



Designation: A 285/A285M – 01

Standard Specification for Pressure Vessel Plates, Carbon Steel, Low- and Intermediate-Tensile Strength¹

This standard is issued under the fixed designation A 285/A285M; 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 specification² covers carbon steel plates of low- and intermediate-tensile strengths which may be made by killed, semi-killed, capped, or rimmed steel practices at the producer's option. These plates are intended for fusion-welded pressure vessels.

1.2 Plates under this specification are available in three grades having different strength levels as follows:

Grade	Tensile Strength, ksi [MPa]
A	45–65 [310–450]
B	50–70 [345–485]
C	55–75 [380–515]

1.3 The maximum thickness of plates under this specification, for reasons of internal soundness, is limited to a maximum thickness of 2 in. [50 mm] for all grades.

NOTE 1—For killed carbon steels only refer to the following ASTM specifications:³

A 299/A 299M Pressure Vessel Plates, Carbon Steel, Manganese-Silicon.

A 515/A 515M Pressure Vessel Plates, Carbon Steel, for Intermediate- and Higher-Temperature Service.

A 516/A 516M Pressure Vessel Plates, Carbon Steel, for Moderate- and Lower-Temperature Service.

1.4 For plates produced from coil, the additional requirements, including additional testing requirements and the reporting of additional test results, of Specification A 20/A 20M apply.

1.5 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 must be used independently of the other. Combining values from the two systems may result in nonconformance with the specification.

2. Referenced Documents

2.1 ASTM Standards:

A 20/A 20M Specification for General Requirements for Steel Plates for Pressure Vessels³

3. General Requirements and Ordering Information

3.1 Material supplied to this material specification shall conform to Specification A 20/A 20M. These requirements outline the testing and retesting methods and procedures, permissible variations in dimensions and mass, quality and repair of defects, marking, loading, etc.

3.2 Specification A 20/A 20M also establishes the rules for the ordering information that should be complied with when purchasing material to this specification.

3.3 In addition to the basic requirements of this specification, certain supplementary requirements are available when additional control testing or examination is required to meet end use requirements.

3.4 The purchaser is referred to the listed supplementary requirements in this specification and to the detailed requirements in Specification A 20/A 20M.

3.5 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 has been cut to individual lengths from a coiled product and is furnished without heat treatment. The processor decoils, levels, cuts to length, and marks the product. Except as allowed by Section 6 in Specification A 20/A 20M, the processor is responsible for performing and certifying all tests, examinations, repairs, inspections, and operations not intended to affect the properties of the material. For plate produced from coils, the results of the tests performed shall be reported for each qualifying coil. See Note 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 A01.11 on Steel Plates for Boilers and Pressure Vessels.

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² For ASME Boiler and Pressure Vessel Code applications, see related Specification SA-285/SA-285M in Section II of that Code.

³ *Annual Book of ASTM Standards*, Vol 01.04.