



Water hardness

HAVE YOU EVER NOTICED THAT TAP WATER TASTES DIFFERENT DEPENDING ON WHERE YOU ARE? HAVE YOU EVER SEEN A WHITE COATING INSIDE YOUR KETTLE OR IN THE SHOWER HEAD, OR FOUND THAT THE SOAP WON'T LATHER UP? ALL THESE EFFECTS ARE CAUSED BY DIFFERENCES IN THE 'HARDNESS' OF THE WATER.

What is hardness?

Hardness refers to the amount of calcium and magnesium salts in water. These natural minerals are dissolved as water moves through soil and rock and cannot be removed by filtration. Water described as "hard" is high in these dissolved minerals. Hard water is not a health risk, but a nuisance because of mineral build-up on fixtures and poor soap and/or detergent performance. Water containing less dissolved minerals is known as soft water. Both hard and soft tap water is safe to drink.

Total hardness in major Australian reticulated supplies ranges significantly from between about 6 mg/L and about 380 mg/L.

How is hardness measured?

Ranges of hardness, usually expressed in units of milligrams per litre (mg/L) of equivalent Calcium Carbonate (CaCO_3), are rated by the National Health and Medical Research Council (NHMRC) Australian Drinking Water Quality Guidelines as follows:

<60 mg/L	Soft but possibly corrosive
60-200 mg/L	Good quality
200-500 mg/L	Increasing scaling problems
>500 mg/L	Severe scaling

The water quality for our Tamworth Regional Council customers can vary significantly around the Region. This is due to the fact that our water comes from a range of sources. Groundwater, or bore water is often higher in hardness due to the fact that it has been in contact with rocks underground long enough for minerals to dissolve. Surface water from rivers and dams is often softer because it has not been in contact with rocks for long enough for the minerals to dissolve. Seasonal variations in hardness can also occur.

Typical hardness of drinking water supplied by Tamworth Regional Council Water Treatment Plants

Areas supplied by Tamworth Regional Council may be supplied by one of more raw water sources at each of the Water Treatment Plants (WTP):

LOCATION	TYPICAL RAW WATER SUPPLY	HARDNESS LEVEL		
		mg/L Calcium Carbonate (CaCO ₃) (equivalent to parts per million -ppm Calcium Carbonate)	mmol/L	German Degrees (dGH, °dH)
Tamworth, Moonbi & Kootingal	Peel River (Chaffey Dam)/Dungowan Dam/Paradise Wells	50-150	0.5 - 1.5	2.8 - 8.4
Manilla	Namoi River/Manilla River. (Split Rock Dam)	100-200	1.0 - 2.0	5.6 - 11.2
Barraba	Split Rock Dam	150-200	1.5 - 2.0	8.4 - 11.2
Bendemeer	MacDonald River	40-80	0.4 - 0.8	2.25 - 4.5
	Airlie Road Bore	150-160	1.5 - 1.6	8.4 - 9.0
Nundle	Peel River	150-250	1.5 - 2.5	8.4 - 14.0
	Crawney Road Bore	300-350	3.0 - 3.5	17.0 - 19.7
Attunga	Attunga Bores	290-320	2.9 - 3.2	16.3 - 18.0

The figures provided are indicative only. The values may change depending on seasonal variations.

What to do

- Dishwashers**

If you are installing a new dishwasher, you should find out if your area has hard water. If it does, consider a dishwasher that is suited to hard water and use the recommended dishwashing products.

- Hot Water Systems/Kettles**

The boiling and heating of tap water may cause mineral deposits to form on the inside of appliances. Mineral deposits can result in discolouration of the internal surface of the appliance over time. Refer to your manual for cleaning instructions.



For more information

If you have any comments or questions regarding this information, please contact Tamworth Regional Council's Water Headworks Team:

Phone: (02) 6767 5555 or 1300 733 625

Visit the TRC Website at: <http://www.tamworth.nsw.gov.au>

View the TRC interactive virtual tour of the water treatment process at the Calala Water Treatment Plant <http://schools.tamworth.nsw.gov.au/>