Consumer Alert

Water Quality Association
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What is water softening?

Water softening is the removal of calcium and a few other minerals that can cause our working water to damage household property. When it deposits as scale, calcium carbonate (limestone) is an abrasive rock like mineral.

Why soften your water?

Calcium that is dissolved in water forms deposits that:

- Abrade and fray the threads in clothing
- Stick to clothing and other household products and appliances (You can feel the difference between towels that are new and those that have been repeatedly laundered in hard water. Those laundered in hard water are rough, the result of rock encrustations embedded in the fibers.)
- Spot dishes, faucets, sinks, toilets, cars, in fact all surfaces, with a microscopic film of limestone.
- Deposits buildup inside water pipes, heaters, and bathroom and kitchen fixtures.
- Gas water heaters used 29% less energy to heat water and electric water heaters used 21% less energy when operated on softened water according to a study done by New Mexico State University.

How can water be softened?

- Presently there is only one practical way for homeowners to soften their water and that is through an ion exchange water softener. Briefly here is how it works.
- Ion exchange water softeners are filled with millions of tiny resin beads that attract and hold on to calcium. As the water passes through this resin "bed" the calcium is removed so it cannot harm your household goods.
- What happens when the resin beads are full of calcium?
- The resin bed is rinsed with dissolved salt, usually table salt. The dissolved salt scours the calcium from the beads; which prepares them to remove more calcium. This rinsing process takes place every few days, usually at night.

Are there other alternatives that remove water hardness causing calcium and magnesium from the water?

- Some other technologies such as reverse osmosis, deionization, and distillation can remove calcium and magnesium from water but at a high cost in energy or wasted water. Ion exchange water softening is the most cost efficient method to remove calcium and magnesium.

I've heard of other "salt free" devices that are offered as alternatives. What are they and what do they do?

- First of all, you need to talk to the manufacturer of these devices to get the facts.
- Consumer protection laws are clear across the land. Manufacturers must have scientific test data to back up their claims for their particular product.
- Since no testing standard exists in the U.S. for these devices we have not tested nor certified these products so we can only pass on what we have heard. (More on testing and certification below)
- We understand that there are products that are marketed as scale control devices.
- Scale is the rock like mineral deposit (limestone) made up of calcium carbonate that forms inside water heaters, pipes, and fixtures over a period of time.
- Scale control devices can have the ability under certain circumstances to help reduce the amount of scaling inside these pipes and fixtures.
- To our knowledge these scale control devices do not claim to remove calcium and so they do not produce soft water.
- Controlling scale inside pipes, water heaters, and fixtures is an important benefit but it is only a partial benefit.

What is product certification?

- Product certification is referred to as Conformity Assessment. This term is used to describe steps taken by both manufacturers and independent third parties to determine fulfillment of standards' requirements. It involves testing products in a laboratory according to a standard protocol and it also involves periodic audit inspections of the manufacturing facility to insure that the product that was tested conforms to the ones currently being manufactured. The Water Quality Association is an organization that is accredited by the American National Standards Institute for conformity assessment.

What is the American National Standards Institute (ANSI) and what is its role?

- The American National Standards Institute (ANSI) has served in its capacity as administrator and coordinator of the United States private sector voluntary standardization system for more than 90 years.
- The Institute recognizes the competence of bodies to carry out product or personnel certification in accordance with requirements defined in International Standards. ANSI's accreditation programs operate in accordance with international guidelines and have been verified by government and peer review assessments.
- ANSI's program for accrediting third-party product certification bodies has experienced significant growth in recent years, and the Institute continues its efforts to obtain worldwide acceptance of accredited certifications performed in the U.S.
- One of the best indicators of the strength of the U.S. system is the government's extensive reliance on, and use of, private sector voluntary standards. Pursuant to OMB Circular A119, federal government agencies are required to use voluntary standards for regulatory and procurement purposes when appropriate. State and local governments and agencies have formally adopted thousands of voluntary standards produced by ANSI, and the process appears to be accelerating.

What is the Water Quality Association's Gold Seal and what does it mean to consumers?

- The WQA Gold Seal is awarded only to products that have passed laboratory tests, literature review, and materials assessment and that have been submitted to periodic audits according to the ANSI- and Standards Council of Canada (SCC)-accredited procedures of the Water Quality

Association (WQA) and of the WQA and NSF/ANSI Standards (NSF stands for the National Sanitation Foundation, a standards writing body that conforms with ANSI standards.)

- Each technology is tested according to a different standard. To help clarify here are the basic standards with some explanatory notes:
- NSF/ANSI Standard 42 for Drinking Water Treatment Units Aesthetic Effects and WQA S-200 Standard for Household and Commercial Water Filters. These products are certified only for taste or odor or staining. No health claims have been certified for products tested according to these standards.
- NSF/ANSI Standard 44 and WQA S-100 for Cation Exchange Water Softeners. These products are certified for the removal of hardness (calcium and magnesium). Some manufacturers have also had their softeners certified for the removal of barium and radium.
- NSF/ANSI Standard 53 for Drinking Water Treatment Units Health Effects. These products are certified for the removal of specific health contaminants. Look for the manufacturer's listing of the contaminants that were tested. Certified contaminant removal claims can only be made for the contaminants listed for that product on the certifier's official web site, e.g., www.WQA.org.
- NSF/ANSI Standard 55 for Ultraviolet Microbiological Water Treatment Systems.
- NSF/ANSI Standard 58 and WQA S-300 for Reverse Osmosis Water Treatment Systems.
- NSF/ANSI Standard 61 for Drinking Water Treatment Components Health Effects. This standard insures that the product itself does not impart unhealthy contaminants to the drinking water that comes in contact with it. All of the above listed drinking water treatment unit performance standards also require this kind of testing as part of their certification. Standard 61 though does not include any performance testing.
- NSF/ANSI Standard 62 and WQA S-400 for Drinking Water Distillation Systems.
- NSF/ANSI Standard 171 for Shower Filtration Systems Aesthetic Effects.

A full listing of all products that have been certified by WQA can be found on the WQA web site – www.WQA.org.