MELEZE

Family: PINACEAE (gymnosperm)
Scientific name(s): Larix decidua
Commercial restriction: no commercial restriction
Note: High altitude species, LARCH is found in the Alp mountains and in Central Europe.

WOOD DESCRIPTION

Color: pinkish brown
Sapwood: clearly demarcated
Texture: medium
Grain: straight
Interlocked grain: absent

LOG DESCRIPTION

Diameter: from 40 to 70 cm
Thickness of sapwood: from 1 to 3 cm
Floats: pointless
Log durability: good

Note: Heartwood is pinkish brown with redish brown veins. The grain is usually straight but might be oblique (twisted logs).

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 *:	0,60	
Monnin hardness *:	3,8	
Coeff. of volumetric shrinkage:	0,48 %	
Total tangential shrinkage (TS):	8,2 %	
Total radial shrinkage (RS):	4,2 %	
TS/RS ratio:	2,0	
Fiber saturation point:	26 %	

	Mean	Std dev.
Crushing strength *:	52 MPa	
Static bending strength *:	90 MPa	
Modulus of elasticity *:	11800 MPa	

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

Stability: moderately stable

Note: European standard EN 14081-1 "Timber structures - Strength graded structural timber with rectangular cross-section" gives the scope of the requirements found in NF B 52001 and applying to timber structures for visual grading of French timbers.

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 3-4 - moderately to poorly 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.
Use class 3 is only for wood components without sapwood.
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: requires appropriate preservative treatment
In case of risk of permanent humidification: use not recommended

DRYING

Drying rate: normal
Risk of distortion: high risk
Risk of casehardening: no
Risk of checking: slight risk
Risk of collapse: no
Note: LARCH artificial drying over 70°C avoids problems linked with resin exudation on the final product.

Possible drying schedule: 2

	Temperature (°C)		
M.C. (%)	dry-bulb	wet-bulb	Air humidity (%)
Green	50	47	84
40	50	45	75
30	55	47	67
20	70	55	47
15	75	58	44

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: normal
Sawteeth recommended: ordinary or alloy steel
Cutting tools: tungsten carbide
Peeling: not recommended or without interest
Slicing: nood
Note: LARCH sawing is easy but one must take into account the clogging of saw blades due to resin.

ASSEMBLING

Nailing / screwing: good but pre-boring necessary
Gluing: correct
Note: Gluing is correct for woods dried over 70°C but more deliquate for others because of resin.

COMMERCIAL GRADING

Appearance grading for sawn timbers: According to European standard EN 1611-1 (October 1999) and EN 1611-1 A1 (March 2003)
Possible grading (on 2 sides): G2-0, G2-1, G2-2, G2-3, G2-4
Possible grading (on 4 sides): G4-0, G4-1, G4-2, G4-3, G4-4

Visual grading for structural applications: Traded timber with CE marking. Possible strength classes: C18, C24 or C27 related to the European standard EN 14081 (May 2006).

FIRE SAFETY

Conventional French grading: Thickness > 18 mm : M.3 (moderately inflammable)
Thickness < 18 mm : M.4 (easily inflammable)

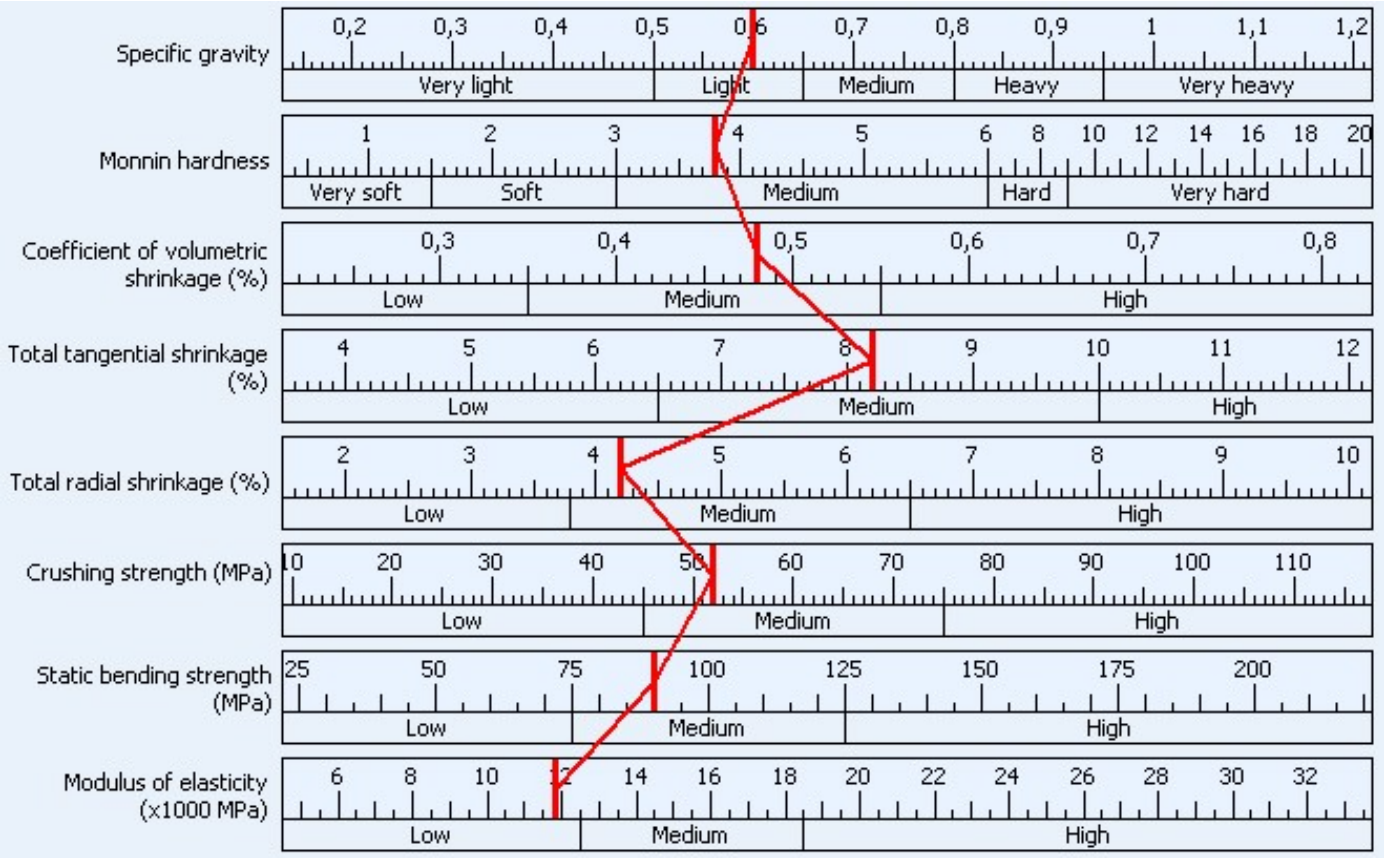
Euroclasses grading: D s2 d0
Default grading for solid wood, according to requirements of European standard EN 14081-1 annex C (April 2009). It concerns structural graded timber in vertical uses with mean density upper 0.35 and thickness upper 22 mm.

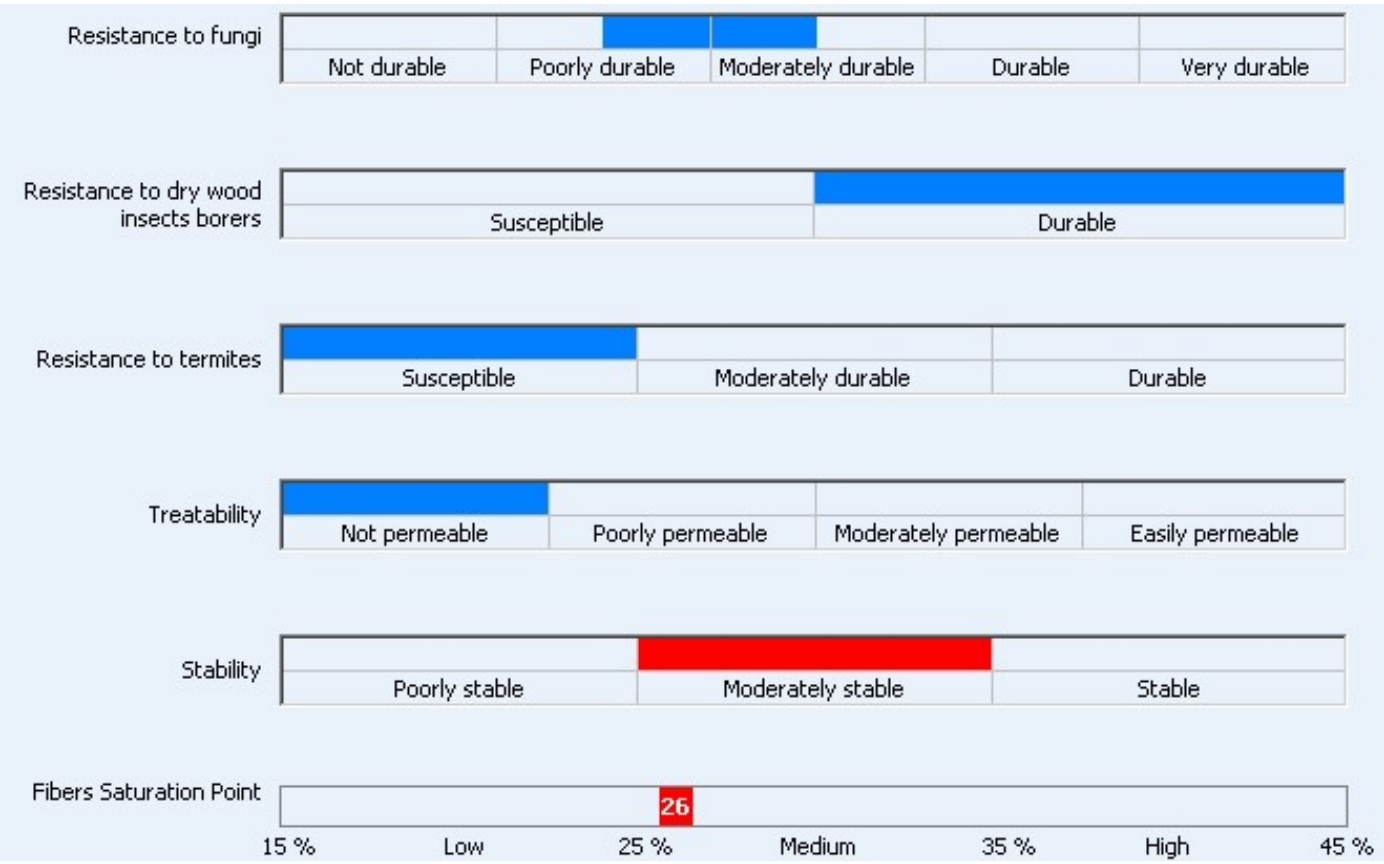
END-USES

Heavy carpentry
Glued laminated
Interior joinery
Interior panelling
Sliced veneer
Cooperage
Exterior panelling
Exterior joinery
Shingles
Flooring
Current furniture or furniture components

MAIN LOCAL NAMES

Country	Local name	Country	Local name
Germany (temperate timber)	LARCHE	Spain (temperate timber)	ALERCE
France (temperate timber)	MELEZE	Italia (temperate timber)	LARICE
United Kingdom (temperate timber)	LARCH		


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
26
15 %
Low
25 %
Medium
35 %
High
45 %