



American Red Oak

Quercus rubra L. Syn. - *Q. Borealis* Michx, *Quercus Shumardii* Buckl., *Quercus falcata* Michx. f.

Commercial names:

English:	Red oak.
Spanish:	Roble rojo americano.
French:	Chêne rouge d'Amérique.
Italian:	Quercia rossa americana.
German:	Amerikanische Roteiche.

Common names:

U.S.A.:	Northern red oak (<i>Q. rubra</i>), Southern red oak, Spanish red oak, Swamp red oak, Cherrybark oak (<i>Q. falcata</i>), Schumard red oak (<i>Q. shumardii</i>).
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Physical properties:

Density:	650-700-790 kg/m ³	
Shrinkage:	Moderately unstable	
Shrinkage values:	Total	Unitary
Volumetric:	13.0%*	(-)
Tangential:	8.0%*	(0.31-0.36)
Radial:	4.0%*	(0.16-0.20)
Hardness:	3.5-4,5	Semi-hard

* (ASTM)

Mechanical properties (Wood free of defects)

Static bending:	98-110 N/mm ²
Modulus of elasticity:	12,400-13,000 N/mm ²
Compression parallel to grain:	46-50 N/mm ²
Compression perpendicular to grain:	4.8-5.7 N/mm ² (ASTM)
Shear:	11.8-12.4 N/mm ²
Toughness:	7.3-7.8 J/cm ²

Origin and availability:

This wood is found in North America (United States and Canada). The forested area, production and export are stable.

Wood description:

The sapwood varies in color from light grey to pale red, and the heartwood from rose to pale red or light brown. The heartwood is similar to that of other oaks, with a rose or tan color, but it has a reddish cast. The growth rings are visible. The wood rays are also visible and display the classical flecks of edge-grained oak, but less so than in white oak. The grain is straight. The texture of the grain is coarse (open), although it can vary according to growth and origin. Dust from the wood can produce irritation of the mucous membrane and asthma. Wet wood becomes stained when it is in contact with metals.

Drying:

Seasoning is difficult, and the drying process must be carried out very carefully. There are risks of surface checks, internal checks (honeycombing), stain and ring failure. The recommended drying schedules are T4-D2 (4/4) and T3-D1 (8/4) from the FPLM.

Natural durability and ease of penetration:

The wood is graded as slightly durable against the decaying action of fungi and susceptible to lyctids and termites. The heartwood varies from slightly to moderately penetrable, and the sapwood is penetrable.

Technological properties:

This wood possesses good qualities for obtaining rotary-cut veneer and sliced veneer. It machines well, and tools dull at a normal rate. It has good qualities for steam bending. The performance of this wood in bonding varies greatly, and bonding with aqueous glues can be difficult. Holes must be drilled before using nails and screws. Before applying finishing products (varnishes) prior treatment with filler is necessary.

Applications:

Interior carpentry: flooring./ Decorative veneer./ Furniture and cabinet-work./ Plywood. Use in exteriors is not recommended.