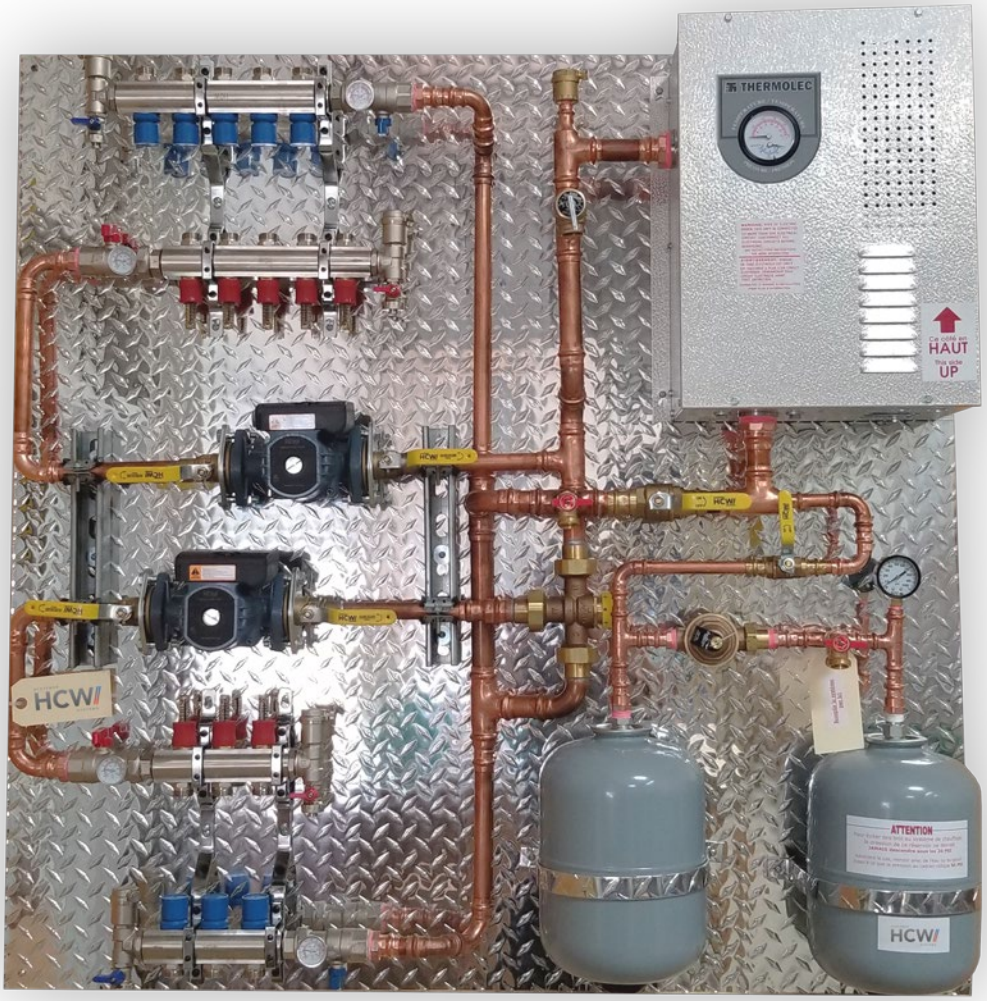
SYSTÈMES HCW SYSTEMS



TUBING INSTALLATION

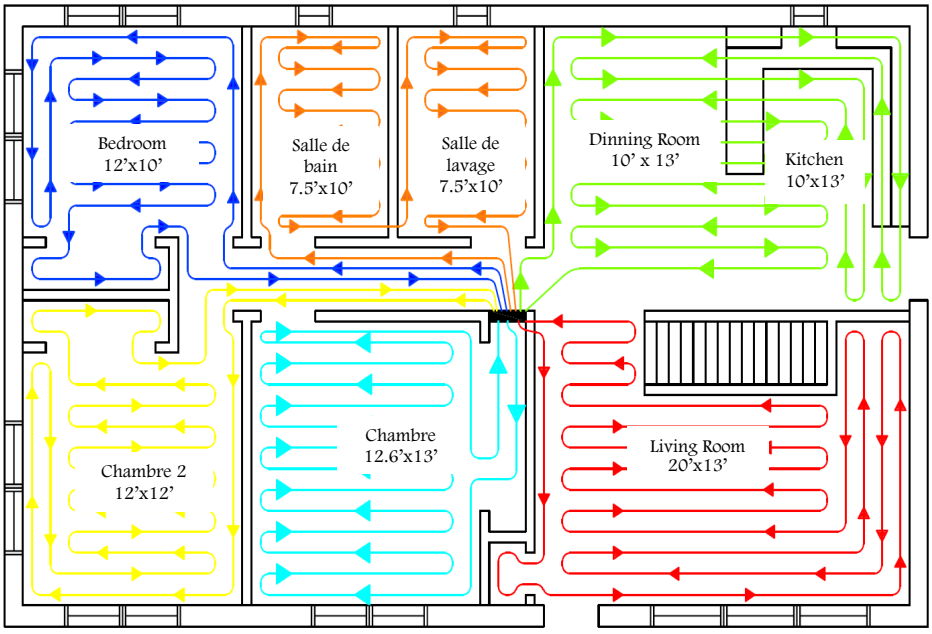
Instructions for installing PEX tubing

Our PEX rolls come in lengths of 500 or 1000 linear feet.

For residential applications, use ½-inch diameter pipe.

During installing, ensure that no single circuit exceeds 250 in length. This will maintain even heat across your floors. Most pipes are marked every 5 feet. Refer to these marks when installing the tubing.

Example of a multi-zone tubing layout:



Install a double row of tubing along exterior walls (e.g., space pipes 6 inches apart along exterior walls and 12 inches apart in the rest of the room).

Pipe spacing based on concrete thickness	
Concrete thickness	Spacing between pipes
1½ in. to 2½ in.	6 in.
> 2½ in.	12 in.

For an easier installation, start in the rooms farthest away from the heating panel to avoid having pipes overlap. On a slab at least 2½ inches thick and to maximize system efficiency, lay the first two lengths of tubing 6 inches apart along exterior walls. Then, complete the installation with 12-inch spacing.

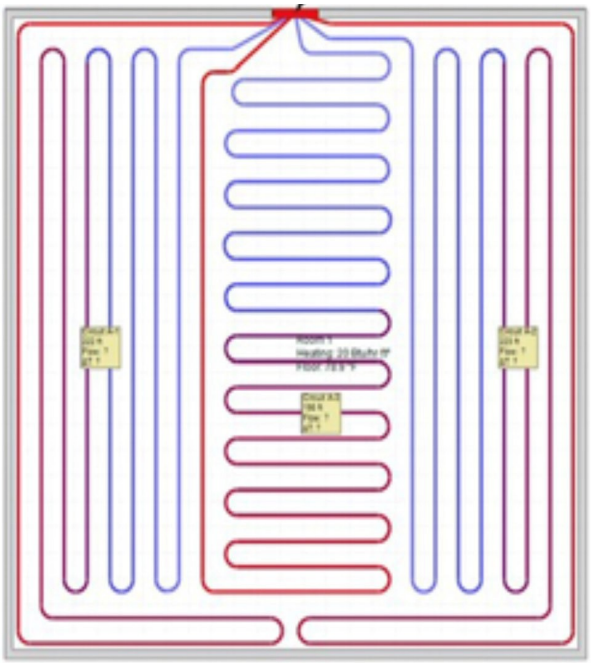
Once the installation is complete, pour a slab at least 2½ inches thick over the tubing. On a concrete screed less than 2½ inches thick, lay tubing every 6 inches throughout the room to maximize heat radiation.

To facilitate installation of the heating panel, leave about 4 feet of pipe at each end of the circuit. Identity each pipe with a number and the word “IN” (blue connectors) or “OUT” (red connectors), to distinguish between the supply and return pipes for each circuit.

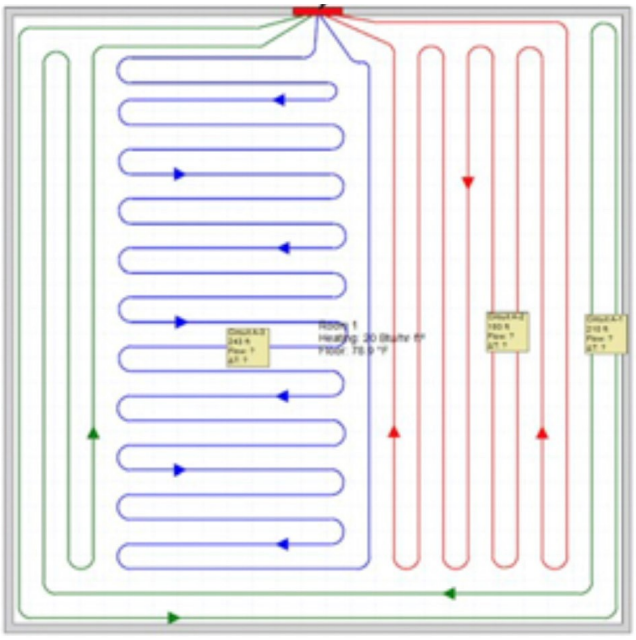
This is not just to make it easier to identify which pipes connect to which rooms after the concrete is poured. It will also allow you to even out the temperature of your floors by ensuring that the hottest water in the system (the water coming directly from the boiler via the supply manifold) is directed to the coldest areas of the floor (those sections along exterior walls). After laying a double row of tubing along the exterior walls, continue toward the centre of the room and complete the circuit at the return manifold, where the water flows back to the boiler. This water will be somewhat colder than when it left the boiler.

In addition, to ensure more consistent floor temperatures, try to evenly distribute the number of linear feet along exterior walls between the different 250' circuits used for the same heating zone.

Good Layout



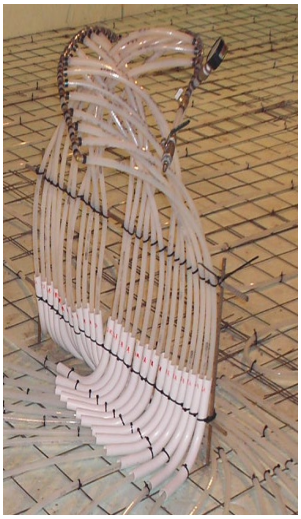
Bad Layout



At the point where the tubing exits the concrete, use curved PVC or metal sleeves to support the 90˚ bend in the pipe and to protect the pipe when pouring the concrete. Ensure that the different sleeves are placed as close as possible to one another. This will make it easier to manage connections to the manifolds.

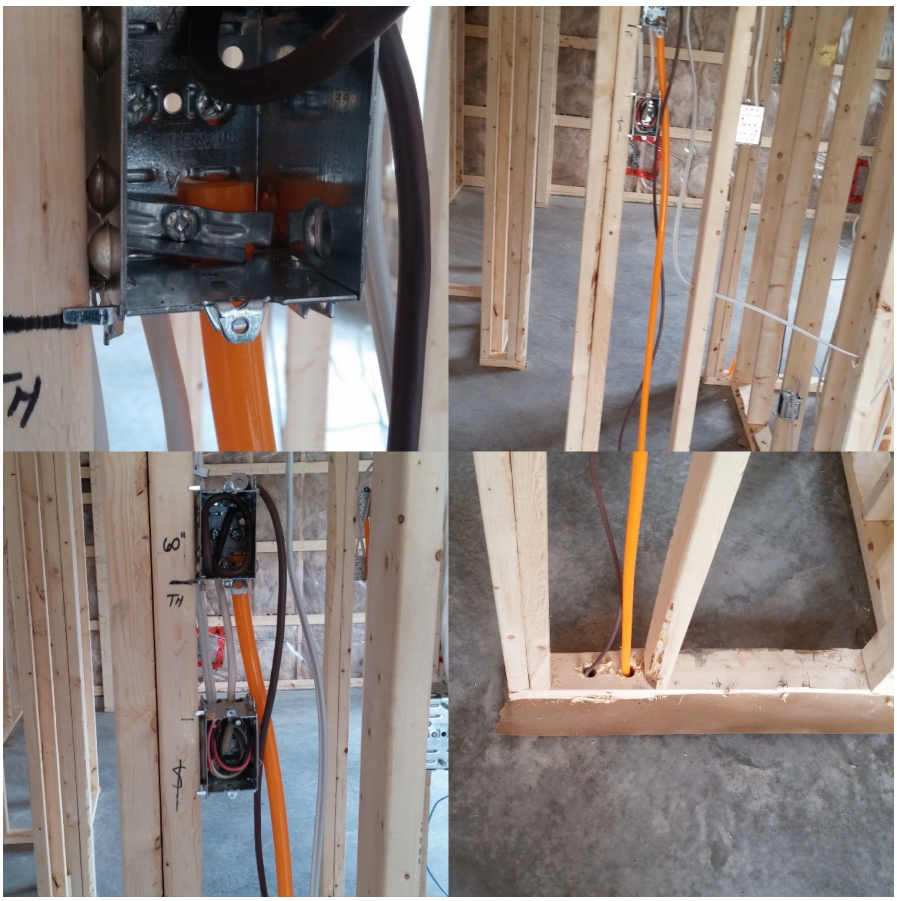
Before pouring the concrete, you should always check for leaks in the PEX tubing. It may have been damaged during installation.

You will need a ½-inch PEX crimper and a compressor. Use the PEX crimper to assemble the pressure kit by installing a plug on each supply pipe and a tee on each return pipe. Once everything is assembled, simply raise the pressure to 60 psi. Maintain system at pressure 60 psi until the panel is installed.



Pressure kit

Once all the circuits have been installed, you need to install additional pipes to hold the floor sensors. A floor sensor normally comes with each HCW thermostat. Some models do not include it. The sensor makes it possible to adjust the temperature of a heating zone based on either the desired temperature in the concrete slab or the ambient temperature at the thermostat. You need to run tubing from the location where you plan on installing the thermostat to a spot in the floor slab no more than 2 feet from the wall. This pipe, which will be used solely for the floor sensor, should be installed midway between two heating pipes to ensure accurate and reliable readings. You should install a plug on the end of the pipe to prevent concrete from entering. After pouring the concrete, you can insert the sensor into the pipe. Inside the wall, the pipe should extend to the electrical box that will be used for connecting the thermostat.



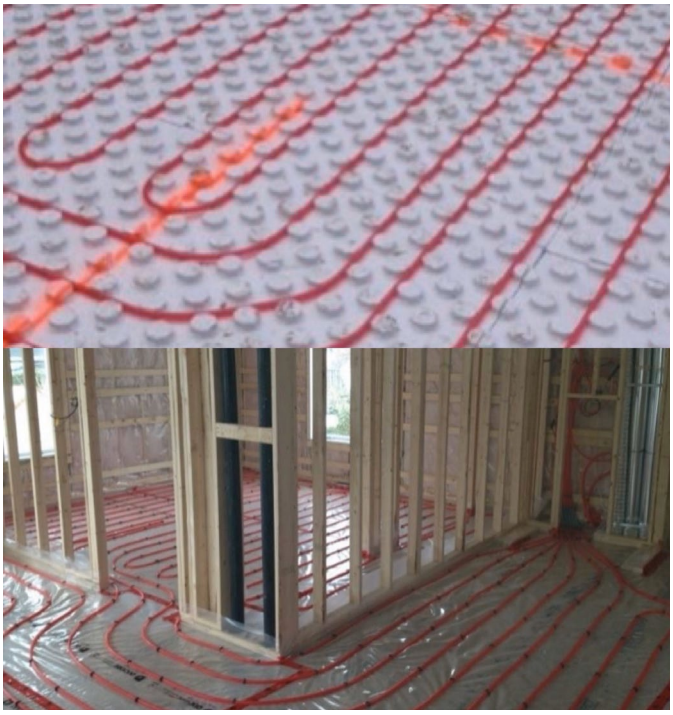
Avoid installing thermostats on exterior walls. Some installers also run tubing to enclose the cable connecting the thermostat to the boiler. This removes the need to run cables through the walls. However, it is optional.

When installing tubing in less than 2½ inches of concrete, we recommend first installing the bottom plates for your interior walls before laying the pipes. Take care not to lay tubing less than 6 inches from an exterior or interior wall, to prevent damage during construction. Although these measures are less essential when installing tubing in a thicker slab, you should still remain vigilant when working near heating pipes.

Please note that when using self-levelling concrete (light concrete) it is important to fasten the tubing at least every 18 inches along its entire length. This type of concrete tends to cause the tubing to rise to the surface unless properly fastened, even when filled with water or glycol. Even placing wire mesh (which is unnecessary and not recommended with self-levelling concrete) over the tubing will not prevent it from rising to the surface.

Tubing on Wire Mesh

Tubing on Insulated Panels



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745 Longpré Street, Sherbrooke QC J1G 4S8 • 1-877-687-2419