



Designation: A36/A36M – 14 A36/A36M – 19

Standard Specification for Carbon Structural Steel¹

This standard is issued under the fixed designation A36/A36M; 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 specification² covers carbon steel shapes, plates, and bars of structural quality for use in riveted, bolted, or welded construction of bridges and buildings, and for general structural purposes.

1.2 Supplementary requirements are provided for use where additional testing or additional restrictions are required by the purchaser. Such requirements apply only when specified in the purchase order.

1.3 When the steel is to be welded, a welding procedure suitable for the grade of steel and intended use or service is to be utilized. See Appendix X3 of Specification A6/A6M for information on weldability.

~~1.4 The values stated in either inch-pound units or SI units are to be regarded separately as standard. Within the text, the SI units are shown in brackets. The values stated in each system are not exact equivalents; therefore, each system is to be used independently of the other, without combining values in any way.~~

1.4 The text of this specification contains notes or footnotes, or both, that provide explanatory material. Such notes and footnotes, excluding those in tables and figures, do not contain any mandatory requirements.

1.5 For structural products produced from coil and furnished without heat treatment or with stress relieving only, the additional requirements, including additional testing requirements and the reporting of additional test results, of Specification A6/A6M apply.

~~1.6 The values stated in either inch-pound units or SI units are to be regarded separately as standard. Within the text, the SI units are shown in brackets. The values stated in each system are not exact equivalents; therefore, each system is to be used independently of the other, without combining values in any way.~~

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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 A01.02 on Structural Steel for Bridges, Buildings, Rolling Stock and Ships.

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² For ASME Boiler and Pressure Vessel Code Applications, see related Specifications SA-36 in Section II of that Code.

TABLE 1 Appurtenant Material Specifications

NOTE 1—The specifier should be satisfied of the suitability of these materials for the intended application. Chemical composition or mechanical properties, or both, may be different than specified in A36/A36M.

Material	ASTM Designation
Steel rivets	A502, Grade 1
Bolts	A307, Grade A or F568M, Class 4.6
High-strength bolts	A325 or A325M
High-strength bolts	F3125/F3125M, Grade A325 or A325M
Steel nuts	A563 or A563M
Cast steel	A27/A27M, Grade 65–35 [450–240]
Forgings (carbon steel)	A668/A668M, Class D
Hot-rolled sheets and strip	A1011/A1011M, SS Grade 36 [250] Type 1 or Type 2 or A1018/A1018M, SS Grade 36 [250] Type 1 or Type 2
Cold-formed tubing	A500, Grade B
Hot-formed tubing	A501
Anchor bolts	F1554, Grade 36

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

1.7 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:³

A6/A6M Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling

A27/A27M Specification for Steel Castings, Carbon, for General Application

A307 Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength

~~**A325** Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength (Withdrawn 2016)⁴~~

~~**A325M** Specification for Structural Bolts, Steel, Heat Treated 830 MPa Minimum Tensile Strength (Metric) (Withdrawn 2016)⁴~~

A500 Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes

A501 Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing

A502 Specification for Rivets, Steel, Structural

A563 Specification for Carbon and Alloy Steel Nuts

A563M Specification for Carbon and Alloy Steel Nuts (Metric)

A668/A668M Specification for Steel Forgings, Carbon and Alloy, for General Industrial Use

A1011/A1011M Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength

A1018/A1018M Specification for Steel, Sheet and Strip, Heavy-Thickness Coils, Hot-Rolled, Carbon, Commercial, Drawing, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength

F568M Specification for Carbon and Alloy Steel Externally Threaded Metric Fasteners (Metric) (Withdrawn 2012)⁴

F1554 Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength

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³ 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.

⁴ The last approved version of this historical standard is referenced on www.astm.org.