



BAUFRITZ[®]
WIR BAUEN GESUNDHEIT

Data sheet 11/2022

HOIZ[®]
insulation
made with
wood shavings



BASIC MATERIAL

- Natural wood shavings from spruce

TRANSPORTATION

- HGVs and shipping containers

INSTALLATION

- Inserted and compacted automatically or manually
- Bulk density when installed approx. 70 kg/m³

IMPREGNATION

- Small amounts of soda and natural whey

APPLICATION

- As heat and sound insulation for roofs, ceilings and walls in timber structures

BUILDING PHYSICS

- pH value: approx. 9
- Vapour diffusion resistance coefficient: $\mu = 2$
- European fire protection class in acc. with EN 13501-1: E
- Hygroscopic equilibrium moisture content (23°C/80%): 13 %
- Rated thermal conductivity: $\lambda = 0.049$ W/(m·K)
- German fire protection class DIN 4102 T.1: B 2 (normally inflammable)
- Specific heat storage capacity C: 0.58 Wh/kg*K or 2100 J/kg*K
- Summer heat protection / phase shift: 14 h (Baufritz external wall)
- Declared thermal conductivity in acc. with DIN E ISO 10456 ID: $\lambda_D = 0.047$ W/(m·K)

AUTHORISATION AND CERTIFICATION

- Approved for construction in Germany since 1993 by DIBt Berlin (Z-23.16.1657)
- European Technical Approval since 2007 (eTa-07 / 0085)
- Quality assured by the Research Institute for Thermal Insulation, Munich
- Certified since 2002 with the prestigious natureplus label no. 0108-0206-006-1
- The only organic insulation worldwide to be certified with the Cradle-to-Cradle Gold standard since 2013

STABILITY

- Settling properties

Settling reliability tested in acc. with ISO / CD 18393 by the Material Testing Authority North Rhine-Westphalia.

- Fungal infestation

HOIZ[®] is permanently and effectively protected against fungal infestation. Tested for mould resistance by the Institute for Wood Technology Dresden.

- Wood parasites

An infestation by wood parasites is excluded in acc. with DIN 68800 / T2 with linings that are impermeable to insects.



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HEALTH HAZARD AND EMISSIONS

- **Dust**

Dust is removed from the sieved shavings in the plant. Dust protection should be worn when processing the material by hand. Any residual dust from automatic processing is siphoned off using a special device. No emissions are expected from the finished wall.

- **Impregnation**

No emissions that are harmful to occupants' health due to impregnating with natural whey and soda.

ENVIRONMENT

- **Recyclable**

Completely reusable. Thermal recovery or natural composting possible.

- **Awards**

Recommended by Öko-Test and the Institute for Building Biology and Sustainability (IBN).

- **Energy requirements**

14 kWh/m³ for making loose insulation.

- **Climate protection**

One cubic metre of installed wood shavings insulation captures approx. 50 kg CO₂.

Milk in walls

One evening, Baufritz's senior director, Hubert Fritz, was dining out with friends. He told them about his revolutionary idea of using wood shavings for insulation.

"All we have to do is make them less inflammable – but without harming the environment", he said. One of his companions, the director of a neighbouring dairy, had an idea: "Why don't you try whey?". Hubert Fritz set himself to the task immediately.

Amazingly, it turned out that soaking wood shavings in whey made them more flame-resistant! All that remained was to develop an environmentally friendly impregnation against fungal spores. Together with Prof. Stetter from the University of Applied Sciences in Rosenheim, he found a simple yet brilliant solution: sodium carbonate, also known as soda, an odour-neutral salt.

As a result, Baufritz's HOIZ organic wood shavings insulation uses soda in combination with whey to naturally conserve and protect it against fire without endangering your health.