

SPANISH CEDAR -CEDRO



Family: MELIACEAE (angiosperm)
Scientific name(s): *Cedrela odorata*
Cedrela fissilis
Commercial restriction: Species mentioned in Appendix III (see note)

Note:
Wood of the *Cedrela odorata* species, coming from Colombia, Guatemala, and Peru, are listed in CITES (Convention on International Trade in Endangered Species of wild fauna and flora), appendix 3 and in the European Union Regulation, appendix C. Parts of wood and wood-made products which are regulated are defined by a note: all parts and products. To trade these parts and products, the exporting or re-exporting country must emit a CITES permit or certificate and an importation notification is compulsory to import within the EU.

WOOD DESCRIPTION

Color: brown
Sapwood: clearly demarcated
Texture: medium
Grain: straight
Interlocked Grain: absent

Note:
Distinctive cedar scent. Sporadic or sometimes important resin stains.
Color variable, pink to red brown.

LOG DESCRIPTION

Diameter: 26 – 47 inches
Thickness of Sapwood: 1.18 – 2 inches
Floats: yes
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*: | 0.46 | 0.05 |
| Janka Hardness (lbs): | 600 | |
| Volumetric Shrinkage: | 0.38% | 0.05% |
| Total Tangential Shrinkage (TS): | 5.9% | 0.9% |
| Total Radial Shrinkage (RS): | 3.9% | 0.8% |
| TS/RS Ratio: | 1.5 | |
| Fiber Saturation Point: | 29% | |
| Stability: | stable | |

MECHANICAL/ACOUSTIC

| | <u>Mean</u> |
|----------------------------------|---------------------------|
| Crushing Strength*: | 5,511.43 lbf |
| Static Bending Strength*: | 8,992.34 lbf |
| Modulus of Elasticity*: | 1,335,798 lbf |
| Musical Quality Factor: | 112.4 measured at 2925 Hz |

*At 12% moisture content.

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 2 - durable |
| Dry Wood Borers: | class D - durable (sapwood demarcated, risk limited to sapwood) |
| Termites (According to E.N. standards): | class M - moderately durable |
| Treatability (according to E.N. standards): | class 3-4 - poorly or 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. 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, 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: | does not require any preservative treatment |
| In case of risk of permanent humidification: | use not recommended. |

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DRYING

Drying Rate: rapid
Risk of Distortion: slight risk
Risk of Casehardening: no
Risk of Checking: slight risk
Risk of Collapse: yes
Possible Drying Schedule: Light wood must be dried at low temperature in order to avoid risks of collapse.

| M.C. (%) | Temperature (°F) | | |
|----------|------------------|----------|------------------|
| | Dry-Bulb | Wet-Bulb | Air Humidity (%) |
| Green | 122 | 116.6 | 84 |
| 40 | 122 | 113 | 75 |
| 30 | 131 | 116.6 | 67 |
| 20 | 158 | 131 | 47 |
| 15 | 167 | 136.4 | 44 |

This schedule is given for information only and is applicable to thickness lower or equal to 1.5 in. It must be used in compliance with the code of practice. For thickness from 1.5 to 3 in, the air relative humidity should be increased by 5% at each step. For thickness over 3 in, a 10% increase should be considered.

SAWING AND MACHINING

Blunting Effect: normal
Sawteeth Recommended: ordinary or alloy steel
Cutting Tools: ordinary
Peeling: good
Slicing: good
Note:
The presence of resin may cause the clogging of saw blades. Surface is sometimes fuzzy.

ASSEMBLING

Nailing / screwing: poor
Gluing: correct
Note:
Gluing must be done with care due to resin exudations.

END-USES

Veneer for back or face of plywood
Interior joinery
Cigar boxes
Furniture or Furniture Components
Glued laminate
Exterior joinery
Ship building (planking and deck)
Fiber or particle boards
Moulding
Formwork
Seats
Sliced Veneer
Interior paneling
Cabinetry (high Class furniture)
Light carpentry
Wood frame house
Boxes and crates
Sculptures
Shingles

MAIN LOCAL NAMES

| <u>Country</u> | <u>Local Name</u> |
|----------------|-------------------|
| Brazil | Cedro |
| French Guiana | Cedro, Cedrat |
| Suriname | Ceder |
| Honduras | Cigarbox |

Works Cited:

CIRAD'S *Biomass, Wood, Energy, Bioproducts Research Unit (BioWooEB)*
Meier, E. (2015), Wood, United States of America