

# Schlüter®-DITRA-HEAT-E

Undertile and stone heating with Schlüter®-DITRA technology

## Pre-Installation Planning

Installation Helpline  
01530 813 396



# Pre-Installation

## Substrate Preparation

Before installing the DITRA-HEAT/-DUO/-PS membranes it is essential the substrate is properly prepared. All substrates must be even, rigid, and load-bearing as well as dry, clean and dust-free.

## Heating Cable

It is important the correct size of heating cable for the application is used. Whilst the cold leg can be shortened to a length of no less than 1 m, the heating part of the cable cannot be shortened. To ensure the correct size is selected the following calculation steps should be carefully followed.

Calculation Step	Description of Action	Example Calculation - Bathroom	Example Calculation - Kitchen
A	Calculate the area of the room to be tiled.	2 m wide x 2.4 m long = 4.8 m <sup>2</sup>	4m wide x 5.1m long = 20.4m <sup>2</sup>
B	Calculate the footprint of the area that will not be heated (eg. WC, basin pedestal, shower, bath, kitchen cupboards etc).	WC = 0.15 m <sup>2</sup> Basin pedestal = 0.03 m <sup>2</sup> Bath = 1.2 m <sup>2</sup>	Kitchen cupboards = 5.7 m <sup>2</sup> Dog bed = 0.6m <sup>2</sup>
C	Subtract the unheated area from the area of the room to be tiled. This will provide the area to be heated.	4.8 m <sup>2</sup> - 0.15 m <sup>2</sup> - 0.03 m <sup>2</sup> - 1.2 m <sup>2</sup> = 3.42 m <sup>2</sup>	20.4 m <sup>2</sup> - 5.7 m <sup>2</sup> - 0.6 m <sup>2</sup> = 14.1 m <sup>2</sup>
D	Subtract 10% from the area to be heated/multiply the area to be heated by 0.9. This will enable the ideal length of the heating cable for the installation to be determined.	3.42 m <sup>2</sup> x 0.9 = 3.08 m <sup>2</sup>	14.1 m <sup>2</sup> x 0.9 = 12.69 m <sup>2</sup>
E	Select one of the DITRA-HEAT-E-HK heating cables, choosing the one where the cable length is equal to or shorter than that for the area determined in step D. Do not choose a longer cable length.	DHEHK35 is sized for a heated area of 3.3 m <sup>2</sup> so is not suitable. DHEHK29 is sized for a heated area of 2.7 m <sup>2</sup> so is suitable.	DHEHK136 is sized for a heated area of 12.7 m <sup>2</sup> so is suitable.

# Example Installations

## Floor

5 m<sup>2</sup> uncoupled floor area  
3.8 m<sup>2</sup> of heated floor space

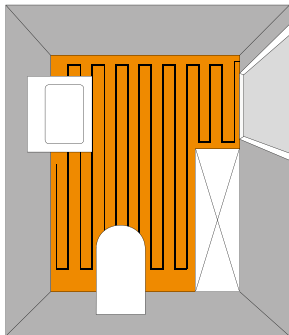
Total floor area = 5 m<sup>2</sup>

Dead Zones = 1.2 m<sup>2</sup>

Heated Area = 3.8 m<sup>2</sup>

Heated Area less 10% = 3.42 m<sup>2</sup>

The heating cable required is DH E HK 35



## Floor

10 m<sup>2</sup> uncoupled floor area  
7.5 m<sup>2</sup> of heated floor space

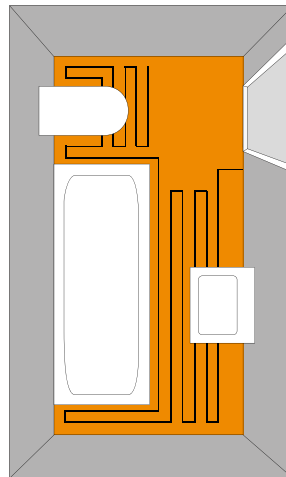
Total floor area = 10 m<sup>2</sup>

Dead Zones = 2.5 m<sup>2</sup> including area with no cable

Heated Area = 7.5 m<sup>2</sup>

Heated Area less 10% = 6.75 m<sup>2</sup>

The heating cable required is DH E HK 71



# Example Installations

## Floor

16.8 m<sup>2</sup> uncoupled floor area  
6 m<sup>2</sup> of heated floor space

Total floor area = 16.8 m<sup>2</sup>

Dead Zones = 10.8 m<sup>2</sup>

Heated Area = 6 m<sup>2</sup>

Heated Area less 10% = 5.4 m<sup>2</sup>

The heating cable required is DH E HK 53

## Wall

5.8 m<sup>2</sup> uncoupled wall area  
5.8 m<sup>2</sup> of heated area

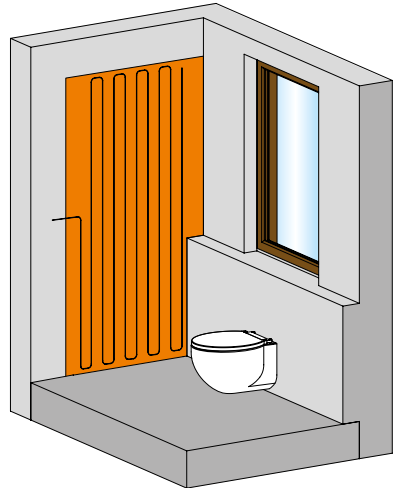
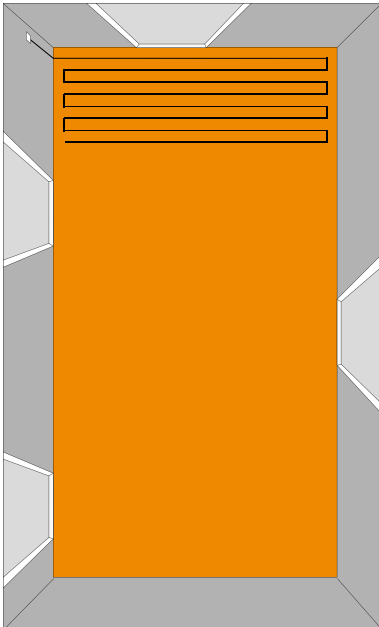
Total wall area = 5.8 m<sup>2</sup>

Dead Zones = none

Heated Area = 5.8 m<sup>2</sup>

Heated Area less 10% = 5.22 m<sup>2</sup>

The heating cable required is DH E HK 83



# Heating Cable Sizes and Article Numbers

## Schlüter®-DITRA-HEAT-E-HK

heating cable

L (m)	Heated floor 136 W/m <sup>2</sup> *	Heated wall 200 W/m <sup>2</sup> **	Watts	Art. No.
	m <sup>2</sup>	m <sup>2</sup>		
4	0.4	0.25	50	DH E HK 4
6.76	0.6	0.43	85	DH E HK 6
12.07	1.1	0.7	150	DH E HK 12
17.66	1.6	1	225	DH E HK 17
23.77	2.2	1.5	300	DH E HK 23
29.87	2.7	1.8	375	DH E HK 29
35.97	3.3	2.2	450	DH E HK 35
41.56	3.8	2.6	525	DH E HK 41
47.67	4.4	2.9	600	DH E HK 47
53.77	5	3.3	675	DH E HK 53
59.87	5.5	3.7	750	DH E HK 59
71.57	6.6	4.4	900	DH E HK 71
83.77	7.7	5.1	1050	DH E HK 83
95.47	8.8	5.9	1200	DH E HK 95
107.67	10	6.6	1350	DH E HK 107
136.16	12.7	8.4	1700	DH E HK 136
164.07	15	10	2050	DH E HK 164
192.27	17.7	11.8	2400	DH E HK 192
216.27	20	13.2	2700	DH E HK 216
244.37	22.7	15.1	3050	DH E HK 244

\* For use in floor and wall areas

\*\* For use in wall areas only

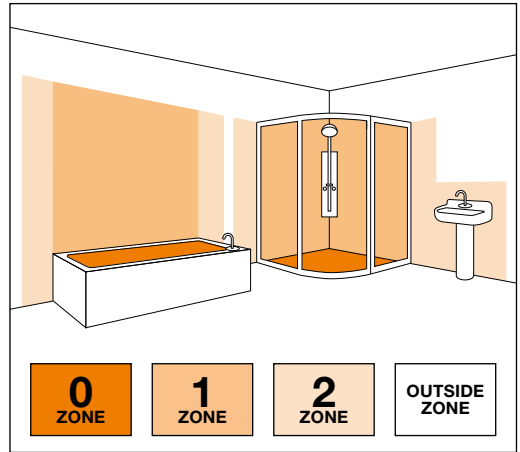
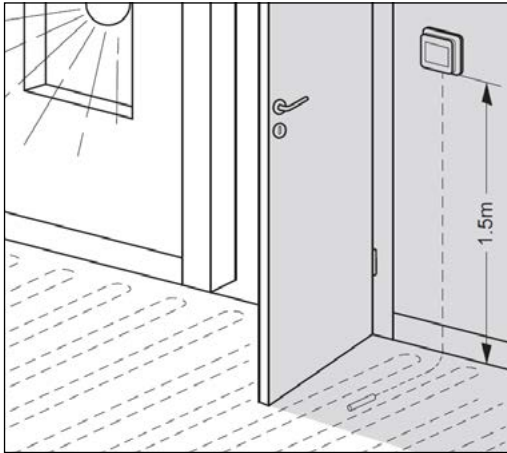
It is very important that the room area is measured accurately and all unheated areas are taken into consideration when working out the size of heating cable required. The heating cable must be sized accurately as the part that heats cannot be shortened.

# First Fix Electrical

## Thermostat Position

Whilst Schlüter®-DITRA-HEAT-E can be used in a variety of rooms (such as kitchens, living rooms, bathrooms and wet rooms) particular attention must be paid to the position of the thermostat when installing Schlüter®-DITRA-HEAT-E in wet environments.

In bathrooms and wet rooms, the placement of the thermostat needs to be in line with UK regulations for 230 Volt supply ie. outside of zone 0, 1 and 2. In practice, this usually means the thermostat is not installed in the bathroom or wet room.



Whatever room the thermostat is installed in, the thermostat should be away from draughts, direct sunlight or other heat sources. It should usually be mounted on the wall in such a way as to allow free air circulation around it.

As the heating cable and sensors must be connected to the thermostat, the thermostat must be positioned so that the cold leg of the heating cable (4 m long) and the sensors (3 m long) can all reach the thermostat. If required, the cold leg of the heating cable can be extended to a maximum length of 10 m and the sensors can be extended to a maximum length of 30 m. Further details can be found in the Installation Guide.

## Conduits

The cold leg of the heating cable must be routed in a plastic armoured conduit with minimum wall thickness of 0.8 mm. The sensors should also be routed in a similar conduit. The cold leg of the heating cable and the sensors must not be routed through the same conduit.

# First Fix Electrical

## Back Box

The thermostat will need to be installed with an electrical back box. We recommend that a 35 mm deep electrical back box is used. This gives enough space for the terminals at the back of the thermostat (23 mm deep) and for the mains power cable, heating cable and sensors.

The connection tabs on the electrical back box must be flush with the face of the box (ie. not set back) or be adjustable, as shown below:



## Mains Supply

The thermostat will require connection to a single-phase mains power supply, via a fused isolator switch. The fuse rating depends on the overall loading, which can be up to 3680 W. In the unlikely event that the thermostat is installed in a bathroom or wet room then RCD protection will also be required.



## Information.

If you have any questions about the installation process or any of our products please contact Schlüter Technical Support on [technical@schluter.co.uk](mailto:technical@schluter.co.uk) or +44 (0) 1530 813396.

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