

Section V

Glossary of Wood Flooring Terms

Abrasion Resistance: That property of a surface that resists being worn away by a rubbing or friction process. Abrasion resistance isn't necessarily related to hardness, as believed by some, but is more closely comparable to, or can be correlated with, toughness.

Acclimation: The act of allowing wood moisture content to become at equilibrium with the environment in which it will perform. See Equilibrium Moisture Content (EMC).

Acid: Chemical substance rated below 7 on the PH scale.

Air-Dried: Dried by exposure to air in a yard or shed without artificial heat. Not kiln dried.

Alkalinity: A measurement of an alkaline rating about 7 on the PH scale.

Annual Growth Ring: The layer of wood growth formed on a tree during a single growing season.

Asphalt Saturated Felt Paper: A #15 asphalt felt paper that meets ASTM Standard D4869 or asphalt laminated paper that meets federal specification UU-B-790a Grade B, Type I, Style 1a, or asphalt saturated paper that meets federal specification UU-B-790a, Grade D, Type I, Style 2. Commonly used as a vapor retarder.

American Society for Testing and Materials (ASTM): Develops and publishes voluntary technical standards for a wide range of materials, products, systems, and services. ASTM uses a consensus process involving technical committees that draw their members from around the world. ASTM International has no role in requiring or enforcing compliance with its standards, but in many instances, its standards have been adopted by rules-making industry and governmental bodies.

ASTM D4944-043 (modified): Calcium Carbide (CM) Test.

ASTM F1869: Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

ASTM F2170: Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In Situ Probes.

Base Shoe: A molding designed to be attached to baseboard molding to cover expansion space. It is the alternative to a quarter-round in profile.

Bastard Sawn: See Rift Sawn.

Beveled Edge: The chamfered or rounded edge of wood flooring, plank, block and parquet. An edge of a structure that is not perpendicular to the face of the piece.

Board Foot: A unit of measurement of lumber represented by a board 1 foot long, 12 inches wide and 1 inch thick or its cubic equivalent. In practice, the board foot calculation for lumber 1 inch or more in thickness is based on its nominal thickness and width and the actual length. Lumber with a nominal thickness of less than 1 inch is calculated as 1 inch.

Borders: Simple or intricate designs that frame and customize a flooring installation.

Bow: The distortion of lumber in which there is a deviation, in a direction perpendicular to the flat face, from a straight line from end to end of the piece.

Burl: A swirl or twist of the grain of the wood that usually occurs near a knot, but doesn't contain a knot, commonly found in the stump of a tree and where limbs branch out from the tree.

Chatter Marks: Slight, closely spaced indentations causing a ripple effect on the surface of a wood floor.

Check: A lengthwise separation of the wood that usually extends across the rings of annual growth.

Checking (finish): Similar to alligatoring (see NWFA Technical Publication No. C200, Problems, Causes and Cures), except that the finish is broken into smaller segments. Crowfoot checking is the name given to the defect when the breaks in the film form a definite three-prong pattern with the breaks running outward from a central point of intersection. When the checks are generally arranged in parallel lines, the defect is known as line checking. Irregular checks without a definite pattern are known as irregular checking.

Chemical Fastener: A chemical system, usually an adhesive that is designed to permanently bond the wood flooring to the subfloor.

Cleat: A barbed fastener commonly used as a mechanical device to fasten hardwood flooring.

Color Change: Visual changes in the color of the wood species caused by exposure to light, deprivation of light and air, or some chemical reaction.

Compression Set: Caused when wood strips or parquet slats absorb excess moisture and expand so much that the cells along the edges of adjoining pieces in the floor are crushed. This causes them to lose resiliency and creates cracks when the floor returns to its normal moisture content.

Coniferous: See Softwoods.

Crook: The distortion of a board in which there is a deviation, in a direction perpendicular to the edge, from a straight line from end to end of the piece.

Cross Directed: Laying of material perpendicular to the material below it.

Crowning: A convex or crowned condition or appearance of individual strips with the center of the strip higher than the edges. The opposite of cupping.

Cupping: A concave or dished appearance of individual strips with the edges raised above the center. The opposite of crowning.

Deciduous: See Hardwood.

Deformed Fasteners: Fastener in which the sides are not smooth and the head shape may be irregular. Examples are ring-shank and screw-shank nails.

Delamination: The separation of layers in an engineered wood floor, through failure within the adhesive or between plies. Also between layers of stain and/or coating.

Diffuse-Porous Woods: Certain hardwoods in which the pores tend to be uniform in size and distribution throughout each annual ring or to decrease in size slightly and gradually toward the outer border of the annual growth ring. Hard maple is an example.

Dimensional Stability: The ability to maintain the original intended dimensions when influenced by a foreign substance. Wood is hygroscopic (readily takes up moisture) and isn't dimensionally stable with changes in moisture content below the fiber saturation point. Engineered wood flooring, however, is more dimensionally stable than solid wood.

Distressed: A heavy artificial texture in which the floor has been scraped, scratched or gouged to give it a time-worn antique look.

Drywall: Interior covering material (such as gypsum board, hardboard or plywood) that is applied in large sheets or panels.

Durability: The ability of the wood species or finish to withstand the conditions or destructive agents with which it comes in contact in actual usage, without an appreciable change in appearance or other important properties.

Eased Edge: See Beveled Edge.

End Joint: The place where two pieces of flooring are joined together end to end.

End Lifting: A swelling of the top layer of engineered wood flooring, occurring at an end joint.

End-Matched: In tongue-and-groove strip and plank flooring, the individual pieces have a tongue milled on one end and a groove milled on the opposite end, so that when the individual strips or planks are butted together, the tongue of one piece fits into the groove of the next piece. See Side-Matched and Tongue-and-Groove.

Engineered: An assembly made by bonding layers of veneer or lumber with an adhesive so that most adjacent layers have their grains going in perpendicular directions to increase dimensional stability.

Equilibrium Moisture Content (EMC): The moisture content at which wood neither gains nor loses moisture when surrounded by air at a given relative humidity and temperature.

Fading: The loss of color due to exposure to light, heat or other destructive agents.

Fastener: A method or device used to attach wood flooring to a subfloor. See Mechanical Fastener or Chemical Fastener.

Feature Strip: A strip of wood used at a threshold or to border a room or to otherwise serve as an accent. Usually of a contrasting color or species.

Fiber Saturation Point: The stage in drying or wetting wood at which the cell walls are saturated with water and the cell cavities are free from water. It's usually taken as approximately 30 percent moisture content, based on over-dry weight.

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, resistance to moisture, fire or decay, or to improve some other property.

Figure: Inherent markings, designs or configurations on the surface of the wood produced by the annual growth rings, rays, knots and deviations from regular grain.

Filler: In woodworking, any substance used to fill the holes and irregularities in planed or sanded surfaces to decrease the porosity of the surface before applying finish coatings. Wood filler used for cracks, knotholes and worm holes is often a commercial putty, plastic wood or other material mixed to the consistency of putty. A wood filler also may be mixed on the job using sanding dust from the final sanding, or other suitable material, mixed with a product appropriate for this use.

Fillets: The small components that comprise finger-block parquet. Also called fingers or slats. Fillet may also refer to the top layer of some engineered wood flooring.

Finger-Block: Parquet made from small strips of wood assembled together. See Fillets.

Fingers: See Fillets.

Fire Resistance: The property of a material or assembly to withstand fire or given protection from it. Certain species naturally provide greater fire resistance than others. Classes are I-II-III or A-B-C with Class I or A being the most fire resistant.

Fire Retardant: A chemical or preparation of chemicals used to reduce flammability or to retard the spread of a fire over a surface.

Flag: A heavy dark mineral streak shaped like a banner.

Flag Worm Hole: One or more worm holes surrounded by a mineral streak.

Flame Spread: The propagation of a flame away from the source of ignition across the surface of a liquid or solid, or through the volume of a gaseous mixture. Note: Most wood species are Class C Flame Spread unless the wood floor has been treated and marked as to flame spread.

Flecks: The wide irregular, conspicuous figure in quartersawn oak flooring. See Medullary Rays.

Floating Floor: A floor that does not need to be nailed or glued to the subfloor. Typically, the flooring panels are connected together by adhesive or mechanical connectors.

Flow: The characteristic of a coating that allows it to level or spread into a smooth film of uniform thickness before hardening.

Graininess: The objectionable appearance of small, grain-like particles in a finishing material or in the dried film thereof.

Hardened Steel Pin: Specialty fasteners designed to penetrate and hold concrete, steel and other substrates. Steel pins are typically installed with powder, pneumatic or gas-powered tools.

Hardness: That property of the wood species or dried film of finishing material that causes it to withstand denting or being marked when pressure is exerted on its surface by an outside object or force.

Hardwood: Generally, one of the botanical groups of deciduous trees that have broad leaves, in contrast to the conifers or softwoods. The term has no reference to the actual hardness of the wood.

Heartwood: The wood extending from the pith to the sapwood, the cells of which no longer participate in the life processes of a tree. It is usually darker than sapwood. See Pith and Sapwood.

Heavy Streaks: Spots and streaks of sufficient size and density to severely mar the appearance of wood.

Honeycombing: Checks often not visible at the surface that occur in the interior of a piece of wood, usually along the wood rays.

Humidity: The amount of water vapor in the air. See Relative Humidity.

Hygrometer: An instrument for measuring the degree of humidity or relative humidity of the atmosphere.

Hygroscopic: A substance that can absorb and retain moisture, or lose or throw off moisture. Wood and wood products are hygroscopic. They expand with absorption of moisture and their dimensions become smaller when moisture is lost or thrown off.

International Building Code (IBC): A model building code developed by the International Code Council (ICC) adopted throughout most of the United States.

In Situ: A Latin term that means “in place” or “on site,” the term applies to testing done on site, or on materials in their original location, as opposed to testing done in a laboratory. Some sound control testing is done in the field or “in situ,” and moisture testing of concrete slabs is often done using “in situ” probes.

Intensity: The intensity of a color is its purity or degree of hue as seen by the eye.

Jointed Flooring: Strip flooring, generally birch, beech, hard maple or pecan, manufactured with square edges, not side-matched, but usually end-matched. It is used principally for factory floors where the square edges make replacement of strips easier.

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

Kiln (Often Pronounced “Kill”): A chamber having controlled air flow, temperature and relative humidity for drying lumber, veneer and other wood products.

Kiln-Dried: Dried in a kiln with the use of artificial heat.

Knot: The portion of a branch or limb that has been surrounded by subsequent growth of the stem. The shape of the knot as it appears on a cut surface depends on the angle of the cut relative to the long axis of the knot. In hardwood strip flooring, small and pin knots aren’t more than ½” in diameter. A sound knot is a knot cut approximately parallel to its long axis so that the exposed section is definitely elongated.

Manufacturing Defects: Includes all defects or blemishes that are produced in manufacturing, such as chipped grain, torn grain, skips in dressing, hit-and-miss (a series of surfaced areas with skips between them), variation in machining, machine burn, and mismatching.

Mechanic: A flooring installer, sander or finisher.

Mechanical Fastener: A mechanical device such as a cleat or staple or nail specifically designed for the purpose of installing wood flooring. The fastener is coated (staples) or serrated (nail/cleats) to increase the holding power. The fastener is used typically within the “pocket” of the tongue at the point that horizontal portion of the tongue becomes the vertical edge of the wear layer. Some specialty flooring use face nailing only while other specialty products may allow for positioning the fastener in the groove side.

Medullary Rays: Strips of cells extending radially within a tree and varying in height from a few cells in some species to four or more inches in oak. The rays serve primarily to store food and transport it horizontally in the tree. On quartersawn oak, the rays form a conspicuous figure sometimes referred to as flecks. See Flecks.

Mineral Spirits: A solvent product used as a thinner and/or cleaner.

Mineral Streak: Wood containing an accumulation of mineral matter introduced by sap flow, causing an unnatural color ranging from greenish brown to black.

Mixed Media: A wood floor that is made predominately of wood, but also incorporates other materials, such as slate, stone, ceramic, marble or metal.

Moisture Content: The amount of moisture in wood expressed as a percentage of the weight of oven-dried wood. NOFMA/NWFA hardwood flooring is manufactured at 6 to 9 percent moisture content, with a 5 percent allowance for pieces up to 12 percent moisture content. Five percent of the flooring may be outside of this range.

Muratic Acid: A diluted acid used to neutralize alkalinity of concrete subfloors.

Nailing Shoe (or Nailing Plate): An attachment to a blind-nailing machine that broadens the impact area. Often required for fastening factory-finished flooring.

Nominal Size: As applied to timber or lumber, the size by which it is known and sold in the market; often different from actual size.

Nosing: A hardwood molding used to cover the outside corner of a step, milled to meet the hardwood floor in the horizontal plane, to meet the riser in the vertical plane. It is usually used on landings.

Oriented Strand Board (OSB): commonly used as an underlayment or subfloor material. Strands tend to be oriented with their length aligned with the panel length (typically). OSB is therefore stiffer and stronger when installed with the long axis across supports.

Overwood/Underwood: A flooring condition in which there is a perceived misalignment of the flooring surface, with some wood pieces raised above adjacent pieces leaving a slightly uneven surface. Also called lippage.

Parquet: A patterned floor.

Particleboard: A generic term for a material manufactured from wood particles or other lignocellulosic material and a synthetic resin or other suitable binder. Flakeboard is a particle panel product composed of flakes. Oriented strand board is a type of particle panel product composed of strand-type flakes that are purposely aligned in directions that make a panel stronger, stiffer and with improved dimensional properties in the alignment directions than a panel of random flake orientation. Waferboard is a particle panel product made of wafer-type flakes. It is usually manufactured to possess equal properties in all directions parallel to the plane of the panel.

Photo-Sensitive: The property of some wood species that causes them to lighten or darken when exposed to light. See Color Change.

Pin-Worm Hole: In hardwood flooring, a small round hole not more than 1/16" (1.5626mm) in diameter, made by a small wood-boring insect.

Pith: The small, soft core occurring near the center of a tree trunk, branch, twig or log. First growth.

Plain Sawn: The annual growth rings make an angle of less than 45° with the surface of the piece. This exposes the pores of the springwood and dense summerwood of the annual growth ring in ring-porous woods to produce a pronounced grain pattern.

Planer Bite: A deeper than intended groove cut into the surface of a piece of wood by planer knives.

Plank: Solid or engineered boards 3" and wider designed to be installed in parallel rows.

Plugs: Used to cover countersunk screws when installing wood flooring or for decorative purposes in wood flooring.

Plywood: Board or panel made of cross-directional veneers and/or layers of wood for dimensional stability.

Prefinished: Factory-finished flooring that only requires installation.

Quartersawn: The annual growth rings of wood form an angle of 45° to 90° with the surface of the piece. In quartersawn strips, the medullary rays or pith rays in ring-porous woods are exposed as flecks that are reflective and produce a distinctive grain pattern.

Raised Grain: A roughened or fuzzy condition of the face of the flooring in which the dense summerwood is raised above the softer springwood but not torn or separated.

Rays, Wood: See Medullary Rays.

Reducer Strip: A teardrop-shaped molding accessory for hardwood flooring, normally used at doorways, but sometimes at fireplaces and as a room divider. It is grooved on one edge and tapered or feathered on the other edge.

Relative Humidity: 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 should be considered on the basis of vapor pressures.

Rift Sawn: Lumber (primarily hardwoods) in which the annual rings make angles of 30° to 60° with the surface of the piece. Also known as bastard sawn.

Ring-Porous Woods: A group of hardwoods in which the pores are comparatively large at the beginning of each annual growth ring and decrease in size, more or less abruptly, toward the outer portion of the annual growth ring. The large pores are springwood and the smaller pores are summerwood.

Ring Shank: Nail headed nail for underlayment installation with rings on the shaft (shank) to improve the holding characteristics.

Saddle: A flat molding with beveled or rounded edges designed to transition between two surfaces of the same height. Often used to cover expansion at doorways and typically attached to the surface of the flooring products.

Sapwood: The wood near the outside of a tree. It is usually lighter in color than heartwood.

Sawn: See Plain Sawn, Quartersawn and Rift Sawn.

Screed: A wood member laid perpendicular to the finished floor, providing a nailing surface. Usually a 2" x 4" (50mm x 100mm) piece of wood laid flat side down and attached to a concrete subfloor to provide a nailing surface for tongue-and-groove strip flooring or a wood subfloor.

Shake: A separation along the grain, the greater part of which occurs between the annual growth rings.

Sheathing: The structural covering, usually sheets of plywood, placed over exterior studding, or rafters or subfloor of a structure.

Side-Matched: In tongue-and-groove strip and plank flooring, the individual pieces have a tongue milled on one side and a groove milled on the opposite side, so that when the individual strips or planks are placed side by side, the tongue of one piece fits into the groove of the next piece. See End-Matched and Tongue-and Groove.

Slats: See Fillets.

Sleeper: Another name for screeds.

Slip-Tongue/Spline: A small strip of wood or metal used to reverse or change direction in installing standard tongue-and-groove strip flooring.

Softwoods: General term used to describe lumber produced from needle and/or cone-bearing trees (conifers).

Solid Board Group 1: A designation of a certain species based on density, strength and stiffness.

Split: Separations of wood fiber running parallel to the grain.

Square Edge: Flooring that abuts without a broken plane.

Squares: Parquet flooring units, usually composed of an equal number of slats.

Streaks: See Mineral Streak.

Strip Flooring: Solid or engineered boards, less than 3 inches in width, to be installed in parallel rows, produced in various thicknesses and widths. The strips are side-matched and end-matched (tongue-and-grooved). They are for nail-down installation directly to wood or plywood subfloors, or over wood screeds on concrete slab construction. Some types can also be glued directly to a concrete subfloor.

Surface: The outside or exterior boundary of any substance. One is said to surface the wood when it is rubbed or sanded to a smooth, level plane.

Surface-4-Sides (S4S): Flooring that isn't tongue-and-grooved. May also refer to square-edge strip flooring that is face-nailed when installed.

Tongue-and-Groove: In strip, plank and parquet flooring, a tongue is milled on one edge and a groove cut on the opposite edge. As the flooring is installed, the tongue of each strip or unit is engaged with the groove of the adjacent strip or unit. See End-Matched and Side-Matched.

Trim: The finish materials in a building at the floor of rooms (baseboard, base shoe, quarter round, for example).

Trowel Fill: Method to fill an entire floor or large area.

Truss: Engineered or solid floor joist system.

Unfinished: A product that must have stain and/or a finish applied after installation.

Vapor Impermeable Membrane: A material or covering having a permeance rating of .15 perms or less when tested in accordance with the desiccant method, Procedure A of ASTM E96. A vapor impermeable membrane limits the passage of moisture to near 0.

Vapor Permeable Membrane: A material or covering having a permeance rating of 5 perms or greater when tested in accordance with the desiccant method, Procedure A of ASTM E96. A vapor permeable membrane permits the passage of moisture.

Vapor Retarder: A vapor-resistant material, membrane or covering such as foil, plastic sheeting or covering having a permeance rating of 1 perm or less, when tested in accordance with the desiccant method, Procedure A of ASTM E96. Vapor retarders limit the amount of moisture vapor that passes through a material, or floor, wall or ceiling assembly.

Warping: Any distortion of a piece of flooring from its true plane that may occur in seasoning.

Working Pressure: The pneumatic pressure range specified in pounds per square inch (PSI) to optimally run an air tool. (See tool manufacturer's guidelines.) Note that these air pressures should be metered at the tool.