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AquaHeat PEX Tubing

Loop Layout and Installation Instructions

Important Notes for PEX Installers:

- The amount of loops and lengths of tubing supplied for this project has been calculated by ComforPro Systems. The design is as specified by the consulting engineer, and should not be changed without the express consent and authorization of the specifiers.
- The tubing should be stored in a dry weather protected area until ready for installation. Tubing stored at temperatures below 55F should be brought into a heated area for at least 24 hours before installation begins. PEX tubing gets more rigid as the temperature drops. Tubing should not be stored in direct sunlight or in areas where the temperature can exceed 125F.
- The tubing loops should be laid out within the allocated areas and not extended in any way. When planning installation, the location of the manifold is paramount. Begin by installing the manifold on either permanent or temporary supports, at the final designed location. Manifolds cannot be moved once the tubing is installed.
- Supply and Return connections of loops are interchangeable, as the tubing is bi-directional. However good practice is to make the supply, where the water is hottest, to the outside walls. PEX tubing has a shape memory. As tubing is removed from the rolls, unroll it. If the roll is simply expanded, there will be large loops that will make securing it difficult.
- Refer to the materials chart included in the submittals for specific length/rolls to be used for each loop or room area. Where a roll is long enough, it can be used for more than one loop. Example: 3 loops of 330' each are required. A 1000-foot long roll supplied will be required. However excessive loop length will cause material shortage at the end of the project.
- Tubing is marked at every 3 foot increment. While installing each loop, the length of the loop must be continually monitored. The distance required as a leader from the manifold to the heated area should be noted. This length is included in the maximum loop lengths designed. As the tubing is placed in serpentine paths back and forth, allow for the length of tubing required to return back to the manifold location. **There are no hiding loops that are too long or too short.** The tubing is marked and will be exposed at the manifold location. The balance valves within the manifold will allow balancing of flow between loops but they will not compensate for loops that are too long or where there is a great disparity in the loop lengths.
- Tubing should be secured into tracking if provided or directly to webbing or reinforcing steel in wet pour installations. The tubing should be only secured with plastic tie wrap straps. DO NOT use wire or any other metal restraints.

- If tubing is applied to steel within the concrete, be certain the mason supports the steel so that the tubing is at the proper depth for the design. Tubing too low in the mass will have poor response, and tubing too high in the mass will cause spalling or flaking on the surface of the concrete over time.
- Where the tubing will pass through concrete expansion joints, each loop should be sleeved through a 12" piece of armaflex type soft installation to prevent damage from shearing afterwards. As well, tubing should always be run through a plastic conduit elbow, supplied with the system, where it enters and exits the concrete mass. Over time expansion will cause failure of the tube if not protected in this manner.
- Tubing **MUST** be air pressure tested as outlined in the instructions and the specifications. Failure to test the system fully voids the warranty. It is not worth the shortcut to let the process continue until your work has been tested and verified. If testing with air, 60 psig maximum is recommended. Leave the tubing charged with the test pressure while the concrete is being poured. Monitor the tubing system at each manifold while the concrete is being poured. Any damage will show up immediately, and the pour must be stopped for repair.
- The AquaHeat manifold provides a shutoff valve and balancing valve for each individual loop. Each manifold comes with shutoff valves installed on supply and return, including hose bibs for bleeding air on both supply and return lines. Sometimes it is necessary to purge in both direction to totally eliminate air within the tubing that will restrict flow. If multiple manifolds are being installed on the same system, balancing devices may be required. Check the specification to see what type of valve is to be used.
- Tubing should not be installed within 6 inches of the edge of any system. Carpet strips, railing mountings, wall plates, and other devices that may be secured into the floor may damage tubing.
- When cutting PEX tubing, use a plastic cutter, not a saw. Plastic filings must be cleaned off ends before being made up into the manifold brass connections. Filings that are not flushed out of the system before connection will lodge in the balance valve of the return manifold connection.
- Snow melting systems or other systems using glycol should be activated and tested with water only initially. Only after flow is established through each circuit and the system has been thoroughly flushed and cleaned should glycol be added.
- AquaHeat manifolds use a unique three-part brass connecting system. Be certain to install the manifold nut, retaining ring, and crimp ring over the tubing end before making up to the barbed connection. Be certain to face the beveled side of the retaining ring towards the crimp ring. Failure to seat properly will cause leakages in operation.
- Manifolds can be mounted in any position necessary. However, the automatic air vent provided must be mounted vertically facing up to be operative.