

PASSIVHAUS

Junckers
Solid hardwood floors



JUNCKERS

Walking on Danish design

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JUNCKERS SOLID HARDWOOD FLOORS AND PASSIVHAUS

Passivhaus is one of the leading international design standards for zero carbon buildings. It was established in Germany and is represented in the UK by the Passivhaus Trust.

The Passivhaus standard was created to help designers provide low or zero carbon buildings, primarily by minimising operational carbon, and this has evolved into Passivhaus adopting a “whole life carbon” approach which also includes embodied carbon i.e. the carbon stored in the fabric of the building, and the energy used to manufacture, transport and install it.

As gains have been made in reducing operational carbon through efficient heating and cooling plant, air tightness and high levels of thermal insulation, the relative amounts of embodied carbon in buildings have become greater, and consequently the focus of increasing attention. It has highlighted the importance for designers to specify building components and materials with low embodied carbon.

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HOW DOES A JUNCKERS SOLID WOOD FLOOR FIT INTO THE PASSIVHAUS STANDARD?

By specifying Junckers solid hardwood floors you can make substantial reductions to the embodied carbon in the building. Junckers floors are naturally low in embodied carbon, they have an exceptionally long life and offer a number of sustainable end of life options. EPDs are available for Junckers products.

Listed on the next pages are the specific whole life carbon design principles adopted by Passivhaus and how Junckers floors will help you to achieve these aims.

In new buildings, embodied carbon can represent as much as 40-70% of a building's whole life carbon footprint. Both the RIBA 2030 Climate Challenge and the LETI (London Energy Transformation Initiative) Climate Emergency Design Guide have set minimum standards for embodied carbon.

(Passivhaus Trust, "Passivhaus and Embodied Carbon")





Reuse existing buildings rather than rebuilding, as most of the embodied carbon is located in the foundations and the superstructure

When refurbishing and adapting existing buildings it makes sense to use internal finishes that have low embodied carbon. Junckers offers low carbon hardwood floors with a wide choice of installation methods ideally suited to retrofit and refurbishment. Overlay floor systems for where height must be kept to a minimum, levelling systems to accommodate uneven subfloors, and for heritage building restorations, independent systems that are not fixed to the existing building fabric.

Extend the life of the building through better-quality construction and use products with longer lifetimes

A Junckers 22 mm solid hardwood floor will have a service life of more than 60 years. Passivhaus claims that buildings designed to their standards are expected to have a similar lifespan therefore Junckers can provide one floor for the life of the building. The key to this longevity is that a solid hardwood floor can be refurbished many times during its life, with refurbishment intervals often being similar to the entire lifespan of other floor finishes. In this respect a solid hardwood floor reduces demands upon raw materials and energy compared with floors that have shorter lifespans.

Reduce or eliminate building materials with high embodied carbon

Timber is a carbon neutral material because trees sequester carbon from the atmosphere and lock it away, thereby reducing the amount of carbon in the atmosphere. Specifiers are trying to move away from products whose raw materials are derived from crude oil, e.g. plastics, and use energy from traditional sources such as coal, gas and oil. At the end of their lives these products eventually release “new” carbon into the atmosphere that was previously trapped underground, and consequently this has a negative effect upon global warming. Junckers’ flooring factory is powered by electricity generated from wood waste that arises from the raw logs we use for floor manufacture. Junckers EPDs show the lifetime effect of our flooring products upon global warming. You can also use our [Carbon Calculator](#) to make some basic comparisons of the global warming effect of different floor finishes.





Use durable materials that are easy to maintain

Solid hardwood floors from Junckers are tough and durable yet easy to maintain and refurbish. To keep the surface in good condition the floor will be periodically treated with lacquer or oil and in the longer term it can be fully sanded and refurbished numerous times. With a Junckers floor the approach is very much “refurbish rather than replace”. To facilitate this, Junckers has a network of Approved Maintenance Contractors who can assist clients with maintenance advice and carry out associated work.

Buy local materials where possible to reduce transport

Junckers floors are shipped direct to the UK from our factory in Denmark. Most of the raw timber we use is grown in managed forests in the Nordic region and mainland Europe. As a global business we transport raw materials and finished products over relatively short distances. The timber we use is sourced from certified managed forests with PEFC or FSC® accreditation. Junckers is an FSC® and PEFC certified company and we can provide a chain of custody upon request.

Reuse building materials at deconstruction

With a lifespan of at least 60 years, Junckers hardwood floors are often repurposed if the building is adapted or demolished before the floor is worn out. Junckers has a Reuse Scheme that facilitates this. If the floor has been laid as a floating floor or nailed to battens and joists, it is usually possible to carefully lift the boards, de-nail them and install them in a new home.

Design for disassembly and the circular economy.

In addition to carbon emissions, the extraction, use and disposal of construction materials have severe environmental consequences to air, land and water pollution.

In a similar vein to “Reusing building materials” above, Passivhaus is advocating planned repurposing of building materials where possible. This means at design stage, preference is given to products that are fixed by reversible means i.e. bolted, screwed, clipped, rather than glued, welded or amalgamated. Junckers floors are again very well suited to disassembly.

SOLID HARDWOOD FLOORS - A SUSTAINABLE CHOICE

PRODUCT-SPECIFIC EPDS

As part of our commitment to offer independently verified and transparent sustainability information we provide product specific Environmental Product Declarations (EPDs). This tool allows you to make informed material choices. Junckers' EPDs are produced in accordance with European standard EN 15804 and verified according to ISO 14025. The declarations are independently verified by a third party and registered with EPD Denmark.



CERTIFIED WOOD

We only use wood from forests managed in a sustainable and environmentally responsible way. Planting new trees as old ones are cut down is one of the characteristics of sustainable forestry.

To protect the climate, we strive to use wood harvested as close as possible to our factory. This is why our raw wood is mainly sourced from forest areas in Denmark, Sweden, Germany and Poland. Junckers achieved chain of custody certification in 2006 and has since been able to offer PEFC certified products. In 2010, we also achieved certification under the FSC® scheme.



Ask Junckers for FSC®
certified products

INDOOR CLIMATE

Junckers has a wide range of wood flooring and woodcare products that carry the Danish Indoor Climate Label. The Indoor Climate Label is your guarantee that the products do not have odours or chemical substances that can adversely affect the air quality in the room.



UN GLOBAL COMPACT

Junckers has been a member of the UN Global Compact since 2011, committing to support and respect principles and values in the areas of human rights, labour rights, environmental protection and anti-corruption.

WE SUPPORT



SCIENCE-BASED TARGET INITIATIVE (SBTI)

To support our ambition to set targets to reduce our organisation's direct and indirect contribution to greenhouse gas emissions, we have joined the Science-Based Targets initiative.

SBTi focuses on close collaboration between companies and climate experts to ensure that member organisations' climate targets are aligned with what the latest climate science deems necessary to meet the goals of the Paris Agreement. The goal of the Paris Agreement is to limit global warming to below 2°C above pre-industrial revolution levels and preferably to 1.5°C.



INDEPENDENTLY VERIFIED CERTIFICATION

Supporting documents and certificates are available to view and [download here](#) or contact us at:

sales@junckers.co.uk or
tel. +44 1376 534700



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