



Manual for reusable formwork casing installation



To build fast! To build easily! To build profitable!

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1. Land marking

1.1. Best swimming pool location

Your swimming pool should supplement surrounding landscape. In most cases the level of swimming pool is aligned with the house. You also can line it up with other already existing buildings. From chosen initial object to the swimming pool's location place, pull a rope in relation with which you will determine the marking-out of the future pool, either parallelly and perpendicularly.

1.2. First outline

Using 4 pegs and a rope, create a rectangle according the size of your swimming pool. Connect four pegs with rope. Check that the diagonals are equal. For an ovoid shape most significant is to mark out the rectangle in the center of the pool using a rope. It will be used as a reference point when marking out the swimming pool shape. Using whitening, gypsum or quick-drying lime, mark out the swimming pool shape.

1.3. Second outline

Recede 80 cm from the perimeter of the first rectangle and create the second rectangle. Mark out by whitening or gypsum the lines of a second rectangle, which should be 80 cm wider than first outline. Insert four pegs into four corners of new outline. Connect four pegs with a rope. Check diagonals which also should be equal. Make a marking of the second outline as well as the first one. If your swimming pool has the Roman stairs, mark out extra width at place of its location. The second outline determines excavation limits, and additional 80 cm around the first outline are necessary for easier access to a formwork casing during its installation and dismantling.

1.4. Reference level

Insert a peg in three meters from the second outline. This peg determines a reference level of your swimming pool. A peg should remain on this place till the end of construction works. With the help of a level-meter check the depth of carried out excavation. One level should be opposite a peg, and the second level – inside the outline.

1.5. Depth

In case of swimming pool construction from formwork panels with height 1.20 m, the excavation depth should be 1.35 m in relation to a reference level. In a case of swimming pool construction from formwork panels with height 1.50 m, excavation depth should be 1.65 m in relation to a reference level.

2. Excavation works



2.1. Excavation of the ground

The excavation work is carried out in two stages:

Stage 1: Perform the first stage of excavation perpendicularly to the second marking outline at depth 1.35 m below reference level, as well as the trench from a place of filtration equipment location to the power supply point.

Stage 2: Once the previous step is done, it is necessary to make at the bottom of a hole marking out of the swimming pool again to create a deep part of a pool bottom. You should ensure a plane section of approximately 1-1.50 m wide and 1.20 m long.

Determine desirable depth of swimming pool between 1.20 m – 1.80 m. The deep part should be positioned in distance of two thirds of the length of the swimming pool, on the filtration equipment side. The slopes should converge from the edge of swimming pool to a deep point.

2.2. Marking the deep end of the pool

Mark the deep end of the pool, using the pegs rising 10 cm above the soil level. They will serve as reference points when the concrete is poured.

Excavation is carried out by a ladle of excavator. Starting from the second outline, excavation will fall up to required level of 1.35 m (if height of panels is 1.20 m) in relation to corresponding peg.
ATTENTION! Do not exceed depth 1.35 m.

3. Laying and installation of supporting blocks

Supporting blocks should straightly support panels of reusable demountable formwork casing, without additional struts. Therefore it is necessary to lay them according to the drawing, at one level in relation to one another.

3.1. Dimensions of supporting blocks, their quantity and installation



Supporting blocks should be made from 100 % concrete mass and to have dimensions: 20x20x40cm. It is important to install supporting blocks in each corner of the pool, in each location of formwork panels joint. Mark the location of blocks with chalk. Lay each block on a bed of mortar on aligned level.

Make sure, that the level of each block is absolutely aligned with a level of all others blocks. Install blocks and fix them with concrete mortar. Fixed blocks should raise 10 cm over the fixing mortar. Blocks should be fixed according to a level peg: in depth 1.25 m for panels 1.20 m. Insert a pin near the first installed block minimum in 1.25 m from a reference level mark to establish a level of blocks.

3.2. Marking line for formwork casing

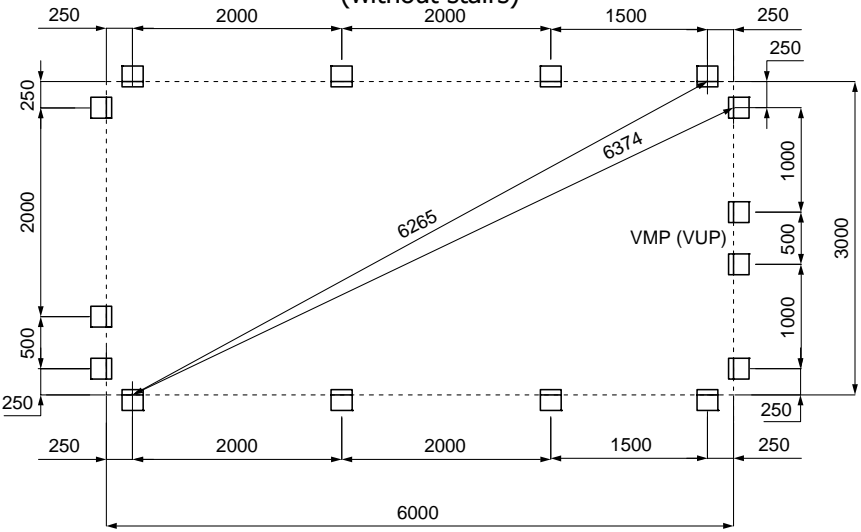


Recede from edge of the block 8-10 cm and mark a line on the concrete block. Following a rope put a marking on all other blocks. Marking line will show the beginning of installation of an internal part of a reusable formwork casing.

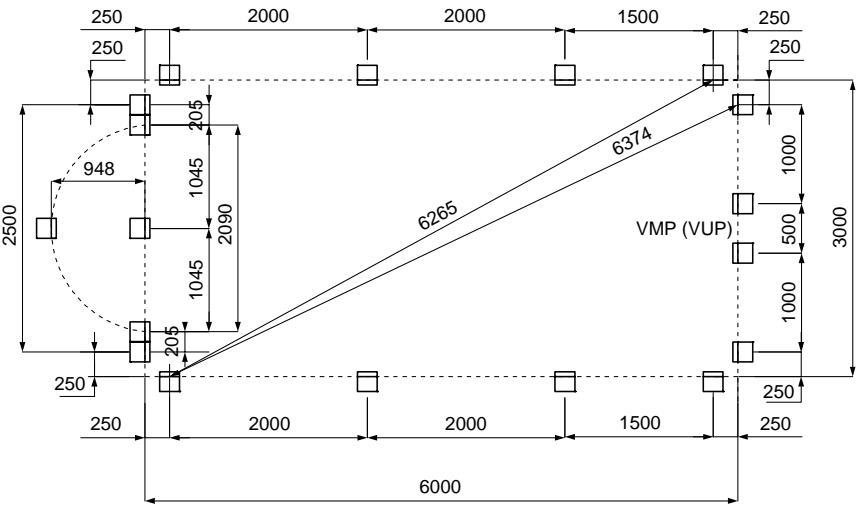


BLOCKS' LOCATION IN THE SWIMMING POOLS 6 x 3 m

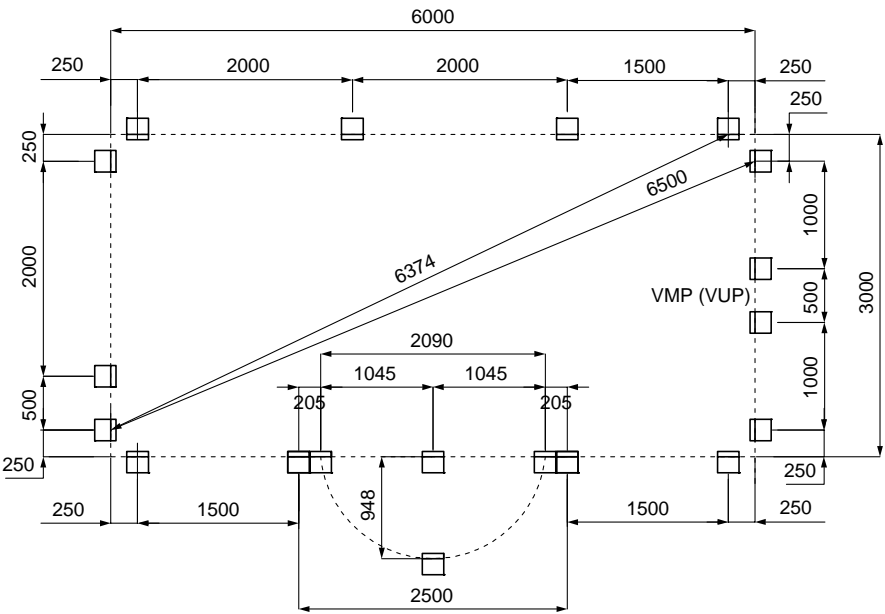
Rectangular 6 x 3 m
(without stairs)



(with stairs sideways on the short side)

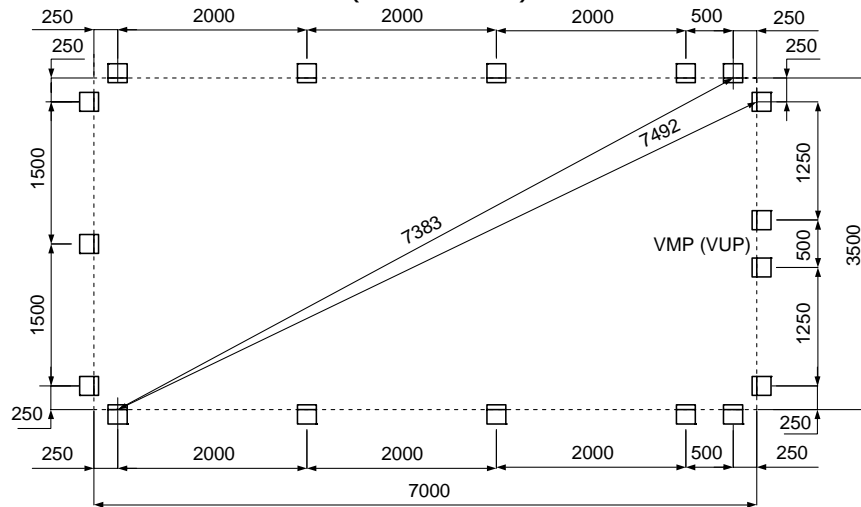


(with stairs in the middle of long side)

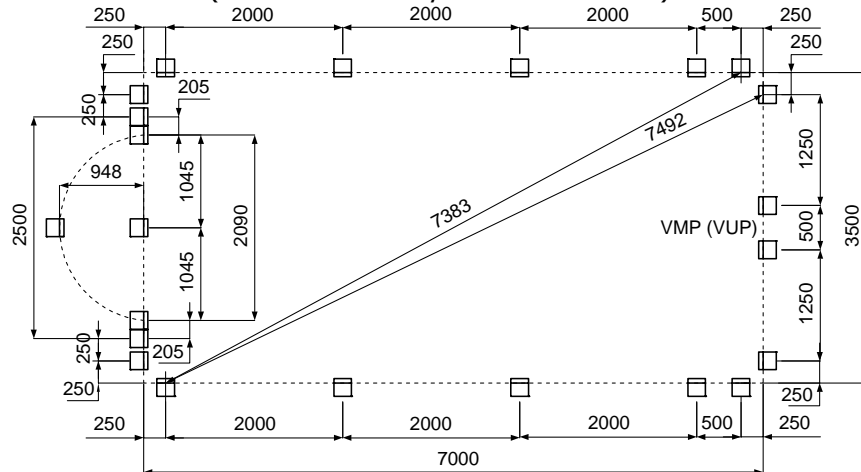


BLOCKS' LOCATION IN THE SWIMMING POOLS 7 x 3.5 m

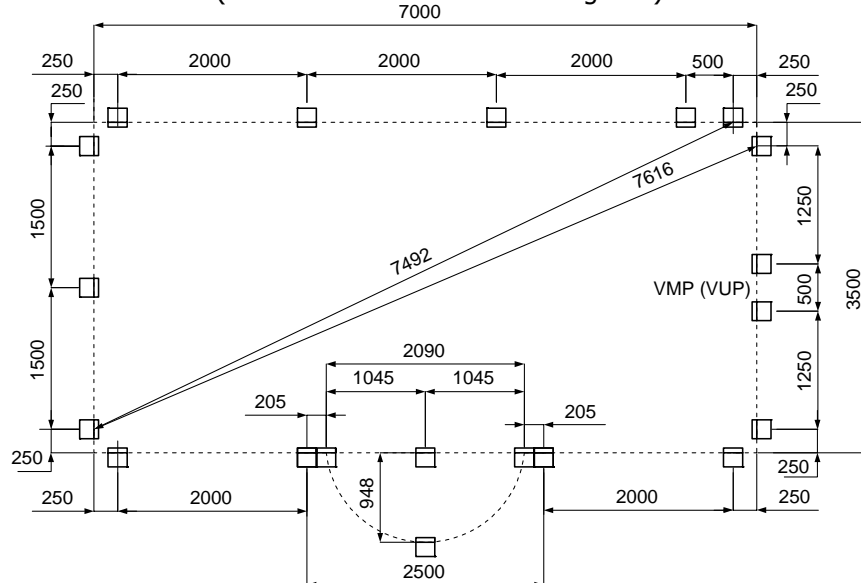
Rectangular 7 x 3.5 m (without stairs)



(with stairs sideways on the short side)



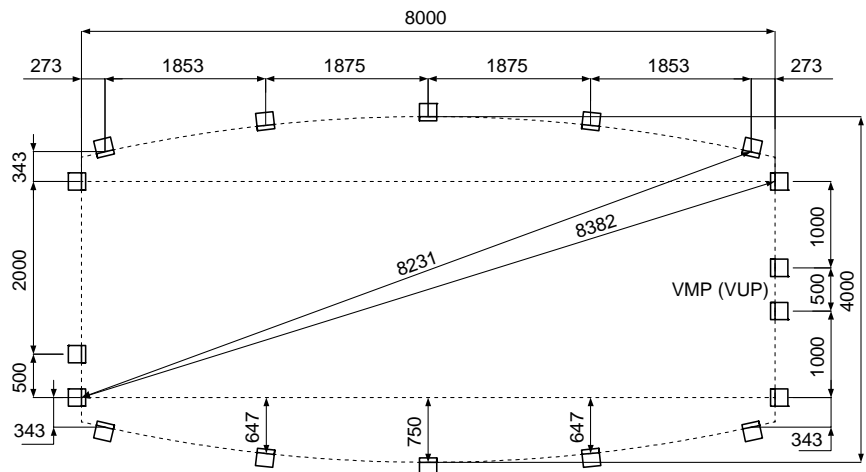
(with stairs in the middle of long side)



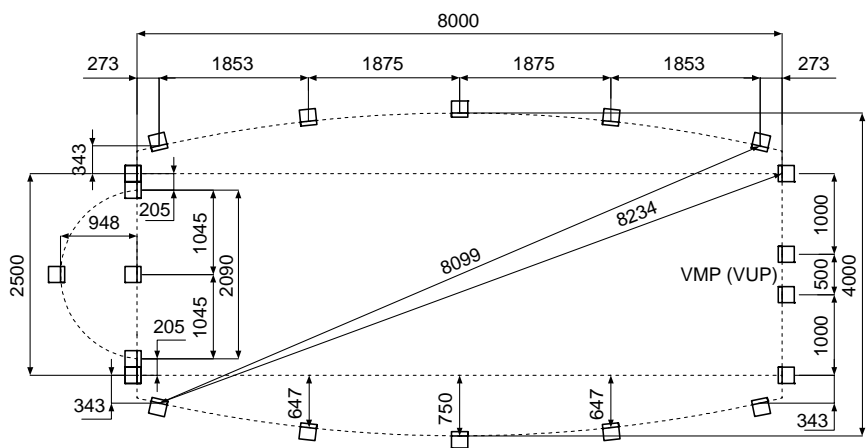
BLOCKS' LOCATION IN THE SWIMMING POOLS 8 x 4 m

Ovoid 8 x 4 m

(without stairs)

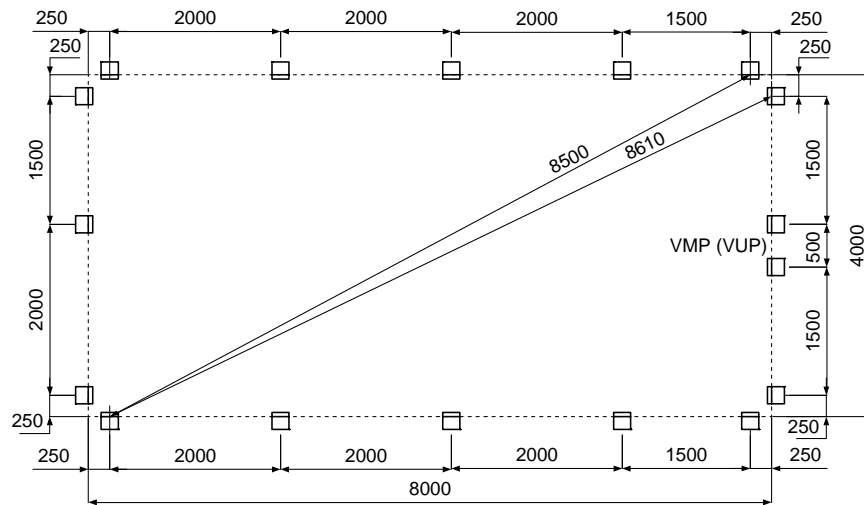


(with stairs in the middle of long side)

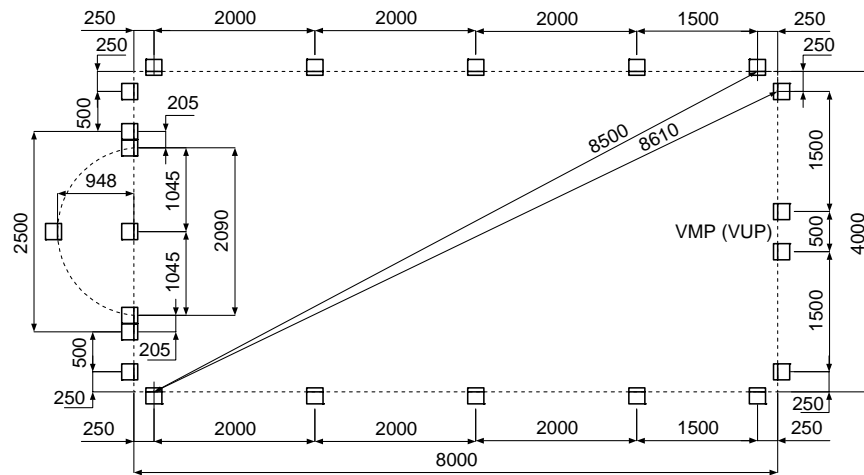


Rectangular 8 x 4 m

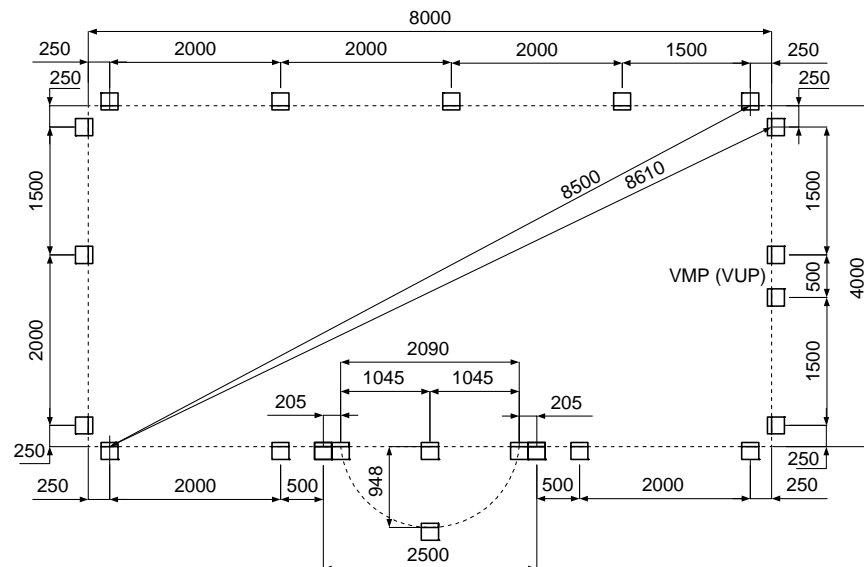
(without stairs)



(with stairs in the middle of short side)



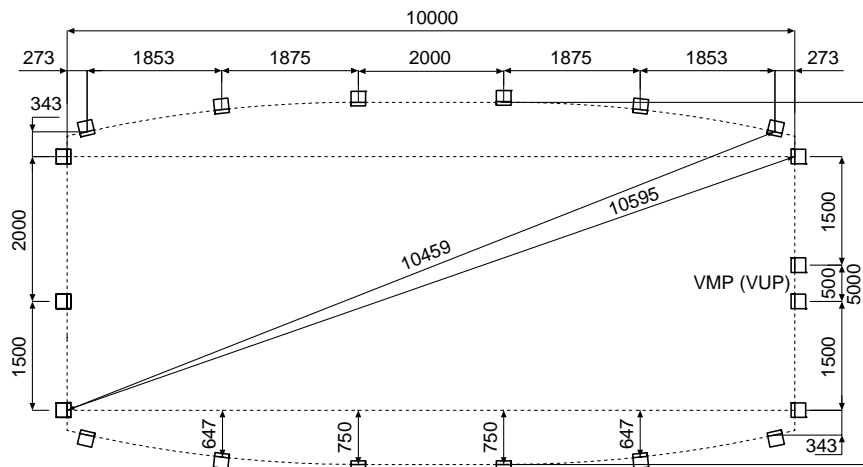
(with stairs in the middle of long side)



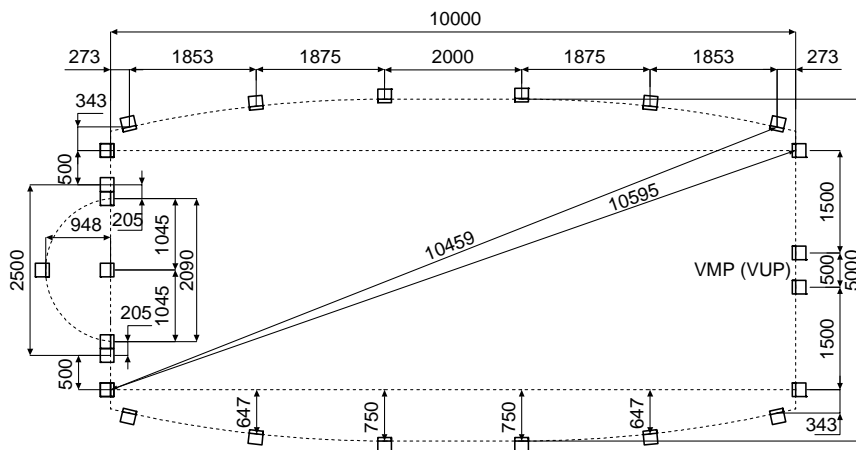
BLOCKS' LOCATION IN THE SWIMMING POOLS 10 x 5 m

Ovoid 10 x 5 m

(without stairs)

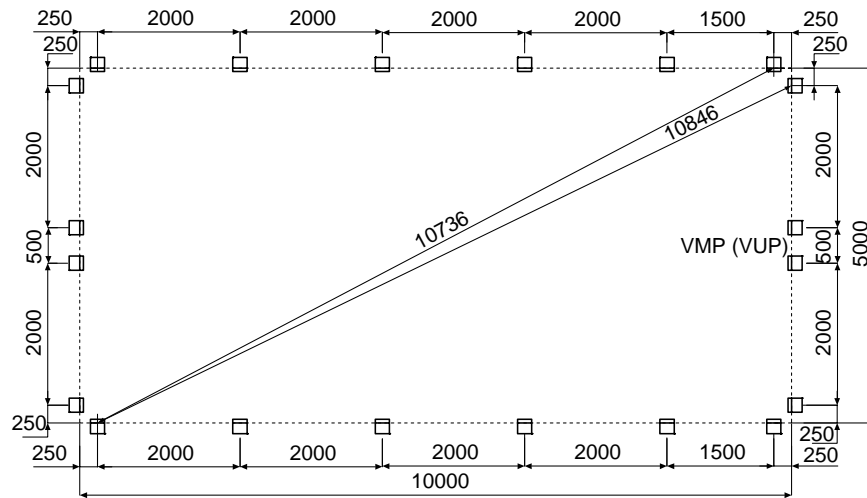


(with stairs in the middle of short side)

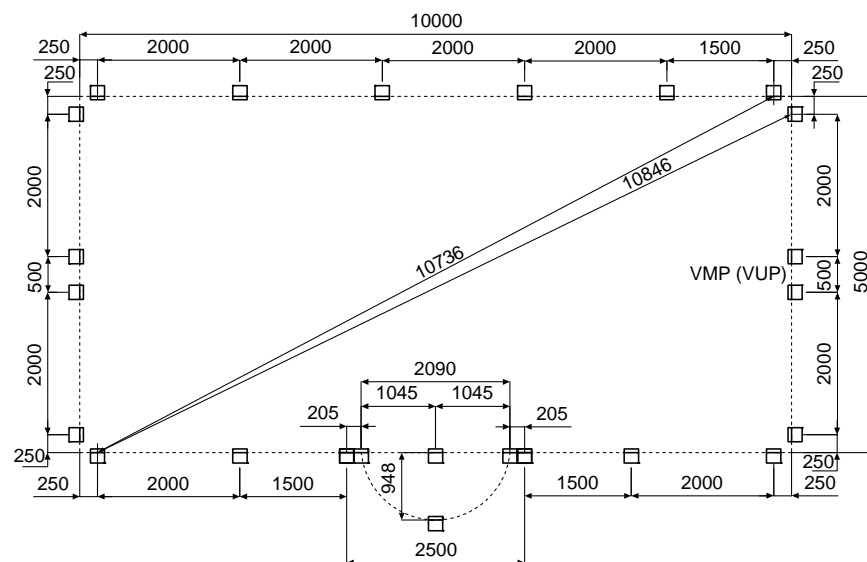


Rectangular 10 x 5 m

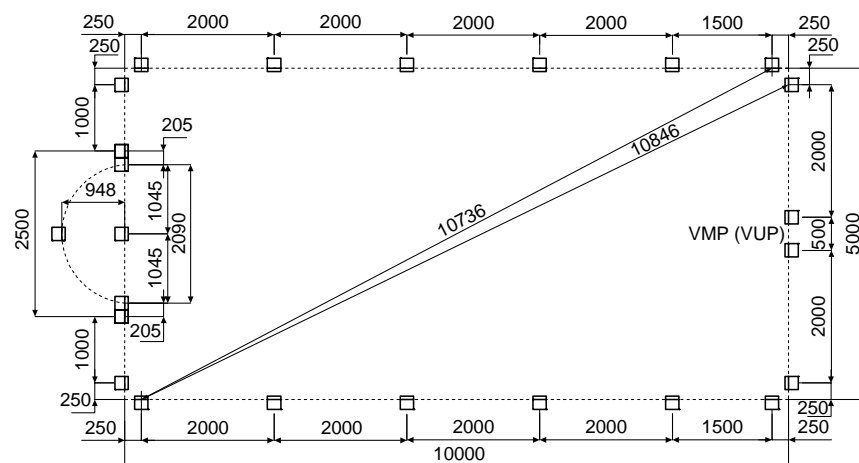
(without stairs)



(with stairs in the middle of long side)



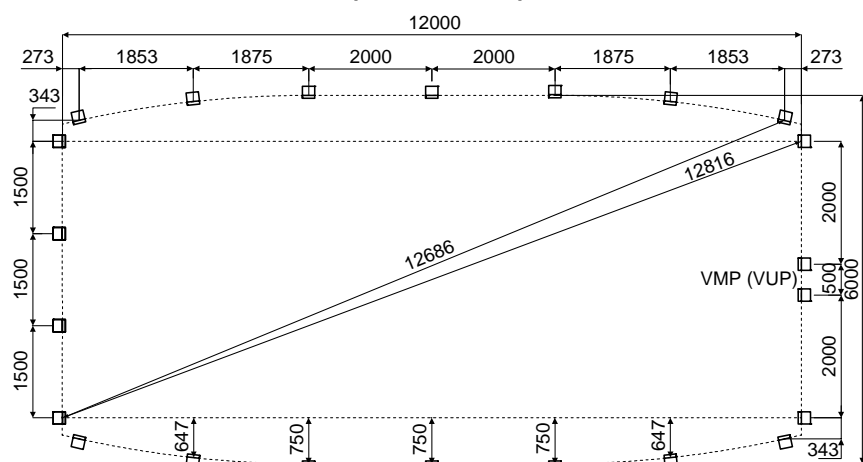
(with stairs in the middle of short side)



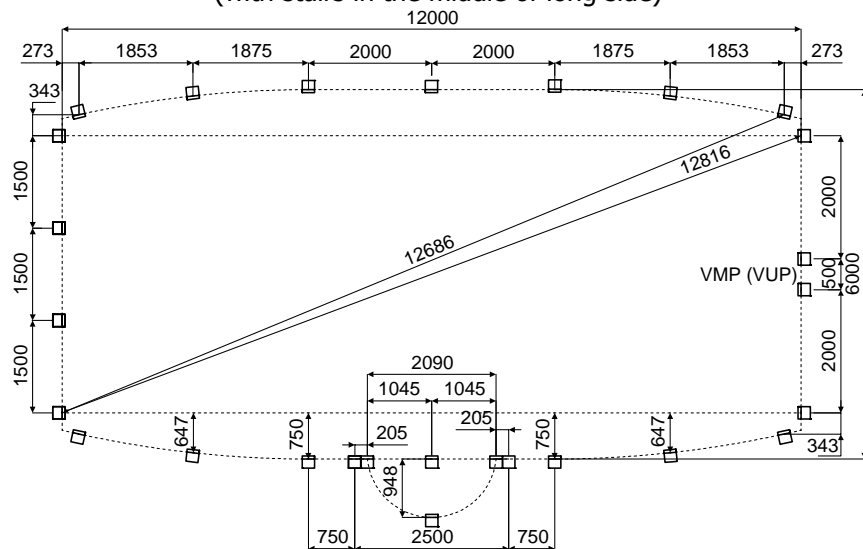
BLOCKS' LOCATION IN THE SWIMMING POOLS 12 x 6 m

Ovoid 12 x 6 m

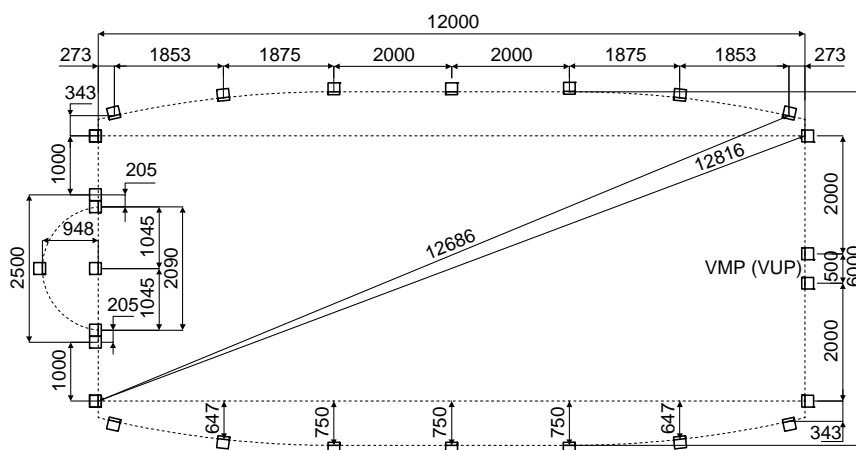
(without stairs)



(with stairs in the middle of long side)

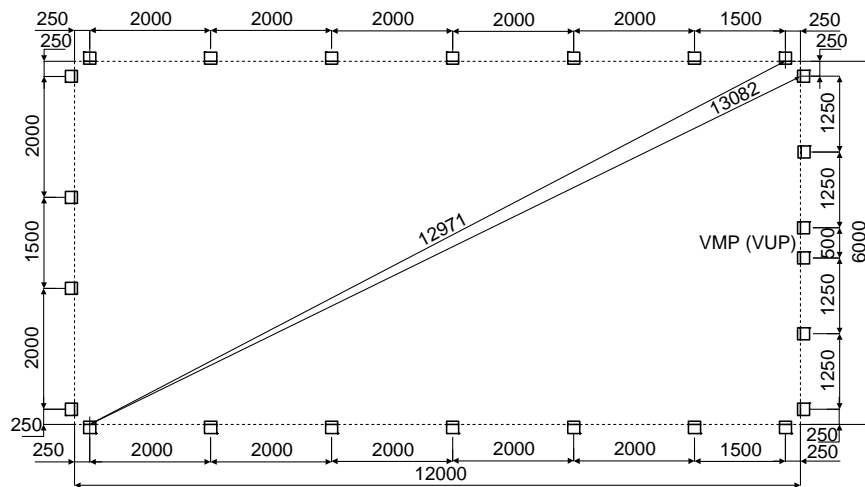


(with stairs in the middle of short side)

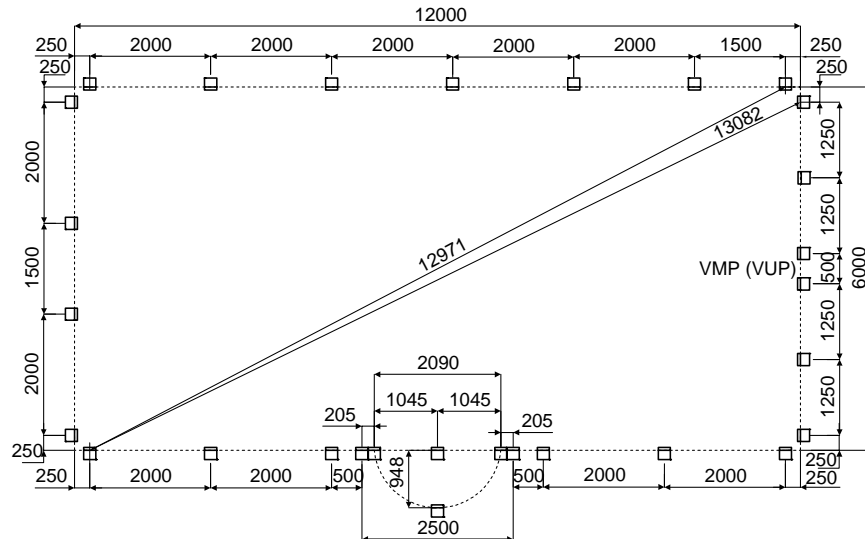


Rectangular 12 x 6 m

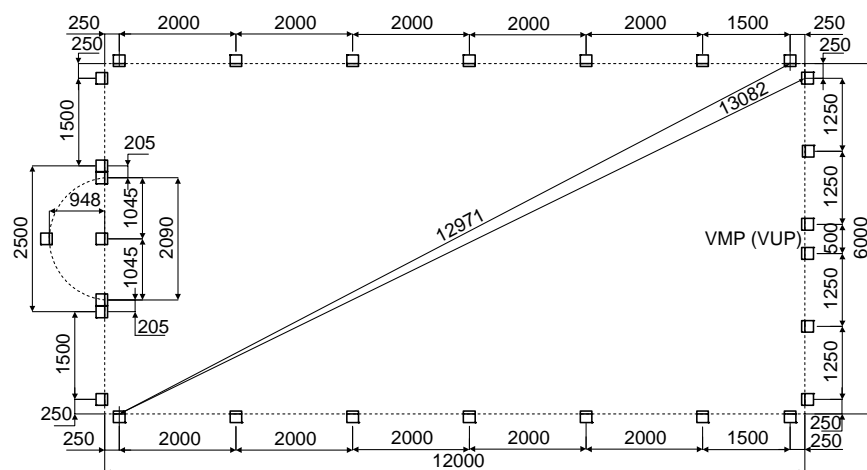
(without stairs)



(with stairs in the middle of long side)



(with stairs in the middle of short side)



4. Reinforcing works

4.1. Reinforcing mesh laying



The welded steel mesh ensures reinforcement of the pool's bottom. Using wire cutters, cut the welded steel mesh in strips according to width of the pool, plus about 1 meter. If you use a welded mesh reinforcement in rolls, unroll a reinforcing mesh for the complete pool length with extension of length on 1m. Turn it over to prevent it from folding back, and position it on place. Unroll the second strip parallelly the first one with overlap 20 cm. Place the strips of the mesh in the bottom of the pool, making sure, that they overlap by 2-3 cells of mesh.



Make sure, that steel mesh extends past the outline of the pool. Don't forget to make the steel mesh pass under the roman steps.

Tie up all strips of the wire mesh together, using iron wire and pincers.

Using wire cutters, cut the mesh around the blocks.



5. Structure

Reusable formwork casing VSV is made of a high-grade corrosion-proofed aluminium alloy. Our manufacturing process allows many times use of component parts of a formwork casing.

Panels of a reusable formwork casing consist of an internal and exterior part. The internal part has height 1.20 m, and an exterior part – 1.10 m.

Standard dimensions of internal parts of the panels:

0.25 x 1.20m, 0.50 x 1.20m, 1.00 x 1.20m, 1.50 x 1.20m, 2.00 x 1.20m.

Standard dimensions of exterior parts of the panels:

0.25x1.10m, 0.50x1.10m, 1.00x1.10m, 1.50x1.10m, 2.00x1.10m.

Panels can have straight, ovoid and free form. Complete kits of a reusable formwork casing include straight or ovoid angle panels depending on the form of swimming pool. Panels VSV are installed simply on the supporting blocks.

5.1. Installation of first line of reusable demountable casing



Assembling of the casing should begin with installation of internal parts of the panels with height 1.20 m. Assembly of casing starts with installation of a corner panel from stairs side (if swimming pool is without a stairs, also start with a corner panel).

Connect panels, using special stainless steel bolts M8/20 and a wrench on 13. It is important to insert two stainless steel washers (one - from the side of the head of a bolt, another – from the side of a screw nut). Thus the second hole from top of the casing panels and the second hole from below should remain free for supporting struts fixing.



During assembly take care that the bottom gutter of panels looks inside of the swimming pool, and the guiding juts for profile fixing are aligned between themselves.

After assembly of an internal part of a casing is finished, check up the dimensions of length, width and diagonals, if necessary correct swimming pool according dimensions specified on the drawing.



5.2. Connecting tubes mounting



Start the mounting of connecting tubes, for this matter insert PVC bolt M17 from the interior side of the pool into hole specially intended for it and wind by hand PVC tube from back side of the panel.

Do not tighten a tube very strong not to overturn a thread.

Mount all tubes (see a photo). Then insert stainless steel bolts M11/250 into a trough-hole of bolt M17 and connecting tube from the interior side of the pool.

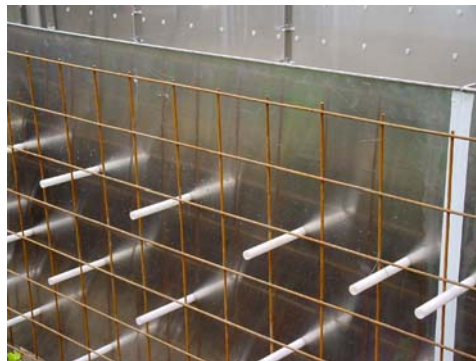


5.3. Walls reinforcement

Now go on to a reinforcement of the walls of the future pool. The reinforcing is made with the help of a welded wire mesh with wire diameter 6mm (check the thickness of a mesh in relation to the norms of your region). Carefully spit parts of a



reinforcing mesh on connecting plastic tubes so that the upper edge of a mesh doesn't reach 3 centimeters from upper edge of the structural panel, and the down edge of a mesh is joined with a mesh reinforcement of a pool bottom.



Make mounting of the next piece of the mesh on pool's perimeter so that it will be placed with overlap by 1-2 cells of the previous piece of mesh.

In places where a mesh contacts blocks cut these parts of a mesh using wire cutters.



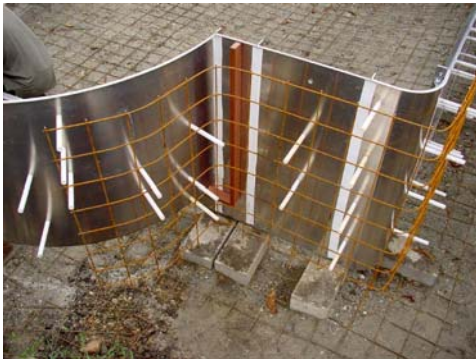
Tie up all parts of the reinforcing mesh together, using a steel wire and pincers.

Place reinforcing mesh so that it always will be in the middle of the connecting tubes.



With the help of twisted rod with diameter 8mm (check up norms of your region) create upper single (one rod) and down double (two rods) tie beam with overlap 50 cm. Upper twisted rod is placed on top of upper raw of connecting tubes. The down tie beam is double and two levels of twisted rods are spaced apart in a distance 10-15 cm from each other. With the help of iron wire tie twisted rods (upper tie beam and down double tie beam reinforcement) up with reinforcing mesh all over perimeter of the pool.

Attention! Reinforcing mesh and twisted rods should not be in touch with walls of a formwork casing (they should be always in the middle).



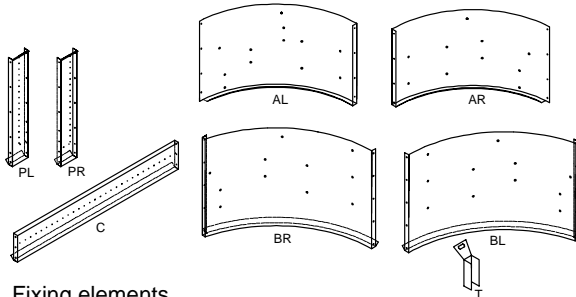
Attention! Set a reinforcing mesh so that places of joints between pieces of reinforcing mesh and places of joints between twisted rods will not be located in the corners of the swimming pool.

After the reinforcing is finished, go on installation of an exterior parts of a formwork casing.

5.4. Stairs mounting

Installation of roman stairs is carried out in two stages. The first stage includes creation of an alcove for stairs. The second stage includes creation of steps (the second stage can be started next day after concrete pouring and reusable formwork casing removal). Make installation of panels for creation of an alcove for stairs according the drawings.

Components of the formwork casing for stairs



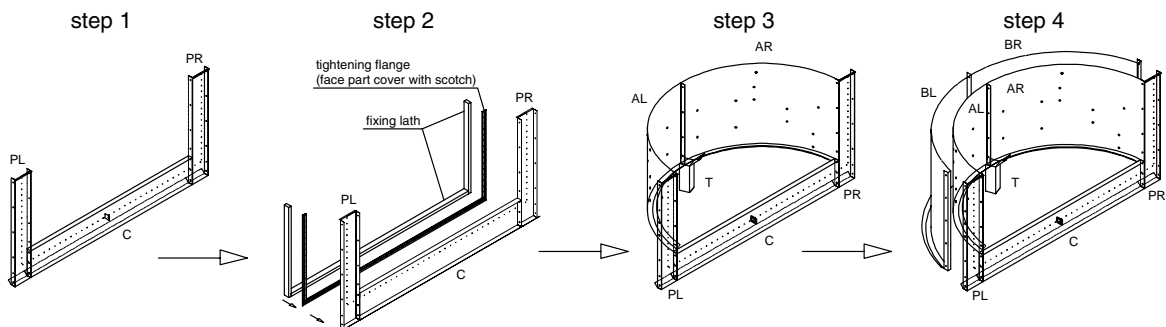
Fixing elements

Bolt M8x20 - 36 pcs.	Bolt M11x250 (stainless steel) - 26pcs.
Bolt M8x30 - 6pcs.	Nut M11 (stainless steel) - 26 pcs.
Nut M8 - 42 pcs.	Bolt M17x25 (PVC) - 52 pcs.
Washer M8x25 - 84 pcs.	Connecting tube 20cm - 26 pcs.
	Plug M15 (PVC) - 52 pcs.
	Big strut - 3 pcs.
	Small strut - 3 pcs.
	Down support - 1 pc.



ATTENTION! If furnishing of your stairs will be carried out by tiles or mosaics, and the walls of the pool will be water-proofed with liner, it is necessary for you to make installation of plastic tightening flanges and fixing laths which later will be used for swimming pool waterproofing in places of liner and stairs adjunction. With this purpose, with the help of stainless steel self-drilling screws 4.8/32 and battery-powered screw-driver, fix tightening flanges and fixing laths on the casing in assigned for that places. **It is forbidden to use electric drills with high speed!**

Mounting of formwork casing for stairs



5.5. Installation of the second line of reusable formwork casing

Installation of an exterior part of casing starts with stairs. In cases when the stairs are absent, installation begins with a corner.

Put an exterior part of the panel on feet-supports (are delivered in the kit of casing) and fix it with PVC bolts M17 to connecting tubes. Thus the bottom gutter of the panel should look outside.

With the help of stainless steel screw nut and a wrench on 24 fix internal and exterior parts of casing panels together.

Attention! Do not tighten a bolt too strong not to break a connecting tube (approximately half-turn).

Carry out step-by-step installation of exterior parts of panels, connecting them not only on plastic tubes, but also between themselves, using special stainless steel bolts M8/20 and a wrench on 13.

It is important to insert two stainless steel washers (one - from the side of the head of a bolt, another one – from the side of a screw nut).



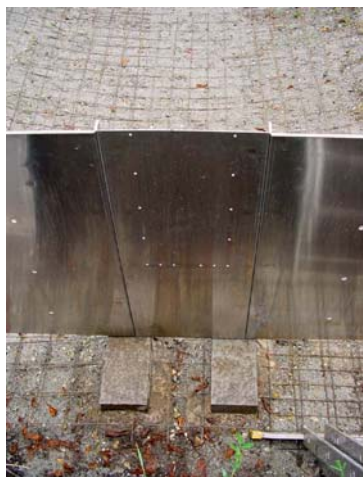
Thus the second hole from top of the casing panels and the second hole from below should remain free for later supporting struts fixing.

Move feet-supports to installation place of next sections of exterior panels and continue installation in the same sequence as it is described above all over perimeter of the pool.



Adjustable struts are installed from two sides (inside and outside of the pool) in places of joints between panels to provide preliminary fixing of the casing at the moment of installation.

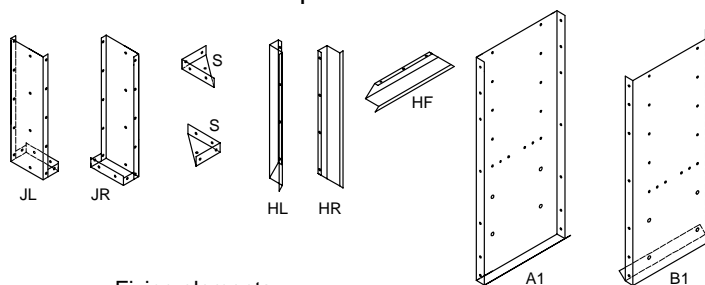
5.6. Installation of special formwork panel for creation of niche for filtration panel



The special formwork panel is intended for creation of niche for filtration panels VMP and VUP.

For assembly of the special panel follow the attached drawings of step-by-step installation.

Components of formwork casing for filtration panels VMP and VUP



Fixing elements

Bolt M8x20 - 54 pcs.

Bolt M8x30 - 2 pcs.

Nut M8 - 56 pcs.

Washer M8x25 - 112 pcs.

Bolt M11x250 (stainless steel) - 4 pcs.

Nut M11 (stainless steel) - 4 pcs.

Bolt M17x25 (PVC) - 8 pcs.

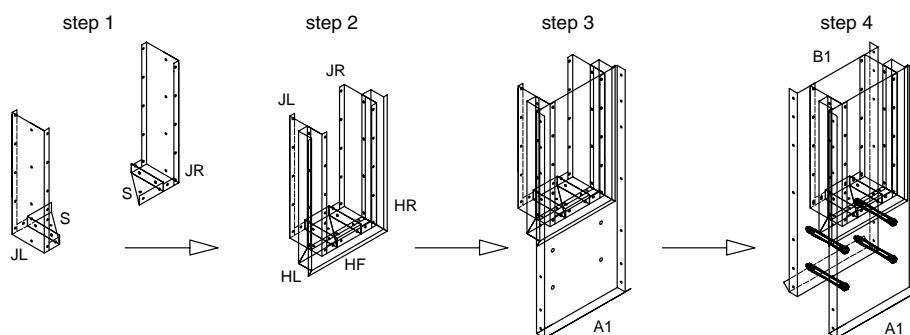
Connecting tube 20 cm - 4 pcs.

Plug M15 (PVC) - 8 pcs.

Big strut - 1 pcs.

Small strut - 1 pcs.

Mounting of formwork panel for filtration panels VMP and VUP



5.7. Adjustable struts

This stage is very important, as supporting struts are used for adjustment of formwork panels and ensure reliable fixing during concrete pouring. Adjustable telescopic struts are used many times.

With the help of stainless steel bolts M8/30 and a wrench on 13 fasten adjustable struts in the places of joints between panels from internal and an external sides of a casing. It is important to insert two stainless steel washers (one - from the side of the head of a bolt, another one – from the side of a screw nut).

Fix a strut in the ground with the help of an anchor rod (diameter 8 mm and length 30-40 cm) to hold a strut in one place.

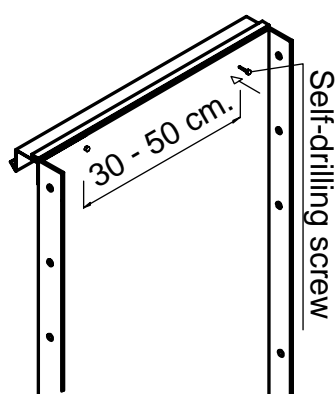
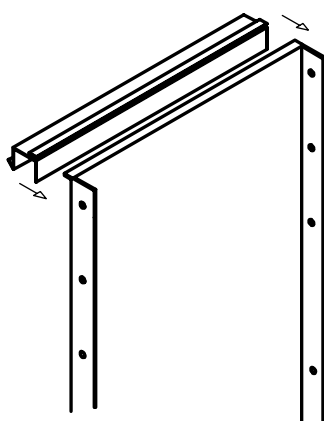
After the struts fixing make adjustment of a formwork casing. Check up the dimensions of length, width and diagonals. If necessary, adjust a casing structure according to the drawing and check up levels. With the help of a level-meter adjust a construction, the tightening of adjustable bolts of struts without force applying.



5.8. Installation of profile for liner fixing

If the waterproofing of your pool will be carried out with liner which has lock mount (daddy) in its upper part, it is necessary for you to make mounting of a plastic profile (mum), in which this lock mount will be inserted. For this purpose insert a profile into guiding jut of upper edge of an internal part of casing (see the scheme).

Mounting of PVC profile on formwork casing



Fix a profile on a casing with the help of an electric drill and self-drilling screws M7/2. Thus recede from a upper edge of panels 2-2.5 cm. Twist self-drilling screw directly in the casing structure, holding a profile by hand. Mount a profile all over perimeter of the swimming pool and fix it with self-drilling screws each 30-50 cm.



Attention! In the places of filtration panel VMP or VUP the profile is not mounted.

Do not mount also a profile in the roman stairs site. The profile is mounted only in the case if stairs will be water-proofed with liner which has lock mount.



6. Pouring with concrete



Now your reusable formwork casing is assembled, adjusted, reinforced and ready for concrete pouring.

It is obligatory before concrete pouring to grease an internal part of casing with a special liquid, for example DMA2000, DMA3000 of "Mapei" company or with similar products existing in your region. It is necessary to ensure a reliable detachment of casing panels from concrete walls of the pool during dismantling. The given operation also considerably reduces time of formwork panels' cleaning for further use. As option it is possible to grease an exterior part of the casing too



The grade of concrete for pouring can be C20 or hydro concrete. In any case use a grade of concrete according the norms of your region regulating concrete strength class for swimming pools concreting.



With the purpose of the reasonable consumption of a concrete mortar it is possible to install outside of the pool the limiting wooden boards which will restrict concrete spreading on the sides (see a photo).

6.1. Pouring of lower reinforced beam and walls

Pour with concrete the lower reinforced beam outside the pool so that concrete will be at one level with the down edge of a gutter of exterior panels of the casing. Wait for some time for slight concrete thickening. Fill with concrete the internal part of a formwork casing.



If you make concrete pouring with the help of a mixer and concrete pump, it is necessary to pay attention to, that the pressure of concrete on an exit will not be too strong. The end of the pipe for pouring should have compensating ell (bend). Pour concrete equal all over perimeter of swimming pool and in several stages, depending on density of concrete.

Attention!!! During concrete pouring in the basis of the roman stairs it is necessary to pour concrete by stages.



6.2. Pouring the base



After concreting of the lower reinforced beam and swimming pool's walls you can start the concrete pouring of the bottom.

During pouring with concrete the pool's bottom raise the welded steel mesh so, that the mesh will be covered with concrete from both sides.

Form the shape of the swimming pool's bottom according the drawing agreed with the customer. Maintain equal thickness (10cm) of concrete layer all over the pool's bottom (check the norms of your region).



Optionally, for getting smoother surface of the pool's walls and for uniform filling of all hollows, you can make vibration. Carry out vibrating equally all over perimeter of the pool.

ATTENTION! During vibrating works regulating struts outside and inside of the pool should remain in their places.

After termination of vibrating works remove adjustable struts inside the pool.



If there are plans of creation of the playground around the pool, don't forget to insert into concrete of the upper beam of the casing twisted rods prepared in advance. Insert the rods in a distance 0.5 – 1 m from each other. After the back filling around the pool, bend the rods aside all over pool's perimeter and connect them with welded steel mesh reinforcement which is necessary to lay around the pool. Thus, you will create a supporting base for playground made from playground stone.



7. Dismantle of formwork panels



Attention! Removal of panels of the casing can be made not earlier than 20 hours and not later than 24 hours after a concrete pouring.

Unscrew and remove all fixing bolts and screw nuts with the help of corresponding wrenches (13 and 24).

Unscrew self-drilling screws fastening a profile for the liner. Unscrew self-drilling screws fastening plastic tightening flanges and plastic fixing laths.



Dismantle regulating struts outside the pool. Make sure that all fastenings are removed.

Start to remove panels of the casing from an exterior and internal part of the pool along perimeter.



7.1. Removal of jutting joints



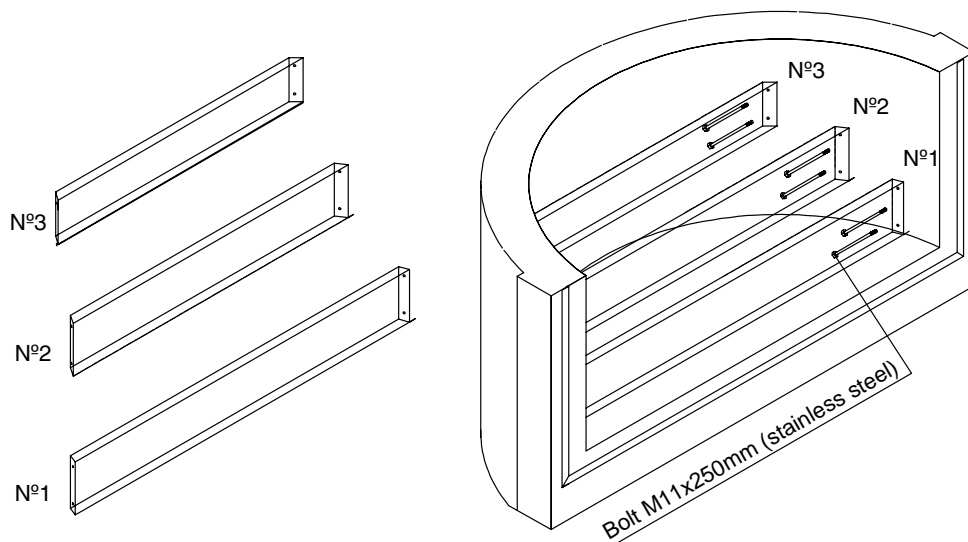
Remove with the help of a spattle jutting joints in the places of formwork panels' junction inside the pool. Remove in a similar way a jutting joint in the places of swimming pool walls and bottom adjunction all over perimeter.



8. Creation of stairs steps

Fix the panels of the steps with the help of stainless steel bolts in assigned for that places. Make an additional reinforcement of the steps (see norms of you region), then pour them with concrete.

Steps fixing in the niche of roman stairs



Attention! Concrete pouring has to be done stage by stage, starting the bottom step. Removal of the steps panels can be made not earlier than 20 hours and not later than 24 hours after concrete pouring.



Upon termination of all concrete works and full dismantling of a formwork casing, cover the holes all over perimeter of the pool walls with plastic plugs from both sides.

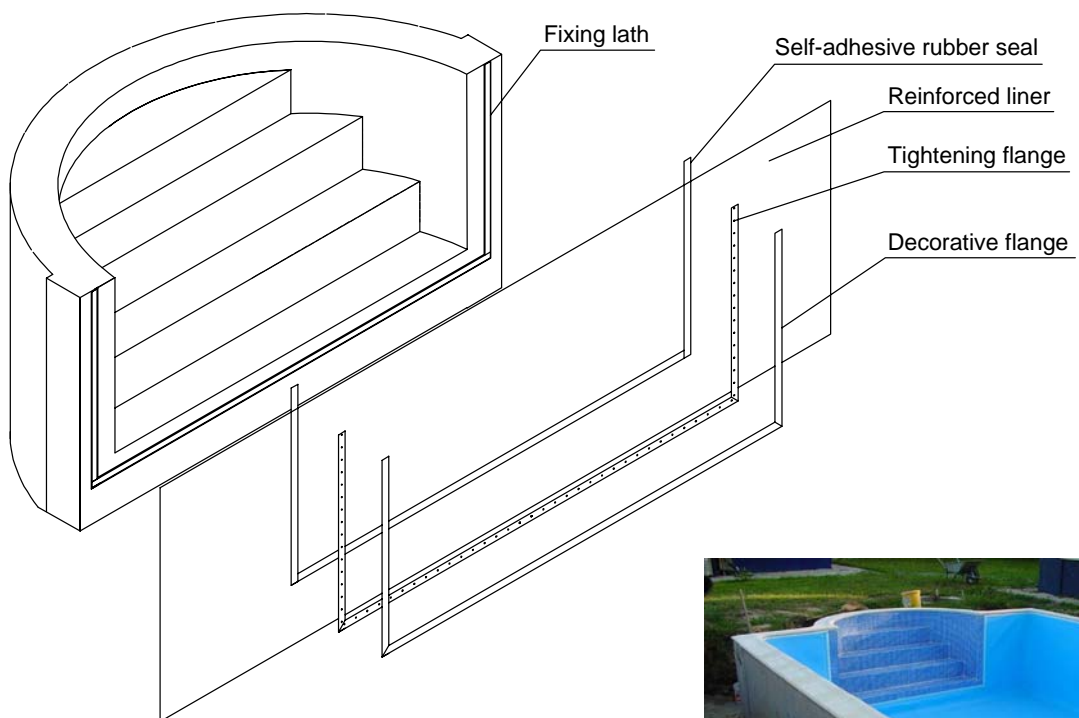


The further finishing works are carried out depending on the chosen by the client way of pool furnishing (liner, ceramic tiles, mosaics, paint, etc.).

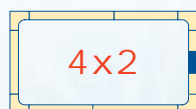


In case of furnishing of pool walls with reinforced liner 1.5 mm and stairs with tiles or mosaics, it is necessary for you to ensure a waterproofing in places of liner and tiles adjunction. For this purpose before installation of the liner don't forget to stick self-adhesive sealing rubber strip on the installed beforehand plastic fixing lath. Then mount the liner. With the help of stainless steel self-drilling screws 4.8/32 and battery-powered screw-driver, fix tightening flanges on the fixing laths preliminary having greased self-drilling screws with silicone. **It is forbidden to use electric drills with high speed!** After works completion fix decorative flanges on the tightening flanges.

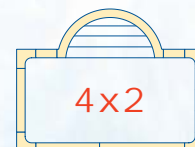
Fastening of reinforced liner with tightening flange



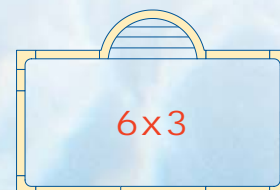
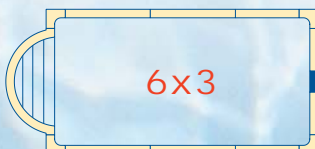
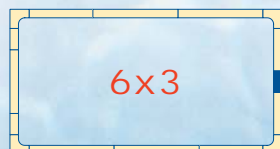
9. Swimming pools shapes



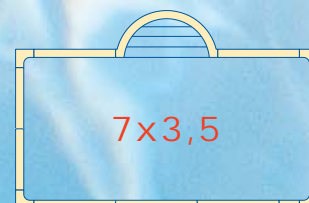
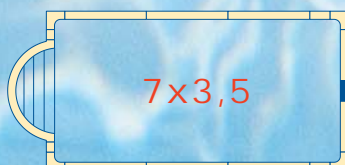
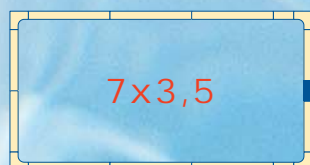
9.1. Formwork casing for rectangular pools



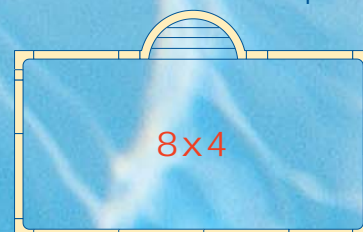
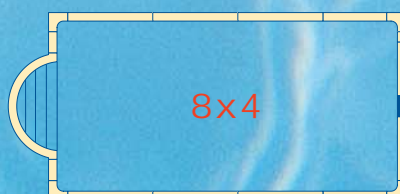
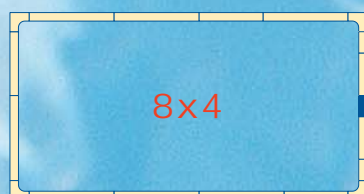
Component parts of the kit: wall panel 2.00m - 2pcs. • wall panel 1.50m - 3pcs. • wall panel 0.50m - 4pcs. • rectangular angle - 4pcs. • kit of panels for stairs 2.10m - 1unit • wall panel-adapter for filtration panels VMP/VUP 0.50m - 1pc.



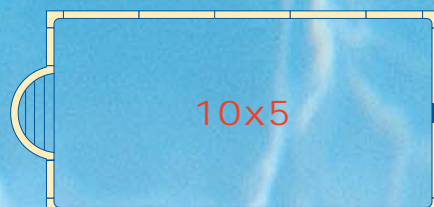
Component parts of the kit: wall panel 2.00m - 4pcs. • wall panel 1.50m - 3pcs. • wall panel 1.00m - 2pcs. • wall panel 0.50m - 3pcs. • rectangular angle - 4pcs. • kit of panels for stairs 2.10m - 1unit • wall panel-adapter for filtration panels VMP/VUP 0.50m - 1pc.



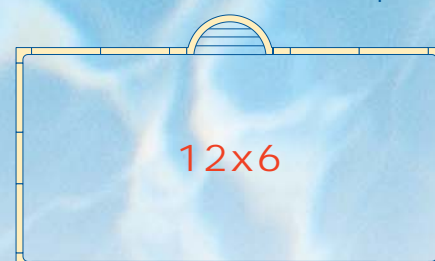
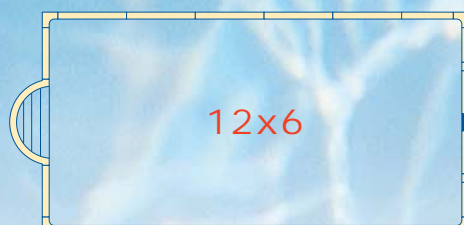
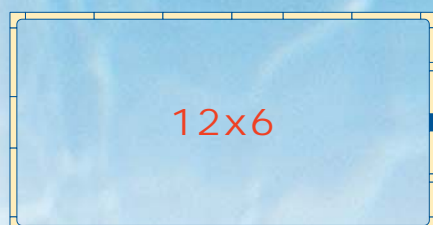
Component parts of the kit: wall panel 2.00m - 6pcs. • wall panel 1.50m - 3pcs. • wall panel 1.25m - 2pcs. • wall panel 1.00m - 2pcs. • wall panel 0.50m - 2pcs. • wall panel 0.25m - 2pcs. • rectangular angle - 4pcs. • kit of panels for stairs 2.10m - 1unit • wall panel-adapter for filtration panels VMP/VUP 0.50m - 1pc.



Component parts of the kit: wall panel 2.00m - 7pcs. • wall panel 1.50m - 3pcs. • wall panel 1.25m - 2pcs. • wall panel 1.00m - 2pcs. • wall panel 0.50m - 2pcs. • wall panel 0.25m - 2pcs. • rectangular angle - 4pcs. • kit of panels for stairs 2.10m - 1unit • wall panel-adapter for filtration panels VMP/VUP 0.50m - 1pc.



Component parts of the kit: wall panel 2.00m - 10pcs. • wall panel 1.50m - 3pcs. • wall panel 1.25m - 2pcs. • wall panel 1.00m - 2pcs. • wall panel 0.50m - 2pcs. • wall panel 0.25m - 2pcs. • rectangular angle - 4pcs. • kit of panels for stairs 2.10m - 1unit • wall panel-adapter for filtration panels VMP/VUP 0.50m - 1pc.

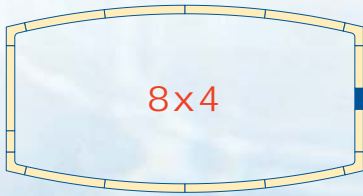


Component parts of the kit: wall panel 2.00m - 12pcs. • wall panel 1.50m - 4pcs. • wall panel 1.25m - 2pcs. • wall panel 1.00m - 2pcs. • wall panel 0.50m - 3pcs. • wall panel 0.25m - 2pcs. • rectangular angle - 4pcs. • kit of panels for stairs 2.10m - 1unit • wall panel-adapter for filtration panels VMP/VUP 0.50m - 1pc.



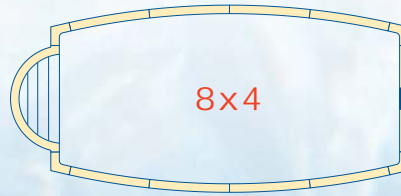
To build fast! To build easily! To build profitable!

9.2. Formwork casing for ovoid pools



8x4

Component parts of the kit: ovoid wall panel 1.90m - 8pcs. • wall panel 2.00m - 1pc. • wall panel 1.00m - 2pcs. • wall panel 0.50m - 2pcs. • ovoid angle - 4pcs. • kit of panels for stairs 2.10m - 1unit • wall panel-adapter for filtration panels VMP/VUP 0.50m - 1pc.

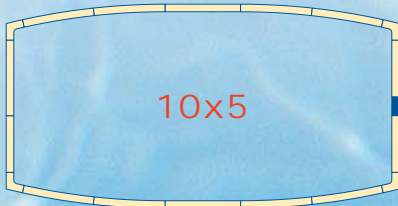


8x4

1 kit -

400

swimming pools!

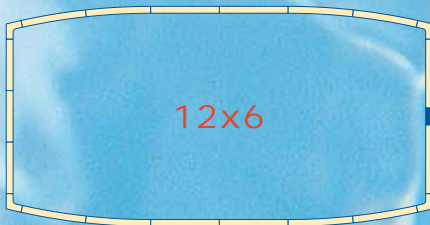


10x5

Component parts of the kit: ovoid wall panel 1.90m - 8pcs. • wall panel 2.00m - 3pcs. • wall panel 1.50m - 3pcs. • wall panel 0.50m - 3pcs. • ovoid angle - 4pcs. • kit of panels for stairs 2.10m - 1unit • wall panel-adapter for filtration panels VMP/VUP 0.50m - 1pc.

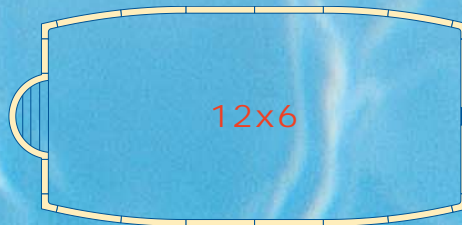


10x5



12x6

Component parts of the kit: ovoid wall panel 1.90m - 8pcs. • wall panel 2.00m - 6pcs. • wall panel 1.50m - 3pcs. • wall panel 1.00m - 2pcs. • wall panel 0.50m - 3pcs. • wall panel 0.25m - 2pcs. • ovoid angle - 4pcs. • kit of panels for stairs 2.10m - 1unit • wall panel-adapter for filtration panels VMP/VUP 0.50m - 1pc.

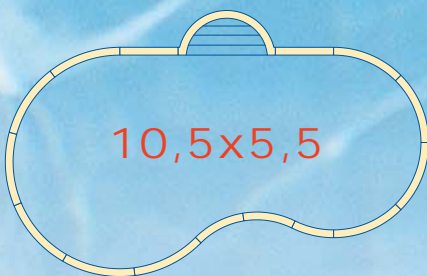


12x6



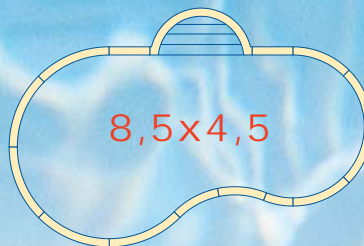
12x6

9.3. Formwork casing for “Liberty” pools



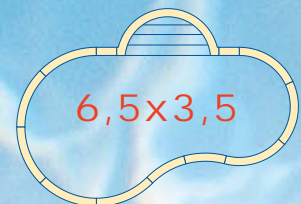
10,5x5,5

Component parts of the kit: wall panel №7 - 6pcs. • wall panel №4 - 4pcs. • wall panel №8 - 1pc. • wall panel №9 - 2pcs. • wall panel 1.50m - 2pcs. • kit of panels for stairs 2.10m - 1unit



8,5x4,5

Component parts of the kit: wall panel №2 - 4pcs. • wall panel №4 - 5pcs. • wall panel №5 - 1pc. • wall panel №6 - 2pcs. • wall panel 1.00m - 2pcs. • kit of panels for stairs 2.10m - 1unit



6,5x3,5

Component parts of the kit: wall panel №2 - 5pcs. • wall panel №1 - 3pcs. • wall panel №3 - 2pcs. • wall panel 0.50m - 2pcs.. • kit of panels for stairs 2.10m - 1unit

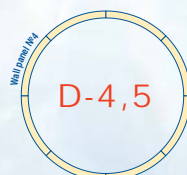


To build fast! To build easily! To build profitable!

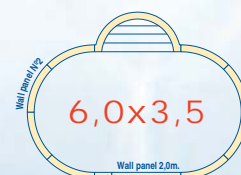
9.4. Formwork casing for "Free forms" pools



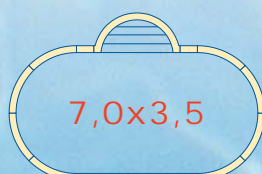
Component parts of the kit:
wall panel №2 - **8pcs.**



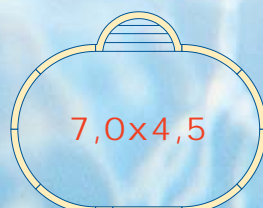
Component parts of the kit:
wall panel №4 - **8pcs.**



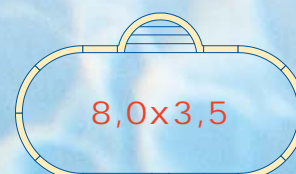
Component parts of the kit:
wall panel №2 - **8pcs.** • wall panel 2.00m - **1pc.** • wall panel 0.50m - **1pc.** • kit of panels for stairs 2.10m - **1unit**



Component parts of the kit:
wall panel №2 - **8pcs.** • wall panel 2.00m - **1pc.** • wall panel 1.50m - **1pc.** • wall panel 0.50m - **2pcs.** • kit of panels for stairs 2.10m - **1unit**



Component parts of the kit:
wall panel №4 - **8pcs.** • wall panel 2.00m - **1pc.** • wall panel 0.50m - **1pc.** • kit of panels for stairs 2.10m - **1unit**



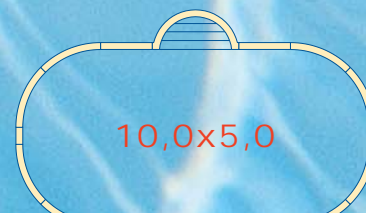
Component parts of the kit:
wall panel №2 - **8pcs.** • wall panel 2.00m - **2pcs.** • wall panel 1.00m - **1pc.** • wall panel 0.50m - **1pc.** • kit of panels for stairs 2.10m - **1unit**



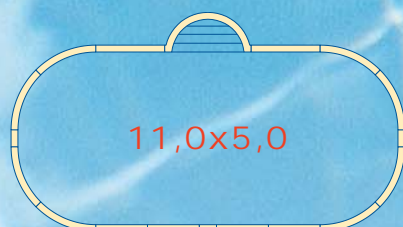
Component parts of the kit:
wall panel №4 - **8pcs.** • wall panel 2.00m - **2pcs.** • wall panel 1.00m - **2pcs.** • wall panel 0.50m - **1pc.** • kit of panels for stairs 2.10m - **1unit**



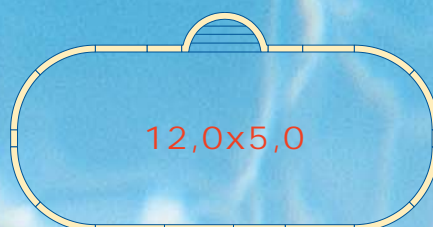
Component parts of the kit:
wall panel №4 - **8pcs.** • wall panel 2.00m - **2pcs.** • wall panel 1.50m - **3pcs.** • kit of panels for stairs 2.10m - **1unit**



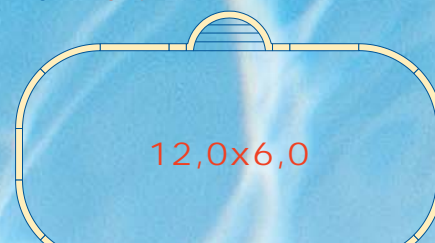
Component parts of the kit:
wall panel №4 - **8pcs.** • wall panel 2.00m - **2pcs.** • wall panel 1.50m - **3pcs.** • wall panel 0.50m - **2pcs.** • kit of panels for stairs 2.10m - **1unit**



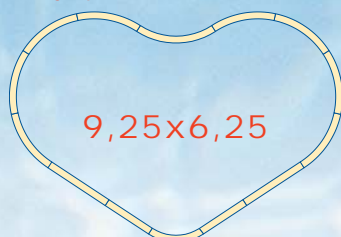
Component parts of the kit:
wall panel №4 - **8pcs.** • wall panel 2.00m - **2pcs.** • wall panel 1.50m - **4pcs.** • wall panel 0.50m - **1pc.** • kit of panels for stairs 2.10m - **1unit**



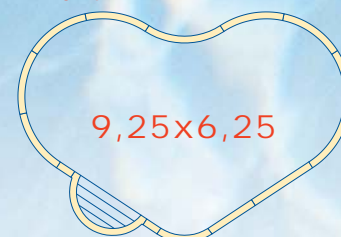
Component parts of the kit:
wall panel №4 - **8pcs.** • wall panel 2.00m - **3pcs.** • wall panel 1.50m - **3pcs.** • wall panel 1.00m - **2pcs.** • kit of panels for stairs 2.10m - **1unit**



Component parts of the kit:
wall panel №4 - **8pcs.** • wall panel 2.00m - **4pcs.** • wall panel 1.50m - **2pcs.** • wall panel 0.50m - **3pcs.** • kit of panels for stairs 2.10m - **1unit**



Component parts of the kit:
wall panel №4 - **8pcs.** • wall panel №6 - **2pcs.** • wall panel №1 - **1pc.** • wall panel 2.00m - **2pcs.** • wall panel 1.50m - **2pcs.**



Component parts of the kit:
wall panel №4 - **8pcs.** • wall panel №6 - **2pcs.** • wall panel №1 - **1pc.** • wall panel 2.00m - **1pc.** • wall panel 1.50m - **1pc.** • wall panel 0.50m - **2pcs.** • kit of panels for stairs 2.10m - **1unit**

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