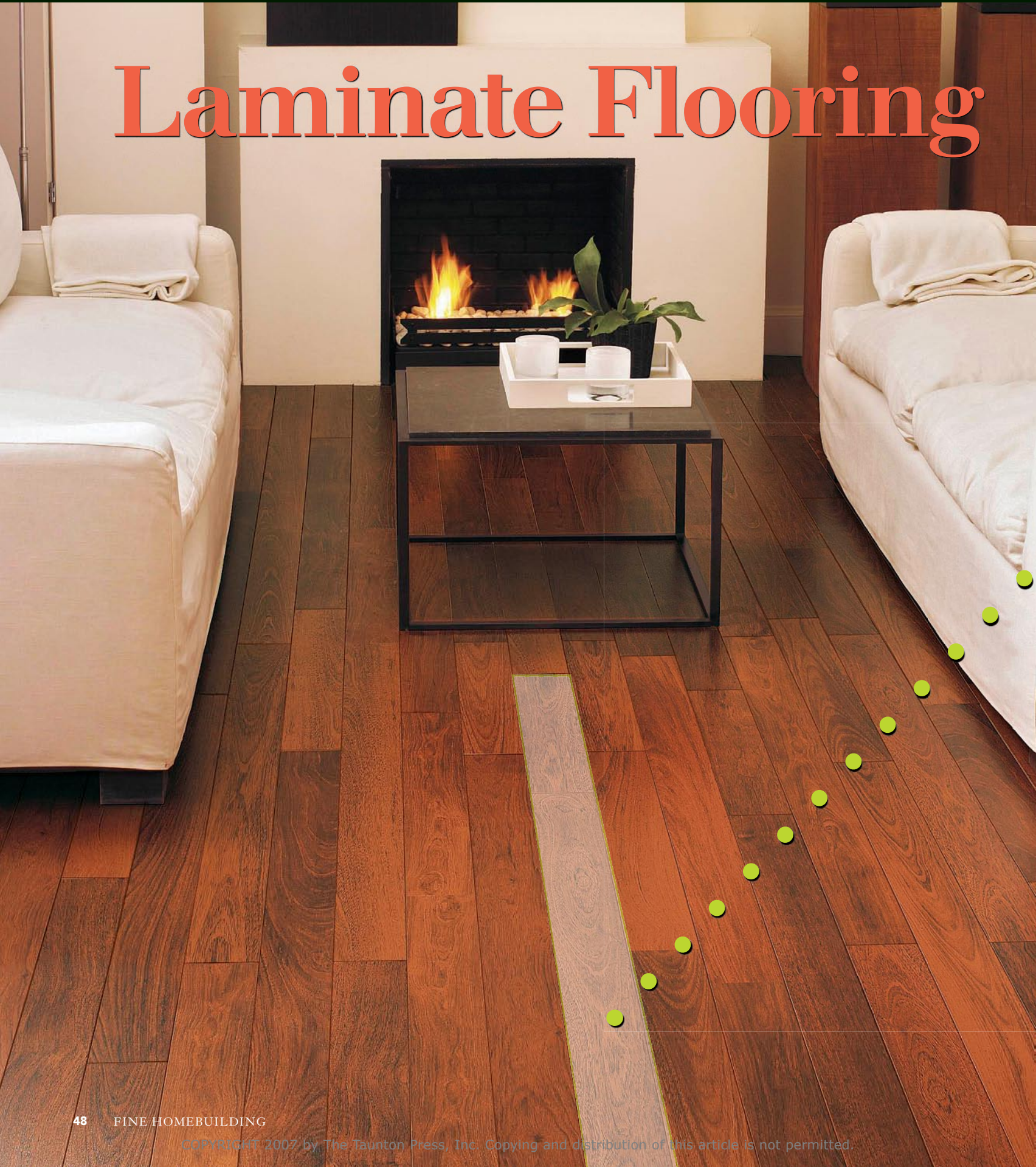
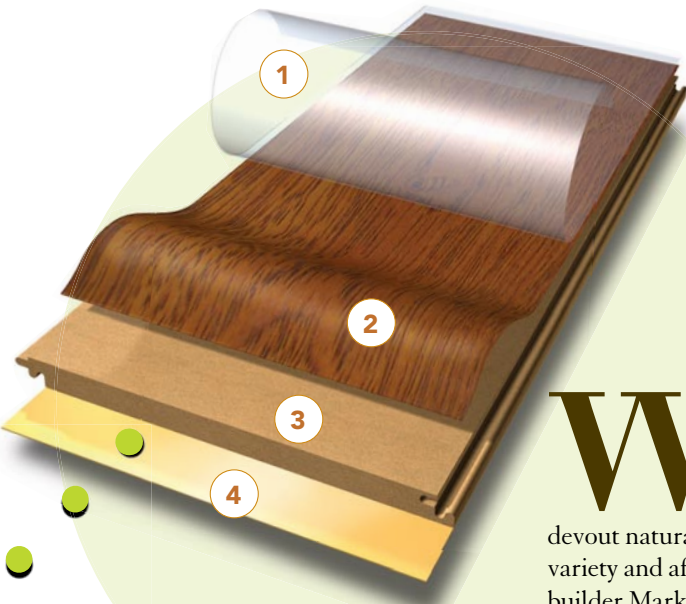


Laminate Flooring



Is Here to Stay



Like it or not, laminate flooring is growing in popularity, dropping in price, and looking better every day

BY JUSTIN FINK

LAMINATE LAYERS

- 1 **Wear layer:** Typically made from a clear layer of melamine that is impregnated with a hard-wearing aluminum oxide, this film is the reason why laminate floors are so durable.
- 2 **Photo layer:** Not to be confused with the real layer of solid wood found on engineered flooring, the photographic image on laminates can mimic anything from marble tile to exotic hardwood.
- 3 **Core:** Also known as a carrier board, this high-density fiberboard core is the backbone of each plank.
- 4 **Backing:** Sometimes called a balancing layer, this portion of the laminate typically is made from melamine and adds extra resistance to subfloor moisture to make the flooring more stable.

While it may never be your first choice for the main entry of a house, laminate flooring has even the most devout natural-flooring fans appreciating its variety and affordability. According to Texas builder Mark McSwain, “Everyone seems to agree that it’s not as good as the real thing, but at an average price of \$1.24 per sq. ft., it is what folks will pay for.”

According to the North American Laminate Flooring Association (www.nalfa.com), laminates have experienced the largest continuous growth in the entire flooring industry. Manufacturers are converting skeptics by improving laminate technology with innovations like glueless mechanical joints, tapered and beveled edges, and realistically textured surfaces.

The ever-widening choice of styles is also a positive factor. Interested in wormy chestnut, hand-scraped pine, limestone, Mexican pavers, or ceramic tile? You can be sure it’s available in laminate.

Photos can’t compete with samples

The Web has created a large online flooring market, but resist the temptation to choose a laminate sight unseen. The feel of a laminate floor is absolutely as important as its appearance. At the very least, ask manufacturers,

distributors, and online retailers for samples of each product you are interested in comparing. They are usually happy to provide samples, and you will be surprised by how different each floor looks in person.

Even better, visit a flooring retailer that has sample installations. There is simply no better way to see how realistic the surface appears, to evaluate how each brand holds up to foot traffic, and to hear how different floors sound under a pair of high heels.

Is thicker better?

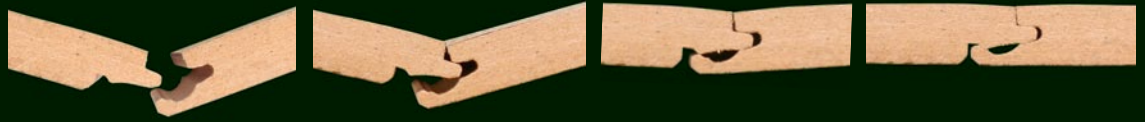
Laminate flooring typically ranges from 6 mm to 12 mm thick (roughly ¼ in. to ½ in.). According to Andre Tesolin of Torlys Flooring, a manufacturer of laminate and other types of flooring, if a laminate is thinner than 8 mm, the planks may not be stable enough to resist the cupping effects of high moisture. And although the perception is that thicker is better, Tesolin warns that many of the thicker laminates are of a lower quality



Laminate flooring ranges in thickness from 6 mm to 12 mm. The difference is typically a matter of the core size only; the wear layer and the photographic image do not vary.

No need for glue and clamps

Most modern planks connect with different versions of a dry-fitting mechanical joint to create a tight, water-resistant, nearly invisible joint.



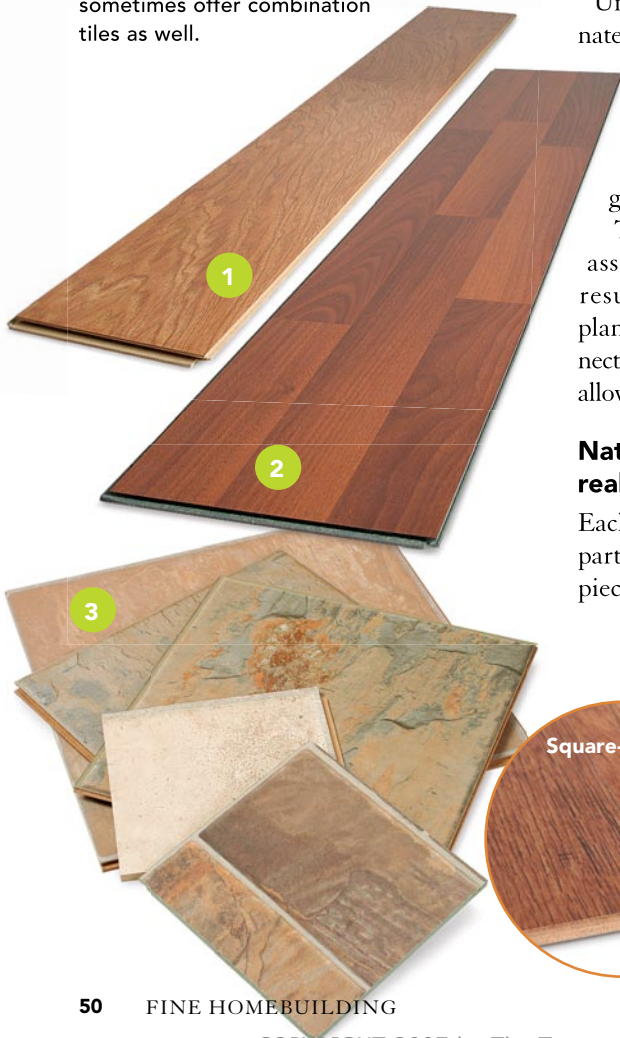
and also may be susceptible to excessive swelling in moist environments.

Steve Simonson, chief executive officer of iFloor.com, notes that when thicker high-quality planks or tiles are combined with a good underlayment, they are less likely to sound hollow underfoot—a common complaint with laminates in general.

The only way to know for sure whether thicker is better is by checking the product's *swell rate*, which measures how much the

laminated core expands when submerged in water for 24 hours. Tesolin notes that better-quality brands make this information available in print because it is a key differentiator. The maximum allowable standard for moisture swell is 18%; many laminates fail this test, or come dangerously close to failing. Once the core gets wet and swells, the entire piece needs to be replaced. Better products have swell ratings of 12% or less, but if you don't see the number on the box, there's a good chance that the product has poor resistance to high humidity and moisture absorption.

Planks or tiles Laminates made to look like wood are manufactured in both random and uniform lengths, and either single boards (1) or combinations of two or three boards called strips (2). If you choose a laminate floor that looks like stone or tile (3), each piece usually is installed individually just like a real stone or tile floor. Manufacturers sometimes offer combination tiles as well.



It's a floating floor

A laminate floor is not attached to the sub-floor in any way. Instead, the planks or tiles are joined to each other and are installed over a smooth, level underlayment with a 3/8-in. gap around the floor's outside edges.

Until a few years ago, every brand of laminate flooring on the market required glue to join planks together. Glue-together planks still are being sold by a few manufacturers, but the vast majority of laminates sold today rely instead on a glueless mechanical joint.

The benefits are clear: Glueless floors assemble without clamps, adhesives, or resulting edge-swell problems. Instead, planks use locking tongue-and-groove connections that are faster and easier to install, yet allow the floor to be disassembled if necessary.

Natural character means a more realistic appearance

Each laminate tile or plank begins its life as part of a larger sheet, much like an oversize piece of veneered plywood. The veneer on

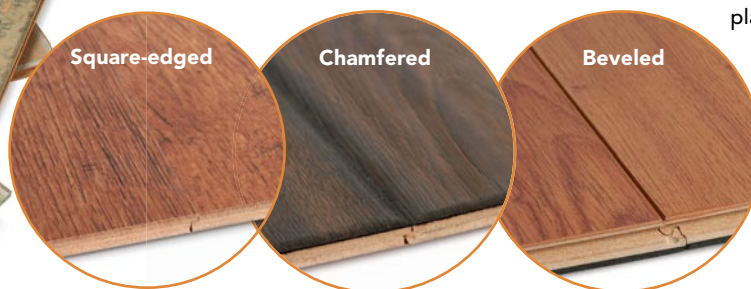
laminated, though, is actually a huge photographic image coated with a clear, durable wear layer. The grain pattern and coloration vary across the face of the large uncut laminate sheet, but the overall image doesn't vary between sheets. The identical sheets then are cut into eight or nine planks so that there is a distinction in the pattern from one plank to the next.

Why should you care? Because this repetition is part of the reason that laminate flooring often is designed with subtle grain and uniform colors. Many buyers believe that having less distinction between planks means less chance of noticing a repeat. The trouble is that these bland patterns often end up looking like poor substitutes for the real thing.

For the look of a true hardwood floor, forget about bland, and choose a style that includes natural-looking imperfections. Knots, checking, or even faux sawblade marks help to break up the repetition and make a laminate floor look more true to life. Some of the Mannington and Quick-Step products do an excellent job with these details.

According to Tesolin, the best laminates have about 10 plank variations, but some of the cheap varieties have as few as four. With such a high rate of repetition, you are more likely to join two planks with the same photo end to end or side by side. To help curb the chances of a repeat, Quick-Step's Elegance line and Lumber Liquidators's Nirvana V3 line both offer three different plank lengths within each package. By varying the orientation of the planks and by keeping the lengths random, you have more design options and much less chance of an obvious repetition.

In the groove Square-edged planks join together to create a surface with a smooth finish, but they sometimes end up looking like one continuous sheet of vinyl. If you want more delineation between planks, consider chamfered or beveled joints.





Natural or knot (1) Avoid generic grain patterns imprinted on the wear layer that don't match the grain of the photo layer below. (2) Better products use "embossed in register" technology to match the wear layer with the grain texture shown in the underlying photo. (3) To avoid a cookie-cutter look, some manufacturers take realism to the next level by showing imperfections like knots and sawblade marks. (4) The premium products go as far as imprinting gouges, grooves, and dents into the surface of the planks to re-create the look of distressed or hand-scraped wood. (5) For those who don't want to imitate nature, some manufacturers make laminates in solid colors and simple patterns.

There are also manufacturers—ABET is one example—that make laminates in solid colors or simple patterns. Because these floors aren't trying to imitate nature, repetitive patterns and imperfect impersonations are not concerns.

Technology creates the illusion of imperfections

Laminate-flooring manufacturers are using new technologies to make their flooring look more realistic. These features will raise the price to \$3.50 per sq. ft. or higher, but paying extra can give you a floor that truly fools the eye.

Depending on the brand you choose and the amount of money you are willing to spend, the grain and surface texture you end up with can look more or less convincing. To see the difference between surface textures, hold the

plank at an angle under a light source and look along its surface (photos above).

One popular method of breaking up the eerily smooth surface of a traditional laminate floor is either to taper or to bevel the edges of each plank slightly. Planks that join tightly to one another are great for keeping water from soaking through a floor, but that doesn't mean your kitchen floor has to look like a giant sheet of laminate with no delineation between pieces. Tapered or beveled edges offer the same water resistance, and they help to break up the monotony of a large laminate floor.

Another way manufacturers are making fake wood look real is by adding depth to the surface of the plank itself. Several brands now offer laminates that look like old reclaimed hardwood, with gouges and grooves pressed into the planks for the effect

Be wary of warranties

by Steve Simonson

A 15-year warranty covering wear, fade, stain, and moisture sounds good, right? That's reassuring, but only until you read the fine print. Truth is, it would be tough to get a laminate to stain or fade. And when it comes to wear-through, the warranty covers the product only if the photo layer is completely worn through in a sufficiently sized area. Small scratches, gouges, or chips typically are not covered. If the product carries a moisture warranty, it typically does not protect against edge-swelling, or water damage caused by moisture emissions from concrete.

You can, however, get peace of mind by trusting whom you buy from. Ultimately, the source for your product may be as important as the manufacturer who put the warranty on the box.

—Steve Simonson is CEO of iFloor.com.

Common laminate moldings

Laminate flooring needs room to expand with changes in humidity and temperature, so color-matched trim is necessary to cover the transition gaps and expansion gaps around the perimeter of the floor.

T-MOLDING

Typically found in a doorway between rooms, this molding attaches to the subfloor and is used to transition between two floors of the same height.

REDUCER STRIP

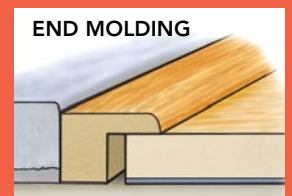
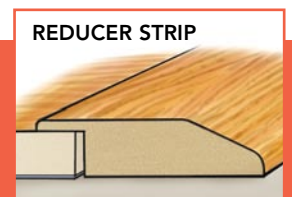
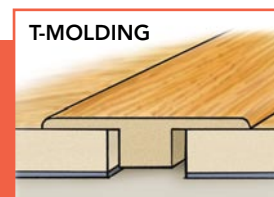
This molding is used to transition from raised flooring like hardwood, tile, or laminate down to slightly lower surfaces like vinyl or painted concrete.

QUARTER-ROUND

Either fastened to the wall or the subfloor, this molding most commonly is used to hide the gap around the outside edge of a room.

END MOLDING

This molding is used to terminate the laminate where it meets large thresholds. It also can be used in lieu of quarter-round when butting up to carpets or cabinet kick plates.



Choosing an underlayment

The underlayment beneath a laminate floor allows the planks or tiles to float, expanding and contracting independently of the subfloor. Underlayments also compensate for slight imperfections in the subfloor, help to reduce the transmission of sound through the floor, and to a lesser extent, soften the feel of the floor underfoot.

Some laminates are available with an underlayment already attached to the bottom of each plank or tile to make installation easier (photo above). But most underlayments still are sold separately in sheets and rolls so that buyers can choose the best product for their budget and their type of installation.



FOAM

Typically about 1/8 in. thick, foam is the most commonly available underlayment and is considered to be the entry-level choice. Foam does a decent job of disguising imperfections in the subfloor, but its sound-reduction qualities aren't great; it's not the best choice for upper-level floors. Prices and sizes vary, but foam typically comes in 50-sq.-ft. to 100-sq.-ft. rolls that cost anywhere from 12¢ to 20¢ per sq. ft.

VAPOR BARRIER

A vapor barrier is required any time laminate is installed in a below-grade-level application like a basement or is installed in any situation where moisture is likely to seep up from below, like the subfloor above a crawlspace. The easiest solution is to choose an underlayment with a built-in vapor barrier (shown here), commonly referred to as a 2-in-1 underlayment. Most manufacturers also allow the use of a separate 6-mil-thick plastic sheeting as a vapor barrier. Prices for 2-in-1 underlayments range from 4¢ to 35¢ per sq. ft.

CORK

This underlayment is widely considered to be the best choice because of its breathability, sound reduction, natural composition, and reasonable cost. It is typically available in thicknesses from 2.5 mm to 12 mm, and the rule of thumb is the thicker the cork, the better the sound reduction. Because cork is breathable, it may require a separate moisture barrier. Prices range from 60¢ to \$2.44 per sq. ft.

SOUND REDUCTION

Underlayments in this category typically are made from a higher-quality foam, rubber, or fibrous material. Note: These underlayments typically don't change the hollow or "clicking" sound of walking across a laminate floor; they are designed to reduce the transmission of sound to rooms below. The STC (sound transmission classification) and IIC (impact isolation class) ratings are the best way to determine the quality of these products. Consider ratings between 55 and 60 as a good choice, but the higher the number, the better. Prices range from 70¢ to \$1.10 per sq. ft.

3-IN-1 COMBO

Combine a traditional pad with both a vapor barrier and a sound barrier, and you get a 3-in-1 combo underlayment. Materials and methods of construction vary widely, but again, STC and IIC ratings are the best measures of quality for this category of underlayment. Prices start at about 45¢ per sq. ft.

of a hand-scraped finish. This technique does a nice job of approximating the real thing.

Durability isn't predictable, but it is testable

The frustrating thing about side-by-side comparisons of laminate flooring is that much of the quality is a function of invisible details. For instance, it's impossible to look at a melamine wear layer and judge whether it will show scratches in a few years or whether a small puddle of water is more likely to seep into the crack between the planks of one brand or another.

For this reason, iFloor.com paid a laboratory to conduct blind-testing for side-by-side comparisons of features like wear resistance, moisture resistance, and more. Pergo, Quick-Step, True Groove, Westhollow, and Wilsonart were among the highest-scoring brands. The results for more than 70 varieties of laminate are available free of charge at www.ifloor.com/articles.

Laminate flooring always will be a cost-driven market

Mannington recently released a laminate plank that replaces the usual high-density fiberboard core with hollow chambers of extruded plastic. Called iCore, the product is designed for high-traffic commercial applications and is impervious to water. This plank definitely stands out from the crowd and raises the question of whether this is the next wave of laminate flooring.

According to Betsy Amoroso of Mannington, the iCore line probably does not indicate the future of residential laminate flooring, simply because its high price of about \$6.20 per sq. ft. outweighs the number-one benefit of laminate flooring: low cost.

"Laminates are still very much a cost-driven product," said Amoroso, "and though the technology may improve over time, these products are likely to remain an economical flooring alternative." □

Justin Fink is an assistant editor at *Fine Homebuilding*. Photos by Krysta S. Doerfler, except where noted.

ONLINE CONNECTION

For a list of laminate manufacturers and links to online retailers, visit www.finehomebuilding.com.