ATC Ecofloor Cable Mat

Installation instructions

Please read these notes carefully and follow the instruction guidelines shown in this booklet as they will ensure optimum, safe performance and may also affect the validity of the guarantee provided. If in any doubt consult your supplier.

Planning the installation

1. Insulation

To ensure optimum performance and minimise running costs floor insulation such as Fboard6 (6mm) or Fboard10 (10mm)should be laid directly under the heating cable.

Precautionary Note :

In the case of a remodelled floor or renovated floor ATC Strongly recommend the use of floor insulation. If the floor is un-insulated ATC cannot guarantee the final output temperature of the floor.

2. Measuring up

It is important to measure the room correctly and avoid all permanent fixtures such as baths, showers, kitchen and bedroom units, (remember also that it is important to avoid thermally blocking the heated area as this will result in localised heat build up and possible subsequent damage to the floor covering).

Allowing for perimeter clearance deduct a further 5% to reach the actual available heated floor area.

3. Table — Sizing Guide

Description:
Thin profile, double insulated and earth braided, twin conductor cable attached to an open weave matting at standard 160W/m^2 output. Calculate usable floor area as above and select nearest size down. (Return feed to the thermostat is NOT required as cable is twin core).

Twin Core Cable

Type	Output	Surface output	Width	Length	Area	Resistance
160 W/m²	(W)	(W/m²)	(m)	(m)	(m²)	(Ohms)
LDTS160/05	80	160	0.5	1.0	0.5	661
LDTS160/1	160	160	0.5	2.0	1.0	331
LDTS160/15	240	160	0.5	3.0	1.5	220
LDTS160/2	320	160	0.5	4.0	2.0	165
LDTS160/25	400	160	0.5	5.0	2.5	132
LDTS160/3	500	160	0.5	6.0	3.0	106
LDTS160/35	560	160	0.5	7.0	3.5	95
LDTS160/4	640	160	0.5	8.0	4.0	83
LDTS160/5	800	160	0.5	10.0	5.0	66
LDTS160/6	960	160	0.5	12.0	6.0	55
LDTS121210/165	1210	160	0.5	15.2	7.6	44
LDTS121400/165	1400	160	0.5	17.6	8.0	38
LDTS121800/165	1800	160	0.5	22.0	11.0	30
LDTS122150/165	2150	160	0.5	26.6	13.3	25
LDTS122600/165	2600	160	0.5	32.5	16.25	20

4. Control options

(Available separately from ATC Electrical & Mechanical)

ANALOGUE:	OCC2-1991H1	14A Analogue thermostat with floor probe.
DIGITAL:	ICD3-1999	16A Digital thermostat with timer and floor probe.

5. Planning the Installation

All cable incorporates an earth screen to allow installation into wet areas. The diagram (figure 1) shows a kitchen that is just under 5m×3.5m. The total usable area is however 14 m2. Take off 5% of this figure to allow for perimeter clearance. Total heating area is 13.3m2 — requires cable mat LDTS122150/165

This example also highlights the advantage of the ATC Ecofloor twin conductor heating cable, requiring connection to the electricity supply at one end only thereby removing the need to design the layout to get the cable back to the termination point. (If in doubt and on receipt of a marked and scaled drawing your supplier will calculate the appropriate mat size required).

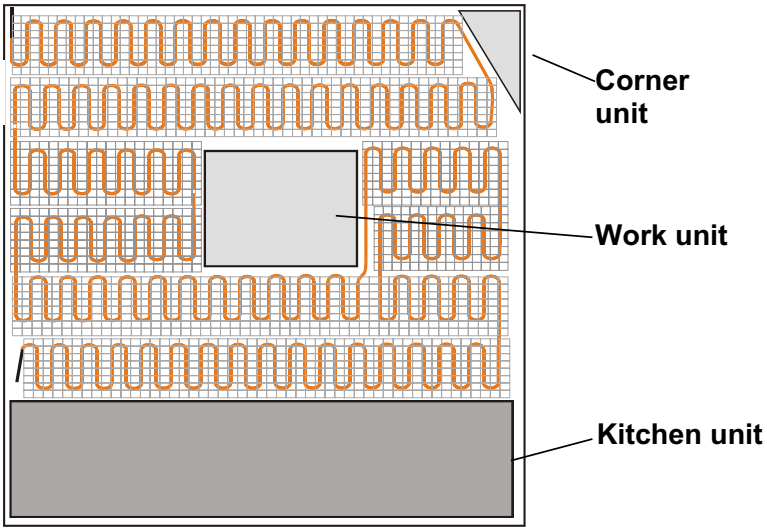
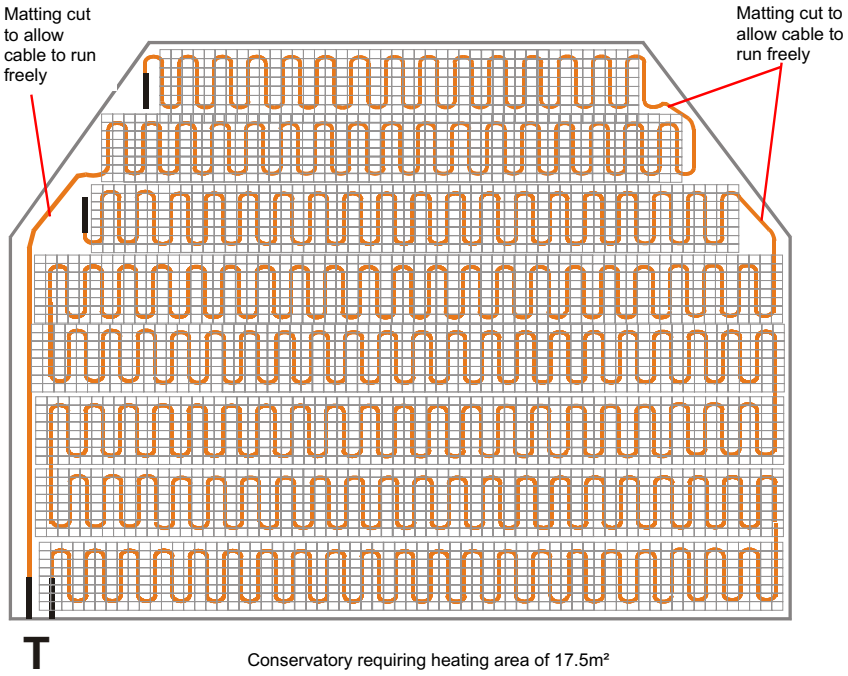


Figure 1.

6. Installation of larger areas requiring 'add-on' cables

Illustrated is a 20 square metre conservatory requiring an LDTS122150/165 cable mat and a LDTS160/4 cable mat to provide optimum heat and coverage. (17.3m^2 coverage allowing for edge clearance).



Conservatory requiring heating area of 17.5m²

(Installation is explained below but first prepare and mark out the floor as described in sections 6 and 7, cut mat as shown in section 8).

Using the main cable mat of 2150 watts (13.3m^2) run this out from the termination point to the opposite end of the room. Check that remaining floor area will accommodate the additional 640 watt cable (4.0m^2 coverage). Lay the additional cable mat and, where necessary, cut the matting to allow the cable to be run around objects or previously layed matting.

Remember to never overlap the mats.

The thermostat sensor must be positioned centrally between cable loops.

7. Floor preparation

Cable mats can be laid onto most existing floor surfaces that are sound and suitably prepared. Any existing floor coverings such as carpet or vinyl must be removed. Bitumastic sealant should, be covered with a floor-levelling screed.

Primer

When installing the mat over concrete, wooden or existing tiled floors refer to the manufacturers standard guidelines.

Concrete floor

New concrete floors must be allowed time to cure naturally. This will depend on weather conditions but normally 1 week per 25mm is taken as a guideline. Existing concrete floors must be clean and level and where necessary a selflevelling screed (latex compound) should be applied ahead of the cable installation.

Timber floor

Existing timber floors must be clean, sound and level. To achieve this it may be necessary to have a screw fixed overlayment of WBP (weather and boil proof) plywood or marine board.

Having determined the size of the area to be heated, the heat level required and the electrical supply position form a channel in the floor adjacent to this point as illustrated.

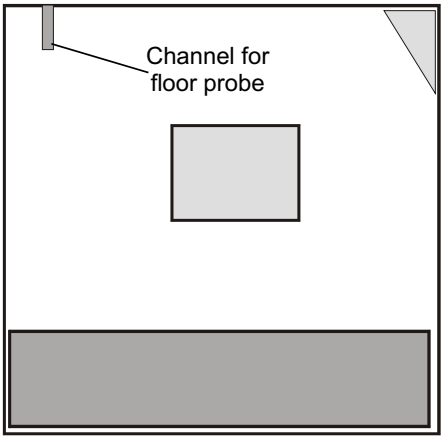


Figure 2.

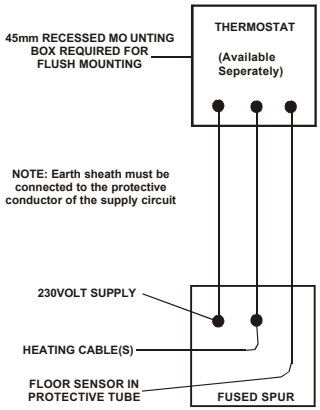
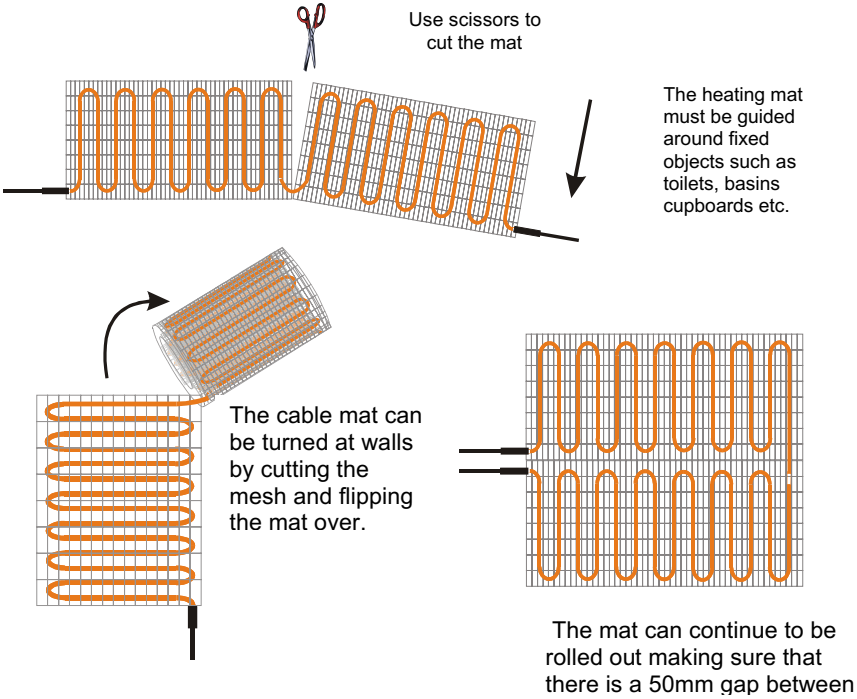


Figure 3.

The cables should be no closer than 50mm from the walls and any other fixed obstructions. Final connection and testing should be carried out by a qualified electrician but prior to this stage a thermostat and supply provision should be made as shown in figure 3.

8. Laying the cable mat

Connection is only required at one end for twin conductor cable mats. The first 3 metres is black cable that can be cut as required. The orange cable is the heated part that must never be cut or shortened.



Never bury or try to hide the cable. If necessary, start again.

If you have ordered the wrong size of mat contact your supplier.

Now and referring to the tables on page 2 test the cable circuit for continuity (resistance) using an ohmeter. Avoid traffic over the laid area until floor tiling is complete.

9. Install the Thermostat and Floor Probe

Follow the instructions provided with the thermostat and the floor probe. For the floor probe you will need to cut a channel for a protective spiral hose. (This may have been done at an earlier stage as suggested). Fix the hose into position and shorten to the required length. Feed the floor probe into the hose and block off the end. The floor probe is then attached to the thermostat.(The Floor probe does not stick out from the end of the protective spiral hose.)

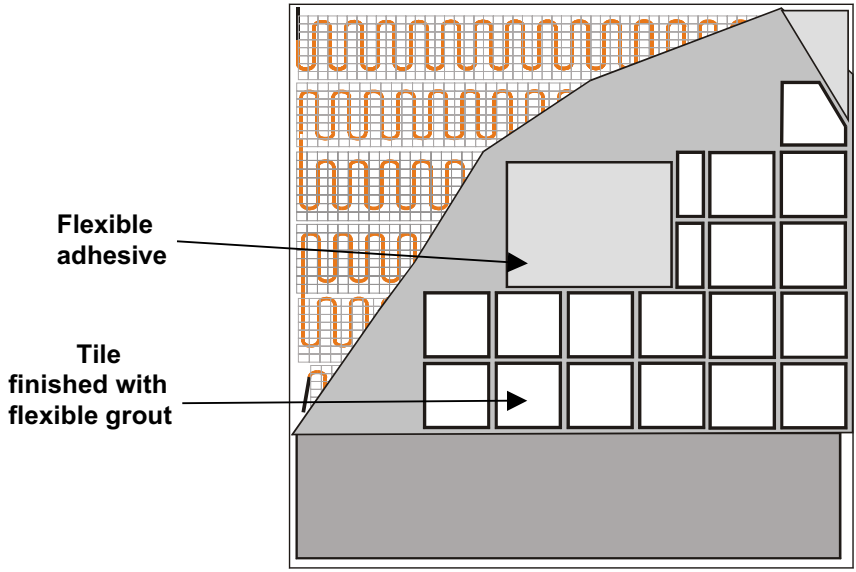
The thermostat should be installed in the room that is to be heated. For bathrooms the thermostat must be placed outside the bathroom and as close to the installation as possible. If necessary however, the heating cable cold tail and thermostat can be extended by up to 20 metres.

10. Tiling the floor

Once the cables are laid suitable protection boards / old carpet must be provided to avoid damage during tiling.

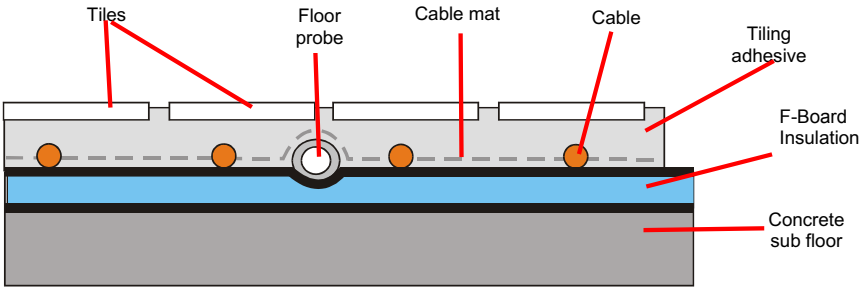
Tile adhesive can be laid in either a single or a two layer operation depending on the tiler's preference to accommodate the 3mm cable thickness. The adhesive must be laid evenly in the same direction as the cables are running making sure there are no air spaces.

11. Finished Floor Diagrams

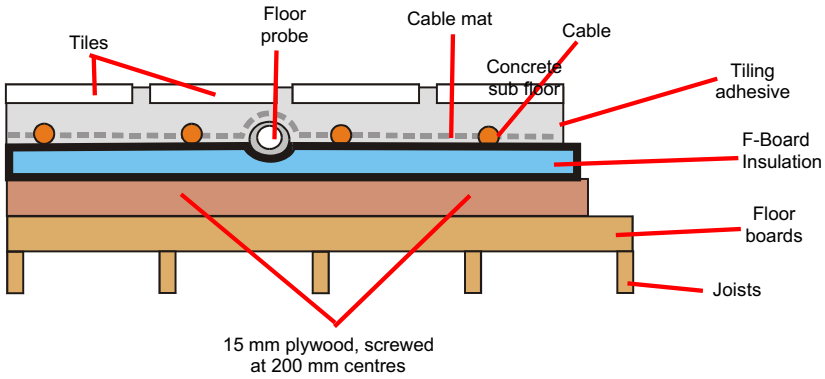


Concrete Floor

Cementitious Backed Insulation



Timber Floor



12. Final testing

The electrician should test the continuity of the floor sensor (already fitted) and retest the connected resistance of each cable. A further insulation test should be carried out in accordance with IEE regulations. The electrician should affix a suitable advisory warning label at the electricity distribution board and complete the attached certificate which must be retained and serve as part of the guarantee requirement.

13. Switching on

Before switching on the Underfloor heating allow a minimum of 5 days for natural drying of the adhesive and grout. Initially operate the system at low temperature for 2—3 hour per day, gradually increasing the temperature by 5 degrees per day increasing to full continuous operation after 1—2 weeks.

Please note: For the 10 Year Warranty to apply you MUST fill in the Warranty Document Supplied with the Underfloor Heating Mat and RETURN it to ATC at the address on the final page of these instructions.

Failure to return the warranty document will result in a statutory 1 year warranty only.

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