



A Comprehensive Guide To
**UNFINISHED
FLOORING**

THE
MASTER'S CRAFT
FLOORING COMPANY

WHAT YOU NEED TO KNOW

Think of an unfinished hardwood floor like a blank canvas. You can make it look any way you want.

Using unfinished wood flooring in a home or commercial project will give you the ultimate flexibility to make your floor unique and fit your exact specifications.

We have put together a master list of the things to consider when choosing an unfinished hardwood floor. While this list is comprehensive and covers most of the typical options people consider, there is always the ability to go even further to create something truly custom. When it comes to unfinished flooring, we can work with you to source just about any floor you can dream up.

LEARN MORE ABOUT:

Solid vs. Engineered

Width

Species

Grade

Region

Length

Cut

Additions

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SOLID VS. ENGINEERED

True wood floors can either be made from one solid piece of lumber, or engineered with a true hardwood veneer on top of a plywood core. There are benefits to both formats.

SOLID

Traditionally, wood floors are made from a solid piece of lumber. Lumber is harvested from trees and is kiln dried to somewhere between 6-9% moisture content. The lumber is then milled with a tongue and groove, resulting in a flooring plank that is usually $\frac{3}{4}$ " thick. Other thickness options include $\frac{1}{2}$ " or $\frac{5}{8}$ ", but $\frac{3}{4}$ " is the standard thickness for most unfinished flooring.

Solid wood floors are ideal for homes where conditions can get dry, homes with plywood subfloors, and jobs that require custom work (more options are usually available with solid wood flooring than engineered).

ENGINEERED

Recently, engineered unfinished floors have become more popular and the quality of these floors is truly amazing. Instead of using one solid piece of lumber for each plank, lumber is cut into thinner veneers. These can range from 2mm to 5mm.

Veneers are then bonded with a plywood core which gives the floor exceptional stability. The thickness of each plank can be $\frac{1}{2}$ ", $\frac{5}{8}$ ", or $\frac{3}{4}$ ". Many times, engineered unfinished floors are pre-sanded so that only minimal final sanding is required once the planks are installed. This can speed up installation time and result in a very high quality floor once installed.

Engineered floors are ideal when being installed over concrete, in a home that can have higher moisture content, or when looking for an efficient and fast way to complete a job.

WIDTH

One of the most important choices to make when considering an unfinished wood floor is how wide the planks will be. Unlike the thickness or construction type of the floor, this is a choice you will be reminded of when you look at your floor every day.

This is largely a matter of taste and what you want your floor to look like. One thing to consider is that the wider the floor, the more significant the movement of the plank can be when it is exposed to either a very dry or very moist environment. Wider planks can gap more significantly in dry weather, or swell and cup more noticeably in very moist conditions.

For nail down installation of planks that are 5" and wider, we recommend that a glue assist method be used in addition to the nails to keep the boards from moving. As always, it is important to keep the humidity in the home controlled between 35-55% RH.

STANDARD WIDTHS

Unfinished flooring typically comes in a few standard widths which we keep in stock daily. "Strip" widths are: 1-½" and 2-¼" and standard "Plank" widths are 3-¼", 4" and 5".

OTHER WIDTHS

Just about anything can be customized with unfinished wood flooring, including the width. The current trend is to see wider and wider widths being specified. A 6" or 8" White Oak is not that uncommon anymore. Sometimes we will have these widths in stock, but typically they will be custom ordered from a mill.

MULTIPLE WIDTH FLOORS

Another trend is to combine multiple widths. This is typically done in a repeating row pattern (ex: 3-¼" – 4" – 5"), but can also be mixed randomly. There is no limit to how many widths you can combine, but typically we see three widths being the most popular. We will use a specific formula to figure out how many square feet of each width you will need to install the floor. Just let us know the total job size and we will handle the rest.

SPECIES

Wood flooring is a natural forest product. The species of tree that is used for lumber determines the species of your floor. Every species has its own distinct characteristics and appearance. In addition to the width of your flooring planks, the species you choose will be the main factor in determining how your floor will look.

READILY AVAILABLE SPECIES

The species that are most readily available are the North American domestic tree species of Red Oak, White Oak, Hickory, Maple and Walnut. Red Oak and White Oak are by far the most popular for wood flooring. We keep all these species in stock in most of our locations.

One consideration is the density (or hardness) of each species. This is measured by a Janka rating. The higher the number, the denser (or harder) the wood is. Oak, Hickory, Maple, Cherry and Walnut are all suitable hardwoods for flooring. Hickory and Maple are considered very hard, while Walnut and Cherry are on the lower end of the Janka scale. Red Oak and White Oak are considered average.

There is no right or wrong choice here. Some aspects to consider are: how much traffic your floor will be getting, will there be heavy objects dropped or moved on it, and is it in a commercial setting? In these situations, a denser (harder) species may be advisable.

OTHER SPECIES

There are dozens of other species that are used for wood flooring. Some are found domestically, while others are from more tropical areas. Each species has its own unique characteristics and can be a part of a truly unique wood flooring canvas. Some other species that can be used for flooring include:

- Ash
- Australian Cypress
- Beech
- Birch
- Pine
- Douglas Fir
- Brazilian Walnut (Ipe)
- Brazilian Cherry (Jatoba)
- Other specialty and exotic species

GRADE

Since there is not a universal standard, grades can often be confusing. Grades only deal with the appearance of a floor, not the hardness or quality.

Things like knots, mineral streaks, pin holes, and color variation all affect the grade. Appearance is a personal decision, so there is no right or wrong choice here. Grade will affect the price of the floor, sometimes significantly, so this is usually the determining factor for most people.

Waste Factor

It is important to understand that a certain amount of flooring will need to be discarded on every job. Wood flooring is a natural product, and even in the cleanest grades there will occasionally be unavoidable defects that show up. In addition, there is a waste factor involved in cutting boards during the installation process. Depending on how many angles there are in a room, a certain amount of flooring will be lost due to making cuts when starting or finishing a row of flooring.

For most grades of flooring, a 5-10% waste factor should be added to an order. Variables such as grade, room size, angles of walls, and orientation of the floor will affect the overall waste factor.

For rustic or tavern grades that can allow

an unlimited amount of defects, including some boards that are completely un-installable, up to a 15-20% waste factor should be added to an order.

To include a waste factor of 7% for your flooring order simply multiply the total job size by 1.07 to get the total amount of square footage to order. *Example: 300sqft x 1.07 = 321sqft.*

OAK GRADES

Select & Better

This is actually a combination of Select and Clear grades, and is typically the cleanest grade available from most mills. There will be minimal small knots and character marks, very consistent color appearance and natural characteristics.

No. 1 Common

This grade will have light and dark color variation, some knots, mineral streaks, and occasional pin holes (these are usually filled during the sanding and finishing process).

No. 2 Common

This grade has a great amount of character and color variation, and will include all the different aspects of the species including knots, color, pin holes and mineral streaks.

Rustic / Tavern / No. 3 Common

This grade can be referred to by several names, but it is actually not a specific grade. It refers to anything that cannot fit into the other grades, and is usually accumulated over time at the mill from the

leftovers of the other grades. Rustic floors can have an unlimited amount of defects, but if installed and finished correctly, can result in a stunning floor that is full of beautiful natural wood character.

It is important to understand that a “rustic” floor can have any number of defects, and include un-installable boards. It takes an experienced installer to know which boards need to be discarded, and which can be installed. The sanding and finishing process will eventually create a smooth floor, but some rustic boards will be too defective to work with. It is recommended to plan up to a 15-20% waste factor for rustic flooring.

HICKORY, MAPLE AND BIRCH GRADES

While not a specific grade, this refers to anything that cannot fit into the higher grades, and is usually accumulated over time at the mill from the leftovers of the other grades. Rustic floors can have an unlimited amount of defects, but if installed and finished correctly, can result in a stunning floor that is full of beautiful natural wood character.

Keep in mind, a rustic floor can have lots of defects and include boards that shouldn't be installed. An experienced installer will need to judge which boards can be installed, and which should be thrown away. We recommend planning for up to a 15-20% waste factor for rustic flooring.

1st Grade

Will be free of any defects, may include

an occasional small pin knot. This is the highest standard grade for Hickory, Maple and Birch.

2nd Grade

Will have distinct color variation and varying wood characteristics, including mineral streaks, knots, and stained sapwood.

3rd Grade

Will include all the natural variations of the species, but still result in a sound and serviceable floor.

Rustic / Tavern

While not a specific grade, this refers to anything that cannot fit into the higher grades, and is usually accumulated over time at the mill from the leftovers of the other grades. Rustic floors can have an unlimited amount of defects, but if installed and finished correctly, can result in a stunning floor that is full of beautiful natural wood character.

COMBINATIONS OF GRADES

It is common in Hickory, Maple and Birch to combine grades. Mills will often mix together 2nd Grade and 1st Grade and sell that as 2nd & Better grade. This gives many people the look they are wanting with these species.

Walnut and Cherry Grades

North American Walnut is a rarer species than other domestic lumber types and typically has its own grading rules.

Select Grade

Will have the natural color variation between heartwood and sapwood. Will also include some knots, checks, and pin holes in the wood.

No. 1 Common

Will contain prominent color variation between the heartwood and sapwood, along with natural and machine produced defects, including knots, edge indentations, blotchiness, and pin holes.

No. 2 Common

Will admit all the natural characteristics and defects of the species.

Steamed vs. Unsteamed

Walnut is so desirable because of the dark chocolate appearance of the heartwood. The sapwood in Walnut can be a lighter taupe or vanilla color. One way to minimize the contrast between these is to steam the lumber. This reduces the color contrast between the dark heartwood and the lighter sapwood.

Cherry

North American Cherry has very similar grading rules to Walnut, with the exception that Cherry is not normally available to be steamed.

PROPRIETARY VS. STANDARD WOOD FLOORING GRADES

There is no universal standard for wood flooring grades that all mills follow. The National Wood Flooring Association has a standards certification program that some mills choose to be apart of, which you can find here.

Many mills, however, have developed their own proprietary standards that meet or exceed the NWFA standards. A mill's reputation carries a lot of weight. Some are known for their quality more than others. Because we work with many different mills across the country, we can help you determine what the best fit will be for your specific job. We often will quote our customers a Good, Better, and Best option for a specific grade, each from a different mill that we have in stock, or that we can get quickly.

REGION

An important aspect of wood flooring that many people do not consider is where the lumber is harvested from. The geography and climate of North America has a great affect on how trees grow, and eventually what the appearance of the lumber will be.

NORTHERN REGION

Mills that harvest lumber from Northern forests take advantage of the slow growing cycle for trees. This results in a much tighter grain pattern and more even color appearance. Northern lumber is considered a premium product.

APPALACHIAN REGION

This is where the majority of hardwood production comes from in the United States. The growing season is slightly longer and the geography and soil allow forests to be harvested sustainably. The appearance of Appalachian lumber will have a good natural variation of color, grain, and other characteristics.

SOUTHERN REGION

Because of the long growing season in the South, trees grow much more quickly. This can cause the lumber to take on more color and grain variation, as well as mineral streaks. The appearance of Southern lumber can be more varied, but the quality of the milling and other manufacturing characteristics can still be controlled by the mill.

LENGTH

The length of unfinished flooring boards can greatly affect the appearance of a wood floor. Many short boards can create a busy look to the floor and are common in some of the lower grades. Longer lengths are impressive and can help the board layout pattern appear more natural, rather than staggered.

We can work with mills to specific minimum, maximum and average lengths for a floor. For example, a 2 – 10' length, 5" wide Rift & Quartered White Oak floor can be a great way to differentiate yourself from the competition, or give your home a unique look.

Some species of flooring come in specific lengths, instead of random lengths. These can include Douglass Fir and Pine. We will make sure you are aware of these lengths when you request a quote.

CUT

The way lumber is cut for flooring can have a significant affect on its appearance. Many times lumber yard and flooring mills are cutting logs for maximum yield. This allows them to use as much of the log for flooring as possible.

PLAINSAWN

This type of cut is called “Plainsawn” and is what the majority of flooring is cut for. Plainsawn wood, also referred to as “flat sawn”, means the log is cut so that the annular growth rings of the tree are 30 degrees or less to the face of the board plank. This results in a “cathedral” grain pattern on the face of the board.

As a premium option, some mills will cut logs in a less efficient way that produces different grain patterns on the face of the board.

QUARTER SAWN

Quarter Sawn boards are cut with the end grain at a 60-90° angle to the face of the board. At this angle, the grain appears in very straight lines and the medullary rays in the lumber are split open to produce a stunning fleck pattern in the face of the board.

RIFT SAWN

Rift Sawn boards are cut so the end grain is at a 45° angle to the face of the board. This produces a beautiful linear grain pattern and is the least efficient (and most expensive) way to cut lumber.

RIFT & QUARTERED

Many times Rift sawn and Quartersawn lumber (sold as “Rift & Quartered” or “R&Q” flooring) is mixed to increase yield. This is a common way to get a beautiful grain pattern at a slightly better price than sorting for each cut individually.

Rift & Quartered flooring also has the added benefit of being more stable than a Plainsawn floor. Because the grain is close to vertical to the face of the board, any expansion or contraction of the flooring board due to moisture tends to be directed vertically rather than horizontally. This can keep a Rift & Quartered floor from gaping or swelling like a Plainsawn floor would.

LIVE SAWN

Live Sawn lumber is simply cut straight across the log, and the resulting planks have a mix of Plainsawn, Rift sawn and Quarter sawn grain. This is mostly used in wide plank flooring that is 6” or wider.

ADDITIONS

BEVEL

For some floors, bevels are added to the sides of the flooring planks. This can be done for aesthetic reasons, or to help with flooring that does not have good milling. When boards have a bevel, the slight differences in the thickness and milling of the boards can be softened and less noticeable. Bevels can either be applied to the long edges of the board (2-sided) or the long edges and the end-joints (4-sided).

FLOOR PEGS

Historically, unfinished flooring boards did not have the benefits of tongue and groove milling to hide fasteners and were installed with wooden pegs that were drilled through the face of the board. These pegs became a “style” that many replicated in modern unfinished flooring by drilling a space to insert a small wooden dowel. Often these pegs were done in a contrasting species to the overall wood floor, such as using Walnut pegs in a White Oak floor. Today these pegs are usually purely decorative and can be added to any wood floor to match the appearance of an old one, or to give your floor a unique look. We sell different sizes of walnut floor pegs.

PATTERNS & PARQUETS

For those who want to take wood flooring to the next level, the way boards are laid out on the floor can be customized in many

different patterns. This can be as simple as laying the boards at a 45° angle to the walls to give an “offset” look to the floor, or going into the realm of parquet, herringbone, and chevron patterns. Many of these patterns must be milled so that they fit together in a specific way, and all of them will require an experienced and skilled craftsman to install.

MEDALLIONS AND INLAYS

Nothing is more stunning in a wood floor than a custom made medallion placed in the center of a room, or an inlaid border around a room. These options show the beauty and flexibility of woodworking and require a true craftsman to design and install. We can help you source medallions, and even take your own design ideas and turn it into a custom medallion just for you or your client.

MOLDINGS & ACCESSORIES

The finishing touches are important for any wood floor. One of the best ways to make your floor stand out is by replacing in-floor metal heating and cooling vents with flush mount wooden vents. We sell a variety of species and sizes of vents, as well as trim and transition pieces such as reducers, stair nosing, base shoe, and other moldings that can be stained and finished to match the rest of your floor.

STAIR PARTS

A beautiful wooden staircase can be a great way to improve the design and look of your home. There are many ways that staircases can be customized and designed to be a complimentary piece to your wood floor, or the main centerpiece of your home's design.

Treads are the stair surface that you walk on. We stock many different species and sizes of stair treads, and can custom order just about anything you need. From unique species, to curved and special layouts, we can source just about anything.

Risers are installed perpendicular to the stair tread, we also stock various species and sizes of risers and can order custom versions as well.

WHAT REALLY MATTERS

Despite all these options and variables, what really matters most when choosing a wood floor is your (or your client's) personal taste and preference. Whether you need a standard 2-1/4" #1 Common Red Oak floor, or a truly custom look we are your go-to wood flooring resource for anything you need. We are here to provide you the materials and knowledge you need to do work you are proud of.

*For more information, contact us at
one of our locations:
www.themasterscraft.com/contact*