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### ***Can I install the flooring myself?***

In most cases, the installation of wood flooring is well within the average do-it-yourselfer's ability, and is a very satisfying job because it results in such a dramatic transformation. Jobsite sanding and finishing, which is only required for unfinished wood flooring, is a job we think best left to the professionals. If the room is ready for installation, and all materials and tools are present, one can expect to lay about 200 square feet in a day. Professional installers, working as a team, can often accomplish three times that amount.

### ***What are the advantages of wood flooring?***

Wood flooring adds value to your home and is an investment, not an expense. Look at the real estate ads and count the number of times hardwood flooring is mentioned as a selling point. Now compare that to carpet or laminate. Carpet and plastic laminate are disposable floors, whereas wood flooring lasts for centuries if properly maintained, and can be returned to brand new condition. Wood flooring does not harbor allergens like animal dander, fleas, ticks, mites, or hold dirt like carpet. After a few years, nearly half the weight of carpet is accumulated trapped dirt. Wood is a naturally renewable and biodegradable material, and is probably the only material in your home that satisfies

those criteria (unless you live in an igloo). We also think it is more beautiful and individual than any other flooring material.

***What jobsite criteria are important in choosing a wood floor?***

If you have any of the following three criteria: radiant heat, below ground level installation, direct installation on concrete, Planet Hardwood recommends an engineered floor, which is designed to provide superior stability. Below ground level, moisture can cause solid hardwood floors to expand excessively. Modern radiant heat systems are less stressful to wood flooring than they used to be, but still create a dry environment outside the comfort zone of solid wood. The National Wood Flooring Association only recommends solid wood over radiant heat with a floating subfloor (created by attaching two layers of ½” plywood to each other, but not to the subfloor... thereby “floating”). The floating subfloor is an added expense and puts an extra 1” of wood between you and the heat source. Other important jobsite conditions pertain to moisture migration, and seasonal changes in relative humidity. A more detailed jobsite assessment is described in [GENERAL INSTALLATION INSTRUCTIONS](#).

***What lifestyle criteria are important in choosing a wood floor?***

If you have six children and three dogs and anticipate extra wear-and-tear, a harder wood may be more suitable. If you take your shoes off at the door, you can expect to keep that “brand-new” look forever regardless of the hardness of the wood. Even the softest of woods have survived over 300 years of use and abuse, and you’ll never walk through a wood floor. Most every accumulation of “history” is cosmetic, and one of the major advantages of wood flooring is that it can be returned to new condition. Even severely damaged pieces or areas can be repaired or replaced without compromising the rest of the floor.

***What design criteria are important in choosing a wood floor?***

It’s hard to make a mistake with natural wood, and the ultimate advice is to choose something you like. Wood is compatible with any décor or design statement. We’ve sold knotty woods to modern hi-rise apartments, and rich dark exotics to log cabins. Different woods do not “clash” with one another in the same way as paint and fabric. I have never had the experience of walking into a home and thinking “...boy, that Walnut looks ugly... why didn’t they use Maple instead?” Wood is an ancient part of our surroundings and always creates a harmonious environment for people.

***What is the difference between prefinished and unfinished wood flooring?***

Prefinished wood flooring has a factory applied finish. No sanding is required after installation, avoiding the mess and jobsite delays of a sand-and-finish wood floor. Prefinished floors can be solid or engineered and typically carry 25 year wear-through warranties in residential applications. These warranties come with a lot of fine print, but call attention to the finish’s durability. The advance in technology that allows these warranties is the suspension of aluminum oxide particles within the finish. Aluminum oxide is an extremely hard man-made material (used in grey sandpaper for instance). It is usually the second coat of a multi-coat process. The top coats are several layers of clear ultra-violet cured acrylic polyurethane designed to allow for future cosmetic recoating without sanding the wood itself.

Unfinished wood flooring is finished after jobsite sanding and results in a completely smooth surface, without the micro-beveled edges typical of prefinished flooring. The performance of these finishes, although durable, depends on proper application and does not typically carry warranties. An unfinished wood floor can be stained, and offers the choice of a surface “film” finish (like a prefinished floor), or a penetrating finish like oil.

***Why do prefinished solid wood floors have a micro-bevel?***

The purpose of taking the edge off of the corners of the surface of most solid prefinished wood floors is to forgive any slight deviations in the milling or in the sub-floor that might situate an individual piece of flooring slightly thicker than the adjacent piece. In a site finished wood floor any tiny differences are sanded smooth. Taking the crisp edge off of the corners of hardwood is routine in furniture manufacture. Since the precision of wood flooring manufacturing equipment keeps improving, the old “v-groove” in prefinished flooring has been reduced to mini micro-bevel.

***What are the methods for installing wood flooring?***

There are three common ways to install a wood floor: naildown, gluedown and floating. Naildown is the traditional method of installation using nails or staples and requires a wood subfloor. All solid flooring and many engineered floors can be installed this way. The nails or staples are driven at an angle through the tongue and are hidden by the next piece of flooring. This is called “blind nailing.”

A glue-down wood floor is installed in a trowel-spread mastic much like flooring tile. This method is popular for installations directly onto a concrete subfloor, but can also be installed on plywood. All engineered flooring and some solid flooring can be installed using the glue-down method.

A floating floor is attached to itself and not to the subfloor, thereby “floating” over a seamless cushioned vapor barrier. This method is suitable for any subfloor and is especially recommended for radiant heat or below grade installations. All floating installations use engineered flooring.

Detailed information can be found for each type in the [INSTALLATION](#) section.

***What are the properties of wood that affect its performance as flooring?***

Wood acts like a sponge. It expands in the presence of excess moisture and contracts when that moisture is given up to a dryer environment. All wood does this to some degree no matter what. No matter how you engineer it. No matter how you mix it, shave it, turn it into powder and glue it back together again (like the cores of plastic laminate flooring), wood will react dimensionally to the presence or absence of moisture. Average relative humidity will fluctuates seasonally and will account for the seasonal movement (expansion and contraction) of wood floors. In Vermont for instance, the seasonal relative humidity fluctuation is wide... summer days with 90%+ relative humidity, and when the heat is on in the winter the interior relative humidity drops to desert-like conditions. Either extreme is stressful to wood (and people) and steps should be taken in both seasons to keep the interior relative humidity within 35%-60%. Other areas of the map have average wetter or drier environments and narrower seasonal swings in relative humidity. Wood will always try to find an equilibrium balance with the prevailing conditions and 35% - 60% relative humidity is comfortable for all interior wood.

Wood exposed to sunlight changes color over time. Some manufacturers put UV inhibitors in their finishes which act like sunscreen for your skin. In furniture this acquired color is called “patina” and is desirable. Anything organic exposed to the sun changes color including you and me.

Different woods have different degrees of hardness and density which will affect how it looks over time and accumulates its own “history.” The natural hardness of an individual specie is measured scientifically by the “**Janka**” test. This test measures the pressure it takes to sink a .444 inch steel ball one half its diameter into the surface of the wood. The higher the number, the harder the wood. Eastern White Pine, the softest wood used for flooring, has in many cases withstood over 300 years of use and abuse. You’ll never “walk” through a wood floor.

### ***What are the different grades of wood flooring and what do they mean?***

When choosing wood flooring for your home, you’ll notice that the some species of wood are offered in three or four different grades. These grades distinguish differences in appearance only, and do not affect the performance of the floor in any way.

- **Select grade** describes flooring that is somewhat uniform in color with few or no knots. Some mills distinguish a “clear” grade in addition to select.
- **#1 Common** grade allows for a wider color variation and for occasional small sound (secure) knots. #1 Common shows more of the natural characteristics of the wood.
- **#2 and #3 Common** include boards that do not qualify as Select or #1 Common. These grades, with names like “Country”, “Rustic”, or “Tavern”, exhibit all the color variety and allows for any sized sound knot.

All grades occur naturally in the lumber yield of any log. Lengths are one criteria of the lumber grading process, and the average lengths of select grade flooring are usually longer than the average in the common grades.

### ***How is hardness measured for wood?***

The hardness of wood is measured scientifically by the “**Janka**” test. This test measures the pressure it takes to sink a .444 inch steel ball one half its diameter into the surface of the wood. A higher number denotes a harder wood. Woods that are naturally harder than others will show less dents and evidence of traffic, but this relative standard is mostly for cosmetic reasons as all wood floors will last hundreds of years before they are worn through.

### ***What is the difference between solid and engineered wood flooring?***

Solid wood flooring is the term for individual pieces of wood milled to a tongue-and-groove profile, typically ¾” thick and nailed to a plywood subfloor. It is available with a factory applied finish, or as an unfinished floor requiring jobsite sanding and finishing. Prefinished flooring is popular because it avoids the delays and mess of a sand-in-place floor, and the new generation of factory applied finishes are considered superior and longer lasting. Solid wood flooring offers the most choices in specie, grade and dimension.

Engineered wood flooring is a sandwich of alternating wood layers designed to provide stability. It’s basically a solid wood top “wear” layer that is permanently bonded to its

own wood subfloor, thereby allowing it to be installed directly over concrete. An engineered floor has approximately one sixth the seasonal movement of a solid wood floor of the same specie and width. It makes good use of the timber resource by concentrating the best wood on the wear layer. Planet Hardwood recommends engineered flooring for glue-down and floating installations, and for flooring wider than 6” in width. Many engineered floors can be nailed down also, and some offer a thick re-sandable wear layer comparable to a solid wood floor.

### ***Why is wood the most environmentally responsible building material?***

To identify the most environmentally responsible building material, the choice would logically rest on two fundamental principles:

- 1) It is a renewable resource.
- 2) It is a biodegradable resource.

Wood is the only common building material that satisfies those criteria. Measured against plastic, steel, aluminum, concrete, or cloth, wood is the most environmentally friendly in terms of low emissions, energy consumption and toxic by-products. Every part of the tree has a use.

Trees are mostly carbon. The carbon comes from the carbon dioxide (CO<sub>2</sub>) in the atmosphere, and through the process of photosynthesis is converted to wood fiber. This carbon is “fixed” in the wood, and can only be released if the wood is burned or allowed to rot above ground. A young growing forest helps to balance the excess carbon dioxide in our atmosphere. This is an ongoing renewable natural process.

### ***Are wood floors hard to maintain?***

Wood flooring maintenance recommendations are the same from manufacturer to manufacturer and are plain common sense. The pro-active things that are asked include:

- 1) Maintain a relative humidity comfort zone between 35% - 60%.
- 2) Vacuum grit to prevent scratches.
- 3) Clean up spills promptly.
- 4) Put protective felt pads under furniture.

For a complete list, go to [Care and Maintenance](#).

### ***What’s the lowdown on these finish warranties?***

It is now common to find fifteen, twenty-five and even fifty year warranties on prefinished wood flooring... warranties that promise that you will not walk through the finish to the wood, under “normal” residential traffic, as long as the flooring is maintained to the [Care and Maintenance](#) standards, which are nearly identical from manufacturer to manufacturer. What is not included in these finish warranties are scratches (anything can scratch, including granite or glass), and dulling in a high traffic corridor (compared to flooring under furniture that will never experience a footfall). There are other exclusions, and a complete list can be found in [Warranty](#). What has made these warranties possible are advances in the factory finish technology that includes the suspension of very hard tiny invisible solid particulates like aluminum oxide (the grey stuff in grey sandpaper). This finish layer is part of a multi-coat process that prevents wear-through, but allows for cosmetic re-coating without removing the old finish.

### ***Do I need to acclimate the wood before installation?***

The reason for wood to be in the environment of the occupied building prior to installation is to “acclimate” to the prevailing relative humidity (RH). Wood is hygroscopic, that is, it acts like a sponge... either soaking up moisture or giving up that moisture to a drier environment as it arrives to a balance with its surroundings. This balance, where the wood is theoretically inert, is called the “equilibrium moisture content” (EMC). During construction, especially new construction, there are wild swings in RH. This is not a good environment for wood acclimatization. Even once the building is occupied there are seasonal swings in RH, especially in places like Vermont where we experience near tropical weather in the summer, to bone-dry conditions in the winter. Without any pro-activity towards limiting this natural range of RH, like humidifying in the winter and de-humidifying in the summer, an occupied building in Vermont will fall outside wood’s “comfort zone” (and people’s comfort zone) of 35% - 65% RH. So in Vermont as far as acclimatization is concerned, you’re always aiming for the bulls-eye of a moving target.

For wood to acclimate properly, it has to be exposed on four sides to an air current. This is accomplished by stacking the wood on “stickers” or spacers that leave gaps between the layers, with a fan to keep the airflow active. When wood is in a carton (as all prefinished wood is packaged) no real acclimatization is occurring, especially since either as a carton or as a pallet it is routinely wrapped in plastic. Universally, the first line of any prefinished flooring installation instructions, usually written in bold letters, is: **Do not open the carton until you’re ready to install the floor.** This caution is written because any wood not yet secured in place that is finished on the front, and not the back, has an opportunity for excessive movement in an extreme RH environment (like during construction). Once installation commences, it is advisable to work from a few open cartons to get a broader perspective on the material.

Everyone uses (or mis-uses) the word “acclimation” including manufacturers (!). I think it becomes a shorthand way of telling people not to leave the wood in the back of the pickup in the driveway during a rainstorm.

The saying “practice makes perfect” should be “*perfect* practice makes perfect”. So even if all the procedures were followed to properly acclimatize wood, one would want to acclimate it to the target average environment of the occupied building. During construction, the RH is usually not in the center of that target.

So introducing the wood to the site prior to installation is not necessarily harmful or beneficial depending on the jobsite RH.

### ***Why should I buy from Planet Hardwood?***

We love wood. We want you to be thrilled with your purchase and will not recommend an unsuitable floor for the sake of a sale. We are a bricks-and-mortar business first, with a reputation of providing superior value. We have a history of consulting to flooring mills around the world on issues of product development and quality control. We do not promote brands, but in many cases buy directly from the same mills that private label product to the giants of the industry. Wood is an organic material tied to seasonal availability and market fluctuations so the big boxes and major e-tailers can only offer mainstream products produced by the square mile. Our website is updated daily since we

also offer product from smaller producers who cannot hope (and have no desire to) to supply those outlets.

***If I decide to refinish my floors in the future, what will that entail?***

Oil based polyurethanes were the common floor finish for many years and to recoat required sanding off every bit of the old finish. Some of the wood surface would be sanded off as well. This prompted the question, especially with engineered wood flooring: How many times can this floor be sanded? The new generation of factory applied finishes are compatible with the common water-based acrylic polyurethanes now widely used in favor of oil-based finishes. So a recoating no longer requires the existing finish to be removed, but merely abraded sufficiently for the new finish to enjoy good adhesion. This is much less of a mess than a full sanding, and does not remove any wood from the surface of the flooring, unless you're dealing with dents.

There are two things that accumulate on a wood floor after years of use. One is dents. Dents are simply a function of the intrinsic hardness of the wood and the weight of whatever drops on the floor. Additionally, spiked heels, gravel, or any sharp object can leave dents in a wood floor. The other accumulation of history has to do with the surface finish. These are primarily scratches and gloss reduction in a high traffic corridor. Both are exclusions to the finish warranties. Finish issues are remedied by refinishing the finish. If there are isolated dents, it is better to replace those pieces rather than grind the whole floor down to the deepest dimple.

Having said all that, wood floor finish manufacturers are developing the chemistry to recoat wood floors without any sanding or abrading. Cosmetic recoating in the near future might well be applied with a mop and a spritz bottle of liquid available at the local supermarket.

***What if I have a question I don't see here?***

Call (802-482-4404) or fax (802-482-4405) or e-mail ([info@planethardwood.com](mailto:info@planethardwood.com)) Planet Hardwood. Additional information is available through the National Wood Flooring Association on their website [www.nwfa.org](http://www.nwfa.org),