CPH works hard to deliver high-performing, efficient and cost effect Underfloor Heating Solutions.

We are installers of both wet and dry systems, and can accommodate your every need.

What is Underfloor Heating?

Underfloor Heating transforms your floor into one large radiator by using a system of water-filled pipes, electric pads or wires laid under the surface. The contrasting types are referred to as a dry system (pads & wires) or a wet system (pipes).

Underfloor heating (UFH) is increasingly popular in new build homes and homes undergoing renovation. It is both efficient and effective in heating a room. Plus, it is a luxurious feeling to have a warm floor under your feet.

Pipes, coils or pads are placed onto the subfloor – these will heat the floor. Then they are covered with a self-levelling compound before your flooring is laid on top. Underfloor heating is best suited to tiles, concrete, stone and thinner wood floors, but can be used with carpet.

Whilst conventional radiators function by heating the air around them through convection, UFH uses both convection and radiant heat to warm a large space. In using both, UFH provides a more consistent temperature whilst eliminating cold spots as the heat spreads across the whole space. This is more comfortable and can be more cost efficient, as you are not keeping radiators on longer to try and spread warmth.

Continue reading to discover the benefits of underfloor heating and how it is installed.

What are the benefits of Underfloor Heating?

Low maintenance costs

Once UFH is installed it typically requires less maintenance than a traditional central heating system. No more leaky radiators and constant call-outs. UFH systems typically have a guarantee of 10 years minimum, far beyond most radiators.

Efficiency

UFH runs at a lower temperature than radiators, meaning UFH is more energy efficient. By keeping the whole space warm and at a consistent temperature you won't need to keep turning your heating up.

Using a programmable thermostat to only heat your home when you need to will cut energy costs and ensure you have a warm house waiting for you when you get home.

Reduces cold spots

As UFH heats the whole room to the same temperature, this reduces cold spots across large areas. Ideal for open-plan living spaces where wall space for radiators is limited. UFH will give your home a cosy, spa-like feeling of warmth.

Space-saving

UFH can remove the need for space-stealing radiators. If you have large open plan rooms in your home, wall space for traditional radiators is in high demand. UFH increases the available floor area of your home by 10-15% by replacing most if not all of your radiators.

Increase property value

Installing UFH can increase the property value of your home for all the benefits stated above, as well as adding a touch of luxury which will be attractive to future buyers.

Our process

CPH will survey your property and take measurements of the floor space needed for your UFH project. Alternatively, if you have floor plans these will be used. These measurements are then converted into a plan for your underfloor heating, diving the space into zones. All Underfloor heating projects and quotes are subject to survey – we like to ensure every detail is perfect and your underfloor heating will work efficiently.

These zones will tell us how large the space is, the materials needed and how large a manifold we will need to use to efficiently warm the space.

The information we need from you:

Boiler or air- source heat pump: Will you use your boiler or a heat-source pump to provide your UFH.

Location of boiler: This is important as we need to know how far away the boiler is from the area underfloor heating will be installed, determining what pipework we will need to complete.

Type of boiler: We need to determine whether your boiler will work efficiently and cope with the demands of UFH.

Location of manifold: We need to know where your manifold will be placed – they are a fairly large piece of machinery and are best placed in garages or under your stairs in cupboards.

Thermostats: Will your thermostats be hard-wired, radio frequency or will you be using smart controls.

Floor plans: If you have floor plans with measurements, great! Don't worry if you don't, we will conduct a survey anyway.

Type of system: screed or overlay?

Once we have this information and measurements needed – we will work closely with our trusted underfloor heating suppliers to formulate a quote based on the size of the space, the materials needed, what type of system would work best for your home, and labour costs. We do our best to offer the best price we can – customer satisfaction is paramount.

FLOORING OPTIONS

There are multiple options for flooring that will work with your new wet or dry underfloor heating system. However, some flooring options work better than others. Here we have detailed your different flooring options below.

Carpet

Carpet flooring will work with both wet and dry underfloor heating systems. Foil heating systems are particularly compatible with carpet floors. Your carpet should not be more than 1.5 tog for under floor heating to work efficiently.

Wood

Wood flooring is not the most ideal floor for underfloor heating. You will need to keep the heating system working for longer to heat your floors properly. Your underfloor heating also cannot be set to too high a temperature as too much heat will increase moisture levels in the wood, causing it to flex.

Engineered Wood

Engineered wood flooring has excellent conductivity, making it a much better option for underfloor heating. It can withstand fluctuations in temperature much better than regular wood flooring, meaning you won't have to run it for longer periods of time. Much like wood, your underfloor heating should not exceed more than 27 degrees if you have engineered wood flooring.

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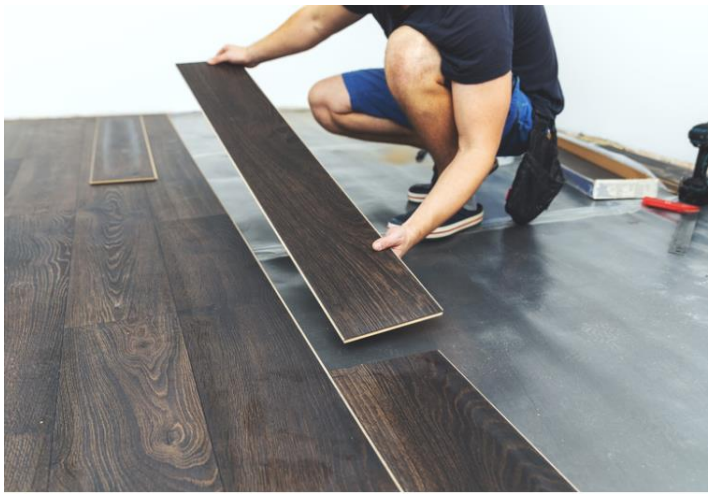


Laminate

Laminate flooring is a fantastic alternative to wooden flooring. It mimics the looks of wooden flooring while avoiding some of the challenges that wood poses to underfloor heating. Laminate flooring can be used with both wet and dry heating systems.

Ceramic Tiles & Stone

Ceramic tiles and stone are one of the best flooring options for underfloor heating as they have exceptional heat conductivity. Your tile or stone floor will warm within minutes also cool quickly. Ceramic and stone floors aren't negatively affected by temperature fluctuations, so no need to worry about cracks or buckling.

Vinyl and Linoleum

Vinyl and Linoleum flooring can be suitable for underfloor heating systems, but your system should not exceed a temperature of 26-27 degrees. This type of flooring is very slim, meaning heat flow will not be obstructed from your underfloor heating system to the room.

WET SYSTEM

Wet underfloor heating systems work by distributing warm water from a boiler to a circuit of pipes via a manifold. The heat is controlled and monitored by thermostats, which maintain a consistent temperature throughout your home and provide that warm, toasty spa feel.

This consistent heat ensures there are no cold spots in your home, providing even and efficient warmth.

Glossary

Subfloor

The foundation for a floor in a building

Manifold

A plumbing distribution system that will transport water to different locations using a loop effect that reduces the distance water will travel through your home

Screed

A liquid coating made from cement that is poured over the underfloor heating pipes to secure them into the floor and provide an even covering for flooring to be applied

HOW IS IT INSTALLED?

Step 1

CPH will clean the subfloor ensuring no sharp objects or edges that could damage the pipes, in preparation for installation.

A damp-proof membrane will be laid down to prevent moisture and dampness from occurring, and avoid corrosion.

Step 2

CPH will lay floor insulation – this step is vital for making the heating as cost-effective and as beneficial as possible.

The boards will be fitted neatly with taped seams. Heat will rise, so we want to ensure only a minimal amount is lost beneath the floor.

Step 3

Installing the manifold – the manifold will be installed first as this is what the UFH pipes are connected to. The manifold will be installed in a suitable location which will be decided during your survey. The underfloor heating pipes will be connected to the flow side of the manifold.

MANIFOLDS

The manifold is quite a large bit of kit! The manifold pumps water through your heating system, powering your underfloor heating.

It needs to be placed in a suitable and accessible position like a cupboard under the stairs or a garage.

Step 4

Laying the pipe – the underfloor heating pipe will be fitted by snaking it from the manifold to the furthest part of the space and back again – creating evenly spaced loops to ensure consistent heating.

By evenly spacing the pipe, we ensure there will be no cold spots.

The looping pipes are then clipped securely to the floor and carefully checked to ensure position is correct and there is no damage.

The pipes are installed in a specially formulated looping pattern – this ensures every part of your floor will be heated evenly and efficiently.

Step 5

Pressure testing – CPH will check the UFH system pressure to identify any leaks in the pipework, manifold or joints.

Step 6

Laying the screed – The system will be kept under pressure whilst we lay the screed and whilst it is drying. This is to stop it from becoming too tight around the pipework and placing strain on the system.

Step 7

Connecting the boiler pump and thermostat – CPH will connect the manifold to the boiler pump or heat-source pump and test the whole system to ensure it is working perfectly.

The thermostat is then connected to the underfloor heating.

DRY SYSTEM

Dry underfloor heating systems consist of mats, membranes or foil boards with evenly spaced electric coils or cables that are wired in and powered by your electricity to deliver consistent, even heating to your floor.

The temperature is controlled by a thermostat and the dry system is then covered by a screed or installed directly under flooring. Dry systems are ideal for smaller spaces like bathrooms and utility rooms.

Glossary

Membrane

A thin layer of insulation that will ensure no damp enters the system and causes corrosion

Screed

A liquid coating made from cement that is poured over the underfloor heating system to secure them into the floor and provide an even covering for flooring to be applied

Substrate

The subfloor, or foundation of a building

There are three types of dry or electric underfloor heating, Mesh, Membrane & Foil. Check out the illustrations from Thermosphere below to explore your options:

MESH

ThermoSphere mesh is fully self-adhesive and holds the mesh to the substrate for easy installation.

Ideal for tile and stone floors.

MEMBRANE

ThermoSphere heating and uncoupling membrane is robust and ideal for heavy use under tile and stone floors.

FOIL

ThermoSphere mesh is best suited for laminate, engineered timber, carpet and vinyl floor finishes.

Croston Plumbing & Heating can help you decide which system would be the best for you, install it efficiently and safely, and deliver a high performing and reliable dry underfloor heating system for your home.

HOW IS IT INSTALLED?

Step 1

Prepare the subfloor – we will ensure the subfloor is level, stable, clean and free from any dust or debris. Perimeter insulation foam will be installed around the edge of the room.

Coated insulation boards are used with timber subfloors (typically in upstairs bathrooms). These will be laid over the whole floor and secured.

For concrete subfloors (downstairs), uncoated insulation boards will be laid.

Step 2

Marking out - unheated areas are marked out. An unheated area is a space where there is already furniture in place or will be added, for example a bath or basin.

These spaces are marked out so we don’t install underfloor heating to them, as this can restrict the airflow to the floor, which can cause your heating system to overheat.

Step 3

Testing - testing before installation – we will test every element of your underfloor heating system before we install, to ensure it will work correctly and efficiently.

Step 4

Installing the UFH – starting near where the thermostat will be positioned, the underfloor heating will be rolled out and placed on the floor.

Any obstacles and room edges will be marked out on the mat and cut around to ensure clean edges and smooth installation.

Step 6

Installing floor sensors – installing floor sensors will help limit the floor temperature and reduce the risk of overheating.

Step 7

Securing the underfloor heating – the underfloor heating will be secured and fixed to the floor.

Step 8

Cutting in cold tail joints CPH will cut in a cold tail joint into the insulation or subfloor. The cold tail is the part of the heating system that does not heat up. It is used for making the electrical connections to the thermostat or junction box.

We will also install a spare floor sensor just in case the other fails. This means you'll have a backup and won't need to switch to air temperature sensing which is less energy-efficient.

Step 9

Testing the sensors – at this stage we will test the sensors to ensure they are working correctly.

Step 10

Laying the floor finish – if you are having tiles directly over the heating system we will add adhesive and ensure the heating system is totally covered. Then the tiles will be fixed over the top.

If we are installing a self-levelling compound or screed first, this will be added all over the heating system so it is entirely covered. Once the screed is ready, your flooring can then be installed on top.

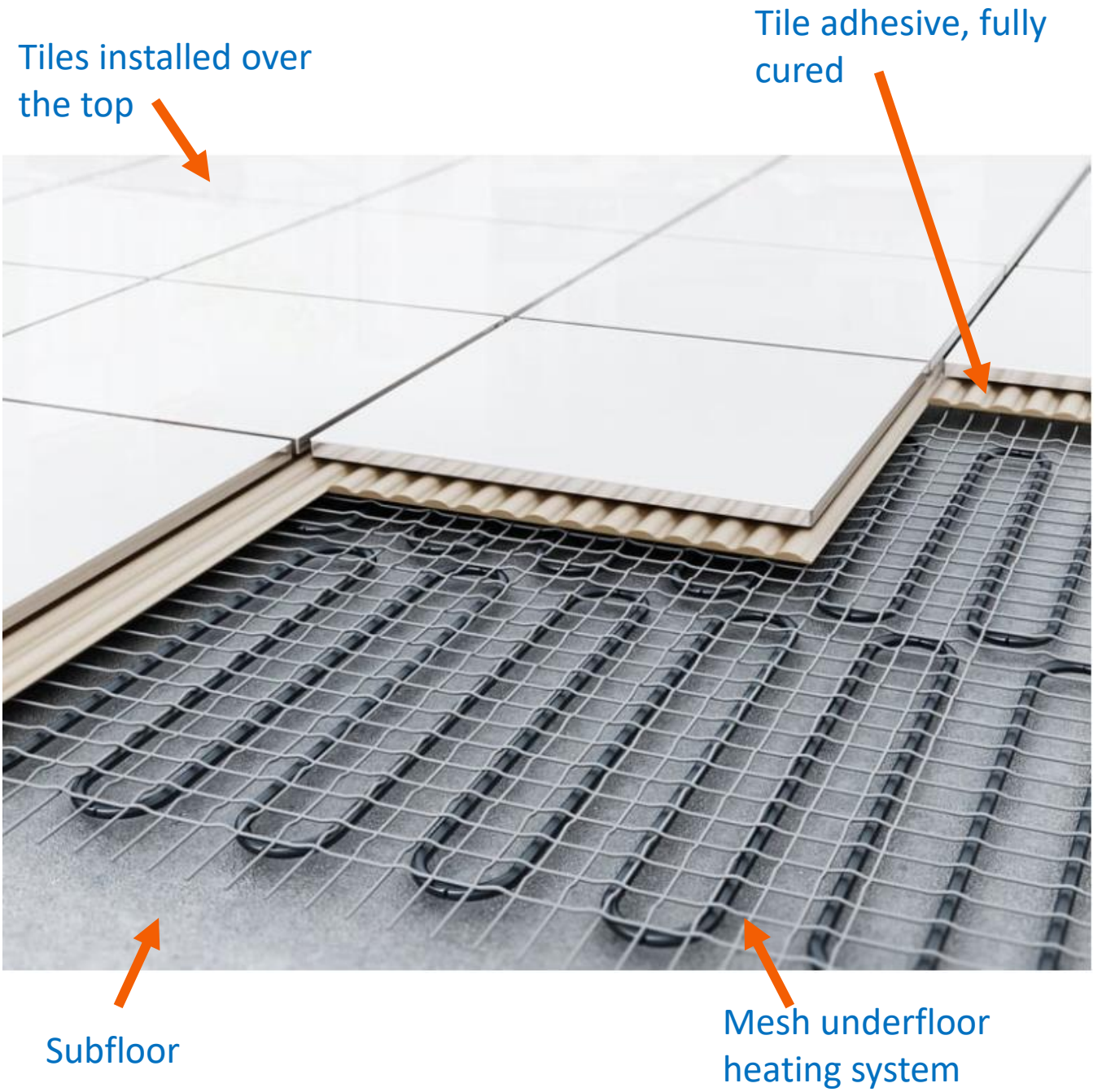
We must wait for the tile adhesive and/or screed to fully cure before your underfloor heating can be used. This process takes between 7-14 days.

Step 11

Final testing – all elements of your heating system will be tested to make sure they work correctly and efficiently.

Step 12

Wiring – at this stage, our trusted electrician will complete all the wiring and electrical work necessary for your heating system to work.



How much does it cost to run?

Running costs vary depending on depending on the property, whether you choose to include insulation, your heating management and also the cost of your local energy tariff.

Example running cost:

North West Home

Electric underfloor heating in a bathroom

Bathroom size – 6 metres squared

Daily running cost: £1.13/day based on 3 hours use per day.

Example running cost:

North West Home

Screed underfloor heating in an open-plan kitchen

Kitchen size – 28 metres squared

Daily running cost: £2-5/day based on 3 hours use per day

Don’t let these costs put you off – the benefits of UFH far outweigh the costs!

Please get in touch with Croston Plumbing & Heating for a FREE survey and quote

info@crostonplumbing.co.uk **01257 452 879**