



The diagram shows a circular pool labeled 'POOL'. A dashed line represents the 'Equipotential Bonding Ring' located 18-24 inches from the inside wall of the pool. A vertical dashed line with dots represents the '#8 Wire' running from the bonding ring down to a 'Power Receptacle(s) for the pump and general' box. A horizontal arrow labeled '(Underground Conduit)' points from this box to a list of requirements. Another box points to the bonding ring with instructions about attaching wiring from skimmer or water inlet piping. A note specifies that the bonding ring must be no closer than 6 feet to the pool. A final note states that if the pool is metallic, the #8 solid conductors must be attached to four points off the bonding ring, and that reinforcing steel encapsulated in nonconductive compound does not need to be bonded.

Equipotential Bonding Ring.

#8 Solid Copper Conductor.
18-24 inches from the inside wall
of the pool.
Install below final grade 6-8
inches.
NEC 680.26(B) (2) (b)

If a metallic pool (any part) you must attach the #8 Solid
Conductors to four points off the Bonding Ring.

*Where reinforcing steel is encapsulated with a
nonconductive compound, the reinforcing steel shall not
be required to be bonded.*

#8 Wire

**Must be no closer
than 6' to the pool.**

(Skimmer Unit or Water Inlet piping)
Attach wiring from Skimmer or Water Inlet piping to pool
filter pump or to bonding ring.
Also, attach Bonding Ring to pool filter pump.

**Power Receptacle(s) for
the pump and general**

(See 680.22 (A) (2) for requirements)

(Underground Conduit)

From branch circuit breaker to the Power Receptacle(s)

1. 18 inches below grade for PVC conduit or
*If the branch circuit is protected by a GFCI, the depth maybe
reduced to 12 inches.*
2. 6 inches below grade for Ridged conduit RMC/IMC.

680.21 Motors.

(A) Wiring Methods. The wiring to a pool motor shall comply with (A)(1) unless modified for specific circumstances by (A)(2), (A)(3), (A)(4), or (A)(5).

(1) **General.** The branch circuits for pool-associated motors shall be installed in **rigid metal conduit, intermediate metal conduit, rigid polyvinyl chloride conduit, reinforced thermosetting resin conduit, or Type MC cable listed for the location.** Other wiring methods and materials shall be permitted in specific locations or applications as covered in this section. **Any wiring method employed shall contain an insulated copper equipment-grounding conductor sized in accordance with 250.122 but not smaller than 12 AWG...** *(This means the use of Non-Metallic Cable would not be permitted, as it does not contain an insulated copper equipment-grounding conductor).*

680.22 Lighting, Receptacles, and Equipment.

(A) Receptacles.

- (1) **Required Receptacles, Location.** Where a permanently installed pool is installed, no fewer than one 125-volt, 15- or 20-ampere receptacle on a general-purpose branch circuit shall be located not less than 1.83 m (6 ft) from, and not more than 6.0 m (20 ft) from, the inside wall of the pool. This receptacle shall be located not more than 2.0 m (6 ft 6 in.) above the floor, platform, or grade level serving the pool.
- (2) **Circulation and Sanitation System, Location.** Receptacles that provide power for water-pump motors or for other loads directly related to the circulation and sanitation system shall be located at least 3.0 m (10 ft) from the inside walls of the pool, **or not less than 1.83 m (6 ft) from the inside walls of the pool if they meet all of the following conditions:**
 - (1) **Consist of single receptacles**
 - (2) **Are of the grounding type**
 - (3) **Have GFCI protection**
- (3) **Other Receptacles, Location.** Other receptacles shall be not less than 1.83 m (6 ft) from the inside walls of a pool.
- (4) **GFCI Protection.** All 15- and 20-ampere, single-phase, 125-volt receptacles located within 6.0 m (20 ft) of the inside walls of a pool shall be protected by a ground-fault circuit interrupter.
- (5) **Measurements.** In determining the dimensions in this section addressing receptacle spacings, the distance to be measured shall be the shortest path the supply cord of an appliance connected to the receptacle would follow without piercing a floor, wall, ceiling, doorway with hinged or sliding door, window opening, or other effective permanent barrier.

680.26 Equipotential Bonding.

(B) **Bonded Parts.** The parts specified in 680.26(B)(1) through (B)(7) shall be bonded together using solid copper conductors, insulated covered, or bare, not smaller than 8 AWG or with rigid metal conduit of brass or other identified corrosion-resistant metal. Connections to bonded parts shall be made in accordance with 250.8. An 8 AWG or larger solid copper bonding conductor provided to reduce voltage gradients in the pool area shall not be required to be extended or attached to remote panelboards, service equipment, or electrodes.

- (2) Perimeter Surfaces.** The perimeter surface shall extend for 1 m (3 ft) horizontally beyond the inside walls of the pool and shall include unpaved surfaces as well as poured concrete and other types of paving. Bonding to perimeter surfaces shall be provided as specified in 680.26(B)(2)(a) or (2)(b) and shall be attached to the pool reinforcing steel or copper conductor grid at a minimum of four (4) points uniformly spaced around the perimeter of the pool. For nonconductive pool shells, bonding at four points shall not be required.
- (b) Alternate Means.** Where structural reinforcing steel is not available or is encapsulated in a nonconductive compound, a copper conductor(s) shall be utilized where the following requirements are met:
- (1) At least one minimum 8 AWG bare solid copper conductor shall be provided.**
 - (2) The conductors shall follow the contour of the perimeter surface.**
 - (3) Only listed splices shall be permitted.**
 - (4) The required conductor shall be 450 to 600 mm (18 to 24 in.) from the inside walls of the pool.**
 - (5) The required conductor shall be secured within or under the perimeter surface 100 mm to 150 mm (4 in. to 6 in.) below the subgrade.**

(C) Pool Water. Where none of the bonded parts is in direct connection with the pool water, the pool water shall be in direct contact with an approved corrosion-resistant conductive surface that exposed not less than 5800 mm² (9 in.²) of surface area to the pool water at all times. The conductive surface shall be located where it is not exposed to physical damage or dislodgement during usual pool activities, and it shall be bonded in accordance with 680.26(B).

These pool codes were taken from 2017 edition of the National Electrical Code (NEC) and no way constitutes the complete code. The purpose of this Code is the practical safeguarding of persons and property from hazards arising from the use of electricity. The NEC is intended for use by capable engineers and electrical contractors in the design and/or installation of electrical equipment; by inspection authorities exercising legal jurisdiction over electrical installations; by property insurance inspectors; by qualified industrial, commercial, and residential electricians; and by instructors of electrical apprentices or students.

This guide was prepared to assist you with the installation of your new pool wiring as it relates to the current code(s). As a State of Ohio Electrical Safety Inspector, and employed by this jurisdiction, my authority is to inspect all electrical installations as it pertains to the code(s), and the approvals granted. I am here to help with any code questions, however, I am not permitted to design or engineer any part of your new pool wiring.

If you would have any questions pertaining to this code as it relates to your design, please do not hesitate to contact the building department. 440-930-4102