

Veneer is a thin layer of wood, of uniform thickness, produced by a peeling, slicing, cut or sawn of logs, flitches, blocks or cants.

The art of veneering is nearly 4000 years old. An early example of plywood veneer construction was found in the tombs of pharaohs in ancient Egypt.

The designer is sensitive to his or her material as is the sculptor or painter. Full expression of design depends on species of wood selected and the slicing or cutting used to extract the natural beauty of the wood.

Logs used for the production of decorative “face” veneer are selected according to size and visual characteristics. Logs are chosen and veneer is valued by factors such as color, figure, and grain formation.

Veneer is graded for color, grain patterns, figure, and appearance. The grade, length and width of the veneer leaves, and total footage are all considered prior to acceptance of a log or flitch of face veneer. The highest grade veneer available in the woodworking industry is “AA” architectural grade veneer. When specifying Arbor you are specifying a “AA” grade veneer.

Veneer slicing is performed on a vertical or horizontal slicer, a lathe or full rotary machine or a half round or stay slicer. The slicing method used will be determined by the species and desired grain characteristics.

Veneer is produced to such thickness and slicing method as preferred throughout the world. Common veneer thickness is generally different in Asia, Europe and North America. Japan precision slices to obtain very large matching sequences per flitch. European veneer is thicker than Japanese veneer and North American veneer is usually the thickest veneer sliced producing the smallest number of matching sequences per flitch. Veneer applications drive the regional demand for different material thickness.

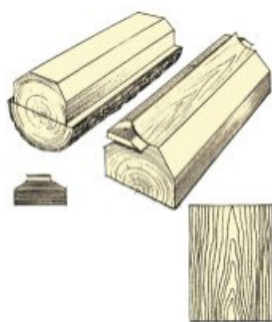
Veneer Slicing Methods:

PLAIN SLICED OR FLAT CUT (F.C.) — produces cathedrals or hearts. Plain sliced veneer produces the most popular flat cut grain appearance. The veneer knife moves across a stationary log called a “cant” or “flitch” The leaves are sliced and saved in the order in which they are cut or a “sequence”.

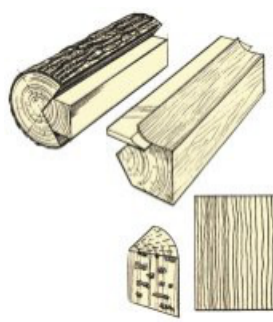
QUARTER CUT (Q.C.) — produces a uniform, straight vertical grain. Because the cant is a quarter of a log or a quarter of the tree trunk the veneer leaf size may be narrower than that of a plain sliced veneer. Quarter cutting is done with a stationary knife on a log that moves on a sled.

RIFT CUT (RIFT CUT) — is usually reserved for oak species and is used to reduce or eliminate “flakes”. Flakes result from annular rays from the center of the log Rift cutting produces a straight vertical grain pattern. Rift cutting uses a quarter log that is mounted in a lathe at 15° to 17° offset from quarter sliced veneer. The veneer knife is stationary.

ROTARY CUT (R.C.) — is the only method that allows for a single “leaf” that is wide enough for a full width sheet. Rotary slicing is done on a lathe and the knife is stationary.



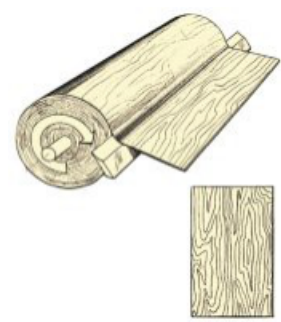
FLAT CUT



QUARTER CUT



RIFT CUT



ROTARY CUT

KEY TERMS AND DESCRIPTIONS:

ARCHITECTURAL WOOD GRADE VENEER - Utilizes top quality veneer and generally has special requirements for balancing, sequencing, component width, etc. "AA" is the highest quality grade in the wood working industry.

BARBER POLE - The noticeable color variation that occurs when a distortion of the grain is created by the knife blade. The knife blade, as it hits the wood, creates a "loose" side where the cells have been opened up by the blade and a "tight" side. Because the "tight" and "loose" faces alternate in adjacent pieces of veneer in book matching (stripe effect), they also may accept stain differently.

BIRDSEYE — Rare figure due to small conical depressions in the outer annual rings, which appear to follow the same contour in subsequent growth rings probably for many years. (See Dimple)

BLISTER — A figure resembling an uneven collection of rounded, or blister-like bulges caused by indented annual growth rings. Occurs mostly in West African reddish wood species such as Mahogany, Sapele, and Makore.

BURL — A figure created by abnormal growth, or response to injury, that forms an interwoven, contorted, or gnarly mass of dense woody tissue on the trunk or branch of the tree. Burls are usually small and characterized by eye-like markings surrounded by swirls and clusters of distorted tissues. Burl is also used to describe a characteristic in the grain of the wood; see General Definition of "Burl".

CERUSE/WHITE WASH - Ceruse is a type of decorative finish that involves using different colored pigments to highlight a wood's natural grain pattern. After brushing the wooden surface to open up the pores, you'll spread on a layers of stain and pigment, then strip away the excess to leave the wood with a muted coloring and beautiful contrasting veins.

CROSS GRAIN - Veneer sheet in which the grain of the wood runs vertically in the 4' direction. This is denoted as 8'x4'. Width is the measurement across the grain, while length is the measurement with the grain. The first number is always the width and the second is the length.

CROTCH — Crotch comes from the portion of a tree below the point where it forks into two limbs. The grain is crushed and twisted, creating a variety of plume and flame figures, often resembling a well-formed feather. The outside of the block produces a swirl figure that changes to full crotch figure as the cutting approaches the center of the block. (Also see Swirl)

CURLY — Figure which occurs when the fibers are distorted producing a wavy or curly effect in the veneer. Primarily found in Maple or Birch. (Also see Wavy)

DEAD FLITCH SAMPLE — A memo sample used for basic grain and color reference.

FIDDLEBACK — A line, strong, even, ripple figure as frequently seen on the backs of violins or fiddles. The figure is found principally in Black Bean, Douka Mahogany, Maple, Makore, Hawaii Koa, and English Sycamore, but occurs sometimes in other woods species, but not in all wood species. (Fiddleback figure in the Arbor Wood Wallcovering is designated with RT.)

FIGURE — The patterns produced in a wood surface by annual growth rings, rays, knots, deviations from natural grain such as interlocked and wavy grain, and irregular coloration.

FLITCH, BLOCK OR CANT - The complete bundle of thin sheets of veneer after cutting, laid together in sequence as they were sliced or sawn.

FLAKE — Flake figure is developed only in those species (Oaks mostly, Red & White & Queensland's Oak; Lacewood), which have very heavy medullar ray growth. When the saw or knife cut is directly on or near the radial, it is close to parallel with the medullar ray and therefore passes in and out of the uneven growth to develop the flake effect.

FLAT CUT (FC) or PLAIN SLICED— A grain figure resulting from slicing or sawing across a half or quarter, of a log. This results in the oval or loop grain effect in the center of the sheet, or flitch, of veneer with straighter grain along the edge.

GRAIN - The direction, size, arrangement and appearance of the fibers in wood or veneer.

GHOST FIGURE — Term generally applied to any cross figure which is not at all prominent, but is noticeable from certain angles and may show up to some extent under finish only.

HERRINGBONE — In description of fiddleback figure (RT), reference is made to Herringbone. Herringbone comes to play in most cases when fiddleback figure (RT) veneer is bookmatched, producing a degree of up and down effect, therefore Herringbone description evolves. (Also called roll figure.)

KNOTTY CHARACTER — Sound knots appear in only a portion of veneer cut and in intermittent fashion (mismatch face), most common species in Knotty Pine and Knotty Cedar.

LEAF - Sliced sheet of a veneer flitch.

LIVE FLITCH SAMPLE – Actual leaf sample of veneer that will be utilized in the production of an order.

MOTTLE (BLOCK MOTTLE) — Broken wavy patches across the face of wood that give the impression of an uneven although smooth surface, caused by a twisted interwoven grain with irregular cross figure, which is the mottle. The effect is due to reflected light on the uneven arrangement of the fibers. Other terms used to describe variations include: Bees-Wing, Fiddle, Peacock, Plum, Ram, Block, and Stop Mottle. Most common species of Mottle is Makore, Bees-wing is most common in Sapele, Bubinga, Satinwood and Black Bean.

OXIDIZE/OXIDATION - Wood veneer color change due to air/oxygen and light hitting the face of the veneer. In most species the color darkens the wood veneer however there are a few species that lighten due to the oxidation process. Oxidation typically occurs in the first six month to one year after the wood veneer wallcovering has been installed then drastically slows. Color change is extremely subtle and typically goes undetected by the naked eye. This process occurs in all natural wood products.

POMMELE — A trade term for a “blister” or “quilt” figure most common in Bubinga, Mahogany, Makore, and Sapele.

QUARTER CUT (QC) OR QUARTER SAWN — The slice cut of a log as near to true radial as possible, which results in the strip effect of one type or another.

QUILTED — Highly figured folds or waves, somewhat resembling the appearance of rectangular blisters.

RIFT CUT — This description of figure or grain character is most commonly applied to veneer or lumber cut from those species having a heavy medullar ray growth. The effect in veneer is straight grain and no flake, most common species Red Oak, White Oak, and Queensland Oak (Lacewood).

ROTARY CUT — A method of cutting in which the log is placed on a large lathe and turned into the knife, so that continuous cut is made round and round the log, more or less parallel at all times to the growth ring. Result is a wild, variegated, grain effect. Rotary cutting is used largely in commercial veneer production except in certain figured logs for fine face veneer. Birch, Maple and Bubinga.

QC RT — Please refer to Fiddleback.

SAP - The outer cell layer of the wood between the bark and heartwood. The supply of water and nutrients to the tree is only through the outer row of sap cells. The remaining layers of cells in the sapwood only serve to store water. Color is offset in sapwood. Typically in “AA” architectural grade veneer the sapwood is cut away in veneer.

SEQUENCED - Sequencing refers to a set of veneer sheets that have been produced in order from the same log. The number of sheets per sequence can be limited by species, cut, grain-orientation and yield.

STRIPE — Stripe figure is a ribbon grain.

1. **Plain Stripe** — Alternating darker and lighter stripes running continuously along the length of a piece, due to cutting wood with definite growth rings on the quarter.
2. **Broken Stripe** — A modification of ribbon stripe. The figure markings taper in and out, due to twisted or interlocked grain, so that the ribbon stripe is not continuous as it runs more or less the full length of the flitch.

(a) Roe (also called Roey) — Short broken ribbon, or stripe, figure in quarter sliced or sawn wood, due to spiral formation of the fibers, or interlocked grain, in the growth rings. The irregular growth produces alternate bands of varying shades of color and degrees of luster.

(b) Raindrop — When the waves in the fibers occur singly or in groups with considerable intervals between, the figure looks like streaks made by drops striking a window pane at slant and is called raindrop.

(3) Ribbon Stripe — In some woods with interwoven grain, such as Mahogany, wide unbroken stripes can be produced by cutting on the quarter.

WAVY — Curly grain with large undulations. Sometimes referred to as “Finger Roll” when the waves are about the width of a finger. Also see Curly.

WORMY — Under certain conditions worms or borers attack the log to the extent that worm holes appear almost uniformly in sheets of veneer when cut, a pleasing effect may result.

FACE TYPES AND NAMES:

FACE - Name is the way the flitches or leaves are laid on the face to produce the desired appearance of the face (sheet).

BALANCED MATCH — When two or more veneer components or leaves of equal size are used to make up a single face. The panel may contain an even or odd number of leaves and distribution may change from panel to panel within a sequenced set.

BALANCED REVERSE MATCH — When two or more veneer components or leaves of equal size are used to make up a single face, but every other leaf is turned in reverse or upside down.

BLOCK PLANK MATCH — Creating the design aesthetic of wood flooring. Single species or multiple species are laid up on a sheet of veneer utilizing multiple flitches and lengths of veneer faces.

BOOK MATCH — Ever other leaf is turned over as if they were facing pages in a book. The figures always match at the joints. Most common match on plywood and veneer faces. Book Matching may be done with; flat cut, quarter cut, or rift cut,

BOOK and BUTT MATCH — (Four piece matched) The veneer is matched as described for book matched, but the ends of the veneer is also matched (typically seen in burl veneer).

CENTER MATCH — In a Center Balance Match an even number of equal width veneer leaves makes up the panel face. This produces horizontal symmetry.

END MATCH — End matching is used to extend the apparent length of available veneer for high wall panels and long conference tables. With end matching the sheet on top will be reversed 180 degrees. For example the top of sheet (#1) will end match to the top of sheet (#2)

PLEASING MATCH — Recons are unable to end match due to the manufacturing process. At the horizontal seam/joint the sheets are stack matched creating a soft pleasing match at the seams (close match at seams).

RANDOM MATCH — Leaves are placed next to each other in a random order and orientation, producing a board-by-board effect. Conscious effort is made to mismatch the grain at joints.

RUNNING MATCH — In a Running Match each panel face is assembled from, as many veneer leaves as necessary so that the widths and numbers of matching veneer leaves are not requirements. (This is standard Arbor Wood face matching.)

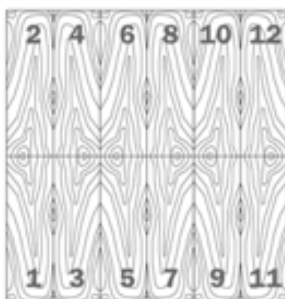
SKETCH FACE — In this procedure the layout of veneer follows a sketch or design.

SLIP MATCH — Consecutive leaves are slipped out side by side. They are not turned over or changed end for end. This pattern will have no grain match at the joints. Quarter cut and rift cut is most commonly used. It is easier to achieve a uniform color with Slip Matching because all the leaves have the same light refraction.

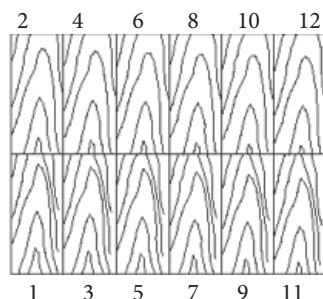
STACKED MATCH — Sheets are stacked on top of each other (not reversed as we would do with end matching). Stack matching typically occurs with slip matched, Recons Patterns, and QC RT veneers. Sheet "2" is stacked on top of sheet "1". So the top of sheet 1 is touching the bottom of sheet 2 in the installation process.

SWING MATCH — (also called Reverse Slip Match) Every other leaf is turned end for end. This type of match breaks up the marching pattern across the face of the panel.

END MATCH



STACKED MATCH



BLOCK PLANK MATCH

