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Standard Guide for Fences for Residential Outdoor Swimming Pools, Hot Tubs, and Spas[1]

This standard is issued under the fixed designation F 1908; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This guide provides recommended minimum requirements for various types of fences for residential outdoor swimming pools, hot tubs, and spas.

1.2 The values stated in inch-pound units are to be regarded as the standard. The values stated in parentheses are for information only.

2. Referenced Documents

2.1 *ASTM Standards:*

A 392 Specification for Zinc-Coated Steel Chain-Link Fence Fabric[2]

A 491 Specification for Aluminum-Coated Steel Chain-Link Fence Fabric[2]

F 552 Terminology Relating to Chain Link Fencing[2]

F 668 Specification for Poly(Vinyl Chloride) (PVC)-Coated Steel Chain-Link Fence Fabric[2]

F 1183 Specification for Aluminum Alloy Chain-Link Fence Fabric[2]

F 1345 Specification for Zinc-5 % Aluminum-Mischmetal Alloy-Coated Steel Chain-Link Fence Fabric[2]

2.2 *CPSC Document:*[3]

CPSC Staff Recommendations, Barriers for Residential Swimming Pools, Spas, and Hot Tubs (March 1992)

2.3 *NSPI Document:*[4]

ANSI/NSPI-8 1996 Model Barrier Code for Residential Swimming Pools, Spas and Hot Tubs

2.4 *BOCA Document:*[5]

The BOCA National Building Code/1996—13th Edition

2.5 *SBCCI Document:*[6]

1993 SBCCI Bluebook, Standard Swimming Pool Code

2.6 *NFPA Document:*[7]

National Electrical Code®, NFPA 70-1996

3. Terminology

3.1 See Terminology F 552 for definitions of terms relating to chain link fencing.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *fence*, *n*—a type of barrier that surrounds and obstructs access to the pool, tub, or spa.

3.2.2 *grade*, *n*—the finished elevation at any specified point of the ground or pavement outside the pool area.

3.2.3 *hot tub*, *n*—See *spa*.

3.2.4 *outdoor*, *adj*—located outside of a completely enclosed building or other structure.

3.2.5 *residential*, *adj*—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.

3.2.6 *spa (nonportable)*, *n*—a permanent structure containing water over 24 in. (610 mm) deep, in which the water-heating and water-circulating equipment are not an integral part of the product, intended for recreational bathing.

3.2.7 *spa (portable)*, *n*—a nonpermanent structure containing water over 24 in. (610 mm) deep, in which all controls, water-heating, and water-circulating equipment are an integral part of the product, intended for recreational bathing.

3.2.8 *swimming pool*, *n*—an in-ground, on-ground, or above-ground structure of a permanent, semi-permanent, or portable fabrication containing water over 24 in. (610 mm) deep and designed and constructed in accordance with local codes, used for bathing, swimming, diving, racing, or other activity.

4. Summary of Practice

4.1 This guide is based in part upon recommendations of the United States Consumer Product Safety Commission (CPSC). It also incorporates certain provisions of the National Spa and Pool Institute (NSPI) Model Barrier Code for Residential Swimming Pools, Spas and Hot Tubs.

[1] This guide is under the jurisdiction of ASTM Committee F-14 on Fences and is the direct responsibility of Subcommittee F14.10 on Specific Applications.
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[2] *Annual Book of ASTM Standards*, Vol 01.06.

[3] Available from United States Consumer Product Safety Commission, Washington, DC 20207.

[4] Available from National Spa and Pool Institute, 2111 Eisenhower Avenue, Alexandria, VA 22314.

[5] Available from Building Officials and Code Administrators International Inc., 4051 W. Flossmoor Rd., Country Club Hills, IL 60478–5795.

[6] Available from Southern Building Code Congress International, 900 Montclair Rd., Birmingham, AL 35213–1206.

[7] Available from the National Fire Protection Association, Quincy, MA 02269.

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5. Significance and Use

5.1 This guide sets forth minimum standard requirements for use in local codes and ordinances relating to residential outdoor swimming pools, hot tubs, and spas.

5.2 This guide does not have the effect of law, nor is it intended to supersede local codes and ordinances of a more restrictive nature.

5.3 Studies, as listed in Annex A1, have been referenced as the bases for certain recommendations in this guide and will assist those who intend to provide protection against drownings and near-drownings by restricting access to children under the age of five years in residential swimming pools, spas, and hot tubs. This would include, but not be limited to, state and local governments, model code organizations, building code groups, and consumers. It is understood that the format will vary depending upon the specific use and local conditions.

6. Requirements

6.1 *Height*—The top of the fence shall be a minimum of 48 in. (1219 mm) above grade measured on the side of the fence that faces away from the swimming pool. If the fence is mounted on top of an above ground pool, the top of the fence shall be a minimum of 36 in. (914 mm) above the top of the pool structure, provided the top of the pool structure is a minimum of 48 in. (1219 mm) above grade (see 3.2.2 for definition of *grade* specific to this guide).

6.2 *Visibility*—The fence on top of an above ground pool shall be so designed and constructed that it has at least a 65 % open area to allow visibility from a designated supervising area outside the pool area to inside the pool area.

6.3 *Ground Clearance*—The maximum vertical clearance between grade and the bottom of the fence shall be 4 in. (102 mm) measured on the side of the fence that faces away from the swimming pool. Where the top of the pool structure is above grade, such as an above ground pool, the fence may be at ground level or mounted on top of the pool structure. Where the fence is mounted on top of the pool structure, the space between the top of the pool structure and the bottom of the fence shall be no greater than 4 in. (102 mm) in any direction.

6.4 *Solid Barriers* that do not have openings, such as masonry or stone walls, shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints. Such indentations shall not be deeper than 0.375 in. (10 mm).

6.5 *Horizontal and Vertical Members*—Where the fence is composed of horizontal and vertical members and if the distance between the tops of the horizontal members is less than 45 in. (1143 mm), the horizontal members shall not extend more than 0.375 in. (10 mm) outside of the enclosure, and the spacing between the vertical members shall not exceed 1 ¾ in. (44 mm) (see Fig. 1). If the distance between the tops of the horizontal members is 45 in. (1143 mm) or more, the spacing between the vertical members shall not exceed 4 in. (102 mm) (see Fig. 2). Where there are decorative cutouts, the spacing within the cutouts shall not exceed 1 ¾ in. (44 mm).

6.6 *Chain Link Fences*—Mesh opening for chain link fences shall be a nominal 1 ¼ in. (32 mm) measured between the parallel sides of the mesh, and a maximum of 1 ¾ in. (44 mm) measured horizontally between the corners of the installed mesh, as illustrated in Fig. 3 (see Note 1), unless the fence is provided with privacy slats (see Note 2) fastened at the top or the bottom, in which case no opening in the mesh shall exceed 1 ¾ in. (44 mm).

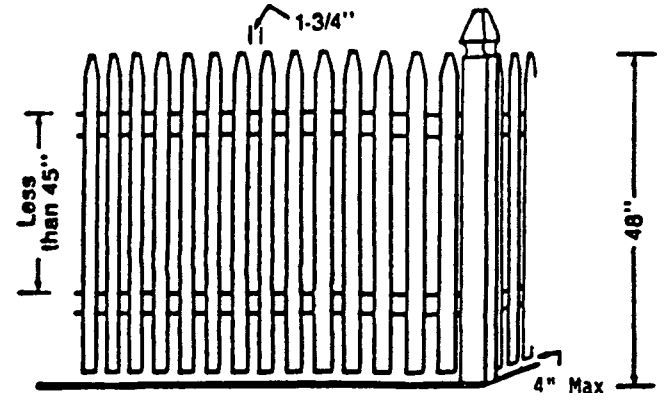

FIG. 1 If Horizontal Members are Less Than 45 in. Apart, Vertical Spacing Shall Not Exceed 1-¾ in.

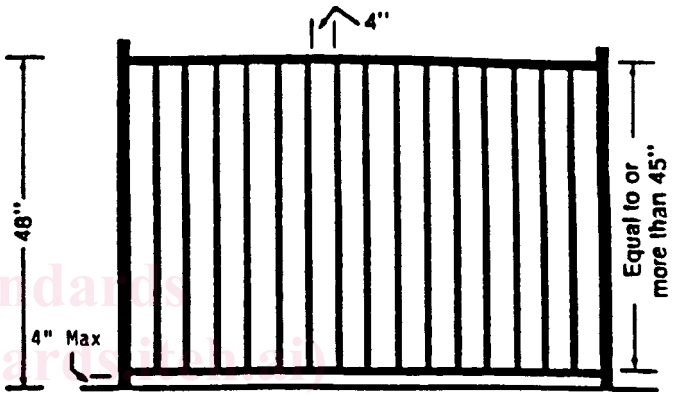

FIG. 2 If Horizontal Members are Equal to or More Than 45 in. Apart, Vertical Spacing Shall Not Exceed 4 in.

NOTE 1—If the tolerance of ±⅛ in. (3.2 mm) indicated in Specifications A 392, A 491, F 668, F 1183, and F 1345 is rigidly applied to an ordered nominal mesh size of 1 ¼ in. (32 mm) measured between the parallel sides of the mesh, the result could be a dimension exceeding the specified maximum of 1 ¾ in. (44 mm) measured horizontally between

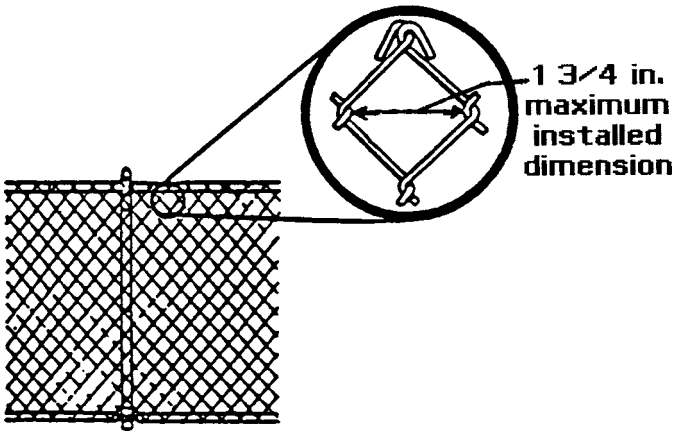

FIG. 3 Nominal 1-¼ in. Square Chain Link Mesh