

# PPP pool

## ***INSTALLATION INSTRUCTIONS***



### **Installation instructions**

***To be read carefully and kept for future reference.***

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# SITING

Selecting the site: :

It is extremely important to select a good site for the pool: as well as determining the endurance of the construction over time, this can also influence the comfort of bathers as well as the amount of energy that the pool will consume each year.

The characteristics of a good site can be classified in order of importance:

## **1 - CONSOLIDATED SOIL**

This refers to the consolidation of the land, the site should be well consolidated with no recent landfill; even after 15 years, fills may not have entirely stabilised. Particular foundations may be necessary (micropiles, etc.). Areas where there is surface rock or rock just under the surface should also be avoided: excavation is arduous.

## **2 - NUMBER OF HOURS OF SUNSHINE**

This should be optimum, especially in colder regions.

## **3 - SHELTER FROM THE WIND**

Bathers will appreciate the comfort this brings. Furthermore, evaporation, a phenomenon that cools pool water, will be reduced thus increasing the ease with which the pool may be brought to, and maintained at, a particular temperature.

The diving pit, skimmer and machine room should be situated opposite prevailing summer winds.

## **4 - PRIVACY AND VIEWS**

This is key to the carefree and relaxing enjoyment of your free time. For example, try to stay away from nosy neighbours or busy roads that generate noise, odours, dust.

## **5 - LUSH VEGETATION**

Tall trees around the pool site should be avoided due to their polluting nature and their propensity for retaining humidity. Pay careful attention to the accumulation of leaves around the skimmer. Preferably, the skimmer should be positioned facing the prevailing summer winds.

## **6 - PROXIMITY TO SUPPLIES AND OUTLETS**

The electricity and water supplies should be as close as possible to the pool site. However, take care to abide by the provisions of the standards governing electrical installations in the relevant country (in France the standard C15-100 prohibits low voltage electricity within 3.5m of the pool).

All drains and outlets should be oriented downward.

## **SPECIAL CIRCUMSTANCES:**

Building on a slope: avoid steep slopes, cut into the slope to create the pool bed.

Building in a geological basin: additional drainage work will be necessary.

# POSITIONNING THE POOL

## MARKING OUT THE POOL

For rectangular PPP pools, the rectangle representing the upper surface of the pool is depicted

THAT IS:

- in terms of its HORIZONTAL position along the imaginary x-axis
- in terms of its VERTICAL position along the imaginary y-axis

Position the pool harmoniously within the lines and contours of the landscape, allow yourself to be guided by logic and visual appeal.

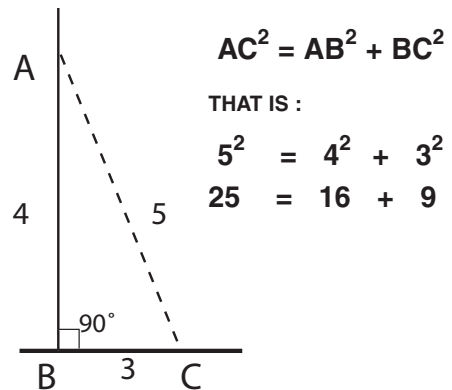
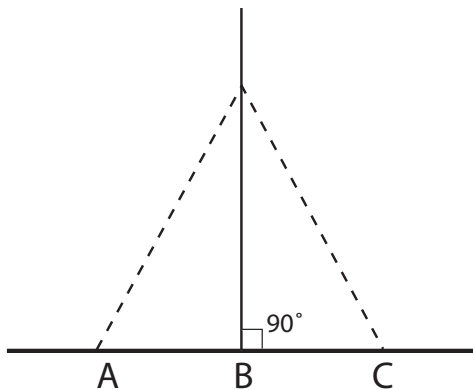
For a better appreciation, stretch an actual-sized tarpaulin on the ground.

## POSITIONING HORIZONTALLY ALONG THE X-AXIS

The rectangle should be positioned horizontally with respect to a fixed straight line, for example the side of a house.

By dead-reckoning and with a mason's line, align the rectangle.

Construct the perpendicular lines using a method such as MEDIATRICES or PYTHAGORUS THEOREM.

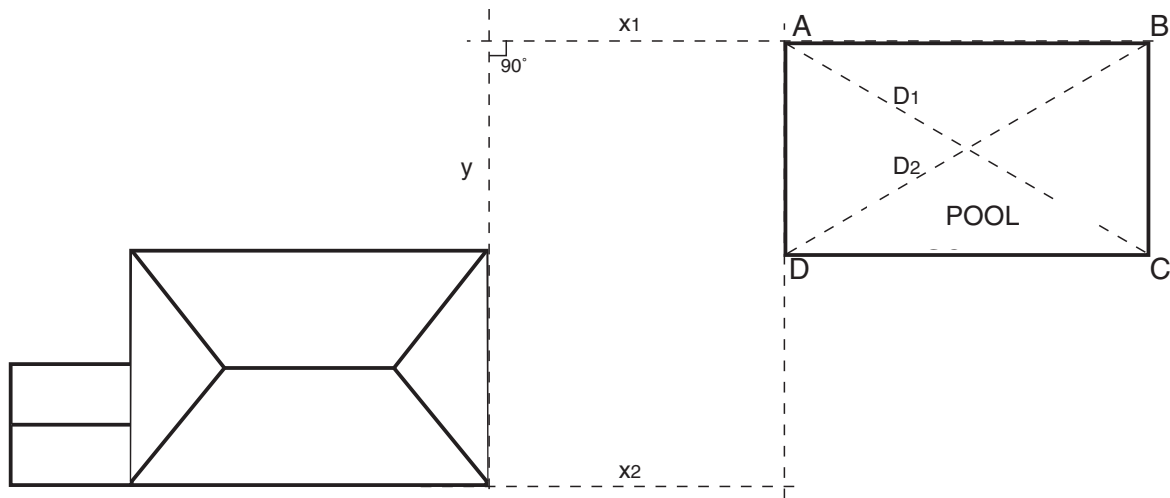


### DIMENSIONS

POOL INTERIOR			EXCAVATION DIMENSIONS		
LENGTH	WIDTH	DIAGONAL	LENGTH	WIDTH	DIAGONAL
6.00	3.00	6.71	7.60	4.60	8.88
6.50	3.50	7.38	8.10	5.10	9.57
7.50	3.50	8.28	9.10	5.10	10.43
8.00	3.50	8.73	9.60	5.10	10.87
8.00	4.00	8.94	9.60	5.60	11.11
9.00	4.50	10.06	10.60	6.10	12.23
9.50	5.00	10.74	11.10	6.60	12.91
10.50	5.50	11.85	12.10	7.10	14.03
11.00	5.00	12.08	12.60	6.60	14.22

Playing on the alignment, the perpendiculars or the parallels, by taking some basic measurements, establish the position of this first rectangle.

#### MARK OUT THE FIRST EDGE IN PLASTER



Once one edge of the rectangle has been defined and marked out in plaster, calculate and position the other sides using the diagonals method: if the 2 diagonals of a rectangle are of equal length, the opposite sides are the same length and therefore:  
 $AD = BC$ ,  $D1 = D2$ , and hence  $DC = AB$

#### MARK THE RECTANGLE OUT IN PLASTER

Attach a length of mason's line at one point to trace the arcs of the circles.

#### ESTABLISHING THE REFERENCE LEVEL

Once the position of the pool has been decided, the pool may be dug. However, before digging the pool, the level differences between the 4 pool corners must be known precisely and the final height of the WATER LEVEL must be carefully considered.

In the case of the PPP pool, the point A is taken as the reference level or datum point O. Mark the point on an indisputable reference, for example the top of a stake. Then, using a laser sight (or a large ruler and a spirit level), make sure that the 4 corners of the pool line up with the reference level.

To visualise the final pool water level, stretch some cord between the four corner stakes at the desired height

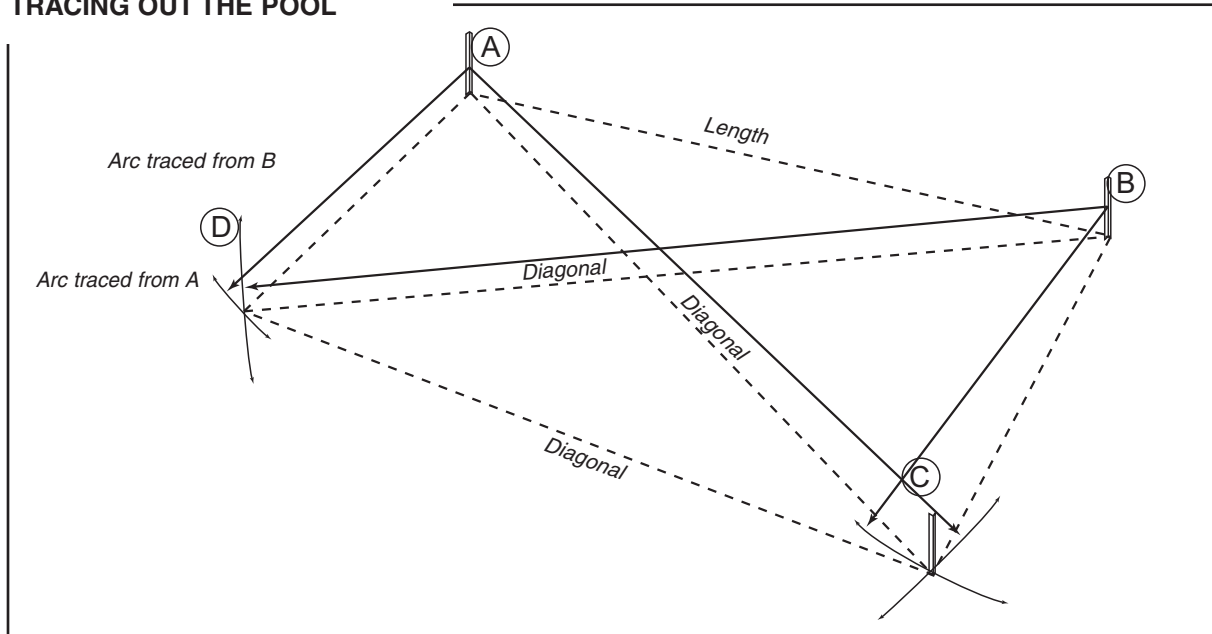
#### NOTE:

The builder's level: a large, flexible transparent tube fitted with a transparent graduated section at each end.

Fill the tube with water such that the water level is visible in both transparent sections. The water level in both graduated sections is identical when they are at the same level (ensure that there are no air bubbles).

# EARTHWORKS

## TRACING OUT THE POOL



### 1-TRACING OUT THE POOL

Add 1.60m to the two pool dimensions and plant 4 stakes at the new measurements obtained:

Plant two stakes (A and B) to mark the length of the excavation, (refer to the excavation diagram above: Tracing out the pool).

Using A and B as pivot points and the diagonal and width as the radii, trace 4 arcs to establish the position of C and D as illustrated above. Check that the distance C. D. is equal to the distance A. B. Run mason's string around the stakes and use this as a guide to mark out the excavation in plaster.

#### **NOTE:**

It is possible to excavate more precisely, digging out around the supporting braces. This requires a good working knowledge of the installation of PPP pools. Refer to the "POOL CONFIGURATION" diagrams on pages 41 and 42.

### 2 - FIRST EXCAVATION

Dig out a flat bottomed hole to the depth of the shallow end (or the pool depth if it has a flat base), plus the depth of the underslab (base course + concrete - refer to page 43).

### 3 - MARKING OUT THE POOL.

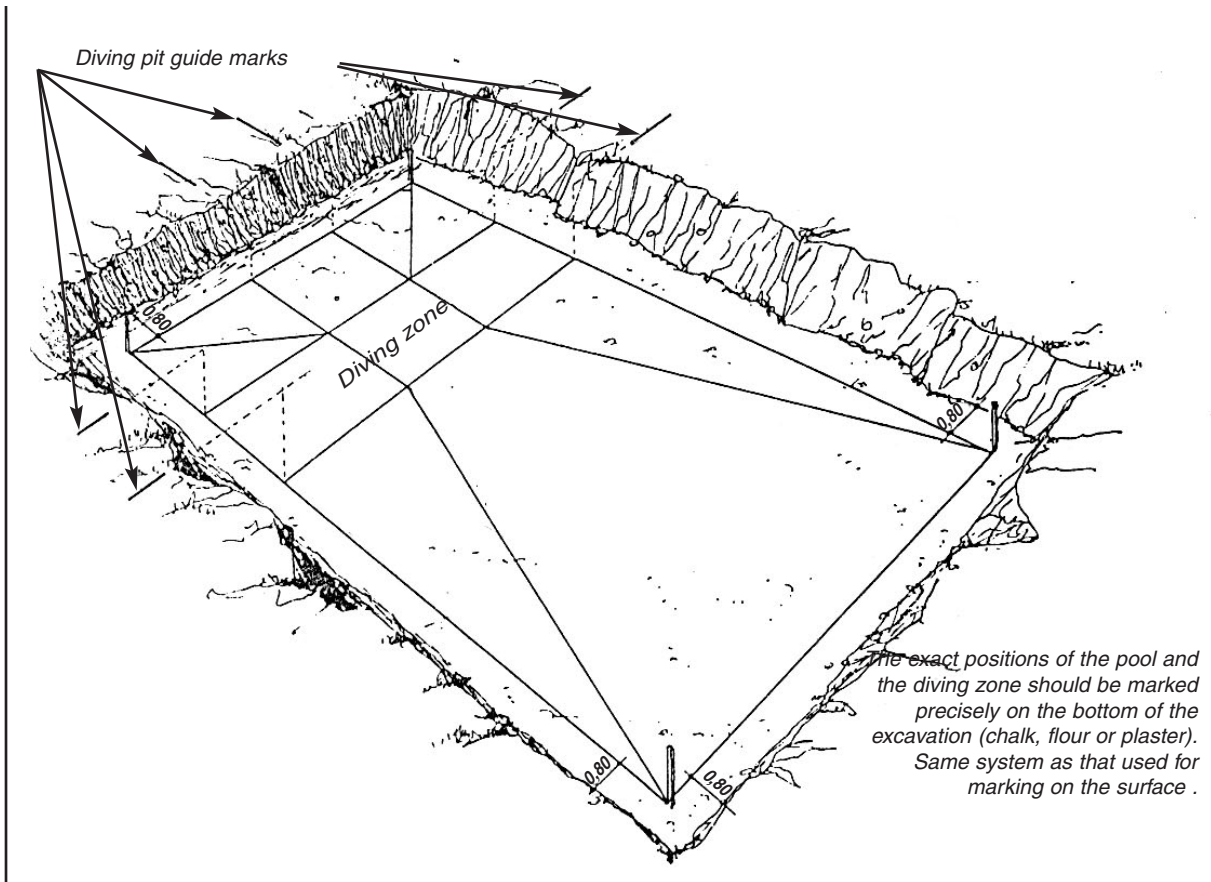
Next, check that the base of the excavation is horizontal and that the depth is correct (either using a builder's level and a meter stick, or using a stick three meters long and a spirit level). Mark out the pool by planting 4 corner stakes at the exact corner positions of the pool. Check squaring (the length of the two diagonals should be equal). Run string around the stakes and use this as a guide to trace the perimeter of the pool in plaster.

**Note: For flat base pools excavation is now complete. Skip to the section entitled Underslab**

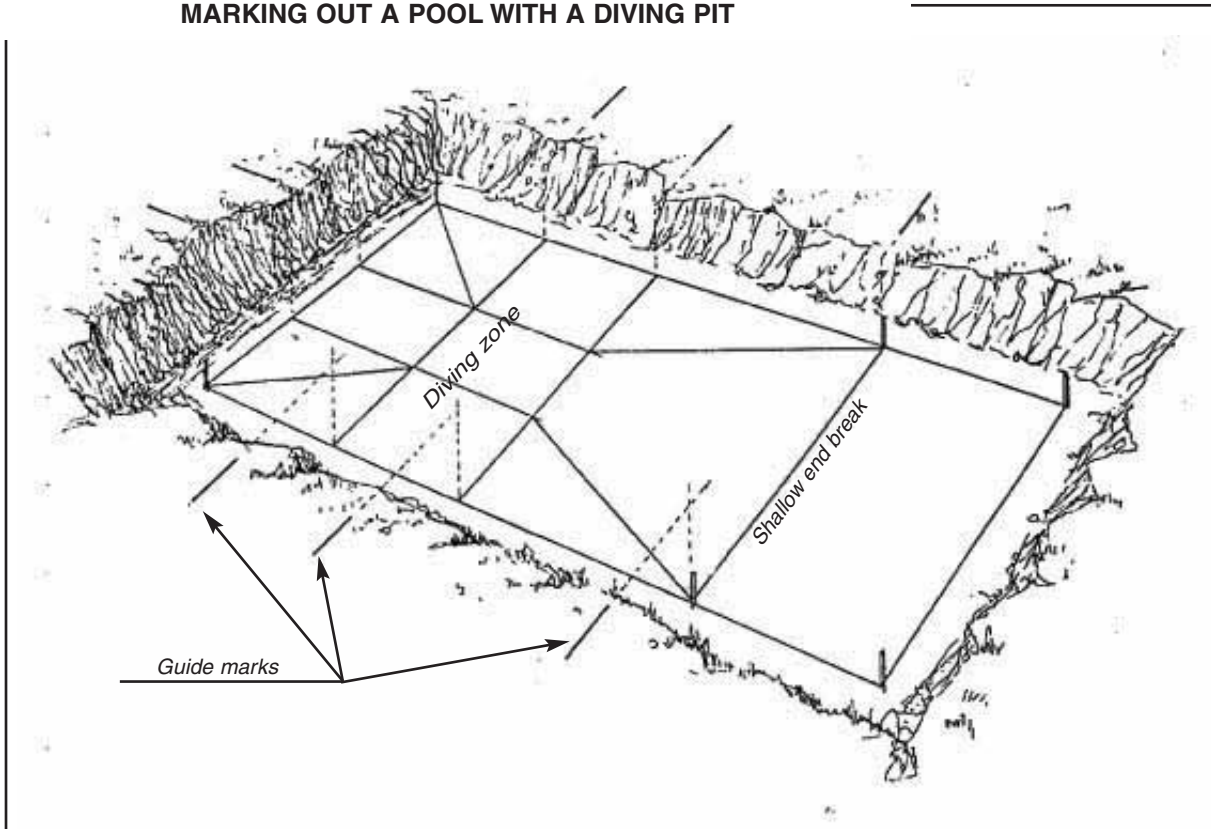
At this stage, refer to the excavation diagram (examples on page 39) and mark out the dimensions indicated on the diagram according to the pool type.



### MARKING OUT A POOL WITH A STANDARD SHAPE BASE



### MARKING OUT A POOL WITH A DIVING PIT



#### 4 - SECOND EXCAVATION (Deep end)

Continue excavation of the pool base. The area of the central rectangle should be lowered to the point indicated on the plan.

The four sides of the diving pit should be sloped (refer to the diving pit diagrams). Using a spade and a pick, finish the slope cleanly.

#### 5 - IMPORTANT NOTE

In the event of accidental overdeepening, that is, the removal of too much earth, **the defect should under no circumstances be corrected by adding earth.**

The shape may be rectified either using lean concrete, stones, gravel, or at a push, sand. Top soil should never be used, this is prone to compression and could lead to the formation of a vacuum under the pool over time.

#### 6 - UNDERGROUND WATER - RUNOFF - WATER TABLE

Water may be discovered during excavation. This water could be the result of runoff or streaming or you could have hit the water table. Usually runoff or streaming indicates that you have encountered an underground stream whereas stable water indicates that you have hit the water table.

The level of the water table can vary according to the season.

Drain using an appropriate technique (refer to the D.T.P. and the standards applicable in the country of installation - AFNOR in France).

#### 7 - HARD ROCK

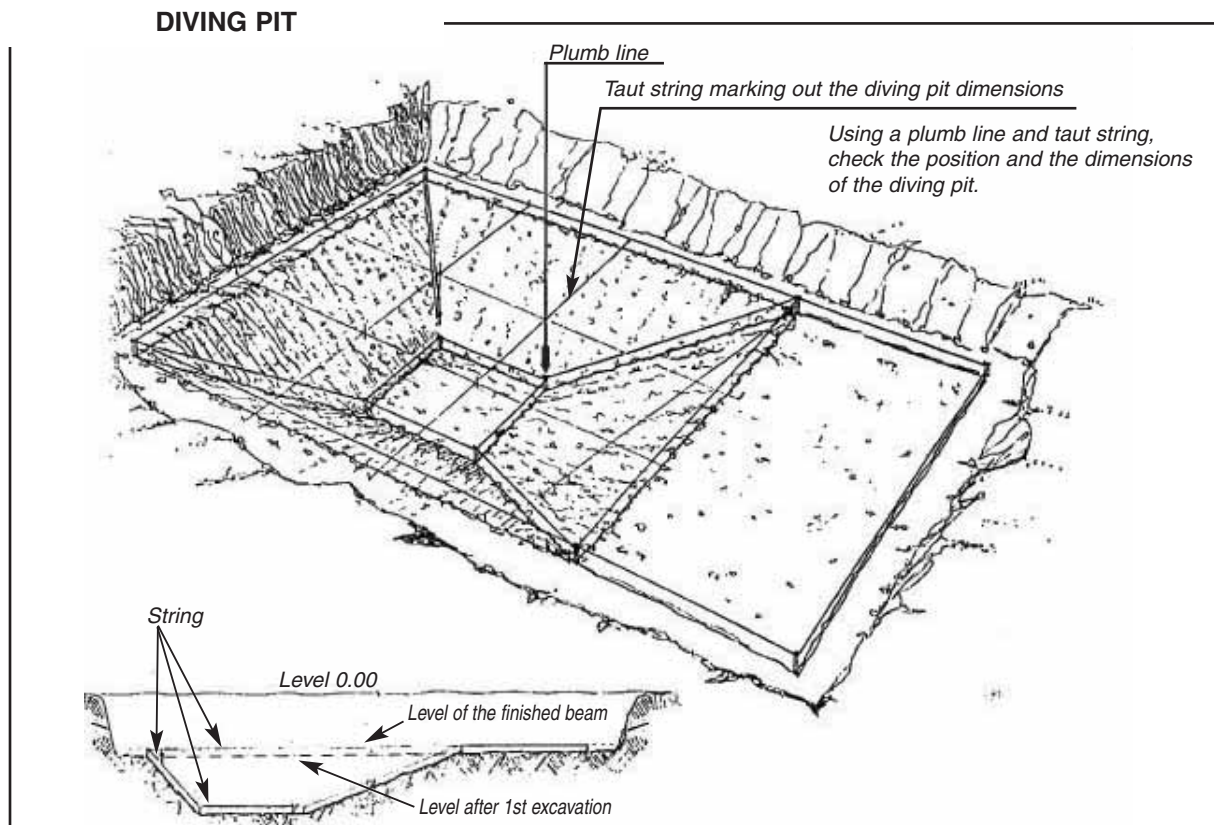
Advise the earthwork contractor of the presence of hard rock so that they may equip the earth moving machine with rock breaking equipment.

#### 8 - POOL BUILDING ON A SLOPE

Cut into the slope to create the entire bed of the pool, earth excavated should not be used to enlarge the foundations.

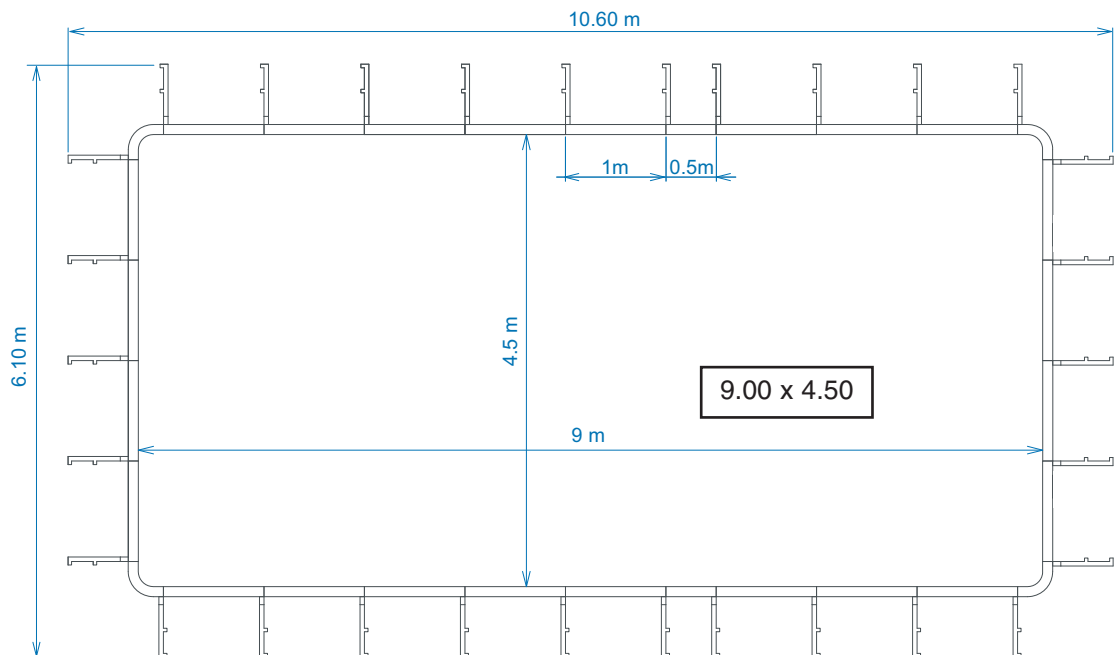
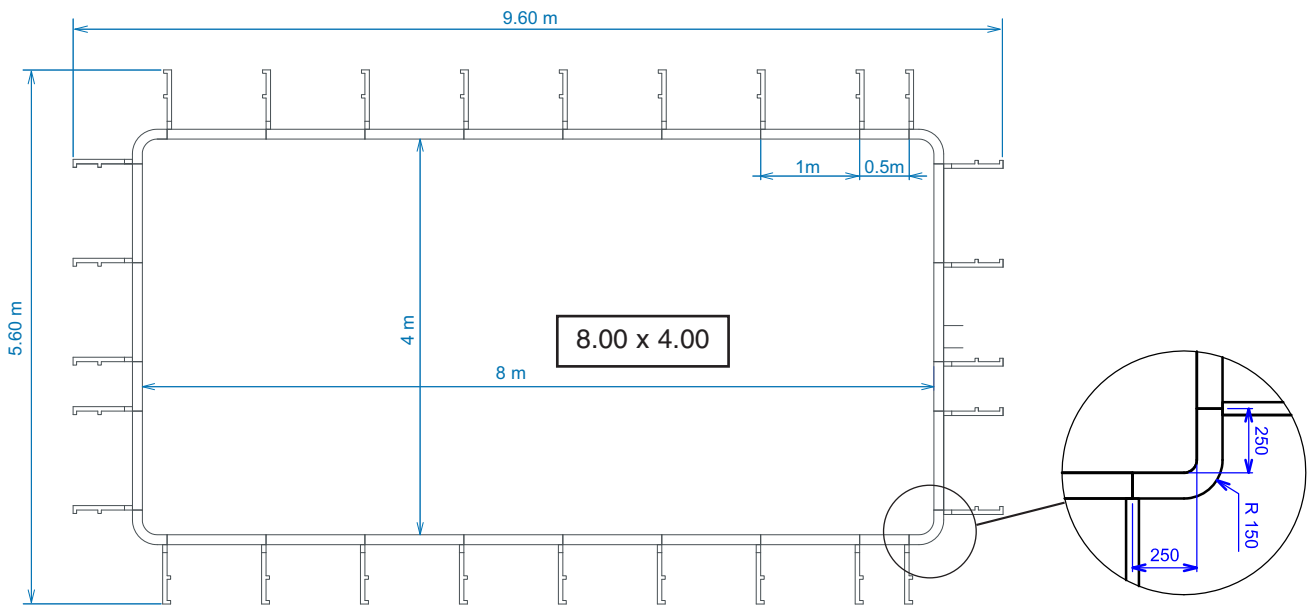
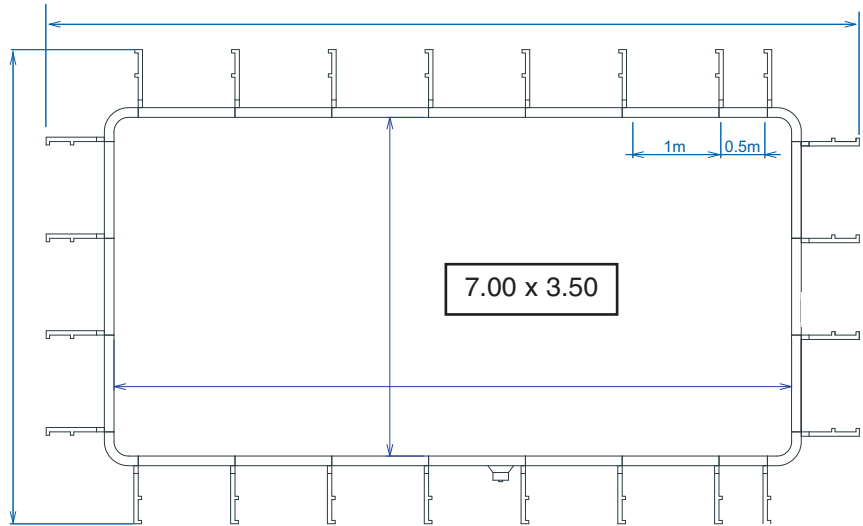
However, the wall on the lower part of the slope may be above ground and may be subsequently backfilled once the proper girding has been installed.

In clay type soils, provide for the complete drainage of the construction: drainage of the sub-bed, along with drainage of the upper peripheral structure.

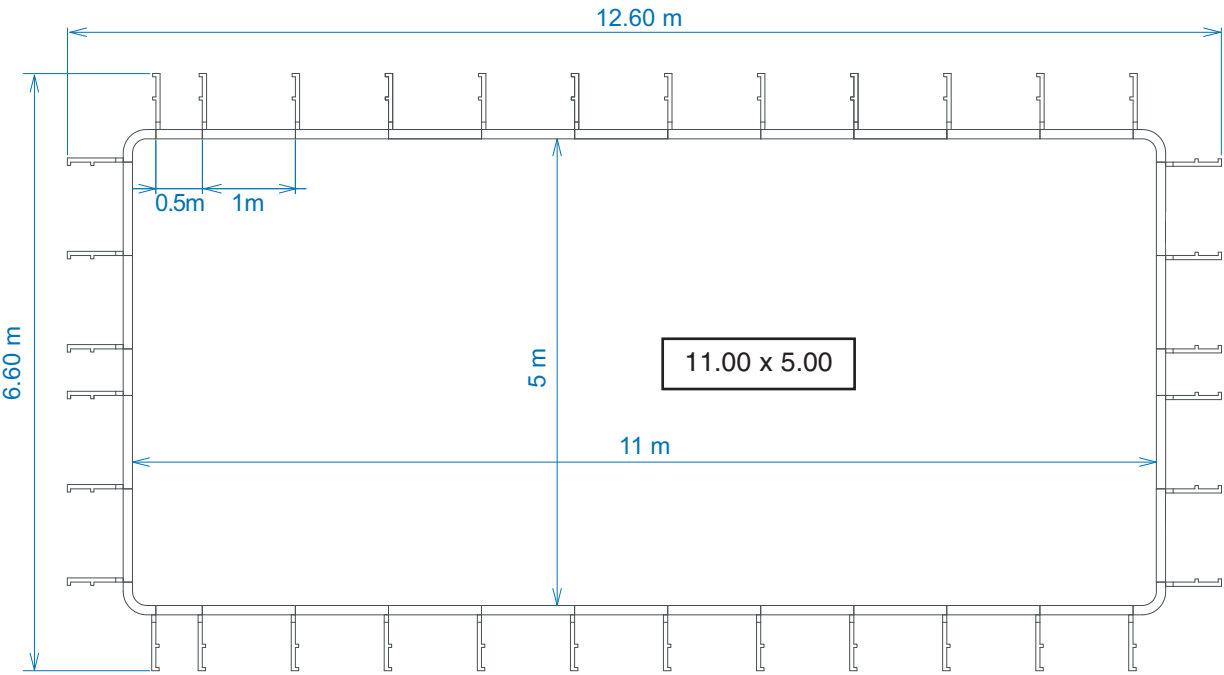
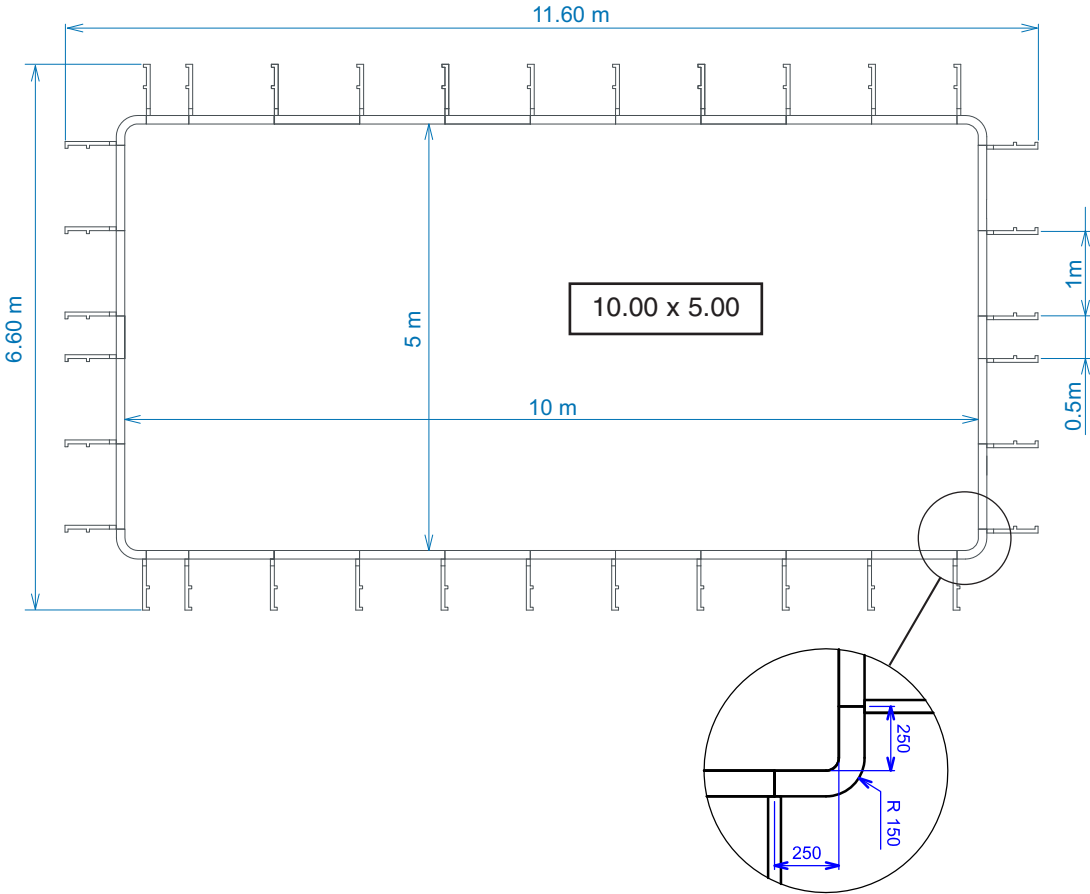




## RECTANGULAR POOL CONFIGURATIONS



# RECTANGULAR POOL CONFIGURATION (CONT.)



# UNDERSLAB

## **NOTE:**

THE UNDERSLAB MAY BE POURED AFTER THE PANELS ARE MOUNTED

In this case, the panel structure is positioned, level, on 10 cm blocks after careful tracing and impeccable alignment of the various components.

Upon pouring the slab, the concrete flows under the panels and encases the supporting braces. Finish by pouring concrete behind the panels, directly at the feet of the supporting braces to form the lower ring beam. This method is recommended as it increases the strength with which the supporting braces are held in position. Furthermore, using this method there is no need to install formwork 10 cm outside the pool dimensions to delimit the lower ring beam

## **THE BASE OF THE EXCAVATION:**

Finish the base carefully by hand using a spade and a pick.

Check depth measurements from surface reference points using a spirit level, flat rule, and plumb line.

## **LAY THE BASE COURSE:**

Depending on the under-lying soil, use one of (or a combination of) the following:

- A BED OF STONES (diam. 5cm), evenly distributed.
- BLINDING CONCRETE, 5 to 10 cm thick matching the final shape of the pool base (optional).
- A FILTER COURSE to prevent clay particles from rising up from under-lying layers.
- A PROTECTIVE FILM or ANTI-TERMITE FILM.



## **FIT THE MAIN DRAIN:**

Connect the main drain to its line (tube - pressure 10 bars, outer diam. 50 mm, long enough to allow connection in the machine room) and bed it in the middle of the lowest point. To hold the main drain in position, create a recess by hand and finish by fitting rebar (6 or 8) staples . Protect the upper surface of the part using the protective cover provided with the drain to prevent soiling.

**The upper surface of the main drain should be flush with the finished surface of the underslab (slab + any finishing screed**

CAUTION, NEVER INSTALL A MAIN DRAIN LESS THAN 30 CM FROM THE POOL WALL

## **POSITIONING THE WELDED WIRE MESH:**

Steel welded wire mesh, lattice 10 x 10 x 4 (or a double layer of 20 x 20 x 4).

Roll the mesh out over the surface of pool base. Ensure that it is not flattened against the floor of the excavation so that it may be correctly imprisoned WITHIN THE CONCRETE when the underslab is poured. Use "L" shaped iron bars to grip the mesh, raise it and position it at about 2/3 the depth of the underslab.

Sections of mesh should overlap by 20 to 30 cm and should be tied together.

**Note: If fibreglass reinforced concrete is used do not reinforce with a welded wire mesh.**

### **POURING THE CONCRETE:**

Pour a slab 10 to 15 cm thick using reinforced concrete, 350 kgs/m<sup>3</sup>, on land that is stable, not muddy or waterlogged and that is well consolidated.

Depending on the surroundings, a concrete mixing truck may be used to pour the underslab. First calculate the volume of concrete required as follows:

$$\text{BASE SURFACE AREA} \times 0.10 = \text{VOLUME IN M}^3 \text{ (for a 10cm underslab)}$$

If access is difficult, extension hoses (up to about 30 m ) or a concrete pump may be used.

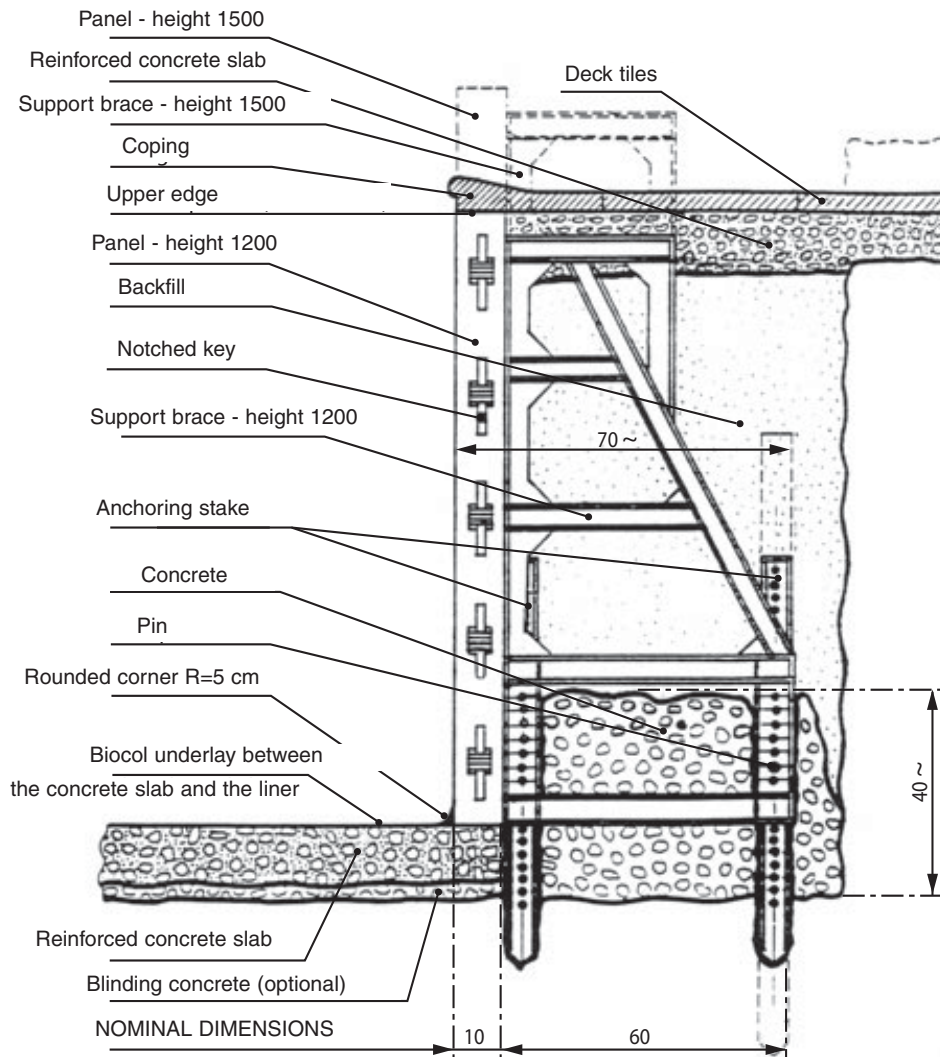
Either lay down:

- 1 layer, smoothed immediately.
- 2 layers: 1 layer of concrete and subsequently a finishing screed (5 cm thick). When a "LINER" is used for waterproofing the finish of surface must be impeccable. Make sure that the upper surface of the main drain is flush with the finished surface of the underslab.

### **IMPORTANT:**

The outer edge of the concrete underslab must not exceed the outer edge of the flanges jutting back from the panels, otherwise it will not possible to drive the anchoring stake against the panel into the support brace.

Therefore, ensure that the shuttering or formwork is at most 10 cm from the line marking the inner pool wall or include a blank to leave a space for each supporting brace. After the PPP panels are installed, round off all the connecting angles and the angles at the base of the panels with mortar using a length of PVC tubing Ø 100 mm.



**CROSS SECTION VIEW OF THE COMPLETED ASSEMBLY**

# ASSEMBLING THE WALLS

It is always best to have a level surface, however, unless the concrete underslab has already been poured, the bottom of most excavations will not be perfectly flat.

The quick positioning PPP supporting braces get around this inconvenience and remove the need for jacks or other levelling systems.

## **- CORNER PANELS AND SUPPORTING BRACES:**

After completing the excavation and preparing the bottom of the excavation, position the PPP panels and corner panels in the hole, leaning them against the sides of the excavation (smooth side facing out).

### CAUTION

Ensure that you have the correct number of panels and that the panels featuring cut-outs for the skimmer, water suction and water return fittings and the underwater lights, if any, are correctly positioned. Ensure that the cut-out is oriented upwards.

## **AS FAR AS POSSIBLE POSITION PANELS OF SIMILAR DIMENSIONS OPPOSITE EACH OTHER**

Place the supporting braces all around the pool perimeter close to the panel flanges. These will be used to join the panels together.

No nuts or bolts are required, the correct number of self-locking keys and positioning pins are moulded with each supporting brace and may be easily detached one by one as they are needed.

Depending on the pool wall height selected, 2 pins and 4, 5, or 6 keys will be needed to join 2 panels, or one panel and a corner panel, together with a supporting brace. The only tool required for assembly is a mallet.

Standing in the work space between the panels and the edge of the excavation, bring together 2 panels, lining up the square apertures in the panel flanges.

Start with the corners or the curves (steps, free form). Hold a supporting brace perpendicular to the right hand panel with the centring pins opposite the apertures, push them through from right to left until the holes into which the keys will be inserted are far enough from the inner surface of the flange on the left hand panel.

Position the keys so that their vertical edge is parallel to the panel flange and lock the assembly together using the mallet.

Check that the upper edges of the panels are thus automatically aligned.

Continue systematically in the same way for all PPP panels and corner panels checking that these are correctly aligned with the pool perimeter marked out by string tied around the stakes planted in the corners A.B.C.D. or marked in blue on the underslab once this had dried.



**CHECK THE BASE RECTANGLE BY MEASURING THE LENGTH OF THE 2 DIAGONALS: THESE SHOULD BE EQUAL.**

Each supporting brace (height 1.25 m and 1.50 m only), comes with 2 moulded synthetic resin stakes and a positioning pin.

Place the stakes over the apertures provided for this purpose in the supporting brace.

Check one last time that the corresponding PPP panel is correctly aligned along the pool perimeter and drive the first stake (that closest to the panel) into the ground using a hammer. Drive in the second



stake.

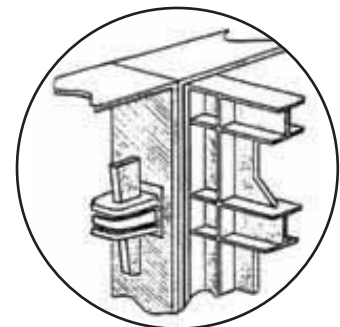
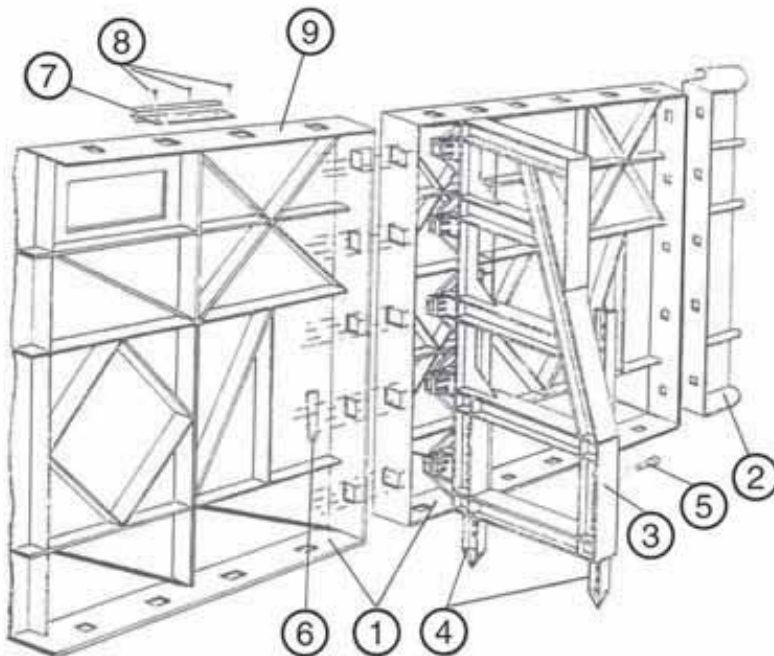
Stakes secure the pool wall to the ground, they may also be used to level the upper edges of the panels and correct their vertical position.

To do this, simply slide the supporting brace along the rear stake and push in the positioning pin when the desired position is attained.

Continue around the pool using a spirit level to ensure that the panels are vertical and that the upper edges are horizontal at each supporting brace.

1.00 m supporting braces are fastened to the

ground by a 10 x 10 belt of steel reinforcement bars or 'rebars' onto which concrete is poured. Cut the steel belt to pass it through the supporting brace and reattach by tying with steel reinforcement bars.



**PANEL ASSEMBLY  
DETAIL**

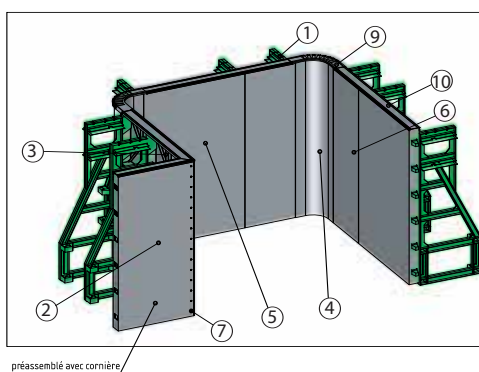
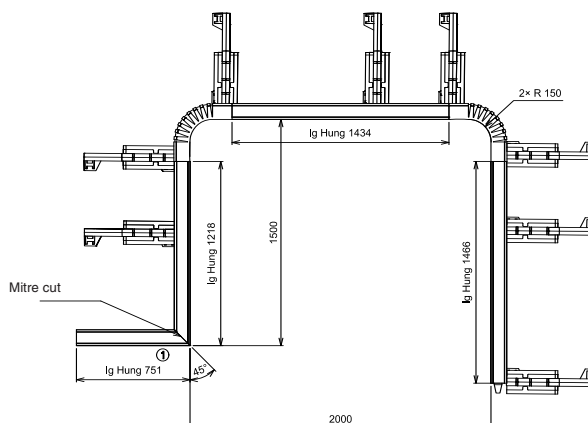
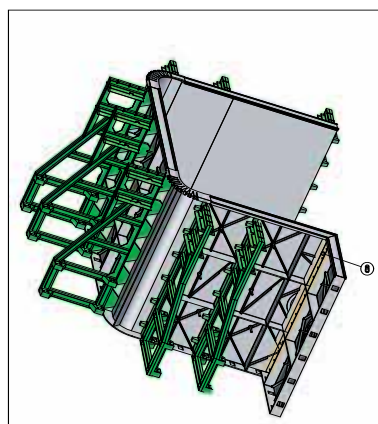
- |   |   |
|---|---|
| 1 - PPP panel                           | 6 - Key   |
| 2 - PPP corner                          | 7 - Liner lock profile                          |
| 3 - PPP supporting brace                | 8 - Self-tapping screw or rivets (not provided) |
| 4 - Adjustable stakes (1.25m and 1.50m) | 9 - Upper edge of the panel                     |
| 5 - Positioning pins                    |   |



## STRAIGHT STEP CONFIGURATION

The straight step structures are assembled as described previously. The return panel (743 for Straight steps, 250 for Roman steps) features a pre-fixed angle iron to which the rest of the structure is attached using pozidrive self-tapping countersunk screws 4.8x25.

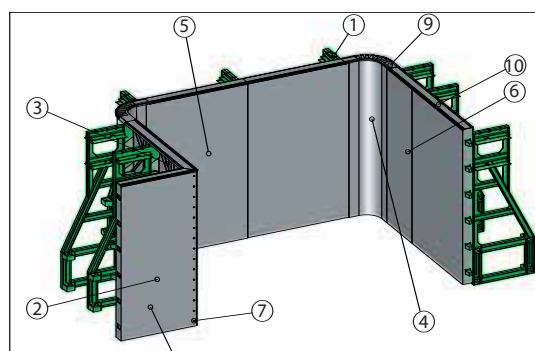
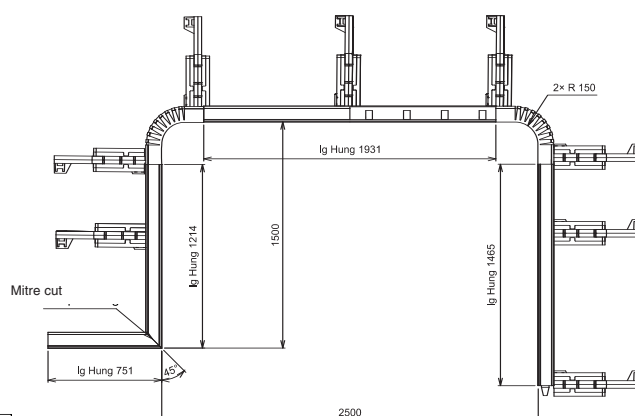
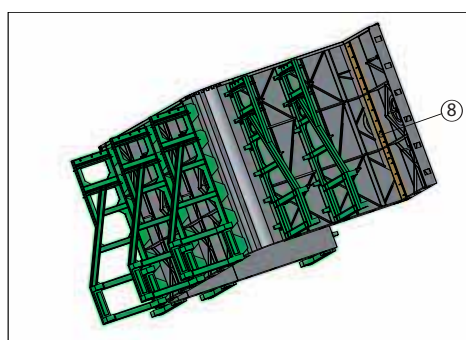
### STRAIGHT STEPS 2.00MX1.50M HEIGHT 1.50M OR 1.25M



préassemblé avec cornières

REF	NUMBER	DESIGNATION
1	8	Supporting brace 1m50 or 1m25
2	1	Panel 743x1500 or 743x1250 with preassembled angle iron
3	1	Panel 750x1500 or 750x1250
4	2	Corner panel R150 h1m50 or h1m25
5	2	Straight panel 1500x1000 or 1250x1000
6	3	Straight panel 1500x500 or 1250x500
7	30 or 24	pozidrive countersunk self tapping screw 4.8x25
8	1	PPP angle iron 1500 or 1250
9	2	Hung alu corner PPP panel R150
10	4	Hung alu w: 2000

### STRAIGHT STEPS 2.50MX1.50M HEIGHT 1.50M OR 1.25M

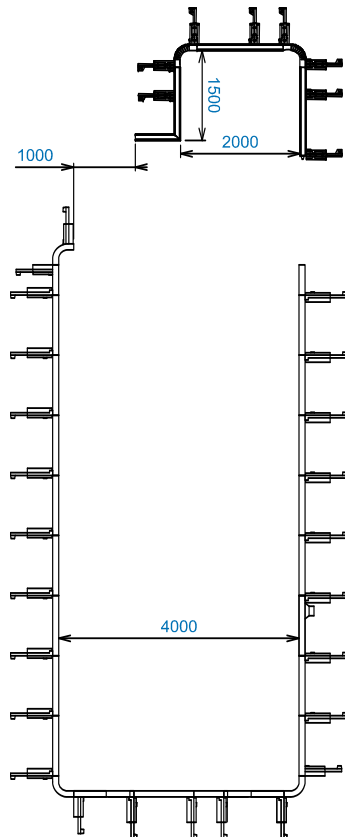
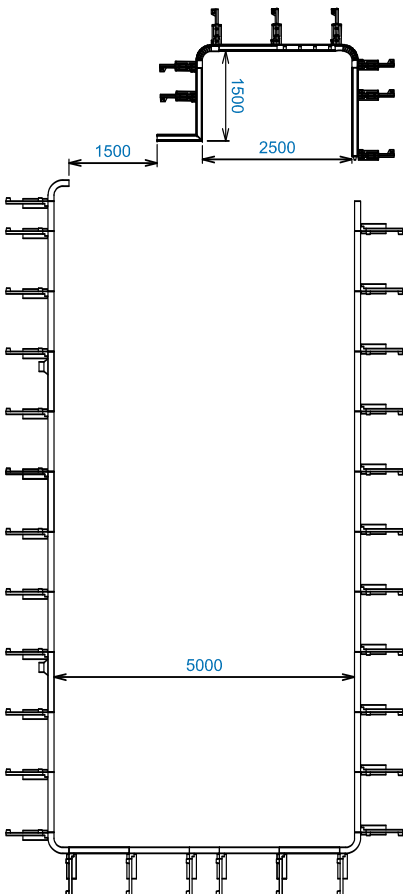
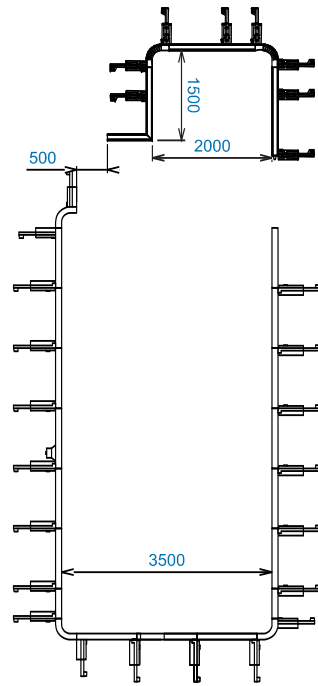
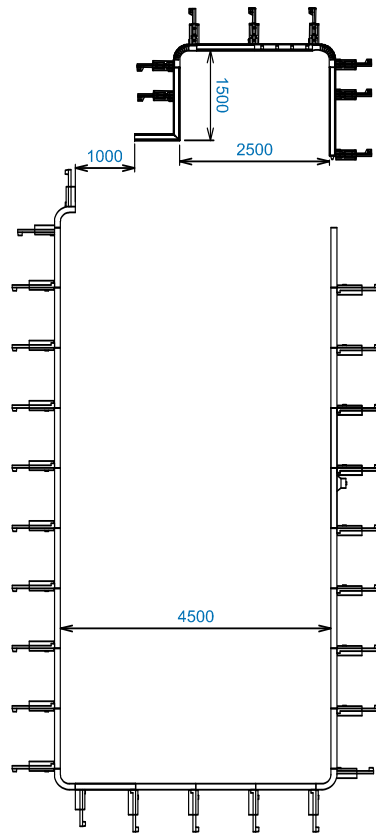


preassembled with an angle iron

REF	NUMBER	DESIGNATION
1	8	Supporting brace 1m50 or 1m25
2	1	Panel 743x1500 or 743x1250 with preassembled angle iron
3	1	Panel 750x1500 or 750x1250 with preassembled angle iron
4	2	Corner panel R150 h 1m50 or 1m25
5	2	Straight panel 1500x1000 or 1250x1000
6	3	Straight panel 1500x500 or 1250x500
7	30 or 24	pozidrive countersunk self tapping screw 4.8x25
8	1	PPP angle iron 1500 or 1250
9	2	Hung alu corner panel PPP R150
10	4	Hung alu w: 2000

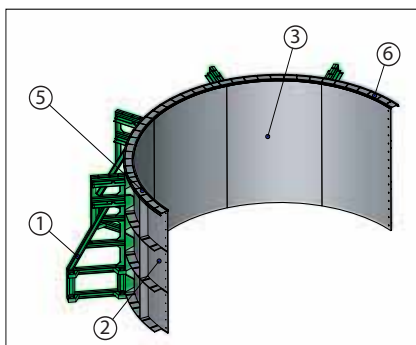
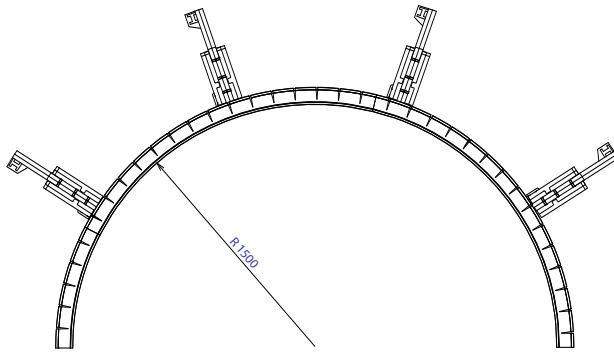
STRAIGHT STEPS

ESCALIER DROIT			
Escalier droit	Long. de structure basant	Formalises en m	Formalises en palmeaux et en jambes de force
2500 x 1500	indifferent	2,75m de structure	2 palmeaux de 1 m, 1 palmeau de 0,5, palmeau d'angle et 2 jambes de force
2500 x 1500	indifferent	3,25 m de structure	3 palmeaux de 1 m, 1 palmeau d'angle et 3 jambes de force



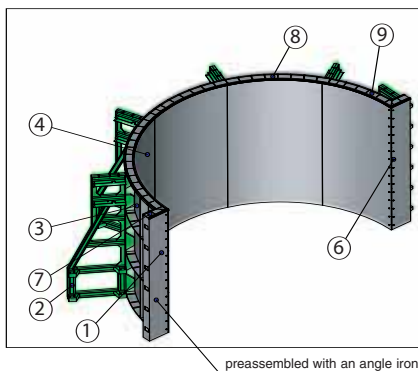
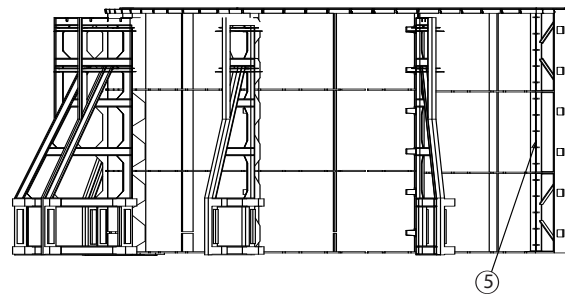
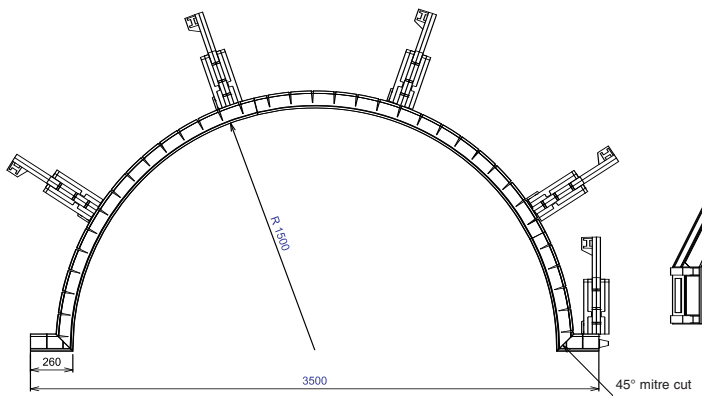
## ROMAN STEP CONFIGURATIONS (CONT.)

**ROMAN STEPS RADIUS 1.50M HEIGHT 1.50M OR 1.25M**



REF	NUMBER	DESIGNATION
1	4	Supporting brace 1m50 or 1m25
2	2	Panel 1500x859 FL (R1500) or 1250x859
3	3	Panel 1500x1000 FL (R1500) or 1250x1000
4	30 or 24	pozidrive countersunk self tapping screw 4.8x25
5	1	Hung alu FL R1500 w: 720
6	2	Hung alu FL R1500 w: 1000

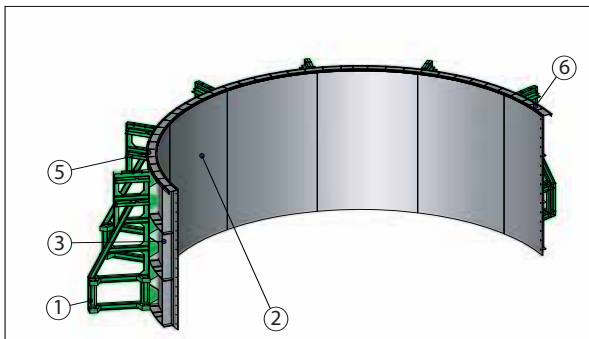
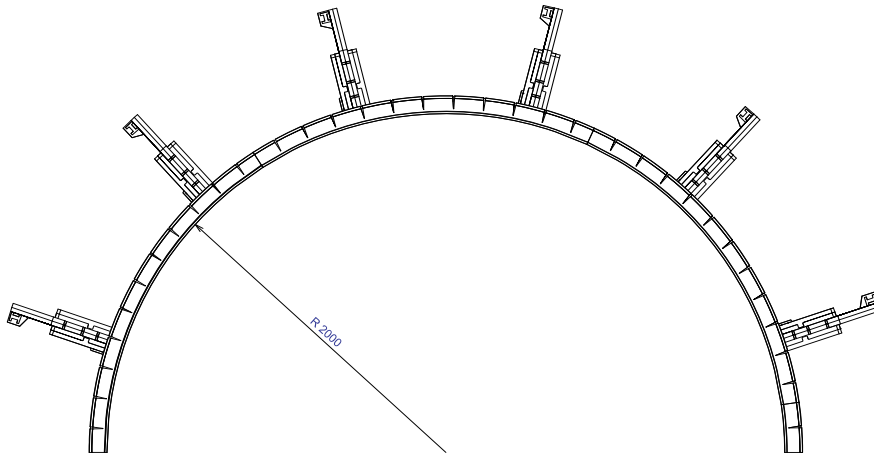
**ROMAN STEPS RADIUS 1.50M HEIGHT 1.50M OR 1.25M**



REF	NUMBER	DESIGNATION
1	2	Straight panel 1500x250 with preassembled angle iron or 1250x250
2	5	Supporting brace 1m50 or 1m125
3	2	Panel 1500x859 FL (R1500) or 1250x859
4	3	Panel 1500x1000 FL (R1500) or 1250x1000
5	2	PPP angle iron 1500 or 1250
6	60 or 48	pozidrive countersunk self tapping screw 4.8x25
7	2	Hung alu w: 258
8	1	Hung alu FL R1500 w: 715
9	2	Hung alu FL R1500 w: 2000

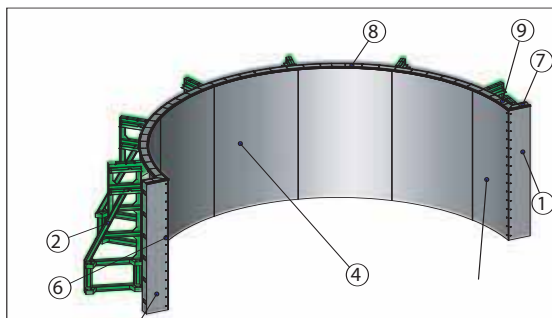
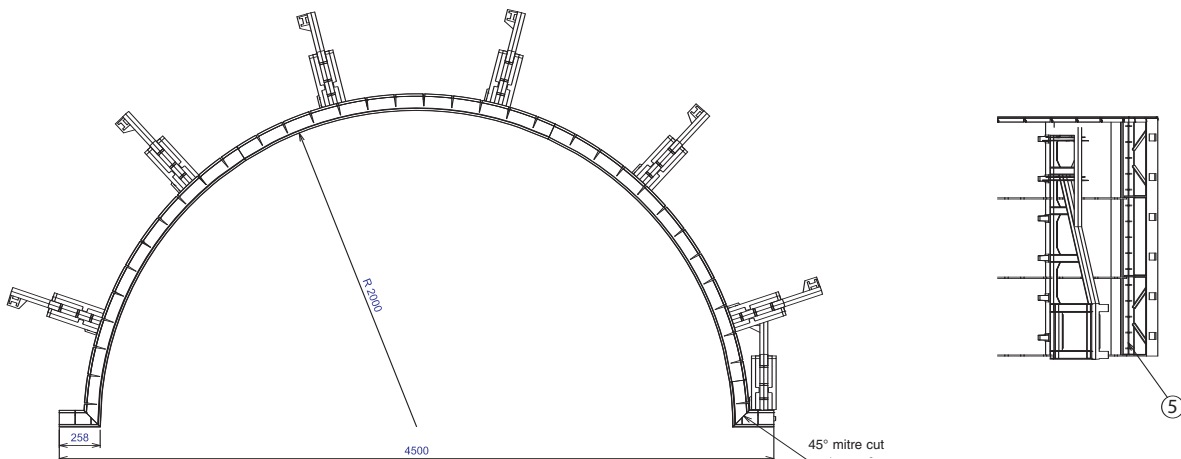
## ROMAN STEP CONFIGURATIONS (CONT.)

**ROMAN STEP RADIUS 2.00M    HEIGHT 1.50M OR 1.25M**



REF	NUMBER	DESIGNATION
1	6	Supporting brace 1m50 or 1m125
2	5	Panel 1500x1000 FL (R2000) or 1250x1000
3	2	Panel 1500x645 FL (R2000) or 1250x645
4	30 or 24	pozidrive countersunk self tapping screw 4.8x25
5	3	Hung alu FL R2000 w: 2000
6	1	Hung alu FL R2000 w: 282

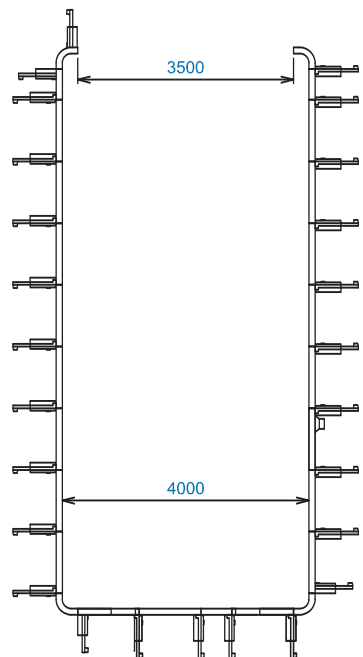
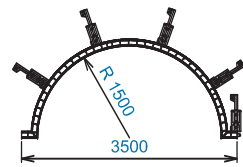
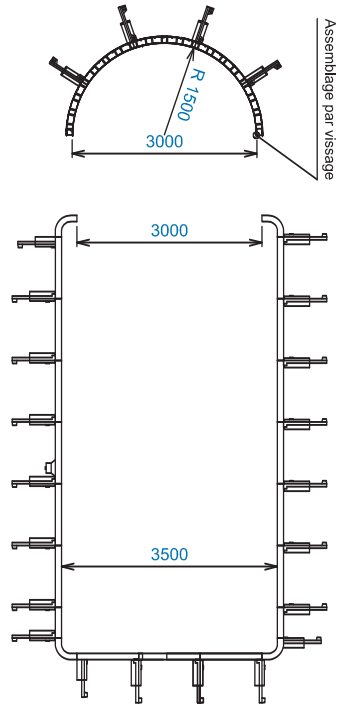
**ROMAN STEP RADIUS 2.00M    HEIGHT 1.50M OR 1.25M**



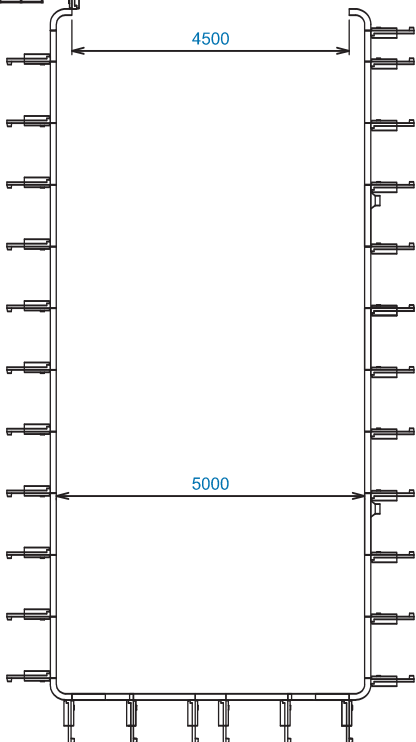
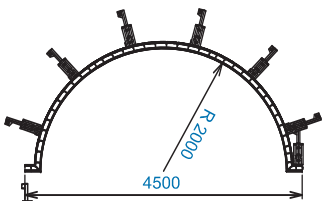
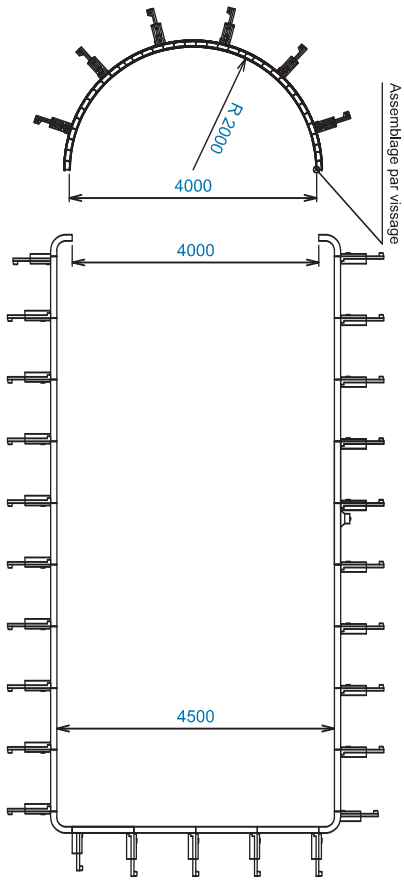
preassembled with an angle iron

REF	NUMBER	DESIGNATION
1	2	Straight panel 1500x250 with preassembled angle iron or 1250x250
2	7	Supporting brace 1m50 or 1m125
3	5	Panel 1500x645 FL (R2000) or 1250x645
4	2	Panel 1500x1000 FL (R2000) or 1250x1000
5	2	PPP angle iron 1500 or 1250
6	60 or 48	pozidrive countersunk self tapping screw 4.8x25
7	2	Hung alu w: 258
8	3	Hung alu FL R2000 w: 2000
9	1	Hung alu FL R2000 w: 285

## ROMAN STEPS demi-metric pools



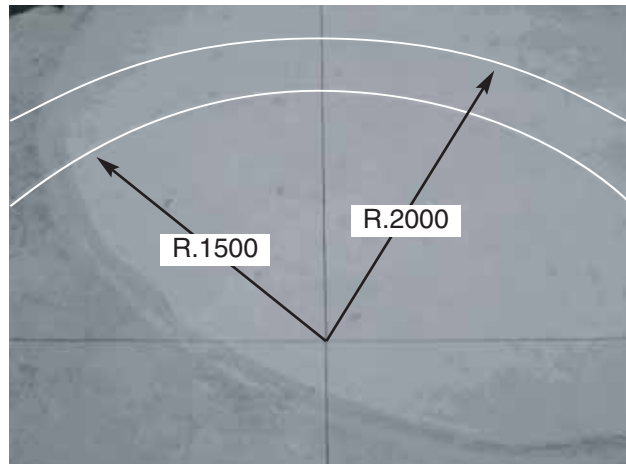
## ROMAN STEPS metric pools



ROMAN STEPS		Pools for demi-metric pools		Pools for metric pools	
R. 1500		4 m	3.5m of panel structure	3.5m of panel structure	Three 1 m panels, one 0.5m panel and 4 braces
R. 1500		5 m	3.5m of panel structure	3m of panel structure	Three 1 m panels, one 0.5m panel and 4 braces
R. 1500		6 m	3.5m of panel structure	3m of panel structure	Three 1 m panels, one 0.5m panel and 4 braces
R. 2000		5 m	4.5m of panel structure	4m of panel structure	Four 1 m panels, one 0.5m panel and 5 braces
R. 2000		6 m	4.5m of panel structure	4m of panel structure	Four 1 m panels, one 0.5m panel and 5 braces
Steps for demi-metric pools					
R. 1500		3.5m	3m of panel structure	3m of panel structure	Three 1 m panels, and 4 braces
R. 1500		4.5 m	3m of panel structure	3m of panel structure	Three 1 m panels, and 4 braces
R. 1500		5.5 m	3m of panel structure	3m of panel structure	Three 1 m panels, and 4 braces
R. 1500		6.5 m	3m of panel structure	3m of panel structure	Three 1 m panels, and 4 braces
R. 2000		4.5 m	4m of panel structure	4m of panel structure	Four 1 m panels, and 5 braces
R. 2000		5.5 m	4m of panel structure	4m of panel structure	Four 1 m panels, and 5 braces
R. 2000		6.5 m	4m of panel structure	4m of panel structure	Four 1 m panels, and 5 braces

## ASSEMBLING ROMAN STEPS

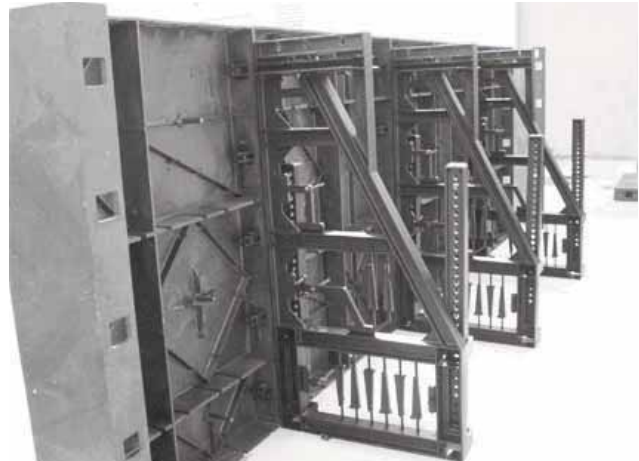
### 1°) PREPARATION PRIOR TO ASSEMBLY



Trace the contour of the step radius (R. 1500 or R2000 depending on the step model)



Prepare the panels that make up the step structure.



Join the panels together in a straight line as shown on page 45.



If the step structure includes a 250 return panel (roman steps) or a 740 return panel (straight steps) preassembled with an angle iron, fix the step structure to the return panel using pozidrive countersunk self tapping screws 4.8x25.



If the step structure does not include a return panel (as in the case of demi-metric pools) fix the step structure to the pool structure directly using pozidrive countersunk self tapping screws 4.8x25



## 1°) PREPARATION



Bend the panels. Start by fastening the first panel to the ground. Use a spit gun to nail the base of the panels to the concrete.

Continue, bending the panels to follow the trace on the ground and fastening the base of the panels to the ground as you proceed.



The rounded structure is finished, all that remains is to pour the concrete steps.

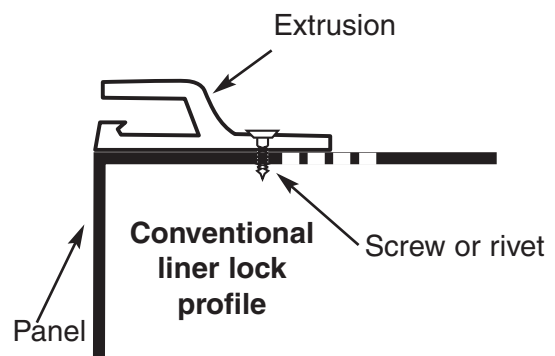
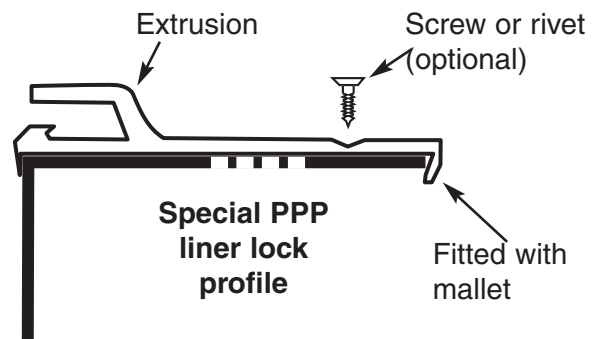
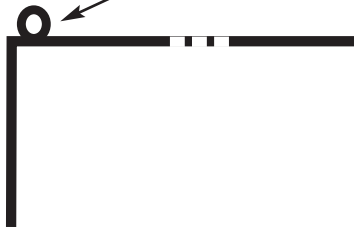
# LINER LOCKING TRACK

Before the liner may be fitted to the PPP pool, a female extruded profile (the liner track) must be fitted to the top of the panel to accept the male extrusion or bead welded to the edge of the liner. The liner lock track comes in 2 m long straight strips and 4 corner pieces provided with the kit. Begin installation of the track with the 4 corners. Screw these into position using self tapping screws or rivets after piercing a corresponding hole in the upper edge of the panel. Next, install the straight strips between the corners fixing in them in position with self tapping screws or rivets every 20 to 25 cm. The track should be flush with the front surface of the panel on the pool side. The seams between the strips should not coincide with the seams between the panels.

## NOTE:

Panel positioning should be completed before the track is installed. However if, during track installation, it is found that positioning is not quite perfect, remove the self locking key from a supporting brace and slide a lever under the panel to perform the slight manipulations necessary.

Silicon bead, Ø approx 4 mm



## NB

Once the panels have been assembled with their supporting braces, the liner track has been installed and all readjustments have been completed, block the assembly in position by pouring mortar behind the panels. Take care to ensure that the supporting braces are encased. The purpose is to increase the strength and stiffness of the panels and prevent infiltration during heavy rain.

# INSTALLATION OF POOL FITTINGS

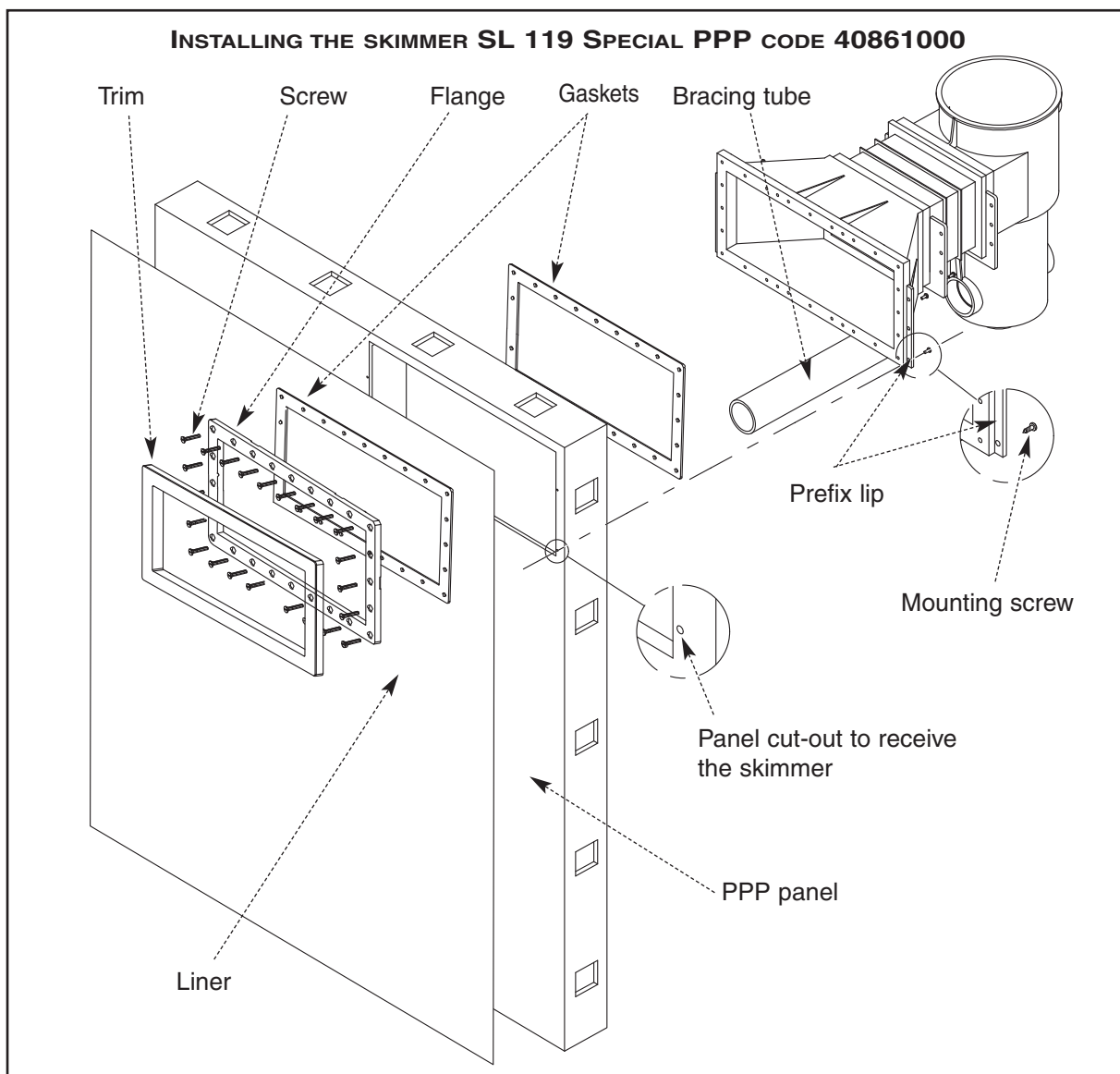
SOME PANELS ARE PRECUT TO RECEIVE "SPECIAL PPP" AQUAREVA POOL FITTINGS THAT COME WITH THE NECESSARY PREFIX SCREWS AND SPACERS

## INSTALLATION OF THE VARIOUS ITEMS:

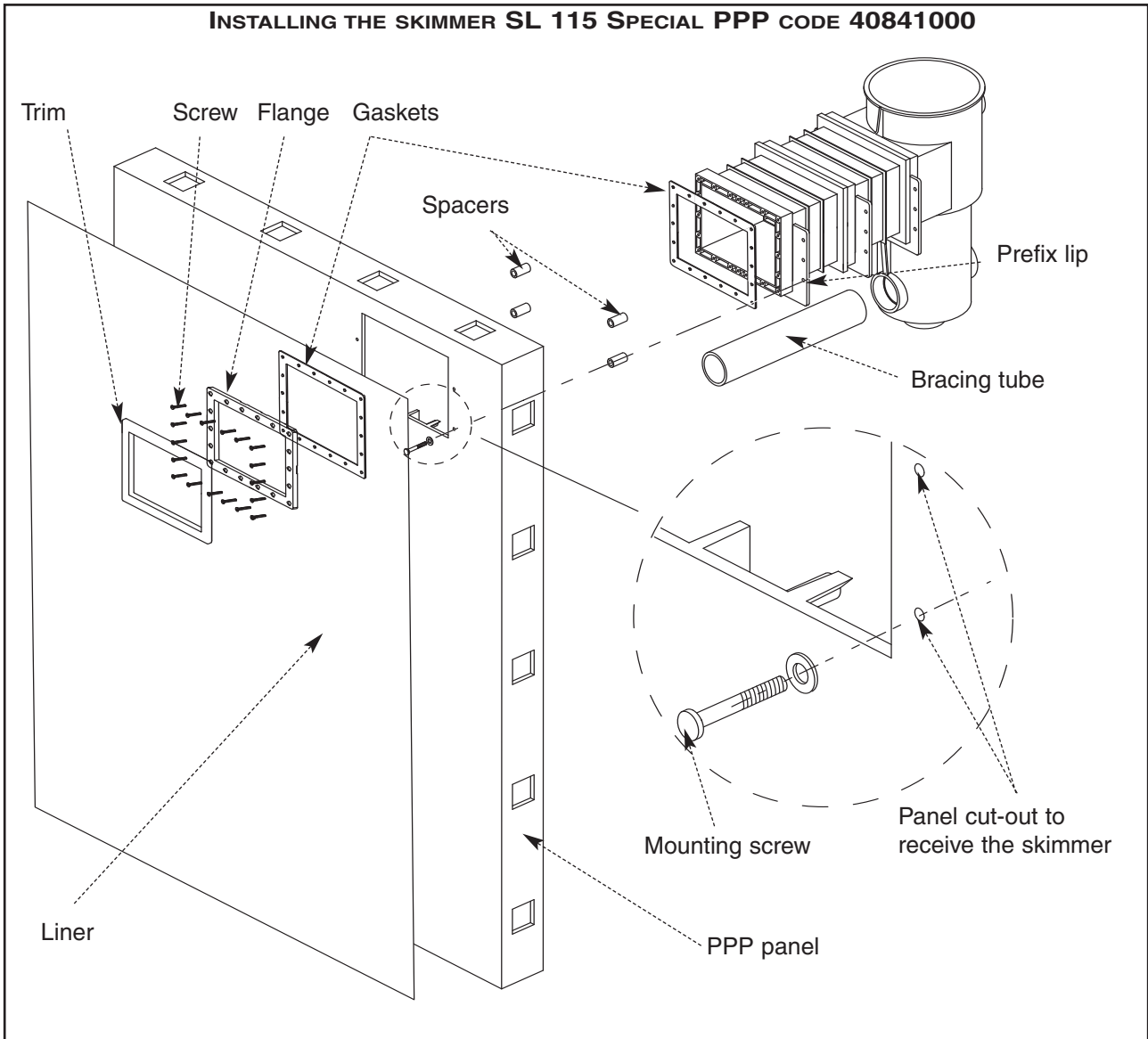
### 1 - SKIMMER

- Position the skimmer in the cut-out. The skimmer mouth should fit into the panel flush with its inner surface.
- Next, screw the countersunk prefix screws through the skimmer lip, use washers
- For skimmers with a small mouth (SL115), do not forget to insert the spacers between the skimmer flange and the PPP panel.
- The skimmer should be braced in position using the PVC tube diam. 63 provided with the skimmer, bearing on one side against the indent provided for this purpose on the skimmer body, and, on the other side, on the rear surface of the panel.

This installation technique is preferable to any other because the liner is sandwiched between two gaskets thus almost eliminating the risk of leaks.

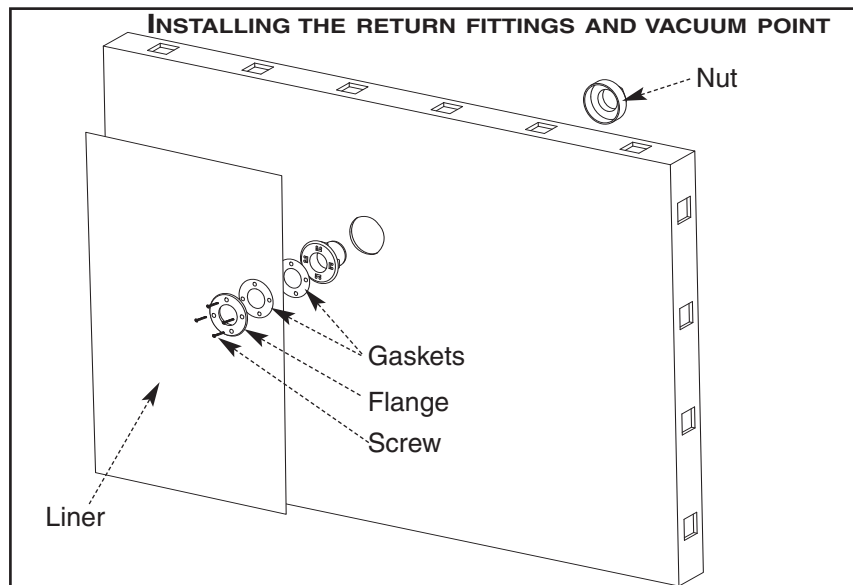


**INSTALLING THE SKIMMER SL 115 SPECIAL PPP CODE 40841000**



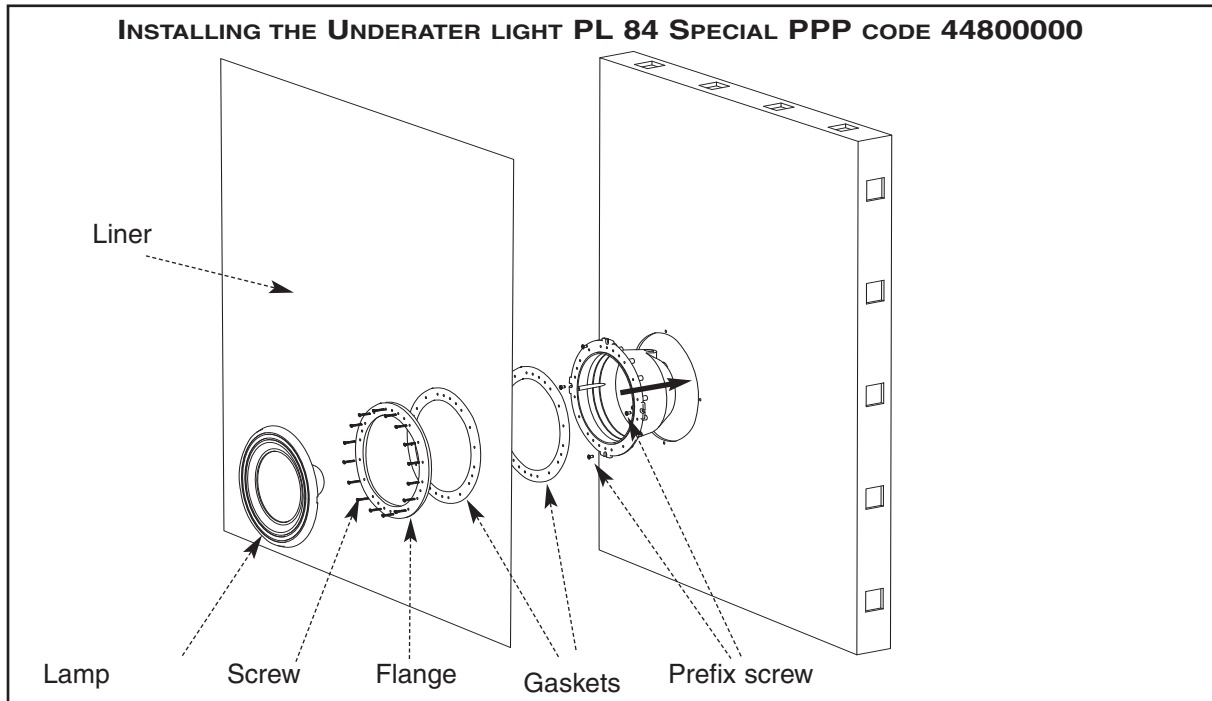
**2 - WATER RETURN AND VACUUM POINTI**

- From the front surface, fix the return fitting into the panel. Screw and tighten the nut behind the panel



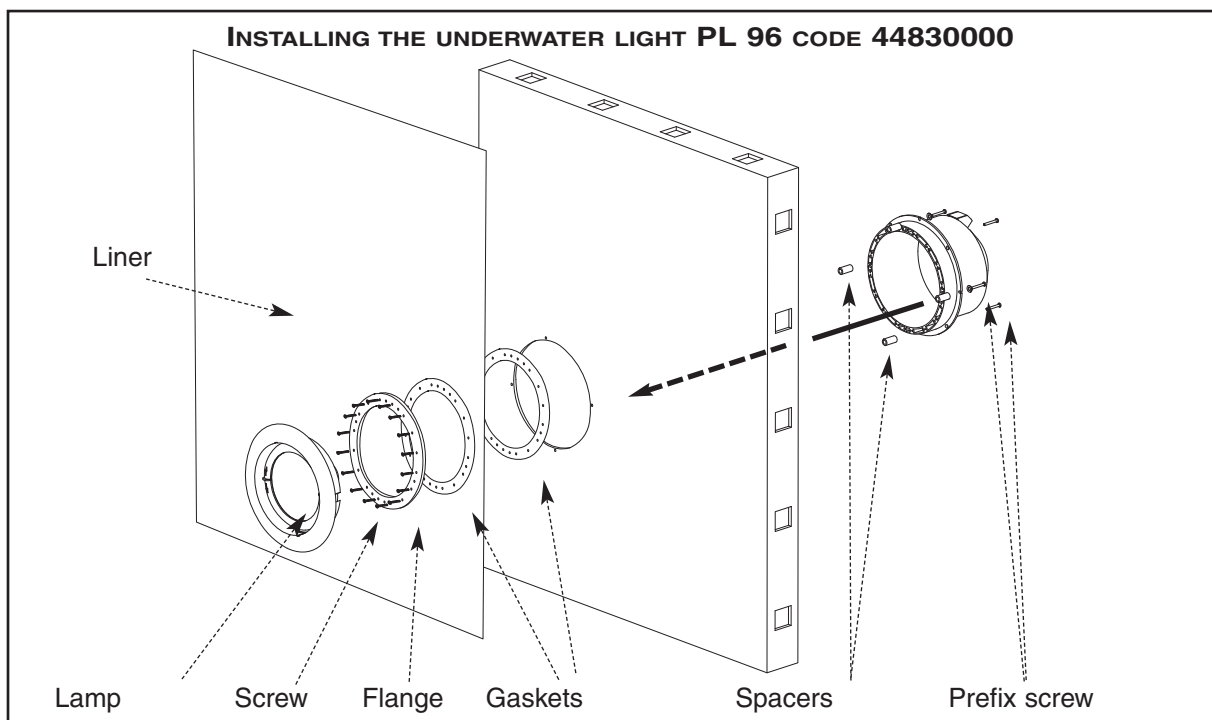
### 3 - UNDERWATER LIGHTS Uni-directional (PL84 Special PPP)

- From the front of the panel (the inner pool side) fix the niche into the cutout. The screw housings fit into the 12 mm pre-drilled holes. Insert a self tapping countersunk screw in each of the 4 small notches provided and, using washers, tighten to secure the niche in position.



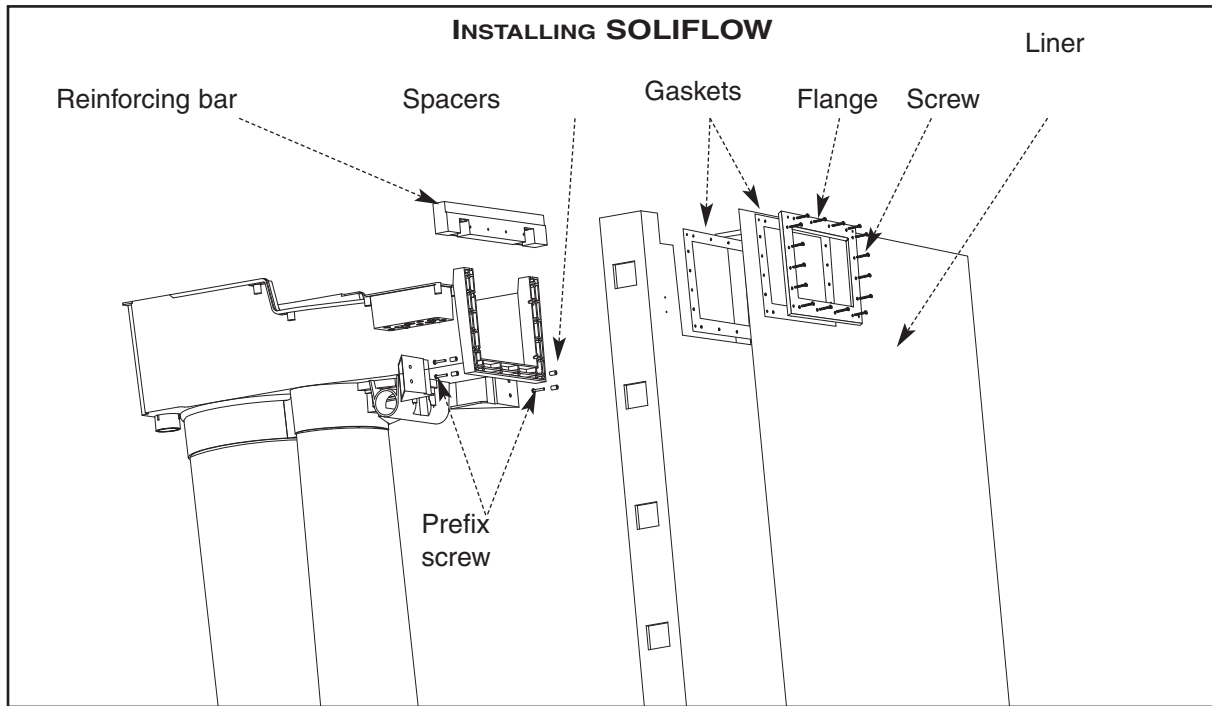
### - Multi-directional (PL96 Special PPP)

- From the rear of the panel, fix the niche into the cutout. **Insert the spacers between the prefix lip and the PPP panel.** Insert a self tapping countersunk screw in each of the 4 small notches provided and, using washers, tighten to secure the niche in position.



#### 4 - COMPACT FILTRATION UNIT "SOLIFLOW"

The panel into which SOLIFLOW will be fitted is pre-cut and pre-drilled in the factory. Follow the instructions provided under the heading "Thin walls - Industrialised structures" in the Soliflow installation guide. Use the special PPP spacers and screws provided with the Soliflow filter.



#### IMPORTANT

Before installing the liner, do not forget to put the gaskets in position around the pool fittings. The liner must be held in a sandwich between two gaskets.



# FITTING THE LINER

## - PREPARATION

Before installing the liner, check that there are no foreign bodies in the pool structure that could damage it. The finish of the underslab will determine the final look of the pool.

Concrete underslabs must be scrupulously clean. Each square centimetre must be vacuumed using an industrial machine. Bumps should be smoothed and any cracks should be filled in using a fine cement.

### NOTE:

Fit the woven PE underlay on the floor of the pool.

This underlay is essential and absolutely must be fitted.

Caution: to keep the underlay in position, use the adhesive strips provided (the purpose of the adhesive tape is to mask the joints between panels) to stick the underlay to some panels.

Do not use any adhesive tape other than that provided. Prolonged contact between the liner and other types of tape could result in the migration of tape components into the PVC liner causing stains.

Liner installation is more straight-forward when it is hot and sunny (at least 18°C) early in the afternoon. Creases are easier to smooth out and the liner is more supple. If the weather conditions are not suitable, leave the liner in its packaging in a heated room for one or two days before installing it. During the winter, the liner should be fitted under the protection of a heated shelter.

Installation requires 3 or 4 people depending on the pool dimensions.

## - FITTING

Unwrap the liner in the shallow end. Obviously the installers should remove their shoes.

With one person positioned at either width edge, two other people in the pool take a hold of the other two corners of the liner and unfold it lengthways over the surface of the pool.

With one person positioned at either width edge, two other people in the pool take a hold of the other two corners of the liner and unfold it lengthways over the surface of the pool.



Position one corner of the deep end, snap it into the track and hold it in position either using the locking trim LINERLOC or half a wooden clothes peg (remove the metal spring from the clothes peg to split it into two halves).

Snap the liner into the track along the width to the other corner of the deep end, position it correctly and hold it in position with LINERLOC or wooden clothes pegs (stretch the liner if necessary).

Proceed down the lengths of the pool towards the shallow end. It may be necessary to hold the liner in position using short strips of LINERLOC (3 cm).

Caution: if the liner needs to be slid laterally, detach it rather than sliding it along the rail to avoid any risk of tearing at the liner track joins

Next position the liner, pulling so that the base fits perfectly to the base of the pool. For pools with a flat base, the welded seam of the liner may be lined up along the angle formed between the base of the pool and the bottom of the pool wall

Once the liner is correctly positioned and snapped into the liner track, insert the vacuum pump to remove the air between the walls and the liner and flatten the liner against the pool walls and base before filling the pool with water:

- Detach a section of the liner (30 to 40 cm) around the midpoint of a wall
- Slide the tube of a vacuum pump between the liner and the pool wall. Block the liner in position on either side of the tube using the liner locking trim LINERLOC or halves of wooden clothes pegs.
- Seal off the area around the tube or nozzle and any other section where air could be drawn in between the liner and the pool wall (skimmer covers, pool fittings, filtration system pipes, panel seams, etc.)..
- Switch on the vacuum pump. An industrial vacuum cleaner or professional vacuum pump such as QVAC is recommended. A household vacuum cleaner, even with the bag removed, would be a lot less efficient. After a period of time (varies with the strength of the vacuum pump) the liner is flattened against the walls of the pool and takes on its shape. Final positioning in the corners will only be achieved with the pressure exerted by the water.
- Check that the liner is correctly positioned in the pool.

**IMPORTANT**

LEAVE THE VACUUM PUMP RUNNING WHILE FILLING THE POOL. SHOULD IT BE NECESSARY TO STOP THE VACUUM PUMP, FOR WHATEVER REASON, STOP FILLING THE POOL. RESTART FILLING ONCE THE VACUUM PUMP IS SWITCHED BACK ON AND THE LINER IS FLATTENED AGAINST THE POOL WALL.

## ***LINES AND PIPEWORK***

All the pool fittings should be connected to the pool machine room by means of buried pipes.

Use good quality PVC or Polyethylene pipe approved for installations subject to freezing and high pressure (6 to 8 bar).

Before backfilling, connect pipes to the return fittings and skimmers. To avoid the formation of airlocks within the lines, the suction and return lines should be laid on a slightly sloping bed of sand.

Similarly, to avoid damage during backfilling, rigid PVC or polyethylene pipes leading to the machine room should not be laid horizontally out from the skimmer or return fitting, but should be laid directly vertical down to the bottom of the excavation. Once they reach a stable surface they can be laid horizontally on a bed of sand.

The suction and return lines should follow a constant even slope between the filter and the pool. This will facilitate drainage of the lines in winter. To install a plastic union: wind Teflon tape around the threading and then screw into the corresponding opening.

## **FILLING**

This operation must be carried out quickly and simultaneously with backfilling of the space behind the walls of the pool (refer to the following section "BACKFILLING" ). The water flow-rate must be sufficiently high. If possible use several hoses together.

After the liner has been positioned, start to fill the diving pit with the vacuum pump switched on. If using a garden hose, first add several litres of water to the bottom of the diving pit and leave the end of the hose submerged.

Once the water depth reaches 10 above the main drain, cut-out the liner around this fitting (refer to the instructions provided below)

Then, without stopping the vacuum pump, continue to fill the pool while gradually backfilling as the water level reaches the bottom of the underwater light, then the return fittings and lastly the skimmers. Position the outer gaskets and flanges and cut-out the liner as described further on in the section entitled "Cutting out the pool fittings".

## **CUTTING OUT THE POOL FITTINGS**

### **CUTTING OUT THE POOL FITTINGS**

When the water level is about five centimetres under each of the following fittings:

- underwater lights,
- vacuum points,
- return fittings
- skimmers

(refer to the paragraph entitled "FILLING"), the gaskets and flanges should be mounted on and secured to the liner. To do this, press on the liner to locate the areas corresponding to the screw holes and cut using a sharp implement.

Next, place the gasket against the liner with the flange over it. Thread the screws through and tighten them, locking the flange in position, check that the gasket is centred.

Once all attachment items are locked in position, cut out the portion of liner obstructing the opening using a sharp knife.

#### **Comments:**

Gaskets ensure waterproofing, therefore check that they are in good condition when they are installed.

To avoid damaging them when cutting out the liner, follow these recommendations;

First cut out an opening in the liner smaller than the nominal diameter.

Then rectify the contour using a sharp knife or cutter staying flush with, but not cutting into, the sealing gaskets.

For the main drain, remove the protective adhesive from the screw holes before positioning the gasket.

**The underwater lights** each comes with a cable approximately 2 meters long. A length of cable (approximately 1 meter) should be left coiled in the niche to allow the underwater light to be removed from its niche for maintenance, for example to change a bulb, without partially emptying the pool.

# BACKFILLING

For flat base pools, start backfilling and filling with water simultaneously.

For pools with a diving pit, start backfilling as soon as the water level reaches the bottom of the panels, that is, once the diving pit has been filled with water.

The initial bottom layer around the pool should be of some porous material (sand gravel) to provide efficient drainage away from the pool walls. Sand should be used in this layer.

Backfill should contain as little clay as possible. Backfilling should be carried out in successive layers 15 to 20 cm deep as the water level in the pool rises such that the pressure exerted by the water is cancelled out by the pressure exerted by the earth.

As the successive layers of backfill are laid down, these should be tamped down either by walking on them or using a rammer. The backfill may be slightly dampened before hand or may be wetted while it is being shovelled into the excavation. Dampening or wetting improves the tamping and is recommended if a deck is to be built soon after the installation of the pool.

To prevent breaks in the deck caused by the settling of the backfill over time, lay the deck on pillars (concrete blocks laid head to head) or piles spaced at intervals of 2.50m around the periphery. The pillars or piles are built before backfilling is started. The deck concrete slab should be 'cut' every 3 m before the concrete cures.

However, we recommend that you wait several months after the pool has been filled before installing the deck. This is the time necessary to allow settling of the backfill.





## UPPER RING BEAM

A reinforced concrete upper ring beam should be laid immediately to stabilise and reinforce the pool structure and to allow the coping to be laid.

Slide reinforcing steel bars through the upper holes in the supporting braces provided for this purpose ( 3 or 4 reinforcing bars depending on the panel height).

At the skimmers, pass the rebars over or under the fitting to ensure the continuity of the beam. The vertical edge of the supporting brace can be used to prop the formwork.

Pour the concrete ring beam, depth 20 cm, 350 kgs/m<sup>3</sup>. Concrete should be poured in one go with no rework.

Coping may be laid on a thin layer of screed or on special cement.



The purpose-designed PPP peripheral trough structure may be used to minimise the amount of cement needed to pour the upper ring beam. The trough structure is inserted into the grooves in the PPP panels.



