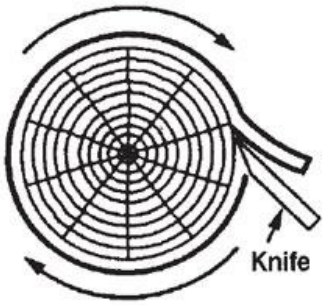
PLYWOOD GRADES

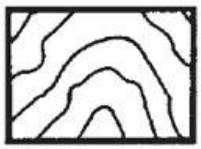
Interior Grade	Face	Back	Inner Plies	Common Uses
A-A	A	A	D	Cabinet doors, built-ins, and furniture where both sides show.
A-B	A	B	D	Alternate for A-A. Face is finish grade; back is solid and smooth.
A-D	A	D	D	Finish grade face for paneling, built-ins, and backing.
B-D	B	D	D	Utility grade. One paintable side. Used for backing, cabinet sides, etc.
C-D	C	D	D	Sheathing and structural uses such as temporary enclosures, subfloor. Unsanded.
Underlayment	C-plugged	D	C,D	For underlayment or combination subfloor-underlayment under tile and carpeting.
Exterior Grade	**Face**	**Back**	**Inner Plies**	**Common Uses**
A-A	A	A	C	Outdoors, where appearance of both sides is important.
A-B	A	B	C	Alternate for A-A, where appearance of one side is less important. Face is finish grade.
A-C	A	C	C	Soffits, fences, base for coatings.
B-C	B	C	C	For utility uses such as farm buildings, some kinds of fences, base for coatings.
C-C plugged	C-plugged	C	C	Excellent base for tile, backing for wallcoverings, high-performance coatings.
C-C	C	C	C	Unsanded, for backing and rough construction exposed to weather.

Face Cut

Rotary Cut

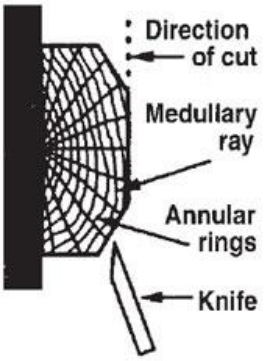
The log is turned against a razor sharp blade, like unwinding a roll of paper. Produces a wide veneer with a bold variegated pattern.

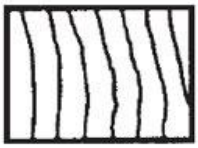


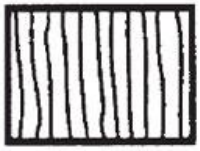


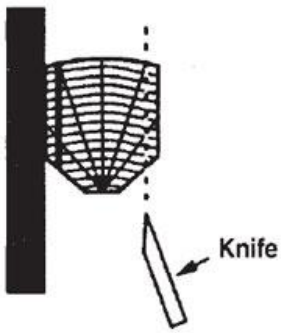
Plain Sliced

½ of a log is held heart side against the table. Slicing is done parallel to the center line of the log. Produces "cathedral" grain.



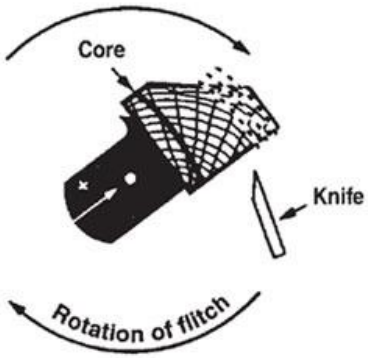






Quarter Sawn

Slicing is done across the growth rings to produce a straight grain look. Sometimes "flake" is present in oak due to the Medullary ray cells.



Rift Cut

Slicing is done at a 15 degree angle across the growth rings to produce a straight grain look without "flake".

Species

There are various species, or types, of hardwood plywood. While we can't go into detail about every species, we can highlight a few of the most popular species that we offer here at AWP including alder, birch, cherry, maple, red oak, walnut, and hickory.

• *Alder—available plain sliced, alder is a species of hardwood plywood with a reddish hue. Alder wood usually has 'burls,' which are twists in the wood grain, and 'knots,' which are parts of a tree limb that become embedded in the plywood. Alder wood is most often used for millwork and cabinetry purposes.*

• *Red Oak—a prime example of hardwood, red oak is available quarter sawn, plain sliced, or rotary cut. Red oak wood has several uses—it can be used to make various types of furniture, cabinets, and more! Red oak occasionally has a flaky appearance, and it tends to be a pink or reddish-brown color.*

• *Birch—like alder, birch is a species of hardwood plywood that is great for building cabinetry. Unlike alder, birch wood is available in rotary cuts. Birch wood usually has a tan or yellow color, and it sometimes has a reddish tone to it. In addition to cabinetry, it can be used for furniture, decorative veneer, or as a painting surface.*

• *Walnut—available plain sliced, walnut is a fitting option for those working on cabinetry and furniture. It has a smooth and stable surface, and is typically a tannish-brown color.*

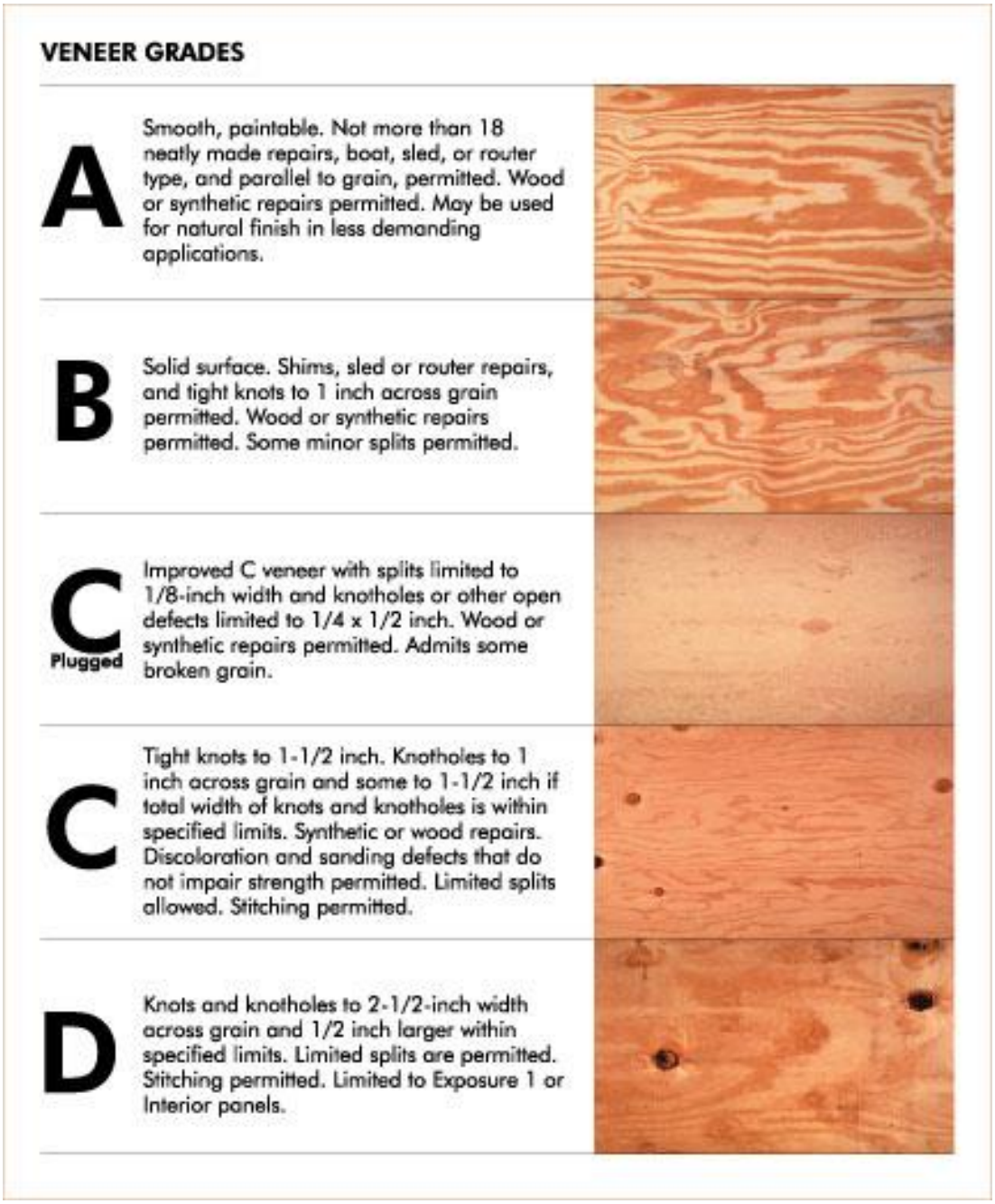
• *Cherry—another excellent choice for cabinetry purposes, cherry is a type of hardwood plywood that comes in a beautiful pink or reddish-brown color. It's available plain sliced, and it may have burls and knots. It is not uncommon for cherry hardwood plywood to have a heavy flare or chevron pattern, making it a great option for those working on architectural millwork, mouldings, and furniture.*

• *Hickory—hickory is a type of hardwood plywood that is typically a pale yellow or light brown color. It has a variety of uses, including paneling, millwork, and more. It is available plain sliced.*

• *Maple—maple, another popular species of hardwood plywood, is similar to birch in that it is great for building furniture. One perk of natural maple is that it tends to have a tight and smooth surface, making it a great option for a painting surface.*

Grades

The grade of a panel of wood essentially represents the quality of the lumber. Below is a basic rundown of the various face grades of hardwood plywood.



You'll likely come across some grades that are followed by a number. For example, you may notice that a panel of plywood is rated 'A1.' While the letter 'A' represents the face grade, the number '1' represents the back grade.

• **1**—this is the highest back grade possible for hardwood plywood. Grade-1 wood won't have any large knots, but it may have some color variation and/or small, tight knots. Any and all worm holes are filled.

• **2**—color isn't a concern with this back grade! Larger knots are allowed in grade-2 wood, but the knots do not exceed a diameter of 3/4".

• **3**—this back grade allows knot holes with a diameter of 1", but it is still considered to be in sound condition.

• **4**—this back grade is not considered sound. It allows a vast amount of defects.

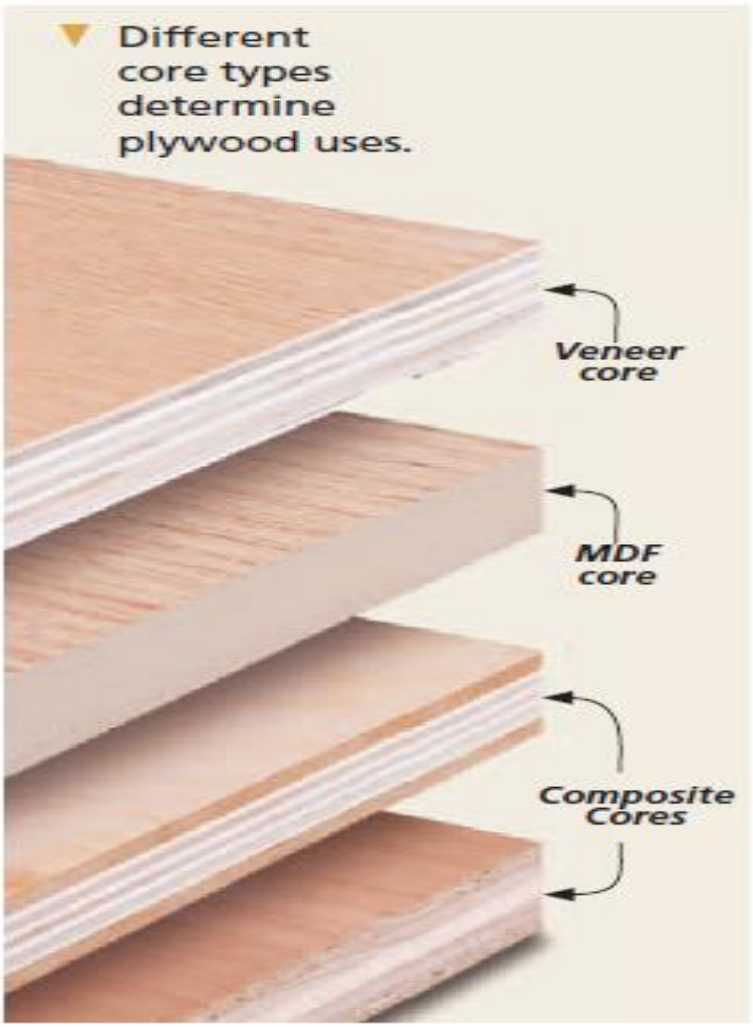
Core Types

The 'core' of a piece of plywood refers to any substrate that has a wood veneer ply (i.e. face or back) applied to it with an adhesive. There are different types of cores including veneer core, medium-density fiberboard (MDF), and pro-core.

• Veneer Core (VC)—veneer cores are made by pressing the layers, or 'plies,' of core veneers into panel sheets in such a way that the layers are adjacent and the grain directions are sloping at a right angle to each other. Veneer cores are pretty light compared to other cores, but they are super strong. They also exhibit more variation in thickness.

• Medium-Density Fiberboard (MDF)—medium-density fiberboard, often abbreviated MDF, is a stable, engineered wood product made out of wood fibers. MDF has a smooth, dense, and flat surface that is free of voids, grain patterns, and knots. MDF cores are the best to use for thin applications, and they also work very well in machines.

• Pro-Core—pro-core is made up of a veneer core interior and MDF cross bands—'cross band' referring to a ply in the panel that has a grain orientation at a right angle to the face and back of the veneer core. The veneer core interior offers versatility and light weight, and the MDF inner plies work well as a laminating surface because they are smooth, stable, and strong.


Different core types determine plywood uses.
Veneer core
MDF core
Composite Cores

HARDWOOD PLYWOOD GRADES

Grade	Veneer quality	Defects allowed
A—Premium	If sliced, pieces are slip- or book-matched for pleasing effect of color and grain. Can also be one-piece rotary-cut	Minor, but not frequent burls, pin knots, and inconspicuous small patches
1—Good[1]	Unmatched slices permitted, but no sharp contrasts in color, grain, or figure	Burls, slight color streaks, pin knots, and inconspicuous small patches in limited amounts
2—Sound	No figure, color, or grain match	Smooth patches, sound knots, and discoloration or varying color
3—Utility	Reject material	Open knots, splits, wormholes up to 1 inch; major discoloration
4—Backing	Rarely found due to unlimited defects; strength is the only gradable feature	
G1S[2]	Dealer-applied designation meaning "Good 1 Side" used primarily for foreign-origin plywood of ¼" or less thickness; face can be good to premium, back with large defects or of another hardwood species	
Shop[3]	Defects downgrade these Good or Premium panels to factory seconds	

Note: Hardwood plywood panels typically have one side of A-Premium and a lower grade on the other, such as A-1 or A-2, which are combined designations.

[1]Also referred to as Cabinet grade [2]Not an HPMA-certified grade
[3]Dealer-determined