

Black locust

Family. Fabaceae

Botanical Name(s).

Robinia pseudoacacia

Continent. Europe

CITES. This species is not listed in the CITES Appendices (Washington Convention 2023).

Notes. Coming from East of USA, Black Locust was introduced in Europe by Jean ROBIN in the 17th century. Robinia is frequently called "Acacia" which is source of mistake. The name "Acacia" must be used only for woods of the "Acacia" genus (tropical species). Some of them, coming from plantations are arriving on the European market today (i.e. Acacia mangium, see corresponding technical sheet).

Description of logs

Diameter. From 15 to 50 cm

Thickness of sapwood. From 1 to 2 cm

Floats. Pointless

Log durability. Good

Description of wood

Colour reference. Yellow brown

Sapwood. Clearly demarcated

Texture. Coarse

Grain. Straight

Interlocked grain. Absent

Notes. Yellow to greenish yellow when freshly cut, heartwood comes darker and rapidly takes a golden brown shade sometimes quite dark.

Physics and mechanics

The properties indicated are for mature wood. These properties may vary significantly depending on the origin and growing conditions of the wood.

Property	Average value
Specific gravity ¹	0.74
Monnin hardness ¹	9.5
Coefficient of volumetric shrinkage	0.40 % per %
Total tangential shrinkage (St)	6.9 %
Total radial shrinkage (Sr)	4.4 %
Ratio St/Sr	1.6
Fibre saturation point	30 %
Thermal conductivity (λ)	0.24 W/(m.K)
Lower heating value	18,560 kJ/kg
Crushing strength ¹	70 MPa
Static bending strength ¹	126 MPa



Half quarter sawn



Quarter sawn

Modulus of elasticity ¹	16,900 MPa
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¹ At 12 % moisture content, with 1 MPa = 1 N/mm

Natural durability and preservation

Resistance to fungi. Class 1-2 - very durable to durable

Resistance to dry wood borers. Class D - durable (sapwood demarcated, risk limited to sapwood)

Resistance to termites. Class D - durable

Treatability. Class 4 - not permeable

Use class ensured by natural durability.

Class 4 - in ground or fresh water contact

Notes. This species is listed in the European standard NF EN 350 (2016). It is the only temperate hardwood introduced in Europe which naturally covers the use class 4. According to the European standard NF EN 335 (2013), performance length might be modified by the intensity of end-use exposition.

Requirement of a preservative treatment

Against dry wood borer. Does not require any preservative treatment

In case of temporary humidification. Does not require any preservative treatment

In case of permanent humidification. Does not require any preservative treatment

Drying

Drying rate. Slow

Risk of distorsion. High risk

Risk of casehardening. No known specific risk

Risk of checking. High risk

Risk of collapse. No known specific risk

Notes. Black Locust is a nervous wood, with a high risk of splitting and warping. However, these risks vary depending on the origin of the wood.

Suggested drying program.

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
Prewarm 1		> 50	50	86	16.5
Prewarm 2	3	> 50	52	85	16.0
Drying		> 50	55	82	14.7
		50 - 40	55	80.0	13.8
		40 - 35	55	75.0	12.6
		35 - 30	56	73.0	12.0
		30 - 27	58	67.0	10.5
		27 - 24	60	58.0	8.9
		24 - 21	62	50.0	7.5
		21 - 18	64	45.0	6.8
		18 - 15	65	37.0	5.7
		15 - 12	65	34.0	5.3
		12 - 9	65	28.0	4.5
		9 - 6	65	24.0	4.0
Conditioning	6		58	(3)	(2)
Cooling	(1)		Stop	(3)	(2)

(1)) Cooling: until the temperature inside the kiln no longer exceeds external temperature by more than 30 °C.

(2) UGL = final H% x 0,8 to 0,9.

(3) Subtract RH from the UGL determined in (2) and temperature, using the Hailwood-Horrobin equation.

Sawing and machining

Blunting effect. Normal

Sawteeth recommended. Stellite-tipped

Cutting tools. Tungsten carbide

Peeling. Good

Slicing. Good

Notes. Black Locust wood has a good aptitude for bending.

Assembling

Nailing and screwing. Good but pre-boring necessary

Notes. Tends to split.

Commercial grading

Appearance grading for sawn timbers.

No conventional grading rules. Sawn products are graded according to final uses.

Visual grading for structural applications

No visual grading for structural applications

Fire safety

Conventional French grading.

Thickness > 14 mm: M3 (moderately inflammable)

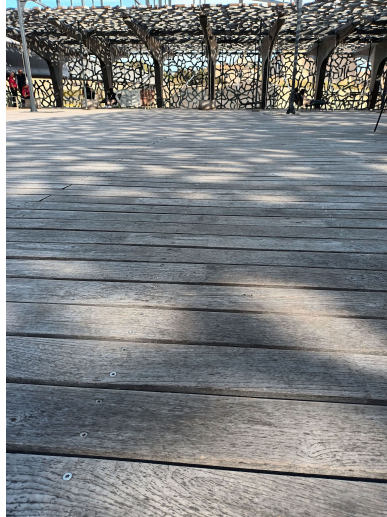
Thickness < 14 mm: M4 (easily inflammable)

Euroclasses grading. D-s2, d0

Default grading for solid wood, according to requirements of European standard EN 14081-1+A1 (August 2019). It concerns structural graded timber in vertical uses and ceiling with mean density upper 0.35 and thickness upper 22 mm.

End-uses

- Decking
- Exterior panelling
- Hydraulic works (fresh water)
- Pit props
- Ship building
- Sliced veneer
- Stakes
- Tool handles (resilient woods)
- Wood-ware



Terrace J4, Musée des Civilisations de l'Europe et de la Méditerranée (MUCEM), Marseille – Project Management ALTÉABOIS - Built by S.N. La Parqueterie
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Main local names

Country	Local name
France (temperate timber)	Acacia
France (temperate timber)	Robinier
Germany (temperate timber)	Falsche akazie
Germany (temperate timber)	Robinie
Italia (temperate timber)	Robinia
Spain (temperate timber)	Robinia
United Kingdom (temperate timber)	False acacia
United Kingdom (temperate timber)	Robinia
United States (temperate timber)	Black locust