PADAUK

Family: FABACEAE (angiosperm)
Scientific name(s): *Pterocarpus soyauxii*
Pterocarpus osun
Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: red
Sapwood: clearly demarcated
Texture: coarse
Grain: straight or interlocked
Interlocked Grain: slight
Note: Variable buoyancy. Wood bright red becoming purplish brown with light.

LOG DESCRIPTION

Diameter: 23.6 – 39.4 inches
Thickness of Sapwood: 2.4– 3.9 inches
Floats: yes
Log Durability: moderate (treatment recommended)

PHYSICAL PROPERTIES

Physical and mechanical properties are based on mature heartwood specimens. These properties can vary greatly depending on origin and growth conditions.

	Mean	Std. Dev.
Specific Gravity*:	0.79	0.09
Janka Hardness (lbs):	1,970	
Volumetric Shrinkage:	0.44%	0.10%
Total Tangential Shrinkage (TS):	5.0%	0.5%
Total Radial Shrinkage (RS):	3.2%	0.3%
TS/RS Ratio:	1.6	
Fiber Saturation Point:	21%	
Stability:	stable	

MECHANICAL/ACOUSTIC

	Mean
Crushing Strength*:	9,427 lbf
Static Bending Strength*:	16,824 lbf
Modulus of Elasticity*:	2,301,748 lbf

Musical Quality Factor: 148.4 measured at 2658 Hz

**At 12% moisture content.*

NATURAL DURABILITY AND TREATABILITY

Fungi and termite resistance refers to end-uses under temperate climate. Except for special comments on sapwood, natural durability is based on mature heartwood. Sapwood must always be considered as non-durable against wood degrading agents. E.N. = Euro Norm

Funghi (According to E.N. standards): class 1 – very durable
Dry Wood Borers: class D - durable (sapwood demarcated, risk limited to sapwood)
Termites (According to E.N. standards): class D - durable
Treatability (according to E.N. standards): class 2 – moderately permeable
Use class ensured by natural durability: class 4 – in ground or fresh water contact
Species covering the use class 5: yes
Note:
This species is listed in the European standard NF EN 350-2. It naturally covers the use class 5 (end-uses in marine environment or in brackish water) only for end-uses under temperate and cold environment. According to the European standard NF EN 335, performance length might be modified by the intensity of end-use exposition

REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks: does not require any preservative treatment
In case of risk of temporary humidification: does not require any preservative treatment
In case of risk of permanent humidification: does not require any preservative treatment

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DRYING

Drying Rate: normal to slow
Risk of Distortion: no risk or very slight risk
Risk of Casehardening: no
Risk of Checking: no risk or very slight risk
Risk of Collapse: no

Possible Drying Schedule: 2

Temperature (ºF)			
M.C. (%)	**Dry-Bulb**	**Wet-Bulb**	**Air Humidity (%)**
Green	122	116.6	84
40	122	113	75
30	131	116.6	67
20	158	131	47
15	167	136.4	44

This schedule is given for information only and is applicable to thickness lower or equal to 1.5 in. It must be used in compliance with the code of practice. For thickness from 1.5 to 3 in, the air relative humidity should be increased by 5% at each step. For thickness over 3 in, a 10% increase should be considered.

SAWING AND MACHINING

Blunting Effect: fairly high
Sawteeth Recommended: stellite-tipped
Cutting Tools: tungsten carbide
Peeling: not recommended or without interest
Slicing: good
Note: Tendency to woolliness (tension wood) in sawing. Risks of tearing (interlocked grain) in planing. Ribbon-like aspect on quartersawn.

ASSEMBLING

Nailing / screwing: good but pre-boring necessary
Gluing: correct
Note: Pre-boring is necessary; risks of splits especially with thin boards. Gluing requires care (dense wood)

END-USES

Hydraulic works (seawater)
Flooring
Cabinetwork (high class furniture)
Bridges (parts in contact with water or ground)
Vehicle or container flooring
Ship building (ribs)
Turned goods
Exterior/Interior joinery
Industrial or heavy flooring
Sliced veneer
Sleepers
Bridges (parts not in contact with water or ground)
Heavy carpentry
Ship building (planking and deck)
Seats
Stairs (interior)
Sculpture

MAIN LOCAL NAMES

Country	Local Name
Angola	Tacula
Congo	Kisese
Germany	Padauk
Italy	Paduk
United Kingdom	African Padauk, Camwood, Barwood, Padauk
Netherlands	Padoek
Nigeria	Osun
Cameroon	Mbel
Belgium	Corail

Works Cited:

CIRAD'S *Biomass, Wood, Energy, Bioproducts Research Unit (BioWooEB)*
Meier, E. (2015), Wood, United States of America