How to Install Underfloor Heating

Installing underfloor heating is one of the most effective ways to bring long-lasting comfort and efficiency to your home. The process will vary slightly depending on whether you choose an electric or water underfloor heating system, but both follow the same principle: evenly distributing warmth across the entire floor surface for a consistent and comfortable heat.

Preparing the Subfloor

A successful installation begins with proper preparation. The subfloor must be clean, dry, and level to ensure full contact with the heating system. Any dust, debris, or uneven surfaces should be removed or smoothed out. At this stage, it’s also vital to install insulation boards beneath the system to minimise heat loss and improve energy efficiency. Insulation helps the heat rise into the room rather than escape downward into the subfloor.

Installing Electric Underfloor Heating

Electric underfloor heating uses heating mats or loose cables that are installed directly beneath the floor finish. Once the insulation is in place, the heating mats are rolled out to cover the usable floor area, avoiding fixed units such as kitchen cabinets or toilets. Cables should be laid evenly, following the manufacturer’s spacing guide to ensure consistent heat distribution.

After the heating elements are fitted, a thermostat sensor is installed within the floor layer to measure temperature accurately. The system is then tested for resistance and insulation before being covered with a flexible levelling compound or tile adhesive. Once dry, the final floor covering — tiles, stone, or laminate — can be laid on top. Electric systems can often be installed and ready to use within a single day for smaller rooms.

Installing Water Underfloor Heating

Water underfloor heating, also known as wet or hydronic heating,

involves laying a network of pipes connected to a central manifold. The manifold regulates the flow of warm water through each pipe circuit to ensure even heating across the floor area.

The installation begins with securing the pipes to insulation panels or fixing systems designed to hold them in place. The layout should follow a pre-planned design that ensures even coverage and balanced pipe runs. Once the pipes are laid, the entire system is pressure-tested to confirm there are no leaks.

A layer of screed is then poured over the pipes to encase them securely and provide a smooth surface for the floor finish. After the screed has fully cured, flooring such as tiles, wood, or vinyl can be installed on top. Water-based systems take longer to install than electric ones but deliver superior efficiency and performance for whole-home heating.

Final Testing and Commissioning

Before switching on the system, all electrical or plumbing connections must be checked by a qualified installer. For electric systems, resistance readings are compared with manufacturer data to ensure the cables are functioning correctly. For water systems, the installer will balance the manifold and check flow rates for each zone.

Once fully tested, the system can be gradually brought up to temperature and programmed via the thermostat for daily use. Proper commissioning ensures reliable performance and helps maximise the system’s lifespan.

Explore Related Products

Everything you need for a professional installation:

- Electric Underfloor Heating Systems
- Water Underfloor Heating Systems
- Insulation Boards
- Manifolds
- Thermostats and Smart Controls