

GENERAL INFORMATION

SOLID HARDWOOD FLOORS, COMMERCIAL / RESIDENTIAL

INFORMATION JUNCKERS FLOOR SYSTEMS

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Table 1

GENERAL DESCRIPTION

Junckers solid hardwood floors for residential and commercial use are based on 22 mm and 14 mm 2-strip floorboards and 15 mm and 20.5 mm planks.

All Junckers solid hardwood floors are suitable for use in combination with underfloor heating. The floors can be laid as floating floors using the Clip System or glued down to the subfloor using the Glue Down System. Furthermore, 22 mm and 20.5 mm floorboards can be installed as load bearing floors, nailed to battens/joists using the Batten System.

Table 1 shows the structure of Junckers Technical Information concerning floors for residential and commercial use.

Please note that full information on a floor system comprises General Information solid hardwood floors plus Specifier's and Installation Instructions. Additionally, it may be relevant to include information about underfloor heating and acoustics.

LIABILITY

The information provided in the Junckers Technical Information applies to specification of building materials/components as well as functional aspects of floor structures, which include Junckers solid hardwood 2-strip floors or plank floors.

Please note that Junckers Industrier A/S accepts no liability for functional characteristics of floor structures whose materials or use deviate from the specifications, or whose construction deviates from the directions given.

CLIMATE CONDITIONS

Junckers solid hardwood floors can be laid in humidity conditions ranging from 25 to 85 % relative humidity (RH). However, in order to keep movement of the floor due to changes in the humidity to a minimum, the humidity range should not vary more than 30 % RH during the year. Examples of humidity ranges are: 25-50 %, 35-65 % and 60-85 % RH. In addition to this the relative humidity should be stable for extended periods of time during the year.

The relative humidity of residential and commercial buildings is usually between 35 and 65 % RH (UK). Our instructions are based on this range. Parameters such as operating temperature and method of ventilation used during the year determine whether the humidity level can be maintained naturally or must be controlled in certain periods. Should deviations from above be expected, it is advisable to contact Junckers Technical Service Department, before starting to install the floor.

Please note that all types of hardwood floors will expand when the relative humidity in a room increases, and conversely contract when the relative humidity decreases. During a normal seasonal cycle, the moisture content in a floor will fluctuate and may especially in the winter season result in occasional minor gaps between floorboards.

BEFORE LAYING THE FLOOR

The building must be weathertight. The heating system must be installed and tested, and during the heating season should be in operation. Cast concrete elements, screeding and other wet trades which can contribute moisture to the building, e.g. tiling, plastering and priming of paintwork, must also be completed and dried out.

Before materials are delivered the relative humidity of the building must be within the expected range for the building when in use, e.g. 35-65 %, and the temperature must be approx. 20 °C.

Floorboards must be carefully inspected for material defects under optimum lighting conditions before and during installation. Under no circumstances should products with visible defects be installed. Installation express acceptance.

FLOOR-LAYING

Solid 2-strip floorboards and planks should always be laid immediately after delivery. Other than for checking, the packaging should not be opened until just before laying begins.

With batten floors the floorboards are secret nailed to battens/joists using machine nails or by hand nailing in accordance with the 10 board rule, which is based on the expected maximum relative humidity in the building during the year (refer to the specifier's information for each installation method).

With the Glue Down System the floorboards are installed using the correct thickness of temporary spacer between each floorboard in accordance with the 10-board rule. (refer to the specifier's information for each installation method).

Clip system floors are laid as floating floors, and the clip size is determined according to the expected maximum relative humidity in the building during the year (refer to the specifier's information for each installation method).

STIFFNESS AND LOADBEARING STRENGTH OF FLOORS

To ensure that a floor system has acceptable properties, the floor should be sufficiently elastic and yet give acceptable deflection during use. Furthermore, the load bearing strength of the floor system must be adequate for the actual use.

The stiffness and load bearing strength of a floor system in relation to distributed and point loadings will depend on several factors. For batten systems they will depend on e.g. board type, the spacing of the battens and the packing, while for floating floors they will depend on the board type, the inter-mediate layer and the type of subfloor.

LOAD CLASSES:

Junckers floor systems can be specified for use in residential buildings, offices and commercial premises, assembly halls and shops. The areas of application of the different floor systems are stated in the Specifier's Information for each floor system in relation to the load classes in EN 1991-1-1, see **Table 2**.

Junckers floor systems are specified on the basis of their load bearing strength vis-à-vis distributed and point loads in relation to categories of room/use.

TABLE 2	LOAD CLASSES	
	Area load (q _k) kN/m ²	Point load (Q _k) kN
Area category/use		
A: Residential, including stairways	2.0	2.0
B: Offices and light industry	3.0	2.0
C1: Public buildings with tables, e.g. institutions	3.0	4.0
C2: Public buildings with fixed seating, e.g theatres	4.0	4.0
C3: Public buildings without fixed seating, e.g museums, hotels	5.0	4.0
D1: Shopping areas	5.0	4.0
*) Point load based on a flat area of 100 x 100 mm. At Ø 25 mm or 25 x 25 mm Q _k is reduced with 30% of the above values		

ROLLING LOADS

(pallet carriers, trucks, scaffolding, etc.)

Maximum loads for two common types of wheel:



Solid rubber wheels

Width: Min. 50 mm
Diameter: Min. 100 mm
Surface: Flat rubber surface
Stiffness: Shore A 70
Load: Max. 2.5 kN/wheel (250 kg/wheel)



Wheels with air tubes

Width: Min. 70 mm
Diameter: Min. 130 mm
Load: Max. 3.0 kN/wheel (300 kg/wheel)

ROLLING LOADS:

The point load will usually determine the degree of both stiffness and load bearing strength criteria.

In the case of extraordinarily high loads, e.g. exhibitions, etc., the load bearing strength of the floor systems can be increased by overlaying the floor with additional load distributing sheets such as plywood.

In addition to the loads stated in Table 2, loads can also be imposed by rolling equipment. The Specifier's Information datasheets give information on rolling loads on floor systems. For specification of two common wheel types on rolling equipment, see fig 1.

Fig. 1

COVERING OF WOODEN FLOORS

It is not normally necessary to cover floors during the construction period. Should covering nonetheless be considered necessary, it should be with strong floor cardboard or similar, which is not glued to the floor. In areas subject to special loads and exposure, e.g. corridors and ground floor premises, this covering can be replaced by/or supplemented with hard fibreboards or similar. See also chapter G, Cleaning & Maintenance Solid hardwood floors.

CLEANING AND MAINTENANCE

The floor must be regularly swept and vacuumed, and when necessary wiped with a well wrung out mop or cloth. For larger floors a scrubber dryer machine can be used.

See also chapter G, Cleaning & Maintenance Solid hardwood floors.

- Maintenance oiled hardwood floors, G 2.0
- Maintenance lacquered hardwood floors, G 4.0

SERVICE

For more than 80 years Junckers has delivered solid hardwood floors. We want to emphasise that with Junckers as a professional partner, you are always ensured proper technical service before, during and after a project. Our experience is that this ensures the highest possible quality.

Junckers Technical Service Department and our network of service and sales consultants are available with advice and guidance before, during and after floor laying.