

EHC Heating Cables

INSTALLATION AND OPERATING INSTRUCTIONS

Before starting installation read these instructions thoroughly. Retain the instructions for reference.

1. Personnel.

EHC should be installed by a certified electrician and in accordance with the current IEE Regulations. EHC is not a 'do it yourself' product. It is most important that the installer completes the Installation Record Form that forms part of this booklet.

2. Check the suitability of sub-floor.

EHC can be installed onto concrete or wooden sub-floors. We do not recommend installation onto asphalt sub-floors or any insulation material other than rigid boards.

3. Check the suitability of the tile adhesive.

EHC is designed to sit in a layer of adhesive below ceramic or stone tiles. EHC has been used with a wide variety of tile adhesives. We suggest that the suitability of any given adhesive be confirmed by the adhesive supplier.

If preferred EHC can be buried in a layer of screed. If you intend to use a compound other than a cement screed, the suitability of the compound should be confirmed by the compound supplier.

4. Check the suitability of the floor surface.

EHC is generally used with ceramic and stone floors, including slate and marble. When used with other floor surfaces such as vinyl or carpet you should always confirm suitability with your flooring supplier.

5. Check that you have the correct EHC Cable.

Firstly you must calculate the area of floor to be heated. This will be the total floor area minus the area occupied by fixtures such as cupboards, sinks, baths etc. Select a kit from the EHC schedule ensuring that the minimum 'area to heat' is no greater than your calculated area. For large areas, a combination of cables is required.

6. Check the suitability of the thermostat.

A thermostat with floor probe must be used. Ensure that the total load is within the switching capacity of the selected thermostat.

7. First electrical check

Before starting installation and before unrolling the cable, the resistance of the cable should be measured and recorded on the Installation Record Form. Ensure that the reading taken is consistent with the nominal output of the cable.

An insulation resistance reading should also be taken between either end of the cold lead conductor and the earth braid using a 500V dc Insulation Resistance Meter (Megger). Readings in excess of 20 meg-ohms are acceptable. Again the reading should be recorded on the Installation Record Form

NEVER APPLY POWER TO THE CABLE WHILE IT IS ROLLED UP

8. Check and preparing the sub-floor

Ensure that the surface of the sub-floor is clean and free from any debris or sharp objects and suitable primer should then be applied.

9. Cutting a groove for PVC pipes

Both the controller probe and cold lead should be run through a plastic pipe of an appropriate diameter (typically 10mm diameter plastic hose). This is particularly important where the probe or cold lead pass from the floor to the wall. To keep the floor level as low as possible, grooves can be cut into the sub-floor to accommodate these pipes.

10. Positioning the controller probe

The controller probe should be mounted in a plastic pipe. The end of the probe should be a minimum of 500mm from the wall and 30mm from a heating cable. Remember to seal the end of the plastic tube with tape to prevent ingress by the adhesive.

11. Laying the EHC cable

EHC cable should be laid in a neat grid formation and secured with the adhesive tape supplied. The spacing between two wires (centres) should not be less than 50mm and the radius of the end loops should be a minimum of 25mm.

You can estimate the actual centres by dividing the floor area in square metres by the length of the heating cable. For example if you were installing EHC-200 (length 194m) into a room with area 14 square metres, the centres would be 72mm ($14 \div 194 = 0.072$ or 72mm)

At this stage it is good practice to take a photograph of the floor. This will be a useful record should you need to carry out any work on the floor (for example drilling holes).

The tile adhesive can then be applied in the normal way taking care to ensure that the heating cable is completely covered and surrounded by the adhesive. Before applying the tiles and before the adhesive dries, carry out the second electrical check (see below).

It is essential to avoid mechanical damage to the heating cable. If it is impossible to avoid walking on the cable, use soft-shoes and/or crawling boards.

When you have finished laying the mat, you simply stop. There is no requirement to return the end of the cable to the connection point.

The hot/cold junction must be in the floor itself and not in free air. It is most important that the cables are not allowed to touch or cross.

12. Second electrical check

Once the cable has been laid onto the sub-floor and before the adhesive dries, the following checks should be performed. All results should be recorded on the Installation Record Form

Ensure that the resistance reading (ohms) is as recorded after the first electrical check. Measure the insulation resistance between either end of the cold lead conductor and the earth braid using a 500V dc Insulation Resistance Meter (Megger), ensure that the insulation resistance is still in excess of 20 meg-ohms.

13. Apply the tiles

14. Third electrical check

Once the tiles have been applied, the following checks should be performed. All results should be recorded on the Installation Record Form.

Ensure that the resistance reading (ohms) is as recorded after the first electrical check Measure the insulation resistance between either end of the cold lead conductor and the earth braid using a 500V dc Insulation Resistance Meter (Megger), ensure that the insulation resistance is still in excess of 20 meg-ohms

15. Electrical connection

The electrical connection instructions supplied with the controller should be followed.

16. Energising

The system should not be energised until the floor is completely dry. This can take up to 28 days. To do so may damage the heating cable.

17. Warranty

Assuming correct installation, EHC will give many years of satisfactory service. In the unlikely event of a malfunction resulting from faulty manufacture, EHC is guaranteed for a period of 10 years from date of purchase. This guarantee is validated by the Installation Record Form, which is supplied with every underfloor heating product, being fully completed by the qualified installing contractor at the time of installation and returned to BN Thermic Ltd within 30 days of installation.

This guarantee covers the full purchase price of the product only.

Control devices carry the manufacturers 1 year warranty only.

EHC Installation Record Form

Please complete this form at the time of installation and post to BN Thermic within 60 days of installation. We strongly advise you to retain a copy for your records. Warranty claims will not be considered if the form has not been completed and returned to us within the required time.

Name of property owner

Address

Telephone number

Purchased from:
(Name and location of Wholesaler)

Date of purchase

Name of company who installed the system

Installer's telephone number

Date of installation

Date the system was energised

EHC Model Number

Model number of controller

Room (bathroom, kitchen etc)

Dimensions of room, excluding permanent fixtures such as cupboards and baths. (if the room is of a complex shape you may prefer to make a dimensioned sketch and attach it to this form)

Surface on to which the heating cable or mat was laid

Type of bedding compound or adhesive used

Thickness of bedding compound or adhesive

Type of floor surface

Thickness of floor surface

Electrical Checks – Refer to the Installation Instructions

First electrical check

Resistance (ohms)

Insulation resistance (meg-ohms)

Second electrical check

Resistance (ohms)

Insulation resistance (meg-ohms)

Third electrical check

Resistance (ohms)

Insulation resistance (meg-ohms)

Assuming correct installation, BN Thermic underfloor heating systems will give many years of satisfactory service. In the unlikely event of a malfunction resulting from faulty manufacture, the systems are guaranteed for a period of 10 years from date of purchase. The guarantee covers the full purchase price but not the cost of repairing or replacing the heater in the floor. Control devices carry the manufacturers 1 year warranty only.