

Common name:	DOUSSIE
Family:	CAESALPINIACEAE
Scientific name(s):	Afzelia africana Afzelia bella Afzelia bipindensis Afzelia pachyloba

LOG DESCRIPTION	WOOD DESCRIPTION
Diameter:	from 60 to 90 cm
Thickness of sapwood:	from 2 to 5 cm
Floats:	no
Durability in forest :	Good
	Colour: Red brown
	Sapwood: Clearly demarcated
	Texture: Coarse
	Grain: Straight or interlocked
	Interlocked grain: Slight
Note:	Wood golden brown to light red brown, sometimes with darker veins. Afzelia bipindensis can often be identified by the presence of yellow powder at the heart.

PHYSICAL PROPERTIES	MECHANICAL PROPERTIES		
Physical and mechanical properties are based on mature heartwood specimens. These properties can vary greatly depending on origin and growth conditions.			
	mean	standard deviation	
Density *:	0.80 g/cm <sup>3</sup>	0.06	
Monnin hardness*:	7.7	1.6	
Coef of volumetric shrinkage:	0.44 %	0.10	
Total tangential shrinkage:	4.4 %	0.7	
Total radial shrinkage:	3.0 %	0.5	
Fibre saturation point:	19 %		
Stability:	stable		
		mean	
		standard deviation	
	Crushing strength *:	74 MPa	10
	Static bending strength *:	124 MPa	23
	Modulus of elasticity *:	17020 MPa	2889
	(* : at 12 % moisture content ; 1 MPa = 1 N/mm <sup>2</sup> )		

#### 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.

Fungi:	Class 1 - very durable	* ensured by natural durability (according EN standards).
Dry wood borers:	Durable; sapwood demarcated (risk limited to sapwood)	
Termites:	Class D - Durable	
Treatability:	4 - not permeable	
Use class*:	4 - in ground or fresh water contact	
Note:	This species is listed in the European standard NF EN 350-2. According to the European standard NF EN 335, performance length might be modified by the intensity of end-use exposition.	

#### MAIN LOCAL NAMES

Countries	Local names	Countries	Local names
Angola	N'KOKONGO	Tanzania	MKORA
Angola	UVALA	Germany	AFZELIA
Benin	KPAKPATIN	Portugal	CHANFUTA
Benin	PAKPAJIDE	United Kingdom	AFZELIA
Cameroon	DOUSSIE		
Cameroon	M'BANGA		
Côte d'Ivoire	AZODAU		
Côte d'Ivoire	LINGUE		
Dem Rep of Congo	BOLENGU		
Ghana	PAPAO		
Guinea-Bissau	PAU CONTA		
Mozambique	CHANFUTA		
Mozambique	MUSSACOSSA		
Nigeria	APA IGBO		
Senegal	LINGUE		
Sierra Leone	KPENDEI		
Tanzania	MBEMBAKOFI		

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**DOUSSIE**

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**REQUIREMENT OF A PRESERVATIVE TREATMENT**

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Against dry wood borer attacks:	Does not require any preservative treatment
In case of temporary humidification risk:	Does not require any preservative treatment
In case of permanent humidification risk:	Does not require any preservative treatment

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**DRYING**

## Possible drying schedule

Drying rate:	Slow	Temperature (°C)		Air humidity (%)	
		M.C. (%)	dry-bulb		wet-bulb
Risk of distortion:	Slight risk				
Risk of casehardening:	No				
Risk of checking:	Slight risk				
Risk of collapse:	No	30	42	41	94
		25	42	39	82
		20	48	43	74
		15	48	43	74

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This schedule is given for information only and is applicable to thickness < 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.

Note: Difficulties in extracting moisture from the heart of pieces. Slow drying necessary (3 to 5 months).

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**SAWING AND MACHINING**

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Blunting effect:	Fairly high
Sawteeth recommended:	Stellite-tipped
Cutting tools:	Tungsten carbide
Peeling:	Not recommended or without interest
Slicing:	Good
Note:	Peeling recommended only for decorative veneer. Sawdust may cause irritations. Some difficulties due to interlocked grain (tearing).

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**ASSEMBLING**

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Nailing / Screwing:	Good but pre-boring necessary
Gluing:	Correct (for interior only)
Note:	Tends to split when nailing. Gluing may be difficult due to the presence of wood extractives.

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**END-USES**

Main known end-uses; they must to be implemented according to the code of practice.

Important remark: some end-uses are mentionned for information (traditional, regional or ancient end-uses).

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Note: Yellow powder often visible in areas near the heart contain substances that might hinder varnish drying.  
Filling is recommended to obtain a good finish.

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Ship building (ribs)	Bridges (parts in contact with water or ground)
Ship building (planking and deck)	Sliced veneer

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Exterior joinery

Interior joinery

Stairs (inside)

Flooring

Bridges (parts not in contact with water or ground)

Interior panelling

Exterior panelling

Cabinetwork (high class furniture)

Current furniture or furniture components

Cooperage

Industrial or heavy flooring

Heavy carpentry

Wood frame house

Shingles

Resistant to one or several acids

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