

## Okwen

**Family.** Leguminosae (Caesalpiniaceae)

**Botanical Name(s).**

*Brachystegia cynometroides*

*Brachystegia eurycoma*

*Brachystegia leonensis*

**Continent.** Africa

**CITES.** This species is not listed in the CITES Appendices (Washington Convention 2023).

### Description of logs

**Diameter.** From 70 to 120 cm

**Thickness of sapwood.** From 6 to 15 cm

**Floats.** No

**Log durability.** Low (treatment necessary)

### Description of wood

**Colour reference.** Light brown

**Sapwood.** Clearly demarcated

**Texture.** Medium

**Grain.** Interlocked

**Interlocked grain.** Slight

**Notes.** Heartwood light brown to red brown with purplish glints. Grain sometimes irregular.

### Physics and mechanics

*The properties indicated are for mature wood. These properties may vary significantly depending on the origin and growing conditions of the wood.*

Property	Average value
Specific gravity <sup>1</sup>	0.62
Monnin hardness <sup>1</sup>	3.2
Coefficient of volumetric shrinkage	0.44 % per %
Total tangential shrinkage (St)	6.8 %
Total radial shrinkage (Sr)	4.6 %
Ratio St/Sr	1.5
Fibre saturation point	30 %
Thermal conductivity (λ)	0.21 W/(m.K)
Lower heating value	
Crushing strength <sup>1</sup>	55 MPa
Static bending strength <sup>1</sup>	93 MPa
Modulus of elasticity <sup>1</sup>	12,880 MPa

<sup>1</sup> At 12 % moisture content, with 1 MPa = 1 N/mm



Quartersawn



Flat sawn

### Natural durability and preservation

Resistance to fungi. Class 3 - moderately durable

Resistance to dry wood borers. Class D - durable (sapwood demarcated, risk limited to sapwood)

Resistance to termites. Class M - moderately durable

Treatability. Class 3 - poorly permeable

Use class ensured by natural durability.

Class 2 - inside or under cover (dampness possible)

### Requirement of a preservative treatment

Against dry wood borer. Does not require any preservative treatment

In case of temporary humidification. Requires appropriate preservative treatment

In case of permanent humidification. Use not recommended

### Drying

Drying rate. Normal to slow

Risk of distorsion. High risk

Risk of casehardening. No known specific risk

Risk of checking. High risk

Risk of collapse. Yes

Notes. Drying must be handled slowly and carefully to avoid defects.

Suggested drying program.

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
<b>Prewarm 1</b>		> 50	50	87	17.0
<b>Prewarm 2</b>	4	> 50	50	86	16.5
<b>Drying</b>		> 50	53	83	15.2
		50 - 40	53	80.0	14.1
		40 - 35	54	80.0	13.9
		35 - 30	55	75.0	12.5
		30 - 27	57	70.0	11.0
		27 - 24	58	61.0	9.4
		24 - 21	59	51.0	7.9
		21 - 18	60	47.0	7.3
		18 - 15	61	39.0	6.1
		15 - 12	62	35.0	5.6
		12 - 9	62	30.0	5.0
		9 - 6	62	26.0	4.4
<b>Conditioning</b>	8		55	(3)	(2)
<b>Cooling</b>	(1)		Stop	(3)	(2)

(1) ) Cooling: until the temperature inside the kiln no longer exceeds external temperature by more than 30 °C.

(2) UGL = final H% x 0,8 to 0,9.

(3) Subtract RH from the UGL determined in (2) and temperature, using the Hailwood-Horrobin equation.

### Sawing and machining

Blunting effect. Fairly high

Sawteeth recommended. Stellite-tipped

Cutting tools. Tungsten carbide

Peeling. Good

Slicing. Good

Notes. Difficult to obtain a good finish due to irregular grain.

## Assembling

Nailing and screwing. Good but pre-boring necessary

Notes. Tends to split when nailing.

## Commercial grading

Appearance grading for sawn timbers.

According to the ATIBT grading rules (2017), the main choices are: FAS (First And Second), n°1 Common and select, n°2 Common (see details of these rules on the ATIBT website).

Visual grading for structural applications

According to French standard NF B 52-001-1 (2018), strength class D30 can be provided by visual grading.

## Fire safety

Conventional French grading.

Thickness > 14 mm: M3 (moderately inflammable)

Thickness < 14 mm: M4 (easily inflammable)

Euroclasses grading. D-s2, d0

Default grading for solid wood, according to requirements of European standard EN 14081-1+A1 (August 2019). It concerns structural graded timber in vertical uses and ceiling with mean density upper 0.35 and thickness upper 22 mm.

## End-uses

- Cabinetwork (high class furniture)
- Current furniture or furniture components
- Flooring
- Glued laminated
- Indoor staircases
- Interior joinery
- Interior panelling
- Light carpentry
- Sliced veneer
- Veneer for back or face of plywood
- Wood frame house
- Wood-ware

Notes. A careful sanding and a filling are necessary to obtain a good finish.

## Main local names

Country	Local name
Cameroon	Ékop-naga
Côte d'Ivoire	Méblo
France (importated tropical timber)	Naga
Gabon	Mendou
Liberia	Tebako
Nigeria	Okwen
Sierra Leone	Bogdei
United Kingdom (importated tropical timber)	Okwen