



## Ecofloor under-tile heating element installation instruction.

The Ecofloor under-tile heating kit that you have purchased is a twin-conductor, singled ended loose element. The elements are 2mm in diameter with a 5mm diameter cold tail (three metres in length). The blind end of the element is terminated with a 5mm diameter seal.

The Ecofloor twin-conductor element is easy to install, as it is not necessary to return both ends of the element to a power circuit.

### The Ecofloor under-tile heating kits include:

- Ecofloor single-ended twin-conductor element.
- Element fixing tape.
- Element spacing guide.
- A 1.5m length of 10mm flexible sensor conduit (for the floor sensor).
- Installation instructions and test certificate.



Please read these instructions carefully before proceeding.



**Tip:** The carton in which the element is supplied has a punch-out aperture so that the cable can spool out from the end of carton. This allows tangle-free installation.

### Step 1: Preparation



CAUTION

***Do not install the elements beneath permanent floor mounted fixtures or fittings, such as vanities, cupboards, toilet pans, etc. This may cause overheating and increases the risk of element damage.***

- Install Ecofloor under-tile heating elements directly onto a clean and primed floor.
- The floor may be smooth concrete, or wooden.
- If the floor is wooden, we recommend that you first lay thermally insulating F-Board over the floor. If F-Board is unavailable, other products such as tile and slate board may be substituted.
- Seal or prime the surface on which the element is to be installed, to ensure that the tape or glue used to hold the element in place adheres well to the floor surface. This will reduce the possibility of the element floating to the surface of self-leveling compound (where applicable).
- Measure and mark out the floor area which is to be heated. (Refer to page 4, FIG - 1)
- Check that you have selected the correct size Ecofloor cable kit for your installation size by referring to the size-range table on the box label.
- Please refer to the F-Board installation instructions (where applicable)..

### Step 2: Element spacing



CAUTION

***Elements must not be installed with a spacing of less than 50mm between adjacent loops.***

- Ecofloor element spacing between adjacent loops must be between 50mm and 85mm .
- The supplied spacing guide is indicative only and the room size, shape and obstacles may alter the spacing element spacing.

### Step 3: Installation of Ecofloor elements

Because Ecofloor under-tile elements are manufactured as a twin-conductor heating element, there is only the one cold tail termination (at one end of the element). This not only simplifies the laying of the element, but also the terminating of the element to the thermostat.



***Note that when installing the element, the heating element loops must not cross either adjacent heating element loops nor cold tail connections, and must not be cut.***

- **Determine the start point and thermostat location**

Do this through consultation with your electrician, who can advise you where best to locate the thermostat and of any other requirements that they will have regarding the installation. In wet areas, there are specific regulations that apply and this may limit the position of the thermostat. The cold tails will usually start adjacent to where the thermostat is to be installed.

- **Install the flexible conduit**

The supplied flexible conduit is installed immediately adjacent to the cold tail point and is intended for installing the thermostat floor sensor. (See diagram on page 5, FIG - 2 and 3)

- Where installing onto a prepared concrete floor, chase the conduit into the concrete between 7mm to 8mm.
- Where installing on to F-Board or similar, slot the conduit into the board.

**Note:** Tape the floor end of the conduit to prevent self leveling compound or tile adhesive from entering the conduit. Do not install the conduit with a bend radius of less than 50mm.

- **Install the heating element**



***Note that once the element has been installed onto the floor, care must be taken to avoid any damage while exposed. Avoid standing on the element, or placing sharp or heavy objects on the elements.***

- Determine the area (in square metre's) over which the element is to be installed, then refer to the orange label on the Cable Kit box. Note the appropriate watts per square metre for your specific element over the area onto which it is to be installed.
- Select the appropriate element spacing edge on the *element spacing guide* that most closely matches your noted watts per square metre. Use the element spacing guide or a ruler to mark out your required element spacing on the floor (refer Page 4, FIG - 2)
- When installing onto a prepared concrete floor, chase the cold tail into the concrete by 4mm to 6mm. If you have laid F-Board, then F board or similar, slot the cold tail into the board.
- Start laying the cable (cold tail end first) with the first loop of the heated part of the element (colored orange) approximately 35mm (+/- 3mm) adjacent to the flexible conduit.
- Use the supplied tape or a hot glue gun to anchor the element in place during the installation.
- When placing the tape over the element, swage the tape down the sides of the element. This will reduce the possibility of small air pockets being trapped beneath the tape. Spacing of the tape must be such that the element does not bow off the floor, and should prevent the element from floating to the surface when self-leveling compound is applied (where applicable).
- Testing: While installing and after installation is finished, check the *resistance* of the element (using a multi meter). Test the *insulation resistance* of the element using an insulation tester with a minimum testing voltage of 500V. (See page X for element resistance values).

● Installing the thermostat



**All electrical connections of the thermostat must be performed by a registered electrician.**

- Install the thermostat in conjunction with an electrician who will connect the circuits, and sign
- off the required Certificate of Conformity (CoC).

**Declaration**

The manufacturers of Ecofloor, their agents and there distributors accept no liability, expressed or implied, for any loss or consequential damage suffered as a result of installations which in any way contravene the instructions here in or any relevant codes of practice.

Installation of the Ecofloor under-tile heating elements must comply with the provisions as set down in AS/NZS3000:2007.

**In the event that you require advise or have any question, please call Ecofloor<sup>®</sup> Service, free phone 0800 927 635**

ADSA Type	Length (M)	Wattage (W)	Resistance ( $\Omega$ )
120225	16.8	225	235.11
120350	28.9	350	151.14
120525	39.2	525	100.76
120700	54.8	700	75.57
120875	65.0	875	60.46
121000	83.0	1000	52.9
121250	100.0	1250	42.32
121450	118.0	1450	36.48
121800	150.0	1800	29.34
122200	175.0	2200	24.05

**TABLE - 1**  
**Element characteristic**

**Test Sheet**

This ECOfloor cable kit carries a 10 year warranty that covers the element from defect.  
Please fill out the details below and post to:

**Comfortline NZ Limited**  
**PO Box 8582**  
**Riccarton**  
**Christchurch**

Site Address	
Date installed	
Installer name	
Installer phone number	

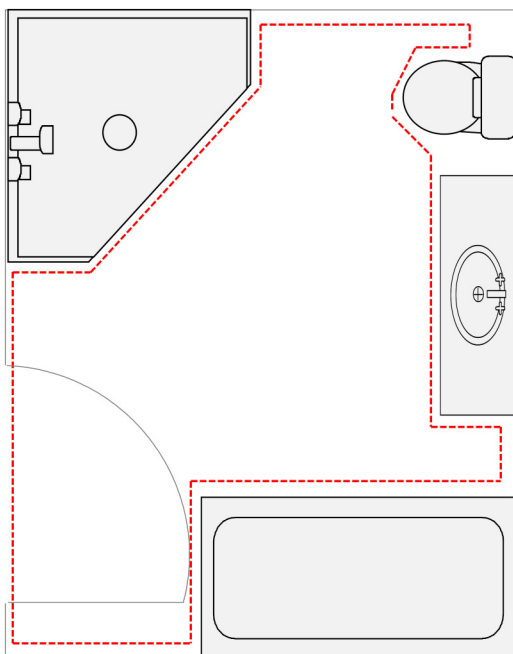
Immediately after laying of element and before FLC/tiling

Element model	
Element resistance	
Installer name	
Element spacing	

Immediately before connecting element to power circuit

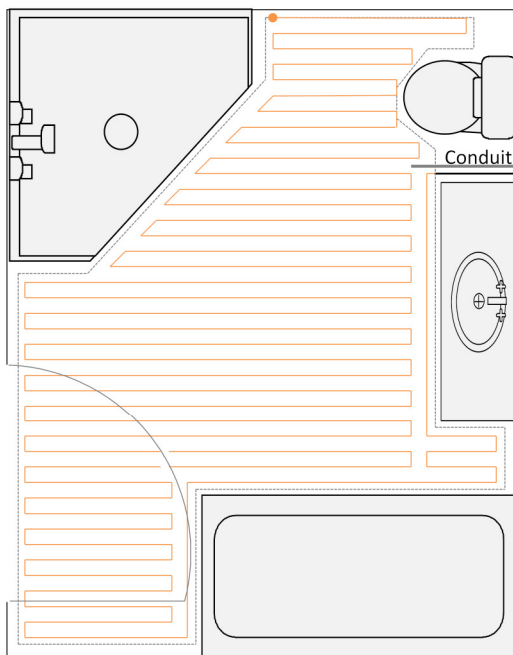
Element model	
Element resistance	

Date	Signature
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Perimeter marked and position of thermostat identified

FIG - 1



Typical element layout and cold-tail and sensor positioned

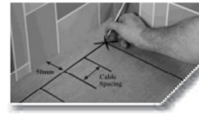
FIG - 2



Clean and grease free



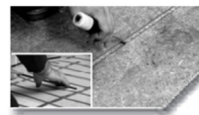
Primed and sealed



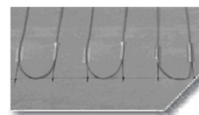
Identify start point



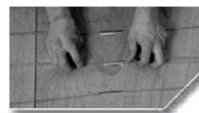
Mark out the installation



Chase conduit and cold-tail positions



Lay Ecofloor element



Adjust for even and parallel spacing



Firmly secure

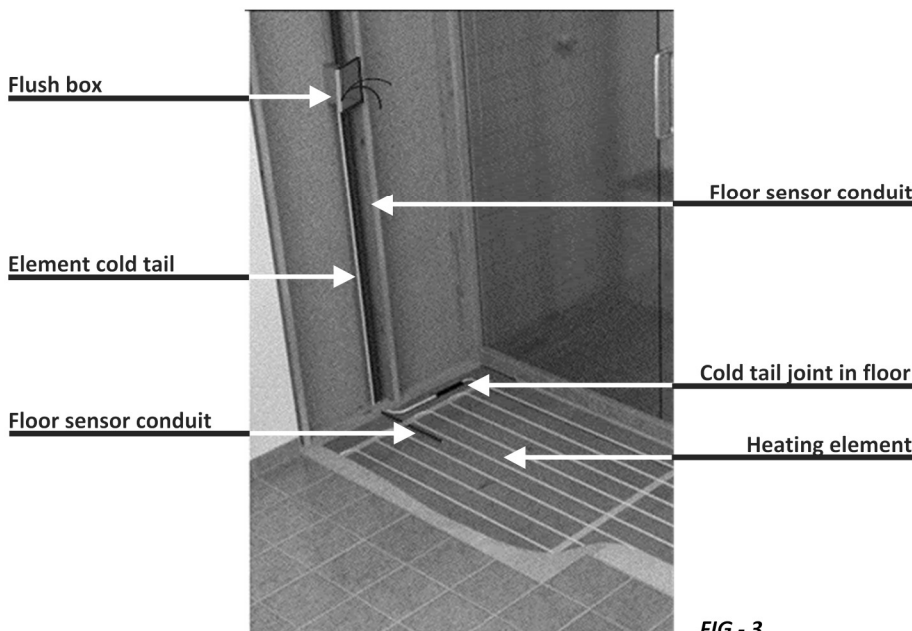


FIG - 3

Refer to Step 3 Installation instructions / install the flexible conduit for specific details

Cold tail and flexible conduit are to egress from the wall through the bottom plate of wall and beneath the skirting / trim.

Where wall linings are to be fitted prior to the install, a draw wire should be fitted to pull cold tail and conduit through to flush box.

Conduit to be secured to stud and anchored into the flush box.

Where required a low level flush box 300mm off the floor may installed (and fitted of with a blank face plate) to extend the range of the conduit into the floor