

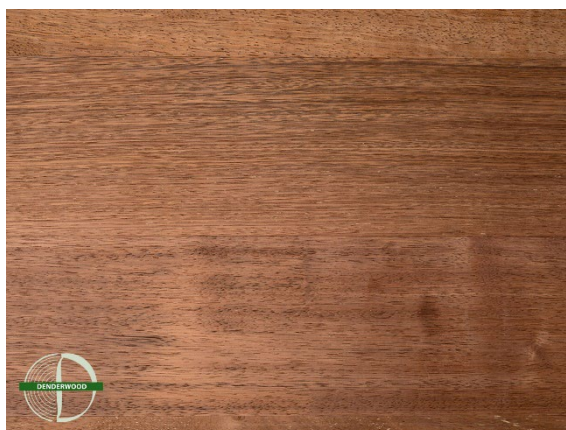
Merbau

Atibt

Merbau; NEN-EN 13556: merbau (GB), merbau (F), Merbau (D), Code INXX

Other names

Salomon merbau (Netherlands), tat-talun (Myanmar), Vesi (Fiji), ipil (Philippines), kayu besi, Moluccan ironwood, mirabow (Indonesia), inzia (Italy), hintsy (Madagascar), merbau (Malaysia), kohu (New Caledonia), bendora, kwila, melila (Papua New Guinea), ivili, kivoli, vuvula (Solomon Islands), lumpha, lumpho, lum-paw, maka mong (Thailand), go nuoc (Vietnam).



Botanic name

Intsia bijuga (Colebr.) Kuntze, *Intsia palembanica* Miq. (= *Intsia bakeri*), *Intsia* spp..

Family

Leguminosae (Caesalpinaceae)

Growth area

Southeast Asia, New Guinea, the islands of the Southwest Pacific, planted in Madagascar.

Tree Description

Height 30-35 m (sometimes 40-50 m). Depending on the growing area, the trunks show more or less developed root strips that reach 2-4 m in height, sometimes even up to 7 m. *Intsia palembanica* can reach a branch-free length of up to 25 m, but on average 15-20 m and an average diameter of 0.9 m. The other *Intsia* species are usually shorter and thinner (0.7 m on average). In general, the trunks are quite straight and cylindrical.

Supply

Sawn (edged) lumber.

Wood Description

Fresh heartwood is yellow to orange-brown, approaching brown to dark brown or dark reddish brown. Blackish areas also sometimes occur in the wood. These color differences are characteristic of the wood species and thus can never be a reason for rejection. For certain decorative purposes, however, selection by color may be desirable. The yellowish-white 20-80 mm (mean 40-50 mm) wide sapwood is clearly distinguishable from the heartwood. When the wood is exposed to daylight, the major color differences disappear. Light colors become darker, darker areas on the other hand usually become lighter in color. Merbau has an even structure and shows no particular markings. The sawing method (round or quarter sawn) obviously has some influence on the pattern of the wood. Planed wood often shows an attractive sheen. Sometimes the wood feels slightly greasy.

Wood Recognition

Red-brown in color with color streaks, on head surface few large vessels with aliform and marginal parenchyma, on the longitudinal surface typically sulfur yellow lines (vessel contents), many water-soluble inhouse substances and fluoresces green with yellow-green streaks in mineral deposits. Distinguishable from the related and propertyally similar afzelia by the presence of water-soluble inhouseins.



Grain	Straight to more or less cross-grained, sometimes irregular.
Texture	Moderately coarse.
Voluminous mass	(500-)730-800-830(-1000) kg/m ³ at 12% moisture content.
Shrinkage	Radial 1.3% and tangential 2.4%.
Drying	Very slow, without much chance of deformation and cracking. A calibration line is available for carrying out electrical wood moisture measurements. For joinery, an application wood moisture content of 14% is recommended.
Hardness	Longitudinal plane 6700-8700 N.
Machinability	Merbau is, depending on its voluminous mass, grain direction and content substances, machinable with both hand tools and machinal well to moderately difficult. When sawing fresh merbau, gum may clump to the saw teeth and when planning, the fibers may rise on the radial plane. A chip angle of 20° can prevent indentation.
Nailing & Screwing	Moderate. It is advisable to pre-drill merbau to prevent splitting. The content substances of merbau, when the wood comes into contact with iron, form an insulating layer with this, which protects both the wood and the iron from corrosion.
Adhesives	Good.
Bend	Not known.
Surface finish	Good. For smooth work, a pore filler is necessary. With water-based paint systems, the wood must first be sealed to prevent (spotty) discoloration in the finish coat and leaching of contents.
Impregnability	Kernhout 4, spint 2 (volgens NEN-EN 350).
Details	Merbau contains many ingredients (>10% by weight) and many of them are water soluble and can leach under moisture stress. Unfinished merbau exposed to wind and weather can leave considerable discoloration on underlying masonry due to leaching (bleeding). Exterior joinery made of merbau should therefore be properly sealed. Discoloration can be removed by rinsing well with water or using a lukewarm ammonia solution. However, with exposure to sun, rain and wind, these discolorations disappear by themselves after some time. Without water exposure (interior use) merbau does not leach. Wet merbau can be corrosive in contact with aluminum. In Solomon Islands wood, typical gray spots occur in the wood.



Applications

Merbau is an extremely stable wood species that is also strong and durable and therefore highly valued for doors and windows. Furthermore it is used for window frames and exterior and interior paneling, stairs, (parquet) flooring, construction timber (interior and exterior) and marine engineering applications (parts of lock gates, bridge and jetty decks). In its areas of origin, merbau is also used for furniture, turning and carving.

Quality requirements

Merbau is listed in NEN 5481, BRL 2908 eb SKH publication 99-05. The latter means that frames with KOMO® product certificate can be manufactured from it.

Strength class

Classified as D30 and D50 depending on origin & quality (see Table D).

Sustainability

Relative resistance to mold

Due to drying out of contents merbau loses durability, this can happen in unfinished application with water load. Heartwood class 1-2 (NEN-EN 350: practical experience and field research).

Relative resistance to animal organisms

Heartwood: drywood borers not known, termites D-S and marine borers S (NEN-EN 350); other sources report common woodworm D, house borer D and termites M.