
Pre-season Boiler Water Treatment Actions

Every year, numerous boiler failures occur that pre-season actions could easily have been prevented. The primary reasons for these failures are poor or non-existent water treatment, low water, and little or no preventive maintenance for the boilers. Trouble often starts with a small leak. Over time, if not repaired, a failure will occur.

Monitoring the boiler at start-up, ensuring good water quality, checking for leakage, and periodic inspection and maintenance can go a long way in helping you avoid costly breakdowns. Here is a check list of actions required prior to boiler start-up.

- ✓ Are water softeners working? Clean brine tank. Check resin, salt, water lines, controller, etc.
- ✓ Is the deareator functional? Check internals, temperature, steam, etc.
- ✓ Does the surface blow down work properly?
- ✓ Is the condensate system operating? Check for hard water intrusion and/or leaks.
- ✓ Is chemical feed system OK? Check lines, pumps, controllers, and chemical supply.
- ✓ Are sample points accessible and functional?
- ✓ Are feed water pumps OK? Check seals and check valves.

Water treatment to combat corrosion is a must for all steel boilers. For cast iron boilers, use pure water, keep system tight as possible and clean with chemicals, as mechanical cleaning is very difficult.

Consider the following:

1. A common start-up error is expecting to fire up the boiler at the beginning of the heating season and then walk away for days or weeks. The probability of something going awry is highest during the boiler start-up period. Monitor the system frequently to be certain that all water levels and operating conditions have stabilized and are functioning correctly during this period.
2. How much make-up water is routinely used? Is the system tight (low leakage) or do leaking return lines, leaking packing, fittings, and piping necessitate continuous make-up? Preventive maintenance, including periodic inspection of the system to detect leakage, should be performed. Corrective action must be taken before a minor leak causes a boiler failure.
3. What is the quality of the water used in the system? If your water source contains impurities, the water could be causing corrosion and/or scale to form. Hard water, high in minerals, will cause scaling.

The only way to determine the quality of the water used in your system is by sampling and testing. Once an analysis is performed, a **water optimization plan** should be developed and implemented.

The cost of a breakdown can be more than you might think. Because boilers are generally used for heating, breakdowns usually occur in cold weather, when the outside temperature is in the teens or colder, and your facility is freezing. Whether you have tenants or are trying to run a business, down time is costly. There is the additional headache of dealing with irate customers or employees because your system is down.

Don't let a minor maintenance oversight be the source of major excess expense and anguish. Implement a pre-season action plan and avoid the problems.

For more advice and a Water Optimization Plan proposal, give Water Treat USA a call at 215-355-1501.