

Junckers Floor Systems

C 1.0 General Information

C 1.1 Clip System Information

C 1.2 Batten System Information

C 1.3 Glue Down System Information

Specifier's Information

Laying Instructions

General description

Junckers solid hardwood floors for residential and commercial use are based on 22 mm, 14 mm and 10 mm solid boards and 20.5 mm solid wide boards. (10 mm boards are for residential use only).

All boards and wide boards can be laid as floating floors using the clip system. For the Glue Down System the 14 mm and the 22 mm solid boards as well as the 20.5 mm wide boards can be used. Furthermore, 22 mm boards and 20.5 mm wide boards can be installed as load bearing floors, nailed to battens/joists.

Fig. 1 shows the layout of the Junckers Technical Information System concerning floors for residential and commercial use.

Please note that full information on a floor system comprises the data in General Information, System Information, Specifier's Information and Laying Instructions.

An example of full information on a Junckers 22 mm clip system is C 1.0 -General Information, C 1.1 - Clip System Information, C 2.1 - Specifier's Information and C 2.1.1 - Laying Instructions.

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 board or wide-board 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.

Climatic 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 be expected, it is advisable to contact Junckers Technical Service Department.

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.

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 (UK).

**Load classes in:
ENV 1991-2-1:1995**

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.

Area Category/use	Area load (q _k) kN/m ²	Point load (Q _k) kN
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.

→ **E 6.0 Loads**

Table 1

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)

Table 2

Floor-laying

Solid boards and wide boards should always be laid immediately after delivery. The packaging should not be opened until just before laying begins.

With batten floors the boards 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.

With the Glue Down System the boards are installed using the correct thickness of spacer between each board in accordance with the 10-board rule. → **C 2.3 - C 3.3 - C 5.3 - table 1**

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.

Stiffness and load bearing 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 intermediate layer and the type of subfloor.

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 ENV 1991-2-1:1995, → **Table 1**.

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 1, 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, → **Table 2**.

Covering of parquet 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.

Cleaning and maintenance

Day-to-day vacuum cleaning and damp mopping. For large areas floor-cleaning machines may be used, provided that the water consumption is kept to a minimum.

Service

For more than 65 years Junckers has provided extensive service. Junckers Technical Service Department and our network of service and sales consultants are available with advice and guidance before, during and after floor-laying.