AIELE

Family: BURSERACEAE (angiosperm)
Scientific name(s): Canarium schweinfurthii
Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: pinkish brown
Sapwood: not demarcated
Texture: coarse
Grain: interlocked
Interlocked grain: marked
Note: Light brown slightly pinkish. Possible presence of wind shakes.

LOG DESCRIPTION

Diameter: from 80 to 120 cm
Thickness of sapwood: from 5 to 10 cm
Floats: yes
Log durability: low (must be treated)

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 *:	0,49	0,09
Monnin hardness *:	1,3	0,5
Coeff. of volumetric shrinkage:	0,42 %	0,13 %
Total tangential shrinkage (TS):	9,9 %	1,1 %
Total radial shrinkage (RS):	5,9 %	1,1 %
TS/RS ratio:	1,7	
Fiber saturation point:	40 %	
Stability:	poorly stable	

	Mean	Std dev.
Crushing strength *:	36 MPa	4 MPa
Static bending strength *:	59 MPa	9 MPa
Modulus of elasticity *:	10490 MPa	1800 MPa

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

Musical quality factor: 94,1 measured at 2618 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 4 - not 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: use not recommended
In case of risk of permanent humidification: use not recommended

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DRYING

Drying rate: slow
Risk of distortion: high risk
Risk of casehardening: no
Risk of checking: high risk
Risk of collapse: yes
Note: Must be dried slowly and carefully.

Possible drying schedule: 6

M.C. (%)	Temperature (°C) dry-bulb	wet-bulb	Air humidity (%)
Green	42	41	94
50	48	43	74
30	54	46	63
20	60	51	62
15	60	51	62

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: good
Slicing: nood

ASSEMBLING

Nailing / screwing: poor
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.

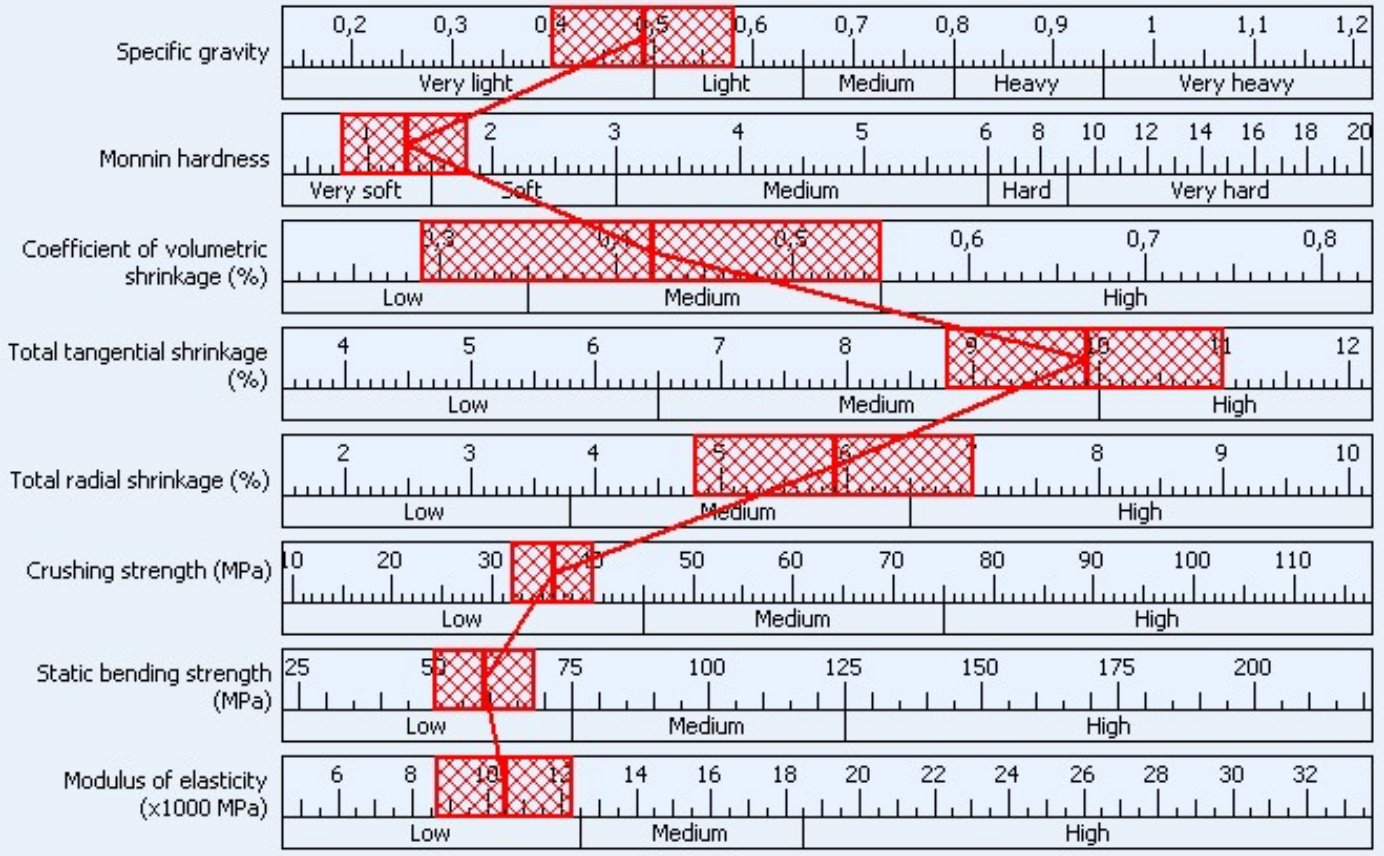
END-USES

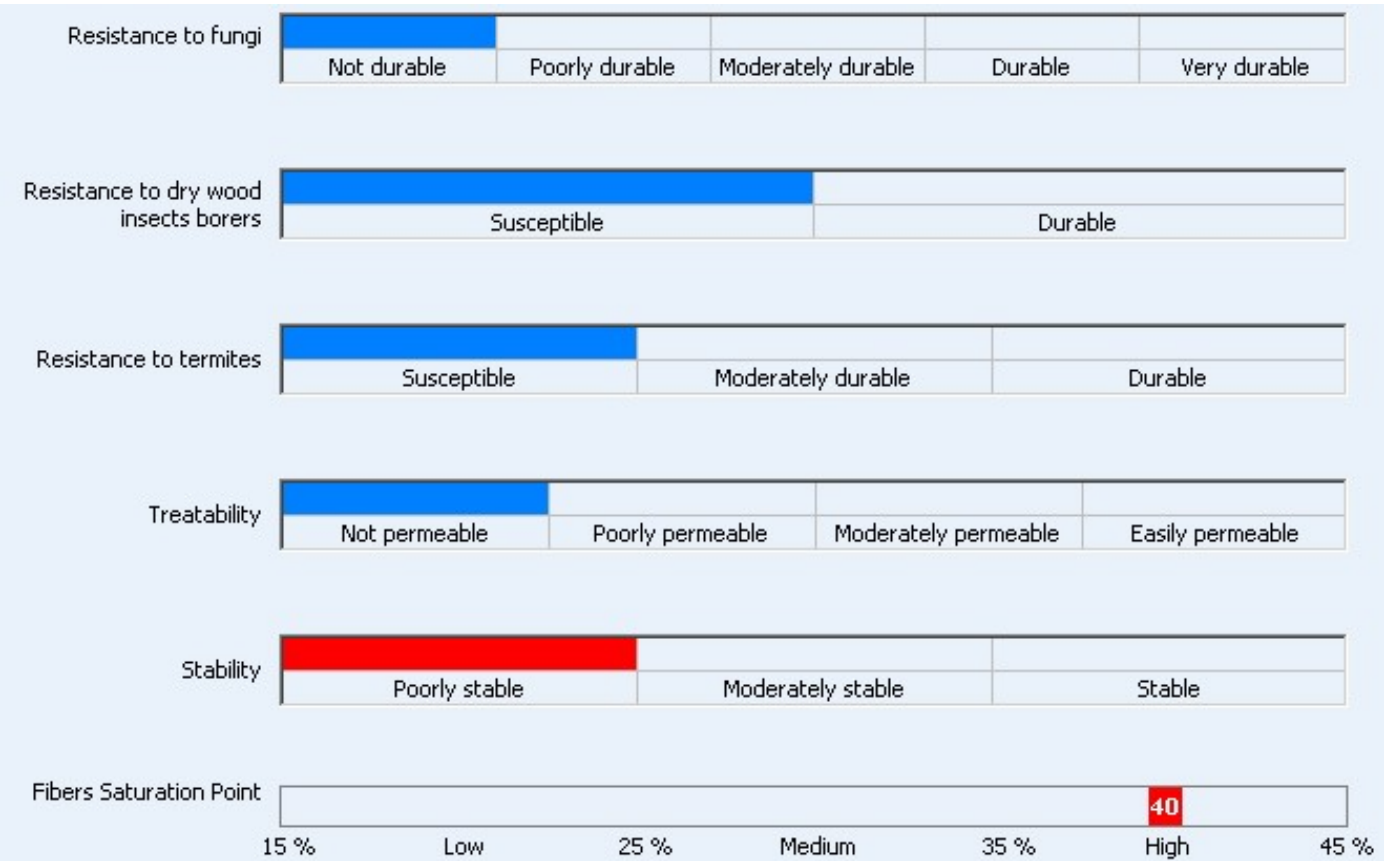
Veneer for interior of plywood
Boxes and crates
Formwork
Interior joinery
Sliced veneer
Blockboard
Veneer for back or face of plywood
Current furniture or furniture components
Interior panelling

Note: Can be used as substitute for OKOUME (Aucoumea klaineana) for plywood.

MAIN LOCAL NAMES

Country	Local name	Country	Local name
Angola	M'BILI	Cameroon	ABEL
Congo	M'BILI	Ivory Coast	AIELE
Gabon	ABEUL	Gabon	OVILI
Ghana	BEDIWUNUA	Ghana	EYERE
Equatorial Guinea	ABE	Nigeria	ELEMI
Uganda	MWAFU	Central African Republic	GBERI
Democratic Republic of the Congo	BIDIKALA	Democratic Republic of the Congo	M'BIDIKALA
Sierra Leone	BILLI	United Kingdom	CANARIUM


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 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
40
15 %
Low
25 %
Medium
35 %
High
45 %