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## **Water Treatment and Maintenance for Your Low-Pressure Boiler**

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### **INTRODUCTION**

Every year, The Hartford Steam Boiler Inspection and Insurance Co. (HSB) investigates numerous boiler failures. The primary reasons for these failures are poor or non-existent water treatment and little or no preventive maintenance for the boilers.

Here are some general guidelines concerning low-pressure boilers. In particular, 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.

### **BREAKDOWNS ARE COSTLY**

The cost of an unscheduled and unwanted breakdown of your heating system can be more than you might expect. Even when boiler insurance is available, the deductible may still account for a considerable out-of-pocket expense.

Consider also the indirect costs. Because low-pressure boilers are usually used in heating applications, the breakdowns are usually in cold weather. Having boiler insurance may be of little comfort when your boiler just broke down, the outside temperature is in the teens, and your location is freezing.

In addition, if you have tenants or are trying to run a business, you don't need the added headache of dealing with irate customers because your system is down due to minor maintenance oversights.

### **MONITOR START-UP**

The most common error in the operation of boilers is made at start-up. Don't expect to fire the boiler at the beginning of the heating season and then walk away for days or weeks.

The probability of something happening to the boiler is highest during the start-up period. Monitor the system frequently to determine that all water levels and operating conditions are stabilized during this period.

### **WATER TREATMENT**

Water treatment to combat corrosion is a must for all low-pressure steel boilers. If you have a cast-iron boiler, it is important to use pure water and to keep the system as tight as possible. Cast-iron boilers are very difficult to clean mechanically, and chemical cleaning may be prohibited in your area due to local ordinances.

Here are some questions to consider:

What is the quality of the water used in the system? If your well, stream, or city water contains impurities, the water could be causing corrosion or scale to form. Hard water is high in minerals and will cause scaling. Soft water may be aggressive and cause corrosion.

The only way to determine the quality of the water used in your system is by sampling and testing. Once an analysis is made, a plan of action can be developed to properly treat your boiler water.

## **LEAKAGE**

How much make-up water is used on a routine basis? Is the system tight (low leakage) or do leaking return lines, leaking packing, fittings, pipes, or radiators necessitate continuous make-up?

A tight system will ensure that additional water is not required. Preventive maintenance, including periodic inspection of the system to detect leakage, must be performed. Corrective action can be taken before minor leakage becomes a major boiler repair.

## **HSB IS A RESOURCE**

- Your HSB inspector can provide you with logs and boiler tags. This information will help you schedule maintenance for your boiler.
- Your HSB inspector can also assist you in finding a local company to look after your boiler and water chemistry requirements.
- Please give us a call! We are ready to assist you in taking care of your boiler needs.

*Our advice is intended to complement the equipment manufacturer's recommendations - not replace them. If you have doubts about any particular procedure, contact your equipment service representative.*