



## Deposits in potable water tanks.

Substances naturally present in potable water are easily seen as it is deposited on surfaces of covered water tanks as incrustations of iron, manganese and lime. These are more or less interspersed with organic components like slime, fungi, bacteria and algae. Natural clouding substances and sediments like clay or humic acids are firmly incorporated in these deposits.

Iron and manganese bacteria will tend to accumulate metabolized and secrete themselves as ferrous-ferrous oxide and manganese oxy-hydrate in the form of solid coatings. In addition, often these deposits are covered with a protective layer of polysaccharides and tough bacteria infested slime.

Such deposits - with a constantly growing biomass offer a perfect culture medium for infectious germs in potable water. Therefore, the deposits should be regularly removed at least once a year, or as frequent where necessary. The whole potable water tank has to be thoroughly disinfected.

Deposits often are very robust and generally resist attempts to remove them mechanically. Bacteria and other microorganisms stick firmly in the micro cracks and pores of the tank's surfaces. The microscopically small bacteria and microorganisms cannot be removed mechanically from these niches and cavities, and thus are the starting point of infection. In mechanical cleaning, disinfection with chlorine is necessary; unfortunately, it is not effective against the biomass that still remains after the mechanical cleaning. This will instead produce the dangerous and health related chlorinated hydrocarbons, THM. Even if potable water tanks are not covered with iron or manganese deposits, there is nevertheless a biofilm on the surfaces. It consists of extra cellular polymeric substances, particulate material and dissolved elements. Erosion and peeling off of biofilms from the surfaces will spread and carry the germs into the potable water system and finally to our taps. Therefore, biofilms have to be removed regularly but removing them in a purely mechanical way, e.g. with water jetting, will worsen the spread and may cause the biofilm after repeated jetting to produce exceptionally tough-sticking extra cellular polymeric substances.

**The effectiveness with mechanical cleaning decreases with time.**



Signature line in FRP tank



Incrustation removed & sterilized



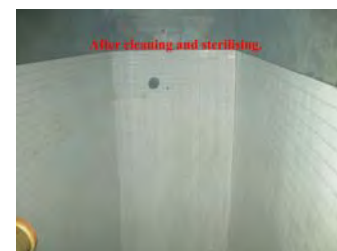
Incrustation deposited on the internal surfaces.



Incrustation begins to dissolve and surfaces sterilized as Carela is applied by spray



Dissolved incrustation rinsed out



Cleaned and disinfected in 20 minutes. Rinse down with water and fill up with potable water.