KARRI

Family: MYRTACEAE (angiosperm)

Scientific name(s): Eucalyptus diversicolor

Commercial restriction: no commercial restriction

Note: KARRI presently commercialized does not come anymore from primary forests; it only comes from regrowth forests (Australia) as well as plantations (in particular South Africa).

WOOD DESCRIPTION

Color: pinkish brown

Sapwood: clearly demarcated

Texture: medium

Grain: straight or interlocked

Interlocked grain: slight

LOG DESCRIPTION

Diameter: from 80 to 200 cm

Thickness of sapwood: from 3 to 6 cm

Floats: no

Log durability: good

Note: The above mentionned range of diameters is the one of woods of natural forests, woods from regrowth forests or plantations have lower dimeters.

PHYSICAL 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 *:	0,90	
Monnin hardness *:		
Coeff. of volumetric shrinkage:	0,67 %	
Total tangential shrinkage (TS):	11,2 %	
Total radial shrinkage (RS):	7,6 %	
TS/RS ratio:	1,5	
Fiber saturation point:	28 %	

Stability: poorly stable

MECHANICAL AND ACOUSTIC PROPERTIES

	Mean	Std dev.
Crushing strength *:	71 MPa	
Static bending strength *:	119 MPa	
Modulus of elasticity *:	23300 MPa	

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

Note: Hard wood. Physical and mechanical properties of KARRI wood from plantation hardly vary according to trees age and growth conditions.

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 2 - durable

Dry wood borers: durable - sapwood demarcated (risk limited to sapwood)

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 3 - not in ground contact, outside

Species covering the use class 5: No

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.

REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks: does not require any preservative treatment

In case of risk of temporary humidification: does not require any preservative treatment

In case of risk of permanent humidification: use not recommended

DRYING

Drying rate: slow
Risk of distortion: high risk
Risk of casehardening: no
Risk of checking: high risk
Risk of collapse: yes

Possible drying schedule: 1

M.C. (%)	Temperature (°C) dry-bulb	wet-bulb	Air humidity (%)
Green	40	37	82
40	44	38	68
30	44	36	59
20	46	36	52
15	49	37	46

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: not recommended or without interest
Slicing: not recommended or without interest

ASSEMBLING

Nailing / screwing: good but pre-boring necessary
Gluing: correct

COMMERCIAL GRADING

Appearance grading for sawn timbers: According to MGR grading rules (2009)
Possible grading: Prime, Select, Standard, Serviceable, Utility

FIRE SAFETY

Conventional French grading: Thickness > 14 mm : M.3 (moderately inflammable)
Thickness < 14 mm : M.4 (easily inflammable)

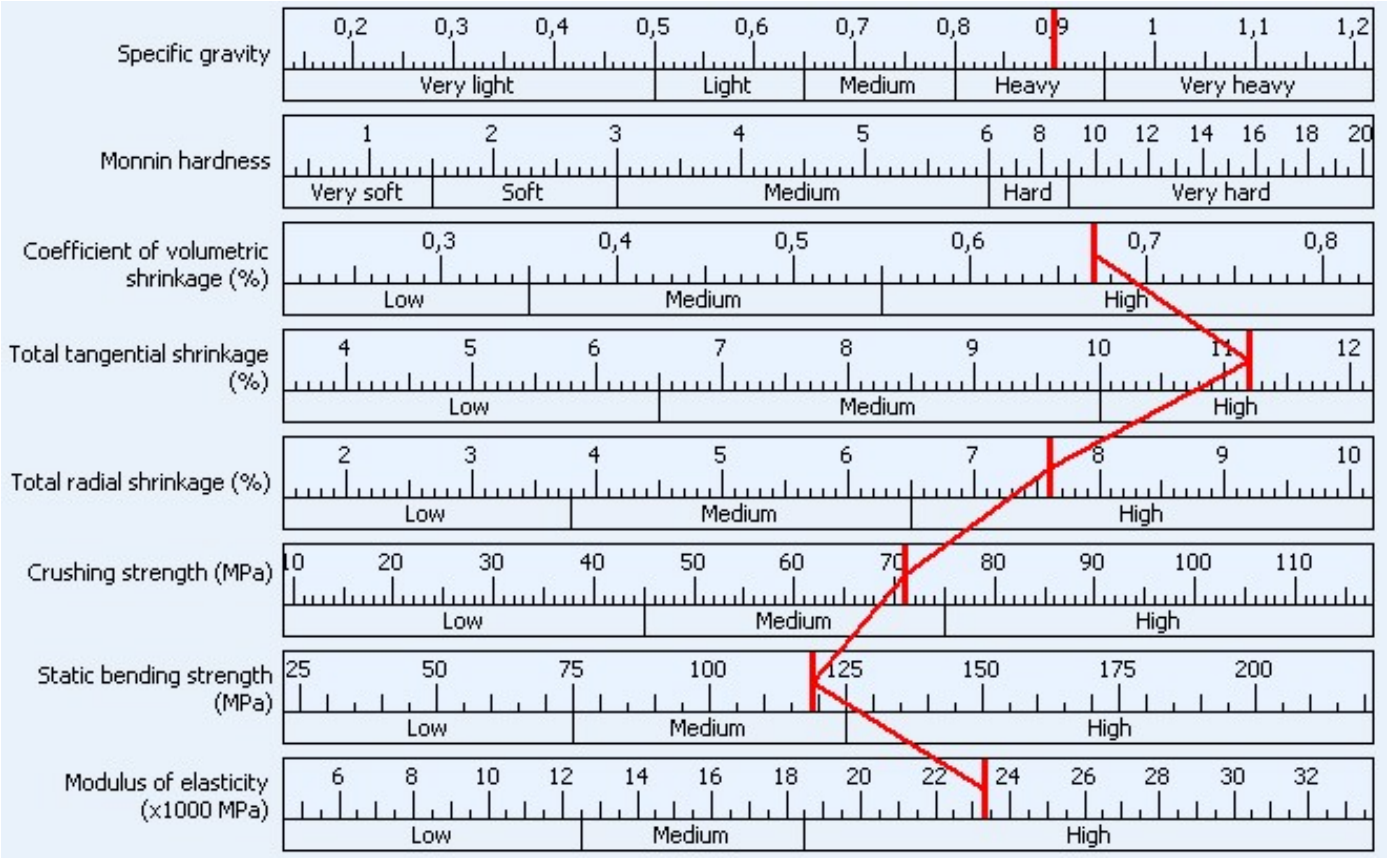
Euroclasses grading: D s2 d0
Default grading for solid wood, according to requirements of European standard EN 14081-1 annex C (April 2009). It concerns structural graded timber in vertical uses with mean density upper 0.35 and thickness upper 22 mm.

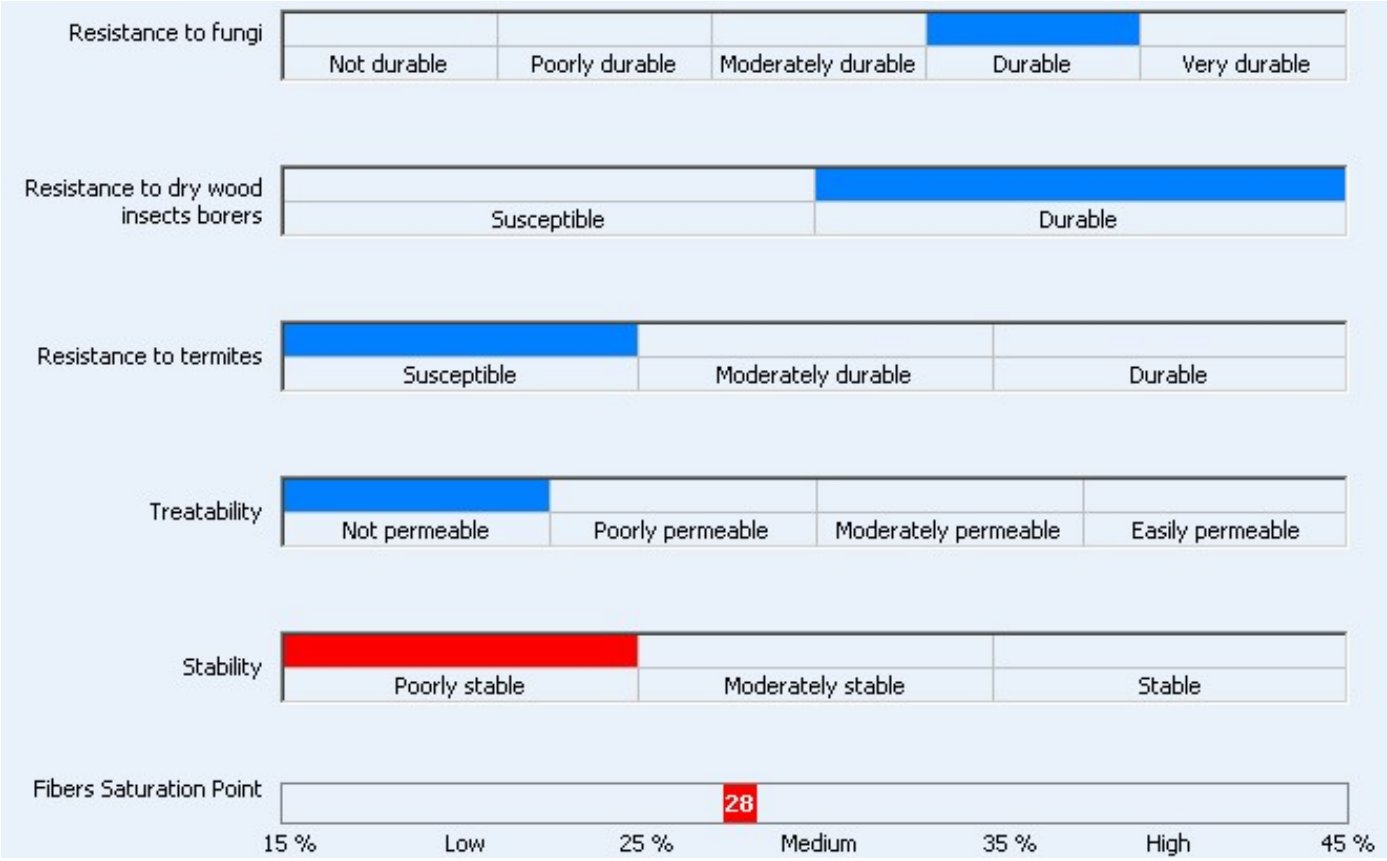
END-USES

Industrial or heavy flooring
Vehicle or container flooring
Glued laminated
Exterior panelling
Stairs (inside)
Cabinetwork (high class furniture)
Flooring
Heavy carpentry
Interior panelling
Bridges (parts not in contact with water or ground)
Moulding

MAIN LOCAL NAMES

Country	Local name	Country	Local name
Australia	KARRI		


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
28
15 % Low 25 % Medium 35 % High 45 %