

# MYHEAT®

Electric Underfloor Heating Systems

## Installation Advice

- Care must be taken to ensure the **carbon heating film** is not damaged during installation. It is advisable to lay the floor immediately after installation.
- **Carbon heating film** must be protected by a layer of polyester vapour barrier.
- **Carbon heating film** is designed to be controlled by the approved range of thermostats, these are rated at 3450W. If the installed load exceeds these figures then a suitable contactor must be installed by the electrician.
- High specification adhesive fixing tape must be used for installation of the thermal insulation, **carbon heating film** and polyester vapour barrier.

### Pre-Installation Check List

#### Products:

- Carbon heating film kit
- Adhesive fixing tape
- Thermostat + floor sensor + sensor conduit
- Insulation boards - one board covers 1m<sup>2</sup> (6mm x 1250mm x 800mm)
- Polyester vapour barrier
- RCD 30mA (Residual Current Device) if not already fitted

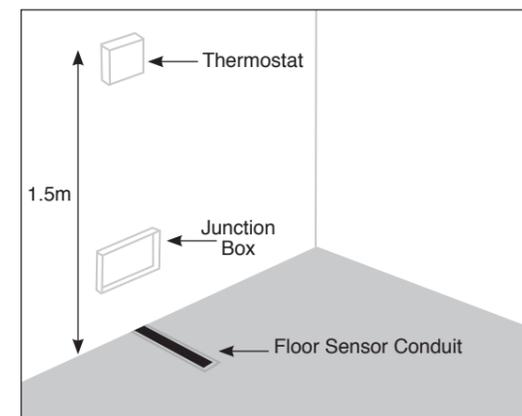
#### Tools

- Multi-meter for checking continuity and resistance
- Measuring tape and marker pen
- Scissors
- Utility knife

## Step 2: Planning

Plan your installation using a sketch, marking your heating film laying pattern and the positions for the thermostat and floor limit sensor. It is important to locate the heating film connection leads on the wall nearest the thermostat connection box. It is recommended when planning your room that the heating film panels run in line with the longest room dimension. This keeps heating panels and electrical connections to a minimum making installation quicker and easier. Heating film should NOT be installed in any areas that will be covered by permanently fixed floor furniture such as wardrobes, cupboards, kitchen base units etc as this will lead to thermal blocking of the floor and localised overheating. Allow for at least a 50mm perimeter border from each wall or fixed furniture. Heating film panels should never be overlapped.

## Step 4: Installing the Thermostat



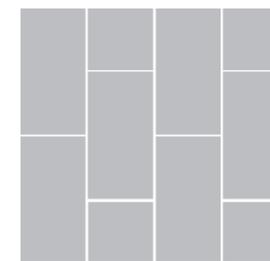
## Step 3: Heating Control

The floor heating film 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. Refer to the thermostat instructions for installation and technical information.

**Please note:** if the installed load exceeds the thermostat rating then a suitable contactor must be used.

## Step 5: Lay the Thermal Insulation Boards

Thoroughly clean the existing floor area taking care to remove any sharp objects. Lay the low profile insulation sheets in "brick work" fashion as illustrated in the drawing alongside. Always remember to cover the total floor area with insulation even unheated areas. Tape along the edges using adhesive tape.



## Carbon Film Professional Kit INSTALLATION GUIDE

Professional Installation Only

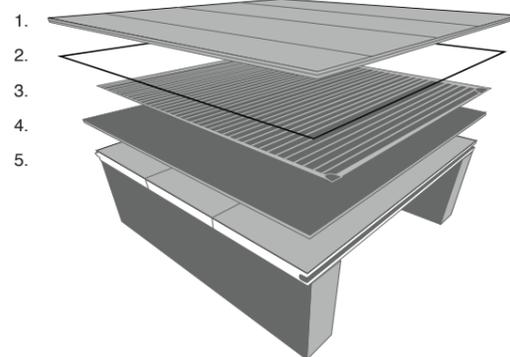
## Installation Advice

- **Carbon heating film** is designed to be used under laminate and engineered hardwood flooring with a maximum thickness of 15mm (or thickness equivalent to a maximum thermal resistance of 0.15m<sup>2</sup>K/W). When underlay is specified by the manufacturer this may reduce the thickness of flooring permitted. Always check to ensure the flooring is suitable for use with underfloor heating systems.
- **Carbon heating film** operates on a standard 230 volts mains electrical supply. Please check all film panels are the correct voltage and power rating. Maximum loading 130W/m<sup>2</sup> for standard product
- This **carbon heating film** kit is simple to lay, however all electrical connections must be done by a qualified electrician and the complete installation must comply with BS 7671:2008 (IEE Wiring Regulations) and Part P of The Building Regs.
- **Carbon heating film** must be protected by a 30mA RCD (residual current device) and a suitably rated fuse or MCB (miniature circuit breaker).
- **Carbon heating film** must only be installed in dry locations. Kitchen and laundry areas are classified as "dry locations". Bathrooms and shower rooms are classified as "wet" and not suitable for radiant film.
- Ensure the floor is clean, dry and free from sharp objects
- **Carbon heating film** must not be installed below fixed pieces of solid furniture, cupboards, wardrobes etc as this could lead to a local increase in temperature. Thick rugs, dog beds, bean bags etc must not be laid on the heated floor as this may cause localised overheating and damage the floor covering.

## Step 1: Floor Construction

Before laying the carbon heating film on either a suspended wooden floor or a concrete subfloor it is necessary to install a layer of low profile insulation boards (6mm thick).

This special insulation must be used at all times. Substitution with an alternative insulation material will invalidate the guarantee. This insulation will minimise heat losses and ensure quicker heat-up times for the floor. It will also act as a means of sound deadening which is required for laminate floors.



1. Laminate / Timber Floor
2. Polyester Vapour Barrier
3. Carbon Heating Film
4. Thermal Insulation
5. Wood / Concrete Sub Floor

## Step 3: Heating Control



Manual



Programmable

## Step 4: Installing the Thermostat

The thermostat should be positioned (see top of page) at a height approximately 1.5m from the floor in an area free from draughts, out of direct sunlight and close to the electrical supply. All thermostats have a floor sensor which is placed in the supplied protective conduit and positioned centrally below one of the heating elements at a distance of approximately 0.5m from the wall.

## Step 6: Floor Sensor Installation

Cut a channel in the subfloor to accommodate the sensor conduit so the top of the conduit will be level with the thermal insulation surface when installed (see fig. 2 below). Tape over the end of the conduit using a small piece of adhesive fixing tape. Place the conduit in the channel and feed the end into the junction box. The conduit can now be cut to length leaving approximately 5cm inside the junction box. Slide the sensor into the conduit until the sensor bulb reaches the taped end. Wrap a piece of tape around the conduit and sensor cable to prevent the sensor being accidentally pulled out. Use adhesive fixing tape to hold the conduit in place in the channel.

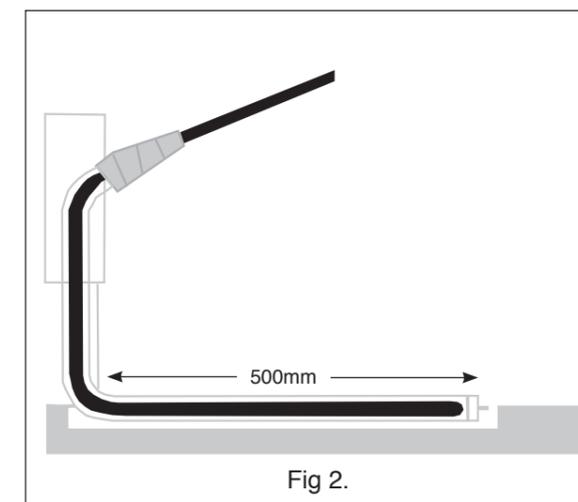
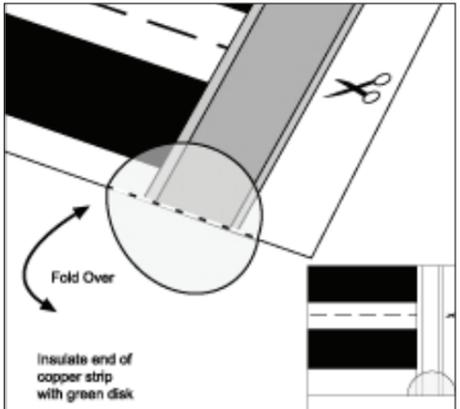


Fig 2.

## Step 7: Lay the Carbon Heating Film

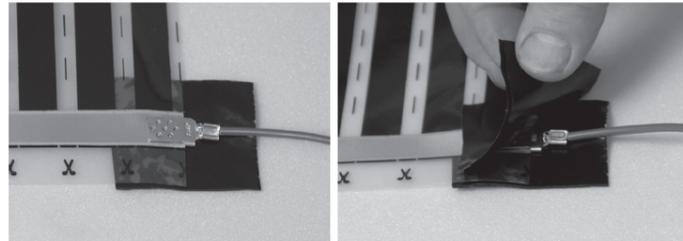
Following the plan you prepared earlier of your layout pattern, roll out the first element copper side down leaving a minimum 50mm gap from the walls. Ensure the film is completely flat with no ripples or creases. Cut the element to length along the marked cut lines. Care should be taken to not cut closer than 3mm from the edge of the black heated area. Insulate the cut ends of the edge mounted, copper conductor bars with the green discs supplied.



Once happy with the position of the cut length of carbon film, tape it to the floor. This will prevent movement of the film during final floor covering installation. It is important that the film is fixed in position as individual lengths should never be allowed to overlap. This could lead to localised "over heating". Roll out the next heating film panel parallel to the first and repeat this procedure until the floor is completely covered.

## Step 8: Attach the power supply cable

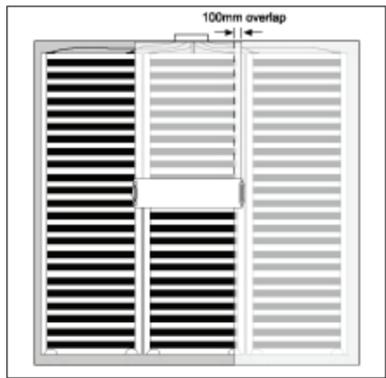
taking consideration of wiring colour convention. The crimp should be fitted to the film using the supplied ratchet crimping tool. This should be done with two diagonal applications. Firstly from the hinge side of the crimp and then from the open side, to ensure that the whole area of the crimp is in contact with the film and pressed flat. The crimp should be insulated with the mastic tape provided in the kit.



Cut 2 pieces of mastic tape 50mm x 40mm. Place the mastic both sides of the crimp connector and knead into position making sure the connector is completely covered and safely insulated. The mastic should extend at least 5mm past the edge of the crimp.

## Step 11: Lay the Vapour Barrier

The installed radiant heating film must be covered with polyester vapour barrier to provide optimum moisture and additional mechanical protection. Polyester Vapour Barrier is available in 1m x 25m rolls which will cover approximately 20m<sup>2</sup> when installed. To install, roll out the vapour barrier, cut to length and overlap adjacent pieces by a minimum of 100mm (See below). Tape along the entire length of the overlap using adhesive fixing tape (1 roll of vapour barrier will require approximately 25m of fixing tape). Always remember to cover the entire floor with the vapour barrier, even unheated areas (See below).



## FAQ's

**Q:** What is the minimum floor level build-up height I will have when I use carbon heating film under my floor?  
**A:** The total height build-up including insulation is 7mm.

**Q:** Do I have to use the special 6mm low profile insulation material under the heating film?  
**A:** Yes it must be used. Substitution with an alternative insulation will invalidate the guarantee.

**Q:** Can carbon heating film be used in a bathroom?  
**A:** Heating film should not be used in bath or shower room applications classified as zone 2 or lower. Consider using cables or mats in these applications.

**Q:** Why do I have to cover the heating film with a vapour barrier?  
**A:** The vapour barrier acts as an additional layer of electrical insulation, provides additional mechanical protection and acts as a vapour barrier between the subfloor and the finished floor surface. It must be installed.

## Step 12: Lay the Finished Floor Covering

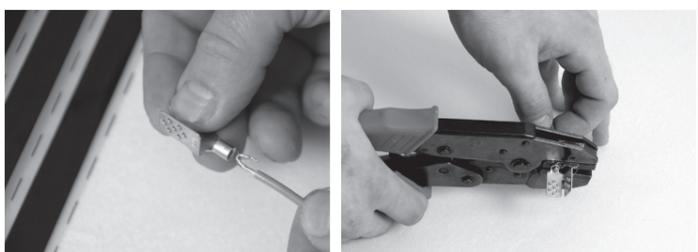
The finished floor covering should be installed as soon as possible to prevent damage to the heating film.

## Step 8: Attach the power supply cable

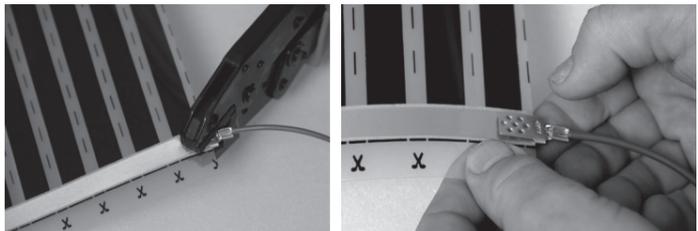
When the subfloor surface has been covered with carbon film as per your plan. Install the cold tail or power supply wiring. Remove the double layer of insulation from the supply cable to expose 6mm of bare wire. Insert singly or in pairs into the



cylindrical ferrule of the crimp connector and crimp using the ratchet tool. Supply cables from the carbon film to the

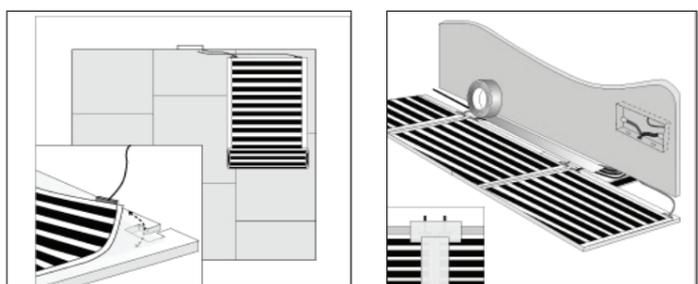


thermostat position must be securely positioned and taped so that they cannot come into contact with any part of the film. The metal crimp connectors with cables attached can then be fixed to both copper conductors at one end of the film panel



## Step 10: Recess the Wiring Harness

The power supply wiring should be recessed into the floor by cutting channels into the insulation using a utility knife. Run the cable in the channel to the low level junction box below the thermostat. Once positioned the cables should be fixed in position with adhesive tape. Take care not to allow the power supply cable to pass under the heating film.



## Step 13: Wiring Up (Electrician Only)

A fully qualified electrician must now make the final connections to the main supply & install the thermostat. The electrician should check for continuity of the floor sensor & test the resistance of each of the heating panel circuits. These readings should be recorded on the installation plan record sheet. The radiant heating panels are connected together in parallel in the low level junction box. A separate commoning connector is used for the Live (brown) and Neutral (blue) connections. A suitable cable (maximum 2.5mm<sup>2</sup> solid) will be required to connect the commoning blocks to the output of the thermostat. Refer to the thermostat instructions for installation and technical information

## Step 14: Guarantee Certificate

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

## Step 15: Switch On

Follow the thermostat instructions to program the heating system taking time to check and adjust the floor sensor limiting temperature if required. Depending on the final floor covering do not be tempted to turn the system fully on immediately, other than for a short operation check. If the floor covering is engineered hardwood please allow sufficient time for the wood to acclimatise (see manufacturers guidelines). Bring the system up to temperature gradually in stages over several days using the floor limit sensor setting.

## Contact Information

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

**Technical helpline: 0800 954 8862**

**Fax: 0800 954 8863**

**Email: sales@myheat.co.uk**

**Address:**

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