

Quality Underfloor Heating
from The Floor Warming Company

The Floor
Warming
Company

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Q. Why is our underfloor heating so much better than competitors?

- A. Quite simply the underfloor heating system we supply has been designed to comply with the following -
- The Electromagnetic Compatibility Directive 89/336/EEC
 - IEC 60335-1:2002 Household and similar electrical appliances – Safety–part 2–96:2002 and IEC 60800
 - IEC 60335-3-96. 2002 - Requirements for flexible sheet heating elements for room heating.
 - EN 55014 Electromagnetic Compatibility
 - EN50366 Electromagnetic Fields – Methods for evaluation and measurement (EMF)







Every aspect of our heating is better starting with the label



To comply with IEC 60335-2-96 and IEC 60800, the following information should be included on every UFH product

- Rated Voltage
- Symbol for nature of supply
- Rated power input in Watts
- Name, trademark or identification mark of the manufacturer
- Model or reference type
- IP number - safety rating for use near water

4401	
FLOOR WARMING ELEMENT Code:52030	
TYPE	: FW M 2 S 1 - 570
Model	: PV TWIN S BLACK EL STR
ART.No.	: 4401 570 435
230V ~ 50Hz	IPX7
Relaxed W/m ²	: 200
Size	: 0.44 x 25.00 = 11.00m ²
W/Unit	: 2200
Ohm/Unit	: 23 +10/-5%
Max. operating temp	80°C

4401	
FLOOR WARMING ELEMENT	
TYPE	: PV TWIN S BLACK EL STR
ART.No.	: 4401 570 427
230V ~ 50Hz	
W/m ²	: 200
W/UNIT	: 350
SIZE	: 0.44 x 4.00 = 1.75m ²
Max. operating temp	80°C

The Connection Cable

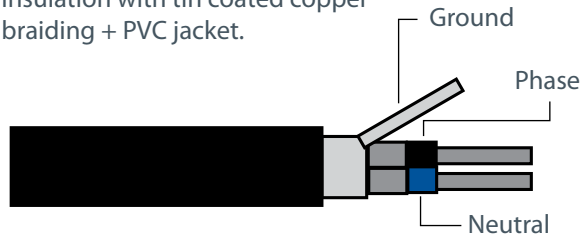
The construction of the cold/connection cables is very important, BS 7671 522-65, states that cables installed less than 50mm deep into a floor should be covered with a protective conductor (trunking or capping) unless the cable is of concentric construction (earth braiding wrapped around the cable) and class II (double insulated).

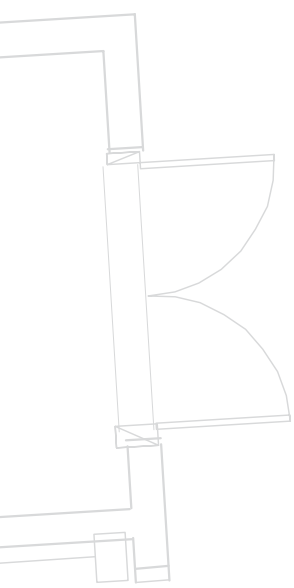
As shown the cold leads on our systems are both Class II and are of co-axial construction this means they do not require mechanical protection in the floor or wall.

Build up of Supply Lead

Domotek:

Phase and Neutral with double insulation with tin coated copper braiding + PVC jacket.





The Connection between the Cold Lead and the Heating Cable

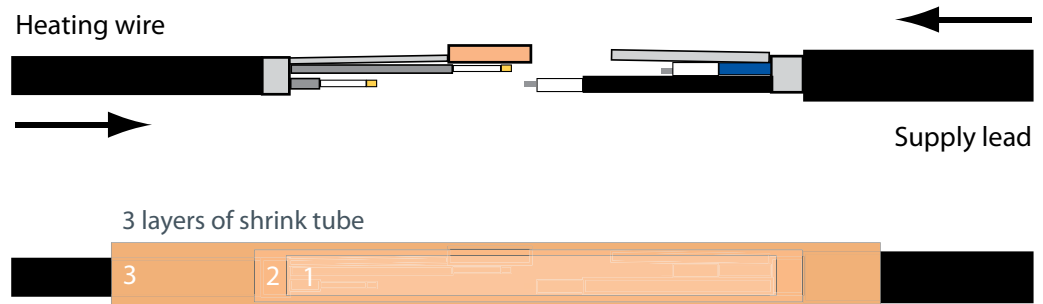
Domotek Connection Cable

Connection of Supply Lead and Resistance Wire

Domotek:

Most competitors use a single tube with the heating cable and flex in the same tube which is just 5mm long.

We use 2 tubes of 10mm length to compensate for different

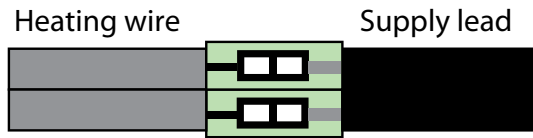


- Last shrink tube long enough to cover the whole connection + extra protection against water penetration (shrink tube with glue)

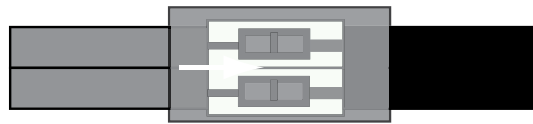
Typical competitor cold lead connections

Competitors:

- Last shrink tube very short will have different connection thickness due to not shifting of the connection
- Instead of shrink tube over the connection there is a very high temperature during injection

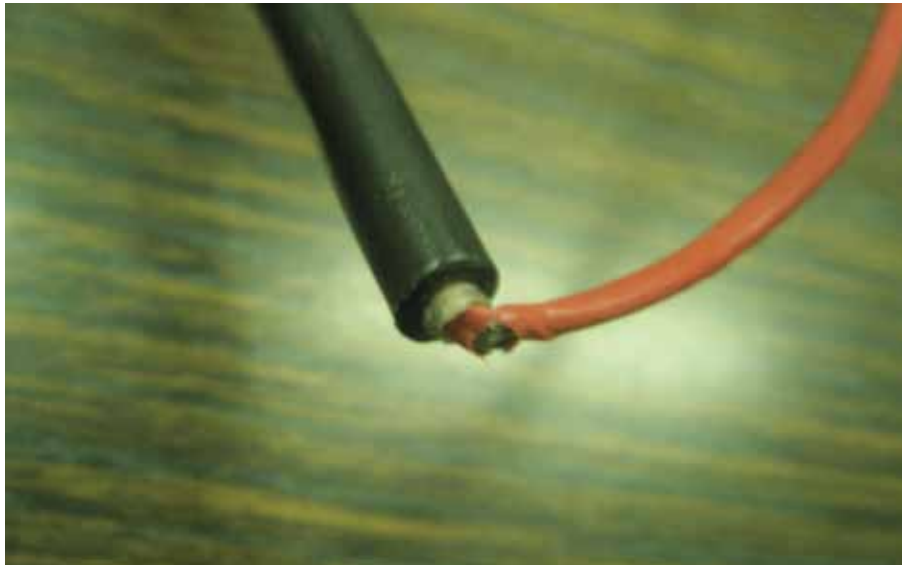


- 1 metallic tube (2 wires with different thickness) the metallic tube 5mm length for each type of wire inserted
- 1 layer of insulation
- Connection is not shifted



The result...

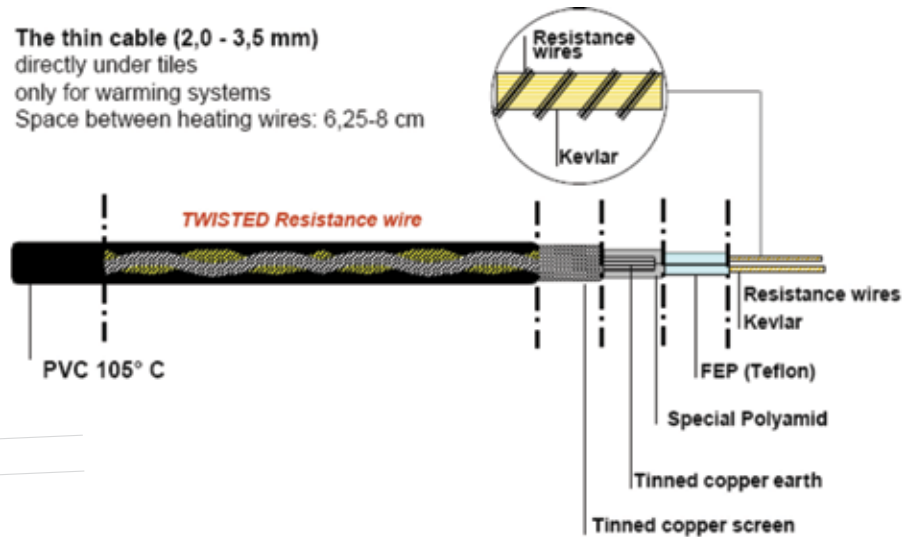
...This happened on a mat we bought from a very large DIY chain and a cable we bought from a large tile retailer.



The heating cable

Domotek's heating cable has been constructed to meet Class II* standards.

The thin cable (2,0 - 3,5 mm)
directly under tiles
only for warming systems
Space between heating wires: 6,25-8 cm



*Class II – Equipment in which protection against electric shock, does not rely on basic insulation only, but in which additional safety precautions such as supplementary insulation are provided.

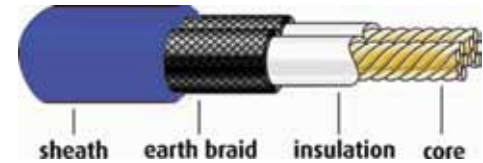
A kevlar core gives the cable high tensile strength
– The DIY system failed the tensile test at 185N,
all Domotek products are tested to 350N.

Domotek's heating elements are 6% longer
than the cable length so the cable can be bent
without damage occurring.

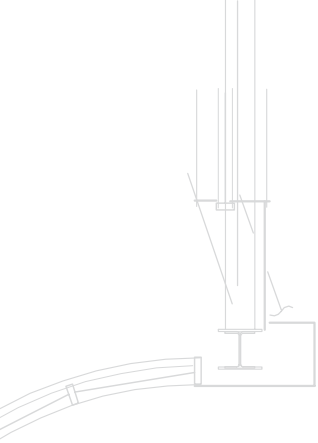
2 layers of insulation make it truly Class II with
earth braiding, then the final layer of PVC
designed to protect the cable from chemicals in
the tile adhesive.

Our cables have been built to withstand more
than 4000 volts. We would be very suprised if
other cables can withstand any where near this
amount.

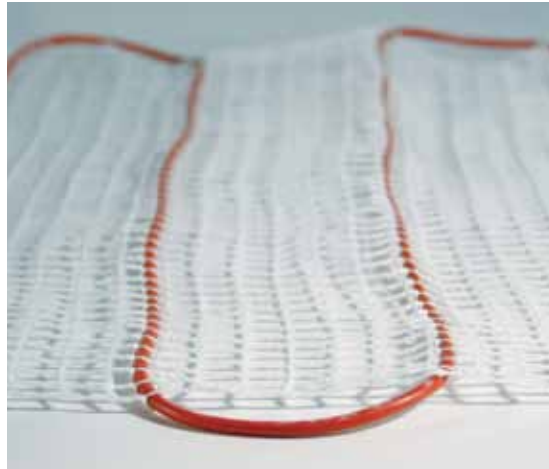
Typical Competitor Heating Cable



This cable is clearly constructed with only
one layer of insulation and an earth – They
use the outer layer as the second layer of
insulation and we feel this fails the quality
standards required.



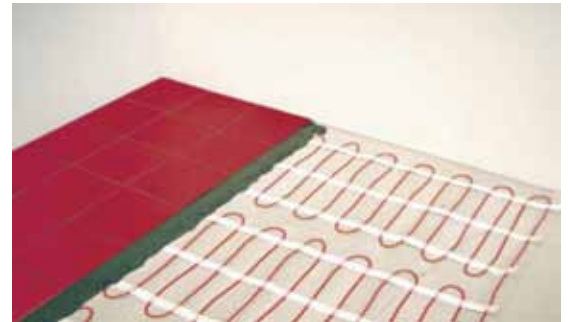
The Mats



Domoteck is the only manufacturer in the world that produces mats where the heating cable is actually interwoven into a textile mat. This fabric acts like a sponge soaking up the adhesive and allowing the tiles to bond perfectly with the subfloor creating an unparalleled bond between the subfloor and the tiles.

Typical competitor mat

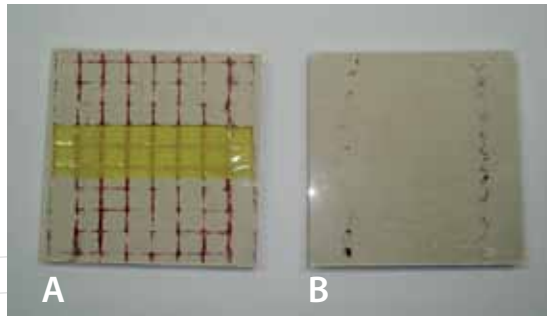
Other manufacturers produce systems which comprise cables glued or crudely taped onto waterproof plastic/fibreglass, this has the disadvantage of causing air bubbles between the tile adhesive and the subfloor, this can prevent the tiles from bonding with the subfloor. See the picture below to see the irregular spacing of the cables and the mat turned up at the end. This is a good example of the poor quality of mat you could easily end up with.



High street brand competitor

A Comparison Between Fabric and Fibreglass Mats

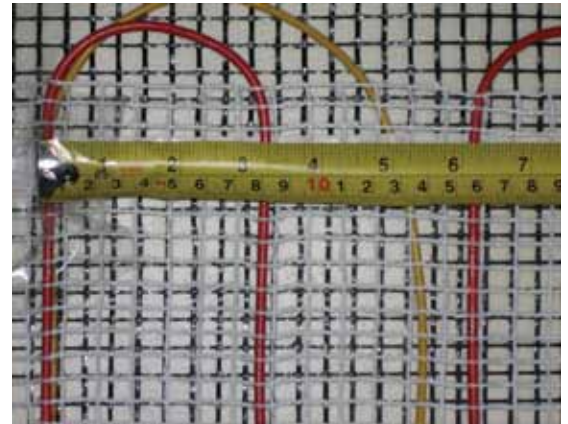
The perspex tile on the left shows the installation of a fibreglass mat, stuck down with yellow tape, the perspex tiles on the right shows the installation of a fabric mat.



The picture B (above) shows clearly how the adhesive makes a perfect bond with the sub-floor when using a fabric mat.

Cable Spacing

The average cable spacing for underfloor heating mat systems available in the UK is 9cm, our mats have cables spaced from 6cm or 8cm intervals. This means we provide significantly more cable per/m² than our competitors. Our cables are close together and run at a lower temperature than those of most competitors meaning they can be installed on wooden subfloors and always provide a very even heat spread.





The FWC mats have many unique selling points over competitor systems

- At 160 or 200watts per m² this mat can be used as sole heating*
- Fabric backing
- Safer connection cables
- Extra layer of insulation around heating cables
- Extra metre of connection cable
- Can be used safely in wet rooms (IPX 7 rating)
- Only 7m cable spacing so your clients can install this system on any sub-floor prepared for tiling.
- Correct labelling to meet safety directives

Our systems are better from the connection cable to the end of the mat, competitors are cheap for a reason.

We are so confident in our products that we give them a 10-year full floor (that's floor tiles as well) guarantee. We are willing to up this to a lifetime guarantee that would still include the 10-year FFG - no one offers this level of assurance to their customers.