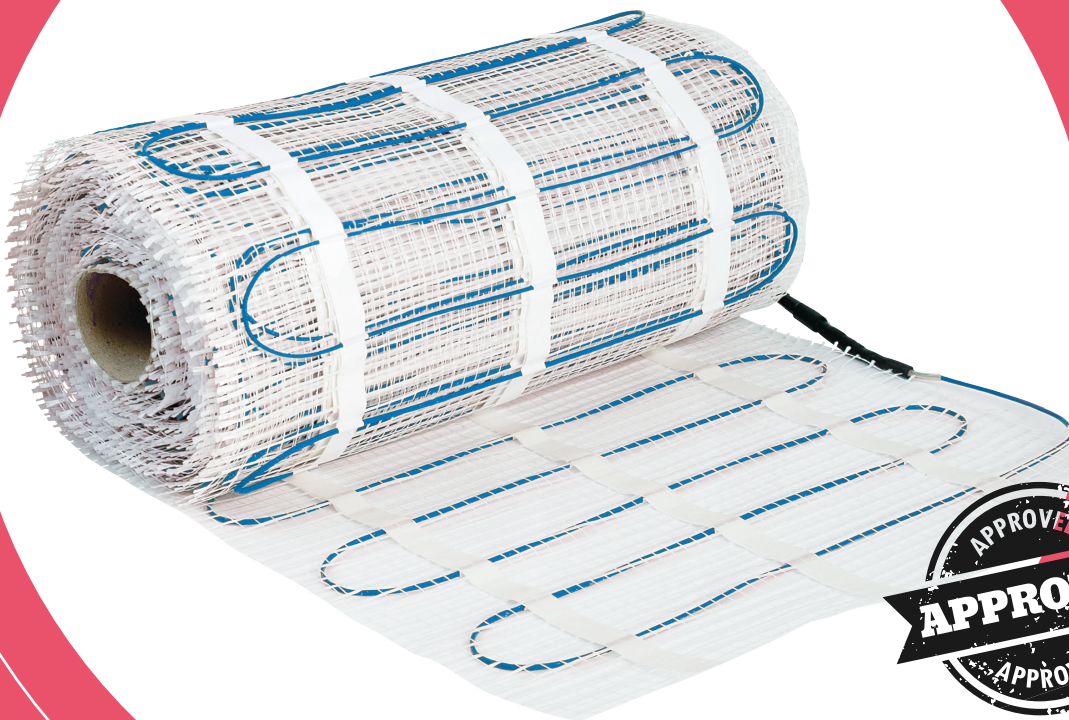




Underfloor Heating Sticky Mat

INSTALLATION MANUAL



Suitable for most floor coverings
(Always check with floor manufacturer)



**Thank you for choosing our
Gorilla® underfloor 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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STICKY MAT - Just Roll It

Our heating mats are designed for versatile installation, as they can be laid either way up. One side features a sticky mesh, while the other side has three strips of double-sided tape. This design ensures that the heating mat can be firmly held in place, regardless of whether the cables are facing down or up, which simplifies the installation process. **Please take note** that in certain cases, especially when using a leveling compound, it may still be necessary to use small pieces of duct tape to secure the mat in specific areas and prevent it from rising.

CE approved systems

We take pride in offering CE approved heating cables that are certified and manufactured to the highest standards, utilizing state-of-the-art Teflon coated cables. Our cables are designed to be compliant with the 17th Edition Part P regulations. To ensure seamless installations in accordance with these standards, we provide detailed instructions that contain comprehensive information. If you have any uncertainties or questions, please do not hesitate to contact us for assistance and clarification. Your satisfaction and safety are our top priorities.



Before You begin Installing

Please carefully review these instructions to ensure that you have all the necessary components.

The Gorilla® heating system is specifically designed for installation beneath most tile/stone floor coverings. Additionally, it may be installed under engineered/laminate wood floors, vinyl, and low tog thin carpets. However, in the latter cases, it is essential to cover the heating mat/s with an 8-10mm thick suitable latex-based leveling compound. Always verify with the floor covering manufacturer whether their product is suitable for use with electric underfloor heating systems.

Furthermore, confirm the compatibility of any adhesives or latex compounds that will be utilized with both the floor coverings and the heating system. Proper evaluation of these aspects is crucial for a successful and safe installation.



Contents of Heating Mat Kit

- 3mm twin-core heating mat
- Disposable roller for application of primer
- Digital thermostat and separate floor sensor
- Instructions
- Conduit for floor sensor
- Bottle of thermal primer/s

Installation Notes

- ✓ The system requires a mains voltage of 230/240v and must be connected by a qualified individual in accordance with the IEE 17th Edition Part P regulations.
- ✓ The cold tail of the mat is black and consists of a twin core and earth cable, sometimes with a silver earth braiding wrap around the twin cores. The heating element includes a built-in return, allowing connection to the thermostat from one end only.
- ✓ For larger areas where two or more mats are provided, it is necessary to use a connection or junction box to join the heating mat's cold leads before connecting a single cable to the thermostat. The wire used for this connection must be of a suitable size, as determined by an electrician. The maximum load on one thermostat should not exceed 16 Amps.
- ✓ The system is suitable for installation on any sound and appropriate sub-floor for tiling, typically concrete, plywood, or cement faced tile-backer boards. Some water-resistant composite boards may also be suitable. However, it is not recommended to tile directly onto hardboard, MDF, or standard grade chipboard as these materials can absorb moisture and cause tiles to crack or dislodge.
- ✓ Note that when installing on a newly finished concrete screed, follow the required minimum drying out or 'curing' period, typically 1mm per day under good conditions, before proceeding with the installation.
- ✓ The electrical and electromagnetic fields generated by the system are negligible and well within all recommended European and International guidelines.
- ✓ To ensure proper installation, the heating mats must not overlap, and the heating cable **MUST NOT** be cut or crossed at any point. Additionally, the joint between the heating cable, cold tail, and end joint **MUST** be located under the floor and encapsulated in self-leveling or tile adhesive, without being taped over.

Professional Electrical Installation

The installation of electrical systems carries inherent risks of fire and electrical shock, which can lead to personal injury. Caution must always be exercised to safeguard against these risks. It is crucial to have only a qualified electrician connect the heating mat/s to the thermostat and/or the electrical supply circuit.

All electrical work necessary for the installation, including tasks such as chasing walls and installing back boxes for fused spurs and thermostat positioning, should be carried out diligently. It is essential to ensure that all electrical works adhere to the current regulations and safety standards. Proper compliance with these regulations is vital to maintain a safe and effective electrical system installation.

Gorilla® Underfloor Heating Systems

The heating system must be controlled 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, can be used. However, for systems larger than 13 amps, a suitable protective device that complies with regulations must be utilized.

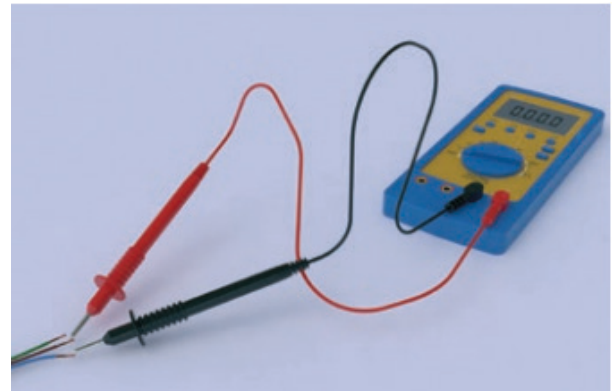
If you need technical assistance regarding the protective device selection or any other electrical installation concerns, please do not hesitate to contact us for guidance. It is crucial to consult a fully qualified approved electrician if you are uncertain about the electrical installation.

For any doubts or questions related to the electrical installation, feel free to reach out to our technical advice center for further support and clarification. Your safety is of utmost importance, and we are here to assist you in ensuring a secure and compliant installation.

Testing

Every Gorilla® mat undergoes rigorous testing at the factory and is appropriately packed to prevent damage during transit. However, despite these precautions, there is a possibility of damage occurring during storage, transportation, or installation. To ensure a smooth installation process, we highly advise testing your mats at various stages:

- Test the mats after unpacking them but before you proceed with the installation.
- Test the mats again after they have been installed but before you add the floor covering (while the mats are still exposed).
- Perform a final test after the installation of the floor covering, but before connecting the thermostat.



A straightforward test involves a visual inspection to ensure there is no visible damage to the heater, especially the cable component. Additionally, you can perform a simple electrical inspection using an ohm meter to verify that the ohm resistance matches the expected value (refer to page 9 for details). Keep in mind that the ohm resistance may vary depending on the ambient temperature, and an allowance of -10% to +10% from the nominal value is acceptable.

Furthermore, it is crucial to conduct an insulation resistance test at 500v DC, which should be performed by a qualified electrician. Refer to the table on page 9 for the expected values when testing the mat.

By carrying out these tests, you can ensure the integrity and safety of the heating system, allowing for an effective and secure installation. If you have any uncertainties or questions during the testing process, do not hesitate to seek technical assistance from our team or a qualified electrician. Your safety and satisfaction are our top priorities.



Installation Instructions Steps

01

Ensure the sub-floor is sturdy and suitable for tiling, and free from dust and debris. For wooden sub-floors, reinforce them to prevent flexing and tile dislodging. Use suitable materials like WBP or Marine plywood or insulated tile-backer boards for reinforcement. Bitumen bases must not have the heating mat directly installed on them. Instead, cover them with a proper backerboard or a 3-5mm leveling compound before proceeding with the installation.



02

Apply the acrylic-based primer from the kit to prime the floor (note: not suitable for anhydrite screeds). Allow the primer to dry, typically for about 1-2 hours. During this time, avoid excessive foot traffic over the primed area. Priming is essential to enhance the adhesion of the tape and reduce moisture absorption into the sub-floor.

ALWAYS CONFIRM with the tile adhesive/leveling compound manufacturer that the primer is compatible with their products. If you have any doubts or questions, feel free to contact our technical help center for assistance and guidance.



Installation Instructions Steps

03

When using tile backer boards or XPS insulation boards, it is crucial to follow the manufacturer's instructions carefully. For tile backer boards, we recommend staggering them in a brick bond style during installation. Ensure the boards are fixed using appropriate flexible adhesives for solid floors. For wooden sub-floors, mechanically fix the boards at 300mm intervals using suitable screws and washers. Adhering to these guidelines ensures a proper and secure installation of the heating system with tile backer boards or XPS insulation boards, preventing any potential issues and guaranteeing optimal performance.

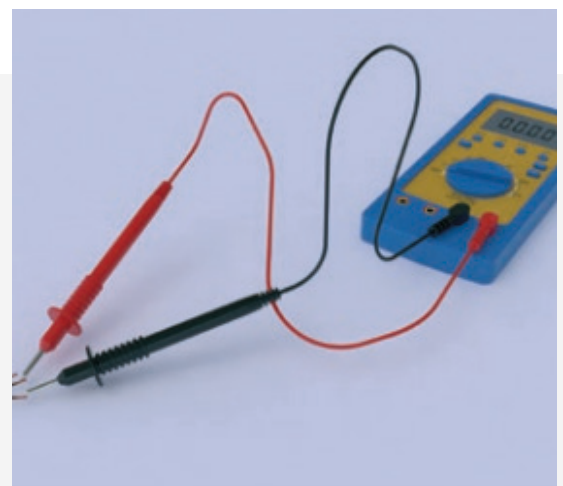


IMPORTANT:

- **DO NOT use XPS insulation boards on wooden sub-floors.**
- **DO NOT use ProFoam insulation boards with this heating system.**

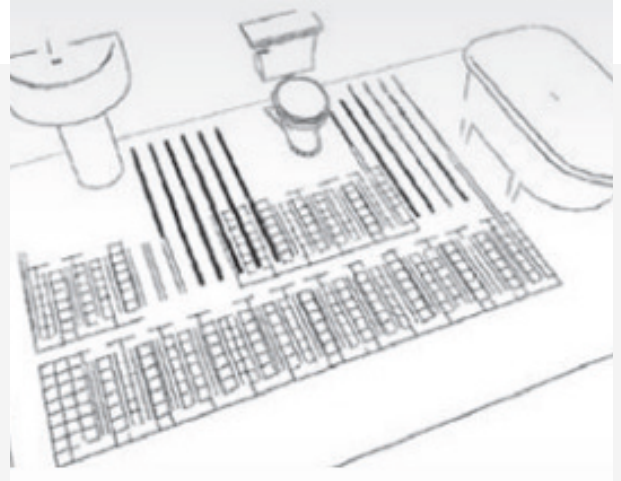
04

At this stage, we highly advise referring to the testing procedure outlined on page 6. Taking the time to perform this testing is of utmost importance. It ensures that the heating system functions safely and effectively, minimizing any potential risks and ensuring your peace of mind. Please follow the testing procedure diligently to ensure a successful installation and optimal performance of the system.



05

Create a floor plan for the area to be heated and determine appropriate positions for the fused spur and thermostat. Mark the underfloor heating mat layout on the plan. This step is crucial to ensure efficient utilization of the mat. Remember, once the mat is unrolled, it cannot be returned. Take care to execute this step accurately for a successful installation.



06

Commence the installation of the floor heating mat from the thermostat position. Roll out the mat and securely fasten it to the floor. The mat's sticky mesh ensures easy attachment by pressing it down onto the floor. If needed, use the double-sided adhesive strips to hold the mat in place when turning it upside down by 90 degrees. Additionally, provided cloth tape can be used in areas where the floor is uneven to ensure the mat lies flat.



IMPORTANT: Avoid using excessive long strips of tape along the edges of the heating mat/s as this can affect adhesive/latex bonds. Prime any tape used with suitable primer before applying adhesives/latex.

Maintain a distance of 50-100mm between the floor heating mat and the wall perimeter. Note that when installing around complex shapes, like a toilet or sink, you can remove the cable from the mesh matting and place it loose on the floor to suit the shape. Use minimal duct tape to hold it in place. However, never space the cable closer than 50mm between any two loops of the cable. Carefully adhere to these guidelines to ensure a successful and safe installation of the floor heating system. any 2 loops of cable.

Resistance Values

Twin Conductor 100W / m²/230 VOLTS

Width	Lenght	Area	Watts	Resistance	Width	Lenght	Area	Watts	Resistance
(M)	(M)	Sq.M	(W)	(Ohms)	(M)	(M)	Sq.M	(W)	(Ohms)
0.5	2	1	100	529.00	0.5	10	5	500	105.80
0.5	3	1.5	150	352.70	0.5	12	6	600	88.17
0.5	4	2	200	264.50	0.5	14	7	700	75.60
0.5	5	2.5	250	211.60	0.5	16	8	800	66.13
0.5	6	3	300	176.30	0.5	18	9	900	58.80
0.5	7	3.5	350	151.10	0.5	20	10	1000	52.90
0.5	8	4	400	132.30	0.5	22	11	1100	48.09
0.5	9	4.5	450	117.56	0.5	24	12	1200	44.08

Twin Conductor 150W / m² / 230 VOLTS

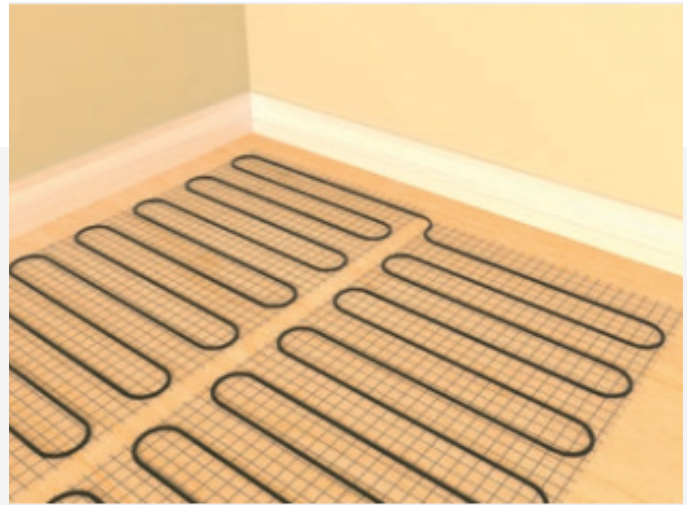
Width	Lenght	Area	Watts	Resistance	Width	Lenght	Area	Watts	Resistance
(M)	(M)	Sq.M	(W)	(Ohms)	(M)	(M)	Sq.M	(W)	(Ohms)
0.5	2	1	150	352.70	0.5	10	5	750	70.50
0.5	3	1.5	225	235.10	0.5	12	6	900	58.80
0.5	4	2	300	176.30	0.5	14	7	1050	50.40
0.5	5	2.5	375	141.10	0.5	16	8	1200	44.10
0.5	6	3	450	117.60	0.5	18	9	1350	39.20
0.5	7	3.5	525	100.80	0.5	20	10	1500	35.30
0.5	8	4	600	88.20	0.5	22	11	1650	32.06
0.5	9	4.5	675	78.37	0.5	24	12	1800	29.39

Twin Conductor 200W / m² / 230 VOLTS

Width	Lenght	Area	Watts	Resistance	Width	Lenght	Area	Watts	Resistance
(M)	(M)	Sq.M	(W)	(Ohms)	(M)	(M)	Sq.M	(W)	(Ohms)
0.5	2	1	200	264.50	0.5	10	5	1000	52.90
0.5	3	1.5	300	176.30	0.5	12	6	1200	44.08
0.5	4	2	400	132.30	0.5	14	7	1400	37.79
0.5	5	2.5	500	105.80	0.5	16	8	1600	33.06
0.5	6	3	600	88.17	0.5	18	9	1800	29.39
0.5	7	3.5	700	75.57	0.5	20	10	2000	26.45
0.5	8	4	800	66.13	0.5	22	11	2200	24.05
0.5	9	4.5	900	58.79	0.5	24	12	2400	22.04

07

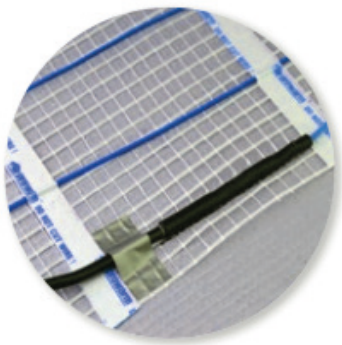
Upon reaching the end of the room, the floor heating mat can be cut, as illustrated here. However, it is crucial to emphasize that under no circumstances should the cables be cut.



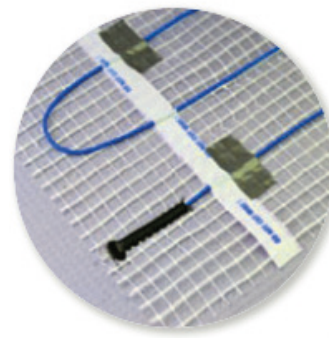
COLD TAIL AND END JOINT INSTALLATION

When installing the heating mat, special attention should be given to the end joint and cold tail joint, which refer to the connections between the supply lead and the heating mat. These joints have a larger diameter than the heating element, so you will need to cut a small channel or groove in the subfloor or insulation board to accommodate them. Once installed in the groove, avoid covering them with tape, as doing so will create an air void that hinders the dispersion of heat from the joints.

This can lead to potential overheating and system failure. Take care to follow these guidelines to ensure a safe and reliable installation.



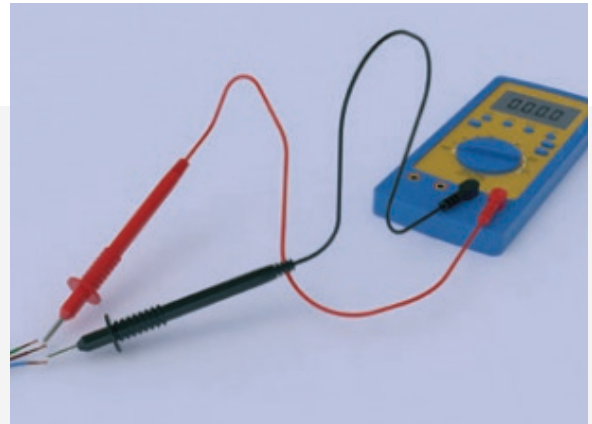
The cold tail joint can be secured in place by taping the cable either side of the joint, a small piece on the heating cable and a small piece on the cold tail. This will ensure the joint is NOT covered with tape.



The end joint can be secured in place by taping the red heating element just before the joint to help secure it in place. This will ensure the joint is NOT covered with tape. Both these heating joints MUST now be fully encapsulated within levelling compound and/or tile adhesive.

08

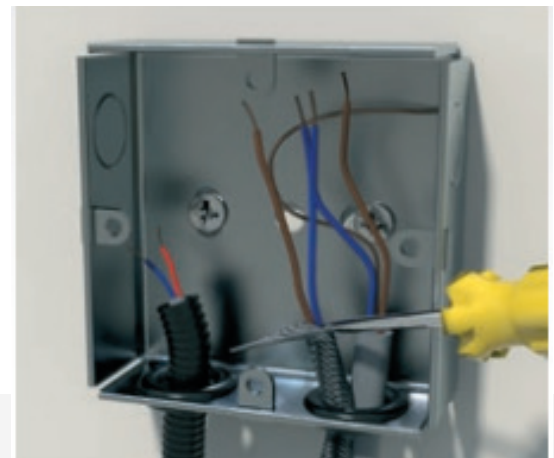
After laying the floor heating system, it is essential to check the cable resistance and insulation resistance values. Ensure that these values align with the pre-installation measurements. Record the measured values



on the guarantee certificate for future reference and warranty purposes. This step ensures that the installation has been performed correctly and that the system functions as expected. By documenting the values, you can track the performance of the heating system and validate its efficiency throughout its lifespan.

09

Depending on the type of mat supplied, the cold tail (black lead) may have a solid earth cable or an earth braid wrapped around the internal cores. To separate the strands, use a screwdriver to unbraid the braid by pulling it down. Then, twist the strands into a single strand.



Next, connect the earth from the mat to the earth from the incoming supply using the earth terminal in the back box. If you are using a plastic box with no terminal, employ a suitable terminal block. After completing the above steps, a qualified electrician must carry out an insulation resistance test at 500v DC.



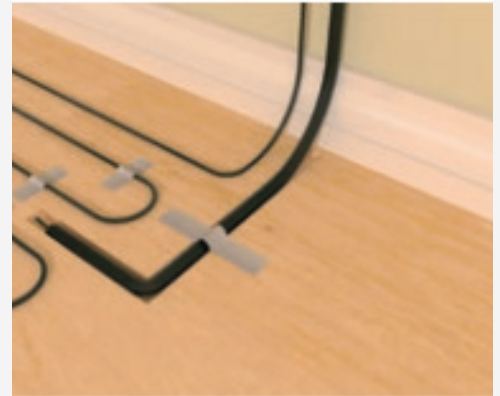
Finally, you can proceed to make the rest of the thermostat connections following the separate instructions provided.

10

Position the sensor within the black conduit provided, starting from the thermostat position and running it down between two cable runs. Secure the sensor in place by taping it down. If you are using insulation boards, cut them to allow the conduit to fit inside. Alternatively, if you're installing it directly onto plywood, create a groove using a sharp chisel (be cautious of pipes).

To ensure a neater installation, place the joint between the heating cable and the cold tail inside a floor groove, as it can be bulky and challenging to tile over. You have the flexibility to adjust the length of the sensor wire by either shortening or lengthening it. However, when cutting the sensor wire, only trim the end that contains exposed wires.

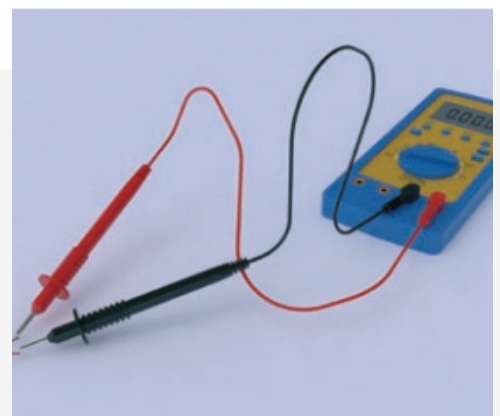
IMPORTANT: DO NOT cut the end that houses the plastic sensor. With the sensor properly positioned and the wire set to the desired length, proceed to make the necessary connections to the thermostat.



11

After making the connections, it is essential to test the cable's resistance again using a multimeter. This step helps ensure that the cable's electrical properties are within the expected range. Also, perform an insulation resistance test to ensure the cable is free from any damage or defects. This test checks the

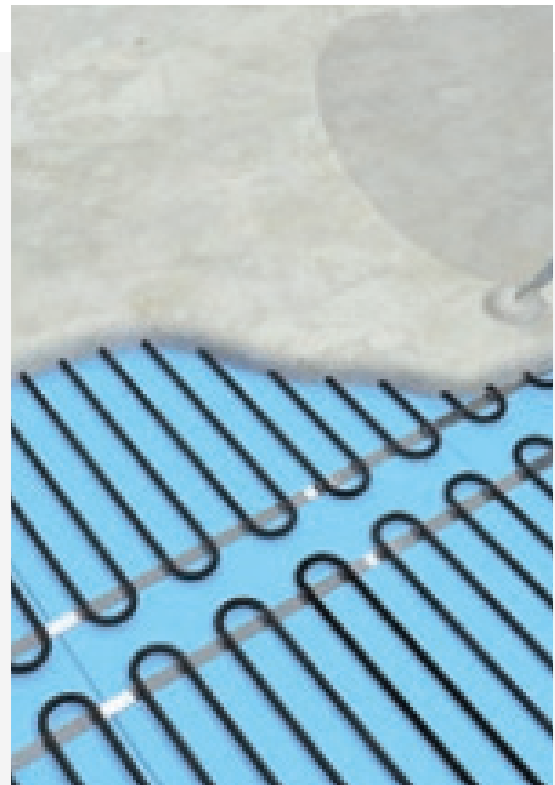
cable's insulation integrity and helps identify potential issues that may have occurred during installation or handling. By conducting both tests, you can verify the overall health and safety of the cable before proceeding further.



12

If possible, apply a thin layer (5-6mm) of suitable latex-based leveling compound to cover the cables. This protective layer will help safeguard the cables during the tiling process. Alternatively, you may tile directly over the cables, but extra caution should be exercised to avoid displacing or damaging them.

However, if your final floor covering will be a suitable vinyl, carpet, engineered wood, or laminate, we recommend using a minimum of 8mm of suitable latex leveling compound to ensure even heat distribution over the heating mat/cables.



Now, you can proceed to lay your flooring following the instructions provided by the floor manufacturer. Please refer to the adhesive manufacturer's guidelines for drying times before turning on your heating system. Typically, drying times are around 7 days. When starting the heating system, gradually increase the floor temperature by 1-2 degrees per day over a 2-week period to reduce the risk of force drying. If you have any doubts or questions, it is advisable to consult the adhesive and latex manufacturers for further advice.

13

To tile the floor, use a flexible tile adhesive and grout following the industry standards and the conditions specified by the tile manufacturers. After tiling, wait for at least 1 week before turning on the heating system. This waiting period allows sufficient time for the adhesive and grout to dry properly. Keep in mind that the heating may be slow to react initially, particularly if it is installed on a new screed floor or in a new building. To avoid any issues, start by setting the floor temperature to approximately 18°C and gradually increase it by 1°C per day until you reach your desired temperature. For detailed instructions on how to connect and operate the digital thermostat, please refer to the separate instructions provided specifically for the thermostat.

Do's and Dont's for Installation

- ✓ **Do** read through these instructions carefully before beginning work.
- ✓ **Do** use flexible adhesives and grouts.
- ✓ **Do** test the cable before tiling.
- ✓ **Do** be careful not to damage or dislodge the cable during tiling.
- ✓ **Do** ensure the cable is spaced no closer than 50mm between loops.
- ✓ **Do** try to protect the cable with cardboard or carpet during tiling.
- ✓ **Do** wait at least 7 days before turning on the system.
- ✓ **Do** read the separate installation and operating instructions for the thermostat.
- ✓ **Do** ensure the joint between the cold tails and heating cable is beneath the tiles.

- ✗ **Don't** attempt to cut the heating cable at any point.
- ✗ **Don't** allow the wires to cross or touch.
- ✗ **Don't** allow excessive foot traffic over the wire before tiling.
- ✗ **Don't** cut tiles over the heating cable.
- ✗ **Don't** place tools or stacks of tiles on top of cable.
- ✗ **Don't** place any product over the floor covering that has a higher tog value than 2.5.
- ✗ **Don't** place any bean bags or fixed furniture over the floor covering.
- ✗ **Don't** place cable closer than 100mm near any pipes.
- ✗ **Don't** turn on the heating mat/cable while it is rolled up or still on the drum.
- ✗ **Don't** tape over the end joint or the cold tail joint

! IMPORTANT

Please ensure that the cold tail joint (the join between the heating cable and flexible supply lead) is fully encapsulated in adhesive or levelling compound underneath the floor covering. Please ensure that the end joint (the join at the end of the cable which is black) is also fully encapsulated in tile adhesive or levelling compound underneath the floor covering. Both the cold tail joint and end joint **MUST NOT** be covered with tape, this can cause the cable to overheat and eventually fail!

DO NOT BEND THE COLD TAIL JOINT AT ANY POINT

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!