RICHTER
SPIELGERÄTE
GMBH

Robinia wood for installation into the ground

Key features of robinia

We have more than 50 years of experience in manufacturing playground equipment made of wood. For this, we primarily use mountain larch from the local Alps and robinia wood from Hungary.

The black locust (Robinia pseudoacacia), also known as false acacia, is a deciduous tree that grows to a height of 20 to 30 m in summer and reaches a maximum diameter of 40 cm. It is a fast-growing wood with extraordinary physical properties. Adult robinia wood has been assigned to resistance class 1-2 (see also Table 2) and is thus considered to be particularly resistant to wood-destroying insects and fungi. Traditionally, robinia wood is used in shipbuilding and furniture making, as pit lining, and for wooden sleepers. The high expected service life of robinia when used for installation into the ground offers significant advantages for the construction of playground equipment.

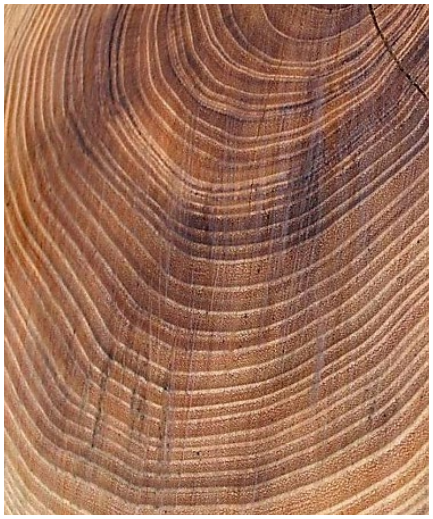
Robinia wood (stand posts) in combination with steel feet

Due to the particularly long service life of robinia wood when used for installation into the ground, we advise against the use of steel feet. Steel feet do not provide any additional advantages compared to direct installation into the ground. On the contrary, they require more maintenance and their production costs are significantly higher.

Based on extensive research, the lifespan of posts, masts and construction parts made of robinia was determined as follows (MOLNAR 1988):

outdoors, in contact with the ground	15–30 years *
outdoors, no contact with the ground	60–80 years
under water	500 years
in a dry environment	500–1,000 years

* For about 25 years, we have been supplying the market with our climbing structures made of robinia wood. We are not aware of any incident in which a post had to be replaced due to rot during this time.



Robinia is indispensable, especially when it comes to topics such as ‘use of wood in outdoor areas/installation into the ground’ or ‘pest-resistant timber’. It is characterised by specific properties such as a high degree of hardness, a low proportion of sapwood and excellent durability. The following table illustrates this and shows how robinia compares to other types of wood:

Classification of natural durability against wood-destroying fungi [1]		
1	very durable	e.g. afzelia, maobi, bilinga, greenheart, padouk, Asian teak, macore
1-2	durable to very durable	e.g. robinia *)
2	durable	e.g. European oak (white oak), sweet chestnut, American western red cedar, bankirai, bubinga, merbau, bongossi, mahogany
2-3	moderately durable to durable	e.g. yellow cedar, American white oak
3	moderately durable	e.g. pitch pine
3-4	poorly durable to moderately durable	e.g. European larch, European douglas fir
4	not very durable	e.g. fir, spruce, elm, American red oak, yellow meranti,
5	not durable	e.g. birch, beech, ash, lime, white meranti
*) Note: The adult heartwood of robinia is classified as durable (1), whereas its juvenile heartwood (the first 7–15 annual rings) is classified as not very durable (4) (Dreiner 2007).		

The quality of our wood

At Richter, we carefully inspect the robinia trunks for rot or wood pests when selecting them. We fully understand the quality of our wood and offer playground equipment made of robinia wood that is installed directly in the ground. Despite the direct contact with soil and moisture, a long service live is easily possible. In almost 25 years, we have never had to replace a stand post due to rot.

Example of a log with rot on the inside due to the lower rot resistance of juvenile heartwood. This log would be discarded by us.

Low-energy manufacturing process

As part of our commitment to sustainability, we offer playground equipment made of robinia that can be installed directly into the ground and, upon our customers’ request, without the use of concrete for the foundations. Compared to other types of wood that are installed with steel feet, robinia allows for a significantly more environmentally friendly and energy-efficient manufacturing process and causes a very small ecological footprint.

1 t of steel recycling	3.800 kWh	710 kg CO_2
1 t of aluminium profile	36.700 kWh	9.300 kg CO_2
1 t of laminated timber	2.300 kWh	530 kg CO_2
1 t of solid wood	710 kWh	110 kg CO_2

This graphic[2] illustrates the energy consumption and CO_2 emissions associated with the production of steel compared to wood.

(1) http://www.holzfragen.de/seiten/dauerhaftigkeitsklassen.html; as of 03/05/2022
(2) https://energie.ch/graue-energie/; as of 24/07/2024