BulletWood

Scientific Name: Manilkara bidentata

Family: Sapotaceae

Other Names: Chicozapote (Mexico), Ausubo (Puerto Rico, Dominican Republic), Nispero (Panama), Beefwood, Bulletwood (Guyana), Bolletri (Suriname), Balata rouge (French Guiana), Macaranduba (Brazil).

The Tree:

Reaches heights of 100-150 feet and diameters of 2-4 feet, occasionally up to 6 feet or more. Boles are straight and clear to 60 feet often basally swollen.

The Wood

General Characteristics: The heartwood is light to dark reddish brown, which is distinct but not sharply demarcated from the whitish or pale sapwood. Texture is fine and uniform with a low to medium luster. Grain is straight to occasionally slightly wavy or interlocked without a distinctive odour or smell.

Weight: Basic specific gravity (oven dry weight/ green volume) 0.85; air-dry density 66 pcf.

Drying and Shrinkage: Generally reported to be a difficult wood to air season and tends to develop severe warp and checking. However, the wood can be piled to acquire a slow rate of drying and degrade can be kept to a minimum. 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 on all operations. Gluing requires special care in order to acquire a good bond. Steam banding properties are rated excellent.

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)	Modules of Elasticity (1000 psi)	Maximum Crushing Strength (psi)
Green (75)	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 2230 lb for green material and 3190 lb at 12% moisture content. Forest Products Laboratory toughness average for green and dry material is 265 in-lb (5/8-in specimen).

Durability: Highly resistant to attack by decay fungi, sub-terrain termites and moderately resistant to dry wood termites. However, it is not resistant to marine borer attacks.

Distribution: Widely distributed throughout the West Indies, Central America, and northern South America; occurs in many forest types and doesn't occur in any exact soil or topography. Locally frequent.

Uses: Heavy construction, textile and pulp mill equipment, furniture parts, turnery, tool handles, flooring, boat frames and other bent work, railway crossties, violin bows, billiard cues and other speciality uses. Also, well known for its yield of balata or gutta-percha collected from tapped trees.

References

- Chundnoff, Martin (1984), "**Tropical Timbers of the World**." USDA Forest Service Ag. Handbook No.607.