

Iroko

Atibt

Iroko; NEN-EN 13556: iroko (GB), iroko (F), Iroko (D), Code MIXX

Other names

Mereira, moreira (Angola), abang, mandji (Cameroon, Guinea), kambala, molundu (Democratic Republic of Congo), abang, mandji (Gabon), odoum, odum (Ivory Coast, Ghana), simmé (Guinea), guuw (Liberia), mufula, intule, tule (Mozambique), rokko (Nigeria), mvule, mvuli (East Africa), ka téma, semei, semli (Sierra Leone, Liberia), Lusanga, molundu, mokongo (Democratic Republic of Congo).

Botanic name

Milicia excelsa (Welw.) C. C. Berg (= *Chlorophora excelsa*), *Milicia regia* (A. Chev.) C. C. Berg.

Family

Moraceae

Growth area

Tropical Africa. *Milicia regia* is less resistant to drought and is only found in West Africa, from Gambia to Ghana.



Tree Description

Milicia regia is a smaller tree than *Milicia excelsa*. The latter can reach a height of 60 m (50 m on average) under favorable conditions, with a branchless, often straight and cylindrical trunk of 15-28 m, diameter 0.75-1 m, maximum 2.5 m. Rooting up to a maximum of 1.8 m high. The bark of the trunk is rough and scaly with a dark brown to blackish color.

Supply

Sawn wood, veneers and roundwood (sawtimber).

Wood Description

Freshly sawn heartwood has a butter yellow to brownish yellow color, sometimes with dark brown areas, approaching golden brown to dark brown. The light-colored sapwood is 50 to 100 mm wide and clearly distinguishable from the heartwood. Typical of iroko is that within a batch there can often be large differences in color that remain visible even after processing. Iroko looks a bit like teak and is therefore sometimes confused with iroko teak, African teak and kambala teak. The logs sometimes contain very hard chalky substances that can occur in the form of hefty "stones" and can greatly impair processing. Due to its wide range, iroko's properties can vary. *Milicia regia* has freshly planed yellowish wood and has a relatively fine grain. *Milicia excelsa* has mostly yellowish-brown wood, has a large grain and has a warmer grain.

Wood Recognition

Brown wood, typical marking on the longitudinal wood by alternation of fibrous and parenchyma tissue, on end face a clear parenchyma structure which is absent in the comparable South American wood species tatajuba.



Grain	Straight to cross-grained, occasionally wavy.
Texture	Moderate Coarse.
Voluminous mass	(470-)650(-850) kg/m ³ at 12% moisture content, fresh 950-1200 kg/m ³ (moisture content approximately 85%).
Shrinkage	Radial 1,4% and tangential 2,1%.
Drying	Moderately fast. Wood with many light-colored contents ("lime") dries considerably slower. Drying should be done with care, as cross-grained wood in particular has a tendency to crack and warp. When stacking laths, iroko can become seriously brown (lath streaks). This can be avoided by using sapwood-free and dried iroko stacking battens, i.e. not from other types of wood. A calibration line is available for making electrical wood moisture measurements. An application wood moisture content of 12% is recommended for siding.
Hardness	Longitudinal plane 5600 N.
Machinability	Iroko can be machined well both by hand and by machine. Machining for profiles, mortise and tenon joints, drilling and turning present no problems. The tools remain sharp for a long time provided the wood does not contain any lime inclusions. In order to avoid indentation in cross grain wood as much as possible during machining, a small chip angle is recommended for the surface planer and thicknesser. iroko often contains a lot of internal tension (due to thread defects and reaction wood) that leads to deformation after machining. Once machined and properly dry, iroko remains very stable. Good extraction during iroko machining is recommended. The toxic substance chlorophorin can lead to mucosal inflammation and skin disease.
Nailing & Screwing	Reasonable, pre-drilling recommended. Gray to black discoloration in contact with iron. Stainless bonding material is recommended.
Adhesives	Moderate. Good with suitable adhesives.
Bend	Moderate.
Surface finish	Moderate. Smooth work requires the use of a filler. Some iroko constituents are water-soluble which can cause white bleeding in water-based coatings. Other contents dissolve in organic solvents and can significantly delay drying of oil- and polyester-based coatings. Thoroughly degreasing the wood beforehand can improve drying. Resin-based coatings dry faster and can provide the substrate for other finishing systems.
Impregnability	Heartwood 4, sapwood 1 (in accordance with NEN-EN 350)
Details	Iroko slows down the curing of concrete due to its contents. Use of stone planks and concrete formwork is therefore not recommended.



Applications

Iroko is widely used because of its favorable properties and is also used outdoors untreated. Outside as window frames, windows, doors, facade paneling, yacht and ship building (trusses, decks, skins and paneling) and inside as parquet floors, interior paneling, stairs, furniture, laboratory tables (preferably composed of quarter-sawn parts), tubular work for the chemical industry, bodywork and wagon building, turned goods and sculpture. Iroko is cut to veneer and peeled.

Quality requirements

Iroko is mentioned in NEN 5482 and SKH-Publication 99-05. The latter means that window frames with a KOMO® product certificate can be manufactured with iroko.

Strength class

Classified as D24 and D40 depending on origin and quality (see Table D).

Sustainability

Relative resistance to mold

Heartwood class 1-2 (NEN-EN 350: practical experience and field research). Durability increases as the wood is heavier and darker.

Relative resistance to animal organisms

Heartwood: drywood borers D, termites D and marine borers D; sapwood: sapwood beetle S (NEN-EN 350); sapwood: common woodworm D.