

THERMAL EXPANSION POLICY

Clay Roane PSD has a closed distribution system by way of a check valve installed in the meter setter. This ensures water from backflowing into our system. Clay Roane PSD will not be held responsible for damage to person or property or items such as but not limited to, water pipes, fixtures, water appliances, water damage, leakage or water loss caused by thermal expansion.

Simple physics tells us that when a fluid heats, it expands in volume. For a home water heater, this means that when a full tank of water is heated up, it may require more space than is available in the tank. This is a distinct problem in any closed water system, which can be identified by any system that has a one-way valve (such as a backflow valve, check valve, or pressure-reducing valve) designed to prevent water from expanding back into the Clay Roane PSD's water supply.

In our closed system, the extra water volume that results from heating puts stress on other parts of the plumbing system and can result in broken pipes, leaky taps, relief-line leaks, or a damaged or leaking water heater. If the water pressure increase is severe, there can be even more serious damage to the water heater, possibly posing a safety hazard. So, for reasons of safety, most plumbing codes require both residential and commercial plumbing systems have ways to accommodate water heater thermal expansion.

WARNING

When water heater thermal expansion creates dangerously high-water pressure, it can cause the top or bottom of the tank to bulge or rupture. A distorted water heater is quite dangerous and needs to be replaced. Look for any signs of deformity in the top or bottom surfaces of the water heater, or in the relief line or water connection nipples at the top of the tank. If you see any of these signs, have the water heater replaced immediately.

The problem is more likely to occur with water heaters that do not have an expansion tank installed in the home's water system but do have a check valve on the cold-water supply line. This check valve is designed to keep water expansion from pushed back into the Clay Roane PSD's water system, but unless there is an expansion tank in the system, the pressure has nowhere to go, except to put stress on the water heater tank itself and surrounding pipes.

In this kind of situation, it isn't enough to replace the water heater, because the pressure fluctuation will continue to stress the plumbing system. Nor does the standard temperature and pressure relief valve adequately correct the water heater thermal expansion problem. The only truly effective solution is to install a water expansion tank that provides extra space for water expanded through heating. If you know you have a closed plumbing system, or if you've had thermal expansion water heater damage, you should install an expansion tank. Required by plumbing codes, this safety precaution is a good way to prevent damage to your plumbing lines and fixtures