

Teak

Atibt

Teak; NEN-EN 13556: teak (GB), teck (F), Teak (D), Code TEGR

Andere namen

Birma-, Moulmein-, Rangoon-, Java-teak, djati, jati (Nederland), kyun (Myanmar/Birma), teck (Frankrijk), teca (Spanje), giati (Vietnam), may sak (Laos).

Botanische naam

Tectona grandis L.f..

Familie

Verbenaceae.

Groeigebied

Myanmar/Birma and Indonesia (voornamelijk aangeplant op Java). Further India, Thailand, Indochina, Tropical Africa (plantation) and Tropical America (Plantation).



Tree description

The height & diameters of teak trees are highly dependent on the growing site and soil conditions. In Myanmar/Burma, under favourable conditions, teak trees reach a height of 40-45 m, with diameters of up to 1.80-2.40 m. These large trees have branch-free trunks of 25-27 m. The older trunks show deep grooves on the underside that are the result of root attachments. Usually, however, the branch-free trunks are now 4-5(-10) m long and the diameter is 0.5-0.8 m. Trees yielding logs with quality sawtimber of these dimensions have an age of 70-90 years.

Supply

Sawn timber (four-sided and edged) & veneers (import of roundwood is banned from 2015).

Wood Description

Heartwood is light brown to golden brown, approaching darkening when exposed to light. Sometimes dark brown to black-veined. Freshly sawn teak may even be green in colour. After being exposed to light, the major colour differences usually disappear. Teak sapwood is dirty grey, about 30 mm wide. Teak also has a very distinctive smell that some say is reminiscent of old leather, and due to the presence of oily substances, feels greasy to the touch. Wood from Myanmar/Burma (from natural forests) is usually uniform in colour. Teak from drier regions (India) has much stronger colour differences from yellow to black. Due to the large differences in growing conditions, evenly coloured batches of teak should have the same origin. Depending on the type of soil it was grown on, teak may contain 0.03-1.4% silica. Teak is graded for various, high-grade applications according to specific quality (tassel-free, straight-grained, narrow annual rings). Besides this slow-growing teak, young plantation teak is also marketed. With fast growth, with annual rings 10 to 30 mm wide, thinning wood can already be of considerable size after 5 -10 years but this wood consists mainly of sapwood, has a large proportion of juvenile wood and often has many and large knots. In appearance and quality, this juvenile wood is so different from the slowly grown old wood that it should actually be considered a different wood species.



Timber recognition	Brown in colour with colour streaks, typical leathery smell, oily to the touch, ring-pored on the end face, streaked on the quarter face and flamed on the dead end face.
Thread	Straight, sometimes wavy and tousled.
Nerf	Moderately coarse to coarse.
Volumetric mass	(630-)675(-750) kg/m ³ at 12% moisture content, fresh 800-900 kg/m ³ (moisture content about 40%). Young (3-15 years old) fast-growing Costa Rican plantation teak 580-725 kg/m ³ (moisture content 12%).
Shrinkage	Radial 0.6% and tangential 1.4%, plantation teak: radial 1.0% and 2.1%.
Drying	Slow. During drying, extra care in determining moisture levels is required, as large variations in drying time can occur. If artificially dried at excessively high temperatures, teak loses its beautiful golden-brown hue and becomes dark and dead. A calibration line for making electrical wood moisture measurements is not available. For joinery, an application wood moisture content of 16% is recommended.
Hardness	Longitudinal plane 4450 N.
Machinability	Teak is easy to saw and plane. Depending on the lime and gravel content, tools stump more or less quickly. We generally recommend using tools with carbide-tipped cutting edges. Wood dust can cause skin disorders (dermatitis, eczema) in sensitive people during processing, and good dust extraction is recommended.
Nailing and Screwing	Pre-drilling is recommended
Glueing	Good but allowance must be made for a greasy surface that can be degreased with a solvent, for example. There are types of glue specially developed for teak.
Bending	Moderate. teak has wide variation in bending properties even in one batch
Surface Finishing	Moderate. Before finishing with lacquer or paint, teak should be degreased with a solvent. The teak surface can be finished with oil or nitrocellulose lacquers. With polyester lacquers, teak causes drying delay and poor film formation. Table tops are often treated with acid-hardening lacquers. When no surface finish is applied, such as with unpainted window frames or ship decks, teak should not be degreased. Degreasing then leads to rapid wear of the wood.



Impregnability	Heartwood 4, sapwood 3 (according to NEN-EN 350).
Details	The fast-growing plantation teak not only has a different wood quality but is also only available in limited sizes, and here one has to realise this wood can only be marketed profitably if the softer juvenile heartwood is also used. Because of its exceptional properties (dimensionally stable and very durable), teak is also found in fancy names of other wood species such as african-teak, iroko teak, kambala teak, for iroko or Brazilian teak for freijo. <i>Tectona grandis</i> is the only tree species that provides true teak.
Applications	Because of its great durability, low shrinkage and action, low water absorption and water repellency, beautiful appearance, favourable strength properties at low weight and resistance to many chemicals, teak can be used for almost all purposes and needs no surface finish for many applications. For example, window frames, fronts, windows, doors, facade panelling, furniture, interior panelling (also used as veneer), ceilings, stairs, stair treads, parquet and strip flooring, counter tops, turned goods, carvings and carvings. Yacht and shipbuilding: decks (quarter sawn), hides, cabins, panelling. Bodywork, dairy industry and casting models for metal foundries.
Quality Demands	Teak is mentioned in the BRL 1705 and SKH-Publication 99-05. The latter means that window frames can be manufactured with a KOMO® product certificate.
Strength Class	Classified in D40 depending on origin and quality (see table D).

Durability

Relative resistance to fungi

Heartwood class 1-3 (1) (NEN-EN 350: practical experience and field research); plantation teak: class 3v (NEN-EN 350: practical experience and field research), class 1 (NVN-ENV 807: laboratory test with ground contact, fast-growing plantation teak circa 15-year-old trees), class 3 (NVN-ENV 807: laboratory test with ground contact, circa 5-year-old trees). The highest durability classes apply to slowly grown wood (>70 years old).

Relative resistance to animal organisms

Heartwood: drywood borers D, termites M and marine borers M-D (NEN-EN 350). Plantation teak would be slightly less resistant to marine borers.