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100% Effective Natural Hormone Treatment
Menopause, Andropause And Other Hormone Imbalances
Impair Healthy Healing In People Over The Age Of 30!

Why Condition Your Boiler Water?

By Thomas Yoon

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A boiler is used for generating steam. It does this by heating water to its boiling point, after which steam will evaporate from it.

When you boil a kettle of water, you will shut off the fire or electric power when the water comes to a boil.

No so with a steam boiler. Generation of steam is a continuous process. Once a boiler is generating steam, it may take quite a long while before it is stopped. When steam is evaporated from the water, new water has to be added in to replace the water given out.

As more and more steam is evaporated, the water becomes more and more concentrated with salts and other impurities. If you use your kettle for a long while, you will see some chalky deposits inside it.

The fresh water supplied to replenish those lost through evaporation cannot be pure and free from salts. Even minute quantities of salt in the water will eventually become so concentrated as to form scales or deposits. The deposits are usually calcium or magnesium salts.

These scales are very damaging to the boiler because they interfere with the heat transfer and can lead to overheating and eventually, boiler rupture.

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Soft water is water that contains very little calcium or magnesium salts. They are used to feed the boilers. However, they tend to be acidic in nature.

Acidic water tends to corrode. This is not good for the boiler. Corrosion can weaken the boiler.

By treating the boiler water with chemicals, we can control the acidity of the water as well as the softness of the water. This will solve the problem with scales and corrosion, but it is not the ultimate cure—all.

The boiler water will continue to become more and more

concentrated as the steam evaporates. The next step to take is to remove the concentrated water and replenish it with fresh, soft water.

The process of removing the concentrated water is called blow-down.

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Many years of working experience in Marine, Facilities, Construction has given the author material for writing e-books and articles related to engineering, and management.

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What to Look for Inside your Steam Boiler?

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A steam boiler is a pressure vessel with a difference. The vessel

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is subjected to heat stress of expansion and contraction, internal and external corrosion, as well as intense heating on some of its surfaces.

If we are not careful, the steam pressure can rise up very high, and it can become a potential bomb!

Because of this, steam boilers have to be built to certain regulatory codes, with regards to materials used in their construction, their design, and their installation.

For the operator of the steam boiler, it is essential that the boiler be operated safely. Although many safety devices are fitted in all the boilers, they are not fail-proof. Humans are still needed to monitor the condition of the boiler all the time the latter is operated, even if it is just to acknowledge an alarm buzzer or flashing light in a control room.

One of the most important ingredients of a boiler is the water inside it. The use of untreated water will lead to scaling, corrosion or foaming. All of these have some detrimental effect on the boiler or steam systems.

So, always treat the water properly.

But however well you treat the water, you will never know the condition inside the boiler until you actually see it.

Waterside boiler inspection is carried out for that purpose. If you are the person who enters the boiler manhole to make the inspection, make sure that all your pockets are empty, and that nothing can fall off. This is a good reason for this. Any object dropped into the waterside can interfere with the heat transfer process, and can also cause premature failure due to vibration and rubbing effects.

What would you look for?

The presence of scale, corrosion, and distortion. All these will cause problems later on.

But before you enter the boiler, please make sure that there is enough ventilation, enough oxygen for breathing, no presence of remaining steam, no chance of accidental entry of steam, and so on....

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