TRUEHEAT

HEATING CABLE SYSTEM
INSTALLATION MANUAL

Contents

1 Important Safety Information

WARNING: Risk of Electric Shock and Fire

Incorrect installation or damage to this heating cable system may result in electric shock, fire, serious injury, or damage to property. To reduce these risks, all instructions in this manual must be followed carefully.

- This system **must be used with a suitable thermostat.**
- **Do not connect the heating cable to a plug** or temporary power supply.
- **Do not turn the power on to the system while the cable is coiled.**
- This underfloor heating system **must be carried out by a suitably qualified and competent electrician** in accordance with BS 7671 (IET Wiring Regulations) and all applicable UK statutory requirements.
- The heating cable is **intended for fixed indoor underfloor heating installations only.**
- The cable **must be fully embedded** in mortar, thinset, concrete, or similar material.
- Do not install the heating cable in walls or ceilings.
- **Do not cut, shorten, cross, repair, modify, or splice** the heating cable.
- The minimum spacing between adjacent cable runs is **60 mm.**
- The minimum installation temperature is **5°C.**
- Take care to ensure the cable is not damaged by **nails, screws, fixings, or sharp objects,** either during installation or future floor works.

  If the heating cable or any part of the system is **damaged at any time, it must not be used and must be replaced.**

  Where installed in bathrooms or other special locations, installation must comply with the relevant requirements of **BS 7671.**

Failure to follow these instructions may void the warranty and create a serious safety hazard.

2 General Information

2.1 Use of This Manual

This manual explains how to:

- Design your heated floor area
- Select the correct heating cable
- Install and commission the system safely

Before installation, **also read the Thermostat Installation and Operation Manual** supplied with your thermostat.

For further assistance, contact:

TrueHeat
Email: mail@TrueHeat.co.uk
Website: www.TrueHeat.co.uk

2.2 Safety Guidelines

The safety and reliability of this floor heating system depend on **correct design, installation, and testing.** Incorrect handling or installation can damage the heating cable and create a risk of fire or electric shock.

Always pay special attention to instructions marked:

IMPORTANT or WARNING

3 Measuring Electrical Resistance (Very Important)

The electrical resistance of the heating cable **must be measured and recorded four times during installation:**

1. Out of the box
2. After laying the cable on the floor, or in a decoupling membrane
3. After embedding in mortar / self-levelling compound or after the final floor finish has been laid
4. After final connection (before connecting to the mains)

Failure to measure and record these values will **void the warranty.**

How to Measure

- Measure resistance between the brown and blue wires using a suitable multimeter
    - The value must be within –5% to +10% of the value in the Product Selection Table
- Measure resistance using an insulation resistance meter, between:
    - Brown ↔ earth
    - Blue ↔ earth
    - Both must read **infinity (open circuit)**

If readings are outside these values, **stop installation and contact TrueHeat.**

4 Warranty Summary

TrueHeat provides a **lifetime warranty** to the original purchaser on the heating cable against defects in materials and workmanship, starting from the date of purchase. (See the back of this book for a comprehensive guide to the warranty)

or online: **www.TrueHeat.co.uk/warranty**

The warranty is valid only if:

- The warranty certificate is completed and returned
- Resistance readings are recorded at all required stages
- The system is installed exactly in accordance with this manual

5 Heating Cable System Overview

5.1 Technical Specifications

- Cable type: Twin conductor
- Rated voltage: 230 V
- Output: 12 W/m
- Cable diameter: 2 mm
- Conductor insulation: Fluoropolymer
- Outer insulation: Nylon
- Maximum ambient temperature: 30°C
- Minimum installation temperature: 5°C
- Cold lead: 2-wire + earth braid, 2.5 m length
- Indoor use only

5.2 Typical Installations

The heating cable may be installed:

- Directly on concrete (with suitable insulation beneath)
- Directly on plywood
- Embedded in thinset or self-levelling compound
- Within a decoupling membrane

Compatible floor finishes include:

- Tile
- Engineered wood
- Laminate
- Vinyl
- Linoleum
- Carpet (check manufacturer limits)

Always consult the floor covering manufacturer for maximum permitted floor temperatures.

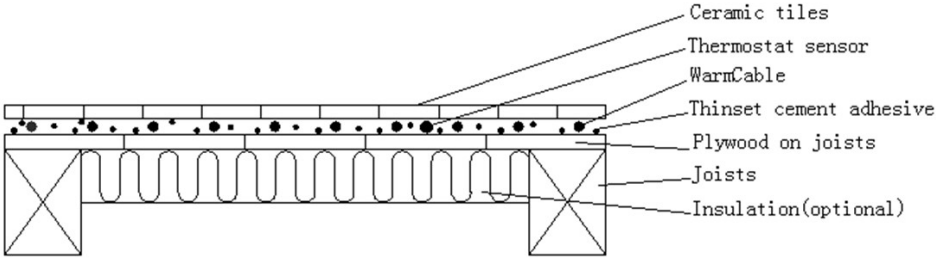


Figure 1: Directly on plywood

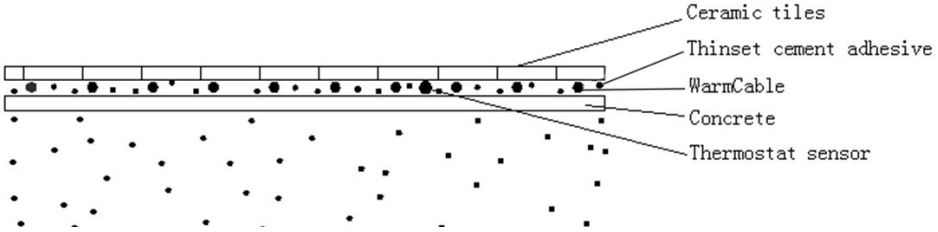


Figure 2: Directly on concrete (use suitable insulation beneath the cable)

WARNING

For wood, laminate, vinyl, or linoleum floor finishes, **always consult the floor covering manufacturer** for any special installation requirements, including maximum permitted floor temperatures.

IMPORTANT – Installation Requirements

Read all instructions in this manual carefully before installing the heating cable system.

Any metal structures, reinforcement, or conductive materials that support or are in contact with the heating cable must be correctly earthed in accordance with current UK Wiring Regulations (BS 7671).

If you are unsure about any aspect of installation or operation, contact TrueHeat for advice before proceeding.

6 Floor Heating Design & Product Selection

Step 1: Measure the Heated Area

Measure only the free floor area.
Do not include areas beneath permanent fixtures such as:

- Baths
- Showers
- Toilets
- Cabinets
- Appliances
- Or any furniture that has less than 50mm ground clearance

Step 2: Confirm Supply Voltage

The system is designed for nominal 230 V supply in accordance with UK electrical standards.

Note:

- Operating at 220 V reduces output by approx. 8.5%
- Operating at 240 V increases output by approx. 8.9%

Step 3: Plan the Layout

- Maintain the designed cable spacing
- Do not alter the spacing during installation
- Position the thermostat so it can be reached by:
  - 2.5 m cold lead
  - 3 m floor temperature sensor

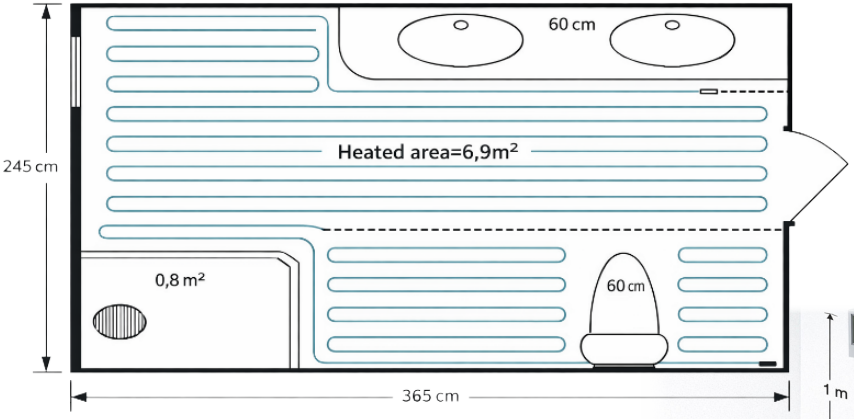


Figure 3: Heated area example

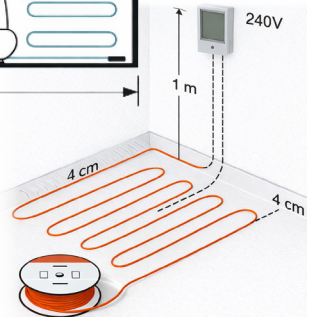


Figure 4: Typical cold lead and floor temperature sensor

Step 4: Select the Correct Cable

Choose a heating cable that:

- Does not exceed the heated area
- Matches your required wattage

Use the Product Selection Table below

Product	Length	Watts	Amps	ohms
Catalogue Number				
HC12/150	12.5	150	0.7	352.7
HC12/225	18.8	225	1.0	235.1
HC12/300	25.0	300	1.3	176.3
HC12/375	31.3	375	1.6	141.1
HC12/450	37.5	450	2.0	117.6
HC12/525	43.8	525	2.3	100.8
HC12/600	50.0	600	2.6	88.2
HC12/675	56.3	675	2.9	78.4
HC12/750	62.5	750	3.3	70.5
HC12/900	75.0	900	3.9	58.8
HC12/1050	87.5	1050	4.6	50.4
HC12/1200	100.0	1200	5.2	44.1
HC12/1350	112.5	1350	5.9	39.2
HC12/1500	125.0	1500	6.5	35.3
HC12/1800	150.0	1800	7.8	29.4

7 Installation Instructions

Tools Required

- Scissors
- Utility knife
- Wire strippers
- Tape measure
- Screwdriver
- Digital multimeter
- Insulation resistance meter

Floor-specific tools and materials may also be required.

Installation Steps (Summary for laying on floor)

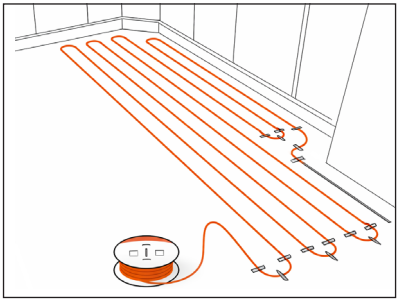
1. Plan and document the layout

2. Mark the layout on the floor

3. Install floor temperature sensor in conduit

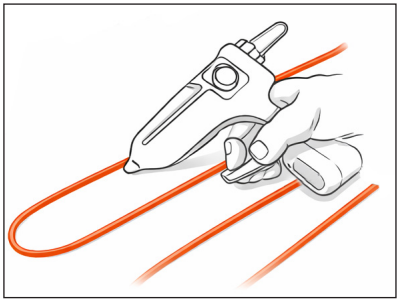
4. Prepare and clean subfloor

5. Measure resistance (1st time)
(See section 8 for full details)



6. Lay heating cable
(do not cut or cross)

7. Measure resistance (2nd time)



8. Secure cable

9. Embed cable in mortar or self leveller

The heating element must be fully embedded or protected in accordance with the floor construction and the manufacturer's instructions to prevent mechanical damage.

10. Measure resistance (3rd time)

11. Install floor covering

12. Final resistance test and electrical connection

The connection of the power supply and the thermostat **must be carried out by a suitably qualified and competent electrician** in accordance with BS 7671 (IET Wiring Regulations) and all applicable UK statutory requirements. The system is designed for **nominal 230 V supply** in accordance with UK electrical standards.

The electrician shall then connect the floor temperature sensor to the thermostat and complete the connection of the power supply in accordance with the manufacturer's instructions and applicable electrical regulations.

Note

The electrician must ensure the appropriate circuit breaker identification label is completed to clearly identify the circuit supplying the underfloor heating system.

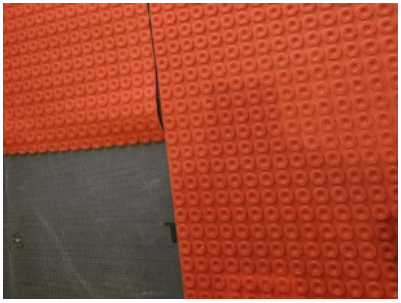
The circuit supplying the underfloor heating system must be protected by a suitable **RCD** in accordance with **BS 7671**. An appropriate means of electrical isolation must be provided for the underfloor heating system in accordance with **BS 7671**

13. Complete warranty paperwork online at www.TrueHeat.co.uk/warranty

14. Gradually bring system into use

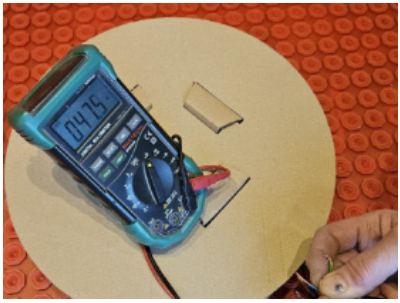
⚠ **The underfloor heating system must not be energised until all mortar or levelling compounds are fully cured. A minimum curing period of 14 days is recommended.**

Installation Steps (Summary for laying within decoupling membrane)

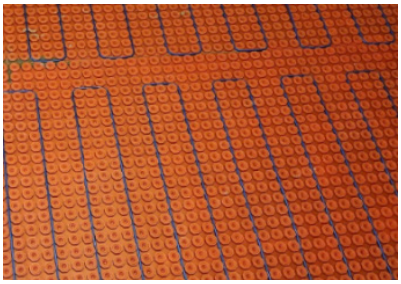


1. Lay the decoupling membrane

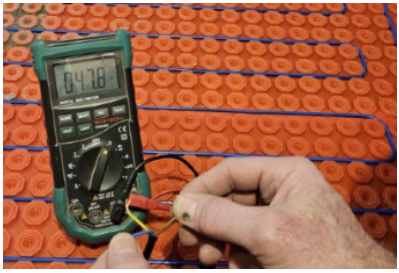
2. Work out the layout of the cable on the mat



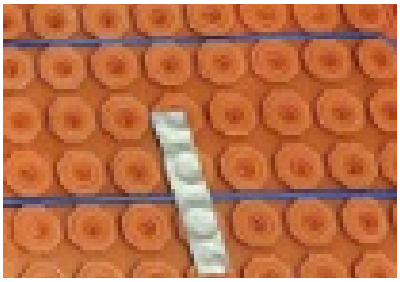
3. Measure the resistance (1st time)



4. Lay heating cable
(do not cut or cross)



5. Measure resistance (2nd time)



6. Secure cable (If necessary)

7. Lay the floor sensor cable into the mat equidistant from the cable

8. Install floor covering

9. Measure resistance (3rd time)

10. Electrical connection and then the final resistance test

11. Complete warranty paperwork https://www.TrueHeat.co.uk/warranty

12. Gradually bring system into use

The underfloor heating system must not be energised until all mortar or levelling compounds are fully cured. A minimum curing period of 14 days is recommended.

8 Commissioning & Testing

To qualify for the lifetime warranty, the following tests must be completed and recorded four times. The warranty must be submitted to and acknowledged by TrueHeat to be valid.

8.1 Insulation Resistance Test

- Confirms cable insulation integrity.
- Both power cables to the red test lead, The earth to the black test lead and set the tester to 1000V, it should give OL (Infinity) or no reading at all, in accordance with the test procedure described.

8.2 Heating Cable Resistance Test

- Confirms circuit integrity.
- Red to Live (Brown) Black to Neutral (Blue) set to 200 or 2000 Ohms, the reading should be no more than -5% or +10% of the stated ohms on the product label and box.

8.3 Sensor Resistance Test

- Confirms sensor functionality (9–25 kΩ).
- The Reading will change dependant on the room temperature. Contact TrueHeat if you have any doubt about the reading of the floor sensor.
- If any test fails, stop and contact TrueHeat.

9 Troubleshooting

Problem	Possible Cause	Action
Floor not heating	No power / breaker tripped	Check supply/thermostat
Floor always warm	Thermostat settings	Check thermostat
Floor not warm enough	Incorrect settings	Adjust thermostat
No instructions	Missing manual	Contact TrueHeat

10 Disposal

- Dispose of this product in accordance with local regulations for electrical equipment.
- Do not dispose of with household waste.

TrueHeat Manufacturer's Lifetime Warranty

(UK Consumer Warranty)

For the purposes of this warranty, the term "heating cable" refers to the fixed electric heating element supplied by TrueHeat for installation beneath floor finishes.

1. Who This Warranty Is For

- This warranty is provided by TrueHeat to the original end user purchaser of the TrueHeat underfloor heating cable for use in domestic or residential applications within the United Kingdom.
- This warranty is non-transferable and applies only to the original installation at the original address.

2. Statutory Rights

- This warranty is provided in addition to your legal rights under the Consumer Rights Act 2015.
- Your statutory rights are not affected by this warranty.

3. What Is Covered

TrueHeat warrants that the underfloor heating cable will be free from defects in materials and manufacture for the lifetime of the product, starting from the date of purchase, provided that:

- The defect was present at the time the product was supplied

  The product has been installed and used in accordance with TrueHeat's installation instructions and applicable UK regulations

4. Conditions of Warranty

This warranty is conditional upon:

- Completion and return (or online submission) of the TrueHeat warranty registration form. All submissions will receive a warranty certificate.
- All required resistance test readings being recorded at the specified installation stages
- Installation being carried out by a suitably qualified and competent installer in accordance with current UK electrical regulations
- Failure to meet these conditions may result in the warranty claim being declined, but does not affect your statutory rights.

5. What Is Not Covered

This warranty does not apply to defects or failures resulting from:

- Incorrect or non-compliant installation
- Accidental damage, misuse, abuse, or neglect
- Alteration or modification of the product
- Failure to follow installation, testing, or operating instructions
- Normal wear and tear

6. Inspection and Claims Process

If you believe the product is defective, you must contact TrueHeat Customer Services before removing or replacing the product.

TrueHeat may require the heating cable to be:

- Inspected & Tested in situ, or
- Returned to TrueHeat or an authorised service partner for examination (if not yet installed)
- You may be required to demonstrate that the defect was present at the time of supply.

7. Remedy

Where a valid warranty claim is accepted, TrueHeat will, at its discretion:

- Repair the defective heating cable, or
- Supply a replacement heating cable of equivalent specification
- This warranty applies to the heating cable only.

8. Installation and Reinstatement Costs

Where a manufacturing defect is confirmed, TrueHeat will be liable for reasonable costs directly related to:

- Repair or removal of the defective heating cable, and
- Installation of a replacement heating cable
- TrueHeat's liability for such costs is limited to a maximum of five (5) times
- the original purchase price of the product per claim.

9. Consequential Loss

Subject to your statutory rights, TrueHeat shall not be liable for indirect or consequential losses, including loss of profit, loss of use, or other economic loss arising from the failure of the product.

10. Limitations of Liability

Nothing in this warranty limits or excludes TrueHeat's liability for:

- Death or personal injury caused by negligence
- Fraud or fraudulent misrepresentation
- Any liability which cannot be excluded or limited under UK law

11. How to Make a Warranty Claim

To submit a warranty claim, please contact TrueHeat Customer Services here https://www.TrueHeat.co.uk/contact and provide:

1. Details of the suspected manufacturing defect
2. Date of purchase and date of installation
3. Installer and electrician details (where applicable)
4. Recorded resistance test readings
5. Proof of purchase and product serial number

TrueHeat will provide you with a claim reference number and advise on the next steps.

12. Governing Law

This warranty is governed by the laws of England and Wales and applies to products installed within the United Kingdom.

13. General Information

TrueHeat reserves the right to make changes to product design and specifications without prior notice, provided such changes do not adversely affect products already supplied.

All trademarks referenced are the property of their respective owners

Notes


TRUEHEAT