

NewFresh Water Systems

Green Technology

Hard Water and Problems Discussed

Are Total Dissolved Solids a Problem?

Total Dissolved Solids are classified as a secondary contaminant by the Environmental Protection Agency (EPA) and a suggested maximum is 500 part per million (ppm.) Concerns with secondary standards relate to aesthetic or cosmetic quality of the water rather than health concerns. Total Dissolved Solids (TDS) can give water a murky appearance and detract from the taste quality of the water. Gastrointestinal irritation in some individuals can be caused by high TDS levels. Very high TDS can also interfere with treatment and is a consideration when choosing a treatment system.

What is Hard Water?

Water is considered hard when it has a relatively high concentration of calcium and magnesium ions (two of the salts which make up TDS). Hard water received this name because it requires more soap to get a good lather and makes the water “hard” to work with. Water hardness can be reported in milligrams per liter, parts per million (which is equivalent to milligrams per liter), or grains of hardness. One grain of hardness is equal to 17.1 milligrams per liter. In addition to making washing more difficult, hard water can cause scaling on sinks and fixtures, deposits in hot water heaters and pipes, and buildup in pumps and water using appliances, which can shorten appliance life.

Laundering

Clothes washed in hard water often look dingy, feel harsh, and scratchy. The hardness minerals combine with some soils to form insoluble salts, making them difficult to remove. Continuous laundering in hard water can damage fibers and shorten the life of clothes by up to 40 percent.

Bathing

Bathing with soap in hard water leaves a film of sticky soap curd on the skin. The film may prevent removal of soil and bacteria. Soap curd interferes with the return of skin to its normal, slightly acid condition, and may lead to irritation. Soap curd on hair may make it dull, lifeless and difficult to manage.

NewFresh Water Systems - Green in home water treatment

Scale Hardness Conditioning and Soft Feeling Water Systems

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Dishwashers

When washing dishes or washing in a dishwasher, hard water may cause spotting and filming on your dishes, glasses, silverware. The minerals from hard water are released faster when it comes into contact with heat, causing an increase in the amount of spotting and filming that occurs. This problem is not a health risk, but it can be a nuisance to clean and diminishes the extent of cleaning efforts.

Problems in Water Heater Systems and Pipes

Hard water also contributes to inefficient and costly operation of water-using appliances. Heated hard water forms a scale of calcium and magnesium minerals (scale deposits) that can contribute to the inefficient operation or failure of water-using appliances. Pipes can become clogged with scale that reduces water flow and ultimately requires pipe replacement. Scale has been known to increase energy bills by up to 25% to 30% or more in harder water areas.

Hard Water Benefits

The National Research Council (National Academy of Sciences) states that hard drinking water generally contributes toward total calcium and magnesium human dietary needs. They further state that in some instances, where dissolved calcium and magnesium are very high, water could be a major contributor of calcium and magnesium to the diet.

The ideal solution would be to leave the calcium in the water, but alter its state so that it could not form scale. This is exactly why we have introduced the [NewFresh Water InjectaFLO Softener and Descaler system](#).

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