

## 7.2 Water Hardness In The UK



Water hardness is caused by minerals dissolved in the water. To be technical, water hardness is defined by the concentration of multivalent Cations contained within the water. The higher the concentration, the 'harder' the water.

Typically, the Cations contained within household water is determined by the rocks the water has passed through. The most common Cations found in hard water are  $Ca^{2+}$  (calcium) and  $Mg^{2+}$  (magnesium). Central, southern and eastern parts of the UK have the highest concentration of Cations, the most westerly sections of Devon, Cornwall and Wales, along with the majority of Scotland have the lowest concentrations.

The effect of these ions is plain to see as a whitish build-up on bathroom shower screens and taps, inside kettles, coffee machines and irons as well as on windows that haven't been 'squeegeed' off properly. When washing your vehicle, the effect is seen as white spot residues. These bond to paintwork, become difficult to remove and in extreme situations, actually etch into the clear coat causing permanent marks which require machine polishing to remove.

For the majority of the UK the only way to avoid the aggravation of water spot marks when washing your vehicle is either to ensure the car is thoroughly dried using a designated drying towel (Refer to 8.1 Drying Towels) as soon as the wash process is complete, or to use a de-ionising water filter (Refer to 7.1. Rinsing Your Vehicle With De-ionised Water). These filters contain a resin media which works through ion exchange to neutralise the Cations in the water, giving you a completely spot-free finish.