



American White Oak (*Quercus Virginiana*)

Botanical Name:	<i>Quercus virginiana</i>
Other Common Names:	Cucharillo, Encino, Encino negro, Live oak, Mamecillo, Oak, Roble, Roble amarillo, Roble colorado, Roble encino, Roblecito, White oak
Common Uses:	Shipbuilding
Region:	North America
Country:	United States

Numerical Values for: *Quercus virginiana*

<u>Category</u>	<u>Green</u>	<u>Dry</u>	<u>Unit</u>
Bending Strength	10000	18400	psi
Crushing Strength (Perp.)	2040	2840	psi
Max. Crushing Strength	4455	8900	psi
Impact Strength	44		inches
Stiffness	1335	1980	1000 psi
Work to Maximum Load	12	19	in-lbs/in ³
Shearing Strength		2660	psi
Specific Gravity	0.70	0.88	
Weight	76	62	lbs/cu.ft.
Density (Air-dry)		63	lbs/cu.ft.
Radial Shrinkage (G->OD)		7	%
Tangential Shrink. (G->OD)		10	%
Volumetric Shrink. (G->OD)		15	%

Tree & Wood Descriptions for: *Quercus virginiana*

Product Sources	<p>It is not known at present whether material from this species is available from sustainably managed or environmentally responsible sources.</p> <p>Live oak is reported to have little commercial value, but small quantities are reported to be available in areas where the species grows. The tree is reported to have been one of the primary sources of timber for shipbuilding, and the first publicly owned timber lands in the US were purchased in 1799 to protect the trees for that purpose.</p>
Tree Data	<p>Live oak is reported to have derived its name from its evergreen foliage. The tree is medium-sized, with a short, broad and buttressed trunk and broad branches that are often covered with Spanish-moss. It is reported to grow to a height of about 40 to 50 feet (12 to 15 m), with a trunk diameter of 24 to 48 inches (60 to 120 cm). The tree is reported to be a popular shade tree in Southeastern United States where it matures into very large sizes.</p>
Sapwood Color	<p>The sapwood is whitish to grayish brown.</p>
Heartwood Color	<p>The heartwood is dull brown to gray brown.</p>
Grain	<p>Grain is typically irregular, and slab sawn material is reported to yield an interesting grain pattern.</p>
Texture	<p>The wood is coarse-textured, and small, non-continuous checks are reported to occur often.</p>
Odor	<p>There is no characteristic odor or taste.</p>
Natural Durability	<p>Live oak is reported to have high natural resistance against decay, especially in marine applications.</p> <p>Resistance to Impregnation The wood is rated as resistant to preservative treatment.</p>
Strength Properties	<p>Bending and crushing strength properties of White oaks are reported to be generally moderate, while stiffness is rated as low. Response to machining operations is reported to be generally dependent on the growth rate of the trees: fast grown southern trees are reported to produce harder material which is generally easier to work than wood from slow grown Appalachian trees.</p>

Working Properties for: *Quercus virginiana*

Planing

Live oak is reported to be extremely difficult to work in all machining operations.

Drying for: *Quercus virginiana*

Ease of Drying

Green material should be protected from rapid drying. End grain should be coated and the material should be properly stickered during seasoning.

T/R Ratio

1.44

This indicator is more meaningful if it is used together with other drying information and actual shrinkage data in the tangential and radial directions. (Refer to the Numerical Values window).

Credits for information:

Woodworkersource.com