

# Decalcification of Potable Water Lines

Bulletin 2010 / 004  
April 2010

## What is Hard Water?

Water is a good solvent and picks up impurities easily. As water moves through soil and rock, it picks up minerals, dissolves them, and holds them in solution. **Hard Water** is water that has particularly high mineral content consisting primarily of calcium (usually from limestone, chalk or calcium sulfate) and magnesium (usually from dolomite).

Over time, the mineral content in hard water precipitates out, leaving behind mineral deposits – commonly known as lime scale - which collect on the surface. These mineral deposits can have multiple negative effects on aircraft systems:



**Pipes** – hard water minerals – or lime scale – can build up on the walls of pipes, leading to clogging of smaller lines (such as the coffee maker boiler), and, occasionally, pipe replacement.

**Pumps** – lime scale buildup on pumps and pump systems impairs operations and can ultimately jam the system.

**Sensors** – A particular area of concern on Boeing 777 aircraft are the embedded sensors in the potable water tank itself. Mineral buildup on the inside of the tank often coats the sensors, leading to incorrect capacitance readings.

**Above:** Hard water scale buildup on an aircraft coffee maker.

**Below:** Examples of pipe calcification taken from a Boeing 777

**Tanks** – Areas of scale buildup provide a perfect trap and breeding ground for bacteria that are found naturally in water. These microbes - once they have attached to a surface – rapidly multiply to form colonies (known as biofilm), leading to high bacteria counts from galley and lavatory faucets and poor taste and odor of on-board water.



## The Solution

**Glyco-San®** is a specially formulated, biodegradable, non-corrosive cleaner that removes scale and organic buildup typically found in potable water tanks, lines and automatic coffee maker systems. *In addition to being an excellent descaler, Glyco-San is an EPA registered disinfectant. When used as directed, Glyco-San will not only decalcify, but will simultaneously disinfect, killing Staphylococcus aureus, Salmonella enterica and Escherichia coli.*

## The Process

An on wing soak with a pre-diluted solution of Glyco-San is all that is required to decalcify and disinfect potable water tanks and lines. The decalcification process can be accomplished during an overnight stop without concern over aircraft damage from either the cleaning chemical or physical removal of the tanks.

## The Results



**Above Left:** B-777 tank interior before soaking

**Above Right:** B-777 tank interior after soaking

**Below Left:** B-777 piping before soaking

**Below Right:** B-777 piping after soaking



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**For more information on decalcification and disinfectant of potable water tanks and lines, or to schedule a trial, please contact your Account Manager or Sales Coordinator**