American White Oak

Quercus spp, Quercus alba, Quercus prinus, Quercus montana, Quercus lyrata, Quercus michauxii. Also known as: American white oak (Q. alba), chestnut oak (Q. prinus, Q. montana), overcup oak (Q. lyrata), swamp chestnut oak (Q. michauxii).

WOOD TYPE Hardwood

INTRODUCTION The Fagacae 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, late-wood 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.

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 yellow-brown 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. The Appalachian Mountains used to provide beautiful mild white oak greatly esteemed for furniture and cabinet-making, but much of this forest area has been destroyed in recent years due to open-cast coal mining activities. Southern white oak is typically fast grown, and with its wide growth-rings is relatively coarse and more suited to constructional use. White oak weighs about 770 kg/m^3 when dried.

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.

Durability	Moderately durable	**Chemical Properties**	Acidic nature, iron staining may occur in damp conditions. May also corrode metals
Treatability	Extremely difficult		
Moisture Movement	Medium	**Colour(s)**	White/cream, Yellow brown (pale yellow to mid-brown)
Density (mean, Kg/m^3)	770	**Use(s)**	Heavy structural use, Joinery - Exterior, Joinery - Interior, Furniture, Flooring
Texture	Medium		

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