



American Walnut

Juglans nigra L.

Commercial names:

English:	American Walnut.
Spanish:	Nogal americano.
French:	Noyer noir d'Amerique.
Italian:	Noce nero americano.
German:	Amerikanische Nuss, Schwarzer Nussbaum.

Common names:

U.S.A.:	Walnut, Black walnut.
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Physical properties:

Density:	550-620-660 kg/m ³	
Shrinkage:	Stable	
Shrinkage values:	Total	Unitary
Volumetric:	12.8-14%*	(-)
Tangential:	8%*	(0.26)
Radial:	5%*	(0.19)
Hardness:	(3.6)	Semi-hard

* ASTM

Mechanical properties (Wood free of defects)

Static bending:	90-106 N/mm ²
Modulus of elasticity:	10,800-13,500 N/mm ²
Compression parallel to grain:	45-55 N/mm ²
Compression perpendicular to grain:	3.9 N/mm ² (ASTM)
Shear:	8.8-9.6 N/mm ²
Toughness:	5.8-6.8 J/cm ²

Origin and availability:

This wood is found in the eastern United States and in Ontario, Canada. The forested area is important. Production and export are stable.

Wood description:

The color of the sapwood varies from white to yellowish brown, and the heartwood is a reddish brown or chocolate color. Commercially, sapwood has generally been darkened by steam treatments or staining to resemble the color of heartwood. Sometimes the wood has violet tonalities. The sapwood is clearly differentiated. The growth rings and the differentiation of earlywood from latewood are immediately noticeable. The wood is generally straight-grained, although it can be wavy-grained. The texture of the grain is open (coarse-grained). During sawing the wood emits a light characteristic odor. Dust from the wood is very irritating and provokes sneezing and nosebleeds. Characteristic of this wood are the figures produced in the branch forks, knots and stumps.

Drying:

Drying should be undertaken slowly to avoid defects. There are risks of collapse, internal checks and ring failure. Discoloration can also occur due to certain substances in the wood. The recommended drying schedules are schedule E from the PRL and T6-D4 (4/4) and T3-D3 (8/4) from the FPLM.

Natural durability and ease of penetration:

The wood is graded as moderately durable against the degrading action of fungi and insects. The sapwood is susceptible to insects. The ease of penetration of the heartwood varies from slightly penetrable to not penetrable, and the sapwood is penetrable.

Technological properties:

The wood is suitable for rotary-cut veneer and sliced veneer. It machines easily, but an adequate suction system must be installed. Tools dull at a normal rate. The wood has good curving qualities. Gluing, nailing, screwing and finishing present no problems.

Applications:

Decorative veneers./ Plywood./ Cabinetwork and furniture./ Naval construction./ Musical instruments./ Turned and carved articles. In the United States this wood is customarily used in the decoration of gunstocks and handgun handles.