



Underfloor Heating (UK)
Industrial - Commercial - Domestic

Floor Construction

Product Manual

www.underfloorheating-uk.co.uk

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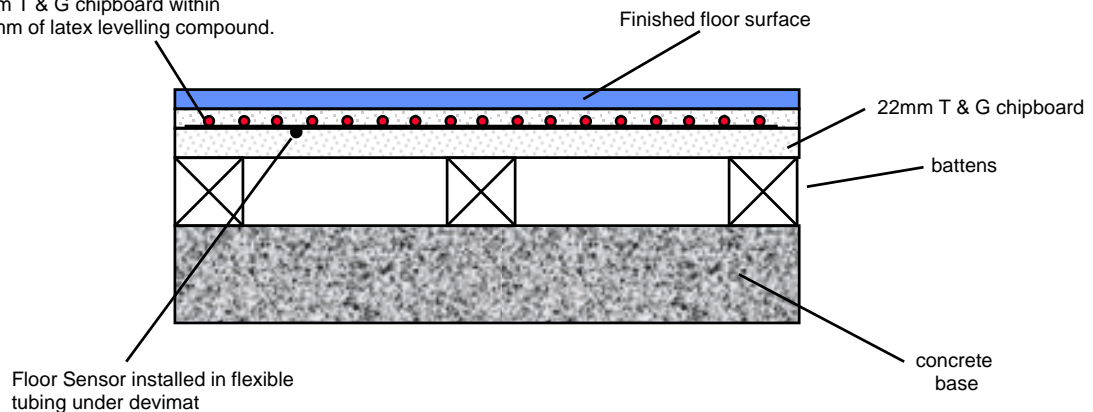
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Devimat 100watt laid on timber base

Devimat to be placed over timber ply floor construction to be regulated by individual **devireg**® 550 programmable room thermostats to maintain temperature, delivering a continuous warm and luxurious floor surface. Floor finishes like tile, laminate or wood, which are cold surfaces these will be transformed into a warm comfortable surface.

Floor Structure* devimat™ system

devimat laid on
to 22mm T & G chipboard within
5 – 10mm of latex levelling compound.



* Please note

The floor structure must comply with any current building regulations/insulation standards. This is the responsibility of the architect or consultant.

devireg™

Taking under floor heating to a new dimension of comfort and economy.

devireg™ The thermostat that thinks!

The devireg™ is a completely new type of thermostat. Earlier thermostats were restricted to turning the electricity on and off. When supplied with an extra timer next to it the thermostat was able to turn the electricity on and off at pre-determined times. The devireg™ however is different. It is a combined timer and thermostat "Two in One" in the same housing.

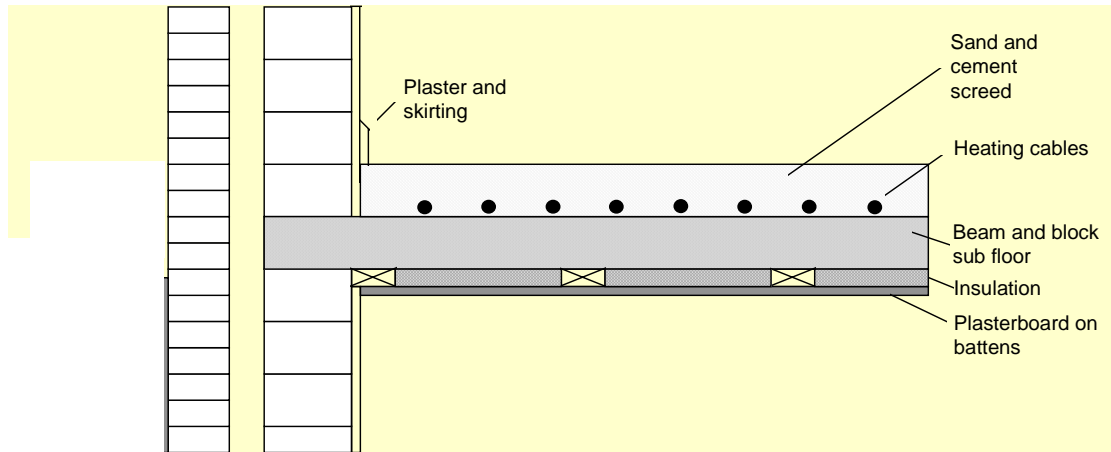
But the devireg™ is much more than that! The devireg™ is an intelligent, learning thermostat. Devireg™ will find out for itself at what time to turn on the heat to have the right temperature at the right time. Set the program to achieve design temperature at 7am, and the devireg™ will make sure the temperature is reached at that time. And during the year it will continually adjust itself to the climate situation.

“Other controls are available such as straight forward thermostats and slave units please ask your account manager for details.”



Deviheat DSIG 20watt cable on a typical intermediate floor

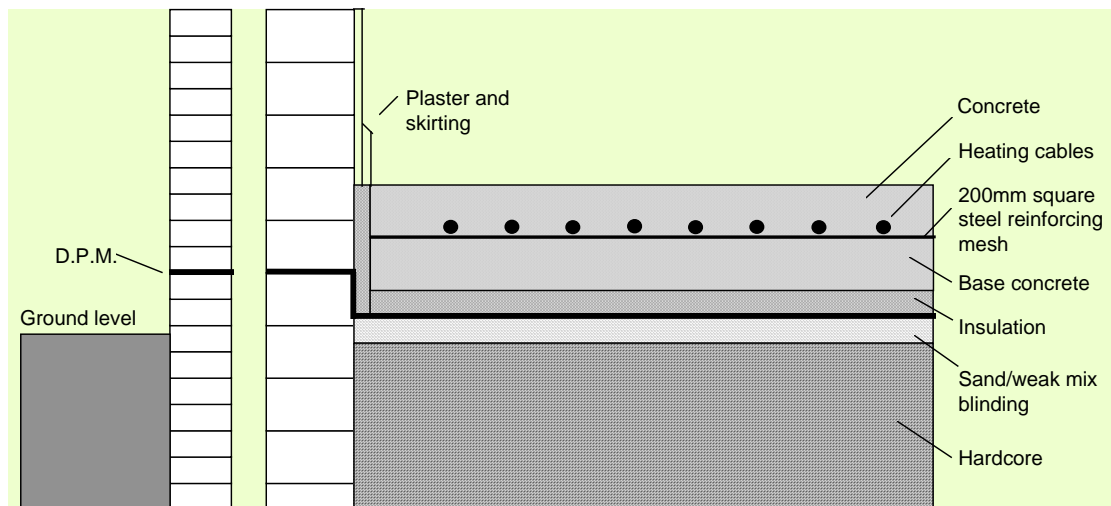
Typical intermediate floor:



With an intermediate floor construction the insulation is fixed between the battens, below the concrete floor. The heating cables are then fixed directly on the concrete floor using the devifast fixing strip. Once the cables have been checked for continuity and insulation resistance, the screed is then laid over the cables at a recommended thickness of 75mm. (50mm. minimum).

Deviheat DSIG 20watt Cable system for Storage with monolithic floor

Storage floor but with monolithic floor construction installing cables at a density of 150/250 W/m²



The monolithic floor, unlike the traditional floor which is constructed in two stages (base and screed), is laid in one operation above the damp proof membrane.

This method has the benefit of less risk of curling or cracking and larger bay sizes. However, as the cables have to be laid quickly once the re-inforcing is placed, this method requires better site supervision.

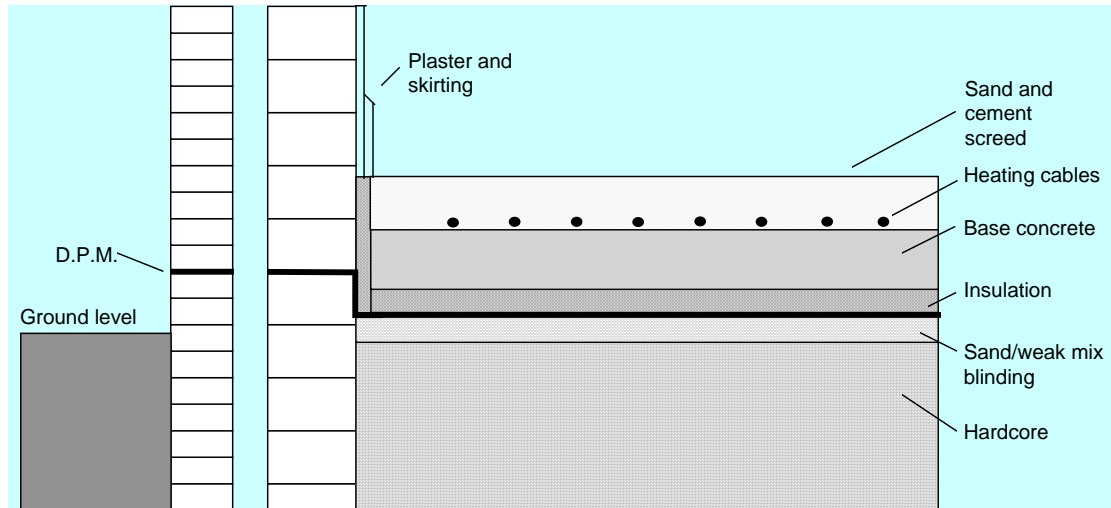
The cables are attached to the 200mm. square steel re-inforcing mesh which needs fixing in a position such that the heating cables are 75-100mm. below the finished floor surface.

The heating cables used with this method of construction will be of the screened type to provide protection against the possibility of damage from stones in the concrete mix when the floor is mechanically tamped.

Before the floor completely hardens, the surface can be further smoothed by power floating. This will not have any adverse effect on the heating cables.

Deviheat DSIG 20watt Cable system for Storage

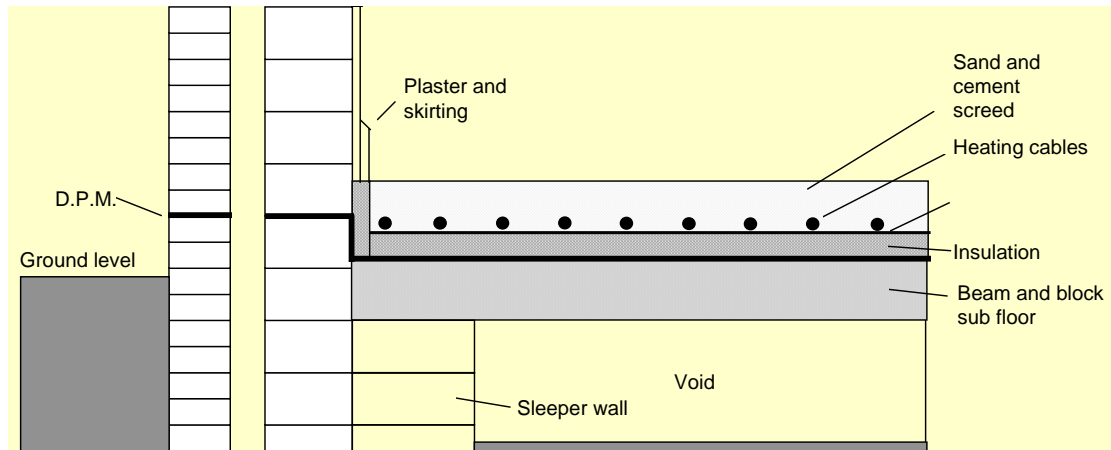
Storage floor direct on the ground installing cables at a density of 150/250 W/m²



A floor which is laid directly on the ground must have a minimum of 50mm of high density polystyrene or polyurethane (min. resistance 1.35 m² K/W), laid over the damp proof membrane and under the oversite concrete slab, with a minimum of 25mm upstand at the perimeter of the building for the full depth of the floor. The heating cables are fixed to the concrete slab (usually 100mm) using the devifast galvanised steel spacer strips (see section 8 -installation guide) at the designed spacing. When the cables have been checked for continuity resistance and insulation resistance, the final screeding may commence-recommended 75mm thickness with a minimum of 50mm.

Deviheat DSIG 20watt Cable with a suspended sub floor

**Suspended (usually beam and block) sub floor;
unheated below installing cables at a density of 150/250 W/m²**



With this construction, there are two methods of installing heating cables above the thermal insulation laid over the suspended sub floor with the perimeter upstand for the depth of the screed.

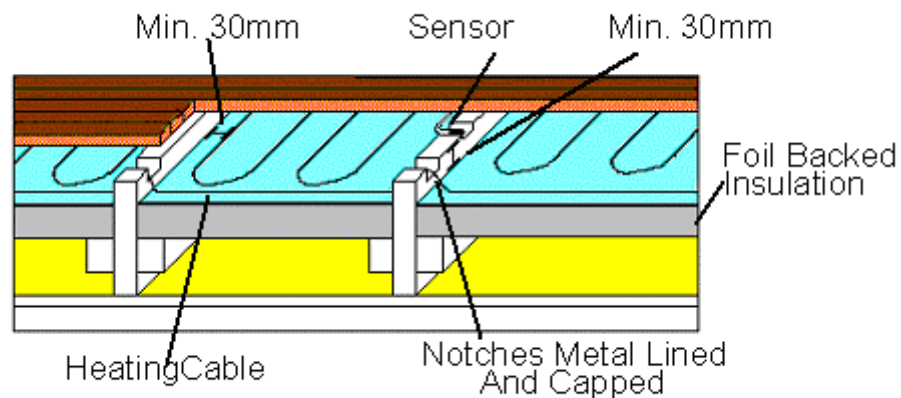
- (i) The sheet insulation is covered by a 50mm. square 12 swg steel wire mesh to which the devifast fixing strip is attached by plastic cable ties (or similar) and the cables are then placed at the calculated spacing.
- (ii) An alternative method is to use aluminium foil backed insulation. In this case it is not necessary to use the steel mesh as the fixing strip can be attached by using suitable nails and the cables can then be placed at the calculated spacing.

In both cases after checking the continuity and insulation resistance, the final screed can be laid at the recommended 100mm. thickness (minimum 75mm.).

Both of the above methods thermally isolate the cable from the insulation preventing any unwanted temperature rise through contact with the insulation. There is also no possibility of chemical reaction with polystyrene products.

Direct Acting DSIG 10watt cable in Wooden Floors

Wooden floors direct acting installing cables at maximum density of 100 W/m²



A foil backed rigid insulation i.e. Celotex double 'R'* or similar is laid between battens fixed to the sides of the joists to give a minimum of 30 mm. clearance from the cables to the underside of the floorboards. Cables are fixed to the insulation using fixing strip at the designed spacing. Crossing of the joists will be either a drilled hole for the cold tails or metal lined and capped groove for heating cables (this should be arranged with your building contractor). Cables should be checked for continuity and insulation resistance before fixing floorboards. Control is by wall mounted air thermostat but with an override floor sensor set at 35°C. within the heated void. 27°C limit with wood floor finishes.