



7 Secrets of Successful Swimming Pool Installation

Bluepools Ltd.

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THE SEVEN SECRETS OF SUCCESSFUL SWIMMING POOL INSTALLATION

APPLICATION

The seven secrets of successful swimming pool installation apply to both indoor and outdoor swimming pools.

Each design philosophy described in this paper is based on the application of the new technologies that have become available to swimming pool designers in the past 10 years or so.

They particularly apply to higher quality pools where the owners are determined to acquire a premium quality swimming pool and increase the value of their property. In comparison, fibreglass pool shells (salesmen may call them ceramic, but they are fibreglass) will always be depreciated by a pool surveyor due to their doubtful lifespan and usefulness for anyone thinking of buying the property.

Bluepools is uniquely experienced in every aspect of hi-tech swimming pool installation (including PC boards for Control Panels and Automatic Floating Covers). Wherever issues arise on a Bluepools project, a member of the design team will visit the site and provide a solution.

We provide highly technical expertise in every aspect of swimming pool design and the practical experience gained from the design and installation of a large portfolio of swimming pools and spa projects since 2002.



SECRET NO 1.

USE INSULATED CONCRETE FORMS TO BUILD THE POOL TANK AND POOL HALL WALLS OF AN INDOOR POOL.

THE OLD CONSTRUCTION METHODS

Cavity wall construction needs a team of competent bricklayers (as rare as hens teeth!) who will take at least 6 months to get the walls up to roof level. This makes the scaffolding very costly as it needs to be on site throughout this period. Furthermore, the bricklayers will charge between £1.50 and £2.00 to lay a brick and a lot more for the concrete block inner skin. Careful supervision will be required to make sure that the cavity batts are properly installed, and the brick ties are correctly spaced and cleaned off after bricklaying.

Timber frame construction also needs a team of skilled joiners. It will also take 6 months to get quotes for the frame, get it made and delivered to site.

Oak frames are occasionally used but these are not a sustainable solution because of the cost and the fact that it takes 200 years to grow an oak tree.

ICF is an absolutely ideal material for swimming pool hall construction because it is waterproof and the ICF leaves actually repel moisture – unlike brickwork that sucks it in. Furthermore, the walls can be built up to the roof plate in about 10 days, by a team of non-skilled workers.

POOL TANKS

Polyblok ICF forms made by Polysteel (UK) Ltd should be used for the basement, pool and pool hall walls up to eaves level because they are such a cost-effective way of building insulated retaining walls below ground and because structural frames will not be required to stabilize the pool hall walls against wind loading.

More and more pool builders are recognising that ICF is the best way to build a long-life swimming pool very quickly at low cost. Traditionally, pools have been built with dense concrete blocks laid on their sides. These are very heavy to move around the site, require bricklayers for installation and take a very long time to build and render.

POOL HALL WALLS

Pool halls are always long, relatively narrow building and this always results in walls needing to be braced by frames to resist wind loading. Because of their length at least four frames are required in most pool halls. The frames can be in structural steel (needing expensive corrosion protection) or glulam timber. Both types are very costly and increase the width of the pool hall by as much as 500mm to provide the space required.

The reinforced concrete ICF walls remove the necessity to provide such structural frames and provide the following:

- A very quick way of building retaining walls.
- Compliance with Building Regs through a BBA Certificate.
- Avoidance of the need for skilled shuttering carpenters.

- The insulation required by the Building Regulations.
- A very easy way to cast in the "Through the Wall" pool equipment such as water inlets and submerged lights.
- Very strong concrete walls because the concrete cures within the ICF forms in ideal conditions.
- The capability of having any type of finish applied to both interior and exterior.

VAPOUR BARRIER

The air in pool halls is very warm with a very high moisture content. Cavity walls and timber frame are very susceptible to being damaged by this environment and they need a vapour barrier to stop this occurring.

ICF walls repel moisture, and a vapour barrier is not required.

STRETCH CEILINGS

The easiest and cheapest way to provide a vapour barrier to the ceiling is with a "Stretch Ceiling". This hi-tech product can be installed in a day or so and is the Bluepools standard way of ensuring that the roof structure is never damaged by moisture. The stretched ceiling is made of PVC that is fixed on 4 sides and then heated with a hot air gun that makes the PVC contract.

The taut material looks great and can last for 20 years. If there is a moisture leak into the roof, it will condense and drop onto the stretch ceiling below. The ceiling will then sag telling the owner that there is a problem long before the moisture can damage the roof structure.

OUTDOOR POOLS

Outdoor pools do not normally justify the installation of an undercroft (See Secret No 2) because the pipework is buried under grass areas – although it is absolutely necessary to test all the pipework before it is buried.

But Polybloks provide another advantage in outdoor pools. Conventionally outdoor pools are provided with a 200 mm thick reinforced concrete slab over the whole pool floor area. This was required to ensure that there was no foundation movement that could cause the concrete block walls to crack and cause the walls to leak.

ICF pool walls can be built on a narrow 500mm wide lightly reinforced concrete footing around the pool perimeter. Due to the stiffness of the solid concrete wall, any movement in the footing will not cause any structural distress in the ICF wall. The height of the footing can also be used as part of the pool wall, reducing the height of the ICF required. But what about the water load on the pool floor you might ask?

This is not a problem because the weight of the soil removed will always be less than the weight of the water because the density of soil (approx. 18kN/m²) is about 80% more than the density of water. As a result, the pool floor can be covered with 50mm screed and the pool liner installed over a layer of geotextile on top of the screed without any danger of movement.

SECRET NO 2

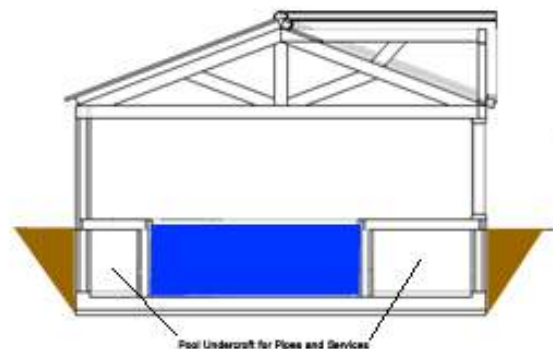
PROVIDE AN "UNDERCROFT FOR LONG-TERM ACCESS TO THE BACK OF THE POOL WALLS AND ALL THE CABLING / PIPEWORK

WHAT IS AN UNDERCROFT?

An Undercroft is a subterranean access way or store. They can be provided at no additional construction cost in an indoor pool by providing a flat concrete slab over the entire footprint area of the pool hall so that the basement walls and pool tank walls can be built on it. The void between the basement walls and the pool tank walls is covered with a beam and block floor slab that spans between the pool tank walls and the basement walls. This provides a structurally robust and insulated substructure. The "Undercroft" areas - as they are known - provide a safe accessible space for maintenance to all the ducting, pipes and cables. Most importantly, if there is a leak the pool floor will not need to be dug up.

Providing an Undercroft is particularly appropriate if a "Deck Level Pool" is intended (See Secret No 5). Most high quality pools are of this type because of the superior water filtration provided by a weir that runs around the entire pool perimeter. The gravity drains from the gutters can be easily installed in the undercroft together with the Balance Tank where they will always be easily accessible.

With an "Undercroft" it is easy to hang the air distribution ductwork from the beam and block floor of the pool hall and use diffusers in the floor to carry warm dry air onto the glazed areas so that condensation is entirely avoided. In many cases the whole undercroft can be used as the plenum chamber. The diffusers just take the air from below in the undercroft and distribute it over the internal glazing surfaces. Costly ducting is therefore avoided however the undercroft does have to be sealed off with airtight access doors.



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The Health and Safety of anyone who operates and maintains a swimming pool is of course of paramount importance. This is always best achieved when the pool pumps, filters and disinfection equipment are located at ground level and steps are not required for access. If the pool plant room area is extended over part of the "Undercroft" a smaller plant room can be provided with excellent long-term access to every part of the pool operating system.

SECRET NO 3.

USE AN IN-SITU VINYL LINER MADE BY ALKORPLAN OR SIMILAR MANUFACTURER

Tiling a pool is an outdated technique that is inappropriate now because a modern vinyl liner deck level pool will provide a far superior facility at significantly less cost.

CAN TILING BE FIXED TO AN ICF POOL WALL?

Yes it can – see the following image. But there are some considerations that need to be taken into account.

The tiled pool and hot tub in the following picture were built using PolyBlocs in 2018 and have been operating satisfactorily since then.



THE CONS OF TILING A SWIMMING POOL

1. Tiling a pool involves the following processes:
 - The application of a two-coat specialist render to form the water-proofing layer
 - Fixing the tiles to the render using adhesive
 - Grouting the joints using an epoxy grout to ensure longevity

Tiling always involves two specialist tradesmen for the render and the tiling. The tile adhesive and grout all come from different manufacturers and each needs to be applied to their exact specifications.

There are so many things likely to go wrong that builders will never provide a guarantee on the life of the tiling or to repair leaks. If there is a real problem with the tiling the client will have to pay for any remedial works.

2. New tiled pools frequently leak. It is always very difficult to find the source as the water can travel a long way behind the render before finding its way through the pool walls.
3. It is extremely difficult to clean any algae from the grouted joints if there is a problem with the pool water quality. The joints will also need to be re-grouted every 10 years or less.
4. Every year there are less and less tilers that have tiled pools before because of retirement and the number of pools that are now fitted with vinyl liners.
5. The rendering, tiling and grouting of a 10m x 5m pool will take at least 3 months and cost at least twice (probably x3) as much as a state of the art vinyl liner.
6. It is very difficult for anyone but a pool professional to tell the difference between a mosaic pattern liner and mosaic tiling.
7. In deck level pools (most modern quality pools are now deck level) then the tiling / liner cannot be seen above the water line. Therefore the supposedly better appearance of tiling has no benefit.
8. Modern Alkorplan liners are provided with a 10-year guarantee that is issued by a major international company. If it fails the pool will be reinstated without any argument.

So, the tiling of the ICF forms is technically possible but Bluepools recommends the use of in-situ Alkorplan vinyl liner because of the above reasons. And not least because the tiling can add £50,000 to the cost of a typical pool.

VINYL LINER POLYBLOK POOL

Two types of vinyl liner:

• ON SITE IN-SITU WELDED FROM 2M WIDE ROLLS

Two vinyl membranes are laminated with a core of a polyester mesh that provides great strength and durability, without losing the elasticity and flexibility needed to adapt to any shape or corner of the pool.

Reinforced membrane vinyl liners are the most widely used pool liners in the world. Nowadays, it is the most advantageous system on the market and the one to present the fewest problems. It's attractive appearance, reasonable price, fast and easy installation and absolute water-tightness, guaranteed for 10 years, have made it the most widely-used pool waterproofing system in the world.



• FACTORY MADE BAG LINERS

One single 0.75mm vinyl membrane without reinforcement. These liners are hung from a continuous liner lock fixed just beneath the pool coping. A vacuum is introduced between the liner and pool walls, the liner is then sucked and stretched into the pool corners, assisted by the water pressure. These liners have a 5-year guarantee on the liner material and 10 years on the joints. They are absolutely ideal for outdoor domestic pools where they will last a lot longer than tiling and cost about 1/4 of the price.



SECRET NO 4

INSTALL AN AUTOMATIC FLOATING COVER TO KEEP WATER HEATING COSTS UNDER CONTROL

In the past, pools were covered with bubble wrap covers that were pulled over the pool using ropes. This was a time-consuming and tiresome process that was often neglected and the consequent pool heating costs were astronomic.

Automatic Floating Covers will minimise running costs and the risk of drowning (by children, pets, stray animals and careless people).

Available for domestic indoor and outdoor pools, they can be mounted on an above ground axle at one end of the pool or on a submerged axle that lies in a protected box below the water surface.

THE BENEFITS

The benefits that these covers provide include:

1. Highest degree of safety possible because the actual pool surface is covered.
2. Conservation of water & energy by reducing evaporation to virtually zero when in place. Thus, substantially reducing the water supply & heating costs.
3. Maintenance of a constant water temperature overnight & during cold periods making the pool ready for use 24/7.
4. Pool remains cleaner & healthier, saving a substantial amount of time and effort in maintenance.
5. For outdoor pools during winter, the insulation provided by the cover will stop the water from rising above the critical algae blooming temperature (12-15°C) in warm winter periods when the pool is not in use.



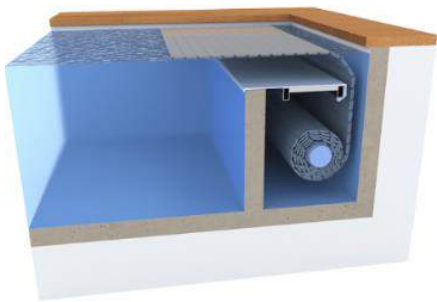
THE BLUEPOOLS COVERS

The automatic covers we **supply and install** are manufactured by [Aquadeck](#).

There are various [mounting options](#) available which allow covers to be submerged or above ground. We undertake the detailed design and supply all the many different components that the various options require. Automatic floating covers are complex and installation needs to be designed and supervised by Bluepools to ensure that the high cost of investment in the cover is justified by years of trouble-free service.

SUBMERGED

The submerged models are hidden, however they do reduce the length of the usable pool by about 1m.



Under Water Terrace

Their big advantage is that when the cover pit is covered by pool liner, the deck that is created can be used as a splash deck where adults and children can sit in the shallow warm water. The steps down into the pool can run down from the splash deck on one side of the pool.

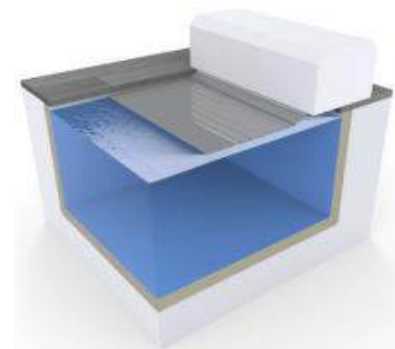


In the wall / In the bottom

If a splash deck is not required then the pool axle can be built into the wall at one end of the pool as shown in the following image:

ABOVE GROUND

The above ground models are not as attractive in appearance and are visually intrusive, but they cost about half that of a submerged model.



SECRET NO 5

INSTALL A DECK LEVEL POOL IF IT IS INDOORS AND A FREEBOARD POOL IF IT IS OUTDOOR



DECK LEVEL POOLS

In a deck level pool, the water flows over the coping stones and then across a grill or slot in the paving which allows the water to drop into a gutter below the grill. If there are 10 people in the pool they will displace about 750l of water that needs to be stored somewhere. It is for this reason that every deck level pool has a balance tank.

The water is collected from the gutter by a gravity drain and taken to the balance tank. It is pumped from there, through the filter and disinfection systems and returned to the pool by the water inlets. The extra equipment normally increases the cost of the pool by about £10,000 and can be more than this depending on the type of grill that is used to cover the gutters.

The design of the gutter and grill is complex with many different options available. The Bluepools expertise is needed to avoid mistakes that will be very costly to put right.

THE ADVANTAGES OF A DECK LEVEL POOL:

- There is a long weir and grill around the entire (or part of) pool perimeter that significantly improves the quality of the pool water as the continuous weir removes a lot more surface water than a couple of skimmers.
- Visually, a deck level pool is far more attractive because the water surface laps over the coping stones into a hidden gutter that carries it to the balance tank. In comparison, a freeboard pool has a vertical wall face about 150mm high that is prominently seen around the pool perimeter.



FREEBOARD POOLS

Traditional pools were all freeboard type pools where the pool water level is kept about 150mm below the coping stones around the pool perimeter. Water is taken off the surface of the pool by "skimners" that are normally white, between 300mm and 500mm wide and about 150mm deep.

Within the skimmer, there is a floating weir that maintains the same flow rate when the water level varies and is designed to remove and process the thin layer on the surface of the pool water where most of the debris and the pathogens that feed on it accumulate.

In an indoor pool, the gravity drain system from the gutter is accessible in the Undercroft whereas in an outdoor pool it has to be buried in the ground and the pool paving needs to be dug up if there is a problem with the pipework.

Furthermore, in an outdoor pool leaves and debris will accumulate in the gutter and if they are not frequently cleaned out then the gravity pipework with its very slow flows can easily get blocked up and need to be dug out for repair in the worst case.

SECRET NO 6

INSTALL AN INFRA-RED CELL AS THE PRIMARY DISINFECTION SYSTEM AND USE AUTOMATIC PH CONTROL AND LIQUID SODIUM HYPOCHLORITE SECONDARY DOSING SYSTEM TO MINIMISE POOL MAINTENANCE TIME AND KEEP THE CHLORINE CONTENT DOWN TO THE SAME LEVEL AS TAP WATER

ULTRAVIOLET RADIATION (UV) DISINFECTION

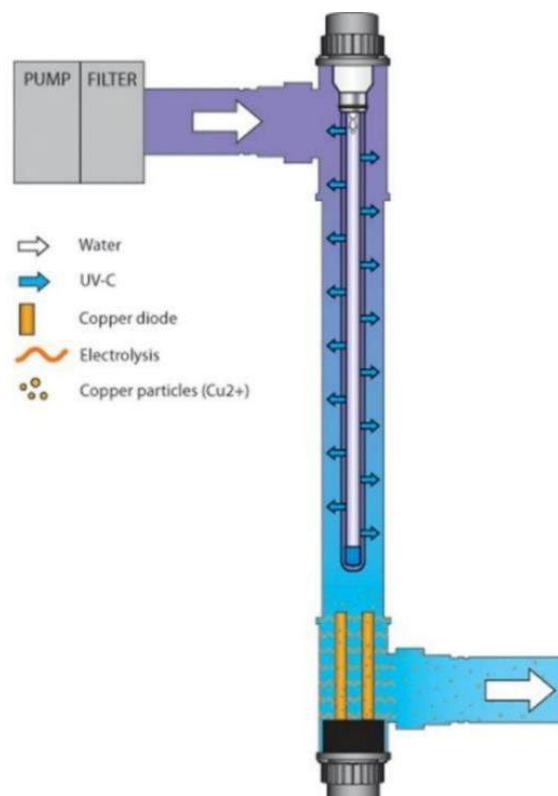
UV radiation is a very good disinfectant at the cell where the water passes in front of the UV light but does not create a residual disinfectant in the pool water and so some chlorine disinfection is still necessary to stop one bather infecting another.

It will also inactivate some organisms that are resistant to chlorine such as Cryptosporidium and Giardia. These cause a diarrhoea type illness that carriers can retain for weeks. Commercial pools deal with these by the addition of flocculant dosing that allows the sand filters to trap the particulates.

UV cells are an **excellent option for domestic pools** in this respect. They are not expensive and are easy to install in the piping system in the plant room.

The only drawback to UV water treatment is that the cell only works when the pool pump is running. Bluepools overcomes this by using a small pump which is run 24/7. The extra cost is more than compensated for by a large reduction in the cost of the chlorination chemicals required.

One of the biggest advantages of this approach is that the pool water chlorine content can be reduced to the same level as the water that comes out of your tap.



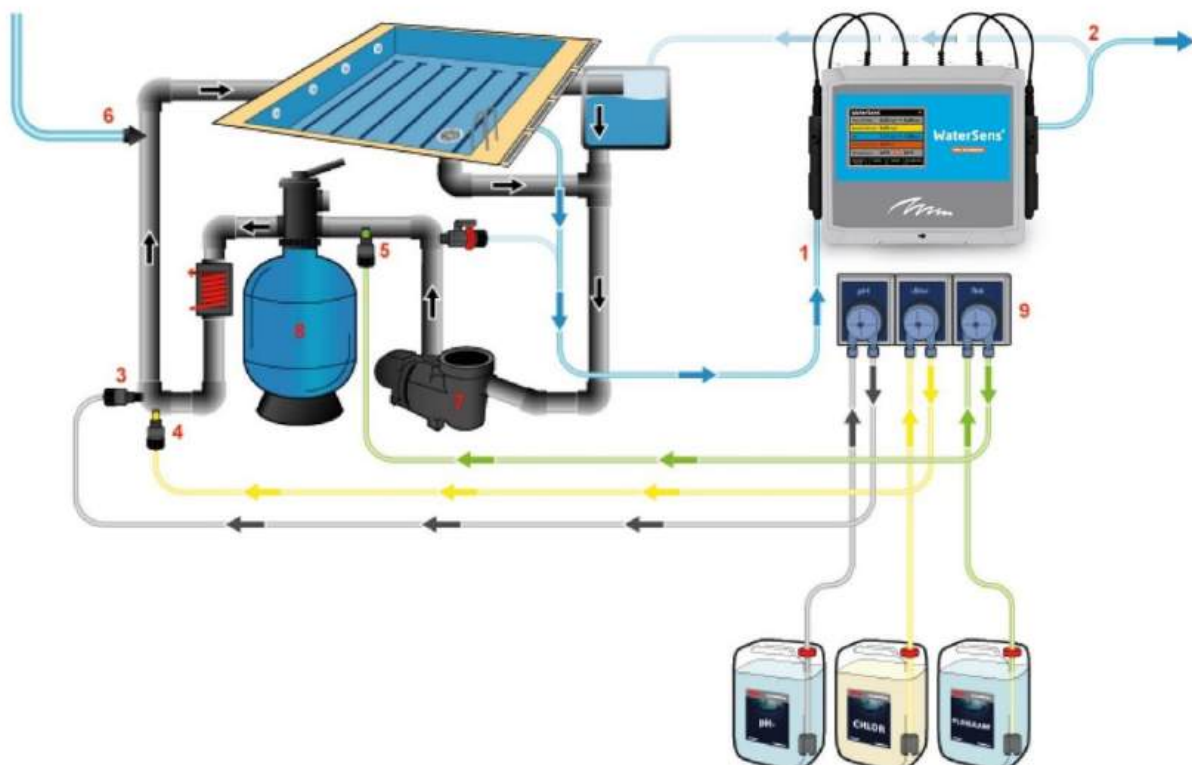
AUTOMATIC PH CONTROL AND LIQUID SODIUM HYPOCHLORITE SECONDARY DOSING SYSTEM

To ensure pool users do not transmit pathogens to the pool water, it is always necessary to maintain a small residual concentration of a secondary disinfectant (such as chlorine) in the pool. For public pools in most countries, this is in any case a requirement imposed by the regulatory public health authorities. The addition of a secondary disinfectant ensures the water itself acts as a disinfectant. In outdoor pools, this residual disinfectant is also required to stop the formation of algae when the pool water temperature rises above about 12°C.

Although the use of UV does not remove the need for a secondary residual disinfectant like chlorine, its total concentration in the pool water can usually be significantly reduced.

The effectiveness of chlorine disinfection when it is added to water is maximised when the water is neither acidic nor alkaline. In the UK, water is predominantly alkaline and needs the addition of dilute acid to obtain the required neutrality with a pH of just above 7. Bluepools uses a system that continually tests the water and adds small doses of weak acid to ensure the water is always neutral. The Bluepools system also tests the actual active chlorine content and injects exactly the right amount into the neutralised water to achieve a tightly controlled chlorine content.

Tap Water has an active chlorine content up to 0.8 parts per million and hence the Bluepools system that is designed to provide the same chlorine content will be indistinguishable from tap water.



SECRET NO 7

INSTALL AN INTEGRATED ENERGY MANAGEMENT SYSTEM USING PV CELLS TO MAINTAIN A VERY COMFORTABLE AIR AND WATER ENVIRONMENT AT MINIMUM OPERATING COST.

An Integrated Energy Management System (IEMS) using photovoltaic (PV) cells can balance the supply and demand of electricity in a swimming pool by using real-time and predictive controls. IEMS can help to:

- **Optimize energy consumption.** By monitoring energy production from renewable sources like PV cells, an IEMS can adjust consumption accordingly.
- **Improve reliability.** IEMS can integrate energy storage systems to store energy when it's not being used and use it later.
- **Reduce environmental impact.** IEMS can help to reduce the environmental impact of buildings by increasing energy efficiency and improving thermal comfort.
- **Solar-powered smart buildings.** This system combines a physical system with cloud-based control systems. The physical system includes PV cells, solar thermal panels, and a heat pump.

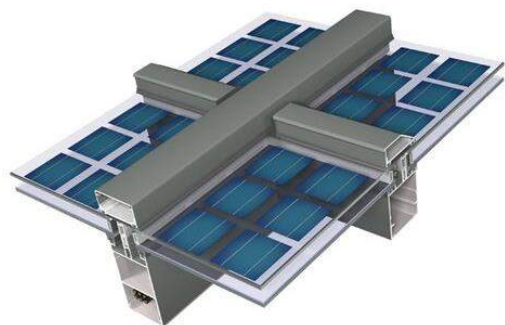
TYPES OF ROOF MOUNTED PV CELLS

There are two types of PV cells that can be used on the roof of a Pool Hall:

1. **Building Integrated Photo-Voltaic cells.** BIPV cells actually form the waterproof layer of the roof. BIPV roofs are quite costly but can provide a lot of power up to approx. 7kW per m².
2. **Photo-Voltaic cells.** Conventional PV cells are fixed above the tiles or slates of the roof with fixings that are designed to maintain the weatherproofing of the building.

WHAT ARE BIPV?

Building-Integrated Photovoltaics are multifunctional systems that generate electricity through solar cells, while serving as part of the construction. They can be a component of a building's envelope, integrated as roofing, wall cladding or even glazed surfaces. But BIPV can also feature in solar protection solutions such as sun screening and shading, canopies, balcony parapets and any other architectural element of a building.



OTHER EQUIPMENT PROVIDED BY BLUEPOOLS

COUNTER CURRENT UNITS

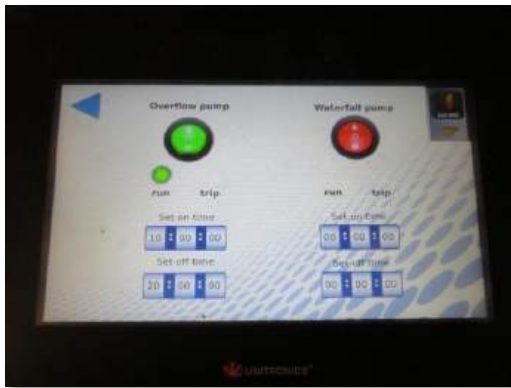
We can provide and install any counter current unit. The best value off-the-shelf unit for serious swimmers is the “Ultraflow” unit supplied by Paramount Pools. We can design and supply the equipment for a pumped system using conventional pool pumps. This can provide a wide stream of fast moving, water that provides the most realistic swimming environment.



FOUNTAINS AND LIGHTS

If you want fountains and lights to decorate your pool, we can provide anything that you can imagine to make your pool different.





ALL IN ONE CONTROL PANEL

We design and provide bespoke control panels for all of our projects. These are provided with touch screens and a menu based system that will allow you to control every single aspect of the pool equipment at one location apart from the automatic floating cover and the dosing systems that have their own panels for safety reasons.

SEDUM ROOFS

We can also provide sedum covered roofs.



ENCLOSURES

We can supply sliding enclosures and will design the necessary foundations for their installation.

GLAZED OUTDOOR POOL SAFETY FENCING

We also design and supply safety fencing with stainless steel posts and safety glass panels.



DRAWBACKS OF THE TRADITIONAL APPROACH TO POOL INSTALLATION

APPOINTING AN ARCHITECT

It is very difficult, if not impossible, to find an architect that has real in-depth experience of indoor swimming pool design and construction. As a result, when architects are appointed to carry out this task the results are always very disappointing.

Many indoor swimming pools are built as part of a leisure complex that might include a gym, cinema sauna, steam and cold plunge facilities. The air temperature in the indoor swimming pool will always need to be at least 10°C above the temperature of a gymnasium and 5°C above the comfortable temperature in a cinema room. This will require complex environmental control systems that must be taken into account during the initial design.

The layout of such complexes is always very difficult to design because the larger the building the greater the cost and so it is vital that space is not wasted in corridors and adequate room is provided for the pool plant and ducting. Most pool halls incorporate large areas of glazing, and it is vital that warm air curtains are provided in front of these to avoid unsightly condensation and very high pool running costs.

Very few architects have the skill or experience to design these complexes and as a result clients are often very disappointed at the final cost and quality of the installation.

APPOINTING A STRUCTURAL ENGINEER

The first mistake that many Clients make when commencing a swimming pool project is to appoint a Structural Engineer. They are trained on the basis that a swimming pool is a watertight tank that needs to be built in accordance with the Codes of Practice for concrete water reservoirs. This is only required in rare circumstances for swimming pools.

Swimming pool walls have always been built on the basis that the wall is just a structural element, and the waterproofing is provided with a special render or a vinyl liner. Pools designed by Structural Engineers as water retaining tanks always have very thick walls full of heavy reinforcement. This makes it impossible to install the water inlets, skimmers and submerged lights and the pool is extremely expensive to build.

Swimming pool halls are normally narrow buildings that are often x4 as long as they are wide. As a result, many engineer designed swimming pool halls incorporate structural steel frames or glulam timber frames that reduce the space available inside the building and increase the costs considerably. In pool halls built with ICF these frames are not required.

BASEMENT SWIMMING POOLS

Nowadays, many swimming pools are incorporated in the basement of a new build and planning consent will be gained as part of the overall project planning consent. However, the potential issues involved in building a swimming pool complex in a basement are even more problematic than building the same sized facility in an above ground pool in a pool hall.

Inexperienced structural engineers will incorporate the pool into the basement sub-structure and this is a fundamental mistake because it will mean that there is no access to the back of the pool walls after construction is complete. If there is any leakage from pipework, then the basement floor has to be dug up to repair the leaks and such leaks could affect the structural stability of the whole basement.

PLANNING CONSENT

Most indoor pools built in the garden will not require planning consent. However when they are required, it is crucial for the building to be large enough to accommodate all the client requirements as any re-submissions for planning consent are often very problematic.

QUOTES FROM LOCAL BUILDERS AND POOL INSTALLATION CONTRACTORS

After planning permission has been granted, it will be necessary to source quotations from local builders and pool installation contractors. This is when the problems often start because the pool installation contractors then find that the building designed by the local architect is unsatisfactory for all kinds of reasons (normally involving lack of space for pool plant and layout issues because of the environmental requirements off the pool hall, gym, cinema room etc).

In many cases, the issues are not properly resolved and result in an unsatisfactory project. It will often be necessary to revise the planning permission, and this will always be expensive and can waste many months.

CONSTRUCTION

Sometimes quotes from pool installation contractors are not obtained until the pool hall has been built without the space required for cabling, pipework, ducting and environmental control systems. When this occurs project will be delayed for a long time and the costs will be charged to the Client.

CONTRACTUAL ISSUES

It will be very difficult to persuade a building contractor to take on a pool installation contractor as a subcontractor because then it is the builder who will assume responsibilities for the pool. Consequently, two separate contracts are needed, one with the builder and the other with the pool installation contractor.

Pool installation contractors have a limited number of teams working on dozens of projects and so it is very difficult to arrange that they arrive on site when the builder is ready for their work.

Inevitably there are also various works that the pool installation contractor has excluded from his contract and needs to be carried out by the building contractor - again at the expense of the Client.

POOL COMMISSIONING

When the pool is being filled up there are invariably all kinds of commissioning issues and problems that the two contractors will blame each other for, leaving the client to pay for the inevitable costs. This is a time consuming and stressful process when the client should really be enjoying the new facilities.

SUMMARY OF THE DRAWBACKS OF THE TRADITIONAL APPROACH

To summarise, the primary drawbacks of the traditional approach to indoor pool construction are as follows:

- The projects suffer design faults that are never rectified.
- The projects always overrun the programme – sometimes for years.
- the projects always cost far more than anticipated at budget stage.

DESIGN & BUILD CONTRACTS

APPOINTING A DESIGN & BUILD CONTRACTOR

The modern alternative to the traditional method of construction described above is to employ one single contractor on a design and build basis.

The only contractors that will take on this role are experienced pool installation contractors and so it is not possible to use local builders who will always be a lot cheaper and probably provide better workmanship. Even if the pool installation contractor employs a local builder as a subcontractor the cost will always be higher because of the margin that the pool installation contractor will add.

The primary drawback of employing a pool installation contractor is that they will have a standard method of doing everything and the client will get very little choice regarding specification, layout and finishes. In other words, such projects are never custom designed simply because they are an off-the-shelf solution provided by the pool installation contractor.

CONSTRUCTION PERIOD

This method of approach has the advantage that the pool installation contractor is in control of the overall programme and is responsible for it. As a result, these projects tend to be built to schedule at the cost of questionable quality and very high cost.

CONTRACTOR BANKRUPTCY

There is no doubt that at the current time in the winter of 2024/2025 the big risk that Clients run is the risk of their pool installation contractor going bust. The workload in the industry has been steadily decreasing over the last 18 months and this is now resulting in a wave of bankruptcies.

Every one of these contractors rely on large deposits to keep trading and once the work dries up everyone that has paid a deposit will lose it.

THE DRAWBACKS OF DESIGN & BUILD

To summarise, the primary drawbacks of pool installation by a pool installation contractor are as follows:

- Little customisation choices on the pool specification and finishes.
- Very high costs & potential to go way over budget.
- The risk of bankruptcy and loss is currently very high.

THE BLUEPOOLS PROCESS

THE PROPOSAL

The Bluepools proposal will cover the design and construction of the pool from Concept to Completion. A break clause is included and comes into effect after the Concept Design Stage has been completed.

CONCEPT DESIGN

A site meeting will be held before commencing any design work to:

- Identify any constraints such as existing structures, site level changes, ground water levels and the location of utility services or trees that must be retained.
- Identify and fully understand the Clients Objectives.
- Describe the available options with respect to tiling, liner, pool depths, deck level vs freeboard, covers and heating and note your feedback.

Bluepools will then provide a Concept Design based on the site conditions, opportunities and constraints. The design is undertaken by our highly experienced Design Team using state of the art 3D software and incorporating all the latest and best swimming pool technology.

The Concept Design is presented in a multi-page Folio and incorporates isometric views, plans, sectional plans and sections that illustrate all the relevant design features.

The Concept Design is the core product that Bluepools provides as it incorporates the following:

- A very experienced Design Team with in depth knowledge of all State-of-the-Art pool equipment currently available in the UK.
- The use of full 3D design software that ensures buildability and provides the isometric views that Clients find so useful in envisaging the project details.

The Concept Design Folio is emailed to the Client and amended as required on an iterative basis until the final Concept is approved.

Bluepools will then provide an Estimate for the total cost of the facility including Detailed Design, Site Supervision and the Pool Equipment (including the supply of ICF for the structural work).

The Estimate is broken down to show the individual prices for each type of equipment as well as the design and supervision fees. Bluepools will also provide an estimate of the cost of builder's materials, construction plant hire and labour costs.

The client will then have a highly realistic estimate of how much the new facility is going to cost and can then decide whether to proceed or not. This gives the Client a very good estimate of what a custom-built pool will cost for a very modest fee.

DETAILED DESIGN, CONSTRUCTION & INSTALLATION

If the client decides to proceed with the project the following process applies:

Bluepools will provide a quotation for the Planning Application, Detailed Design, Site Supervision, Pool Equipment Supply and Commissioning of the project based on the documentation provided in Stage 1.

Once the Client has considered and accepted the quotation via email, Bluepools will prepare the Folio of drawings for the planning application (if required) and submit this on their behalf.

Bluepools will then undertake the detailed layout and structural design and provide a Folio of drawings for construction. This will include structural design calculations, steel reinforcement schedules, pool plant, pipework schematics and electrical schematics.

The Client can nominate their own builder for the execution of the works or Bluepools will assist in procuring quotations from local builders for the construction work, the PVC pipework and the electrical installation. The Client will then appoint the nominated firms to undertake the building works and the PVC pipework and electrical installation. All pipework and electrical installation work must be installed and tested by qualified plumbers and electricians with the appropriate certification.

In either case, it is an essential condition of this offer that an experienced builder is appointed to act as the Site Manager for Bluepools to liaise directly with throughout construction. The Site Manager does not need to have any experience of pool construction but must have at least 10 years' experience of supervising the construction of residential property. Bluepools will advise the Client throughout the construction period and also provides a "Help Desk Service" for the Site Manager and tradesmen.

The automatic dosing equipment, pool liner and automatic floating cover will be installed by Bluepools or a specialist sub-contractor.

The Builder will provide a Schedule of Works to Bluepools who will then provide the pool equipment on a timely basis so that work on site is not delayed.

Bluepools will visit the site at the following times to inspect the works and will provide a signed tabular report to the Client after every visit. The Site Manager will be required to provide Bluepools with at least 10 working days' notice of when each construction stage will be reached:

1. Base slab ready for concrete with floor outlets and associated pipework installed at the correct height.
2. ICF pool walls + Undercroft walls in place with the through-the-wall equipment installed.
3. Deck level gutter and Diffusers in place and ready for concrete/floor finish.
4. Pool equipment and pipework complete (The Electrician must test the electrical installation in accordance with the IEE regulations and the Plumber must water test the pipework).
5. Automatic cover installation.
6. Commission pool and install dosing system.

OPERATIONS MANUAL

After commissioning, Bluepools will provide a Comprehensive Operations Manual with full details of every piece of pool equipment. This equipment is always purchased from the catalogues of the primary UK pool wholesalers – Certikin, Golden Coast, Paramount Pools and Bosta and so spare parts will always be available.

THE ADVANTAGES OF THE BLUEPOOLS WAY

These include:

- A bespoke swimming pool that is exactly what the Client Wants
- State of the Art Technology and control of the equipment
- Very economic Capital and Operating Costs
- Minimal management input required from the Client
- A comprehensive Operating Manual

ZERO RISK OF LOSSES

Bluepools has no debt because all the pool equipment is purchased after the order from the Client has been placed and paid for. Bluepools does not employ site staff and so cannot lose money because the project has overrun its schedule.

CLEAR DIVISION OF RESPONSIBILITIES

The Bluepools way described above identifies two clear areas of responsibility as follows:

- Bluepools is responsible for ensuring every item of supplied pool equipment, the pool design and building works are suitable and fit for purpose.
- The Builder is responsible for the construction of the pool and pool building in accordance with the drawings provided by Bluepools and the current construction quality and safety standards.