Actual Yield: The actual amount that is produced.

Adhesive: A substance that causes materials to stick to each other through surface attachment.

Air Dried: Dried by exposure to air in a yard or shed, without artificial heat.

Air Reversal: Changing the airflow to flow in the opposite direction through a load of drying lumber or products.

Allowable Unit Stress: The value of a strength property normally published for design use. Allowable unit stresses are identified with grade descriptions and standards, reflect the anisotropic structure of wood, and anticipate certain end uses.

Anemometer: an instrument for measuring air velocity.

Anisotropic: Not isotropic; that is, not having the same properties in all directions.

Annual Layers (rings): The layers of wood grown by a tree during a single growing season; in the temperate zone, annual layers of many species are readily distinguished because of differences in the cells formed during the early and late parts of the season

Armoire: A large cupboard, for storing clothes. Probably an adaptation of the aumbry, or ambry, used in early English times for the storing of arms and armor.

Assembly Time: The minimum and maximum time allowed after glue spreading before pressure must be applied to form a satisfactory wood-glue bond.

Baffle: In forced air or kiln drying, a canvas, metal, or wood barrier used for deflecting, checking, or otherwise directing the flow of air.

Balloon Frame System: A framing system, principally used for two-story housing, in which the studs run the NH height of the building from the foundation wall to the top plate supporting the roof. Floor joists of the upper story rest on a sill nailed to the studs.

Bandsaw: A band of steel with teeth on one edge (single cutting) or both edges (double cutting), running on a set of large wheels. Used for longitudinal cutting of wood. See also twin and quad bandsaws.

Barker or Debarker: A machine for removing bark either mechanically or by high-pressure water
jets.

Bark Pockets: Small patches of bark that have become partially or wholly enclosed by the growth of a tree.

Barrier or Base Coat: An initial coating applied to protect plastics from being attacked by the solvents in subplastics from being attacked by the solvents in subsequently applied finishing materials. Also called base coat.

Beam: A structural member that supports a load applied transversely to it. See also timbers, rectangular.

Bent Wood: Curved wood formed by steaming or boiling, or by special finishing, and then bending to a form.

Bevel Angle: The angle of the knife face in relation to the lathe knife.

Bill Out Tickets: Tickets used in production systems to provide count and information control.

Birds-Eye Figure: Figure produced on flat-sawn or rotary-cut surfaces by small, conical depressions of the fibers, which form numerous rounded areas of the grain remotely resembling small eyes. Generally limited to hard maples.

Bleed-Through: The exudation of colored wood extractives or of coating materials through a paint film.

Blister Spot: or area where veneer does not adhere and bulges like a blister. (In Veneer & Plywood terms) Produced by rotary or half-round cutting through uneven contour of annual rings to give the effect of blisters.

Blistering: The formation of bubbles or pimples on the surface of finished work. Caused by exposure to excessive heat, by grease or other volatile material under the finish, by moisture in the wood or by the too frequent application of coats. Anything which causes a gas or vapor to form under the film may cause blistering.

Blooming: The formation of crystals on the surface of treated wood by exudation and evaporation of the solvent in preservative solutions.

Blue Stain: A bluish or grayish discoloration of the sapwood caused by the growth of certain dark-colored fungi on the surface and in the interior of the wood, made possible by the same conditions that favor the growth of other fungi.

Board Lumber: that is less than 38 mm (2 in.) thick and wider than 38 mm (2 in.).

Board Foot: A standard unit of measurement for logs, usually expressed in multiples of a thousand (MBM). Represents the equivalent number of 1-foot-wide, 1-foot-long, and 1-inch-thick units that can be sawn from a log.

Bolt: A short section of wood, as cut for shingles, shakes, rough dimension stock, stakes, pallet and crating material, and rotary-cut veneer.

Bound Water: Water contained within the cell walls of wood and held by hygroscopic forces.

Bow The distortion of lumber along the face of a piece from end to end, measured at the point of greatest deviation from a straight line.

Boxed Heart The term used when the pith falls entirely within the outer faces of a piece of wood anywhere in its length. Also called boxed pith.

Box Shook Veneer cut primarily for use as box sides, bottoms, and other box parts.

Brash Wood Wood with low resistance to shock and with a tendency to sudden and complete breakage across the grain without splintering.

Brown Rot A condition caused by fungi that decompose the cellulose and associated carbohydrates in wood rather than the lignin. The result is a brown, friable residue. Sometimes called “brown cubical l rot” because of the formation of cracks caused by shrinkage.

Brown Stain See stain.

Buffer Coat A coat of finishing material applied over another dried film to protect it from the solvent action of the succeeding coats.

Bull Edger A combination circular gang resaw and edger used to break down small cants as well as for edging.

Burl Figure Swirled figure produced by cutting through burls, which are hard, woody outgrowths on trees.

Butt Joint An end joint formed by abutting the squared ends of two pieces of wood.

Calorific value The potential heat-production value of a wood source. Depends on the cellulose-lignin ratio, the percentage of extractives, and the moisture
content.

Cambium A thin layer of tissue between the bark and wood that repeatedly subdivides to form new wood and bark cells.

Cant A log that has been slabbed on one or more sides by the headrig for subsequent breakdown into lumber by other machines. See also flitch.

Canter A machine that produces a cant.

Canting A sawing method that is a combination of two other sawing methods, sawing around and live sawing. The most common sawing pattern used for softwoods. See also sawing around and live sawing.

Capillary forces The forces of liquid adhesion and cohesion combined with surface tension by which a liquid moves through a cellular structure. Also called capillary action.’

Carbide tipped Machining tools that are surfaced or tipped with a carbide material.

Casegoods Finished furniture that serves to store with drawers. i.e. dressers shelves, armories.

Case hardening The condition that occurs when a finishing material dries hard on top and remains more or less soft and mushy underneath instead of drying thoroughly throughout the film. Sometimes caused by relative humidity of the atmosphere being too low. Case hardening may result in checking, cracking and alligatoring when the underneath portion of the film finally becomes hard.

Cell A general term for the structural units of plant tissue, including wood fibers, vessel members, and other elements of diverse structure and function.

Cellulose The carbohydrate that is the principal constituent of wood and forms the framework of the wood cells.

Center Inner layer whose grain direction runs parallel to that of the outer plies.

Checks Lengthwise separations of wood that usually extend across the annual layers and commonly result from stresses set up in wood during drying.

Chipping The condition which obtains when a dried film of finishing material separates from the underneath surface in the form of flakes or chips. Usually caused by insufficient elasticity or improper adhesion to the base material.

Chips Uniform pieces of thin wood, about five eighths of an inch wide and an inch long.

Chipper canter A headrig machine that reduces barked logs directly to chips and cants without producing sawdust.

Chuck Device used to secure each end of the peeler block to the lathe spindles.

Circular saw A circular metal plate with teeth on the circumference that rotates on a drive shaft.

Cladding See siding.

Clipper, veneer A plywood machine used to cut the veneer ribbons or sheets into specified widths.

CAD Abbreviation for Computer Aided Design. The use of computer hardware and software to assist in designing machine parts, buildings etc.

CNC Abbreviation for “Computer Numerical Control”.

Cold press A press using time and pressure to assist the adhesive in bonding the panel plies without the aid of externally applied heat.

Collapse The flattening of single cells or rows of cells in the heartwood during the drying or pressure treatment of wood. The wood surface is often characterized by a caved-in or corrugated appearance.

Composites Built-up, bonded products consisting wholly of natural wood, or in combination with metals, plastics, etc.

Composite panel A panel constructed with softwood veneer outerpiles permanently bonded to a reconstituted wood core.

Compression failure Deformation of wood fibers resulting from excessive compression along the grain either in direct end compression (as sustained by columns) or in bending (as on the upper side of a beam under load). It may develop in standing trees as a result of bending by wind or snow or internal longitudinal stresses developed in growth; it may also result from stresses imposed after the tree is cut. In surfaced lumber, compression failures may appear as fine wrinkles across the face of the piece.

Compression wood Abnormal wood formed on the lower side of branches and inclined stems of softwood trees. Compression wood is identified by its relatively wide annual layers and dark reddish color. Compared with normal wood, it shrinks excessively lengthwise. See also reaction wood.

Conditioning The use of humidity in a dry kiln to produce a uniform distribution (equalization) of moisture in timber and to reduce drying stresses.

Conifer See softwoods.

Cooperage Containers, such as barrels and kegs, consisting of two round head pieces and a body composed of staves held together with hoops.

Core In a plywood panel, the crossbanding, the grain direction of which runs perpendicular to that of the outer plies. In a peeler block, the inner portion of the log remaining after the lathe has completed peeling the block.

Core board A solid or discontinuous middle layer or ply used in panel-type glued structures (such as furniture panels and solid- or hollow-core doors). In furniture manufacture, also known as `furniture board' or `industrial board.'

Core gap Spaces in the cross-bands of plywood in which the veneers do not butt tightly together.

Creep The increase in deflection of a beam under load after the passage of time.

Crook The distortion of lumber from a straight line along the edges from end to end of a piece, measured at the point of greatest deviation from a straight line.

Cross-band In plywood, a layer of veneer whose grain direction is at right angles to that of the face plies; also, to place layers of wood with their grains at right angles in order to minimize shrinking and swelling.

Cross cut optimizing Maximizing the efficiency in yield in the cross cut operation.

Cross-cutting Sawing wood across the grain to expose an end called a cross-section or transverse section. See also transverse.

Cross grain Wood in which the fibers are not aligned parallel to the axis of the piece. See also diagonal grain and spiral grain.

Crotch figure Figure produced by the grain when the junction of two or more branches, or the stem and a branch, is cut in a suitable direction

Cubical rot See brown rot.

Cubic recovery The percentage of the cubic volume of plywood expressed as a percentage of the total cubic volume of log used.

Cubic yield The cubic volume of plywood produced expressed as a percentage of the total cubic volume of the log less the peeler core.

Culls High-defect peelabel logs that do not meet the requirements of Peeler and Sawmill grade rules but are suitable for rotary cutting.

Cunit A unit of measurement which equals 100 cubic metre.

Cup A form of board warp in which there is a deviation from a straight line across the width.

Cupping Distortion of a board whereby the faces become concave or convex across the grain or width. This condition usually occurs in drying.

Cure The change in properties of an adhesive by chemical reaction which results in the development of maximum strength of the adhesive. Generally accomplished by the action of heat or a catalyst, with or without pressure.

Curly grain Wavelike undulations in the orientation of wood cells that cause light to be reflected at different angles from the surface and result in a pleasing effect of alternating light and dark bands.

Curtain coating A method of glue application in which the veneer passes through a “curtain” of adhesive.

Dado A rectangular groove cut into the side of a piece of wood to receive another at right angles to it.

Decay The decomposition of wood substance by fungi. The destruction is readily recognized because the wood has become punky, soft and spongy, stringy, ring-shaked, pitted, or crumbly. Decided discoloration or bleaching of the rotted wood is often apparent.

Deciduous See hardwoods.

Decking Lumber used for pallets, roofs, and walls – usually tongued and grooved.

Degrade A reduction in the quality of wood due to defects that result from seasoning.

Delamination The separation of layers in a laminate through failure within the adhesive or at the bond between the adhesive and the lamination.

Denaturant A material added to another substance to alter its effectiveness for certain purposes. Denatured alcohol is ethyl alcohol containing small quantities of other materials which render it unfit for beverage purposes. Most alcohol denaturants are poisonous.

Density As usually applied to wood of normal cellular form, density is the mass of wood substance enclosed within the boundary surfaces of a wood-plus-voids complex having unit volume. It is variously expressed as kilograms per cubic metre or pounds per cubic foot at a specified moisture content.

Depression, wet-bulb The difference between the dry-bulb and wet-bulb temperature.

Dew point The
temperature at which steam or water vapor begins to condense.

Diagonal grain Wood in which the annual layers are at an angle with the axis of a piece as a result of sawing at an angle to the fiber direction. A form of cross grain.

Diamonding A form of warp in which the cross section assumes a diamond shape.

Diffuse-porous wood Wood from certain hardwood species whose pores are nearly uniform in
size and distributed evenly through the annual layer (e.g., birch and maple). Annual layers are sometimes difficult to identify.

Diffusion Spontaneous movement of heat, dissolved material, moisture, or gas through a body or space. Movement is from high points to low points of temperature, concentration, or partial pressure.

Dimensional stabilization Special treatment of wood to reduce swelling and shrinking caused by changes in its moisture content that accompany changes in relative humidity.

Dimension lumber Lumber with a thickness of 38 mm (z in.) up to, but not including, 114 mm (5 in.) and a width of 38 mm (2 in.) or more.

Dimpled grain A distinctive figure produced on flat-sawn or rotary-cut surfaces of certain softwoods, notably lodgepole pine, by small, conical depressions of the fibers.

Direct fired A method of heating a dry kiln where the hot gases produce by burning gas, oil, or wood waste are discharged directly into the kiln atmosphere.

Dogs Steel, teethlike projections usually attached to the knee of a headrig carriage to hold the log firmly in position on the carriage headblock.

Dressed lumber Lumber that has been dressed by a planing machine for purposes of attaining smoothness of surface and uniformity of size.

Dry-bulb temperature The temperature of air as indicated by a standard thermometer.

Drying (seasoning) Removing moisture from green wood to improve its serviceability and utility. See also air dried and kilt, dried.

Dryout Glue line failure caused by exceeding the maximum assembly time (q.v.).

Dry rot A condition caused by the attack of a specific fungus, Merulius lacrymans or Poria incrassata, in which the fungus is capable of transferring water to `dry' wood, resulting in brown rot. Sometimes erroneously applied to all decay.

Durability A general term for permanence or resistance to deterioration. Frequently used to refer to the degree of resistance of a species of wood to attack by wood-destroying fungi under conditions that favor such attack.

Earlywood The portion of the annual layer that is formed during the early part of the growing season. It is usually less dense and weaker mechanically than latewood.

Eased edge Slightly rounded surfacing on pieces of lumber to remove sharp corners. Lumber 4 in or less in thickness is frequently shipped with eased edges unless otherwise specified. Lumber of 1 in and 2 in thicknesses may be rounded to a radius of no more than 1/16 in and 1/8 in, respectively.

Edge-glued Where two pieces of wood are joined edge to edge by gluing.

Edge grain Lumber in which the annual layers form an angle of 45-90° with the wide surface of the piece. Also referred to as `quarter sawn' or `vertical grain.'

Edge piling In air drying, stacking of wood products on edge, e.g., 2 by 4's, so that the broad face of the item is vertical; usually done to restrain crook. In kiln drying, stacking of lumber on edge for drying in kilns with vertical air circulation.

Edger A machine used to produce two parallel sides (wide face) by removing the rounded edges of a board (wane). Lumber is edged to specified width (softwoods) and to random width (hardwoods).

Edgebander A machine that applies and bonds by a gluing operation a hardened material to an edge of particleboard to allow for commercial or finished use of the board. i.e. a shelf or countertop.

Edgerman A person who operates an edger machine – a machine that trims the long
edges of lumber.

EDM Operator An operator who operates a ram or wire feed electro-discharge machine.

Electronic burner An engraving machine energized by electric means.

Electrostatic spraying A process which uses electrostatic charges to attract an atomized chemical coating to its target. It increases the efficiency of the coating operation by the reduction of overspray.

Empty-cell process Any process for impregnating wood with preservatives in which air in the wood is maintained at or above atmospheric pressure before injection of the preservatives under pressure. After the pressure is released, a vacuum is drawn to drive out a portion of the preservatives from the wood cell cavities.

Encased knot See knots.

End joint The place where two pieces are joined end to end, commonly by scarf-jointing or finger-jointing.

End matched Another name for butt matched. Adjacent sheets from a flitch are laid so the ends of the sheets are matched.

Equalization and conditioning In kiln drying, the process of increasing the equilibrium moisture content condition in the final stages of drying lumber and other mill products to (1) reduce the moisture content range between boards, (2) flatten the moisture content gradient within boards, and (3) relieve drying stresses. Usually equalization and conditioning are two separate stages in final kiln drying.

Equilibrium moisture content The moisture content at which wood neither gains nor loses moisture when surrounded by air at a given relative humidity and temperature.

Essential oils Pleasant smelling oils prepared by passing steam through foliage and finely divided twigs of several conifer species (mainly cedars, Douglas-fir, and western hemlock).

Extractives Substances in wood, not an integral part of the cellular structure, that can be removed by solution in hot or cold water, ether, benzene, or other solvents that do not react chemically with wood components.

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Face checks Small longitudinal splits or separations visible on the surface of wood.

Eace veneer The outside piece of woods used in the construction of plywood. Its grain is usually at right angles to the grain of adjacent plies.

FBM Foot Board Measure One board foot is equal to a piece of wood one inch thick by 12 inches wide by 12 inches long.

Fiberboard A broad, generic term inclusive of sheet materials of widely varying densities manufactured of refined or partially refined wood (or other vegetable) fibers. Bonding agents and other materials may be added to increase strength or resistance to moisture, fire, or decay.

Fiber saturation point The stage in the drying or wetting of wood at which the cell walls are saturated and the cell cavities are free from water. It is usually taken as approximately 25–3o% moisture content, based on oven-dry weight.

Fiber wood Long, thin, cylindrical wood cells, tapered and closed at both ends. Also a general term of convenience for any long, narrow cellular tissue.

Fiddleback figure Figure produced by a type of fine wavy grain wood. Wood with such figure is traditionally used for the backs of violins.

Figure Any characteristic pattern produced in a wood surface by annual growth rings, rays, knots, deviations from regular grain such as interlocked and wavy grain, and irregular coloration.

Filler A finishing material, usually containing considerable quantities of pigment, use to build up or fill depressions and imperfections in the surface.

Fine grain A nontechnical term variously used to describe wood with narrow, inconspicuous annual layers or with relatively small or uniform cell diameters.

Finger joint An end joint made up of several meshing fingers of wood bonded together with adhesive. Fingers may be sloped or cut parallel to either the face or the edge of the piece.

Finish Wood products such as doors, stairs, and other fine work required to complete a building, especially the interior.

Finishes Coatings of paint varnish, lacquer, wax, and so on applied to wood surfaces to protect and enhance their durability or appearance.

Finite element method A method used in wood engineering for detailed stress analysis and precise calculations of deflections.

Fire endurance A measure of the time during which a material or assembly continues to withstand fire or to give protection from fire under specified conditions of test and performance.

Fish eye A small globular cavity which appears as a fault in translucent or transparent plastic.

Flat grain The figure produced when lumber is sawn approximately tangent to the annual layers. Lumber is considered flat-grained when the annual layers make an angle of less than 45° with the surface of the piece. (Also referred to as `flat sawn' or `plain sawn.')

Flat pile In air drying and kiln drying, stacking of stock so that the broad face of the item is horizontal. In kiln drying, the stickered loads are level.

Flat sawn Another
term for flat grain.

Flat grain Veneer cut so that the growth rings meet the face over at least half the width at an angle of less than 45 degrees. Also called plain cut, flat sawn, slash grain.

Flitch A portion of a log sawn on two or more sides, frequently with wane on one or both edges, and intended for further conversion into lumber. See also cant.

Framing Dimension lumber used for the structural members of a building, such as studs, joists, and rafters. Light and Structural Light Framing are grades of lumber 38–89 mm (2–4 in.) thick and 38–89 mm (2–4 in.) wide.

Free water Moisture that is contained in cell cavities and intercellular spaces and is held by capillary forces only.

Full-cell process Any process for impregnating wood with preservatives or chemicals in which a vacuum is drawn to remove air from the wood before admitting the preservative. This process favors heavy absorption and retention of preservative in the treated portions.

Fungi A lower form of chlorophyll-less nonvascular plant life. Wood-inhabiting fungi use constituents of wood as food and also require moisture, oxygen, and suitable temperatures in order to develop.

Grain In its restrictive meaning, grain designates the direction of alignment of wood elements that determines a plane of cleavage. This term is also used in a variety of ways to describe the size, arrangement, appearance, or other qualities of wood fibers. (See also cross grain, curly grain , diagonal grain, edge grain, fine grain, flat grain , interlocked grain, open grain, spiral grain, straight grain, texture, figure.)

Grain Raising The objectionable roughness of wood caused by the swelling and stiffening of the short, broken fibres on the surface.

Grain Raising Green Used in referring to freshly sawn or undried wood. Wood that has become completely wet after immersion in water is not considered green but may be said to be in the `green condition.'

Growth-Ring Figure See figure.

Gum A comprehensive term for nonvolatile, viscous plant exudates which either dissolve or swell in contact with water. Many substances referred to as gums, such as pine and spruce gum, are actually oleoresins.

Gymnosperm A term signifying plants bearing exposed seeds, usually borne in cones. See also softwoods.

Gypsumboard A panel material formed of gypsum plaster faced on both sides by a sheet of structural paper.

Hardboard A generic term for a panel manufactured primarily from interfelted lignocellulosic fibers (usually wood), consolidated under heat and pressure in a hot press to a density of 497 kg/m3 (31 lb/cu ft) or greater.

Hardwoods Generally one of the botanical groups of trees that have broad leaves in contrast to the conifers or softwoods. The wood produced by these trees contains pores. The term has no reference to the actual hardness of the wood.

Headrig The first machine in a sawmill to start the breakdown of logs into lumber products.

Headsaw The principal saw in a sawmill used for the breakdown of logs by cutting parallel to the grain.

Heart Check A radial shake originating from the heart or central portion of a log. Also called `heart shake' and `rift crack.'

Heart Shake See heart check.

Heartwood The inner core of a woody stem, where the cells no longer participate in the life processes of the tree. Usually contains extractive materials that give it a darker color and greater decay resistance than the outer enveloping layer (sapwood).

Hemicellulose Noncellulosic polysaccharides of the cell wall that are easily decomposed by dilute acid, yielding several different simple sugars.

High Temperature Drying In kiln drying wood, use of dry-bulb temperatures of 212 degrees F. or more.

Holocellulose The total carbohydrate fraction of wood – that is, cellulose plus hemicellulose.

Honeycombing A term used to describe advanced white rot; also checks, often not visible on the surface, that occur in the interior of a piece of wood, usually along the wood rays during seasoning.

Hot Press A major piece of plywood plant equipment which, through heat and pressure bonds the assembled veneer plies and adhesive into a panel.

Humidification The process of adding moisture to the finished board.

Humidity, absolute The weight of water vapor per unit volume of space.

Humidity, relative Ratio of the amount of water vapor present in the air to that which the air would hold at saturation at the same temperature. It is usually considered on the basis of the weight of the vapor, but for accuracy it should be considered on the basis of vapor pressures.

Hydrogenation Treatment of wood with hydrogen and suitable catalysts at high temperature and pressure to produce a gas or oils.

Hydrolysis Conversion of the polysaccharides in wood or other cellulosic materials into sugars by treatment (hydrolysis) of wood with acids.

Hygrometer An instrument for measuring relative humidity, often consisting of dry-bulb and wet-bulb thermometers.

Hygroscopic A descriptive adjective applied to materials that readily absorb and retain moisture from the atmosphere.

Hyphae Threadlike strands of fungi.

Intergrown Knot See knots.

Interlocked Grain A cross grain condition in which the direction of slope of the fibers alternates periodically between left-hand and right-hand spiral arrangements.

Isocyanate Adhesives Based on polymethylene polyphenyl isocyanate and methylene bisphenyl diisocyanate (MDI).

Isotropic Having identical properties in all directions.

ISO 9000 A series of internationally recognized quality system standards that specify the requirements of a quality system, not it's product or service.

Joiner Trades Woodworking or furniture making skilled trades.

Joinery The skill or trade of a joinery. A joiner is a skilled woodworker or furniture maker.

Joint The line between the edges or ends of two adjacent sheets of veneer or strips of lumber core in the same plane.

Joint Edge Joint running parallel to the grain of the wood.

Joint, open Joint in which two adjacent pieces of veneer do not fit together closely.

Joist One of a series of parallel beams used to support floor and ceiling loads and supported in turn by larger beams, girders, or bearing walls.

Juvenile Wood The innermost layers of wood adjacent to the pith, formed during the juvenile years of the tree's growth. Certain features, such as cell structure and size, differ from those typical of mature wood.

Kerf The narrow slot cut by a saw as it advances through wood, or the thickness of wood removed as sawdust by a saw.

Kiln A chamber having controlled air flow, temperature, and relative humidity used for drying lumber, veneer, and other wood products.

- **Compartment Kiln** A dry kiln in which the total charge of lumber is dried as a single unit. At any given time, the temperature and relative humidity are uniform throughout the kiln.
- **Progressive Kiln** A dry kiln in which the total charge of lumber is not dried as a single unit but as several units, such as kiln truckloads, that move progressively through the kiln. The temperature is lower and the relative humidity higher at the entering end (green end) than at the discharge end (dry end).
- **Low Temperature Kiln** Forced air drying in a moderately tight building equipped to produce air movement through the loads and recirculate the air over heat and/or humidity sources, with dry-and wet-bulb controls to maintain small to moderate wet-bulb depressions in the temperature ranges between 85 degrees and 120 degree F.

Kiln Charged In kiln drying, the total amount of lumber or wood items to be dried in a dry kiln.

Kiln Dried Wood dried in a kiln to not more than 19% moisture content.

Kiln Leakage The undesirable loss of heat and vapor from a kiln through and around doors and ventilators or through cracks in the walls and roof.

Kiln Operator In kiln drying, the supervisor or person responsible for the performance of dry kilns and related equipment.

Kiln Run The term applied to the drying of a single charge of lumber or other wood product.

Kiln Sample A length cut from a sample board and placed in the kiln charge so that it may be removed for examination.

Kiln Schedule In kiln drying, the prescribed schedule of dry-bulb and wet-bulb temperatures used in drying a kiln charge of lumber or other wood products.

Knife Angle The angle between the knife face and a horizontal plane while peeling the block at various diameters. Also called slope angle.

Knots Those portions of a branch or limb that have been surrounded by subsequent growth of the stem. The shape of a knot as it appears on a cut surface depends on the plane of the cut relative to the long axis of the knot.

- **Encased Knot** A knot whose annual layers are not intergrown (i. e., not continuous) with those of the surrounding wood.
- **Intergrown Knot** A knot whose annual layers are intergrown (i.e., continuous) with those of the surrounding wood.
- **Loose Knot** A knot that is not held firmly in place or position and that cannot be relied upon to remain in place.
- **Pin Knot** A knot of not more than 13 mm (1/2 in.) diameter.
- **Sound Knot** A knot showing no indication of unsound wood. It may be red or black.
- **Spike Knot** A knot sawn approximately parallel to its long axis so that the exposed section is definitely elongated.

LAM Abbreviation for “Labour and Material” .i.e. LAM bar code OR Abbreviation for “Laminated” as in “glulam” or “lam-stock”

Lamela A thin layer.

Laminated Wood An assembly made by bonding layers of veneer or lumber with an adhesive so that the grain of all laminations is essentially parallel.

Laminator A machine used to glue together or laminate pieces of materials such as lumber or plywood.

Lap A condition where the veneers used are so misplaced that one piece overlaps the other and does not make a smooth joint.

Lathe A machine for holding pieces of wood and turning them against a cutting or shaping tool.

Lathe, rotary A piece of equipment in which a peeler block is rotated while a carriage equipped with a full-length veneer knife advances a predetermined distance with each rotation of the peeler block. The result is a continuous veneer ribbon of uniform thickness.

Latewood The portion of the annual layer that is formed during the latter part of the growing season after the earlywood formation has ceased.

Lignin The thin, cementing layer between wood cells, located principally in the secondary wall and the middle lamella. Lignin is the second most abundant constituent of wood. Chemically it is an irregular polymer of substituted propylphenol groups, and thus no simple chemical formula can be written for it.

Limit States Design A structural design procedure for proportioning to a structure a measured degree of safety against the occurrence of undesirable conditions or limit states in which the structure ceases to fulfill the function(s) for which it is intended. Those exceeding the load capacity, fracture, and so on are called `ultimate limit states.' Those which restrict the use or affect the appearance, such as minor distress, vibration, cracking, and deformation, are called `serviceability limit states.'

Line Bored A manufacturing operation that results in straight line drilled holes.

Linerboard A paperboard used as a facing material in corrugated and solid fiber shipping containers. Linerboard is usually classified according to furnish, as for example, kraft linerboard.

Linear Optimization A method of finding the optimum solution to a problem with constraints and many internal decisions using the techniques of linear programming.

Live Sawing Sawing through and through without turning the log or by turning it only once – that is, sawing with a bandmill headrig or with a circular headrig.

Longitudinal Generally, parallel to the direction of the wood fibers.

Longitudinal Shear Strength The capacity of a body to resist longitudinal shearing stresses.

Lumber The product of saw and planing mills that is not further manufactured beyond sawing, resawing, passing lengthwise through a standard planing machine, crosscutting to length, and matching.

Lumber Grader A person who grades lumber into appropriate grades.

Lumen The cavity within a wood cell.

Machine Stress Rated (MSR) Lumber that has been evaluated by means of nondestructive machine stress-rating equipment.

Margo That portion of the membrane of bordered pits that supports the torus; that is, the membrane exclusive of the torus.

Master Wood Technology Program A high-achievement or top level wood technology program.

Matched Lumber Lumber that is edge-dressed and shaped to form a tongued and grooved or similar joint when pieces are laid side by side.

Meniscus The curved upper surface of a liquid in a tube or container. Wood cells serve as containers for liquid water. The surface of the water in the cell is concave, owing to the effect of surface tension.

Microfibril A threadlike component of the cell wall structure composed of chain molecules of cellulose extending through regions of parallel order known as crystallites and through regions of disorder known as amorphous regions. Microfibrils are the smallest natural units of cell wall structure that can be distinguished with an electron microscope.

Middle Lamella The lignin-rich layer that cements adjoining cells together. This layer is dissolved in the chemical pulping processes which separate wood into pulp fibers.

Mildew Surface growths of fungi, usually dark gray in color, growing on the exterior wood of buildings.

Millwork Planed and patterned lumber for finish work in building, including items such as sashes, doors, cornices, panel work, and other items of interior or exterior trim. Does not include flooring, ceilings, or siding.

Millwright A person who design, builds, or sets up mills or machinery for mills.

Mineral stain See stain.

Modulus of elasticity A measure of the stiffness of wood.

Modulus of Rigidity A measure of the torsional stiffness of wood.

Modulus of Rupture A measure of the maximum strength of wood.

Moisture Content. The amount of water contained in wood, usually expressed as a percentage of the weight of the oven-dry wood.

Mold Superficial, usually colored growth of fungi on damp wood; also referred to as mildew.

Mortised A hole in one piece of wood cut to receive the projection on another piece.

Moulder A machine that shapes into finished dimensions the face and edged surfaces.

MSF Abbreviation for “thousand square feet”.

MSR Abbreviation for “Mechanically Stress Rated” as in lumber.

Multi-torch A group of torches or nozzles that can be used at one time.

Naval Stores Oils, resins, tars, and pitch extracted from pine and fir trees. Historically, the term was derived to describe those products when they were used in the construction of wooden sailing vessels.

Nose Bar A beveled bar mounted parallel with the tip of the lathe knife and designed to compress the veneer block into the cutting edge of the lathe knife.

Oleoresin A solution of resin in an essential oil that occurs in or exudes from many plants, especially softwoods.

Open Grain Common classification for woods with large pores, such as oak, ash, and walnut.

Optimizing Making the most of or the most efficient. i.e. optimizing saw.

Oven Dry A term applied to wood dried to constant weight in an oven maintained at temperatures of from 214 degrees to 221 degrees F.

Overlay A thin layer of paper, plastic, film, metal foil, or other material bonded to one or both faces of panel products, or to lumber, to provide a protective or decorative face or a base for painting.

Packaged-loaded Kiln A trackless compartment kiln for drying packages of stickered lumber or other wood products. The dryer usually has large doors that can be opened so that the kiln charge can be placed in or removed from the dryer by forklift trucks. It is usually a forced-air circulation kiln with fans mounted overhead or at the side.

Pallet A horizontal platform device used as a base for assembling, storing, handling, and transporting materials and products as a unit load.

Palletized Storing and /or shipping items on a pallet.

Parallel Laminated Veneers Used as a substitute for solid sawn timbers formerly made from old growth trees.

Parametric Linking A design method whereby the design details such as the geometry and the location of arcs and lines are linked to the outside dimensions of the part. This allows the design to be easily scaled to match the part dimensions when ever they are changed.

Parenchyma Short cells having simple pits and functioning primarily in the metabolism and storage of plant food materials. They remain alive longer than the tracheids, fibers, and vessel segments, sometimes for many years. Two kinds of parenchyma cells are recognized: those in vertical strands, known more specifically as axial parenchyma, and those in horizontal series in the rays, known as ray parenchyma.

Particleboard A generic term for a panel manufactured from lignocellulosic materials – commonly wood – essentially in the form of particles (as distinct from fibers). These materials are bonded together with synthetic resin or other suitable binder, under heat and pressure, by a process wherein the interparticle bonds are created wholly by the added binder.

Phenolic Resins Synthetic petrochemical-based adhesives used in the manufacture of hot-pressed plywood.

Phloem Inner bark tissue, characterized by the presence of sieve tubes and serving for the transport of foodstuffs.

Pile In air drying, stacking lumber layer by layer, separated by stickers or self stickering, on a supporting foundation (hand stacked). Also, stickered unit packages by lift truck or crane, one above the other on a foundation and separated by bolsters.

- Box pile – A method of flat stacking random length lumber for air drying or kiln drying. Full-length boards are placed in the outer edges of each layer and shorter boards in between are alternated lengthwise to produce square-end piles, unit packages, or kiln truckloads.
- Machine-stacked pile – Unit packages of stickered lumber or other wood products stacked by mechanical means onto a pile foundation and one above another to build a pile of packages.
- Random-length pile – Stacking lumber of various lengths in the same pile or package. The pile or package is usually square at one end with the long length at the other end unsupported by stickers.
- Self-stickered pile – Stacking in which the stock is used as stickers to separate the layers. In crib stacking, the boards are in contact at the tree corners. In level or sloped stacking of softwood boards and dimension, stock is used for stickers and the pile width is the same as the length. Hardwood dimension stock and railroad ties are often self stickered.

Piler A person who piles or stacks materials.

Pin knot See knots.

Pit A discontinuity in the secondary cell wall normally found in adjacent pairs of cells forming a pathway for liquid movement between neighboring cells. The two halves of a pit pair are normally separated by a membrane consisting of the middle lamella and adjacent primary cell walls. Sometimes the central portion of the membrane is thickened to form a torus.

Pit Aspiration The displacement of the torus of a bordered pit pair against one of the pit borders closing the pit aperture.

Pit Pair Two complementary pits of adjacent cells.

Pitch Pocket An opening extending parallel to the annual layers that contains, or has contained, either solid or liquid pitch.

Pitch Streaks A local accumulation of resin in the form of a streak, occurring in certain softwoods.

Pith The small core of soft primary tissue occurring near the center of a tree stein, branch, and sometimes, root.

Pith Flecks Flecks on planed lumber caused by insects boring in the cambium layer, producing wound tissue with brownish contents.

Plain Sawn See fiat grain.

Planer-matcher A surfacing machine for lumber. Profiler heads can be inserted to create side-matching pieces of wood – that is, tongue and groove or shiplap. See also matched lumber.

Plank A piece of square-cut timber, generally more than 25 mm (1 in.) thick and 140 mm (6 in.) wide or greater, and of any length.

Plenum Chamber The space between the lumber stack and kiln wall for air circulation on the pressure side of a fan or blower in which the air is maintained under pressure.

Platform Frame System A framing system in which floor joists of the upper stories rest on the top plates of the story below (or on the foundation wall), and bearing walls and partitions rest on the subfloor of each story.

Plenum Chamber The space between the lumber stack and kiln wall for air circulation on the pressure side of a fan or blower in which the air is maintained under pressure.

Plugs Sound wood of various shapes, used to replace defective portions of veneers. Also, synthetic plugs used to fill openings and provide a solid surface.

Ply A single veneer lamina in a glued plywood panel.

Plywood A composite panel or board made up of cross-banded layers of plies, bonded with an adhesive, of veneer only, or veneer in combination with a core of lumber, or of particleboard. Generally the grain of one or more plies is roughly at right angles to that of the other plies, and almost always an odd number of plies are used.

Pneumatic Relating to air, wind or gas.

Pocket Rot Advanced decay that appears in the form of a hole or pocket.

Pores See vessels.

Post and Beam Framing Construction in which posts and beams support the loads; the partition walls are not load-bearing. The roof is usually decking.

Precision Predryer A type of low temperature dryer. Stickered loads or unit packages of lumber or other wood products are placed in a large building provided with fans, heating system, and vents such that air of a given temperature and humidity can be circulated through the lumber.

Preservative Any substance that, for a reasonable length of time, is effective in preventing the development and action of wood-rotting fungi, borers of various kinds, and harmful insects that deteriorate wood.

Press Drying A veneer drying method in which single green veneer sheets are placed between press platens under predetermined heat, pressure, and time; the resulting dry veneer is flat and uniformly dried to a desired moisture content.

Pressure Process Any process of treating wood in a closed container whereby the preservative or fire retardant is forced into the wood under pressures greater than 1 atmosphere (101 kPa). Pressure is generally preceded or followed by vacuum, as in the vacuum-pressure and empty-cell processes; or the applications of pressure and vacuum may alternate, as in the full-cell and alternating processes.

Primer That coat of material that is applied directly over the uncoated surface.

Program A high-achievement or top level wood technology program.

Projected Yield The amount of yield that is predicted and is usually based on research and statistical data.

Psychrometer An instrument with both wet-bulb and dry-bulb thermometers for determining the amount of water vapor in the atmosphere.

Pyrolysis Chemical decomposition of wood by the action of heat; that is, burning of wood.

Radial Coincident with a radius from the axis of the tree or log to the circumference. A radial section is a lengthwise section in a plane that passes through the center line of the tree stem.

Rafter One of a series of parallel structural members of a roof designed to support roof loads. The rafters of a flat roof are sometimes called roof joists.

Raised Grain A roughened condition of the surface of dressed lumber in which the hard latewood is raised above the softer earlywood but not torn loose from it.

Rate of Recovery The rate at which something is recovered in a unit of time.

Rat Tailing A defect in a dried film caused by a bubble or a small piece of dirt, flowing downward on a vertical surface in such a way as to leave a thinner film of finishing material above it, due to the material having lost its flowing power, and somewhat resembling a rat tail.

Rays, wood Ribbon like strands of tissue extending radially within a tree and varying in height from a few cells in some species to several centimeters in oak. The rays serve primarily to store food and transport it horizontally through the tree.

Reaction Wood Wood with abnormal structure and properties formed in parts of leaning or crooked stems and in branches. In hardwoods it is called `tension wood'; in softwoods, `compression wood.'

Recorder-controller An instrument that continuously records dry- and wet-bulb temperatures of circulated air and regulators these temperatures in a dryer or kiln by activating automatic heat and steam spray valves.

Relative Density Formerly called specific gravity. As applied to wood, the ratio of the oven-dry weight of a sample to the weight of a volume of water equal to the volume of the sample at a specified moisture content (green, air-dry, or oven-dry).

Relative Humidity Ratio of the amount of water vapor present in the air to the amount that the air would hold at saturation at the same temperature. It is usually considered on the basis of the weight of the vapor but, for accuracy, should be considered on the basis of vapor pressures.

Relaxation Reduction of stress with time on a wood member maintained under constant deflection.

Residuals Wood by-products of the primary peeling process; includes pulp chips, hog fuel, and peeler cores.

Resaw A sawing machine used to break down cants into lumber, for recovering lumber from slabs, and for upgrading lumber by ripping off defective portions.

Resin A comprehensive term for secretions of certain trees, or of insects feeding on them, that are oxidation or polymerization products of the terpenes, consisting of mixtures of aromatic acids and esters insoluble in water but soluble in ether, alcohol, and other organic solvents. These secretions often exude from wounds and are obtained commercially by tapping or by extraction with solvents. The term is also applied to synthetic organic products related to the natural resins.

Resin Ducts Intercellular canals or passages that contain and transmit resinous materials. They may extend vertically parallel to the axis of the tree or at right angles to the axis and parallel to the rays.

Resistivity The resistance of a cubic centimetre of material, such as wood, to the direct-current flow of electricity between opposite faces.

Ribbon Stripe A form of figure produced on the surface of wood because of the presence of interlocked grain.

Rift Crack. See heart check.

Rift Sliced, Rift Sawn Also termed “comb-grain”. Refers to method of producing veneer by slicing or sawing at an angle of approximately 45 degrees with the annual rings to bring out certain figures produced by the medullary rays, which are especially conspicuous in oak.

Rigid Frame A rib type of construction, formed from lumber joined at the crown and haunches by plywood gussets, that is easily fabricated and erected on site.

Ring-porous Used in referring to a group of hardwoods in which the annual growth layers consist of a more or less continuous zone of large earlywood pores that changes relatively abruptly to a denser latewood zone having smaller pores and an abundance of fibrous tissue (e. g., oak and ash).

Ring Shake A separation along the grain that occurs most commonly between adjoining annual layers. See also shake.

Rip Saw A saw that cuts along the lengthwise edge of lumber.

Ripping Cutting lengthwise, parallel to the grain.

Roller Bar A rotating round bar mounted parallel with the tip of the lathe knife; designed to compress the veneer block into the cutting edge of the lathe knife.

Rotary-cut Veneer Veneer cut in a lathe that rotates a log or bolt against a knife set in such a manner as to peel off a continuous thin sheet. Also, a method of cutting veneers from a log. The log is steamed in a vat to soften the wood, the bark is removed and the whole log is mounted in a large lathe and turned against a long, sharp knife. As the log revolves the veneer is peeled off in long sheets. It also refers to manner of cutting veneer by which the entire log is centered in a lathe and turned against a broad cutting knife, which is set into the log at a slight angle.

Rough Lumber Lumber that has been sawn, edged, and trimmed but not dressed (planed).

Sap Fluid contents of the living wood cells.

Sap Stain See stain.

Sapwood The wood located near the outside of the tree stem containing the tissues actively involved in the transport of sap. It is generally lighter in color than heartwood and has lower natural resistance to decay.

Sash A frame structure, normally glazed (e. g., a window), that is hung or fixed in a frame set in an opening.

Sash Gang saw A sash or frame holding a battery of parallel saws that move up and down on the end of a connecting rod attached to a heavy crank- shaft.

Sawing Around Breaking down a log by turning it on the carriage of a headsaw to obtain the best yield of lumber from the clear outer portion of the log.

Sawn Veneer Veneer produced by sawing.

Sawyer A person whose work is sawing timber.

Scaler A person who scales or measures the volume of timber or lumber.

Scarf Joint An end joint formed by joining with glue the ends of two pieces that have been tapered or beveled, usually to a feather edge, to form a slope of the same length and inclination in both pieces.

Scrag Saw Two or more pairs of saws, one pair to a drive shaft, or two or more pairs of saws, each saw on an individual drive shaft, all sawing different lines. Saws may be fixed or adjustable to different settings.

Sealers Undercoating materials for sealing a surface in preparation for painting, varnishing, or application of final finish.

Seasoning See drying.

Second Growth Trees that replace the original virgin stand of timber.

Semichemical Pulp Pulp obtained by mild treatment of wood chips by any of the chemical pulping processes, which remove only part of the lignin from the wood chips, followed by mechanical treatment to complete the separation of individual cellulose fibers.

Set A permanent or semipermanent deformation in wood caused by internal stresses.

Setworks The mechanism on an edger, on a log carriage, or on twin and quad bandsaws for regulating the thickness of the wood being cut.

Shake A rupture or separation along the grain. The term is most commonly applied to `ring shakes,' which develop tangentially either within a given annual layer or at the boundary between two layers.

Shakes In construction, a type of shingle usually hand cleft from a bolt and used for roofing or weatherboarding.

Shear The displacement of woody tissues following fracture as a result of shearing stresses which cause the fibers to slide relative to one another.

- **Shear, longitudinal** Shearing stress that tends to cause the fibers to slide over each other lengthwise.

Shear Strength The capacity of a body to resist shearing stresses.

Sheathing The structural covering, usually of boards, building fiberboards, waferboard, or plywood, placed over exterior studding or rafters of a structure.

Shim Stock Thin strips of wood used to level off irregularities under a hardwood floor.

Shingles Thin, rectangular pieces of wood, sawn along the grain and tapering in thickness, used like tiles for roofing and weatherboarding.

Shrinkage Contraction caused by drying wood below the fiber saturation point; it is greater in the wide face of flat-grain than in edge-grain lumber, and minimal in the longitudinal direction.

Siding (cladding) The finish covering of the outside wall of a frame building, whether made of horizontal weatherboards, vertical boards with battens, shingles, or other material.

Sinker A log which sinks in water.

Sinker Stock Green lumber or other green sawmill products that will not float in water. Sinker stock may be sawn from sinker logs that were water-logged during ponding or from freshly cut logs containing wetwood. The green moisture content is abnormally high, and the lumber tends to dry slowly and is prone to develop checks and honeycomb.

Slab The exterior portion of a log removed in sawing lumber.

Sliced Veneer Veneer that is sliced off a log, bolt, or flitch with a knife.

Soft Rot A special type of decay developing under very wet conditions in the outer wood layers, caused by certain fungi that destroy the cellulose in the secondary cell walls; as a result the wood becomes soft. The decayed wood is similar in appearance to brown rot.

Softwoods Generally, one of the botanical groups of trees that in most cases have needlelike or scalelike leaves (the conifers); also the wood produced by such trees. The wood does not contain pores. The term has no reference to the actual hardness of the wood.

Sorter

- **Drop** – A mechanical lumber-sorting device that sorts lumber for thickness, width, and length by dropping them into separate compartments accordingly.
- **Edge** – A mechanical lumber-sorting device consisting of grooves or slots in which the lumber is placed on edge. Lines of live rolls, arranged under the slots, carry the lumber to the desired bin or compartment.
- **Tray** – A mechanical lumber-sorting device consisting of a series of trays one above the other into which the lumber is ejected by either mechanical or electrical signaling devices.

Spalt The pie-shaped portion of a shingle bolt that remains after processing.

Specific Gravity See relative density.

Specific Heat The heat in joules required to raise the temperature of one gram of wood 1°c.

Spike Grid A type of wood connector with teeth projecting from both surfaces that cut into the wood members as they are drawn together.

Spike Knot See knots.

Spiral Grain Wood in which the fibers take a spiral course about the stem of a tree. The spiral may extend toward the right or left around the tree stem. Spiral grain is a form of cross grain.

Splints Trim from the edges of shingles and shakes.

Splits Separations along the grain extending through a piece. Commonly caused by stresses set up in the wood during drying.

Sporophore The fruiting body of a fungus; a conk.

Spray Booth A booth or area where finishing sprays such as primers, sealers or other finishes are applied so as to contain the sprays.

Spray Line A plain pipe of varying sizes and lengths that is drilled with holes of various sizes and spacing through which steam is injected into the kiln.

Springwood See earlywood.

Square Edge Free from wane and without eased edges.

Stain A discoloration in wood that may be caused by such diverse agents as microorganisms, sunlight, metals, chemicals, and chemical interaction The term also applies to materials used to impart color to wood.

- **Blue Stain** A bluish or grayish discoloration of the sapwood caused by the growth of certain dark-colored fungi on the surface and in the interior of the wood. Blue stain is made possible by the same conditions that favor the growth of other fungi.
- **Brown Stain** A dark brown discoloration of the sapwood of some pine logs that occurs during storage. Sometimes called `coffee-brown stain,' it is caused by a fungus.
- **Chemical Brown Stain** A brownish discoloration that may occur during the seasoning of certain softwoods, apparently caused by the concentration and oxidation of extractive chemicals.
- **Hemlock Brown Stain** See chemical brown stain.
- **Mineral Stain** An olive to greenish-black or brown discoloration of undetermined cause in hardwoods.
- **Sap stain** See blue stain.

Spray Booth A booth or area where finishing sprays such as primers, sealers or other finishes are applied so as to contain the sprays.

Stacker A person who stacks or piles materials.

Sticker Stain A brown or blue stain that develops on lumber during seasoning where the stickers contact the boards.

Star Shake A number of heart shakes more or less in the form of a star.

Stem The principal axis of a tree, capable of producing sawlogs, veneer logs, large poles, or pulpwood.

Stickers Narrow wood strips used to separate the layers of lumber in a pile and thus improve air circulation.

Straight Grain Wood in which the fibers are aligned parallel to the axis of the piece.

Strandwood A board made of long, narrow slices of softwood (mostly poplar) bonded together in one direction in the horizontal plane, forming the middle layer, or core, in composite plywood.

Strength The limit of ability of a member to sustain stress. Also, in a specific mode of test, the maximum stress sustained by a member loaded to failure.

Strength Ratio The hypothetical ratio of the strength of a structural member to that which it would have if it contained no strength-reducing characteristics (knots, cross grain, shake, etc.).

Stress Grades Lumber grades having assigned working stress and modules of elasticity values in accordance with accepted principles of strength grading.

Stress, working See allowable unit stress.

Structural Timbers Pieces of wood of relatively large size, the strength of which is the controlling element in their selection and use. Examples are trestle timbers (caps, posts, sills, bracing, bridge ties, guardrails); car timbers (car framing, including upper framing; car sills); framing for building (posts, sills, girders); ship timber (ship timbers, ship decking); and cross-arms for poles. See also timbers.

Stud One of a series of slender wood structural members used as supporting elements in walls and partitions.

Stump Figure Figure produced by irregular grain in wood from the stump or base of a tree.

Subfloor Boards or panel products used over floor joists as a working platform. See also underlayment.

Summerwood See latewood.

Tall Oil An oily material liberated from soap skimmings from sulfate pulping liquor. Used chiefly in the paint and lacquer industry.

Tangential Strictly, coincident with a tangent at the circumference of a tree or log, or parallel to such a tangent. In practice, however, it often means roughly coincident with an annual layer. A tangential section is a longitudinal section through a tree or limb perpendicular to a radius. Flatgrain lumber is sawn tangentially.

Tenoner Check definition that I already supplied. A production machine used.

Tension Wood Reaction wood formed on the upper side of branches and inclined stems of hardwood trees. Tension wood is characterized anatomically by lack of cell-wall lignification and often by the presence of gelatinous fibers. It has excessive longitudinal shrinkage, and sawn surfaces usually have projecting fibers. Planed surfaces often are torn or have raised grain.

Texture Refers to the size of the cellular components of wood; may also describe their relative uniformity in size. See also grain.

Thermal Conductivity A measure of the rate of heat flow through a material subjected to a temperature gradient, or the number of watts passing between the faces of a piece of wood 1 m2 in area and 1 mm thick per I°c temperature difference between the faces.

Thermal Diffusivity The ratio of the thermal conductivity to the product of density and specific heat. A measure of how quickly a material can absorb heat from its surroundings.

Thinboard A particleboard made in thickness up to 6 mm (l in.) on a continuous rotary drum press. Differs from particleboard only by the pressing technique used in its manufacture.

Timbers, rectangular Wood products (beams) 114 m (~ in.) thick or more with the width more than 38 mm (2 in.) greater than the thickness.

Timbers, square Wood products (posts and timbers) 114 mm X 114 mm (5 in. x ~ in.) and larger with the width not more than 38 mm (z in.) greater than the thickness.

Torus Central thickened portion of a pit membrane of bordered pits.

Tracheid An elongated cell with bordered pits and imperforate ends. Tracheids constitute the principal part of the cellular structure of softwoods. Tracheids are frequently referred to as fibers and are present in many hardwoods.

Transverse Direction in wood perpendicular to that of the fibers. A transverse section is one that is cut across the grain at right angles to the fiber direction.

Trimmer A battery of adjustable saws for trimming lumber to specific lengths or for removing defects.

Trimmerman A person who operates the trimmer saws or who trims lumber.

Truss An assembly of members, such as beams, bars, and rods, combined to form a rigid framework. All members are interconnected to form triangles of tension and compression members.

Truss Plates Steel plates in which nail-like teeth have been punched. Applied by a press, they combine the function of a gusset and of nails.

Twin and Quad Bandsaws A twin bandsaw is an adjustable, double bandsaw headrig making two cuts simultaneously. A quad bandsaw makes four cuts simultaneously.

Twist Distortion caused by the turning or winding of the edges of a board so that the four corners of any face are no longer in the same plane.

Tyloses Ingrowths of parenchyma cells into the lumen of a vessel (or sometimes a fiber) occurring generally in the heartwood of certain hardwoods.

Tylosoids Structures in resin ducts resembling tyloses in hardwoods.

Undercure Incomplete cure of a chemical-setting adhesive, producing bonds of low strength.

Underlayment A panel product used to provide an appropriate surface for a finished floor (tile, carpet, hardwood). It may also include the complete subfloor.

Vapor Pressure Gradient A gradation in water vapor pressure established between the interior of wood and its surface during drying.

Variance Analysis An arithmetic device for partitioning the total variation in a set of data according to the various sources of variation that are present.

Vent In kiln drying, an opening in the kiln roof or wall that can be opened and closed to control the wet-bulb temperature within the kiln.

Veneer A thin layer or sheet of wood. See also rotary-cut, sawn, and sliced veneer.

Vertical grain See edge grain.

Vessels Tubelike structures in porous woods (hardwoods only) made up of longitudinal series of relatively short, large-diameter cells having more or less open ends. Open vessels exposed on the surfaces of a piece of wood are known as pores.

Visual Lumber Grades Assessment of lumber grades by the eye of a grader.

Xylem The wood portion of the tree stem, branches, and roots. It lies between the pith and the cambium.