



Designation: ~~A 1010/A 1010M-01~~^{ε1} Designation: A 1010/A1010M – 01 (Reapproved 2009)

Standard Specification for Higher-Strength Martensitic Stainless Steel Plate, Sheet, and Strip¹

This standard is issued under the fixed designation A1010/A1010M; 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. ~~ε¹Note—Editorial changes were made in August 2001.~~

1. Scope

1.1 This specification covers martensitic stainless steels for various structural, architectural, pressure vessel, and heat-resisting applications. The mechanical properties of these steels are customarily, but not necessarily, developed by a suitable heat treatment generally referred to as tempering.

1.2 Steel products under this specification are available in two grades:

Grade	Yield Strength, min, ksi [MPa]
40 [275]	40 [275]
50 [350]	50 [350]

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 1 in. [25 mm].

~~1.4 The values stated in inch-pound or SI units are to be regarded separately as the standard. Within the text, 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. The inch-pound units shall apply unless the “M” designation of this specification is specified in the purchase order.~~

1.4 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

2. Referenced Documents

2.1 *ASTM Standards:*²

A480/A480M [Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip](#)

A673/A673M [Specification for Sampling Procedure for Impact Testing of Structural Steel](#)

E527 [Practice for Numbering Metals and Alloys \(UNS\)](#) Practice for Numbering Metals and Alloys in the Unified Numbering System (UNS)

2.2 *Other Document:*

SAE J1086 Recommended Practice for Numbering Metals and Alloys³

3. General Requirements

3.1 The following requirements for orders for material furnished under this specification shall conform to the applicable requirements of the current edition of Specification ~~A 480/A 480M~~. A480/A480M.

3.1.1 Terminology,

3.1.2 Ordering Information,

3.1.3 Process,

3.1.4 Heat Analysis,

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 A01.17 on Flat-Rolled and Wrought Stainless Steel.

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² 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*, Vol 01-03, volume information, refer to the standard's Document Summary page on the ASTM website.

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

³ Available from Society of Automotive Engineers (SAE), 400 Commonwealth Dr., Warrendale, PA 15096-0001, <http://www.sae.org>.