

 Connecticut  
State Building Codes 

**2010 Swimming Pools  
Code Summary and Updates**

Office of Education and Data Management  
Division of Fire, Emergency and Building Services  
Department of Public Safety  
State of Connecticut

Career Development Spring 2010

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**Objective**

- Overview of the State Building Code Requirements
  - For Pools, Spas & Hot Tubs
    - As presented within the Spring 2009 continuing education program
- Presentation and discussion of
  - State Building Code Pool, Spa & Hot Tub requirements
    - As contained within the 2009 Amendments to the 2005 Supplement that when into effect in August 2009
- Review of the importance of
  - Referencing the proper code sections and understanding basic manufacturers installation requirements.

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**Swimming Pools**



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### IBC and IRC

- **Swimming Pool:** any structure intended for swimming, recreational bathing or wading that contains water over 24 inches deep. This includes in-ground, above ground and on-ground pools; hot tubs; spas and fixed in place wading pools.

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### NEC

- **Pool.** Manufactured or field-constructed equipment designed to contain water on a permanent or semi permanent basis and used for swimming, wading, or other purposes.

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**NEC**

- **Permanently Installed Swimming, Wading, and Therapeutic Pools.** Those that are constructed in the ground or partially in the ground, and all others capable of holding water in a depth greater than 1.0 m (42 in.), and all pools installed inside of a building, regardless of water depth, whether or not served by electrical circuits of any nature.

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**NEC**

- **Storable Swimming or Wading Pool.** Those that are constructed on or above the ground and are capable of holding water to a maximum depth of 1.0 m (42 in.), or a pool with nonmetallic, molded polymeric walls or inflatable fabric walls regardless of dimension.

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### IRC R308.4 & IBC 2406.3

- Hazardous glazing locations requiring safety glazing materials:
  - Glazing in doors and enclosures for hot tubs and whirlpools
  - Glazing in any portion of a building wall enclosing these compartments where the bottom exposed edge of the glazing is less than 60 inches above a standing surface

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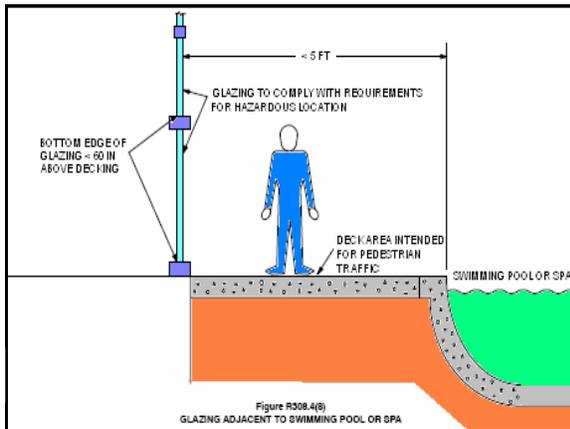
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**IRC R308.4 & IBC 2406.3**

- Hazardous glazing locations requiring safety glazing materials:
  - Glazing in walls and fences enclosing swimming pools, hot tubs and spas where all of the following conditions are present:
    - The bottom edge of the glazing on the pool or spa side is less than 60 inches above a walking surface on the pool or spa side of the glazing; and
    - The glazing is within 60 inches horizontally of the water's edge of a swimming pool or spa

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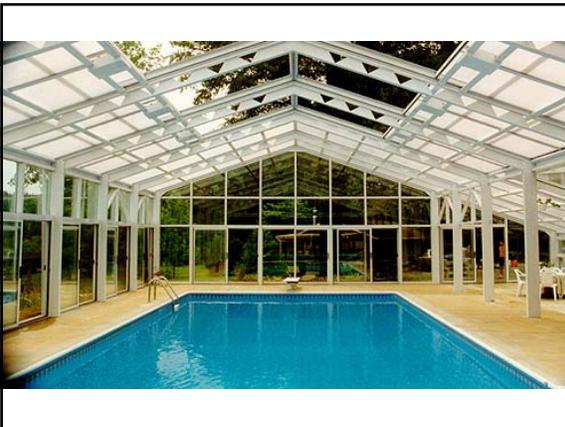
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**IBC 3109.1.1**

- No person shall construct, substantially alter or reconstruct a swimming pool until the construction documents and water discharge provisions have been approved by the Department of Public Health, in accordance with the regulations adopted pursuant to section 19a-36 of the Connecticut General Statutes
  - Exception: Swimming pools accessory to owner occupied detached 1, 2 or 3 family residences and swimming pools accessory to a single one-family townhouse where the pool is intended to be used exclusively by the owner and invited guests\*

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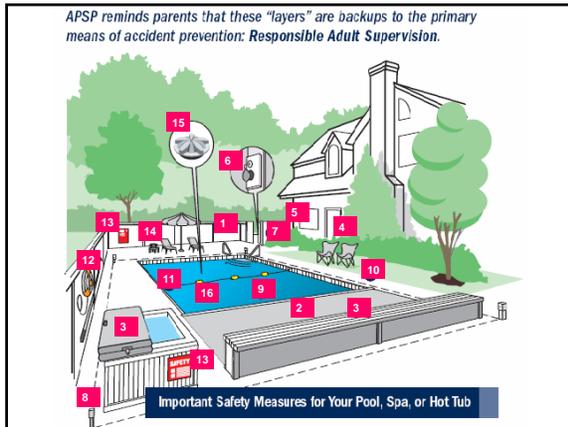
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## Barrier Requirements

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- ### IRC Appendix G
- AG 101.1 Applies to pools in or on the lot of a 1 & 2 family dwelling
  - Definitions:
    - Barrier: fence, wall, building wall or combination thereof which surrounds and obstructs access to the swimming pool
    - Portable spa: nonpermanent structure intended for recreational bathing, all controls, circulators and heaters are an integral part

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### IRC Appendix G

- AG 102 Definitions:
  - Swimming pool: Any structure intended for recreational bathing with water over 24 inches deep. Includes:
    - In ground
    - Above ground
    - On ground
    - Hot tubs
    - Spas
  - Indoor swimming Pool: totally contained within a structure and surrounded on four sides by walls of said structure
  - Outdoor swimming pool: all others

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### Residential and Public Swimming Pool Barriers

- AG 105.2 and IBC 3109.4.1
- Top of barrier shall be 48 inches above grade
  - Maximum clearance between grade and bottom of barrier shall be 2 inches
  - Above ground pools
    - May be pool structure itself
    - If section is added maximum clearance is 4 inches
- Openings in barrier shall not allow passage of a 4 inch diameter sphere

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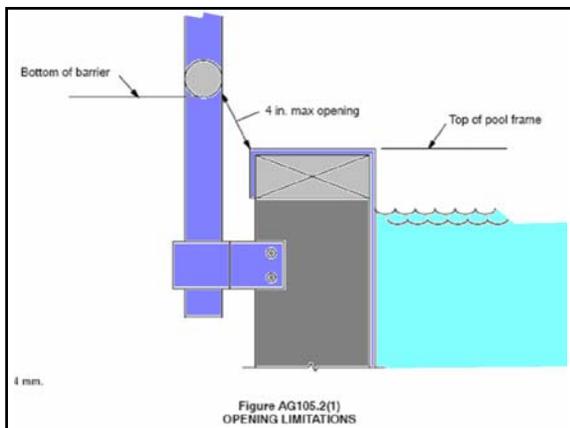
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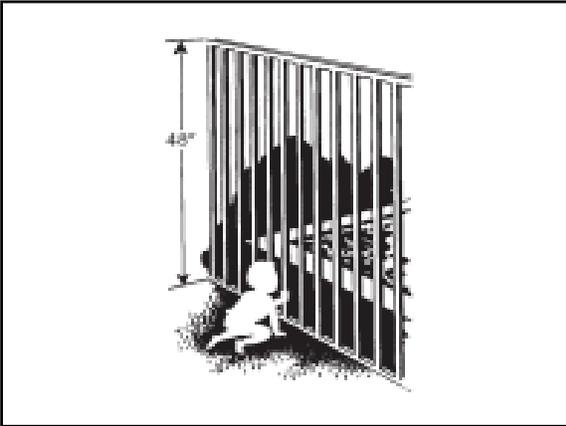
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**Barriers for Outdoor Pools**

- Solid barriers with no openings shall not contain indentations or protrusions
- Where barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is less than 45 inches:
  - The horizontal members shall be located on the pool side
  - Spacing between vertical members shall not exceed 1-3/4 inches
  - Decorative cutout openings shall not exceed 1-3/4 inches in width

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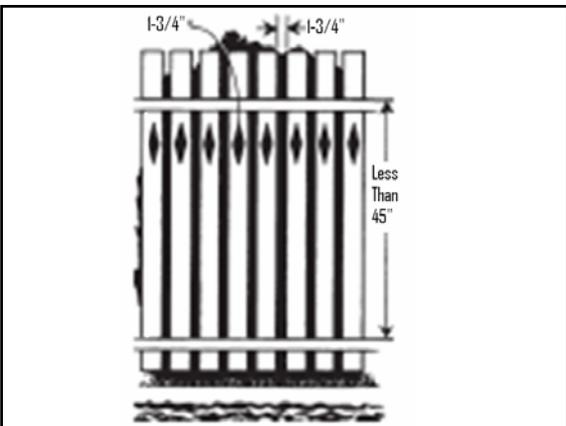
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### Barriers for Outdoor Pools

- Where barrier is composed of horizontal and vertical members and the distance between the tops of horizontal members is 45 inches or more:
  - Spacing between the vertical members shall not allow the passage of a 4-inch diameter sphere
  - Decorative cutouts within vertical members shall not exceed 1-3/4 inches in width
- Maximum mesh size for chain link fences shall not exceed 2-1/4 inches square
  - Unless slats reduce openings to 1-3/4 inches

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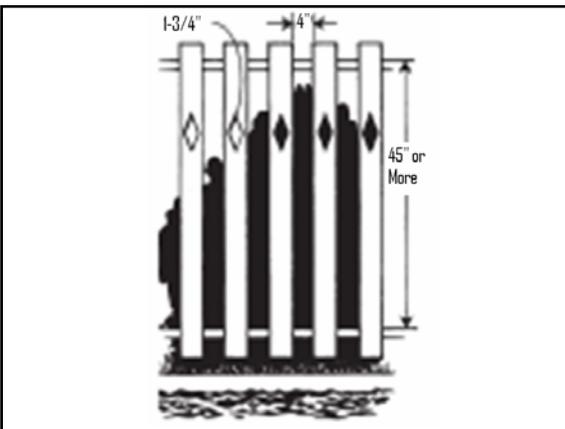
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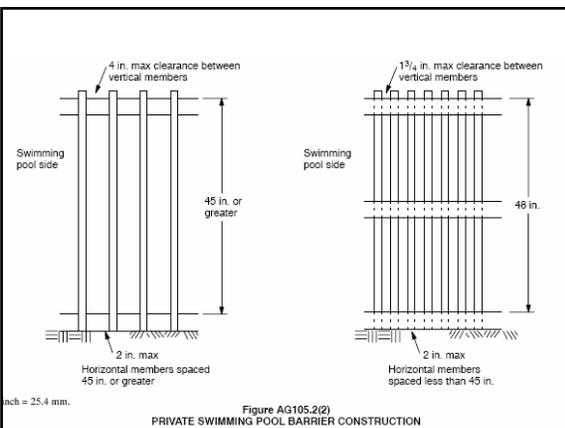
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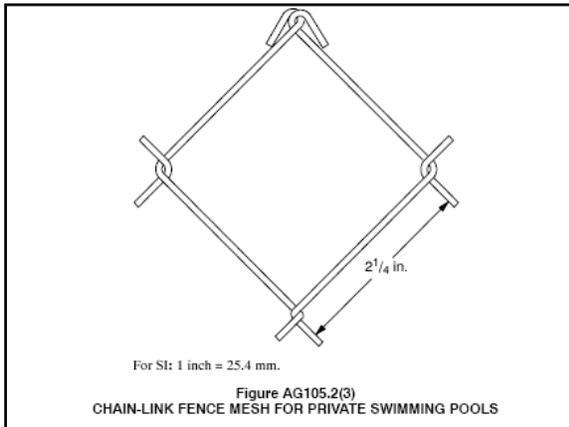
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**Barriers for Outdoor Pools**

- Lattice fence openings shall not exceed 1-3/4 inches
- Access gates shall meet all the above requirements and:
  - Gates shall be equipped with a locking and self latching device
  - Pedestrian gates shall:
    - Open away from the pool
    - Be self closing and latching

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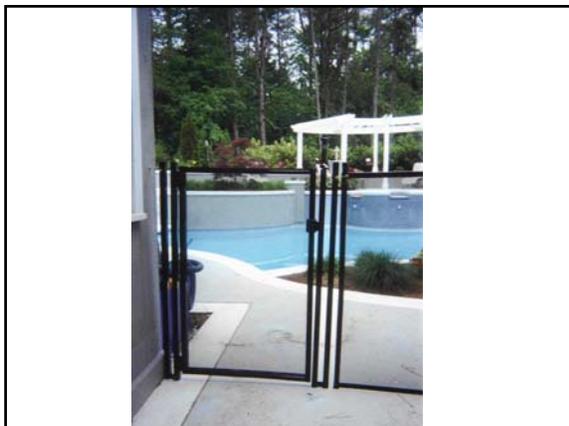
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### Barriers for Outdoor Pools

- Self latching devices
  - Where the release mechanism of the device is less than 54 inches from bottom of gate:
    - Release mechanism shall be on pool side at least 3 inches below top of gate
    - Barrier shall have no opening greater than ½ inch within 18 inches of the release mechanism

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### Barriers for Indoor and Outdoor Pools AG 105.2 & IBC 3109.4.1.8

- Wall of a Dwelling as Part of the Barrier; One of three choices:
  1. Pool shall be equipped with a power safety cover

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**Barriers for Indoor and Outdoor Pools AG 105.2 & IBC 3109.4.1.8**

- Wall of a Dwelling as Part of the Barrier; One of three choices:
  - 2. Doors with direct access to the pool:
    - 1. Shall be equipped with alarm:
      - 1. Sound for 30 second within 7 seconds of opening
      - 2. Capable of being heard throughout the house
      - 3. Automatically reset
      - 4. Manual means to bypass for single opening (15 sec.)
      - 5. Located minimum 54 inches above threshold

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**Barriers for Indoor and Outdoor Pools AG 105.2 & IBC 3109.4.1.8**

- Wall of a Dwelling as Part of the Barrier; One of three choices:
  - 3. Doors shall be self closing and latching
    - 1. With release mechanism minimum 54 inches above threshold
    - 2. Swinging doors to open away from the pool

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### Barriers for Pools

- Above ground or on ground pools:
  - When pool structure is used as barrier and access is via ladder
    - The ladder or steps shall be surrounded by barrier that meets prior items

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### Barriers for Pools

- AG 105.4, IBC 3109.4.3
  - Barriers shall be located so as to prohibit permanent structures, equipment or similar objects from being used to climb the barriers
- AG 105.5 IRC only
  - Spas and Hot tubs with a safety cover complying with ASTM F 1346 shall be exempt from the barrier provisions

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### Temporary enclosure

- AG 105.6, IBC 3109.6
  - A temporary enclosure shall be installed prior to the commencement of the installation of any in-ground pool, or
    - The permanent barrier is first in place
  - The temporary enclosure shall:
    - be a minimum of 4 feet in height
    - Have no openings that will allow the passage of a 4 inch sphere
    - Be equipped with a positive latching device on any openings

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### Pool Alarm

- AG 105.7, IBC 3109.7
  - **NO** building permit shall be issued for the construction or substantial alteration of a swimming pool at a residence occupied by, or being built for, one or more families unless a pool alarm is installed with the swimming pool
  - Pool Alarm means a device that emits a sound of at least 50 decibels when a person or an object weighing 15 pounds or more enters the water in a swimming pool
    - Hot tubs and spas are exempt from this requirement

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### Appendix G

- Pool Alarm is required
  - A device that emits a sound of at least 50 decibels when a person or an object weighing 15 pounds or more enters the water in a swimming pool



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### IBC 3109.8

- Accessibility
  - Public swimming pools, when less than 50 meters in length, shall be provided with ramps or approved fixed or portable lifting equipment for the purpose of providing assisted access to the water for persons with disabilities.

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**IBC 3109.8**

- Accessibility
  - Public swimming pools, when 50 meters or more in length, shall be provided with ramps.
  
  - All public swimming pools, pool decks, toilet facilities, showers, locker and dressing areas shall be accessible and located along accessible routes.

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**IBC 3109.8.1**

- Slopes and handrails
  - 24 inches below water
    - Slope of 1:8
  - Above 24 inches
    - Slope of 1:12
  - All ramps shall have handrails on both sides per 1010.8

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**IBC 3109.9**

- Pool Structure
  - The pool structure shall be engineered and designed to withstand the expected forces to which the pool will be subjected.
  - **AG103.1 In-ground pools.** In-ground pools shall be designed and constructed in conformance with ANSI/NSPI-5 as listed in Section AG108.

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2006 International Energy Conservation Code

- Residential buildings shall comply with 2006 IECC Chapter 4 - Residential Energy Efficiency
- **Section 401.2 Compliance.** Projects shall comply with Sections 401, 402.4, 402.5, 402.6 and 403 (referred to as the mandatory provisions) and either:
  1. Section 402.1 through 402.3 (prescriptive) or
  2. Section 404 (performance)

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IECC 504.7

- Pools with heaters:
  - Shall have an ON-OFF switch with easy access
  - Shall have a pool cover
    - Exc.: pools deriving more than 60% of the energy from renewable sources
- Time switches that can automatically turn off and on heaters and pumps according to a preset schedule be installed on swimming pool heaters and pumps.

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