

Instructions for installation of the Carbon Heating Film Kit

Before you begin installing please read through these instructions carefully and check that you have all the components required.

The system requires a main voltage and must be connected in compliance with building regulation Part 'P' approved document.

Contents of heating kit:

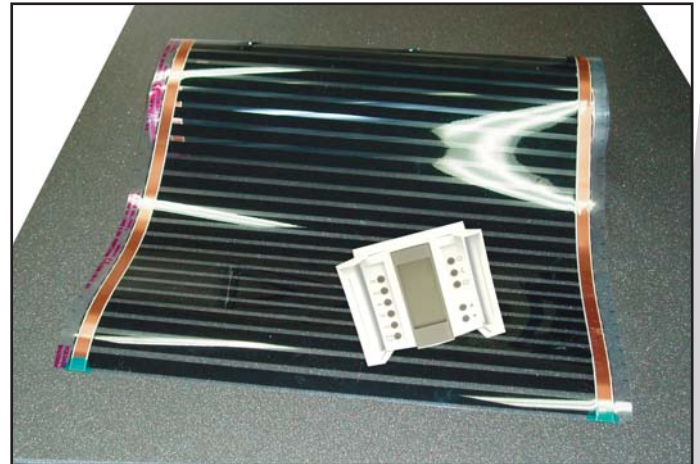
- Carbon heating film with cold connections made (each element is individually labelled with a letter or its length and corresponds to the drawing enclosed)
- 6mm Depron insulation
- Digital thermostat with floor sensor
- Floor plan showing element layout
- Flush mounted junction box and cable connectors
- Polyethylene sheet (moisture barrier)
- Factory test sheet with individual resistance readings

Installation Notes:

- First unpack and identify all components and check the layout - see supplied floor plan, (example opposite).

Installation below 'floating' wood or laminate floor.

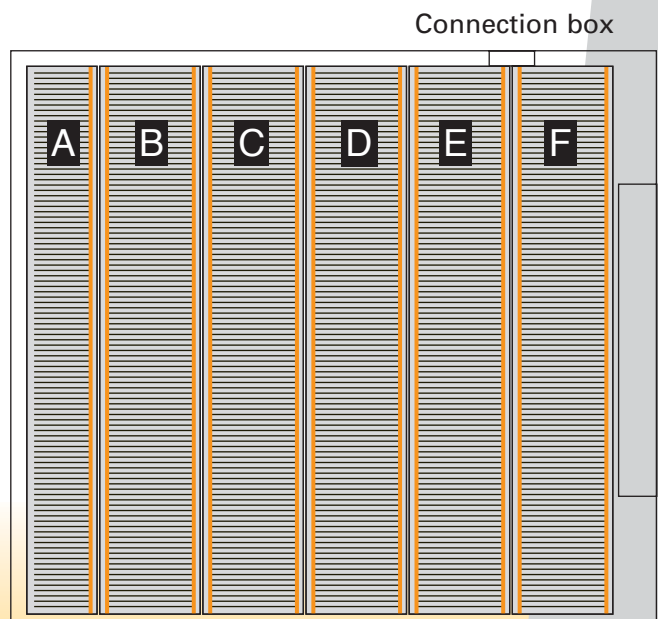
- Make the electrical provision **as per the enclosed diagram**, a fused spur or combined spur/RCD is recommended. The thermostat rating is 15 amps and this is capable of controlling approximately 3500 watts of heating film (most domestic installations are within this figure). If the system supplied is over 3.5kw it will be subject to a more comprehensive electrical installation. (Your electrician will be able to advise you on this). **Note:** all electrical connections should be made in compliance with building regulation part 'P' approved document.



Items required for pre-electrical installation:

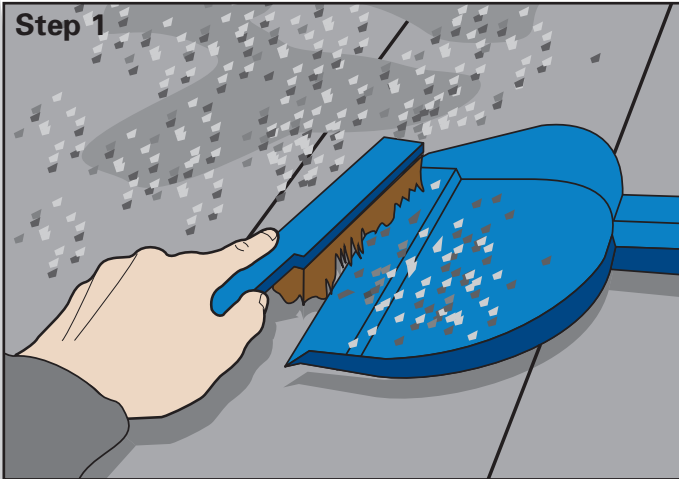
Electrical insulation tape
Stanley/Craft knife
Double sided adhesive tape
Multi-meter

Typical Element Layout

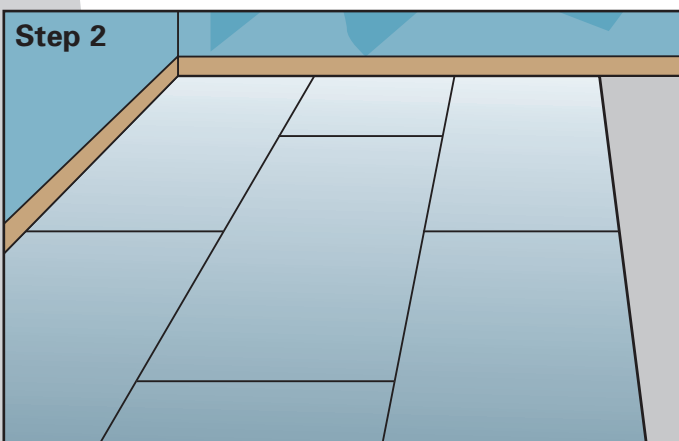


Step 1

Ensure that the sub-floor (concrete or timber) is clean, dry and free from dust and debris. The floor should also be suitably level to take the kind of flooring which you will be laying. Some types of wood plank flooring have a tolerance of just a mm or two per linear metre and we strongly recommend that your floor fitter surveys the floor **before** the heating is installed.

**Step 2**

Once you are satisfied that the floor is level, lay out the Depron insulation to cover the entire floor area. If laying a double layer (recommended in conservatories and other areas with a high heat loss) the second layer should be laid at right angles to the first.

**Notes:**

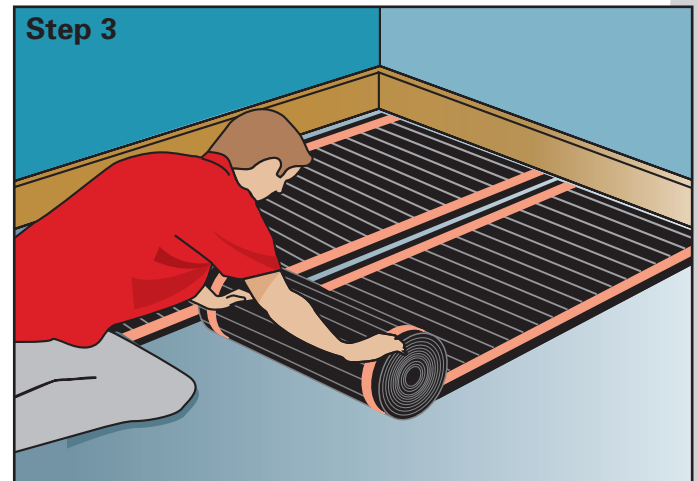
Depron should be cut with an ordinary Stanley knife or similar. When laying out the Depron, leave a gap of about 30mm at the edge of the room where the cables are to be routed and in this gap fix a strip of 1 inch wide double-aided tape - this will help hold the cold cables in position as you work.

Only **LIGHT FOOTWEAR** should be worn at this stage.

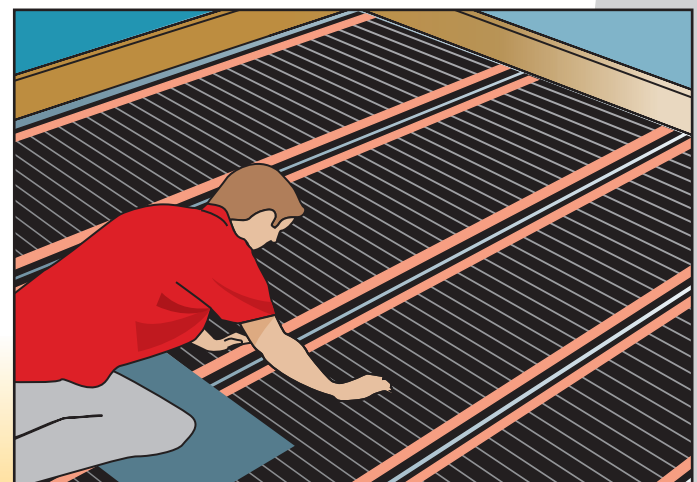
Position the rolled up elements along the edge of the room as per the drawing supplied. Each element will either be individually labelled to correspond to the plan, A,B,C,D.....etc, or will have a label showing the element length.

Step 3

When you are satisfied with the position of the elements (ensuring that they will not overlap), roll out the heating elements and adjust positioning to obtain the best floor coverage. Lightly fix in position with electrical insulation tape to avoid any movement. Elements should be laid **copper face down**.

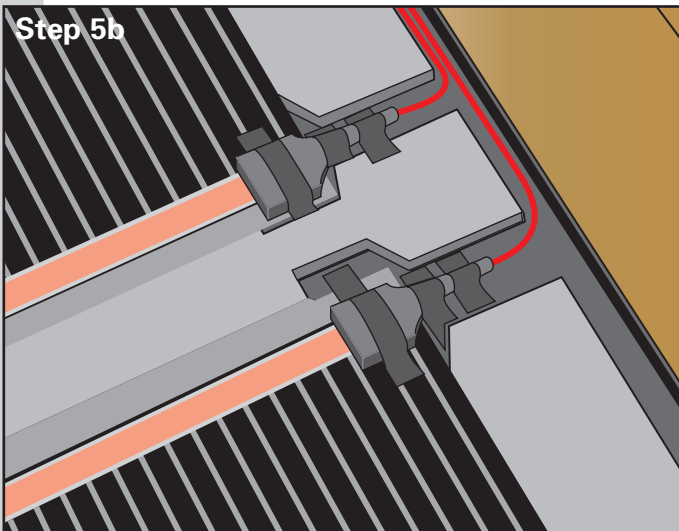
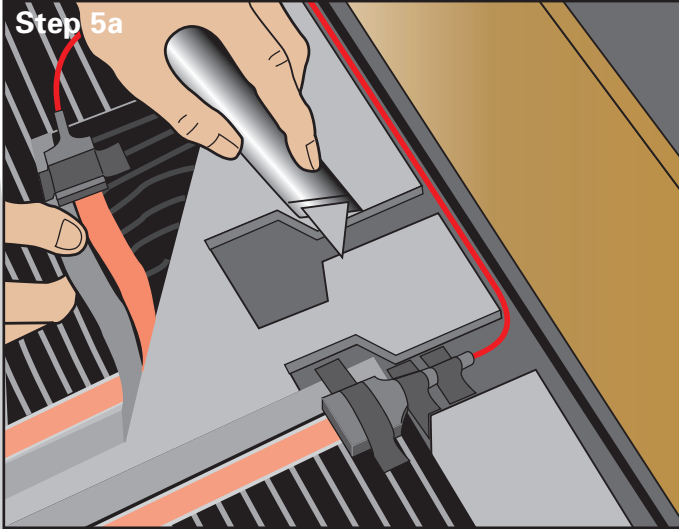
**Step 4**

Use a board or spare sheet of Depron to spread your weight when kneeling down on the heating elements.



Step 5

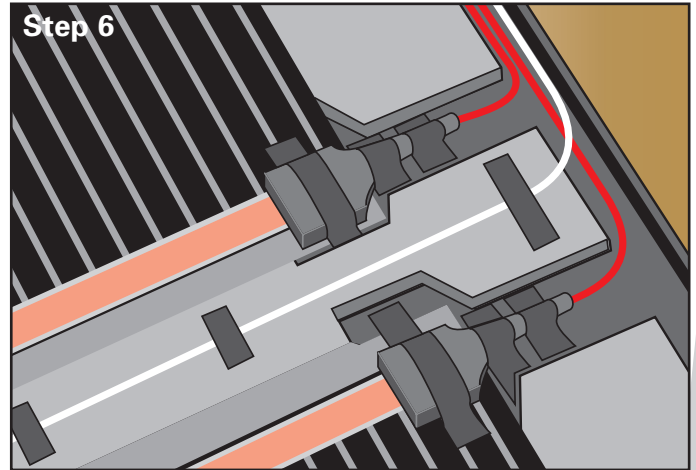
Where the cable joins each element, a cut-out in the Depron will be required to allow the joints and cable to lay flat. Once in position secure with electrical tape **see steps 5a and 5b.**



Starting at the furthest point from the connection box, run the cold cables along the room perimeter. Using double sided tape will hold the cables in position while you work.

Step 6

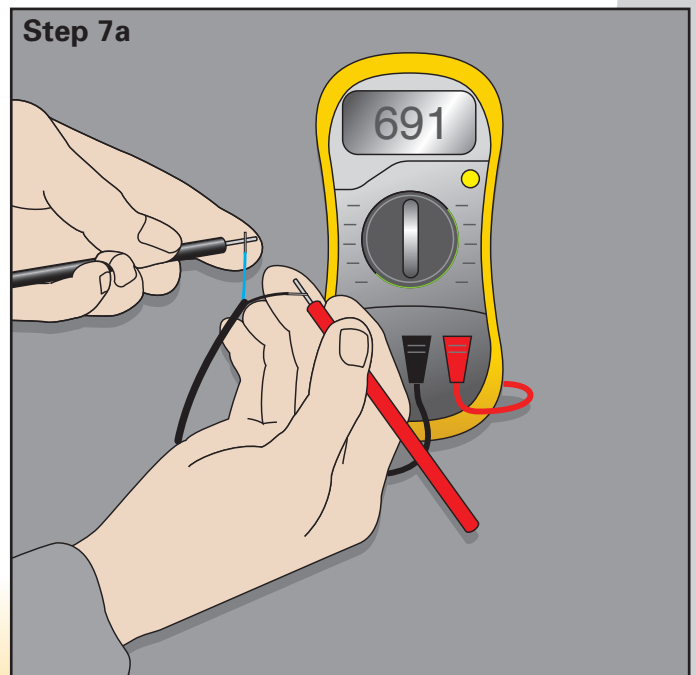
Next position the floor probe, this should be about 30-50cms from the edge of the room with the tail of the probe going back to the thermostat. Cut a channel in the Depron in between two of the elements. Press the probe into the gap and tape in place. The sensor wire can be shortened or if required lengthened with bell wire. If shortening be sure to cut the end where the wires are exposed.



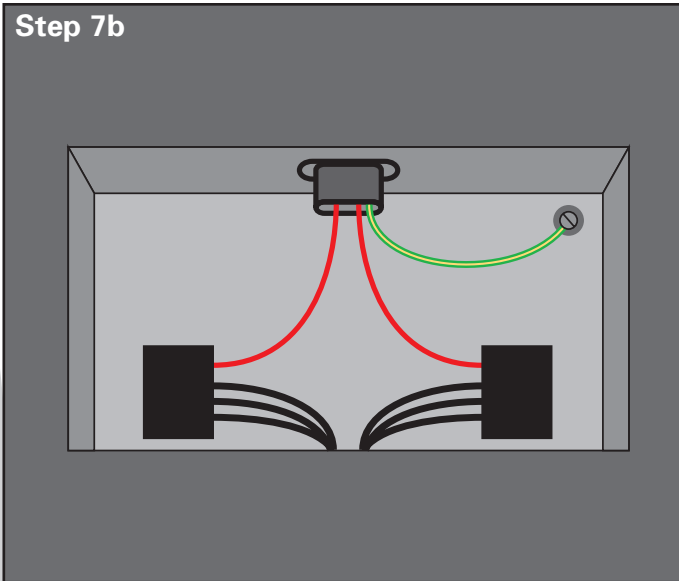
DO NOT cut the end with the plastic sensor probe. Test the resistance of the floor probe. Refer to the label attached to the floor probe for desired resistance readings. Make a note of the reading.

Step 7

Once the cables are in position they should be resistance tested using a multi-meter and then joined in parallel at the connection box using the cable connectors provided. The best way to 'hide' the cables is behind the skirting. If the skirting boards are already fitted, this can usually be achieved by removing a section and cutting a small recess for the cables - **see steps 7a, 7b and 7c.**



Step 7b

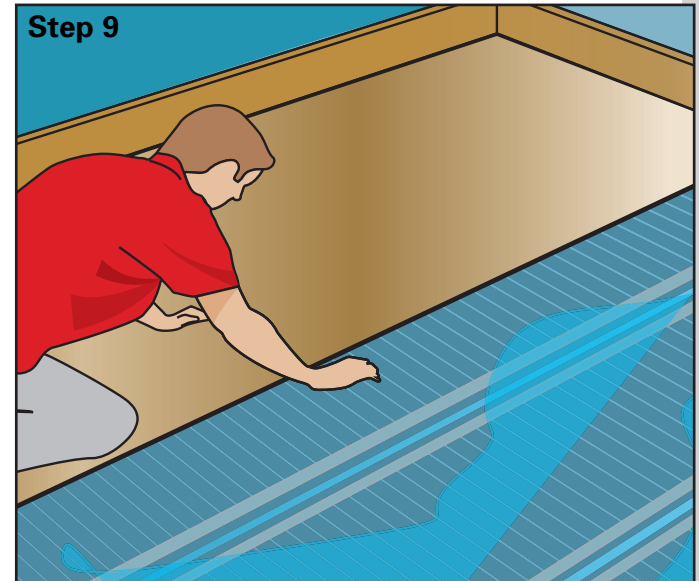
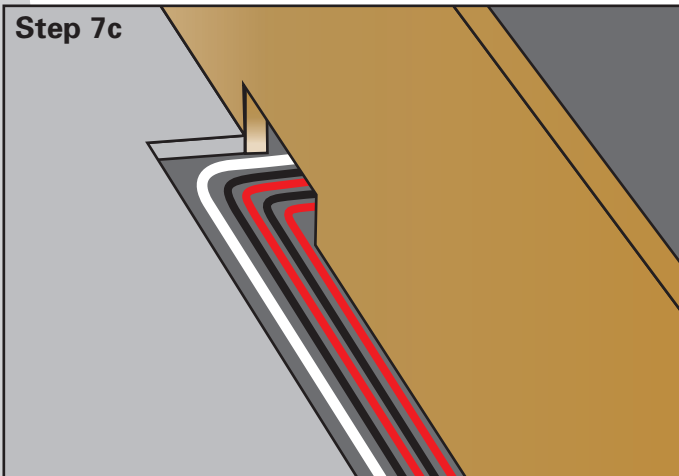


Resistance tests must be carried out on each element and the results recorded. These should correspond to the enclosed sheet (+/-10%). The electrical connections must be carried out by a qualified electrician and the enclosed certificate signed for the warranty to be valid. Retain the certificate for your records.

Step 9

Once the elements and floor probe have been resistance tested you can then fit your wood or laminate flooring directly onto the film/moisture barrier in accordance with the manufacturers instructions. A separate underlay is not

Step 7c

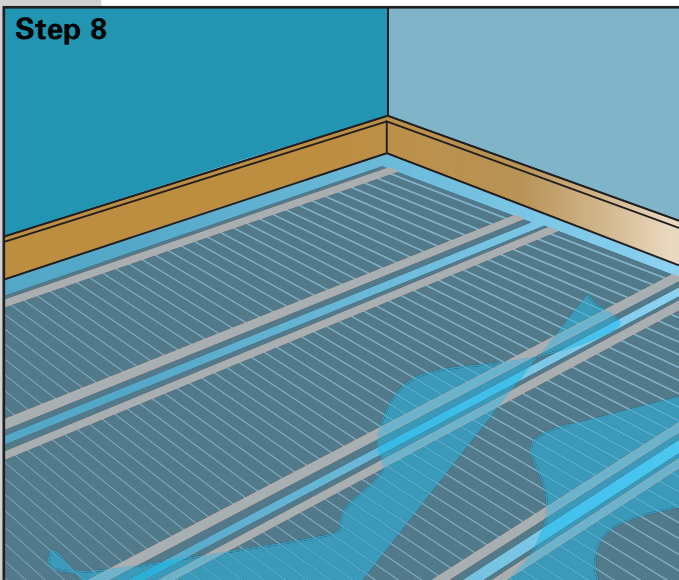


Step 8

When you are satisfied with the layout, cover the heating elements with the plastic sheet/moisture barrier provided.

required. Ensure that the floor covering has been acclimated prior to installation to avoid excessive shrinkage when heated. During the process of laying the floor, care should be taken not to damage any of the cables or elements by using spare sheet of Depron or board to spread your weight.

Step 8



NOTE 1

Electrical underfloor heating is designed to run at low temperatures and can therefore have a slower warm-up time than conventional heating. This can be countered by using both the comfort and economy settings on your thermostat rather than just simply switching the system on or off. Please see separate instructions provided with the thermostat for more details.

NOTE 2

If installed in new buildings and especially conservatories, the warm-up periods will be affected by the moisture content within the building. All new floor constructions and new buildings should be fully dried out before fitting wood or laminate flooring.

Electrical Notes

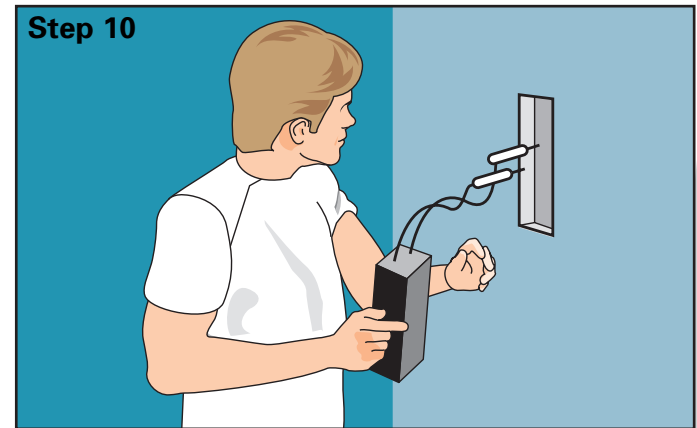
To satisfy the requirements of an acceptable British Standard a double sheathed single core cable to BS.6004 must be used under floors. All our cold cables comply to this standard.

Each heating element is designed to accommodate a **current carrying capacity of up to 10 amps** and should be connected **in parallel** at the junction box.

Consideration must be given by the electrical contractor in respect of the individual heating circuit ratings relative to thermostat rating, circuit breakers and the need for switching contactors where time clock control is incorporated. Normal good wiring practice must be observed and the wiring must comply with the I.E.E. 16th Edition regulations. **The cables must be positioned so that they cannot come into contact with any heated part of the element.** It is recommended that all main distribution boards incorporate an RCD.

Step 10 - Testing Procedure

A cold resistance test should be carried out at the thermostat position using an accurate ohms meter. This should be recorded and if within the tolerance of $\pm 10\%$ can be taken as correct. See supplied sheet.

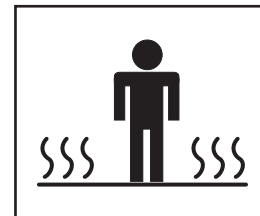


**Finally before leaving the site:
Fix mandatory labels to the distribution board.**

MANDATORY LABELS

**ELECTRIC UNDERFLOOR HEATING INSTALLED
DO NOT PIERCE FLOORING**

Fit to room thermostats



WARNING
**THIS BUILDING IS FITTED WITH ELECTRIC
UNDERFLOOR HEATING PANELS**
Disconnect all heating circuits from electrical supply before working on the floor.
**DO NOT PIERCE THE FLOOR WITH NAILS
SCREWS OR OTHER FASTENERS.**

Fit to consumer panel.

For help and advise please contact us on
01159 632314