Building a Pool? **Avoid Mistakes and Relax**

dreampools.pt

CONTENTS

INTRODUCTION

Having a pool is one of the classic signs of an easy life. From the theme song of “The Beverly Hillbillies” to the closing scene of F. Scott Fitzgerald’s “The Great Gatsby”, swimming pools are associated with the wealthy, the leisurely, and those who live life with greater ease.

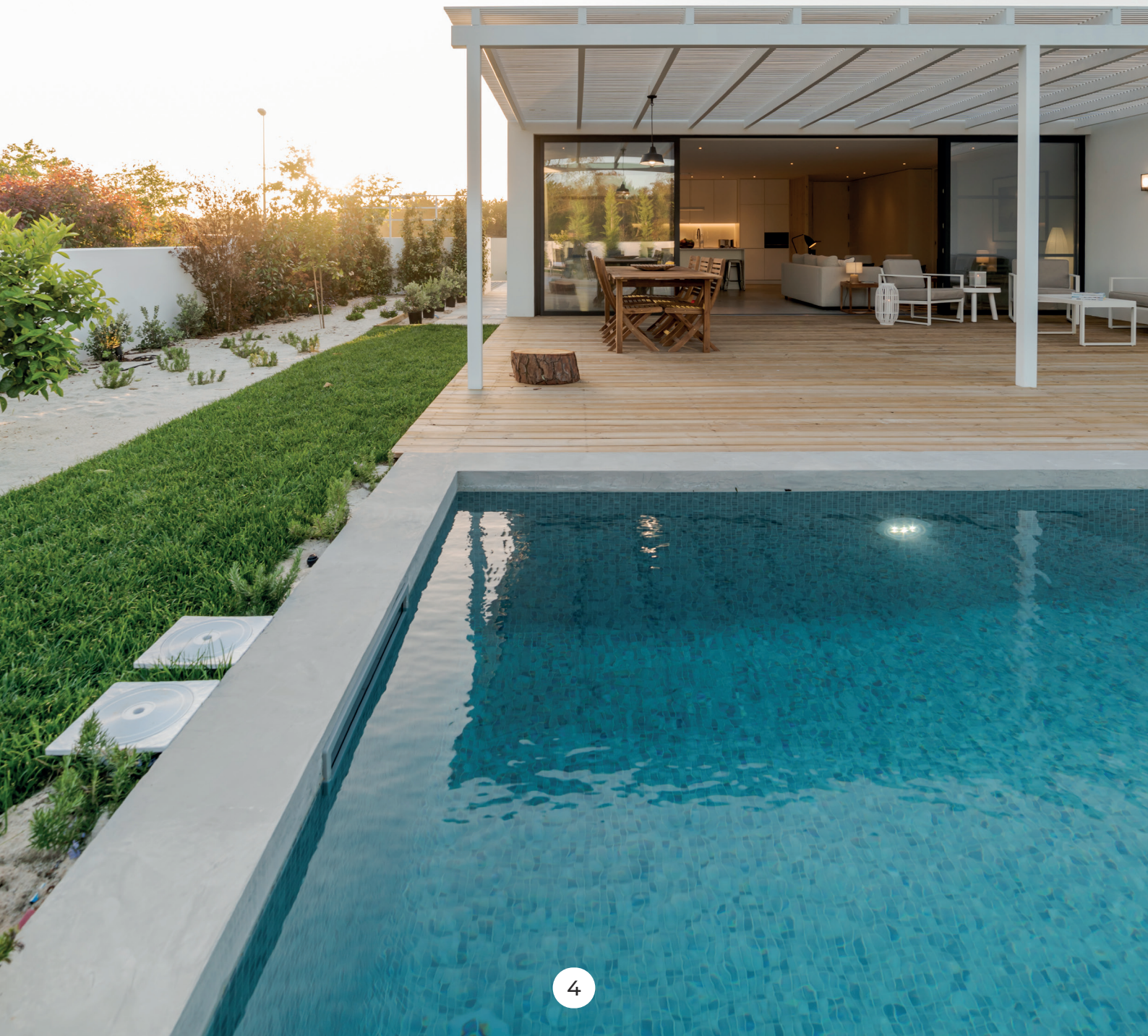
That’s why it’s terrible, after spending so much time and money choosing your pool, to find out that having it is not synonymous with an easy life. The truth is maintaining a pool can entail a tremendous amount of work, which will lead you to wonder:

“What was I thinking when I decided to dig this hole in my backyard and fill it with water?”

In this ebook, we will talk about swimming pools. We’ll cover different types, installation procedures, maintenance issues, and how to respond based on the weather. Additionally, we will touch on some horror stories, not so much to scare you, but to show you that even when the worst happens, you still have options.

As the modern poets say: the simple life is not so simple as it seems. However, if you know the key maintenance tasks, you will find that it is much simpler than otherwise, and you will have much more time to enjoy the fruits of your labor.

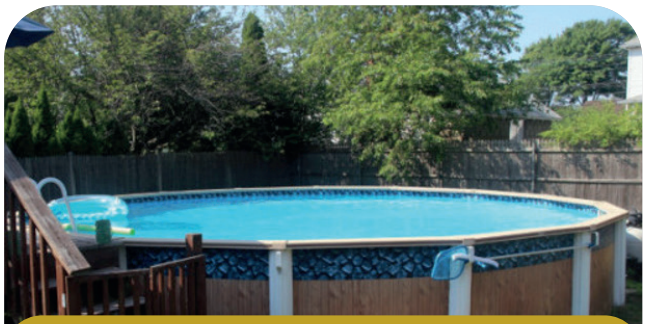
1. THE TYPES OF POOLS



FIBERGLASS POOLS

CONCRETE POOLS

VINYL POOLS



ABOVE-GROUND POOLS

There are various types of pools available in the market, diversified in terms of costs, maintenance care, durability and appearance.

Each one with specific features that can answer specific needs. Among the main types are concrete pools, which are the most common and durable, vinyl pools, which have a flexible vinyl layer over a steel or aluminum structure, fiberglass pools, which are pre-fabricated and have high strength and durability, and above-ground pools, which can be temporary and require less maintenance.

Each one of these options can offer advantages and disadvantages, so it's important to carefully evaluate your needs before choosing the most suitable type of pool for your space and lifestyle.

1.1 Fiberglass pools

Fiberglass pools are made with a pre-fabricated mold of fiberglass coated with gel coat, a type of resin that provides a glossy and durable surface. These pools are delivered ready for installation at your home. They are durable, resistant, and easy to maintain.

ADVANTAGES:

Less maintenance:

Fiberglass pools have a smooth and non-porous surface, making it more difficult for algae and other organisms to grow. These fiberglass pools require fewer chemicals and maintenance compared to other pool options. The smooth surface is also important to prevent injuries to children or other swimmers that could occur on rougher surfaces.

Easy installation:

Fiberglass pools are pre-fabricated and arrive ready for installation. This means that the installation can be completed in just a few days, compared to concrete pools that can take weeks or even months to be constructed.

Aesthetics:

Fiberglass pools offer a wide range of colors and finishes, giving homeowners the opportunity to choose the style that best suits their space and personal taste.

Durability:

Fiberglass pools are resistant to cracks and stains, and they have a lifespan of around 25 years with proper maintenance.

DISADVANTAGES:

Size and shape limitations:

Fiberglass pools are pre-fabricated, which means that homeowners don't have the option to customize the size and shape of the pool.

Higher initial cost:

Compared to other pool options, fiberglass pools have a higher initial cost.

Weight:

Fiberglass pools are heavy and may require additional reinforcement in the ground structure where they will be installed.

More challenging repairs:

If there are damages to the pool, repairs can be more difficult and expensive compared to other pool options.

1.2 Concrete pools

Concrete pools, also known as gunite or shotcrete pools, are the most classic pool option. Constructed on-place, they use reinforced steel frames and reinforced concrete, and are coated with tiles, paint, or quartz pebbles. These pools are fully customizable in terms of size, shape, and finish, and offer long-term durability and strength.

ADVANTAGES:

Resistance to high temperatures:

Fiberglass pools have good elongation properties to withstand changes in the ground. In other words, the type of climate where you would most likely want a pool. Concrete pools can expand to a certain extent to withstand heat, giving your pool a longer lifespan under extreme temperatures.

Customization:

Concrete pools are highly customizable, and the number of different concrete pool designs is limited only by your budget, imagination, and the technical expertise of the contractors you choose to install your pool. In other words, you have more options for the aesthetic appearance and functionality of your pool.

Durability:

Concrete pools are highly durable and can last for decades with proper maintenance. Additionally, the tile or mosaic coating can be replaced over time to give the pool a fresh appearance.

Adaptation to terrain:

Concrete pools can be built on irregular or sloping terrain since they are formed on-place.

DISADVANTAGES:

Construction time:

Building a concrete pool is a time-consuming process and can take several weeks or months, depending on the size and complexity of the pool. If you have young children or pets, you must exercise great caution to keep them away from the pool area while it is under construction, as it can quickly become dangerous.

Maintenance:

Concrete pools can be more challenging to clean and maintain compared to other pool options. The rough and porous surface of concrete can promote the growth of algae and other debris, requiring more effort in maintenance.

Cost:

Concrete pools are generally more expensive than other pool options due to the time and labor involved in construction.

Leaks:

Concrete pools are prone to leaks, especially if there are cracks or damage to the tile or mosaic lining.

1.3 Vinyl pools

Vinyl liner pools, also known as vinyl pools or liner pools, are a popular and affordable option for homeowners who want to have a pool. A vinyl liner is placed over the pool structure and secured at the top of the pool walls, sealing the joints between the panels (potential weak points in the battle between water and the container). The contractor creates openings for skimmers, drains, and other plumbing/drainage features, and then the space between the vinyl liner and the pool walls is filled to ensure that the liner doesn't shift too much.

ADVANTAGES:

Resistance to low temperatures:

Vinyl liner pools have the distinct advantage of being well-suited for cold climates. As we will see in our chapter about winter preparation, it requires a lot of extra work to keep pools filled during the cold months without letting the water freeze and damage the plumbing. Vinyl liner pools avoid these problems by simply allowing you to drain them easily during the winter.

Affordable cost:

Compared to other pool options, vinyl liner pools are relatively cheap. This makes them a popular choice for those who want to have a pool at home without spending a lot of money.

Easy maintenance:

The smooth surface of vinyl makes it difficult for algae and other organisms to grow, which means that these pools require less chemicals and maintenance compared to other pool options.

Shape and size variety:

Vinyl liner pools can be easily customized in terms of size and shape, giving you the flexibility to create a pool that meets your specific needs.

DISADVANTAGES:

Frequent repairs:

Vinyl can be easily punctured or torn, which means that vinyl liner pools require frequent repairs. The need to replace the vinyl liner of a pool adds to the overall situation a continuous cost of construction. Not doing so can lead to serious leaks that can damage the underlying rock/soil behind the vinyl liner. If the leaks are severe enough, they can cause damage to the entire foundation of the house.

Less durable surface:

The vinyl liner is highly susceptible to scratches, punctures and damage, which requires extra safety guidelines for children or pets using the pool, and elimination of certain types of sharp metal toys.

Shorter lifespan:

Compared to other pool options, vinyl liner pools have a shorter lifespan, typically lasting from 8 to 12 years.

Vinyl replacement cost:

If the vinyl liner pool needs to be replaced, the cost of vinyl replacement can be significant, and it may be necessary to drain the pool water for the replacement to be carried out.

1.4 Above-ground pools

Above-ground pools are those that are built on a platform, without the need for excavation in the ground. These are a popular alternative for those who want to enjoy a pool at home but don't want to deal with the cost and complexity of building an in-ground pool.

Think of above-ground pools as "training pools." They create the habit of regularly taking care of a pool without requiring expensive modifications to the terrain or diving into the murky waters of foundation maintenance and drainage optimization. Simply build, install, swim, and enjoy.

ADVANTAGES:

Cost:

Above-ground pools are significantly cheaper than in-ground pools. Additionally, the installation is usually quicker and simpler.

Portability:

These pools are portable, which is itself a reason to choose them if you don't own a home or don't have a stable career that allows you to stay in the same place in the near future.

Maintenance:

These pools are easy to maintain since the water can be easily drained and cleaned. Additionally, since the pools are above ground, leaves and other debris don't fall into the pool as frequently, making cleaning easier.

Easy installation:

These pools come in pre-fabricated kits that can be easily assembled. There's no need to hire excavation or complex construction services.

DISADVANTAGES:

Durability:

Above-ground pools are generally not as durable as in-ground pools. The structure is typically made of less durable materials such as plastic, which means the pool may deteriorate more quickly.

Terrain leveling:

In many suburban areas, this may not be an issue as the land is already fairly flat. However, if the geography of your backyard is more uneven, you will need to level it to install an above-ground pool, which can be a considerable expense.

Size limitations:

Above-ground pools are generally smaller than in-ground pools, which means they may not be suitable for larger families or those who wish to swim long distances.

Appearance:

Some people consider above-ground pools less attractive than in-ground pools. They may be seen as less sophisticated and aesthetically pleasing.

1.5 Which pool is the right one?

There is no definitive answer to which pool is the right one, as it depends on the individual needs and preferences of each person. Each type of pool has its own advantages and disadvantages, and it's important to carefully evaluate each option before making a decision.

A

If your main concern is living in an area known for weak soil or high tectonic activity, choose fiberglass.

B

If aesthetic customization is your main concern OR if you live in an area known for extreme summer heat, opt for concrete.

C

If cost is your main concern OR if you live in an area with consistently low/ freezing temperatures, opt for vinyl.

D

If you have never had a pool, plan to move soon, or simply don't want to make a big financial commitment or modify your home, choose an above-ground pool, but keep your options open for the future.

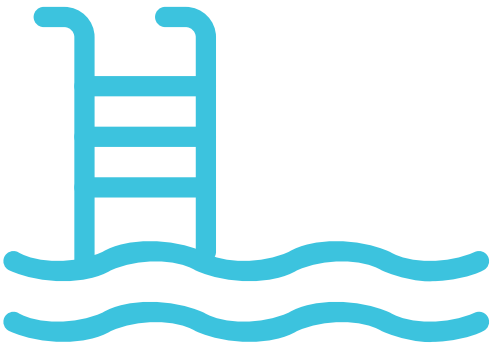
2. How do pools work?

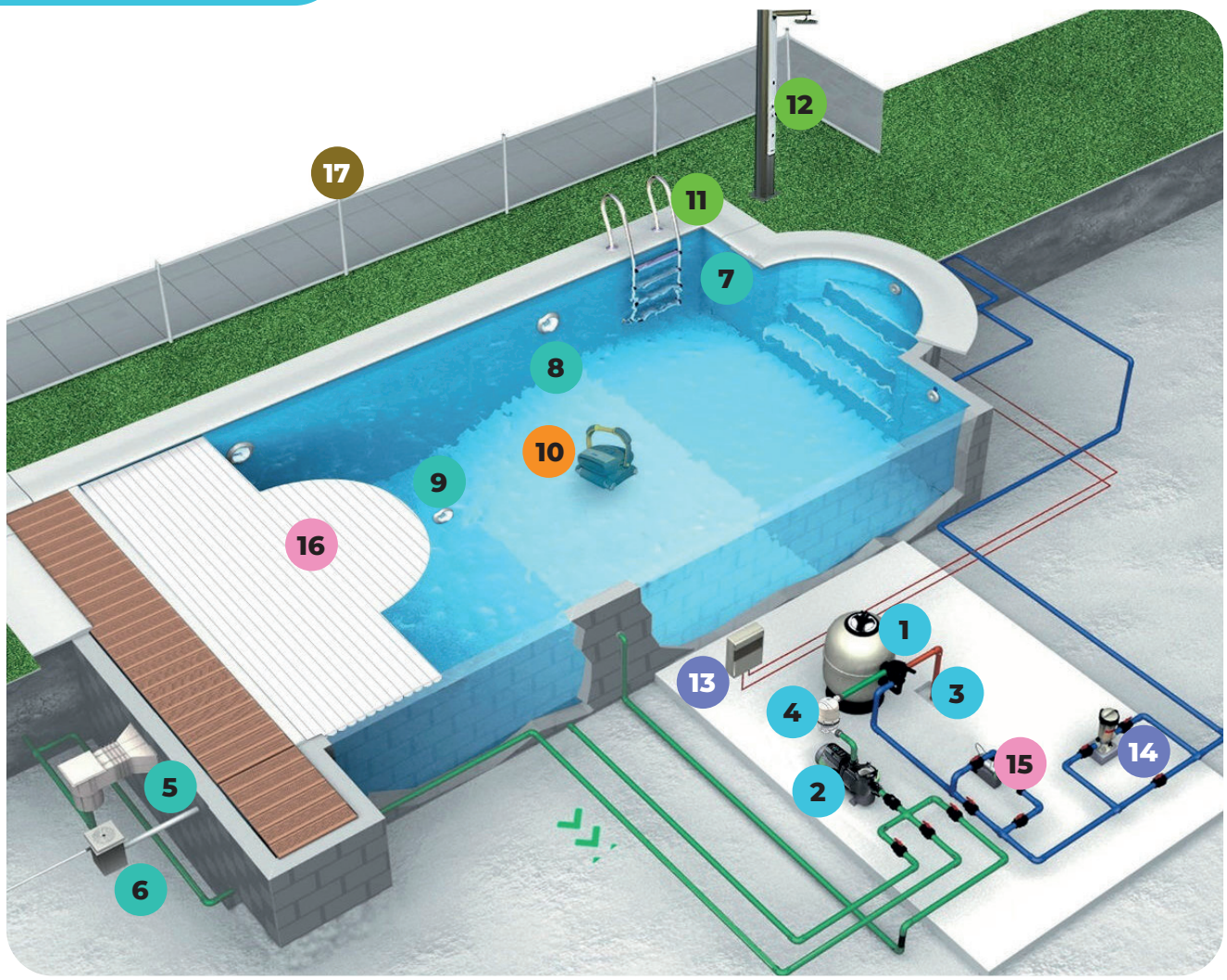
As we mentioned, pools are essentially giant holes in the ground filled with water.

But we were a bit misleading in saying that because the water in your pool does much more than just sit still, waiting for swimmers to enjoy it.

In reality, the water in a pool is constantly active, flowing in and out of the pool through a complex system of pipes and filters.

A good understanding of how exactly your pool water works is essential to understand why certain maintenance steps are crucial for the health and lifespan of your pool.





FILTRATION EQUIPMENT
1 - Filter
2 - Pump
3 - Selector valve
4 - Hydrospin

POOL BASIN MATERIAL
5 - Skimmer
6 - Water level regulator
7 - Return jet
8 - Projector (LED or halogen)
9 - Drain

CLEANIN
10 - Automatic pool vacuum

EXTERIOR ACCESSORIES
11 - Ladders
12 - Spirit level

DOSING AND CONTROL
13 -Electrical control panel
14 - Chlorine dispenser

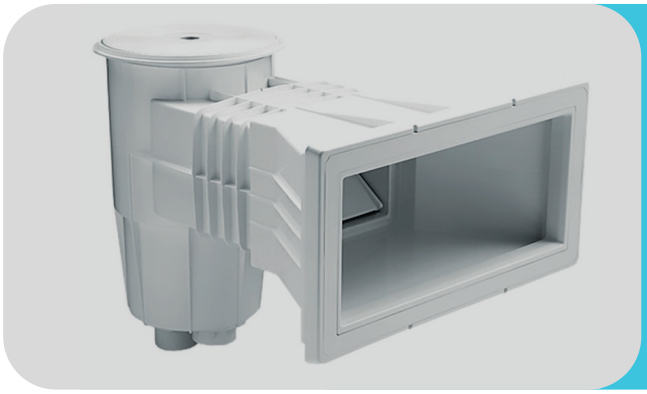
AIR CONDITIONING
15 - Heat pump or heat exchanger
16 - Pool cover in canvas

SAFETY
17 - Safety fence

Therefore, we list the installation steps for the filtration system:

1. DRAINS

Drainage devices placed at the bottom of the pool, which send water to the filtration system.



2. SKIMMERS

Devices placed at the edge of the pool, these collect water from the surface and send it to the filtration system.

3. PUMPING SYSTEM

Moves the water from the pool to the filtration system and brings it back to the pool.

4. FILTRATION SYSTEMS

Remove impurities from the water before returning it to the pool.

5. FILTER CONTROL VALVES

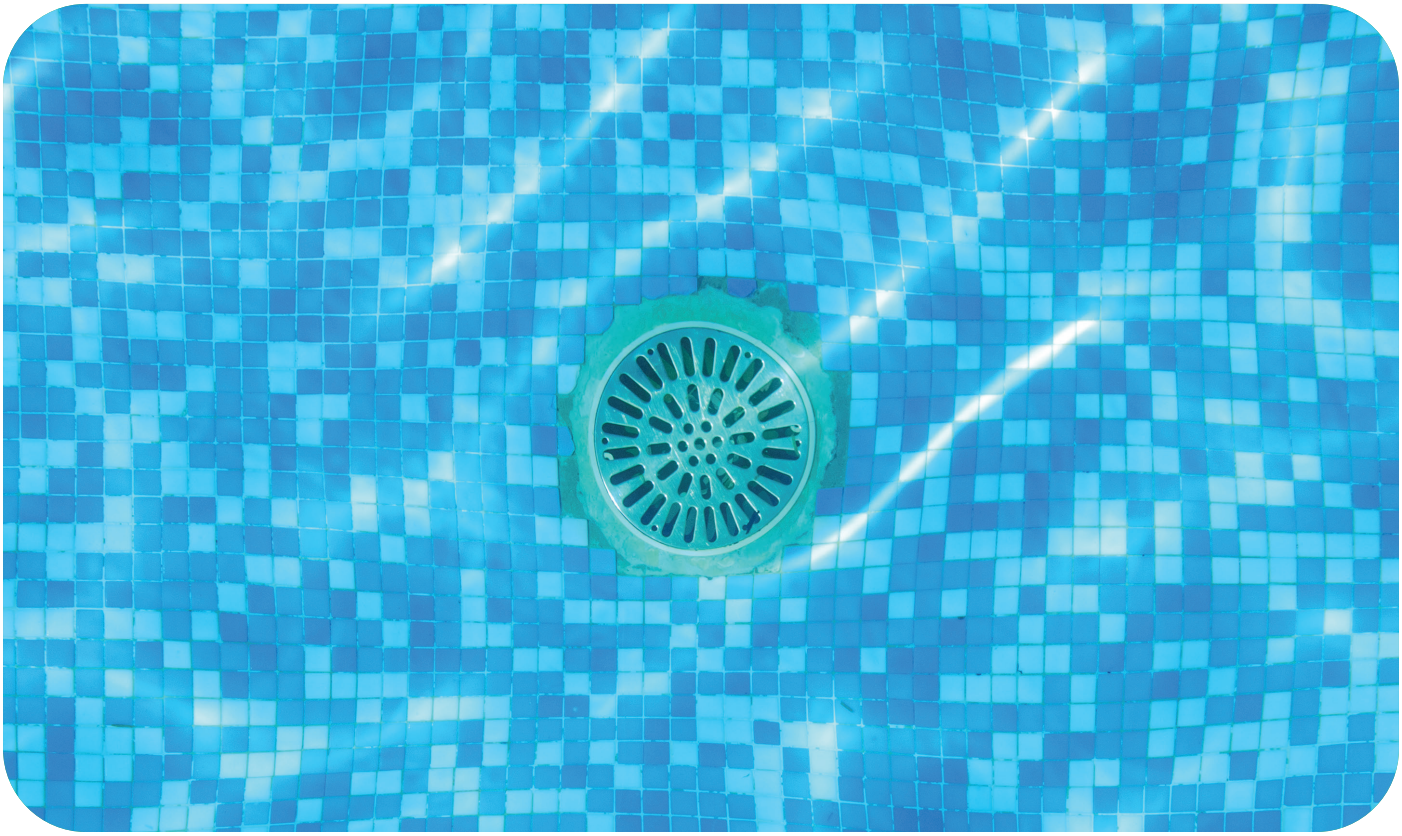
Control the flow of water through the filtration system.

6. ANOTHER ACCESSORIES

These may include slides, hot tubs, benches, step-outs or stairs, and diving boards.

Together, these components form a complete filtration and safety system to keep the pool water clean and safe for users.

2.1 Drains



A pool without a drain will quickly become unsafe (and frankly, quite unpleasant). Typically, a pool has **two main drains**, along with other specialized drains, which we will discuss in more detail below.

The main drains of a pool should be positioned at the lowest point of the pool's basin. Their job is to **remove all the heavy debris that accumulates in a pool**. Debris exits the pool through the main drains and passes through the plumbing systems to the pool filter.

You may have already wondered: why two drains?

The reason for installing two main drains instead of just one is to **prevent serious safety issues.** As anyone who has a bathtub knows, water tends to form a vortex when it rapidly drains from a basin through a small opening. In a typical pool, the amount of water channeled through a single drain is so high that the created vortex can actually trap a child against the pool bottom, rendering them unable to escape and quickly drowning them. Therefore, a second drain is installed **to reduce the total amount of water that needs to drain from a single opening** in the pool basin. The drains should also be equipped with “anti-vortex covers” that help regulate pool drainage and prevent the formation of dangerous vortices.

2.2 Skimmers

Skimmers help **clean all the light debris that floats on the surface of a pool**. It may seem like a minor or purely cosmetic issue, but even within the span of a day, a significant amount of debris can accumulate on the water surface of your pool - from fallen leaves to summer insects and worse things. The skimmer allows water to flow cleanly from the top of the pool through the skimmer basket, filtering out large amounts of debris before they can enter the filtration system.

Skimmers are usually equipped with a "**floating weir**", which is a type of door that opens and closes depending on the amount of water pushing against it. When functioning properly, the floating weir will open and admit only the amount of water that the drainage system can handle in the pool pipes.

A secondary water inlet pipe from the network can also be installed in the skimmer. It is called a water level regulator and is connected to a regulating float. If the water level in the pool drops below the level of the skimmer's floating weir due to heat, regular maintenance or any other cause, it allows water from the network to enter the pool and prevents air from being pulled into the filtration system (which causes obvious problems). In this piping line, a cut-off valve and a pressure regulator system should also be installed, as water pressure exceeding 3 bars can damage the water level regulating float.

2.3 Pumping systems

The water doesn't flow through the drain solely by gravity and water pressure. To make the pool function efficiently, an **electric pumping system** needs to be used.

The pumping system is simply a pump connected to the various drains and pipes that serve the pool. It is usually kept hidden from the rest of the pool, partly because it's not very appealing to look at, and partly because keeping the pump concealed also helps keep it secure.

Pumps should be equipped with filter baskets that **trap debris before they reach the sand filters or other filtration system**. A good skimmer basket and drain covers will go a long way in capturing debris that can cause issues, but a filter basket serves as the "last line of defense". Part of pool maintenance involves regularly emptying and cleaning the pump basket.

2.4 Filtration systems

When the water exits the pool through the return jets, it needs to pass through a filtration system. This system **purifies the water by removing debris and allows the clean water to return to the pool**, maintaining pH balance and preventing the water from becoming cloudy.

The filtration system in a pool is usually quite large and is often kept **above ground for easy access and maintenance purposes**.

There are various types of filters, and one of the simplest ones is a sand filter. When dirty water enters the filtration system through the drains, the pressure forces the water to pass through the sand. The sand retains the dirt and debris, **allowing clean water to exit** the filter.

Keep in mind the following caveat: although it is called a sand filter, you cannot simply pour any old sand into the filter and expect the best results. Use only specialized sand purchased from a reliable pool supply store or other supplier.

This sand will have a special square crystal shape, designed for use in pool filtration. It shouldn't need to be said, but as you know, installing a pool is a significant financial investment — it's better to be safe than sorry.

The other two main types of filters are **diatomaceous earth** (DE) **filters** and **cartridge filters**.

DE filters contain special grains coated with “diatomaceous earth”, which are essentially tiny skeletons of marine creatures known as “diatoms”, mixed with regular sand.

Diatomaceous earth is a bit more expensive, but **filters pools more effectively and can be easier to maintain**.

Cartridge filters are exactly what they sound like: long plastic boxes lined with fabric or other tension materials.

Cartridge filters do a **better job of cleaning debris from pool water but will require regular replacement in addition to backwashing maintenance**.

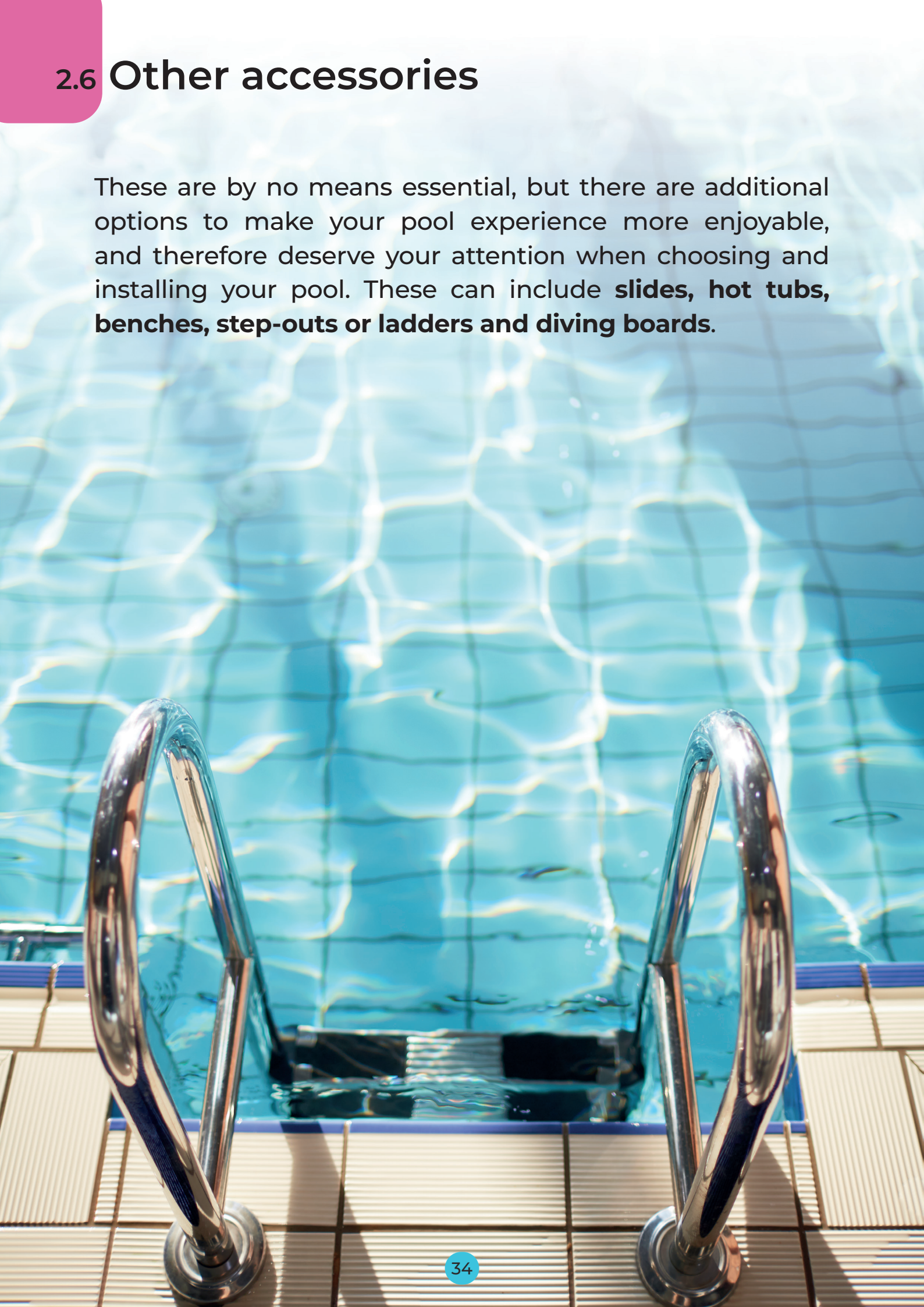
2.5 Return valves

Once water leaves the filter, it can go to one of two places: either to the city's sewage system or back into the pool.

The control valve is the connection from the bottom of the filter tank (where the clean water is collected) to the pool itself.

2.6 Other accessories

These are by no means essential, but there are additional options to make your pool experience more enjoyable, and therefore deserve your attention when choosing and installing your pool. These can include **slides, hot tubs, benches, step-outs or ladders and diving boards**.



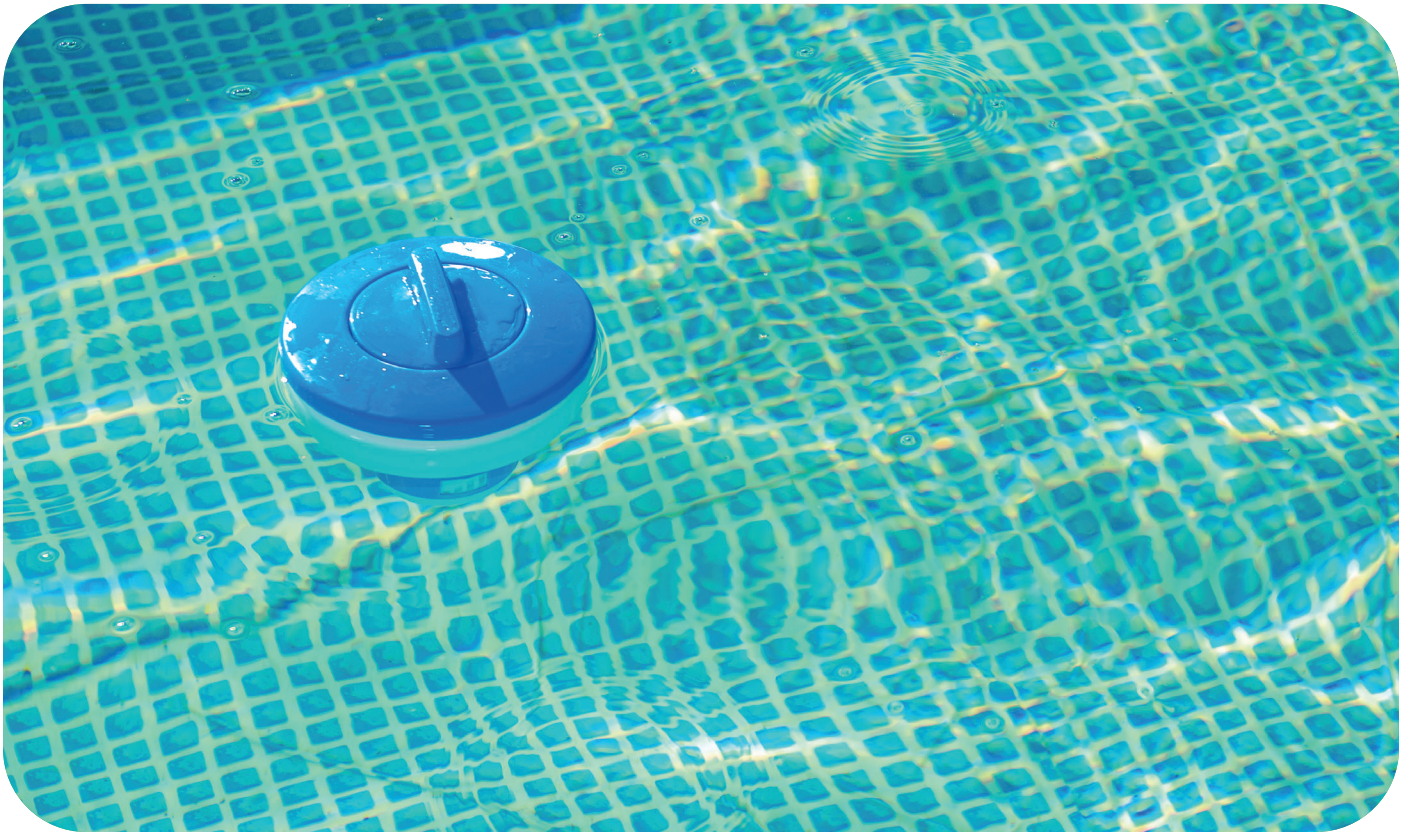
Generally, these options don't involve much additional maintenance (except, of course, hot tubs, which we will discuss in a later chapter). When choosing **pool bells and whistles**, it's wise to prioritize safety. Some type of pool exit is mandatory to prevent people from getting hurt and slipping—even when exiting from the sides.

Stairs are a budget-friendly option, but bench seating or molded steps are generally safer and visually appealing. Any additional features you install in the pool basin will provide more opportunities for collecting dirt and debris, and will cost more in terms of overall maintenance time. Typically, the extra enjoyment you get from the pool will outweigh the extra maintenance, but it's good to be aware of this before that giant hole is dug in your backyard (I'm sure you'll agree).

Essentially, these are all the functional parts of a pool. There's just one significant issue in keeping your pool running that we need to address before moving on to the actual maintenance concerns: the important issue of water quality.

3. Water quality

3.1 Chlorine pools



Chlorine is the oldest method of sanitizing public pools. The special chemical properties of chlorine make it ideal for use in pools. When chlorine tablets are added to the pool water, **two compounds are created:** “free chlorine” and “combined chlorine”.

Do the names sound similar? Think of them this way: **free chlorine is “good chlorine,” while combined chlorine is “bad chlorine.”**

Why is free chlorine good and combined chlorine bad?

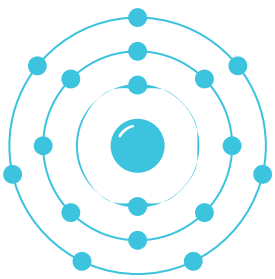
Simple.

Free chlorine is able to circulate freely throughout the pool, attacking and killing microorganisms.

Combined chlorine does not effectively work to kill microorganisms. It just stays in the pool, floating around, producing unpleasant “pool odors” and discoloring people’s hair and swimwear.

You have likely seen or been in a pool with a lot of combined chlorine. The usual complaint from people is something like: “This pool has too much chlorine! I can smell it!” Surprisingly, the reason why the pool smells like chlorine is not because there is too much chlorine in the pool. In fact, there is often too little or at least too little to do the job it should be doing.

When combined chlorine increases, what should I do? To reduce the amount of combined chlorine, it is best to perform a shock treatment.



3.2 Saline pools

Saltwater pools are the latest development in pool disinfection systems.

How does it work?

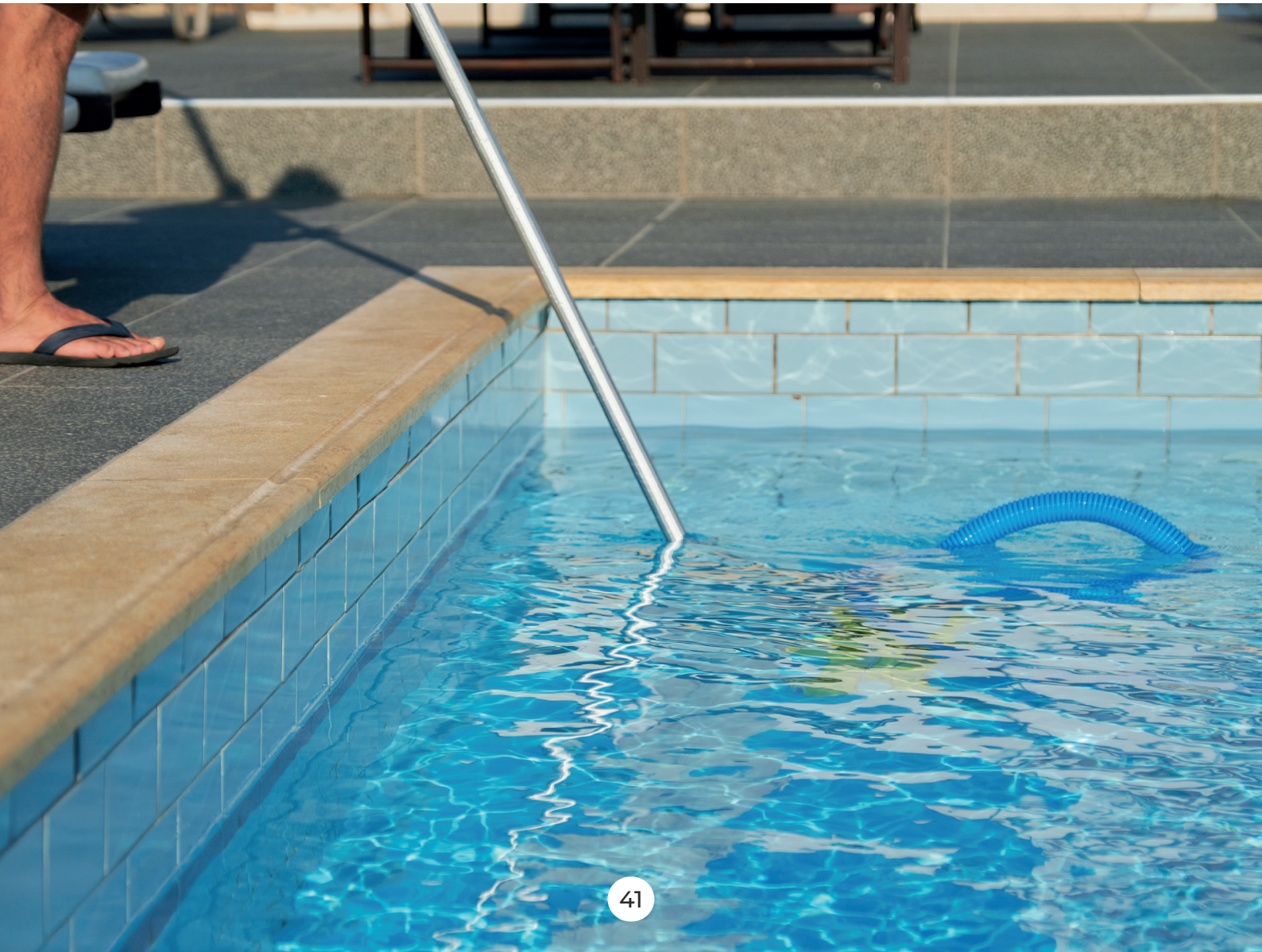
The water is salted to an acceptable level, usually around 3000 ppm (parts per million), although the exact amount may depend on the electrolysis machine. Two components are added to the pool's filtration system immediately after the clean water passes through the filter: a **control box** and a "**salt cell**" where the salt electrolysis takes place.

The control box is used to regulate the amount of chlorine supplied to your pool. When the control box is charging the salt cell, the salt cell converts the salt in the water into natural chlorine. It does so through an electrolytic process.

In summary, just know that saltwater goes in, chlorinated water comes out.

But where do the sodium deposits go?

Most of the time, they adhere to the plates in the salt cell. So, occasionally, you'll need to remove your salt cell and clean the plates. Ideally, you should find a self-cleaning salt cell that allows for reversing the polarity of the water to shake off the sodium deposits from the plates.



3.3 Alternative water disinfection methods

It’s hard to beat chlorine no matter the application method. The most popular alternative disinfectant agent for a pool is bromine. Bromine belongs to the same chemical group as chlorine and works almost exactly the same way.

How does it work?

When bromine is added to the pool, **all of the bromine is used to kill bacteria** - since bromine is slightly more stable than chlorine as a chemical and is less likely to combine with other chemicals in the pool water to cause undesired compounds. After the filtration system removes all the dead bacteria, the bromine is still active in the water and can be used to kill more bacteria.

In other words: bromine remains active in the water for a longer period of time. Despite the higher price, **a smaller amount of bromine can be used to accomplish the same job as chlorine**. That is the great virtue of bromine.

4. Regular maintenance

It's time to bring all the information together to discuss exactly how to maintain a pool for regular use. Once you understand how the parts of a pool fit together, it's straightforward. Just keep in mind how a pool operates.

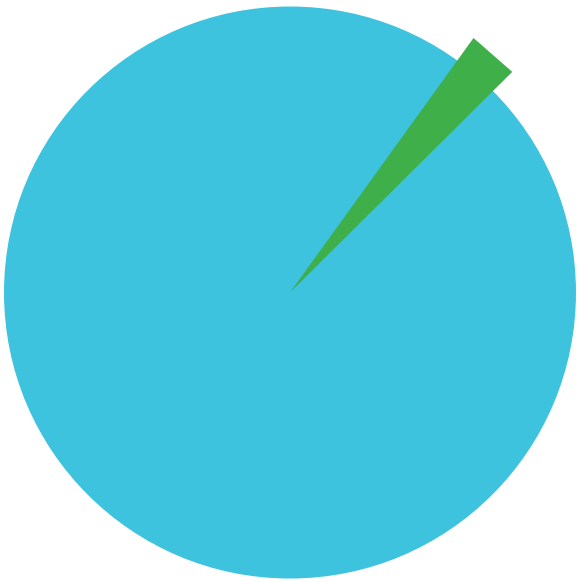
4.1 How often should the pool filter be activated?

It depends on the size of the pool and the weather conditions outside. During cooler months, it is recommended to run the pool filter for about six hours.

During the **hotter months**, it is advisable to run the pool filter for at least twelve hours every day. Make sure the pool pump is running whenever people are using the pool. By following these guidelines, you will keep the water looking nice and clean in 99% of situations.

And the other 1%?

Follow the checklist to eliminate all possibilities:



PHASE 1:

Increasing the frequency and duration of filter activation is generally a reasonable way to address persistent water clarity issues. **Try running your filter continuously**, that is, 24 hours a day, 7 days a week, **until the water clarity returns to normal.**

PHASE 2:

If that fails, you can perform the backwashing maintenance of the filter every 6 hours. Backwashing cleans the filters so they can function efficiently again, keeping the water free from debris. **To backwash the filter, you should open all the valves and position the filter's control valve to the backwash setting, then turn on the pool pump.** This forces all the collected debris out and sends it to the city's sewer system. Once the filter is clean, the valves can be returned to their normal configuration.

PHASE 3:

When other methods seem to not work, you can resort to a “brute force” approach. **Add one or two gallons of bleach (hypochlorite) to the pool water and wait for the best results.** It is an unorthodox method for cleaning a pool, but it actually works to break down stubborn debris and dirt, helping the filter to operate more efficiently.

PHASE 4:

If all the methods mentioned above fail, **take a water sample to your local pool supply store.** In this case, the issue is likely more related to water quality rather than something with the pump and filtration system, and you will need a specialist in pool water quality issues to diagnose and provide a chemical solution for it.

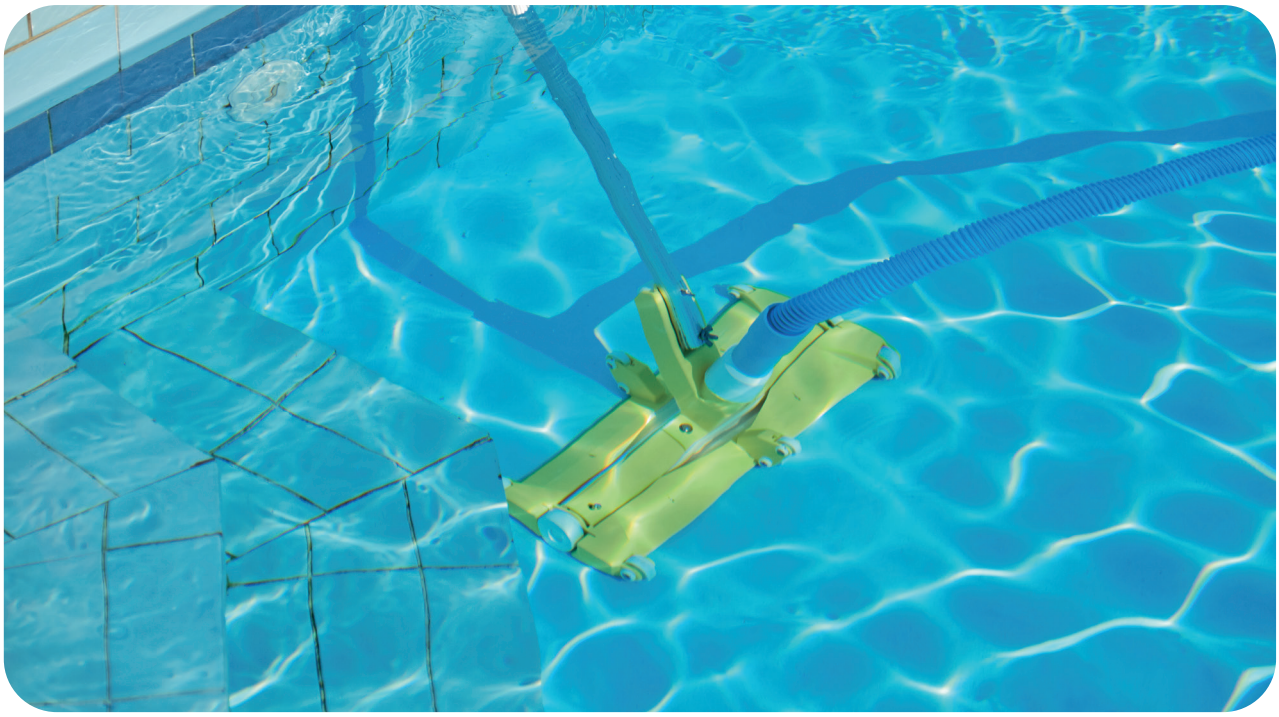
4.2 How often should you clean the pool filter?

Cleaning the filter should be part of your maintenance routine. Generally, **you should clean the filter approximately every two times before adding chlorine, or at least every two weeks.** It's a bit more labor-intensive, but it can help prolong the life of your filter and save you the trouble of scrubbing and vacuuming.

4.3 How often should you clean the skimmer basket?

Part of regular pool maintenance should include cleaning the skimmer baskets regularly, **no less than once a week**. If your pool is more prone to clogs or surface debris - for example, if a nearby yard or tree produces a large amount of leaf debris or if you have a summer insect infestation - you may need to clean them every two days or as often as necessary to keep your skimmers functioning properly. The filter basket in the filtration system can be cleaned less frequently, usually once a month should suffice for most issues.

4.4 How often should you brush the walls of the pool?



Brushing the pool keeps the walls clean and normal, and prevents occasional stains or other more permanent damage. **Generally, you should brush your pool about an hour after use to get rid of dirt, dead skin, and other heavy debris. Waiting an hour before brushing the pool allows the dirt to settle, and avoids having to brush the pool twice.** If the pool is not used for some time, it is a good idea to brush it every week.

4.5 Should you add chlorine?

Make sure to chlorinate your pool regularly. If you're using a saltwater pool, it's just a matter of adjusting the levels in the control box of your filtration system. **If you're using a traditional chlorine pool, you'll need to add chlorine manually or install an automatic feeder system**.

The latter option works similarly to the control box of a saltwater pool: it contains a large quantity of chlorine tablets and releases small doses into the water whenever the water passes through the filter. You can adjust the automatic feeder to regulate the chlorine level in your pool. If you don't have an automatic feeder, simply add chlorine tablets by hand to keep everything functioning normally.

4.6 Where should you add chlorine?

Add chlorine at some step of the filtration process, if possible. An automatic feeder will take care of that automatically. There are also floating dosing systems where you can place chlorine tablets, which are simple and inexpensive.

Contrary to what you might think, skimmers should not be used to add chlorine tablets. Over time, this will damage those parts of the plumbing due to the slow dissolution of the tablet.

4.7 What type of chlorine should you use?

The type of chlorine you should use depends on how much you want to adjust your pool maintenance routine. **In general, 3-inch chlorine tablets from a pool supply store will suffice.**

They dissolve more slowly than most other options, ensuring that fresh chlorine is provided to the pool regularly. 1-inch tablets are also an option, but they require you to add more chlorine to the pool regularly to keep the water clean and fresh.

If you're really obsessed with chlorine levels, you can use chlorine powder. This allows you to add precise doses of chlorine to your water all at once, but it requires you to calculate those doses every day and pre-dissolve the chlorine before adding it to the filtration system (to avoid clumping or hard to remove mineral deposits).

4.8 Should you perform shock treatments?

There are many options for shock treatments that you should perform in the following situations:

If the pool starts showing signs of algae buildup (green color in the water or green residue around the waterline);

After heavy rain;

After a prolonged period of intensive use by swimmers (such as a pool party with 20 children throughout the day);

Whenever someone urinates voluntarily or involuntarily in the pool. Urine combines with free chlorine to create combined chlorine more quickly than normal.

There is a basic rule after shock treatment:

Wait 12 hours after shocking before using the pool again. If the pool water becomes cloudy after shocking, do not use it: the free chlorine is not working properly and there may be issues with the pH level of the water. Test the water and correct the problem before using the pool.

4.9 What is the ideal pH level for pool water?

Another important guideline for maintaining water quality is to **maintain the pH balance of the pool water between 7.2 and 7.6.**

The pH balance is a measure of the acidity of the pool water. A high pH balance indicates a high degree of alkalinity, while a pH balance closer to zero indicates a high degree of acidity. **A pH rating of 7 indicates an absolutely neutral balance between the two.**

It is advisable for your pool water to be close to this, leaning slightly towards alkalinity rather than acidity. A lower pH can cause damage to the metal fittings in the filtration system and pool pump, as well as metal walls in a tile and mosaic pool.

A higher pH makes the pool water more cloudy and prevents chlorine from working effectively, requiring you to use a higher amount to keep the pool sanitized.

You can adjust the pH balance of a pool by adding chemicals to it. Most of the time, you will need to increase the pH balance - make the pool more alkaline - by adding large doses of baking soda or sodium carbonate to the skimmer baskets. You can decrease the pH balance - make the pool more acidic - by adding sodium bisulfate or, yes, chlorine. The amount of each chemical you should add to adjust the pH depends primarily on the groundwater in your area.

Therefore, it is a good idea to take a water sample to a pool supply store as soon as you install your pool and add your initial regular dose of chlorine to get an idea of its “baseline” pH. **You can then purchase the necessary chemicals to maintain the pH within the appropriate range and add these chemicals to your weekly maintenance routine.**

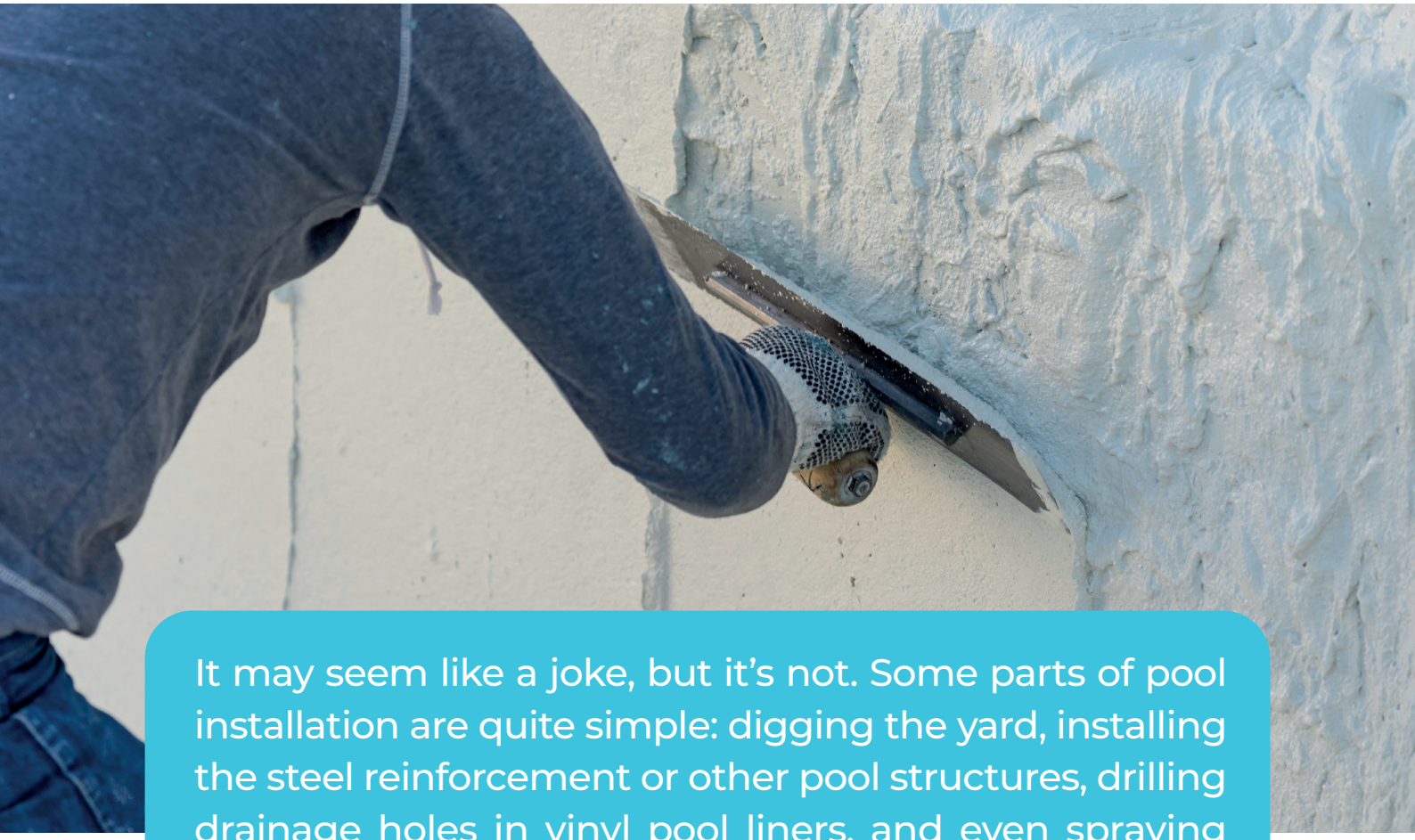
4.10 Regular maintenance schedule

ACTIVITIES	Daily	Weekly	Fortnightly
Adding chlorine to the pool			
Setting up the filtration system			
Brushing the pool walls			
Balancing chlorine levels in the water			
Adding any necessary chemicals to maintain an ideal pH balance			
Cleaning the skimmer baskets			
Backwashing the pool filter			

5. Tips for installation

TIP #1

Do not install your pool on your own

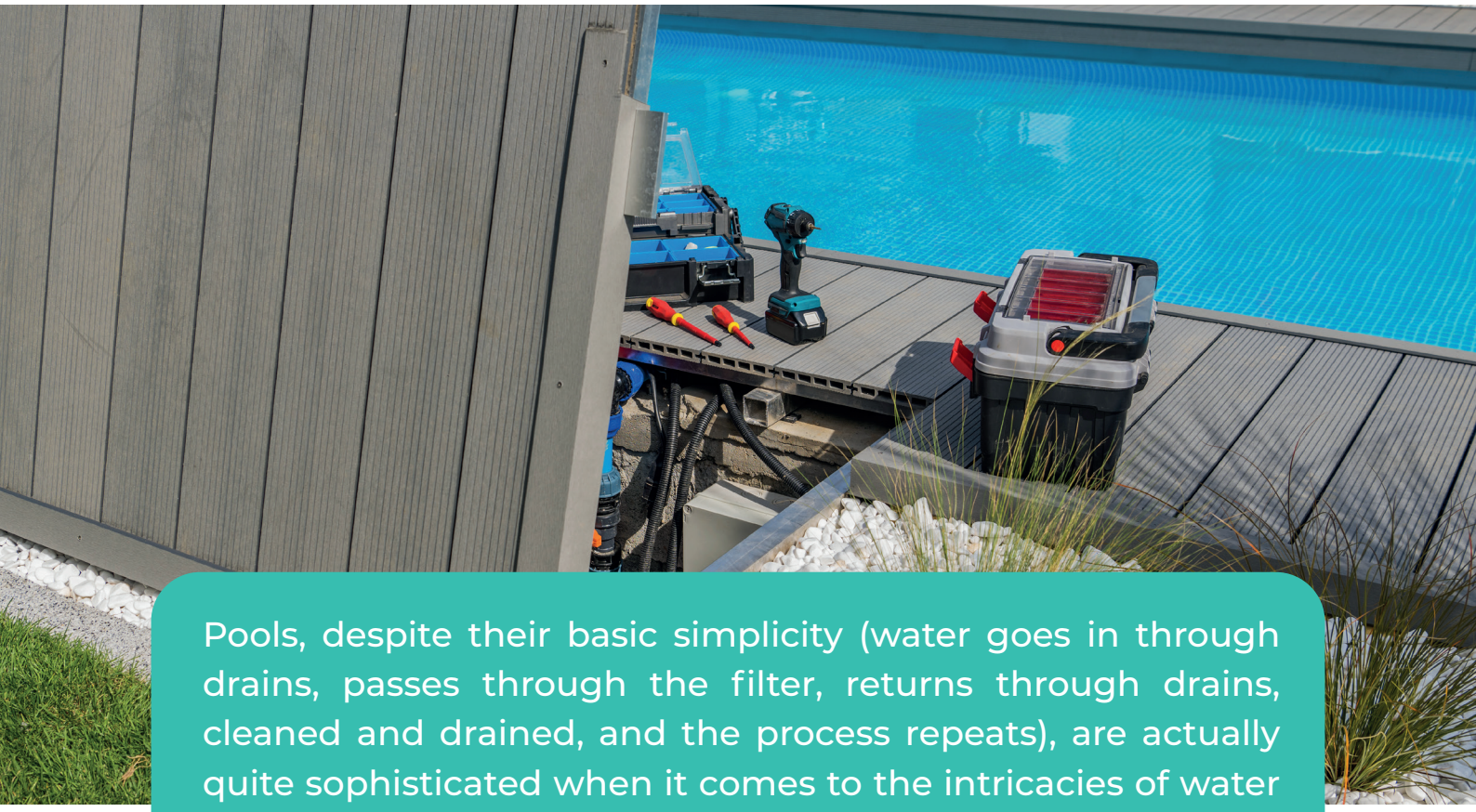


It may seem like a joke, but it's not. Some parts of pool installation are quite simple: digging the yard, installing the steel reinforcement or other pool structures, drilling drainage holes in vinyl pool liners, and even spraying concrete (GUNITE method) or other reinforced concrete mixtures.

Most of the time, it's just a matter of some calculation and construction knowledge, and there's no reason why you can't simply do that part of the work yourself.
What you don't want to do on your own, unless you have a very clear idea of what you're doing, is installing the filtration system, pumps and drainage.

TIP #2

Do not install the filtration system by yourself (NEVER)



Pools, despite their basic simplicity (water goes in through drains, passes through the filter, returns through drains, cleaned and drained, and the process repeats), are actually quite sophisticated when it comes to the intricacies of water pressure, drainage load management and similar matters. **A single miscalculation can lead to serious safety issues regarding drain suction, water accumulation or stress and strain on the pump motor.**

At the very least, this will result in significantly shorter lifespan for your pool. And a major problem with calculation errors in your pool setup is that, unless you're willing to dig up your entire yard again and spend a lot of money on draining and refilling your pool, it becomes much more difficult to rectify construction mistakes.

TIP #3

Talk to a contractor who has experience in pool installation

Ask him if he would be willing to assess your backyard and existing plumbing to identify any potential significant issues during excavation and installation. This will incur some cost, but it will save you a lot of headaches. Just imagine how terrible it would be to dig into your backyard only to hit an important utility line or a main water pipe, for example.

TIP #4

Make sure you have all the necessary materials before you begin

The only exception should be pool chemicals as they can easily “go bad” if stored improperly, wasting your money. On the other hand, you also couldn’t really use them in your pool until some time after the construction is complete and the pool is filled (as they can cause damage to the new construction).

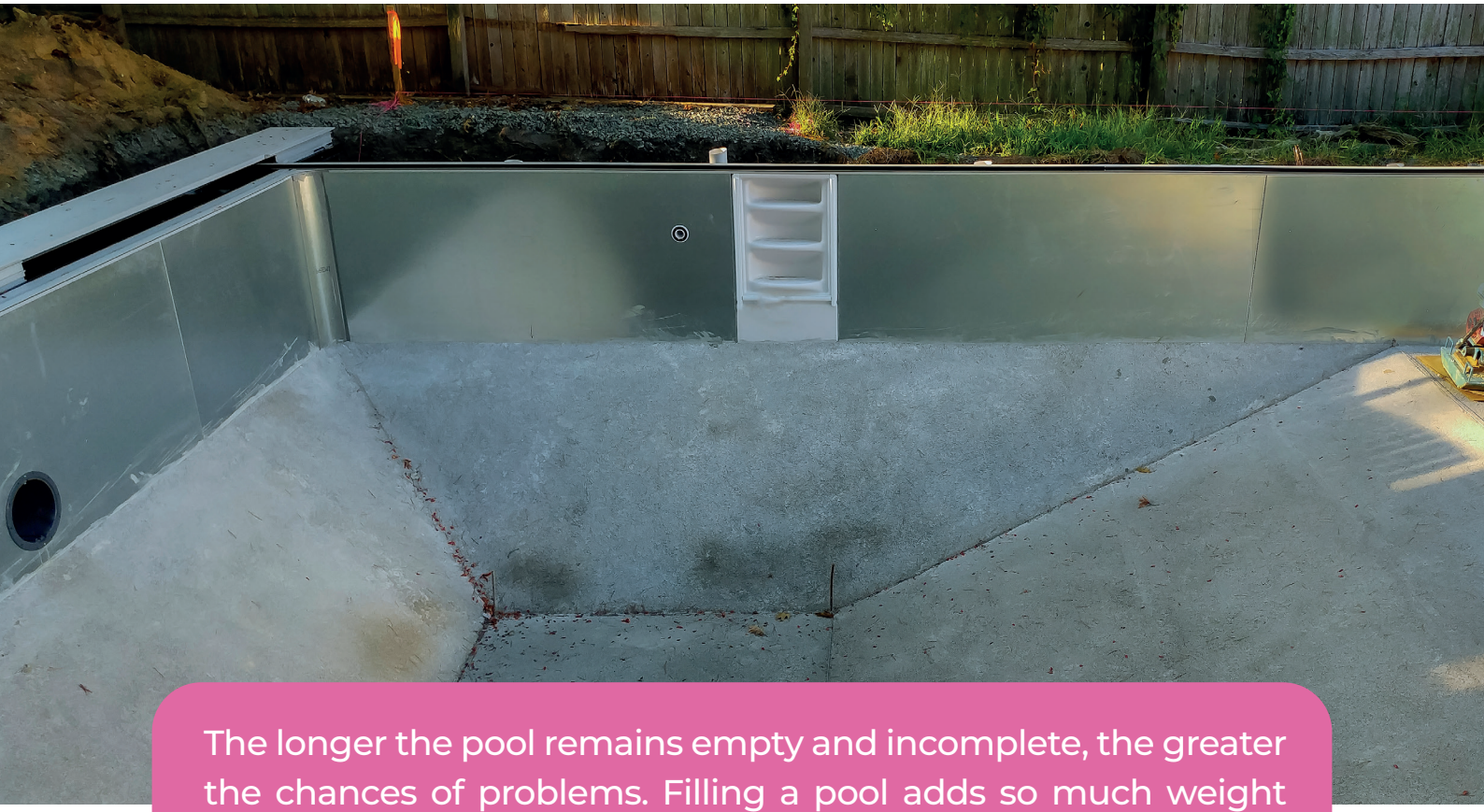
TIP #5

Ensure any assistance you may need for the installation project well in advance

If you hire labor to assist you or if you simply ask for help from friends or family members, make sure to have a good schedule for the more demanding tasks (such as installing the pool shell if working with a fiberglass pool or spraying GUNITE concrete if working with a concrete pool) and ensure they will be available to assist you.

TIP #6

Establish a solid installation schedule and stick to it



The longer the pool remains empty and incomplete, the greater the chances of problems. Filling a pool adds so much weight that it helps anchor it in place, and if you don't take care to swiftly transition from installing the basin to filling the pool with water, you can easily find yourself in a situation where the basin "pops" out of the ground, develops cracks or other horror stories. If you can only work on your pool on weekends, make sure to set your schedule to make the most of necessary curing times, stabilization periods or other planned intervals.

Expect to spend at least two to three weeks installing your pool, potentially longer if you're undertaking a particularly complex installation.

TIP #7

Seriously, don't do this alone!

Find a reputable contractor you feel comfortable working with and make sure to closely supervise his work, using the knowledge you gain from this book about how pools function. You'll save yourself endless headaches, avoid many future issues and understand how your pool is assembled so you can keep it in optimal condition.

6. Jacuzzi maintenance

Maintaining a Jacuzzi is almost exactly the same as maintaining a pool. The same filtration systems, chlorination issues and others apply. The major differences between a Jacuzzi and a pool are the need to brush the walls more frequently and considerations regarding the heater.

You should brush the interior of a Jacuzzi frequently to remove dirt and debris. If you give your Jacuzzi a quick brush every day, you will avoid having to do more elaborate and tiring cleanings once a week and keep your jacuzzi looking beautiful for a longer time.

The biggest issue with jacuzzi maintenance is, of course, the heater, which is connected to the pool's filtration system. When the jacuzzi is in use, the heater is turned on, and the water that passes through the filter is directed to the heater. The heated water then flows into the jacuzzi, warming it up.

It is typically possible to heat a pool as well, as the heater is part of the basic filtration system - and essentially, it doesn't matter where the returned water goes. In practice, and generally speaking, it is less common to find a heated pool compared to a heated jacuzzi simply because it takes much more energy to heat a volume of water that is five to twenty times larger than a jacuzzi.

7. Preparing for winter and cold weather

Despite what Brian Wilson and the Beach Boys may tell you, the summer is not endless and sometimes you'll have to close up your pool for the cold weather months.
In colder climates, when the temperature drops below zero degrees, it is crucial to be diligent in ensuring that the entire underground plumbing system is completely free of water. If water freezes in the ground, it will cause the pipes to burst and allow water to leak into the surrounding soil around the pool. If this happens, be prepared to spend a significant amount of money on repairs.

Follow this step-by-step guide and you won't have to worry about the winter:

1º Backwash the pool filter, drain all filter tanks, turn off all cartridge filters and vacuum all filter connections to ensure that all water has been removed.

2º Turn off the pool pump and filter. Once again, ensure that there is no remaining water in the pump.

3° Loosen all pipe fittings of your filtration system to ensure there is no water accumulation or freezing.

4° Completely remove the skimmer baskets and store them in a safe place.

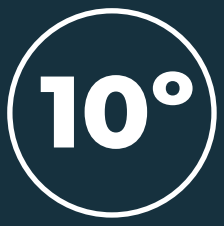
5° Connect a vacuum to the fittings of the tubing in the filtration system. Pump out all the water from the return pipe system first: when you see air bubbles forming in the pool water, you'll know the pipe is clean. Seal the water returns tightly against the pool wall.

6° Do the same for the skimmer baskets and the vacuum port. Winter plugs are specially designed accessories for winterizing skimmer baskets and should be used to plug the skimmer drains.

7° Pump out all the water from the main drains. Since it is not convenient to directly connect the main drains in the pool, quickly plug the main drain pipes in the filter area. This should create a tight seal, preventing most of the water from entering the underground main drain pipes during the winter.

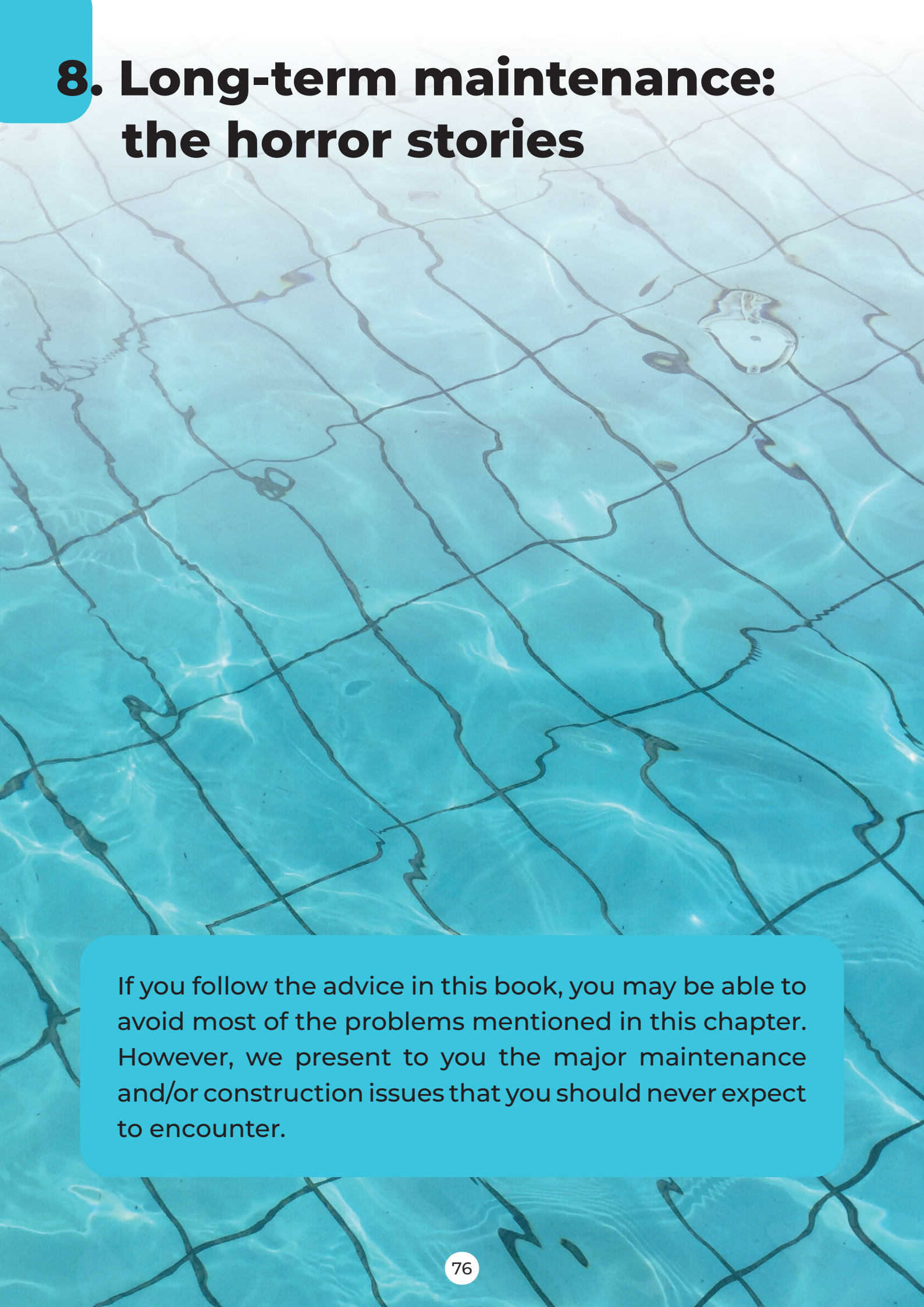
8° After all the drains are closed, add winterizing chemicals (available at a pool supply store) to the pool water. Be sure to also add a shock treatment, as to keep the pool safe, you'll need to maintain a very high chlorine level in the water (ideally around 3 ppm, or triple the normal level of combined chlorine).

Cover the pool with a winter cover. If your pool cover has torn during the summer, don't take any chances – replace it!



Keep an eye on your pool cover during the winter. If water accumulates on top after a rain or for any other reason, make sure to clear the water. Pool covers can start to corrode due to stagnant water and may warp at the edges, making it impossible to keep the pool water as warm as needed.

8. Long-term maintenance: the horror stories



If you follow the advice in this book, you may be able to avoid most of the problems mentioned in this chapter. However, we present to you the major maintenance and/or construction issues that you should never expect to encounter.

8.1 Unevenness

As we briefly mentioned in the first chapter, pools are subject to the stress of the soil surrounding them. To some extent, the pool basin resists this pressure by floating in the groundwater present in the excavated area of the backyard. This is especially true for fiberglass pools, which are essentially boat hulls with connected drains.

Usually, the weight of the pool water is sufficient to counteract this buoyancy on the pool basin. However, changes in the water table, evaporation of pool water or the need to drain the pool for an extended cleaning can cause the pool basin to shift in the ground.

In such a situation, you have two options:

Refill the pool and hope for the best (not the ideal option);

Call a contractor. You will need to remove the pool shell and modify the existing pool excavation to fit it as well as when the pool was initially dug.

While the pool shell is being removed, you can certainly check for leaks, signs of further wear and tear or any other details that may help identify and address issues before they become major repairs.

You can avoid this problem and the associated nightmares by following our advice and not attempting to install your own pool in the first place. It's also a good idea to keep the water level high and ensure you maintain the pH balance to prevent any corrosion.

8.2 Vinyl tears

It’s not the title of a 1980’s exploitation film; it’s a serious issue for owners of vinyl liner pools. As we saw in the first chapter, vinyl pools are highly vulnerable to damage from sharp toys, children or general wear and tear.

It’s important to inspect the liner of your vinyl pool at least once every one or two years to ensure there are no tears, cracks or anything else that could cause leaks and damage to the surrounding water table.

It is not a good idea to drain your pool more frequently than every few years, as it gives the soil a substantial advantage over the water and can significantly alter the shape and structural rigidity of your pool. However, emptying the pool to check for tears on the screen is indeed a good long-term idea. Walk around the inside of the pool and carefully inspect each surface for any signs of tears.

After doing that, refill the pool slowly, about thirty centimeters of water at a time. Let the pool sit for about an hour and observe if the water level decreases (don't wait longer than that as evaporation may drain too much water to make a clear judgment). If it doesn't, continue filling the pool. If you notice a significant drop in the water level after an hour, stop filling the pool and inspect the area closely for signs of air bubbles or other leaks. It's a good way to diagnose tears without wasting too much time.

If you find tears, don't attempt to patch them up. Otherwise, you run the risk of draining your pool more frequently to diagnose and fix leaks—and remember, the more times the pool is empty, the more damage can occur to the underlying structure. Do you really want to spend even more money rebuilding the entire pool? Invest a little more upfront and ensure that everything is done correctly.

It’s not as horrifying

And again, remember: the situations described in this chapter are horror stories, the worst-case scenarios. If you follow the maintenance recommendations diligently, ensuring that the pool was well built from the start and enjoying it responsibly, your pool will last for years—and you’ll have a piece of that easy life that is the reason why we all want pools in the first place. Even if they can be a headache.

CONCLUSION

Investing in a pool can be one of the best decisions to enhance the quality of life for you and your family. Besides providing moments of leisure and fun, having a pool at home also brings various benefits for physical and mental well-being.

However, before starting the construction, it is important to remember that a well-planned and professionally built pool is essential to add value to the property and improve the quality of life for everyone. Therefore, make sure to conduct thorough research and choose an experienced and reliable professional to ensure that your pool is built safely and efficiently.

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