

On floor joists with LK Floor Joist Plate 16 (Galvanised steel)

DESIGN

LK Under Floor Heating may be fitted using LK Floor Joist Plate 16 for installation on standard wooden joists c/c 600 mm. The construction requires a load-bearing floor covering directly on top of the floor joists. For other types of floor covering, see LK Under Floor Heating System Heat-Floor 22.

REQUIREMENTS

We recommend that to achieve optimum efficiency of under floor heating systems the use of weather dependent (weather compensation) flow temperature control, properly balanced and set in line with the design for adjustment of the primary and loop flow. We also recommend the settings are recorded for future reference.

In general the guidelines apply in accordance with local building codes and for selected bespoke design solutions.

CONSTRUCTION OUTLINE

1. Floor joists

Floor joists with c/c distance 600 mm.

2. Insulation

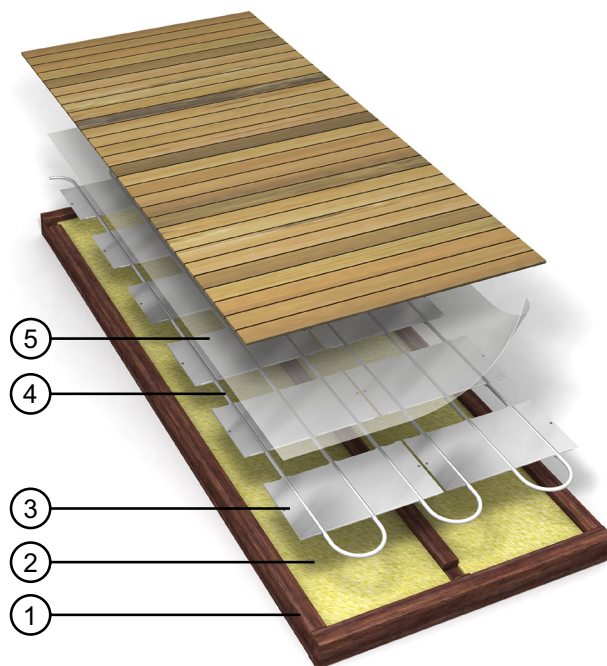
Joist insulation should fill up the entire joist cavity. The intermediate joist is not usually fully insulated. But to avoid any problems with cooling underside of the plates at the leaky/drafty floor is recommended that the insulation fills up or rest against the underside of the plate.

3. LK Joist Plate 16

LK Joist Plate 16, dim 595 x 300 x 0.5 mm, is a self bearing joist plate in galvanised steel with 3 slots c/c 200 mm suitable for the LK Universal Pipe 16 mm. We recommend you wear gloves when handling the plate, as some of the corners and edges may be sharp.

4. LK Universal Pipe Dim. 16 mm

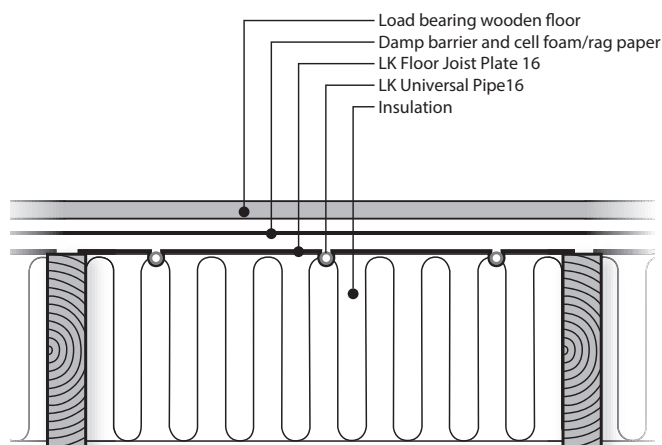
5. Vapour barrier according to the floor manufacturer's instructions.



SURFACE LAYER

Parquet, solid wood or laminated floor

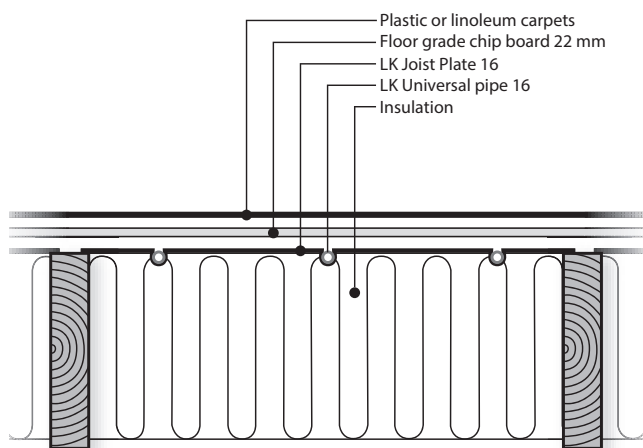
First, cover the floor heating with a vapour barrier (PE sheet) according to the floor manufacturer's instructions. Then laid a load-bearing floor surface. Respective supplier's instructions and local building guidelines for wood floors on the under-floor heating should be followed. Always consult LK for advice on floors over 25 mm thick.



LK Floor Joist Plate 16 on floor joists c/c 600 mm. Surface layer load bearing floor.

Plastic or linoleum flooring

When plastic or linoleum flooring is used, a floor of 1 layer of 12 mm floor chip board is glued and screwed down according to the instructions provided by the chip board supplier.



LK Floor Joist Plate 16 on floor joists c/c 600 mm. Surface layer floor grade chip board with plastic- or linoleum carpets.

Ceramics or natural stone

For flooring of ceramics or natural stone we recommend our systems LK HeatFloor 22 or LK Heat Distribution Plate in cross battening.

LK HEATING CIRCUIT MANIFOLD

The LK Heating Circuit Manifold should be installed as shown in the design drawing. Please read the instructions enclosed with the manifold first.

LK JOIST PLATE

Unless otherwise stated in the data calculations or the drawing, lay the plates out over the joist compartments at a spacing of 150 mm. About 3,6 plates cover 1 m². The closer the plates the more even the surface temperature.

The turning radius of the Ø16 mm under floor heating pipe is at least 150 mm, so the joist plate in the turning zone must be positioned approx. 175–200 mm from transverse joist. Bear in mind that additional space may be required for any transverse supply and return lines.

LAYING PROCEDURE, JOIST PLATE

Lay loose over the joists, the plates must have some sprung tension and be slightly rounded upwards. Storage and transport may affect the shape of the plate. Gently flexing the plate before laying it will bring it back to the right shape.

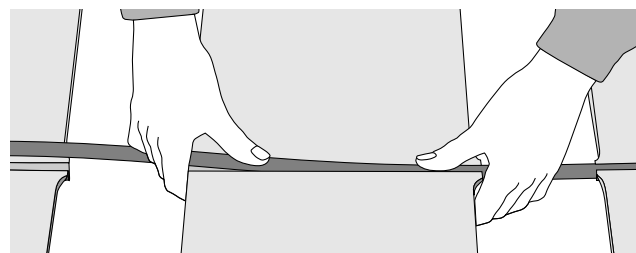
After laying the joist plate and aligning it with straight slot lengths, fix it in place with two nails, one in each joist. In this position, the plate should still be sprung and be slightly rounded upwards. No plate should lie completely level or sag downwards.

For efficient assembly we recommend the use of a nailgun plus nails with a flat head, length approx. 25 mm.

LAYING THE PIPE

Lay the under floor heating pipe out according to the layout diagram. Using LK Pipe Decoiler aids pipe laying. Ensure the direction of flow in the loop is such that the supply line is closest to the outer wall. Number and name the loops according to the drawing.

It is simplest and quickest if two people lay the pipe, with one running the piping and the other snapping the pipe into the slot. Hold the plate out of the way and lift lightly when the pipe is pressed down into the slot.



Pipes should be cut using pipe shears intended for PE-X.

Pipe turning

When turning the pipe do not allow it to touch the joist opposite. Leave a gap of 25–50 mm.



Finished laying

Before laying the flooring, check that none of the plates have been "trampled down" during the work and that all plates still have the required degree of sprung flex in order to ensure contact with the flooring underside. The plates must be protected against being trampled down during any subsequent work and during the laying of the floor surface.

NOTE!

All slots in the joist plate must be fitted with under floor heating pipes. If any slot is missing a pipe loop, then that empty slot must be fitted with a piece of pipe. This ensures that the joist plate has the necessary elasticity.