

## GLOSSARY OF TERMS – PANEL PRODUCTS

**BACK** – The side reverse to the face of a panel or the poorer side of a panel in any grade of plywood calling for a face and back.

**BACKER** – A non-decorative overlay used on the back of composite panel constructions to protect the substrate from changes in humidity and to balance the panel construction.

**BALANCED CONSTRUCTION** – A laminated composite panel construction that typically has a similar overlay on both surfaces, which reduces or eliminates warp when subjected to moisture changes.

**BALANCED MATCH** – Two or more veneer components or leaves of equal size to make up a single face.

**BOOK MATCH** – Adjacent pieces of veneer from a flitch or log are opened like a book and spliced to make up the face with matching occurring at the spliced joints. The fibers of the wood, slanting in opposite directions in the adjacent sheets, create a characteristic light and dark effect when the surface is seen from an angle.

**CARB** – California Air Resources Board – (also known as ARB) This is the clean air agency in the government of California. CARB compliant products (hardwood plywood, particleboard and MDF) would meet the emissions standard set by this agency. For more information see the Fact Sheet in our resource center.

**CATHEDRAL** – A grain appearance characterized by a series of stacked and inverted “V” or cathedral type of springwood (early wood), summerwood (latewood) patterns common in plain-sliced (flat-cut) veneer (see split heart).

**CENTERS** - Inner plies, whose grain direction runs parallel to that of the outer plies. Included as centers are parallel laminated plies.

**CENTER MATCH** – An even number of veneer components or leaves of equal size, matched with a joint in the center of the panel to achieve horizontal symmetry.

**CHECKS** – Small slits running parallel to grain of wood, caused chiefly by strains produced in seasoning.

**CORE** – The inner part of plywood between face and back, usually veneer, sawn lumber, particleboard, MDF, hardboard or other material is also used as cores.

**CROSSBANDING** – Veneer used in the construction of plywood with five or more plies. Crossbands are placed at right angles to the grain of the faces and are typically placed adjacent to the face and back. Also refers to all inner layers of veneer, whose grain direction runs perpendicular to that of the outer plies and includes parallel laminated plies.

**CROSS FIGURE** - A series of naturally occurring figure effect, characterized by mid or dominant patterns across the grain in some faces.

**DELAMINATION** – Separation of plies or layers of wood or other material through failure of the adhesive bond.

**DISCOLORATIONS** – Stains in wood substances. Common veneer stains are sap stains, blue stains, stains produced by chemical action caused by the iron in the cutting knife coming in contact with the tannic acid of the wood, and those resulting from exposure of natural wood extractive to oxygen and light, to chemical action of vat treatments or the adhesive components, and/or to the surface finish.

**FSC** – Forestry Stewardship Council – for more information visit [www.fscus.org](http://www.fscus.org)

**FACE** – The better side of any plywood panel in which the outer plies are of different veneer grades. Also, either side of a panel in which there is no difference in the veneer grade of the outer plies.

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

**FLAKE** - See fleck ray.

**FLAT CUT** – See Plain Sliced

**FLECK, RAY** – Portion of a ray as it appears on the quartered or rift-cut surface. Fleck is often a dominant appearance feature in oak.

**FLITCH** – A complete bundle of veneer sheets laid together in sequence as they are cut from a given log or section of a log.

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

**GUM SPOTS OR STREAKS** – Gum or resinous material or color spots and streaks, caused by prior resin accumulations sometimes found on panel surfaces.

**HARDWOOD** – General term used to designate lumber or veneer, produced from temperate zone deciduous or tropical broad-leaved in contrast with softwood, which is

produced from trees which are usually needle bearing or coniferous. The term does not infer hardness in its physical sense.

**HEARTWOOD** – The non-active or dormant center of a tree generally distinguishable from the outer portion (sapwood) by its darker color.

**INDUSTRIAL PANELS** – Generally unfinished multi-ply products, which consist of various combinations of hardwood or decorative veneer face and inner ply materials (i.e., veneer, particleboard, MDF and hardboard.)

**INNER PLYS** – Plies other than face or back plies in a panel construction. Crossbands and centers are classed as inner plies. (see core).

**KNOT, OPEN** – Opening produced when a portion of the wood substance of a knot has dropped out or where cross checks have occurred to produce an opening.

**KNOTHOLES** – Openings produced when knots drop from the wood in which they were embedded.

**LAP** – A condition where one piece of veneer in the same ply overlaps another piece.

**LEED** – Leadership in Energy and Environmental Design – LEED is an internationally recognized green building certification system.

**LOOSE SIDE** – In knife-cut veneer, the side of the sheet that was in contact with the knife as the veneer was being cut, and containing cutting checks (lathe checks) because of the bending of the wood at the knife edge.

**MEDIUM DENSITY FIBERBOARD (MDF)** – A panel or core product, manufactured from wood fibers, combined with a synthetic resin or other bonding system. MDF is manufactured with a minimum density of 31 lbs/cu foot up to 55 lbs/ cu foot by the application of heat and pressure, a process in which the fiber bond is substantially created by the added adhesive system.

**MEDIUM DENSITY OVERLAY PLYWOOD (MDO)** - A plywood panel (Douglas fir, pine, hardwood) that is produced with a resin-treated fiber overlay (paper). It is an exterior-type panel manufactured with 100 percent water proof adhesive. Paper can be applied to one or two sides of the panel. Generally used for painted exterior sign applications.

**MIL** - A thickness measurement, typically used for vinyls and papers. One mil = 0.001”

**NAUF (or NAF)** – No added urea formaldehyde

**PARTICLEBOARD** – A panel or core product composed of small particles of wood and wood fiber that are bonded together with synthetic resin adhesives in the presence of heat and pressure.

**PLAIN-SLICED (Flat Cut)** – Veneer, sliced parallel to the pith of the log and approximately tangent to the growth rings to achieve flat –cut veneer. Plain-sliced veneer is cut, using either a horizontal or vertical slicing machine or by the half-round method, using a rotary lathe.

**PLEASING MATCH** – A face containing components which provides a pleasing overall appearance. The grain of the various components need not be matched at the joints. Sharp color contrasts at the joints of the components are not permitted.

**PLY** – A single sheet of veneer or several strips laid with adjoining edges that may or may not be glued, which forms one veneer sheet in a glued panel.

**QUARTER-SLICED (Quarter-cut)** – A straight grain appearance achieved through the process of quarter=licing or through the use of veneer cut in any fashion that produces a straight grain effect. Cut is radial to the pith to the extent that ray fleck is produced and the amount of fleck is not limited.

**RIFT-CUT** – A straight grain appearance achieved through the process of cutting at a slight angle to the radial on the half-round stay log or through the use of veneer cut in any fashion that produces a straight grain with minimal ray fleck.

**ROTARY-CUT** – Veneer, produced by centering the log in a lathe and turning it against a broad cutting knife which is set into the log at a slight angle.

**RUNNING MATCH** – The panel face is made from components running through the flitch consecutively. Any portion of a component left over from a face is used as the beginning component or leaf in starting the next panel.

**SFI** – Sustainable Forestry Initiative – for more info visit [www.sfiprogram.org](http://www.sfiprogram.org)

**SAPWOOD** – The living wood of lighter color occurring in the outer portion of a tree. Sometimes referred to as sap.

**SLICED** – Veneer produced by thrusting a log or sawed flitch into a slicing machine, which sears off the veneer in sheets.

**SOFTWOOD** – General term used to describe lumber or veneer produced from needle and/or cone bearing trees.

**SPLIT HEART** – A method of achieving an inverted “V” or cathedral type of springwood, plain-sliced (flat-cut) figure by joining two face components of similar color and grain. A cathedral type figure must be achieved by a single component in “AA” grade. The split heart method is allowed in grades “A” through “E”. Each half of a split heart shall be subject to the minimum component width requirements for grade “A” and “B” faces.

**SPLITS** – Separations of wood fiber running parallel to the grain.

**TELEGRAPHING** – Transfer of substrate surface defects through the thickness of the overlay material.

**THERMOSETTING** – Resins or adhesives that cure at room temperature or in the hot press by chemical reaction to form rigid bonds that are not –re-softened by subsequent exposure to heat.

**TIGHT SIDE** - In knife-cut veneer, the side of the sheet that was farthest from the knife as the sheet was being cut and contains no cutting checks.

**VENEER** – A thin sheet of wood, rotary cut, sliced, or sawed from a log, bolt or flitch.

**WATER-BORNE ADHESIVES** – Formulated synthetic polymer (usually poly vinyl acetate or ethylene vinyl acetate). These products are generally used for paper laminating where the adhesive is applied to the web and/or panel surface and tacks up through one or more heated rolls that combine paper to panel.