Common name:	SANDE
Family:	MORACEAE
Scientific name(s):	Brosimum utile Brosimum parinarioides Brosimum potabile
Note:	SANDE refers to light coloured Brosimum species.

LOG DESCRIPTION

Diameter:	from 70 to 90 cm
Thickness of sapwood:	from to cm
Floats:	yes
Durability in forest :	Low (must be treated)

WOOD DESCRIPTION

Colour:	Light brown
Sapwood:	Not demarcated
Texture:	Medium
Grain:	Interlocked
Interlocked grain:	Slight

Note: Heartwood varies from greyish white to light brown with golden shades. Sometimes internal stresses.

PHYSICAL 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 *:	0.69 g/cm3	0.05
Monnin hardness*:	3.5	1.0
Coef of volumetric shrinkage:	0.59 %	0.03
Total tangential shrinkage:	8.2 %	1.3
Total radial shrinkage:	5.8 %	1.1
Fibre saturation point:	28 %	
Stability:	Poorly stable	

MECHANICAL PROPERTIES

	mean	standard deviation
Crushing strength *:	64 MPa	7
Static bending strength *:	95 MPa	10
Modulus of elasticity *:	16380 MPa	2170

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

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 5 - not durable
Dry wood borers:	Susceptible; sapwood not or slightly demarcated (risk in all the wood)
Termites:	Class S - Susceptible
Treatability:	1 - easily permeable
Biological hazard class*:	1 - not in ground contact, under cover (no dampness)
Note:	Prone to blue stain.

* ensured by natural durability (according EN standards).

COUNTRIES - LOCAL NAMES

Countries	Local names
Brazil (Amazon)	AMAPA
Brazil (Amazon)	AMAPA DOCE
Brazil (Amazon)	ARBOL VACA
Brazil (Amazon)	LEITEIRA
Colombia	ARBOL VACA
Colombia	GUAIMARO
Colombia	LECHERO
Colombia	SANDE
Costa-Rica	PALO DE VACA
Ecuador	SANDE
French Guiana	DOKALI
French Guiana	TAKINA
Panama	PALO DE VACA
Panama	SANDY
Peru	PANGUANA
Venezuela	MARINA
Venezuela	SANDE
Venezuela	VACA
United Kingdom	COW TREE

SANDE

REQUIREMENT OF A PRESERVATIVE TREATMENT

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

DRYING

Drying rate:	Normal
Risk of distortion:	Slight risk
Risk of casehardening:	No
Risk of checking:	No risk or very slight risk
Risk of collapse:	No

Possible drying schedule

M.C. (%)	Temperature (°C) dry-bulb	wet-bulb	Air humidity (%)
Green	60	56	81
30	68	58	61
20	74	60	51
15	80	61	41

This shedule 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: The risks of distortion increase in presence of highly interlocked grain; in this case, air drying is recommended.

SAWING AND MACHINING

Blunting effect:	Normal
Sawteeth recommended:	Ordinary or alloy steel
Cutting tools:	Ordinary
Peeling:	Good
Slicing:	Good
Note:	Some difficulties in presence of internal stresses (overheating of sawblades) and highly interlocked grain. Keep sharp tools.

ASSEMBLING

Nailing / Screwing:	Good
Gluing:	Correct

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).

Veneer for interior of plywood
Veneer for back or face of plywood
Current furniture or furniture components
Boxes and crates
Interior joinery
Moulding
Fiber or particle boards
Interior panelling
Light carpentry
Flooring
Sliced veneer