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Standard Specification for Steel Bars, Carbon, Cold-Finished, Standard Quality[1]

This standard is issued under the fixed designation A 108; 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.

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

1. Scope

1.1 This specification covers standard quality cold-finished carbon steel bars produced to chemical compositions. Standard quality 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 A 400.

1.2 Material furnished under this specification shall conform to the applicable requirements of the current edition of Specification A 29/A 29M.

1.3 Some end uses may require material superior to standard quality involving one or more of the available designations shown under Supplementary Requirements. Supplementary requirements shall apply only when specified individually by the purchaser.

2. Referenced Documents

2.1 *ASTM Standards:*

A 29/A 29M Specification for Steel Bars, Carbon and Alloy, Hot-Wrought and Cold-Finished, General Requirements for[2]

A 370 Test Methods and Definitions for Mechanical Testing of Steel Products[3]

A 400 Practice for Steel Bars, Selection Guide, Composition, and Mechanical Properties[2]

A 510 Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel[3]

A 576 Specification for Steel Bars, Carbon, Hot-Wrought, Special Quality[2]

E 45 Test Methods for Determining the Inclusion Content of Steel[4]

E 527 Practice for Numbering Metals and Alloys (UNS)[5]

2.2 *Other Documents:*

SAE J1086 Recommended Practice for Numbering Metals and Alloys (UNS)[6]

SAE Handbook[6]

Federal Standard 66 C Steel, Chemical Composition and Hardenability[7]

AISI Steel Product Manual for Cold Finished Bars[8]

3. Terminology

3.1 Definition:

3.1.1 *standard quality*—cold-finished carbon steel bars produced from special quality hot-wrought carbon steel bars or rods of equivalent quality.

3.1.1.1 *Discussion*—Bars of standard quality are commonly produced in standard chemical grade compositions or to mechanical property specifications and are subject to product analysis tolerances.

3.1.1.2 *Discussion*—The available sections and sizes are covered by Specification A 29/A 29M. The bars are normally produced in cut lengths but some small sizes are supplied in coils. The producer should be consulted regarding sections and sizes available in coils.

4. Ordering Information

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

4.1.1 Name of material,

4.1.2 ASTM specification number and date of issue,

4.1.3 Chemical composition grade designation or limits,

4.1.4 Silicon, if required,

4.1.5 Additional machinability-enhancing elements (see Footnote D to Table 1),

4.1.6 Condition,

4.1.7 Quality,

4.1.8 Shape (round, hex, square, etc.), size, and length,

[1] This specification is under the jurisdiction of ASTM Committee A-1 on Steel, Stainless Steel, and Related Alloys and is the direct responsibility of Subcommittee A01.15 on Bars.

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[2] *Annual Book of ASTM Standards*, Vol 01.05.

[3] *Annual Book of ASTM Standards*, Vol 01.03.

[4] *Annual Book of ASTM Standards*, Vol 03.01.

[5] *Annual Book of ASTM Standards*, Vol 01.01.

[6] Available from Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096.

[7] Available from the Standardization Documents Order Desk, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094 Attn: NPODS.

[8] Available from the American Iron and Steel Institute, 150 East 42nd St., New York, NY 10017.

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