

Pennsylvania Uniform Construction Code SWIMMING POOL REQUIREMENTS

The following items are required to be included with the Swimming Pool Application. A permit is required for any swimming pool that contains water twenty-four (24) inches in depth.

1. A Plot Plan showing all setbacks must be submitted.
2. A Building and Electrical Permit Application must be completed & submitted.
3. Building/Zoning permits are required for pool decks (including concrete surrounding in-ground pools), fences, and/or heaters.
4. A PA One Call serial number and date called are required.
5. Electrical Requirements
 - Convenience receptacle is needed 6' to 20' from the pool GFCI protected.
 - Pool pump receptacle needs to be single GFCI protected with an in use cover (5' away from pool).
 - Conduit for the pool pump shall be minimum cover of 12" when the circuit is GFCI protected before the conduit enters the ground.
 - Pool pump receptacle shall be mounted on a post usually 4' x 4' pressure treated.
 - Pool pump receptacle feed wires shall be individual conductors in conduit PVC or metal.
 - Pool motor needs to be bonded to the pool with a #8 solid copper wire.
 - If the ladder is metal it must also be bonded to the pool.
 - All metal within 5' of inside wall of pool shall be bonded to the pool with #8 solid copper.
 - Bonding connectors shall be stainless steel, brass, copper or copper alloy.
6. Barrier/Fencing Requirements
 - All pools are required to have a barrier or fence to prevent authorized access.
 - Above Ground Pools may use the pool wall as a barrier under the following conditions:
 - Documentation, such as a letter, must be provided from the pool manufacturer allowing the pool wall to serve as a barrier.
 - The pool wall must be a minimum of forty-eight (48) inches in height from grade to the top of the pool wall, around the entire pool. Note: pools dug into slopes may be less than forty-eight (48) inches.
 - Ladders or steps used as a means of access to the pool are capable of being secured, locked, or removed to prevent access.

- Fence must be a minimum of four (4) feet high with a self-latching and self-closing gate of a sturdy material.
- The latch must be at least fifty-four (54) inches above the ground, or at least three (3) inches below the top of the gate.
- The gate and fence shall have no opening greater than one-half (1/2) inch within eighteen (18) inches of the release mechanism.
- The gate must swing away from the pool area.
baluster-style with less than four (4) inch openings.
- Each dwelling door that directly accesses the pool area shall be equipped with an alarm that sounds at least 30 seconds when the door is opened, and is audible throughout the dwelling.

7. Required Inspections

Above-ground Pool:

1. Final Inspection Only

- a. Pool and Barrier / Fence must be complete
- b. Electrical systems and metal component bonding complete

In-ground Pool:

1. Pre-Pour Inspection

- a. All rebar in-place with proper clearances to ground
- b. Rebar bonding and equipotential bonding is complete

2. Final Inspection

- a. Pool and Barrier / Fence must be complete
- b. Electrical systems and metal component bonding complete

These instructions are informational only and do not include all possible applications.



Above Ground Swimming Pools

Any structure intended for swimming or recreation bathing that is capable of holding water over 24" deep, including in-ground, above-ground, and on ground swimming pools, hot tubs and spas shall comply with the following:

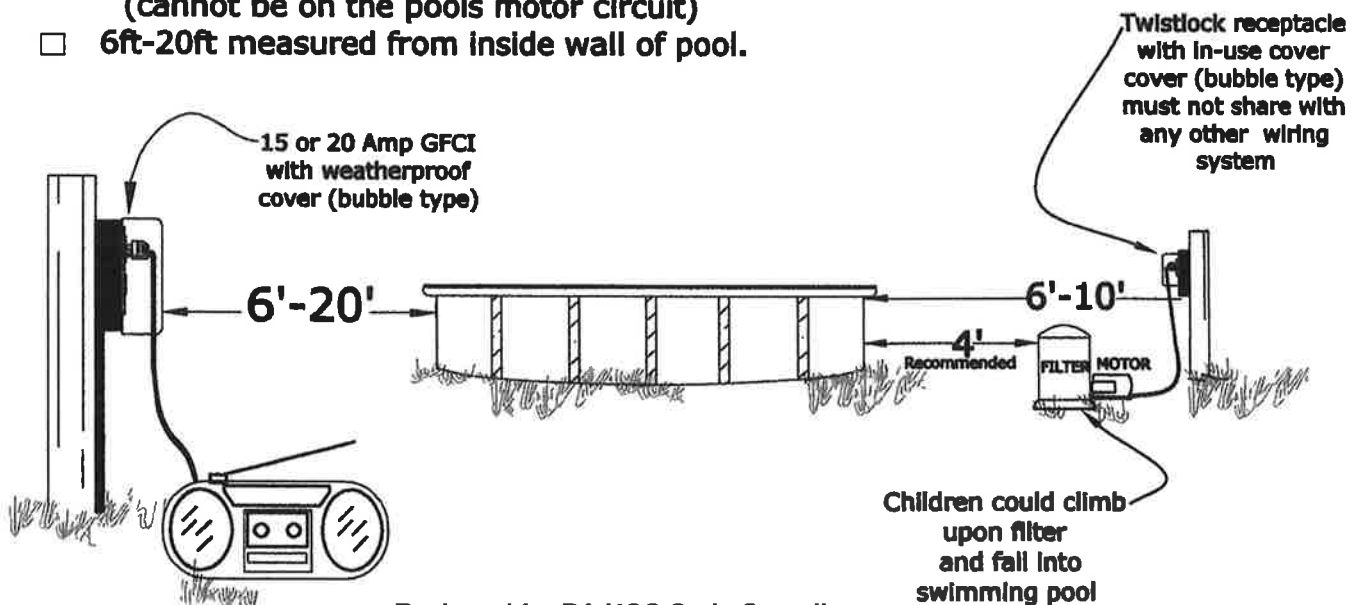
1 Required Receptacle for water pump motor or related to circulation

cannot share with any other wiring system

- ☐ A twist lock receptacle must be in a weatherproof device box and have an in-use cover.
- ☐ Be placed 6ft-10ft away from pool
- ☐ The feed wiring must be **individual insulated conductors** no (UF) Underground feeder wiring (1 black, 1 white and 1 green #12AWG THHN/THWN)
- ☐ The 3 individual conductors must be installed in conduit
- ☐ The cord for the motor cannot be longer than 3' and be molded twist lock plug.
- ☐ A 20 amp GFCI circuit breaker is required and is to serve motor only.

1 Required Receptacle for general purpose

- ☐ 15 or 20 amp, GFCI, weatherproof device box with in-use cover (cannot be on the pools motor circuit)
- ☐ 6ft-20ft measured from inside wall of pool.

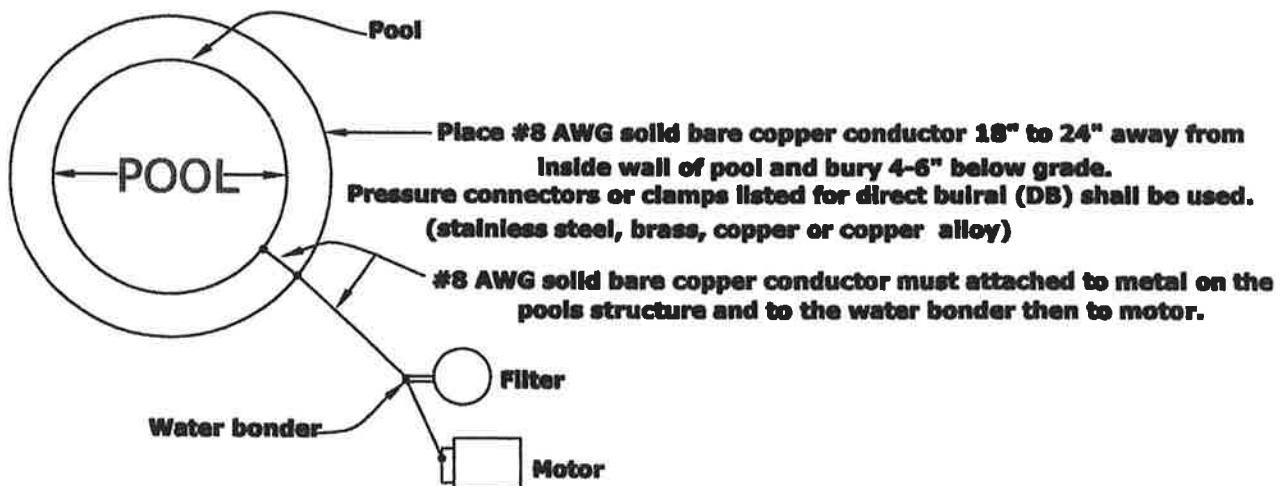


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Bonding

This means that you must join all metallic parts to form an electrically conductive path that will ensure electrical continuity to safely guard against any electrical current that may likely be imposed.

- ☐ The pool water shall be bonded by a conductive surface area of 9 square inches. (example: model #E325037 Pool water bonder II)
<http://www.waterbonder.com/>
- ☐ Equipotential bonding required- One number 8 AWG bare solid copper conductor shall be provided and follow the contour of the perimeter surface 18" to 24" from the inside wall of the pool. The required conductor must be 4" to 6" below the subgrade and be attached at a minimum of 1 points uniformly spaced around the perimeter of the pool.



***If pool pump motor is double insulated it shall not be bonded to this motor but instead shall be connected to the pool pump motor receptacle equipment grounding conductor (green).**

Note:

A solid #8 (green insulated or bare) copper conductor of sufficient length shall be provided to make a connection to a replacement motor if the motor is not double insulated.

All metal within 5' of inside wall of pool shall be bonded to the pool with #8 Solid copper.

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Timer

- ☐ **Is required that can automatically turn off and on the pools pump according to a set schedule. This must be installed.**

Wiring

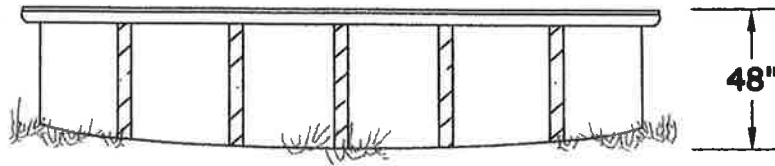
- ☐ **All wiring to the receptacles shall be buried underground and shall extend 5' horizontally from the inside wall of the pool with a minimum depth measured from the top of conduit for the following types:**

**6" rigid metal conduit
6" intermediate metal conduit
18" nonmetallic conduit (pvc)**

- ☐ **Metal conduit shall be corrosion resistant and suitable for the location.**
- ☐ **Conductors inside of conduits shall be insulated:
#12 awg for 20 amp (120V) and rated for wet locations
black (or approved color); white and green (individual insulated wires)**

No Underground feeder cable (UF) may be used for motor branch circuits.

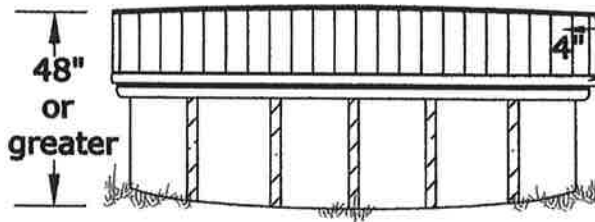
Barrier requirements



If pool is not at least 48" above grade at all locations a barrier must be used.

- ☐ The pool must be 48" high from the finished grade level to the top of the pool ledge at all points around the pool, if not a barrier must be erected.
- ☐ This barrier must be measured on the outside (side facing away from the pool.)
- ☐ The maximum opening space between the ground level and the bottom of the barrier can be 2" max.

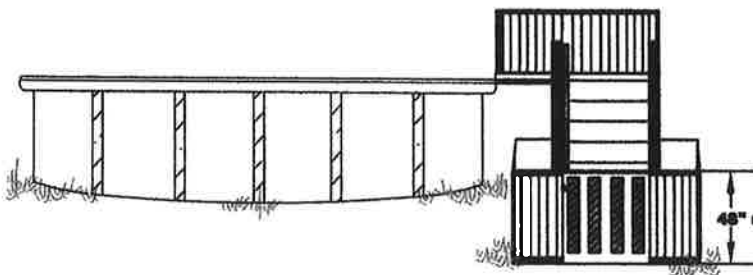
If the barrier is mounted on top of the pool structure the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall not exceed 4". Many of the pools are purchased with this feature that attaches the barrier on top of the shelf around the pool but remember that the opening may not allow passage of a 4" sphere at both sides of the ladder, deck or between the balusters!



Openings shall not allow passage of a 4" sphere between the barriers and between the pool ledge and bottom rail.

Ladder requirements

- ☐ A ladder or steps shall be capable of being secured, locked or removed when not in use to prevent access.
- ☐ If permanent steps are installed as shown below then a gate with barriers are required at the bottom of the staircase. The gate must open away from the steps and follow all barrier requirement on the following pages.



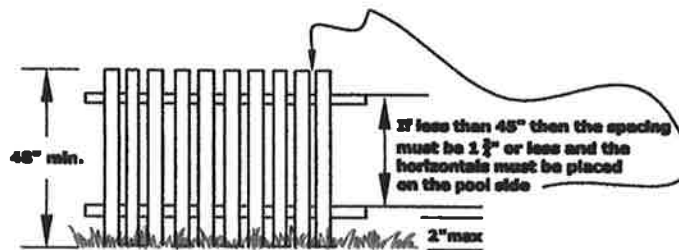
See the following pages for requirements.

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Different types of barriers

Vertical and Horizontal (Ladder Effect)

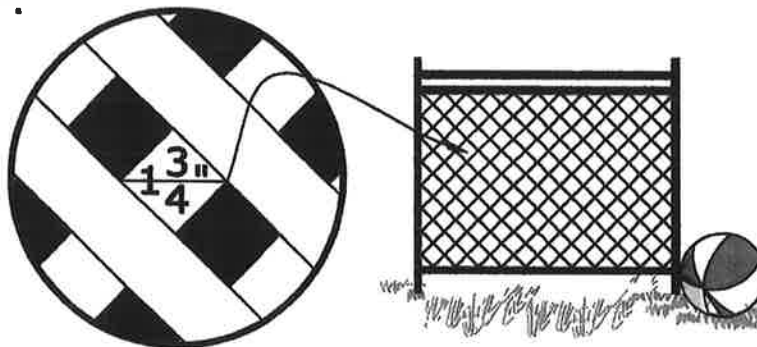
- ☐ If the barrier is made up of vertical and horizontal members and the space between the horizontals are less than 45" then the horizontal members must be constructed on the pool side. Spacing between the vertical members shall not be greater than $1\frac{3}{4}$ ". If the horizontal members are more than 45" then the horizontal members can be on the outside of the pool and the vertical spacing can be increased to 4" max.



This reason for this restriction is that a child can climb on the horizontal railing and get to the other side.

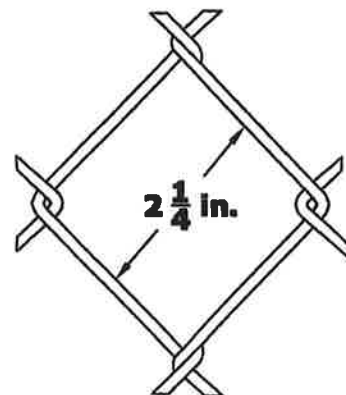
Diagonal (Lattice type)

- ☐ Maximum opening formed by the diagonal members shall not be more than $1\frac{3}{4}$ ".



Chain Link

- ☐ Maximum mesh size opening shall not be greater than $2\frac{1}{4}$ " square unless the fence has slats fastened at the top or bottom which reduces the openings to $1\frac{3}{4}$ ".



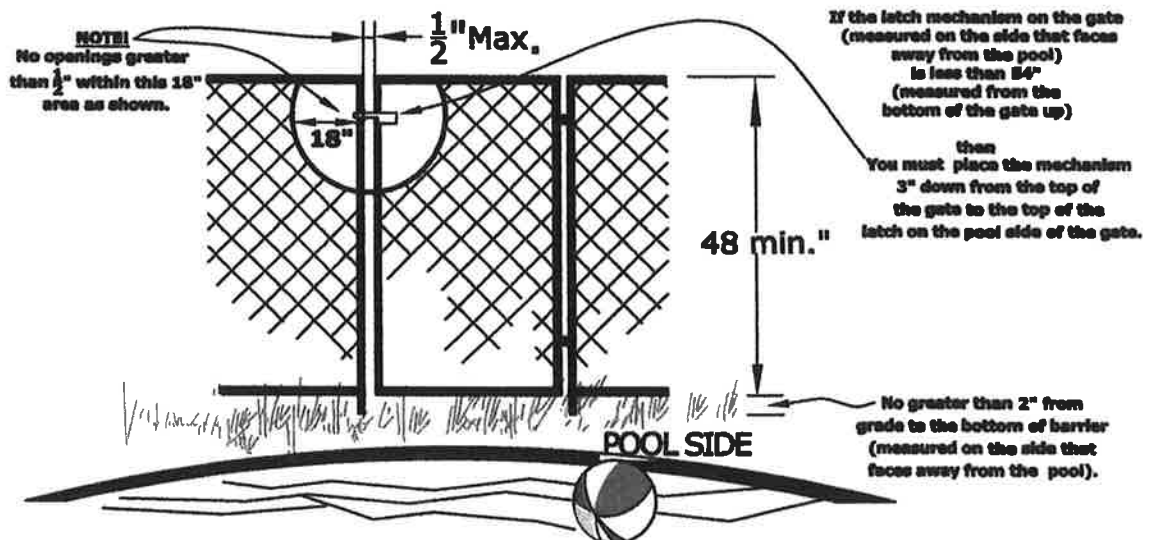
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Pedestrian gates (Pool access)

- ☐ Gates shall open outward away from the pool.
- ☐ Gates shall be self-closing and self-latching.
- ☐ Gates shall be equipped to accommodate a locking device.
- ☐ Where the release mechanism of the latch is located less than 54" from the bottom of the gate, the mechanism and opening shall have the following and illustrated below:
 - ☐ The latch shall be located on the pool side 3" below the top of the gate.
 - ☐ No openings larger than $\frac{1}{2}$ " within 18" of the release latch.

Gates other than pedestrian access (Equipment access)

- ☐ Gates shall be self latching
- ☐ Gates shall be equipped to accommodate a locking device.
- ☐ Where the release mechanism of the latch is located less than 54" from the bottom of the gate measured up, the mechanism and opening shall have the following as illustrated below:
 - ☐ The latch shall be located on the pool side 3" below the top of the gate.
 - ☐ No openings larger than $\frac{1}{2}$ " within 18" of the release latch.



Dwelling serves as part of the barrier

All doors from the house with direct access to the pool shall have an a listed and labeled alarm. The alarm is an audible warning when the door and/or its screen, if present, are opened. The following requirements must be followed.

- ☐ Listed and labeled in accordance with UL 2017
- ☐ The deactivation switch shall be located at least 54" above the threshold of the door.
- ☐ Other means like self-closing doors with self latching devices must be approved by the Building Code Official.

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