

# 1 Water Hardness and Scale



**Hard water is water that contains calcium and magnesium salts. Water taken from underground boreholes in limestone or chalk rocks tends to be hard, because the naturally occurring calcium and magnesium rock minerals have dissolved into the water.**

## Is our water hard?

As many of our underground borehole sources are naturally hard, we partially soften the water as part of the water treatment process from a hard level to a medium level.

Our remaining sources are naturally softer and do not require further treatment.

Due to the different geologies in our catchment area, the hardness of your water supply will depend on where you live within our area.

## What is the hardness of my water?

To know how hard the water is in your area of supply, for example to set your **dishwasher**, go to the 'Your water quality' section on our website [www.seswater.co.uk/WQ](http://www.seswater.co.uk/WQ) and use the postcode search facility within the 'Your water quality report' section.

The average of the water hardness for your area will be shown in the 'Supply Zone' report. The hardness of the water is measured as mg/l Ca (milligrams per litre, or parts per million, of calcium). Total hardness can also be expressed in other units of measurement and these may be specified by dishwasher manufacturers.

Alternatively contact our Customer Services team for information.

## Is hardness harmful to health?

There are no health concerns associated with drinking hard water. We are not allowed to remove all the hardness from the water as there is some evidence to suggest that drinking hard water protects against cardiovascular disease.

## What effects will hardness have in the home?

As we do not remove all the hardness from the water there still is potential for some limescale to form.

Scale can normally be seen as white, flake like particles that can build-up in pipes, on fittings and in kettles. The flakes can also appear blue/green or pink if small amounts of plumbing metals such as copper and iron are also present.

Limescale may also leave a white film on surfaces such as draining boards and glassware.

Hardness in water can react with the natural tannins in tea and coffee, resulting in an oily looking film on hot drinks and a brown stain in cups or mugs.

Hard water also requires the use of more soap and detergents to produce the same amount of froth or foam as soft water.

If water is too soft, it can be corrosive to pipework, but hard water actually creates an internal protective film on lead and copper pipes, which prevents these metals leaching into your drinking water.

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## Minimising scale formation

If scale becomes a problem there are a number of simple measures you can take, details of which can be found below.

### In the kitchen:

#### Kettles

In metal kettles hardness can cause a scale or fur layer to develop.

Boiling fresh water each time, rather than re-boiling water, can help minimise scale.

A stainless steel wire scale collector placed in your kettle can also help to reduce scaling.

Regular removal of scale can be achieved naturally, for example by using vinegar.

Chemical scale removers are also commercially available. Most of these chemical scale removers are strongly acidic and can be poisonous, so if used, **care should be taken and the manufacturer's instructions always followed exactly.**

In plastic kettles the scale may not stick to the sides but float on the surface of the water.

Regularly rinsing plastic kettles will help to reduce the amount of this type of scale.

#### Draining boards

Regularly wiping the sink area down helps to minimise the formation of white spots or a film.

#### Glassware

Drying items, rather than leaving them to naturally dry, can help to minimise the formation of a white film.

### In the bathroom:

#### Sinks and baths

Wiping down sanitary ware helps to minimise the formation of a scale film or tide mark.

Natural soap and hard water together can produce a scum which sticks to the sides of sanitary ware.

Removing this scum with an ordinary liquid cleaner as soon as possible is recommended, because the scum can be hard and more difficult to remove once it is dry.

#### Taps

The regular wiping down and cleaning of taps with an ordinary domestic cleaning product, available in supermarkets and hardware stores, should help to minimise scale.

#### Toilets

Limescale build-up in a toilet pan can be removed using a limescale remover.

If the problem persists an acidic type cleaner may be required.

**Do not mix the different types of remover.**

### In immersion heaters:

Reducing the temperature of your hot water can decrease scale deposition in pipework. This also helps to save energy and reduce power costs.

The ideal setting is 60°C. It is important that the water in the cylinder is this hot as bacteria can grow at temperatures lower than this.

In conjunction with advice from a qualified plumber, some customers can choose to use a chemical scale inhibitor or a special sheath to help protect heating elements.

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## Domestic water softeners

Water that has been filtered using a carbon and ion exchange resin jug filter is less likely to form scale in a kettle and a film on hot drinks.

Many in-line water softeners work by replacing the calcium and magnesium minerals with sodium.

Too much sodium in the diet can cause health problems, especially in babies and for customers on low sodium diets.

Water softened in this way may also be more corrosive to pipes.

Should you decide to install an in-line water softener, it should be ensured that **water used for drinking, cooking and the making up of babies' bottles is not softened.**

For any filter used, both the operating and maintenance instructions should be properly followed to help prevent it becoming a hygiene hazard.

It is advised that a qualified WaterSafe Approved plumber is used to ensure any in-line water softening device is installed correctly. A list of plumbers can be found on the Watersafe website, [www.watersafe.org.uk](http://www.watersafe.org.uk).

Other processes such as use of a magnetic conditioner can also be used to provide a softened water supply.

The softening processes we use do not involve the addition of sodium and so our drinking water supply is safe to use for drinking and cooking.

## Advice on domestic softeners

We do not test softening devices for use in the home and therefore cannot recommend any particular process or device. The decision to install devices to soften the water in the home is one of customer choice.

Independent advice on water softeners and conditioners can be viewed in the Consumer Guides on the British Water website, [www.britishwater.co.uk](http://www.britishwater.co.uk).

**For further advice and top tips check out the water industry guide 'Looking after water in your home'. Download at: [www.seswater.co.uk/WaterInYourHome](http://www.seswater.co.uk/WaterInYourHome)**