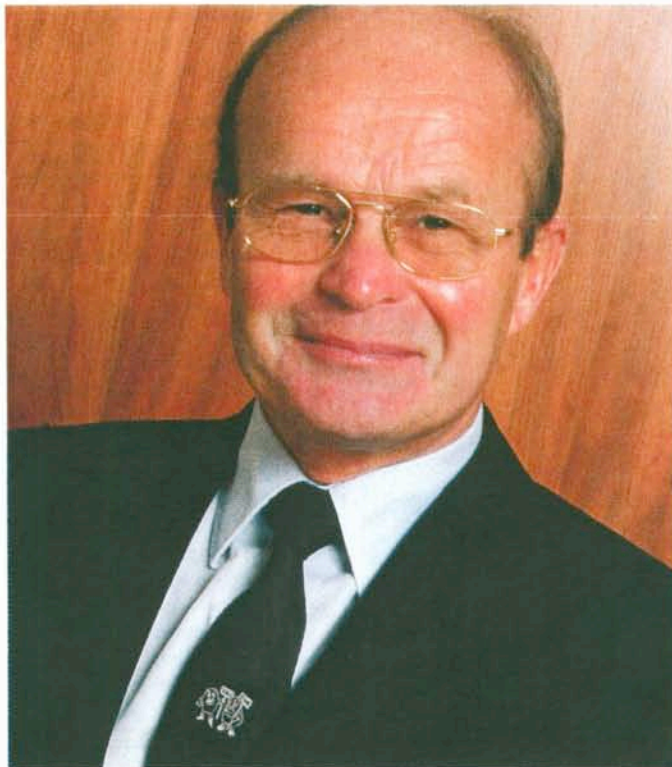


# Softened water is not the real problem for heat exchangers

Softened water need not corrode a boiler using aluminium for heat exchange any more than any other type of water, according to BS Standard 7593. So, why am I getting customers ringing up, totally confused, cancelling their orders for water softeners because they've been told by their plumber that they can't use one with an aluminium boiler?

I'm not a technical expert – just a plumber who, back in 1978, launched a small business that is now a large manufacturer of domestic water softeners. But even without the backing of the British standard, common sense tells you that softened water is no more corrosive than non-softened.



## *Harvey Bowden, chairman of Harvey Softeners, looks at the effect of softened water on aluminium heat exchangers*

the issue as quickly as possible.

We are in discussions with the Water Regulations Advisory Scheme (WRAS), Trading Standards, the Consumer Association and the boiler manufacturers – and hope to have some positive feedback for you soon.

### **FINDING THE SOLUTION**

So what should you do in the meantime? If you are a plumber in the house of a customer with a water softener, ready to install their new boiler and you find a manufacturer's label under the casing saying 'must not be

subsequently is negligible, or should be.

Another suggestion is to run a separate water supply to the central heating system and add the necessary inhibitor.

In conclusion, as you have to use an inhibitor regardless of whether you use hard or softened water, the easiest route is to use softened water anyway – we find the best inhibitor with softened water is Sentinel 100.

My final solution is to recommend that any customer with a water softener fits a boiler from a reputable boiler manufacturer that does not have an aluminium heat exchanger, or alternatively, has one that they are prepared to guarantee.

We are currently compiling a list of manufacturers that meet these criteria, and any installer who wishes to receive a copy of that list should contact Harvey Softeners for more information.

Domestic water softeners have been sold in England since 1918, and softened water complies with the Drinking Water Regulations 2000. Therefore, by definition it is suitable for drinking purposes, and qualifies as 'normal water' within the meaning of government regulations.

So, if aluminium boilers are corroding when used with normal water, perhaps what we should be asking ourselves is whether aluminium is a suitable material for a boiler heat exchanger in the first place. Is it really fit for this purpose?

installed on a system with a water softener', there are a number of different approaches that you can take to be safe.

The first is to fill the central heating system with softened water and make sure it has the correct amount of the right type of inhibitor in the central heating system.

Alternatively, you could open the by-pass valve on the water softener by-pass set and allow the central heating system to fill up with hard water before turning the water softener back on again. The amount of make-up water being added to the system

### **DEBUNKING THE MYTH**

Corrosion is caused, generally speaking, by a change in the pH balance, and softening simply does not materially affect the pH balance of water. So where does this myth come from?

My best guess is that it's from faulty testing protocol in using an open-vented 'pot' to replicate a sealed central heating system. Because when any water, not just softened, is heated in an open system, the pH balance may be altered by the resulting evaporation – and the pH and corrosivity will be increased.

This is a ridiculous situation – and extremely confusing for the plumbing trade, let alone the general public – so the water treatment industry is currently putting a huge amount of effort into resolving