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BUILDING PREPARATIONS DURAPOLYMER® SKIMMER SWIMMING POOL

We have prepared “Step-by-step” building preparation guidelines for you in order to make preparations for and completion of the building of your new DURAPOLYMER® swimming pool and its accessories easier and problem-free. In the following steps we’ll guide you through the building preparation from the first setting out and pegging of the site, through preparing the base slab to the finishing of the pool surroundings. If you read and adhere to the recommendations below, the building preparation work and finishing the swimming pool installation should not pose a big problem.

Shall we open the illustrated attachment and get to work?

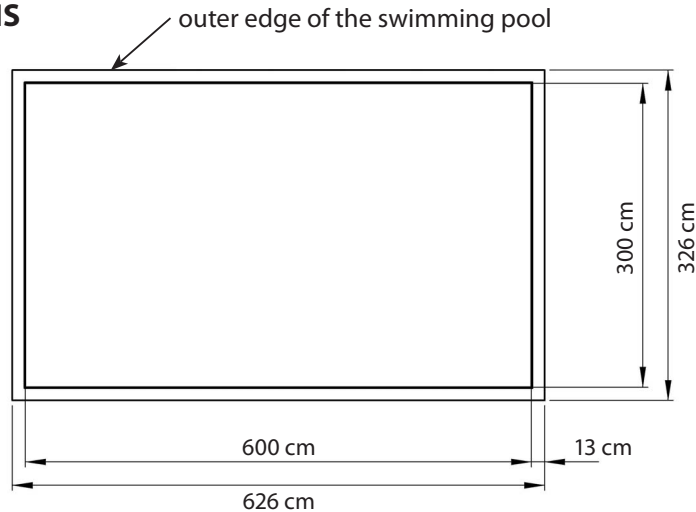
1

SETTING OUT THE SITE AND EXCAVATION

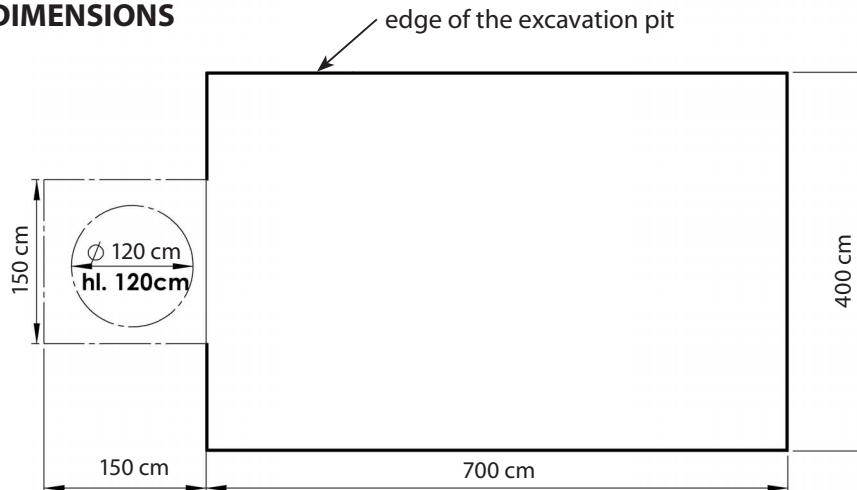
- Pegging
- Spreading sand
- Excavation
- Preparation for a drainage system
- Possible location of the filter technology shaft
- Possible location of the counter-current shaft

Example diagram for excavation work:

SWIMMING POOL DIMENSIONS



EXCAVATION DIMENSIONS (BASE SLAB)



Find a place on your property suitable for locating the swimming pool. We recommend you choose a place with as much sunshine as possible. You'll probably want to build a roof over your pool in the future. The roof will also require some space, so allow for this when planning where to locate the swimming pool. Peg out an area to match the size of your pool and mark the pool perimeter with sand. The marked out area of the future excavation should be at least 40 cm larger on each side than the inner pool size – in the case that the pool will be placed in the excavation pit by a crane. If the pool is going to be placed manually, there should be at least 50 cm on each side of the pool – this will guarantee sufficient manipulation space.

In the case that the pool is manufactured on site, the building site (excavation) should be at least 70 cm on each side of the pool. You'll probably have to do some terrain alterations while building the pool; therefore we suggest you don't remove all the excavated soil from the site. When setting out the depth of the excavation pit, allow not only for the depth of the pool but also for the thickness of the base slab and the level of the finishing layer top, i.e. paving, etc. The depth of the excavation pit is carried out about 40cm deeper than the internal depth of the pool. (See the illustrated appendix: building completion).

Location of the filter technology and counter-current shafts:

The Works Contract is for the following types of technology shafts:

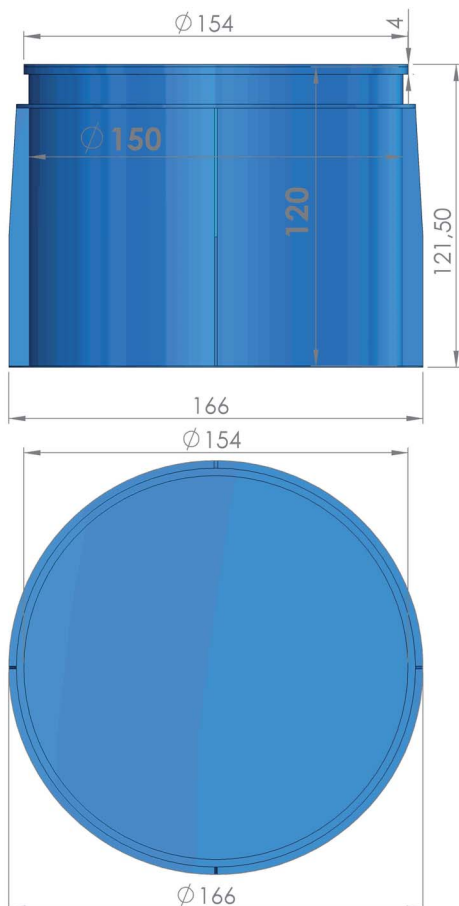
- Technology shaft with lid for the installation of the filter and counter-current system (Ø 150 height 120 cm)
- Technology shaft with lid for the installation of the filter (Ø 120 height 120 cm)
- Technology shaft with lid for the installation of the counter-current system (120 x 60 x 80 cm) = l / w/ h

We recommend that you carefully consider where to locate the filter shaft (irrespective of whether housing the complete technology or the counter-current system only), and then prepare a trench for installing the shaft. This trench for the technology shaft must not be located in the way of future roof sliding rails. The depth of the trench will depend on the depth of the shaft and the thickness of the base slab. When determining the depth of the excavation for the technology shaft we count on the shaft to protrude above the surrounding terrain. We recommend extending the technology shaft, including the lid, by 4 cm, this corresponds to an extension of 3 cm without the lid (the thickness of the lid is 1 cm). See the illustrated appendix: building completion. In addition, if the pool has polystyrene

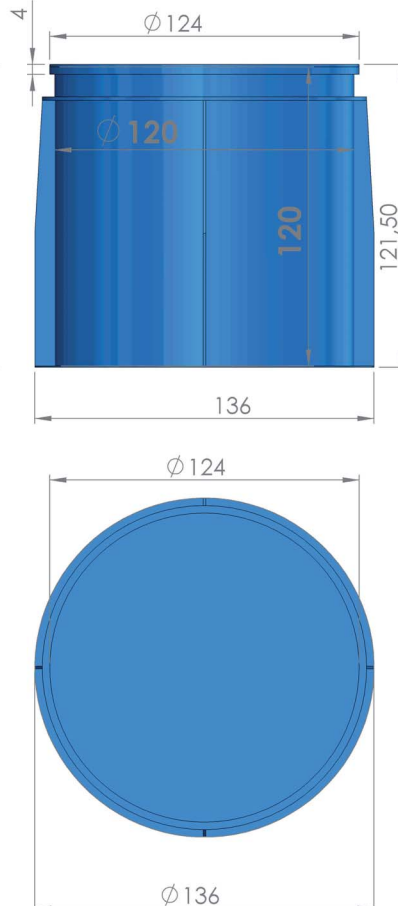
insulation under its base, the shaft must be extended even more by this insulation. The bottom of the shaft is intentionally left uninsulated for heat so that the shaft is "heated" by heat from the ground.

If the counter-current system is part of the delivery, the technology shaft is always located on the axis of the pool. The ideal distance from the outer edge of the swimming pool shell is 50cm - to utilise the maximum performance of the counter-current pump. If the counter-current system is placed at a greater distance or outside of the axis of the pool shell, its performance will be less. If only the shaft for the installation of the filter is part of the delivery, this can be placed anywhere within a distance of 8 m.

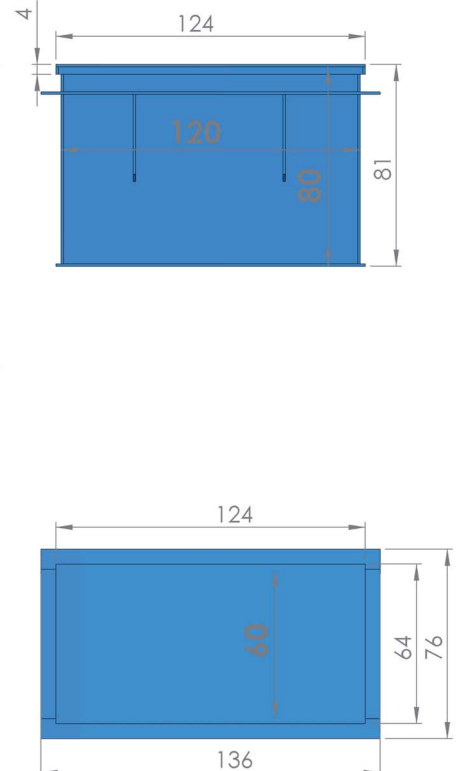
TECHNOLOGY SHAFT FOR THE INSTALLATION OF THE FILTER AND COUNTER-CURRENT SYSTEM



TECHNOLOGY SHAFT FOR THE INSTALLATION OF THE FILTER



TECHNOLOGY SHAFT FOR THE INSTALLATION OF THE COUNTER-CURRENT SYSTEM

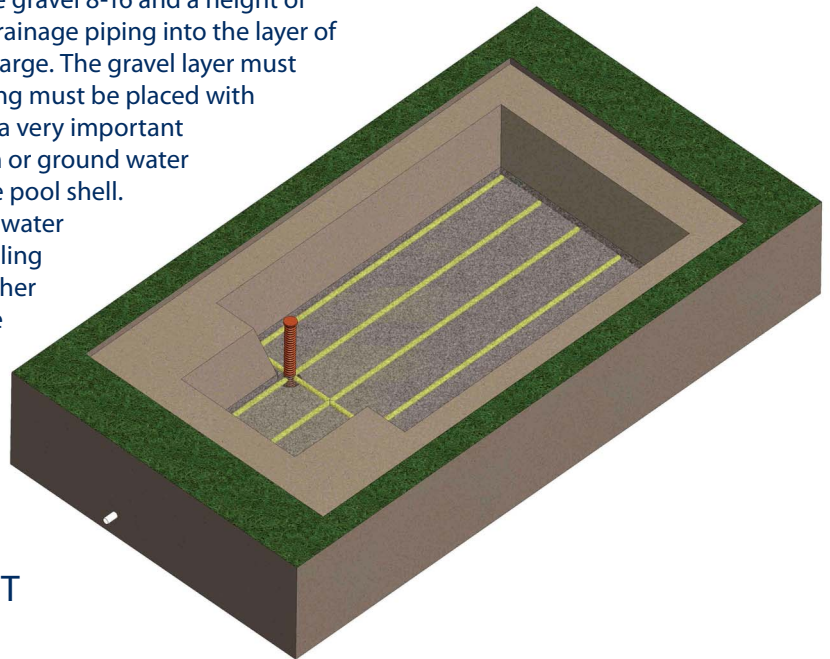


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LEVELLING THE BOTTOM OF THE EXCAVATION PIT AND DRAINING THE BASE SLAB

- Spreading gravel
- Laying the drainage piping
- Installing drainage

The bottom of the trench is levelled using fine gravel 8-16 and a height of about 20 cm. Prepare the installation of the drainage piping into the layer of gravel with a slope towards the place of discharge. The gravel layer must be adequately compacted. The drainage piping must be placed with a minimum slope of 1:100. Draining the base slab is a very important part of the building preparation. Precipitation or ground water may cause very extensive deformations of the pool shell. The costs of repairing damage caused by this water would undoubtedly exceed the costs of installing the drainage. Thus a general rule applies: neither precipitation nor ground water may reach the top of the base slab.



DRAINAGE CAN BE CARRIED OUT IN TWO WAYS:

A) Drainage using a drainage kit:

If the base slab is going to be drained using the drainage kit (a pipe of approx. 300 mm + drainage piping), the bottom of this pipe must be at least 50 cm below the top of the finished base slab. We recommend putting fine gravel under the bottom of this pipe. Place the pipe and secure it in a position perpendicular to the base slab. The drainage piping must have a gradient sloping towards the drainage pipe. The drainage kit (pipe) serves as a reservoir for the accumulation and these waters and must be equipped with a submersible pump. This pump is activated automatically and must be permanently connected to a ground cable and a source of electrical power.

B) Gravity drainage kit:

Lay the drainage piping (Ø 40 – 70 mm) in fine gravel, sloping towards the point of water discharge. We recommend that you build an inspection shaft in the system. This shaft will allow you to check whether the drainage piping is blocked or not in the future. Don't install the shaft in a place where the future enclosure railing may be located. The shaft dimensions must be sufficient to allow the piping to be cleaned, e.g. with pressured water.

Important (applies to both drainage methods):

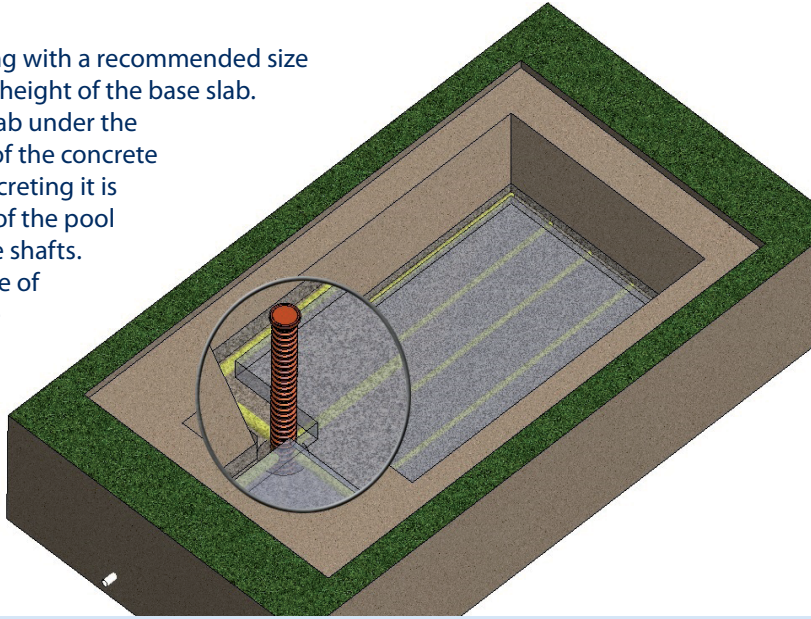
All drainage piping must, before being covered with gravel and then with concrete, be wrapped with a special geotextile (e.g. Filtek). The spacing between the drainage piping branches should not be greater than 80 cm.

3

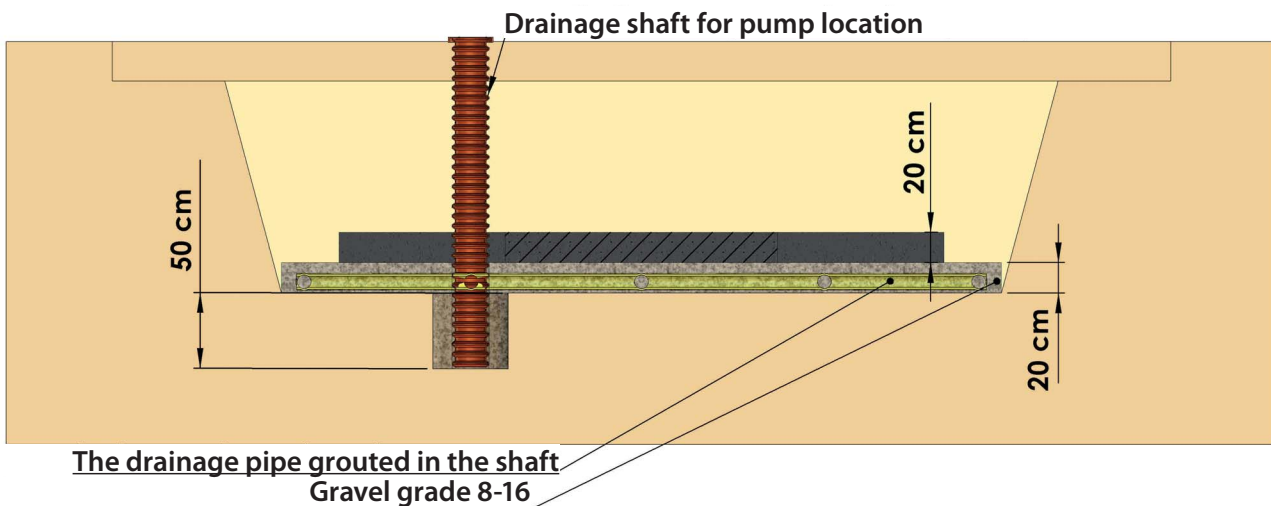
BASE SLAB REINFORCEMENT

- Levelling the base
- Installation of the Kari meshing
- Measuring the horizontal level and checking the height

The base slab reinforced with Kari meshing with a recommended size of 100x100x6 is placed at one-third of the height of the base slab. It is not necessary to reinforce the base slab under the technology shaft. The height (thickness) of the concrete slabs should be around 20 cm. When concreting it is necessary to respect the maximum level of the pool base slabs as well as the base slabs for the shafts. We recommended that you use a concrete of quality C16/20. The concreting should be carried out very carefully to comply with the maximum horizontal level of the base slab.



The base slab must be equal to a tolerance of plus - minus 2 mm / 2m.



- The height of the location of the base slabs must be determined with regard to the internal height of the swimming pool 0.5 cm (thickness) + the thickness of any polystyrene insulation.
- A seasoned, dry, smooth and clean base is ready for laying the geotextile and any thermal insulation beneath the shell of the swimming pool.

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INSTALLING THE POOL SHELL AND THE POOL TECHNOLOGIES

- Laying geotextiles and any thermal insulation (if part of the delivery)
- Installing the pool shell in the excavation pit (in collaboration with the client)
- Installing technology shafts
- Installing the drainage kit pump (if part of the delivery)
- Complete installation of the pool technology
- Testing the pool technology for potential leaks

As soon as everything is ready, installation of the pool shell and shafts in excavation pits may commence. If your Works Contract stipulates that offloading and installing the pool shell requires physical help, please make sure that the agreed number of people are available. This is then followed by complete installation and connection of the pool technology and, where applicable, the drainage pump. As soon as these works have been completed, the entire connection

and functionality, tightness of joints and piping will be tested by "flooding the technology". We recommend that you make sure the quantity of water necessary for testing the technology by flooding is available. As soon as the pool has been set in the excavation pit and installation works have commenced, you can start filling up the pool with water from your source; between 4 and 5 cubic metres of water will be required (around 20-30 cm).

Work to be done by the client

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CONCRETING THE SIDES OF THE POOL



Before you start concreting, make sure the orientation of the pool and its distance, for example, from the house are correct. After laying the paving any deviation is visible.

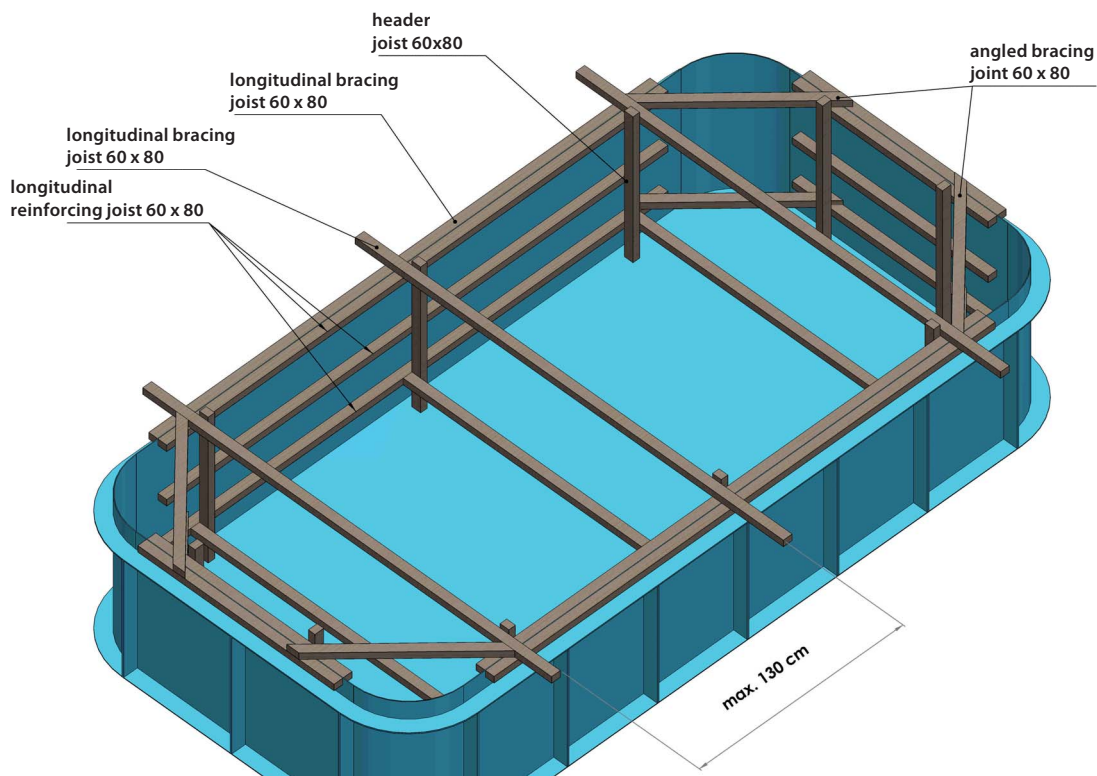
The pool shell should be braced in a suitable manner before concreting. Bracing is carried out to eliminate any deformations of the pool shell. The deformation may occur due to careless handling of concrete (e.g. when filling with concrete that is too thin or its compaction), or a too high level of infill water. The pool walls must not deform towards either the „inside“ or „outside“, the pool wall must be straight and vertical. We recommend frequent inspection of the perpendicularity and evenness of the walls and the overall shape of the pool and its diagonals.

We recommended carrying out the bracing of the shell in places where reinforced elements (ribs) are in place. When installing the bracing you must prevent damage to the pool walls, for example, by wrapping the bracing elements in geotextiles.

Before starting the lining and concreting all technological elements (e.g. circular nozzles, pipes, fittings, etc.), which will be concreted over should be

suitably insulated, for example, with mirelon with a thickness of 1 cm. This will not only thermally insulate the technology but also allow for its thermal expansion, and thus will prevent possible damage to the embedded elements.

Once you have the pool shell ready and, as the case may be, the technology shaft, it is possible to gradually start reinforcing the bracing walls that separate the concrete layer and soil. **Build the bracing wall after positioning the pool and connecting its technology.** We recommend joining the bottom of the base slab and the lining in a suitable manner. When lining it is important to keep enough distance between the bracing wall and the reinforcing elements of the pool shell and technology shafts so that it is possible to backfill the space with so called 'dry concrete'. Never compact the dry concrete as this prevents the formation of irregularities in the pool shell.

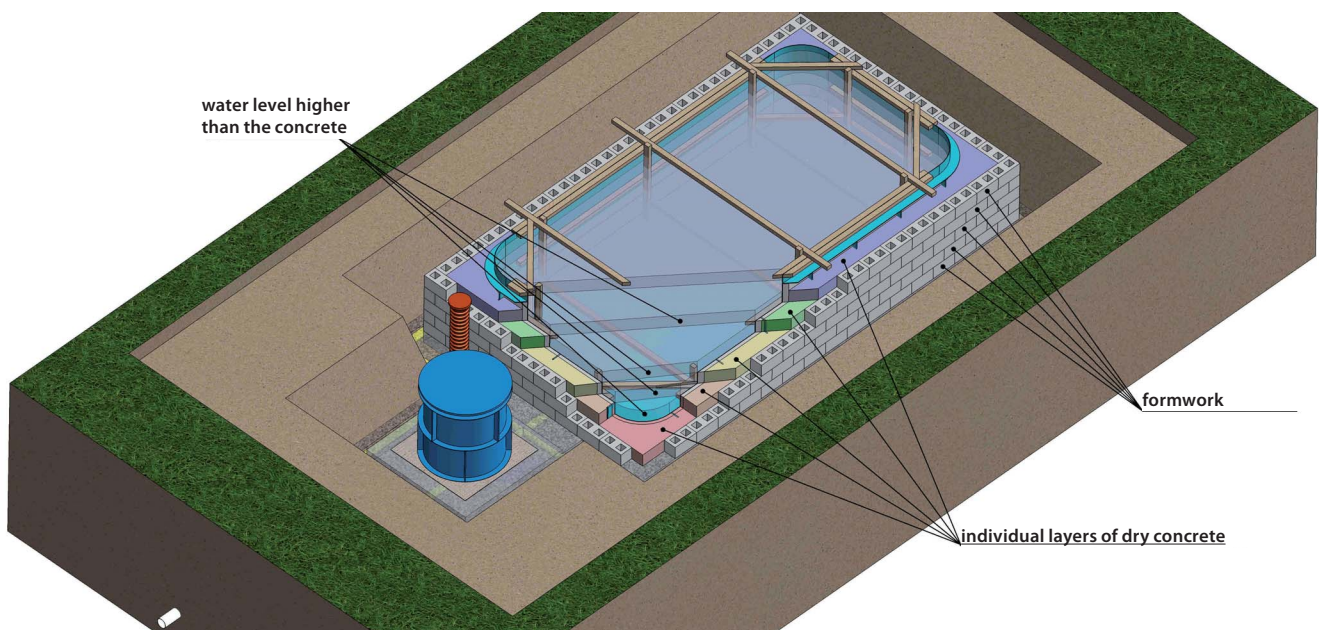


When concreting check the verticality (squareness) and the flatness of the walls and consistency of the diagonals of the pool shell. If you find any anomalies, stop concreting and align the shell immediately. We recommend choosing the same procedure in curves of the shell. However, in these places it is only possible to carry out concreting with a thickness of about 20 cm around the perimeter. If the technology shaft is part of the delivery you must follow the procedure given above – the shaft must be walled or concreted around. Carry out lining, concreting in layers, so that the height of one layer of concrete is a maximum of 30 cm. After making one layer of lining concreting, wait until the layer has hardened before making the next layer. When concreting you should fill the pool with water so that the water level is about 10 to 20 cm higher than the layer of concrete.

The height of the elevated water level depends on the plasticity of the concrete used. For dry concrete we use

smaller elevated levels, for wet higher. Backfill with soil - we recommend that this soil is packed down (compacted) in the remaining space between the lining and the terrain. Never connect the hard pool shell with the lining in places from the bottom to the height of the reinforcing elements of the shell - see chapter below.

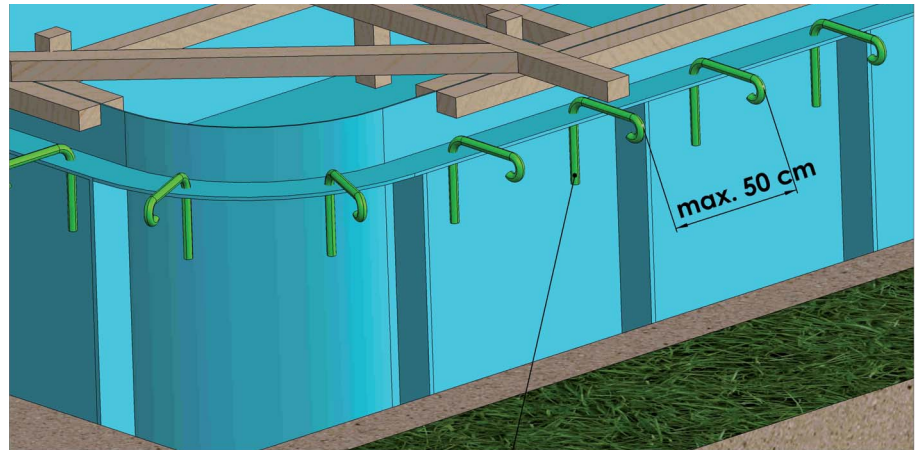
The client lays the pipe during construction ideally in perfectly compacted sand without any stones and clay, and fine sand that does not contain clay and backfills it at the same time. If the pipe is insulated with mirelon (mirelon sheets with a thickness of min. 1 cm) it can be also set in concrete. It is necessary to proceed in order to avoid damage to it, for example, from motion (subsidence) inadequately compacted subsoil and its surroundings, during the movements of permafrost etc. Vehicles must not be driven over the location where the pipe is laid.



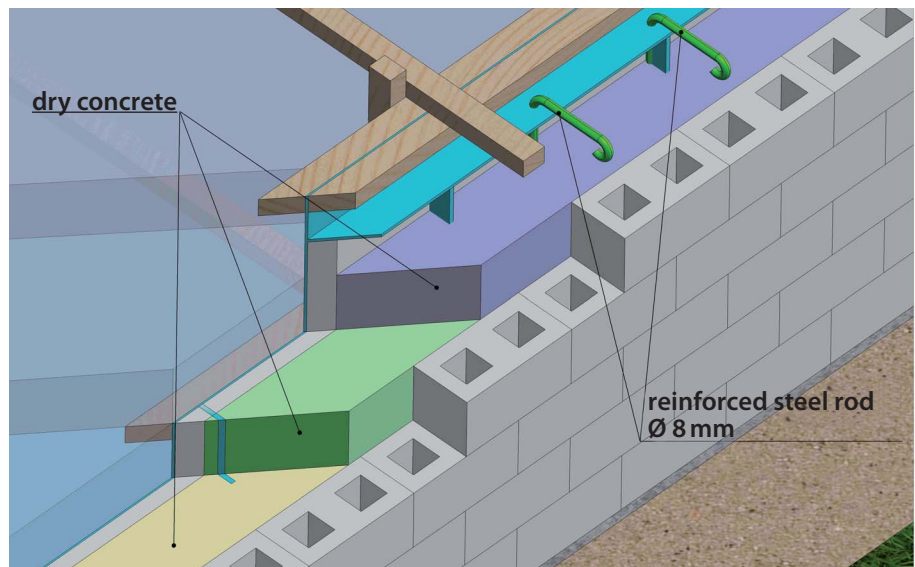
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ANCHORAGE OF THE POOL SHELL WALLS

The edge of the pool is anchored with $\varnothing 8$ mm reinforced steel rods which stretch the drilled holes in the edge of the pool - the detail in the illustration depicts the anchoring of the side wall of the pool shell.



Reinforced steel rod $\varnothing 8$ mm



dry concrete

reinforced steel rod
 $\varnothing 8$ mm

The concreting should be completed up to the final height of the base concrete. The height of the base concrete means its vertical alignment with regard to the completion of the surroundings of the pool shell, therefore it is necessary to

count with the height of paving, or other final completions. During concreting always check the verticality and flatness of the walls and shape (diagonal) of the pool

Please note:

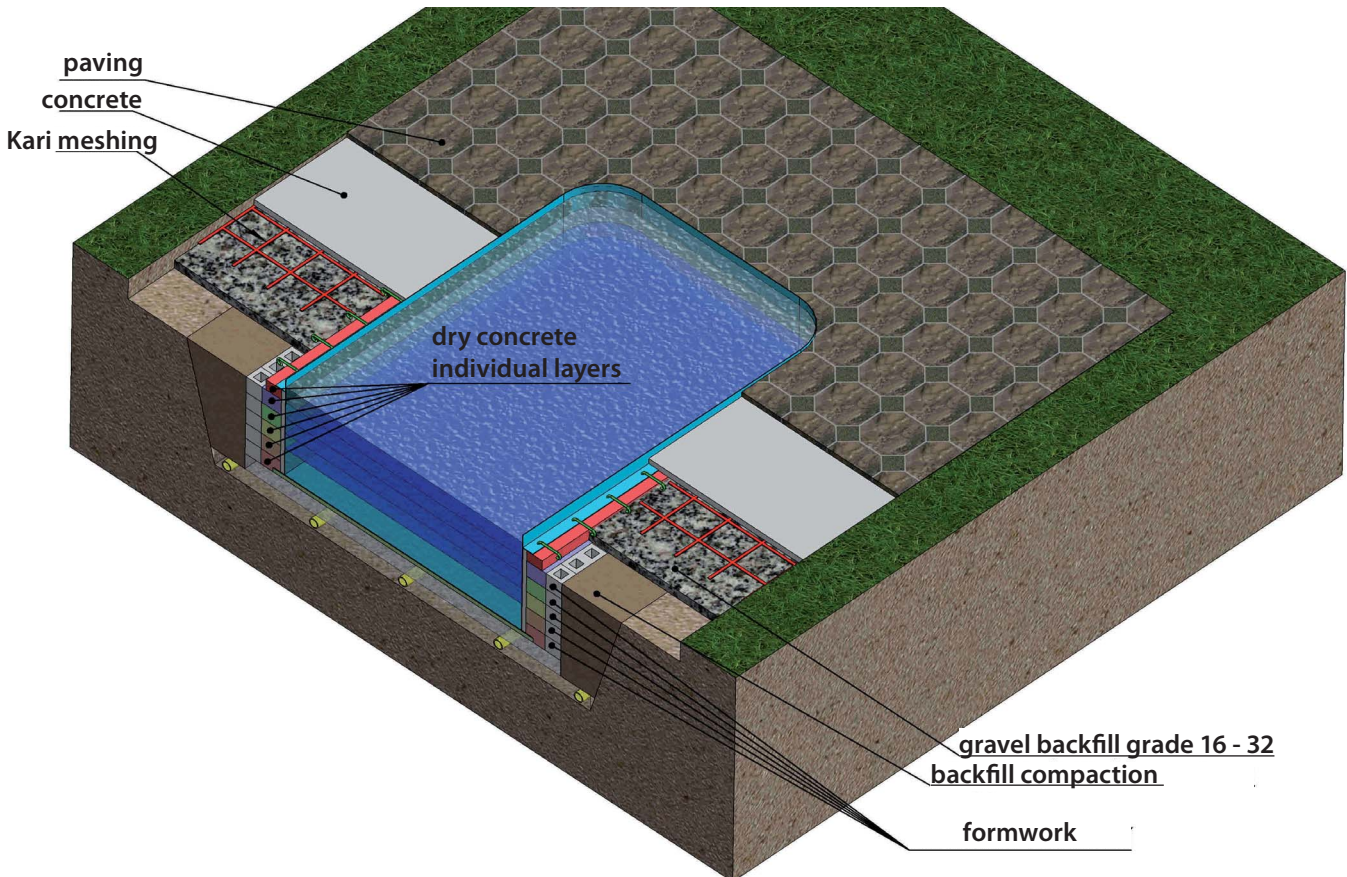
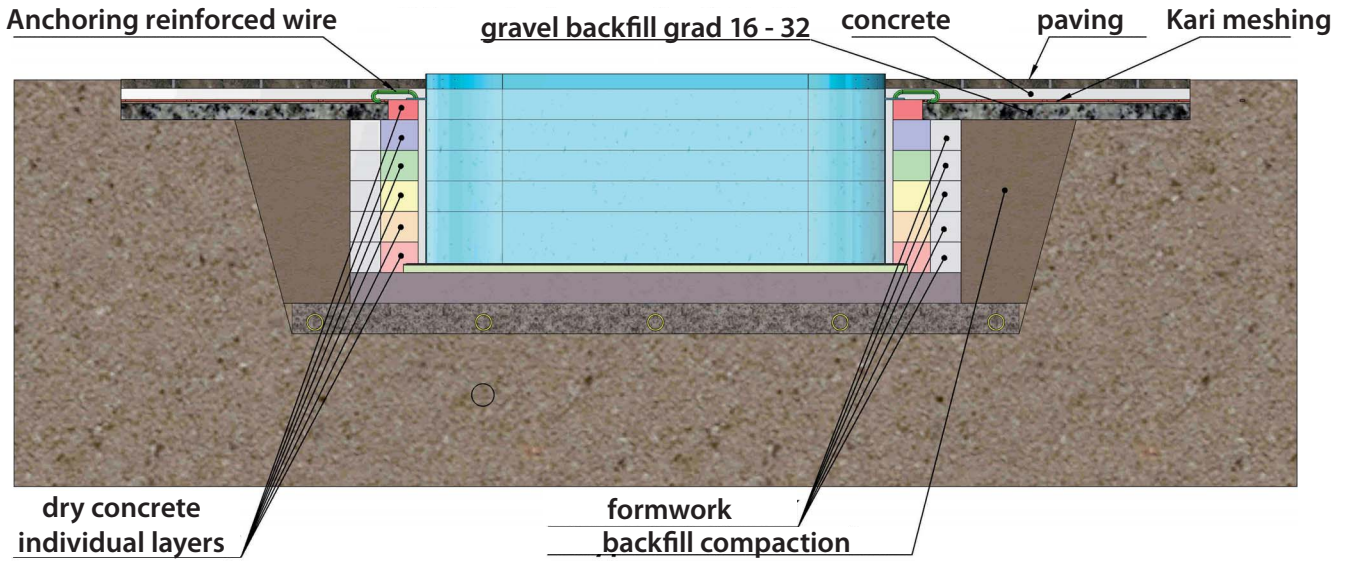
We do not recommend only concreting - concreting the shell without a lining. If you do decide to only concrete the pool shell, you should avoid any warping or deformation of the pool shell.

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GRAVEL BASE LAYER CONCRETE SLABS

We recommend placing a gravel aggregate grade 16-32 under the concrete slab on which will be the final completion. The perimeter of the pool shell should be equipped in a suitable manner to prevent damage, e.g.,

sealing with mirelon tape, which protects the casing of the shell from damage from sharp objects while allowing dilation of the shell. The technology shaft can be protected against damage with geotextiles.



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CONSTRUCTING A BASE SLAB FOR FUTURE PAVING

The height of the base slab is dependent on the on the height of the final vertical alignment of the paving. The slab should be monolithic and reinforced with Kari meshing.

The height of the base slab is dependent on the height of the paving selected. Construct the final base slab under the paving, if there is any unevenness this can be levelled with gravel. If you are considering of installing an enclosure, it is necessary to firmly connect the paving to the base slab by either concreting under the

paving or some other suitable means. At this stage you should also carry out the installation of anchoring elements (plastic bases) for the pool steps and the connection box for the pool lights, unless they are the subject of the Works Contract.

If the final finishing is wood or composite decking it is necessary to place decking joists at a maximum distance of 20 cm in the place where the future rails will be at a maximum distance of 20 cm.

Work to be done by the client

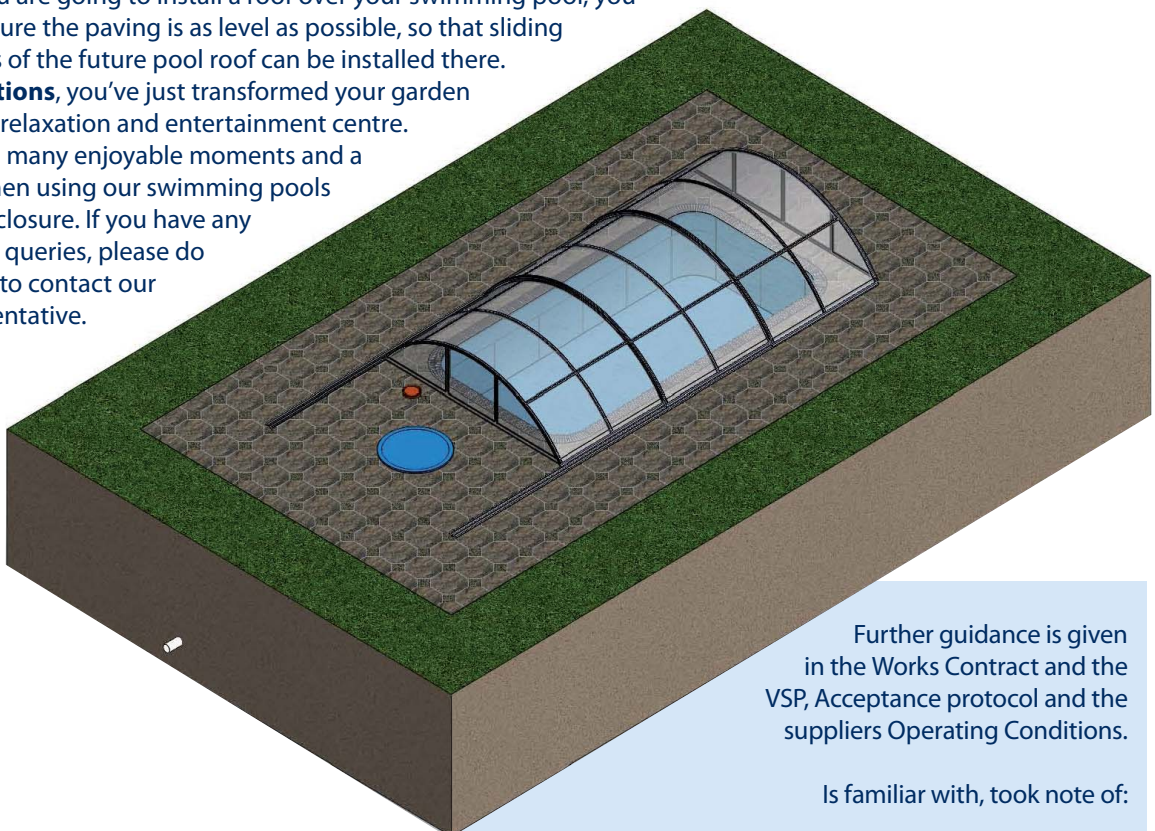
9

TERRAIN PREPARATION AND FINAL MODIFICATIONS TO THE SURROUNDINGS

Before final landscaping of the pool's surroundings, it will be necessary to level the terrain. We recommend that you make the surrounding terrain at least 10 cm below the level of the base slab. You'll appreciate this difference in heights when maintaining your pool, for instance when mowing the lawn. Now everything is ready for paving. If you are going to install a roof over your swimming pool, you must make sure the paving is as level as possible, so that sliding components of the future pool roof can be installed there.

Congratulations, you've just transformed your garden into a home relaxation and entertainment centre.

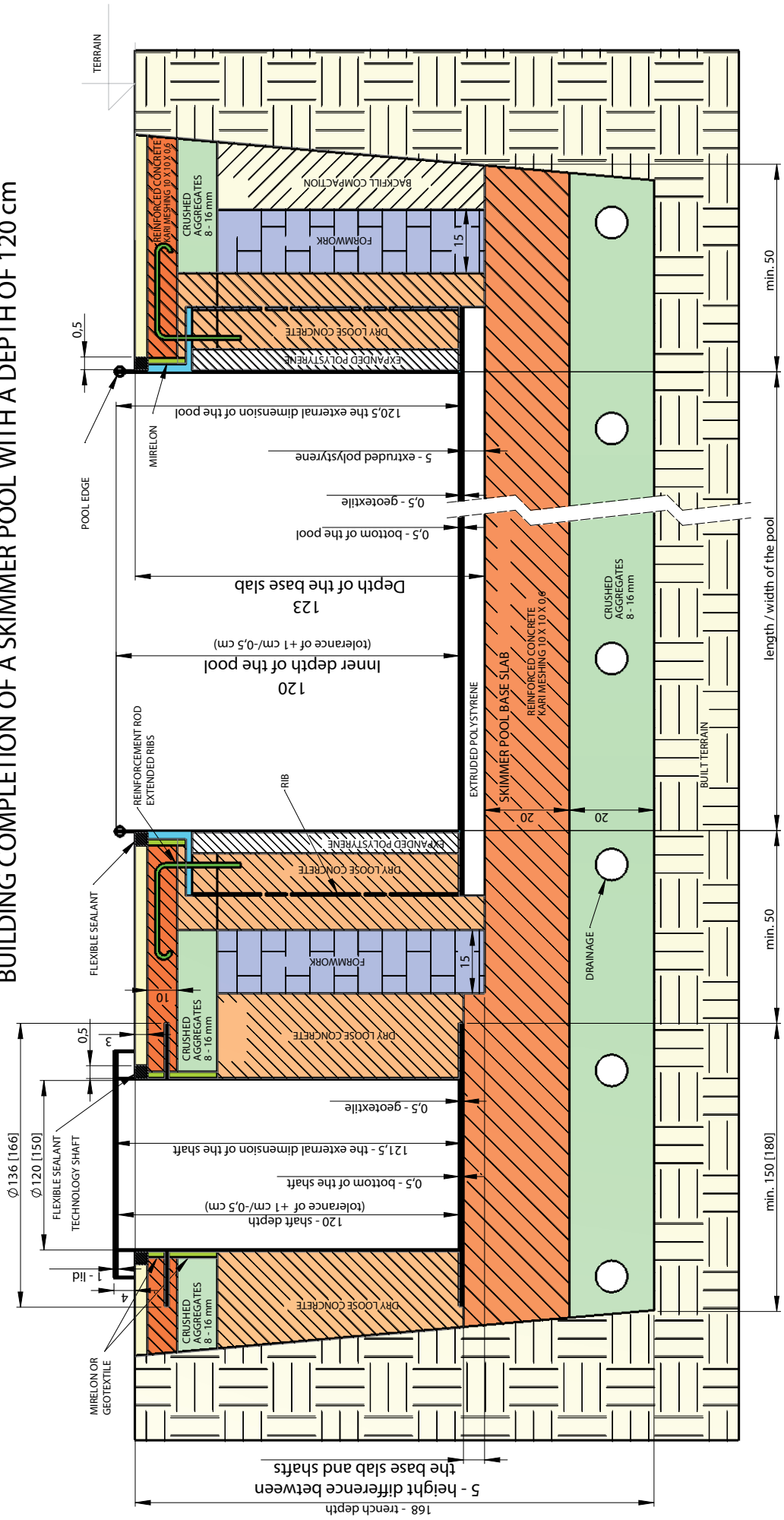
We wish you many enjoyable moments and a lot of fun when using our swimming pools and pool enclosure. If you have any questions or queries, please do not hesitate to contact our sales representative.



Further guidance is given in the Works Contract and the VSP, Acceptance protocol and the suppliers Operating Conditions.

Is familiar with, took note of:

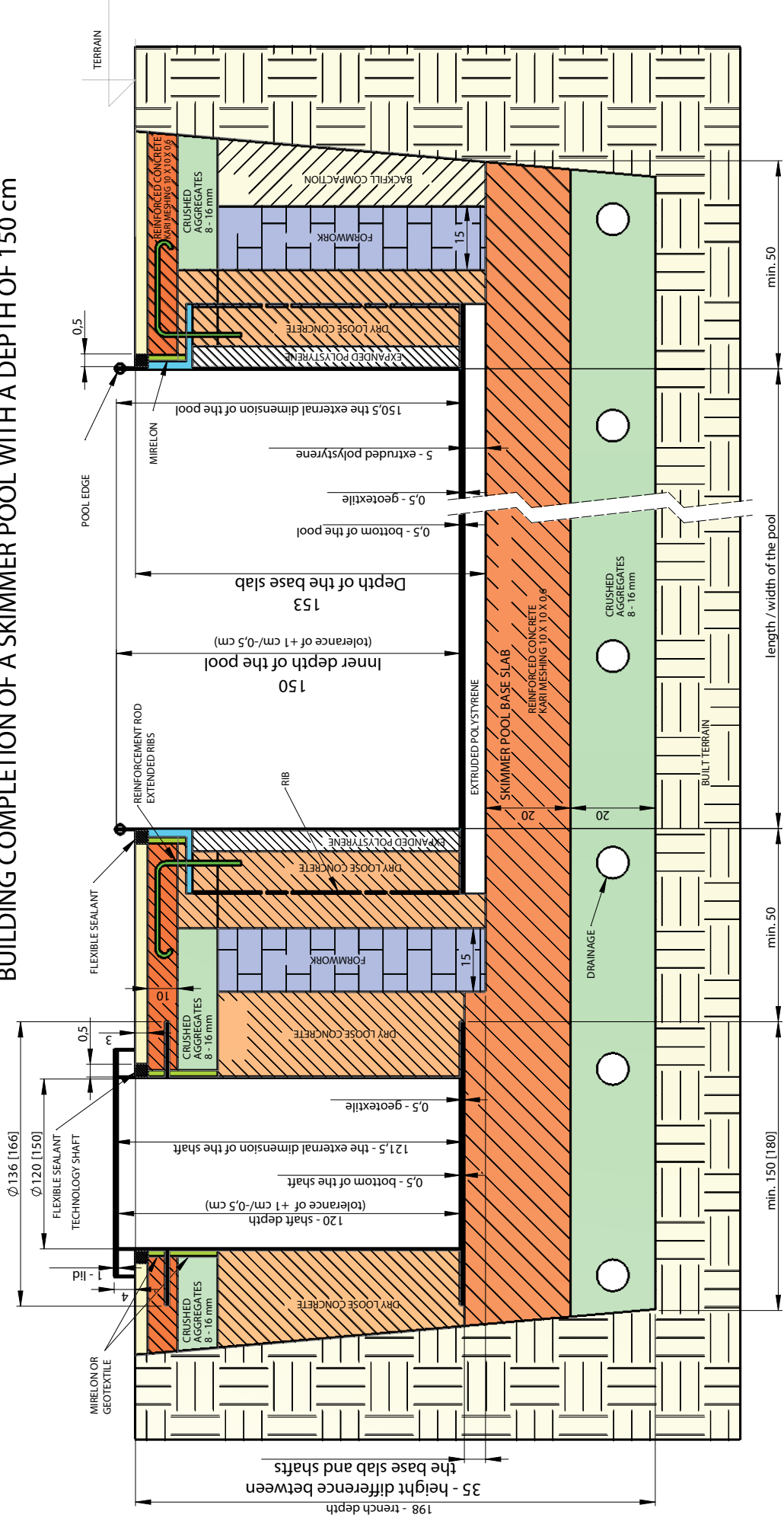
BUILDING COMPLETION OF A SKIMMER POOL WITH A DEPTH OF 120 cm



For a technology shaft with a diameter of 150 the values listed in "brackets" [] apply.

The dimensions are given in cm.

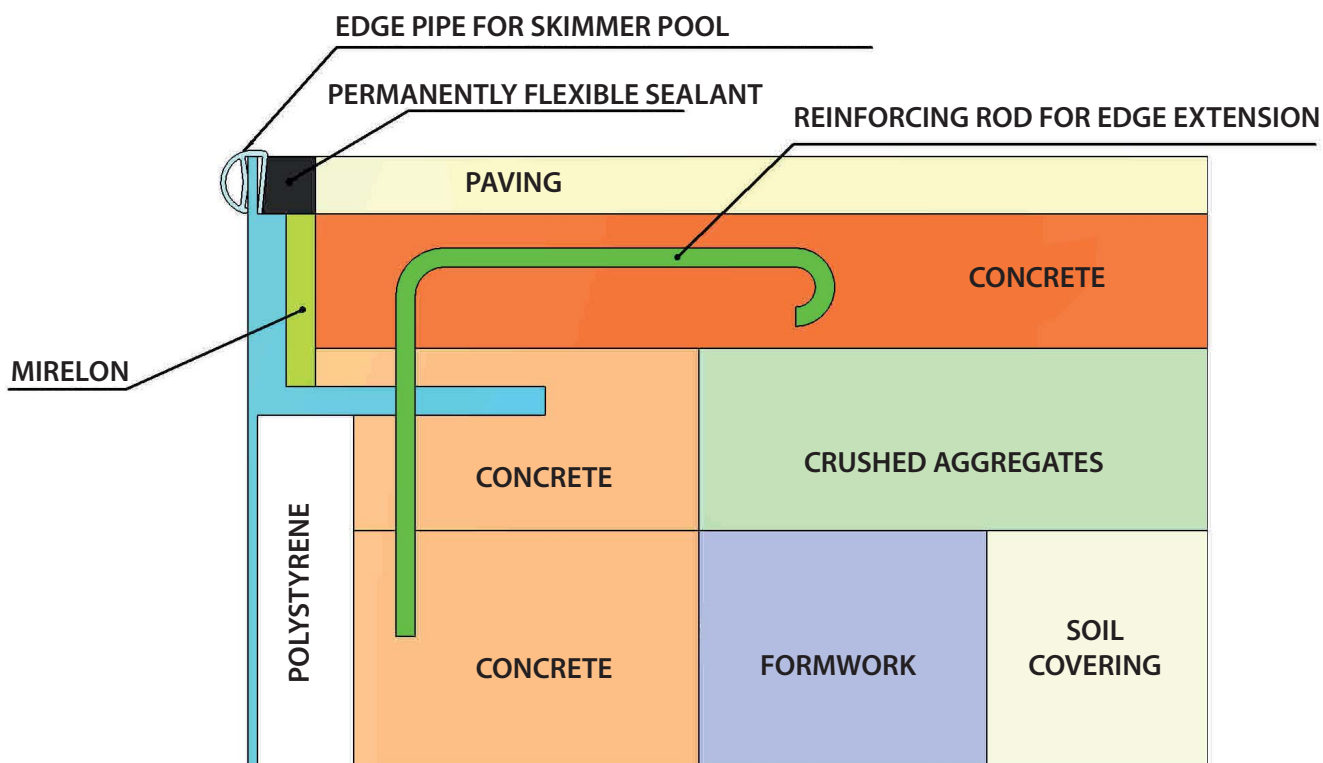
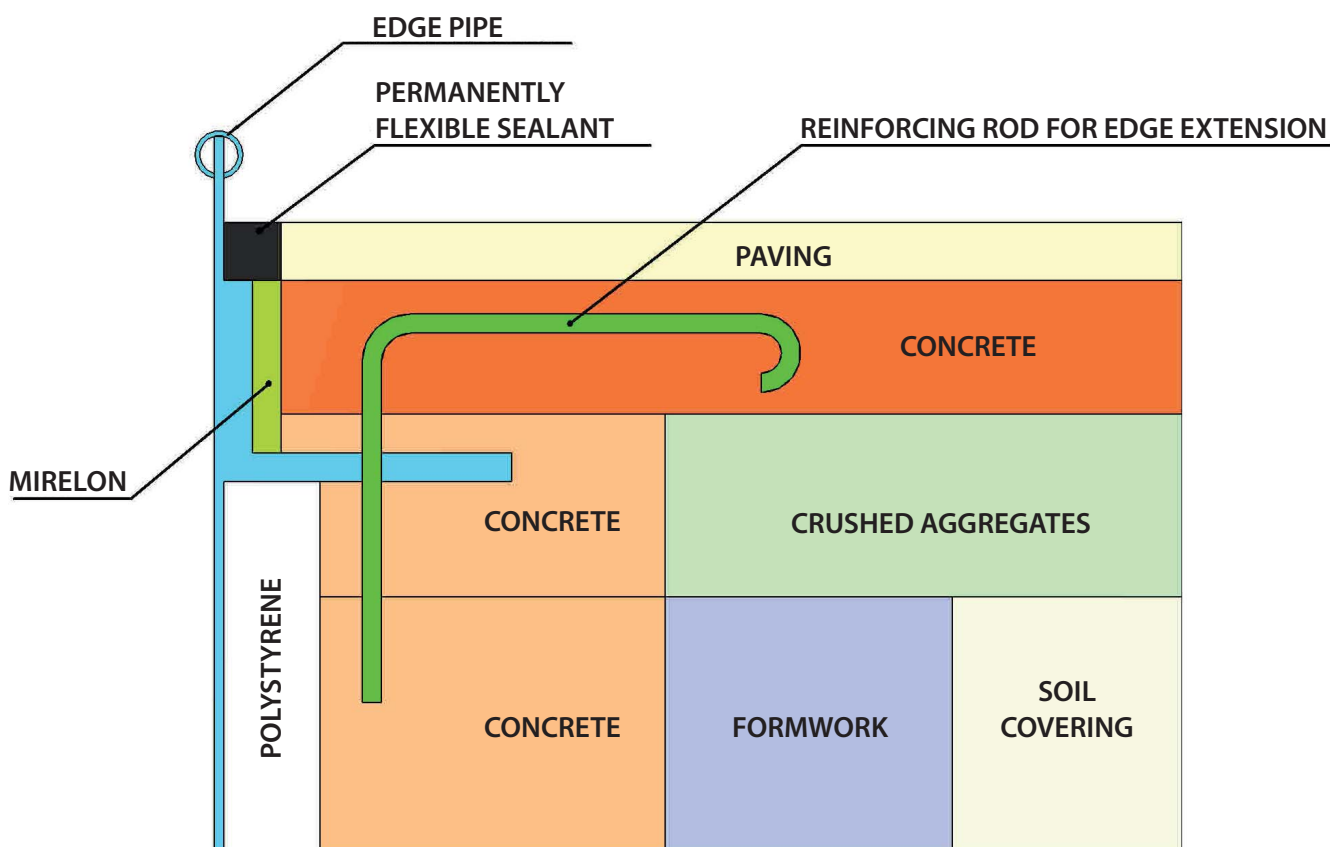
BUILDING COMPLETION OF A SKIMMER POOL WITH A DEPTH OF 150 cm



For a technology shaft with a diameter of 150 the values listed in "brackets" [] apply.

The dimensions are given in cm.

POSSIBILITIES OF BUILDING COMPLETIONS FOR ALBISTONE SWIMMING POOLS:



POSSIBILITIES OF BUILDING COMPLETION FOR ALBISTONE POOLS:

