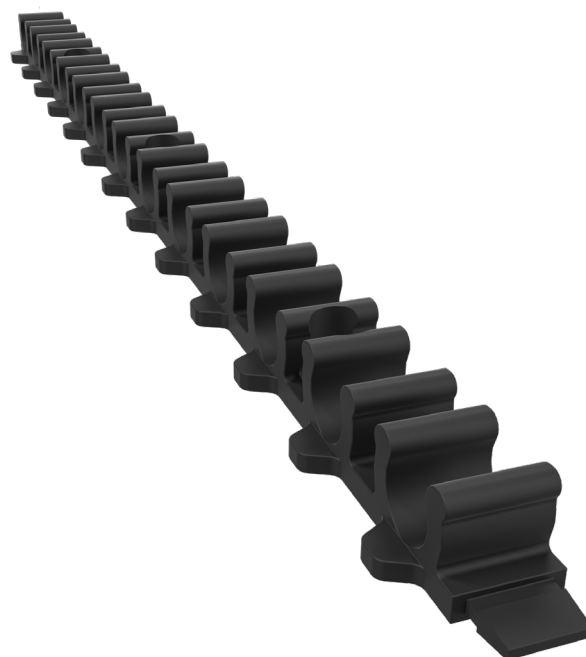


On load-bearing floors using LK Clip Rail, Click 12

DESIGN

- LK Underfloor Heating using LK Clip Rail, Click 12 for embedding in levelling compound or concrete. The system can be laid on insulation, the existing concrete slab or load-bearing wooden joists with floor-grade chipboard.
- The system is adapted for LK Underfloor Heating Pipes 12 mm and is primarily intended for underfloor heating installation in smaller areas, such as bathrooms, halls and the like.
- LK Clip Rail, Click 12 has a construction height of 15.0 mm, including the underfloor heating pipe. Rails covered with concrete and floor material added on top adds to the construction height. The clip rail is made from recycled plastic and is designed so that the underfloor heating pipe will be encapsulated when cast in concrete.



LK Clip Rail, Click 12.



ATTENTION!

Read the full installation instructions before starting work.



The clip rail can easily be extended to any length simply by clicking separate rails together.

Product data

Art. No. 241 04 61	LK Clip Rail, Click 12
Length:	800 mm
Width:	25 mm
Height:	25 mm
Material:	Polypropylene

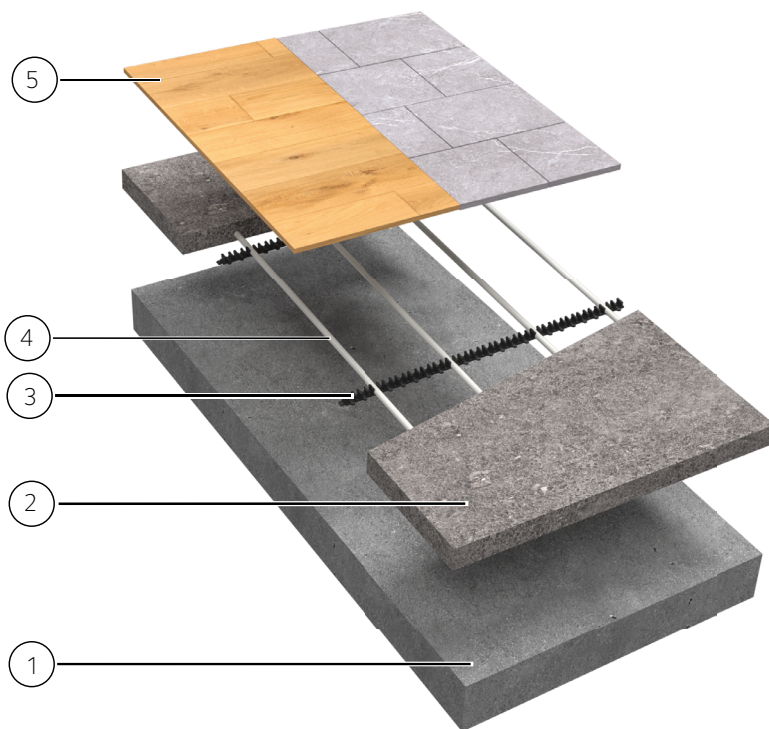
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REQUIREMENTS

- The requirements for a properly functioning underfloor heating system are a weather-dependent control system for the supply temperature and a well-implemented and documented adjustment to the primary and loop flows.
- In general, the instructions apply in accordance with AMA Hus (Swedish Construction Industry Standard for house-building) and for specified builders/quality managers.
- In this type of underfloor heating installation, the underfloor heating pipe is embedded in a thin layer of levelling compound. For optimum results, it is important to follow the supplier's instructions carefully.

CONSTRUCTION PRINCIPLE



1. Underfloor, e.g. concrete/wooden joists with floor-grade chipboard.
2. The supplier's recommended levelling compound.
3. LK Clip Rail, Click 12.
4. LK Underfloor Heating Pipe 12 mm.
5. Surface layer, e.g. parquet, vinyl or ceramic tiles.

LAYING CLIP RAIL 12

1. Begin assembly by laying out the LK Clip Rails 12 at right angles to the direction of the heating circuit. In the pipe turning zones, lay the rail at least 150 mm from the wall, which provides the necessary space to bend the pipe. Fill in the remaining distance between the pipe turning zones with additional rows of clip rails with a spacing of approx. 500 mm.
2. Secure the clip rail to the underfloor. The rail is attached to the insulation using LK Pipe holders, Art. No. 241 75 17 or 241 81 08. The clip rail is screwed, pushed or nailed into place against the concrete floor or floor-grade chipboard.



LAYING THE PIPES

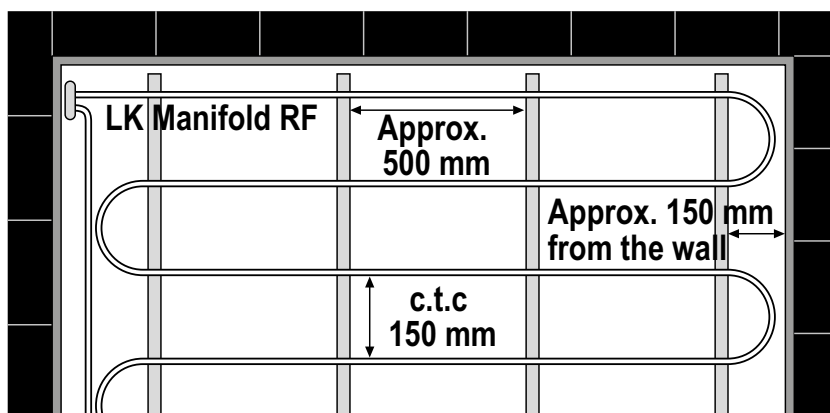


TIP!
A pipe decoiler is a useful tool when laying pipes.



NOTE!
Cut the pipe using pipe cutters designed for PE-X only.

- Lay the underfloor heating pipe's supply pipe approx. 50 mm from the wall and continue to lay the pipe with c.t.c 150 mm.
- Near a floor drain, the pipe should not be installed closer than 100 mm from the drain in order to allow for any partial repair of the floor drain.



MANIFOLD



ATTENTION!
Read through the manifold's assembly instructions before starting to install it.
See www.lksystems.se/en. The manifold is assembled in the designated place as per the drawing.

PRESSURE AND TIGHTNESS CHECK

A pressure and tightness check should be carried out in accordance with "Assembly instructions for LK PE-X, PAL and PE-RT pipes" or according to industry regulations on "Safe water installation".

UNDERFLOOR

NOTE!

The instructions in this manual are general and relate to the most common constructions.

Please contact the relevant supplier if any other construction is to be used.

The minimum coverage for underfloor heating pipes based on the general principles that apply for the laying of underfloor heating is 25 mm.



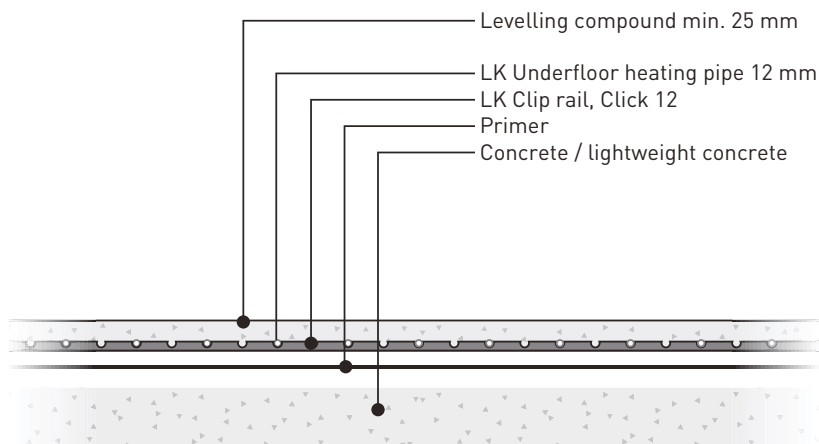
The constructions in these instructions can be used for both wet and dry areas. For wet rooms, the sealing layer must be applied in accordance with the supplier's instructions and the general industry rules for wet rooms.

Any deviations between recommendations

Note that the text in this section only contains general recommendations. If LK System's and the manufacturer of the primer and levelling compound differ in their recommendations, follow the instructions from the manufacturer of the primer and levelling compound.

Concrete or lightweight concrete underfloor

1. Check that the surface of the underfloor is free of dust, grease, paint or other impurities.
2. Prime the underfloor with primer. See the *“Product overview: primer and levelling compound”* for recommended products. Read the relevant supplier's instructions for correct installation.
3. Install LK Clip Rail, Click 12 and LK Underfloor Heating Pipe 12 mm.
4. Cover the installation with levelling compound. See the *“Product overview: primer and levelling compound”* table for recommended products. Read the relevant supplier's instructions for correct installation.

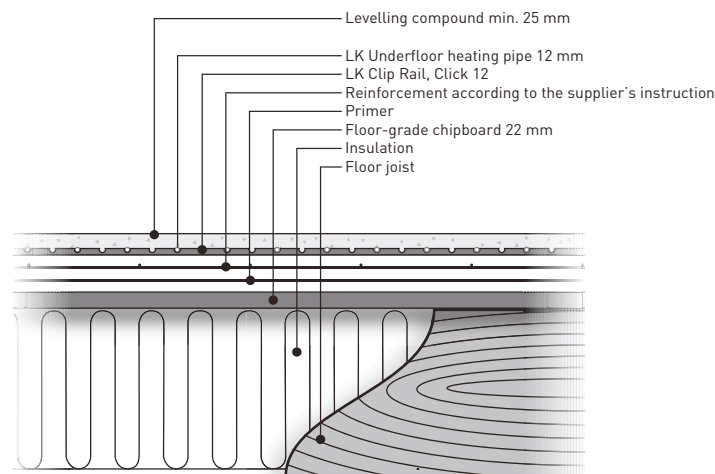


LK Clip Rail, Click 12 on concrete or lightweight concrete underfloor.



Underfloor of 22 mm on floor-grade chipboard on wooden joists (load-bearing construction)

1. Check that the surface of the underfloor is free of dust, grease, paint or other impurities.
2. Prime the underfloor. See the “*Product overview: primer and levelling compound*” table for recommended products. Read the relevant supplier’s instructions for correct installation.
3. Install LK Clip Rail, Click 12 and LK Underfloor Heating Pipe 12 mm.
4. Cover the installation with levelling compound. See the “*Product overview: primer and levelling compound*” table for recommended products. Read the relevant supplier’s instructions for correct installation.



LK Clip Rail, Click 12 on wooden joists with 22 mm floor-grade chipboard installed on a load-bearing construction.

SURFACE LAYER

Parquet or laminate floor

ATTENTION!

Expansion gaps

Follow the flooring supplier's instructions. When laying wood products onto underfloor heating systems, **it is especially important to follow the instructions in terms of expansion gaps.**



Industry guidelines

Industry guidelines can be downloaded from the website of the Swedish Flooring Trade Association (GBR) www.golvbranschen.se in the form of a handbook entitled “Trägolv på golvvärme” (Wooden flooring on underfloor heating systems). (GBR, edition 3: 2022).

Flooring thicknesses above 25 mm

Adhere to the flooring manufacturer's instructions and the guidelines from the Swedish Flooring Trade Association for wooden flooring on underfloor heating. Seek advice from LK if the flooring thickness exceeds 25 mm.

- The concrete surface should first be covered with a vapour barrier as per the flooring manufacturer’s instructions, and then paper felt or cellfoam. **Adhere to the flooring manufacturer’s instructions and the instructions from the Swedish Flooring Trade Association (GBR) for wooden flooring on underfloor heating.**

Ceramic tiling or natural stone

- Laid according to each supplier’s instructions. **In wet areas, waterproofing must be installed in accordance with current requirements and local tile industry guidelines.**

Vinyl or linoleum

- Laid according to each supplier’s instructions. **In wet areas, pay attention to the relevant requirements and industry guidelines from the Swedish Flooring Trade Association Wetroom Control (GVK).**



PRODUCT OVERVIEW: PRIMER AND LEVELLING COMPOUND

This table shows the laying methods and products that have been tested and are recommended. See the relevant supplier's instructions for correct installation. If you have any questions, contact the relevant supplier. The following products have been tested with LK underfloor heating system 12 mm.

Product name	Usage	Notes	Consumption	Drying time
Alfix ProFix	Gluing of cellular plastic boards	Mix 5.4-7.0 liters of water with 20 kg Alfix ProFix.	1.9 kg/m ²	24-48h
Alfix PlaneMixPrimer 1 liter, 2.5 liter och 10 liter	Priming of underfloor	Concrete/ putty 1:3 and floor chips, undiluted.	0.05-0.2 liter/ m ² .	1-2 h
Alfix UniversalPrimer 3 liter och 10 liter	Priming of cellular plastic boards	Ready-mixed primer for non-absorbent underfloor.	0.1-0.2 liter per m ² .	1-2 h
Alfix PlaneMix Basic eller Plane-Mix 60.	Embedding of underfloor heating pipes and for drainage slope	See applicable product information for mixing instructions.	1.7 kg/m ² /mm	1-2 days
Kiilto Floorfix DF, 20 kg	Gluing of cellular plastic boards	For absorbent underfloor: Mix 5.8 6.2 litres water with 20 kg Floorfix DF. For non-absorbent underfloor: Mix 5 litres Fixbinder and 2 litres water with 20 kg Floorfix DF	3.5 kg/m ²	32-48 h
Kiilto Start Primer, 3 litres	Priming of underfloor and cellular plastic	Combine with Kiilto products only	1 l/10 m ² . On lightweight concrete 2.5 l/10 m ²	1-2 h
Kiilto Fixbinder, 5 litres	Gluing of cellular plastic boards	Mix 5 litres Fixbinder and 2 litres water with 20 kg Floorfix DF	5 l/20 kg Floorfix DF (+2 l water)	Not applicable
Kiilto Floor Heat DF, 20 kg	Embedding of underfloor heating pipes and for drainage slope	Use only with Kiilto Start Primer	1.7 kg/m ² /mm	3-5 days
Mapei Ultralite Flex S1 zero 15 kg	Gluing of cellular plastic boards	Absorbent underfloor: mix Ultralite Flex S1 zero with water as per the instructions on the sack. Non-absorbent underfloor: pretreat with Mapei EcoPrim Grip Plus	3.5 kg/m ²	12-24 h
Mapei Primer Eco	Priming of underfloor and cellular plastic	On concrete or cement-based levelling compound, dilute Primer Eco 1:2 with clean water.	1l/10 m ² . On lightweight concrete 2.5 l/10 m ²	1-2 h
Mapei EcoPrim Grip Plus	Primer for non-absorbent underfloor, e.g. existing ceramic	Apply undiluted to the cleaned surface.	1l/5 m ²	1-3 h
Mapei Uniplan Eco/ Uniplan DR	Embedding of underfloor heating pipes and for drainage slope	-	1.7 kg/m ² /mm	1-3 days Uniplan Eco 1 day Uniplan DR
Steel mesh 70x70x2.5 1200x800 mm	Reinforcement	For chipboard or cellular plastic underfloor	1.3 pieces/m ²	Not applicable

ENVIRONMENT/RECYCLING

When the LK Clip Rail, Click 12 is ready for recycling, it should be sorted as plastic and combustible waste and be deposited with a recycling centre.

