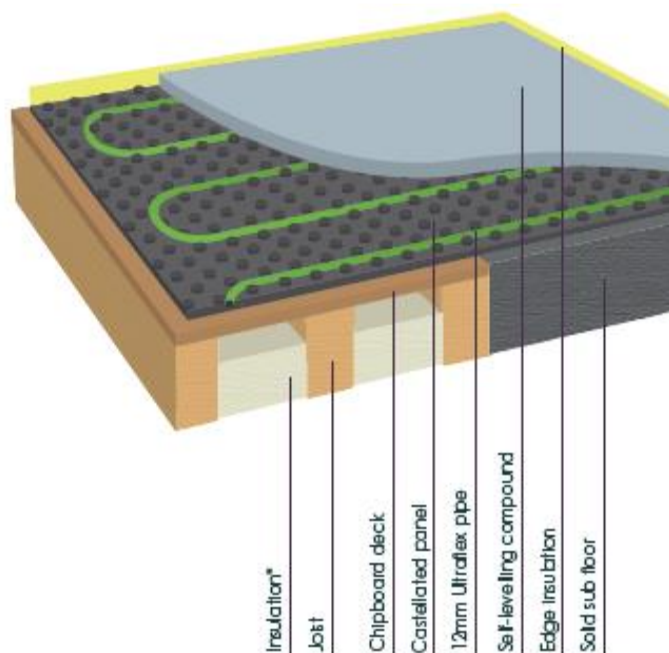


UltraFlo

Underfloor Heating for
Renovations, Extensions & Conservatories



UltraFlo (very high output 120W/m²)

Extremely high-output, lightweight, castellated panel solution.

Made entirely from 100% recycled coat hangers, the UltraFlo castellated panel solution is light enough to carry and tough enough not to be crushed under foot during installation. The castellated panel (a bit like an upside down eggbox) has been specifically designed with larger raised areas to make it stronger than other systems on the market. Incorporating a 12mm UltraFlex pipe and supplied with a specialist self-levelling compound.

UltraFlo has an overall height build-up of just 22mm and delivers high heat outputs of up to 120W/m² and is the highest output that can be achieved by any UFH system. This makes it ideal for high heat loss buildings such as older properties and areas, large open-plan spaces and high vaulted ceilings.

UltraFlo can be installed over an existing solid concrete floor, without the need for insulation. It can also be installed over a timber suspended floor, or a combination of both, to cover older existing rooms and new extensions.

The ultimate in UFH retrofit solutions

- ✓ Ideal for older buildings with little or no insulation
- ✓ Solution for whole house renovations
- ✓ No need to dig out old concrete floors
- ✓ Overlay system for existing concrete or timber floors
- ✓ Great for new extensions and conservatories
- ✓ Good for installation from old rooms to new extensions
- ✓ Excellent for properties with high ceilings
- ✓ Provides a perfectly flat finish for floor coverings
- ✓ Adds only 22mm in depth to existing floor
- ✓ Extremely high output of up to 120W/m²
- ✓ Super rapid heat up times (typically 15-20 min)
- ✓ Rapid installation times
- ✓ Direct manifold connections
- ✓ Uses highly flexible 12mm Ultraflex pipe

Key Features

- **Overlay onto existing floor**
- **Adds only 22mm in height**
- **Perfectly flat floor surface**
- **Massive output (120W/m²)**
- **Rapid heat up times (15-20 mins)**
- **12mm Ultraflex pipe**
- **Direct manifold connections (no splitters into smaller pipes)**

UltraFlo

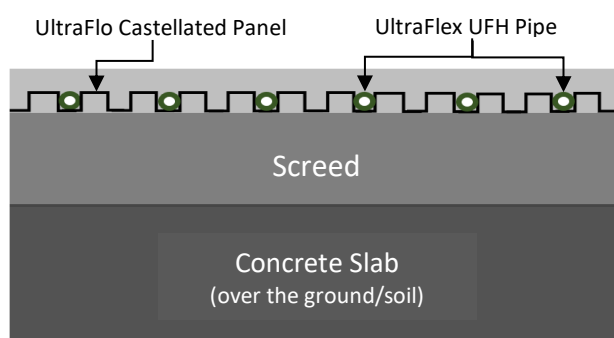
Underfloor Heating for Renovations, Extensions & Conservatories



Insulation

UltraFlo has been specifically designed for existing buildings, renovations, extensions, and conservatories. Because of the floor build up being only 22mm, for existing solid concrete floors there is no need to excavate, unless the floor is not structurally sound.

Because of this there is no requirement for insulation to be added to an existing solid floor over a soil or clay ground. As the average soil temperature beneath a building is usually constant at 10°C, the downward losses are limited to 6-10%, and as the efficiency of UFH is 25% greater than radiators, it is still more cost effective than traditional heating.



In addition, as the 22mm UltraFlo is relatively thin there is not the mass associated with normal screeded systems of 65mm or greater, therefore the UltraFlo heats up extremely fast, usually within 15-20 minutes, unlike a traditional screeded system. The UltraFlo system, once it reaches temperature and has heated the room, will turn off, therefore limiting the downward losses.

However, if there is a ventilated void beneath the ground floor, such as timber suspended or a block and beam construction, then insulation would be required as the temperature would be the same as the external air and can be as low as -3°C. Mineral wool or PIR/PUR equivalent would be sufficient. No insulation is required on first or second floor applications, except what is required by the building regulations for sound transmission.

Note: The edge isolation strip supplied by Mi-Heat should be fitted around all the walls. This should be fitted to the full depth of the floor.

Floor Structure

The UltraFlo consists of a castellated panel that is sticky backed and which can be laid onto a prepared floor, free of dust and sealed using the Mapei Floor Sealant which is supplied by Mi-Heat.

The 12mm UltraFlex pipe is laid within the panel, which is held tight between the castellations. The UltraFlex pipe is then connected to the manifold with one joint for the flow and one for the return and is not split. The specialist self-

levelling compound is then laid over the castellated panels and pipe to a depth of 22mm.

Manifold

The Mi-Heat manifold is made from stainless steel with connections to 12mm UltraFlex pipe. Every loop has one connection for the flow and one for the return. It does not split into smaller pipes, which means it is much easier and quicker to install and balance the system. This ensures a completely water-tight seal without the risk of a leaking joint or coming adrift after installation. It also ensures that proper balancing of the system can be preserved.

Each manifold comes with a 3 bar pressure gauge, as well as two temperature gauges to ensure the 10°C temperature difference between the flow and return rails on the manifold.

Floor Coverings

Virtually any floor covering can be used, however the best is those that have little resistance to heat transference, such as stone, ceramic tiles and laminate flooring solutions.

Engineered wood flooring is also an excellent choice, and because of its laminate construction, it is very stable.

Greater care should be taken when using solid wood flooring, which should have a low moisture content. Before installation, natural wood needs to be acclimatised to the climactic conditions in the property. For any wood flooring, a floor sensor should be installed, to protect the floor from overheating and keeping the surface temperature to a maximum of 27°C. This floor sensor is supplied by Mi-Heat once the floor coverings are known.

Vinyl is also another popular choice, as well as resin floors, and again a floor sensor will be required to keep the floor temperature to a maximum of 27°C.

Carpets can be used but the Tog value, when combined with an underlay should be no greater than 2.5 togs.

If the system is powered by a heat pump rather than a traditional gas or oil-fired boiler, greater restrictions apply as the flow temperature is much lower, usually 45°C rather than 55°C.

Mi-Heat Warranties and Insurance

Manufacturer's warranty: All UltraFlex pipe supplied by Mi-Heat is covered by a 50-year warranty, the first 10 years are insurance-backed.

Product liability: Mi-Heat maintains product liability insurance to £5 million.

Professional indemnity: Mi-Heat designs are an integral part of the operational effectiveness of the UFH system therefore Mi-Heat holds professional indemnity insurance of £5 million to cover all aspects of our design services.