

Underfloor Heating

UFH – Underfloor Heating in our example is a water pipe system covered by screed – solid floor.

Water inside installation is pumped from a boiler, mixed to proper temperature and distributed through manifolds to heating zones created with pipe loops. UFH heats house by radiant heat and air convection with very low gradient of temperature.

Estimation conditions

- materials are delivered on site
- internal transport horizontal and vertical is included in the average building situation
- calculation of materials includes an allowance for waste
- water, electricity, and small amount of materials are added with 1.5% rate calculated from basic materials

- floor substrate should be flat for maximum strength
- taped joints
- fix edge insulation barrier around walls to prevent heat loss and for creating expansion gap for screed
- cover insulation areas with DPM
- choose proper place and install manifold or manifolds depending how many zones/loops was designed
- design floor pipe layout and fix pipe circuits using proper clips
- install floor 15mm pipes laid at 200mm centres
- fill UFH system with water and test for leaks before screed is laid on top
- lay screed on top of the pipe circuits
- fix room thermostats
- fix central programmer
- wiring not included in estimation

Sequence of operation

- insulate floor surface with proper insulation products eg PIR insulation

Coverage of materials for making 50sqm underfloor heating – 6 circuits

No	Material	Unit	Price* excl VAT [pcs]	Coverage	Price excl. VAT	Price incl. VAT
1	Barrier piepe 5-layes PE-RT 16*2 mm	m	£ 0.99	6.0m/m2=300	£ 297.00	£ 356.40
2	Staples 50mm	pcs	£ 0.08	4pcs/m=200	£ 16.00	£ 19.20
3	Manifold Premium I 6 section 453*400*86mm	set	£ 221.00	1.0 set	£ 221.00	£ 265.20
4	Cabinet 680*640*135mm recessed	pcs	£ 74.30	1.0 pcs	£ 74.30	£ 89.16
5	Mixing set with pump	set	£ 305.00	1.0 set	£ 305.00	£ 366.00
6	Wiring – not included	-	-	-	-	-
7	Thermostat NC 230V	pcs	£ 29.90	6.0 pcs	£ 179.40	£ 215.28
8	Manifold distribution box	pcs	£ 129.00	1.0 pcs	£ 129.00	£ 154.80
9	Actuator NC 230V	pcs	£ 15.40	6.0 pcs	£ 92.40	£ 110.88
10	Additional materials 1.5%				£ 19.71	£ 23.65
Total					£ 1,333.81	£ 1,600.57

* products available at above prices in all IBB Polish Building Wholesale branches – retail prices before discounts

Expenditure of Labour for making 50sqm UFH

No	Description	Labour hours	Rate excl. VAT [GBP]	Rate [GBP] per 1sqm excl.VAT	Rate [GBP] per 1sqm incl.VAT
1	Installing manifold to the wall + cabinet	11.0 lh	£ 35,-	£ 385.00	£ 462.00
2	Installing mixing set with circulation pumps, mixing valves etc	8.0 lh	£ 35,-	£ 280.00	£ 336.00
3	Fixing pipes directly to insulation using staples and connecting to the manifold	0.50 lh/m ² *50m ²	£ 35,-	£ 875.00	£ 1,050.00
4	Pressure test	0.04 lh/m @300	£ 35,-	£ 420.00	£ 504.00
5	Installing heating control system with thermostats	2.5 lh * 6 pcs	£ 35,-	£ 525.00	£ 630.00
Total		2.606 l/m²*		£ 2,485.00	£ 2,982.00

Important:

- calculate approximately 100W/sqm heat requirement for solid floor UFH
- use proper floor insulation to prevent heat loss and place pipe loops on top of insulation
- use edge strip insulation for creating and separating heat areas/circuits no greater than 40sqm each
- one loop shouldn't be longer than 100m equal ca 20sqm coverage with 200mm centres
- do not join pipes in the floor, do not cross them
- design proper layout of pipes leaving space under eg kitchen units, shower tray etc
- attach pipes stright to insulation using clips, staples or mounting rails
- be sure that proper depth is available to laid screed with typical thickness 50-75mm
- position manifolds at the centre of the house
- fill UFH system with water and test for leaks before screed is laid on top
- keep pipe circuits uder pressure during screeding
- lay floor screed typically ca 65mm thick using sand and cement mixture with additives or powder screeds or selflevelings in bags
- properly compact screed
- turn on UFH system after proper time of screed curing – ask supplier, do not use UFH for speed up drying process





Attention!

Our norms and rates should be taken as a guide only and there are no obligations for anybody to adhere to them.; you have to take sole responsibility and apply your own rates to your quotations. Cost of materials can vary from prices shown on the manufacturers specification We cannot accept any responsibility for anyone using this information - you must make your own checks.

Useful tools

Venting roller 700mm
product No. 1623

£31.58*



Venting roller 230mm
product No. 1618

£9.92*



Polystyrene trowel
product No.105

£13.75*



Expansion tape
70mm

£0.46/1 lm*



Shoes for selfleveling
product 9911

£19.92*



Aluminium
tacker

£165.00*



Low pipe
decoiler

£219.60*



Shears
for pipe

£54.50*

* Prices excl. VAT before discount