Paduak African

(Pterocarpus soyauxii)

Common Names:
African Padauk, Mbe, Mbil, Mututi, Ngula, Bosulu

Mechanical Values

Category	Green	Dry	Units
Weight		45	lbs/cu.ft.
Density (air-dry)		46	lbs/cu.ft.
Specific Gravity	0.61	0.72	
Hardness			lbs
Stiffness		1688	1000 psi
Bending Strength		15438	psi
Shearing Strength		15438	psi
Max. Crushing Strength		7720	psi
Work to Maximum Load			in-lbs/in^3
Radial Shrinkage (G->OD)		3	%
Tangential Shrink. (G->OD)		5	%
Volumetric Shrink (G->OD)		8	%

Environmental Profile
African padauk is reported to be relatively secure within its natural habitat in most areas including, Congo, but it is officially classified as Vulnerable in Cameroon. Its current environmental status in several areas within its range is unknown because of inadequate information. The areas include Angola, Central African Republic, Equatorial Guinea, Gabon, Nigeria, and Zaire (Source - World Conservation Monitoring Center - 1992).

Distribution
The genus Pterocarpus is reported to occur throughout the tropical regions of the world. P. soyauxii is reported to be found in Central and tropical West Africa, extending from south-western Nigeria to Zaire. It often grows in small groups and is reported to be common in dense equatorial rain forests.

Product Sources
Some of the lumber from this species is reported to be available from environmentally responsible or sustainably managed sources. The International Tropical Timber Organization (ITTO) reports that this species is frequent source of timber which is exported in low quantities and only occasionally. African padauk is reported to be available in both lumber and veneer forms on the market in North America, but prices are typically in the high range. Availability in long lengths, wide boards, and in veneer form is reported to be rather limited on the European market, but prices are reported to be comparable to that of the lower cost hardwoods.

Tree Data
The tree is reported to reach heights of 100 to 130 feet (30 to 40 m), with trunk diameters that are usually 24 to 48 inches (60 to 120 cm), but may sometimes reach 60 inches (150 cm). Boles are often straight and cylindrical, and are clear of branches to about 70 feet (21 m).

Sapwood Color
The sapwood is white when freshly cut, but turns to brownish yellow or gray upon exposure.

Heartwood Color
The heartwood is vivid reddish-orange initially, but it changes to bright red, red or coral pink, with dark streaks, or reddish- or purplish-brown or black over time. The color is reported to darken upon drying, but it eventually fades with age. Color variation between boards is reported to be slight.

Grain
The grain is generally straight to somewhat interlocked.

Texture
Texture is described as fine to medium. Crystal deposits are usually present.

Odor
The wood has a faintly aromatic scent when freshly cut.
Ease of Drying
Drying rate varies, but the material is reported to dry well, with minimum degrade even under harsh drying conditions. Logs may be held for long periods without splitting or checking.
Drying Defects
The wood is reported to dry with practically no degrade, even under the severest conditions.
Movement in Service
The wood is reported to have exceptional dimensional stability and exhibits negligible movement after manufacture.
T/R Ratio
1.67 - 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).
Natural Durability
The heartwood is reported to be very durable and may last for more than 25 years in contact with the ground without any preservative treatment. It is very resistant to attack by termites.
Resistance to Impregnation
The heartwood is fairly resistant to impregnation. The sapwood is moderately resistant to preservative treatment.
Resistance to Cutting
The timber is reported to saw well, but it requires a slow feed rate. Carbide-tipped tools are recommended.
Planning
Quartersawn stock with interlocked grain tends to tear in planing, but the timber is reported to plane easily, especially backsawn material. Planed surfaces are usually very smooth.
Turning properties are reported to be generally good.
Boring
Response to boring operations are reported to be good.
Routing and Recessing
The wood is reported to rout and recess fairly easily.
Mortising
Mortising properties are reported to be good.
Moulding
The material is reported to mould well.
Carving
The timber is reported to have good carving qualities.
Gluing
The material is reported to glue very well.
Nailing
The timber is reported to have satisfactory nail holding properties, but it is apt to split in smaller sizes.
Screwing
Screw-holding qualities are rated as good, but stock in smaller dimensions may split in screwing.
Sanding
Sanding qualities are reported to be generally good.
Staining
The wood is reported to take finishes well, but there is a tendency to bleed. Water-based finishes have been reported to hold color better.
Strength Properties
Strength properties are rated as generally high. Bending and crushing strengths in the air-dry condition (about 12 percent moisture content)are high. Stiffness strength is comparable to that of Oak (Quercus), and shock resistance is reported to be similar to that of Ash (Fraxinus). African padauk also resists dents well. It is a heavy wood, with density. The timber is reported to possess excellent weathering properties. Sawdust from machining operations is reported to cause respiratory and dermatological problems in some individuals.