

## Testimonials

Tom & Kathy

2018 Tiffin Allegro Bus 37BA

“Our glassware now comes out of the dishwasher completely clear and clean which gives us confidence that it truly works, and it has been completely maintenance free.”

Rick & Judy

2016 Tiffin Phaeton 40AH

“I installed in our coach a few months ago and so far we have been very satisfied with it. Along with many others I was using the “On The Go” portable water softener system and for all the obvious reasons I was not completely satisfied with it. I was convinced to give the product a try. And although a little more pricey than On The Go, the benefits make the difference in price well worth it. It is very small and easily fits in the wet bay or even on the end of water hose.”

Joe – Maintenance Manager

“Now I get it! My wife and I live full time in our RV. The campground where we’re working installed this product on the well that supplies water to the entire property, just about the time my wife and I arrived over two years ago. Since then I realized that I no longer have to flush calcium buildup from the water heater or replace the anode rod, which previously was needing to be replaced every three to six months. Since we got to this campground, I am not having to do these services.”

Meets NSF/ANSI 61& 372



## EVENTS THAT CAUSE SCALING

### Hot Water Scaling

In untreated hard water systems when contact is made with the hot surfaces found in water heaters, humidifiers, kettles, boilers, heat exchangers etc. limescale will be deposited.

Calcium is inversely soluble, meaning that as the water temperature rises, the amount of Calcium that can be held in solution decreases. When this occurs in hard water systems the excess Calcium that’s been displaced by the temperature rise bonds with available bicarbonate to form Calcium Carbonate (in the Calcite form). This newly formed Calcium Carbonate then deposits as limescale on the nearest receptive surface.

### Cold Water Scaling

In untreated hard water systems, a rise in pH will also cause scaling. Carbon Dioxide dissolved in water under pressure takes the form of Carbonic acid. When the water pressure drops, at a faucet for example, the Carbonic acid gasses off in the form of Carbon Dioxide causing an instant pH rise (making the water less acidic). Examples of pressure drops in systems that can produce pH related cold water scaling include nozzles, faucets and shower heads.

## THE SOLUTION

Now that we’ve covered Calcium Carbonate, the two forms it can take in natural water and the events that trigger limescale deposits, we are able to explain the mechanism behind our successful technology.

As water passes through the NaturalSof treatment device it is subjected to a turbulent interaction with a catalytic core made of a proprietary alloy. The dissimilar metals and the water create a battery effect generating a very small electrical charge.

The electric charge combined with turbulent flow related pressure drops causes an important change to take place. A percentage of the Calcium and Bicarbonate in the water comes out of solution and goes into suspension forming Calcium Carbonate in the Aragonite state.

Microscopic Aragonite crystal formations remain suspended in the water and pass harmlessly through the system. Changes in temperature or pH no longer contribute to hard limescale deposits. The Calcium Carbonate is placed in suspension as stable Aragonite crystals and is no longer available in solution to be deposited as Calcite.

As the process repeats itself, newly created Aragonite crystal formations are continually produced thus preventing limescale deposits. The process also continues to gradually remove any limescale that may have accumulated in the past. This is due to the water now being under saturated with dissolved calcium and bicarbonate increasing its capacity to act as a solvent.

For a more in depth explanation that covers saturation ratios and looks at the chemistry behind the whole process please visit [www.NaturalSof.com](http://www.NaturalSof.com), go to “How it Works” and click the “The Science Behind our Technology” link.



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[www.RVinGenuity.com](http://www.RVinGenuity.com)

# NaturalSof – How it Works

(Continued)

## ABOUT WATER

To understand how the NaturalSof technology works let's first explore some basic facts about water. It is sometimes referred to as the "universal solvent". This term is used because water has unique characteristics that allow it to break the bonds of larger more complex compounds. For example, place a small teaspoon of sugar or salt in a glass of water, stir vigorously and it will dissolve easily.

Although the water in your RV may be clear, it is not pure. Being the wonderful solvent that it is, water is very receptive to and dissolves small amounts of soluble minerals that come into contact with it in nature. Water contains elements essential for healthy living, which include calcium and magnesium.

## HARDNESS IN WATER

Hardness in water is caused by Calcium and Magnesium. Conventional water softeners remove these essential macrominerals from the water supply, by replacing them with salts. One of the key benefits of the treatment devices provided by NaturalSof is that they do not remove these essential macrominerals.

## MAGNESIUM

While contributing to water hardness, Magnesium isn't a big factor when it comes to limescale deposits.

## CALCIUM CARBONATE

As we all know H<sub>2</sub>O can exist in various forms; Ice, Water and Steam.

Just as water can exist in various forms, so can Calcium Carbonate. The three forms of Calcium Carbonate are:

### Calcite

Under certain circumstances (temperature rise or an increase in pH levels), hard water is forced to discharge Calcium Carbonate. The Calcium Carbonate that accumulates from untreated water is Calcite form, a hard limescale. This will accumulate on the most convenient receptive surface, typically metal and particularly heated surfaces or discharge orifices.

### Aragonite

Aragonite is a form of Calcium Carbonate crystal that, unlike Calcite, prefers to stick to itself and grow, attracting more Calcium. It remains suspended in water rather than depositing on surfaces.

### Vaterite

Vaterite is rarely found in natural water.

### Quick Simplified Explanation

Our core technology has a twin catalytic effect. The first is the shape which creates turbulence and a very small pressure drop (much less than a softener). Pressure drops create limescale.

The second effect is the alloy acting as a battery, generating a very small electrical current, as water makes contact with the alloy.

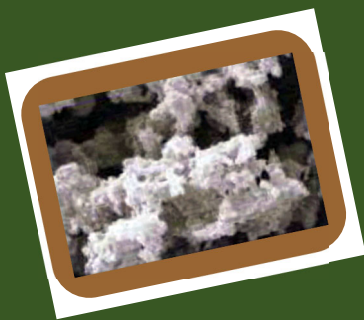
The electric current creates the condition needed to rearrange the limescale molecule to a benign soft non-bonding crystal.

These suspended soft crystals just stay in the water instead of sticking to pipework and water heater components. They just pass harmlessly through your system and down the drain.

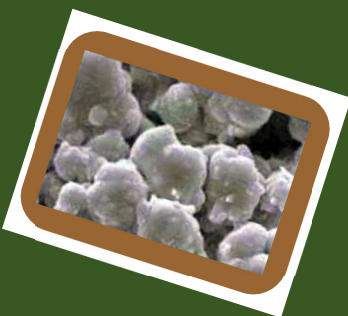
### A Catalytic Core



Calcium Carbonate Untreated



Calcium Carbonate Treated



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