
BENRICH SERVICE COMPANY TRAINING PROGRAM©

Plumbing – Water Temperature Fluctuation

Hot water heating equipment, pumps, shut off valves and cold water check valves should be thoroughly inspected to ensure that all the equipment is functioning properly.

The water pressure should be equal in both the cold and hot water systems. This is a must! A pressure regulator should be located on the discharge side of the cold water main that services the cold and hot water. When separate regulators are used on the boiler and building cold water supply, the potential for inconsistent water pressure is extremely high.

Single handle shower valves must be in good condition. Cartridges should be inspected and replaced if they are worn or loose fitting. For Moen shower valves, the magnum cartridge must be used as a replacement. The valve body must also be in good condition. Eventually the body of the valve wears out and cartridge replacement will not help the “crossover” fluctuation problem at all. The valve must be replaced. Replacement valves should be pressure balancing which helps eliminate pressure fluctuations.

“Water saver” shower heads or other restriction devices must be removed. In a circulating system, the restrictive devices cause back pressure (increased pressure) in the system and the result is a magnification of the temperature fluctuation problem.

Portable dishwashers or washing machines that hook up to kitchen sink spouts must not be used. The hot and cold water are separate systems and the use of portable washing machines allows the cold and hot water to be mixed so that water flows from one system to the other. The result is immediate and drastic temperature fluctuation in the adjacent units.

To test for crossover, turn the boiler and pumps off, then shut off the cold water supply valve to the boiler. Go to any apartment on the system and turn on the hot water. If water comes out and the pressure doesn't drop dramatically after a few minutes, there is a problem in the system with crossover which causes the temperature fluctuation. Another simple test is to turn the cold water valves off at the building and open a hose bib. If there is still pressure or warm water comes out of the hose bib, there is crossover occurring at the single handle valves or faucets.

Temperature fluctuation is a dangerous situation that must be addressed. Residents have been scalded and seriously injured.