



American Black Walnut – *Juglans nigra*

Other Names: Black Walnut, Canaletto, Black Hickory Nut

Region of Origin: United States

SPECIES OVERVIEW:

American Black Walnut heartwood is a rich dark chocolate brown to purplish-black, mostly straight grained but with wavy or curly grain occasionally present. The texture is mildly coarse. Walnut is usually supplied steamed, to darken the pale coloured sapwood.

MAIN USES:

Furniture, cabinet making, interior joinery, boatbuilding, musical instruments, rifle butts and gunstocks.

WORKING PROPERTIES:

Works without difficulty with hand or machine tools and has moderate blunting effect. Holds nails or screws well, glues satisfactorily and polishes to a high finish.

MECHANICAL PROPERTIES:

This is a tough, hard timber of medium density, with moderate bending and crushing strengths, and low stiffness. It has good steam bending classification.

AVAILABILITY:

Specifications stocked at Rosenfeld Kidson are:
Sawn 25mm, 40mm, 50mm and 75mm thicknesses in mixed widths.

GRADING:

Prime (FAS).

| | |
|--------------------------------|--------------|
| DENSITY (kg/m ³)*: | 609 |
| DURABILITY: | Very durable |

| | |
|-----------------|------|
| STRENGTH GROUP: | SD4 |
| MOR (MPa): | 102 |
| MOE(GPa): | 11.7 |
| JANKA(kN): | 4.5 |

| | | |
|-----------------------------|------------|--------|
| SHRINKAGE GREEN TO 12% M.C. | Tangential | Radial |
| | 7.0 | 4.0 |

*Air Dry Density (kg/m³) 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) | | | |
|---|--------------------|-----------------------|---------------------------|
| (units are Mpa = 145 lb/sq.inch) | | | |
| 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) | | | |
|---|--------------------|-----------------------|---------------------------|
| (units are Mpa = 145 lb/sq.inch) | | | |
| 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 |