

### Junckers UnoBAT 50 Sports Floor System

D 1.0	General Information
D 1.2	Batten system Information
<b>D 5.2</b>	<b>Specifier's Information</b>
D 5.2.1	Laying Instructions

Fig. 1

#### Components

- 1 - Boards
  - Junckers 22 mm boards for sports floors.
  - Wood species/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 - UnoBAT 50 batten system
  - Battens 21 x 50 x 3600 mm
  - 9.0 x 9.5 mm resilient rubber band with an integrated progressive shock absorption
  - Total batten heights 28 mm
  - Batten distance:  
c/c 411.1 mm (411)  
c/c 336.4 mm (336)
- 4 - Moisture barrier
  - Min. 0.20 mm PE membrane.
- 5 - 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 UnoBAT 50 Sports Floor System is based on 22 mm solid boards nailed to a resilient subfloor of a single layer of battens - prefabricated. The floor system is an area elastic type of sports floor with high shock absorbency combined with a high ball bounce, which makes it suitable for fast ball games as well as in multi-purpose sports hall. The construction height is 50 mm.

Please note that full documentation of a floor system comprises the data in D 1.0, D 1.2 D 5.2 and D 5.2.1. → Fig. 1

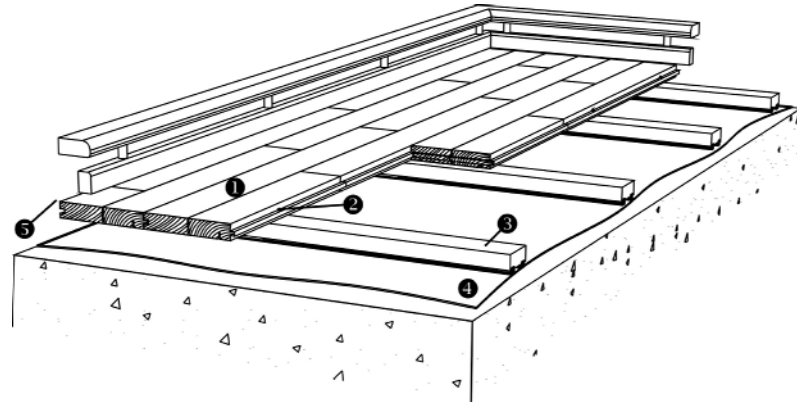


Fig. 3

#### System specifications

22 mm solid boards nailed to a substructure of prefabricated battens. Manufactured as a single layer structure of 21 x 50 mm laminated battens with rubber band pre-mounted in grooves on the underside of the batten. The UnoBAT 50 system is installed on a dry, load-bearing floor of concrete, lightweight concrete, wooden materials or on an existing synthetic or wooden sports floor. In general the subfloor must be flat with a maximum deviation of 2 mm under a 1.5 m straight edge (UK: 3 mm under a 3 m straight edge). But because of the special batten structure it will only influence the homogeneity of the floor, and hence the sports functional characteristics, if the demands of flatness is departed, not the strength.

Batten distance, 336 or 411 mm, is determined depending on the expected sports functional characteristics and/or strength.

#### 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 2 x the batten distance, i.e. 822.2 mm with the standard c/c 411.1 mm, or 4 x the batten distance, i.e. 1345.6 mm with the reduced c/c 336.4 mm. In that way that all board header joints are supported.

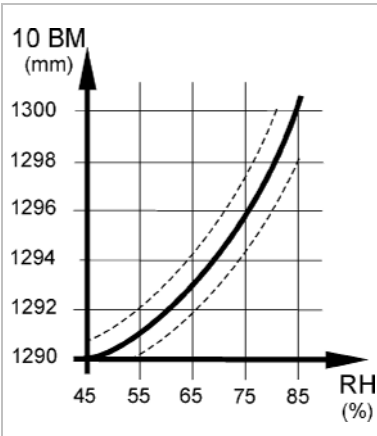


Fig. 4

**Point load-bearing strength**

The UnoBAT 50 Sports Floor System is tested and approved for below mentioned maximum point loads, in relation to load area and batten distance (incl. extra battens → Rigidity and load-bearing strength):

**c/c 336 mm:**  
 Diameter, 25 mm: 4,5 kN (= 450 kg)  
 100x100 mm: 6,0 kN (= 600 kg)

**c/c 411 mm:**  
 Diameter, 25 mm: 4,0 kN (= 400 kg)  
 100x100 mm: 5,5 kN (= 550 kg)  
**Extra battens:**  
 Diameter, 25 mm: 7,5 kN (= 750 kg)  
 100x100 mm: 8,5 kN (= 850 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 UnoBAT 50 Sports Floor 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 and batten distances (336 and 411 mm). In a heavy load situation, e.g. back stop units, stages or tribunes, it may be necessary to add extra battens. Starting from a batten distance of 411 mm, the extra battens, modified on location, are placed in between the ordinary battens.  
 → Fig. 5

Table 1 shows the UnoBAT 50 Sports Floor 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
	Area load	Point load	Wheel load (solid)	Wheel load (air)	
<b>Loading category</b>					<ul style="list-style-type: none"> <li>● Loadings conforming to the requirements of ENV 1991-2-1:1995 and deflection criterion</li> <li>◆ Deflection on wheel load is complied with D 1.0 - table 2</li> </ul>
<b>C4 Areas with possible physical activities</b>		● <sup>1</sup>			<b>Remarks</b> 1) Point load area min. 200 x 200 mm
<b>C5 Areas susceptible to overcrowding</b>		●	◆		

Table 1

**Moisture insulation**

A moisture barrier is always installed on concrete subfloors, 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

**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 outermost 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. 6.

Place extra support battens (UnoBAT 50) at net poles, pipes, etc.

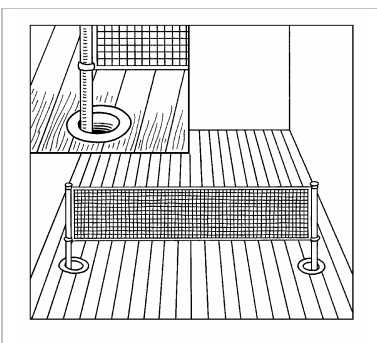


Fig. 6

### Consumption of materials

#### Net consumption for 1000 m<sup>2</sup> UnoBat 50 batten system

##### Batten distance 336

Boards:	1000 m <sup>2</sup> + approx. 2 %
Machine J-nails, 2.2 x 45 mm:	25000 pcs.
UnoBat 50 batten system:	3000 rnm.
Loose tongues:	67 pcs.
Moisture barrier:	
min. 0.20 mm PE membrane:	1100 m <sup>2</sup> incl. overlaps
Junckers Sylvafix header joint adhesive	3 bottles (3 x 0.75 litre)

##### Batten distance 411

Boards:	1000 m <sup>2</sup> + approx. 2 %
Machine J-nails, 2.2 x 45 mm:	20000 pcs.
UnoBat 50 batten system:	2500 rnm.
Loose tongues:	67 pcs.
Moisture barrier:	
min. 0.20 mm PE membrane:	1100 m <sup>2</sup> incl. overlaps
Junckers Sylvafix header joint adhesive	3 bottles (3 x 0.75 litre)