

# Installation Manual

## Metric Series Residential Swimming Pool

**Radiant**  
**POOLS™**

# IMPORTANT SAFETY INFORMATION

**WARNING: DO NOT DIVE OR JUMP. IT IS NOT DESIGNED FOR DIVING OR JUMPING. YOUR POOL IS APPROXIMATELY 4' DEEP. IF YOU DIVE OR JUMP INTO YOUR POOL YOU RUN THE RISK OF PERMANENT INJURY OR DEATH.**

Enclosed in the liner box is the safety envelope. The safety stickers must be installed as per instructions. Failure to properly install warning labels will void warranty. Alert all visitors and family of the risks associated with jumping and/or diving and point out all warning labels supplied. Failure to mount these safety labels may subject you to substantial liability in case of injury.

Your pool is designed for years of pleasurable, safe family fun. But when used incorrectly, a swimming pool can be dangerous. To insure your pool is used safely you must observe the following safety precautions:

1. Do not dive, do not jump, no rough play, no running or pushing.
2. Do not walk on the top rail. It can be slippery and is not a walkway.
3. Be sure to install all safety labels provided with your pool according to the safety instructions.
4. Keep a 50' safety rope with a flotation buoy with an outside diameter of 15" accessible in a prominent area by your pool.
5. Post near all entrances to the pool area a list of telephone numbers for the following:
  - a. Local police
  - b. Local fire department
  - c. Local rescue unit
  - d. Local ambulance service
  - e. Local hospital
  - f. 911 emergency number, if available
6. Provide fencing or an enclosure which is independent of the house as a closure around the entire pool area. The fencing must be made of durable material, a minimum of 4' high from ground level and with closures with self-latching locks to make the pool inaccessible to toddlers and uninvited guests. Make sure the gate is always closed. Be sure to follow local building code requirements for load capacity and fencing if using an aftermarket or homebuilt deck.
7. Check with your local town or municipality in regard to obtaining a building permit and/or an electrical permit. The installer shall follow the regulations for set backs, barriers, devices and other conditions.
8. All electrical outlet connections should be a minimum of 5' from the outside perimeter of the wall of the pool. From 5'-10' there should be either a fixed connection (outlet box) or twist lock connection with a GFCI. Connect power cords to a 3-wire grounding-type outlet only.
9. Severe electrical shock could result if you install your pump or filter on a deck. They could fall into the water causing severe shock or electrocution. Do not install on a deck or other surface at, above or slightly below the top ledge of the pool.
10. Do not sit, stand or climb on the pump and filter or any part of the pool structure. Components such as the filtration system, pumps and heater must be positioned so as to prevent their being used as a means of access to the pool by young children.
11. Never drink alcoholic beverages or use any intoxicants which could hinder your judgment and reflexes.
12. Never use the pool alone. All children must be supervised continuously.
13. Do not use pool if bottom is not clearly visible. At night, sufficient lighting must be available. It is the pool owners' sole responsibility to provide adequate lighting for the pool bottom, safety signs and walkways, which exceeds minimum standards of the IES of North America.
14. Be sure that all toys, chairs and tables or similar objects that a young child could climb on be at least 4' from the pool.
15. Do not use pool during electrical or rain storms.
16. See available Association of Spa and Pool Professionals (APSP) publications for more tips on pool safety.



## INTRODUCTION

Installation of the Metric Series above ground pool is not extremely hard or confusing. The installation of an average size aboveground pool (18'-33' diameter) will usually require 2-3 people to help set it up. The secret to installing a pool so that it will give you years of enjoyment is to take the time to follow the step-by-step instructions. It is very important to follow the instructions in the sequence laid out in this manual. Included in this manual is an assortment of tools and materials which you will need for preparing the ground, checking the levelness and setting up the pool. Failure to follow instructions exactly will void all warranties. Read all instructions for related accessories such as pumps, filters, etc. prior to starting.

Before you start, check your packing list to confirm that you have the correct number of parts and components. The manufacturer reserves the right to revise, change or modify construction of its pools. See proceeding page for Metric Series Pool Components chart. If there are any missing or damaged components, please contact your retailer for replacement.

Even though all Radiant pools are designed to meet or exceed industry recommended safety standards, special attention must be paid to all installation procedures that the installer performs and controls. Spend time to assure that the entire pool framework is perfectly level. Unlevel pools place extreme pressures on the pool walls. An earth mound or pool cove must also be installed. This keeps the pool liner from creeping out from under the pool wall. Be sure to follow these instructions. Improperly installed pools can rupture, allowing thousands of gallons of water to rush out causing extensive property damage and injury to anyone in its path. As with any major home project, a homeowner is responsible for following all local laws, ordinances and codes. A checklist is provided below as a guide for these considerations.

With proper installation and care and maintenance, this Metric Series Residential Swimming Pool from Radiant Pools will provide a lifetime of fun and relaxation for you and your family and friends.

Radiant Pools offers a, non-prorated, lifetime guarantee on the entire pool against manufacturing defects. Walls, coping and liners are guaranteed against factory defects due to faulty workmanship or defects due to manufacturing for as long as you own your home. Compare our warranty with any other pool manufactured. Engineering, innovation and efficiency make the difference. It's simply brilliant.

✓ HOMEOWNER CHECKLIST	
	Obtain building permit if required.
	Local building and zoning requirements
	Electrical requirements
	Fencing requirements
	Backwash (waste water) requirements
	Check availability of utilities.
	Call before you dig ( <a href="http://www.digsafe.com">www.digsafe.com</a> )

## TOOLS NEEDED



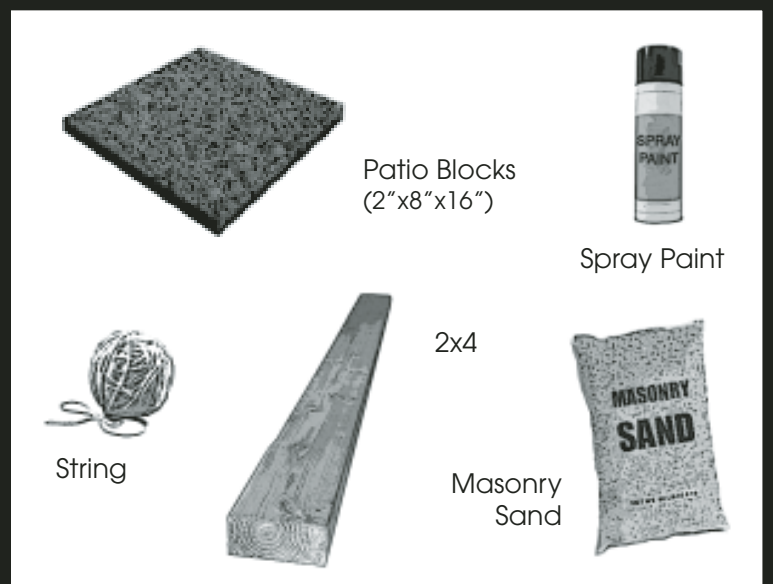
## POOL COMPONENTS CHECKLIST

Component	18'	21'	24'	27'	33'
Panels	8	8	10	10	14
Rebar*	8	8	10	10	14
Joiner Plates*	8	8	10	10	14
Coping	8	8	10	10	14
White Cap Screws	40	40	50	50	70
Coping Clips	8	8	10	10	14
Splines	16	16	20	20	28
Bolts (3/8"x2 1/4")*	16	16	20	20	28
Skimmer Kit	1	1	1	1	1
Return Fitting	1	1	1	1	1
Vinyl Liner	1	1	1	1	1

\* included for inground installation only.

**IMPORTANT NOTE: DO NOT ALLOW SPLINES OR COMPRESSION SEAMS TO COME IN CONTACT WITH SAND OR OTHER DEBRIS AS THIS WILL CAUSE DIFFICULTY IN INSTALLATION**

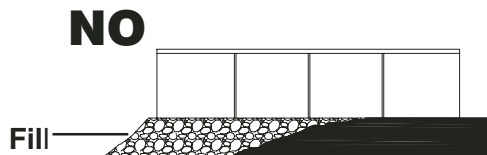
## MATERIALS NEEDED



## STEP 1: SELECTING POOL LOCATION

The selection and preparation of the pool site is your responsibility. The manufacturer can only suggest the proper techniques, indicate the important considerations and emphasize the precautions and cannot be held responsible for damages to your pool that may result from failure to carefully follow all pool specifications.

1. The surface on which your pool will stand must be absolutely level and solid. This condition should extend 1' beyond the actual pool area all around. The best surface is bare solid earth free from stones, roots and other sharp objects.

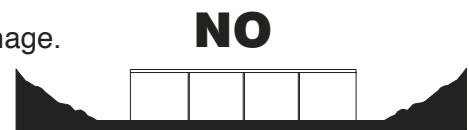


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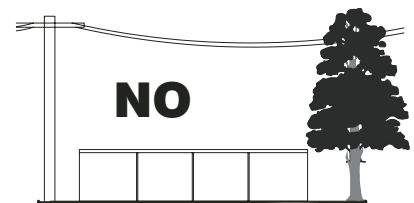
2. Allow plenty of play area around the pool. Fit the location into your landscaping plans.
3. The pool site must be accessible to electrical and water supply and should allow for disposal of great quantities of water when the pool is drained. All electric outlets within 10' must be GFI protected.

5. Do not set up your pool in hilly areas or areas with poor drainage.



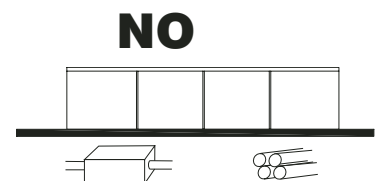
4. When installing your pool on a solid level surface, it is imperative that you protect your pool and liner from chemicals and other foreign matter contained in the surface. Do not install your pool on peat moss, tar paper, roots, sticks, gravel or chemically treated or contaminated soil not approved for pool use. Any or all of these surfaces can ruin your pool and liner and will void your warranty. To prevent stones or other foreign material from damaging the liner it is recommended to build a 2" to 3" base of clean washed masonry sand or other suitable base material inside the entire pool.
5. If ants or termites are prevalent in your area, have soil treated with insecticides and allow sufficient time for them to dissipate before continuing with pool installation.

6. Do not set up your pool under trees or under overhead wires.



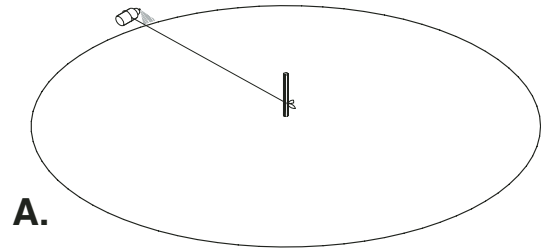
7. Do not set up your pool near any existing structure such as your house, garage, etc., as this condition may compel diving or jumping into your pool which could result in permanent injury or death. You must check with your local municipality for all appropriate ordinances and regulations.

8. Do not set up your pool on or near any septic system or underground utilities.

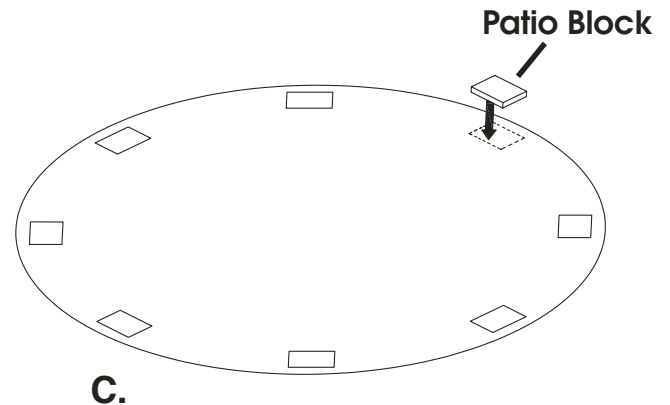
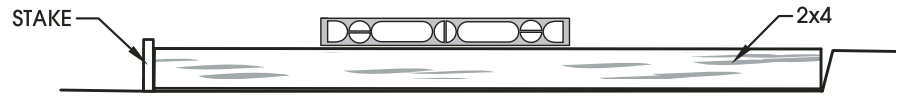


## STEP 2: PREPARING THE POOL SITE

Once you have chosen an appropriate location for your pool based on the criteria specified above, determine the pool circumference by putting a stake in the ground at the center of the location desired and with a line equal in length to the radius of the pool (1/2 the pool size plus 12"), mark off the circumference with a sharp object, lawn edger, spray paint, etc. **(fig.A)**



After all of the sod has been removed, you must make the pool area absolutely level as measured by a transit or level. Find the lowest spot within the pool area and level the ground to that lowest spot. **(fig.B)** Do not add dirt to the low areas. It is the high areas that must be dug away. The perimeter of the pool must be a solid foundation to prevent the pool from settling into dirt that is loosened by rain and water splashing over the side. Once again, clean the area of all sharp objects, including roots that later effect your swimming pool.

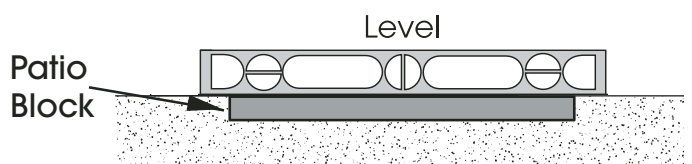


## STEP 3: PATIO BLOCK INSTALLATION

Once the ground is prepared, begin installing 2"x8"x16" patio blocks. **(fig.C)** The patio blocks should be installed at the perimeter line of the pool (1/2 the pool size from the center stake) and at intervals corresponding to the number of panels associated with the size of the pool. **Please see chart for appropriate spacing.**

Sink each patio block into the prepared ground making sure that each block is level in all directions (side to side as well as front to back). Repeat this step around the perimeter of the pool area making the tops of all blocks level with the ground. Do not install the blocks on loose sifted soil or sand. All patio blocks must be flush with the ground, solid and level with each other in all directions. Once all of the patio blocks are installed, place a joiner plate on each patio block. **(fig.E)** The joiner plates will be used to provide a level platform for wall installation.

Pool Size	Patio Block Intervals	Qty Needed
18'	6' 10 5/8"	8
21'	6' 5 7/8"	10
24'	7' 5"	10
27'	8' 4 1/8"	10
33'	7' 4 1/8"	14



**D.**

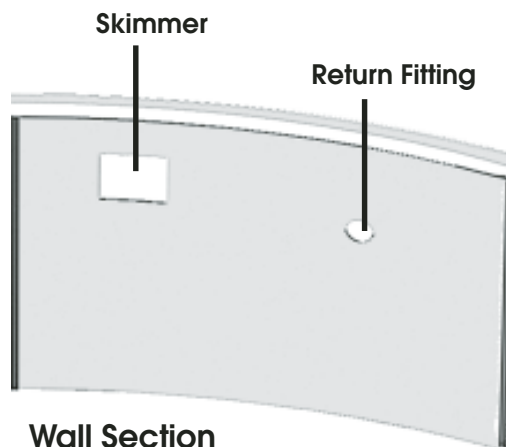
## STEP 4: WALL INSTALLATION

Locate the wall section that is cut for the installation of both the skimmer and return fitting. The location for this panel should be adjacent to the electrical supply and provide ease of access once the pool is installed.

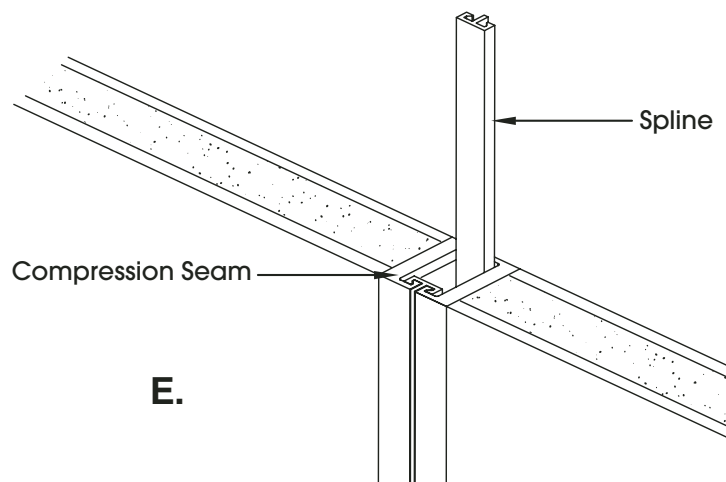
Place the wall sections so that each panel meets on a patio block. At the end of each panel is a compression seam for the spline assembly. Attach wall sections using the provided splines. Please be aware that each compression seam should be flush before attempting to insert the splines. **(fig.E)** Splines are designed to slide freely into place when inserted properly into leveled panels.

**NOTE: When inserting each spline, please be aware that the outside spline should be inserted completely before inserting the inside spline.**

Duplicate this process with the remaining wall panels stopping before installing the final wall panel. Bring the required amount of clean and washed masonry sand into the interior of pool area at this time. Refer to the chart below for the required amount. Once the sand has been placed inside the pool, install the remaining wall panel.



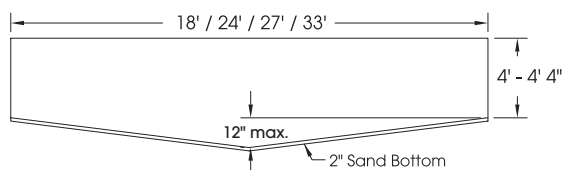
Wall Section



E.

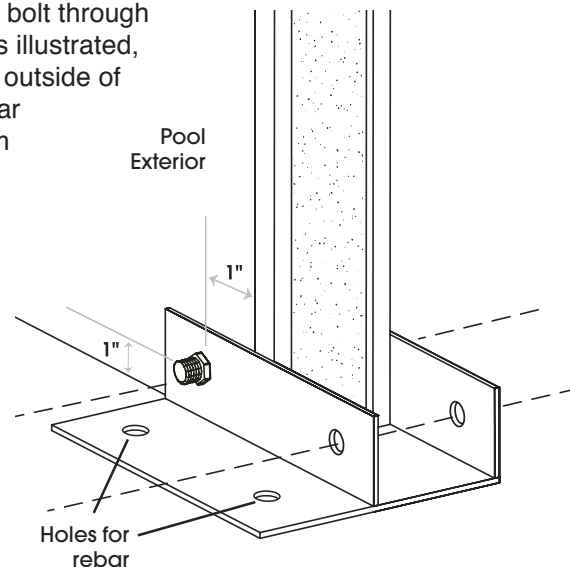
Pool Size	Sand Amt (cubic yds)
18'	2
21'	3
24'	3.5
27'	4.5
33'	6.5

### Dished bottom option



## For Inground Installation Only

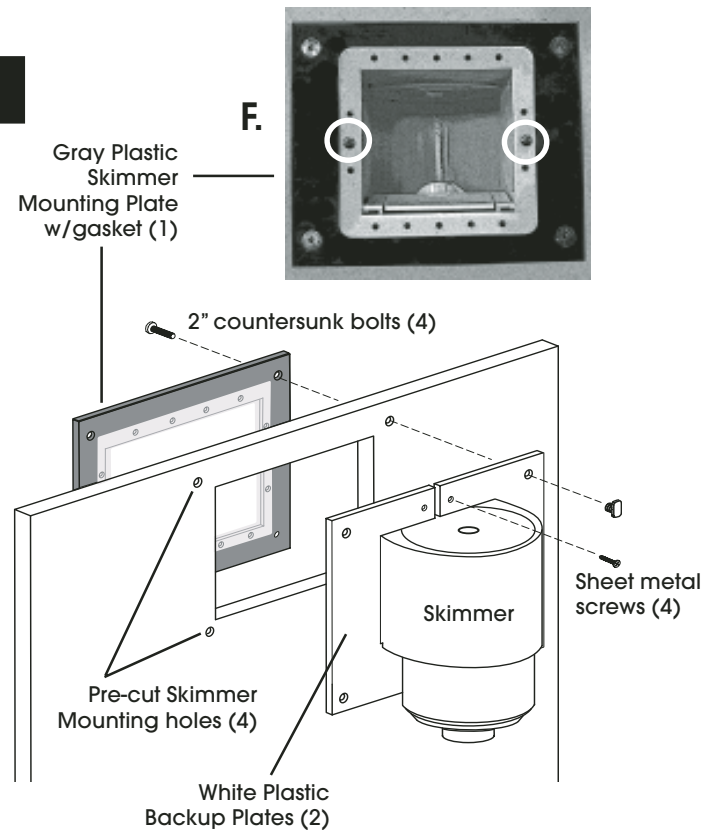
With a high speed metal drill bit, drill two 7/16" holes on each side of the compression seam in each joiner plate as shown. Insert a provided nut and bolt through each drilled hole as illustrated, with the nut on the outside of the pool. Drive rebar through one bottom hole to secure in proper. Duplicate this process with the remaining wall panels stopping before installing the final wall panel.



## STEP 5: SKIMMER ASSEMBLY

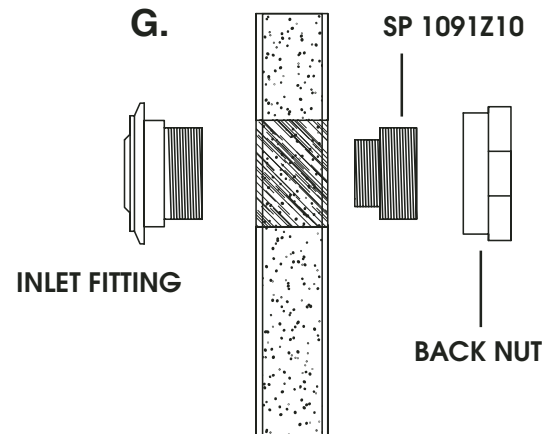
Slide skimmer face through pre-cut skimmer opening, keeping skimmer body on outside of pool wall. Attach gray plastic mounting plate to skimmer face using panhead screws into each side center holes as shown circled. **(fig.F)**

Fasten assembly by inserting 2" countersunk bolts through corner holes in mounting plate, through pre-cut holes in pool wall and through corner holes in white plastic backup plates securing with T-nuts. Hand tighten only. *(White plastic backup plates come with a protective film covering that may be removed at this time.)* Finish securing backup plates with 4 sheet metal screws per diagram. The skimmer faceplate is attached after the liner is installed.



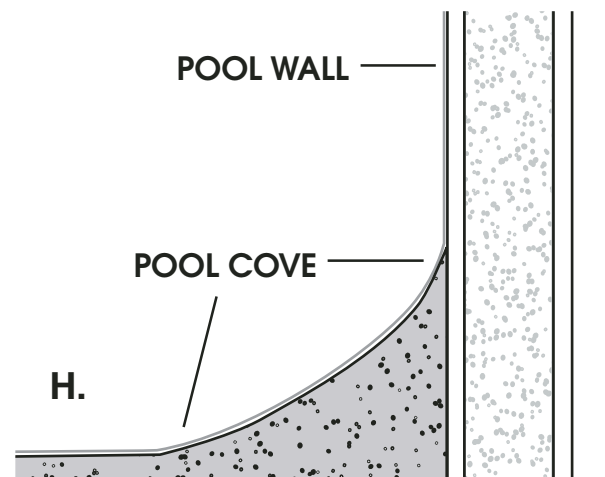
## STEP 6: RETURN FITTING ASSEMBLY

The return fitting is comprised of 3 pieces: inlet fitting, SP 1091Z10 and back nut. **(fig. G)** Install the return fitting by threading the SP 1091Z10 into the inlet fitting. Place the assembly into the pre-cut hole and thread the back nut onto the SP 1091Z10 fitting. All threaded connections should be prepared using a combination of Teflon tape and marine grade silicone. The return faceplate is attached after the liner is installed.



## STEP 7: PREPARING POOL COVE

Using the masonry sand, build a pool cove 6" to 8" high inside the wall along the entire circumference of the pool. **(fig. H)** This will prevent the liner from creeping under the wall. **This step is not optional and must be done.** Spread the remaining sand equally across the bottom of the pool. This will give you a 2" to 3" sand base. After the cove and base are in place, rake and tamp the entire pool area. Make sure that no sand is allowed to remain on the wall above the cove. This could cause pinholes in your liner.

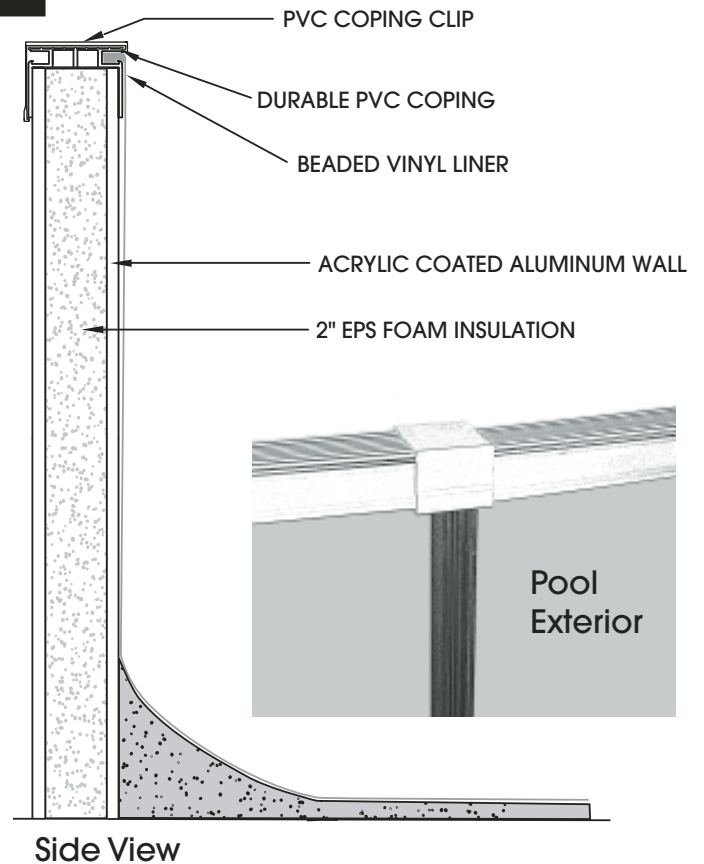


## STEP 8: INSTALLING PLASTIC COPING

The plastic coping is attached by simply snapping over the pool wall. Each coping joint should correspond with a wall joint. You need to leave a 1" gap between lengths of coping. Once all of the coping has been placed, secure the coping to the pool wall with the white cap screws provided. Using a 3/32" drill bit, drill through the plastic coping and **EXTERIOR** pool wall while pressing down firmly on the coping on top of pool wall. Using a Phillips screw driver, hand tighten each screw. **DO NOT OVERTIGHTEN.**

**Note: Plastic coping on the interior side of the pool wall will be held in place by the weight of the water on the beaded vinyl liner.**

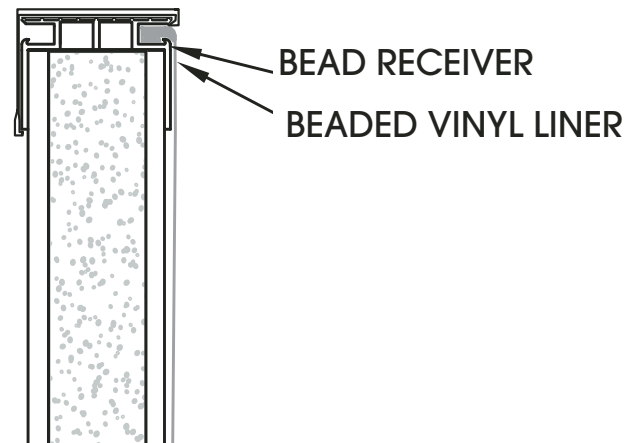
For the 18' pool, the screw spacing should be approximately 24" beginning with the first screw approximately 2"-3" over from a compression seam. For all other pool sizes, the screw spacing should be approximately 29" beginning with the first screw approximately 2"-3" over from a panel joint. The beaded vinyl liner with the weight of the pool water will draw coping into place and level on the interior of the pool wall.



## STEP 9: INSTALLING LINER

Clear all sticks and sharp objects from an area near the pool that is as large as the pool itself. Remove the liner from its carton and unfold and open the liner. Refold the liner so that it can easily be carried to the pool and unfold from the outside of the pool. Check to make sure the sand in the pool is level and that there are no sharp objects in the pool.

Place the liner into the pool while holding onto the top of the wall section of the liner. Snap the bead of the liner into the bead receiver around the entire pool. Gently pull on the liner and use a soft bristle broom to remove as many wrinkles as possible on the bottom of the pool. Start filling the pool slowly with water. Continue pulling gently and working the liner with a broom as needed. Some wrinkling of the liner may be evident and in no way affects the structural strength of your pool. You can continue to work out the wrinkles as needed by pulling gently on the liner or by using a broom.



**TIP:** To help in removing stubborn wrinkles, a shop vacuum may be used to suck the air out from behind the liner. Attach shop vac to skimmer outlet and seal with duct tape. Seal all other openings with duct tape as well. Turn on vac and run till wrinkles are removed. Once the wrinkles are gone, begin filling with water. After 6" of water is in the pool, turn off the shop vac.

## STEP 11: INSTALLING FACEPLATES

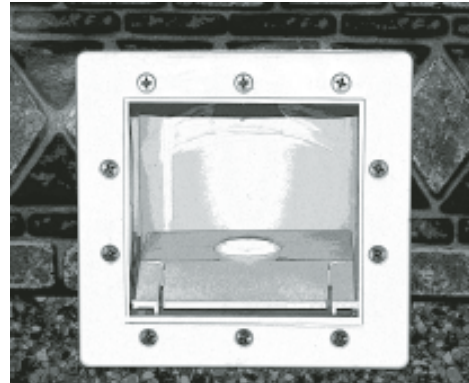
Once the water level reaches 2"-3" from the return and skimmer, install the faceplates. Carefully locate the screw holes in for each opening. Once located, carefully puncture the liner with an icepick or nail. Attach faceplate with 1" screws and hand tighten evenly till snug. Using a razor knife, carefully trim the liner out of the openings for the skimmer and return. When done, install the eyeball into the return.



Locate screw holes.



Trim liner from skimmer opening.



Skimmer faceplate installed.



Trim liner from return opening.



Return faceplate installed.

## STEP 11: CONNECTING PLUMBING

Please refer to pump and filter manufacturers' installation instructions.

## STEP 12: FILLING YOUR POOL

Whether you are filling the pool with your own home water source or through a water-fill service, please use the chart at right to determine the water volume requirements for your particular size pool.

### Water Gallonage per Pool Size

Pool Size	48" Pool Wall (40" of water)	52" Pool Wall (44" of water)
18'	6335	6963
21'	8622	9477
24'	11,262	12,378
27'	14,254	15,666
33'	21,293	23,403

# RADIANT POOLS METRIC SERIES RESIDENTIAL SWIMMING POOL LIFETIME LIMITED WARRANTY

There are no warranties that extend beyond the description on the face hereof. This Warranty, offered by Trojan Leisure Products LLC, dba Radiant Pools, of Albany, NY, herein called the "Manufacturer", is effective upon completion of payment by purchaser. Manufacturer warrants its manufactured swimming pool components against manufacturing defects. These components include wall panels, panel connectors, top and bottom channels, all aluminum bracing components, splines and aluminum nuts and bolts only. This Warranty does not extend to equipment and other accessories not manufactured by Trojan Leisure Products, LLC. Manufacturer's Warranty performance is subject to the following terms and conditions:

**Transportation:** Purchaser is responsible for all transportation charges incurred for any item returned for repair or replacement.

**Costs:** Purchaser is responsible for the cost of installation or reinstallation of any item repaired or replaced under this Warranty.

**Notification and Delivery:** Purchaser must notify Manufacturer of any defect, and the defective item must be delivered to Manufacturer, transportation costs prepaid to: 440 North Pearl Street, Albany, NY 12207. Manufacturer will effect repair or replacement within thirty (30) days of receipt, unless purchaser is otherwise notified.

**Warning:** For maximum use and enjoyment, your Radiant Pool must be kept filled with water at all times. Manufacturer shall not be responsible for any irregularities or imperfections that may result when water is removed from your Radiant Pools vinyl liner swimming pool.

**Winter Damage Provision for Metric Series Pools Only:** The Manufacturer will replace or repair any of its manufactured swimming pool components, as set forth above, damaged due to the ill effects of ice or snow directly on pool only. Any damage resulting from impact of any

objects such as tree limbs or vehicles are excluded. Purchaser must notify Manufacturer of any winter damage to receive a winter damage claim form. Manufacturer will effect repair or replacement within thirty (30) days of receipt and final processing of winter damage claim form, unless purchaser is otherwise notified.

**Registration of Warranty:** After reading your Warranty, please complete and return the enclosed registration card within sixty (60) days after delivery of your Radiant Pool, or within thirty (30) days after installation of your Radiant Pool if installation is completed within a period less than sixty (60) days after delivery. UNLESS OUR REGISTRATION CARD IS RETURNED AS DIRECTED, THIS WARRANTY IS NULL AND VOID.

**Transfer of Warranty:** The provisions of this Warranty are personal to the original purchaser of the Radiant Pool. This Warranty is 100% transferable from the original purchaser. The new owner must obtain a warranty transfer card from the original purchaser to be submitted to Manufacturer within sixty (60) days of purchase to maintain warranty.

ANY IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY LIMITED TO THE DURATION AND SCOPE OF THIS WRITTEN WARRANTY. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. UNDER NO CIRCUMSTANCES SHALL TROJAN LEISURE PRODUCTS, LLC BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, ANY DAMAGES FOR LOSS OF USE OF POOL, INJURY TO, OR DEATH OF, ANY PERSON, OR DAMAGE TO PROPERTY, AND ANY CLAIMS THEREFORE ARE HEREBY SPECIFICALLY DISCLAIMED AND EXCLUDED. SOME STATES DO NOT ALLOW THE EXCLUSION OF SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. THEREFORE, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

Trojan Leisure Products, LLC. 440 North Pearl Street, Albany, NY 12207  
518-434-4161 fax 518-432-6554



Owner Name \_\_\_\_\_ Serial No. \_\_\_\_\_

Address \_\_\_\_\_ City, State, Zip \_\_\_\_\_

Pool Size \_\_\_\_\_ Purchased From \_\_\_\_\_

Installed By:  Dealer  Private Installer  Owner Date of Installation \_\_\_\_\_

**IMPORTANT: PLEASE READ AND SIGN:** I have received and reviewed the Pool Owner's Operating and Safety Information package which includes: Safety Guide, Consumer Care Manual, Liner Warranty, "No Diving" stickers/instructions, "No Diving Sign, Pool Owner Warning.

\_\_\_\_\_  
Owner's Signature

\_\_\_\_\_  
Date



div. Trojan Leisure Products, LLC

440 North Pearl Street

Albany, NY 12207

PLACE  
POSTAGE  
HERE