Water Scale And Sedimentation Removal System

What is Water Scale?

Water Scale is a coating or precipitate deposited on surfaces that are in contact with hard water. 

Water that contains carbonates or bicarbonates of calcium or magnesium is especially likely to cause scale. When water is heated or evaporation takes place, scale minerals precipitate layers of rocklike deposits inside pipes, water heaters, equipment, and on fixtures and glassware.

While most common scale is a result of calcium carbonate, other combinations of ions commonly found in water offer a variety of scale.

Water Scale deposits interfere with heat exchangers and reduce their efficiency by insulating the heat transfer surfaces. The most common form of scale in cooling water systems is calcium carbonate (CaC03). In the water, calcium ions combine with bicarbonate to form calcium bicarbonate: (Ca++)+(2HCO) Ca(HCO3)2.

If Water Scale deposits are left to accumulate, water flow is restricted and piping and heat exchanger tubes become plugged. Ultimately, ignoring scale depositions can lead to the destruction and possible failure of heat exchanger tubes. In addition to loss of efficiency, process contamination can occur.

Common Evidence of Water Scale

Water Scale is most visually evident as hard white to off white deposits which buildup in faucets, showerheads and drains . 

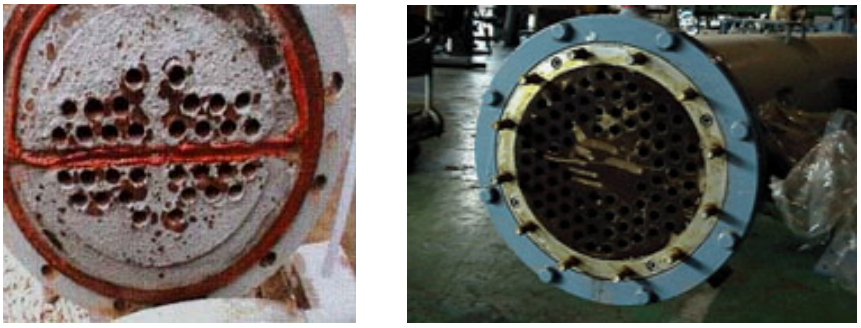
Water Scale leaves deposits on dishes, glassware, sinks, countertops and on vehicles that were just washed. Most Water Scale formations are hard and very difficult to clean. Visual references also include fixtures such as toilets, bathtubs, showers and appliances like coffee and icemakers.

Swimming pools and spas can experience scale build up on tile and pump equipment. Cooling towers have tremendous scale problems that causes industries alone a billion dollars a year to remove.

Evaporative coolers, boilers, car washes, irrigation systems, processing equipment, paper pulp mills all experience Water Scale problems. Because Water Scale forms a "coating" it can significantly effect thermo-transfer and reduce the flow of fluids. The increase of fuel cost due to scale build-up is astronomical.

A Billion Dollar Problem!!!

Water borne sedimentation i.e. Scale, rust, lime, mud and silica that builds up in the waterside of your equipment causes Billions of dollars in losses to industries in breakdowns, unplanned shutdowns, process contamination, high product reject rate, expensive parts replacements etc..



Before and after treatment with Dynamic Descaler

Present/Conventional Methods Used to Remove Water Borne Sedimentation.

- Industrial Acids e.g. Phosphoric Acid, Sulfuric Acid, Barium Nitrate, Glycine Acid etc..
- Rodding
- High Pressure Steam
- Scrapping
- High Pressure Water Jet
- Last but not least - replacement of the equipment!

None of the above are effective, some are even damaging to the equipment, in that some of these methods can only bring the equipment back to optimum operating efficiencies by compromising downtime, and the integrity of the equipment.

Present Methods of Preventing Sedimentation or better known as Fouling.

- Ion-Exchange
- Phosphates
- Permanent Magnets
- Electronic Conditioning
- Inhibitors - scale, rust, algae, bacteria

Some of the above methods are effective in SLOWING DOWN the process of scaling and should be used, BUT it does not remove or totally prevent sedimentation build up.