



# Underwood Heating System

INSTALLATION MANUAL



**Suitable for most wooden/  
laminated floors**

(Always check with floor manufacturer)





## Thank you for choosing our Gorilla® underwood floor heating system.

### ! IMPORTANT

**Before beginning any installation, it is crucial to read this entire instruction manual.**

This manual contains vital information concerning the safe installation and operation of your heating mat/s. Please note that these installation instructions are meant to complement, not replace, the guidelines provided by the manufacturers of your floor coverings.

Always ensure that you adhere to both sets of installation instructions. If you have any doubts about the suitability of our heating mat/s, consult the floor manufacturer for clarification. Although our mats are highly durable, it is essential to handle them with care during installation.

To ensure a worry-free installation, please carefully follow the step-by-step installation guide provided.



**Ideal for large areas**  
**Easy to install**



**Fully compliant to latest regulations**  
**CE approved**

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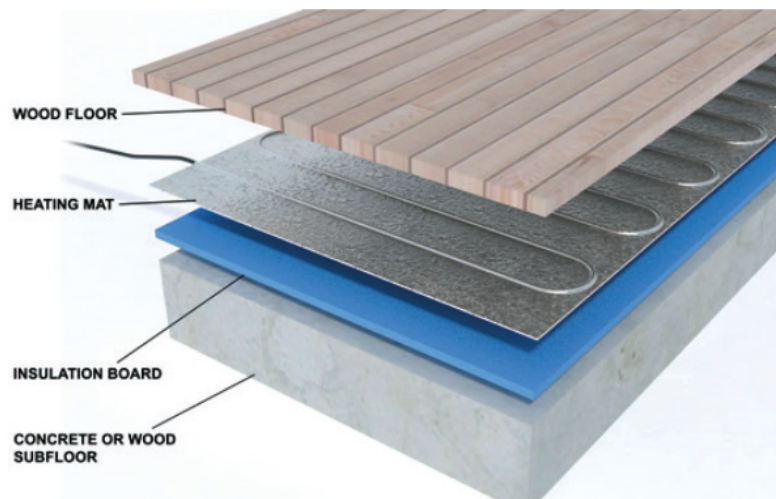


## Product Specification




Gorilla® Floor Heating Mats for laminate/engineered and most floating wooden floors offer ultra-thin design, measuring only 2mm. When used with our 6mm insulation boards, they create an ultra-low profile heating system.




### Construction

The Gorilla® system features fluoropolymer insulated heating cables, placed between two layers of specially reinforced aluminium foil. The even spacing of the heating elements, backed by the aluminium foil, ensures uniform heat distribution. The heating element is connected to a power-supply cable, which exits the heating mat from one corner. The power lead consists of a two-core flexible cord with two insulated conductors, a metal earth sheath/solid earth cable, and an outer sheath based on your heating requirements.



## Do's and Dont's for Installation

-  **Do** read through these instructions carefully before beginning work.
-  **Do** follow the testing procedures before fitting the floor
-  **Do** Read the safety information on the back page and review the separate installation and operating instructions for the thermostat.

-  **DO NOT** attempt to cut the heating cable at any point.
-  **DO NOT** place bean bags, fixed furniture, or carpets over heated floor areas.
-  **DO NOT** Turn on the heating mat/ cable while it is rolled up.

## Important Information

1. Gorilla® aluminium heating mats are designed for direct installation under engineered wood or laminate floors. Ensure to use suitable Gorilla® insulation.
2. These aluminium heating mats are not suitable for installation under ceramic tile, natural stone, or similar hard floor coverings, nor under nailed hardwood flooring. Confirm suitability with us if uncertain. For more information, contact your Gorilla® supplier.

### **Compatible Wood Laminates & Engineered Boards:**

- Most modern wood laminate floors work well with our system. However, floors with metallic strips in their locking systems or those with pre-attached insulation pads are NOT compatible.
- Check with your flooring supplier to verify suitability for underfloor heating use. The maximum floor temperature should generally be 27°C. Avoid using wood floors thicker than 18mm to prevent potential issues, including reduced efficiency. For a trouble-free installation, if you encounter a problem you can't solve, contact us at: 01268 567019.

### ○ **Electrical Connection:**

- Gorilla® aluminium heating mats MUST be connected to the electrical system through an RCD protected circuit and a suitably rated fuse/MCB. Ensure RCD protection for the circuits supplying power to your mats or use a dedicated RCD for each circuit.

### ○ **Do Not Install Under Cabinets or Furniture:**

- Avoid installing aluminium heating mats under permanently attached cabinets, fittings, or furniture with solid bases. Also, never place rugs or bean bags, or any item with a tog value exceeding 2.5, on top of the floor, as this can cause thermal blocking and, in extreme cases, lead to cable overheating and pose a fire hazard.

### ○ **Do Not Install Over Other In-Floor Radiant Heating Systems:**

- Gorilla® aluminium heating mats MUST NOT be installed on top of other in-floor radiant heating systems (e.g., hydronic or in-screed systems) unless the other system is permanently disconnected to prevent simultaneous operation.

### ○ **Do Not Install Above Radiant Ceiling Heating Mats:**

- Similarly, do not install Gorilla® aluminium heating mats on floors where radiant ceiling heating mats are used in the room directly below.

### ○ **Do Not Install Above Radiant Ceiling Heating Mats:**

- Gorilla® aluminium heating mats must not be installed in thinset cement or in direct contact with cement or concrete sub-floor or slab. Always use Gorilla® approved insulation beneath the aluminium heating mats.



## Controlling Your System

Gorilla® heating systems can be managed with any of our programmable thermostats using a floor sensing probe. Each thermostat is equipped with a floor sensor, allowing you to set your heater to your desired temperature accurately. Our sophisticated units also enable you to schedule when your heating turns on. For instance, you can program the system to warm your bedroom floor first thing in the morning and then come on again for a few hours around bedtime, while remaining off during the day.

Please be aware that most wood laminate manufacturers recommend not subjecting their floors to temperatures exceeding 28°C. To achieve this, it is essential to install a temperature sensor directly under the aluminum heating mats, beneath the wood or laminate. Check with your laminate/engineered wood manufacturer for their recommendations regarding installing electric radiant heating under their floors.

## Professional Electrical Installation:

Gorilla® heating systems can be managed with any of our programmable thermostats using a floor sensing probe. Each thermostat is equipped with a floor sensor, allowing you to set your heater to your desired temperature accurately. Our sophisticated units also enable you to schedule when your heating turns on. For instance, you can program the system to warm your bedroom floor first thing in the morning and then come on again for a few hours around bedtime, while remaining off during the day.

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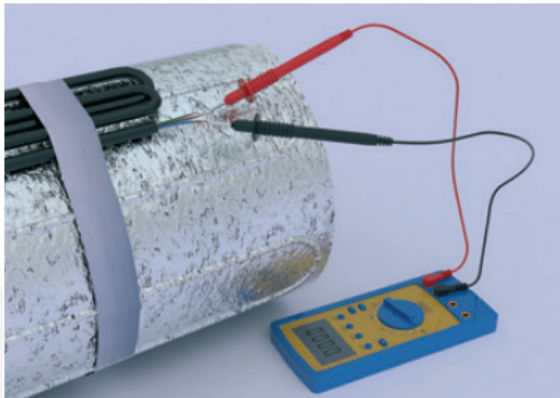
### **IMPORTANT**

All such connections **MUST** comply with BS7671 17th Edition Part P wiring regulations. Note that when installing thermostats in bathrooms, they should be placed outside the room, and the floor probe supplied should be used. Always consult with a qualified electrician to ensure all electrical components are located in safe and appropriate zones.

# Contents of heating Kit and items required for installation

## Contents of Heating Kit

1. Aluminium heating mat (or mats, depending on kit size)
2. Digital thermostat with floor probe
3. High adhesion fixing tape
4. Black flexible conduit (for floor probe)
5. Silver foil strips (for earth continuity)



## Items Required for Installation:

1. Digital multi-meter (A basic multi-meter can provide resistance readings before and after installation)
2. Insulation boards (Not Tile Backer Boards)
3. Appropriate insulation boards
4. Electrical Housing Boxes (minimum depth of 35mm)
5. Stanley knife or similar sharp blade
6. Tape measure

## Testing

Each Gorilla® mat is thoroughly tested before being shipped from the factory and is well packed to avoid damage during transit. However, damage may occur during storage, transit, or installation. We highly recommend testing your mats as follows:

1. After installing the mats but before installing the floor covering (while the mats are still exposed).
2. After installing the engineered wood or laminate but before connecting the thermostat.

### The tests to be conducted at each stage are as follows:

1. Resistance test between the Live and Neutral Conductor (Readings should be within +/-10% of the nominal Ohms values found in the tables on page 8 as temperature affects this value).
2. Insulation Resistance test at 500Volts DC, which requires specialized equipment and must be performed by a qualified electrician.

*Please refer to the table on page 8 for the values you should observe while testing the mat. These tests should be conducted by your qualified electrician before energizing the heating system.*



# Product Range and Resistance Value

Lenght of MAT (mtr)	Width of MAT (cm)	Area (sqm)	Resistance (ohms)	Total Wattage (W)
2	500	1.0	378	140
3	500	1.5	252	210
4	500	2.0	189	280
5	500	2.5	151	350
6	500	3.0	126	420
7	500	3.5	108	490
8	500	4.0	95	560
9	500	4.5	84	630
10	500	5.0	76	700
12	500	6.0	63	840
14	500	7.0	54	980
16	500	8.0	47	1120
18	500	9.0	42	1260
20	500	10.0	38	1400
22	500	11.0	34	1540
24	500	12.0	31.5	1680

## Installation Instructions

# 01

### Electrical Installation and Area Cleaning:

Begin by carrying out all necessary electrical work for the installation. This includes chasing walls and installing back boxes for fused spurs and the thermostat's position. Ensure that all electrical works adhere to the current regulations.

For Gorilla® underfloor heating systems, it is essential to control them via an RCD (Residual Current Device) protected circuit. For systems not exceeding 13 amps, a fused spur with contact separation in all poles, providing full disconnection under cat 3 conditions, is suitable. For systems larger than 13 amps, a protective device that complies with regulations must be used. If you require technical assistance, please feel free to contact us or consult a fully qualified approved electrician.

If you have any uncertainties regarding the electrical installation, do not hesitate to reach out to our technical team for guidance. Ensure the sub-floor is structurally sound, clean, and dry before proceeding with the installation. To avoid damaging the mats, check for any protruding nails, screws, staples, or tacks on the sub-floor before installing the insulation. Be cautious with automatic staple guns while securing the underlay to the sub-floor, as a badly installed staple that protrudes from the floor can pierce and damage the Gorilla® mat.



Nails, screws, or staples should not be installed close to the mats or power cables. Additionally, never install permanent fixtures, including built-in furniture, on top of the mats to prevent potential damage.

To aid future renovation work or for reference purposes, keep an accurate record of the mat's installation locations. It is also a requirement of the 17th Edition Part P wiring regulations to place a diagram next to your fuseboard position, indicating where underfloor heating is installed. This information should be included in the supplied Commissioning Record Form, which must be completed. For further safety guidelines, please refer to the Safety Guide on the back page.

## 02

### Install Underlay:

Use Gorilla® Foam insulation boards directly underneath the heating mats. Install the boards in a brick pattern as shown below and securely tape the edges to prevent any movement of the underlay during installation.

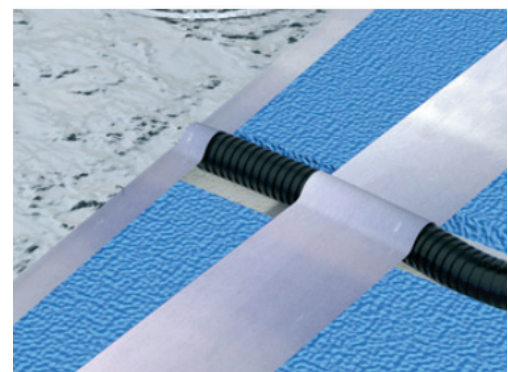
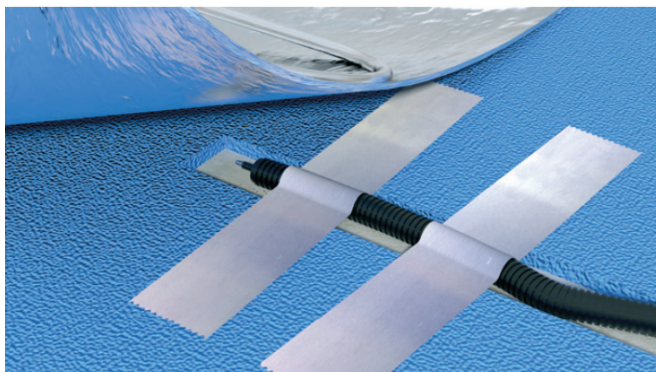


## 03

### Install Floor Probe:

For installations using a thermostat with a floor sensor (most installations and recommended for wooden floors), follow these steps:

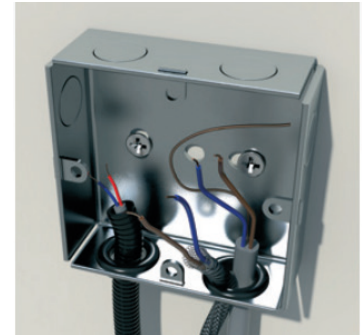
1. Install the black conduit in the wall chase, extending it at least 200mm into the heated area.
2. Run the probe wire down inside the conduit until it slightly emerges from the end of the conduit.
3. Tape the sensor into a channel cut into the insulation directly beneath the Gorilla® heating mat, ensuring it is centred between two heater wires. Please be cautious when channelling into the sub-floor to fit the conduit and be aware of any pipes and cables.
4. The sensor cable should run back up to the thermostat position. Connect the 2-core cable to the thermostat in the correct terminals.
5. Ensure that the sensor wire does NOT cross over the foil heater wires.



# 04

## Lay Heating Mat:

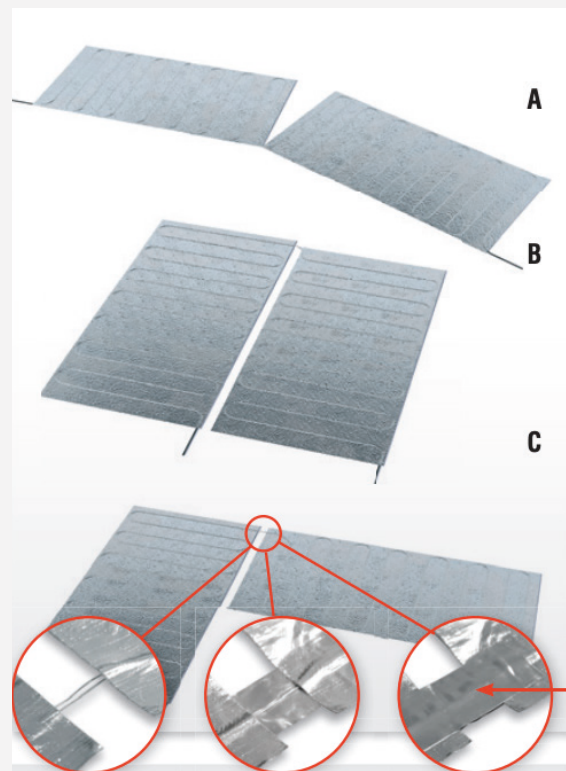
After installing the insulation, take your Gorilla® mat out of the packaging box and perform a resistance test (as shown on page 7). Bring the cold tail (black power lead) up the wall channel and into the back box for the thermostat. Use a minimum 35mm box to allow more space behind the thermostat. If you are using more than 2



cables, consider installing a junction box. If you have 2 or more mats, position them accordingly to ensure all power leads reach the thermostat position. If this is not possible due to the room's layout, you may extend the cold tails using 2.5mm suitable cable and crimps, but this must be done by a Part P 17th Edition qualified/competent person

### When positioning the mat on the insulation boards:

- A.** Leave a minimum gap of 50mm from all walls/fixed units.
- B.** Use scissors or a knife to cut the mat, AVOIDING CABLE. Guide the heating mat around fixed objects such as toilets, basins, cupboards, etc. Continue rolling out the mat, ensuring a 5mm gap between each section. DO NOT overlap the cables at any point. It is recommended to stagger the mats when installed parallel to offset the cables.
- C.** To turn the foil mat at walls, cut the foil and flip the mat over. If the cable is showing upwards, cover all the cable with aluminium foil tape for extra protection. Use the metal strips provided on adjacent mats to maintain earth continuity on both sides of the mat (top & bottom, as shown).



# 04

## Lay Heating Mat (Continued):

It is crucial never to cut Gorilla® heating mats to fit into a space that is too small. If the mat is too large for the area, it should be returned for a more suitable size before any cutting is done.

Smooth out the mat and securely adhere it to the insulation material using adhesive tape. Decide on the route for your cold tails (black leads) from the mat to the thermostat position. Cut a channel in the insulation along this route and place the cold tails into the channel, then tape them securely in position (see diagram below). In some cases, you may need to remove a small section of insulation under the mat where the power supply cord enters to prevent an unsightly lump on the laminate surface and excessive wear on that part of the mat.

When installing two or more Gorilla® heating mats next to each other, ensure that the heating wires in adjacent mats **DO NOT** overlap. To prevent movement over time, we recommend using adhesive tape to secure them.

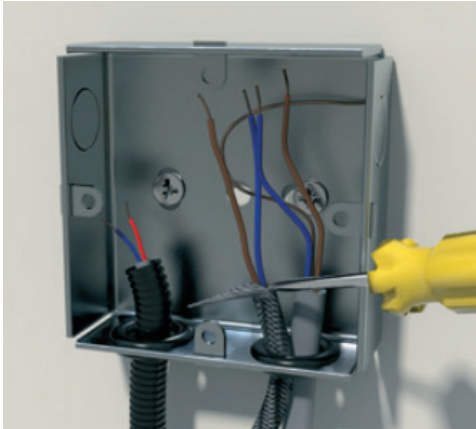
**Gorilla® mats must be installed directly on top of the insulation and directly under the wood laminate flooring.** They should never be folded or creased during installation, and they are not suitable for use on stairs. If you need to move the mat at a later stage, remember to roll it rather than folding it.



# 05

## Wire Thermostat:

Once the floor probe, power supply lead, and cold tail from the Gorilla® heating mat are all in place in the metal back box, and the mat has been laid, you can complete the heating installation by wiring the thermostat



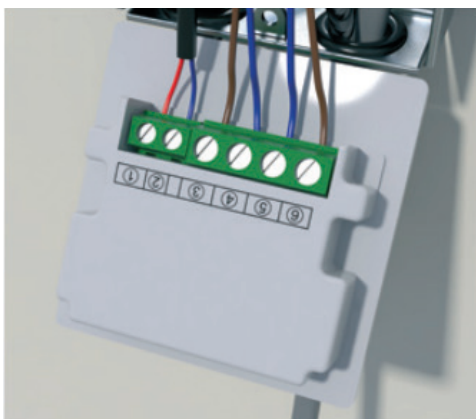
Depending on the type of mat supplied, the cold tail (black lead) may have either a solid earth cable or an earth braid wrapped around the internal cores. To prepare it for connection, unbraiding is required. Use a screwdriver to pull down the braid and separate the strands, then twist them into a single strand.



Connect the earth from the mat to the earth from the incoming supply using the earth terminal in the back box. If a plastic box with no terminal is used, a terminal block can be used instead

At this point, another insulation resistance test must be carried out by a qualified electrician.

Proceed with the rest of the thermostat connections according to the instructions provided with the thermostat, following the wiring diagram provided in the manual.



Now, you can lay your flooring according to your floor manufacturer's instructions, being careful not to glue the floor to the matting or nail through the floor. For click systems, simply click the flooring together and lay it over the heating. If using engineered wood flooring, glue it along the tongue and groove and float it over the heating mat. Ensure that no glue comes into contact with the heating mat

# Safety Guidelines

This installation manual is designed with your safety in mind. To ensure a successful installation, it is crucial to thoroughly understand the guidelines and follow all instructions provided.

## IMPORTANT

1. Flat-bottomed furniture **MUST NOT BE** placed over areas where the heating mat/cable is installed. Doing so can obstruct airflow to the floor, leading to thermal blocking. In extreme cases, this may cause the cable to overheat, posing a potential fire hazard.
2. Avoid placing rugs, bean bags, or any items with a tog value greater than 2.5 over the heated areas.
3. Make sure to complete the supplied Commissioning Record, which includes a floor plan sketch indicating heated areas. This record must be permanently fixed in or near the distribution/fuse board as required by the 17th Edition BS7671 amendment 3.



**MATTRESSES**



**BIN BAGS**



**ANIMAL  
BEDS**



**RUGS**



**FLAT BASED  
FURNITURE**



Gorilla®  
**Gorilla®**  
Gorilla®

## **Gorilla® floor heating mats come with a 15 years warranty.**

The warranty does not cover installations made by unauthorized persons or faults caused by incorrect design by others / misuse / damage caused by others / damage in transit / incorrect installation and any other subsequent damage that may occur. Replacement will be fully chargeable if the damage is because of any of the above reasons.

## **Need Help Installing your underfloor Heating?**

We can recommend approved electrical contractors who can install your heating from start to finish





# Guarantee Guarantee Guarantee





## **Need Help?**

Kindly send an email or call your friendly Gorilla® Supplier!