

# JUNCKERS CLIP SYSTEM

Installing floors with clips



**JUNCKERS**

Walking on Danish design

JUNCKERS.COM



# JOIN THE COLLAB WITH NATURE

## ABOUT JUNCKERS

Junckers is Europe's leading solid wood flooring manufacturer. The company has deep roots tracing back to its establishment in 1930 by founder, Flemming Juncker. A visionary and dedicated forester, Flemming Juncker possessed a profound sympathy and understanding for what is today referred to as the circular economy. He advocated a sustainable approach to wood flooring, aiming to utilize every part of the tree. This vision remains integral to Junckers today through its incorporated philosophy: **Join the Collab with Nature.**

When developing woodcare products, Junckers does so with a deep understanding of the requirements for both quality and environmental considerations. The company believes that lacquers, oils, and cleaning products play a crucial role in maintaining the beauty of wood products while extending their lifespan. At the factory in Denmark, a dedicated team of experts meticulously monitors the daily production, providing unparalleled insights into the functionality of wood flooring and an understanding of the challenges that any project may present.

The close connection to production enables Junckers to create solutions that meet the specific needs and requirements of customers within the sports, commercial, and residential segments.

Successful projects require a reliable partner from start to finish. Junckers is committed to being a reliable and professional partner, working side-by-side with customers from project planning to execution and subsequent maintenance.

Experience has shown that this approach is crucial to offering sustainable-minded solutions that last for decades – making the company a preferred choice for professionals working on project sales worldwide.

# CONTENT

<b>2</b>	ABOUT JUNCKERS
<b>4</b>	BEFORE YOU BEGIN
<b>5</b>	TOOLS YOU NEED
<b>6</b>	HOW TO INSTALL
<b>9</b>	CHOICE OF CLIP AND INTERMEDIATE LAYER GUIDE
<b>10</b>	SHIPS DECKING
<b>11</b>	UNDERFLOOR HEATING

With a global presence, facilitated through seven sales offices and an extensive network of dealers and agents, Junckers has branched out across the world. The company delivers their products to more than 45 countries worldwide.

Choose Junckers for products that meet the highest standards and join the company and its philosophy of collaborating with nature.

# BEFORE YOU BEGIN

The building must be weather tight. The heating system must be installed, tested and during the heating season should be in operation.

Cast concrete elements, screeding and other wet trades, which contribute moisture to the building, e.g. tiling, plastering and priming of paintwork must also be completed and fully dry.

The relative humidity in the building must be between 35 - 65 % RH and the temperature approx. 20 °C.

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

For timber based subfloors the moisture content should not exceed 12 %.

Solid floorboards should always be installed immediately after arrival at the building site. Do not break the packaging open until just prior to installing the floor, i.e. no acclimatising of the floorboards on site must take place.

Before starting the installation carefully read the laying instructions at Junckers Technical Information on [www.junckers.com](http://www.junckers.com)



# TOOLS YOU NEED



CLIP



TAPPING BLOCK



CROSS-CUT SAW



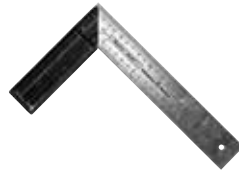
JIGSAW



HAMMER



JOINT PULLER



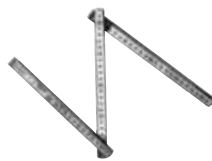
TRY-SQUARE



SYLVAFIX JOINT GLUE



TAPE



FOLDING RULE



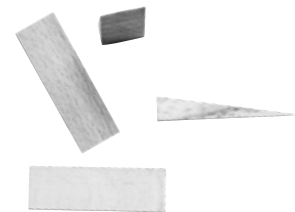
UTILITY KNIFE



STRAIGHT EDGE



PENCIL



TEMPORARY WEDGES

# HOW TO INSTALL

## 01 FLATNESS OF THE SUBFLOOR

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: 10 ft. under a 3/16" 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.



## 02 INTERMEDIATE LAYER

### Subfloors of concrete

On concrete and screeded floors use PolyFoam as an intermediate layer, with lapped joints (remember to use the built-in tape) and turned well up at walls, etc.

### Subfloors with underfloor heating

Place an extra moisture barrier, Junckers SylvaThene, 0.20 mm PE membrane.

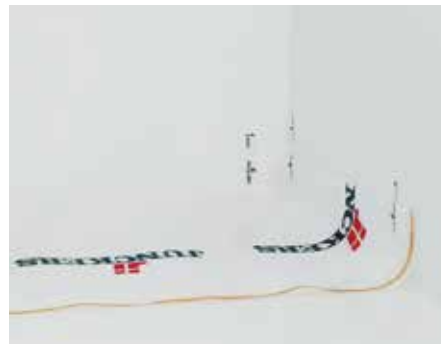
The moisture barrier must be laid with an overlap of 200 mm at all joints, continuing up walls, etc. The moisture barrier has to be taped at all lap joints using a tape 50 mm wide.

### Wood based subfloors

On wood based subfloors Junckers Foam is used as an intermediate layer with close fitting joints.

### Intermediate layer of Polystyrene

Place Junckers SylvaThene moisture barrier, 0.20 mm PE membrane with 200 mm overlay at all joints. On top of the polystyrene a load spreading sheet of minimum 10 mm chipboard or plywood with tongue and groove is used.



SUBFLOOR	INTERMEDIATE LAYER		
	JunckersFoam	Junckers PolyFoam (with moisture barrier)	Extra 0.20mm SylvaThene moisture barrier
Old wooden floors	✓		
Chipboard/plywood	✓		
Concrete floors		✓	
Tiled floors		✓	
Under floor heating; in screed		✓	✓
Under floor heating; in Polystyrene insulation			✓



### 03 CHOOSE THE CORRECT CLIP

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 in the building during the course of the year. See page 9 for instructions on clip size.



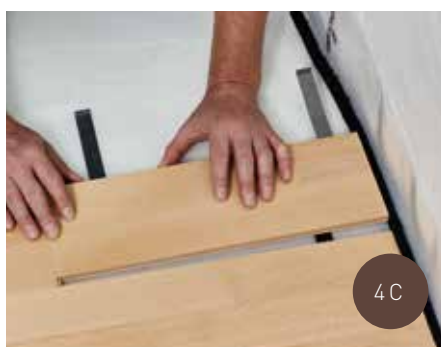
### 04 ADHESIVE & EXPANSION STRIP

It is recommended to install the floorboards parallel to the longest side of the room. Turn the floor board over and tap the end of the clip with the hole(s) into the groove on the back of the floor board. The plain end of clip must point in same direction as the tongue. This is also the laying direction. (Fig. 4.a).

For 140 mm and 185 mm planks with double clip groove: use the groove closest to the tongue.

Place the floor board with the tongue pointing away from the wall. Continue to the end of the row, gluing the header joints (Fig. 4.b). Cut the last floor board to length, use the off cut to start the next row. Please note that solid floor boards never must be glued lengthwise.

The gap between the end of the boards and the wall is filled with Junckers expansion strip (Fig. 4c). Ensure a close fit. For floors more than 25 m in length it may be necessary to build joints into the floor.



### 05 DISTANCE TO WALL

The first and last row of floorboards are installed leaving a clear expansion gap at the wall using as follows:

2 mm for every metre of floor width at each side, min. 12 mm (UK: min. 15 mm). (Fig. 5a).

First and last clip against the walls: Maximum 80 mm from the end of the board. First and last row 400 mm centres. All other rows, either 500 mm or 700 mm depending on product, see page 9.

Always use minimum 2 clips per floorboard.



Clips must be staggered by approx. 50 mm. Use temporary spacers or wedges between the wall and the first row of boards to form the expansion gap.

To lay subsequent rows of floor boards, tap the joints together, using a wooden block working evenly along the board.



## 07 PATTERN

**7A** | Install the floorboards with the joints in a random pattern. Distribute the header board end joints as far apart as possible. The distance between header joints in two successive rows should be at least 250 mm.

2-strip floors: Stave joints in one row of floorboards should not be in line with stave joints in a neighbouring row, and must be at least 50 mm apart.

**7B** | Be sure that the clip end is located correctly in the clip groove. When the floorboards are being laid, the loose clip end from the previous floorboard will locate automatically into the clip groove of the next floorboard.

**7C** | Carefully knock the boards together using a tapping block.



## 08 LAST ROW

**8A** | The last row of floorboards must be trimmed to width. Remember to leave the clear expansion gap between the floorboard and the wall.

**8B** | The tongue of floorboards in last row are glued and assembled to the floorboards in previous row. Only the last row floorboards are allowed to be glued lengthwise.

**8C** | Use a joint puller to slot the last floorboard into place.

Remember to remove spacer blocks before fitting the skirting.



## 09 FINAL FINISH

**9A** | Intermediate layer is cut at the upper edge of the flooring surface.

**9B** | Fit the skirting.



# CHOICE OF CLIP

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 in the building during the course of the year.

For residential and commercial floors typically applies as indicated in the clip guide below, but be aware of:

- **Larger areas:** In order to minimize the overall movements of larger floors and allow for varying RH in different types of buildings, it may be necessary to choose a larger clip than the one corresponding to the expected maximum RH.
- **Commercial buildings:** The relative humidity in office buildings, shops and similar can deviate from that in residential buildings, thus requiring a different clip size.

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

CLIP GUIDE				
Clip type (label colour)	Humidity range [%]	Clip size	Gaps between floorboards when installed	Note
0-hole (white)	10-40**	128.8 mm	Depends on job-site conditions	The 128.8 mm clip is used in arctic and desert areas. Acclimating of the wood prior to installation is necessary.
1-hole (green)	25-55**	129,1 mm	0,1 mm	
2-hole (yellow)	40-65	129,4 mm	0,4 mm	15 x 129 mm, 20.5 x 140 mm planks and 20.5 x 185 mm Boulevard planks: Always use minimum a 129.4 mm clip
2½-hole (Black)	55-75	129.6 mm	0.4 mm	
3-hole (red)	65-85	129,8 mm	0,8 mm	Shipsdecking: Always use minimum 129.8 mm clip.
4-hole (Orange)	75-95	130.2 mm	1.2 mm	
5-hole (Light blue)	75-95	131.2 mm	2.2 mm	The 131.2 mm clip is only suitable for 20.5 x 185 mm Boulevard planks.

\*\*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.

CONSUMPTION AND CLIP SPACING		
Floor type	Clip quantity	Clip spacing
14 & 22 mm 2-strip Residential	13/m <sup>2</sup>	700 mm
14 & 22 mm 2-strip Commercial	17/m <sup>2</sup>	500 mm
15 x 129 mm plank	17/m <sup>2</sup>	500 mm
20,5 x 140 mm plank	16/m <sup>2</sup>	500 mm
20,5 x 185 mm plank	13/m <sup>2</sup>	500 mm
Shipsdecking 129 mm 2-strip	17/m <sup>2</sup>	500 mm
Shipsdecking 20,5 x 140 mm plank	16/m <sup>2</sup>	500 mm
Shipsdecking 20,5 x 185 mm plank	13/m <sup>2</sup>	500 mm

# SHIPS DECKING

It is worth mentioning that the clip system may also be used when installing Junckers Ship Decking floors.

Use a 3-hole clip which provides the following 10-board measurement.

Floorboard width	10-board measurement
129 mm	129,8
140 mm	140,8
185 mm	185,8

The general clip laying instructions also apply to Ship Decking floors with the following exception:

The clips will be fitted at 500 mm centres, and clip centres for the first and last row will be 400 mm (step 4).

Ships decking floors are especially suited for rooms with under floor heating. This because the black rubber strips absorb the natural seasonal movement of the floor.



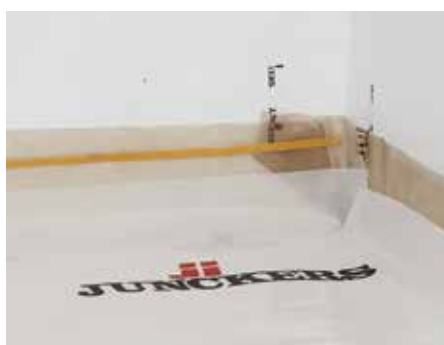
# UNDERFLOOR HEATING

Junckers solid wooden floors always feel warm and comfortable, but the floors are of course also suitable with under floor heating.

Under floor heating systems for wooden floors come as electrical or hot water systems. For both systems, it is important that they must provide uniform heat distribution and the surface temperature of the floor must not exceed 27 °C.

When the clip system is laid on concrete or screeded subfloors with cast-in heating pipes or cables, use an intermedia layer of Junckers Polyfoam and an extra layer of a 0.20 mm SylvaThene moisture barrier with 200 mm overlap. Both underlays are taped at the joints and the SylvaThene is turned up against the wall behind the skirting.

Read more about installation with clips and underfloor heating in Junckers Technical Information, Chapter E 4.1, which also describes other types of subfloors and underfloor heating systems.



Read more about installing with clips and underfloor heating at [www.junckers.com](http://www.junckers.com)





# JUNCKERS

Walking on Danish design