



**Designation: A 202/A 202M – 93 (Reapproved 1999)**

## **Standard Specification for Pressure Vessel Plates, Alloy Steel, Chromium-Manganese- Silicon<sup>1</sup>**

This standard is issued under the fixed designation A 202/A 202M; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### **1. Scope**

1.1 This specification<sup>2</sup> covers chromium-manganese-silicon alloy steel plates, intended particularly for welded boilers and other pressure vessels.

1.2 Material under this specification is available in two grades having strength levels as follows:

Grade	Tensile Strength ksi [MPa]
A	75–95 [515–655]
B	85–110 [585–760]

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 to 2 in. [50 mm].

1.4 Grade A is suitable for rivets and when so used the bars shall be subject to the requirements for rolled bars specified in Specification A 31, except for the chemical and mechanical requirements.

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 this specification.

### **2. Referenced Documents**

#### *2.1 ASTM Standards:*

A 20/A 20M Specification for General Requirements for Steel Plates for Pressure Vessels<sup>3</sup>

A 31 Specification for Steel Rivets and Bars for Rivets, Pressure Vessels<sup>4</sup>

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee A-1 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 June 15, 1993. Published August 1993. Originally published as A 202 – 37 T. Last previous edition A 202/A 202M – 90.

<sup>2</sup> For ASME Boiler and Pressure Vessel Code applications, see related Specification SA-202/SA-202M in Section II of that Code.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 01.04.

<sup>4</sup> *Annual Book of ASTM Standards*, Vol 15.08.

A 435/A 435M Specification for Straight-Beam Ultrasonic Examination of Steel Plates<sup>3</sup>

A 577/A 577M Specification for Ultrasonic Angle-Beam Examination of Steel Plates<sup>3</sup>

A 578/A 578M Specification for Straight-Beam Ultrasonic Examination of Plain and Clad Steel Plates for Special Applications<sup>3</sup>

### **3. General Requirements and Ordering Information**

3.1 Material supplied to this 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 basis of purchase 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. These include:

3.3.1 Vacuum treatment,

3.3.2 Additional or special tension testing,

3.3.3 Impact testing, and

3.3.4 Nondestructive examination.

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 If the requirements of this specification are in conflict with the requirements of Specification A 20/A 20M, the requirements of this specification shall prevail.

### **4. Manufacture**

4.1 *Steelmaking Practice*—The steel shall be killed.

### **5. Heat Treatment**

5.1 Plates are normally supplied in the as-rolled condition. The plates may be ordered normalized or stress relieved, or both.