

Salt Water Chlorinated Pools A Heads Up

Introduction:

The 5 pros and cons of a Salt Water Chlorinated Pool.

Pros:

1. Gentle on the skin and eyes: Saltwater pools use lower chlorine concentrations than traditional pools, resulting in a milder and more comfortable swimming experience.
2. Reduced maintenance: Saltwater chlorinators generate chlorine automatically, reducing the need for frequent manual chlorination and balancing of chemicals.
3. Cost-effective in the long run: Although the initial installation cost may be higher, saltwater pools can be more cost-effective over time due to lower chemical expenses.
4. Longer-lasting chlorine: The chlorine produced in a saltwater pool tends to be more stable and longer-lasting compared to traditional chlorine, requiring fewer chemical additions.
5. Eco-friendly: Saltwater pools eliminate the need for storing and handling harsh chemical chlorine, making them a more environmentally friendly option.

Cons:

1. Higher initial cost: Saltwater pool systems generally have a higher upfront cost compared to traditional chlorine pools due to the installation of the salt chlorinator.
2. Equipment maintenance: Saltwater chlorinators require regular maintenance and monitoring to ensure proper functioning, including cleaning the cell and maintaining the correct salt levels.
3. Potential for corrosion: Salt water can be corrosive to certain pool equipment and surfaces, requiring careful selection of materials and regular inspection to prevent damage.
4. Salt residue: Saltwater pools may leave a residue on surfaces and surrounding areas, requiring occasional cleaning and maintenance. Close monitoring of pH, Ca and LSI is needed to keep pool water in state of equilibrium. (buoyancy)
5. Limited effectiveness against certain contaminants: While saltwater chlorination effectively kills bacteria and algae, it may be less effective against certain types of contaminants, such as viruses or non-living organic matter. Also when higher bather load, hard to adjust the chlorine output to match the increase needed. When covering pool, need to remember to turn the chlorine production down (very) low to prevent build-up of (dangerous) chlorine gas under the cover and resulting and damage to cover and adjacent pool surfaces.

In Australia, about 75% of swimming pools are salt water chlorinated. As a result, there is well developed knowledge on the issues that arise. We will deal with 2 main ones as they affect pool surfaces.

Salt:

The salt used in pools in Australia comes from a few major producers - suppliers and may have different brand names to differentiate quality. (fine, easy to dissolve etc) Pricing may also give an idea of the quality. Imported pool salt is also available. However, all salt comes from sea water and though this contains mostly Sodium and Chloride (NaCl) (90%+) to produce chlorine, which is needed, and (calcium chloride, potassium sulphate), plus they also have a range of impurities, often up to 0.5%. This sounds not to be important but these maybe insoluble salts and or they create "new" products when passing through the electrolytic cell, due to the temperature and electrical charges with in.

Pool Water Balance:

One of the effects of the pool salt chlorinator is to increase the pH, and so one needs to monitor this closely and ideally keep it between 7.2 – 7.4 for the best bathing experiences. Adding acid to bring pH down is a common requirement.

Also management of chlorine production needs to be keep at the appropriate level (1 – 3 ppm) and not let go higher, unless very high bather loads.

The best way to monitor the complete pool water balance is to calculate the LSI, (or have the pool shop do it for you with every water test) and to keep it within the range of -0.3 to + 0.3 ALWAYS. (LSI = Langelier Saturation Index)

White Surface Build Up:

There are 2 possibilities here: dried up salt flakes and scale.

By nature, calcium white flakes are common in saltwater swimming pools. This is because of the high temperature and pH in electrolytic chlorine generators and the use of calcium in the production of chlorine that is introduced in the pool. You can also think of the salt flakes you see on your skin after swimming in the sea.



Also as mentioned above there are other compounds within salt which can and do drop out of suspension when the temperature rises (calcium sulphate) or falls, (calcium carbonate), due to the exceeding saturation level for that compound. Thus, creating a white (hard) film on the pool surfaces. One often sees the white film (CaCo₃) form around Easter time due to falling pool water temperature.

These situations should when noticed, be attended too. Leaving them to develop further means they are harder to remove. If left too long, may require a recoat. Contact pool shop or us for advice.