Hardwood and Laminate 101

Hardwood Flooring vs. Engineered Wood Flooring vs. Laminate Flooring

If you want the look of hardwood floors for your home, you have a number of choices to sift through. Along with sheet vinyl and vinyl tile products, there are the more common options of solid hardwood, engineered hardwood and plastic laminate. There are pros and cons of each type. Here are the basics.

Nothing man-made has the same appearance and feel of real wood, although the manufacturers are getting closer all the time. Part of the beauty of wood is that every piece is different. Because it has no pattern repeat, real wood (either solid or engineered) ads character and value to your home. It has also been seen as being better for the control of allergens, although the latest studies indicate people with allergies do better on carpeted surfaces. Prices climb with the rarity of the wood, the features and finishes, and the size of the planks. Smaller pieces of wood can be cut from smaller boards and logs and mean less waste material.

Better quality wood has fewer defects, is cut from straighter logs, is consistent in thickness and milling, and has been legally harvested using eco-friendly logging and manufacturing practices. This all means you will have to throw out less unusable product. The best manufacturer in the industry has a 6% out-of-the-box defect ratio, meaning 6 out of every 100 square feet you buy will probably not be usable.

Better prefinished hardwoods have more coats of finish that have been put on in thin, even layers and ultraviolet cured between each coat for maximum hardness. They will frequently include particles of aluminum oxide or ceramic nano-particles for added scratch resistance.

Solid Hardwood

Solid hardwood has the greatest appeal for most people. It is typically cut from whole boards of hardwood and sanded down to about 3/4" in thickness. Because of its thickness, it has a perceived value for most people of being more “high-class”; a luxury product that has status appeal. It is rightfully perceived (if properly maintained) as being long-wearing.

All hardwood can change color due to ultraviolet (sunlight) exposure. It could lighten or darken, depending on the species. Also, most floor finishes are not real resistant to ultraviolet and may break down faster due to consistent exposure to sunlight.

Typically ranges from $5 to $20 per square foot, and about $3 to $5 per square foot to have it installed.

Pros	Cons
Improved resale value. If properly maintained, could last 100+ years. Less clicking footstep sounds. As needed, it can be refinished a number of times, depending on the conditions and skills of the refinisher. When nailed down, 3/4” hardwood can add structural strength to the floor. No pattern repeat or panelization (where 2-3 adjacent strips end at the same point) to detract from appearance.	Proper maintenance is crucial with hardwood. The less grit and water on it, the better. Sanding & finishing can be slow and may spread dust throughout the home. Regular refinishing can cost $2-$5 per square foot every 7-10 years. Fairly easy to scratch or dent, varying with finishes and species. As such, less good with dogs, kids and high traffic. Almost always, solid hardwood needs to be installed over plywood or plank subfloor.

Engineered Hardwood

Engineered hardwood is made of multiple thin sheets of wood glued together in a layered form like plywood. The backing layers are comprised of readily available wood while the top layer is premium hardwood. The multiple layers are laid perpendicular to each other which minimizes expansion & contraction issues. Engineered hardwood was designed to permit installation over concrete. It is also better in areas of higher humidity.

With exotic hardwoods there is less of the rare wood used, so less exotic trees need to be logged. Since you can only sand a floor down to the tongue of the board, using exotic wood to make the lower two-thirds would be a waste.

The top layer of premium hardwood on an engineered product can vary from 1/12" to nearly 1/4". It is comprised of 1-3 widths of strip hardwood, with single-piece plank facing being the most expensive version. Multiple strips on one width can create a look that looks less like a "real hardwood floor", i.e. a solid hardwood. Most people prefer the appearance of single-strip flooring. Your ability to sand & refinish the floor is directly dependant upon the thickness of the top layer. Generally, an engineered hardwood with 1/12" face would not be sandable, although it can still be refinished by carefully scuffing up the finish and recoating it.

Can range in price from $5 to $20 per square foot although it is generally a little more than solid. Installation is easier for the DIY customer, but labor runs about $2.50 to $5.00 per square foot.

Pros	Cons
Improved resale value. Can last 25-100 years with proper care. Can be installed over more surfaces. More dimensionally stable. More environmentally responsible. Generally Prefinished, reducing the down time and dust. Installation options vary. Might be nail/staple/glue down/ or floating	Thinner-faced products may not be sandable. Floating installations may sound hollow. Typically more flexible and will not add as much stability to the floor.

Laminate Flooring

Laminate Flooring is a composite product made with a high-density fiberboard core and a photo of wood, tile or whatever on top of it. The manufacturer then pressures melamine (impregnated with aluminum oxide for added scratch resistance) onto it using high heat.

Laminate flooring is consistently stain-/burn-/fade-resistant, relatively easy to install, and easy to maintain. Scratch, dent, and moisture resistance varies with the quality of the core board and with the rating of the finish. Most laminates are AC3 rated, which is normal for high-traffic residential usage. AC4-rated products are suitable for many commercial applications as well as residential. This makes laminate a great choice for families with kids and dogs.

Laminate is still a wood-core product and as such it is susceptible to moisture issues. It will react to moisture faster than any other flooring material. It is critical to use only the manufacturer's cleaning products on it. Over the counter cleaners and wipes are designed to sell cleaner, not protect your floor.

Laminate is designed to resist moisture spilled on its surface, when you clean it up promptly. The cohesiveness of water is what holds drops together and it also keeps water from penetrating the joints quickly. When you add other cleaners, the surfactants in them are designed to break down the cohesive bond of water so that it will penetrate soil better and break it down. These surfactants also make water penetrate the joints of the floor easier. Never use a steam mop on laminate or hardwood for similar reasons. Remember, the less water and grit on wood or laminate, the better. (Urine is higher ph and thinner viscosity and will penetrate the joints and core board even faster.)

The melamine surface makes laminate like having a Teflon-covered floor. Stuff just doesn't stick to it. Just maintain it by sweeping or vacuuming, and wiping spills up promptly with a well wrung out damp rag.

Most laminate is now snap-together and can be taken apart and can usually be reassembled up to three times. This can make board replacement in the event of damage easier, or allow you to reuse the floor in another room or home.

Laminate can run from $1.00 to $7.00 per square foot, plus trims can ad up. Labor is generally about $1.50 to $2.50 per square foot.

Pros	Cons
Can last 15-30 years with proper care.	Floating installation may sound hollow and "clicky" without special underlayment pad.
Very scratch/scuff/stain/burn/fade resistant.	Does not improve home value.
Can be installed over more surfaces.	Fairly easy to ruin with moisture problems.
More environmentally responsible.	Cannot be refinished.
Easy for DIY installation.	Pattern repeat may be unappealing.
Reusable in some cases.	Finish may still have the look of plastic.
Durability is not related to the species depicted.	