

POO & SPA WATER MAINTENANCE

Healthy water is water that is safe for you and your family to swim in. Maintaining healthy water makes it less susceptible to harmful bacteria, viruses, algae, cloudiness, stains and protects your pool, spa and equipment against corrosion and scale build-up.

Pool and spa water can be contaminated with algae and bacteria from a variety of sources, including wind, rain water, top-up water, organic debris and number of swimmers.

One of the key measures for healthy water is pH levels, it is recommended that pH levels measure within a range of 7.2 - 7.6, otherwise it can damage your pool. This may put a strain on your pool circulation system that can lead to costly repairs. It can also lead to fading, discolouration and chalking of the interior surface of your pool or spa.

WATER SANITATION

Everything that enters your pool and spa, including swimmers, pets, leaves, debris and top-up water is a source of bacteria or algae. To control bacteria and prevent algal growth, you should treat your pool with a sanitising chemical and continuously filter the water as directed.

An adequate level of residual sanitiser will deter any unwanted contaminants without affecting the quality of the water. Regular testing and chlorine top-ups will help you maintain the desired residual level of 1.0 to 3.0 ppm (parts per million).

Alternative sanitisers are available for use as per the manufacturers directions.

WATER BALANCE

A correctly chemically balanced and sanitised pool and spa will provide a healthy and visually appealing swimming environment for you and your family to enjoy. A poorly maintained pool and spa exposes users to unnecessary health risks.

Having the right water balance is also crucial to the longevity of your swimming pool and spa equipment. A chemical imbalance can lead to corrosion and scale build-up on and in your swimming pool and spa, and possible damage to equipment.

Regular testing and balancing of pool and spa water takes very little time and ensures that you and your family are always swimming in ideal conditions.

MONITORING WATER QUALITY

When monitoring and maintaining pool and spa water quality, there are several aspects of operation that will need to be considered:

- ◆ the quality of the water supply
- ◆ rain water
- ◆ the type of pool or spa
- ◆ number of swimmers in the pool
- ◆ chemicals already in the water

MAINTAINING WATER QUALITY

Maintaining water quality to ensure water balance and appropriate, regulated disinfectant levels requires the use of appropriate chemicals. Safe processes for using chemicals and not exposing swimmers to unsafe chemical levels should be monitored.

Any water quality corrective action should be recorded and only be done according to the manufacturer's specifications, organisational policies and procedures and regulatory requirements.

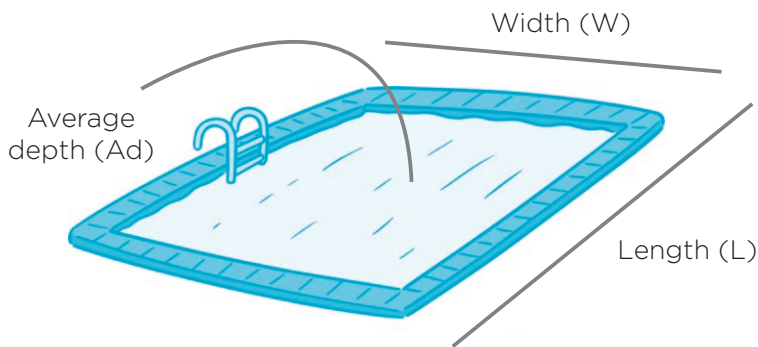
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THINGS TO CONSIDER WITH WATER MAINTENANCE

How big is my pool or spa?

To ensure your pool or spa is given the correct doses of chemicals, it is important to establish its size.

Finding the size (volume) is a simple matter of getting the area of the surface of the pool or spa and then multiplying that by the average depth.



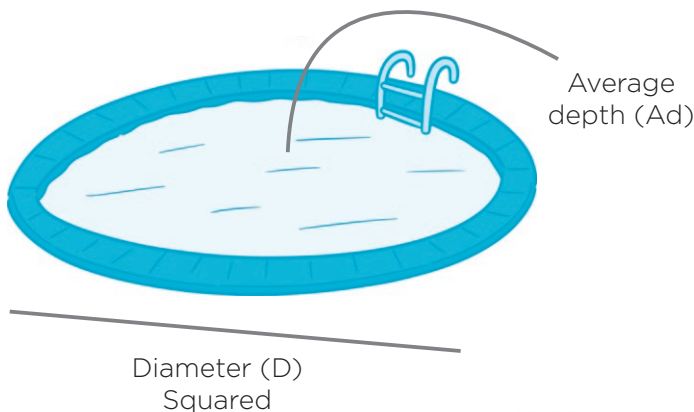
Rectangular example

$L \times W \times Ad \times 1000 = \text{Volume in Litres (Lt)}$

Length = 9m Width = 4m

Shallow end = 1.2m Deep end = 1.8m

$9 \times 4 \times [(1.2 + 1.8) \div 2] \times 1000 = 54,000 \text{ Lt}$



Round example

$D \times D \times Ad \times 785 = \text{Volume in Litres (Lt)}$

Diameter = 6m

Shallow end = 1.2m Deep end = 1.8m

$6 \times 6 \times [(1.2 + 1.8) \div 2] \times 785 = 42,390 \text{ Lt}$

pH Level

The pH level indicates how acidic or alkaline the water in your swimming pool is.

- ◆ The pH level ranges from 0 to 14
- ◆ 7 is neutral pH (a value below 7 is acidic and above 7, alkaline)
For most swimming pools, the recommended pH range is 7.2 to 7.6, and 7.0 to 7.2 for fibreglass pools
- ◆ Swimmers, rain, top-up water and chemicals all affect the pH level
- ◆ A pH imbalance can cause skin irritation and poor sanitation
- ◆ Sanitiser levels should be checked regularly and adjusted accordingly

Total Alkalinity

Total alkalinity refers to the level of bicarbonates, carbonates and hydroxides in your pool water.

- ◆ The recommended range is between 60 and 200 ppm, depending on the type of swimming pool
- ◆ Low total alkalinity can cause erosion of concrete, tiled and painted pool surfaces, and destabilise pH levels
- ◆ The total alkalinity of your top-up water will affect the total alkalinity of your pool

Total alkalinity should be checked regularly and adjusted accordingly.

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Calcium Hardness

Calcium hardness is the level of dissolved calcium present in your pool water.

- ◆ The recommended calcium hardness range is 80 to 500 ppm
- ◆ Low calcium hardness can lead to corrosion
- ◆ High calcium hardness can result in scale build-up

Test your pool water for calcium hardness regularly.

Sanitiser

Chlorine is the most commonly used water sanitiser in the world, and there are many forms of this highly effective product, including:

- ◆ Granular Chlorine (calcium hypochlorite)
- ◆ Liquid Chlorine (sodium hypochlorite)
- ◆ Stabilised Chlorine (in two forms):
“Dichlor” granular chlorine, and
“Trichlor” slow dissolving tablets
- ◆ Salt Water Chlorinators (electronic units which produce chlorine by the electrolysis of salt in the pool water)

Whatever form of chlorination you use, for it to work efficiently, the pH must be maintained within the recommended range.

Free Available Chlorine can be tested with a test kit or by having the water tested at a Pool Shop or by a Pool and Spa Service Technician.

Note: After start-up, refer to the manufacturer's documents provided with the pool sanitisation system for information on operation and maintenance of your swimming pool/spa.

Mineral blends

There are many mineral blends that provide an alternative sanitation system based on electrolysis technology. Minerals are added to the pool water and the chlorinator generates the chlorine in the pool water. This system typically uses Magnesium and Potassium based products as an alternative to Sodium only systems.

Note: After start-up, refer to the documents provided with your particular system for information on operation and maintenance of your Mineral Pool.

Stabiliser (sunscreen)

Ultra-violet light destroys chlorine, and for health and financial reasons it is important to overcome this effect as much as possible.

Stabilising the water with sunscreen (Cyanuric Acid) is strongly recommended as the Cyanuric Acid when added to the water will reduce the amount of chlorine destroyed by sunlight.

Stabiliser is also lost through splashing and by backwashing the filter. Sunscreen may need to be replaced regularly, especially during the summer season.

Any Chemical Additions

As a general rule, you are far better off adding small amounts of chemicals at a time whilst running the filter, and then testing the effects after several hours.

Attempting large chemical changes by adding large amounts of chemicals at a time can result in an imbalance in the water, which is more difficult to fix and maintain.

Testing Water Quality

What testing method should you use? Keeping your pool and spa clean has never been easier. There are two basic types of testing method used by most consumers: liquid kits and test strips.

- ◆ Liquid kits: Liquid Test Kits require that you put a sample of water into a specific testing plastic container and then carefully add drops of chemical reagents, watching for a change in the colour of the sample. Colour changes caused by the reagents within the water can then be compared to the colour indicators on the plastic container and add chemicals as needed.

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- ◆ Test strips: Test Strip Kits are the easiest method for pool and spa water testing. They are fast and simple to use because they eliminate the need to measure samples and count drops. Typically, you would simply dip a strip in the water for 5-10 seconds and then remove it. You then compare the colours on the strip to the colour chart on the label and add chemicals as needed.

Pool Shop & Service Technicians: Whilst home pool test kits test the most essential indicators, they don't test everything and are not as accurate as having professional do it for you. Normally, pool shops and service technicians offer a free water testing service. They can test for things that you don't normally or can't test at home such as copper, total dissolved solids and water hardness. Getting pool/spa water testing by a professional means that they can create a pool/spa profile, track and record history as well as any requirements. They will also advise you of what chemicals are needed to get your pool/spa in tip top shape.

Frequency of testing

Testing frequency will vary for individual pool environments and bather loads, but testing should be undertaken at least once per week. Testing frequency should increase depending on how often the pool/spa is being used along with the weather conditions.

All pool/spa water tests should be recorded in a logbook:

- ◆ indicating date & time
- ◆ parameters tested
- ◆ results of tests
- ◆ action taken
- ◆ and relevant notes

Getting a pool/spa water tested at a pool shop or by a service technician means that they can track and record results of your pools history and requirements. However, you may still need to keep you own logbook if professional pool testing is undertaken less frequently than every week.

See Appendix A - Logbook Inspection Sheet

GENERAL TIPS

Contact your pool builder, pool shop or service technician who will be able to determine whether draining the pool is required and ensure it is done safely if it is determined safe.

SPASA'S WINTER MAINTENANCE GUIDE

1. Thoroughly backwash the filter and clean it with a recognised filter cleaner and degreaser
2. Ensure that the skimmer basket and hair and lint-pot are free from debris
3. Lubricate all O-rings with a silicone-based lubricant
4. Adjust the total alkalinity level with a buffer (sodium bicarbonate) if the level is below 80 and 120 ppm
5. Adjust the pH between 7.2 to 7.6 by adding acid if the level is too high or soda ash if it's too low
6. Mix all chemicals in a full bucket of water before adding to the pool
7. Mix correct amount of sanitiser in a bucket of water and add to the pool
8. Mix correct amount of a long-life algaecide that is specifically designed for winter. Add this to the pool
9. Adjust the timer to allow the filter to operate for two to four hours each day, ideally outside of peak periods
10. Automatic Chlorinators (or similar) need the cells cleaned and controller can be adjusted to the half-production setting

SPASA'S SUMMER MAINTENANCE GUIDE

1. Check and clean the skimmer basket and hair and lint-pot basket weekly. Do this more often if the pool is used frequently or when leaves and debris blow into the pool
2. Backwash any sand or DE filters and clean cartridge filters. The frequency of filter maintenance also depends on how often the pool is used
3. Check sanitiser levels, ideally daily and add sanitiser to maintain minimum levels
4. Check the operation of salt chlorinators or automatic systems. The more people that use the pool, the more sanitiser is required to kill algae and bacteria
5. Check the pH every two or three days. It is a good idea to mix all chemicals with a full bucket of water before adding to the pool
6. Check the Total Alkalinity (TA) weekly. Adjust the total alkalinity level with a buffer (sodium bicarbonate)
7. Check and adjust the timer to allow the filtration system to operate for six hours each day. Most people run their filtration system for three periods of two hours daily
8. Take a sample of pool water to the local pool shop every two to four weeks during swimming season to make sure the water balance is correct
9. Salt-chlorinated pools may need additional salt. The production control on the salt chlorinator may have to be adjusted to increase or decrease its output
10. Maintain the water level at least halfway up the skimmer box opening
11. Inspect plumbing for leaks
12. Vacuum the walls and floor regularly

