Designation: A 20/A20M – 01b

Standard Specification for General Requirements for Steel Plates for Pressure Vessels[1]

This standard is issued under the fixed designation A 20/A20M; 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[2] covers a group of common requirements which, unless otherwise specified in the individual material specification, shall apply to rolled steel plates for pressure vessels under each of the following specifications issued by ASTM:

Title of Specification	ASTM Designation[3]
Pressure Vessel Plates, Alloy Steel, Chromium-Manganese Silicon	A 202/A 202M
Pressure Vessel Plates, Alloy Steel, Nickel	A 203/A 203M
Pressure Vessel Plates, Alloy Steel, Molybdenum	A 204/A 204M
Pressure Vessel Plates, Alloy Steel, Manganese-Vanadium	A 225/A 225M
Pressure Vessel Plates, Carbon Steel, Low- and Intermediate-Tensile Strength	A 285/A 285M
Pressure Vessel Plates, Carbon Steel, Manganese-Silicon	A 299/A 299M
Pressure Vessel Plates, Alloy Steel, Manganese-Molybdenum and Manganese-Molybdenum-Nickel	A 302/A 302M
Pressure Vessel Plates, Alloy Steel, 9 Percent Nickel Double-Normalized and Tempered	A 353/A 353M
Pressure Vessel Plates, Alloy Steel, Chromium-Molybdenum	A 387/A 387M
Pressure Vessel Plates, Carbon Steel, High Strength Manganese	A 455/A 455M
Pressure Vessel Plates, Carbon Steel, for Intermediate- and Higher-Temperature Service	A 515/A 515M
Pressure Vessel Plates, Carbon Steel, Moderate- and Lower-Temperature Service	A 516/A 516M
Pressure Vessel Plates, Alloy Steel, High-Strength, Quenched and Tempered	A 517/A 517M
Pressure Vessel Plates, Alloy Steel, Quenched and Tempered Manganese-Molybdenum and Manganese-Molybdenum-Nickel	A 533/A 533M
Pressure Vessel Plates, Heat-Treated, Carbon-Manganese-Silicon Steel	A 537/A 537M
Pressure Vessel Plates, Alloy Steel, Quenched and Tempered Chromium-Molybdenum	A 542/A 542M
Pressure Vessel Plates, Alloy Steel, Quenched and Tempered Nickel-Chromium-Molybdenum	A 543/A 543M
Pressure Vessel Plates, Alloy Steel, Quenched and Tempered 8 and 9 Percent Nickel	A 553/A 553M
Pressure Vessel Plates, Carbon Steel, Manganese-Titanium for Glass or Diffused Metallic Coatings	A 562/A 562M
Pressure Vessel Plates, Carbon Steel, High Strength, for Moderate and Lower Temperature Service	A 612/A 612M
Pressure Vessel Plates, Five Percent Nickel Alloy Steel, Specially Heat Treated	A 645/A 645M
Pressure Vessel Plates, Carbon-Manganese, for Moderate and Lower Temperature Service	A 662/A 662M
Pressure Vessel Plates, Carbon Steel, Quenched and Tempered, for Welded Layered Pressure Vessels	A 724/A 724M
Pressure Vessel Plates, Alloy Steel and High-Strength Low-Alloy Steel, Quenched and Tempered	A 734/A 734M
Pressure Vessel Plates, Low-Carbon Manganese-Molybdenum-Columbium Alloy Steel, for Moderate and Lower Temperature Service	A 735/A 735M
Pressure Vessel Plates, Low-Carbon Age-Hardening Nickel-Copper-Chromium-Molybdenum-Columbium Alloy Steel	A 736/A 736M
Pressure Vessel Plates, High-Strength Low-Alloy Steel	A 737/A 737M
Pressure Vessel Plates, Heat-Treated, Carbon-Manganese-Silicon Steel, for Moderate and Lower Temperature Service	A 738/A 738M
Pressure-Vessel Plates, Quenched and Tempered, Manganese-Chromium-Molybdenum-Silicon-Zirconium Alloy Steel	A 782/A 782M
Pressure Vessel Plates, Alloy Steel, Chromium-Molybdenum-Vanadium	A 832/A 832M
Pressure Vessel Plates, Produced by the Thermo-Mechanical Control Process (TMCP)	A 841/A 841M
Pressure Vessel Plates, 9 % Nickel Alloy, Produced by the Direct-Quenching Process	A 844/A 844M

1.1.1 This specification also covers a group of supplementary requirements which are applicable to several of the above specifications as indicated therein. These are provided for use when additional testing or inspection is desired and apply only when specified individually by the purchaser in the order.

1.2 Appendix X1 describes the production and some of the characteristics of coiled product from which pressure vessel plates may be produced.

1.3 Appendix X2 provides information on the variability of tensile properties in plates for pressure vessels.

1.4 Appendix X3 provides information on the variability of Charpy-V-Notch impact test properties in plates for pressure vessels.

1.5 Appendix X4 provides information on cold bending of plates including suggested minimum inside radii for cold bending.

1.6 These materials are intended to be suitable for fusion welding. When the 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.

1.7 In case of any conflict in requirements, the requirements

[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-20/SA-20M in Section II of that Code.

[3] These designations refer to the latest issue of the respective specification which appears in the *Annual Book of ASTM Standards*, Vol 01.04.

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