



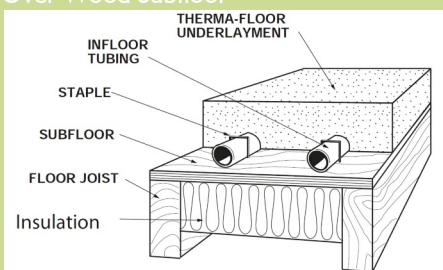
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IN THE LOOP

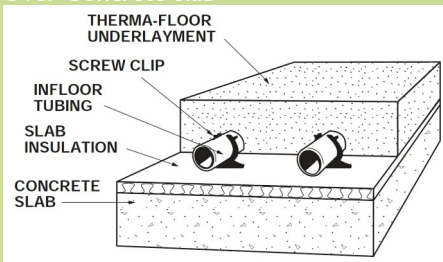
Therma-Floor Installation Options

You have different options when it comes to Therma-Floor (gypcrete) installation. Here is a look at some of the configurations. Please let us know if you have any questions.

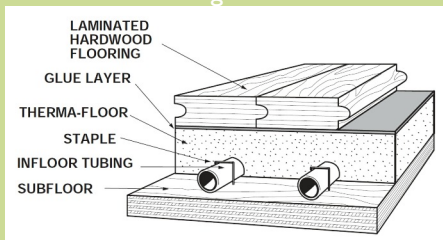
Over Wood Subfloor



Over Concrete Slab



With Floor Covering



How to Determine the Correct Tube Size and Spacing for Your Project

Tubing is an essential part of every hydronic radiant heating system. Like veins, it transports warm fluid, and the heat output, throughout your floors, turning them into comfortable, warm surfaces. We offer the best PEX and PERT tubing for our hydronic systems, available in a variety of sizes, ranging from 3/8" to 1".

These tubes provide excellent performance in radiant applications and provide the system designer with the greatest options for component selection. With five sizes available, how do you know which one is best for your project? These general rules can help.

Therma-Floor (Gypcrete) Installation

One of our most common and effective installation applications is Therma-Floor, commonly known as a gypcrete. The gypsum underlayment is designed to pour over tubing, encasing the tubes in crack resistant, noncombustible gypsum, acting as the thermal mass. Therma-Floor systems can be used in many different situations, because it can be installed on top of subfloors and concrete slabs, whether existing or new.



Its special formula resists breakdown up to 150°F (66°C). And because it's poured only 1-1/4" to 1-1/2" (32 mm to 35 mm) thick, the heating system is more responsive and more comfortable.

As a "green" building material, Therma-Floor is an ideal solution for sustainable building projects, and works well with any floor covering.

Join the conversation   

In The Loop is a publication for customers, distributors, contractors, and friends of Infloor Heating Systems; a division of Infloor Sales & Service, Buena Vista, CO. www.infloor.com.

How to Determine the Correct Tube Size and Spacing Cont.

PEX and PERT tubing come in several different sizes. The most common sizes are 3/8", 1/2", 5/8" and 3/4". Generally, for a residential Infloor Heating System® we recommend 3/8" and 1/2" tubing. The tube size dictates the flow rate that can be achieved and also indicates the maximum loop length based on the head pressure. We generally recommend 5/8" and 3/4" tubing for large commercial and snowmelt applications.

Factors such as tubing size, tube spacing, and water temperature directly represent the heat output (in BTH/sq. ft./hr.) of the radiant heating system. The later is especially important, since heat loss calculations is the initial stage of every radiant heating project and allows the installer to determine which tubing size to use and how long the maximum length would be.

To increase the floor output for selected tubing size and length, the flow may need to be increased, the tubing spacing may be closer together, or an increase in water temperature. For example, by increasing the flow through 1/2" PEX tubing by only 0.1 GPM, floor output will increase at 5 BTU/sq. ft./hr.

With 1/2" tubing, a 6" pattern is sometimes used in smaller spaces, such as bathrooms, and for extreme cold climates, while 8" and 9" patterns are standard for most living areas in most climates, and a 12" pattern is used in garages. For most large shops and small commercial applications 5/8" oxygen barrier PEX or InfloorPERT® tubing is typically used. With 5/8" tubing a 9" to 12" pattern is standard. For large shops and large commercial buildings (usually over 5,000 square feet) 3/4" oxygen tubing is standard. With 3/4" tubing either a 12" or an 18" spacing is used, depending on the climate and the desired temperature for the space.

Now that you've chosen a size and spacing of tubing for your project, simply multiply the square footage of the space to be heated by one of the following multipliers to determine the overall lineal footage of pipe that you will need. Be sure to use the correct multiplier that corresponds to the spacing you have chosen:

6" spacing = sq. ft. x 2.0

8" spacing = sq. ft. x 1.5

9" spacing = sq. ft. x 1.34

12" spacing = sq. ft. x 1.0

18" spacing = sq. ft. x .67

Once you have determined the actual combined length of tubing you will need, the next step is to determine the number of loops or circuits of pipe. With 1/2" tubing a circuit length of 300' is standard, but circuits anywhere from 250' up to 350' are within the range recommended by the Radiant Panel Association. With 5/8" tubing 400' and 3/4" tubing 500' circuits are standard. For example, if you are using 1/2" tubing and have determined you will need 900' of tube, you will have three circuits of 300' each and a three port manifold. If you are using 5/8" tubing and have determined you will need 3000' of tube, you will have eight circuits of 375' each and an eight port manifold.

We can answer any design questions you have. We also offer a free design service as part of the systems we sell. Contact us today to get started. www.infloor.com



Maximum Tubing Run Lengths:

3/8" Tube loops should not be over 200'

1/2" Tube loops should not be over 300'

5/8" Tube loops should not be over 400'

3/4" Tube loops should not be over 500'