

Family: OLACACEAE (angiosperm)

Scientific name(s): Fraxinus excelsior

Commercial restriction: no commercial restriction

## WOOD DESCRIPTION

Color: creamy white  
Sapwood: not demarcated  
Texture: coarse  
Grain: straight  
Interlocked grain: absent

Note: Creamy white wood when fresh, it turns yellow with light. Grain is sometimes weavy. Heart of some logs is marked with veins or black areas.

## LOG DESCRIPTION

Diameter: from 40 to 100 cm  
Thickness of sapwood:  
Floats: pointless  
Log durability: moderate (treatment recommended)

## 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 *:	0,68	
Monnin hardness *:	5,1	
Coeff. of volumetric shrinkage:	0,48 %	
Total tangential shrinkage (TS):	9,6 %	
Total radial shrinkage (RS):	5,7 %	
TS/RS ratio:	1,7	
Fiber saturation point:	32 %	
Stability:	moderately stable	

## MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	51 MPa	
Static bending strength *:	113 MPa	
Modulus of elasticity *:	12900 MPa	
(*: at 12% moisture content, with 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.

E.N. = Euro Norm

Fungi (according to E.N. standards): class 5 - not durable

Dry wood borers: heartwood durable but sapwood not clearly demarcated

Termites (according to E.N. standards): class S - susceptible

Treatability (according to E.N. standards): class 2 - moderately permeable

Use class ensured by natural durability: class 1 - inside (no dampness)

Species covering the use class 5: No

Note: This species is listed in the European standard NF EN 350-2.

## REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks: requires appropriate 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 to slow

Risk of distortion: high risk

Risk of casehardening: no

Risk of checking: high risk

Risk of collapse: no

Note: Risk of splits or deformations are weak with natural drying.

Possible drying schedule: 6

M.C. (%)	Temperature (°C)		Air humidity (%)
	dry-bulb	wet-bulb	
Green	42	41	94
50	48	43	74
30	54	46	63
20	60	51	62
15	60	51	62

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: stellite-tipped

Cutting tools: tungsten carbide

Peeling: good

Slicing: good

Note: ASH wood has a good aptitude for bending.

**ASSEMBLING**

Nailing / screwing: good but pre-boring necessary

Gluing: correct

Note: Must take some precautions for gluing because of the wood slight porosity and its light acidity.

**FIRE SAFETY**

Conventional French grading: Thickness &gt; 14 mm : M.3 (moderately inflammable)

Thickness &lt; 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**

Sliced veneer

Tool handles (resilient woods)

Seats

Cabinetwork (high class furniture)

Cooperage

Interior joinery

Flooring

Arched goods

Turned goods

Note: This wood is particularly renowned for its flexibility (aptitude for bending) and its resistance to impacts.

## MAIN LOCAL NAMES

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<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
Germany (temperate timber)	ESCHE	Spain (temperate timber)	FRESNO
France (temperate timber)	FRÊNE	Italia (temperate timber)	FRASSINO
United Kingdom (temperate timber)	ASH		

