



Designation: A702 – 22

# Standard Specification for Steel Fence Posts, Hot Wrought<sup>1</sup>

This standard is issued under the fixed designation A702; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

*This standard has been approved for use by agencies of the U.S. Department of Defense.*

## 1. Scope\*

1.1 This specification covers steel fence posts manufactured from hot-wrought sections and intended for use in field and line fencing.

1.2 The posts are available as studded tee and are furnished painted or galvanized, unless otherwise specified.

1.3 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.

1.4 *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:*<sup>2</sup>

- A29/A29M Specification for General Requirements for Steel Bars, Carbon and Alloy, Hot-Wrought
- A123/A123M Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
- A499 Specification for Steel Bars and Shapes, Carbon Rolled from “T” Rails
- A641/A641M Specification for Zinc-Coated (Galvanized) Carbon Steel Wire
- A700 Guide for Packaging, Marking, and Loading Methods for Steel Products for Shipment

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee A01 on Steel, Stainless Steel and Related Alloys and is the direct responsibility of Subcommittee A01.15 on Bars. This standard is a revision of Commercial Standard CS 184-51, Steel Fence Posts—Field Line Type, formerly published by the United States Department of Commerce.

Current edition approved May 1, 2022. Published May 2022. Originally approved in 1974. Last previous edition approved in 2018 as A702-13 (2018). DOI: 10.1520/A0702-22.

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard’s Document Summary page on the ASTM website.

2.2 *Federal Standard:*<sup>3</sup>

FED-STD-123 Marking for Shipments (Civil Agencies)

2.3 *Military Standards:*<sup>3</sup>

MIL-STD-129 Marking for Shipment and Storage

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

## 3. Terminology

3.1 *Definitions:*

3.1.1 *line posts*—posts that support the straight-line body of the fence.

## 4. Ordering Information

4.1 Orders for products under this standard should include the following information:

4.1.1 Quantity (number of pieces) of line posts (it is customary to order line posts in multiples of five of the required length),

4.1.2 Length or lengths required (see 6.2),

4.1.3 Finish: galvanized or painted,

4.1.4 ASTM designation and date of issue,

4.1.5 Anchor plates, if required (see 6.2.4).

4.1.6 Wire fasteners (state weight of zinc coating if other than Class 1) (see 5.5.2).

NOTE 1—A typical ordering description is as follows: 500 line posts; 8 ft long; painted; ASTM A702 dated \_\_\_\_; omit anchor plates.

## 5. Materials and Manufacture

5.1 *Material:*

5.1.1 Line posts shall be fabricated from Steel A as specified in Table 1.

5.1.2 The finished line post shall conform to the tensile properties specified in Table 1.

5.1.3 At the manufacturer’s option, a Brinell or Rockwell B hardness test may be substituted for the tensile requirements in Table 1. In such cases the material shall conform to the Brinell or Rockwell B hardness specified in Table 2.

<sup>3</sup> Available from DLA Document Services, Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, <http://quicksearch.dla.mil/>.

\*A Summary of Changes section appears at the end of this standard

**TABLE 1 Materials for Line Posts**

Steel	Steel Description	Line Posts	
		Yield Point, min, ksi (MPa)	Tensile Strength, min, ksi (MPa)
A	hot-wrought carbon steel or hot-wrought rail steel <sup>A</sup>	50 (345)	80 (550)

<sup>A</sup> Hot-wrought rail steel in accordance with Specification **A499**.

**TABLE 2 Brinell Hardness**

Steel	Steel Description	Brinell Hardness, min	Rockwell B Hardness, min
A	hot-wrought carbon steel or rail steel <sup>A</sup>	156	83

<sup>A</sup> Hot-wrought rail steel in accordance with Specification **A499**.

## 5.2 Line Post Section:

5.2.1 The posts shall be furnished as a studded tee section. The cross section of T posts shall be approximately 1 $\frac{3}{8}$  in. (35 mm) wide, 1 $\frac{3}{8}$  in. deep, and  $\frac{1}{8}$  in. (3.2 mm) thick. Unless otherwise specified by the purchaser, the line post type is at the manufacturer's option.

5.2.2 Dimensions may vary slightly in individual design in maintaining the control weight per foot.

5.3 *Wire Attachments*—Line posts shall have corrugations, knobs, notches, holes, or studs so placed and formed as to engage a substantial number of fence line wires in proper positions.

## 5.4 Anchor Plates:

5.4.1 Each line post shall be manufactured with an anchor plate, unless otherwise specified. The anchor plate shall be made from carbon steel and shall be swaged or riveted to the post in such a manner as to prevent displacement when the posts are driven.

5.4.2 When specified, line posts may be furnished without anchor plates.

## 5.5 Wire Fasteners:

5.5.1 Unless otherwise specified by the purchaser, each line post shall be provided with not less than five suitable fasteners for attaching fence wire to the posts.

5.5.2 The fasteners shall be formed from zinc-coated C1010 grade steel wire 0.120 in. (3.05 mm) diameter (minimum tensile strength of 65 (448)) and zinc coated in accordance with Specification **A641/A641M**. Class 1 coating unless otherwise specified by purchaser.

## 6. Dimensions, Mass and Permissible Variations

### 6.1 Nominal Weights and Tolerances:

6.1.1 *Nominal Weight*—Prior to fabrication by punching, drilling, attaching anchors, or finish coating, the line post sections shall have a nominal weight of 1.33 lb/ft of the length.

6.1.2 The weight of line posts plus anchor plates (if specified), prior to fabrication, drilling, or finish coating shall not vary from nominal weights specified in **Table 3** by more than  $\pm 5\%$ . Weight shall be determined in lots of five line posts. The weight of the line post shall be determined by

**TABLE 3 Nominal Weights of (Raw) Line Posts ( $\pm 5\%$ )**

Post Length	5 Post Weight <sup>A</sup>			
	ft	m	lb	kg
5	1.52		36.60	16.60
5 $\frac{1}{2}$	1.68		39.95	18.05
6	1.83		43.25	19.60
6 $\frac{1}{2}$	1.98		46.60	21.10
7	2.13		49.90	22.65
7 $\frac{1}{2}$	2.28		53.20	24.15
8	2.44		56.55	25.65
9	2.74		63.20	28.70
10	3.05		69.85	31.70

<sup>A</sup> Includes weight of anchor plate.

weighing five (5) together with anchor plate. The nominal weight of each post will be determined by the average of the 5 post weighed as specified in **Table 3**.

### 6.2 Standard Lengths and Tolerances:

6.2.1 Line posts shall be furnished in standard lengths of 5 ft to 10 ft (1525 mm to 3050 mm) inclusive, as specified by the purchaser. Standard length increments are shown in **Table 3**.

6.2.2 The length of line posts shall not vary from that specified more than  $-1.0$  in. ( $-25$  mm) or  $+2$  in. ( $+50$  mm).

6.2.3 The placement of the anchor plate shall be nominally 16 in. (400 mm) from the bottom of the post to the uppermost portion of the anchor plate and shall not vary by more than  $\pm 3$  in. ( $\pm 76$  mm).

6.2.4 Anchor plates shall be tapered to facilitate driving, and shall have minimum area of 18 in. (11 600 mm) and shall weigh 0.67 lb (0.3 kg)  $\pm 5\%$ .

## 7. Finish and Appearance

7.1 Line posts shall be furnished painted or galvanized as specified by the purchaser.

7.2 Painted post shall be coated with one or more coats of weather resistant enamel (air dry or baked).

7.3 When specified, galvanized post shall be in accordance with Specification **A123/A123M**, or as directed by the purchaser.

## 8. General Requirements

8.1 Material furnished under this specification shall conform to the general requirements of the current edition of Specification **A29/A29M** unless otherwise provided herein.

## 9. Sampling

9.1 One item from each lot shall be selected at random for testing. A lot shall consist of all posts of the same length offered for delivery at the same time.

9.2 The post selected in accordance with **7.1** shall be tested for tensile strength or hardness, and zinc coating, if applicable.

9.3 Five post per lot shall be selected at random and inspected for length, and permissible section dimensions (visual inspection for excessive bow, camber, twist or other injurious surface defects or coating imperfections may be considered cause for rejection of individual post).

## 10. Rejection and Retests

10.1 Should two (2) or more post fail to meet any of the 9.3 requirements, the lot size shall become 400. Five (5) more post shall be selected at random and inspected for compliance to the requirements of 9.3 causing the initial failure. If two (2) or more post fail, the entire lot shall be rejected.

## 11. Inspection

11.1 Unless otherwise specified in the purchase order or contract, the manufacturer is responsible for the performance of all inspection and test requirements specified in this specification. The purchaser shall have the right to perform any of the inspection and tests set forth in this specification when such inspection and tests are deemed necessary to ensure that the material conforms to prescribed requirements.

## 12. Rejection and Rehearing

12.1 Material that fails to conform to the requirements of this specification may be rejected. Rejection should be reported to the producer or supplier promptly and in writing. In case of dissatisfaction with the results of the test, the producer or supplier may make claim for a rehearing.

## 13. Certification

13.1 When specified in the purchase order or contract, a producer's or supplier's certification shall be furnished to the purchaser that the material was manufactured in accordance with this specification and has been found to meet the requirements.

## 14. Packaging

14.1 Galvanized line post shall be loose stacked. Painted line post in lengths 5 ft through 8 ft shall be bound in bundles of 5 post, and by agreement with the purchaser, may be supplied in master bundles containing up to 250 post.

14.2 Orders are customarily on piece count rather than on weight of posts. The nominal weights establish the basis for weight tolerance and transportation data (see Table 3 weights).

## 15. Packaging, Marking, and Loading for Shipment

15.1 Unless otherwise specified, packaging, marking, and loading for shipment shall be in accordance with Guide A700.

15.2 When specified in the contract or order, and for direct procurement by or direct shipment to the U.S. Government, when Level A is specified, preservation, packaging, and packing shall be in accordance with Level A requirements of MIL-STD-163.

15.3 When specified in the contract or order, and for direct procurement by or direct shipment to the U.S. Government, marking for shipment, in addition to requirements specified in the contract or order, shall be in accordance with MIL-STD-129 for U.S. Military agencies and in accordance with FED-STD-123 for U.S. Government civil agencies.

## 16. Keywords

16.1 hot-wrought steel bars; steel bars

## SUMMARY OF CHANGES

Committee A01 has identified the location of selected changes to this standard since the last issue (A702-13 (2018)) that may impact the use of this standard. (Approved May 1, 2022.)

(1) In Section 7, language was added to allow the purchaser to request and agree to an alternate galvanizing method.

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