

JUNCKERS CLIP SYSTEM

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- D 1.1 Clip System Information
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BEFORE LAYING THE FLOOR

Do not deliver materials until wet operations are completed, building is fully enclosed, weather tight, and permanent heating, ventilation, lighting systems, scoreboards, and backstops are installed and operational.

Ensure temperature, relative humidity, and illumination levels are equal to the environment that will prevail when the building is occupied prior, during, and after installation.

Recommended temperature range is between 55 and 80 degrees F, and a relative humidity range of between 35 and 65 percent.

For most climates, no on site acclimation is needed. The flooring can be installed immediately after delivery. However, in extremely dry climates, acclimation may be necessary. Proper acclimation is achieved by opening the plastic sealed bundles and stacking the wood planks in a log cabin style, allowing for air circulation around the wood.

Please read these instructions carefully before the installation begins. If any questions arise, please contact your Junckers distributor before installing the floor.

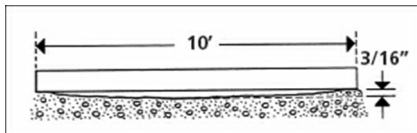


Fig. 1

1. SUBFLOOR CONDITION

The subfloor must be flat to a tolerance of no more than 3/16" deviation over a 10' radius, and no more than a 1/2" deviation over the entire area. High areas can be ground and low areas filled.

The surface must be clean, dry and relatively smooth.

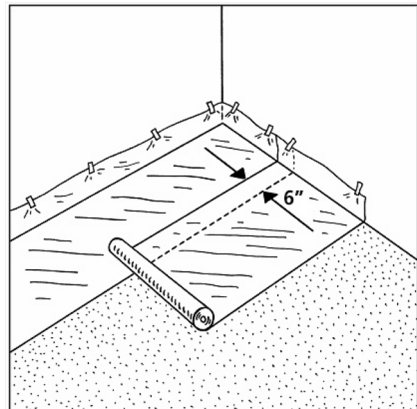


Fig. 2

2. VAPOR BARRIER

For all projects with either on grade slabs or below grade slabs, a 6 mil visqueen vapor barrier must be placed over the entire area to receive wood flooring. Joints are to be overlapped by 6" and sealed, and edges are to be run up the walls 2".

For projects with wood subfloors or above grade slabs, a vapor barrier is not needed.

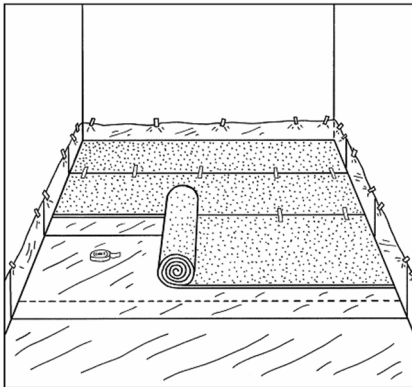


Fig. 3

3. FOAM LAYER

Junckers Sports Foam is laid at right angles to the direction of the finished floor, with foam joints butted together, and taped in place.

Junckers 3/16" Sports Foam can be used with Junckers 9/16" and 5/8" thick planks, or when installing 7/8" or 3/4" thick planks over an existing elastic subfloor. Junckers 3/8" Sports Foam is designed for use with the 7/8" and 3/4" thick planks only. It is not recommended to use Junckers 3/8" Sports Foam beneath 9/16" or 5/8" thick planks.

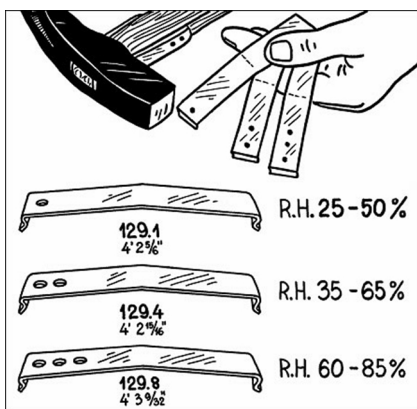


Fig. 4

4. INSTALLATION CLIPS

Junckers installation clips are available in a variety of sizes, depending on the expected humidity range of the project.

Care is taken to automatically supply the correct sized clip for the anticipated conditions of each project.

If unsure about the correct clip size, please contact your Junckers Representative.

5. STARTING THE INSTALLATION

Unless otherwise directed, lay the planks parallel to the longest sides of the room.

Use temporary spacing blocks between the wood and walls to maintain the perimeter expansion space needed. See figure 7.

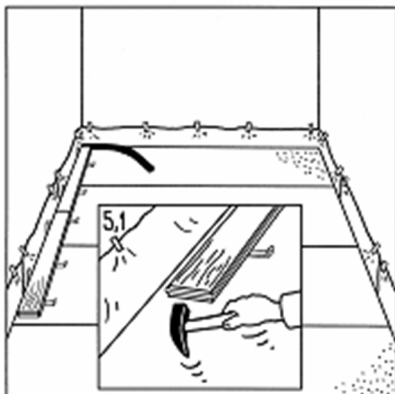


Fig. 5

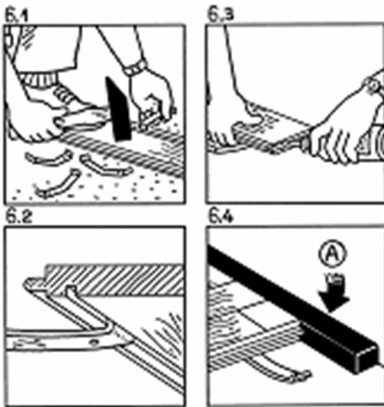


Fig. 6

6. INSTALLATION THE CLIPS AND PLANKS

Place the planks upside down on the foam, then hammer the side of the clip with the hole(s) so the long arm of the clip extends out over the tongue on the plank. **See Fig. 6.1 & 6.2.**

All tongue and groove head joints must be glued with Junckers Header Joint Adhesive. **See Fig. 6.3.** Do not apply adhesive to the length (sides) of the planks.

Junckers expansion strip (A) is placed at the ends of the lengths of the planks, between the floor and wall. **See Fig. 6.4.**

For vertical obstructions in the field of the floor, such as columns, extra clips should be used at a distance of 8" on center.

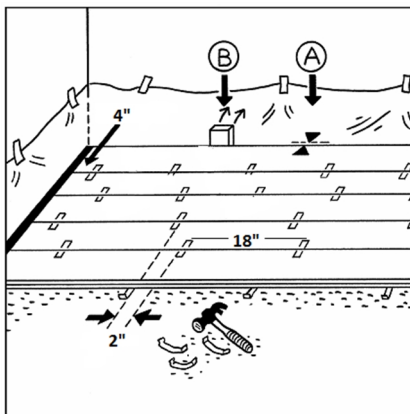


Fig. 7

7. EXPANSION PLANNING AND CLIP SPACING

Provide expansion space at walls and other vertical obstructions (A). The space needed is based on the floor's total width. For each 10' in the floors width, 3/4" space on both sides is needed. Examples: A 30' wide floor needs a 3/4" expansion space on both sides. A 40' wide floor needs a 1" expansion space on both sides. The floor does not expand or contract in its length. The rubber expansion strip is to be used at the end of the plank's lengths. **See section 6.** The first and last clips are placed maximum of 4" away from the plank's end, next to the wall. The spacing of the clips in the field of the floor should be at 18" on center.

Ensure the clips do not touch each other by alternating them (in line) by approximately 2".

IMPORTANT: Ensure the free end of the clip becomes fully engaged in the groove on the adjacent plank. Since this can be difficult due to the softness of the foam, use a small metal plate to help securely seat the clip. The clip should be flush with the underside of the plank. The metal plate is moved as work progresses. **Fig 7.1**

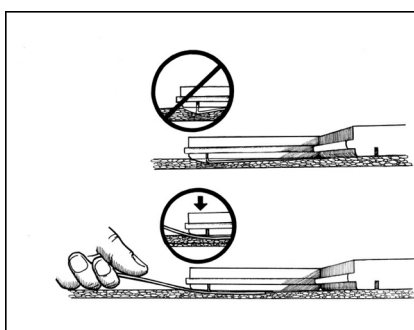


Fig. 7.1

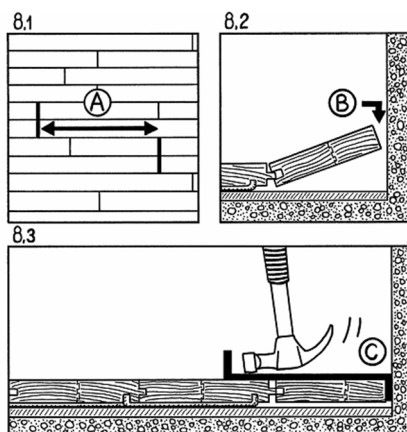


Fig. 8

8. LAYING OF BOARDS

Stagger the plank head joints in a random pattern. The distance (A) between the head joints should be at least 18" on 6' length product and 30" on 12' length product. Care should be taken to stagger the stave joints by at least 2".

When cutting the last row of planks, remember to leave the correct expansion gap (B) to the wall, see Fig. 8.2. The last row is glued along the length side and laid against the planks in the previous row. (Only the last row planks may be glued along the length). Use a joint puller (C) to knock the last board into place, see Fig. 8.3.

Remember to remove spacing blocks before wall base is installed.

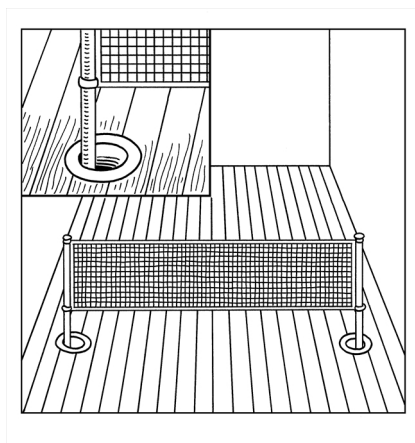


Fig. 9

9. COVER PLATES

Cover plates must be installed in a manner which allows for both vertical and horizontal movement of the floor. Remember to select a cover plate large enough to allow for the floor to expand and contract, see Fig. 9.