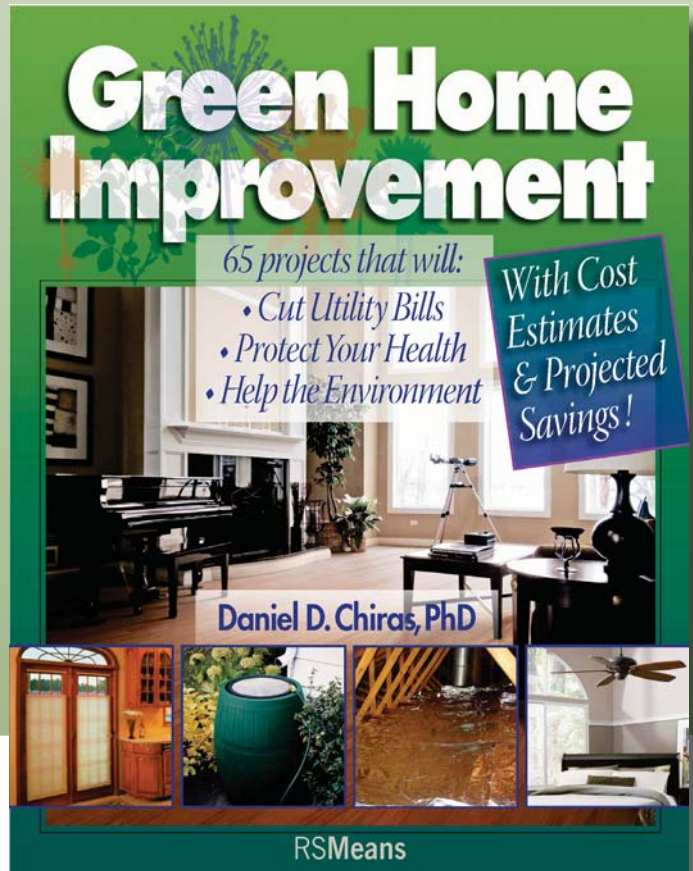


# Green Home Improvement

*65 Projects that Will Cut Utility Bills, Protect Your Health & Help the Environment*

Author: Dan Chiras  
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Editorial contact: Andrea Sillah  
andrea.sillah@reedbusiness.com



## About the Book

**Market:** Homeowners – applies to both houses and apartments.

**Selling Points:** The book gives homeowners **66 projects** – many easy to do and low-cost – that can immediately reduce their utility bills, make their homes healthier and more comfortable, and help them do their part to protect the environment. It is the only book that provides this range of guidance and also informs readers how much these projects will cost – and what they will save as a result.

In a tight economy, this book offers clear financial benefits:

- Helps homeowners immediately cut their utility bills.
- Fits with the trend toward smaller home improvements – most of the projects require only a modest investment.
- Gives readers an edge when they sell their homes – buyers are especially looking for energy-efficiency, but they're also tuned into green health and environmental concerns.

The book's projects range from quick, easy, low- or no-cost tasks like insulating a water heater, sealing foundation cracks, or painting with insulating paint – to bigger-ticket items such as installing a new energy-efficient heating system, windows, or green flooring.

For each project, readers will learn:

- The steps required
- Material and installation options
- What the improvement will cost
- Payback in savings on utility bills
- Health, comfort, and environmental benefits

### Shopping Tips

You can find regular laminate flooring products at many flooring retailers and large home improvement centers, but the green versions may be more difficult to locate. The best approach is to log on to the manufacturer's website to find a dealer locator. You can also check out the many green building outlets listed in Part One (and Resources!) of this book.

Look for products made without formaldehyde. If the dealer can't tell you for sure, or if you don't trust the answers you're getting, contact the manufacturer and ask for a copy of their Material Safety Data Sheet. It will tell you everything that's in their products. Polyurethane binders such as MDI or PMDI are less harmful than formaldehyde-containing resins.

If you purchase a glue-down product, look for environmentally friendly adhesives. You can purcha

these through green building materials outlets. Warranties for laminate flooring typically have a wide range – from 5 to 30 years.

### Cost Comparisons

Laminate flooring can cost up to \$13 per square foot installed, compared to \$7.50 per square foot for solid oak floor – but because they're relatively easy to install, a homeowner can

## Project 5

# Laminate Flooring

If you want a beautiful floor that is also green and relatively easy to install yourself, consider laminate (Figure 5-1). Not just any laminate flooring, but an environmentally friendly type made from certified wood (sustainably grown, harvested, and manufactured).

Laminate flooring, known by brands such as Pergo, is a relatively new product, introduced in the United States in the early 1990s as an alternative to hardwood flooring. (Green laminate flooring is even more

recent.) Laminate flooring is an engineered building material, also known as floating floor. Unlike conventional wood flooring, which consists of solid lumber, laminate comes in long planks or square tiles composed of three or more layers.

The top layer is a pre-finished wear layer consisting of a thin wood veneer coated with a durable finish material, usually water-based polyurethane (Figure 5-2). The middle layer, or inner core, is usually engineered wood such as high-density fiberboard. The bottom layer is a moisture-resistant material such as foam, rubber, cork, or plastic. That layer rests directly on the substrate – either wood subflooring (plywood or particleboard) or concrete (provided the floors are fairly dry). The laminate pieces snap together, which makes it easier for homeowners to install their own floors. Some products are glued to the floor, others installed without glue.

The top layer of green laminate flooring is certified lumber – a wood veneer from trees that have been sustainably grown, harvested, and processed. (You can also purchase bamboo laminate flooring, as noted in Project 3.) The middle layer of this green flooring is typically high-density fiberboard made from recycled wood fiber. The bottom layer uses materials that avoid or minimize the use of VOCs and formaldehyde.

Photo of FSC Certified Laminate Flooring – installed.

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green.) Green laminate flooring products, since they're made from recycled materials and sustainably harvested wood, may be one of the most environmentally friendly flooring options on the market today.

### Some Product Options

lamwood Products (<http://www.lamwood.net>), one of the world's largest manufacturers of laminate flooring, produces a green product called Emotion 32. Silestone, which they claim "not only looks, but sounds and feels like a solid hardwood floor." The bottom layer consists of filled rubber that reduces noise and eliminates the "hollow sound" characteristic of many laminate flooring products. The rubber base layer does not compress or absorb moisture like foam underpads used in some products. Silestone floors are designed for easy installation, with a no-groove, click system, and they come with a 30-year warranty. The company offers nine different woods, including wild cherry, oak, Turkish olive, and birch – all sustainably produced.

Another manufacturer, EcoTimber | HYPERLINK "<http://www.ecotimber.com>," sells prefinished Brazilian Cherry laminate flooring with an unusually thick wear layer that allows for multiple sandings, so you can refinish it to extend its life.



ore flooring won't correct the problem. You may even re-grind the subflooring into the floor joists.

manufacturer's instructions on doorsways, too, if you want to install transition molding in a doorway than installing laminate flooring through a doorway less than 48 inches wide.

Don't forget not to hammer on the groove end of the wall. A tapping block is used to tighten each pound very hard so you may damage the floor. Be aware that even though laminate flooring installed over concrete floors, if the floor is too you may be heading for trouble. When in doubt, call a professional (what type of professional? a flooring contractor? Or a foundation/basement contractor?) to test the moisture level of the floor. Laminate flooring installations may be affected or may require an additional underlayment such as polyethylene, to protect against moisture. Install a plastic layer, be sure to tape the seams to the floor. You can also take steps to reduce moisture in the basement, for example, by installing post extenders or re-grading soil that slopes toward the house.

If your floor plan is complicated and will require a lot of cutting, you may want to hire a professional installer.

## Go Green!

To protect your floor's finish, use a doormat at each entrance to your home. They will help keep dirt and grit from damaging your floors, not to mention minimizing pet tracks, so that you might pick up outside on your shoes. Taking off shoes at the door is even better.

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More than 65 "Go Green" tips highlighted throughout the book give readers ideas for quick, easy, and often low- or no-cost things they can do, right away, to make their homes and lifestyles greener.

The book also includes a chapter for people who are building a new home – explaining the features they should ask their builder or architect about – if they want an energy-efficient, healthy, comfortable green home that leaves the least impact on the environment.

### Projects include:

- Green flooring & paint options
- Environmentally friendly cabinetry & countertops
- Whole-house insulation & weather-stripping
- High-efficiency heating & cooling
- Water conservation
- Efficient lighting, appliances & plumbing fixtures – including Energy Star and WaterSense models
- Solar electric and water heating systems
- Eco-friendly roofing & siding
- Energy-efficient windows, doors & skylights
- Green materials for patios, walkways & driveways
- Landscaping & irrigation for water conservation and energy savings
- ...and many more!

### Toolbox

- Paper and clip board
- Pen or pencil
- Incense and matches
- Screwdriver
- Stapler
- Ruler
- Flashlight
- Hammer
- Mask or ventilator (for dusty attics or basements)

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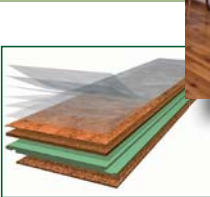


Photo or drawing of "green" laminate floor planks, showing layers.

Who determines whether wood has been sustainably produced? The leading certifier is an independent nonprofit organization, known as the Forest Stewardship Council (FSC). This organization certifies lumber companies throughout the world and has the most rigorous standards.

### Benefits of Laminate Flooring

Ideal for do-it-yourselfers – it's easy to install and get a great-looking floor. Unlike hardwood flooring, you won't have to sand, stain, and coat the floors during installation – a project that can take a week or more. As soon as a laminate floor is laid down, it is safe to walk on it – that is, if you've installed a glue-less variety. (You have to wait until the glue dries when installing glue-down types.)

You won't have to breathe toxic fumes for weeks or months afterwards as laminate flooring products release much lower amounts of formaldehyde and volatile organic chemicals than hardwood.

- Durable.
- Helps deaden sounds of foot traffic.

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not laid up. Check the manufacturer's suggestions for offsetting joints.

When installing baseboard, don't nail into the laminate, as this could interfere with expansion and contraction. Also, be sure to level any low spots in the subfloor before you install laminate flooring. Use a self-leveling compound and let it dry before you install the flooring. Check the manufacturer's recommendations. A 72-hour minimum drying time is usually recommended. Check wood subflooring for soft spots or squeaks and correct them beforehand.

## About the Author

Dan Chiras, a nationally known green building expert, has published 23 books and hundreds of articles on sustainable design and related topics. He has taught at the University of Colorado, University of Washington, and Colorado College. He is currently a consultant on the Discovery Channel's Planet Green Network. Dan has built his own green home and carried out many of the book's projects himself, enabling him to offer valuable tips and specific resources for the do-it-yourselfer. For more information about the author, visit his website, [www.danchiras.com](http://www.danchiras.com)