

ABORAL
PISCINES

INSTALLATION MANUAL FOR POOLS

LA PISCINE DE VOS RÊVES



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AT THE SERVICE OF CREATION

INTRODUCTION

This set of specifications is designed to ensure the durability of your monobloc polyester pool, so it is essential that you meticulously observe all the plans and read the entirety of this document before installing your pool.

DÉFINITION

A monobloc polyester is a basin made of composite materials, created in a single block, potentially complemented with a spa, a staircase, or an overflow system, constituting the essential element of an inground pool. The monobloc polyester is an artificial, watertight basin in which aquatic activities are performed, and its water is filtered, disinfected and disinfecting, renewed and recycled, as well as all the equipment strictly necessary for its operation.

PRÉPARATION

● THE GROUND

The monobloc polyester must be installed in a stable, coherent, homogeneous soil, free of water and with sufficient bearing capacity. These qualities may result from the nature of the soil or from the work carried out. In case of uncertainty about the nature or homogeneity of the soil, it is strongly advised to carry out a survey (trench, auger, drilling...) at the very location of the work. The qualities of stability and coherence of the soil determine the importance of the backfilling to be done. Special attention should be paid to the quality of the subsoil and the drainage of water around the pool, spas, staircases, or overflow systems.

● MATERIALS

The materials recommended in this booklet must be used obligatorily, and should not be replaced by others that could destabilize the structure.

● LOCATION

Before starting the construction site, it is essential to precisely define the boundaries of the pool's location on the ground. Ensure that no electrical, telephone, irrigation, or drainage networks cross this location.



It is strongly advised to carefully establish a contractual installation document, dated and signed by both parties (installer and project owner). This document is attached to this booklet; it must be meticulously filled out and signed by both parties.

● Necessary Tools

- | | | |
|---|---|--|
| <input type="checkbox"/> Stakes | <input type="checkbox"/> Shovel | <input type="checkbox"/> Silicone applicator gun |
| <input type="checkbox"/> Mason's cord | <input type="checkbox"/> Rake | <input type="checkbox"/> Wire cutters |
| <input type="checkbox"/> Spirit level | <input type="checkbox"/> Construction level | <input type="checkbox"/> Wire line |
| <input type="checkbox"/> Aluminum ruler | <input type="checkbox"/> Plumb line | <input type="checkbox"/> Cordless screwdriver |
| <input type="checkbox"/> Laser level | <input type="checkbox"/> PVC saw | <input type="checkbox"/> Cutter |
| <input type="checkbox"/> Decameter | <input type="checkbox"/> Tape measure | <input type="checkbox"/> Grindind paper |
| <input type="checkbox"/> Mallet | <input type="checkbox"/> Wheelbarrow | <input type="checkbox"/> Plugs |
| <input type="checkbox"/> Pump | <input type="checkbox"/> Screwdriver | |

For information, 1 cm = 0.393701 inches

THE INSTALLER "Read and approved"

THE PROJECT MANAGER "Read and approved"
--

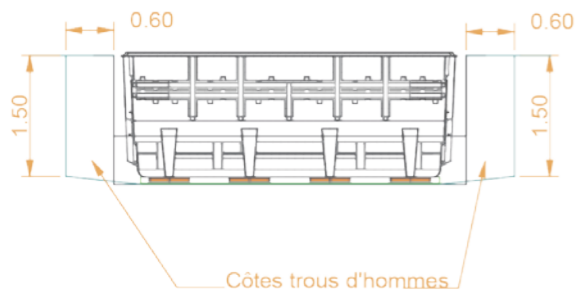
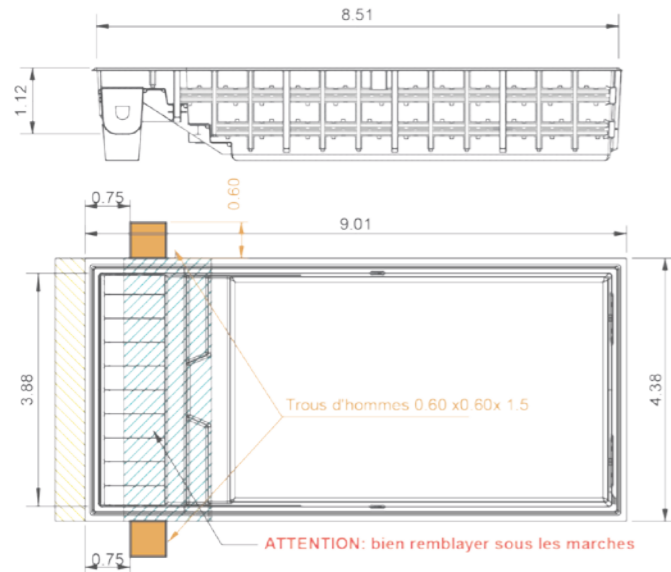
EXAMPLE OF A TECHNICAL SHEET FOR YOUR POOL MODEL PROVIDED WITH THIS MANUAL, IN DUPLICATE.

* "Custom Pool Model" leaflet

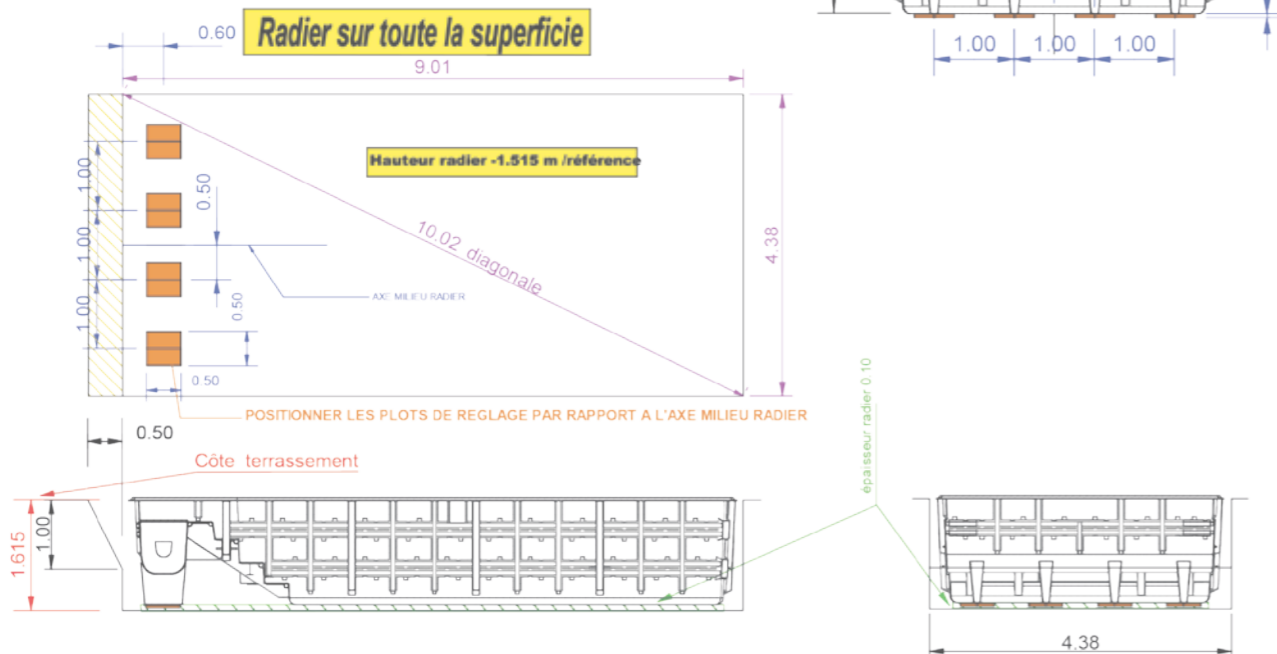
POOL LAYOUT

ECP SOLUTIONS EN COMPOSITE
FICHE TECHNIQUE
AKOYA 3.88 X 8.51m

Côtes de la piscine



Côtes de terrassement



N° de série

Notes



Indiquez ici les côtes d'altimétrie relevées après la pose de la piscine. S'assurer qu'elles correspondent au DTU concerné et qu'elles sont conformes au cahier des charges du fabricant Aboral®.

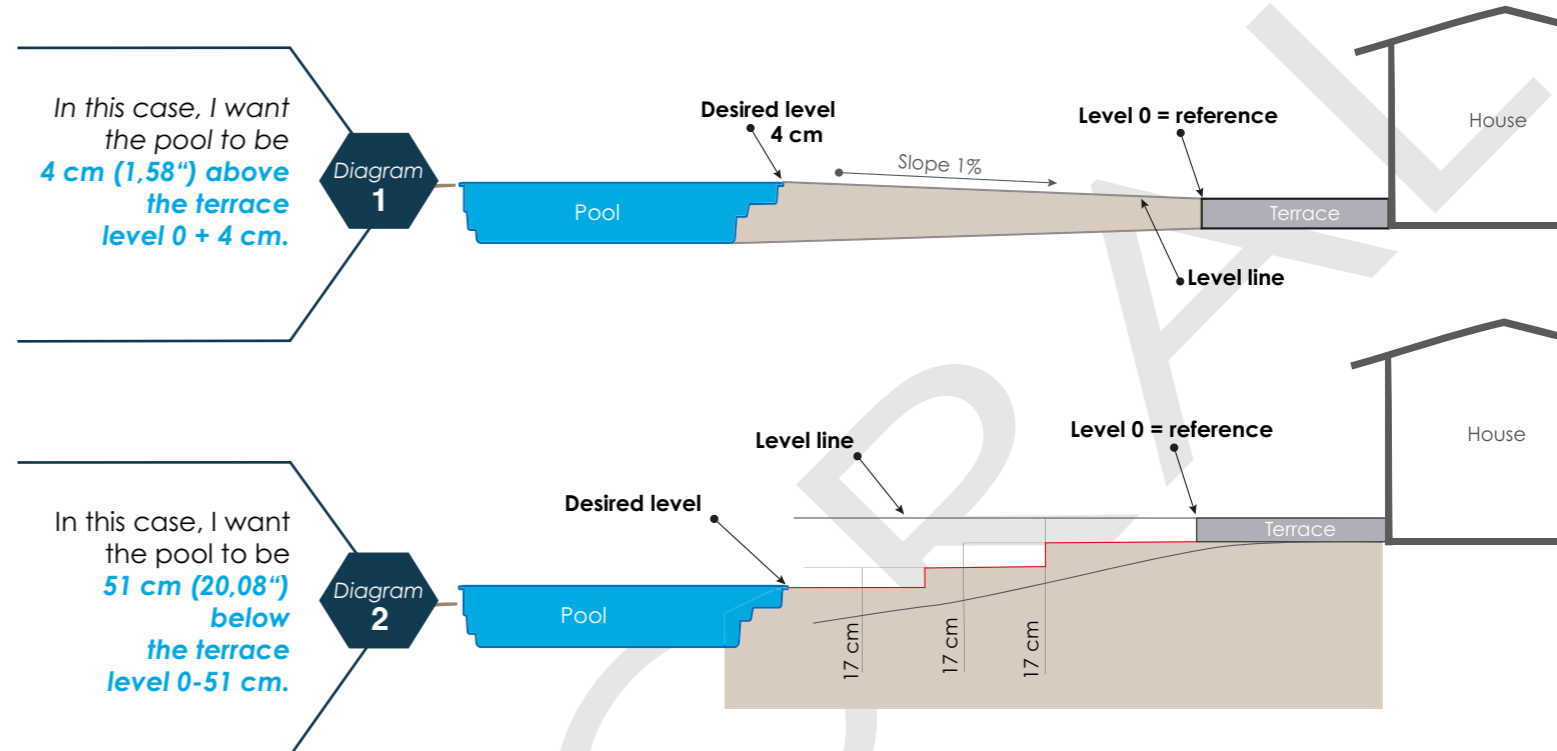
Signature Installateur _____ Signature Client _____
 Nom :

Date : _____
 Fait en double exemplaire.

1/CONCEPT OF LEVELS

Examples

Defining a **point 0** is the reference against which the finished level of the pool is defined.

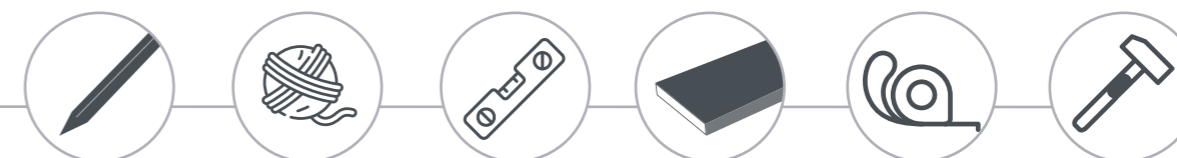
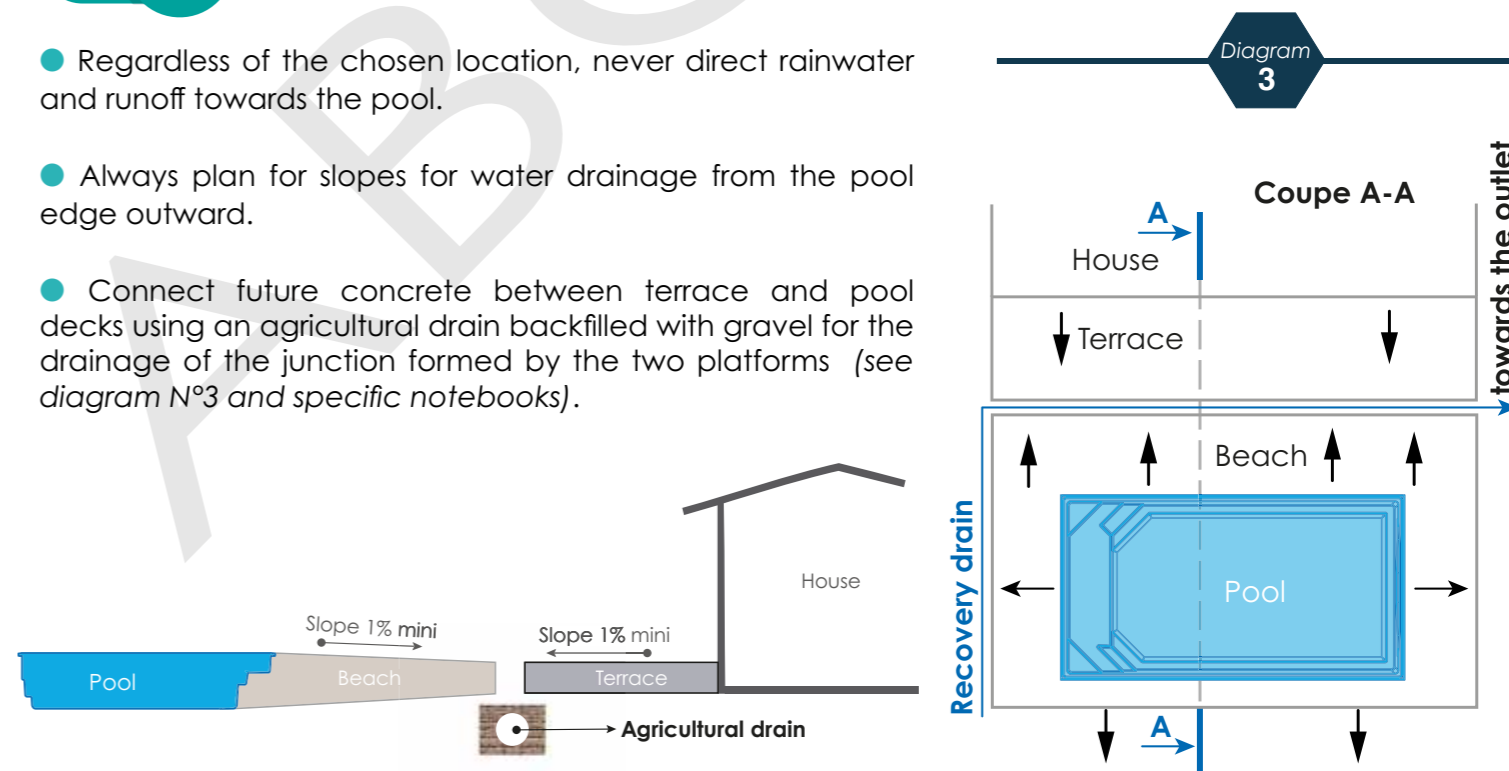


INFOS



- Regardless of the chosen location, never direct rainwater and runoff towards the pool.
- Always plan for slopes for water drainage from the pool edge outward.
- Connect future concrete between terrace and pool decks using an agricultural drain backfilled with gravel for the drainage of the junction formed by the two platforms (see diagram N°3 and specific notebooks).

Diagram 3



Necessary Tools

2/FOR A GOOD LAYOUT :

In the case where you want to refer to an existing building or fence :

- First, plant two stakes at an equal distance from the reference such as a terrace, fence, etc.
- Then proceed with the installation of the pool as indicated in the "Custom Pool Model" leaflet

In this case, I want my pool to be 1,60m (63") from my terrace.
Measure 1,35 m (53.15") from my terrace because the excavation is wider by 0,25 m (9.85") on each side to allow for later filling with gravel.

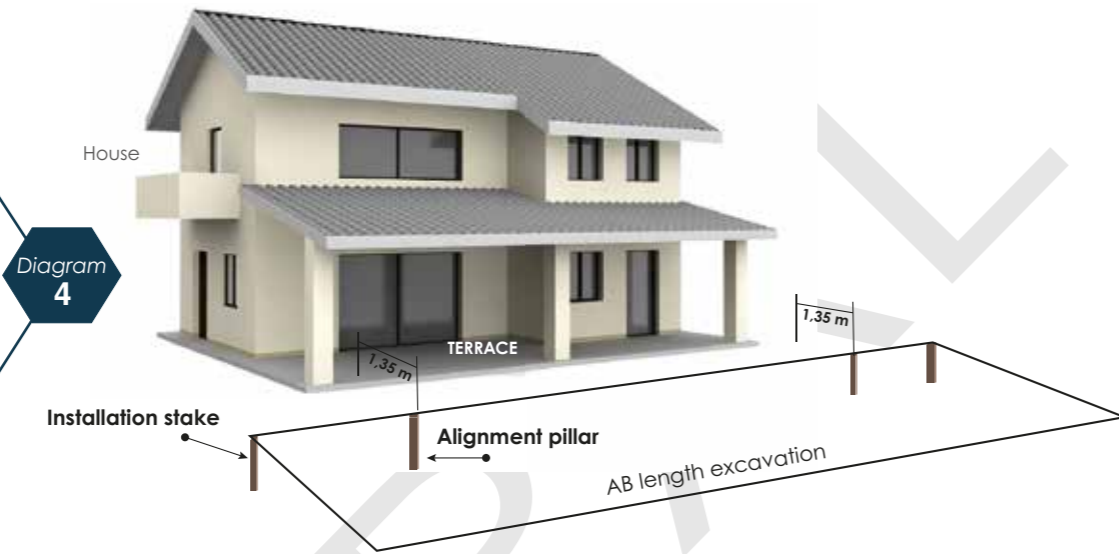


Diagram 4

3/LAYOUT PRINCIPLE FOR A POLYESTER MONOBLOC POOL :

Whatever the chosen shape, it always fits into a rectangle that must be traced on the ground.

INFOS ● To obtain a perfect rectangle, the diagonals A and B must be of the same dimension. This corresponds to a simple theorem called **the Pythagorean theorem: $a^2 + b^2 = c^2$**

Draw a perfect rectangle

(voir diagram n°5)

● **Example :** You have chosen a pool of 8,60 m in length and 4,10 m in width, the excavation dimensions will be 9,10 m in length, 4,70 m in width.

$a = 9,10 \text{ m} / b = 4,70 \text{ m}$
 $c = \text{diagonal to be determined}$

Simple calculation of the diagonal :

$(9,10 \times 9,10) + (4,70 \times 4,70) = 82,81 + 22,09 = 104,90$ soit 10,24 mètres

! The application of this technique is most often practiced in the construction trades; it is the most reliable for obtaining perfect right angles. Once this rectangle is laid out, the shapes of the pool according to the chosen model and in conformity with the "custom pool model" leaflet are then marked.

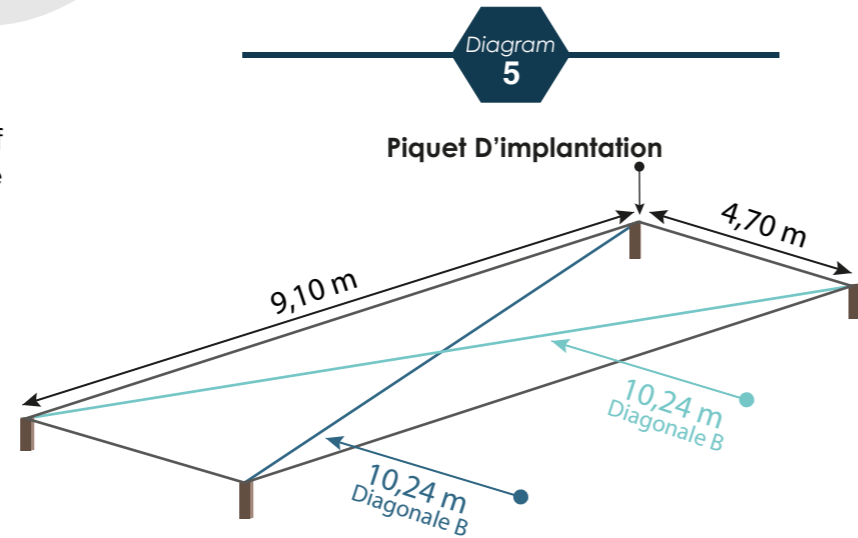


Diagram 5

1/Earthwork Respecting Depths

Follow the dimensions indicated on the "custom pool model" leaflet with great precision.

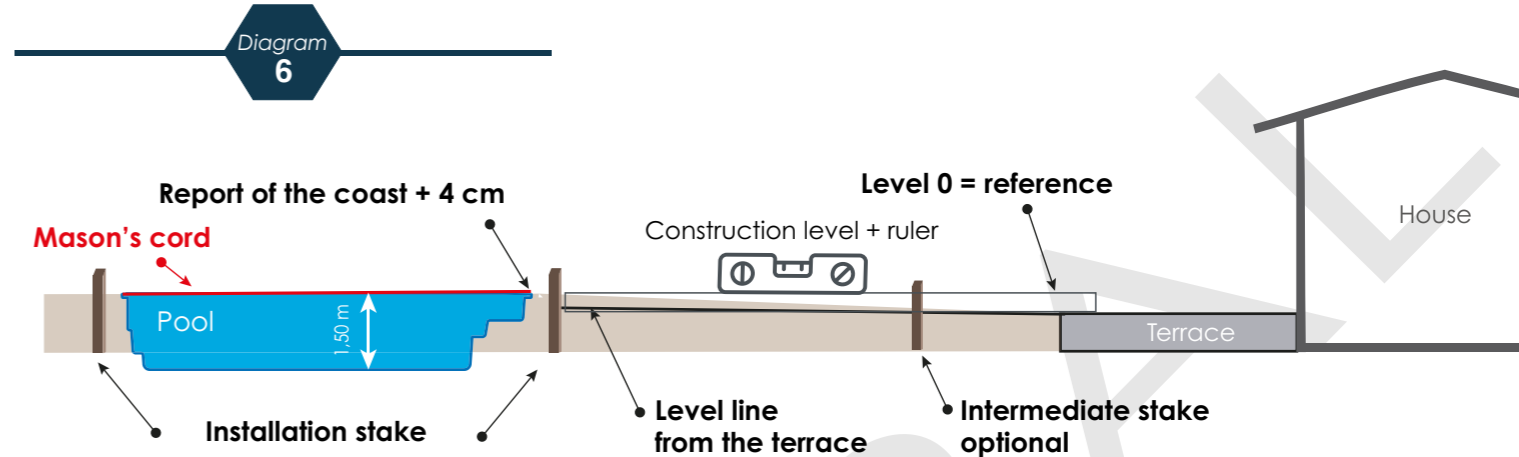


Diagram 6

2/Determining the Bottom Level

The bottom level is determined as follows :

● Transfer the terrace level using a ruler and a level on the installation stakes (plant an intermediate stake if necessary if the pool is far from the terrace).

● From this line, mark a point 4 cm (1.58") above with a bold pencil, then transfer this mark to the opposite installation stake.

● Monitor the progress of the excavation by measuring the desired depth from the mason's cord.

For the above example :
1,50 m (59.06") + 0,10 m (3.94") of gravel = 1,60 mètres (63").

INFOS ● For the above example, consider :
Shallow end = 1,00 m (39.38") / Deep end = 2,00 m (78.75")
Therefore, a difference of 1,00 m (39.38") is required between the shallow end and the deep end.
- **The shallow end** excavation level is therefore 1,00 m (39.38") + 0,10 (3.94") of gravel = minus 1,10 m (43.32") from the reference.
- **The deep end** excavation level is therefore 2,00 m (78.75") + 0,10 m (3.94") of gravel = minus 2,10 m (82.69") from the reference.

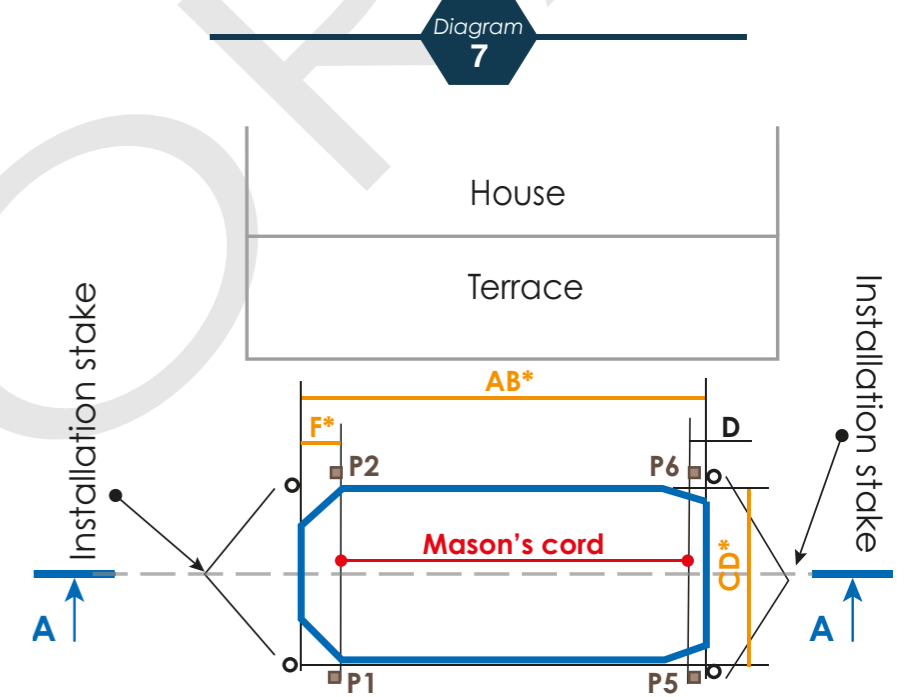
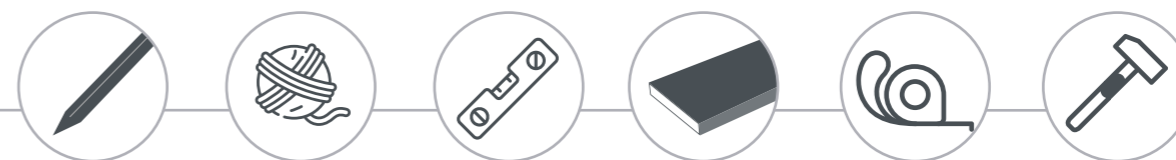
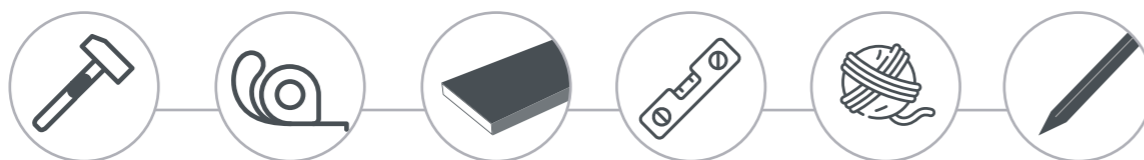
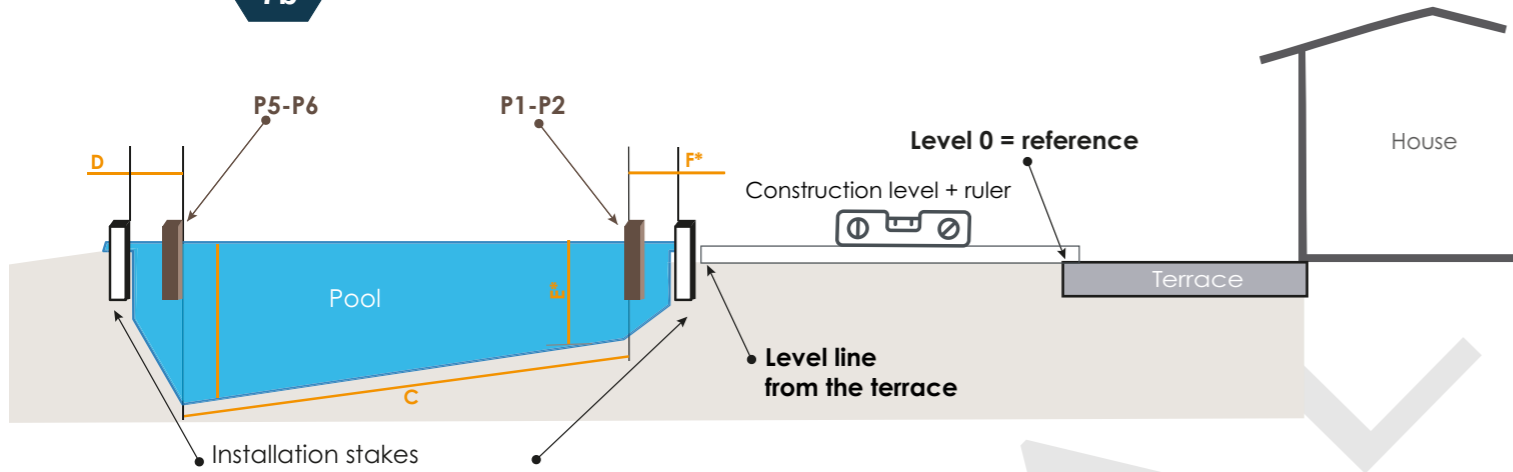


Diagram 7

*Dimensions of the earthworks plan from the "personalized swimming pool model" leaflet att: P1, P2, P5 P6 are the base reference stakes.





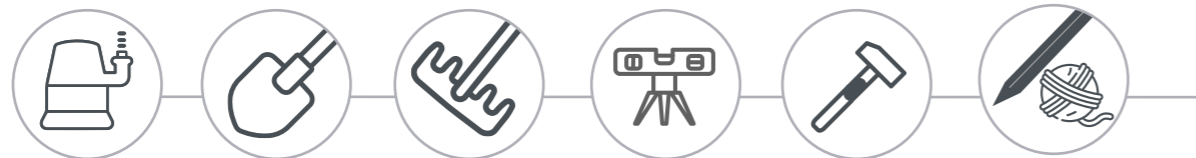
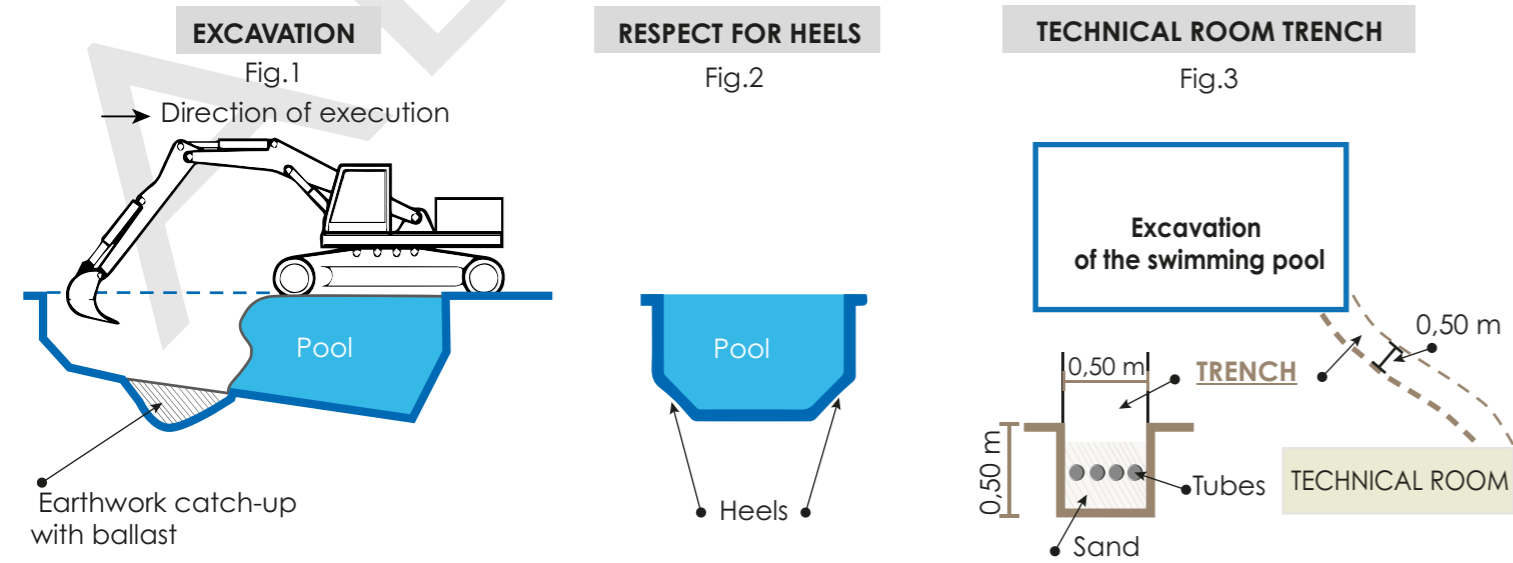
● In the case of a pool with a gradual bottom, proceed as follows for the reference calculation. To respect the slope, **one point for the shallow end and one for the deep end** should be referenced (see diagram n°. 7b). The dimensions AB, C, D, F are indicated in the "Custom Pool Model" leaflet.

3/Order of Execution

- In the case of a flat bottom, the order in which the earth-moving equipment operates is not very important. However, care should be taken that the equipment can find an outlet at the end of the earthwork.
- In the case of a gradual bottom, it is preferable, if the site allows, to start with the shallow end and progress towards the deep end (see diagram N°. 8 - Fig. 2).

Important: NEVER USE SOIL TO BACKFILL HOLES IN THE EARTHWORK ; fill these gaps with gravel or materials of a larger grain size if the holes are large (such as ballast) (see diagram n° 8 - Fig. 1).

● Respecting the heels is important, as it determines the amount of gravel and the stability of the shell. Consider having the trench(es) from the technical room to the pool excavated on the day of the earthwork; this will relieve you of tedious manual labor (see diagram n° 8 - Fig. 3 - 0,50 m (19,68").



4- In the Presence of Groundwater

In many cases, groundwater may appear during the execution of earthworks.

- To prevent this situation, a neighborhood survey is often sufficient to determine if there is water underground and in what quantity. Indeed, owners of drilling or wells can provide valuable information to prepare you before the execution of the excavation.
- In other cases, have a survey conducted by a specialized company (avoid dowzers, marabouts, etc...) who will indicate the exact nature of your underground.

Example of Pumping in the Presence of Water

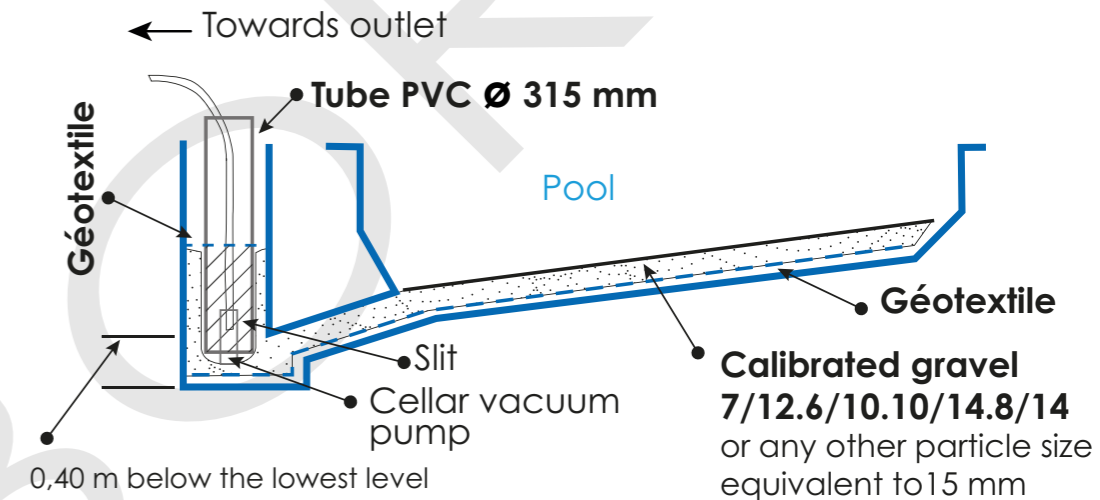
(see diagram n° 9 - Fig. 4)

● The decompression well is often made of a \varnothing 315 mm (12.21") PVC tube. This tube will be split at its base for better water infiltration.

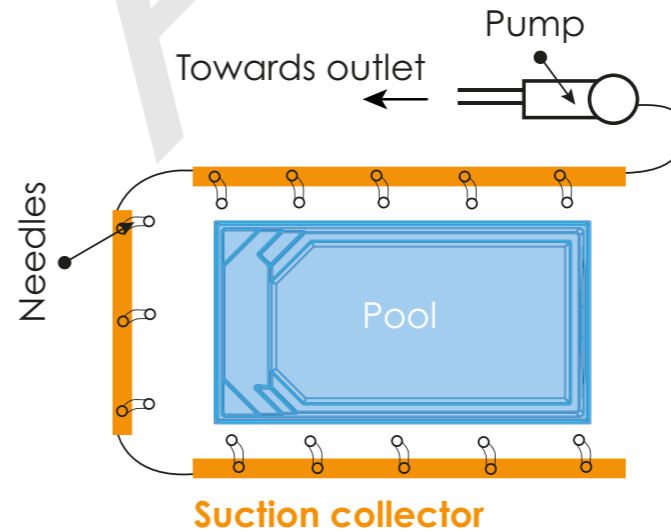
● This well will be surrounded by gravel and then sealed with a geotextile to prevent pollution by sand and other particles.

● This well will remain accessible for life and will allow pumping of the water table in case of accidental or voluntary draining of the pool.

Installation of a decompression well Fig.4



Case of a water table drawdown Fig.5



● This type of installation is suitable in many cases. When the water flow seems very intense, call a company that will install a water table lowering during the duration of the works. (see diagram n° 9 - Fig. 5).

THE BASE

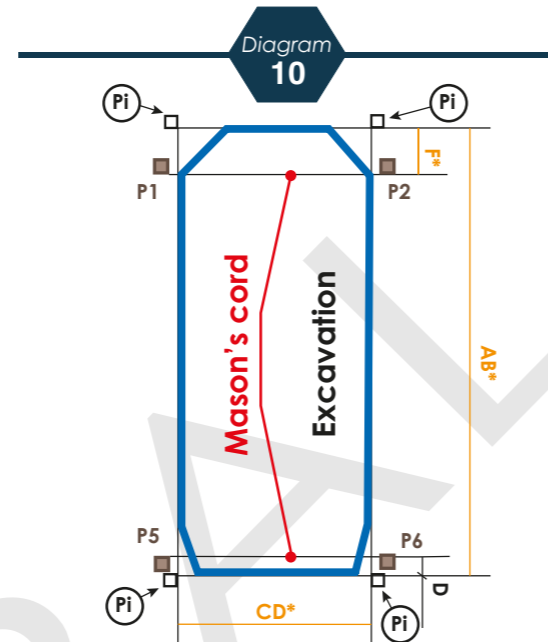
1/Placement of the Base in the Excavation

● To simplify understanding, we call the installation stakes Pi.

✓ Position stakes P1 and P2 according to dimension F from the earthwork plan, or position stakes P5 and P6 according to dimension D (the start of the base according to the earthwork plan) from the ground preparation plan following the order of excavation.

✓ Transfer the finished level dimension noted on the Pi stakes to stakes P1, P2, and P5, P6.

● The dimensions marked * are the dimensions from the earthwork plan in the "Custom Pool Model" leaflet.



2/Placement of the Base on the "STAIR" Side (see Diagram n°11)

● **T**Stretch a string line between P1 and P2.

✓ Using a plumb line, transfer the alignment of this string line to the bottom of the shallow end excavation.

✓ PPlant stakes P3 and P4 at an equal distance from the edge of the excavation following dimension X.

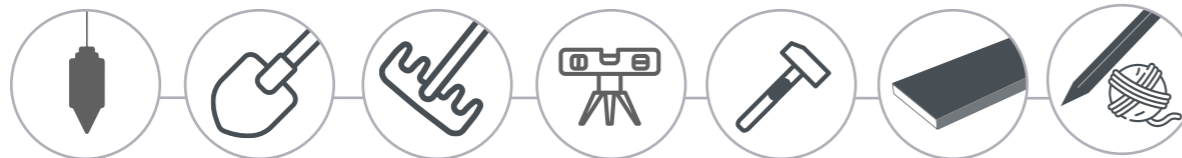
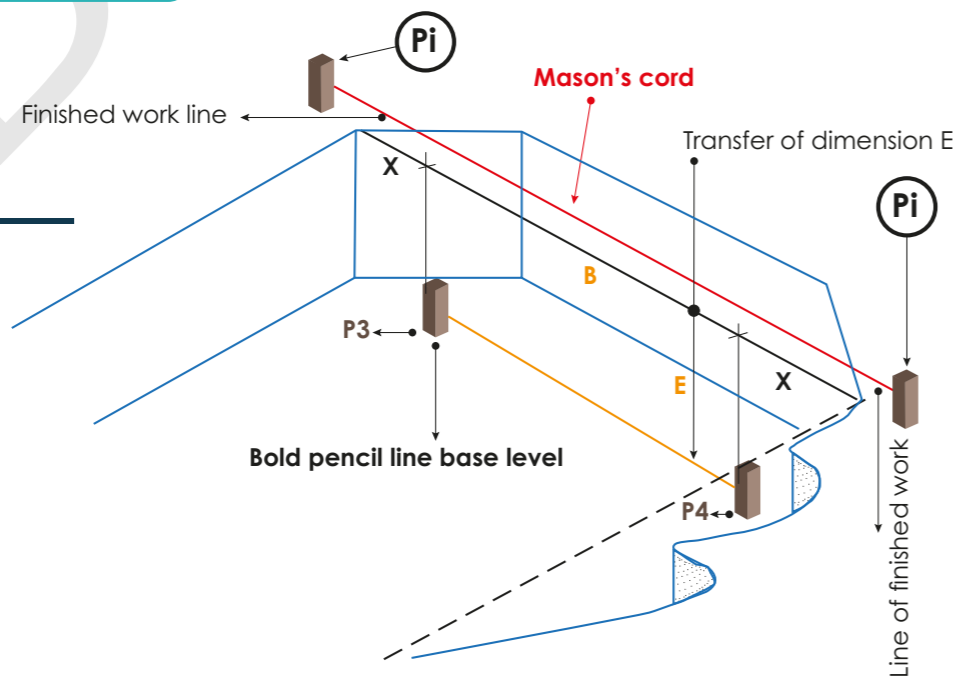
● Dimension X is determined based on the width of the pool as follows :

$$X = \frac{\text{width of the pool} - \text{width of the base}}{2}$$

✓ Using a tape measure, measure dimension E from the ground preparation plan and mark stakes P3 and P4 with a bold pencil.

✓ Perform the same operation for the placement of stakes P7 and P8 and the transfer of dimension F from the ground preparation plan (string line between P5 and P6 new stakes P7 and P8) if you started the excavation on the deep end side.

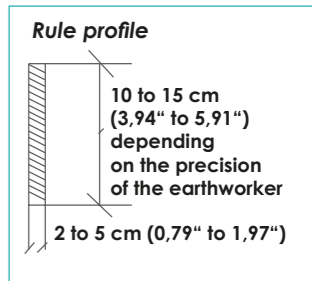
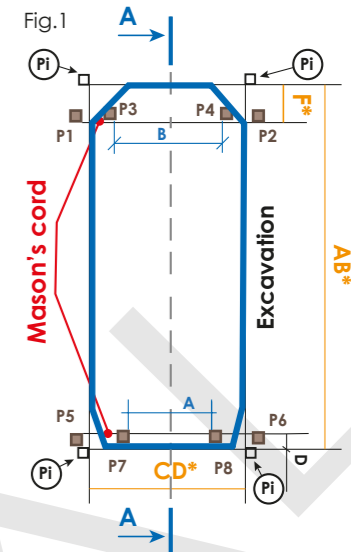
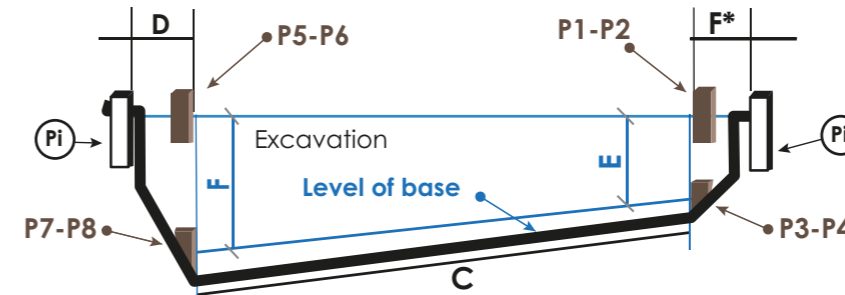
Diagram 11



● The completed installation should resemble the diagram below. (see Diagram No. 12 - Fig.1 & Fig.2)

● Note that the installation of a base for a flat-bottom pool is simplified; it is sufficient to obtain the same dimension across the entire bottom.

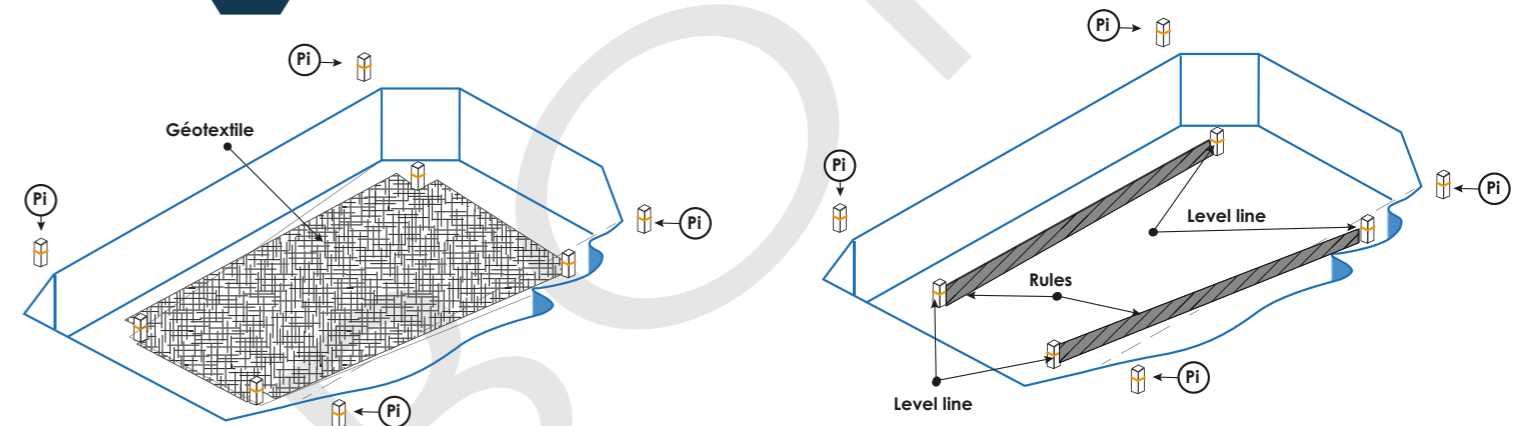
Diagram 12 Section A-A Fig.2



3/Installation of Geotextile

Equip yourself with aluminum or wooden rulers (straight) with a rectangular profile.

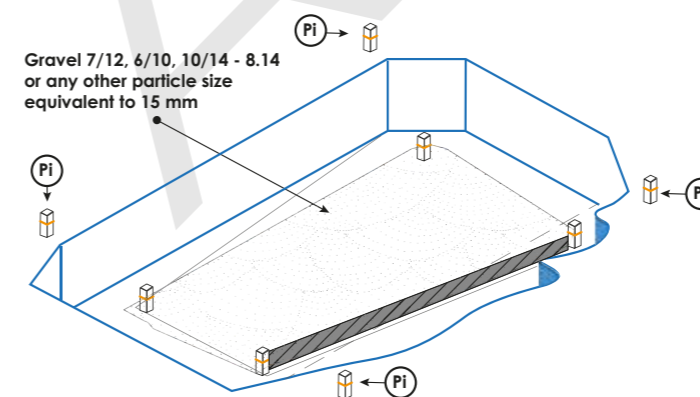
Diagram 13



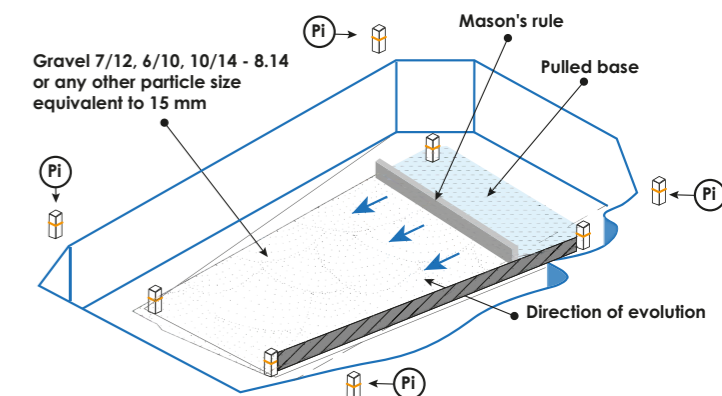
● Lay the geotextile on the ground, stretched tight without wrinkles.

● **OPTION** : in the presence of sandy soil, plan to lay it around the perimeter of the excavation.

● Place the rulers at the level of the markings made on stakes P3, P7, and P4, P8.



● Lay the gravel between the rulers, leaving it slightly higher by 2 (0,79") to 3 cm (1,19").



● Then pull with a mason's ruler from top to bottom, resting on the rulers.

The base is complete, gently remove the rulers and stakes to avoid damaging the base.

POOL INSTALLATION

1/Introduction to PVC Plumbing

- The assembly of PVC components is most commonly done by gluing.
- Before each gluing, it is necessary to polish the pieces because their shiny appearance from demolding prevents the adhesion of glues.
- After polishing, the surface must be stripped with PVC stripper.
- Glue both parts with PVC adhesive.
- Assemble by firmly holding the two pieces together for 30 seconds.
- Wipe off any excess glue with a clean, dry cloth (see Diagram No. 14 - Fig.1, Fig.2 & Fig.3)

Diagram 14

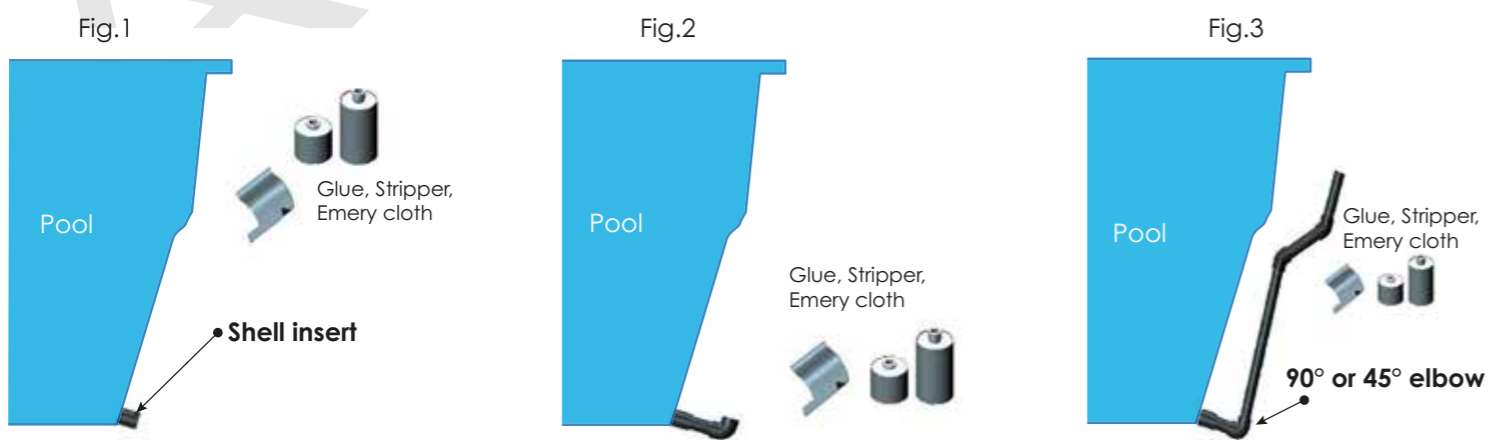
We will call this method the "PCSG method" = Polish, Chamfer, Strip, Glue. This mnemonic formula will help to remember each step in gluing.



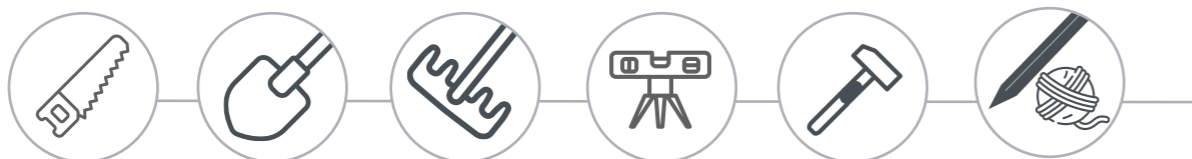
3/Connection of the Bottom Drain

Diagram 15

Before installation in the excavation, it is imperative to connect the bottom drain. This operation cannot be done afterward for accessibility reasons (see Diagram No. 15 - Fig.1, Fig.2 & Fig.3).



Necessary Tools



- Note that there are 2 outlets on the shell. Use the one closest to your technical room, the second is equipped with a grid: it's the "decompression drain".
- Apply the "PCSG method" and screw the fitting onto the shell insert (the fittings may be smooth fittings requiring a simple PVC sleeve).
 - ✓ Proceed to assemble the different elements and then glue them to the shell insert..
 - ✓ Hold for 30 seconds.
 - ✓ Plan the connection of the outlets by performing the same operation.
- The pool can then be installed in the excavation.

4/PLUMBING KIT

Suitable for connecting a pool whose technical room is located a maximum of 4 meters (157,48") from the filtration location.



5/Level Control

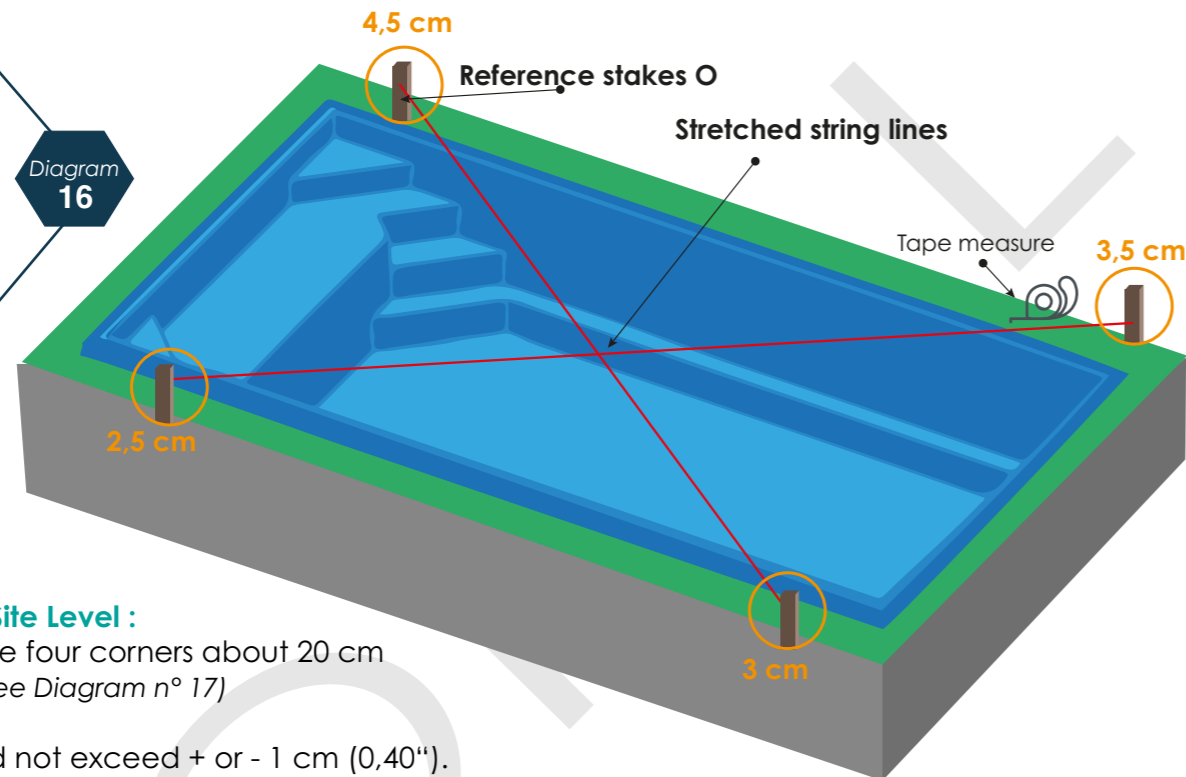
A/Measurement with String Line :

- Stretch 2 string lines between the reference 0 stakes (see Diagram n°. 16).
- Measure with a tape measure the differences between the string lines and the corners of the pool.
- The differences should not exceed + or - 1 cm (0,40").

In this case, the differences do not exceed 2 cm, so the result is correct.

GOOD RESULT

Diagram 16



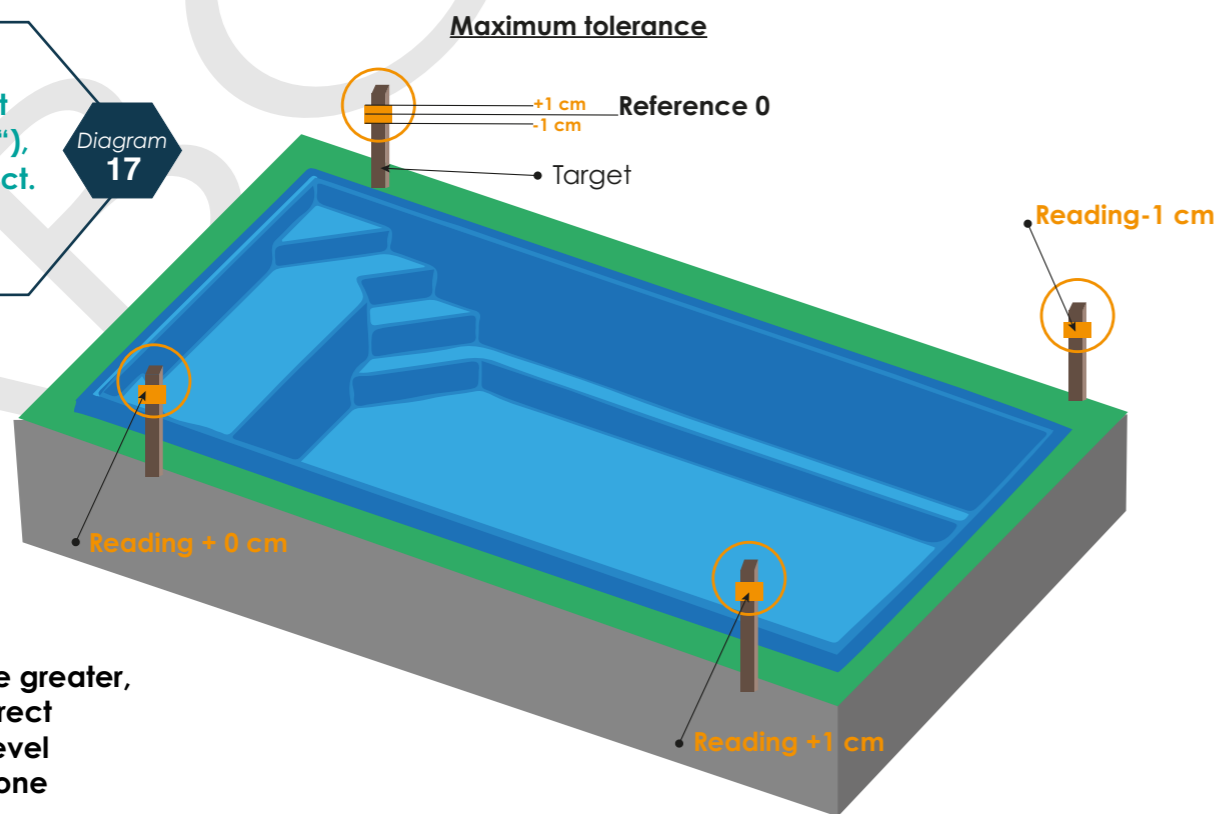
B/Measurement with a Site Level :

- Place the target at the four corners about 20 cm back from the corner (see Diagram n° 17)
- Note the differences.
- The differences should not exceed + or - 1 cm (0,40").

In this case, the differences do not exceed 2 cm (0,79"), so the result is correct.

GOOD RESULT

Diagram 17



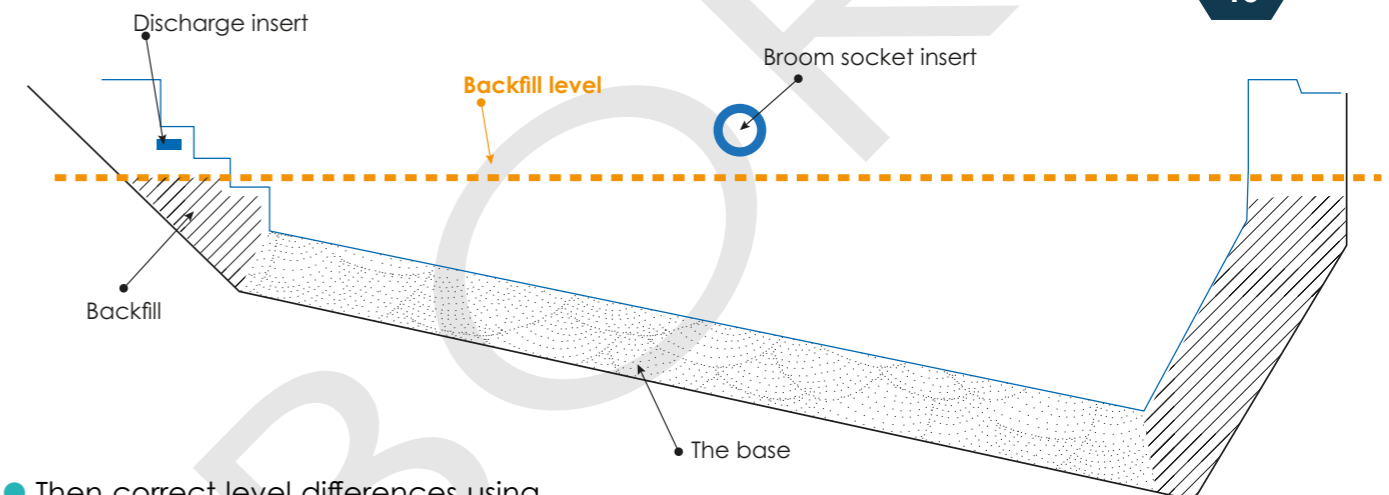
If the differences are greater, lift the pool and correct the base: the final level correction will be done during backfilling.

1/Shimming the Four Corners of the Shell and Preparation for Backfilling

- Inject gravel regularly into the four corners of the pool (see Diagram n°. 18).

⚠ Set up props and/or tensioners at this stage (see Diagrams n° 23 to N° 27)

- Do not exceed the level of the plumbing inserts (see Diagram n°. 19).



- Then correct level differences using a lever (such as a 80x80 batten) while compacting the gravel along the walls, so that it fits under the pool's reinforcements (see Diagram n° 20).

INFOS

The differences should not exceed + or - 1 cm (0,40"). The maximum correction difference is 1 cm (0,40").

⚠ An excessively raised angle will be impossible to lower

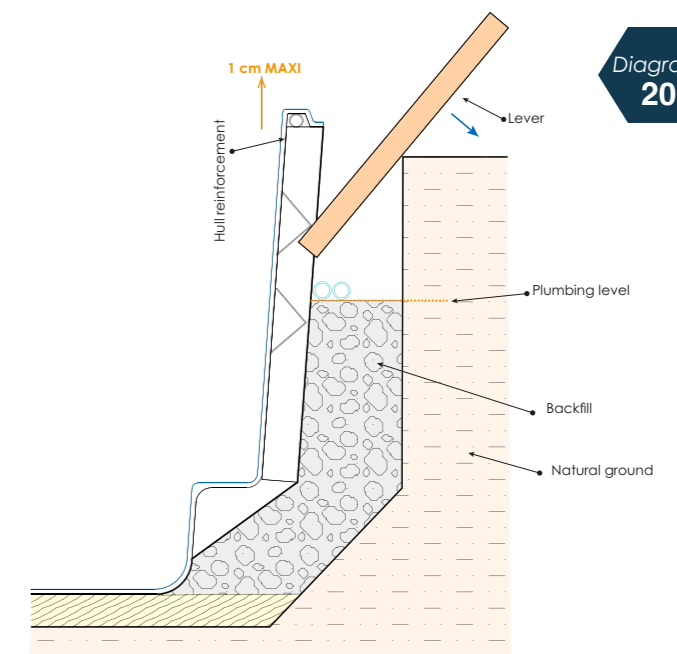


Diagram 18

Diagram 19

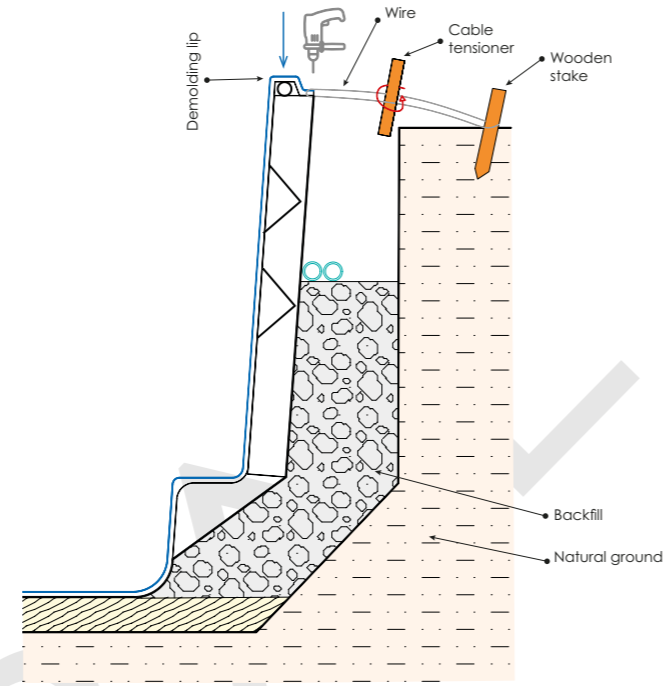
Diagram 20



2/ Installation of Wall Tensioners and Props

Diagram 21

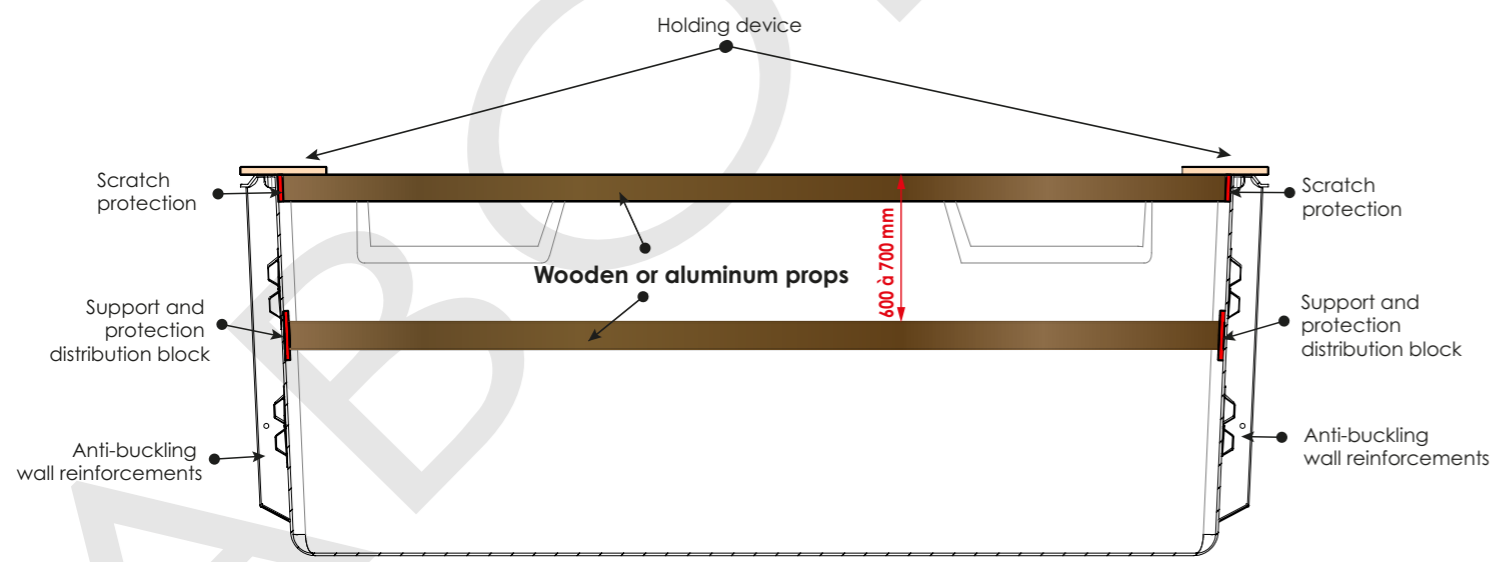
- When gravel is in place, it exerts strong pressure on the walls. To avoid deformation, **strategically place wall tensioners or props**. The intermediate distance between the tensioners and/or props should not exceed 2 meters max (78,74") (see Diagram n° 21).
- The number can vary from 2 to 4 tensioners and/or props per wall. It is imperative to place at least one on the wall of the deep end.
- For this, use wooden stakes and wire (preferably galvanized).



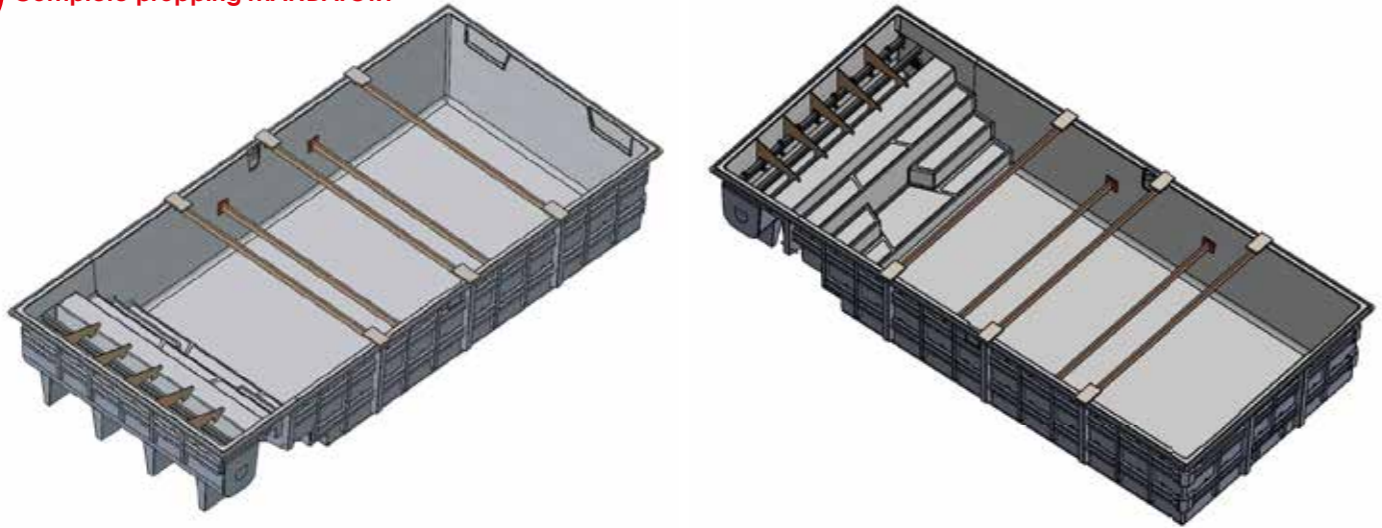
⚠ This operation must be performed when the pool is blocked at the corners and devoid of backfill on the sides.

Diagram 22

Pool without peripheral sidewalks

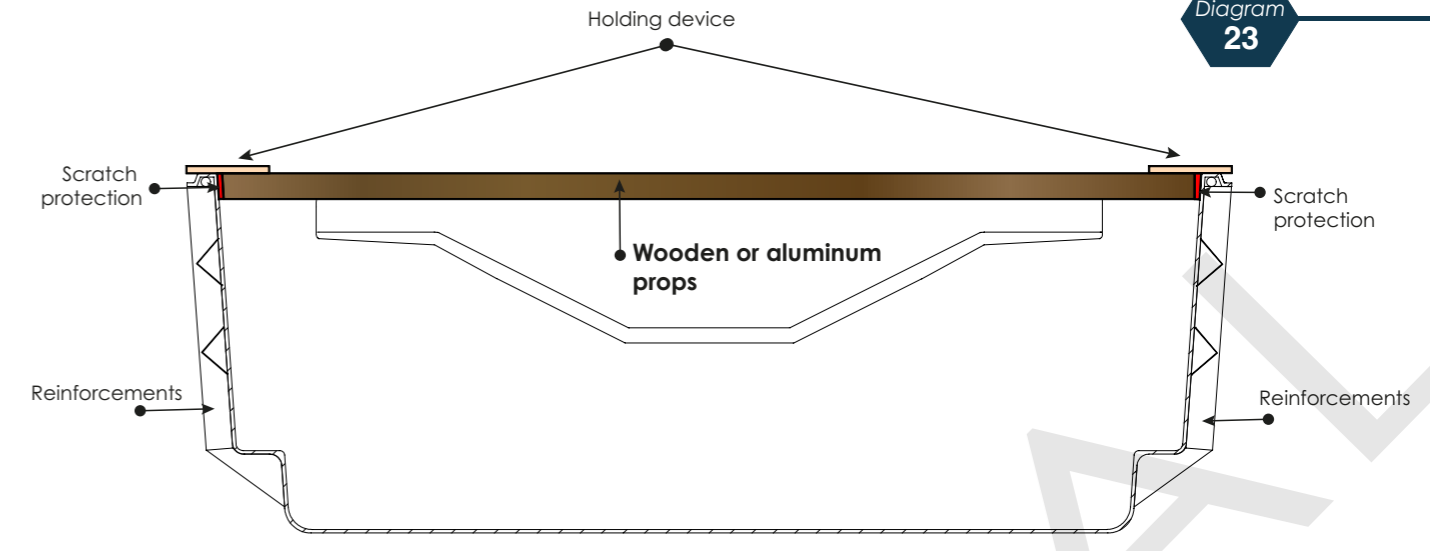


⚠ Complete propping MANDATORY



Pool with Peripheral Sidewalks

Diagram 23



3/Filling the Pool

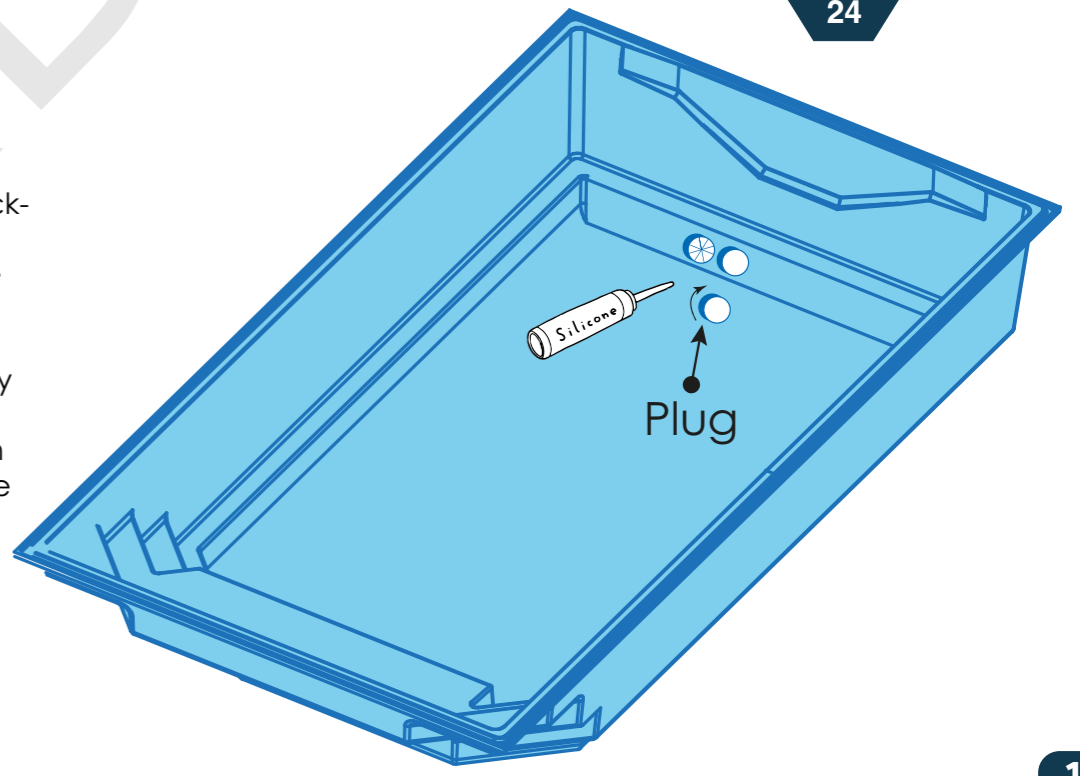
- When your pool is delivered, the closure plug of the safety drain is already in place or in the plumbing kit.
- Remove the plug.
- Clean with a dry cloth.
- Apply polyurethane sealant to the plug at the thread. Tighten the plug firmly by hand and reapply sealant on the outside of the plug to ensure perfect sealing, unless the plug has an o-ring.
- After this operation, start filling the pool without waiting for the sealant's drying time.

⚠ It is imperative to leave the plug open after installing the basin if backfilling is not done within the following hours.

INFOS

- This operation should only be performed if the wall backfilling is completed on the same day. fait dans la même journée.
- Otherwise, leave the safety plug open, it will allow decompression of the shell in case of a nearby water table or storm (see Diagram n° 21).

Diagram 24



4/Completion of Pool Backfilling

- Once the tensioners and/or props are in place, finish backfilling the pool up to the level of the wall penetrations. The backfill must be at the same height everywhere to accommodate the plumbing (see Diagram N°25).

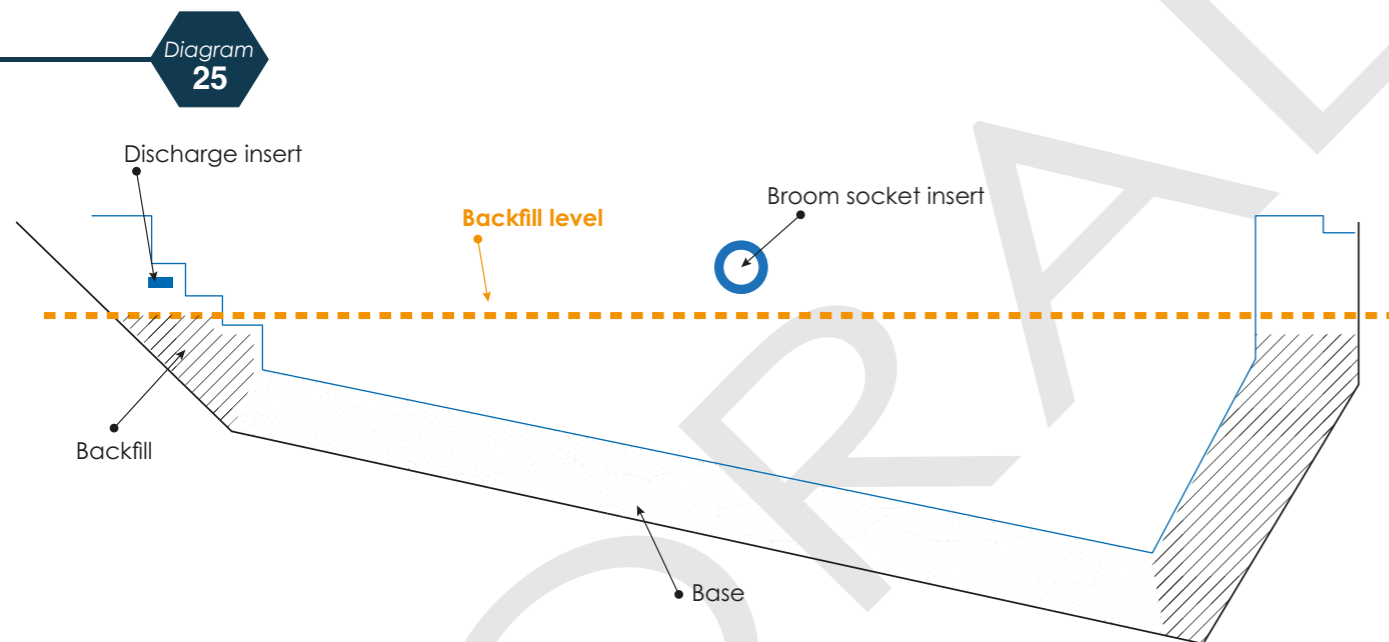
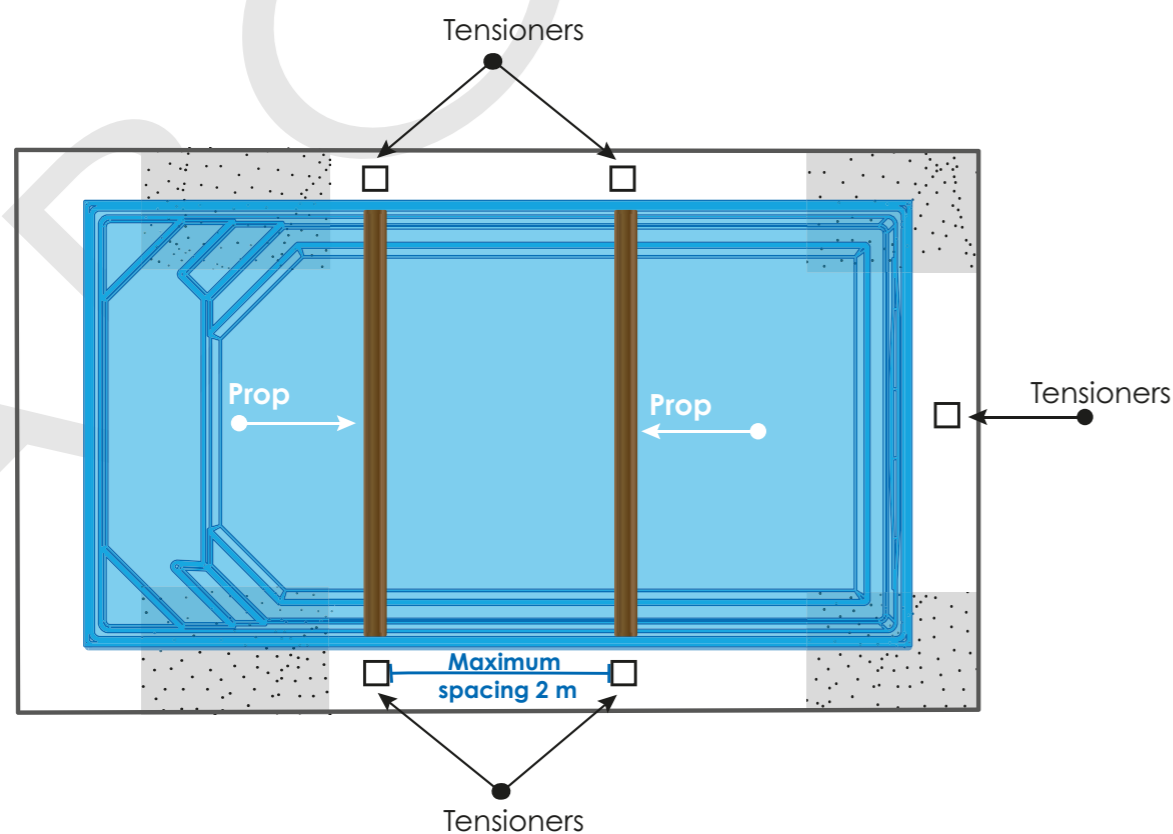


Diagram 25



3/Installation of the Pool and Setting up the Skimmer(s)

- The number of skimmers can vary from 1 to 2 depending on the pool model. The skimmer location cutouts are made by the factory.
- Clean the shell at the skimmer application area with a stripper.
- Apply sealant to the skimmer. Position the skimmer flange (using the provided stainless steel screw).

- Present the skimmer and tighten it. Apply one screw at each corner of the flange, tighten (not too strongly) to center the skimmer. Once centered, put in all the other screws and tighten firmly.

Once centered, put in all the other screws and tighten firmly,



without stripping the screw threads (see Diagram n° 26).

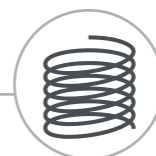
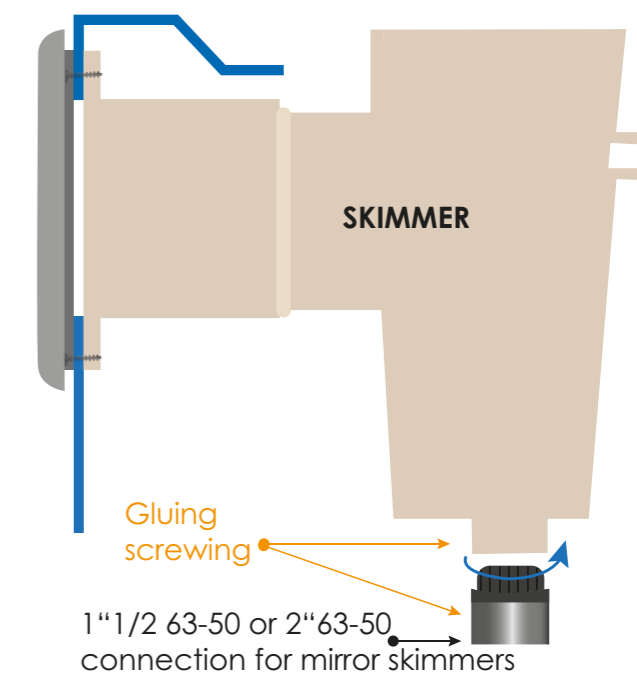
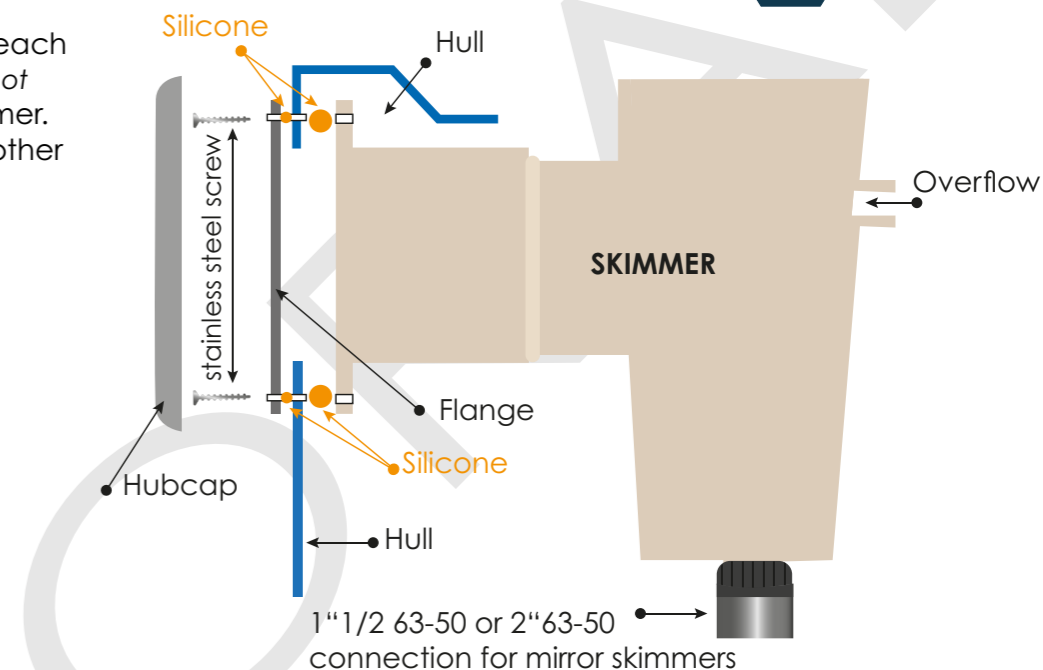
4/Assembly of Skimmer Nozzles

- Obtain a 1" 1/2 63-50 connection nozzle or **under the mirror skimmers**, a 2" 63-50 connection.
- Assemble everything using the PCSG method (see Diagram n° 26). It is advisable to perform this operation before installing the skimmer.

5/ Connection of Two Skimmers

- Measure the center-to-center distance between the two sleeves (see connection leaflets)

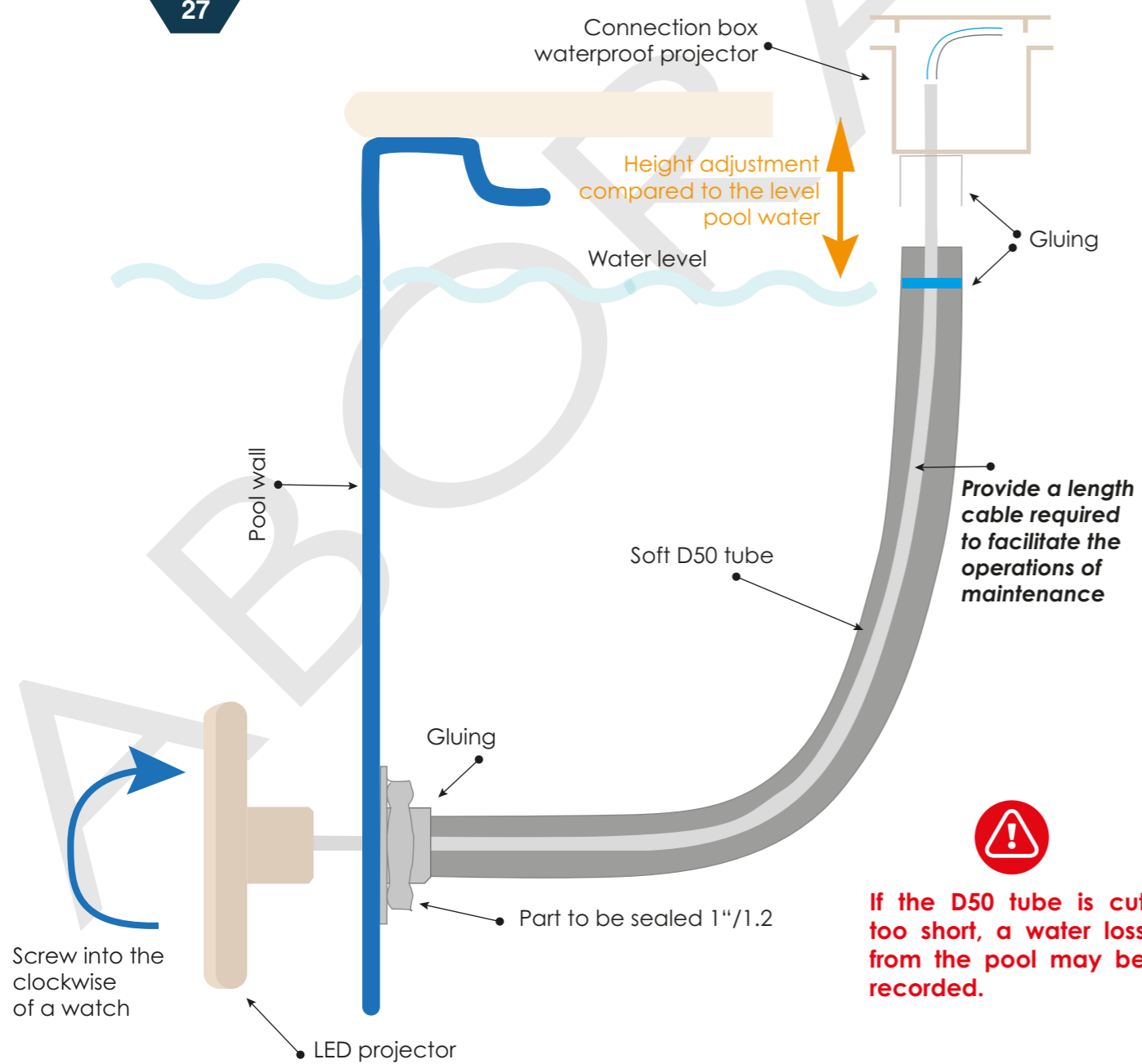
Diagram 26



6/Installation of the Projector

- A 1"1/2 wall pass-through is provided by the factory for the installation of the projector.
- Remove the plug present on the sealing unit. Then pass the electrical cable through the sealing unit and screw in the projector
- The seal will be achieved through a "wet conduit" setup.
- Strip and glue a piece of flexible Ø 50 PVC to the back of the sealing unit and bring it up to the pool water level.
- Glue the projector connection box to the upper part of the pipe for connection. (see Diagram N° 27).

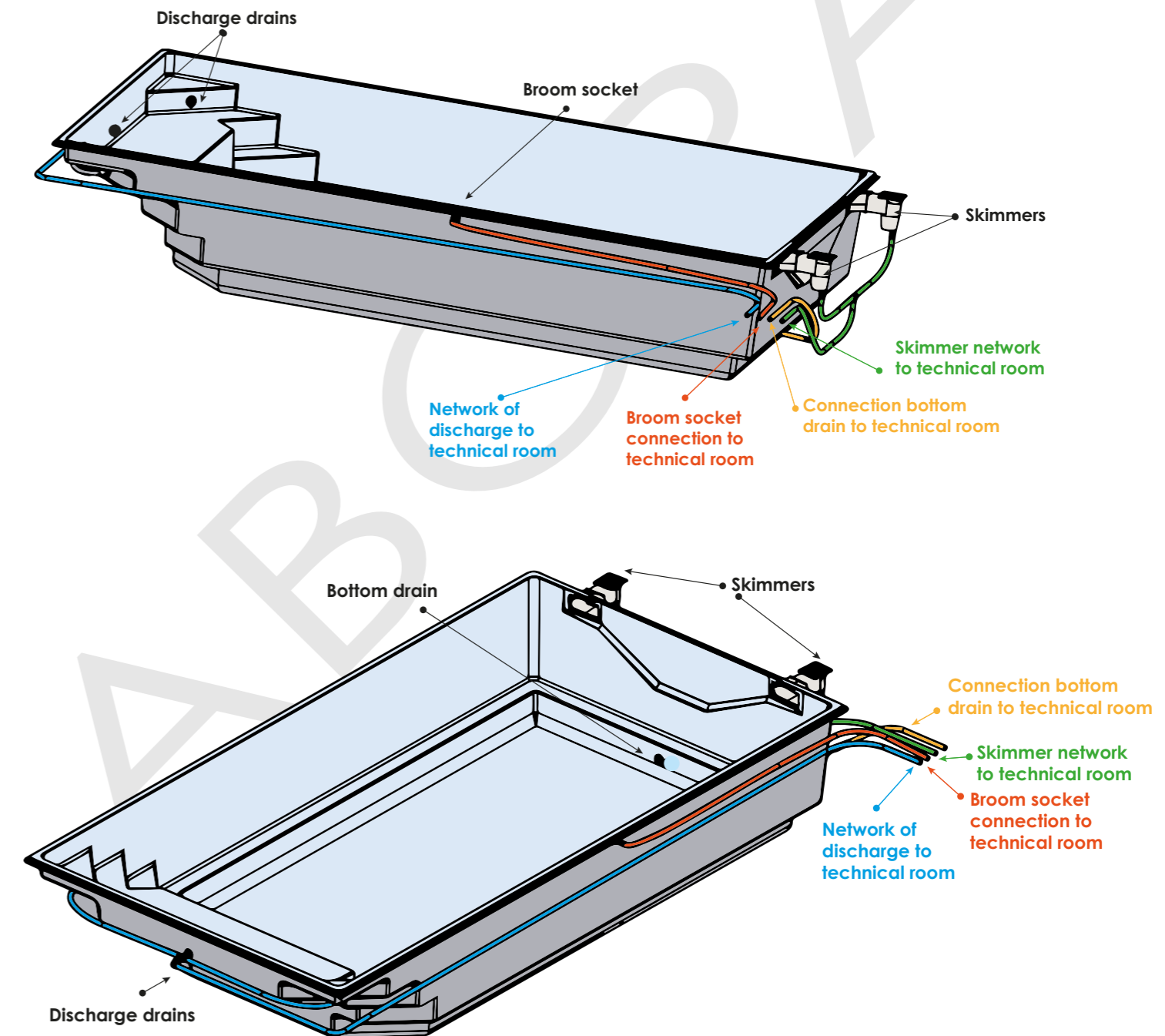
Diagram 27



HYDRAULIC CONNECTIONS

1/Pool Without a Box

- Assemble elbows to the pipe, applying the "PCSG" method described on page 12 of the manual. The connection can be made with flexible or rigid pipe of 50 mm (1,97") diameter.
- Sand the hull inserts with emery cloth, then strip and glue.
- Plug the pipes with rags or caps to prevent them from filling during installation and backfilling.
- The dimensions of the pipes are to be determined on-site depending on the location of the technical room.
- For pool part connections, refer to the dimensions on the technical data sheet of the basin.

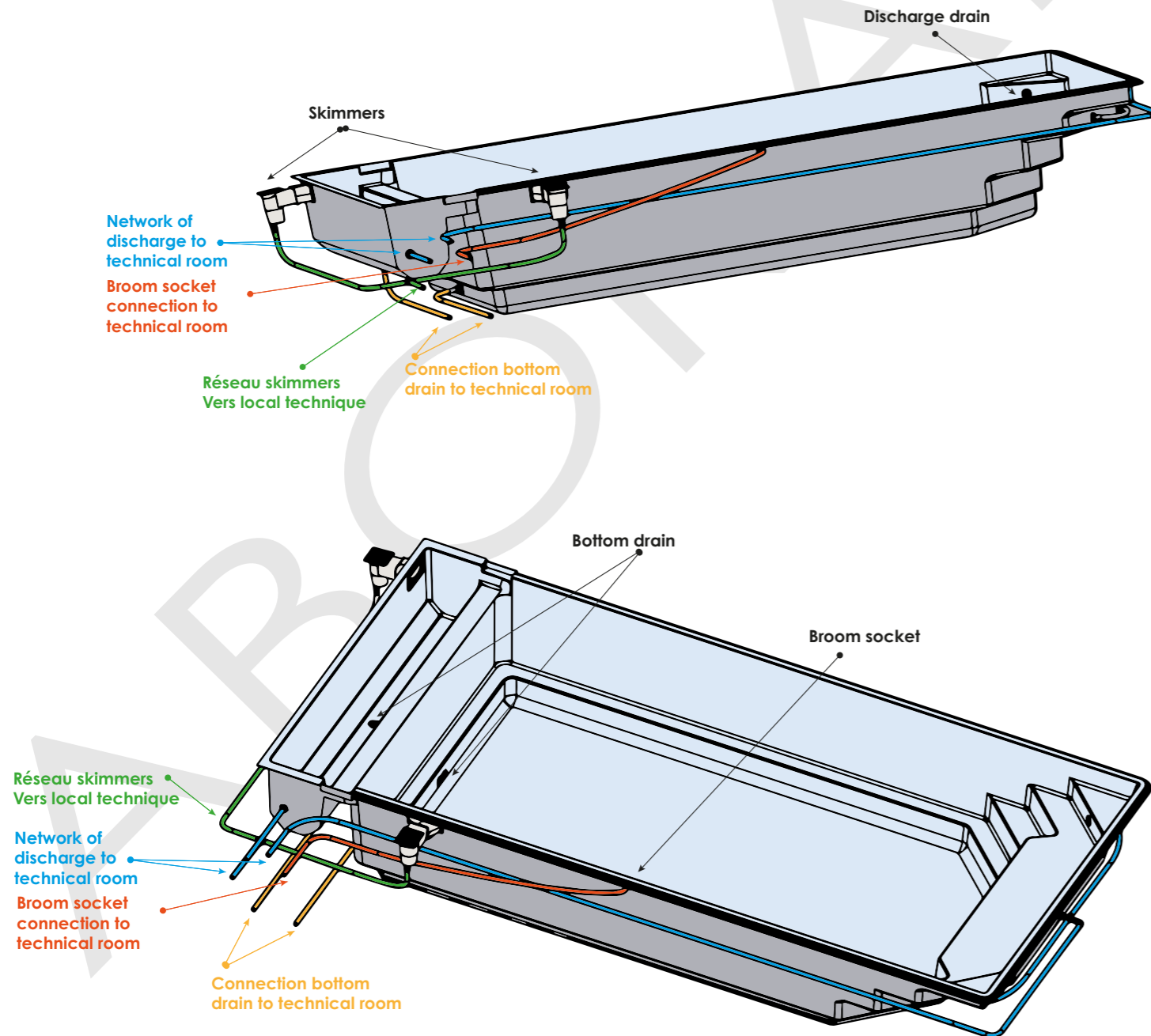


All ABORAL® pools have bottom drain housings protruding from the lowest point. It is therefore necessary to excavate an additional area in the base to allow for CONFORMING installation and eliminate any tipping point.



2/Pool with a Box for a Submerged Shutter

- Assemble elbows to the pipe, applying the "PCSG" method described on page 12 of the manual. The connection can be made with flexible or rigid pipe of 50 mm (1,97") diameter.
- Sand the hull inserts with emery cloth, then strip and glue.
- Plug the pipes with rags or caps to prevent them from filling during installation and backfilling.
- The dimensions of the pipes are to be determined on-site depending on the location of the technical room.
- For pool part connections, refer to the dimensions on the technical data sheet of the basin.



All ABORAL® pools have bottom drain housings protruding from the lowest point. It is therefore necessary to excavate an additional area in the base to allow for CONFORMING installation and eliminate any tipping point.

1/Solution 1

- The principle is to create a base to place the coping. Under no circumstances does this base contribute to the reinforcement of the pool structure; however, the option of using tensioners helps maintain the walls during draining.
- After backfilling the pool to level -15 (Diagram 28), apply concrete mixed at 350 kg/m³ around the perimeter of the pool (Diagram 29 – Fig. n°1).
- Adjust every 2 meters (78,74") approximately using a trowel, to obtain a level plot between the demolding lip and the concrete base (Diagram 29 – Fig. n° 2 & Fig. n° 3).
- Then, using a mason's rule, pull the excess concrete to obtain a flat surface around the entire perimeter of the pool (Diagram 29 – Fig. n° 4).
- Measure a minimum of 30 cm (11,81"), mark, and cut the excess concrete when it starts "to set" (Diagram 30 – Fig. n° 2).



Reinforcement can be replaced with polypropylene fiber.

Diagram 28

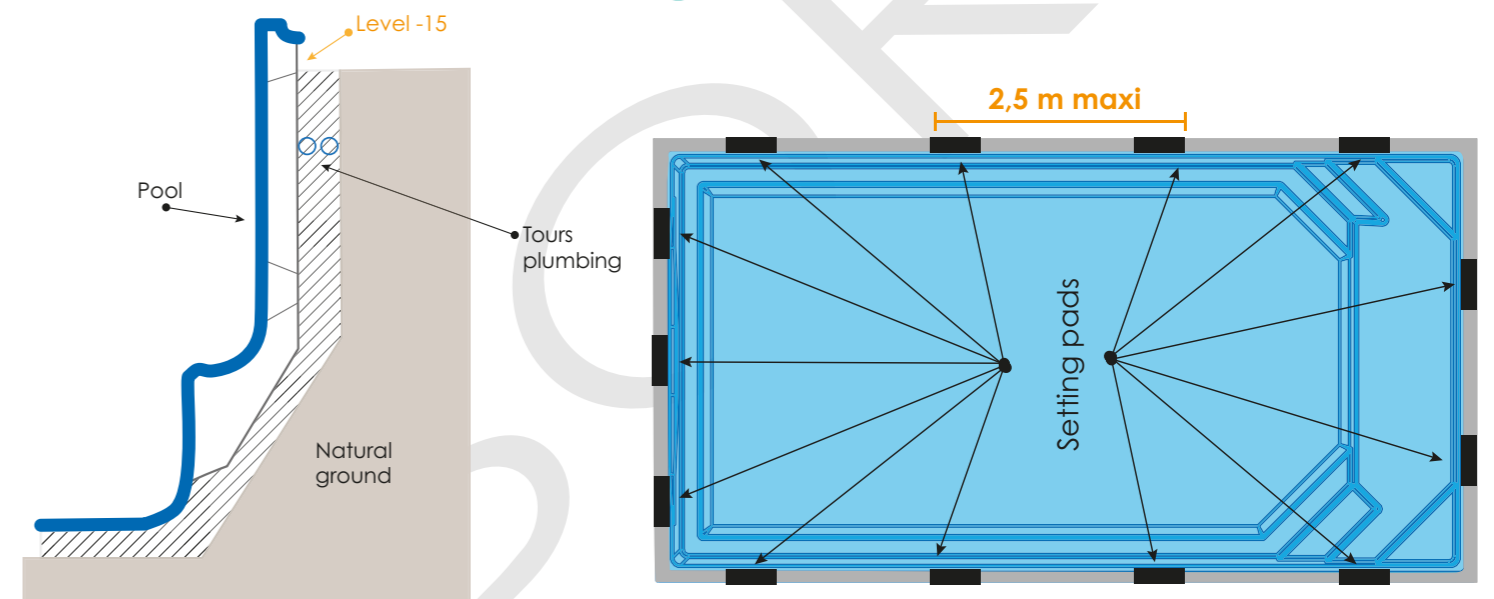


Diagram 29



Fig. 1

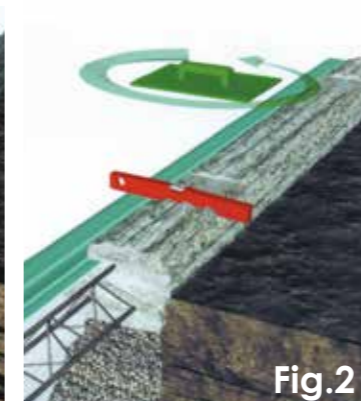


Fig. 2

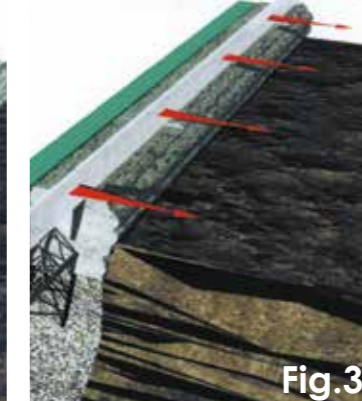


Fig. 3

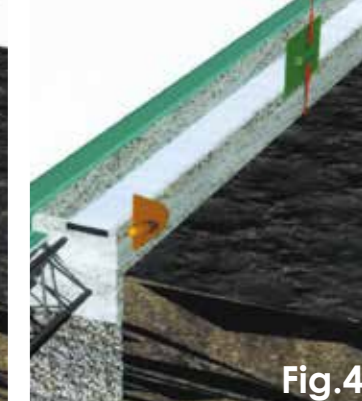
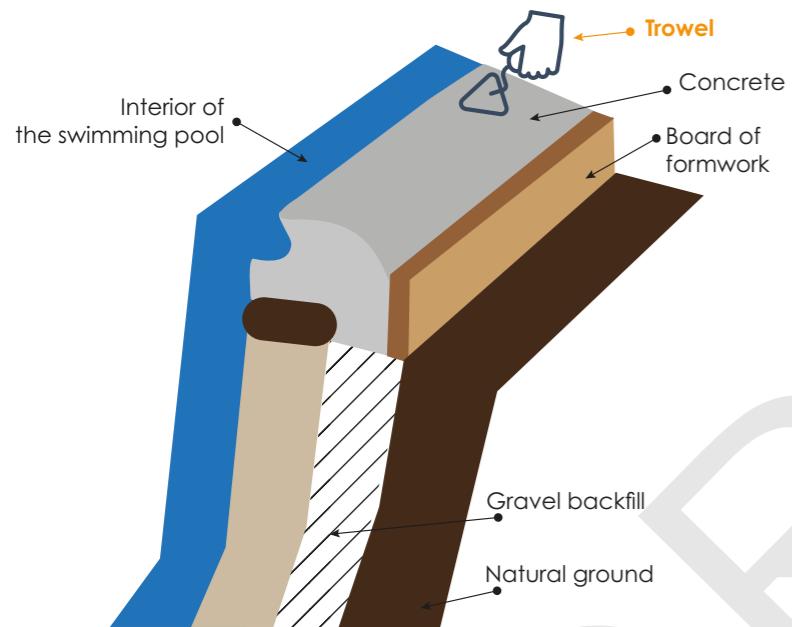


Fig. 4

⚠ The concrete belt is MANDATORY regardless of whether it is solution 1 or 2.

Diagram 30

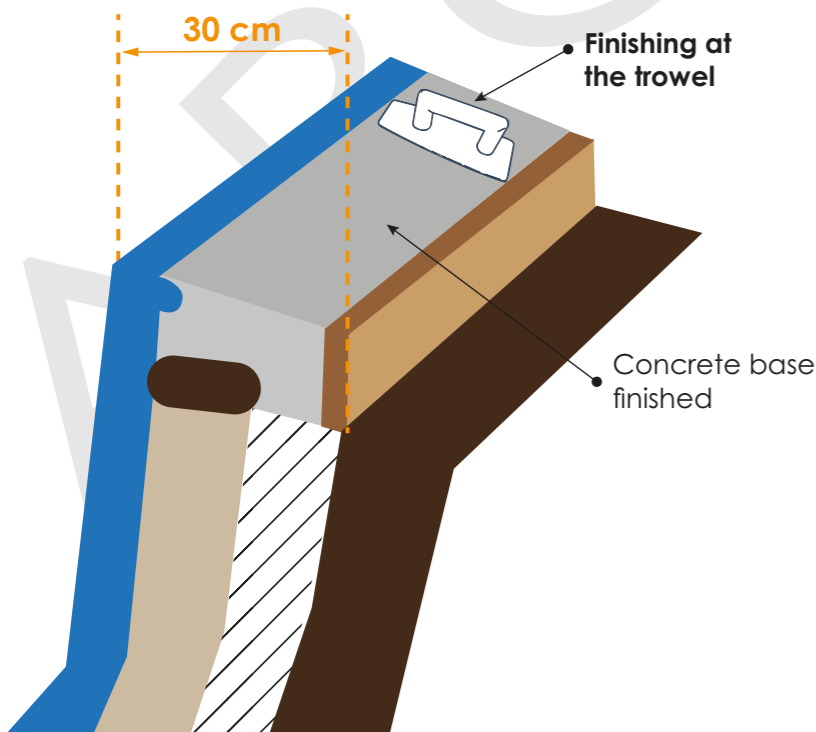
Fig.1



2/Solution 2

- Frame using formwork boards around the perimeter of the pool, measuring 30 cm from the inner edge of the pool (Diagram 30 – Fig. n°1).
- Proceed to apply the concrete as shown.

Fig.2



- Then finish the base with a trowel (Diagram 30 – Fig. n°2).
- Proceed with formwork removal as soon as the concrete of the base is dry.

⚠ DO NOT REMOVE THE PROPS AND/OR TENSIONERS before the concrete base is completed and dry. This would result in pronounced bending of the walls.



The ABORAL® coping stone “set” is delivered as a «pack» which includes :

- all the curved pieces on the top part,
- the straight coping stones underneath,
- the descriptive notice of the supplied elements,
- a bag of joint compound.

⚠ It is imperative to check all the elements present in this «pack» before starting the installation of the coping stones.

Method :

- Present the corner coping stones (Diagram 31 – Fig. n° 2) aligned with the molded marks on the demolding lip (Diagram 31 – Fig. n° 2 – photo of the marks).
- For the CARAÏBES® pool, start with the skimmer.
- Prepare flexible adhesive and apply it to the base by creating two small beads of adhesive at the front and back of it (Diagram 31 – Fig. n° 1). This process allows for equalization of the adhesive when the coping stone is applied to the base.
- Place the corner coping stones one after the other, apply the adhesive, and glue the coping stones.

INFOS The “small beads” of adhesive should be substantial enough to allow for proper adjustment.

Fig.1

Diagram 31

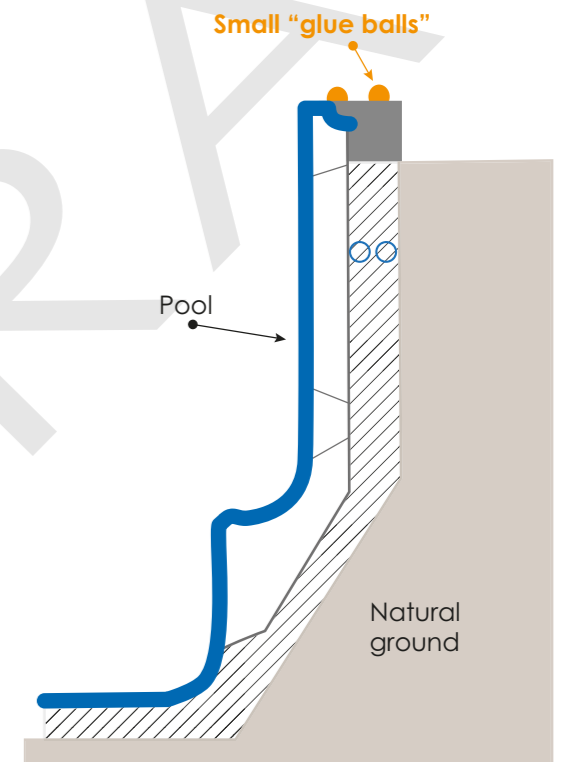
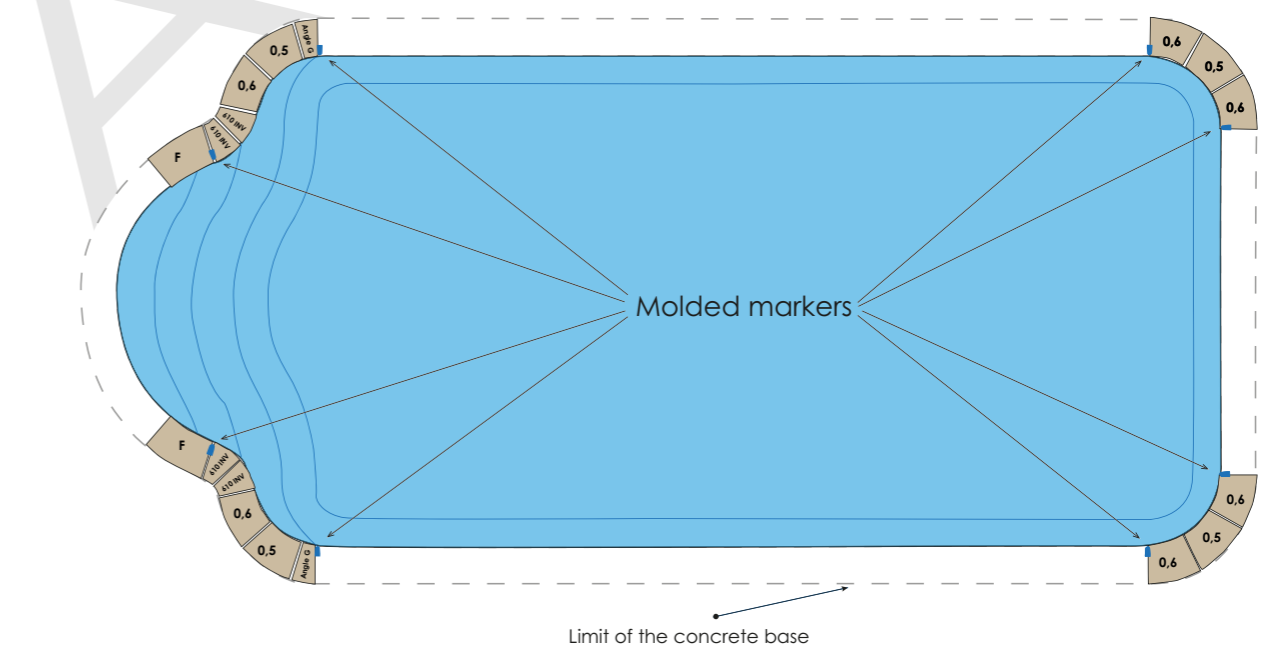


Fig.2

Diagram 31



- Stretch a string line over all the lengths and widths of the pool to achieve perfect alignment (Diagram 31 – Fig. N° 3).

- Now lay the linear parts starting from each end. The key or cut should be in the middle of the large walls for aesthetic reasons (Diagram 31 – Fig. n° 3).

- Hammer the coping stones with a light-colored rubber mallet (to avoid marking) to achieve proper flatness (Diagram 31 – Fig. n° 4).

Diagram 31 Fig.3

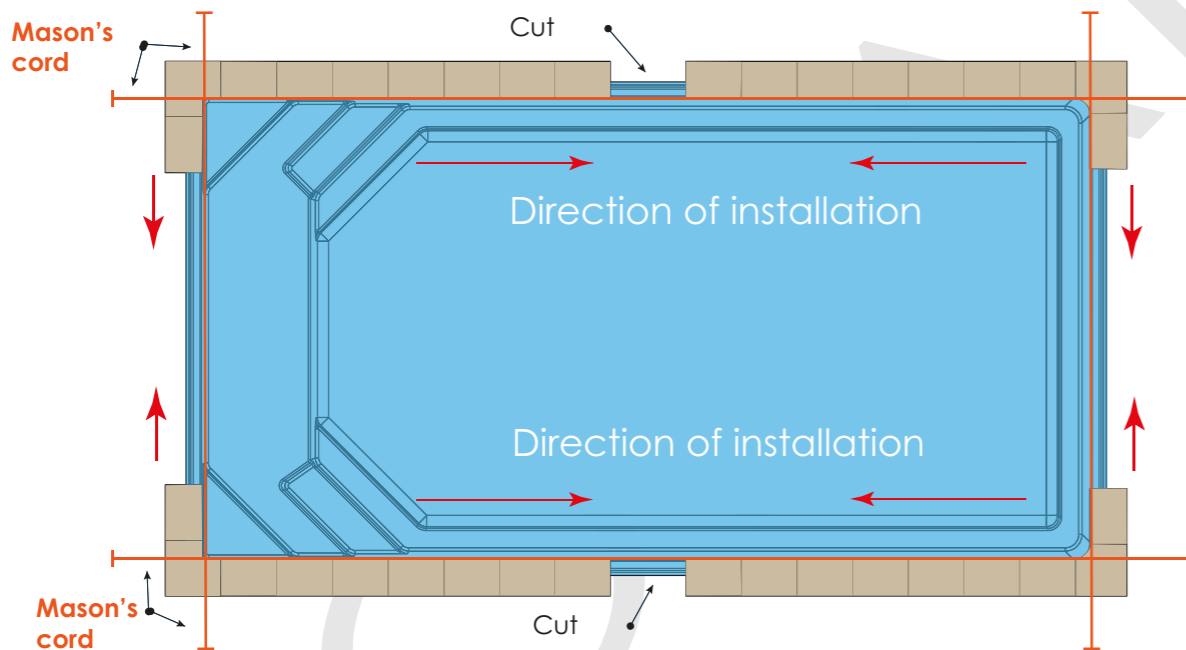
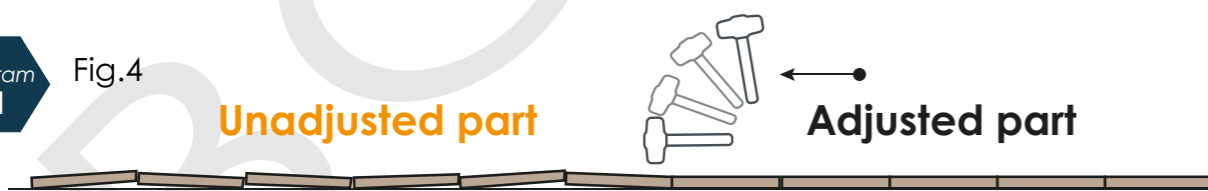


Diagram 31 Fig.4



COPING STONE JOINTS :

- Mix the contents of the joint bag delivered with the «pack» to obtain a plastic, homogeneous consistency.
- Apply with a trowel or syringe, leaving an excess of about 2 (0,08") to 4 mm (0,16").
- Let it "set" and then scrape off the excess with a trowel so that the joint is flush with the coping stones.
- Clean the efflorescence with clear water using a sponge.

INFOS Tape can be placed on the lower part to prevent the joint from falling into the pool.

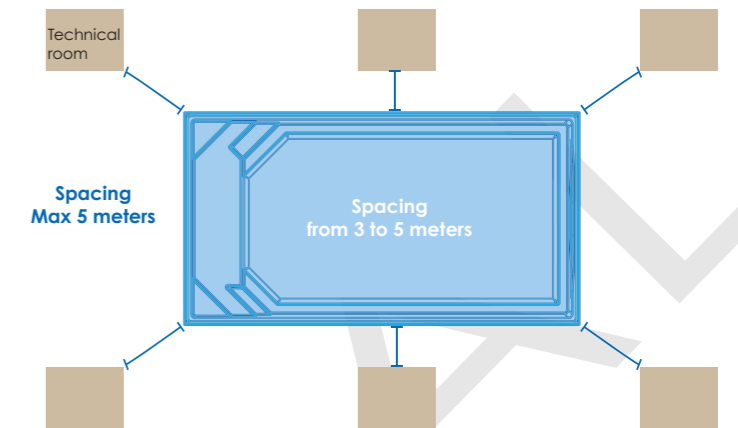


INSTALLATION OF THE UNDERGROUND TECHNICAL ROOM

Diagram 32

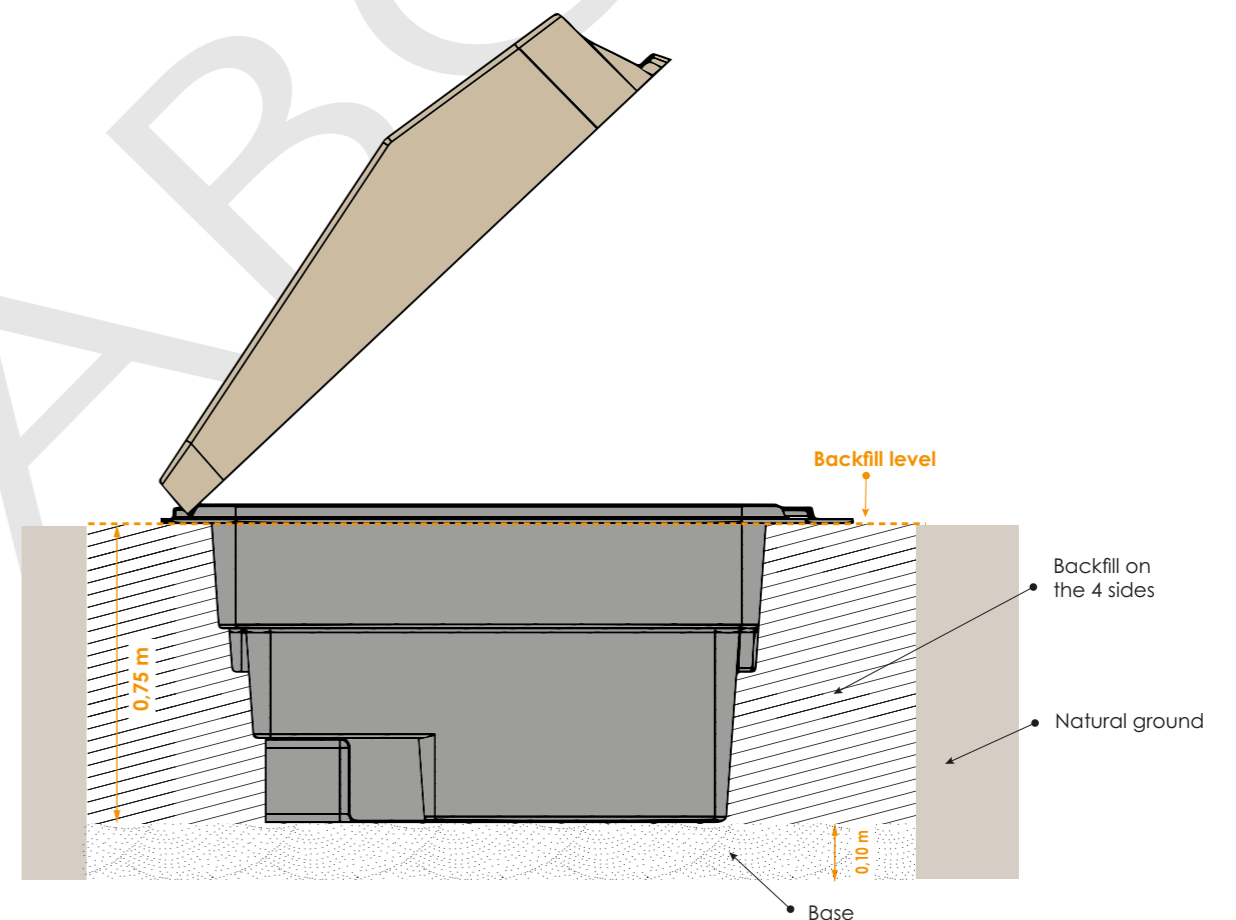
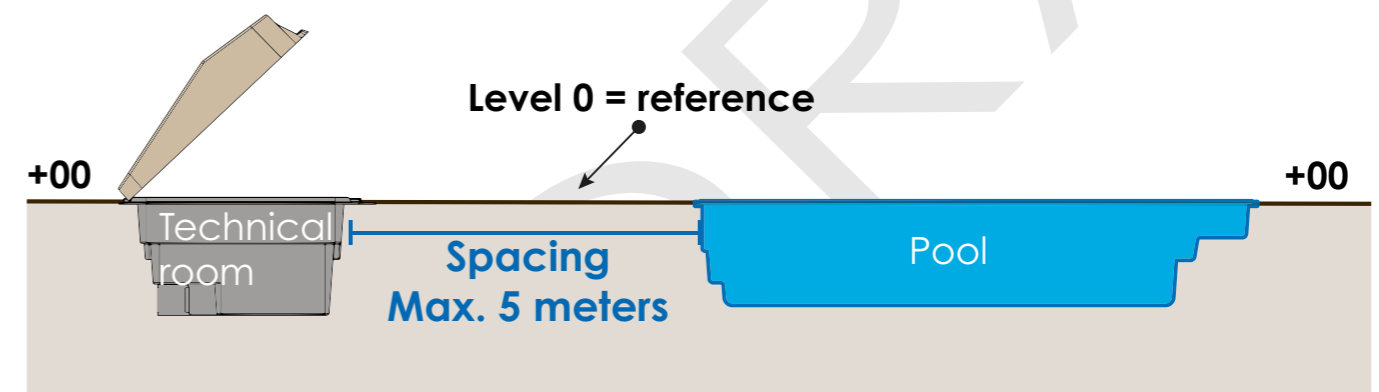
- The technical room must be installed close to the pool, at a maximum of 5 m from one of the longest sides. (Diagram N° 32)

- The dimensions marked * are the dimensions from the earthwork plan of the "GPS room model" leaflet.



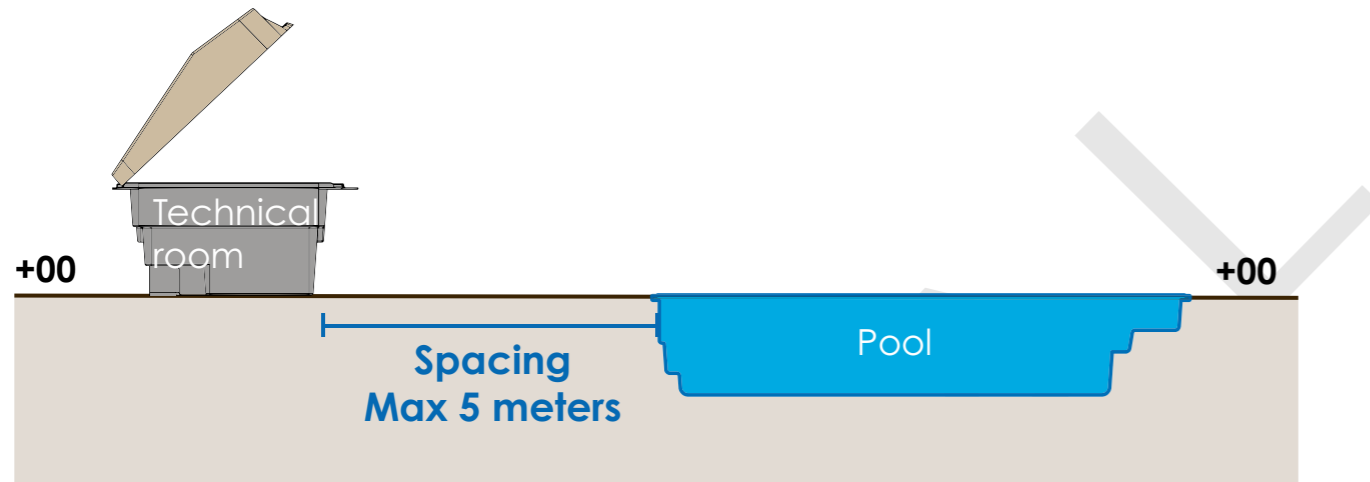
Case N° 1

- Plan for separation valves for the disassembly of the filtration components.



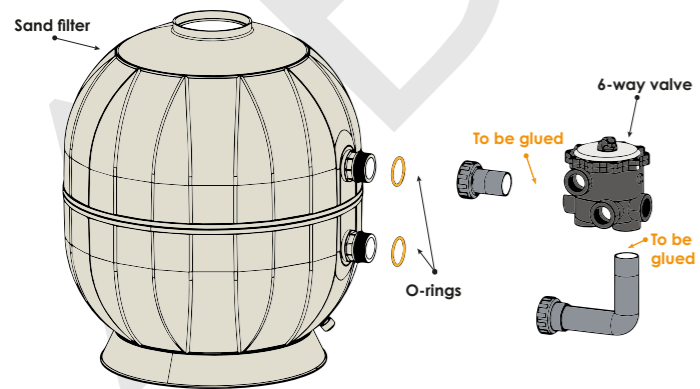
Case N° 2

- Plan for one or more check valves to prevent priming issues.



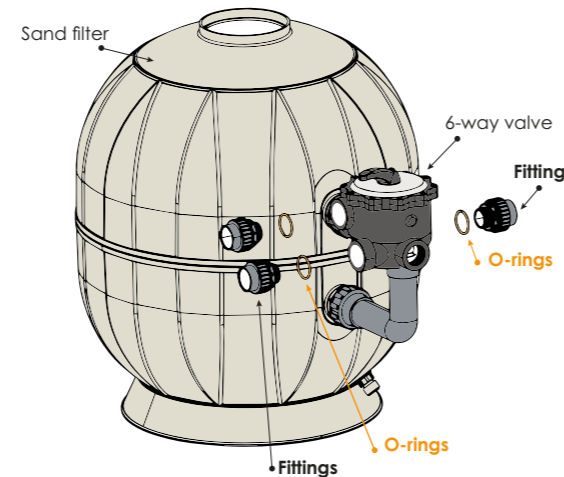
ASSEMBLING A TECHNICAL ROOM

Diagram 33 Assembly



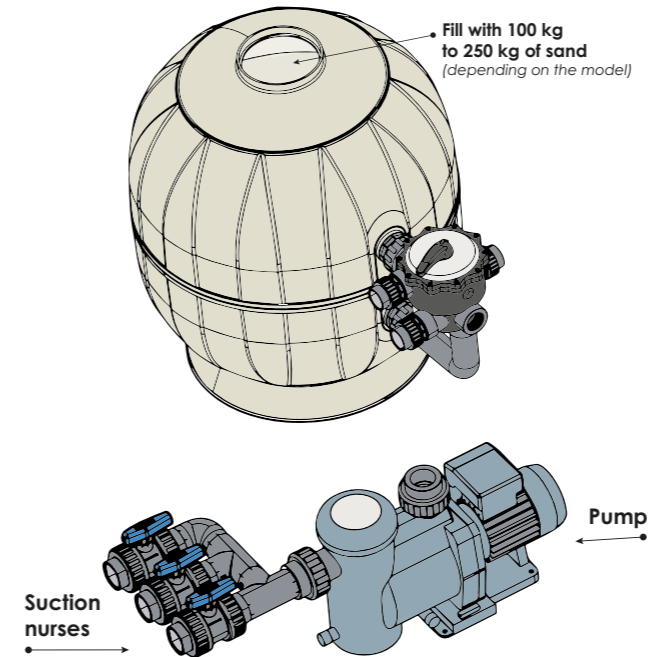
- Assemble the 6-way valve on the sand filter, making sure to grease the O-rings with hydraulic grease (the one used for assembling PVC water supply pipes).

Fitting Assembly Diagram 34



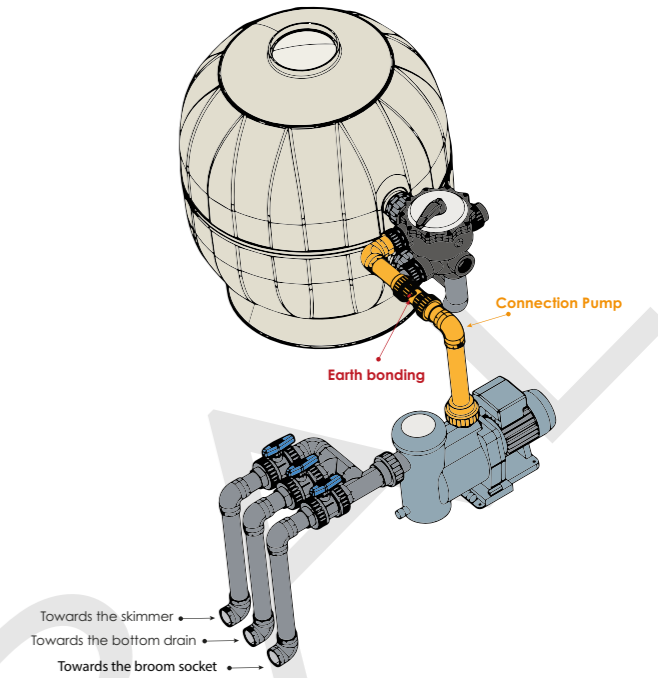
- Screw the union fittings with joints (if using the Aboral PVC Kit).

Diagram 35 Positioning of Elements



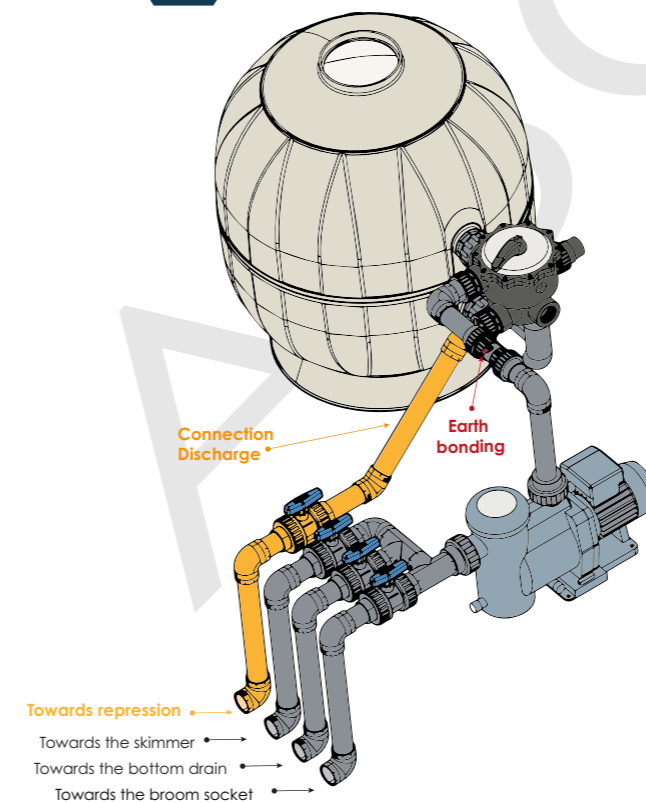
- Arrange the equipment so that the connecting pipes do not hinder maintenance and use of the installation.
- Ballast the sand filter with one or two bags of sand to stabilize it. Once stabilized, it will be easier to connect.

Filter/Pump and External Connections Diagram 36



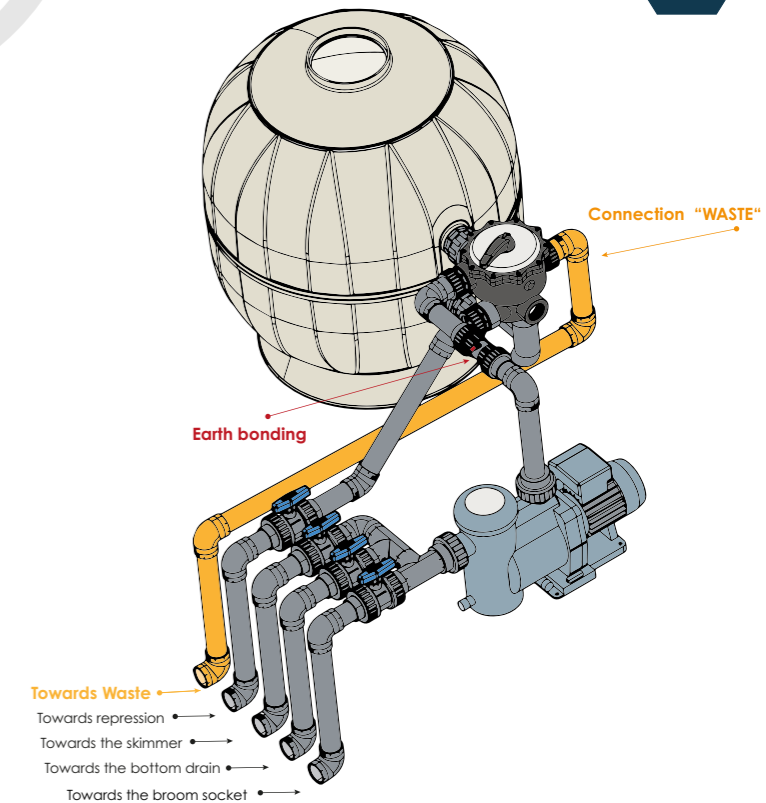
- Connect the sand filter to the pump, the "PUMP" outlet of the 6-way valve, not forgetting the earth bonding using elbows and PVC fittings while avoiding too many connections.
- Then successively connect the external pipelines to the manifold.

Diagram 37 Discharge connection

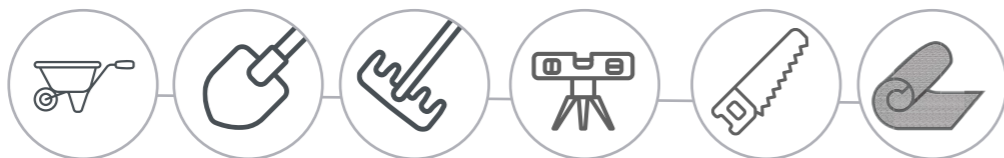


- Next, connect the return outlet of the 6-way valve "RETURN" to the pool's return pipe (if the technical room is pressurized, plan for a stop valve on this network).

Waste Connection Diagram 38



- Connect the 6-way valve to the waste "WASTE" outlet to the chosen drainage network..
- Finish filling the sand filter with the recommended amount of sand.




 Carefully clean the threads and taps of the cover fastenings before closing the filter. This operation requires special attention to avoid damaging these elements.

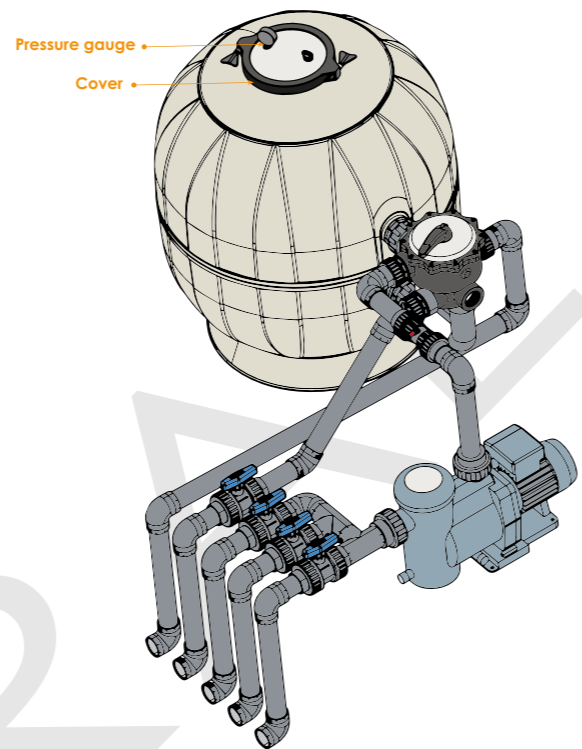
Diagram 39

Closing the Filter

- Install the pressure gauge and the filter's purge, tightening moderately.
- Your installation is ready to operate after its electrical connection to the network



If the electrical installation is carried out by an individual, it must be inspected by an independent control cabinet that will certify the installation.



ASSEMBLING OPTIONS

Diagram 40

Salt Chlorinator Connection

- Connect the salt chlorinator bypass assembly to the return outlet.
NOTE, that the electrolysis cell must always be in a vertical position.
- Always position the earth bonding **BEFORE** the pH probe.
- Position the pH injector at the end of the return circuit.

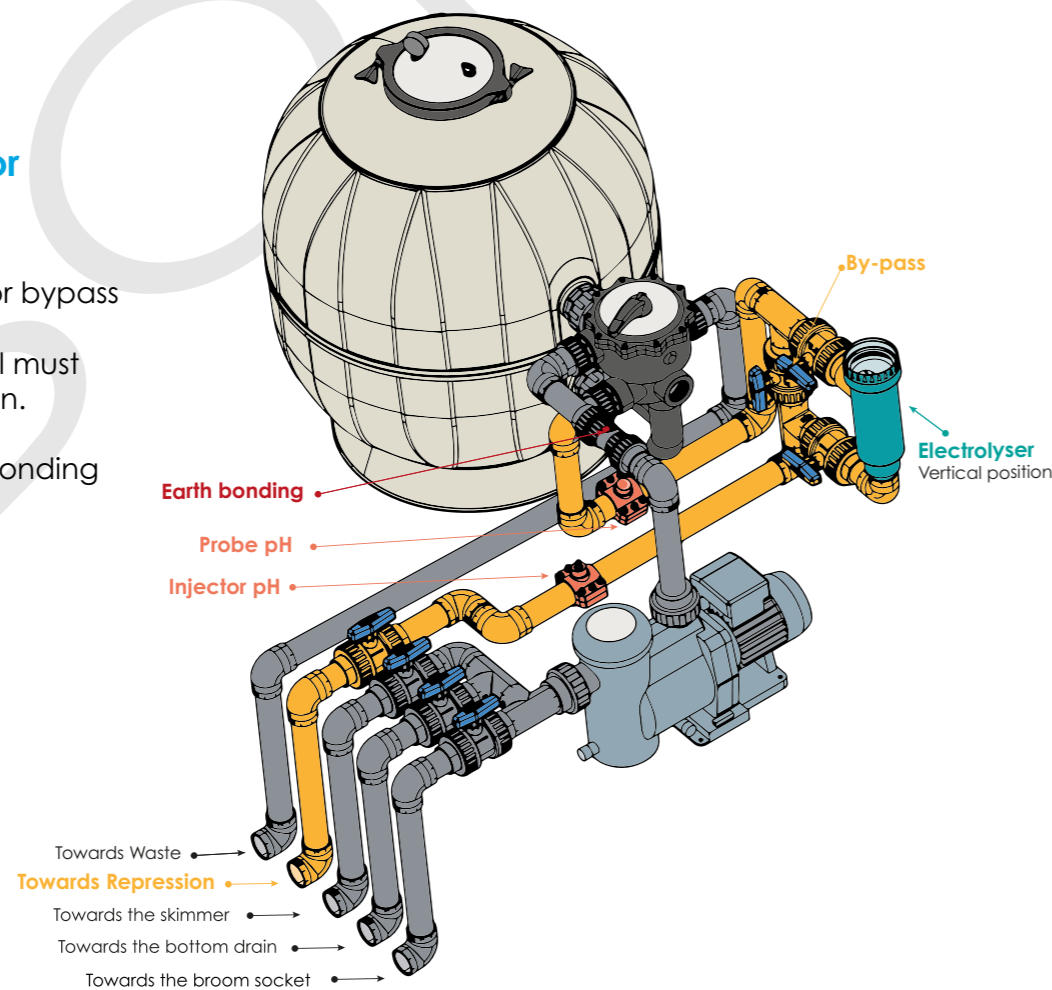


Diagram 41

Salt Chlorinator + Heat Pump Connection

- Connect the heat pump to the return circuit **BEFORE** the salt chlorinator bypass assembly.
- Be careful to set up the circuit from cold water to hot water.

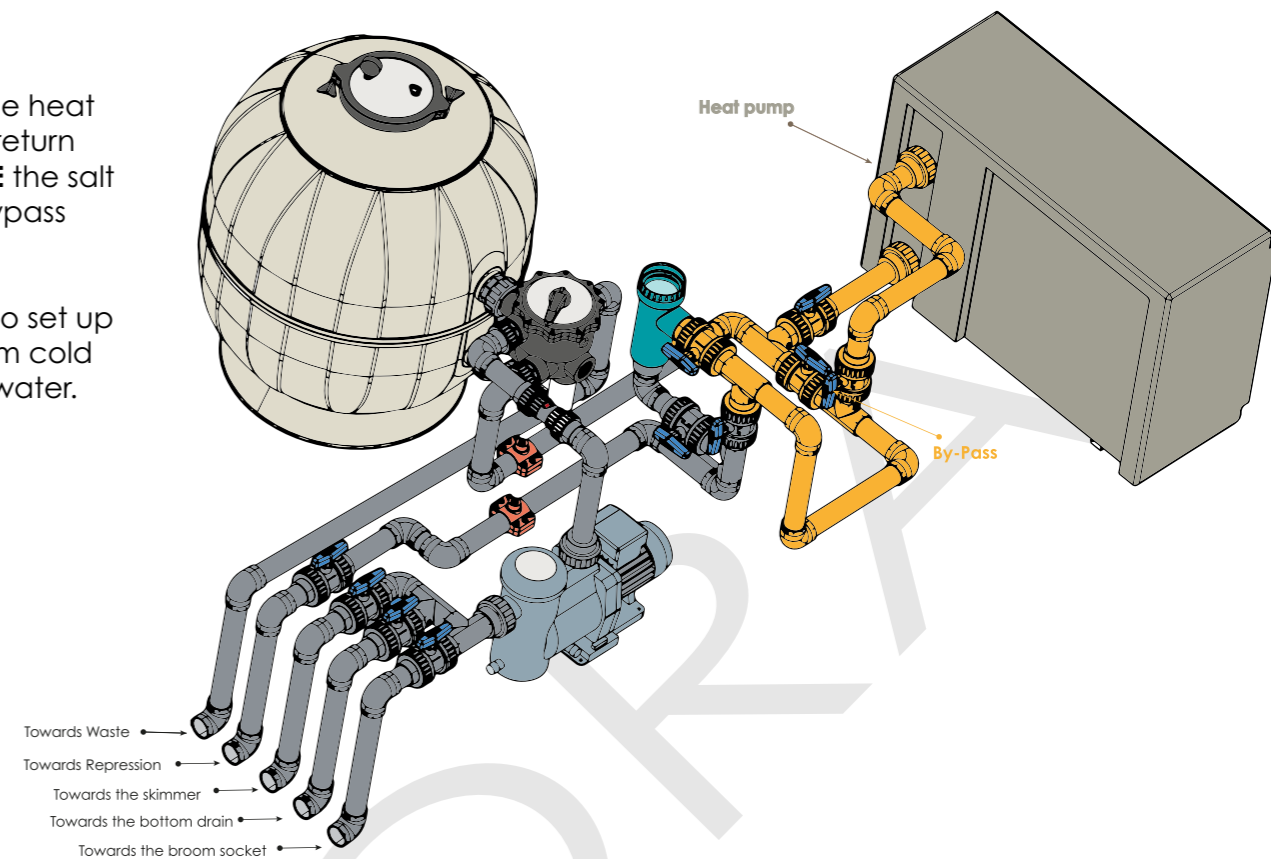
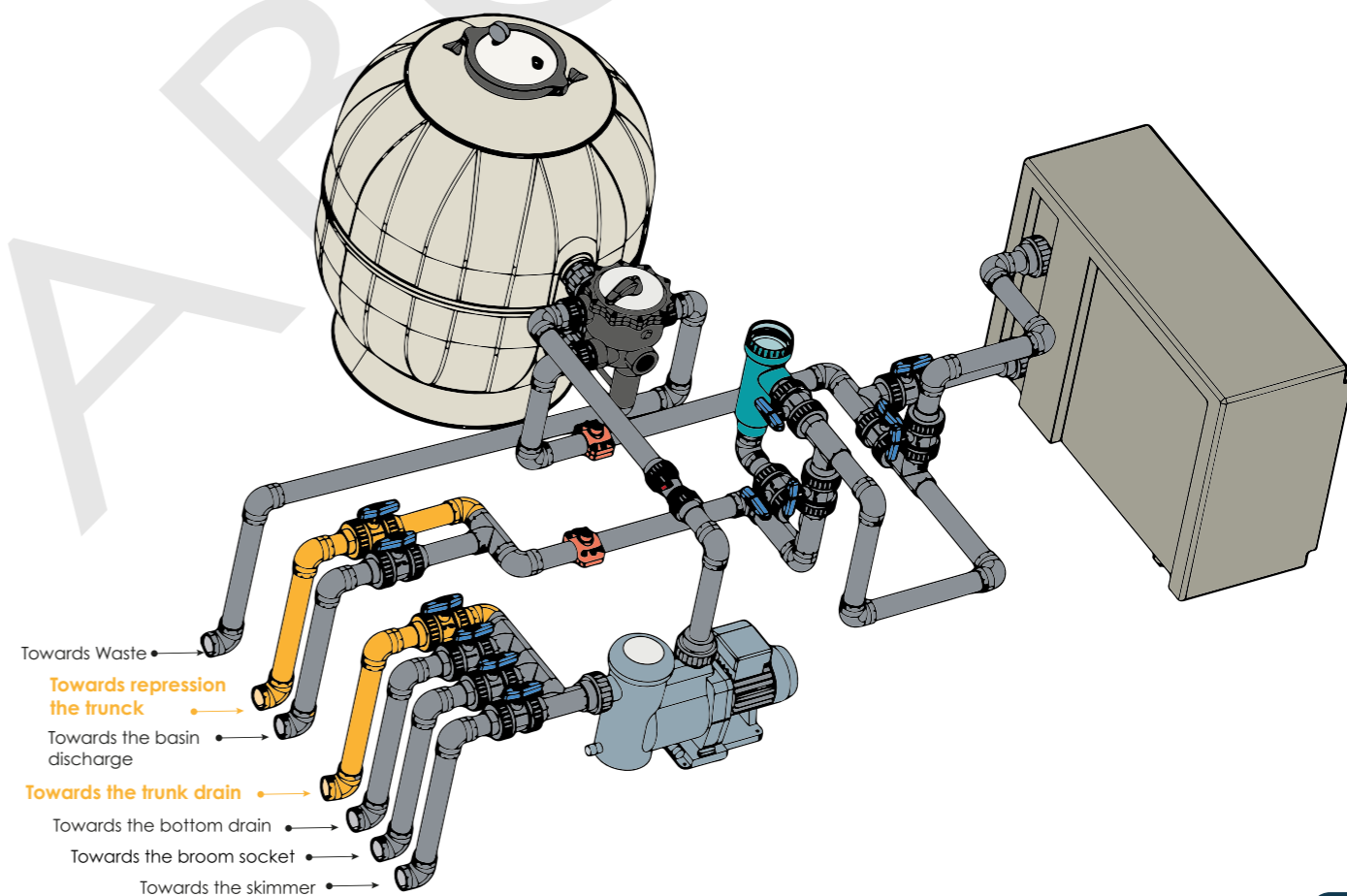


Diagram 42

Salt Chlorinator + Heat Pump + Submerged Shutter Box Connection



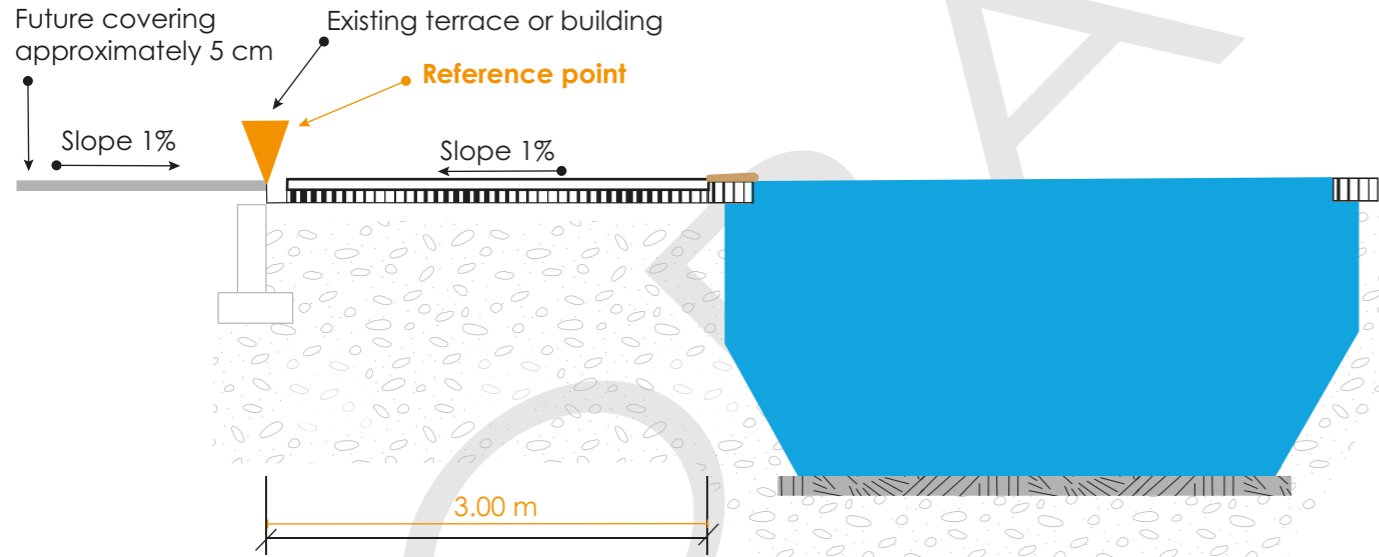
1/LEVELS

Once the placement is determined, a reference level needs to be defined for positioning the pool. We will call it "level 0 or reference 0", depending on several factors :

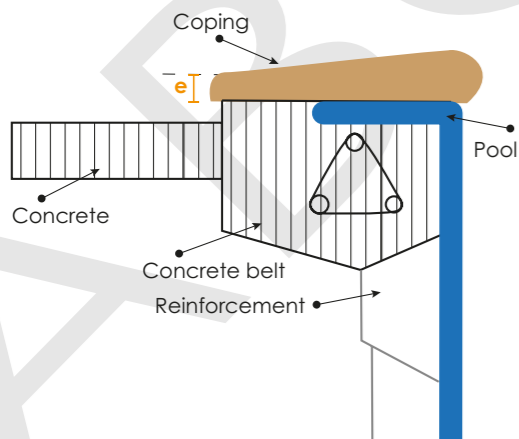
- the terrain profile, existing constructions,
- the level of terrace finishes,
- the land classification (floodable or not).

In general, all factors that could influence the profile of the installation. This level must be referenced throughout the construction duration.

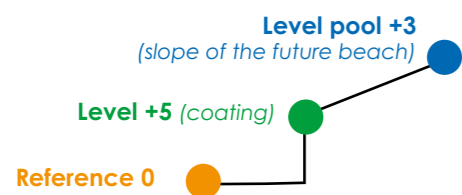
EXAMPLE OF INSTALLATION AWAITING COATING
In the examples below, the coping stone height value is 5 cm (1,96").



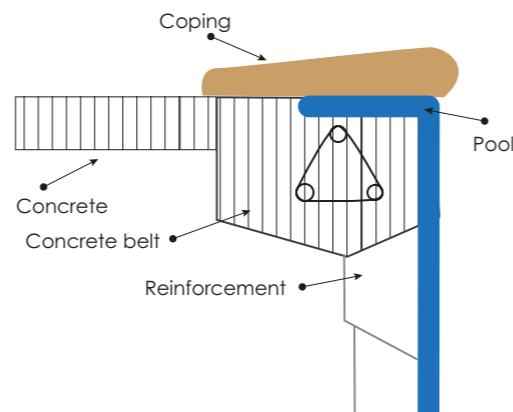
Copings for "Raised" Installation



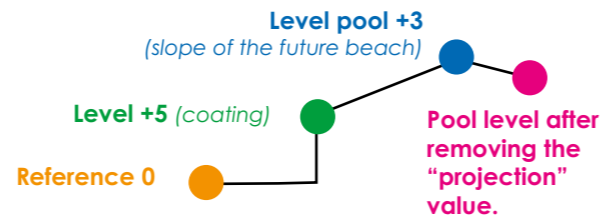
Simple calculation :
Reference 0 + 5 cm (1,96") (coating) + 3 cm (1,18") (slope) = + 8 cm (3,14").
The pool should be at + 8 cm from the reference taken on the raw terrace.



Copings for "Flush" Installation

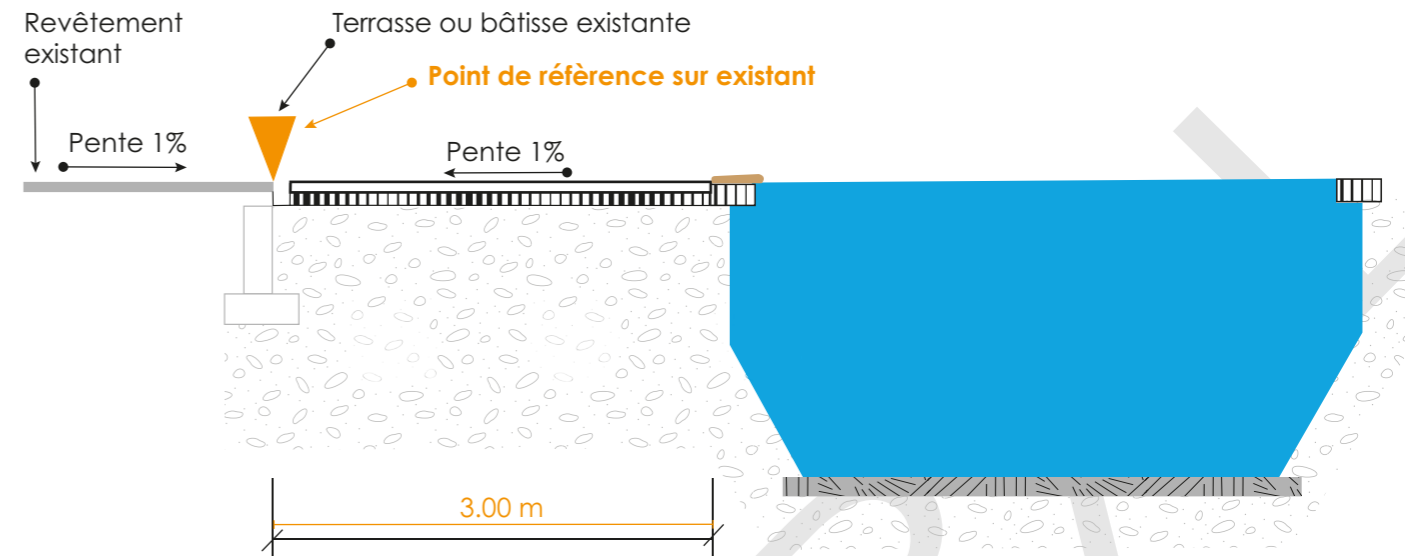


Simple calculation :
Reference 0 + 5 cm (1,96") (coating) + 3 cm (1,18") (slope) - 3 cm (1,18") (projection or thickness of coping) = + 5 cm (1,96").
The pool should be at + 5 cm from the reference taken on the raw terrace.

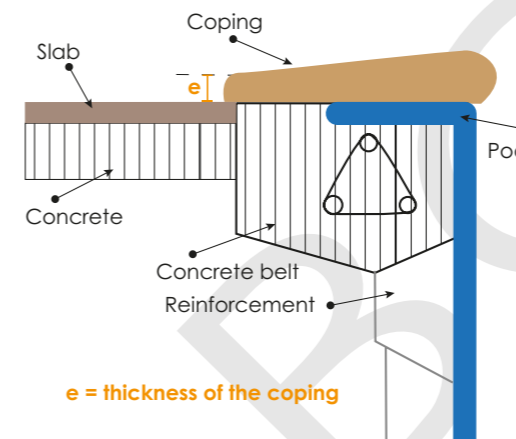


EXAMPLE OF INSTALLATION FOR AN ALREADY APPLIED COATING

In the examples below, the coping stone height value is 5 cm (1,96").



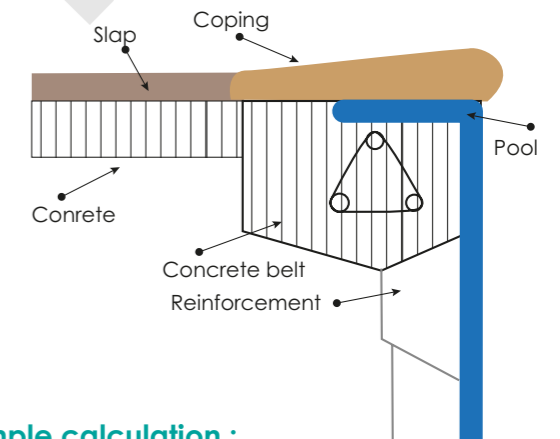
Copings for "Raised" Installation



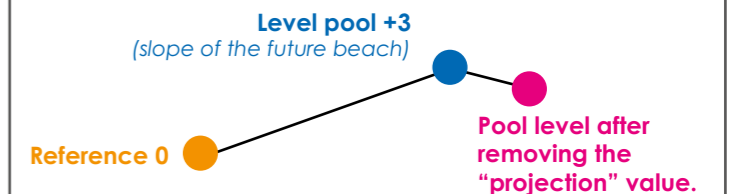
Simple calculation :
Reference 0 + 3 cm (slope) = + 3 cm (1,18").
The pool should be at + 3 cm from the reference taken on the terrace or future terrace with coating applied.



Copings for "Flush" Installation



Simple calculation :
Reference 0 + 3 cm (1,18") (slope) - 5 cm (1,96") (projection or thickness of coping) = - 2 cm (0,78").
La piscine devra se situer à - 2 cm de la référence prise sur la terrasse ou future terrasse revêtement effectué.



Note that in the example opposite, the projection value generally corresponds to the thickness of the chosen coping stone. To simplify calculations, always round up this value.

When connecting a pool to an existing installation, never channel rainwater towards the pool. PLAN for a drain to evacuate these waters to an outlet.

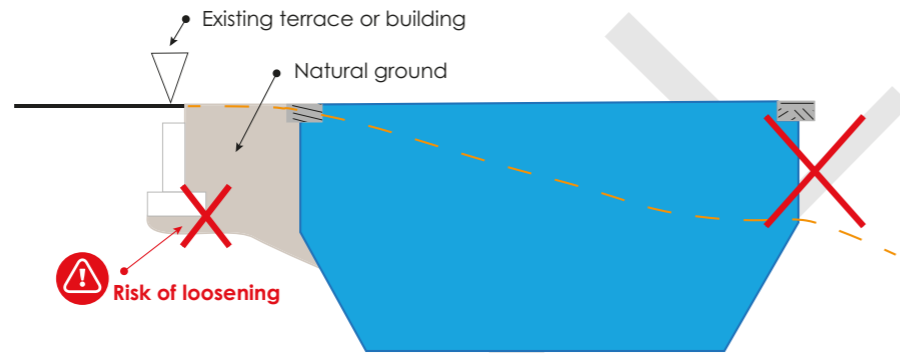
2/ INSTALLATION ON SLOPED TERRAINS

Sloped terrains require special attention.

Installing a pool on such terrains must adhere to basic construction rules. The following points must be ensured beforehand :

Diagram 43

- Avoid close proximity to existing installations to prevent undermining the foundations of terraces or buildings (Diagram 43).



- Avoid connecting the pool at the same level as the terrace, as this would, in this case, accentuate the significance of constructions to be considered due to the creation of a significant depression.
- Prefer to arrange 1 or 2 steps to divide the differences (Diagram 44).

Diagram 44

When backfill is ≥ 40 centimeters, a retaining wall is MANDATORY.

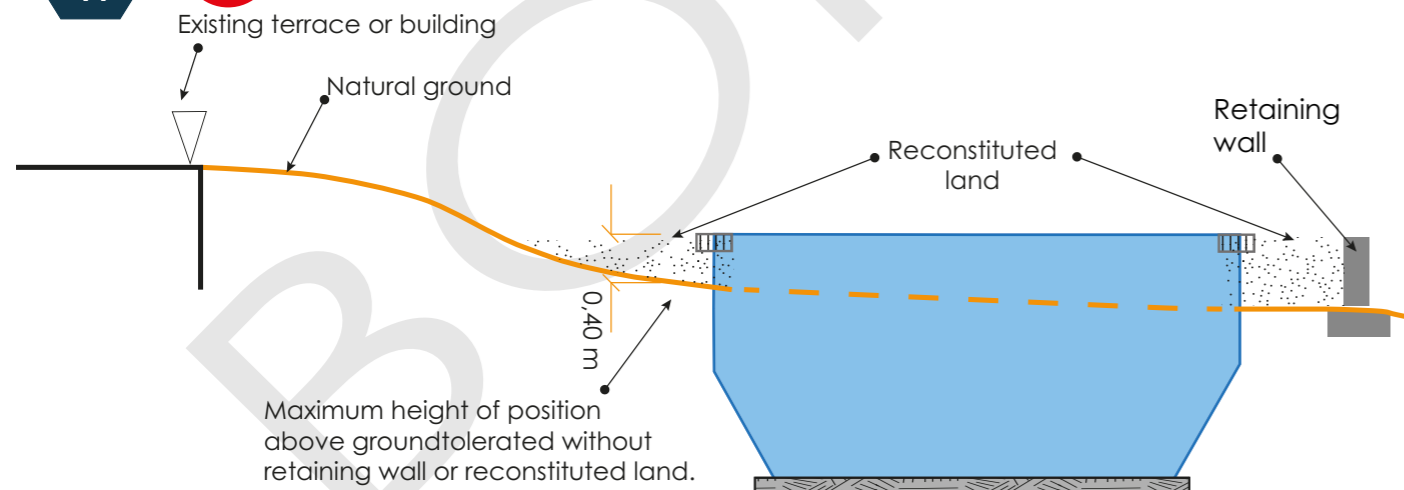
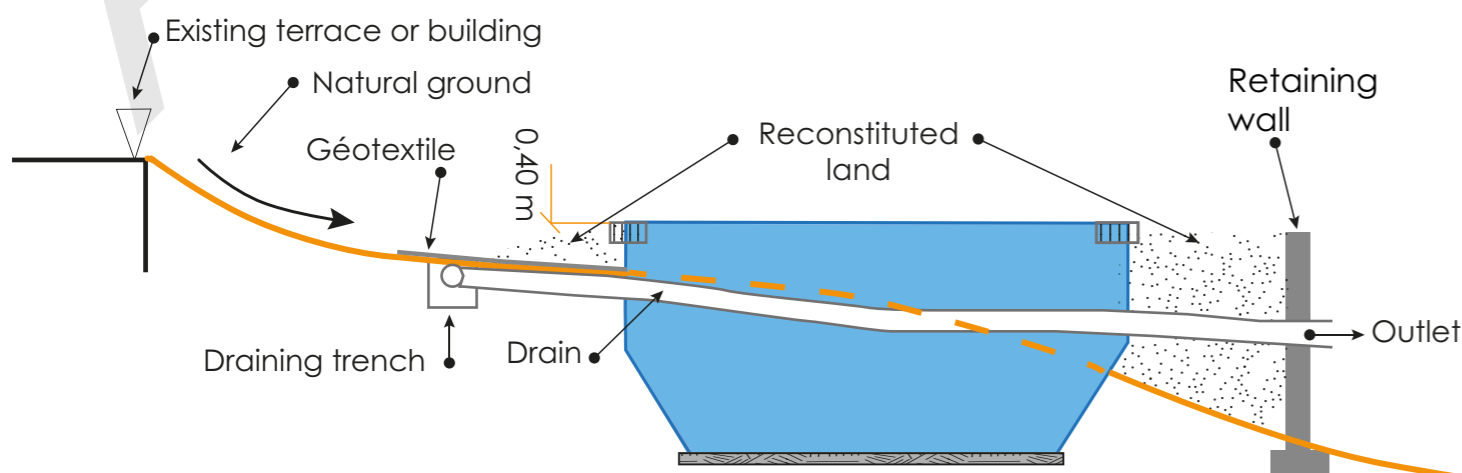


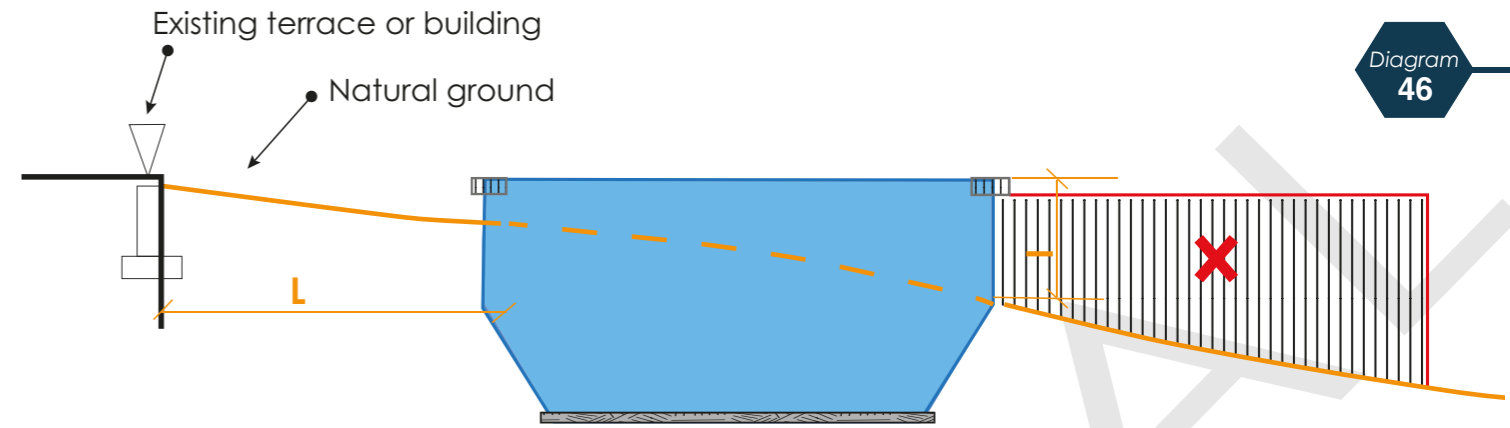
Diagram 45

- In case of a steep natural terrain slope, plan a rainwater recovery drain upstream of the installation and a drainage pipe to an outlet (Diagram 45).



- All ground parts that are less than or equal to 40 centimeters below the level of the pool must be fitted with a "hedgehog" at least 1.50 m wide to stabilize the pool.

Diagram 46



The greater the L value (distance) increases, and the higher the I value (above-ground value) is, the more significant the impact on the amount of backfill needed can be.

- Retaining walls can be replaced by stonework (Diagram 47).

Diagram 47

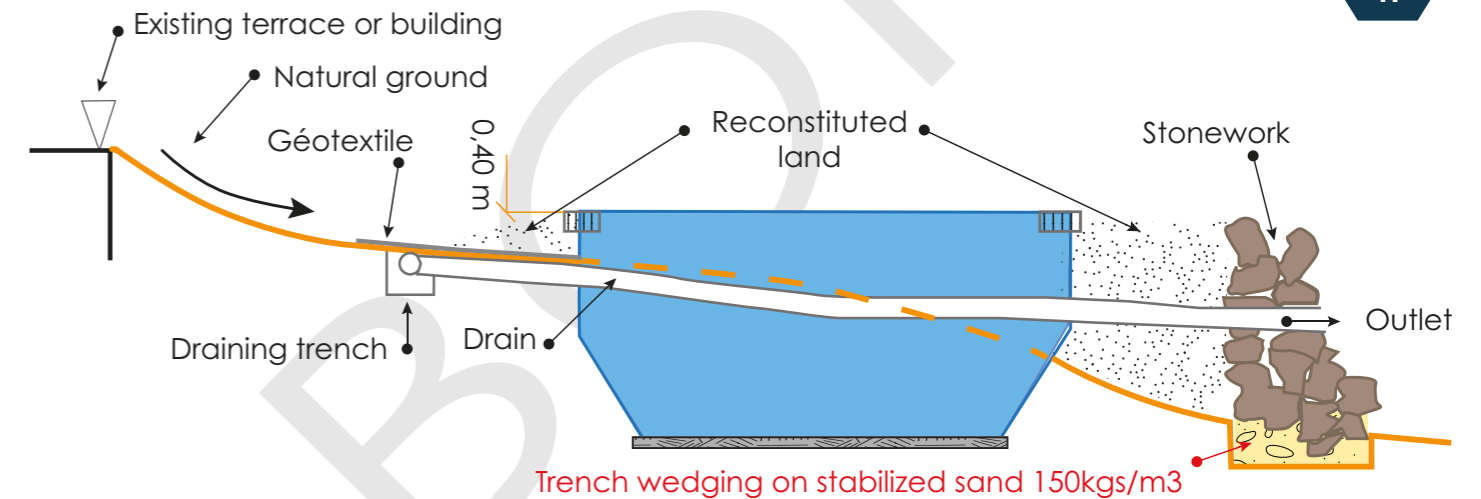
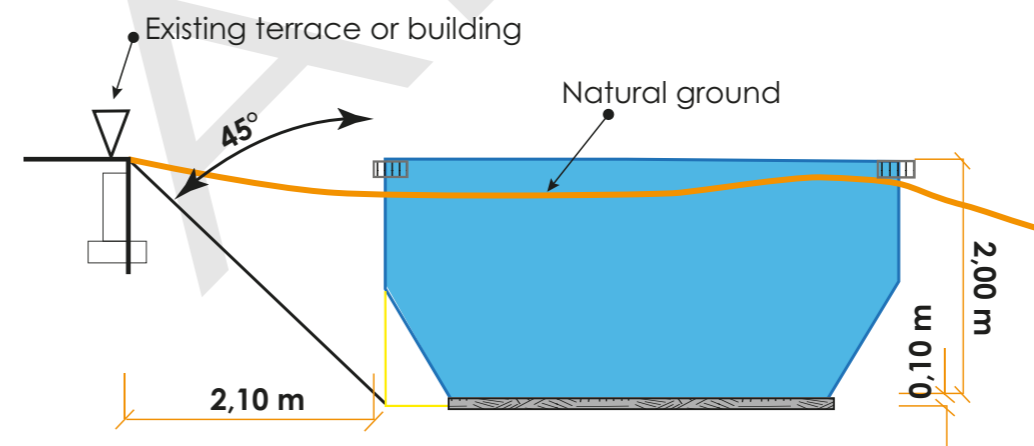


Diagram 48



- To avoid destabilizing existing installations, plan for necessary shoring during the duration of the work.

A 45° angle is the stability angle in the context of dry terrain.



In all cases, it is recommended to lay a geotextile before implementing a brought-in backfill. All backfills must be compacted with a vibrating tamper or compactor, taking all necessary precautions not to damage the pool. Generally, a concrete study can be useful to successfully complete your project.

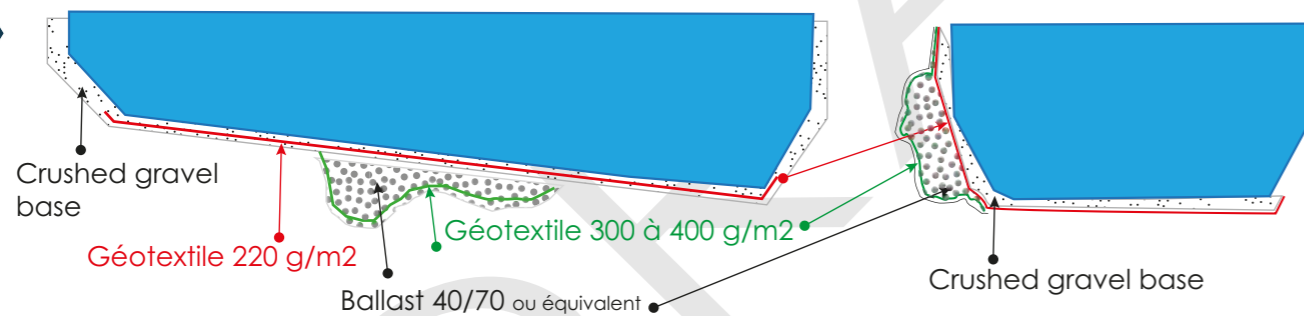
3/ EARTHWORK ON SPECIAL GROUNDS

Below, you will find two examples of special grounds, most commonly encountered. The list of particular cases is, however, very long, which is why it is strongly advised to conduct a ground study if there is any doubt about the future stability of your pool.

Rock

- In rocky terrains, adhering to the dimensions of the earthwork is unpredictable due to the presence of very large boulders preventing ground leveling.
- In this case, backfill the over-excavations with a non-compressible material and isolate it from the gravel base with geotextile (Diagram 49).
- The decompression well will remain the sanitation element of the installation

Diagram 49

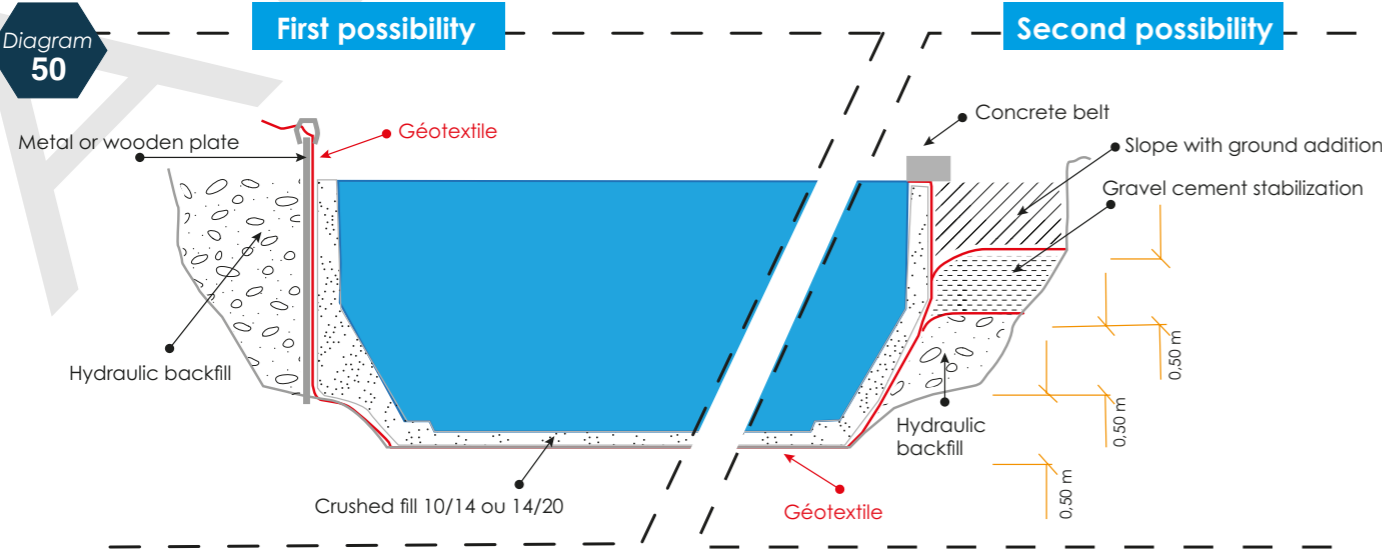


Never backfill excavations with earth. Use a homogeneous incompressible material : hard limestone, ballast, gravel, cement, etc.

Sand

- In sandy terrains, precise excavation is rare because this material is slippery and often causes landslides.
- Two backfilling techniques can be applied :**
- In either case described below (Diagram 50), it is IMPERATIVE that the pool's water level be at least 10 cm (3,93") higher than the level of the external backfill.
- When executing the backfill according to Diagram 1 of Figure 2, remove the metal or wooden plate as the materials are filled.
- If it is an indecomposable material, it can be buried.

Diagram 50



Pump using a sufficiently powerful submersible pump through the decompression well during the immersion operation of the backfill (hydraulic backfill).

TERM	DEFINITION
Earth Bonding	The earth bonding system ("functional earth") is equipment designed to eliminate static currents resulting from friction and water passage in the turbine: pump, cell, electrolyzer, etc.
Chamfer	Cutting a bevel on the sharp edge of a piece; the oblique surface thus obtained.
Suction Collector	This accessory allows the connection of three essential elements for the proper functioning of your pool: the bottom drain, skimmer, brush socket, or any other suction parts. It must be installed by gluing just before the entrance to your pool's pump.
Demolding	The action of removing from a mold.
Agricultural Drains	Flexible agricultural drains are perforated pipes that allow the evacuation of water contained in the ground. The performance of a drainage network depends on the diameter, slope, and nature of the ground.
Squaring	Setting or verifying the right angle of various elements (wood piece, mechanism, etc.) of a structure.
Reinforcement	The set of metal elements in a reinforced concrete structure. Placement of reinforcements before concreting.
Threading	The action of machining a thread on a rod or tube using a die or other tool.
Bottom of Excavation	An excavation made in the ground, generally to establish the foundations of a construction. A site in excavation is therefore a site in the earthwork phase. The bottom of the excavation then designates the lowest level where the excavation stops.
Granulometry	Measurement of the dimensions of aggregate grains.
Géotextile	The geotextile felt filters : it allows water to pass but not aggregates. The geotextile felt drains : it ensures the proper distribution of rainwater and prevents water stagnation at its surface. The geotextile felt strengthens : it improves the resistance of a ground.
Laitance	Whitish powder, mainly composed of cement, appearing on the surface of concrete under certain conditions.
Lowering of the Water Table	Lowering the water table involves setting up a temporary pumping system to lower the piezometric level of the water table.
Tapping	The operation of executing a thread on the walls of a cylindrical hole using a tap.
Ball Valve	A valve whose closure system is made of a sphere pierced with a hole. This sphere can be turned with a handle in the cavity that contains it. Depending on the orientation of the sphere's hole, the fluid passes or not.

REMARKS

Lined area for writing remarks on page 38.

REMARKS

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