

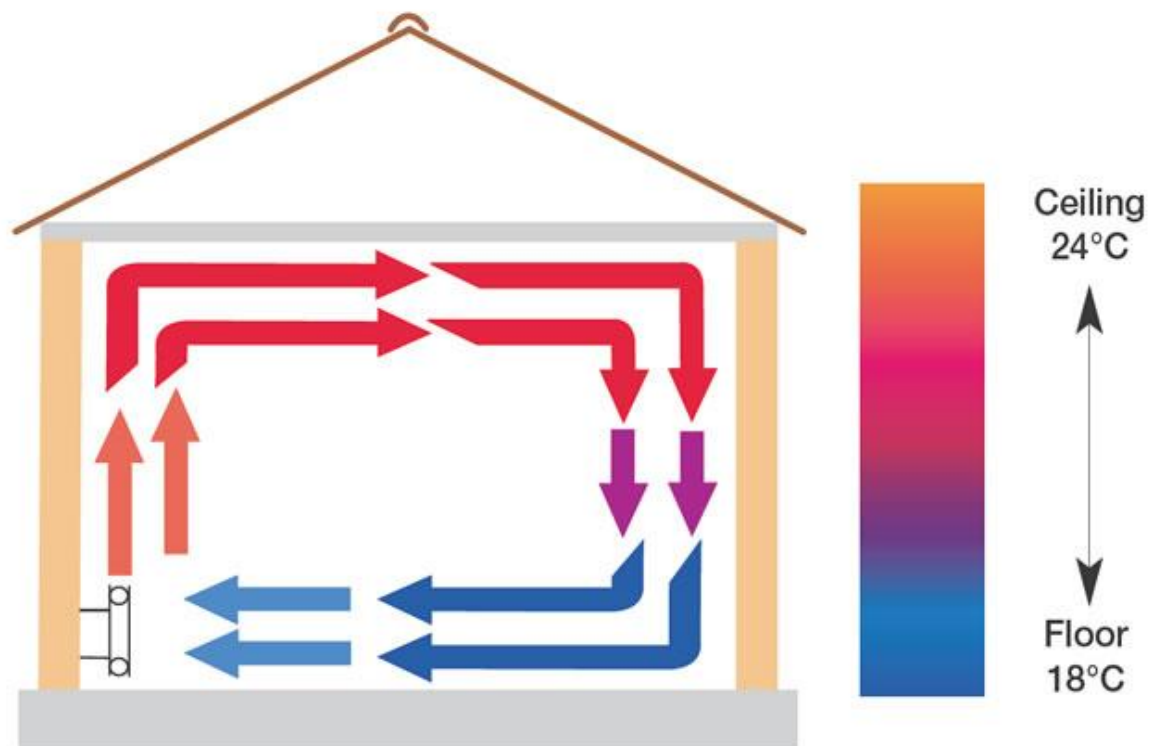
An introduction to underfloor heating (UFH)

The feeling of wellbeing is something we shouldn't take for granted. Feeling warm and comfortable in our homes helps maintain the feeling of well being and promotes good health. There are numerous ways to experience warmth but only a few that guarantee **real** comfort.

With an underfloor heating system, the heat surrounds you. The source, hidden away under the floor, is invisible and ideal for modern interior design and living. Warm water is pumped through loops of pipe (no joints in the floor) placed under a concrete or joisted floor or alternatively in a retro-fit board system. The UFH system is designed to be the only heat source required so therefore radiators aren't required enabling a clean interior design and maximum useable wall space. Furniture can be positioned without the constraint of radiators. The floor surface and room is an even and comfortable temperature without cold spots. Ceramic and hard finish floors will feel warm and welcoming.

Radiator systems

A radiator system works primarily by creating convection currents of hot air supplemented by some radiated heat. It also picks up dust from the floor and distributes it into the air, covering everything in the room. This convection results in the floor being the coolest part of the room and leaves a mass of warm air at ceiling level. This can mean that much of the energy, which has been put in the room, is wasted and not in the area you want it to be! (**see picture**). Radiator systems generally run at around 82°C, a UFH system is between 35°C and 60°C (most commonly around 50°C) so a significant energy saving and improvement in efficiency



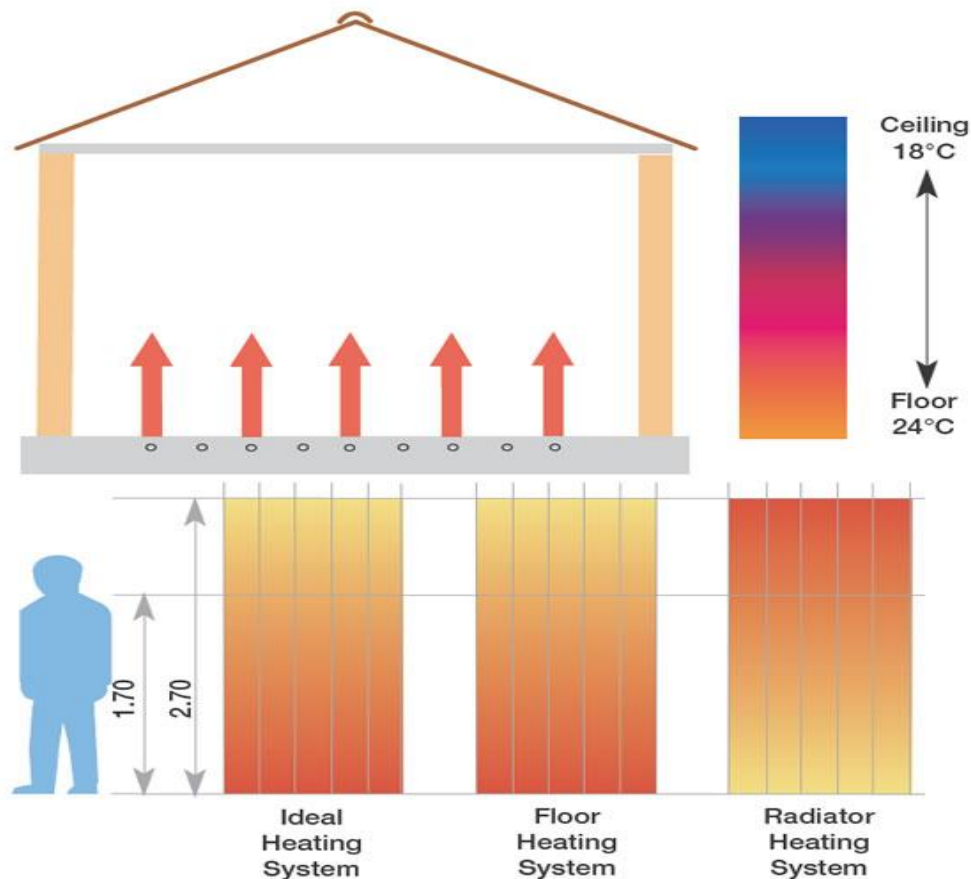
Underfloor Heating systems

An underfloor heating system heats predominantly by radiation. This is the most natural and comfortable form of heating – like the sun. Radiant energy emitted by the floor is partly reflected by each surface and partly absorbed. Where it is absorbed, that surface becomes a secondary emitter. After a while, all surfaces become secondary emitters. Furnishings themselves radiate energy and the room becomes evenly and uniformly warmed. The energy reaches into every corner of the room – no cold spot, no hot ceilings and no cold feet!

UFH gives 'invisible' warmth and as there are no hot surfaces, UFH is safer and cleaner than radiator systems with dust and air movement greatly minimised – ideal for modern living.

UFH also has the benefit of being low maintenance -no need for painting radiators or cleaning around them. The system requires no additional service maintenance over a radiator system – the boiler/heat pump etc should be serviced as normal to the manufacturers recommendations

When compared to a radiator system, the overall effectiveness of a UFH system can be seen below. The heat is concentrated where it is most required for comfort and energy efficiency.



Underfloor Heating system advantages

- It is good for the environment
- Financially comparable to a radiator system to buy/install
- More cost effective than radiators to run, up to 55% less energy required
- UFH heats the whole floor surface and every corner of the room whilst the heat is felt at the optimum height, 1.5-2m
- A comfortable heat without cold or hot spots
- Can be controlled by room/time/temperature – saving money!
- More useable space in the room, free to furnish without radiator constraints