

## **OUTDOOR SWIMMING POOL REGULATIONS**

(From the 1999 BOCA Code)

Remember – Pool safety is the responsibility of the pool's owner. The requirements for barriers, fences, gates, latches and the means of direct entry into a pool area are designed to provide protection against accidental drowning, particularly for small children. However, nothing can replace direct supervision by an adult.

### **SECTION 421.0 SWIMMING POOLS**

**421.1 General:** Swimming and bathing pools shall conform to the requirements of this section, provided that these regulations shall not be applicable to any such pool less than 24 inches (610 mm) deep or having a surface area less than 250 square feet (23.25 m<sup>2</sup>), except where such pools are permanently equipped with a water-recirculating system or involve structural materials. For the purposes of this code, pools are classified as private swimming pools or public swimming pools, as defined in Section 421.2. Materials and constructions used in swimming pools shall comply with the applicable requirements of this code.

**421.2 Definitions:** The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meanings shown herein.

**Above-ground/on-ground pool:** See definition of private swimming pool.

**Barrier:** A fence, a wall, a building wall, the wall of an above-ground swimming pool or a combination thereof, which completely surrounds the swimming pool and obstructs access to the swimming pool.

**Hot tub:** See definition of private swimming pool.

**In-ground pool:** See definition of private swimming pool.

**Power safety cover:** A pool cover, which is placed over the water area, and is opened and closed with a motorized mechanism activated by a control switch.

**Private swimming pool:** Any structure that contains water over 24 inches (610 mm) in depth and which is used, or intended to be used, for swimming or recreational bathing in connection with an occupancy in Use Group R-3 and which is available only to the family and guests of the householder. This includes in-ground, above-ground and on-ground swimming pools, hot tubs and spas.

**Private swimming pool, indoor:** Any private swimming pool that is totally contained within a private structure and surrounded on all four sides by walls of said structure.

**Private swimming pool, outdoor:** Any private swimming pool that is not an indoor pool.

**Public swimming pool:** Any swimming pool other than a private swimming pool.

**Spa:** See definition of private swimming pool.

**421.6 Water supply:** All swimming pools shall be provided with a potable water supply, free of cross connections with the pool or its equipment.

**421.6.1 Water treatment:** Private swimming pools shall be designed and installed so that there is a pool water turnover at least once every 18 hours. Filters shall not filter water at a rate in excess of 5 gallons per minute per square foot (205 L/min/m<sup>2</sup>) of surface area. The pool *owner* shall be instructed in the care and maintenance of the pool by the supplier or builder, including treatment with high-test calcium hypochlorite (dry chlorine), sodium hypochlorite (liquid chlorine) or equally effective germicide and algacide, and the importance of proper pH (alkalinity and acidity) control.

**421.6.2 Drainage systems:** The swimming pool and equipment shall be equipped to be emptied completely of water and the discharged water shall be disposed of in an approved manner that will not create a nuisance to adjoining property.

**421.7 Appurtenant structures:** All *appurtenant structures*, installations and equipment, such as showers, dressing rooms, equipment houses or other buildings and structures, including plumbing, heating and air conditioning systems, shall comply with all applicable requirements of this code.

**421.7.1 Accessories:** All swimming pool accessories shall be designed, constructed and installed so as not to be a safety hazard. Installations or structures for diving purposes shall be properly anchored to insure stability.

**421.8 Equipment installations:** Pumps, filters and other mechanical and electrical equipment for public swimming pools shall be enclosed in such a manner as to provide access only to authorized persons and not to bathers. Construction and drainage shall be arranged to avoid the entrance and accumulation of water in the vicinity of electrical equipment.

**421.10 Enclosures for private swimming pools, spas and hot tubs:** Private swimming pools, spas and hot tubs shall be enclosed in accordance with Sections 421.10.1 through 421.10.4 or by other approved barriers.

**421.10.1 Outdoor private swimming pool: Note - Gating must be installed prior to filling pool with water.** An outdoor private swimming pool, including an in-ground, above-ground or on-ground pool, hot tub or spa shall be provided with a barrier which shall comply with the following:

1. The top of the barrier shall be at least 48 inches (1219 mm) above finished ground level measured on the side of the barrier which faces away from the swimming pool. Where the top of the pool structure is above finished ground level, such as an above-ground pool, the barrier shall be at finished ground level, such as the pool structure, or shall be mounted on top of the pool structure. Where the barrier is mounted on the pool structure,

the opening between the top surface of the pool frame and the bottom of the barrier shall not allow passage of a 4-inch (102 mm) diameter sphere.

2. Openings in the barrier shall not allow passage of a 4-inch (102 mm) diameter sphere.
3. Solid barriers shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry *joints*.
4. 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).
5. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches (1143 mm) or more, spacing between vertical members shall not exceed 4 inches (102 mm). Decorative cutouts shall not exceed 1 $\frac{3}{4}$  inches (44 mm) in width.
6. Maximum mesh size for chain link fences shall be a 1 $\frac{1}{4}$ -inch (32 mm) square unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to not more than 1 $\frac{3}{4}$  inches (44 mm).
7. Where the barrier is composed of diagonal members, such as lattice fence, the maximum opening formed by the diagonal members shall be not more than 1 $\frac{3}{4}$  inches (44 mm).
8. Access gates shall comply with the requirements of items 1 through 7 of Section 421.10.1 and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outwards away from the pool and shall be self-closing and have a self-latching device. Gates other than pedestrian access gates shall have a self-latching device. Where the release mechanism of the self-latching device is located less than 54 inches (1372 mm) from the bottom of the gate: (a) the release mechanism shall be located on the pool side of the gate at least 3 inches (76 mm) below the top of the gate; and (b) the gate and barrier shall not have an opening greater than  $\frac{1}{2}$  inch (13 mm) within 18 inches (457 mm) of the release mechanism.
9. Where a wall of a *dwelling unit* serves as part of the barrier and contains a door that provides direct access to the pool, one of the following shall apply:
  - a. All doors with direct access to the pool through that wall shall be equipped with an alarm, which produces an audible warning when the door and its screen, if present, are opened. The audible warning shall commence not more than 7 seconds after the door and door screen, if present, are opened and shall sound continuously for a minimum of 30 seconds. The alarm shall have a minimum sound pressure rating of 85 dBA at 10 feet (3048 mm) and the sound of the alarm shall be distinctive from other household sounds such as smoke alarms, telephones and door bells. The alarm shall automatically reset under all conditions. The alarm shall be equipped with manual means, such as touch pads or switches, to deactivate temporarily the alarm for a single opening from either direction. Such deactivation shall last for not more than 15 seconds. The deactivation touch pads or switches shall be located at least 54 inches (1372 mm) above the threshold of the door.
  - b. All doors with direct access to the pool through that wall shall be equipped with a self-closing and self-latching device with the release mechanism located a minimum of 54 inches (1372 mm) above the floor. Swinging doors shall open away from the pool area.
10. The pool shall be equipped with a power safety cover. Where in a closed position, the cover shall be capable of holding a weight of 485 pounds (2157 N), shall not

have any openings that allow passage of a 4 ½-inch (114 mm) sphere and shall incorporate a system to drain standing water that collects on the cover. The cover control switch shall be permanently installed in accordance with NFPA 70 listed in Chapter 35, and be key-operated and of a spring-loaded or momentary-contact type. Where the switch is released, the operation of the cover shall stop instantly and be capable of reversing direction immediately. The switch shall be in the line of sight of the complete pool cover.

11. Where an above-ground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure, and the means of access is a fixed or removable ladder or steps, the ladder or steps shall be surrounded by a barrier which meets the requirements of items 1 through 9 of Section 421.10.1. A removable ladder shall not constitute an acceptable alternative to enclosure requirements.

**421.10.2 Indoor private swimming pool:** All walls surrounding an indoor private swimming pool shall comply with Section 421.10.1, item 9 above.

**421.10.3 Prohibited locations:** Barriers shall be located so as to prohibit permanent structures, equipment or similar objects from being used to climb the barriers.

**Exemptions:** The following shall be exempt from the provisions of this section:

1. A spa or hot tub with an approved safety cover.
2. Fixtures which are drained after each use.

**421.10.5 Temporary enclosures:** A temporary enclosure shall be installed in accordance with Section 3304.2 prior to the commencement of the installation of any in-ground swimming pool.

**Exception:** Where a permanent enclosure is provided prior to excavation.

**421.11 Diving boards:** Minimum water depths and distances for diving hoppers for pools, based on board height above water, shall comply with Table 421.11(2) for private pools.

**Table 421.11(2)**  
**MINIMUM WATER DEPTHS AND**  
**DISTANCES BASED ON BOARD HEIGHT**  
**FOR PRIVATE POOLS**

Board height	Minimum depth <sup>a</sup> at D <sub>1</sub> directly under end of board	Distance <sup>a</sup> between D <sub>1</sub> and D <sub>2</sub>	Minimum depth <sup>a</sup> at D <sub>2</sub>
1'8" (½ meter)	6'0"	7'0"	7'6"
2'2" (¾ meter)	6'10"	7'6"	8'0"
2'6" (¾ meter)	7'5"	8'0"	8'0"
3'4" (1 meter)	8'6"	9'0"	9'0"

**Note a.** 1 foot = 304.8 mm.