

CLIP SPORTS FLOOR SPECIFIER'S AND INSTALLATION INSTRUCTIONS

SPECIFIER'S INFORMATION

INFORMATION CLIP SPORTS FLOOR SYSTEM

D 1.0	General information Junckers Sports Floors
D 2.1	Specifier's and Installation instructions

Table 1

1. SYSTEM SPECIFICATION

Floor construction:

Junckers Clip Sports Floor System is based on 22 mm solid hardwood floorboards installed as a floating floor with steel clips on a resilient foam underlay.

Construction height:

When using 10 mm Sports foam: 32 mm.

When using 15 mm Sports foam: 37 mm.

Performance:

The floor system is categorized as an area elastic sports floor with medium shock absorbency and elasticity particularly suitable for fitness and aerobics as well as in refurbishment projects.

The floor system is tested and approved according to the European Sport Norm EN 14904 class A3, when using Junckers 10 mm Sports Foam and FIBA level 2, when using Junckers 15 mm Sports Foam.

Step sound reduction by installation on heavy constructed horizontal divisions:

22 mm floorboards on 10 mm SportsFoam underlay: 18 dB.

22 mm floorboards on 15 mm SportsFoam underlay: 19 dB.

For general information about sound and practical guidelines on acoustics in floor constructions, see E 5.0.

Read all information:

Please note that full documentation of a this floor system comprises General information and Specifier's and Installation instructions, see table 1.

2. FLOOR COMPONENTS - JUNCKERS CLIP SPORTS FLOOR SYSTEM

1. **Junckers 2-strip solid hardwood floorboards for sport**
Thickness x width x length
22 x 129 x 3700 mm

Wood Species, grade and surface:
See data sheet B 2.0
2. **Steel Clips**
3. **Intermediate layer**
10 or 15 mm Junckers SportsFoam
4. **Moisture barrier on concrete**
Junckers SylvaThene moisture barrier, 0.20 mm PE membrane, 4 x 25 metre.
5. **Header joint adhesive**
Junckers SylvaFix
6. **Junckers Expansion strip**
Height x width x length
12 x 12 x 1000 mm
7. **Expansion gap at the wall**
2 mm per metre of floor width on each side, min. 15 mm.
Is also required at fixed points, e.g. columns.
8. **Junckers Combi sports skirting**

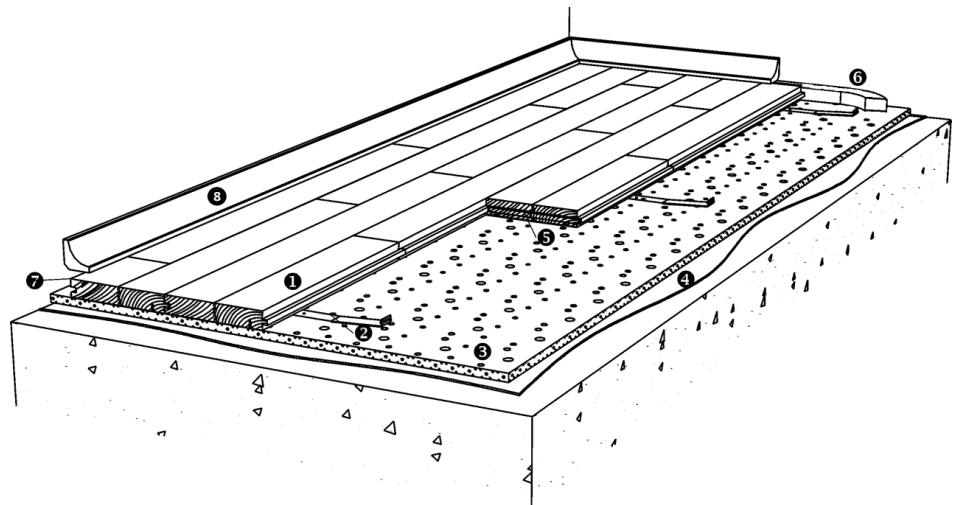


Fig. 1

3. LOAD-BEARING STRENGTH OF THE SYSTEM

Load-bearing strength of the clip system depends on the type of load, see table 2.

See also data sheet D 1.0 - Stiffness and load-Bearing strength of floors.

Table 2	Loading types			
	Area load per m ²	Area load ø25 mm	Area load 100x100 mm	Wheel load
Floorboard thickness				
22 mm	800 kg	350 kg	400 kg	See D 1.0 Table 1

4. CHOICE OF SUB FLOOR

Subfloors must be self-supporting and can be made of concrete, lightweight concrete, screed or in connection with renovation be an existing sports floor with e.g. a synthetic or wooden floor surface.

The elasticity of the subfloor has a direct impact on the properties of the completed floor in terms of deflection, impact absorption and ball bounce.

In renovation projects the elasticity and load bearing strength of the existing floor must be assessed in relation to the use of the floor.

If the floor area is made of several types of subfloors, it must be of uniform elasticity and flatness, to ensure a uniform performance of the sports floor.

5. BEFORE BEGINNING TO INSTALL THE FLOOR

The building must be weather tight. The heating system must be installed and tested, and during the heating season there should be a constant heat supply.

Cast concrete elements, including casting of sockets for fixtures and fittings, screeding and other wet trades which can contribute moisture to the building, e.g. priming of paintwork, must also be completed.

The relative humidity in the building must be within the relative humidity interval expected, when the building is in use and the room temperature approx. 20°C.

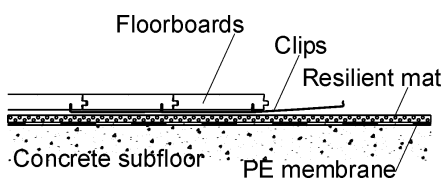


Fig. 2

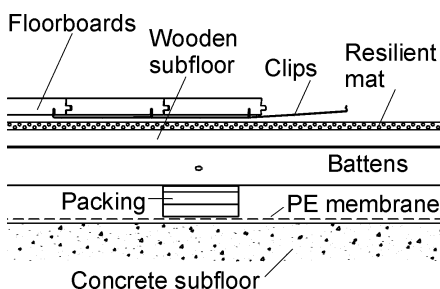


Fig. 3

6. MOISTURE PROTECTION

Concrete subfloors

The residual moisture contained in the concrete or screed must not exceed 90% RH. (UK: Concrete moisture max. 75% RH acc. to BS 8201, when checked by measurement).

At ground and upper levels protection against moisture both from within the building and from the ground is required.

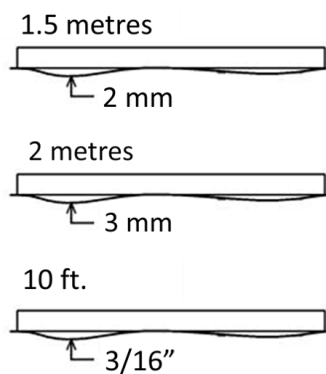
A moisture barrier is established by laying Junckers SylvaThene moisture barrier directly on the concrete, see Fig. 2.

Wooden subfloors

The moisture content of a wooden subfloor must be in balance with the relative humidity of the room, i.e. moisture content of 6-12%.

For renovation projects where floating floor systems are laid on existing wooden subfloors, it must be ensured that the entire structure has been designed to the correct specifications regarding moisture.

Usually, no additional moisture protection is laid on top of an existing wooden floor as this may cause the risk of fungal attacks in the sub construction, see fig. 3.



7. FLATNESS OF THE SUB FLOOR

The subfloor must be levelled so that any deviations in the flatness do not conflict with the requirements of the method stated below.

Straight edge:

The subfloor must be flat with a maximum deviation of 2 mm under a 1.5 m straight edge.

(UK: 3 mm under a 2 m straight edge).

(US: 3/16" under a 10 ft. straight edge).

Deviations are measured as gaps under the straight edge. The surface must be smooth. Any irregularities must be corrected by grinding or by using a self levelling compound.

Fig. 4

8. INTERMEDIATE LAYER - SPORTSFOAM

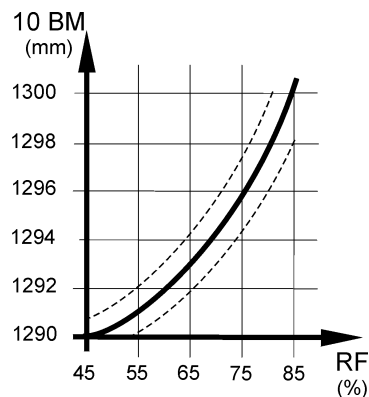
As intermediate layer for a Junckers floating sports floor, use Junckers 10 or 15 mm Sports Foam.

For more information, see Junckers Sports Foam H 3.3.

9. EXPANSION STRIP AND ADHESIVE

Junckers Expansion strip must be mounted tautly between all floorboard ends and walls

All floorboard header joints must be glued with Junckers SylvaFix, header joint adhesive. Never apply adhesive to the longitudinal sides of the floorboards, except for the floorboards in the last row, if the clip-groove is cut off.



10. CHOICE OF INSTALLATION CLIP

Installation Clips are available in different sizes according to various air humidity ranges.

The clip size is selected primarily on the basis of the expected maximum relative humidity (RH) in the building during the year, see fig. 5.

However, in order to minimize the overall movements of larger floor areas, it may be necessary to choose a larger clip size than normally corresponding to the expected maximum RH.

Fig. 5

The general rule for sports floors is as stated in table 3:

Table 3				
Floor area	Clip size	Humidity range %	Gaps at installation time	Label colour/Clip tagging
< 500 m ²	129.4 mm	35 - 65	Appr. 0.4 mm	Yellow, 2-hole
> 500 m ²	129.6 mm	35 - 65	Appr. 0.6 mm	Black, 2 ½-hole

We ask you to contact Junckers for advice, if the expected humidity range does not match the range 35 - 65 %.

We have clips matching any humidity range, see examples in table 4 below.

Table 4				
Clip size	Humidity range %	Gaps at installation time	Label colour/Clip tagging	
128.8 mm	10 - 40 **	Arctic/desert areas*	White, 0-holes	
129.1 mm	25 - 55 **	Appr. 0.1 mm	Green, 1-hole	
129.8 mm	65 - 85	Appr. 0.8 mm	Red, 3-holes	
130.2 mm	75 - 95	Appr. 1.2 mm	Orange, 4-holes	

*Arctic/desert areas

The 128.8 mm clip is used in arctic and desert areas. Acclimating of the wood prior to installation is necessary.

** Humidity range from 10 - 55 %

In a very dry environment there will be some larger permanent gaps between the floorboards.

Specifiers are advised to contact Junckers Technical department if such conditions are anticipated.

Fluctuation in the relative humidity

With all clip sizes, gaps will appear when the relative humidity falls to, or below, the lower end of the recommended humidity range.

11. NET CONSUMPTION OF MATERIALS

Net consumption for a Clip Sports Floor System:

Floorboards: Area + approx. 2 % wastage

Steel Clips: 17 pcs. per m²

Junckers Sports Foam, 10 or 15 mm: Area + approx. 2 % wastage

Junckers SylvaFix, Header joint Adhesive: 1 bottle per 75 m²

Junckers Expansion strip: 2 x floor width

Junckers SylvaThene moisture barrier (always on concrete): Area + approx. 10 % wastage incl. overlaps

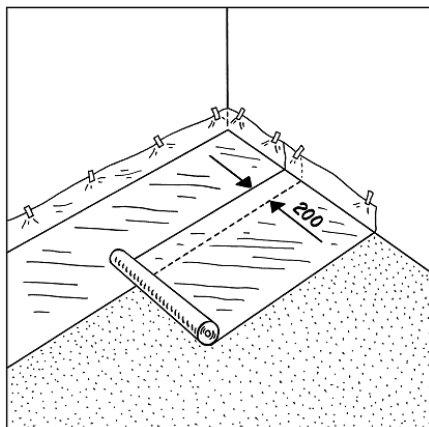
For halls with many columns, etc. extra clip consumption must be included in the estimated consumption.

INSTALLATION INSTRUCTIONS

1. WHEN TO START INSTALLATION

Solid hardwood floorboards should always be laid immediately after arrival at the building.

The plastic wrap must not be removed until installing of the floor begins.

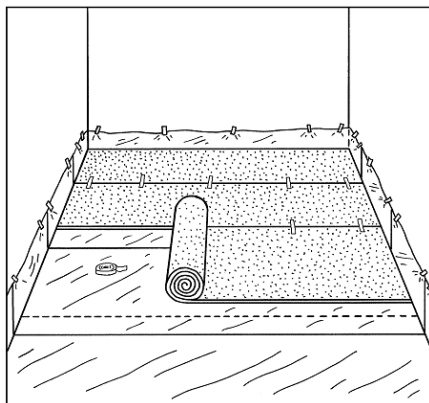


2. MOISTURE BARRIER

A moisture barrier of min. 0.20 mm PE membrane is laid, e.g. Junckers SylvaThene moisture barrier.

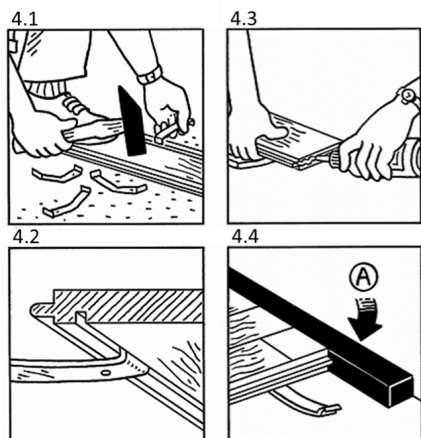
The moisture barrier is laid with an overlap of 200 mm at all joints, continuing up walls, etc.

The polythene has to be taped at all lap joints using a tape 50 mm wide.



3. INTERMEDIATE LAYER - SPORTS FOAM

Junckers Sports Foam is laid parallel to the laying direction of the floorboards with joints fully closed and taped in place.



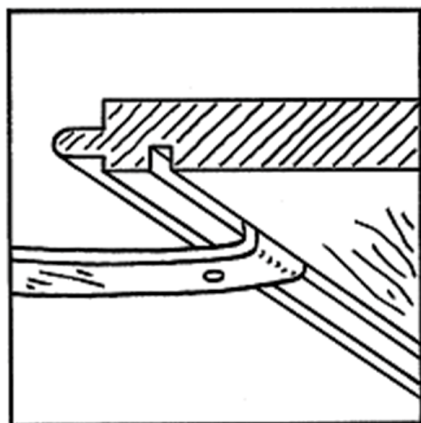
4. CLIPS, EXPANSION STRIP AND ADHESIVE

Before starting to install the floorboards, make sure that the clip size corresponds to the expected relative humidity in the building during a full year.

With the underside of the floorboard facing upwards the clip-end with hole(s) is knocked down into the clip groove, so that the free end of the clip points in the direction of the tongue, which is also the laying direction, see fig. 4.1 & 4.2.

All floorboard header joints are carefully glued, see fig. 4.3. Use enough glue to secure a tight and strong joint. Never apply adhesive to the longitudinal sides of the floorboards, except for the floorboards in the last row, if the clip-groove is cut off.

Junckers expansion strip (A) is mounted tautly between floorboard ends and walls, see fig. 4.4.



5. MOUNT THE CLIPS CORRECT

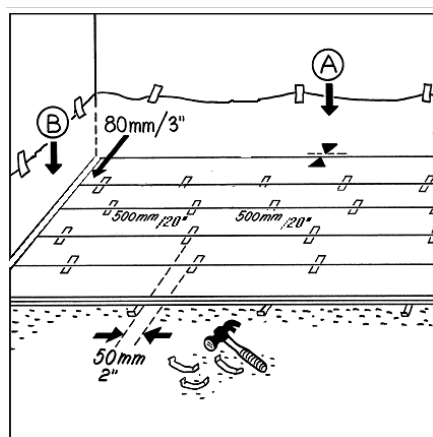
The first and last clips are placed maximum 80 mm / 3" from the floorboard end adjoining the end wall.

The spacing of the clips must be maximum 500 mm / 20".

Ensure that the clips do not touch each other by alternating them (in line) at approx. 50 mm / 2" intervals.

Make sure the free end of the clips is properly placed in the groove on the neighboring floorboard.

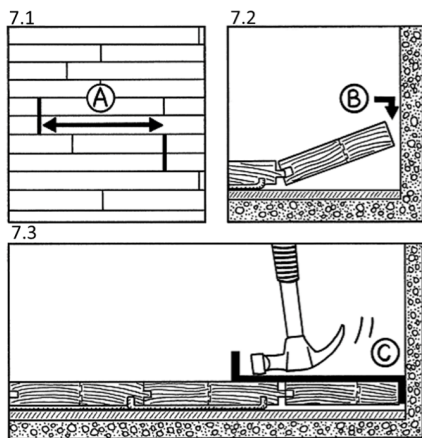
Since this can be difficult due to the elasticity of the mat, use e.g. a small metal plate or the like as a load spread sheet. The metal plate is moved as work progresses.



6. DISTANCE TO WALLS AND FIXED INSTALLATIONS

The distance (A) between the floorboards and walls/vertical fixed installations is calculated as 2 mm per running metre of floor width on each side.

(B): Expansion strip.



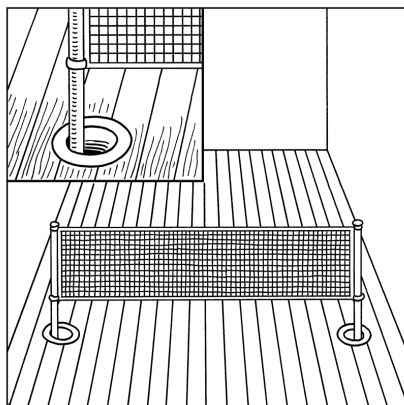
7. PATTERN, FLOORBOARD JOINTS AND LAST ROW

Lay the floorboards in an irregular pattern, spacing floorboard joints as evenly as possible. The distance (A) between floorboard joints in two consecutive rows should be at least 450 mm / 18", see fig. 7.1.

Stave joints in one row may not adjoin stave joints in the adjacent row, but must be spread as widely as possible and minimum 50 mm / 2".

Adjust the floorboards in the last row. Remember the correct expansion gap (B) to the wall, see fig. 7.2. The last row of floorboards is glued in the groove, if the clip-groove is cut off and is laid against the floorboards in the previous row. Use a joint puller (C) to knock the last floorboard into place, see fig. 7.3.

Remember to remove spacing blocks before skirting is mounted.

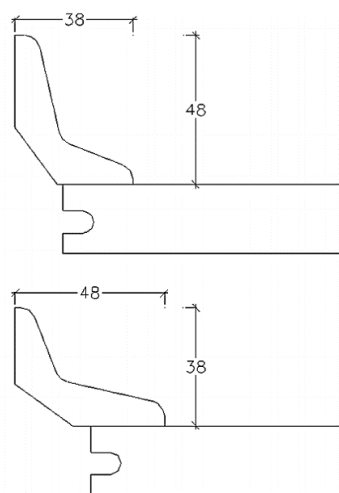


8. BUSHINGS

When mounting of bushings in the floor the internal diameter of the bushing must exceed that of the pipe, i.e. the external diameter of the net pole, by at least 40mm.

At the outermost zones of the floor all bushings are mounted eccentrically towards the middle of the floor in relation to the sockets in the concrete, see drawing.

Floor rosettes must be mounted to allow both vertical and horizontal movement of the floor to take place unimpeded.



9. COMBI SPORTS SKIRTING

Depending on the wanted cover width, the skirting can be mounted upright or in a lying position, see figure.

The foot of the skirting must lie flat and be in contact with the floor. End joints may be either butt jointed together or cut as a 450 mitre joint to enhance the visual effect of the joint.

The skirting can be either glue fixed to the walls or screw fixed.

Do not fix the skirting to the Junckers floor and ensure that the skirting is not exerting any downward pressure on the floor.