ComfortPro Systems, LLC
8150 N. Lehigh
Morton Grove, IL 60053
Phone (800) 968-8905
Fax: (847) 967-1482

AquaHeat PEX Testing Procedure

General

Every radiant or snow melting system should be tested while all piping is still fully exposed to insure that there are no leaks in the tubing system. This is a common sense step in any application of piping. Further, it is a **Warranty Requirement** for all AquaHeat PEX installations. If this step is omitted, there is no warranty from the manufacturer of the tubing.

Timing

The pressure test must be performed after installation of all tubing circuit installations are completed. The manifold and tubing system should be tested as an assembly. There is no practical way to pressure test each individual circuit. The shutoff valves on the manifold will not shut off against an 80 psig differential. If walls or a permanent installation point for the manifold is not available, a temporary support should be fabricated. The tubing ends and the manifold location will not change once installed, so the manifold should be fastened to the temporary support at the correct elevation for the permanent location.

Air or Water

The tubing system can be tested with either air pressure or hydrostatically with water. Depending on the climatic conditions, the correct medium should be selected. Once water is put in a radiant system it is almost impossible to drain it 100%. Unless it is certain that no freezing temperatures will be experienced before system fill and activation, air pressure is the safest selection. The automatic air vent that is supplied with each manifold should be removed during the testing procedure.

Test Procedures

The manifold assembly must be completely isolated from the system piping during testing. Both the supply and return connections must be available. The 1" return manifold end should be fitted with a nipple and drain valve. The supply manifold should be fitted with a nipple and charging valve to introduce and pressurize either the air or water. A pressure gauge should be fitted to either side of the manifold to monitor charge and retain pressure in the tubing system. The pressure gauge should be at least 4" diameter so movement of the indicating needle can be easily read.

Once pressure tight and ready, air or water should be introduced into the system. If air is used, the system should simply be charged to a pressure of at least 80 psig. If water is used, the system should be filled and bled through the return manifold drain valve. Each loop must be bled individually to make certain all air has been remove. Any residual air left in the tubing will be absorbed into the test water and result in a false indication of a leak.

The bonnets on the charging and drain valve should be tightened down securely for the lockdown period of the test. Minute leaks at these valves also can falsely indicate tubing leakage.

Verification and Time

Once the system is fully charged at 80 psig, the contractor should demonstrate the pressure readings to the project manager, engineer on site, or other authority having jurisdiction. The time of the inspection should be noted. The pressure charge must remain on the system for a minimum of 24 hours. The installer and the verifying agent should inspect the gauge and verify the pressure reading on the gauge. A small amount of pressure reduction is normal, just from the gauge movement. A maximum of 5 psig drop over a 24 hour period is acceptable. Any more pressure drop below the original charge pressure must be thoroughly investigated and all leakage eliminated. Once the leaks are corrected, the entire testing procedure must be repeated to assure a totally tight system before covering.

For the protection of the Owner and the Installers a report should be recorded for each manifold test. The manufacturer will require these records in the event of a warranty claim.