
Standard Specification for Chain-Link Fence

AASHTO Designation: M 181-10 (2019)

Technical Subcommittee: 4d, Safety Devices

Release: Group 2 (June)



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

- 1.1. This specification covers materials used in the construction of fences and gates that comprise (a) chain-link fence fabric and (b) posts, rails, ties, bands, bars, rods and other fittings, and hardware designed to support the fabric in a vertical, taut position.
- 1.2. The values stated in SI units are to be regarded as the standard.

2. REFERENCED DOCUMENTS

2.1. *AASHTO Standards:*

- M 111M/M 111, Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
- M 232M/M 232, Zinc Coating (Hot-Dip) on Iron and Steel Hardware
- T 65M/T 65, Mass [Weight] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings
- T 213M/T 213, Mass [Weight] of Coating on Aluminum-Coated Iron or Steel Articles
- *Guide Specifications for Highway Construction*

2.2. *ASTM Standards:*

- B6, Standard Specification for Zinc
- B26/B26M, Standard Specification for Aluminum-Alloy Sand Castings
- B85/B85M, Standard Specification for Aluminum-Alloy Die Castings
- B108/B108M, Standard Specification for Aluminum-Alloy Permanent Mold Castings
- B117, Standard Practice for Operating Salt Spray (Fog) Apparatus
- B209, Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
- B211, Standard Specification for Aluminum and Aluminum-Alloy Rolled or Cold Finished Bar, Rod, and Wire
- B221, Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
- B429/B429M, Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube
- B750, Standard Specification for GALFAN
- D1535, Standard Practice for Specifying Color by the Munsell System
- D1729, Standard Practice for Visual Appraisal of Colors and Color Differences of Diffusely-Illuminated Opaque Materials

- D2247, Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity
- E8/E8M, Standard Test Methods for Tension Testing of Metallic Materials
- E376, Standard Practice for Measuring Coating Thickness by Magnetic-Field or Eddy-Current (Electromagnetic) Testing Methods
- F467, Standard Specification for Nonferrous Nuts for General Use
- F468, Standard Specification for Nonferrous Bolts, Hex Cap Screws, Socket Head Cap Screws, and Studs for General Use
- F668, Standard Specification for Polyvinyl Chloride (PVC), Polyolefin and Other Polymer-Coated Steel Chain-Link Fence Fabric
- F1043, Standard Specification for Strength and Protective Coatings on Steel Industrial Fence Framework
- F1083, Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures
- F1664, Standard Specification for Poly(Vinyl Chloride) (PVC) and Other Conforming Organic Polymer-Coated Steel Tension Wire Used with Chain-Link Fence
- G152, Standard Practice for Operating Open Flame Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials
- G155, Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Nonmetallic Materials

2.3. *ANSI Standard:*

- H35.2, Dimensional Tolerances for Aluminum Mill Products

3. CLASSIFICATION

- 3.1. Chain-link fabric, posts, rails, ties, bands, bars, rods and other fittings, and hardware covered by this specification shall be composed of the following types of material, as specified:
- *Type I*—Zinc-coated steel,
 - *Type II*—Aluminum-coated steel,
 - *Type III*—Aluminum alloy, and
 - *Type IV*—Polyvinyl Chloride (PVC) and other organic polymer-coated steel.
- 3.1.1. Zinc-5 percent aluminum-mischmetal alloy meeting the requirements of ASTM B750 may be substituted for zinc coating (hot-dipped) at the application rate specified herein for hot-dip zinc coating.
- 3.2. *Metallic-coated steel posts, rails, or gate frames are furnished in two grades as follows:*
- 3.2.1. *Grade 1*—Steel posts, rails, or gate frames may be round or other shapes and shall have a hot-dip zinc interior and exterior coating meeting the requirements of ASTM F1083 and shall have a hot-dip zinc interior and exterior coating as prescribed in this specification.
- 3.2.2. *Grade 2*—Steel posts, rails, or gate frames shall be round pipe or tubing manufactured by electric resistance welding and shall have an exterior coating of hot-dip zinc plus an organic topcoat and a zinc-rich or hot-dip zinc interior coating conforming to the requirements of ASTM F1043 Group IC.
- 3.3. *Type IV fabric is furnished in two classes of coating as follows:*