



## Oak, American White – *Quercus spp.*

**Other Names:** White Oak, Appalachian Oak, Chestnut Oak

**Country of Origin:** United States of America

### SPECIES OVERVIEW:

American white oak is a pale yellow-brown biscuit colour with a pinkish tint. Straight grained with a characteristic silver grain figure on quarter-sawn material. This comes from the timber's broad rays which give white oak more figure than red oak. Northern (Appalachian) oak is slow growing producing light weight, mild wood generally considered superior to southern oak which is faster growing with a harder, coarser texture. US forests have a long-standing tradition of sustainable forest management, bolstered by a strong legal framework for environmental conservation.

### MAIN USES:

Furniture and cabinetmaking, interior joinery, parquet and strip flooring, wine barrel staves and caskets.

### WORKING PROPERTIES:

Timber takes nails and screws well, although pre-boring is advised. Stains and polishes to a good finish.

### MECHANICAL PROPERTIES:

The wood has medium bending and crushing strengths, with low stiffness which makes it an excellent steam bending material.

### AVAILABILITY:

Specifications stocked at Rosenfeld Kidson are: kiln-dried sawn 25mm, 40mm, 50mm and 75mm thicknesses in varying fixed and mixed widths. T&G strip flooring profiles.

### GRADING:

Prime (FAS), No. 1 Commons (Comsels), No. 2 Commons.

DENSITY (kg/m <sup>3</sup> )*:	760	
DURABILITY:	Durable	
STRENGTH GROUP: SD5		
MOR (MPa):	Unseasoned 56	Seasoned 100
MOE(GPa):	Unseasoned 8.1	Seasoned 12.0
JANKA(kN):	5.9	
SHRINKAGE GREEN TO 12% M.C.		
	Tangential 8.0	Radial 5.0

\*Air Dry Density (kg/m<sup>3</sup>) is average indication only and actual value may vary. Refer to timber properties tables over page for strength, shrinkage and durability classifications.



**STRENGTH GROUPINGS:**

Minimum values for strength groups (unseasoned timber)			
<i>(units are Mpa = 145 lb/sq.inch)</i>			
Strength group	Modulus of rupture	Modulus of elasticity	Maximum crushing strength
S1	103	16300	52
S2	76	14200	43
S3	73	12400	36
S4	62	10700	31
S5	52	9100	26
S6	43	7900	22
S7	36	6900	18

Minimum values for strength groups (seasoned timber)			
<i>(units are Mpa = 145 lb/sq.inch)</i>			
Strength group	Modulus of rupture	Modulus of elasticity	Maximum crushing strength
SD1	150	21500	80
SD2	130	18500	70
SD3	110	16000	61
SD4	94	14000	54
SD5	78	12500	47
SD6	65	10500	41
SD7	55	9100	36
SD8	45	7900	30

**SHRINKAGE CLASSIFICATIONS:**

Description of shrinkage	Shrinkage from Green to Oven-dry (12% MC)	
	(% before reconditioning)	
	Tangential	Radial
Very low	0 - 3.5	0 - 2
Low	3.5 - 5.0	2 - 3
Medium	5.0 - 6.5	3 - 4
High	6.5 - 8.0	4 - 5
Very high	> 8.0	> 5

**DURABILITY CLASSIFICATIONS:**

Grade of durability	Approximate service life (years)		
	Fully protected	Above ground, exposed	In-ground, exposed
Very durable	>50	>40	>25
Durable	>50	15-40	15-25
Moderately durable	>50	7-15	5-15
Non-durable	>50	0-7	0-5