

Wenge

(Milletia laurentii)



Common Names:

Awoung, Dikela, Mibotu, Bokonge



Mechanical Values

Category	Green	Dry	Units
Weight	72	57	lbs/cu.ft.
Density (air-dry)		54	lbs/cu.ft.
Specific Gravity			
Hardness		1630	lbs
Stiffness	2060	2360	1000 psi
Bending Strength	12500	19500	psi
Shearing Strength		2430	psi
Max. Crushing Strength	6300	10300	psi
Work to Maximum Load			in-lbs/in ³
Radial Shrinkage (G->OD)		3	%
Tangential Shrink. (G->OD)		6	%
Volumetric Shrink (G->OD)			%

Environmental Profile

This species is reported to be rather secure with very little threat to its existence within most of its growth range, including Congo, but it is officially classified as either Extinct, Endangered, Vulnerable, or Rare in Cameroon. Its status is listed as unknown because of inadequate information in Gabon and Zaire (Source - World Conservation Monitoring Center - 1992).

Distribution

The natural growth range of the species is reported to be the open forests of Zaire, Cameroon, Gabon, the southern regions of Tanzania, and Mozambique. It is also found in the swampy forests of the Congo region.

Product Sources

Some lumber from this species is reported to be available from sustainably managed or environmentally responsible sources. The International Tropical Timber Organization (ITTO) reports that timber from this species is produced regularly but it is exported only in low volumes. Wenge is reported to be always in limited supply on the US market. Some reasons for this are low yield from logs because of high waste from "mulot" or "heavy worm" infestation, supply problems from sources in Africa, and less demand on the market for darker colored woods. The wood is reported to be used almost exclusively for architectural purposes such as paneling and furniture pieces. Suppliers are reported to be offering Wenge more frequently in recent years. Prices are reported to be often in the high range. The following species in the database is reported to have characteristics that are similar to those of Wenge: Wacapou (*Vouacapoua americana*), Aramatta (*Diplotropis purpurea*). The following species in the database has been suggested as a good substitute for Wenge: Pao rosa (*Swartzia fistuloides*)

Tree Data

The tree is described as medium sized, and attains a height of 50 to 60 feet (15 to 18 m) and a trunk diameter of 30 to 36 inches (75 to 100 cm).

Sapwood Color

The sapwood is pale yellow or whitish in color, and is clearly demarcated from the heartwood.

Heartwood Color

The heartwood is dark brown, mostly black, with fine, closely spaced, very dark veins and white lines. The combination of white bands against the dark wood with black streaks gives Wenge a very attractive appearance. Color variation between boards is reported to be moderate. Exposure lightens the dark color of the wood, and lumber is reported to be occasionally left in the sun on purpose to lighten the color (sometimes requested by importers of Wenge). Brittleheart is sometimes present in the wood, as are bore holes. The latter tends to reduce the volume of quality material from logs.

Grain

The grain is fairly straight to slightly roey. The appearance of the wood has been described as expressive.

Texture

The wood is medium to coarse in texture

Odor

There is no distinctive odor or taste.

Ease of Drying

The wood is fairly difficult to dry. It seasons slowly, and a fair amount of care is required in order to avoid or reduce drying defects.

Drying Defects

The material has a high tendency to check during drying. There is also a slight chance of distortion.

Movement in Service

The wood is rated as fairly stable, but there are reports of significant movement in use in actual installations.

Natural Durability

The heartwood is reported to be durable and is resistant to termites.

Resistance to Impregnation

The heartwood is reported to be highly resistant to preservative treatment but the sapwood is treatable.

Veneering

The porous nature of the wood is reported to make Wenge a rather difficult wood to slice. It requires smooth cutting, and quality material is reported to be rather difficult to obtain. Wenge is reported to be too heavy to be used for plywood manufacture.

Blunting

The wood exerts medium blunting effect on cutting tools.

Resistance to Cutting

The timber is reported to saw slowly.

Planing

The timber is reported to be fairly easy to work with machine tools.

Turning

Wenge is reported to be popular as a good turnery wood.

Gluing

The material is reported to be rather difficult to glue because of the presence of resin cells.

Nailing

The timber is described as tough and strong, and requires pre-boring in nailing, but holding characteristics are reported to be good.

Sanding

Sanding characteristics are reported to be satisfactory.

Polishing

The wood is reported to be rather difficult to polish, but satisfactory polishing results can be obtained after filling.

Staining

Varnishing properties are reported to be rather poor. Some solvent-based stains are reported to dry with difficulty.

Response to Hand Tools

The wood responds well to hand tools.

Strength Properties

Strength properties of the timber are reported to vary with density, but bending strength in the air-dry condition is generally very high. Strength qualities in compression parallel to grain are exceptionally high. It is moderately hard and resistant to wearing and marring. Weight and density are very high. Wenge is reported to be a suitable substitute for Hickory (Carya) for the production of sporting goods. Resistance to the harmful effects of the weather is reported to be high, which makes Wenge suitable for some exterior applications. Sawdust from machining operations is reported to cause dermatological and respiratory problems in some individuals.