

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

Physical and mechanical properties are based on mature heartwood specimens. These properties can vary greatly depending on origin and growth conditions.

	<u>Mean</u>	<u>Std dev.</u>
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 %	
Stability:	moderately stable	

MECHANICAL AND ACOUSTIC PROPERTIES

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

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

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

Possible drying schedule: 2

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

Note: LARCH artificial drying over 70°C avoids problems linked with resin exudation on the final product.

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

MAIN LOCAL NAMES

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

