

# BLUE EXCHANGE

EXPORTERS OF AFRICAN TIMBER

## WOOD SPECIES COMPARISON

TEAK

TECTONA GRANDIS

AFRICAN TEAK

BAIKIAEA PLURIJUGA

KIAAT

PTEROCARPUS ANGOLENSIS





TEAK

TECTONA GRANDIS



AFRICAN TEAK

BAIKIAEA PLURIJUGA



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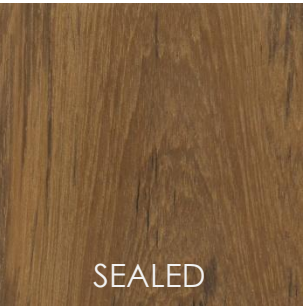




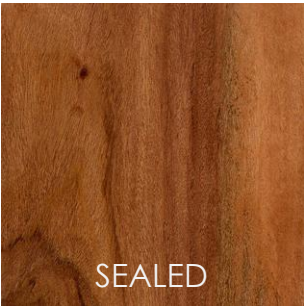
# WOOD SPECIES COMPARISON

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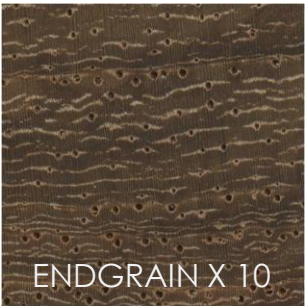
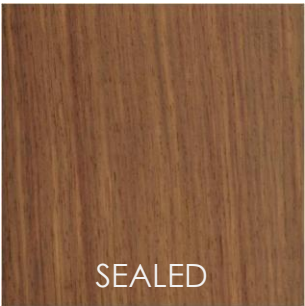
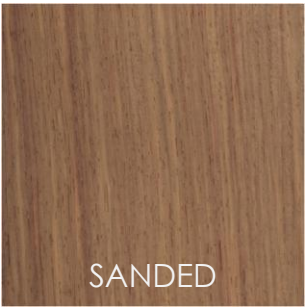
TEAK  
TECTONA GRANDIS



AFRICAN TEAK  
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# WOOD SPECIES COMPARISON

|                                  | T E A K   | A F R I C A N T E A K   | K I A A T   |
|----------------------------------|---|---|---|
| Scientific Name                  | Tectona Grandis   | Baikiaea Plurijuga  | Pterocarpus Angolensis  |
| Distribution                     | Native to Southern Asia   | Southern Africa   | South-Central Africa  |
| Tree Size                        | 30-40 m Tall<br>1-1.5 m Trunk diameter                              | 15-20 Meters Tall<br>0.3-0.6 m Trunk Diameter                       | 12-18 Meters Tall<br>0.5 - 0.8 mTrunk Diameter                      |
| Average Dried Weight             | 655 kg/m3   | 890 kg/m3   | 605 kg/m3   |
| Specific Gravity (Basic, 12% MC) | .55, .66  | .73, .89  | .59 .60   |
| Janka Hardness                   | 1,070 lbf / 4,740 N   | 2,990 lbf / 13,300 N  | 1,360 lbf / 6,050 N   |
| Modulus of Rupture               | 14,080 lbf/in2 / 97.1 MPa   | 12,220 lbf/in2 / 84.3 MPa   | 14,250 lbf/in2 / 98.2 MPa   |
| Elastic Modulus                  | 1,781,000 lbf/in2 / 12.28 GPa                                       | 1,230,000 lbf/in2 / 8.48 GPa  | 1,267,000 lbf / in2 / 8.73 GPa                                      |
| Crushing Strength                | 7,940 lbf/in2 / 54.8 MPa  | 9,600 lbf/in2 / 66.2 MPa  | 8,020 lbf/in2 / 55.3 MPa  |
| Shrinkage: Radial                | Radial: 2.6%, Tangential: 5.3%,<br>Volumetric: 7.2%, T/R Ratio: 2.0 | Radial: 2.6%, Tangential: 4.5%,<br>Volumetric: 6.9%, T/R Ratio: 1.7 | Radial: 1.7%, Tangential: 2.8%,<br>Volumetric: 5.4%, T/R Ratio: 1.6 |



# WOOD SPECIES COMPARISON

|                   | T E A K   | A F R I C A N   T E A K  | K I A A T   |
|-------------------|---|--|---|
| Colour/Appearance | Heartwood tends to be a golden or medium brown, with color darkening with age   | Heartwood is a medium reddish brown, commonly with black streaks. Sharply defined sapwood is a pale pinkish yellow.  | Heartwood colour can vary widely from a lighter golden brown, to a darker reddish or purplish brown. Colours tend to become more subdued with age.  |
| Grain/Texture     | Grain is straight, though it can occasionally be wavy or interlocked. Coarse, uneven texture and moderate to low natural luster. Raw, unfinished wood surfaces have a slightly oily or greasy feel due to natural oils  | Grain is straight to interlocked, with a fine, even texture and low natural lustre.  | Grain is straight to interlocked. Medium to coarse texture with a low natural lustre.   |
| Endgrain          | Ring-porous or semi-ring-porous; large, solitary earlywood pores, medium-small latewood pores solitary and in radial multiples of 2-3; tyloses and other mineral deposits common; growth rings distinct due to uniseriate row of earlywood pores; rays visible without lens; parenchyma banded (marginal), with bands sometimes wide enough to enclose entire earlywood pores, paratracheal parenchyma vasicentric. | Diffuse-porous; solitary and radial multiples; small to medium pores in no specific arrangement, moderately numerous; yellowish brown mineral/gum deposits present; parenchyma vasicentric, banded; narrow to medium rays, spacing normal to fairly close. | Diffuse-porous; medium pores in no specific arrangement; solitary and radial multiples of 2-3; mineral deposits occasionally present; growth rings indistinct; rays not visible without lens; parenchyma diffuse-in-aggregates, winged, confluent, and banded (not marginal). |



# WOOD SPECIES COMPARISON

|                | TEAK  | AFRICAN TEAK   | KIAAT  |
|----------------|---|--|--|
| Rot Resistance | Teak has been considered by many to be the gold standard for decay resistance, and its heartwood is rated as very durable. Teak is also resistant to termites, though it is only moderately resistant to marine borers and powder post beetles.   | Rated as very durable; good insect resistance  | Heartwood is rated as being durable; good resistance to insect attack  |
| Workability    | Easy to work in nearly all regards, with the only caveat being that Teak contains a high level of silica (up to 1.4%) which has a pronounced blunting effect on cutting edges. Despite its natural oils, Teak usually glues and finishes well, though in some instances it may be necessary to wipe the surface of the wood with a solvent prior to gluing/finishing to reduce the natural oils on the surface of the wood. | Can be difficult to work because of high cutting resistance. Stable in service, and glues, turns, and finishes well. | Generally easy to work with tools, though if there is interlocked grain present, it may tear out during planing operations. Moderate blunting effect on cutters. Glues, stains, and finishes well. |





# WOOD SPECIES COMPARISON

|                | TEAK  | AFRICAN TEAK  | KIAAT  |
|----------------|---|---|--|
| Sustainability | This wood species is not listed in the CITES Appendices or on the IUCN Red List of Threatened Species   | This wood species is not listed in the CITES Appendices, but is reported by the IUCN as being near threatened. Technically it doesn't meet the Red List criteria of a vulnerable or endangered species, but is close to qualifying and/or may qualify in the near future. | This wood species is not listed in the CITES Appendices, but is reported by the IUCN as being near threatened. Technically it doesn't meet the Red List criteria of a vulnerable or endangered species, but is close to qualifying and/or may qualify in the near future.  |
| Common Uses    | Ship and boatbuilding, veneer, furniture, exterior construction, carving, turnings, and other small wood objects.   | Furniture, flooring, boatbuilding, exterior construction, veneer, millwork, fretboards, and turned objects.   | Furniture, flooring, boatbuilding, veneer, turnings, and other wooden objects.   |
| Comments       | Sometimes called Burmese Teak, this name is used to differentiate natural-grown trees (typically from Myanmar, aka Burma) from Teak grown on plantations. Used extensively in India and within its natural range for centuries, Teak has grown into a worldwide favorite. | Much like genuine Teak, it does have good stability and rot resistance, and is considerably harder than genuine Teak. It has excellent wear-resistance in service, making it well suited for use as flooring or guitar fretboards.  | Sometimes sold under its South African name Kiaat, this wood is actually closely related to the much more well-known African Pad auk (Pterocarpus Soyauxii). And, much like other species in the Pterocarpus genus, Muninga has outstanding stability, and remain quite stable in the midst of seasonal changes. |