



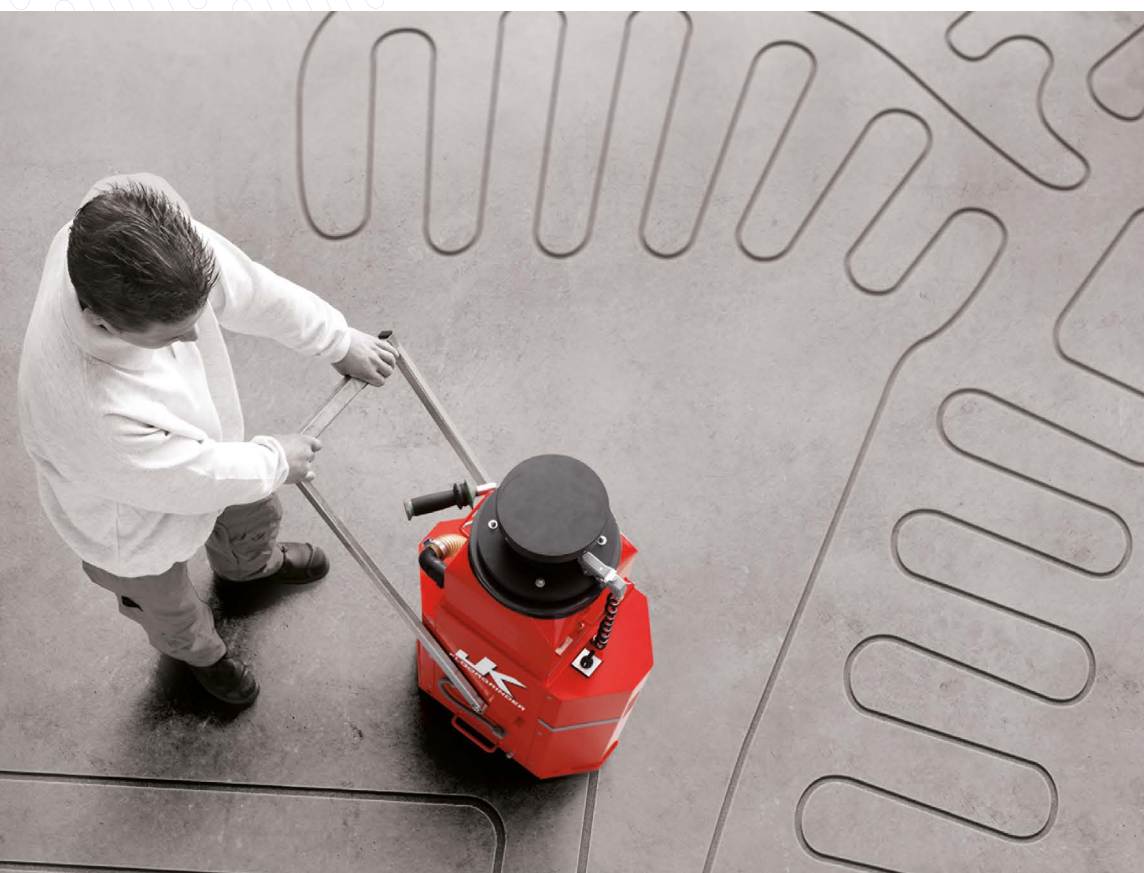
floorheating



For all floor finishes

- Tiles
- Natural Stone
- Gravel Floors
- Parquet
- Engineered Wood
- Resin Floors
- Carpet
- Laminate
- Linoleum
- Rubber
- LVT/PVC

JK[®] system Underfloor heating professionals



- Sand-Cement
- Anhydrite screed
- Concrete
- Existing Tiles
- Dry Construction
- Liquid Screed

www.JK-gb.com



WHY THE JK® SYSTEM?

- **Single heating system:** the only and primary heat source
- **Zero build-up:** embedded into solid-floor
- **Bespoke:** custom floor cutting on site
- **Efficient:** uses very low water temperatures
- **Affordable:** no sub-floor work needed
- **Quick:** many installations take one working day
- **Dust free:** channels are cut virtually dust free
- **Responsive:** feel the warmth within minutes
- **One party:** trained in-house engineers fit the entire JK® system

UNDERFLOOR HEATING BENEFITS

Homeowners have become increasingly aware of the benefits of warm water underfloor heating systems over conventional radiators, so it's no surprise that this is one of the most popular home improvement projects. Shortly after the system is installed, users see savings on their energy bills, increase in comfort and some industry experts even argue that underfloor heating will add additional value to your property!

SOME KEY BENEFITS:

1. Combine with existing systems

Easily combined with other heating systems that are already in place, due to the low water flow temperature

2. Lower temperature - highly efficient

Due to the low water temperature requirement, you can potentially turn down the temperature of your heat source. Heatpumps also operate more efficiently and provide a higher 'coefficient of performance' (COP) at lower flow temperatures

3. Low maintenance costs

50 year warranties on products and no annual maintenance required

4. Safer

No risk of getting burnt by radiators

5. Ecological

Up to 10% savings due to uniform heating in each room and the LTH (low temperature heating) results in an additional 10-15% saving compared to conventional (high temperature) systems

6. Healthier

Maintains better levels of humidity and reduces dust circulation

7. Superior all round comfort

The radiant heat from underfloor heating is uniform and therefore generally perceived as more pleasant, the heat distribution is closest to the ideal heating model

8. More practical

More available space due to the absence of heating elements (e.g. radiators) and no barriers when moving in and arranging furniture

9. More hygienic

No cleaning problems (areas around radiators and convector heaters are often difficult to clean)

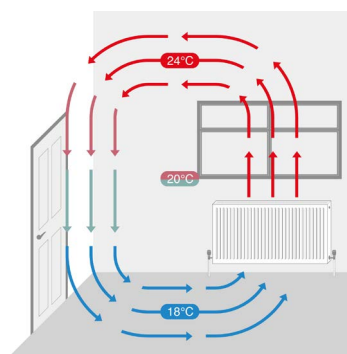
10. Ideal for open space living

No unsightly pipes or other heating elements

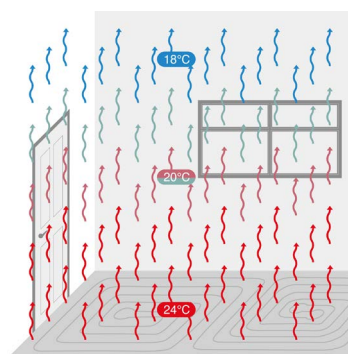
11. Flexibility in room temperature

Conveniently program individual room temperatures

Radiator heating



Underfloor heating



PIT/PRODIS

In collaboration with the European Carpet and Rug Association (ECRA), The Gemeinschaft umweltfreundlicher Teppichboden (GUT), an organisation which represents the environmental standards in the textile floor covering industry, have developed the PIT/PRODIS symbols to help quickly understand the characteristics of floor finish products and their application possibilities. The PIT/PRODIS symbol refers to suitability regarding underfloor heating.



1 SUBFLOOR

The JK® system was invented in 1994, and the use of its patented machinery and installation method are now widely recognised as one of the most innovative ways to install a warm-water (hydraulic) underfloor heating system retrospectively. The first step of the installation process uses our patented JK® floorgrinder to create 15x16mm channels into existing floor structures. The JK® system is compatible with sand-cement screed, concrete or anhydrite floors, as well as existing tiled or suspended flooring constructions*. The JK® floorgrinder creates tightly routed, bespoke patterns into which heating pipes are inserted, for a virtually dustless operation.



*For suspended flooring constructions, we have developed the JK® fermafloor. This dry-solution utilises floor elements from Fermacell® and allows for a customised installation that incorporates key features such as heating, acoustics and fire protection all in one solution. For more information, request the JK® fermafloor brochure.

2 INSTALLATION PROCESS



Our heating pipe, the JK® flextube, is then laid into these channels which sit directly below the floor finish. As the JK® method uses a specifically designed set of equipment, all with on-tool extraction (LEV) that is compatible with 99% of all floor surfaces, it is not necessary to remove or raise the existing floor levels.



Once the pipes are inserted into the created channels, there is the option to apply a backfill. The JK® flexseal is a uniquely developed product, sealing the floor to remove any airgaps, and creating the perfect layer for any further products – such as smoothing and levelling compounds, or flooring products such as tiles and wood – to be applied on.

3 FLOOR FINISHES

Whatever type of floor finish you choose, there are certain guidelines to follow. The most important one is the heat resistance (called R-value) of the flooring. When laying floors over underfloor heating, check the flooring manufacturer for recommendations and approvals before you begin. Important regulations apply to prevent any issues following installation. The best floor finishes to use in combination with the JK® system are the ones with a low heat resistance value, meaning that the heat from the underfloor heating pipe transfers to the floor surface quickly. Examples of such floor finishes are tiles, stone and vinyl.

However, flooring products with a higher heat resistance value are still very much suitable for underfloor heating, but may limit the heating capacity or response speed.

In addition to this, flooring products can be categorised as 'soft' flooring or 'solid' flooring. The soft flooring products, for instance carpet or luxury vinyl tile often require specific subfloor preparations to ensure that no pipe-pattern or uneven flooring elements are visible on the surface. Whereas solid flooring products such as tiles, stone and wood are more robust and can be, when using the correct adhesives, applied directly onto heating pipes or slightly uneven subfloor conditions, as the floor product will cover this up with no risk of this showing through the flooring surface.



MANIFOLDS

Manifold production is a core part of our business at the JK® group. We produce thousands of JK® manifolds annually in a wide range of customised configurations for use with the JK® system. Advanced production techniques and use of corrosion-free materials make the JK® manifolds a high-quality product. For example, the welding is carried out with TIG technology, followed by a bath of chemical staining and given a premium finish when it is blasted with glass beads.

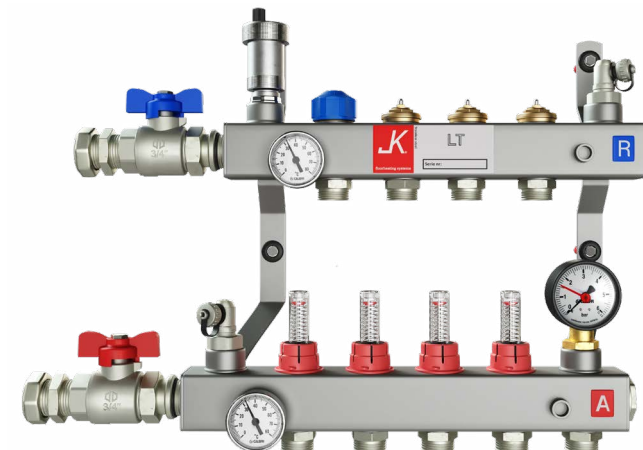
JK® Ecoline

The JK® Ecoline manifold is equipped with a patented and uniquely designed mixing valve, which is adjustable and therefore suitable for multiple applications. Moreover, the JK® Ecoline is equipped as standard with a direct-mounted A-rated circulation pump, and is therefore suitable for connecting directly to a hot water source. The JK® Ecoline is generally used with a normal gas or electric boiler, but it can be used with any high temperature heat source (> 55°C). The pump circulates the water through the internal blending-valve and mixes the hot water with the cooler return water of the underfloor heating system. A unique feature on the JK® Ecoline manifold is the integrated maximum temperature protection. This means that if any failure occurs in the central heating supply, the circulation pump will turn off to offer a level of protection from overheating the floor.



JK®-LT (Low-Temperature)

The JK® LT manifold is not fitted with a circulation pump, making it an ideal fit for any heating system with a low temperature (< 55°C) heat source. The water supply is usually provided by a remote water pump, which circulates the water through the underfloor tubing, and is often part of a renewable energy system, such as solar panels, ground-source heat pumps (GSHP), air-source heat pumps (ASHP) or high efficiency electric, hydrogen or gas boilers.



JK® flexseal

The JK® flexseal is a product developed as backfill over the JK® system. It is suitable for almost all floor surfaces, including non-breathable surfaces such as tiles or ceramics. Specific additives are included into the JK® flexseal to allow an extreme durable bonding with not just the cementitious subfloor but also the JK® flextube. The product not only backfills any airgaps which may have occurred between the pipe and the created channels, thus increasing heat transmission, but also has damp shielding characteristics such as those found in dampproof membranes (DPM). Once the JK® flexseal is applied, it creates the ideal surface for further flooring applications, such as levelling and smoothing compounds, as well as final flooring products.

JK® flextube

The JK® system solely uses the JK® flextube as its approved pipe, which meets the BRL5602 testing standard. The JK® flextube is an inverse PE-RT [Polyethylene of Raised Temperatures resistance] pipe, known for its extremely high industry standards. The 14*2mm Ø five layered pipe combines quality with durability, high temperature endurance, flexibility and long-term power. The pipes are laid in an optimal snail-shell pattern, creating an even heat distribution across the entire floor surface area. This is achieved by a 14mm pipe, the ideal size for the underfloor heating market, resulting in a more compact UFH system.



JK® GROUP INVENTION TO INNOVATION

Janssen & Krop vloerverwarming B.V. was founded in 1994 and became the foundation for the later formed, larger and globally active JK® group. It all started in a barn from which the entrepreneurial duo worked primarily with the 'tile-industry'. This developed over the years into a professional corporation with its own branches, patented equipment and machinery, as well as tested and approved heating systems. Going on to collaborate with hundreds of industry partners in and outside of Europe, today, supply and installation of the JK® system is the core business of the JK® organisation.



We have the knowledge, expertise and experience to bring you a quality customised solution, no matter whether you are renovating, refurbishing, or starting a new building project in residential or commercial building. The JK® group has a customised solution for every place and project.

JK® Experience Centre

The JK® Experience Centre far exceeds any industry standard equivalent. Built in The Netherlands and fully designed around underfloor heating systems, our Experience Centre is the first of its kind.

Here, you will find all things underfloor heating. You can view and experience all forms of heating and cooling systems in combination with every type of floor finish, manifold and control system.

In addition to the extensive array of products, our Experience Centre provides a glimpse into the history of our trade, with the very first JK® floorgrinder on display, alongside our comfortable coffee and lounge area.



Scan for a virtual tour of JK's experience centre

WORKING TOGETHER

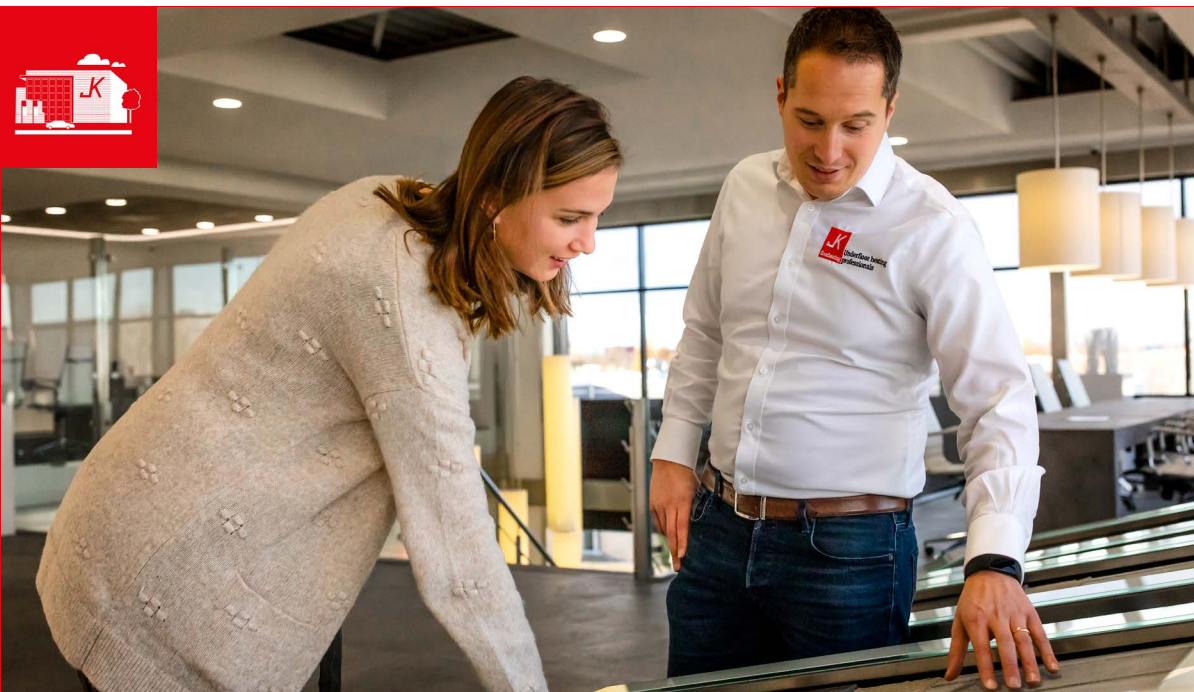
The JK® system is also available through an extensive network of trade-related partners. JK® is proud to collaborate with over a thousand associated partners. Partners are often active within the industry themselves, primarily as heating-engineers, building contractors, flooring specialists, renewable companies and architects. Including the JK® System within their portfolio allows our partners to offer home-owners a complete solution. The great thing about this is that every trade can focus on their own profession, and quality standards are ensured on the final product. JK® is actively connecting home-owners with trade partners through various programs, one of them being 'reward the trade'. For more information as either a home-owner or trade-professional, reach out to a JK® representative directly.



IN-HOUSE INSTALLATION BY JK®

At JK® good service is paramount. With a world of experience, we ensure that you receive the latest information, knowledgeable advice and quality installation. The result? A premium service perfectly tailored to your project.

We are proud to be involved in all aspects of the product, from advice and design, to manufacturing, supply and installation. We believe quality products are only valuable if they are installed to an excellent standard. For this reason, we have our highly skilled in-house installation teams, trained by the JK® academy and very well experienced in all type of projects.



TESTED, TRUSTED, REVIEWED



The JK® system has been tested and approved by independent laboratories (**test centers in accordance to EN 442-1 / DIN EN ISO/IEC 17025**) and been awarded with several certificates for both the materials used and for the installation method. The evaluations that have been performed include (but are not limited to): DIN CERTCO, Berlin; DIN EN 1264-2 technical heating issues for underfloor heating systems, 4725-200 Kiwa Bautest, Augsburg; DIN 18560 Compressive Strength Testing, and the implementation of pressure tests with various types of flooring.

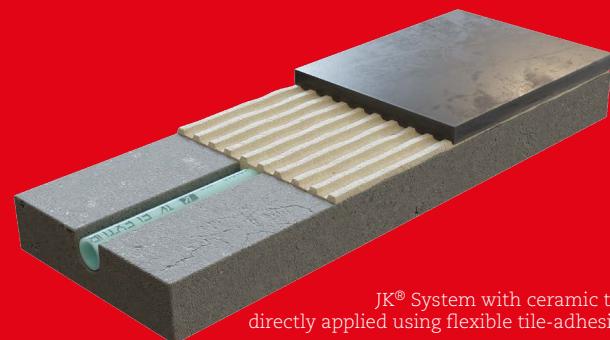
Additionally, the warranty standards are extensive with up to 50 years on installed materials. It's safe to say with 30 years of business experience, JK® is a stable and trusted partner for your heating needs.

The JK® system has received hundreds of 5-star reviews on platforms such as Trustpilot and Google. It has also been the subject of countless blogs and editorials in more than 9 different countries.



JK® FLOORGRINDER

The JK® floorgrinder carries multiple patents and this complex, purposely designed machine is maintained and used by JK® personnel. The floorgrinder is equipped with CE approved parts and High Efficiency Particle Arresting (HEPA) filter technology tested in accordance with Health & Safety Executive document HSG249 (Fibres/ml of Air <0.01). On a daily basis, there are over one hundred and fifty JK® floorgrinders in use. The unique characteristics of the machine result in tightly routed, bespoke patterns into subfloor constructions, in which the heating pipes are inserted, and all whilst creating minimal dust during operation.



JK® System with ceramic tile directly applied using flexible tile-adhesive

TESTIMONIALS

JK® has been installing underfloor heating systems in many European countries since 1994 with a workforce exceeding 150 employees. As a result, we have more than 250,000 references. From a single bathroom to full industrial sites, there is always a reference in the area you live.



Excellent
4.7 out of 5

Expert advice given ★★★★★

Expert advice given by sales team. I even keep going back with additional questions and they answer in a timely manner. Would strongly recommend that you consider this company.

Ian Roughley

JK Flooring Install: Yorkshire ★★★★★

What an amazing way of installing underfloor heating without the dust and mess that goes with cutting into concrete, from start to finish the whole process has been simple and efficient! Kris and Adam who came to install the flooring were in and out within half a day, polite and hard working. Allen who orchestrated everything has been contactable throughout.

Mr Christopher Blashill

Exceptional Business and Staff - Well Done! ★★★★★

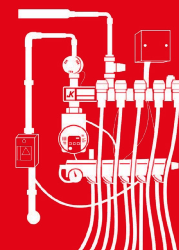
From our initial contact to the guys completing the works, the professionalism, knowledge and all around great attitude to their business, was exceptional. We expected a room full of dust, but nothing, everything was clean and dust free. Guy and Dale were very professional and basically got on with the job. We would 100% recommend JK Floorheating.

Fran Lowbridge

Thanks Again ★★★★★

Have used JK floor heating on several projects now and can't recommend them enough as the system is so close to the top of the floor it responds more quickly than in screed heating a winner all round.

Tom Knowland



Scan to see what our customers have to say!

JK® KNOWLEDGE HUB

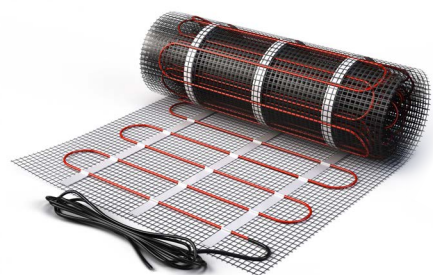
ELECTRIC

+++ ELECTRIC UFH PROS

Electric UFH can be sourced and installed by private companies or can even be found and purchased directly from your local DIY retailer. This can be appealing due to the low purchase and installation costs. They also have the added benefit of being low profile, so floor build up is kept to a minimum. Premium quality UFH electric heating mats can be more robust and are capable of excellent heating output. Electric UFH can be very suitable for small areas of up to 10m², such as en suite / bathroom areas (non-primary living spaces).

--- ELECTRIC UFH CONS

Overall running costs of electric UFH is considered to be the major disadvantage. For this reason, electric UFH is only normally considered when installing into small or tricky areas rather than the entire house. Reliability of electric systems can also be a concern. In most online reviews or feedback, UFH is given a rough time, with the focus often being on bad user experiences due to unreliable systems. Although electric systems are cheaper to install when compared with a hydronic system, the money saved on the initial installation will soon be spent on sizeable energy bills. To heat the same space to the same temperature using electric UFH would cost at least three times as much as using water UFH with a gas boiler. Running costs are manageable when the system is installed into small areas (up to 10m²) and not used as primary heat source and/or not installed into primary living areas such as kitchens, lounges, etc.



Electric underfloor heating mat

WATER

+++ WATER UFH PROS

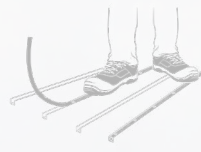
The main advantage is the overall running cost once the system has been installed. Lower costs are achieved by taking the water used in the current central heating system that normally supplies radiators. As water UFH uses lower water temperatures, this not only shaves a percentage off your overall energy bill, it is also proven to be up to 25% more efficient than using radiators when paired with a modern condensing boiler. Individual zoning (multiple room thermostats) allows you to control UFH with a greater level of detail and increases efficiency and level of comfort. Another major advantage of water UFH is its ability to be paired with renewable technologies such as Ground/Air Source Heat Pumps and PV/Solar Thermal. Water UFH is mostly installed as a primary heat source throughout your premises and removes the need for radiators.

--- WATER UFH CONS

Water systems have a higher installation cost than electric installation because of the materials used, such as the manifold, circulation pump and UFH pipes. There are some concerns about pipes bursting, however, most providers of UFH will guarantee their pipework for 50-100 years, as pipe material is extremely durable. They are commonly known as PE-RT or PEX, which are multi layered pipe products. Another initial drawback can be that most companies do not, or are not allowed to provide the "full" installation. This means that though they often design, supply and install the actual underfloor heating system, most systems still need to be connected to the main central heating system by a local heating engineer / plumber / electrician, who then supply and fit wiring centres and room stats.



JK® System with bonded wooden flooring



Frequently Asked Questions (FAQ)

Q&A

Is my existing floor construction suitable for a JK® system?

It's safe to say that 99% of all solid floor constructions are suitable for the JK® system. This also includes solid reinforced concrete for industrial applications, or homes with floors made out of natural stone flooring.

How long does it take to complete the UFH Installation?

Most home installations can be achieved in as little as just one day. This is depending on the floor construction and the size of area we are installing the system into.

At what depths are the grooves cut into the floor?

The JK® floorgrinder cuts approximately 16 [mm] into the floor construction. The 14 [mm] JK® flextube pipe is installed directly in to the cut channels thereafter. The ultimate aim is to have the heating pipes flush, or just under the floor surface.

How much dust is created from the machine during the cutting process?

The JK® floorgrinder is fitted with HEPA filter technology, and an industrial on-tool extraction (LEV). The installation is therefore virtually dustless.

When can I use the underfloor heating system?

This differs depending on each flooring product and the drying time of the adhesives used. Generally, the start-up period may begin a few weeks after installation. However, it is important to begin by using the lowest temperature setting and increasing by a couple of degrees per day to ensure the system correctly integrates.

What if I have timber sub-floor construction? Is installation still possible?

The JK® fermafloor is the perfect solution for this, whether it be on the ground or upper floors. For more information visit www.JKfermafloor.com.

How warm will my house get?

This is a function of your home's heat losses versus the heating system's output. The moment the heat output achieves the required demand, the home

will be warm. Modern homes will have no problem heating above 20°C. Older homes generally do not experience any issues, especially if roof insulation and double glazing is present in the property. However, if you are concerned about this, the best thing to do is get a heat loss report done on the property to see how much energy you need to put into the rooms to heat them comfortably. The JK® system is fully tested and heat performance reports are available.

Will it work with an uninsulated slab?

The JK® system accommodates both insulated and uninsulated slabs, including integration with low-energy systems like heat pumps. We have diligently followed industry guidance to quantify energy loss in uninsulated slabs and meet criteria outlined in Part L (UK) of the building regulations. This is crucial not only from an energy perspective but also in terms of CO₂ emissions. The embodied energy within the in-situ slab cannot be compensated by the reduction in subsequent savings achieved through the removal and reinstatement of this building element, as per the guidelines set forth in Part L, building regulations, and SAP.

Should I use a JK® Ecoline manifold with my ASHP/GSHP?

JK® recommend that the heatpump should be allowed to operate on weather compensation and ideally limited to 45°C. Using a JK® ecoline manifold with a heat pump to reduce the water temperature would lose the efficiency gained by using a heat pump. We would recommend the JK® LT manifold for any low temperature heat source.

Can I use wooden floors or LVT with underfloor heating?

Wood, LVT and other sensitive floor finishes are excellent choices for use with underfloor heating, however, you must make sure to protect them by installing floor temperature sensors. Flooring manufacturing companies have strict stipulations regarding floor-surface temperatures and these must be monitored. Floor temperatures should be limited by electronic means through your control system and not necessarily by controlling the water temperature, as this is inaccurate.





After 30 years of installing underfloor heating systems across 12 countries, JK® have the expertise to get the job done, no matter where you are.

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