

Millwork Wood Species



Alder: Alder is a relatively soft hardwood of medium density that has low bending strength, shock resistance, and stiffness. Alder, a relative of birch, is almost white when freshly cut, but quickly changes with exposure to air, becoming light brown with a yellow or reddish tinge. Heartwood is formed only in trees of advanced age and there is no visible boundary between sap and heartwood. The wood is fairly straight-grained with a uniform texture.

Ash: Ash has very good overall strength properties relative to its weight. It has excellent shock resistance and is good for steam bending. Ash machines well, is good in nailing, screwing and gluing, and can be stained to a very good finish. It dries fairly easily with minimal degrade, and there is little movement in performance. The wood is generally straight-grained with a coarse uniform texture.

Birch: Birch is a heavy wood, hard, and strong. It has very good benign properties, with good crushing strength and shock resistance. The wood works fairly easily, glues well with care, takes stain extremely well, and nails and screws satisfactorily where pre-boring is advised. It dries rather slowly with little degrade, but it has moderately high shrinkage, so is susceptible to movement in performance. The wood is generally straight-grained with a fine, uniform texture, and is generally characterized by a plain, often curly or wavy pattern.

Cherry (American): Cherry is of medium density with good bending properties, has low stiffness, and medium strength and shock resistance. Cherry is easy to machine, nails and glues well, and when sanded and stained, it produces an excellent, smooth finish. It dries fairly quickly with moderately high shrinkage, but dimensionally is stable after kiln-drying. The heartwood of cherry varies from rich red to reddish brown and will darken with age and on exposure to light. In contrast, the sapwood is creamy white. The wood has a straight-grain, a fine, uniform, satiny and smooth texture, and naturally may contain brown pith flecks and small gum pockets.

Hickory: The heaviest of American hardwoods, hickory can be difficult to machine and glue, and are very hard to work with hand tools, so care is needed. The wood holds nails and screws well, but with a tendency to split so pre-boring is advised. The wood can be sanded to a good finish and is well-known for its very good strength, shock resistance and also has excellent steam-bending properties. It is extremely tough and resilient, quite hard, but only moderately heavy.

Maple: Hard Maple is stronger, stiffer, harder, and denser than all of the other species of Maple commercially available in lumber form. Fairly easy to work with both hand and machine tools, though slightly more difficult than **Soft Maple** due to Hard Maple's higher density. Maple has a tendency to burn when being machined with high-speed cutters such as in a router. Turns, glues, and finishes well, though blotches can occur when staining, and a pre-conditioner, gel stain, or toner may be necessary to get an even color. (***Another Fun Fact: It's also the **state tree** in four different states in the US.*)

Mahogany: The wood is straight-grained, diffuse-porous, and suffers from very little shrinkage and seasonal movement. Mahogany is soft enough to be cut and sanded quickly and easily, but is hard enough to resist dents and scratches. These properties make it an ideal lumber for every kind of woodworking. The wood also glues and stains well, and becomes even more beautiful under a good coat of finish. In fact, with a glossy finish, the wood will refract light so vibrantly that it changes shades depending on your viewing angle.

Oak (Red): Red oak is hard and heavy, with medium-bending strength and stiffness and high-crushing strength. It machines well. Pre-boring is recommended for nailing and screwing. It can be stained to a golden finish, with a wide range of finish tones. Widespread throughout Eastern U.S. Oaks are, by far, the most abundant species group growing in the Eastern hardwood forests. Red oaks grow more abundantly than white oaks. The red oak group comprises many species, of which about eight are commercial.

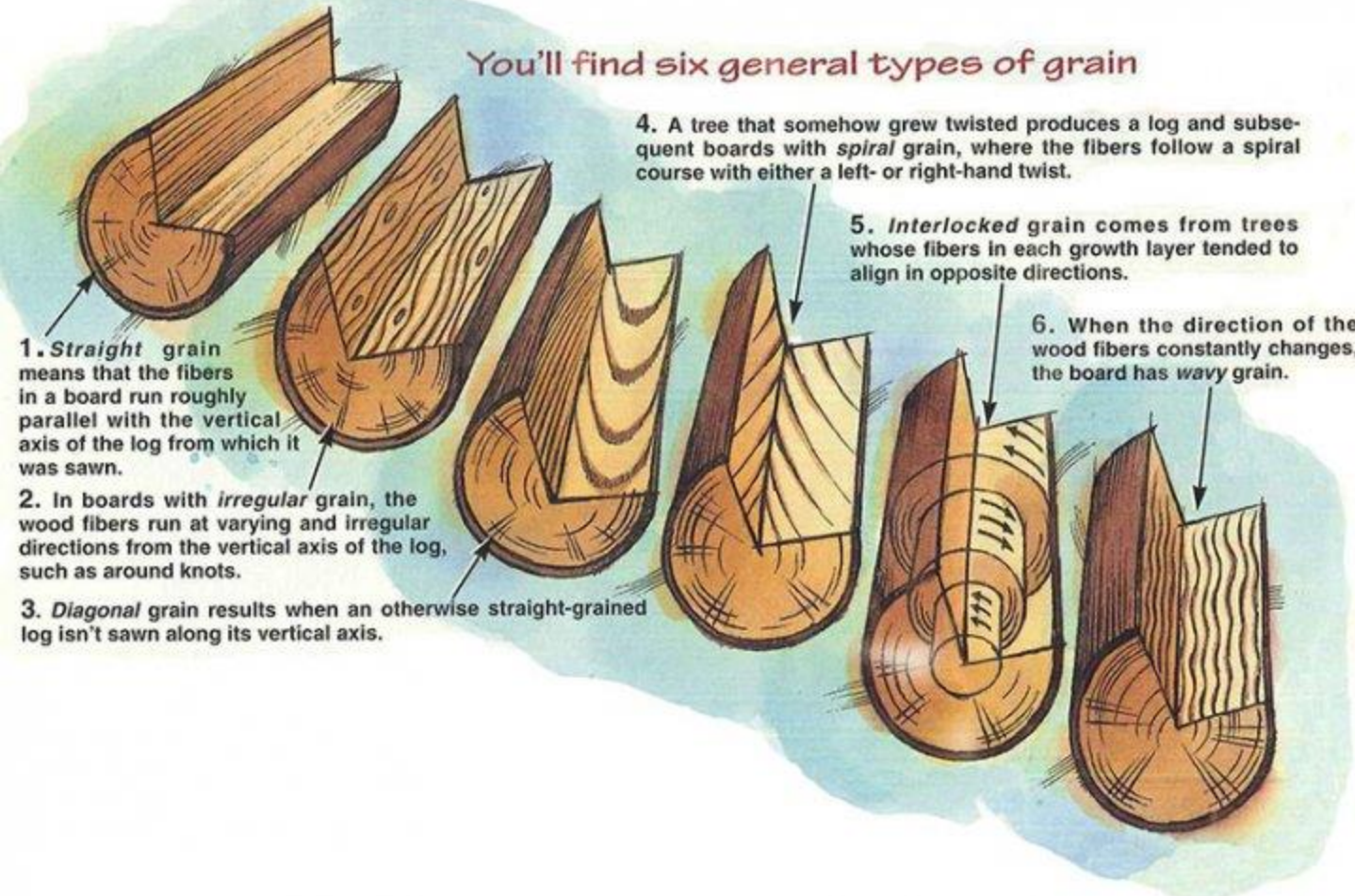
Oak (White): White oak is a hard and heavy wood with a medium-bending and crushing strength, low in stiffness, but very good in steam-bending and great wear-resistance. It machines well, nails and screws well, although pre-boring is advised. Due to its reaction with iron, galvanized nails are recommended. Its adhesive properties are variable. The wood dries slowly, but stains to a good finish. White oak is mostly straight-grained with a medium-to-coarse texture. Having longer rays than red oak, white oak has more figure. Readily available, but not as abundant as red oak.

Poplar: Poplar is a medium-density wood with low-bending, shock resistance, stiffness, and compression values. It has a medium steam-bending classification. It is a versatile wood that is easy to machine, plane, turn, glue, and bore. It dries easily with minimal movement in performance and has little tendency to split when nailed. It takes and holds paint, enamel, and stain exceptionally well.

Pine: Pine is very easy to work with and, because most varieties are relatively soft, it lends itself to carving. Pine lumber cut from evergreen pine trees, which are found to be abundant all across the globe. This kind of lumber is considered softwood, but it is preferred in most construction projects and in making furniture or crafts. Compared to hardwood trees, pine trees grow faster so the supply for this kind of lumber can be easily replenished. Below are the main types of pine wood available in the United States.

Walnut: Walnut is a tough hardwood of medium density, with moderate bending and crushing strengths, and low stiffness. It has a good steam-bending classification. It works easily with hand and machine tools, and nails, screws, and glues well. It holds paint and stain very well for an exceptional finish and is readily polished. It dries slowly, and care is needed to avoid kiln degrade. It has good dimensional stability. The wood is generally straight-grained; sometimes with wavy or curly grain that produces an attractive and decorative figure.

You'll find six general types of grain



1. *Straight* grain means that the fibers in a board run roughly parallel with the vertical axis of the log from which it was sawn.

2. In boards with *irregular* grain, the wood fibers run at varying and irregular directions from the vertical axis of the log, such as around knots.

3. *Diagonal* grain results when an otherwise straight-grained log isn't sawn along its vertical axis.

4. A tree that somehow grew twisted produces a log and subsequent boards with *spiral* grain, where the fibers follow a spiral course with either a left- or right-hand twist.

5. *Interlocked* grain comes from trees whose fibers in each growth layer tended to align in opposite directions.

6. When the direction of the wood fibers constantly changes, the board has *wavy* grain.