

DATA TABLE FOR: Wood: Oak (American)

Mechanical Properties

Tree Size	:	65-85 ft (20-25 m) tall, 3-4 ft (1-1.2 m) trunk diameter
Average Dried Weight	:	47 lbs/ft ³ (755 kg/m ³)
Specific Gravity (Basic, 12% MC)	:	.60, .75
Janka Hardness	:	1,350 lbf (5,990 N)
Modulus of Rupture	:	14,830 lbf/in ² (102.3 MPa)
Elastic Modulus	:	1,762,000 lbf/in ² (12.15 GPa)
Crushing Strength	:	7,370 lbf/in ² (50.8 MPa)
Shrinkage		
Radial	:	5.6%,
Tangential	:	10.5%,
Volumetric	:	16.3%
T/R Ratio	:	1.9

Range: Throughout North America but mainly in the Eastern and Mid-West states. Known especially as suppliers of high quality veneer are the states of Indiana, Ohio, Kentucky and Virginia. Since there are over 80 different species of Oak in the USA there are many mixed genera and varieties. The diameters are smaller than those of European Oak.

Uses: The White Oak can be used universally in all branches of the woodworking industry because it is most resistant to external influences. This is why it is held in high esteem in the veneer and lumber trades due to its expressive texture. It has great significance in the USA as stave wood (for whiskey). Used as veneer and lumber in all branches of the furniture, door and panel industries as well as for making parquet floors and stairs.

Properties: Due to the strong interbreeding of the different species the color spectrum is broad and extends from light yellow to dark brown. Deviations into pink are possible, too. Frequent occurrence of so-called mineral deposits, dark streaks which appear on the surface as clearly defined patches. Blue stain can occur through contact with metal in wet wood.

Machining: Sawing and planing presents no difficulties when carbide tools are used.

Seasoning: The wood of the American White Oak dries very slowly and there is a tendency to check. Particularly mild and slow drying is necessary.

Finishing: All surface treatments are easy to apply and the wood is particularly suitable for rustic staining.

Jointing: The gluing properties are satisfactory. Screws hold well but pre-drilled holes should be provided for nails.

Sample:

