JUNCKERS
A NATURAL FEELING

Technical Information

D 7.2

Solid Hardwood Flooring
Specifier's information
Junckers DuoBAT 110+ Sports Floor System
Sport

Junckers DuoBAT 110+ Sports Floor System	
D 1.0	General Information
D 1.2	Batten Sports Information
D 7.2	**Specifier's Information**
D 7.2.1	Laying Instructions

Fig. 1

Components

1 - Boards
- Junckers 22 mm boards for sport:

  Wood species and grades:
  Beech, SylvaKet, Maple and Ash / Classic and Harmony.
  Surfaces → **B 2.0**

  Thickness x width x Length:
  22 x 129 x 3700 mm

2 - Nails
- 2.2 x 45 mm machine J-nails

3 – Duobat 110+ batten system
- Upper battens 25.5 x 60 mm, c/c 336.4 mm.
- J-Lock shock pad elements: 12 mm resilient elements pre-mounted on upper batten, and J-Lock elements pre-mounted on lower batten. Are clipped-on to each other during installation.
- Lower battens 39 x 40 x 3364 mm, c/c 400 mm, with 9 mm plywood foot points pre-mounted.

4 – Packings
- 3.8 pcs./m^2
- Plywood
- Plastic wedges

5 - Moisture barrier
- Min. 0.20 mm PE membrane.

6 - Distance to wall
- 1.5 mm per running metre across width and 1 mm per running metre along length of the floor, but both min. 30 mm.
  Is also required at fixed points, e.g. columns.

Fig. 2

General description of floor system

The Junckers DuoBAT 110+ Sports Floor System is based on 22 mm solid boards nailed to a resilient subfloor of two layers of crosswise-laid battens – prefabricated. The floor system is an area elastic type of sports floor with a structural design providing an extremely homogeneous floor surface with very high shock absorbency and elasticity particular suitable in multi-purpose sports hall with fast ball games and gymnastics.
The construction height is 110 mm without packing.

Please note that full documentation of a floor system comprises the data in D 1.0, D 1.2, D 7.2 and D 7.2.1. → **Fig. 1**

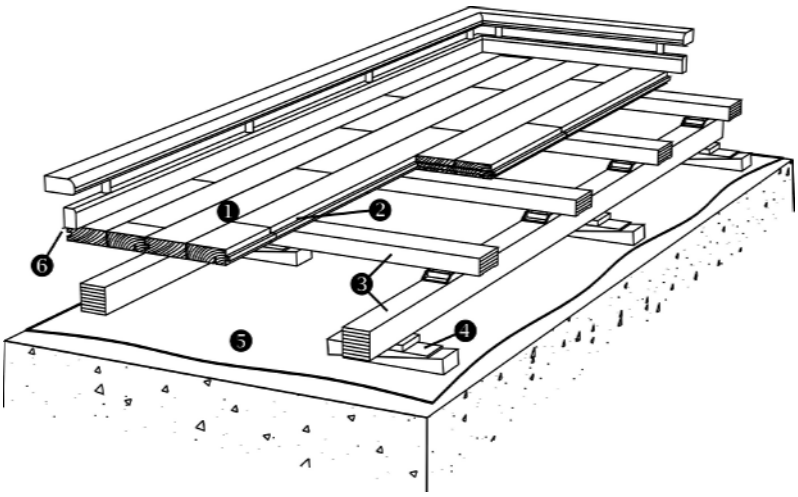

Fig. 3

System specifications

22 mm solid boards nailed to a substructure of veneered prefabricated battens. Manufactured as a double-batten structure of 25.5 x 60 mm upper battens and 39 x 40 mm lower battens with resilient J-Lock shock pad mounted between the battens where they cross. The resilient elements are pre-mounted on the upper battens and are clipped-on to the lower battens by the pre-mounted J-Lock element. Packing of the substructure is placed under the foot points. To avoid deflection of the floor along the walls, and as a help to get started, special battens, used as starters, are included in the system.
The system is levelled up on a firm subfloor → **Packing type.**

Boards

The boards are nailed to the battens according to a fixed **10-board rule**. The boards are laid in a continuous pattern with well-defined distribution of board header joints from row to row of 4 x the batten spacing, i.e. 1345.6 mm so all board header joints are supported.

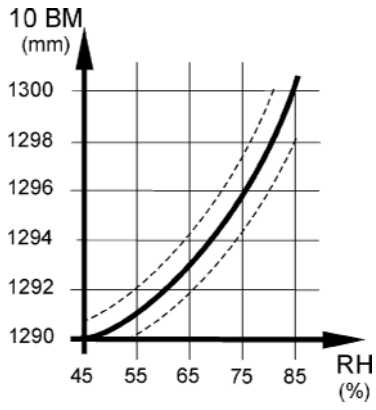

Fig. 4

Point load-bearing strength
The DuoBAT 110+ Sports Floor System is tested and approved for below mentioned maximum point loads, in relation to load area:

Diameter, 25 mm: 4,5 kN (≈ 450 kg)
100x100 mm: 6,0 kN (≈ 600 kg)

Fig. 5

10-board rule

The 10-board rule indicates the measurement across 10 boards when laid and is primarily based on the expected max. relative humidity of the building when in use.
→ **D 1.2 - 10-board rule**

Fig. 4 illustrates the 10-board measurement in relation to the relative air humidity. E.g. will an expected relative humidity of max. 65% RH normally give a 10-board measurement of approx. 1294 mm. The limit of the 10-board measurement, which also depends upon the floor size, is in fig. 4 shown as dotted lines.

In case of doubt please contact Junckers Technical Service.

Rigidity and load-bearing strength

The DuoBAT 110+ System is designed to ensure good technical properties in relation to the expected loads in connection with sports activities.

Figure 5 shows the maximum point load-bearing strength at certain load areas.

Table 1 shows the DuoBAT 110+ system in relation to the load classes in ENV 1991-2-1:1995, where the load-bearing strength requirements are complied with and the floor has an acceptable rigidity. The floor system's rigidity in relation to wheel loads is also shown. For further definition of load classes and types,
→ **D 1.0 - Stiffness and load bearing strength of floors**.

Table of loadings	ENV :1995		Other loads		Explanation of symbols
Loading types / Loading category	Area load	Point load	Wheel load (solid)	Wheel load (air)	● Loadings conforming to the requirements of ENV 1991-2-1:1995 and deflection criterion ◆ Deflection on wheel load is complied with D 1.0 - table 2
C4 Areas with possible physical activties	●[1]		◆		**Remarks** 1) Point load area min. 200 x 200 mm
C5 Areas susceptible to owercrowding	●				

Table 1

Packing type

Packing for the substructure must be of dimensionally-stable material, e.g. plywood. Alternatively plastic wedges may be used - alone or in combination with the above material. Fine adjustment with up to 3 layers of bitumen-based felt, equivalent to a layer thickness of max. 5 mm. The packing is attached to the substructure with nails which may not be in contact with the concrete. The substructure is laid before mounting of packing and is then levelled to 2 mm on a 1.5 m straight edge (UK: 3 mm under a 3 m straight edge).

Moisture insulation

A moisture barrier is always installed on concrete sub floors, min. 0.20 mm PE membrane, directly on the concrete. Before the floor is laid the residual entrained moisture in the concrete must be in balance with the expected maximum humidity in the building, e.g. 65% RH (UK: 75% acc. to BS 8201). → **D 1.2 - Moisture protection**

Heat insulation

→ **D 1.2 - Thermal insulation and pipes in the subfloor**

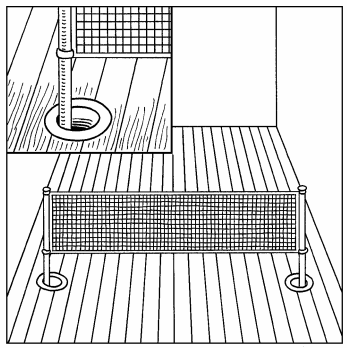

Fig. 5

Bushings

Bushings must be mounted so that both vertical and horizontal movement of the floor is unimpeded. The internal diameter of the flange must exceed that of the pipe, i.e. the external diameter of the net pole, by minimum 40 mm. At the outer zones of the floor all flanges are mounted eccentrically towards the centre of the floor in relation to the bush fittings in the concrete, so that the floor can expand freely. → **fig. 5**

Place extra support battens at net poles, pipes, etc. Support battens must be resilient.

Consumption of materials

Net consumption for 1000 m^2 Duobat 110+ Sports Floor System

Boards:	1000 m^2 + approx. 2 %
Machine J-nails, 2.2 x 45:	25000 pcs.
Duobat 110+ Batten System:	1000 m^2
Loose J-Lock shock pads:	100 pcs.
Packing:	approx. 3800 pcs.
Loose tongues:	67 pcs.
Moisture barrier:	
min. 0.20 mm PE membrane:	1100 m^2 incl. overlaps
Junckers Sylvafix header joint adhesive	3 bottles (3 x 0.75 litre)