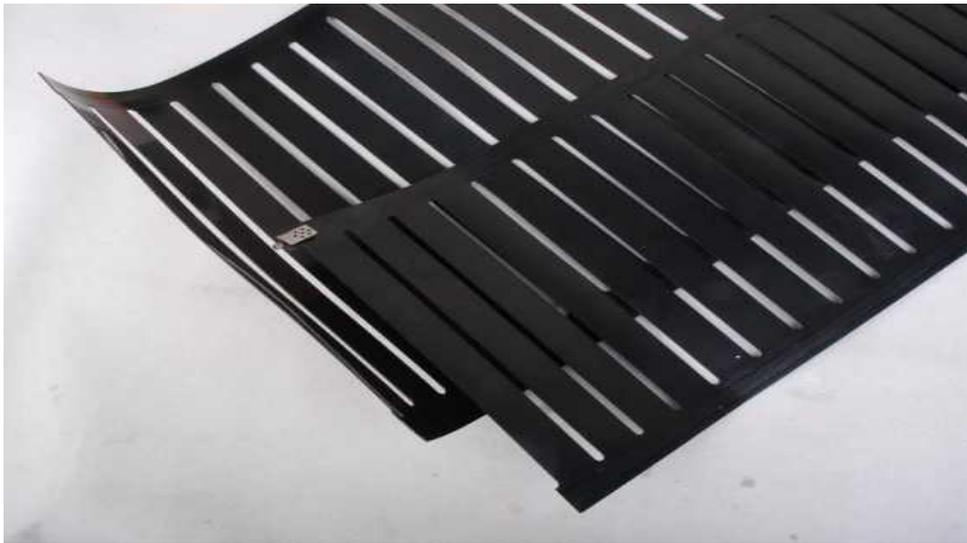




INSTALLATION MANUAL



EP warmfloor is a 24 Volt under floor heating system that is connected to the mains electricity via a transformer. The heating elements are made of carbon impregnated polyethylene which are temperature self-regulating. This is achieved by the resistance of the mat increasing with temperature. The system can be safely used in any room including bathrooms and kitchens and is EC approved.

To get the best from your new heating system it is important that it is installed correctly with regard to the overlaying materials and insulation. Please read though this manual carefully and if in any doubt, please contact your distributor

Before covering the under floor heating matting, connect and test the whole system. We recommend this is done by a qualified electrician.

The EP Warmfloor system pack normally includes:

1. EP heating elements with clips for cables
2. Cable for secondary side (from elements to transformer)
3. Transformer
4. Installation manual and Installation Certificate

Additional items that can be purchased from us include – Thermostat, Kapron Insulation Board & adhesive, woollen paper, insulation tape.

Cable and mains connection junction boxes are not provided by us and should be obtained from your installing electrician.

PREPARATION OF THE UNDERLYING FLOOR:

It is important that the floor is correctly prepared before laying the Warmfloor matting. Please ensure the following: -

- 1 - The floor must be firm with no broken scree or boards. Repair any areas beforehand.
- 2 - The floor must not have uneven, rough or sharp edges within it. (it does not have to be level)
- 3 - The floor should be thoroughly dry and any water ingress sources sealed.
- 4 - Ensure floor is clean and no electrically conductive materials come in contact with the mat
- 5 - Install any insulation material and ensure it is firmly glued to the substrate

CHECK DEGREE OF INSULATION

It goes without saying that any floor will benefit from improved insulation. Even though your floor may have been built to modern standards, we recommend use of 3 or 6mm Kapron board on ground floors especially. Boarded or chipboard flooring has some insulating properties but will still benefit from a sealing layer of insulating material. Warmfloor matting can be directly installed onto Kapron board. Where no insulation board is being used, we recommend the use of a strong paper seal over the floor before laying the matting.

WATTAGE REQUIREMENTS

The spacing between mats and also walls, affects to total wattage / sq. mtr.. For maximum heating, space the mats at a minimum of 2 cms.. For lower levels of heat, we recommend a maximum of 6 cms. spacing to avoid cold spots. Heating elements should not be placed under fixed installations such as kitchen units or solid furniture bases. A background heat can be obtained from spacing the mat up to 30 cms. apart or by reducing the voltage but additional heat may be needed on very cold days. Warmfloor will provide between approximately 50 and 70 watts / sq,mtr., depending on the spacing etc..

Installation Instructions

1 - BEFORE INSTALLATION OF HEATING ELEMENTS:

EP heating element can be fitted on any subfloor such as wood, scree, chipboard or vinyl. If you are tiling over the Warmfloor matting, ensure the subfloor is stable.

| EXISTING FLOOR | TREATMENTS | COMMENTS |
|-----------------------------|------------------------------------|-------------------------------------|
| Wood untreated | None - or use Kapron sheets on top | Nails etc. must be covered* |
| Wood, varnished / painted | None - or use Kapron sheets on top | Nails etc. must be covered* |
| Parquet, laminated parquet | None - or use Kapron sheets on top | |
| Chipboard cardboard sheets | Primer or use Kapron sheets on top | Nails etc. must be covered* |
| Gypsum sheets | None - or use Kapron sheets on top | Nails etc. must be covered* |
| Vinyl, plastic floors | Rub & Prime or use Kapron sheets | Must stick to under floor** |
| Carpets | Remove | Too unstable to build further on to |
| Ceramic tiles | Grease removal /rubbing | May be plastered to level |
| Fine concrete, even surface | None, or use Kapron sheets on top | The element adhesive must stick |
| Concrete uneven surface | Plaster and primer | |

* Cover with plaster or tape to avoid conductivity

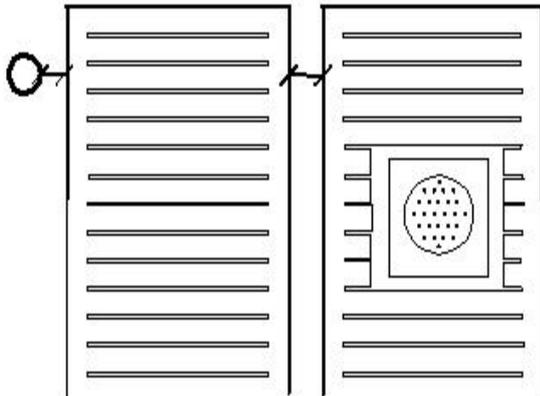
** No air bubbles can be allowed

When Kapron is used, primer is then not necessary. Primer that is recommended is EP-ADHSIVE 601 or Webber`s Maxit Floor 4718 or similar product

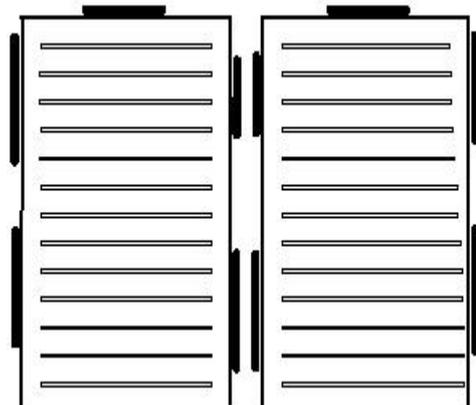
NB EP matting cannot be fitted directly onto steel or similar electrically conductive material

2 - ROLL OUT THE ELEMENTS AND POSITION THEM ON THE FLOOR

- ✓ Minimum distance between elements is 2 cm – recommended maximum 6 cm.
- ✓ Distance between heating elements and plumbing must be at least 3 cm.
- ✓ Elements must be placed in open spaces and not underneath fixed items as cupboards etc.
- ✓ Cut elements to correct length if this is not done by supplier.
- ✓ If a drainage hole is required, it may be cut to fit through the centre of a mat area, not on the side where electrodes are placed as this will stop the mat heating.
- ✓ We highly recommend Kapron insulation underneath the elements.



The distance to conductive material has to be a MINIMUM of 3 cm. The drain sealing must be fitted through the heating element and sealed.



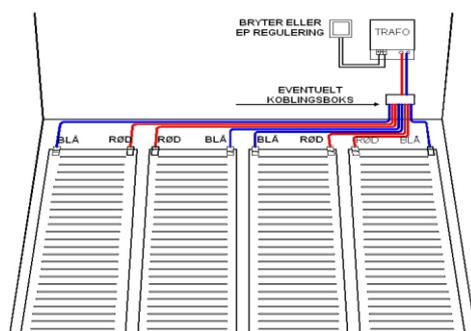
Measure up on the floor exact where the elements will be. Put down the end with the clips first. If the element is too long, you can cut off the opposite end

3. STICKING ELEMENTS TO THE FLOOR:

- ✓ The elements should be installed at Room temperature. Before removing the sticky protective tape, lay them out and stretch them length wise to remove any humps or excess material. Check the gap allowed on the plan of the room before sticking the second mat down.
- ✓ Start at the clip end leaving about 5 cm of adhesive backed paper on the clip end, to allow the lead wires to be easily attached. Remove about 30 cm. of protective tape and press down firmly. Progress down the mat in small sections, checking the spacing between each mat. Stretch the mat gently as you go.
- ✓ If there is too much mat at the end of the run, simply cut off excess with a sharp pair of scissors.

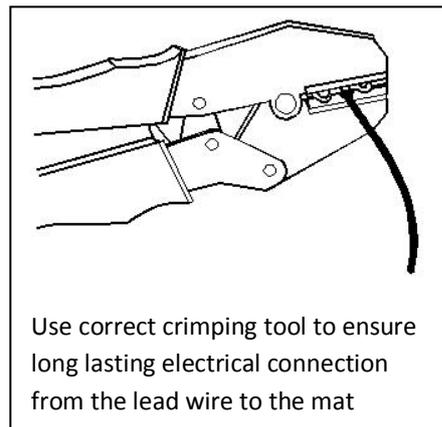
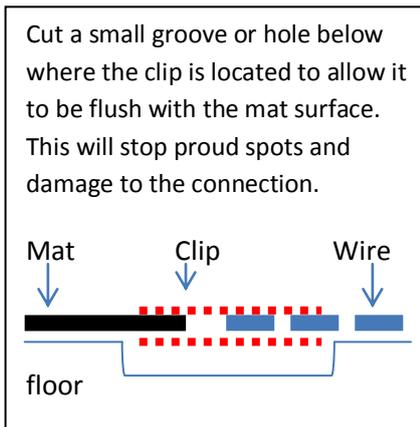
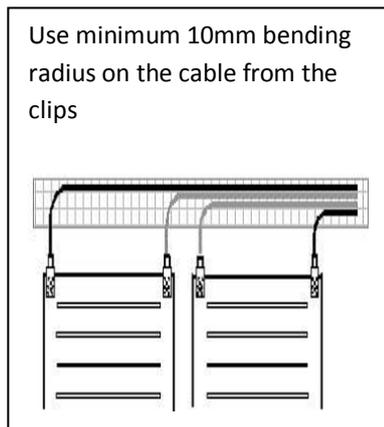
4 - CONNECTING THE LEAD WIRES TO THE ELEMENTS:

- ✓ Use the same colour wire to the connections closest to each other on side by side mats. (This will reduce the chance of short circuiting between the mats by using the same polarity next to each other). Use a different colour wire on the other side of the mat to ensure connection of the opposite polarity on the transformer.



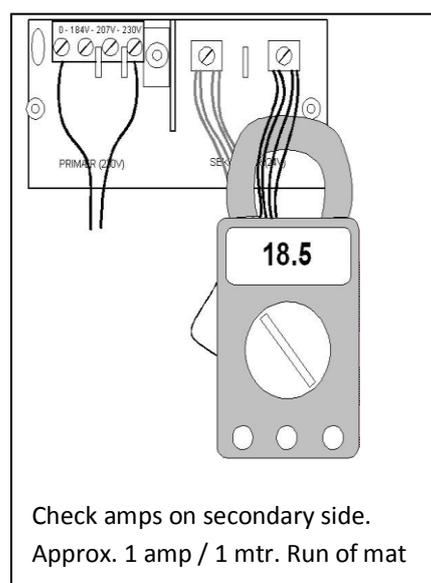
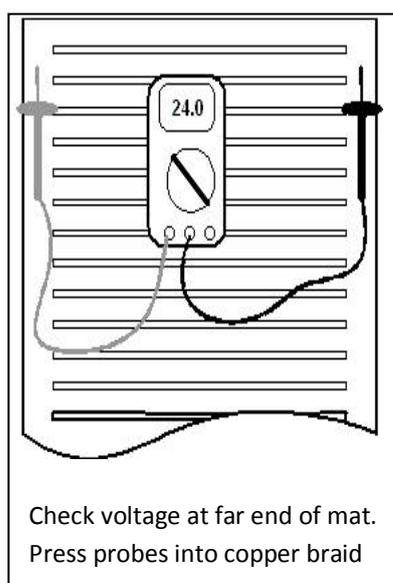
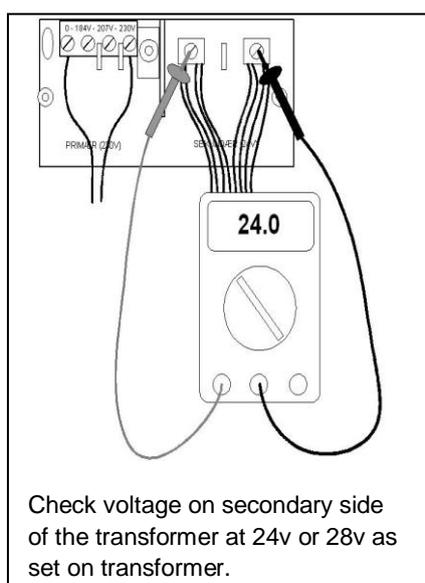
Lay mats minimum of 2 cm. apart and a minimum of 3 cm. from any pipework or earthing metal. Connect same colour wires on facing sides of each mat to reduce the chance of any current flow between mats and loss of power across mats.

- Both cables from each element must be taken across the floor without crossing over each other.
- ✓ Use double sided adhesive tape under the clips and wires to keep them in place as you work on the others
- ✓ Use a junction box to join the lead wires if the transformer is either remote or if there too many wires for it.
- ✓ Cable size of 1.5mm² must be used for up to 7 mtrs. of element & 5m of lead cables.
- ✓ Cable size of 2.5mm² must be used for up to 7 mtrs. of element & from 5 – 10 mtrs. of lead cable
- ✓ Cut out from the subfloor or Kapron a small groove for the clips to sit in so that there are no proud spots.
- ✓ Use the correct crimping tool (available from us) to ensure a good electrical connection from the lead wire to the matting edges.
- ✓ Tape clips and wire ends to insulate from surrounding materials and floor.



5. SETTING UP TRANSFORMER & CONNECTING CABLES FROM THE ELEMENTS:

- ✓ The transformer may be placed in a ventilated cupboard, on the wall or in an outside the room area.
- ✓ Ensure that the transformer is mounted according to regulations in a wet room such as a bathroom etc
- ✓ Ensure the unit is firmly fixed to the wall. If in an area where vibration exists, use rubber washers.
- ✓ Connect the cables from the mat elements to the secondary side of the transformer.
- ✓ Check that all connections are correct polarity and check voltages on each mat in turn.



6 -COVERING OF EP WARMFLOOR

EP Warmfloor may be covered with all types of flooring materials due to the low operating temperature and the self – regulating effect. To make a successfully installation it is important to consider:

| TOP MATERIAL: | CONSTRUCTION ABOVE EP WARMFLOOR |
|-------------------------|---|
| Wooden floor – floating | Woollen paper on top of element, then the floor. |
| Wooden floor - nailed | Woollen paper on top of element, screw/nails between elements. |
| Parquet & laminate | Woollen paper on top of element, then the floor. |
| Vinyl & linoleum | 6-10mm self-levelling flexible compound or 4mm plywood. |
| Carpets | 6-10mm self-levelling flexible compound or 4mm plywood. |
| Ceramic tiles | Use flexible adhesive, PS Membrane over the elements in wet room. |

When using Kapron insulation underneath the heating elements a 6mm. layer of flexible tiling compound must be used for ceramic tiles. For carpets, use either a self-levelling compound or alternatively a good quality underlay is required in addition to a quality carpet.

We recommend Weber product for primer, compound and adhesive.

- ✓ *Tiling:* Double check that all joints and all edges of the insulation board are sealed off so no self levelling compound can leak under them
- ✓ When using other suppliers get advice and instructions about the floor construction.
- ✓ Wood, parquet and laminate should be room acclimatised for a few days before laying on any surface.
- ✓ All wooden floors should be heated only 2-3 hours a day for the first 3 days after installation.
- ✓ When using self-levelling compound, tile adhesive or membrane, wait 8-10 days before turning on EP Warmfloor to ensure sufficient drying. Turning on for 10 minute ‘blips’ every 6 hours will assist drying.
- ✓

TIPS, USE AND SERVICE

After one year of running, the connections in transformer and switches should be checked and tightened if necessary. Otherwise there are no other maintenance requirements for your system.

When EP Warmfloor is installed in large rooms or rooms with large windows taking in sunlight, it may be necessary to install a thermostat in addition to the self-regulating incorporated into the mat. A thermostat is also useful if it is intended to run the floor heating during summer months.

If a higher level of temperature is desired, this can be obtained by utilising a higher voltage from the transformer. A re-arranging of the connections within the transformer or a selection of a higher voltage is needed. Please be aware the transformer must be rated to cope with the extra voltage on the meterage of the laid mat. (Approximately -10% / 2 volt increase) Please refer to the information on the installation certificate and if any doubt, please get in touch with us or your installer.

System not working - troubleshooting

1. Check fuse in mains supply box or plug. Change if necessary. (13 amp fuse should be used)
2. Check thermo safety switch in transformer connection box - Press button for 3-4 seconds
3. Glass fuse in transformer connection box blown - Turn power off. Change fuse.
4. 480 & 960 transformers - the resistance fuse may need re-setting - Turn power off at mains for 1 minute.

Before changing any fuse, the installation must be turned off and preferably the cause should be found. Contact an electrician or the supplier for further information or assistance.



Laying out matting elements on top of Kapron Insulation board.



Wiring up matting elements and then covering with a self-levelling compound



UK Distributors -
Warmflooring.Ltd.UK
2 Highfield Drive
Kirton Lindsev

Using 6 mm of flexible tiling compound directly on top of matting.