



Designation: A 656/A 656M – 00a

Standard Specification for Hot-Rolled Structural Steel, High-Strength Low-Alloy Plate with Improved Formability¹

This standard is issued under the fixed designation A 656/A 656M; 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.

1. Scope

1.1 This specification covers high-strength low-alloy, hot rolled structural steel plate for use in truck frames, brackets, crane booms, rail cars, and similar applications. Steels that conform to this specification offer improved formability. These steels are normally furnished as rolled. The product is furnished in two types and four strength grades as agreed upon between the producer and purchaser. These types and strength level grades are shown in the tables.

1.2 The maximum thickness of plates shall be as follows:

Grade	Plate Thickness, max	
	in. [mm]	
50	2	[50]
60	1½	[40]
70	1	[25]
80	¾	[20]

1.3 The values stated in either inch-pound units or SI units are to be regarded 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 must be used independently of the other. Combining values from the two systems may result in nonconformance with this specification. See Appendix X3 of Specification A 6/A 6M for information on weldability.

1.4 For plate produced from coil, the additional requirements, including additional testing requirements and the reporting of additional test results, of Specification A 6/A 6M apply.

2. Referenced Documents

2.1 ASTM Standards:

A 6/A 6M Specification for General Requirements for

Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling²

3. Materials and Manufacture

3.1 The steel shall be made to fine grain practice.

3.1.1 Coiled product is excluded from qualification to this specification until it is decoiled, leveled and cut to length. Plate produced from coil means plate that have been cut to individual lengths from a coiled product and are furnished without heat treatment. The processor decoils, levels, cuts to length, and marks the product. The processor is responsible for performing and certifying all tests, examinations, repairs, inspections, or operations not intended to affect the properties of the material. For plate produced from coils, two test results shall be reported for each qualifying coil.

NOTE 1—Additional requirements regarding plate produced from coil are described in Specification A 6/A 6M.

4. Chemical Composition

4.1 Heat or cast analysis shall conform to the chemical requirements listed in Table 1. Depending on thickness, grade, and intended application, variations in the chemical composition might be used within the limits of the type specified in Table 1. Where it is of particular importance, the producer should be consulted for specific chemical composition.

4.2 *Product Analysis*—If a product analysis is made, the material shall conform to the requirements of Table 1 subject to the product analysis tolerances of Specification A 6/A 6M.

4.3 When steel is to be welded, it is presupposed that a welding procedure suitable for the grade of steel and intended use or service will be utilized.

4.4 Unless specifically ordered, the type is at the discretion of the producer.

5. Tension Test

5.1 The material as represented by the test specimens shall conform to the requirements listed in Table 2.

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 *Annual Book of ASTM Standards*, Vol 01.04.