SAPELE

Family: MELIACEAE (angiosperm)
Scientific name(s): Entandrophragma cylindricum
Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: red brown
Sapwood: clearly demarcated
Texture: fine
Grain: interlocked
Interlocked Grain: slight
Note: Some logs are not floatable. Wood pinkish brown to copper red brown. Possible presence of ring shakes and blister grains (longitudinal fissure in the shape of barley grain on the curved surface of round timber, generally concealed by the bark and linked to a disfunction in tree growth). Cedar like scent.

LOG DESCRIPTION

Diameter: 27.6 – 47.2 inches
Thickness of Sapwood: 1.6– 3.15 inches
Floats: yes
Log Durability: moderate (treatment recommended)

PHYSICAL PROPERTIES

MECHANICAL/ACOUSTIC

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*:	0.69	0.04
Janka Hardness (lbs):	1,410	
Volumetric Shrinkage:	0.47%	0.06%
Total Tangential Shrinkage (TS):	7.2%	0.9%
Total Radial Shrinkage (RS):	5.0%	0.6%
TS/RS Ratio:	1.4	
Fiber Saturation Point:	29%	
Stability:	Moderately stable	

	Mean
Crushing Strength*:	8,992 lbf
Static Bending Strength*:	14,793 lbf
Modulus of Elasticity*:	2,024,726 lbf

Musical Quality Factor: 109.4 measured at 2656 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 3 – moderately durable
Dry Wood Borers: class D - durable (sapwood demarcated, risk limited to sapwood)
Termites (According to E.N. standards): class M – moderately durable
Treatability (according to E.N. standards): class 3 - poorly permeable
Use class ensured by natural durability: class 2 – inside or under cover (dampness possible)
Species covering the use class 5: no
Note:
This species is listed in the European standard NF EN 350-2.

REQUIREMENT OF A PRESERVATIVE TREATMENT

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

SAPELE

DRYING

Drying Rate: normal
Risk of Distortion: high risk
Risk of Casehardening: no
Risk of Checking: slight risk
Risk of Collapse: no
Note: Quarter sawn drying is slower.

Possible Drying Schedule: 1

	Temperature (ºF)		
M.C. (%)	**Dry-Bulb**	**Wet-Bulb**	**Air Humidity (%)**
Green	104	98.6	82
40	111.2	100.4	68
30	111.2	96.8	59
20	114.8	96.8	52
15	120.2	98.6	46

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: normal
Sawteeth Recommended: ordinary or alloy steel
Cutting Tools: ordinary
Peeling: good
Slicing: good
Note: Log turning sawing recommended (internal stresses). Tendency to tearing in planing (interlocked grain). Sanding requires care.

ASSEMBLING

Nailing / screwing: good
Gluing: correct
Note:
Gluing must be done carefully: wood may be easily stained.

END-USES

Cabinetwork (high class furniture)
Sliced veneer
Current furniture or furniture components
Ship building (planking and deck)
Veneer for back or face of plywood
Interior/Exterior joinery
Light carpentry
Stairs (inside)
Veneer for back or face of plywood
Interior paneling

Note: Light and regular interlocked grain: appreciated for slicing. Highly interlocked grain: troublesome for some end-uses.

MAIN LOCAL NAMES

Country	Local Name
Cameroon	Assie
Ivory Coast	Aboudikro
Ghana	Penkwa, Sapelewood
Congo	Undianuno
Central African Republic	M'Boyo
Nigeria	Sapele
Uganda	Muyovu
United Kingdom	Sapele

Works Cited:

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