



Hard Maple (Acer Nigrum)

Botanical Name:	Acer nigrum
Other Common Names:	Black maple, Black sugar maple, Hard maple, Hard rock maple, Maple, Rock maple, Sugar maple
Common Uses:	Bowling Pins, Boxes and crates, Charcoal, Decorative veneer, Domestic flooring, Food containers, Furniture , Lumber, Musical instruments , Paneling , Railroad ties, Tool handles, Windows, Baskets, Boards, Building materials, Casks, Chairs, Chests, Clogs, Concealed parts (Furniture), Crossties, Desks, Dining-room furniture, Dowell pins, Dowells, Drawer sides, Dressed boards, Drum sticks, Figured veneer, Fine furniture, Floor lamps, Flooring, Furniture components, Furniture squares or stock, Handles, Hatracks, Interior construction, Kitchen cabinets, Living-room suites, Office furniture, Organ pipes, Packing cases, Parquet flooring, Piano keys, Pianos , Radio, stereo, TV cabinets, Rough boards/dimension stock, Rustic furniture, Shafts/Handles, Sounding boards, Sporting Goods, Stools, Sub-flooring, Tables , Utility furniture, Veneer, Violin, Violin bows, Wainscoting, Wardrobes, Xylophones
Region:	North America
Country:	Canada, United States
Distribution:	The geographical range of Black maple in N. America includes Ontario, Quebec, Alabama, Delaware, Georgia, Illinois, Indiana, Kentucky, Maryland, Michigan, Minnesota, Missouri, North Carolina, New Jersey, Massachusetts, Arkansas, Connecticut, Iowa, New Hampshire, New York, Ohio, Pennsylvania, Tennessee, Virginia, Vermont, Wisconsin, and West Virginia. The tree prefers moist soils of valleys and uplands, and is usually found growing in mixed hardwood forests. It may be found at elevations of up to 2500 feet (762 m) in the northern parts of its range, and at slightly higher elevations in the south. The ranges of Black maple and its close relative, Sugar maple are reported to be similar, although Black maple is reported to be more common in Iowa, while Sugar maple extends farther into Canada in the Northeast.
Figure	Curly figure is usually found in the Soft Maple varieties Acer rubrum and Acer nigrum . However, curly figure may be found in Acer saccharum as well. Curly figure occurs when the grain is distorted into a wavy pattern termed tiger maple or fiddleback.

Numerical Values for: *Acer nigrum*

<u>Category</u>	<u>Green</u>	<u>Dry</u>	<u>Unit</u>
Bending Strength	7900	13300	psi
Crushing Strength (Perp.)	600	1020	psi
Max. Crushing Strength	3270	6680	psi
Impact Strength	48	40	inches
Stiffness	1330	1620	1000 psi
Work to Maximum Load	13	12	in-lbs/in ³
Hardness		1180	lbs
Shearing Strength		1820	psi
Specific Gravity	0.52	0.64	
Weight		45	lbs/cu.ft.
Radial Shrinkage (G->OD)		5	%
Tangential Shrink. (G->OD)		9	%
Volumetric Shrink. (G->OD)		14	%

Tree & Wood Descriptions for: *Acer nigrum*

Product Sources	<p>Some material from this species is reported to be available from sustainably managed, salvaged, recycled, or other environmentally responsible sources.</p> <p>Plain hard maple is reported to be readily available in both lumber and veneer forms. Figured hard maple is rather limited in availability and is therefore more expensive.</p>
Tree Data	<p>The tree is rather large, and is reported to attain a height of about 80 feet (24 m), with a trunk diameter of 24 to 36 inches (60 to 90 cm).</p>
Sapwood Color	<p>The sapwood is white with a reddish tinge.</p>
Heartwood Color	<p>Heartwood is uniformly light reddish brown.</p>
Grain	<p>Straight but occasionally curly or wavy. Bird's-eye figure is occasionally present. Flecks caused by insects may also be present in the wood.</p>
Texture	<p>The wood is very fine and even textured.</p>
Odor	<p>There is no distinct odor or taste.</p>
Movement in Service	<p>Black maple is reported to have medium dimensional stability after seasoning, and tends to move moderately in use.</p>
Natural Durability	<p>Black maple is reported to be susceptible to attack by decay causing fungi, furniture beetle, and is liable to blue stain. It is, however, reported to be more durable than some of the other maples and is more fire resistant compared to other wood species.</p> <p>Resistance to Impregnation The heartwood can be impregnated with liquids with difficulty.</p>
Veneering Qualities	<p>Various figures, usually scattered throughout hard maple trees are reported to yield decorative veneers including, bird's-eye and fiddleback.</p>
Strength Properties	<p>The species has high bending strength in the air-dry condition (about 12 percent moisture content). It compares favorably with Teak, which also has high bending strength. Compression strength parallel to grain in the air-dry condition is high. Teak, White oak, and Hard maple have high crushing strength. It is moderately hard and resistant to wearing and marring. It is heavy.</p>

Comments

The two hard maples, Black maple and Sugar maple, are reported to be very difficult to differentiate. They are reported to be up to 25 percent harder than the soft maples, and are used more often for visible parts of furniture. They are also valued for their strength, wear resistance and beauty, which make them a popular choice for applications such as, flooring in high volume traffic areas.

Working Properties for: *Acer nigrum*

Blunting Effect	<p>The wood is reported to have medium blunting effect on cutting tools. Cutters may need to be checked periodically and sharpened if necessarily.</p> <p>Cutting Resistance The timber is reported to be fairly difficult to saw because of its density and hardness.</p>
Planing	<p>Planing properties of Black maple are reported to be fair at best. (Number of pieces without any machining defects after planing one hundred pieces = 54).</p>
Turning	<p>The material is reported to have good turning characteristics. (Number of fair to excellent pieces out of one hundred = 82).</p>
Boring	<p>The timber is reported to bore readily and cleanly. (Number of good to excellent pieces out of one hundred = 99).</p>
Moulding	<p>Black maple is reported to have fair moulding properties. (Percent of good to excellent pieces = 72).</p>
Mortising	<p>The wood is reported to respond very well to mortising. (Number of fair to excellent pieces out of one hundred = 95).</p>
Gluing	<p>The material is reported to be fairly difficult to glue.</p>
Nailing	<p>The material is generally considered to be poor in nailing properties. (Number of pieces free from complete splits out of one hundred = 27).</p>
Screwing	<p>Screwing qualities are rated as only fair. (Percent of screwed pieces free from complete splits = 52).</p>
Sanding	<p>The wood is reported to be difficult to sand to a smooth surface. (Number of good to excellent sanded pieces out of one hundred = 38).</p>
Staining	<p>Staining properties are reported to be good.</p>
Steam Bending	<p>Steam bending characteristics are rated as only fair. (Percent of unbroken pieces after steam bending = 57).</p>

Drying for: *Acer nigrum*

Ease of Drying	The wood is fairly easy to dry. Some level of care is needed during drying in order to minimize defects.
Drying Defects	The occurrence of sapwood discoloration is possible due to extractives. Collapse and honeycomb in heartwood may also occur because of mineral streaks and wetwood.
Kiln Schedules	T8 - C3 (4/4); T5 - C2 (8/4) US
T/R Ratio	1.94 This ratio is more meaningful if it is used together with actual shrinkage data in the tangential and radial directions. (Refer to the Numerical Values window).

*Credits for information:
Woodworkersource.com*