Poplar

The Tree

A variety of poplar species and with different stem forms and leave shapes are common in the UK. They are tolerant to high winds and can be used to stabilize sites that are prone to erosion. The most well-known species might be black poplar with its heart-shaped leaves and large, sometimes burly, stems, and aspen, a more slender tree with silvery leaves that tremble in the wind. The seeds of many poplar species are contained in a cotton-like fluff that falls to the ground in summer. Although poplar is not one of the ten most common broadleaf species in the UK, it has great potential to become a fast-growing, wind-resisting species with yield classes up to 26.

Typical diameters 0.6 – 1 m, also up to 1.5 m
Height up to 30 m
Age up to 300 years
Black poplar *Populus nigra* European aspen *P. tremula* Other species and hybrids

Aspen
Picture by Agnieszka Kwiecień, Nova, Wikimedia Commons

The Timber

Poplar wood has a relatively low density but is quite shock resistant, so it has traditionally been used in ores, cart wheels and wagon bottoms. Nowadays, the relatively plain-looking poplar wood is used as packaging material and in plywood. Black poplar burl wood is more decorative and used in furniture and veneers. Poplar from Germany can be graded to the strength classes C22 and C27 and some poplar clones from France can be graded to the strength classes C18 and C24. The “C” here is not a typo. C-classes were originally conceived for softwoods, but were opened up to “similar” (read: low-density) hardwoods in the newest revision of EN 338.

Poplar wood

Pale, yellow, reddish or greenish wood
Heartwood not demarcated
Uniform appearance with no visible growth rings
Medium texture
Surface often woolly

Diffuse-porous
Rays barely visible, narrowly spaced
Parenchyma marginal

What do we know about home-grown poplar?

Strength	Low compared to other hardwoods; comparable to sweet chestnut
Stiffness	
Density (at 12% mc)	380 kg/m^3
Hardness	Low compared to other hardwoods; comparable to softwoods like Sitka and Norway spruce
Machinability	Easy Planing can yield fuzzy surfaces Tends to distortion during drying
Durability	Not durable

Why is this information so vague?

Little is known about the properties of home-grown hardwoods. Some research was carried out by Lavers, starting in the 1950s and carrying on until 2002, but a limited number of trees was used in this research. Also, the testing was done on small clear specimens, and data for full-sized specimens with defects is rarely available. Nonetheless, we can use this data to compare between species, between timbers from the UK and Europe (or other countries) and between new data and historic results.

References & Further Reading

The Wood Database

European Atlas of Forest Tree Species, Black poplar

European Atlas of Forest Tree Species, Aspen

Woodland Trust, Black poplar

Lavers, 2002, The Strength Properties of Timber