

FORTY FORT BOROUGH

OFFICE OF CODE ENFORCEMENT

MUNICIPAL BUILDING, 1271 WYOMING AVENUE, FORTY FORT, PA 18704-4101

TELEPHONE (570) 287-8586 OPTION 2

SWIMMING POOL GUIDE

Residential: 2018 IRC – Outdoor Pools, Spas & Hot Tubs

Reference ISPSA 2018

This guide represents the majority of critical items the owner / installer must meet and have inspected before covering the work. However, this is not a comprehensive list.

All owners or pool installers must comply with the 2018 International Residential Code Chapter 42 and the 2018 International Swimming Pool and Spa Code. These are available free at www.codes.iccsafe.org.

ALL POOLS

- E4202.3
 - For other than storable pools flexible cords shall not exceed 3 feet.
- E4203.1.1
 - Receptacles that provide power for water-pump motors or other loads directly related to the circulation and sanitation system shall be of the grounding type, located not less than 6' from the inside walls of pools and outdoor spas and hot tubs, and ground-fault circuit-interrupter protected.
- E4203.1.3
 - Not less than one 15 or 20 amp receptacle (other than pool pump receptacle) supplied by a general-purpose branch circuit shall be located not less than 6' from and not more than 20' from pool edge and shall be located not more than 6' 6" above pool grade or deck level
- E4203.1.4
 - All receptacles located within 20 feet of the pool must be GFCI protected.
- E4203.2
 - Switching devices shall be located not less than 5' from pool edge, unless separated by a permanent barrier such as a wall or fence.
- E4203.3
 - At least one disconnecting means for all utilization equipment other than lighting, shall be readily accessible and within sight of the served equipment. The disconnect shall be a minimum 5' from the pool edge, unless separated from water by a permanent barrier requiring a 5' or greater reach path.
- E4203.4.1
 - Luminaries, lighting outlets, and suspended paddle fans shall not be installed over pool or within 5' from pool edge, unless the fixture is 12' or more above the water.
- E4203.4.4
 - Existing lighting outlets / luminaries located within 5' of pool edge, must be rigidly attached to existing structure and no less than 5' above maximum water level and GFCI protected
- E4203.4.6
 - Luminaries / lighting outlets installed between 5' and 10' from pool edge require GFCI protection, unless rigidly attached to the structure and no less than 5' above maximum water level.

- E4203.6
 - Overhead service drop conductors and any other open overhead wiring shall not be installed above :
 - Pools and areas extending 10' away from pool edge unless at least 22.5' from water surface or edge of water.
 - Diving structures or platforms or areas extending 10' from the edge of such structures unless at least 14.5' from diving platform (measured in any direction).
 - Only cable TV and telephone wires are allowed to be a minimum of 10' above pool or diving structure.

- E4203.7
 - Underground wiring shall not be installed under the pool except where this wiring is necessary to supply pool equipment permitted by Chapter 42 of the IRC. Underground wiring shall be installed in rigid metal conduit, intermediate metal conduit, rigid polyvinyl chloride conduit, reinforced thermosetting resin conduit or Type MC cable, suitable for the conditions subject to that location. The minimum cover depth shall be:
 - Burial Depths:
 - RMC=6"
 - IMC=6"
 - Nonmetallic Raceway=18"
 - Wiring unrelated to pool equipment must not be installed within 5' unless made necessary by space limitations.

- E4203.7
 - Underground wiring installed within 5' from pool edge must be installed in a complete raceway of RMC, IMC or nonmetallic raceway.
 - Burial Depths:
 - RMC: 6"
 - IMC: 6"
 - Nonmetallic Raceway: 18"

- E4204.2
 - Bonding must use minimum # 8, insulated, covered, or bare solid copper conductors.
 - Connections shall be made by listed pressure connectors or clamps of:
 - Stainless steel
 - Brass
 - Copper
 - Copper alloy
 - Bonding connections shall not be by solder or sheet metal screws.
 - Structural steel shall be bonded together by steel wire ties or equivalent and inspected prior to concealment.
 - Perimeter surface must extend at least 3' beyond pool walls and shall include unpaved surfaces, poured concrete, and other types of paving.
 - Perimeter surfaces consisting of buried rebar or welded wire mesh shall be attached to pool structural steel at a minimum of 4 points, evenly spaced around the pool perimeter.
 - Perimeter surfaces that do not consist of buried rebar or welded wire mesh, must meet the following:
 - Minimum # 8 bare solid copper conductor is required.
 - Follow contours of perimeter.
 - Located 18" – 24" from pool walls
 - Located 4" – 6" below the sub-grade.

- Attached to pool structure at a minimum of 4 evenly spaced points.
 - All metallic parts of pool structure, including structural steel are to be bonded.
 - All metal shells of underwater luminaries shall be bonded
 - All metal fittings within or attached to pool structure shall be bonded, including handrails, ladders, etc.
 - All fixed metal parts located within 5' of edge of pool wall shall be bonded.
- E4204.3
 - Pool water shall be intentionally bonded by of a conductive surface in contact with pool water, such as ladders, lighting components, drain bodies, etc.

STORABLE POOLS ONLY:

- E4207.1
 - Filter pumps shall be protected by double insulation and shall be provided with a GFCI that is either an integral part of the attachment plug or located in the power supply cord within 12" of the attachment plug.
- E4207.2
 - All 120 volt receptacles within 20' of a storable pool shall be GFCI protected.
- E4207.4
 - Receptacles must be located not less than 6' from the inside wall of the storable pool.

2018 INTERNATIONAL SWIMMING POOL AND SPA CODE

- 305
 - Barriers (Fencing)
 - Minimum height 48" above grade. Pool walls may satisfy this requirement.
 - Maximum distance between grade and bottom of barrier is 2" (4" if barrier is over concrete or pavement)
 - Openings in barrier shall not allow a 4" sphere to pass through.
 - Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is less than 45 inches (1143 mm), the horizontal members shall be located on the pool side of the fence. Spacing between vertical members shall not exceed 1³/₄ inches (44 mm) in width.
 - Solid barriers shall be constructed without indentations or protrusions that can be used to climb barrier.
 - Maximum openings in chain link fences shall be 1.75".
 - Mesh fences must be installed according to manufacturer's instructions, and bottom of mesh fence must be no more than 1" above grade and must not be able to be lifted more than 4" above grade or decking.
 - Barriers shall be located at least 36" from any permanent structure or equipment, to prevent them from being used to climb over barrier.
 - Access Gates
 - Gates shall be self-closing and self-latching, and open away from the pool.
 - Release mechanisms shall either be located on the outside of the gate at least 54" above the bottom of the gate or located on the pool side at least 3" below the top of gate.
 - There shall be no openings larger than ½ " within 18" of the release mechanism.
 - Dwelling walls used a part of the barrier, that contain doors or operable windows with a sill height below 48" shall be equipped with an audible alarm that sounds when the door

or window is opened. Deactivation switches must be at least 54” above the finished floor. The alarm shall be listed and labeled as a water hazard entrance alarm in accordance with UL 2017.

- Ladders or steps used as means of access to the pool must be capable of being secured, locked or removed to prevent access.
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- AG106
 - Suction outlets must comply with APSP 16



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IN GROUND POOL INSPECTIONS

Code sections for pools can be accessed online at iccsafe.org

- Electrical requirements are in Chapter 42 of the 2018 International Residential Code (IRC)
 - Pool Barrier requirements can be found in Chapter 3 of the 2018 International Swimming Pool & Spa Code (ISPSC) Section 305
1. Pool Bonding (BEFORE BACKFILL)
 - A. Frame of metal pools
 - B. Reinforcement bars or mesh for concrete pools (BEFORE CONCRETE)
 - C. Ladders, diving boards, any metallic parts
 - D. Any associated lighting in pool
 - E. If no reinforcement, equipotential bonding per E4204 is **REQUIRED**
 2. Open trench for wiring and gas piping (BEFORE BACKFILL)
 - A. Proper depth and clearances
 - B. Proper conduit and wiring methods
 - C. Gas piping size and depth (if plastic, 18 AWG tracer wire is required)
 - D. Gas line test
 3. Bonding of concrete reinforcing steel (Pool deck, concrete walking surfaces)
 - A. Proper connection of steel to steel
 - B. Proper connection of binding conductor to steel
 - C. Proper connection of bonding connector to bonding grid
 - D. If no reinforcement, equipotential bonding per E4204 is **REQUIRED**
 4. Final inspection (**BEFORE USE**)
 - A. Check GFCI protection in required circuits
 - B. Proper clearances of lighting, receptacles, and overhead wiring
 - C. Final bonding and grounding of equipment
 - D. Pool Barrier (Required per Section 305 of the 2018 International Swimming Pool & Spa Code [2018 ISPSC])
 - E. Equipment location, clearances, installations, bonding and grounding to 2018 IRC Chapter 42
 - F. Proper installation of gas line with sediment trap

NOTE: Temporary Barriers are allowed for NO LONGER than 30 days if water is in the pool.

***PERMIT HOLDER IS RESPONSIBLE FOR REQUESTING FINAL INSPECTION**

IF ANY OF THE ABOVE INSPECTIONS ARE NOT COMPLETED BY AN INSPECTOR FROM BUILDING INSPECTION UNDERWRITERS, FINISHES OR MATERIALS MAY NEED TO BE REMOVED TO VERIFY COMPLIANCE WITH THE PENNSYLVANIA UNIFORM CONSTRUCTION CODE. NO USE SHALL BE GRANTED AND AN ORDER TO SHOW CAUSE / ORDER TO VACATE WILL BE ISSUED PER SECTION 403.84 OF THE PENNSYLVANIA UNIFORM CONSTRUCTION CODE.

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RESIDENTIAL SWIMMING POOL SUBMITTAL CHECKLIST

INGROUND POOL		ABOVE GROUND POOL	
Type of frame (metal, composite, etc.)		Type of frame (metal, composite, etc.)	
Depth of pool in inches		Depth of pool in inches	
Shape (ovel, round, rectangle, etc.)		Shape (oval, round, rectangle, etc.)	
Square footage of pool		Square footage of pool	
Barrier type, and if using powered safety cover, does it comply with ASTM F1346? Will there be a temporary barrier utilized at any point? Submit fence and gate latch specifications.		Barrier type and will there be a temporary barrier utilized at any point? Submit fence and gate latch specifications.	
Door / window alarms complying with UL 2017?			
Will this pool have a heater? If yes, electric or gas?		Will this pool have a heater? If yes, electric or gas?	
Site plan (show pool in relation to distance to house, property lines, fencing, existing decks, etc. Show route for electric lines, gas lines, etc.)	<i>Please attach to this sheet when submitting application for permit.</i>	Site plan (show pool in relation to distance to house, property lines, fencing, existing decks, etc. Show route for electric lines, gas lines, etc.)	<i>Please attach to this sheet when submitting application for permit.</i>
Flow chart completed and Suction Entrapment	<i>Please attach to this sheet when submitting application for permit. You can obtain a blank copy by contacting our office.</i>		

All information must be completed and submitted to Code Enforcement Office along with completed permit applications. Failure to discuss the project before submitting forms will result in the application being deemed incomplete and application will be returned.

A zoning permit is required for all swimming pool installations.