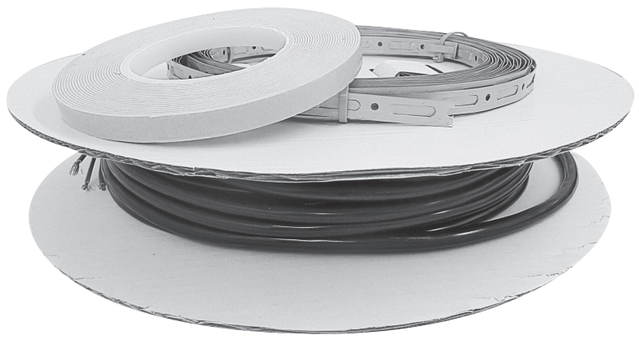
MYHEAT®

Electric Underfloor Heating Systems



In-Screed Underfloor Heating Cable

18W/m for semi storage heating systems

INSTALLATION GUIDE

Installation Advice

The economical heating solution for new screed floor constructions.

Introduction:
Congratulations on your purchase of in-screed underfloor heating. Please read the following instructions carefully to ensure ease of installation. Remember that the final electrical connections must be made by a qualified electrician and also that the guarantee certificate must be filled in and signed by the electrician to ensure guarantee validity.

Please take the time to carefully read the following notes and instructions before commencing the installation.
18 Watts/m in-screed cable is an economical underfloor heating solution for screeded floor constructions in new build properties. They are suitable for both semi-storage and storage floor heating in living areas.
The cables are twin conductor therefore have only a single power supply cable making them easier to install.

Pre – Installation Advice:

- The heating cable may not be shortened or cut in any way.
- The heating cable circuit must be protected by a 30mA RCD.
- Before installing the heating cable check that the data on the label matches your order request.
- The perimeter of the heated screed must be separated from the vertical structure by an insulated expansion joint (Polystyrene, Mirelon,etc up to 10mm wide)

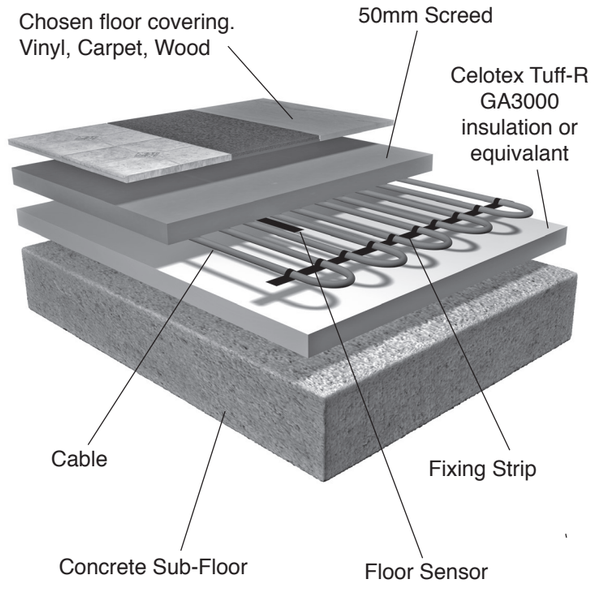
Installation Advice

- In cases where the cables are laid in an area larger than 20m^2 or with a diagonal greater than 7m. It is necessary to install an expansion joint. The heating cables should not cross an expansion joint. The non heating connection cables located at the expansion joint must be laid loosely in a protective conduit.
- The heating cable must not touch, cross or overlap itself at any point.
- Ensure a minimum gap between cable of 70mm.
- The cold lead is 3m long. It can be cut/extended to suit the location of the mains power connection.
- The thermostat floor sensor should be located between 2 runs of cable. It should always be installed in the protective conduit supplied.
- Check the continuity and resistance of the heating cable before, during and after the installation against the correct label value. The heating cable is robust, however when installing the heating cable always wear rubber soled boots and avoid any unnecessary traffic over the cables. Inform other trades working in the vicinity of the installation process and request that they do not walk on the cables.

Pre-Installation Check List
Products:
Heating cable drum – ensure correct size before unrolling
Fixing method: adhesive tape, Screed-Fix strip or other
Thermostat inc floor sensor + sensor conduit
Insulation boards (if required)
RCD 30mA (Residual Current Device) if not already fitted
Tools:
Multi-meter for checking continuity and resistance
Measuring tape and marker pen

Step 1: Floor Construction

In-screed cables are suitable for semi-storage and storage heating systems. They are traditionally laid below a minimum 50mm screed.



Step 2: Planning

Plan your installation using a sketch, marking your laying pattern and the positions for the thermostat and floor limit sensor. This is an important step as you must ensure that all the heating cable is placed under the screed and that you have the correct cable size to fit the floor and provide even heat distribution.

First measure the “free floor area” that you want heated. Then allow a minimum perimeter clearance of 50mm around the edge of the room. With this calculated value, check that you have the correct cable size from table 1 and obtain the cable spacing.

The cable spacing can be calculated using either of the two formulas below, where the free floor area is the total useable floor space less 10% perimeter clearance allowance.

$$\text{C-C} = \frac{\text{Total free floor area (m}^2\text{) x 100}}{\text{Cable length (m)}} = \text{C-C distance in cm}$$

$$\text{C-C} = \frac{\text{Rated Heat Output of cable (w/m) x 100}}{\text{Required Heat output free floor space (w/m}^2\text{)}} = \text{C-C distance in cm}$$

Background	130 W/m^2
Optimum	160 W/m^2
High heat loss application	200 W/m^2

It is important that this planning is done as the heating cable can never be cut or shortened.

Step 3: Heating Control

The floor heating cable must be controlled by a thermostat with a floor limit sensor. The choice ranges from a sophisticated timer/thermostat with LCD display that can be programmed for convenience to a simple manual thermostat with temperature dial adjustment and an on/off switch.

Whatever type you have chosen to install, the thermostat should be installed within the room to be heated. For bathrooms or shower rooms the thermostat must be placed outside the room but as close to the installation as possible. Control of the heated floor in this application is provided by the floor sensor only. Refer to the thermostat instructions for installation and technical information.

Manual

Programmable

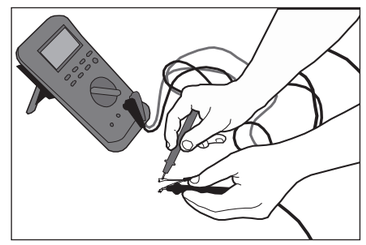
Step 4: Lay the Thermal Insulation

When installing in-screed cables consideration should be given to provide sufficient thermal insulation below the heating system. This will minimise downwards heat losses to the subfloor, minimise running costs and ensure quicker heat up times for the floor. Celotex Tuff-R GA3000 foil faced insulation or equivalent is recommended.

Step 5: Test the Heating Cable

Before you start laying the heating cable, test it while it is on the reel. Use a multi-meter (Ohm meter) to ensure that the resistance equals the value on the cable label or from table 1. You should plan to check the heating cable resistance regularly during the installation process.

If the resistance reading varies outwith the tolerance (-5 to +10%) stop immediately and call the technical helpline.



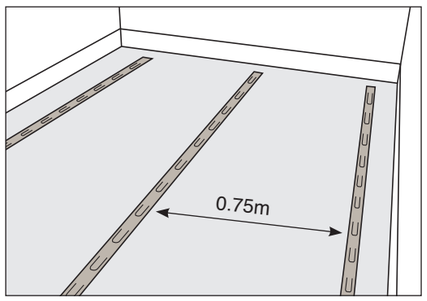
Step 6: Lay the Heating Cable

If laying onto foil backed insulation board and using double sided adhesive tape to position the cable ensure that the area is dust free to enable a good fix.

Alternatively fix using Screed-Fix galvanised cable fixing strip which can be nailed, taped or glued to the subfloor.
It is important to fix the strip securely to the floor to prevent movement during the screed installation.

The Screed-Fix strip should be spread evenly across the floor at intervals of 750mm (See fig 1).
A 50mm border should be left around the perimeter of the room.

Fig 1.



Step 6: Lay the Heating Cable

Do not remove the cable from the drum before laying as it will twist and make installation difficult.
The heating cable should now be looped in regular intervals (see calculated cable spacing),(See fig 2), providing the floor with an even cover and then be clipped into the fixing strip (See fig 3) .

Fig 2.

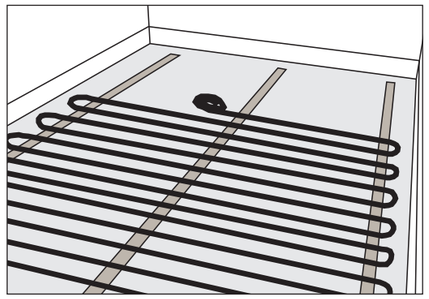
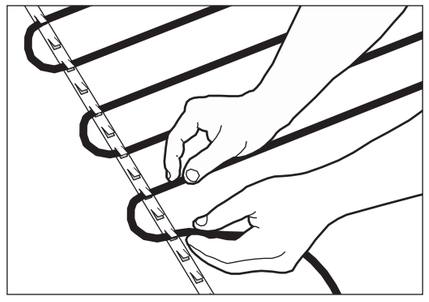
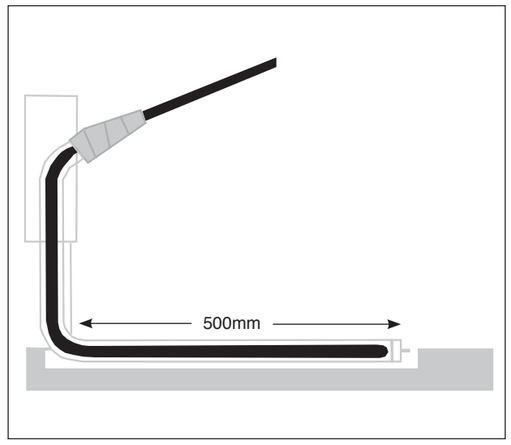


Fig 3.



Step 7: Install the Floor Sensor

Install the thermostat floor sensor by threading into the supplied protective conduit. Tape the end of the conduit to prevent the screed from entering. The conduit should be positioned between 2 cable runs. Ensure that you have sufficient sensor cable to stretch back to the low level junction box. Avoid crossing over any of the heating cable.



Step 9: Wiring Up (Electrician Only)

A fully qualified electrician must now make the final connections to the main supply and install the thermostat. The electrician should check for continuity of the floor sensor and test the resistance of the cable. This reading should be recorded on the installation plan record sheet.

Step 10: Guarantee Certificate

Following installation, the guarantee certificate and installation plan record sheet should be fully completed. The installation plan should include a sketch/plan of the cable layout and position of the floor sensor. The guarantee certificate, installation plan and purchase receipt should be permanently fixed near the consumer unit.

Step 11: Switching On

Consult the screed manufacturer's instructions as to a suitable drying out period before turning on the heating system (approximately 4–6 weeks). On no account should the heating be turned on before the screed has cured.

Follow the thermostat instructions to program the heating system.

FAQ's

Q: Can I reduce the size of the cable?
A: No, the cable cannot be shortened. The cable must not be cut. It is important to buy the correct cable size for the area you want heated at the correct heat output. See table 1 for coverage.

Q: Can I install the heating cable myself?
A: Heating cables are easy to install by following these simple instructions. Only the final connection to the mains supply and installation of the thermostat must be carried out by a suitably qualified electrician.

Q: What if I accidently damage the cable during installation?
A: The cable can, in most cases, be simply repaired by using a cable repair kit available separately.

Q: Can I use the underfloor heating as the sole source of heating in my room.
A: If you are considering the heating cable as the sole source of heating in a room, you need to ensure that you allow sufficient heat input to cover the heat losses. Take advice from your Architect or Heating Engineer to calculate the heat input (cable size) required.

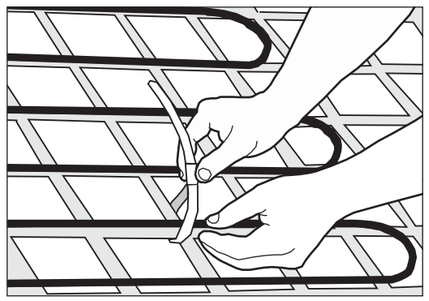
Q: Why can't I turn on the heating system before the screed is fully cured?
A: Turning on the heating system before the screed has fully cured will accelerate the drying out process. This may force the moisture out too quickly and cause cracks to occur.

Step 6: Lay the Heating Cable

The minimum cable spacing recommended is 70mm. The cable should never touch or cross in the layout pattern.

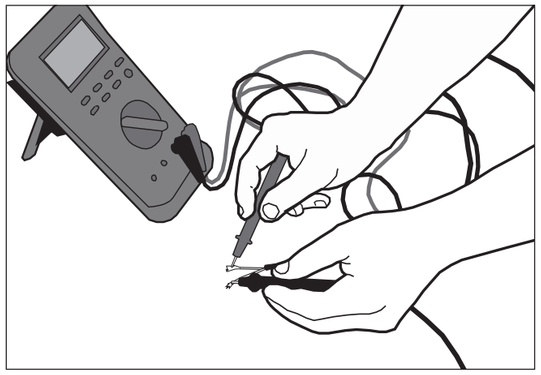
When installing into floor slabs, with steel reinforcement mesh, attach the cables at the appropriate spacing to the reinforcement mesh with loosely tightened cable ties. (See fig 4)

Fig 4.



Step 8: Test the Heating Cable

Before commencing the screeding process, the heating cable resistance should be tested again to ensure that it has not been damaged during installation. It is important that the cable resistance is checked at regular intervals during screeding to ensure that damage has not occurred.



Technical Information

Table 1.

Table showing cable coverage at certain spacings

Wattage	Cable Length (m)	Current (Amps)	Resis-tance (Ohms)	Coverage (m^2) 200w/m^2 c-c = 9cm	Coverage (m^2) 160w/m^2 c-c=11cm	Coverage (m^2) 130w/m^2 c-c=14cm
160	8.5	0.7	330.6	0.8	0.9	1.2
260	14.5	1.1	203.5	1.3	1.6	2.0
320	18.5	1.4	165.3	1.7	2.0	2.6
420	24	1.8	126.0	2.2	2.6	3.4
520	28.4	2.3	101.7	2.6	3.1	4.0
600	34.4	2.6	88.2	3.1	3.8	4.8
740	41.8	3.2	71.5	3.8	4.6	5.9
830	46.1	3.6	63.7	4.1	5.1	6.5
1000	57.5	4.3	52.9	5.2	6.3	8.1
1200	68.9	5.2	44.1	6.2	7.6	9.6
1500	83.2	6.5	35.3	7.5	9.2	11.6
1700	100.4	7.4	31.1	9.0	11.0	14.1
2200	122.7	9.6	24.0	11.0	13.5	17.2
2600	149.6	11.3	20.3	13.5	16.5	20.9

Contact Information

Please contact us if you have any problems with the installation of your heating cable.

Technical helpline: 0800 954 8862

Fax: 0800 954 8863

Email: sales@myheat.co.uk

Address:
MyHeat
Telford Road, Glenrothes KY7 4NX

For information about our products visit our website at www.myheat.co.uk