



Freedom

POOLS • SPAS • LIFESTYLE



**IMPORTANT
INFORMATION
WITHIN**



Pool Owners GUIDE BOOK

Edition 1 • Website 2016



www.freedompools.com



Welcome

At Freedom Pools we have been designing and manufacturing quality fibreglass pools for over 40 years. In that time our innovative approach to design has earned us the accolades of judges the world over, confirming Freedom's status as one of Australia's most awarded swimming pool manufacturers.

Over the years our high standards of quality and design have been recognised internationally and across Australia, with Freedom Pools winning countless swimming pool awards, including many national and state awards by SPASA Australia. It was Freedom Pools that was awarded Gold, Silver and Bronze at the prestigious International Pool Design awards in America.

Our achievements are numerous, yet our main focus has always been centred on achieving total satisfaction for our customers.

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BE POOL SAFE

Pool Safety Is Paramount!

In addition to your State's legislative requirements pool owners also have a duty of care to ensure the safety of everyone who enters your property.

Keeping Your Pool Safe

- Supervise swimmers at all times.
- Gates and fencing should be checked regularly.
- The fencing requirements, as deemed by State legislation, must be fully complete before any water is placed into the pool.
- Ensure that furniture, pots and other items that can be used as a climbing tool, are not left near the pool.
- Keep swimmers safe and display a 'No Diving' sign.
- Chemicals need to be stored properly and placed out of reach of children.
- Always ensure the pool water is maintained and sanitised.
- Keep glass objects away from the pool.
- Remember that alcohol and swimming do not mix.

Be pool safe. Be vigilant.



Fencing Your Pool

State regulations require that your pool must be fenced from your neighbouring properties as well as include a fence between any house door and the pool.

Before any water is placed into the pool it is a legal requirement that the pool must be fully fenced.

All safety features of your pool fence, including self closing gates, must be regularly inspected and maintained in full working order.

To comply with pool safety regulations officers from your local council must inspect your pool fence and gates every four years, at a minimum. They have the authority to issue an infringement notice should they deem your fence and gates do not comply with regulations.

If you have a pool, children should not be left to play in your yard unsupervised regardless of the complying pool fence and self closing gates.

Remember;

- Self closing gates and pool fences need to be checked frequently
- Adult supervision is required at all times

It is recommended that adults and teenagers be trained in resuscitation and first aid.



The use of pool covers

Swimming pool covers are mainly used to stop the evaporation of water. They are also a popular accessory to assist in retaining heat as well as keeping dirt, leaves and debris from the pool. However, it is important to remember that they can also pose a safety risk to children.

Pool covers do not prevent children from entering the pool and can restrict visibility if a child manages to get in and under the cover.

Pool owners must also be aware that rainwater can accumulate on top of the cover which can be dangerous should a child attempt to climb into the pool.

Some covers can create a false sense of perception, leading children to believe the pool has a solid top upon which they can walk.

When swimming in your pool, covers should be removed completely and never left half on.

Covers should be removed regularly, to avoid over chlorination, which can lead to damaging your pool shell interior and equipment.

Prevent injury – NO DIVING!

Backyard swimming pools are not designed for safe diving or rough play. To ensure pool safety and to prevent injury it is recommended you enforce a no diving rule.

Fatal and life threatening injuries can result from divers hitting the bottom or side of the pool. Hence, a no diving rule is the best policy for pool safety.

A 'No Diving' sign should be clearly displayed in your pool area. Remember that slides, diving boards and other pool equipment can be dangerous and can pose a safety risk.

For safe swimming, adult supervision is required at all times.

WATER MAINTENANCE

Pool water must be maintained all year round to ensure it is safe, clean and healthy. Untreated or chemically unbalanced water can be a serious health risk and can also damage the surface of your pool.

Contamination of your pool water is caused by a variety of external sources including top up water, rainfall, wind & dirt, sunscreen & lotions as well as the natural body oils of swimmers. To control the influence of these contaminants regular testing and maintenance of your pool water is required. This includes;

- Ensuring the water is clean and sanitised
- Balancing the chemicals to ensure it is neutral
- Removing all oxidants and contaminants through proper filtration

Testing your water only takes a few moments and will mean that your pool is safe and sparkling clean all year round.

Balancing the water

The water contained in your swimming pool must be chemical neutral and non-harmful for both swimmers and your pool equipment. This means that the following elements need to be regularly checked and maintained;

- Chlorine level
- The total alkalinity of the water
- The pH level
- The level of calcium hardness

Water that is properly balanced means that it is chemically in-sync. If chemical levels are either too high or too low it can cause costly damage to the pool surface and equipment. Of course, it also poses a serious health risk to swimmers!



THE ELEMENTS OF WATER MAINTENANCE

• pH

pH measures how acidic or alkaline the pool water is and is one of the most important aspects of maintaining healthy pool water. On the pH scale, a range of 0 – 14 is represented with the middle level of 7 being a neutral marker. Values below 7 show acidity while values above 7 show alkaline.

Australian Standards show the operating range to be between 7.0 to 7.8, and the preferred range as 7.2 to 7.6. It is recommended that a range of 7.2 to 7.4 be maintained for fibreglass pools and 7.4 to 7.6 for concrete pools.

Heavy rain, lots of swimming and topping up the water level in your pool can all change the pH level.

If the pH levels become unbalanced it can cause skin discomfort and eye soreness to swimmers, damage to the surface of the pool and equipment and can hinder the sanitisation process. Unbalanced pH levels can interfere with the effects of chlorine as well as the volume of chlorine used and required.

• Total Alkalinity

Total Alkalinity is the total concentration of bases and total dissolved solids in water, usually made up of bicarbonates, carbonates and hydroxides. These elements combine to act as a buffer against changes in pH.

Australian Standards recommend a range between 60 - 200ppm (parts per million) for fibreglass pools, and 140 -160ppm for concrete pools.

Low Alkalinity can make the water aggressive, resulting in the pH levels becoming unstable, potentially causing damage to the pool surface and equipment.*

*For more information please refer to Freedom Pools recommended levels at the back of this booklet

High Total Alkalinity decreases the sensitivity of pH. The result is usually high pH and lower chlorine efficiency. It can also result in scale formation and cloudy water.

The Total Alkalinity levels in your pool can be changed through the following methods;

- Topping up your pool water level to change the Total Alkalinity levels.
- Adding a buffer product to the pool. For example bicarbonate of soda.
- Adding an acid product to the pool to lower the pH and Total Alkalinity.

• Calcium Hardness

The calcium hardness is a measure of the amount of calcium dissolved in the water. Water with low calcium hardness is described as soft water and can become corrosive, drawing calcium and other minerals from pool surfaces, tile grouting and pool equipment. It can also make the water aggressive.

Water with a high level of calcium hardness is described as hard water and causes calcium deposits and build up to form on the walls and pipes of the pool and in its mechanical equipment.

Australian Standards recommend a range between 80 to 500 ppm. Your Freedom Pools consultant can give you advice on the specific requirements to suit your pool finish, local water supply and pool equipment.

The calcium hardness can be reduced by dilution with fresh mains water and increased with calcium chloride.

Testing of Calcium Hardness can be done by taking a water sample into your local pool supply shop.

• Chlorine & Sanitisation

Your swimming pool and its users need to be protected from viruses, bacteria, algae and germs that can contaminate your water. Chlorine is the most popular choice for sanitising pool water.

When using Salt Water Chlorinators (produce chlorine via electrolysis of salt), the pH levels need to be correct to ensure effective sanitisation. Chlorine output should be adjusted regularly for different conditions.

Remember that chlorine in a swimming pool is a consumable and needs to be constantly replenished and reintroduced into your pool.

Free Chlorine should be between 1.5-2.5ppm.

• Stabiliser (Outdoor Pools Only)

Sun light removes chlorine from pool water. By adding a stabiliser (Cyanuric Acid), you can reduce the amount of chlorine destroyed from the UV light.

A stabiliser is mostly required in the summer months, however it is important to remember that chlorine can be lost all year round through backwashing, and will need to be monitored and replaced. Testing can be done at your local pool shop.

It is recommended that your pool water is stabilised at the beginning of summer, and checked every month while in use. If you pump out water or backwash, more frequent testing may be required.

Levels should be between 30-50ppm. Over-stabilising a swimming pool will block the chlorine from working.



Adding Chemicals To Your Pool

Chemicals should only be added to your pool in small doses to avoid wild fluctuations, which can cause even greater problems. Chemicals are interconnected, so it is recommended that you balance one issue at a time.

Remember water that is not properly maintained may void the warranty on your pool surface.

Chemical Safety

It is important to **ALWAYS** add chemicals slowly into a bucket of water. **NEVER** add water into chemicals prior to pouring around the pool.

Always remember to:

- Never mix chemicals
- Store chemicals safely and away from children
- Transport chemicals correctly

Pool chemicals can cause serious injury so be vigilant and be safe.

Should I Empty My Pool?



DO NOT DRAIN YOUR POOL!

Generally swimming pools should not be emptied. If for some reason you think your pool requires emptying, please check with Freedom Pools first. Emptying your pool can lead to potential damage and may affect your warranty. Most problems can be rectified without the need to empty the pool.

Water levels should never be allowed to fall below the middle of the skimmer box.

Keep in mind, your pool is designed to remain full of water at all times. If the pool is drained without proper precautions, hydrostatic or ground pressure outside the pool could cause the structure to buckle, crack or float.

All damage to the pool shell resulting from improper pool drainage is the owner's responsibility.

If it becomes necessary to drain the pool, contact your pool installer or pool manufacturer.

It's all about balance. For the best life out of your pool, keep the water level in the centre of the rectangular skimmer plate on the pool wall.

Low water level may cause the circulating pump to lose prime, resulting in pump damage. High water level reduces or eliminates the skimmer effectiveness. Also, overflowing water will wash sand away from the pavers, causing them to sink and become hazardous.

The Winter Months

While it is sometimes tempting to forget about your pool during the winter months it can often lead to costly repair and maintenance. While the level of maintenance required does decrease in winter, it is highly recommended that you continue with a program of water testing, filter cleans and equipment checks. The small amount of time needed to do so during the winter months will mean easy preparation for summer and avoid any damage and expensive repair.

It is also recommended to remove the pool cover during this time.



FILTRATION

The water in your swimming pool needs to regularly circulate through a filtering system to remove dirt and debris in order to keep it clean and healthy.

Your pool should run a filter cycle of between 4 and 8 hours per day, depending upon the size of the filtration system and the time of year. The goal is to achieve a total “turnover” per day as a minimum, where the equivalent litreage for the pool is filtered each day.

To keep the water healthy for swimmers it is recommended that the filter be operational when the pool is in use. This assists in removing sunscreen, lotion and body oil contaminants as well as topping up chlorine levels if you're using an automatic chlorinator.

Filtration Systems

There is a choice of filtration systems available however they all have the following basic features;

- A skimmer into which the inflow of water carries surface debris such as leaves and oil into the start of the filtration system.
- An initial leaf basket in the skimmer which traps the leaves and large debris before the water is sucked through to the pump.
- A secondary basket in the hair and lint pot in front of the pump. (NOTE: to prevent rubbish inhibiting water flow and causing pump starvation these baskets need to be cleaned regularly)
- A circulating pump.
- A filter which physically removes solids from the water.
- Pipework through which the clean water returns to the pool **(NOTE: the “eyeball” fittings where the water returns back into the pool should be turned down at an angle of 45 degrees to assist water circulation)**

Choice of Filtration System

There are two types of filters Freedom Pools currently use, namely Sand and Cartridge. Both types are highly efficient and widely used. However, they require cleaning to remove the entrapped solids and failure to do this will result in reduced filtration and water flow.

Failure to clean your filter regularly can also cause an increase in pressure within the filter tank and potential damage. Regular cleaning, as indicated by the pressure gauge is, therefore, essential. Cleaning methods will depend upon the filter type. For Sand Filters the filter can be 'backwashed', which involves reversing the flow of water through the filter tank to flush the rubbish to waste. Cartridge Filters will require hosing down and soaking in a clean fluid.

Regular cleaning and maintenance of your filter will provide benefits in terms of efficient water flows for filtration and vacuuming, and better chlorination with automatic chlorination systems. It will also mean a more efficient circulation system within the pool due to the increased flow rate.

In addition to this regular cleaning, periodic service of the filter is recommended to remove any build up of grease and scale. This can be arranged through your local pool shop.

Automatic Chlorination Systems

The cleaning and maintenance of automatic chlorinator systems is important to ensure they function to their designed standards. Some Salt Water Chlorinators are self cleaning using a reverse polarity system to minimise the build-up of contaminants on the electrolytic cell.

Failure to keep the electrolytic cell clean will interfere with chlorine production and may eventually reduce the life of the unit. Monitoring and cleaning should be carried out in accordance with manufacturer's recommendations. Output should be checked and altered as required, due to season and use.

POOL SURFACE CARE

The “bathtub” ring which forms on the pool wall or tile caused by body oils, suntan lotions and air borne contaminants can easily be removed with swimming pool tile cleaner or other non abrasive commercial tile or vinyl cleaners.

Do not use abrasive cleaners, steel wool, metal scrapers, brushes or tools as these may cause permanent damage to the gel coat finish. Dulled gel coat above the water line may be restored with a cutting compound either power or hand applied followed by a coat of wax.

The gel-coat finish of your fibreglass pool can be scratched like any other gloss surface. The gel-coat is seven to eight times thicker than a normal coat of paint so it is not likely that scratches will be more than superficial.

Hair line cracks which may develop over a period of time are not uncommon. They only penetrate the gel coat and do not effect the pool’s structure or result in leakage.

Contact your fibreglass pool dealer for more information.

Heavy amounts of dirt and debris should be vacuumed out.



GLOSSARY OF TERMS

ACID

Used to lower pH but will also lower Total Alkalinity to some degree. Recommended acids to be used are Hydrochloric Acid, Sulphuric Acid (non-fume) and Dry Acid (Sodium Bisulphate).

ALGAECIDES

Available in many forms and types. These products are supplements to your sanitiser and are specifically intended to kill all forms of algae.

Warning: Check with your pool shop prior to purchase for compatibility with your pool and maintenance system.

ALKALI

A chemical with a pH above 7; for example soda ash and sodium bicarbonate. Please note that each chemical will have a different effect. Soda ash will mostly affect the pH while sodium bicarbonate will have it's major influence on raising Total Alkalinity.

BACKWASHING

The process used to clean sand filters by reversing the water flow to flush out accumulated dirt.

BUFFER

An alternative name for Sodium Bicarbonate which is used to raise Total Alkalinity. A minimum level of 60 ppm is recommended as this "buffers" pH against undue sensitivity to chemical additions.

CALCIUM HARDNESS

The amount of dissolved calcium in the pool water.

CHEMICAL BALANCES

A composite term covering those aspects of water which should be adjusted to achieve water suitable for swimmers, sanitisers and

the pool surface and equipment. Pool water is chemically balanced when pH Total Alkalinity and Calcium Hardness levels are all within the recommended range.

CHLORINATOR

Normally of two forms:

1) SALT WATER CHLORINATOR - A unit which manufactures chlorine through the electrolytic conversion of salt. Chlorine levels will depend upon several variables including running time of the unit.

2) CHLORINE CONTROLLER - A machine which feeds liquid chlorine and/or acid into pool water. Normally integrated with the filtration cycle, these units have electronic control on chlorine and pH levels.

CHLORINE

A pool sanitiser which oxidises contaminants in swimming pool water. It is pH dependant. There are many different types if Chlorine available, check with your local pool shop representative for the most suitable for your pool.

COMBINED CHLORINE

Chlorine which has combined the nitrogen based compounds to form chloramines. Associated with a very strong chlorine-like smell, this compound is a poor sanitiser and indicates the need for more chlorine.

FILTER

A device to remove oxidised material and debris from pool water. The main types of filters are Sand and Cartridge.



FLOW RATE

The rate at which your water is pumped through the filtration system (litres per hour).

FREE AVAILABLE CHLORINE (F.A.C.)

The portion of chlorine in the pool water available to oxidise contaminants as opposed to 'Combined Chlorine' or 'Total Chlorine'.

HAIR AND LINT POT

The section of the circulating pump containing the secondary strainer basket for the filtration system. It requires regular cleaning.

pH

A measure of the alkalinity (above 7.0) or acidity (below 7.0) of pool water. The slightly alkali range of 7.2 to 7.8 is normally recommended.

PUMP

The device which circulates the water through the filtration, heating and chlorination systems and within the pool itself.

SANITISER

A range of chemicals used to control bacteria in pool water.

SKIMMER BOX

The suction point in the side of the pool where water is drawn into the filtration system. An important part of this fixture is the floating weir flap which serves two functions - the first is to cause the top layer of water to flow into the skimmer removing debris floating on the water surface; secondly, the flap closes when the pump is not running, preventing the debris from floating back into the pool. Cleaning the skimmer basket is an important part of pool maintenance.



STABILISER

Cyanuric Acid is used to screen the pool water from the sun's UV radiation which attacks the chlorine. The use of this product is recommended for all chlorinated outdoor pools. Regular checking and maintenance during the swimming season is recommended. Stabiliser should not be used in indoor pools.

TEST KIT

The kit normally supplied with the pool to enable home testing of the water. The kit tests the levels of pH acid demand, total alkalinity and free available chlorine. Other functions, such as salt and stabiliser levels, calcium hardness, total dissolved solids and metals in solution can be tested by your Accredited SPASA pool shop or service person.

TOTAL ALKALINITY (T.A.)

Is the measure of bicarbonates, carbonates and hydroxide in the pool water. It is raised through adding sodium bicarbonate, also called "buffer".

As the chemicals used to adjust pH may also affect Total Alkalinity, it is recommended that the two be measured together. The chemical interaction between pH and Total Alkalinity may require that they also be adjusted together. Both pH and Total Alkalinity levels should be tested frequently.

TOTAL CHLORINE

The combination of free available chlorine and combined chlorine in the pool water.





Freedom Pools Structural Warranty QUALITY GUARANTEED

Freedom Pools has been producing quality fibreglass pools in Australia for over forty years. Not only recognized within Australia but also throughout the world as one of the best.

To ensure our quality remains second to none, all materials and production processes are strictly controlled under license to comply fully with Australian Standards with independent audit systems providing comprehensive clarification to the quality of manufacture and installation process.

Our warranty is provided with the expectations of quality assurance and peace of mind with your product chosen.

A full 35 year structural warranty (not pro rata) coupled with a 3 year cosmetic warranty against manufacture defects is provided with every Freedom fibreglass pool.



FREEDOM POOLS



AS/NZS 1853:2004
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QUALITY ASSURED • QUALITY GUARANTEED

AUSTRALIAN STANDARDS COMPLIANT

LICENSE 1853



RECOMMENDED WATER CHEMISTRY

There are Australian Standards to maintain and operate a residential swimming pool. However, as a manufacturer, Freedom provides you with their recommended Fibreglass Pool Chemistry Levels.

These water balance factors ensure the water is safe and at comfortable levels to swim in. It also protects and prolongs your wonderful Freedom Pool interior and equipment. **Please be aware that super chlorinating your pool is not recommended for your pool interior. Be aware that chlorine is a bleach, and excessive usage can damage your pool.**

Please test your pool weekly at your local pool shop.

Weekly water reports taken from your pool must be kept for any warranty claims.

Should the requirement arise for your Freedom Pool to be emptied, consideration must be given to damage which may be caused by this process. Emptying your pool must be achieved by competent and qualified persons. Freedom Pools Pty Ltd does not accept responsibility for damage caused when pool water is removed.

pH Levels:	7.2 - 7.4
Chlorine:	1.5 - 2.5 ppm
Total Alkalinity:	80 - 120 ppm
Calcium Hardness:	120 - 300 ppm
Total Dissolved Solids:	2500 ppm (check annually or after heavy rains)



POOLS LOCATED ON REACTIVE (CLAY) SOILS

Clay foundations can present structural problems.

The problems usually arise from changes in the internal moisture content of the clay, causing the clay body to expand or shrink.

Changes to the soil moisture content can largely be avoided by the following precautionary measures.

- 1. Provide adequate surface drainage including perimeter paving where necessary, with a fall away from the pool to prevent ponding of water, or discharge against any part of the pool.**
- 2. Ensure roof drainage is directed by pipework away from the pool.**
- 3. Maintain gardens and ensure adequate watering of adjacent lawns, shrubs, etc, especially during extended dry periods.**
- 4. Large shrubs and trees should not be planted close to the pool, where their developed root systems will influence local soil moisture conditions.**
- 5. Where sites have been excavated into a slope, surface and/or subsurface, drains may be required to provide adequate drainage.**
- 6. The pool should not be emptied, especially after the winter period when natural soil content is at it's highest.**



Recommended Levels

Free Chlorine **1.5 - 2.5*ppm**

***DO NOT EXCEED 2.5ppm**

pH Fibreglass **7.2 - 7.4**

pH Concrete **7.4 - 7.8**

Total Alkalinity

Fibreglass **80 - 120ppm**

Concrete **140 - 160ppm**

Stabilizer **30 - 50ppm**

Calcium Hardness **120 - 300ppm**



REMEMBER TO CHECK LEVELS REGULARLY!



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