



USDA Forest Service
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Wood Technical Fact Sheet

Ochroma pyramidale

syn. O. lagopus

Balsa

Family: Bombacaceae

Other Common Names: Balsa (Central and South America in general), Corcho (Mexico), Gatillo (Nicaragua), Enea, Pung (Costa Rica), Lana (Panama), Pau de balsa (Brazil), Palo de balsa (Peru), Tami (Bolivia).

Distribution: Widely distributed in tropical America; throughout the West Indies, and from southern Mexico, through Central America and into Venezuela, Colombia, Brazil, Ecuador, Peru, and Bolivia. Usually found at lower elevations especially on bottom land soils along streams; also in clearings and cutover forests. Cultivated in plantations.

The Tree: Native trees are 60 to 90 ft high and 2.5 to 4 ft in diameter. On the best sites may reach a height of 80 ft and a diameter of 2.5 ft in 5 years. Slight buttresses develop in the larger trees.

The Wood:

General Characteristics: Heartwood pale brown or reddish; sapwood (comprising most of the commercial timber) nearly white or oatmeal colored often with a yellowish or pinkish hue. Texture medium to coarse; grain generally straight; luster mostly rather high; velvety feel; without distinctive odor or taste.

Weight: Basic specific gravity (ovendry weight/green volume) varies greatly, commercial balsa usually between 0.10 to 0.17. Air-dry density about 8 to 14 pcf, averaging in the trade 10 pcf.

Mechanical Properties: (First set of data based on the 2-cm standard; second and third sets on the 2-in. standard.)

Moisture content Bending strength Modulus of elasticity Maximum crushing strength

(%) (Psi) (1,000 psi) (Psi)

12% (22) 3,300 460 2,250

12% (76) 2,120 425 1,300

12% (70) 2,800 550 1,700

Janka side hardness 75 to 100 lb at 12% moisture content.

Drying and Shrinkage: Kiln-drying of converted stock preferable to air-drying to minimize splitting and warping. Kiln schedule T10-D4S is suggested for 4/4 stock and T8-D3S for 8/4. Shrinkage green to oven-dry for 17 pcf air-dry material grown in Puerto Rico: radial 3.0%; tangential 7.6%; volumetric 10.8%. Movement is reported to be small.

Working Properties: The wood is very easy to work with sharp, thin-edged power or hand tools. Dull or thick-edged cutters tend to give a woolly finish in planing. The wood is too soft to hold nails and screws but glues satisfactorily.

Durability: The wood is perishable; vulnerable to dry-wood termite attack; logs and green lumber are readily attacked by pinhole borers. Prone to blue stain if not converted rapidly.

Preservation: Heartwood is resistant to preservative treatments; sapwood is permeable.

Uses: Insulation for heat, vibration, and sound; rafts, life belts, floats, core stock in sandwich constructions, surgical splints, toys, and model airplanes.

Additional Reading: (22), (46), (70), (76)