



Wood Type:
Hardwood

Durability:
Moderately durable

Treatability:
Extremely difficult

Moisture Movement:
Medium

Density (mean, Kg/m³):
770

Texture:
Medium

Availability:
Readily available at
timber merchant

Chemical Properties:
Acidic nature, iron
staining may occur in
damp conditions, may
also corrode metals

Use(s):
Heavy structural use,
Joinery - Exterior, Joinery
- Interior, Furniture,
Flooring

Colour(s):
White/cream, Yellow
brown (Pale yellow to
mid-brown)

Introduction

The Fagaceae family includes some fifty species of the genus Quercus, producing the true oaks of North America, but many of these are so small in size or found in such limited quantities that they are of no commercial importance. Some twenty species are important but since it is difficult to distinguish between the wood of individual species it is common practice to group them either as red or white oak. White oak group timbers are characterised by the small, latewood pores fine and numerous, not easily distinguished without a magnifying glass. Large pores of the heartwood filled with tyloses in heartwood.

Environmental

Not listed in CITES. Believed available from well-managed sources. Check certification status with suppliers.

Distribution

From southern Quebec and Ontario to eastern Minnesota and Iowa, extending eastward to the Atlantic and southward through the lower western slopes of the Allegheny and Appalachian Mountains.

The tree

The white oaks vary in size and form according to species and soil conditions, some are unsuitable for timber production. But others vary in height from 15m to 30m, well-grown specimens having a clear cylindrical bole of up to 15m with a diameter of about 1.0m.

The timber

Although generally resembling European oak, American white oak is more variable in colour, ranging from pale yellowbrown to pale reddish brown, often with a pinkish tint. The multi-seriate rays are generally higher than those of the red oaks producing a more prominent and attractive silver-grain figure on quarter-sawn surfaces. The grain is generally straight, and the texture varies from coarse to medium coarse. As with the red oaks, the quality depends greatly on the conditions of growth; slowly-grown northern white oak usually being lighter in weight and milder, than that from the southern states.

Drying

Like all the true oaks the timber dries slowly, with a tendency to split, check and honeycomb.

Strength

It compares fairly closely with European oak in general strength, but on the whole, its higher density provides rather higher strength.

Working qualities

Medium - Variable in working properties according to rate of growth, slow-grown material being easier to work than fast-grown, but either type can be finished smoothly if care is taken. A reduction of cutting angle to 20° is often helpful in planing. The timber can be glued, stained and polished, and takes nails and screws well.