

Free water—Liquid water and water vapor in the cell cavities of wood.

Hygroscopic—A material that exhibits such a strong attraction to water it is impossible to prevent moisture gain. Dry wood is hygroscopic.

Juvenile wood—Wood formed during the first years of tree growth and extending out several rings from the pith. It is related to the age of the cambium layer and not to a certain area of the cross section of the tree. Juvenile wood exhibits more longitudinal shrinkage than mature wood. This natural flexibility allows a young stem to bend rather than to be rigid and possibly break.

Lumen—Cavity of a wood cell where free water is held.

Microfibril—A bundle of cellulose chains joined into a lattice-like structure. It is the smallest natural unit of cell wall structure distinguishable with an electron microscope.

Moisture content (of wood)—The weight of the moisture in wood, usually expressed as a percentage of its oven-dry weight.

Oven dry—See bone dry, above.

Photosynthesis—Manufacture of simple sugars by green plant cells using solar energy. The sugars are formed from carbon dioxide and water. Oxygen is a by-product.

Relative humidity—The ratio of the amount of moisture in the air to the maximum amount of moisture it could hold at that temperature.

Reaction wood—Wood formed in leaning trees. In softwoods, it forms under the lean and is called compression wood. In hardwoods, it forms above the lean and is called tension wood. Reaction wood is formed by the tree to upright itself.

Twist—A form of warp. Twist describes a lengthwise “twisting” of a board in which one corner twists out of the plane of the other three.

Warp—Distortion in lumber and other wood products causing departure from its original plane. Common forms of warp are bow, crook, cup, and twist.