

Pool Barrier Enclosure Requirements

Section 3109-Swimming Pools, Spas and Hot Tubs

3109.1 Shall be amended as follows:

The provisions of this section shall apply to the design of barriers for restricting entry into areas having pools and spas. Where spas or hot tubs are equipped with a lockable safety cover complying with ASTM F1346 and swimming pools are equipped with a powered safety cover that complies with ASTM F1346, the areas where those spas, hot tubs or pools are located shall not be required to comply with Sections 3109.2 through 3109.7

3109.1.1 Construction Fencing Required

A temporary enclosure shall be installed for in ground swimming pools and spas from the time that construction occurs up to the time that the permanent barrier is completed. The temporary enclosure shall be a minimum of 4 feet (1219 mm) in height, shall have no openings that will allow passage of a 4-inch (102 mm) sphere and shall be equipped with a positive latching device on any openings.

3109.2 Outdoor Swimming Pools and Spas

Outdoor pools and spas and indoor swimming pools shall be surrounded by a barrier that complies with Sections 3109.2.1 through 3109.7.

3109.2.1 Barrier Height and Clearances

Barrier heights and clearances shall be in accordance with all of the following:

1. The top of the barrier shall be not less than 60 inches (1524 mm) above grade where measured on the side of the barrier that faces away from the pool or spa. Such height shall exist around the entire perimeter of the barrier and for a distance of 3 feet (914 mm) measured horizontally from the outside of the required barrier.

2. The vertical clearance between grade and the bottom of the barrier shall not exceed 2 inches (51 mm) for grade surfaces that are not solid, such as grass or gravel, where measured on the side of the barrier that faces away from the pool or spa.
3. The vertical clearance between a surface below the barrier to a solid surface, such as concrete, and the bottom of the required barrier shall not exceed 4 inches (102 mm) where measured on the side of the required barrier that faces away from the pool or spa.
4. Where the top of the pool or spa structure is above grade, the barrier shall be installed on grade or shall be mounted on top of the pool or spa structure. Where the barrier is mounted on the top of the pool or spa, the vertical clearance between the top of the pool or spa and the bottom of the barrier shall not exceed 4 inches (102 mm).

3109.2.2 Openings

Openings in the barrier shall not allow passage of a 4-inch diameter (102 mm) sphere.

3109.2.3 Solid Barrier Surfaces

Solid barriers that do not have openings shall not contain indentations or protrusions that form handholds and footholds, except for normal construction tolerances and tooled masonry joints.

3109.2.4 Mesh Fence as a Barrier

Mesh fences, other than chain link fences in accordance with Section 3109.2.7, shall be installed in accordance with the manufacturer's instructions and shall comply with the following:

1. The bottom of the mesh fence shall be not more than 1 inch (25 mm) above the deck or installed surface or grade.
2. The maximum vertical clearance from the bottom of the mesh fence and the solid surface shall not permit the fence to be lifted more than 4 inches (102 mm) from grade or decking.

3. The fence shall be designed and constructed so that it does not allow passage of a 4 inch (102 mm) sphere under any mesh panel. The maximum vertical clearance from the bottom of the mesh fence and the solid surface shall be not greater than 4 inches (102 mm) from grade or decking.
4. An attachment device shall attach each barrier section at a height not lower than 45 inches (1143 mm) above grade. Common attachment devices include, but are not limited to, devices that provide the security equal to or greater than that of a hook-and-eye type latch incorporating a spring-actuated retaining lever such as a safety gate hook.
5. Where a hinged gate is used with a mesh fence, the gate shall comply with Section 3109.3.
6. Patio deck sleeves such as vertical post receptacles that are placed inside the patio surface shall be of a nonconductive material.
7. Mesh fences shall not be installed on top of on-ground residential pools.

3109.2.4.1 Setback for Mesh Fences

The inside of a mesh fence shall be not closer than 20 inches (508 mm) to the nearest edge of the water of a pool or spa.

3109.2.5 Closely Spaced Horizontal Members

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 or spa side of the fence. Spacing between vertical members shall not exceed 1 ¾ inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1 ¾ inches (44 mm) in width.

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3109.2.6 Widely Spaced Horizontal Members

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).

Where there are decorative cutouts within vertical members, the interior width of the cutouts shall not exceed 1 3/4 inches (44 mm).

3109.2.7 Chain Link Dimensions

The maximum opening formed by a chain link fence shall be not more than 1 3/4 inches (44 mm). Where the fence is provided with slats fastened at the top and bottom that reduce the openings, such openings shall be not greater than 1 3/4 inches (44 mm).

3109.2.8 Diagonal Members

Where the barrier is composed of diagonal members, the maximum opening formed by the diagonal members shall be not greater than 1 3/4 inches (44 mm). The angle of diagonal members shall be not greater than 45 degrees (0.79 rad) from vertical.

3109.2.9 Clear Zone

The required barrier height shall exist around the entire perimeter of the barrier and for a distance of 3 feet (914 mm) measured horizontally from the outside of the required barrier, free of structures, equipment or similar objects.

3109.3 Doors and Gates

Doors and gates in barriers shall comply with the requirements of Sections 3109.3.1 through 3109.3.3 and shall be equipped to accommodate a locking device. Pedestrian access doors and gates shall open outward away from the pool or spa, shall be self-closing and shall have a self-latching device.

3109.3.1 Utility or Service Doors and Gates

Doors and gates not intended for pedestrian use, such as utility or service doors and gates, shall remain locked when not in use.

3109.3.2 Double or Multiple Doors and Gates

Double doors and gates or multiple doors and gates shall have not fewer than one leaf secured in place and the adjacent leaf shall be secured with a self-closing and self-latching device.

3109.3.3 Latch Release

For doors and gates in barriers, the door and gate latch release mechanisms shall be in accordance with the following:

1. Where the door and gate latch release mechanisms are accessed from the outside of the barrier and are not of the self-locking type, such mechanism shall be located above the finished floor or ground surface in accordance with the following:

1.1 at public pools and spas, not less than 52 inches (1219 mm) and not greater than 54 inches (1372 mm).

1.2 At residential pools and spas, not less than 54 inches (1372 mm).

2. Where door and gate latch release mechanisms are of the self-locking type such as where the lock is operated by means of a key, an electronic opener or the entry of a combination into an integral combination lock, the lock operation control and the latch release mechanism shall be located above the finished floor or ground surface in accordance with the following:

2.1 At public pools and spas, not less than 34 inches and not greater than 48 inches (1219 mm).

2.2 At residential pools and spas, at not greater than 54 inches (1372 mm).

3. At private pools, where the only latch release mechanism of a self-latching device for a gate is located on the pool and spa side of the barrier, the release mechanism shall be located at a point that is at least 3 inches (76 mm) below the top of the gate.

3109.3.4 Barriers Adjacent to Latch Release Mechanisms

Where a latch release mechanism is located on the inside of a barrier, opening in the door, gate and barrier within 18 inches (457 mm) of the latch shall not be greater than ½ inch (12.7 mm) in any dimension.

3109.4 Structure Wall as Barrier

Where a wall of a dwelling or structure serves as part of the barrier and where doors, gates or windows provide direct access to the pool or spa through that wall, one of the following shall be required:

1. Operable ground floor windows having a sill height of less than 48 inches (1219 mm) above the indoor finished floor and a latching device less than 54 inches (1372), doors and gates shall have an alarm that produces an audible warning when the window, door or their screens are opened. The alarm shall be listed and labeled as a water hazard entrance alarm in accordance with UL 2017.
2. In dwellings not required to be Accessible units, Type A units or Type B units, the operable parts of the alarm deactivation switches shall be located at not less than 54 inches (1372 mm) above the finished floor.
3. In dwellings that are required to be Accessible units, Type A units or Type B units, the operable parts of the alarm deactivation switches shall be located not greater than 54 inches (1372 mm) and not less than 48 inches (1220 mm) above the finished floor.
4. In structures other than dwellings, the operable parts of the alarm deactivation switches shall be located not greater than 54 inches (1372 mm) and not less than 48 inches (1220 mm) above the finished floor.
5. A safety cover that is listed and labeled in accordance with ASTM F1346 is installed for the pools and spas.
6. An approved means of protection, such as self-closing doors with self-latching devices, is provided. Such means of protection shall provide a degree or protection that is not less than the protection afforded by Item 1 or 2.

3109.5 On ground Residential pool Structure as a Barrier

An on ground residential pool wall structure or a barrier mounted on top of an on ground residential pool wall structure shall serve as a barrier where all of the following conditions are present:

1. Where only the pool wall serves as the barrier, the bottom of the wall is on grade, the top of the wall is not less than 48 inches (1219 mm) above grade for the entire perimeter of the pool, the wall complies with the requirements of Section 3109.2 and the pool manufacturer allows the wall to serve as a barrier.
2. Where a barrier is mounted on top of the pool wall, the top of the barrier is not less than 48 inches (1219 mm) above grade for the entire perimeter of the pool, and the wall and the barrier on top of the wall comply with the requirements of Section 3109.2.
3. Ladders or steps used as means of access to the pool are capable of being secured, locked or removed to prevent access except where the ladder or steps are surrounded by a barrier that meets the requirements of Section 3109.
4. Openings created by the securing, locking or removal of ladders and steps do not allow the passage of a 4-inch (102 mm) diameter sphere.
5. Barriers that are mounted on top of on ground residential pool walls are installed in accordance with the pool manufacturer's instructions.

3109.6 Natural Barriers

In the case where the pool or spa area abuts the edge of a lake or other natural body of water, public access is not permitted or allowed along the shoreline, and required barriers extend to and beyond the water's edge not less than 18 inches (457 mm), a barrier is not required between the natural body of water shoreline and the pool or spa when approved by the Building Inspector.

3109.7 Natural Topography

Natural topography that prevents direct access to the pool or spa area shall include but not be limited to mountains and natural rock formations. A natural barrier approved by the Building Inspector shall be acceptable provided that the degree of protection is not less than the protection afforded by the requirements of Sections 3109.2 through 3109.5.

3109.8 Means of Egress

Outdoor public pools provided with barriers shall have means of egress as required by Chapter 10 of the International Building Code.