

# Massaranduba Specifications

**Distribution:** Widely distributed throughout the West Indies, Central America, and northern South America; occurs in many forest types and not exacting as to soil or topography. Locally frequent.

**The Tree:** Well-formed tree reaching heights of 100 to 150 feet and diameters of 2 to 4 feet, occasionally up to 6 feet or more. Boles straight and clear to 60 feet, then basally swollen.

**General Characteristics:** Heartwood light to dark reddish brown, distinct but not sharply demarcated from the whitish or pale brown sapwood. Texture fine and uniform; luster low to medium; grain straight to occasionally slightly wavy or interlocked; without distinctive odor or taste.

**Weight:** Basic specific gravity (ovendry weight/green volume) .85; air-dry density 66 pcf.

**Mechanical Properties:** First and third sets of data based on the 2-in. standard; second on the 1-in. standard.

Moisture Content (%)	Bending Strength (PSI)	Modulus of Elasticity (1000 PSI)	Maximum Crushing Strength (PSI)
Green (73)	17,310	2,700	8,690
12%	27,280	3,450	11,640
12% (24)	29,200	3,520	13,300
12% (20)	32,600	N/A	15,200

Janka side hardness is 2,230 lb. for green material and 3,190 lb. at 12% moisture content. Forest Products Laboratory toughness average for green and dry material is 265 in.-lb. (5/8-in. specimen).

**Drying and Shrinkage:** Balata or Bulletwood is generally reported to be difficult wood to air-season, tending to develop severe checking and warp. However, if piled to assure a slow rate of drying, degrade can be kept to a minimum. A kiln schedule similar to T1-B1 has been suggested. Shrinkage green to ovendry: radial 6.3%; tangential 9.4%; volumetric 16.9%.

**Working Properties:** The wood is moderately easy to work despite its high density, rated good to excellent in all operations. Gluing requires special care to acquire good bond. Steam-bending properties are rated excellent.

**Durability:** Very resistant to attack by decay fungi; highly resistant to subterranean termites and moderately resistant to dry-wood termites. Not resistant to marine borer attack.

**Preservation:** Has high resistance to absorption of moisture and is also highly resistant to preservation treatments.

**Uses:** Decking, siding, heavy construction, textile and pulp mill equipment, furniture parts, turnery, tool handles, flooring, boat frames and other bent work, railway cross-ties, violin bows, billiard cues, and other specialty uses. Also well known for its yield of Balata or gutta-percha collected from tapped trees.