



Designation: **F1183–96 (Reapproved 2011) F1183 – 96 (Reapproved 2017)**

Standard Specification for Aluminum Alloy Chain Link Fence Fabric¹

This standard is issued under the fixed designation F1183; 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 specification covers aluminum alloy chain link fence fabric for commercial, industrial, and residential uses.
- 1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.
- 1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

- 2.1 *ASTM Standards:*²
 - A700 Guide for Packaging, Marking, and Loading Methods for Steel Products for Shipment
 - B211 Specification for Aluminum and Aluminum-Alloy Rolled or Cold Finished Bar, Rod, and Wire
- 2.2 *Federal Standards:*
 - Fed. Std. No. 123 Marking for Shipment, Civil Agencies³
- 2.3 *Military Standards:*
 - MIL-STD-129 Marking for Shipment and Storage³

3. Terminology

- 3.1 *Definitions of Terms Specific to This Standard:*
 - 3.1.1 *chain link fence fabric*—a fencing material made from wire helically wound and interwoven in such a manner as to provide a continuous mesh without knots or ties, except in the form of knuckling or of twisting the ends of the wires to form the selvage of the fabric.
 - 3.1.2 *diamond count*—the number of diamond openings from one edge of the fabric to the other. The diamond count of a given fabric shall begin at the first completed diamond at one edge and continue to the unfinished (one-half) of full opening at the other edge.
 - 3.1.3 *knuckling*—a term used to describe the type of selvage obtained by interlocking adjacent pairs of wire ends and then bending the wire ends back into a loop. The loop shall be closed or nearly closed to a measurement less than the diameter of the wire.
 - 3.1.4 *twisting*—a term used to describe the type of selvage obtained by twisting adjacent pairs of wire ends together in a close helix of 1½ machine turns, which is equivalent to three full twists, and cutting the wire ends at an angle. The wire ends beyond the twist shall be at least ¼ in. (6.35 mm) long. This type of selvage is not used on fabric with a mesh size of less than 2 in.

4. Ordering Information

- 4.1 Orders for chain link fence fabric purchased to this specification shall include the information given in 4.1.1 through 4.1.8.
 - 4.1.1 Quantity (Section 13),
 - 4.1.2 Size of mesh (Section 7),

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

- 4.1.3 Size of wire (Section 8),
- 4.1.4 Height of fabric (Section 9),
- 4.1.5 Diamond count, if specified (Section 6),
- 4.1.6 Type of selvage (Section 10),
- 4.1.7 Certification, if required (Section 16), and
- 4.1.8 ASTM designation and year of issue.

4.2 All rolls of fencing accepted by the purchaser shall be billed on the basis of the original footage of the rolls prior to sampling, unless changed by contractual arrangement.

NOTE 1—An example of a typical ordering description is as follows: 25 rolls, 50 ft each, chain link fence fabric, aluminum alloy, 2 in. (50.8 mm) mesh, 0.148 in. (3.76 mm) wire, 60 in. high, knuckled both selvages, to ASTM F1183 – _____.

5. Materials

5.1 The wire from which the fabric is woven shall conform to all requirements of alloy 6061, temper T94 described in Specification **B211**.

6. Weave

6.1 The wire shall be woven throughout in the form of approximately uniform square mesh, having parallel sides and horizontal and vertical diagonals of approximately uniform dimensions. The top and bottom of the fabric shall be knuckled or twisted as specified in Section 10.

6.2 A typical diamond count for each standard height is shown in **Table 1**. Other diamond counts are permissible provided that they are consistent within a lot. The purchaser has the option to specify the diamond count (4.1.5).

7. Size of Mesh

7.1 The size of mesh shall be as indicated in **Table 2**.

7.2 The permissible variation from the specified size of mesh shall be $\pm \frac{1}{8}$ in. (3.175 mm) for all mesh sizes except 1 in. (25.4 mm), and $\pm \frac{1}{16}$ in. (1.5875 mm) for 1-in. (25.4 mm) mesh size.

7.3 The size of mesh shall be determined by measuring the minimum clear distance between the wires forming the parallel sides of the mesh, and calculated as the average of two readings taken at right angles to each other.

8. Size of Wire

8.1 Chain link fabric shall be fabricated from wire diameters as listed in **Table 2**, with a permissible variation from the specified diameter of ± 0.005 in. (0.127 mm).

9. Height of Fabric

9.1 Chain link fabric shall be furnished in the standard heights shown in **Table 2**. The height of fabric shall be the overall dimension from ends of twists or knuckles. Permissible variation from the specified height shall be ± 1 in. (25.4 mm) for $1\frac{3}{4}$ in. (44.45 mm) and 2 in. (50.8 mm) mesh and $\pm \frac{1}{2}$ in. (12.7 mm) for 1 in. (25.4 mm) mesh.

10. Selvage

10.1 Unless otherwise specified by the purchaser, fabrics with 2 in. (50.8 mm) mesh used in heights 60 in. (1524 mm) and under shall be knuckled at both selvages. Fabric of heights 72 in. (1830 mm) and above shall be knuckled at one selvage and twisted at the other.

10.2 The selvages of all fabrics with meshes of less than 2 in. shall be knuckled.

NOTE 2—Use of twisted selvages for fence fabric under 72 in. (1830 mm) in height are not recommended because of consumer safety considerations.

TABLE 1 Typical Diamond Count^{A,B}

Diameter of Wire, in.	Size of Mesh, in.	Height of Fabric, in.									
		36	42	48	60	72	84	96	108	120	144
0.192	2	10½	12½	13½	17½	20½	24½	27½	31½	34½	41½
0.148	2	10½	12½	13½	17½	20½	24½	27½	31½	34½	41½
0.148	1¾							31½	35½	39½	47½
0.148	1	20	23	27	33	39	45	53	61	67	79

^A Other diamond counts are permitted. Refer to 6.2 of this specification.

^B See **Table X1.1** for metric equivalents.