TALI

Family: ERYTHROXYLACEAE (angiosperm)
Scientific name(s): Erythrophleum suaveolens
Erythrophleum ivorense
Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: brown
Sapwood: clearly demarcated
Texture: coarse
Grain: interlocked
Interlocked grain: marked

LOG DESCRIPTION

Diameter: from 60 to 90 cm
Thickness of sapwood: from 3 to 6 cm
Floats: no
Log durability: good

Note: Wood orangey yellow brown to reddish brown. Tali from East Africa has a lighter colour.

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 *:	0,91	0,08
Monnin hardness *:	9,2	2,7
Coeff. of volumetric shrinkage:	0,57 %	0,12 %
Total tangential shrinkage (TS):	8,4 %	1,2 %
Total radial shrinkage (RS):	5,1 %	1,4 %
TS/RS ratio:	1,6	
Fiber saturation point:	26 %	

Stability: moderately stable to stable

MECHANICAL AND ACOUSTIC PROPERTIES

	Mean	Std dev.
Crushing strength *:	79 MPa	11 MPa
Static bending strength *:	128 MPa	19 MPa
Modulus of elasticity *:	19490 MPa	3224 MPa

(*: at 12% moisture content, with 1 MPa = 1 N/mm²)

Musical quality factor: 103,4 measured at 2346 Hz

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: durable - sapwood demarcated (risk limited to sapwood)
Termites (according to E.N. standards): class D - durable
Treatability (according to E.N. standards): class 4 - not permeable
Use class ensured by natural durability: class 4 - in ground or fresh water contact
Species covering the use class 5: No
Note: 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

DRYING

Drying rate: slow
Risk of distortion: high risk
Risk of casehardening: no
Risk of checking: high risk
Risk of collapse: no
Note: Must be dried slowly and carefully in order to reduce defects.

Possible drying schedule: 4

M.C. (%)	Temperature (°C) dry-bulb	wet-bulb	Air humidity (%)
Green	42	39	82
50	48	43	74
40	48	43	74
30	48	43	74
15	54	46	63

This schedule is given for information only and is applicable to thickness lower or equal to 38 mm.
It must be used in compliance with the code of practice.
For thickness from 38 to 75 mm, the air relative humidity should be increased by 5 % at each step.
For thickness over 75 mm, a 10 % increase should be considered.

SAWING AND MACHINING

Blunting effect: fairly high
Sawteeth recommended: stellite-tipped
Cutting tools: tungsten carbide
Peeling: bad
Slicing: not recommended or without interest
Note: Requires power. Difficulties due to interlocked grain in planing.

ASSEMBLING

Nailing / screwing: good but pre-boring necessary
Gluing: correct (for interior only)
Note: With dampness, assembling of iron pieces are not advisable because of risks of reciprocal attack between wood and iron.

COMMERCIAL GRADING

Appearance grading for sawn timbers: According to SATA grading rules (1996)
For the "General Purpose Market":
Possible grading for square edged timbers: choix I, choix II, choix III, choix IV
Possible grading for short length lumbers: choix I, choix II
Possible grading for short length rafters: choix I, choix II, choix III
For the "Special Market":
Possible grading for strips and small boards (ou battens): choix I, choix II, choix III
Possible grading for rafters: choix I, choix II, choix III

FIRE SAFETY

Conventional French grading: Thickness > 14 mm : M.3 (moderately inflammable)
Thickness < 14 mm : M.4 (easily inflammable)

Euroclasses grading: D s2 d0
Default grading for solid wood, according to requirements of European standard EN 14081-1 annex C (April 2009). It concerns structural graded timber in vertical uses with mean density upper 0.35 and thickness upper 22 mm.

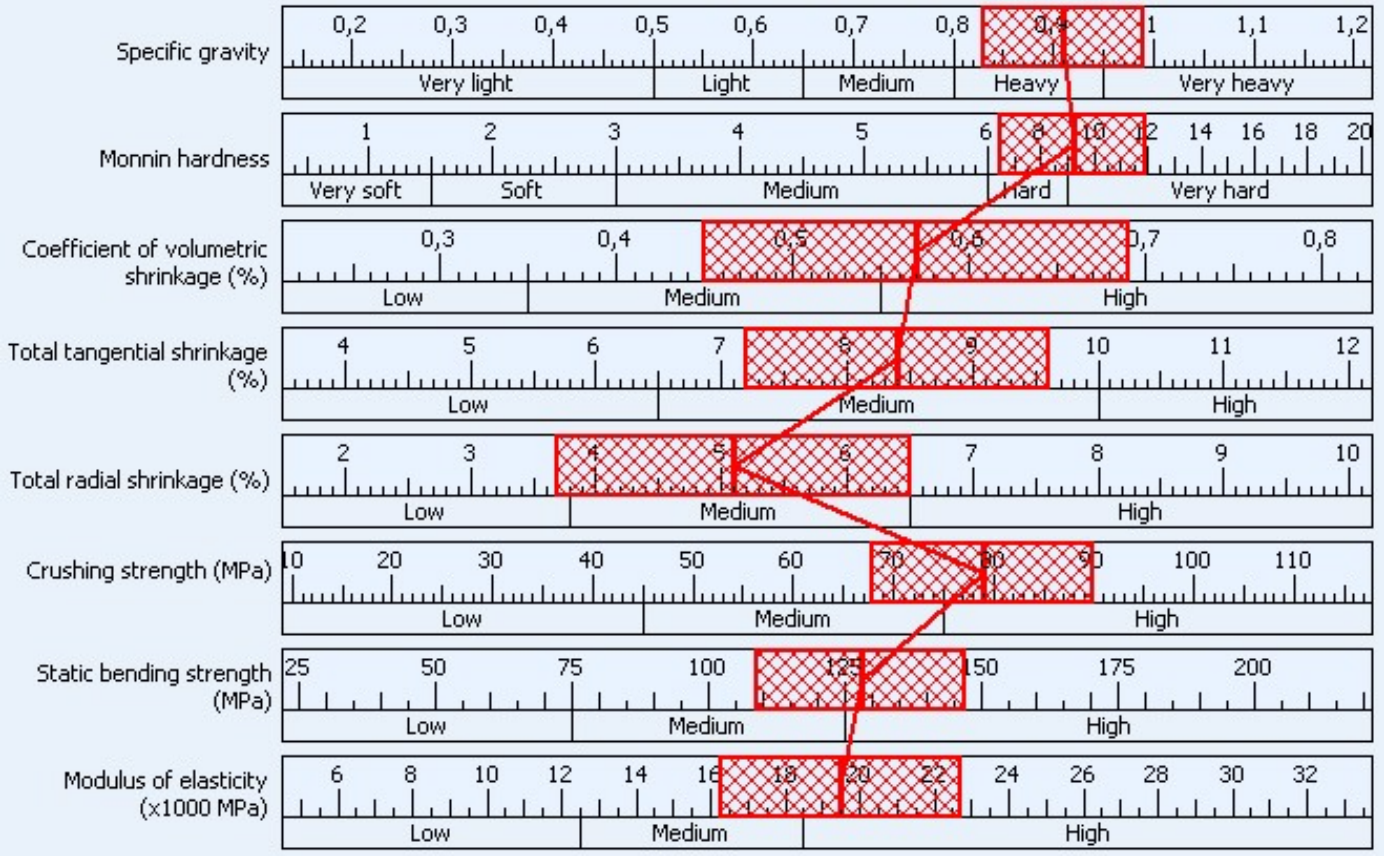
END-USES

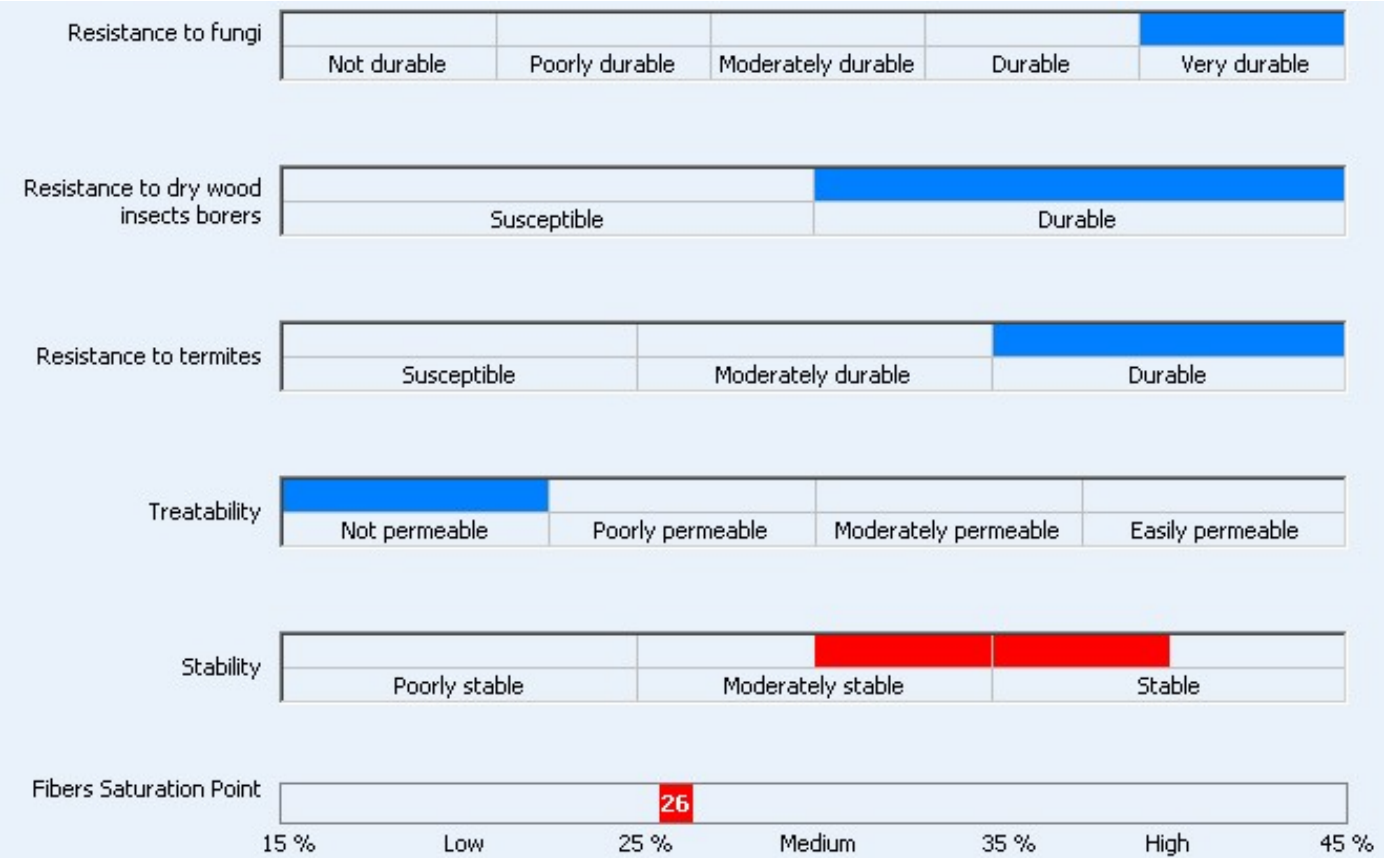
Sleepers
Hydraulic works (fresh water)
Stakes
Industrial or heavy flooring
Bridges (parts not in contact with water or ground)
Heavy carpentry
Poles
Bridges (parts in contact with water or ground)
Vehicle or container flooring

Note: Can be used as a substitute for AZOBE (Lophira alata).

MAIN LOCAL NAMES

Country	Local name	Country	Local name
Cameroon	ELONE	Congo	N' KASSA
Ivory Coast	ALUI	Ivory Coast	TALI
Gabon	ELOUN	Ghana	POTRODOM
Guinea-Bissau	MANCONE	Equatorial Guinea	ELONDO
Mozambique	MISSANDA	Nigeria	ERUN
Nigeria	SASSWOOD	Democratic Republic of the Congo	KASSA
Senegal	TALI	Sierra Leone	GOGBEI
Tanzania	MWAVI	Zambia	MUAVE
United Kingdom	MISSANDA		


Specific gravity
0,2 0,3 0,4 0,5 0,6 0,7 0,8 1 1,1 1,2
Very light Light Medium Heavy Very heavy
Monnin hardness
1 2 3 4 5 6 8 10 12 14 16 18 20
Very soft Soft Medium Hard Very hard
Coefficient of volumetric shrinkage (%)
0,3 0,4 0,5 0,6 0,7 0,8
Low Medium High
Total tangential shrinkage (%)
4 5 6 7 8 9 10 11 12
Low Medium High
Total radial shrinkage (%)
2 3 4 5 6 7 8 9 10
Low Medium High
Crushing strength (MPa)
10 20 30 40 50 60 70 80 90 100 110
Low Medium High
Static bending strength (MPa)
25 50 75 100 125 150 175 200
Low Medium High
Modulus of elasticity (x1000 MPa)
6 8 10 12 14 16 18 20 22 24 26 28 30 32
Low Medium High


Resistance to fungi
Not durable Poorly durable Moderately durable Durable Very durable
Resistance to dry wood insects borers
Susceptible Durable
Resistance to termites
Susceptible Moderately durable Durable
Treatability
Not permeable Poorly permeable Moderately permeable Easily permeable
Stability
Poorly stable Moderately stable Stable
Fibers Saturation Point
26
15 % Low 25 % Medium 35 % High 45 %