

Teak from South America – The Timber of the Kings



PROPERTIES AND ADVANTAGES

Teak wood from Ecuador and Colombia

The species

- + Teak, botanically *Tectona grandis*, density (12-15% μ) approx. 0,55–0,65–0,75 g/cm³

The wood

- + Plantation wood, min. 12 years of age
- + Durability class 1-2(-3) (DIN-EN 350-2), depending on location and age
- + Colour: heartwood brown to yellow/golden brown, sometimes with darker colour stripes, sapwood is clearly separated from the heartwood by lighter colour
- + Structure: growth zones clearly visible, forming bright lines (radial) or flakes (tangential) on longitudinal surfaces. Fibre orientation straight, surface greasy due to rubber inclusions, surface easy to polish as it is naturally slightly greasy

The advantages

- + Dimensionally stable/superb dimensional stability
- + Heartwood very durable
- + Very good decorative properties due to colour and structure
- + Excellent strength properties
- + Does not crack or splinter
- + Easily workable (by hand and machine)
- + Strong adhesive retention for glued joints
- + Very versatile hardwood

The origin

- + Renewable wood from plantations in Ecuador and Colombia
- + Rural, small forest structures

The producers

- + Small to medium sized wood processors
- + Partly with own teak plantations
- + Flexible in terms of production
- + Production of customer-specific products possible
- + Evaluated and carefully selected by IPD according to strict criteria

The application

- + Furniture industry
- + Artistic woodwork
- + Parquet and terrace flooring
- + Exterior and interior panelling
- + Exterior construction
- + Cooperage
- + Marine equipment
- + Veneers
- + Ships and boatbuilding

The products

- + Furniture for indoor and outdoor use
- + Terrace wood
- + Interior lining
- + Parquet floor
- + Chopping / Cutting boards
- + Work and table tops
- + Door and window frames
- + Structural beams and supports for interiors
- + Stairs (inside)
- + Turnery items
- + Bent products

The import

IPD connects you with reliable teak producers from Ecuador and Colombia. Get in contact with us!

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The mechanical and technical properties of teak^a and white oak^b

■ Teak
■ White oak

Weight, fresh green timber



Density, air-dry (12-15% u)



Compressive strength u_{12-15}



Bending strength u_{12-15}



Elastic modulus (bending) u_{12-15}



Hardness (BRINELL) \perp to grain u_{12-15}

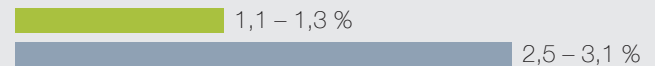


Natural durability (DIN-EN 350-2)

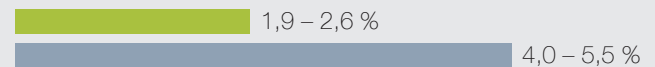


LOW SHRINKAGE OF TEAK WOOD:

Shrinkage (radial)



Shrinkage (tangential)



Differential Shrinkage (radial)^c



Differential Shrinkage (tangential)^c



a = Gesamtverband Deutscher Holzhandel e.V., Merkblattreihe Holzarten, Blatt 42, Teak; b = Gesamtverband Deutscher Holzhandel e.V., Merkblattreihe Holzarten, Blatt 63, Eichenhölzer;

c = The differential shrinkage indicates the percentage by which the wood shrinks in its main directions when the wood moisture content changes by 1%.

The table clearly shows that the differential shrinkage is different for each wood species according to the wood's anatomical direction.



SIGNIFICANCE OF TEAK

Teak is also called “the timber of the kings”, because for centuries its use in Thailand and Burma had been the exclusive privilege of the royal families. Their palaces and temples were made entirely from wood. Teak is one of the most precious and valued species, due to its high durability, good workability and its attractive appearance. Although teak takes only a small market share of the total tropical round wood production in terms of volume, it has a much larger share in terms of value, since teak is a high-value hardwood and a major component of the forest economies in many tropical countries. Globally, planted teak forests constitute the only planted hardwood resource that has been constantly increasing in terms of area.

TEAK AREAS

Originally found in tropic regions of South and South Eastern Asia, today teak has managed to spread all across the world. Natural teak forests are estimated to cover about 29 million hectares in India, Lao PDR, Myanmar and Thailand, half of which is located in Myanmar.

Planted teak forests are estimated to be about 4.4 million hectares, of which 83 % are in Asia, 11 % in Africa and 6 % in Latin America. Two thirds of planted teak forests are younger than 20 years. Growth rates of planted teak depend on the quality of the planting material and the forest management practices.

South America, Ecuador and Colombia in particular, have proven to be ideal growing areas for plantation teak of high quality. Contrary to Africa, Asia and the Caribbean where most planted teak forests are owned by the state, in South America 99 % of the teak plantations are owned by the private sector.

PRICE AND QUALITY

Generally, teak prices are very closely related to its specific quality. Quality in teak is determined by dimension, heartwood/sapwood ratio, regularity of annual rings, number of knots, colour, and texture.¹ Main criteria for market price are appearance and durability. Teak from natural forest receives better prices due to its high proportion of heartwood, uniform colour and straight grain. However, the available supply is limited.

Logs from planted teak forests are typically smaller in size and hardly reach the dimensions grown in old-growth natural forests. As a result, they do not have the same characteristics of natural teak and cannot achieve the same high price level.

The standard range of products obtainable from plantation teak harvested at young age comprise short boards, scantlings and mouldings. They will be 5 to 15 cm in width and up to 3 m in length, and many have a distinct colour pattern marked by the dark-brown core and the yellowish sapwood. These teak products are ideal for the production of furniture, parquet flooring, picture frames, boat parts, gift items and carvings.²

The myth that plantation teak exhibits lower densities than timber from old-growth forests is persistent, but without foundation. Various scientific studies and tests have proven that there is no significant relationship between the growth rate of plantation teak and its density.^{3, 4, 5}

1 FAO, Walter Kollert, Lucia Cherubini March 2012: Teak resources and market assessment 2010 (*Tectona grandis* Linn. F.), <http://www.fao.org/3/a-an537e.pdf>

2 FAO, Walter Kollert, Lucia Cherubini March 2012: Teak resources and market assessment 2010 (*Tectona grandis* Linn. F.), <http://www.fao.org/3/a-an537e.pdf>

3 Wikipedia, accessed 6.2020 on Plantation Teak;

4 Raúl Rodríguez Anda*, Gerald Koch, Hans-Georg Richter, 2019, Formation of heartwood, chemical composition of extractives and natural durability of plantation grown teak wood from Mexico

5 Khin Maung Sint, František Hapla, Cho Cho Myint, 2009, Does Plantation Teak Produce Comparable Quality as Naturally Grown Teak?



IMPORTANCE OF TEAK

Moderate weight, appropriate strength, dimensional stability and durability, easy workability and finishing qualities, makes teakwood one of the best timbers for the manufacture of doors, window frames and shutters, furniture, cabinets, decorative flooring and wall panelling.

In some importing countries concerns relating to the environment to the teak trade exist. Critics claim that by buying teak, even plantation teak, buyers are causing environmental damage to tropical sites.

Studies however show evidence that teak plantations have a positive impact on environment and local economies. Teak plantations are of high value for watershed protection, soil protection, job creation and welfare for people living in local communities where teak is grown.⁶

TRADE

In recent years, trade in teakwood has increased considerably. In Europe, teak is still highly valued and continues to be in great demand, provided that it comes from legal and sustainable forestry.⁷

Due to the fantastic physical and mechanical properties and versatility of teak, it has become one of the preferred woods in the modern wood processing industry. Teak can be cut easily, and its heartwood has almost unmatched rot and termite resistance, and is very durable.

Despite the presence of high amounts of natural oil, teak can be easily glued and polished, especially after the surface has been treated with a mild solvent.

IPD connects you with reliable producers!

You can obtain detailed information about
IPD and its individual services at:
www.importpromotiondesk.de

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