

HOW TO USE OZONE CHLORINE COMBINATION IN SWIMMING POOLS

It is a fact that the standards of water quality for swimming pools have changed. Ozone is being preferred by many countries as a primary disinfectant agent. The role of chlorine is being limited to performing the role of residual disinfectant.

Ozone v/s Chlorine

- ▶▶ Chlorine is toxic but ozone is not, ozone is eco-friendly and it does not form harmful by-products.
- ▶▶ Ozone deactivates Virus, chlorine does not. Children are susceptible to virus contamination of water.
- ▶▶ Ozone kills all forms of legionella which are often found in swimming pools and never discussed. Chlorine is inactive against legionella. Legionella causes a typical kind of pneumonia.
- ▶▶ Ozone kills all forms of pseudomonas. Pseudomonades are commonly found in pools and not get tested. It causes skin rashes and chronic ear problems. Chlorine is in-effective against pseudomonas.
- ▶▶ Ozone is a very good flocculating agent. Water is very sparkling it reduces chlorine shock dosing and also back washed. Pool down time reduced is also reduced.
- ▶▶ Coliforms are often introduced into the pool by swimmer. The average approximate faecal matter that is added to the pool by each swimmer can be as high as 0.21

grams per person. In case of high bather load, the effectiveness of chlorine will totally depend on the contamination levels as we do not know when to increase the chlorine dose. Ozone is very effective agent against coliforms. Comparatively Ozone destroys coliforms within few seconds whereas chlorine takes minimum 15 minutes to destroy it. This is why that even in most well maintained swimming pools people often fall sick. Ozonation takes care of these kinds of situations and makes the swimming pool extremely safe.

Ozone thus has more health benefits in swimming pool than that of chlorine. Ozone with residual chlorine is the best pool treatment regime one can recommend. The approximate savings in chemicals varies between 70-80% dependant on the water quality, bath load etc.

How to Use Ozone-Chlorine Combination

Ozone-Chlorine combination can be used to ensure the safety of the pool for whole time. It helps the pool to rid from all the contaminants present in the water, but do not add any toxicity to the pool water during this process.

Design the system in such a way that chlorine can be used judiciously, using all its well known properties as well as ensure avoiding formation of chlorine by-products and resultant side-effects to

the swimmer. Chlorine must be made safer when you intend to use it. The use of ozone provides this advantage to the user. Ozone does the work of all oxidation and disinfectant actions required in the pool water, chlorine is either slow, or require large doses for the same action of ozone. Than by adding small doses of chlorine to the pool you ensure that your pool water has all residual disinfectant properties.

How much Chlorine is Required as Residual?

The international standards of residual chlorine (must unless you are using ozone & bromine technology) is 0.5 ppm. The amounts of chlorine you need to add will entirely depends on factors such as water quality, pH of the water, bather load, recirculation time, but savings can be anywhere from 60-90% of chlorine addition.

Using ozone does not mean that all other cleaning activities of the pool can be forgotten. The pool still have to scrubbed, suction sweep, back washed, shock chlorinated, though a good system ensures that the activities such as flocculation, back wash and scrubbing can be drastically reduced.

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