



# American white oak

## Atibt

Eiken Amerikaans wit NEN-EN 13556: American white oak (GB), chêne blanc d'Amérique (F), Amerikansche Weiszeiche (D), Code QCXA

## Other names

White American oak (Belgium), Chêne blanc d'Amérique (France), Amerikanische Wesseiche (Germany), American white oak (Great Britain).

## Botanic name

1. *Quercus alba* L.. 2. *Quercus montana* Willd.. 3. *Quercus stellata* Wangenh.. 4. *Quercus lyrata* Walter 5. *Quercus michauxii* Nutt., (= *Quercus prinus*), 6. *Quercus macrocarpa* Michx.. 7. *Quercus bicolor* Willd.. 8. *Quercus muehlenbergii* Engelm.. 9. *Quercus virginiana* Mill..

## Family

Fagaceae

## Growth area

The best American white oak, depending on species, grows primarily in the eastern half of North America and southeastern Canada.



<b>Tree Description</b>	Depending on growing conditions 25-38 m tall tree, length of branch-free trunk 12-15 m, diameter 0.9-1.2 m, maximum 1.6 m.
<b>Supply</b>	Round wood (sawn and veneer), sawn wood, only deadwood and veneer.
<b>Wood Description</b>	The heartwood is pale yellow-brown to medium brown, the sapwood is almost white. The wood is ring-pored, producing flame markings on the stock face and stripe markings on the quarter face. The rays are large and cause characteristic shiny "mirrors" on the quarter face. The quality (color, bristle share and grain) varies greatly depending on growth conditions.
<b>Wood Recognition</b>	Wood with typical oak structure (ring pore, latewood barrels in flame-like pattern, mirrors) but different from American red oak by the presence of thylls in the earlywood barrels and by the more whitish color. Distinction from European oak is indistinguishable.
<b>Grain</b>	Mostly straight.
<b>Texture</b>	Moderately coarse to coarse.
<b>Voluminous mass</b>	(670-)740(-820) kg/m <sup>3</sup> at 12% moisture content.
<b>Shrinkage</b>	Radial 2.3% and tangential 4.5%.



<b>Drying</b>	Fairly slow. Some tendency for cracking and collapsing is present in this process. A calibration line is available for making electrical wood moisture measurements.
<b>Hardness</b>	Longitudinal plane 6050 N.
<b>Machinability</b>	American white oak from the Appalachian region tends to be slow growing and produces fairly light, mildly workable wood. White oak from the southern states grows quickly, so it has wide growth rings and produces harder, tougher wood that is a bit more difficult to work. It is quite workable, both with hand tools and by machine. Be careful with metals because the wet wood is corrosive and blue-black discoloration can result from a reaction between iron and tannic acid (tannin) present in the wood. In contact with copper or brass, light brown discoloration occurs.
<b>Nailing &amp; Screwing</b>	Good. Pre-drilling is recommended. Stainless fasteners are recommended due to discoloration from contact with metals.
<b>Adhesives</b>	Good.
<b>Bend</b>	Good.
<b>Surface finish</b>	Good. Lends itself well to stain treatments, smoking and leaching .
<b>Impregnability</b>	Heartwood 4, sapwood 2 (according to NEN-EN 350).
<b>Details</b>	American white oak in contact with cement or concrete will delay its curing.
<b>Applications</b>	Furniture, joinery, ship skins, flooring, stair treads, banisters, construction timber, barrels (in North America especially for whiskey barrels), toys and otherwise for all normal applications as with European oak.
<b>Strength class</b>	Classified as D50 depending on origin and quality (see Table D).

## Sustainability

### Relative resistance to mold

Heartwood class 2-3 (2) (NEN-EN 350: practical experience and field research).

### Relative resistance to animal organisms

Heartwood: drywood borers (common woodworm D), termites M and marine borers not known; sapwood: sapwood beetle S (NEN-EN 350).