

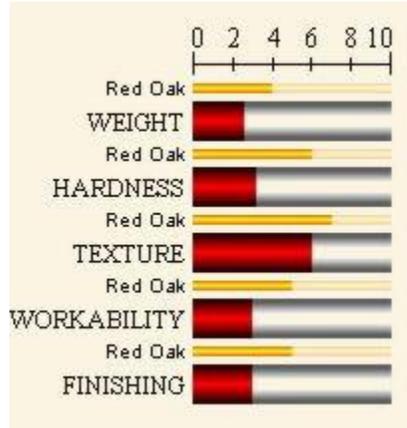
Mahogany Genuine

(Swietenia macrophylla)



Common Names:

Acajou, Acajou Amerique, Aguano, Belize mahogany, Big leafed mahogany, Bigleaf mahogany, Caguano, Cao, Caoba, Caoba de Atlantico, Caobilla, Chiculte, Cobano, Gateado, Honduras mahogany, Mahogany, Mara



Mechanical Values

Category	Green	Dry	Units
Weight	47	31	lbs/cu.ft.
Density (air-dry)		36	lbs/cu.ft.
Specific Gravity	0.54	0.59	
Hardness		801	lbs
Stiffness	1305	1426	1000 psi
Bending Strength	8844	11514	psi
Shearing Strength		1230	psi
Max. Crushing Strength	4425	6465	psi
Work to Maximum Load	9	8	in-lbs/in ³
Radial Shrinkage (G->OD)		3	%
Tangential Shrink. (G->OD)		5	%
Volumetric Shrink (G->OD)		8	%

Environmental Profile

While it is reported to be relatively secure in El Salvador and Honduras, the status of Honduras mahogany in Costa Rica, Mexico, Panama, and Bolivia is known to be either Extinct, Endangered, Vulnerable, or Rare. The species is Vulnerable in Nicaragua, Rare in Colombia and Endangered within its natural boundaries in Guatemala and the following regions in Brazil: Acre, Amazonas, Goias, Maranhao, Mato Grosso, Para, and Rondonia (Source - World Conservation Monitoring Center - 1992). Although Mahogany may be widespread, and apparently secure within parts of its growing area (more than 100 occurrences), there is some long-term concern about its continued abundance in these areas and the threat to its population in other areas (Source - The Nature Conservancy - Rank of relative endangerment based primarily on the number of worldwide occurrence of the species).

Distribution

Perhaps the most valuable timber tree in the whole of tropical Latin America, Honduras mahogany has an extensive tropical distribution, from the north of the State of Veracruz to Yucatan in Mexico, and along the north Atlantic slope of Central America to Venezuela and Brazil. It also occurs in Colombia, Peru, and Bolivia at elevations of up to 4900 feet (1500 m), and on Cape Verde Islands. It is usually found in dry forests but it also occurs in moist and gallery forests. *S. macrophylla* is now widely planted throughout the whole of the tropics as a forest crop and currently provides almost all mahogany on the commercial market.

Product Sources

Some material from this species is reported to be available from environmentally responsible or sustainably managed sources. The International Tropical Timber Organization (ITTO) reports that the species is an important source of timber for export. It is exported in the form of square-edged timber, veneers, and plywood. Honduras mahogany is reported to be readily available at moderate prices at present, but its continued availability is of some concern because of high demand. Current supplies of the standing trees are also becoming more inaccessible and scarce due to exploitation. The following African mahogany species in the database have been suggested as good substitutes for Honduras mahogany: *Khaya ivorensis*, *K. anthotheca*, *K. grandifolia*, and *K. senegalensis*. The following species in the database is reported to be similar in color and appearance to Honduras mahogany. It is also reported to be as tough: Crabwood (*Carapa guianensis*). The following species in the database is reported to be superior in strength properties than Honduras mahogany: Sapele (*Entandrophragma cylindricum*). The following species in the database is reported to be very similar in strength properties to Honduras mahogany: Silky oak (*Grevillea robusta*).

Tree Data

Honduras mahogany trees are reported to grow to heights of over 150 feet (46 m), with trunk diameters of over 72 inches (180 cm) above large basal buttresses.

Sapwood Color

The distinct sapwood is described as whitish, or yellowish-white in color.

Heartwood Color

Mahogany varies considerably in color. It may be yellowish, reddish, pinkish, or salmon colored when freshly cut, maturing into a deep rich red or brown color with age. Exposure to strong sunlight may cause some fading. The wide variability in color has enabled many look-alike species to be marketed as mahogany.

Grain

The grain is straight to roey, wavy, or curly. Irregularities in the grain often produce highly attractive figures such as, fiddleback, blister, stripe or roe, and mottle. Storied rays produce wavy horizontal bands across the surface of flat-sawn boards.

Texture

The texture is fine or medium to coarse, and uniform. Dark colored gum or white deposits may be present in the pores. The wood is described as highly lustrous and golden.

Odor

The wood has no distinct odor or taste.

Ease of Drying

The wood is reported to dry easily with minimal degrade.

Drying Defects

Slight checking or distortion may occur during drying. Abnormal Wood Tissue- Tension wood may be present, and may contribute to high longitudinal shrinkage.

Movement in Service

Mahogany is considered to be one of the most stable commercially important timbers, and holds its place very well in use.

Natural Durability

Heartwood is reported to have high durability, and is resistant to brown-rot and white rot fungi. It is rated as moderately resistant to attack by dry-wood termites, and is susceptible to marine borer attack. Logs are vulnerable to attack by pinhole borers. Heartwood is reported to have high durability, and is resistant to brown-rot and white rot fungi. It is rated as moderately resistant to attack by dry-wood termites, and is susceptible to marine borer attack. Logs are vulnerable to attack by pinhole borers.

Resistance to Impregnation

Sapwood is reported to be resistant while heartwood is rated as highly resistant to preservative treatment.

Blunting

The wood has slight blunting effect on cutting edges.

Resistance to Cutting

The wood has small cutting resistance.

Planning

The wood is easy to plane, but figured material may cause the grain to chip and tear.

Turning

Turning operations are reported to be easy, and turned surfaces are usually clean. Boring properties are rated as good.

Routing and Recessing

Routing operations are reported to be generally easy.

Mortising

The timber responds readily to ordinary tools in mortising operations, but figured material has a tendency to chip and tear.

Moulding

The wood is reported to respond well to ordinary machine tools in moulding and most machining operations.

Carving

Carving qualities are reported to be generally good. The wood is reported to be easy to glue.

Nailing

The timber is reported to have good nailing properties. The wood has good screwing characteristics.

Sanding

Sanding operations are reported to be fairly easy. The wood polishes rather well.

Staining

The wood takes stain well. Varnishing qualities are reported to be good.

Steam Bending

Steam bending properties are rated as fairly good.

Response to Hand Tools

The wood is reported to respond well to hand tools.

Strength Properties

Mahogany is very popular and is often used as the standard when describing other species. Its strength properties are reported to be variable because of wide differences in density, but the wood has a good strength-to-weight ratio. It has relatively high bending strength in the air-dry condition (about 12 percent moisture content), and medium crushing strength. Hardness and weight are rated as moderate, and density is high.