

Electric Underfloor Heating


## Overview

## Electric underfloor heating

## (AKA dry systems)

There are 2 main types of electric underfloor heating systems; loose cables and mats. Loose cables are flexible enough to fit into small or awkward spaces. Heating mats are quicker to install, as they are simply rolled out, making them ideal for covering large areas.

Both heating mats and cables are connected to a power supply, via an RCD, and are wired to a thermostat to control the temperature of the floor.

## Undertile



Tiled floor
Flexible adhesive
Levelling compound (optional)
Heat mat or loose cable
Backer board
Flexible adhesive
Suitable solid subbase

## Underwood



Wood floor

Foil heating mat

ProFoam"' insulation board ESSENTIAL

Suitable solid subbase

## Luxury Vinyl Tiles



LVT
Levelling compound (10Mm minimum)
Heat mat or loose cable
Backer board
Flexible adhesive
Suitable solid subbase

## Overview

## Electric UFH

- Easy to install
- Cheaper to install in smaller areas i.e. kitchens/bathrooms
- Can be retro fitted into existing rooms with minimum disruption
- Will only increase floor height from as little as 2 mm
- Wattage output option for different scenarios
- 80-90\% coverage for a primary heat source

MINIMAL DISRUPTION \& EASY TO INSTALL

Please ensure that your room has enough free floor space to heat the room. We recommend that you have at least 2 m 2 of free floor space for your project. Remember that you can't use underfloor heating underneath permanent fixtures such as bath, shower cubicle, toilet, vanity units, kitchen units etc.

Don't forget that single glazed windows, solid walls and uninsulated floors might have an effect on the overall performance of your underfloor heating.

## Contents

Undertile - Heating Mats

Undertile - Loose Cables

# Under Laminate or Engineered Wood 

8-9

Loose Cable Coverage Guide

Product Directory

## (18) Calculations

Formulas have been provided where calculations are needed to work out quantities of each product.

Please note that it is advisable to check your calculations before beginning a job.

# Heating Mats Under Tile / Stone / LVT 

## For regular shaped areas

You will need the following:


Scan QR code for installation video


Tile backer boards + 150W Heating + Kit accessory pack (Recommended) mat

Up to $12 \mathrm{~m}^{2}$
For insulation \&
improved efficiency

## (10) What size Heating Kit do I need?

Room size (length x width) minus fitted furniture (total area of units in diagram)
$3.5 \mathrm{~m}^{2} \times 3.5 \mathrm{~m}^{2}=12.25 \mathrm{~m}^{2}$ (Room size)
$1 m^{2} \times 3.5 m^{2}=3.5 m^{2}$ (Fitted furniture)
$12.25 m^{2}-3.5 m^{2}=8.75 m^{2}$
Minus 10\% to get your heated area
$8.75 \mathrm{~m}^{2} \times 0.9=7.875 \mathrm{~m}^{2}$
ALWAYS round down to the nearest heating cable/mat size
$7.875 \mathrm{~m}^{2}=7 \mathrm{~m}^{2}$ heating cable/mat


## Loose Cable Under Tile / Stone / LVT

## For awkward shaped areas

You will need the following:


Scan QR code for installation video


Tile backer boards + Loose cable (Recommended)


For insulation \&
improved efficiency

## (4) How many Tile Backer Boards?

ProWarm ${ }^{\text {TM }}$ backer boards are $1200 \mathrm{~mm} \times 600 \mathrm{~mm}$ and cover $0.72 \mathrm{~m}^{2}$
Rooms total area divided by $0.72=$ Number of boards required For Example:
$12.25 \mathrm{~m}^{2} / 0.72=17$ (17 boards)
Then add on 5\% for wastage
$17 \times 1.05=17.85$ ( 18 boards)
These boards are fixed to timber using screws, washers and flexible tile adhesive

They are fixed to screed using flexible tile adhesive


## Under Laminate or Engineered Wood

## You will need the following:

Underwood foil heating mat

MAT SIZES: 500 mm wide $1 \mathrm{~m}^{2}$ lengths up to $12 \mathrm{~m}^{2}$

## (2) What size Heating Kit do I need?

Room size (length x width) minus fitted furniture (total area of units in diagram)
$3.5 \mathrm{~m}^{2} \times 3.5 \mathrm{~m}^{2}=12.25 \mathrm{~m}^{2}$ (Room size)
$1 \mathrm{~m}^{2} \times 3.5 \mathrm{~m}^{2}=3.5 \mathrm{~m}^{2}$ (Fitted furniture)
$12.25 m^{2}-3.5 m^{2}=8.75 m^{2}$
Minus 10\% to get your heated area
$8.75 \mathrm{~m}^{2} \times 0.9=7.875 \mathrm{~m}^{2}$
ALWAYS round down to the nearest heating cable/mat size
$7.875 \mathrm{~m}^{2}=7 \mathrm{~m}^{2}$ heating cable/mat


ProWarm ${ }^{\text {TM }}$ ProFoam ${ }^{\text {TM }}$ insulation boards
(Must be used under a wood system - Not to be used under tiles)

You will need enough of these to cover your entire room size

Sold in packs of $10 \mathrm{~m}^{2}$


## (1) How many ProFoam" Insulation Boards?

ProWarm ${ }^{\text {TM }}$ ProFoam ${ }^{\text {TM }}$ boards are $1200 \mathrm{~mm} \times 600 \mathrm{~mm}$ and each pack contains 14 boards

Rooms total area divided by $10=$ Number of packs required For Example:
$25 \mathrm{~m}^{2} / 10=2.5$ (3 packs)
Then add on 5\% for wastage
$2.5 \times 1.05=2.625$ (3 packs)
These boards are loose laid with taped joints


## Loose Cable Coverage Guide



ProWarm ${ }^{\text {TM }}$ Electric Underfloor Heating cable kits provide a reliable and effective underfloor heating system that can work with tiles and many other floor coverings (installation methods differ, please call us for advice).

Damage your underfloor heating cable or mat during the installation process and ProWarm ${ }^{\text {TM }}$ will replace it free of charge.* Giving you total peace of mind!
*There are some conditions that must be met in order to validate the Guarantee


Wattage 150w per m²

To assist in planning your project we have provided a Cable Coverage Guide.

Based on your planned cable spacing get all the technical data from the table below.

| Cable <br> Length | Area <br> Covered |
| :--- | :--- |
| 35 m | $2.3 \mathrm{~m}^{2}$ |
| 64 m | $4.2 \mathrm{~m}^{2}$ |
| 92 m | $6 \mathrm{~m}^{2}$ |
| 125 m | $8.3 \mathrm{~m}^{2}$ |
| 160 m | $10.6 \mathrm{~m}^{2}$ |

Our technical staff are fully qualified electricians and plumbers and can offer expert advice on any additional issues you may have.
${ }^{\text {m }}$

## Product directory

|  | Product Description | Code |
| :---: | :---: | :---: |
|  | ProWarm ${ }^{\text {Tm }} 150 \mathrm{w}$ mat only / 2.0m2 | 166937 |
|  | ProWarm ${ }^{\text {Tm }} 150 \mathrm{w}$ mat only / 4.0m2 | 166938 |
|  | ProWarm ${ }^{\text {Tm }} 150 \mathrm{w}$ mat only / 6.0 m 2 | 166939 |
|  | ProWarm ${ }^{\text {Tm }} 150 \mathrm{w}$ mat only / 8.0m2 | 166940 |
|  | ProWarm ${ }^{\text {Tm }} 150 \mathrm{w}$ mat only / 10.0m2 | 166941 |
|  | ProWarm ${ }^{\text {TM }}$ Loose cable - 35m - Drum only | 166942 |
|  | ProWarm ${ }^{\text {Tm }}$ Loose cable - 64m - Drum only | 166943 |
|  | ProWarm ${ }^{\text {Th }}$ Loose cable - 92m - Drum only | 166944 |
|  | ProWarm ${ }^{\text {Tm }}$ Loose cable - 125m - Drum only | 166945 |
|  | ProWarm ${ }^{\text {Tm }}$ Loose cable - 160m-Drum only | 166946 |
|  | ProWarm ${ }^{\text {Tm }}$ Underwood Heating mat only 2.0 m 2 | 166947 |
|  | ProWarm ${ }^{\text {Tm }}$ Underwood Heating mat only 4.0 m 2 | 166948 |
|  | ProWarm ${ }^{\text {Tm }}$ Underwood Heating mat only 6.0 m 2 | 166949 |
|  | ProWarm ${ }^{\text {Tm }}$ Underwood Heating mat only 8.0 m 2 | 166950 |
| $0838 \text { 268 } 0838$ | ProWarm ${ }^{\text {Tm }}$ Touchscreen Thermostat - Silver | 166951 |
|  | ProWarm ${ }^{\text {Tm }}$ Touchscreen Thermostat - White | 166952 |
| $205$ | ProWarm ${ }^{\text {Tm }}$ Digital Thermostat - Standard White | 166953 |
|  | ProWarm ${ }^{\text {TM }} 6 \mathrm{~mm}$ Tile Backer Insulation Boards | 166935 |
|  | ProWarm ${ }^{\text {Tm }}$ ProFoam ${ }^{\text {Tm }}$ Underlay Insulation Board 10m2 Pack | 166936 |
|  | ProWarm ${ }^{\text {Tw }}$ Kit Accessories for Undertile / Loose Cable - Up to 12m2 | 166954 |
|  | ProWarm ${ }^{\text {T" }}$ Kit Accessories for Underwood mat - Up to 12m2 | 166955 |


| Size | Features \& benefits | Suitability |
| :---: | :---: | :---: |
| 2 m 2 | Our high quality ETFE advanced insulation system is made with the highest quality Fluoropolymer's and does not contain any PVC coatings whatsoever. | Suitable for use with tiles, stone \& LVT (when used with levelling compound) |
| 4 m 2 |  |  |
| 6 m 2 |  |  |
| 8m2 |  |  |
| 10 m 2 |  |  |
| 2.3 m 2 | ProWarm ${ }^{\text {Tm }}$ Loose Cable systems are perfect for small bathrooms, ensuites and awkward shape areas. <br> *65mm Spacing | Suitable for use with tiles, stone \& LVT (when used with levelling compound) |
| 4.2 m 2 |  |  |
| 6 m 2 |  |  |
| 8.3 m 2 |  |  |
| 10.6 m 2 |  |  |
| 2 m 2 | The advantage of our ultra-thin cable means that laminate/engineered wood can be installed directly on top | Suitable for use with laminate and engineered wood |
| 4 m 2 |  |  |
| 6 m 2 |  |  |
| 8m2 |  |  |
| $125 \times 95 \times 17$ | Large LCD touch display, 7 day programmable, 25 year Lifetime Warranty | Suitable for use with all ProWarm ${ }^{\text {TM }}$ electric heating systems |
| $125 \times 95 \times 17$ |  |  |
| $86 \times 86 \times 13$ | Large LCD display, 7 day programmable, 25 year Lifetime Warranty | Suitable for use with all ProWarm ${ }^{\text {TM }}$ electric heating systems |
| $1200 \times 600 \times 6$ | Outstanding Thermal Insulation, High Compressive Strength, Impact Noise Reduction | Suitable for wet areas and under tiles |
| $\begin{aligned} & 1200 \times 600 \times 6 \\ & \text { (board) } \\ & 1200 \times 600 \times 84 \\ & \text { (Pack) } \end{aligned}$ | Outstanding Thermal Insulation, High Compressive Strength, Impact Noise Reduction | Suitable for use with laminate and engineered wood |
| 12m2 | ProWarm ${ }^{\text {T"M }}$ Accessories Kits are vital for the installation of the ProWarm ${ }^{\text {™ }}$ heating systems and come equipped with all components necessary | Required for installation of undertile systems |
| 12m2 | ProWarm ${ }^{\text {TM }}$ Underwood Accessories Kit is vital for the installation of the ProWarm ${ }^{\text {TM }}$ underwood heating and come equipped with all components necessary | Required for installation of underwood systems |

## Undertile FAQ's

## - HOW WIDE ARE THE MATS?

A The mats are 500 mm wide and come in different lengths to suit the size of the room. For instance, if you require a 4 m 2 mat kit, it would come on a roll 8 m long by 500 mm wide.
This covers 4 m 2 . Simply roll out the mat, cut the mesh when you reach the end of the room, then flip the mat over and come back the other way.

## - HOW THICK IS THE CABLE?

A Our heating cables are 2 mm thick. You need to allow for the thickness of your tile adhesive ( 5 mm ), your tile and any insulation board used when informing the customer how much their floor will be raised by, after the installation.

## - HOW MANY MATS / CABLES CAN I WIRE INTO A THERMOSTAT?

A Our range of thermostats will switch 16amps so any combination of mats or cables can be connected as long as the total load does not exceed this.
When connecting more than two heating mats/cables into 1 thermostat, it may be a little tight to get all the cables into the thermostat terminals - in this case you can use a junction box to connect them, which can be positioned on the wall behind a blanking plate or similar.

- HOW HOT DOES THE FLOOR GET?

A The floor can reach a maximum temperature of around $28^{\circ} \mathrm{C}$, obviously this is limited by the thermostat.
a HOW MUCH DOES IT COST TO RUN?
A Running costs vary depending on the electricity supplier base price, the level of insulation and a few other factors. A basic rule of thumb is to allow 2.5 p per m2 per hour.

## Underwood FAQ's

## - ARE ALL WOOD AND LAMINATE FLOORS SUITABLE TO USE WITH OUR UNDERFLOOR HEATING SYSTEM?

A These days most flooring manufacturers approve their flooring products to be used with underfloor heating systems, but we always recommend you check with your supplier to ensure your wood or laminate floor is suitable to use with our underfloor heating systems. 18 mm is the maximum thickness we recommend to use to ensure you obtain the most from the system.

## - CAN I USE UNDERLAY WITH MY UNDERWOOD SYSTEM?

A At no point should an underlay be installed on top of the heating mat prior to laying the floor. The insulation boards followed by the heating mat are the only items that should be installed.

- IS THE UNDERWOOD HEATING SUITABLE FOR WET AREAS?

A Yes - our system is suitable for wet areas and is fully 17 th edition compliant, providing you follow the installation instructions.

## - CAN I PUT FURNITURE ON TOP?

A Yes most free standing furniture is fine to use. Flat bottomed furniture MUST NOT BE placed over areas where the heating mat/cable is installed as this can restrict airflow to the floor, causing thermal blocking. This includes rugs, bean bags, or any item which has a tog value greater than 2.5.

- WHAT IS THE TOTAL THICKNESS IT WILL RAISE MY FLOOR?

A If you use our 6 mm insulation boards the total thickness will be 8 mm as the heating mat is only 2 mm thick.

## - CAN THE MATS BE CUT?

A The mats can be cut and turned to suit any given floor space, this makes our system much more versatile than the old fashioned carbon film systems. (PLEASE NOTE DO NOT CUT THE CABLES).

## You may also need:

| What? | Why? |
| :--- | :--- |
| Tools - tape measure, <br> scissors, hammer \& chisel | To use during installation |
| Digital multimeter | To test the system before, <br> during and after installation |
| Latex Ievelling compound | To level the floor if your <br> existing subfloor is uneven <br> and to encapsulate the <br> heating element if used in <br> conjunction with LVT |
| Waterproof tape | To seal the joints between <br> backer boards if installing <br> wood or laminate in a wet <br> area such as a bathroom |
| Flexible tile adhesive | To fit the backer boards and <br> tiles (if using) |

