



PEACHEY

HARDWOOD FLOORING

*The Beauty of Nature. Perfected.*

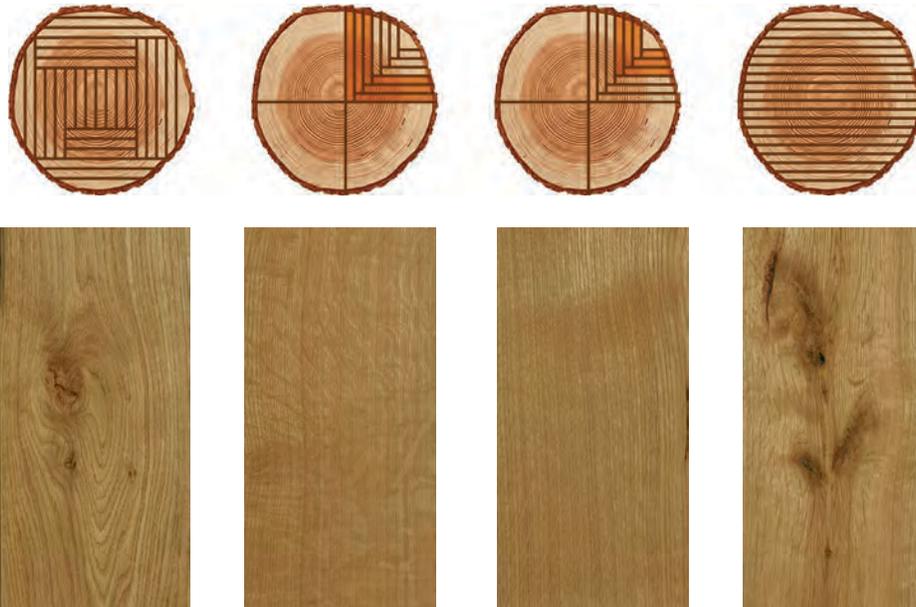
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## UNDERSTANDING DIFFERENT CUTS OF FLOORING

In addition to different species that are available to make flooring, there are also different cuts of lumber within species that not only affect the appearance of the finished floor but also perform differently under various common conditions. Flooring is available in four different cuts: Plain Sawn, Quarter Sawn, Rift Sawn (commonly combined as Rift & Quartered) and Live Sawn.

Plain Sawn    Quarter Sawn    Rift Sawn    Live Sawn



**PLAIN SAWN** - The most common cut used for flooring and most hardwood lumber products that is also referred to as flatsawn. Plainsawn boards have end grain with growth rings of 0 to 35 degrees to the surface that produce a "cathedral" grain pattern.

**QUARTER SAWN** - Quarter sawn boards have end grain with growth rings of 60 - 90 degrees to the surface where the medullary rays of the lumber are split during the cutting process causing a unique "fleck" pattern to emerge. This pattern is most pronounced in White Oak flooring and it creates a very unique look.

**RIFT SAWN** - Riftsawn boards have end grain with growth rings of 45 degrees to the surface producing a very linear grain pattern. Riftsawn lumber is produced from the outer wedge of the quarter-sawing process as the sawyer works his way from the inside to the outside of the wedge. As you can see from the picture above, riftsawn boards tend to be narrower and it is often difficult to produce riftsawn boards wider than 5 inches, which is why rift and quartered boards are often combined together to make flooring. Rift and quarter sawn flooring also requires more time, care and special equipment to cut, resulting in more expensive raw materials.

**LIVE SAWN** - Live sawn or "thru cut" lumber contains all three cuts and has end grain with growth rings of 0 - 90 degrees to the surface. Live sawn creates a unique, stunning look as it contains cathedral, fleck and linear grain patterns. This look is typically most apparent with boards 6 - 12" wide.

# DRYING & PERFORMANCE

**KILN DRYING OF LUMBER** - Each cut has different drying requirements and performs differently under normal household environmental conditions.



Wood is hygroscopic means that it absorbs and desorbs water causing the wood to shrink or swell depending on the amount of moisture or humidity in the surrounding environment. Lumber is dried using a process of air drying, heat and humidity control to produce a finished flooring product that is between 6-9% moisture content. The process used for each cut and the length of time required will vary greatly. Certain cuts, such as rift, quartered and live sawn, require a slower and more careful drying process because the moisture is moving from the center to the edge of the board instead of through the surface in a typical plainsawn board. Drying lumber correctly and combining the right cuts in the dry kiln are critical to ensure consistent moisture content and overall stability of the finished product.

**PERFORMANCE OF FLOORING** – Just as the different grain patterns affect the way that lumber is dried, it also affects the way that the flooring performs under normal living conditions. Flooring boards move along the direction of the annual growth rings, which shrink and swell with changes in moisture.

**PLAIN SAWN** – Plainsawn flooring typically has the greatest amount of lateral movement across the width of the board during seasonal changes. Depending on species, most typical  $\frac{3}{4}$ " solid hardwood plainsawn flooring will move twice as much across the width compared to rift & quarter sawn. Typically the wider the board the more potential there is for cupping and tongue & groove separation during periods of low humidity typically experienced in the Winter. Engineered flooring is recommended for wider plainsawn (over 8") or radiant heat installations to reduce the amount of dimensional movement during periods of moisture change.

**RIFT & QUARTER SAWN** - Rift & quarter sawn flooring is typically the most dimensionally stable as most of the movement is through the thickness of the board. Most solid flooring is  $\frac{3}{4}$ " thick therefore there is little change in thickness and less change in width during periods of lower humidity compared to plainsawn boards. Rift & quarter sawn is typically the best solid choice for radiant heat flooring.

**LIVE SAWN** – Live sawn flooring combines the performance characteristics of all three cuts. It is generally more stable during seasonal changes and shrinks less on average compared to plainsawn due to a greater percentage of rift & quarter material in the cut. Live sawn is a better choice when considering wide flooring or radiant heat, however it will still have more movement across the width during periods of lower humidity as compared to rift & quarter sawn.

## INSTALLATION & HUMIDITY CONTROL

Humidity control is absolutely critical to maintain dimensionally stable hardwood flooring and to keep your floors looking good year after year. Climate controls such as heating and air conditioning significantly impact the humidity in your home and the moisture content of your flooring. Flooring must be installed and maintained with temperature conditions between 60-80 degrees F and humidity between 30-50%. Flooring must also be properly acclimated to the living conditions and the subfloor must be at the proper moisture content before any installation begins. For more information on proper installation, please request a copy of the NWFA (National Wood Flooring Association) guidelines or visit their site at [WWW.NWFA.ORG](http://WWW.NWFA.ORG). For more information on humidity, the impact of moisture on your flooring, and our manufacturers requirements for proper flooring performance, please refer to our article available in our showroom or on our website at



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