

Cedro

Family. Meliaceae

Botanical Name(s).

Cedrela angustifolia

Cedrela fissilis

Cedrela odorata

Cedrela mexicana (synonymous)

Continent. Latin America

CITES. Only the populations of the Neotropics are listed in Appendix II of CITES since August 28, 2020; no other population is included in the Appendices. The products concerned are logs, sawn wood, veneer sheets and plywood.

Description of logs

Diameter. From 60 to 120 cm

Thickness of sapwood. From 3 to 5 cm

Floats. Yes

Log durability. Moderate (treatment recommended)

Description of wood

Colour reference. Brown

Sapwood. Clearly demarcated

Texture. Medium

Grain. Straight

Interlocked grain. Absent

Notes. Distinctive cedar scent. Sporadic or sometimes important resin stains. Colour variable, pink to red brown.

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 | 0.46 |
| Monnin hardness ¹ | 1.6 |
| Coefficient of volumetric shrinkage | 0.38 % per % |
| Total tangential shrinkage (St) | 6.0 % |
| Total radial shrinkage (Sr) | 3.9 % |
| Ratio St/Sr | 1.5 |
| Fibre saturation point | 29 % |
| Thermal conductivity (λ) | 0.16 W/(m.K) |
| Lower heating value | 19,400 kJ/kg |
| Crushing strength ¹ | 38 MPa |
| Static bending strength ¹ | 62 MPa |
| Modulus of elasticity ¹ | 9,210 MPa |



Quarter sawn



Flat sawn

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

Notes. Specific gravity varies according to origins.

Natural durability and preservation

Resistance to fungi. Class 2 - durable

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

Resistance to termites. Class M - moderately durable

Treatability. Class 3-4 - poorly or not permeable

Use class ensured by natural durability.

Class 3 - not in ground contact, outside

Notes. The species *C. odorata* is listed in the European standard NF EN 350 (2016). Part of the CEDRO commercialized today in the world comes from young plantations often constituted by woods with lower properties than the woods from natural forests. These juvenile woods especially present an incomplete duraminisation which explains their lower natural durability compared to the durability of more mature woods. 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. Use not recommended

Drying

Drying rate. Rapid

Risk of distorsion. Slight risk

Risk of casehardening. No known specific risk

Risk of checking. Slight risk

Risk of collapse. Yes

Notes. Light wood must be dried at low temperature in order to avoid risks of collapse.

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. Ordinary or alloy steel

Cutting tools. Ordinary

Peeling. Good

Slicing. Good

Notes. The presence of resin may cause the clogging of saw blades. Surface sometimes fuzzy.

Assembling

Nailing and screwing. Poor

Notes. Resin exudations: to be taken into account when gluing.

Commercial grading

Appearance grading for sawn timbers.

According to ATIBT grading rules, possible grade: FAS (First And Second), n°1 Common and select, n°2 Common

Visual grading for structural applications

According to French standard NF B 52-001-1 (2018), strength class D18 can be provided by visual grading.

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

- Boxes and crates
- Cabinetwork (high class furniture)
- Cigar boxes
- Current furniture or furniture components
- Exterior joinery
- Fiber or particle boards
- Formwork
- Glued laminated
- Interior joinery
- Interior panelling
- Light carpentry
- Moulding
- Musical instruments
- Sculpture
- Seats
- Shingles
- Ship building (planking and deck)
- Sliced veneer
- Veneer for back or face of plywood
- Wood frame house
- Wood-ware

Notes. Mentionned end-uses depend on the specific gravity and on the importance of resin (especially for furniture and interior joinery).

Main local names

| Country | Local name |
|---------------|------------|
| Brazil | Cedro |
| Côte d'Ivoire | Cedro |
| French Guiana | Cedrat |
| French Guiana | Cedro |
| Honduras | Cigarbox |
| Suriname | Ceder |