warmtech
Underfloor Heating

inslab heating

a) the use

Inslab heating consists of an electric heating element positioned within the concrete slab. Inslab heating is not suitable for providing rapid response heating – rather its ideal use is in providing gentle background warmth by heating up the whole concrete slab. It is ideally suited for heating polished or coloured concrete floors, or when using heating in conjunction with particular types of wooden flooring. Proper installation and correct control and operation will ensure economical use - especially if used in conjunction with off peak power.

Electric inslab heating provides you with individual control per room and the flexibility to install heating in all or only selected rooms in a home.

b) the installation

Warmtech's Inslab elements are designed for installation within the concrete slab. The element wire is tied to the reinforcing mesh of the concrete floor prior to it being poured. The elements consist of fixed length earth-screened electric heating cables of large diameter (approximately 6.2mm) with factory-fitted cold tails for connection to supply. The heating wire is encased in a tough insulation, is then covered with metal braiding – providing an electrical earth and added protection. A super tough PVC outer shield then provides further insulation and protection. The result is a super tough element capable of withstanding the rigors of a typical concrete pour. The resistance wires are factory terminated in a waterproof joint assembly to the supply conductor and earth conductor of the cold tails respectively.

Typical design wattage is 150 watts per square meter. Our cable spacing can be varied from between 150mm and 300mm depending upon requirements but is typically around 180mm.

All installations should be protected by a RCD (Residual Current Device).

c) preparation

Inslab heating is tied to the reinforcing mesh of your concrete slab. Because it is encased in concrete with no room for second chances it is important that the preparation is correct.

1. The floor slab must be insulated. 25mm "S" grade polystyrene will provide adequate insulation in most instances. Installed over the moisture barrier, and held in place by the reinforcing mesh – it is a must have for the economic operation of your heating.
2. The floor must be marked out showing all relevant walls, and possible fixtures to floor ie floor lighting or mid room power points.
3. It is very much our preference not to have structural concrete cuts in any heated areas. If they must be done, however, they should be clearly marked on the floor as such and should be no deeper than 20mm.
4. Thermostat position. We require a termination point for the elements within the room to be heated. The thermostat does not necessarily need to be positioned at this point but we will need to install a junction box close to the floor level.

5. Electrical loading. Ensure that your site electrician is aware of the heating installation, or that you have made plans for supply of the electrical load in the house.
6. If at all possible organize your concrete floor to be “pumped” rather than “barrowed” (i.e. wheel barrows). The less opportunity to damage the heating, the less chance damage will occur.

Timing of the installation: we will require one full day for each 60m^2 of heating to be installed. Please include sufficient time for the preparation to be completed and the heating installed the day before the concrete is poured.

Prevention of accidental damage either prior to or during the concrete pour is obviously crucial to the successful operation of your heating. Whilst faults can be traced and our heating element can be repaired, common sense as well as following simple guidelines will ensure a successful installation. We do fit audible alarms that will sound if damage to the heating element occurs and check the heating prior to and following installation but prevention is far better than cure.

Damage to our elements can usually be repaired. We reserve the right to charge for fault finding and repairs if required.

d) our guarantee to you

Warmtech Heating Systems manufacture and test our heating elements to the most stringent standards. The products we use in our installations are **internationally** recognised and approved and we can confidently stand by them. We know the risks involved in installing heating and realise that second chances are not an option.