

Hardwood Lumber and Veneer Series



Black Locust

FNR-277-W

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EXPERT
REVIEWED

Black locust (*Robinia pseudoacacia* L.) originally ranged from Pennsylvania to southern Indiana and Oklahoma then south to Georgia and Louisiana. The species has been planted further to the north and escaped. The tree does best on moist, rich soils, or those of limestone origin, but it can be found on a wide variety of sites including badly eroded ones. When young, the tree grows fast. It is intolerant to shade.

The trees are 40 to 60 feet tall and 1 to 2 feet in diameter. On good sites the trees may develop a clear straight bole. Other trees may be short boled with spreading branches. The largest reported specimen is over 8 feet in diameter at 4½ feet above the ground.

Wood Color and Texture

The sapwood is yellowish and narrow on older trees. The heartwood ranges from greenish yellow to dark brown when first cut. The wood is ring porous and the growth rings distinct. The wood is without odor or taste. In the heartwood, the pores are completely filled with tyloses and extractives.

Workability

No specific information is reported on the workability of black locust. However, given the wood is high in density, it should machine well. However, it is difficult to nail and fasten with screws unless pilot holes are drilled.

Strength

At 12 percent moisture content, black locust weighs 48.2 pounds per cubic foot, making it comparable to most oaks and just less than hickory. The wood's strength properties likewise exceed most



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Black locust tree

of the oaks and are comparable to hickory. It is a strong, dense wood.

Steam Bending

No information is reported on how well the wood bends with steam.

Drying

A mild kiln schedule is used when drying the wood.

Shrinkage

Black locust is one of the heaviest woods but shrinks relatively little upon drying. Once dry, the wood is relatively stable. Total volumetric shrinkage

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is 10.2 percent. This low shrinkage is probably due to the cells being “bulked” or filled with extractives.

Decay Resistance

The heartwood is rated as very resistant to decay. This resistance has resulted in specialty uses for the wood. It is important to note that only the heartwood is resistant and even the heartwood of some young, fast-growth trees may not have the resistance of older trees from which the species earned this reputation. The author installed 5" to 6" diameter locust posts about 25 years ago, and only one has failed to date. However, the sapwood is completely deteriorated at the ground line.

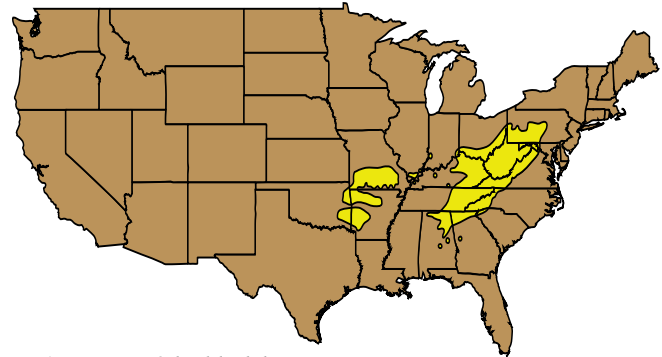
Commercial Use, Grading, Value

The positive aspects of black locust are its decay resistance and dimensional stability. Due to these two properties, and the strength of the wood, it is used as insulator pins and tree nails in ships. It is also used for posts, mine timbers, railroad ties, and frames.

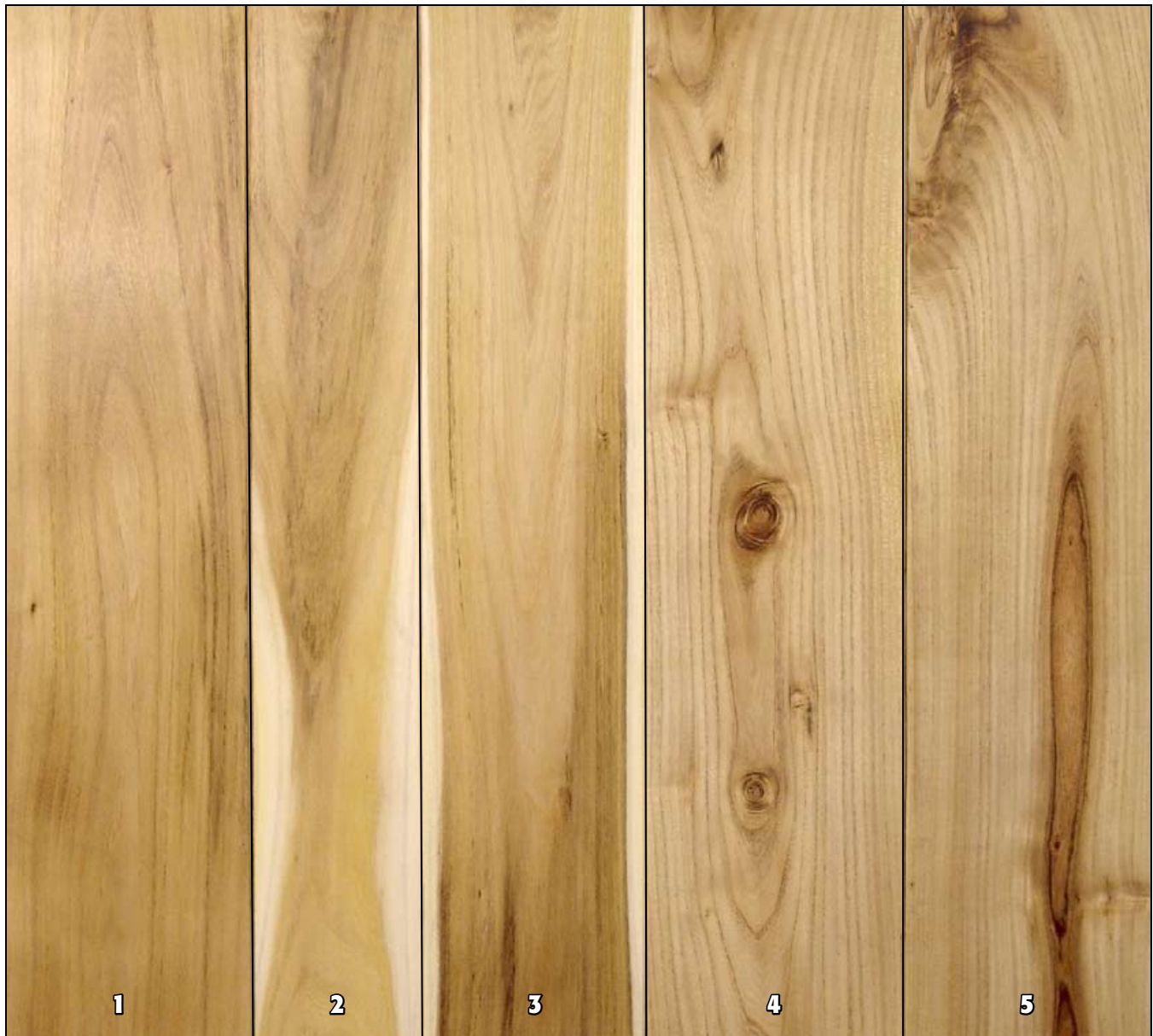
The wood is graded standard by the NHLA rules, except some mineral is allowed in the cuttings.

Wholesale prices are not reported for the wood.

The tree was extensively planted for fence posts and railroad ties, particularly before the advent of modern wood preservation and treatment processes. The tree is also planted for erosion control. Being a legume, it improves the soil by nitrogen fixation. It has been planted for fuel wood; however, some plantations are subject to locust bores, and the young trees are armed or contain thorns, making it difficult to handle.



Native range of the black locust



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Black locust is a coarse grained hardwood with yellowish-brown heartwood when first finished. The heartwood can have dark areas and darkens with age. The pores are filled with an extractive that probably adds to the woods durability. The sapwood is white.

The first piece shows the characteristics flat sawn appearance of the wood. The second and third piece from the left shows the white sapwood.

The fourth piece from the left shows characteristic tight knots.

The last piece shows a dark section in the center which is probably the result of damage near the heart of the tree. Ray flecks from a quartered surface are also visible on the left side of the piece, particularly in the lower left corner.

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