



Chlorination of Epoxy coated potable water tanks -Conservation and Disinfection-

It is necessary to control unwanted growth of micro-organisms in drinking water. A normal and very effective way of killing the micro-organisms is by adding chlorine. When doing this it is very important to be aware of the effect of chlorine. It is harmful to most organic material for example the human body, but also organic coatings can be irreversibly attacked by the chlorine even at very low concentrations. By this follows that very strict procedures must be followed to do as little harm as possible to the coating.

Disinfection:

1. For disinfection or killing of all micro-organisms before using a tank for drinking water 50 ppm free chlorine can be recommended used for 4 hours at 20-30°C. This high concentration makes the water undrinkable. Depending on temperature destruction of the organic coating may also start at this concentration level. For this reason the maximum guidelines above must be followed.
2. Any overdosing should be avoided. For preparation of the solution, the chlorination chemical should be thinned down to the proper concentration as quick as possible. Fill up half the tank and add the calculated amount of chlorination, then fill up the rest of the tank immediately.
3. After the disinfection a minimum is to flush immediately two times with fresh water.
4. It should be avoided to disinfect a tank with intervals less than 1 month. To maintain a high level of hygiene for a long period it is for this reason important to include the complete system in the procedure.

Conservation:

- A. For conservation or continuous maintenance of the water quality a much smaller concentration of free chlorine is necessary. It is important to notice that local regulations often will give directions for this. A free chlorine content of 5 ppm is the highest recommended continuous concentration in a epoxy coated potable water tank.
–For domestic water supply 0.5 ppm is normally the maximum used, tanks on ships with stagnant drinking water will often have higher levels of free chlorine added.
- B. Although these concentrations are much lower than the level used for disinfection they can especially for the upper end level affect the coating negatively, because this is long time exposure and the control can be insufficient.

NOTE!

It is an invariable rule that the application of the paint is done according to Code of Practice and Technical Datasheet, that the coating is free of solvents and properly post cured with sufficient ventilation for 7 days at 23°C minimum before chlorination is done.