

CI/SIB
(43) X (D6)

MATERIAL SELECTION

Junckers floors are graded in accordance with established criteria. However, it must be expected that for certain grades of flooring, the laying process will include some on site filling, selection and making good. Factory filling may not always provide a perfect result, as it may become dislodged during the handling and laying process. Junckers are able to offer tubes of filler for this purpose. As a general rule, most floors will require a 3% allowance for cutting and selection.

CLEANING AND MAINTENANCE

Use only recommended Junckers cleaning and maintenance products upon the floor. Maintenance instructions are available from your suppliers or direct from Junckers. Do not leave puddles of water to dry upon the surface, as moisture damage may occur. Junckers cannot be held responsible for problems associated with lacquers, oils and cleaning products from other manufacturers.

TECHNICAL ASSISTANCE

Junckers can provide a full range of technical assistance for anyone who is specifying or laying Junckers floors. Contact our Witham Office.

NB. Every Junckers product is manufactured from selected material and is subject to the Company's stringent quality control procedures. The Company cannot take responsibility for the installation of their systems which is dependent upon the condition of the sub-floor and the standard or work of individual contractors.

Recommendations for 10 Board Measure

Note: Remember, the 10 board measure is chosen to suit the environment of the building when in normal use, based on the expected maximum relative humidity during the year. It is not necessarily based on the relative humidity of the day of installation, especially in new buildings.

<i>Commercial Buildings</i>	<i>10 Board Measure (measurement across 10 installed boards)</i>
Air conditioned aerobics and gym clubs Art galleries and museums Retirement homes Air conditioned offices Retail outlets in shopping centres	129.1 - 129.2cm
High street shops and restaurants Sports centres Offices - non air conditioned Hotels and public buildings Schools	129.4 - 129.5cm
Ship's Decking boards Village halls Community centres (irregularly heated) Holiday homes Sports halls (irregularly heated)	129.8cm
Homes	129.1 or 129.4cm dependent on location in UK and Ireland Consult Junckers for advice.

Note: This list is not definitive and may be subject to amendment. Please contact Junckers for advice or clarification.

Useful Advice:

Use felt pads under chair and table legs to prevent scratches when furniture is moved around.

Use protective matting under chair wheels at places of extreme wear.

Place large barrier matting at external entrances to keep grit and moisture off the floor.

Keep the temperature at approximately 20° C and the relative humidity between 35% and 65% RH. Air conditioning and evaporator systems may be necessary for this purpose.

Do not allow floors to be fitted if the room in which they are to be installed is to be shut up, or not used for long periods of time. This is particularly important with new buildings. Buildings which remain unoccupied will contain residual moisture, which may cause the boards to expand or distort in shape. Do not cover up the floors for long periods of time with polythene or similar non porous materials as this may cause the wood to distort in shape.

Junckers floors are made from real solid wood so will naturally expand or contract according to the season. Therefore expect to see the boards quite tight together in the summer months and slightly apart in the winter months.

**JJ
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**JJ
JUNCKERS**
Solid Hardwood Flooring

Information you will need
for a perfect result every time!

A guide to nailing methods for Junckers 20.5mm, 22mm and 14mm floors

22mm and 20.5mm – sports, commercial and domestic
14mm – domestic, light-duty commercial

Please follow these simple instructions

We are concerned that your floor is a success and provides you with many years of trouble free service. Wood is a natural material and is, therefore, subject to infinite variations in colour, texture, knots and grain patterns.

Natural timber also contains characteristics which are not found in man-made materials such as surface splits, shakes etc., and sometimes filling is necessary. These are accepted as being normal features of many of our products and are not detrimental to the performance of the floor.

Wood is a hygroscopic material. Changes in humidity will cause natural expansion and contraction of the floor. Small gaps may occur.

Details given in this brochure are also shown in the Junckers T I system available in CD Rom version or on the Junckers internet site at www.junckers.com

Also see information sheets, Ref: C2.2.1, C5.2.1 and C3.1.1

STAGE 1

BEFORE, DURING AND AFTER INSTALLATION – A dry environment

In the area where the flooring is to be stored and laid, conditions must be the same as expected when the area will be in use. The room must be weathertight, heating system in operation and wet trades (eg. plaster and cement) must be fully dry. Any damp problems must be remedied first.

The relative humidity of the air should remain between 35% – 65% RH. Heating and/or ventilation may be necessary to maintain conditions. This is especially important in newly built or renovated properties, or those which may remain unoccupied for some time after the floor is laid.

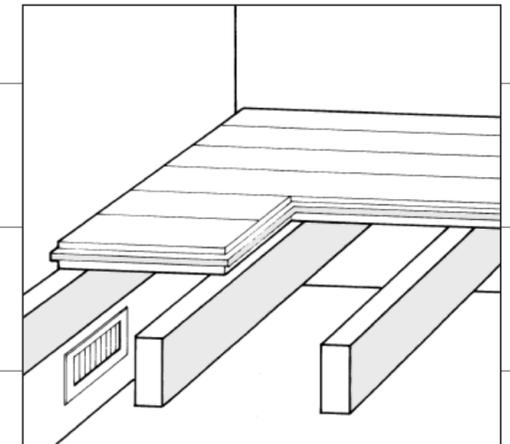


Figure 1

The floor should be delivered as near as possible to the time when it is to be laid. The polythene wrapping is left intact during storage and the floor must not be allowed to "acclimatise". The polythene wrapping is not waterproof and must not be considered to be protection against damp.

Packs can be opened for inspection upon delivery, but should be resealed until the time of fixing.

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Solid Hardwood Flooring

STAGE 2

SUB-FLOORS, JOISTS AND BATTENS – General notes and preparation

1 CONCRETE AND SCREEDED FLOORS

There are two main ways of nail-fixing Junckers floors:

- 22mm and 20.5mm Floors “secret nailed” to joists or battens. (Figs. 1 & 2)
- 22mm, 20.5mm or 14mm Floors “secret nailed” directly onto an existing load bearing timber floor (ply, floor boards etc. (Fig. 3))

Ensure adequate ventilation beneath joists (Fig. 1) to current building regulations. Many floors will have a concrete or screeded base beneath them. Please see following instructions relating to these.

Any concrete or screeded floor, whether supporting battens or beneath joists, should have a moisture content no higher than 75% relative humidity. (Fig. 4). On ground and all cementitious floors, a surface moisture barrier must be laid over the base. Use Junckers SylvaThene polythene or Sisalkraft Moistop 728 Paper. Joints to be lapped and taped and turned up at the walls. Surface tolerance of the floor to be no more than a 3mm gap showing beneath a 2m straight edge. (Fig. 4). It may be necessary to use a self-levelling compound to achieve this. Contact Junckers for details of systems for laying of floors over uneven sub-floors and floors with a high level of moisture.

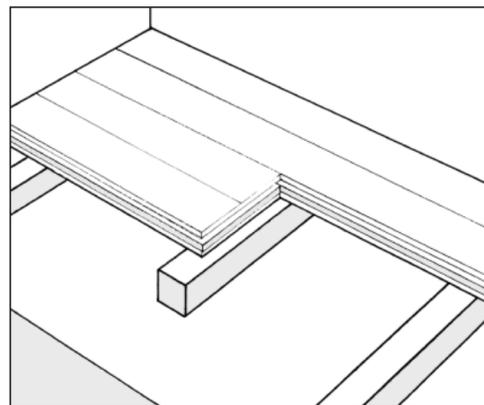


Figure 2.

2 JOISTS AND BATTENS FOR JUNCKERS 22mm and 20.5mm FLOORS (See Figs. 1 & 2)

Junckers 22mm and 20.5mm floors can be nailed directly onto softwood joists or battens (eg. Junckers BluBat or New Era Systems).

Joist or batten centres are recommended as follows:

Domestic Installations – Up to 600mm

Sports and Commercial Installations; The battens must be spaced so the end of each board is supported by a joist or batten. (Fig. 5).

Use 411mm centres for floor boards 3700mm long.

Use 366mm centres for floor boards 1830mm long.

Lay the first and last rows of battens 100mm from the wall.

Batten ends must be no closer than 15mm to the walls.

In doorways ensure that the boards are supported by at least three battens.

Junckers BluBat battens must not be packed if the subfloor is uneven, use a self-levelling compound. Packing pieces can be used with plain battens and these must be nailed or glued in place.

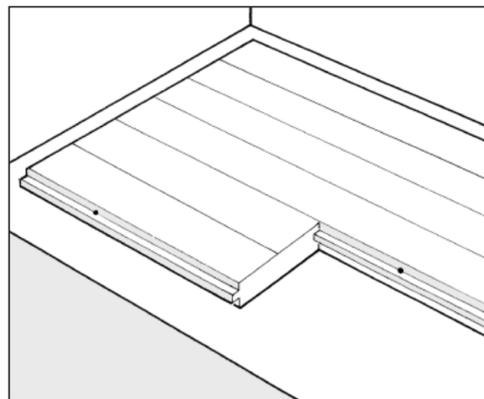


Figure 3.

For sports floors, also see Junckers laying instructions, sheet ref: D4.2.1.

The moisture content of the joists or battens must be between 12% and 14%. Battens must be laid end to end with joints staggered.

Contact Junckers for advice on special applications eg. high levels of loading, portable seating systems etc.

3 TIMBER SUB-FLOORS FOR 22mm, 20.5mm AND 14mm FLOORS (See Fig. 3)

Eg. Chipboard, plywood or softwood boards which must be soundly fixed and dry. Surface tolerance must be no more than a 3mm gap showing beneath a 2m straight edge. Moisture content between 12% and 14%. If the base is uneven, hardboard or ply, nailed or screwed in place may achieve the necessary tolerance.

Note: Chipboard floors will expand and contract, so take care when nailing to them. We advise that longer nails be used to fix into the joists or battens underneath.

STAGE 3

FLOOR LAYING METHODS

Boards must be laid to give a random joint pattern. This will normally be achieved by using the off-cut from the end of one row to start the new row. Adjacent stave (strip) end joints must be minimum 80mm from each other. Board header (end) joints must be no closer than 450mm and must not fall in line with one another any closer than three rows apart. Do not nail any closer than 50mm from a board or stave end. (Fig. 5).

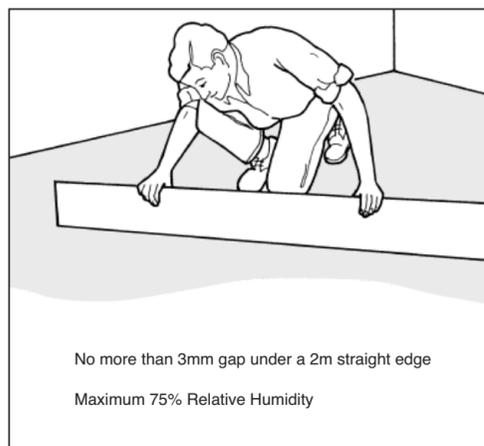


Figure 4.

NAILING

On Battens or Joists - 22mm and 20.5mm Floors. (Figs. 1 & 2). Boards must be “secret nailed” to every joist or batten at a 45° angle through the top of the tongue using 50mm or 65mm lost head wire nails (Fig. 6). Do not nail any closer than 50mm to a board or stave end.

On Timber Sub-floors - 22mm, 20.5mm and 14mm Floors. (Fig. 3). First place a layer of Junckers Interlay cardboard felt paper 500g/m² underlay, onto the base. Nail as above at intervals of 450mm. For 14mm boards use 40mm lost head wire nails.

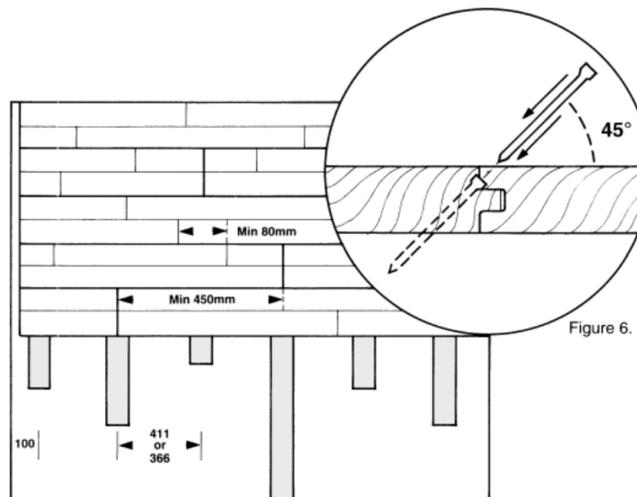


Figure 6.

Figure 5.

GENERAL

Nail fixings must correspond with joist centres wherever possible. The first and last rows of boards must be “face-nailed” with the nail heads punched beneath the surface and filled with Junckers filler. For domestic floors face nailing may not be necessary and alternative methods may be found for invisibly fixing the board edge. As well as “hand-nailing”, machine nailers such as ‘Portanailers’ and pneumatic guns are in common use for 20.5mm and 22mm floors. Please note for some sports floors, a specific type of nail and gun must be used.

Floors exceeding 12m wide should be laid starting from the centre of the floor. Contact Junckers for specific recommendations.

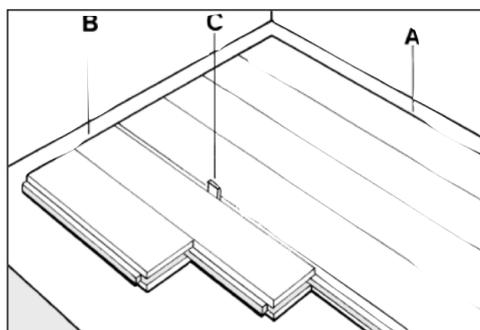


Figure 7.

EXPANSION ALLOWANCES (FIG. 7).

A. Expansion gap at each side to be 1.5mm for every metre of floor width (minimum gap 15mm). These gaps must not be filled.

B. End clearance gap at each end to be 1mm for every metre of floor length (maximum size 20mm).

Expansion allowances must be made at all walls, pipes, junctions and projections into the floor. Gaps can usually be covered with Junckers skirting, scotia, quadrant moulding, pipe covers or thresholds in timber or brass.

C. It will also be necessary to make allowance for expansion between the boards, as well as at the edges.

Use the following guidelines: Also see back page for further guidance.

Relative Humidity of Air on Site	Expansion Allowance	10 Board Measure
Dry, well-heated, constant conditions 35-50% RH	2mm gaps every 10 boards or 0.2mm gap between every board	129.1cm
Mostly well heated some fluctuations 45-65% RH	2mm gaps every 5 boards or 0.4mm gap between every board	129.4cm
Intermittently/rarely heated 60-90% RH	2mm gaps every 2 boards or 0.8mm gap between every board	129.8cm
Ship's Decking	2mm gap between every board For Ship's Decking boards, Portanailers must not be used as they clamp the boards up tight.	129.8cm

Alternatively, these can be translated into gaps between every board eg. a 2mm gap every 5 boards equates to 0.4mm between every board. Junckers can supply 0.2, 0.4, 0.6 and 0.8mm spacers.

IMPORTANT: Do not cramp the boards tightly together.

Note: Care to be taken when nailing the boards with a Portanailer, as it may prove difficult to remove the spacers.

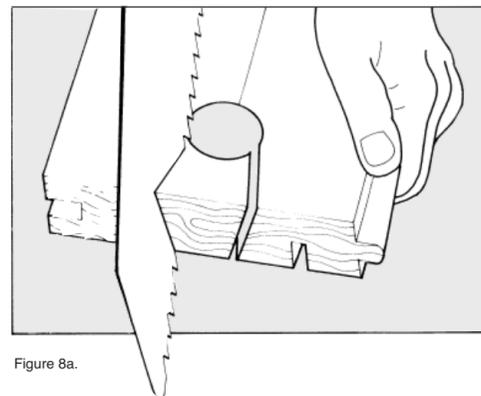


Figure 8a.

FINISHING THE JOB

Edge Details

1. The Perimeter Gaps can usually be covered with Junckers skirting, scotia or quadrant, fixed to the wall.

2. Radiator Pipes (Figs. 8a and 8b)

Drill a hole in the board to accommodate the pipe. The space around the pipe must be the same as the expansion gap at the wall.

A tapered wedge is cut from the board as shown, which is glued in place after the board is laid. The gap is usually covered with a Junckers radiator pipe cover, available in hardwood or plastic.



Figure 9.

ADDITIONAL POINTS TO REMEMBER

- Wood will expand and contract with changes in the environment. Therefore, expect to see wooden floorboards close together in the summer months and slightly apart in the winter.
- In kitchens, Agas or similar heat sources will dry the environment which may result in small gaps appearing between boards.
- Use 22mm or 20.5mm boards in conservatories.
- Junckers lacquered boards laid in kitchens can have an additional coat of Junckers Isolacquer, Junckers STRONG or Junckers Sport High Performance lacquer applied immediately after installation. This helps to reduce the effects of spillages and splashes upon the floor. Spillages must be wiped up immediately.
- Junckers floors are not suitable for use in bathrooms or other wet areas. Water left on the surface and the high humidity can cause damage.
- Junckers 14mm, 20.5mm and 22mm floors can be laid over most underfloor heating systems. Contact Junckers for specific recommendations and refer to information sheets ref: E 4.0 and E 4.2.
- See separate instructions for Clip System floors.
- Due to the staining process, SylvaRed colour may vary from batch to batch.
- Do not allow floors to be fitted if the room in which they are to be installed is to be shut up, or not used for long periods of time. This is particularly important with new buildings. Buildings which remain unoccupied will contain residual moisture, which may cause the boards to expand or distort in shape. Do not cover up floors for long periods of time with polythene or similar non-porous materials as this may cause the wood to distort in shape.

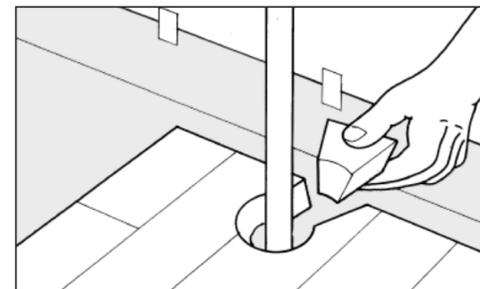


Figure 8b.