



Standard Specification for Pressure Vessel Plates, Alloy Steel, Nickel¹

This standard is issued under the fixed designation A203/A203M; 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.

^{ε1} NOTE—Editorial corrections were made to the Supplementary Requirements section in April 2008.

1. Scope

- 1.1 This specification² covers nickel-alloy steel plates intended primarily for welded pressure vessels.
 1.2 Plates under this specification are available with four strength levels and two nickel compositions as follows:

Grade	Nominal Nickel Content %	Yield Strength, min, ksi [MPa]	Tensile Strength, min, ksi [MPa]
A	2.25	37 [255]	65 [450]
B	2.25	40 [275]	70 [485]
D	3.50	37 [255]	65 [450]
E	3.50	40 [275]	70 [485]
F	3.50		
2 in. [50 mm] and under		55 [380]	80 [550] cccc
Over 2 in. [50 mm]		50 [345]	75 [515]

1.3 The maximum thickness of plates is limited only by the capacity of the composition to meet the specified mechanical property requirements. However, current practice normally limits the maximum thickness of plates furnished under this specification as follows:

Grade	Maximum Thickness, in. [mm]
A	6 [150]
B	6 [150]
D	4 [100]
E	4 [100]
F	4 [100]

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

2. Referenced Documents

- 2.1 *ASTM Standards*:³
 A20/A20M Specification for General Requirements for Steel Plates for Pressure Vessels
 A435/A435M Specification for Straight-Beam Ultrasonic Examination of Steel Plates
 A577/A577M Specification for Ultrasonic Angle-Beam Examination of Steel Plates
 A578/A578M Specification for Straight-Beam Ultrasonic Examination of Rolled Steel Plates for Special Applications

3. General Requirements and Ordering Information

3.1 Material supplied to this material specification shall conform to Specification ~~A 20/A 20M~~A20/A20M. These requirements outline the testing and retesting methods and procedures, permissible variations in dimensions and mass, quality and repair of imperfections, marking, loading, etc.

3.2 Specification ~~A 20/A 20M~~

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.

Current edition approved Nov. 1, 2007. Published March 2008. Originally approved in 1937. Last previous edition approved in 2003 as A203/A203M – 97 (2003). DOI: 10.1520/A0203_A0203M-97R07E01.

² For ASME Boiler and Pressure Vessel Code applications, see related Specification SA-203/SA-203M in Section II of that Code.

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.