

2002/10/19

### 3. Heating pipeline design

At present the common household heating system mainly has following forms:

1) Single pipe horizontal tandem system (Graphic a)

One main pipe is used in the house, up to end, the system is easy, and low cost, suitable for the situation of the small house type and the pipeline is not too long.

2) Parallel system (with the jumper pipe) (Graphic b)

The improvement from the single pipe tandem system, making the water temperature difference of the radiator in each room not great;

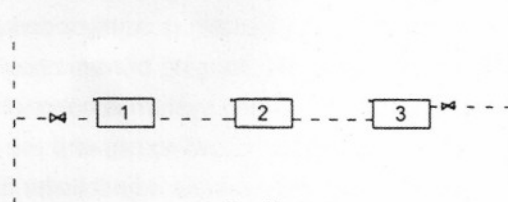
3) Double pipes parallel system (Graphic c)

The double pipes parallel system, especially the same distance type system, can make the resistance of each radiator equal; the temperature control valve can be mounted in each radiator to realize the temperature adjustment in each room.

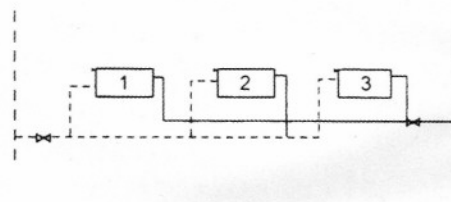
4) The octopus type pipe arrangement system (Graphic d)

Each radiator in this system is connected by independent water supply, backwater branch pipe; the dispenser is set at the entry of the household. The valve can be set in each radiator cycle to realize the temperature control in each room; the water supply, backwater branch pipe can be laid with the non-joint pipeline, avoiding leakage.

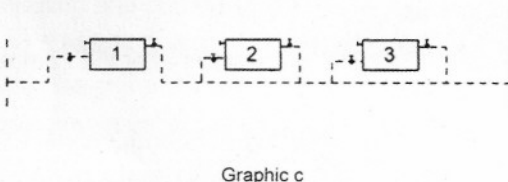
#### Graphic example



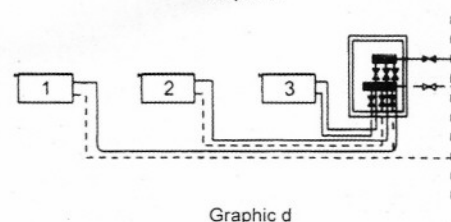
Graphic a



Graphic b



Graphic c



Graphic d



- c. Lay the heat conversion layer, the polystyrene fireproof heat conversion board with the capacity of 20Kg/m<sup>3</sup> is adopted generally ;
- d. Lay the moisture proof layer, can use the reinforcement aluminum foil;
- e. Lay the radiation pipe, in general the specification is 1216 or 1620, there should not be joint in the buried part, and fix with the plastic pipe clamp;
- f. Lay fine stone concrete surface course with the chop resistant agent, the thickness should be determined according to the floor load, the general thickness is 40-50mm; when the floor area is larger, the expansion seam should be set, the area of each don't exceed 30m<sup>2</sup> or the side length don't exceed 6 m;
- g. The householder lay the indoor decoration floor, if each stone floor, carpet or wooden floor is well, but it should be taken attention to not damage the buried pipe.

The sketch map of the floor heating:

