

Hot Tubs and Hard Water

Many people are familiar (particularly if you live in the south and east of the UK) with hard water and its effects. Hard water is usually viewed as a problem, with images of scaled up pipes, kettles and hot water cylinders and the potentially expensive damage that can be caused. Such imagery is often used to sell a plethora of water softening devices and treatments.

Please note that the industry advice is to **Never** use water from a water softener to do a complete fresh fill of your hot tub or swim spa.

It is important to understand that a certain level of hardness (or calcium level, to be more accurate) is a good thing and, indeed, required to maintain the quality of hot tub water at optimum levels, and maintain the hot tub's equipment. Start out by having your fill water tested for calcium, as this will determine your level of calcium hardness. Test kits to do this are available from your hot tub retailer.

High calcium levels (common in water abstracted from ground sources) could cause cloudy water, scaling and scale deposits forming; too low calcium levels could lead to excessive foaming of the water and corrosion of metal surfaces. Calcium levels should be maintained at an ideal level of between **200mg/l – 400mg/l** (or ppm – parts per million).

The best time to test a hot tub for calcium hardness is immediately after it is filled, whilst the water is still cold. Most treatment products available for increasing calcium levels work more efficiently in cool water than they do in hot. We recommend you test the hardness levels every time you freshly fill your hot tub.

There are a wide variety of treatment products from all the major brands in the UK for raising calcium levels if you have soft water. When correcting the calcium levels, it's a good idea to wait two to three days before retesting, as these products can take a while to fully dilute. If you accidentally add too much calcium increaser, simply drain 6" to 12" (150mm to 300mm) of water, top back up again, and retest.



There are no chemical products on the market for reducing calcium levels. If you live in an area with very hard source water, and your house is fitted with a water softener, then try filling the hot tub with regular tap water up to 6" to 12" (150mm to 300mm) below the fill level, then fill the final 6" to 12" (150mm to 300mm) using water which has passed through the water softener. Important note: this is the **only** circumstance we recommend you can use softened water in your hot tub.

If you are unable to reduce high hardness levels, don't worry. Just ensure you diligently maintain your pH and alkalinity levels in balance (see Factsheet C3 on Water Treatment), and use a proprietary hot tub scale and stain inhibitor (available from your BISHTA dealer) to lower the chance of scale precipitating out.

Where can I find out more?