



Standard Guide for Design and Construction of Welded Wire Fence Systems for Security Purposes¹

This standard is issued under the fixed designation F3204; 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 assistance for the site security engineer to select the proper components required to design a site-specific, welded-wire physical security perimeter barrier.

1.2 This standard does not purport to address all of the physical protection security concerns, if any, associated with its use. It is the responsibility of the user of the standard to establish the appropriate design level of physical protection required and determine the applicability of regulatory requirements or limitations.

1.3 Specification **F2453** is to be used in conjunction with this guide.

1.4 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.

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. Some specific hazards statements are given in Section 7 on Hazards.*

2. Referenced Documents

2.1 *ASTM Standards:*²

A121 Specification for Metallic-Coated Carbon Steel Barbed Wire

A307 Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength

F934 Specification for Colors for Polymer-Coated Chain Link Fence Materials

F1043 Specification for Strength and Protective Coatings on

Steel Industrial Fence Framework

F1083 Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures

F1665 Specification for Poly(Vinyl Chloride) (PVC) and Other Conforming Organic Polymer-Coated Steel Barbed Wire Used With Chain-Link Fence

F1910 Specification for Long Barbed Tape Obstacles

F1911 Practice for Installation of Barbed Tape

F2453 Specification for Welded Wire Mesh Fence Fabric (Metallic-Coated or Polymer Coated) for Meshes of 6 in.² [3871 mm²] or Less, in Panels or Rolls, with Uniform Meshes

2.2 *American Society of Civil Engineers Standards:*³

ASCE/SEI 7-10 (or latest edition) Minimum Design Loads for Buildings and Other Structures

3. Terminology

3.1 *Definitions*—Refer to the terminology listed in Specification **F2453**.

4. Classification

4.1 The welded wire mesh selected for security systems is classified in Specification **F2453** in accordance with the following coatings:

4.1.1 *Type 1*, consists of welded wire mesh manufactured from wire zinc-coated prior to being welded into fabric, known as galvanized before welding.

4.1.2 *Type 2*, consists of welded wire mesh manufactured from uncoated wire, the fabric of which is subsequently zinc-coated after fabrication, known as galvanized after welding.

4.1.3 *Type 3*, consists of welded wire mesh manufactured from wire coated with zinc-5 % aluminum-mischmetal alloy (Zn-5Al-MM) before being welded into fabric, known as zinc 5 % aluminum-mischmetal alloy-coated steel before welding.

4.1.4 *Type 4*, consists of welded wire mesh manufactured from wire zinc-coated prior to being welded into fabric, known as galvanized before welding, and subsequently polymer color coated.

¹ This test method is under the jurisdiction of ASTM Committee **F14** on Fences and is the direct responsibility of Subcommittee **F14.50** on High Security Fences and Perimeter Barriers.

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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 American Society of Civil Engineers (ASCE), 1801 Alexander Bell Dr., Reston, VA 20191, <http://www.asce.org>.