BN Thermic Ltd

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ECK Tile Warming Cables

INSTALLATION AND OPERATING INSTRUCTIONS

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

1. Personnel.

   ECK should be installed by a suitably qualified, professional builder and/or electrician. ECK 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.

   ECK 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.

   ECK is designed to sit in a layer of adhesive below ceramic or stone tiles. ECK 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 ECK 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.

   ECK is suitable for use with ceramic and stone floors, including slate and marble. It should not be used with surfaces such as wood and vinyl or under carpeted areas.

5. Check that you have the correct ECK kit.

   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 ECK schedule ensuring that the minimum 'area to heat' is no greater than your calculated area.

6. Check the suitability of the controller

   The G16C controller has two sensors (air & floor). The F16C controller has a single sensor (floor). Both controllers have a switching capacity of 15A. If you intend to control a load greater than 15A, more than one controller will be required. The most common application for the F16C thermostat is when heating a bathroom floor. In this case it is usually mounted on the wall immediately outside the bathroom with the floor probe running through the wall and under the floor tiles.

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 ECK cable

    ECK cable should be laid in a neat grid formation and secured with the adhesive tape supplied. The centres of each loop should not be less than 50mm.

    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

    a. Ensure that the resistance reading (ohms) is as recorded after the first electrical check
    b. 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.

    a. Ensure that the resistance reading (ohms) is as recorded after the first electrical check
    b. 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. It is essential that the total load controlled by a single controller does not exceed 15A.

16. Energising

    The system should not be energised within 28 days of the floor surface being laid. To do so may damage the heating cable.

17. Warranty

    Assuming correct installation, ECK will give many years of satisfactory service. In the unlikely event of a malfunction resulting from faulty manufacture, ECK is guaranteed for 12 months from date of purchase. The guarantee covers the full purchase price but not the cost of repairing or replacing the heating mat in the floor.

    An Installation Record Form is supplied with each mat. This should be completed at the time of installation and posted to BN Thermic within 60 days of installation. Warranty claims will not be considered if the form has not been returned to us within the required time.

ECK 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	
ECK 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 12 months from date of purchase. The guarantee covers the full purchase price but not the cost of repairing or replacing the heater in the floor.