

Hooked pine

Family. Pinaceae

Botanical Name(s).

Pinus uncinata

Continent. Europe

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

Description of logs

Diameter. From 20 to 50 cm

Thickness of sapwood. From 5 to 8 cm

Floats. Pointless

Log durability. Low (treatment necessary)

Description of wood

Colour reference. Pinkish brown

Sapwood. Clearly demarcated

Texture. Fine to medium

Grain. Straight

Interlocked grain. Absent

Notes. Heartwood paler than that of Scots pine, light pinkish red to light reddish brown, yellowish white sapwood.

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	0.50
Monnin hardness ¹	1.8
Coefficient of volumetric shrinkage	0.45 % per %
Total tangential shrinkage (St)	8.3 %
Total radial shrinkage (Sr)	4.1 %
Ratio St/Sr	2.0
Fibre saturation point	28 %
Thermal conductivity (λ)	0.17 W/(m.K)
Lower heating value	19,260 kJ/kg
Crushing strength ¹	42 MPa
Static bending strength ¹	91 MPa
Modulus of elasticity ¹	11,720 MPa

¹ At 12 % moisture content, with 1 MPa = 1 N/mm

Natural durability and preservation

Resistance to fungi. Class 4 - poorly durable



Flat sawn



Quarter sawn

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

Resistance to termites. Class S - susceptible

Treatability. Class 3 - poorly permeable

Use class ensured by natural durability.

Class 2 - inside or under cover (dampness possible)

Notes. This species is particularly used in mountainous areas where climatic conditions make the wood less susceptible to attack by biological deterioration agents (wood-destroying fungi, dry wood insects). In these conditions, the wood can be used in use class 3 without preservative treatment.

Requirement of a preservative treatment

Against dry wood borer. Requires appropriate preservative treatment

In case of temporary humidification. Requires appropriate preservative treatment

In case of permanent humidification. Use not recommended

Drying

Drying rate. Rapid to normal

Risk of distorsion. Slight risk

Risk of casehardening. No known specific risk

Risk of checking. Slight risk

Risk of collapse. No known specific risk

Suggested drying program.

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
Prewarm 1		> 50	60	81	14.0
Prewarm 2	3	> 50	65	76	12.0
Drying		> 50	68	64	10.0
		50 - 40	70	63.0	9.1
		40 - 35	70	61.0	8.7
		35 - 30	70	56.0	7.9
		30 - 27	72	50.0	7.0
		27 - 24	72	44.0	6.3
		24 - 21	75	39.0	5.5
		21 - 18	75	34.0	4.9
		18 - 15	75	29.0	4.3
		15 - 12	80	28.0	3.9
		12 - 9	80	24.0	3.4
		9 - 6	80	22.0	3.2
Conditioning	6		73	(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. Ordinary or alloy steel

Cutting tools. Ordinary

Peeling. Good

Slicing. Good

Assembling

Nailing and screwing. Good

Notes. Even if the wood of Hooked Pine is less resinous than that of Scots Pine, it is necessary to take account of the presence of resin when gluing.

Commercial grading

Appearance grading for sawn timbers.

According to European standards 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, and possible grading on 4 sides G4-0, G4-1, G4-2, G4-3, G4-4.

Visual grading for structural applications

According to French standard NF B 52-001-1 (2018), strength classes C14, C18 and C22 can be provided to sawn wood by visual grading.

Fire safety

Conventional French grading.

Thickness > 18 mm: M3 (moderately inflammable)

Thickness < 18 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

- Blockboard
- Boxes and crates
- Cladding
- Current furniture or furniture components
- Formwork
- Glued laminated
- Interior joinery
- Interior panelling
- Light carpentry
- Pallet
- Sculpture
- Sliced veneer
- Turned goods
- Veneer for back or face of plywood
- Veneer for interior of plywood
- Wood frame house
- Wood-ware



Panelling in random widths - Restaurant La Chaumière, Font-Romeu (France)

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Main local names

Country

France (temperate timber)
 France (temperate timber)
 France (temperate timber)
 France (temperate timber)
 France (temperate timber)
 France (temperate timber)
 France (temperate timber)
 France (temperate timber)
 Germany (temperate timber)
 Germany (temperate timber)
 Germany (temperate timber)
 Germany (temperate timber)
 Germany (temperate timber)
 Italia (temperate timber)
 Spain (temperate timber)
 Spain (temperate timber)
 Spain (temperate timber)
 Spain (temperate timber)
 United Kingdom (temperate timber)

Local name

Baumier de Hongrie
 Pin (en Provence et en Languedoc-Roussillon)
 Pin à crochets
 Pin alpestre
 Pin crin
 Pin de Briançon
 Suffin (dans les hautes vallées des Alpes)
 Torche-Pin
 Alpenföhre
 Alpenkiefer
 Berg-Spirke
 Bergkiefer
 Hakenkiefer
 Pino uncinato
 Pi mascle (en Catalogne)
 Pi negre (en Catalogne)
 Pin de montagne
 Pino negro
 Moutain pine