

Checklist for Swimming Pools

- Application must be filled out COMPLETELY (including homeowners signature-7b).
- Homeowner License Exemption needs to be filled out if homeowner is doing work.
- Copy of the Pool's spec sheet.
- Workers' Compensation Insurance included (homeowner or contractor).
- Check payable to the *TOWN OF UXBRIDGE*, fee per price sheet.
- Contractor's Insurance Liability Certificate.
- Copy of Installers CSL & HIC licenses (If permit is not taken by homeowner).
- Signature on paper for Private Swimming Pools, Spas & Hot Tubs - Regulations per 780 CMR.
- HOMEOWNERS' signature must appear on application. (Or specifically stating that the contractor is responsible for all permits on contract).
- Anything not completed, may result in delay of the issuing of the permit.

ALL ITEMS HIGHLIGHTED MUST BE COMPLETED!

	The Commonwealth of Massachusetts Board of Building Regulations and Standards Massachusetts State Building Code, 780 CMR Building Permit Application To Construct, Repair, Renovate Or Demolish a <i>One- or Two-Family Dwelling</i>	FOR MUNICIPALITY USE <i>Revised Mar 2011</i>			
This Section For Official Use Only					
Building Permit Number: _____		Date Applied: _____			
Building Official (Print Name) _____		Signature _____ Date _____			
SECTION 1: SITE INFORMATION					
1.1 Property Address:		1.2 Assessors Map & Parcel Numbers			
1.1a Is this an accepted street? yes _____ no _____		Map Number _____ Parcel Number _____			
1.3 Zoning Information:		1.4 Property Dimensions:			
Zoning District _____	Proposed Use _____	Lot Area (sq ft) _____ Frontage (ft) _____			
1.5 Building Setbacks (ft)					
Front Yard		Side Yards			
Required	Provided	Required			
Required	Provided	Required			
Rear Yard		Provided			
Required		Provided			
1.6 Water Supply: (M.G.L. c. 40, §54)		1.7 Flood Zone Information:			
Public <input type="checkbox"/>	Private <input type="checkbox"/>	Zone: _____ Outside Flood Zone? Check if yes <input type="checkbox"/>			
		1.8 Sewage Disposal System:			
		Municipal <input type="checkbox"/> On site disposal system <input type="checkbox"/>			
SECTION 2: PROPERTY OWNERSHIP¹					
2.1 Owner¹ of Record:					
Name (Print) _____		City, State, ZIP _____			
No. and Street _____	Telephone _____	Email Address _____			
SECTION 3: DESCRIPTION OF PROPOSED WORK² (check all that apply)					
New Construction <input type="checkbox"/>	Existing Building <input type="checkbox"/>	Owner-Occupied <input type="checkbox"/>	Repairs(s) <input type="checkbox"/>	Alteration(s) <input type="checkbox"/>	Addition <input type="checkbox"/>
Demolition <input type="checkbox"/>	Accessory Bldg. <input type="checkbox"/>	Number of Units _____	Other <input type="checkbox"/> Specify: _____		
Brief Description of Proposed Work ² : _____ _____					
SECTION 4: ESTIMATED CONSTRUCTION COSTS					
Item	Estimated Costs: (Labor and Materials)	Official Use Only			
1. Building	\$ _____	1. Building Permit Fee: \$ _____ Indicate how fee is determined: <input type="checkbox"/> Standard City/Town Application Fee <input type="checkbox"/> Total Project Cost ³ (Item 6) x multiplier _____ x _____ 2. Other Fees: \$ _____ List: _____ Total All Fees: \$ _____ Check No. _____ Check Amount: _____ Cash Amount: _____ <input type="checkbox"/> Paid in Full <input type="checkbox"/> Outstanding Balance Due: _____			
2. Electrical	\$ _____				
3. Plumbing	\$ _____				
4. Mechanical (HVAC)	\$ _____				
5. Mechanical (Fire Suppression)	\$ _____				
6. Total Project Cost:	\$ _____				

ALL ITEMS HIGHLIGHTED MUST BE COMPLETED!

SECTION 5: CONSTRUCTION SERVICES

5.1 Construction Supervisor License (CSL)

<u>Name of CSL Holder</u> <u>No. and Street</u> <u>City/Town, State, ZIP</u> Telephone _____ Email address _____	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;"><u>License Number</u></td> <td style="width:50%;"><u>Expiration Date</u></td> </tr> <tr> <td colspan="2">List CSL Type (see below) _____</td> </tr> <tr> <th style="text-align: center;">Type</th> <th style="text-align: center;">Description</th> </tr> <tr> <td align="center">U</td> <td>Unrestricted (Buildings up to 35,000 cu. ft.)</td> </tr> <tr> <td align="center">R</td> <td>Restricted 1&2 Family Dwelling</td> </tr> <tr> <td align="center">M</td> <td>Masonry</td> </tr> <tr> <td align="center">RC</td> <td>Roofing Covering</td> </tr> <tr> <td align="center">WS</td> <td>Window and Siding</td> </tr> <tr> <td align="center">SF</td> <td>Solid Fuel Burning Appliances</td> </tr> <tr> <td align="center">I</td> <td>Insulation</td> </tr> <tr> <td align="center">D</td> <td>Demolition</td> </tr> </table>	<u>License Number</u>	<u>Expiration Date</u>	List CSL Type (see below) _____		Type	Description	U	Unrestricted (Buildings up to 35,000 cu. ft.)	R	Restricted 1&2 Family Dwelling	M	Masonry	RC	Roofing Covering	WS	Window and Siding	SF	Solid Fuel Burning Appliances	I	Insulation	D	Demolition
<u>License Number</u>	<u>Expiration Date</u>																						
List CSL Type (see below) _____																							
Type	Description																						
U	Unrestricted (Buildings up to 35,000 cu. ft.)																						
R	Restricted 1&2 Family Dwelling																						
M	Masonry																						
RC	Roofing Covering																						
WS	Window and Siding																						
SF	Solid Fuel Burning Appliances																						
I	Insulation																						
D	Demolition																						

5.2 Registered Home Improvement Contractor (HIC)

<u>HIC Company Name or HIC Registrant Name</u> <u>No. and Street</u> <u>City/Town, State, ZIP</u> <u>Telephone</u> _____	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;"><u>HIC Registration Number</u></td> <td style="width:50%;"><u>Expiration Date</u></td> </tr> <tr> <td colspan="2" style="text-align: center;"><u>Email address</u></td> </tr> </table>	<u>HIC Registration Number</u>	<u>Expiration Date</u>	<u>Email address</u>	
<u>HIC Registration Number</u>	<u>Expiration Date</u>				
<u>Email address</u>					

SECTION 6: WORKERS' COMPENSATION INSURANCE AFFIDAVIT (M.G.L. c. 152, § 25C(6))

Workers Compensation Insurance affidavit must be completed and submitted with this application. Failure to provide this affidavit will result in the denial of the Issuance of the building permit.

Signed Affidavit Attached? Yes No

SECTION 7a: OWNER AUTHORIZATION TO BE COMPLETED WHEN OWNER'S AGENT OR CONTRACTOR APPLIES FOR BUILDING PERMIT

I, as Owner of the subject property, hereby authorize _____ to act on my behalf, in all matters relative to work authorized by this building permit application.

Print Owner's Name (Electronic Signature) _____ Date _____

SECTION 7b: OWNER OR AUTHORIZED AGENT DECLARATION

By entering my name below, I hereby attest under the pains and penalties of perjury that all of the information contained in this application is true and accurate to the best of my knowledge and understanding.

Print Owner's or Authorized Agent's Name (Electronic Signature) _____ Date _____

NOTES:

1. An Owner who obtains a building permit to do his/her own work, or an owner who hires an unregistered contractor (not registered in the Home Improvement Contractor (HIC) Program), will **not** have access to the arbitration program or guaranty fund under M.G.L. c. 142A. Other important information on the HIC Program can be found at www.mass.gov/oca Information on the Construction Supervisor License can be found at www.mass.gov/dps

2. When substantial work is planned, provide the information below:

Total floor area (sq. ft.) _____	(including garage, finished basement/attics, decks or porch)
Gross living area (sq. ft.) _____	Habitable room count _____
Number of fireplaces _____	Number of bedrooms _____
Number of bathrooms _____	Number of half/baths _____
Type of heating system _____	Number of decks/ porches _____
Type of cooling system _____	Enclosed _____ Open _____

3. "Total Project Square Footage" may be substituted for "Total Project Cost"

Enclosures for Private Swimming Pool, Spas and Hot Tubs

Regulations per 780 CMR Massachusetts State Building Code 8th Edition

See complete 780 CMR 120.M Appendices for all information.
(More than 24" of Water)

Disclaimer: Developed as an informal guide with current information as of January 1, 2008. It has been created for informational purposes only. Please consult 780 CMR 120.M for more details.

The Barrier (Fence)

1. Top of the barrier shall be at least 48 inches (1219mm) above finished ground level.
2. 2 inch (51mm) space between barrier & ground (Side opposite of pool)
3. 4 inch (102mm) space between top of pool & barriers (maximum)
4. Openings in the barrier, a 4 inch (102mm) sphere cannot pass through the barrier.
5. 2.25 inch (57mm) mesh size for chain link fences (maximum) unless slats are fastened at the top or the bottom which reduce the openings to not more than 1 ¼ inches(44mm).
6. 1 ¼ inch (44mm) for diagonal members, such as a lattice fence. (maximum)
7. Barrier (Fence) **MUST** be installed before the Final Inspection is made by the Building Inspector.

The Gate

1. Must be self-closing
2. Must be self-latching
3. Shall open outwards away from the pool
4. Must accommodate a lock
5. 54 inches (1372mm) minimum for self-latching release mechanism OR
6. If the release mechanism of the self-latching device is less than 54 inches (1372 mm) from the bottom of the gate, then:
 - (a) it shall be located on the pool side of the gate at least 3 inches (76mm) below the top of gate
 - (b) The gate and barrier shall not have an opening greater than 0.5 inch (12.7mm) within 18 inches (457mm) of the release mechanism.

The House as Part of the Barrier

All doors with direct access to the pool must have an alarm that sounds when the door and its screen, if present, are opened.

1. Must sound within 7 seconds.
2. Must sound continuously for at least 30 seconds immediately after the door is opened.
3. Capable of being heard throughout the house during normal house-hold activities.
4. Automatic reset
5. Manual deactivation for 15 seconds & located at least 54 inches above the threshold.

Ladders or Steps

1. A fixed or removable ladder or steps must be fenced as specified above for pools, including the gate. A removable ladder shall not constitute an acceptable alternative to enclosure requirements.
2. Must be 48 inches or more above the finished grade level and has provisions for securing.
3. Lock device must be located at least 54 inches above the finished grade level.

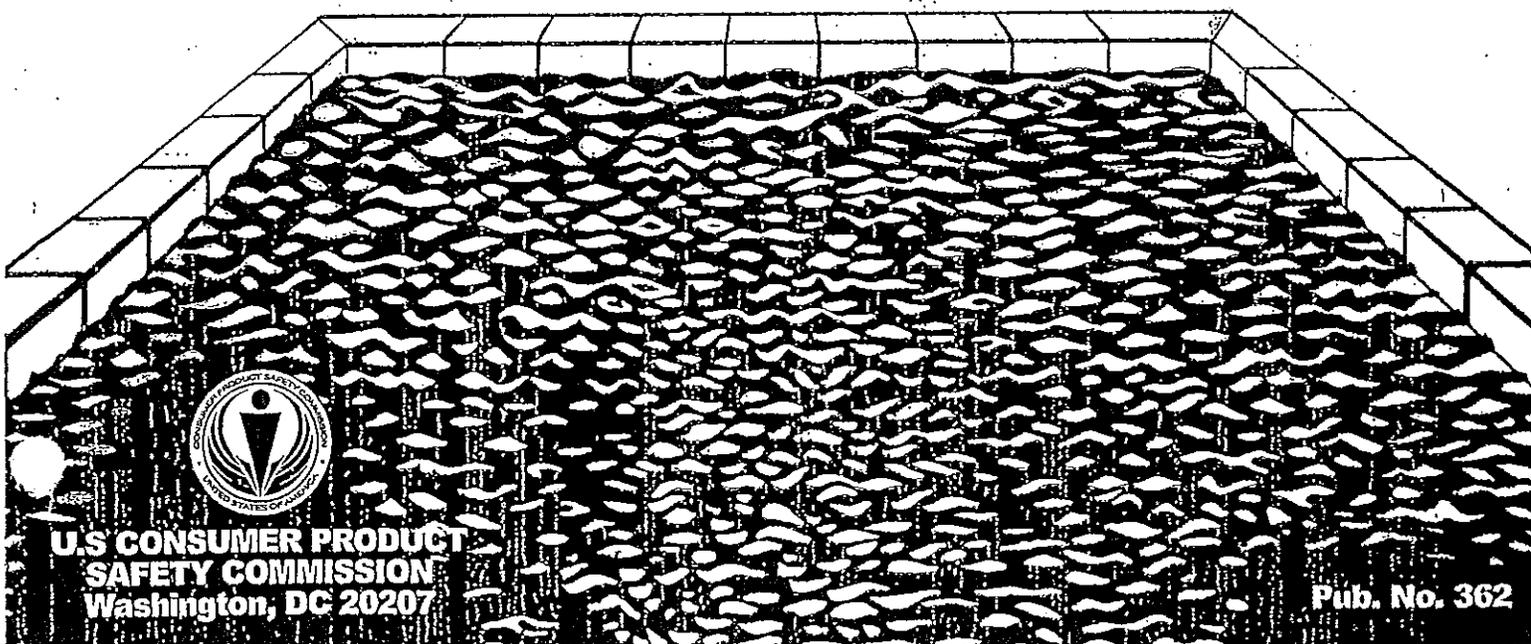
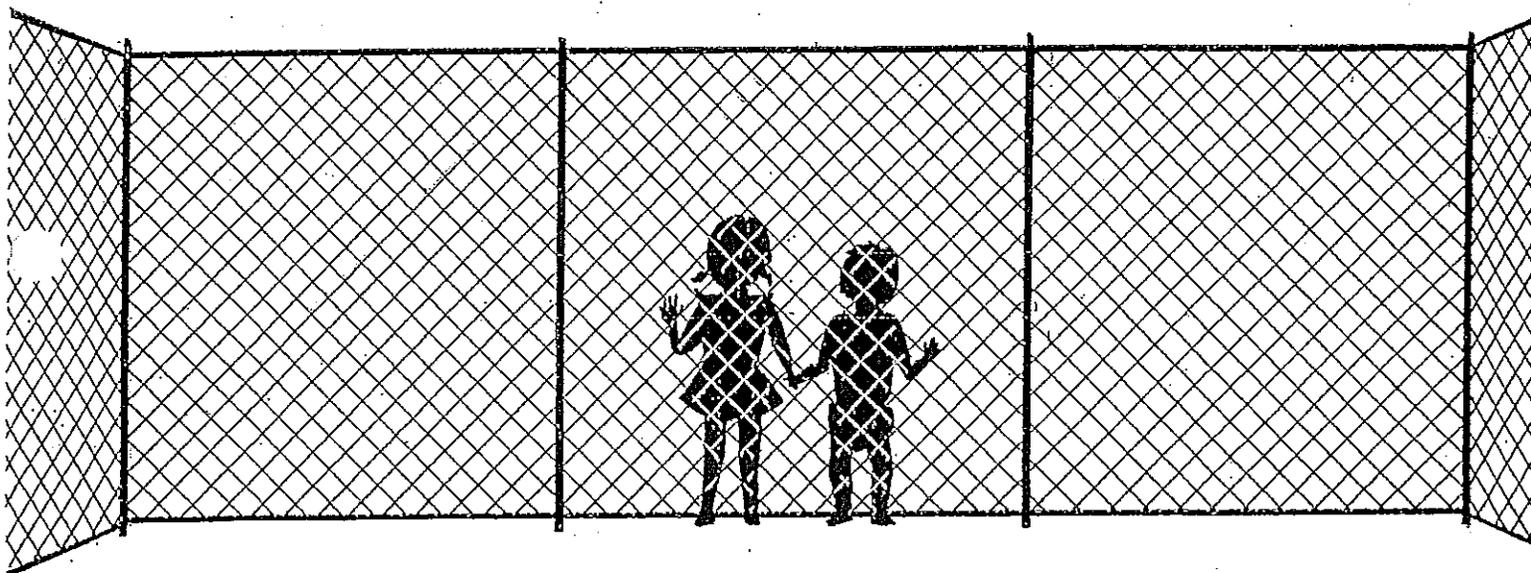
I, as the homeowner, have read and agree to comply with the above barrier requirements necessary for final inspection as well as occupancy of the newly installed pool.

Name: _____

Address: _____ Date: _____

Town of Uxbridge, Building Department,
21 South Main St, Room 203, Uxbridge, MA 01569
Phone 508-278-8600 X (5) Fax 508-278-0709
Office hours: Mon. Tues. & Thurs 7:30am-5:00pm, Weds. 8:00am-7:00pm, FRIDAYS CLOSED

SAFETY BARRIER GUIDELINES FOR HOME POOLS



U.S. CONSUMER PRODUCT
SAFETY COMMISSION
Washington, DC 20207

Pub. No. 362

RECEIVED

MAY 30 2008

APPENDIX 120.M
SWIMMING POOLS, SPAS AND HOT TUBS
SECTION 120.M101

GENERAL

120.M101.1 General. The provisions of this appendix shall control the design and construction of swimming pools, spas and hot tubs.

Note 1: Public and semi-public outdoor in-ground swimming pool enclosures shall conform to the requirements of MGL c.140 § 206.

Note 2. Also see 521 CMR, Section 19.

Note 3. Also see 105 CMR as such regulates swimming pool requirements.

Note 4. Installation of electrical wiring and electrical devices shall be in accordance with the Massachusetts Electrical Code, 527 CMR 12.

Note 5. Installation of gas-fired pool heaters shall be in accordance with the Massachusetts Fuel Gas and Plumbing Code.

SECTION 120.M102

DEFINITIONS

120.M102.1 General. For the purposes of these requirements, the terms used shall be defined as follows and as set forth in Chapter 52.

ABOVE-GROUND/ON-GROUND POOL. See "Swimming pool."

BARRIER. A fence, wall, building wall or combination thereof which completely surrounds the swimming pool and obstructs access to the swimming pool.

HOT TUB. See "Swimming pool."

IN-GROUND POOL. See "Swimming pool."

RESIDENTIAL. That which is situated on the premises of a detached one- or two-family dwelling or a one-family town-house not more than three stories in height.

SPA, NONPORTABLE. See "Swimming pool."

SPA, PORTABLE. A nonpermanent structure intended for recreational bathing, in which all controls, water-heating and water-circulating equipment are an integral part of the product.

SWIMMING POOL. Any structure intended for swimming or recreational bathing that contains water over 24 inches (610 mm) deep. This includes in-ground, aboveground and on-ground swimming pools, hot tubs and spas.

SWIMMING POOL, INDOOR. A swimming pool which is totally contained within a structure and surrounded on all four sides by walls of said structure.

SWIMMING POOL, OUTDOOR. Any swimming pool which is not an indoor pool.

SECTION 120.M103

SWIMMING POOLS

120.M103.1 In-ground pools. In-ground pools shall be designed and constructed in

conformance with ANSI/NSPI-5 as listed in Section 120.M107.

120.M103.2 Above-ground and on-ground pools. Above-ground and on-ground pools shall be designed and constructed in conformance with ANSI/NSPI-4 as listed in Section 120.M107.

SECTION 120.M104

SPAS AND HOT TUBS

120.M104.1 Permanently installed spas and hot tubs. Permanently installed spas and hot tubs shall be designed and constructed in conformance with ANSI/NSPI-3 as listed in Section 120.M107.

120.M104.2 Portable spas and hot tubs. Portable spas and hot tubs shall be designed and constructed in conformance with ANSI/NSPI-6 as listed in Section 120.M107.

SECTION 120.M105

BARRIER REQUIREMENTS

120.M105.1 Application. The provisions of this chapter shall control the design of barriers for residential swimming pools, spas and hot tubs. These design controls are intended to provide protection against potential drowning and near-drowning by restricting access to swimming pools, spas and hot tubs.

120.M105.2 Outdoor swimming pool. An outdoor swimming pool, including an in-ground, aboveground 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 grade measured on the side of the barrier which faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be 2 inches (51 mm) measured on the side of the barrier which faces away from the swimming pool. Where the top of the pool structure is above grade, such as an aboveground pool, the barrier may be at ground level, such as the pool structure, or mounted on top of the pool structure. Where the barrier is mounted on top of the pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be 4 inches (102 mm).
2. Openings in the barrier shall not allow pass 120.Me of a 4-inch-diameter (102 mm) sphere.
3. Solid barriers which do not have openings, such as a masonry or stone wall, 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), the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed 1.75 inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches (44 mm) in width.
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). Where there are decorative cutouts within

780C-MR-91
Appendix
120-G

vertical members, spacing within the cutouts shall not exceed 1.75 inches (44 mm) in width.

6. Maximum mesh size for chain link fences shall be a 2.25-inch (57 mm) square unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to not more than 1.75 inches (44 mm).

7. Where the barrier is composed of diagonal members, such as a lattice fence, the maximum opening formed by the diagonal members shall not be more than 1.75 inches (44 mm).

8. Access gates shall comply with the requirements of Section 120.105.2, Items 1 through 7, and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward 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, the release mechanism and openings shall comply with the following:

8.1. 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

8.2. The gate and barrier shall have no opening greater than 0.5 inch (12.7 mm) within 18 inches (457 mm) of the release mechanism.

9. Where a wall of a dwelling serves as part of the barrier one of the following conditions shall be met:

9.1. The pool shall be equipped with a powered safety cover in compliance with ASTM F1346; or

9.2. 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 alarm shall sound continuously for a minimum of 30 seconds immediately after the door is opened and be capable of being heard throughout the house during normal house-hold activities. The alarm shall automatically reset under all conditions. The alarm system shall be equipped with a manual means, such as touchpad or switch, to temporarily deactivate the alarm for a single opening. Such deactivation shall last for not more than 15 seconds. The deactivation switch(es) shall be located at least 54 inches (1372 mm) above the threshold of the door; or

9.3. Other means of protection, such as self-closing doors with self-latching devices, which are approved by the governing body, shall be acceptable so long as the degree of protection afforded is not less than the protection afforded by Item 9.1 or 9.2 described above.

10. Where an aboveground 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 ladder or steps, then:

10.1. The ladder or steps shall be capable of being secured, locked or removed to prevent access, or

10.2. The ladder or steps shall be surrounded by a barrier which meets the requirements of Section 120.105.2, Items 1 through 9. When the ladder or steps are secured, locked or removed, any opening created shall not allow the passage of a 4-inch-diameter (102 mm) sphere.

Note that for private, above ground pools:

- 1. The pool wall of an outdoor, above-ground pool (with pool walls extending at least 48 inches above grade at all points along the pool), substitutes for a fence or other barrier around the pool with the exception of the ladder area of the pool.*

2. *A retractable, lockable ladder, that cannot be removed (without tools or special knowledge available to a small child), which retracts, by hinge or sliding mechanism, to 48 inches or more above the finished grade level and has provision for securing in the retracted mode with a locking device, shall be considered an acceptable alternative to the applicable required enclosure (fence or other gate barrier) of the current 6th Edition Building Code, Section 421 or the new 7th Edition Building Code for One- and Two-Family Dwellings, Appendix 120.M.*
3. *The retractable ladder locking/release device must be located at least 54 inches above the finished grade level in immediate vicinity of the retractable ladder or such locking/release mechanism shall be located on the pool side of the ladder (forcing "reach around") and located at least three (3) inches below the top of the ladder and the ladder shall not have an opening greater than 1/2 inch within 18 inches of the locking/release mechanism.*

Exception: Public and semi-public outdoor in-ground swimming pool enclosures shall conform to the requirements of MGL c.140 § 206.

120.M105.3 Indoor swimming pool. All walls surrounding an indoor swimming pool shall comply with Section 120.M105.2, Item 9.

120.M105.4 Prohibited locations. Barriers shall be located so as to prohibit permanent structures, equipment or similar objects from being used to climb the barriers.

120.M105.5 Barrier exceptions. Spas or hot tubs with a safety cover which complies with ASTM F 1346, as listed in Section 120.M107, shall be exempt from the provisions of this appendix.

SECTION 120.M106

ENTRAPMENT PROTECTION FOR SWIMMING POOL AND SPA SUCTION OUTLETS

120.M106.1 General. Suction outlets shall be designed to produce circulation throughout the pool or spa. Single outlet systems, such as automatic vacuum cleaner systems, or other such multiple suction outlets whether isolated by valves or otherwise shall be protected against user entrapment.

Note: Also refer to Rules and Regulations of the Department of Public Health

120.M106.2 Suction fittings. All Pool and Spa suction outlets shall be provided with a cover that conforms with ANSI/ASME A112.19.8M, or a 12" x 12" drain grate or larger, or an approved channel drain system.

Exception: Surface skimmers

120.M106.3 Atmospheric vacuum relief system required. All pool and spa single or multiple outlet circulation systems shall be equipped with atmospheric vacuum relief should grate covers located therein become missing or broken. Such vacuum relief systems shall include at least one approved or engineered method of the type specified herein, as follows:

1. Safety vacuum release system conforming to ASME A112.19.17, or
2. An approved gravity drain120.Me system

120.M106.4 Dual drain separation. Single or multiple pump circulation systems shall be provided with a minimum of two (2) suction outlets of the approved type. A minimum horizontal or vertical distance of three (3) feet shall separate such outlets. These suction outlets shall be piped so that water is drawn through them simultaneously through a vacuum relief-protected line to the pump or pumps.

120.M106.5 Pool cleaner fittings. Where provided, vacuum or pressure cleaner fitting(s) shall be located in an accessible position(s) at least (6) inches and not greater than twelve (12) inches below the minimum operational water level or as an attachment to the skimmer(s).

SECTION 120.M107

ABBREVIATIONS

120.M107.1 General.

ANSI—American National Standards Institute

11 West 42nd Street, New York, NY 10036

ASTM—American Society for Testing and Materials

1916 Race Street, Philadelphia, PA 19103

NSPI—National Spa and Pool Institute

2111 Eisenhower Avenue, Alexandria, VA 22314

SECTION 120.M108

STANDARDS

120.M108.1 General.

ANSI/NSPI

ANSI/NSPI-3-99 Standard for Permanently Installed Residential Spas AG104.1

ANSI/NSPI-4-99 Standard for Above-ground/On-ground

Residential Swimming Pools AG103.2

ANSI/NSPI-5-99 Standard for Residential In-ground Swimming Pools AG103.1

ANSI/NSPI-6-99 Standard for Residential

Portable Spas AG104.2

ANSI/ASME A112.19.8M-1987 Suction

Fittings for Use in Swimming Pools,

Wading Pools, Spas, Hot Tubs and

Whirlpool Bathing Appliances AG106.2

ASTM

ASTM F 1346-91 (1996) Performance Specification for Safety Covers and Labeling

Requirements for All Covers for Swimming Pools, Spas and Hot Tubs AG105.2, AG105.5

ASME

ASME A112.19.17 Manufacturers Safety Vacuum Release Systems (SVRS) for Residential and Commercial Swimming Pool, Spa, Hot Tub and Wading Pool AG106.3

Why the Swimming Pool Guidelines Were Developed

Each year, hundreds of young children die and thousands come close to death due to submersion in residential swimming pools. CPSC has estimated that each year about 300 children under 5 years old drown in swimming pools. The Commission estimates hospital emergency room treatment is required for more than 2,000 children under 5 years of age who were submerged in residential pools.

CPSC did an extensive study of swimming pool accidents, both fatal drownings and near-fatal submersions, in California, Arizona and Florida, states in which home swimming pools are very popular and in use during much of the year. The findings from that study led Commission staff to develop the guidelines in this handbook.

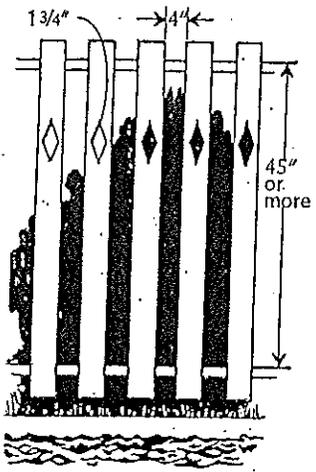
- In California, Arizona and Florida, drowning was the leading cause of accidental death in and around the home for children under the age of 5 years.
- 75 percent of the children involved in swimming pool submersion or drowning accidents were between 1 and 3 years old.
- Boys between 1 and 3 years old were the most likely victims of fatal drownings and near-fatal submersions in residential swimming pools.
- Most of the victims were being supervised by one or both parents when the swimming pool accident occurred.
- Nearly half of the child victims were last seen in the house before the pool accident occurred. In addition, 23 percent of the accident victims were last seen on the porch or patio, or in the yard.
- This means that fully 69 percent of the children who became victims in swimming pool accidents were not expected to be in or at the pool, but were found drowned or submerged in the water.
- 65 percent of the accidents occurred in a pool owned by the victim's immediate family, and 33 percent of the accidents occurred in pools owned by relatives or friends.
- Fewer than 2 percent of the pool accidents were a result of children trespassing on property where they didn't live or belong.
- 77 percent of the swimming pool accident victims had been missing for five minutes or less when they were found in the pool drowned or submerged.

The speed with which swimming pool drownings and submersions can occur is a special concern: by the time a child's absence is noted, the child may have drowned. Anyone who has cared for a toddler knows how fast young children can move. Toddlers are inquisitive and impulsive and lack a realistic sense of danger. These behaviors, coupled with a child's ability to move quickly and unpredictably make swimming pools particularly hazardous for households with young children.

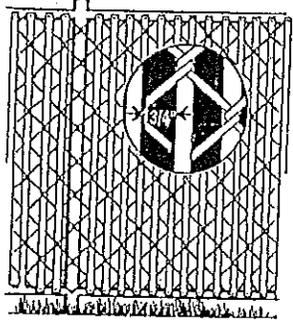
Swimming pool drownings of young children have another particularly insidious feature: these are silent deaths. It is unlikely that splashing or screaming will occur to alert a parent or caregiver that a child is in trouble.

CPSC staff have reviewed a great deal of data on drownings and child behavior, as well as information on pool and pool barrier construction. The staff concluded that the best way to reduce child drownings in residential pools was for pool owners to construct and maintain barriers that would prevent young children from gaining access to pools. However, there are no substitutes for diligent supervision.

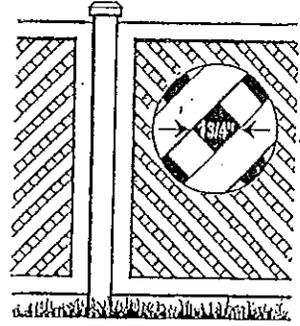
If the distance between the tops of the horizontal members is more than 45 inches, the horizontal members can be on the side of the fence facing away from the pool. The spacing between vertical members should not exceed 4 inches. This size is based on the head breadth and chest depth of a young child and is intended to prevent a child from passing through an opening. Again, if there are any decorative cutouts in the fence, the space within the cutouts should not exceed 1-3/4 inches.



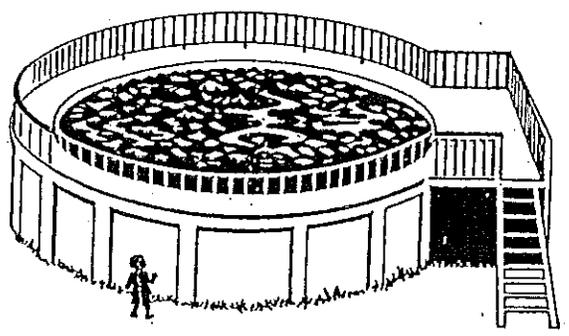
For a Chain Link Fence:
The mesh size should not exceed 1-1/4 inches square unless slats, fastened at the top or bottom of the fence, are used to reduce mesh openings to no more than 1-3/4 inches.



For a Fence Made Up of Diagonal Members (Latticework):
The maximum opening in the lattice should not exceed 1-3/4 inches.

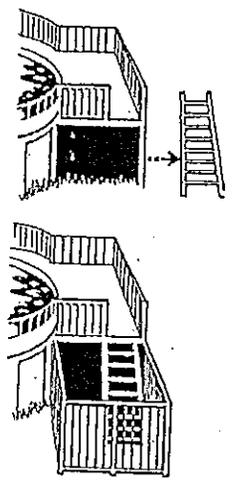


For Aboveground Pools:



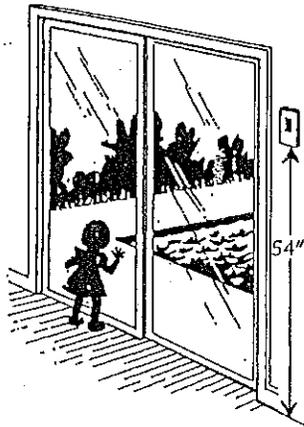
Aboveground pools should have barriers. The pool structure itself serves as a barrier or a barrier is mounted on top of the pool structure.

Then, there are two possible ways to prevent young children from climbing up into an aboveground pool. The steps or ladder can be designed to be secured, locked or removed to prevent access, or the steps or ladder can be surrounded by a barrier such as those described above.



When the House Wall Forms Part of the Pool Barrier:

In many homes, doors open directly onto the pool area or onto a patio which leads to the pool.



In such cases, the wall of the house is an important part of the pool barrier, and passage through any doors in the house wall should be controlled by security measures. The importance of controlling a young child's movement from house to pool is demonstrated by the statistics obtained during CPSC's study of pool incidents in California, Arizona and Florida: almost half (46 percent) of the children who became victims of pool accidents were last seen in the house just before they were found in the pool.

All doors which give access to a swimming pool should be equipped with an audible alarm which sounds when the door and/or screen are opened. The alarm should sound for 30 seconds or more within 7 seconds after the door is opened. Alarms should

meet the requirements of *UL 2017 General-Purpose Signaling Devices and Systems, Section 77.*

The alarm should be loud: at least 85 dBA (decibels) when measured 10 feet away from the alarm mechanism. The alarm sound should be distinct from other sounds in the house, such as the telephone, doorbell and smoke alarm. The alarm should have an automatic reset feature.

Because adults will want to pass through house doors in the pool barrier without setting off the alarm, the alarm should have a switch that allows adults to temporarily deactivate the alarm for up to 15 seconds. The deactivation switch could be a touchpad (keypad) or a manual switch, and should be located at least 54 inches above the threshold of the door covered by the alarm. This height was selected based on the reaching ability of young children.

Power safety covers can be installed on pools to serve as security barriers. Power safety covers should conform to the specifications in ASTM F 1346-91. This standard specifies safety performance requirements for pool covers to protect young children from drowning.

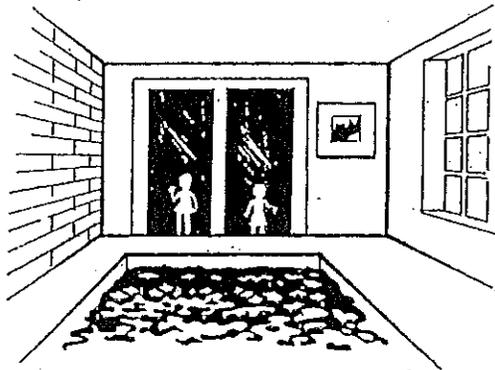
If you wish further information on this standard, contact ASTM, Inc., Philadelphia, Pa. (formerly the American Society for Testing & Materials), directly.

Self-closing doors with self-latching devices could also be used to safeguard

doors which give ready access to a swimming pool.

Indoor Pools:

When a pool is located completely within a house, the walls that surround the pool should be equipped to serve as pool safety barriers. Measures recommended above where a house wall serves as part of a safety barrier also apply for all the walls surrounding an indoor pool.



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, the horizontal members should be located on the swimming pool side of the fence. Spacing between vertical members should not exceed 1-3/4 inches in width. Where there are decorative cutouts, spacing within the cutouts should not exceed 1-3/4 inches in width.

5. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches or more, spacing between vertical members should not exceed 4 inches. Where there are decorative cutouts, spacing within the cutouts should not exceed 1-3/4 inches in width.

6. Maximum mesh size for chain link fences should not exceed 1-3/4 inch square unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to no more than 1-3/4 inches.

7. Where the barrier is composed of diagonal members, such as a lattice fence, the maximum opening formed by the diagonal members should be no more than 1-3/4 inches.

8. Access gates to the pool should comply with Section I, Paragraphs 1 through 7, and should be equipped to accommodate a locking device. Pedestrian access gates should open outward, away from the pool, and should be self-closing and have a self-latching device. Gates other than pedestrian access gates should have a self-latching device. Where the release mechanism of the self-latching device is located less than 54 inches from the bottom of the gate, (a) the release mechanism should be located on the pool side of the gate at least 3 inches below the top of the gate

and (b) the gate and barrier should have no opening greater than 1/2 inch within 18 inches of the release mechanism.

9. Where a wall of a dwelling serves as part of the barrier, one of the following should apply:

(a) All doors with direct access to the pool through that wall should be equipped with an alarm which produces an audible warning when the door and its screen, if present, are opened. The alarm should sound continuously for a minimum of 30 seconds within 7 seconds after the door is opened. *Alarms should meet the requirements of UL 2017 General-Purpose Signaling Devices and Systems, Section 77.* The alarm should have a minimum sound pressure rating of 85 dBA at 10 feet and the sound of the alarm should be distinctive from other household sounds, such as smoke alarms, telephones, and door bells. The alarm should automatically reset under all conditions. The alarm should be equipped with manual means, such as touchpads or switches, to temporarily deactivate the alarm for a single opening of the door from either direction. Such deactivation should last for no more than 15 seconds. The deactivation touchpads or switches should be located at least 54 inches above the threshold of the door.

(b) The pool should be equipped with a power safety cover which complies with ASTM F1346-91 listed below.

(c) Other means of protection, such as self-closing doors with self-latching devices, are acceptable so long as the degree of protection afforded is not less than the protection afforded by (a) or (b) described above.

10. Where an aboveground 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 ladder or steps, then (a) the ladder to the pool or steps should be capable of being secured, locked or removed to prevent access, or (b) the ladder or steps should be surrounded by a barrier which meets Section I, Paragraphs 1 through 9. When the ladder or steps are secured, locked, or removed, any opening created should not allow the passage of a 4-inch diameter sphere.

Section II. Indoor Swimming Pool.

All walls surrounding an indoor swimming pool should comply with Section I, Paragraph 9.

Section III. Barrier Locations.

Barriers should be located so as to prohibit permanent structures, equipment or similar objects from being used to climb the barriers.

Exemptions

A portable spa with a safety cover which complies with ASTM F1346-91 listed below should be exempt from the guidelines presented in this document. But, swimming pools, hot tubs, and non-portable spas with safety covers should not be exempt from the provisions of this document.

ASTM F1346-91. Standard Performance Specification for Safety Covers and Labeling Requirements for All Covers for Swimming Pools, Spas and Hot Tubs.