

600 Clearwater Road, Hershey, PA 17033 (717) 533-2057 option 2

## Swimming Pool Guide

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

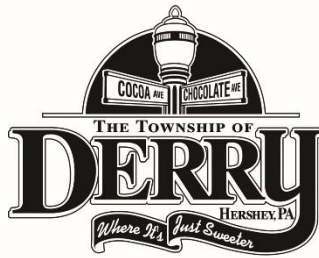
- *This Guide represents the majority of critical items the owner/installer must meet and have inspected before covering the work. However; this is not an exhaustive list.*
- All owners or pool installers must comply with the 2018 International Residential Code (IRC) - Chapter 42 AND 2018 International Swimming Pool and Spa Code
- Available to view free online at [codes.iccsafe.org](http://codes.iccsafe.org)

#### DEFINITIONS:

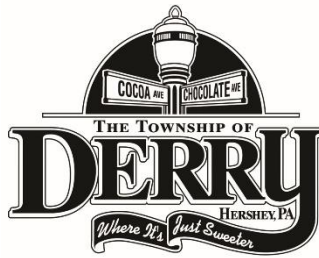
- Permanent Pools:
  - In-Ground
  - Above-Ground Permanent Pool-An In Ground or On Ground pool with rigid walls of metal or other material and it's accompanying support framework. This type of pool is not designed to be portable.
- Storable Pools:
  - An On-Ground storable pool is a pool that that can be dis-assembled for storage or transport. This includes portable pools with flexible or non-rigid walls that achieve their structural integrity by means of uniform shape, a support frame or combination thereof, and that can be disassembled for storage or relocation,
  - Inflatable fabric walls or non-metallic polymeric walls regardless of height.
- Pre-Fab pools less than 24" high are **UCC exempt**

#### ALL POOLS:

- |           |   |
|-----------|---|
| E4202.3   | Flexible Cords for permanent pools only, shall be 3' Max in length, fixed or stationary equipment can be cord connected ( <u>for underwater luminaires</u> ).   |
| E4203.1.1 | Receptacles supplying power to circulation / sanitation equipment are allowed to be located 6'-10' from pool walls. Shall be a single receptacle that is grounded and GFCI protected. All other receptacles required shall be no closer than 6' from pool walls.  |
| E4203.1.2 | Minimum of one <b>15 or 20 amp</b> receptacle ( <u>other than pool pump equipment receptacle</u> ) supplied by general purpose branch circuit is required from <b>6'-20'</b> from pool edge and located no more than <b>6'-6"</b> above pool grade level / deck.  |
| E4203.1.4 | GFCI protection required for all outdoor receptacles, including pool pump motor receptacles.  |
| E4203.2   | Switching devices shall be located not less than <b>5'</b> from pool edge, unless separated by permanent barrier such as a fence or wall.   |
| E4203.3   | At least one disconnecting means for all utilization equipment other than lighting, shall be readily accessible and within sight ( <b>50' max</b> ) of the served equipment. The disconnect shall be a minimum of <b>5'</b> from pool edge, unless separated from water by permanent barrier requiring a <b>5'</b> or greater reach path. |



- E4203.4.1 Luminaires, Lighting outlets and suspended paddle fans shall not be installed over pool or within **5'** from pool edge, unless fixture is **12'** or more above the water level.
- E4203.4.4 Existing lighting outlets/luminaires located within **5'** of pool edge, must be rigidly attached to existing structure, located no less than **5'** above maximum water level, and GFCI Protected.
- E4203.4.6 Luminaires / lighting outlets installed between **5'-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.
  - Diving Structures or platforms and areas within **10'**:
    - Except service drop conductors are allowed above pool or within **10'** of pool edge, when at least **22.5'** away from maximum water height measured in any direction, and **14.5'** above a diving platform measured in any direction.
  - Only Cable TV and Telephone lines are allowed to be a minimum of **10'** above pool or diving platforms.
- 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"**
  - Wiring unrelated to pool equipment must not be installed **within 5'** unless space limitations make it necessary.
- E4204.2 Bonding is required to be by minimum **#8 bare**, insulated, or covered 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 **3'** minimum beyond the pool walls and shall include unpaved surfaces, poured concrete or other paving types.
  - 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 pool perimeter.
  - Perimeter surfaces that do not consist of buried rebar or welded wire mesh, must meet the following:
    - Minimum of one **#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 luminaires 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 the pool wall shall be bonded.

E4204.3 Pool water shall be intentionally bonded by **9 Sq in** of a conductive surface in contact with pool water, such as ladders, ie. lighting, components, ie. 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 located within **20** feet of a storable pool shall be GFCI Protected.

E4207.4 Receptacles must be located no closer than **6'** from the walls of a storable pool.

### 2018 International Swimming Pool and Spa Code

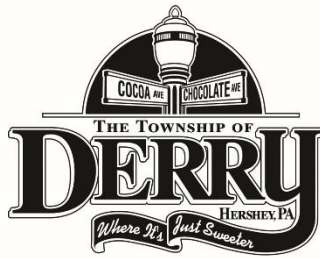
PA UCC Swimming pools regulated by 2018 IRC and ISPSC only apply to those that have walls **24"** and greater.

#### 305 Barriers (Fencing)

- Minimum of **48"** above grade; pool structure itself may also meet these requirements if pool manufacturer allows wall to serve as the barrier
- Maximum distance between grade and barrier bottom is **2"** (Up to **4"** allowed where barrier is over concrete or pavement)
- Openings shall not allow a **4"** sphere to pass through
- Solid barriers shall be constructed without indentations or shall be approved to be unclimbable.
- Maximum chain link fence openings shall be **1.75"**.
- Mesh fences must be installed according to manufacturer's instructions, and bottom of mesh fences must be **1"** maximum above grade and must not be able to be lifted more than **4"** from the grade / decking.
- Barriers shall be located at least **36"** from any permanent structures or equipment, to prevent equipment or objects from being used to climb them.

#### 305 Access Gates:

- Gates shall be equipped to accommodate a locking device, 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"** minimum from the bottom of gate or both of the following:
  - Located on the pool side at least **3"** below top of gate
  - There shall be no openings larger than  $\frac{1}{2}$ " within **18"** of the release mechanism.
  - Dwelling walls that contain doors or operable windows with a sill height below **48"** with direct access to pool shall be equipped with an audible alarm that sounds when the door is opened, with a deactivation switch located **54"** minimum above the door threshold. Alarms must be **UL 2017** listed.

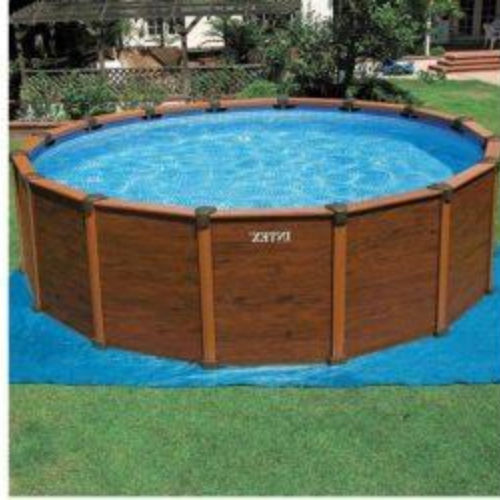


- Access by a ladder or set of steps, must be capable of being secured, locked, or removed to prevent access or shall be surrounded by a barrier meeting the requirements for barrier around pool.
- If less than **45"** between horizontal bars, then horizontal bars must be on pool side and spindle spacing must not exceed **1.75"**.

310 Suction entrapment avoidance shall comply with APSP7 and suction outlets shall comply with **APSP 16**.

## PERMITTING FOR POOLS

There have been new requirements for permitting pools that could hinder residents from obtaining permits for certain above ground pools when deeper than 24". In short, these new regulations require applicants for permits to show that the pool manufacturer allows the walls of the pool to act as guards (equivalent to fences or other such barriers). If you intend to use the pool walls as the required barrier instead of fences or other barriers, please ensure that you verify that the manufacturer has stated that the pool wall can act as the barrier prior to purchase, as we cannot issue permits for non-compliant pools.



### Overview of Pool Barrier Requirements for Residential Pools and Spas

1. All pools 24" in depth and greater require a building and zoning permit to install.
2. Pool installation is governed by the International Swimming Pool and Spa Code and Chapter 42 of the International Residential Code.
3. All pools which require a permit are required to have a barrier in compliance with the International Swimming Pool and Spa Code, Section 305.
4. The International Swimming Pool and Spa Code provides several options for a compliant barrier depending on the type and construction of the pool.

### Barrier options for in ground pools:

1. The pool shall have a barrier (fence) in compliance with the International Swimming Pool and Spa Code surrounding the pool.
2. An exception to the barrier requirement for in ground pools allows for a ***powered*** safety cover to be installed. The cover must comply with **ASTM F 1346** to be acceptable.

Barrier options for on ground storable and on ground permanent pools:

305. The pool structure (walls) ***may*** serve as the barrier provided the walls are a minimum of 48” above grade for the entire perimeter of the pool, the wall complies with the requirements of Section 305.2 (heights, clearances, and member spacing) ***and the pool manufacturer allows the wall to serve as a barrier***. The pool manufacturer’s technical specifications and/or the installation instructions must clearly state approval for the walls to be used as the barrier. A letter on the manufacturer’s letterhead signed and dated stating approval that the walls may be used as the barrier would meet this requirement as well. In order to use this option to meet the barrier requirements you must submit the installation instructions, technical specifications or letter of approval from the manufacturer which clearly states the approval for the pool walls to serve as the barrier as part of the permit application.
306. A compliant barrier may be mounted on top of the pool walls to meet the barrier requirement. This barrier shall meet the requirements of Section 305.2.
307. A compliant barrier (fence) shall be installed around the entire perimeter of the pool.

All permit submissions require the application, completed pool checklist and a drawing detailing the information from the pool checklist which is applicable to your proposed pool.