



Designation: A108 – 24

Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished¹

This standard is issued under the fixed designation A108; 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 reappraisal. A superscript epsilon (ε) indicates an editorial change since the last revision or reappraisal.

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

1. Scope

1.1 This specification covers cold-finished carbon and alloy steel bars produced in straight length and coil. Cold-finished bars are suitable for heat treatment, for machining into components, or for use in the as-finished condition as shafting, or in constructional applications, or for other similar purposes (**Note 1**). Grades of steel are identified by grade numbers or by chemical composition.

NOTE 1—A guide for the selection of steel bars is contained in Practice A400.

1.2 Some end uses may require one or more of the available designations shown under Supplementary Requirements. Supplementary requirements shall apply only when specified individually by the purchaser.

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:²

- A29/A29M Specification for General Requirements for Steel Bars, Carbon and Alloy, Hot-Wrought
- A304 Specification for Carbon and Alloy Steel Bars Subject to End-Quench Hardenability Requirements
- A322 Specification for Steel Bars, Alloy, Standard Grades

¹ 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.

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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.

A370 Test Methods and Definitions for Mechanical Testing of Steel Products

A400 Practice for Steel Bars, Selection Guide, Composition, and Mechanical Properties

A510/A510M Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel, and Alloy Steel

A576 Specification for Steel Bars, Carbon, Hot-Wrought, Special Quality

2.2 Other Documents:

SAE Handbook and SAE J1086 Recommended Practice for Numbering Metals and Alloys (UNS)³

AIST Bar Steels: Steel Product Manual⁴

3. Terminology

3.1 Definitions:

3.1.1 *product tolerance levels, n*—cold-finished steel bar is produced with up to three (3) increasingly tight tolerance levels, for the individual product characteristics, dependent on the method of manufacture necessary to meet purchaser-ordered specification requirements (Product Tolerance Level 1 is selected, unless otherwise specified by the purchaser).

4. Ordering Information

4.1 Orders for cold-finished steel bar to this specification should include the following items to adequately describe the material:

4.1.1 Name of material (see 6.1) and the cold finish manufacturing methods (see 6.2),

4.1.2 ASTM specification number and date of issue,

4.1.3 Chemical composition, or steel grade designation or limits as defined in Specification A29/A29M,

4.1.4 Silicon level, if required,

4.1.5 Additional machinability-enhancing elements (see Footnote F to Table 1 of Specification A29/A29M),

4.1.6 Cold finish steel bar surface conditions (surface tolerances listed in Table A1.7, Table A1.8, and Table A1.9),

³ Available from SAE International (SAE), 400 Commonwealth Dr., Warrendale, PA 15096, <http://www.sae.org>.

⁴ Available from Association for Iron & Steel Technology (AIST), 180 Thorn Hill Road, Warrendale, PA 15086–7528, <http://www.aist.org>