



Teak (*Tectona Grandis*)

Common Name:	Teak
Botanical Name:	<i>Tectona grandis</i>
Other Common Names:	Burma teak, Djati, Genuine teak, Gia thi, Jati sak, Kyun, Mai sak, Pahi, Rangoon teak, Rosawa, Sagon, Sagwan, Tadi, Teca, Teck, Tegina, Tekku, Tik, Tsik
Common Uses:	Boat building, Cabinetmaking, Chemical containers, Domestic flooring, Exterior uses, Furniture , Joinery, Light construction, Novelties, Paneling , Shipbuilding, Sills, Turnery, Windows, Balusters, Bedroom suites, Building construction, Building materials, Canoes, Chairs, Chests, Clogs, Concealed parts (Furniture), Construction, Desks, Dining-room furniture, Dowell pins, Dowells, Drawer sides, Excelsior, Exterior trim & siding, Fine furniture, Floor lamps, Flooring, Furniture components, Furniture squares or stock, Hatracks, Interior construction, Kitchen cabinets, Lifeboats, Living-room suites, Moldings, Office furniture, Parquet flooring, Radio, stereo, TV cabinets, Rustic furniture, Shakes, Sheathing, Shingles, Siding, Stairworks, Stools, Stringers, Sub-flooring, Tables , Utility furniture, Wainscotting, Wardrobes
Region:	Africa, Central America, Oceania and S.E. Asia
Country:	Benin, Burma, Cameroon, Fiji [Polynesia], Honduras, India, Indonesia, Laos, Malaysia, Nigeria, Philippines, Sri Lanka, Sudan, Thailand, Vietnam, Zaire
Distribution:	Teak is reported to be indigenous to India, Burma, Thailand, Indochina and Java, but it has been extensively planted for timber or as an ornamental within its natural range and throughout the tropical regions of the world, including East and West Africa, the West Indies, from Cuba and Jamaica to Trinidad, and from Panama to Brazil. It is also grown in southern Florida. The species has also been cultivated experimentally or at low elevations in Puerto Rico.

Numerical Values for: *Tectona grandis*

<u>Category</u>	<u>Green</u>	<u>Dry</u>	<u>Unit</u>
Bending Strength	10975	13710	psi
Crushing Strength (Perp.)	836	1087	psi
Max. Crushing Strength	5543	7605	psi
Static Bending (FSPL)	5802	7453	psi
Impact Strength	34	26	inches
Stiffness	1408	1543	1000 psi
Work to Maximum Load	13	12	in-lbs/in ³
Hardness		1000	lbs
Shearing Strength		1890	psi
Toughness		232	in-lbs
Specific Gravity	0.53	0.59	
Weight	51	40	lbs/cu.ft.
Density (Air-dry)		40	lbs/cu.ft.
Radial Shrinkage (G->OD)		3	%
Tangential Shrink. (G->OD)		6	%
Volumetric Shrink. (G->OD)		7	%

Tree & Wood Descriptions for: *Tectona grandis*

Product Sources

Some materials (semi-finished or finished products) from this species are reported to be available from environmentally responsible or sustainably managed sources.

Although it is higher in price than most other imports, Teak is reported to be available in veneer and lumber forms. Its consumption on the United States market is reported to be rather tiny compared to other domestic hardwoods. The wood is reported to be offered as an expensive option by many US shipbuilders, with most imports originating from Burma, which is reported to be the source of Teak with superior and the most desirable qualities. Good quality teak is reported to be difficult to acquire, and imports are usually in transit for about two months. Although US importers usually have some in stock, orders for the timber are reported to be slow to fill and can take up to a year.

Tree Data

Teak trees are reported to attain heights of 130 to 150 feet (39 to 45 m) under favorable conditions. Stems are reported to be often clear of branches to 80 to 90 feet (24 to 27 m) high. Trunk diameters are reported to be often from 36 to 60 inches (90 to 150 cm), and older trees are typically fluted and buttressed. Plantation trees are reported to grow to heights of 150 feet (45 m), and can be ready for harvesting after only 60 years. Teak logs are reported to be very heavy, and are rather difficult to transport. Standing trees are sometimes girdled and left to stand

for two to eight years before they are harvested. This practice is reported to allow moisture in the tree to dissipate, and hence make the logs less heavy and easier to transport.

Sapwood Color

The clearly demarcated sapwood is white to pale yellow in color.

Heartwood Color

The heartwood in its purest form, is a uniform dark golden-brown, without markings. But most other heartwood found in this species is dark golden yellow, which turns into rich brown with darker, chocolate-brown markings upon exposure. There is moderate to high color variation between boards. Often very variable in color when freshly machined showing blotches and streaks of various shades. After exposure to light the wood will tone down to the golden-brown shade.

Grain

The grain is generally straight, but occasionally wavy.

Texture

Texture is coarse and uneven. The wood is somewhat greasy and may contain white shiny deposits.

Luster

Wood surfaces are dull, and the material is reported to have an oily feel.

Odor

Freshly-milled wood is reported to have an odor similar to that of leather, but there is no distinctive taste.

Movement in Service

Seasoned wood is reported to have very good dimensional stability, and retains its shape well after manufacture.

Natural Durability

Natural resistance to attack by decay fungi and termites is reported to be very high in the heartwood, and teak's resinous oil is reported to act as a natural insect repellent. The sapwood is susceptible to attack by powder-post beetles.

Resistance to Impregnation

The heartwood is reported to be extremely resistant to preservative treatment. The sapwood also has low permeability, but the wood has a high natural resistance to decay which tends to offset its poor response to preservative treatment.

Resistance to Chemicals

The timber is reported to be resistant to water and numerous chemical reagents, including acids, and will not cause rust or corrosion when it comes in contact with metals.

Toxic Constituents

Sawdust from machining operations is reported to cause skin irritation in some individuals.

Silica Content

The timber is siliceous. Amount is reported to vary, but may be up to 1.4% (of oven-dry weight). Silica level of 0.05% is considered to be enough to affect the machining properties of wood.

Working Properties for: *Tectona grandis*

Blunting Effect	The wood exerts severe blunting effect on cutting edges. Tungsten carbide-tipped cutters are recommended.
Cutting Resistance	The wood is fairly difficult to saw and tungsten-carbide cutting tools are recommended.
Planing	Cutting angles should be reduced to 20 degrees for best results.
Turning	The material is moderately easy to turn, but cutters tend to dull rapidly and severely.
Moulding	Moulding properties are reported to be generally good.
Boring	Boring operations are reported to be fairly easy, but cutting edges may dull rapidly.
Routing & Recessing	Routing properties are reported to be moderately easy, but cutting edges dull rapidly.
Mortising	The material responds well to sharp cutters in mortising operations.
Carving	The material is reported to carve well.
Gluing	Freshly sanded or planed surfaces are reported to be fairly easy to glue.

Drying for: *Tectona grandis***Ease of Drying**

The wood is reported to dry well, but slowly.

Drying Defects	Large variations in drying rates may occur. The wood may also change color temporarily upon kiln drying.
Kiln Schedules	T10 - D4S (4/4); T8 - D3S (8/4) US Schedule H (4/4) - United Kingdom
T/R Ratio	2.32 This indicator is more meaningful if it is used together with other drying information and actual shrinkage data in the tangential and radial directions. (Refer to the Numerical Values window).

*Credits for information:
Woodworkersource.com*