



# Quality characteristics

## *Robinia pseudoacacia*

### Common names

Acacia (Neth.), falsche Akazie, Robinie, Schotendorn (D.), false acacia (Eng.), robinier (Fr.), black locust (USA).

### Botanical name

*Robinia pseudoacacia* L. (family: Leguminosae/Papilionaceae)

### Growing area

Europe, North America

Wood quality	Description	Value
Volumetric mass	modestly heavy to heavy	720 - 839 kg/m <sup>3</sup> (in air dry condition)
Shrinkage	radial: normal tangential: normal	from fresh to oven dry: radial 4.1-5.0%; tangential 6.6-8.0%
Flexural strength	strong	121 - 175 N/mm <sup>2</sup> (in fresh condition)
Elasticity mode	average elasticity	12.1 - 14.0 kN/mm <sup>2</sup>
Compression strength	very strong	71 N/mm <sup>2</sup>
Shearing strength	strong	17.2 N/mm <sup>2</sup>
Splitting strength	weak (splits fairly easily)	58 N/mm
Hardness	hard	crosscut: 7060 N longitudinal plane: 7550 N
Durability	durable to very durable	I / II
Colour	yellow-green to brown-yellow in the heartwood	

### Volumetric mass

540/860 kg/m<sup>3</sup> (this varies from fairly light to heavy); in the test for TNO it was 770 kg/m<sup>3</sup> (12% moisture), this is equivalent to a heavy quality, fresh 930 kg/m<sup>3</sup> (40% moisture)

### Flexural strength

133 N/mm<sup>2</sup> (in the highest class, very strong!)

### Compression strength

(in the highest class, very strong!)

### Hardness

crosscut: 7060 N (according to Janka, fairly hard category)  
longitudinal plane: 7550 N (according to Janka, hard category)

### Durability

I / II (lifespan of the heartwood in contact with the soil in a moderate climate 15-25 years), Robinia is known as one of the most durable wood types of Europe.

Because preservative chemicals are naturally in the wood, in particular robintine, Robinia wood does not really need to be treated against wood fungus and insects. The durability against fungi is categorised as class I/II. Class I is equivalent to an approximate lifespan of more than 25 years, class II with 25-15 years for heartwood in contact with the soil in a moderate climate. The resistance against insects is high, even against termites, so that Robinia is classified as durable.



The impregnability of heartwood is classified as factor 4 (very difficult) under the guidelines of NEN-EN 350-2, the sapwood as factor 1 (easily impregnable). The sapwood is moreover fairly thin and is therefore not an important component of your total volume of the timber.

### **Wood characteristics**

Colour: yellow-green to brown-yellow in the heartwood. Fairly hard, solid, strong, tough, moderately fine of grain, and straight grained. It is easy to process, turn, fraise, and screw, but nailing is more difficult (pre-drill, unless mechanical).

Moist Robinia wood reacts acidic due to acid, such as tannic acid. This can lead to corrosion in corrosion-sensitive metals to come into contact with the wood. Dry wood does not react acidic.

### **Drying**

This must be carried out fairly carefully and slowly; distortions can occur if drying takes place too quickly. In Hungary, the felled timber can be dried during the summer by the sun and wind up to 25% moisture, after which it can be sawn and stacked, after which during around 130 hours forced drying to 10-12% moisture in the wood.

### **Valuation**

In many respects, Robinia is the best wood that grows in our climate; it is therefore unfortunate that it is only available in such limited quantities, which means it cannot be used for more general applications.

### **Application**

Primarily applied in fencing, fencing posts, street furniture, boundary posts, playground equipment, garden furniture, sheet piling, bridges, parquet, furniture, stairways, trusses, sound barriers, mining posts, veneer, and plywood.

When laminated, Robinia wood can be used for the following products: doors, window frames, trusses, and beams.

The tough and hard wood serves excellently for smaller applications, such as spokes, rims, sprockets, rungs, flanges, drumsticks, combs, oil presses, rods, tongues, slats, laths, and wagon bars.