



RADIANT HEAT SYSTEMS

PEX in Concrete Slab

Install Guide

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1. Tools Needed

- PEX Cutter to cut your circuits.
- Stapler and staples for fastening PEX to the insulation
- Pressure Test Fitting to check for leaks before pouring concrete
- Crescent wrench for tightening PEX adapter nut
- Air compressor for pressure-testing PEX

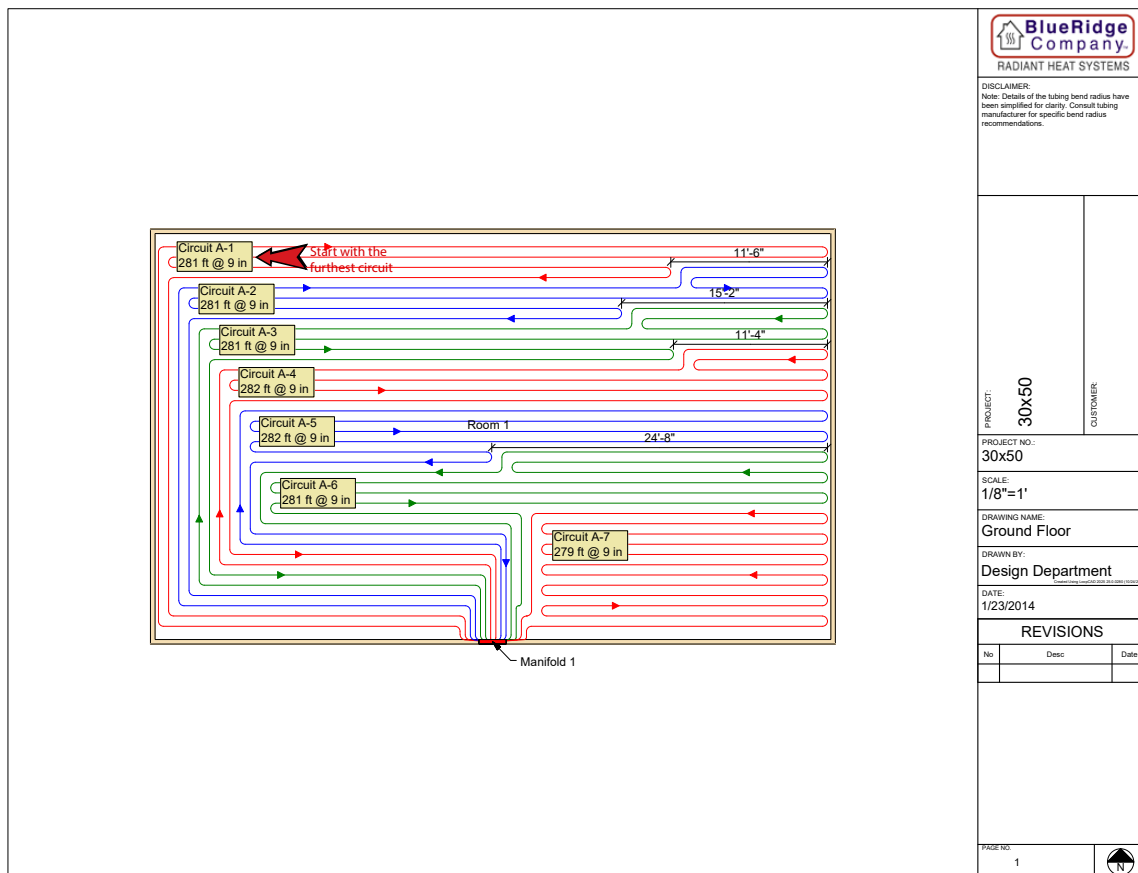
2. Plan How to Use Each PEX Roll

Review your loop layout carefully and decide how each roll of PEX will be used

3. Lay Out Your PEX

- This step is easiest with two people or a PEX Uncoiler
- One person unrolls the PEX the other attaches it to the insulation using staples, or by “walking” it into the pre slotted channels (if your insulation has them) according to the loop layout
- Leave a 3-foot tail at the beginning of each circuit to connect later to the manifold
- Begin with the loop that runs farthest from the manifold and work your way toward the closest loop
- PEX tubing can be a challenge to unwind and bend in cold weather regardless of how it is being installed.

Try to keep the PEX warm before and during installation



4. Install the Manifold & Prepare for Pressure Test

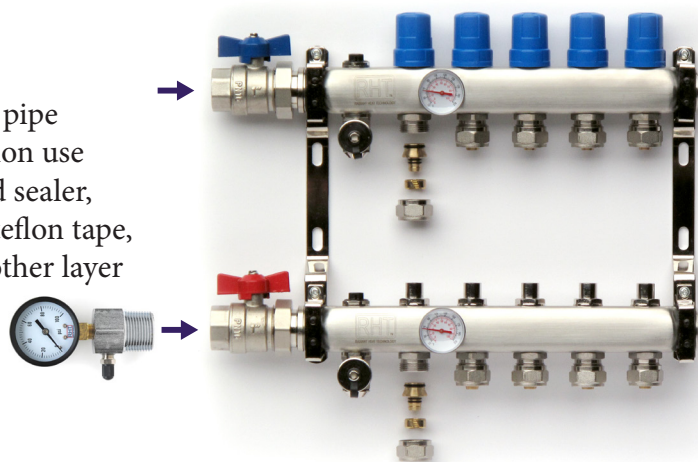
- Once all PEX is laid out, mount the manifold (examples shown below for mounting without a wall)
- Connect the PEX lines to the manifold adapters
- Slide the nut over the PEX
- Add the compression ring
- Push the PEX onto the nipple
- Tighten the nut back onto the manifold using crescent wrench
- Attach the red and blue ball valves provided with the manifold



5. Prepare the Pressure Test Fitting

- Screw the pressure test fitting into one of the manifold ball valves and close the other ball valve

For the tapered pipe thread connection use a layer of thread sealer, then a wrap of teflon tape, followed by another layer of thread sealer

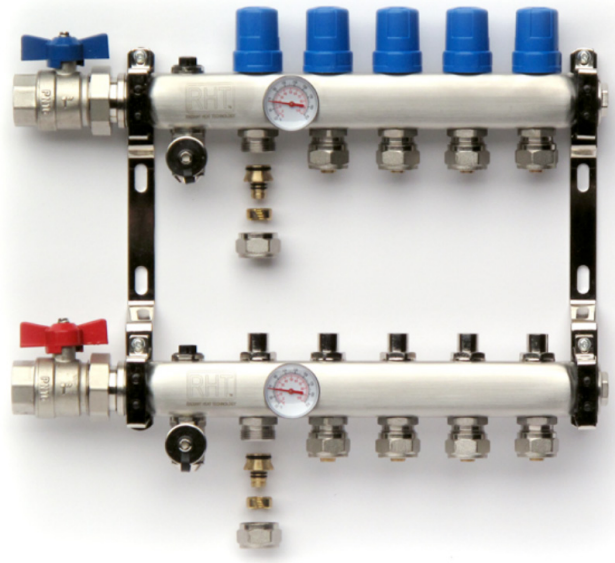


6. Open Balancing Valves

Ensure both the supply and return balancing valves on the manifold are fully open

Supply Manifold

Turn blue valves by hand counterclockwise to open



7. Pressurize the System

- Use an air compressor to pressurize the system to 50 PSI
- A pressure drop of up to 10 PSI can occur due to temperature changes
- If the pressure drops to zero, re-pressurize to 50 PSI and spray the manifold with soapy water to locate leaks

8. Installing Remote Manifold Supply and Return Lines

If your design includes any remote manifolds you may choose to run the larger diameter supply/return PEX lines from your mechanical room to the manifold location in the concrete. These lines are typically too large a diameter to be placed in the channels of a walk-in insulation or to be stapled to foam. For that reason they are typically tied to the rebar or mesh grid. Alternately the supply/return lines can be installed after concrete is poured running overhead through walls and/or ceilings, which offers the advantage of being able to insulate the lines easily with standard pipe insulation.

9. Creating a Dry Well for a Floor Sensor

To plan in advance for a slab sensor thermostat, place a scrap of PEX tubing approximately 6'6" in length with one end placed between two runs of PEX 5' into the field of a given zone and the other end swept up 16" into the wall cavity where you plan to locate the thermostat. Place tape over both ends of the scrap PEX to keep out debris and concrete. After concrete is poured and you are installing the thermostat, remove tape from the exposed end of the PEX above grade and slide the sensor down the tube into the dry well that you've created. Be sure to place the tube equidistant between two PEX runs so as to avoid an overly hot reading.

