



Swietenia macrophylla

Family : Meliaceae

Honduras Mahogany

Caoba

Other Common Names: Caoba (throughout Latin America), Acajou (French-speaking areas).

Distribution: Southern Mexico southward to Colombia, Venezuela, and parts of the upper Amazon and its tributaries in Peru, Bolivia, and Brazil. Plantations have been established within its natural range and elsewhere.

The Tree: Sometimes 150 ft in height and 6 ft and more in diameter above the heavy buttresses; boles are clear from 60 to 80 ft.

The Wood:

General Characteristics: Heartwood reddish, pinkish, salmon colored, or yellowish when fresh; deepening with age to deep rich red or brown; distinct from the yellowish or whitish sapwood. Luster high and golden; texture rather fine to coarse; grain straight to roey, wavy, or curly, often with an attractive figure; odor and taste not distinctive.

Weight: Basic specific gravity (ovendry weight/green volume) 0.40 to 0.68; air- dry density 30 to 52 pcf.

Mechanical Properties: (First two sets of data based on the 2-in. standard, the third on the 2-cm standard.)

| Moisture content (%) | Bending strength (Psi) | Modulus of elasticity (1,000 psi) | Maximum crushing strength (Psi) |
|-------------------------|---------------------------|--------------------------------------|------------------------------------|
| Green (73) | 8,960 | 1,280 | 4,340 |
| 12% | 11,590 | 1,420 | 6,470 |
| Green (73) | 8,960 | 1,340 | 4,340 |
| 12% | 11,460 | 1,500 | 6,780 |
| 12% (42) | 12,000 | 1,270 | 6,400 |

Janka side hardness 740 lb for green material and 800 lb for dry. Forest Products Laboratory toughness average for green and dry material 82 in.-lb (5/8-in. specimen).

Drying and Shrinkage: The wood can be air-seasoned and kiln-dried easily without appreciable warping or checking. Kiln schedule T6-D4 is suggested for 4/4 stock and T3-D3 for 8/4. Shrinkage green to oven-dry: radial 3.0%; tangential 4.1%; volumetric 7.8%. Movement after manufacture is rated as small.

Working Properties: Very easy to work with hand and machine tools, torn and chipped grain is common with figured material. Easy to finish and takes an excellent polish. Slices and rotary cuts into fine veneer.

Durability: Generally heartwood rates as durable in resistance to a brown-rot and a white-rot fungus. Moderately resistant to dry-wood termites and little resistance attack by marine borers.

Preservation: Both heartwood and sapwood are resistant to impregnation with preservatives.

Uses: Fine furniture and cabinet making, interior trim, paneling, fancy veneers, musical instruments, boat building, pattern making, turnery, and carving.

Additional Reading: (42), (46), (56), (73)

42. Lavers, G. M. 1969. The strength properties of timbers. For. Prod. Res. Bull. No. 50. H. M. Stationery Office. London.
46. Longwood, F. R. 1962. Present and potential commercial timbers of the Caribbean. Agriculture Handbook No. 207. U.S. Department of Agriculture.
56. Record, S. J., and R. W. Hess. 1949. Timbers of the new world. Yale University Press, New Haven, Conn.
73. Wangaard, F. F., A. Koehler, and A. F. Muschler. 1954. Properties and uses of tropical woods, IV. Tropical Woods No. 99:1-187.

From: *Chudnoff, Martin. 1984. Tropical Timbers of the World. USDA Forest Service. Ag. Handbook No. 607.*