KOTO

Family: MALVACEAE (angiosperm)
Scientific name(s): Pterygota bequaertii
Pterygota macrocarpa
Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: creamy white
Sapwood: not demarcated
Texture: medium
Grain: straight or interlocked
Interlocked grain: slight

LOG DESCRIPTION

Diameter: from 80 to 90 cm
Thickness of sapwood:
Floats: yes
Log durability: low (must be treated)

Note: The tree has sometimes large buttresses. Some logs are not floattable.
Wood cream white to light yellow, attractive flecked aspect on quartersawn. Unpleasant odour when green.

PHYSICAL PROPERTIES

MECHANICAL AND ACOUSTIC 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 *:	0,59	0,06
Monnin hardness *:	2,5	0,6
Coeff. of volumetric shrinkage:	0,57 %	0,06 %
Total tangential shrinkage (TS):	9,6 %	
Total radial shrinkage (RS):	4,5 %	
TS/RS ratio:	2,1	
Fiber saturation point:	25 %	

Stability: poorly stable

	Mean	Std dev.
Crushing strength *:	54 MPa	7 MPa
Static bending strength *:	96 MPa	16 MPa
Modulus of elasticity *:	13140 MPa	1400 MPa

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

Musical quality factor: 78,7 measured at 2441 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 5 - not durable
Dry wood borers: susceptible - sapwood not or slightly demarcated (risk in all the wood)
Termites (according to E.N. standards): class S - susceptible
Treatability (according to E.N. standards): class 1 - easily permeable
Use class ensured by natural durability: class 1 - inside (no dampness)
Species covering the use class 5: No
Note: This species is listed in the European standard NF EN 350-2.
Prone to blue stain.

REQUIREMENT OF A PRESERVATIVE TREATMENT

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

DRYING

Drying rate: normal

Risk of distortion: high risk

Risk of casehardening: no

Risk of checking: high risk

Risk of collapse: no

Note: Risks of discoloration (oxydation) and blue stain during drying.

Possible drying schedule: 2

M.C. (%)	Temperature (°C) dry-bulb	wet-bulb	Air humidity (%)
Green	50	47	84
40	50	45	75
30	55	47	67
20	70	55	47
15	75	58	44

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: normal

Sawteeth recommended: ordinary or alloy steel

Cutting tools: ordinary

Peeling: good

Slicing: nood

Note: Tendency to woolliness in machining. Good finish with filling.

ASSEMBLING

Nailing / screwing: good

Gluing: correct

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

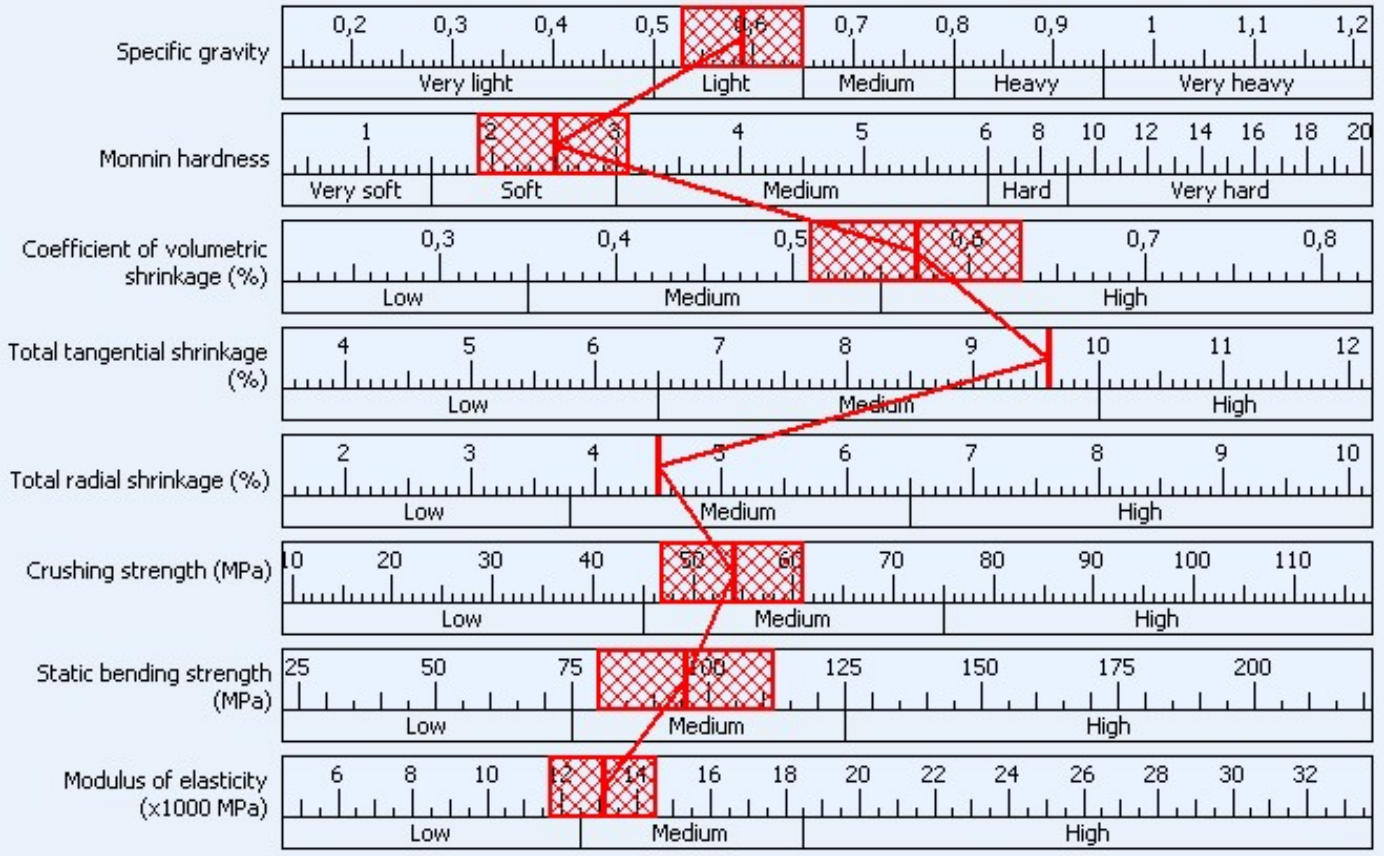
Sliced veneer
Interior joinery
Current furniture or furniture components
Blockboard
Wood frame house
Light carpentry
Seats

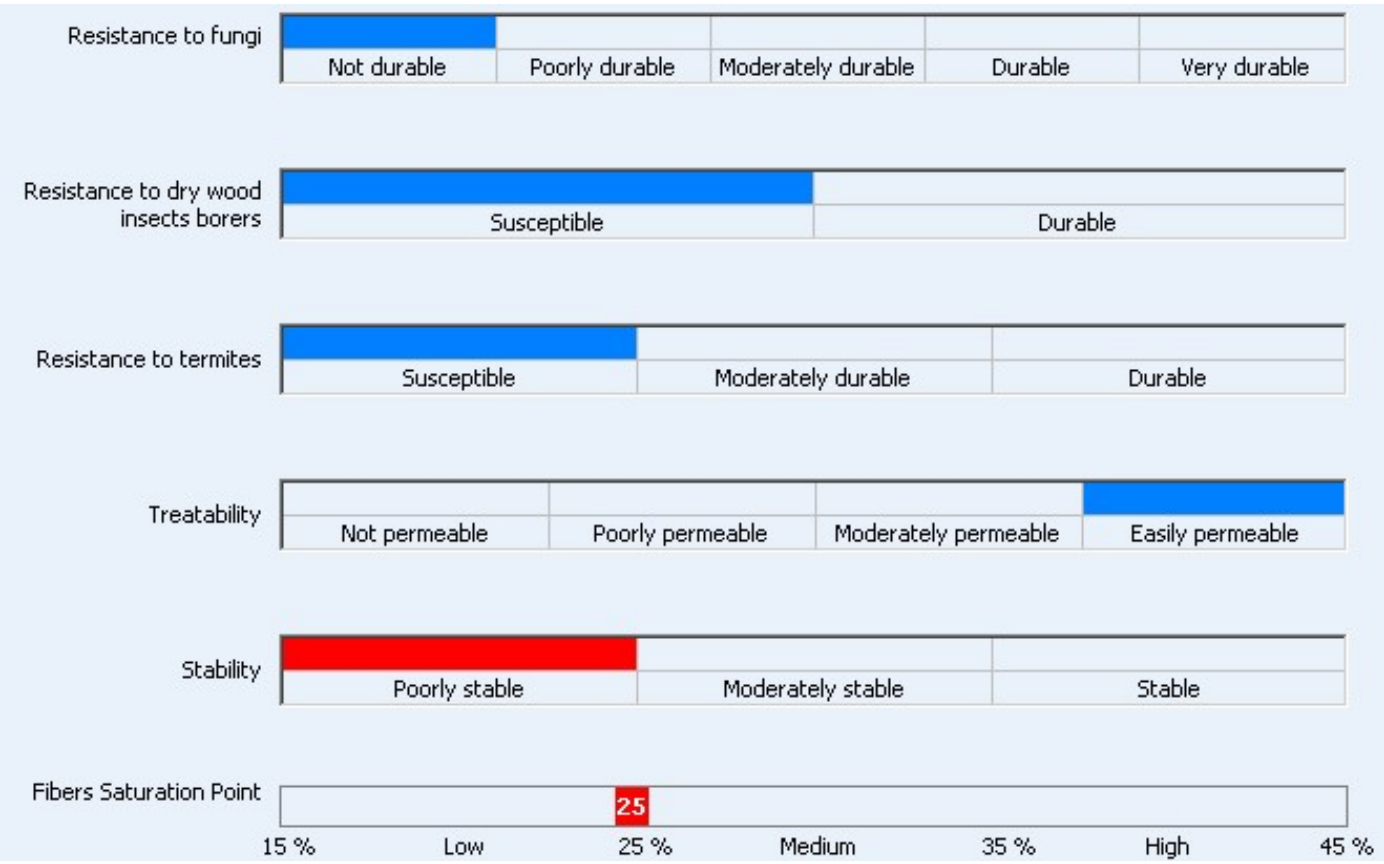
Veneer for back or face of plywood
Interior panelling
Moulding
Fiber or particle boards
Glued laminated
Wood-ware
Boxes and crates

Note: Steaming may colour KOTO veneers.

MAIN LOCAL NAMES

Country	Local name	Country	Local name
Benin	OFETE	Cameroon	EFOK AYUS
Ivory Coast	KOTO	Gabon	AKE
Ghana	AWARI	Ghana	KYERE
Nigeria	KEFE	Nigeria	POROPOSO
Central African Republic	KAKENDE	Democratic Republic of the Congo	IKAME
Germany	ANATOLIA	United Kingdom	AFRICAN PTERYGOTA
United Kingdom	PTERYGOTA		


Specific gravity
0,2 0,3 0,4 0,5 0,6 0,7 0,8 0,9 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
25
15 %
Low
25 %
Medium
35 %
High
45 %