
Standard Specification for Metallic-Coated (Carbon) Steel Barbed Wire

AASHTO Designation: M 280-24

Technically Revised: 2024

Editorially Revised: 2024

Technical Subcommittee: 4d, Safety Devices

ASTM Designation: A121-22



**American Association of State Highway and Transportation Officials
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1. SCOPE
- 1.1.

This specification covers metallic-coated steel barbed wire, consisting of a strand of two wires.
- 1.2.

The barbed wire is available with aluminum, zinc, and zinc-5 percent aluminum-mischmetal alloy coatings, with a number of coating weights, in a number of different construction (designs), and in two grades. Not all designs are available in all coating types.
- 1.3.

The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.
- 1.4.

The text of this specification references notes and footnotes that provide explanatory information. These notes and footnotes (excluding those in tables) shall not be considered as requirements of the specification.
- 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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.
- 1.6.

This international standard was developed in accordance with internally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

2. REFERENCED DOCUMENTS
- 2.1.

ASTM Standards:
 - A90/A90M, Standard Test Method for Weight [Mass] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings
 - A428/A428M, Standard Test Method for Weight [Mass] of Coating on Aluminum-Coated Iron or Steel Articles
 - A641/A641M, Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire
 - A700, Standard Guide for Packaging, Marking, and Loading Methods for Steel Products for Shipment
 - A809, Standard Specification for Aluminum-Coated (Aluminized) Carbon Steel Wire
 - A856/A856M, Standard Specification for Zinc-5% Aluminum-Mischmetal Alloy-Coated Carbon Steel Wire

- A902, Standard Terminology Relating to Metallic Coated Steel Products

2.2. *Federal Standard:*

- Fed. Std. 123, Marking for Shipment (Civil Agencies)

2.3. *Military Standards:*

- MIL-STD-129, Marking for Shipment and Storage
- MIL-STD-163, Steel Mill Products Preparation for Shipment and Storage

3. TERMINOLOGY

- 3.1. *Definitions*—For definitions of terms used in this specification, refer to Terminology, ASTM A902.

4. CLASSIFICATION

- 4.1. The barbed wire covered by this specification is classified as described in this section.
- 4.2. *Design Number*—Numbers describing standard sizes and constructions, as listed in Table 1.
- 4.3. *Metallic Coating Type:*
- 4.3.1. *Coating Type A*—Made from aluminum-coated strand wire.
- 4.3.2. *Coating Type Z*—Made from zinc-coated strand wire.
- 4.3.3. *Coating Type ZA*—Made from zinc-5 percent aluminum-mischmetal alloy (Zn-5Al-MM) coated strand wire. See Table 3.
- 4.4. *Metallic Coating Class*—The specified amount of coating (coating weight [mass]) on the strand wire.
- 4.4.1. For coating Type A, see Section 6.3 (only one coating weight for each wire size).
- 4.4.2. For coating Type Z, see Table 2.
- 4.4.3. For coating Type ZA, see Table 3.
- 4.5. *Grades:*
- 4.5.1. *Standard Grade*—Barbs spaced on 4- or 5-in. (102- or 127-mm) centers as indicated in Table 1.
- 4.5.2. *High-Security Grade*—Barbs spaced on 3-in. (76-mm) centers with Coating Type A, Z, or ZA only.
- Note 1**—The design numbers are related to the characteristics of the construction of the barbed wire, with the number groups related, in order, to the steel wire gauge of the strand wires, number of barb points, spacing of barbs, steel wire gauge of the barbs, and a letter indicating the shape of the barbs.