



Standard Specification for Stainless Chromium-Nickel Steel-Clad Plate¹

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This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope*

1.1 This specification² covers plate of a carbon steel or low-alloy steel base to which is integrally and continuously bonded on one or both sides a layer of stainless chromium-nickel steel. The material is generally intended for pressure vessel use.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

2. Referenced Documents

2.1 ASTM Standards:³

A6/A6M Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling

A20/A20M Specification for General Requirements for Steel Plates for Pressure Vessels

A240/A240M Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications

A370 Test Methods and Definitions for Mechanical Testing of Steel Products

A480/A480M Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip

A578/A578M Specification for Straight-Beam Ultrasonic Examination of Rolled Steel Plates for Special Applications

A751 Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products

2.2 Other Standards:

ASME Boiler and Pressure Vessel Code, Section IX⁴

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 This material is considered as single-clad or double-clad corrosion-resisting chromium-nickel steel plate, depending on whether one or both sides are covered.

3.1.2 *alloy cladding*—the stainless chromium-nickel steel component of the composite plate.

3.1.3 *base metal (backing steel)*—component to which the alloy cladding is applied, usually the greater percentage of the composite plate and usually consisting of carbon or low-alloy steel.

3.1.4 *integrally and continuously bonded*—the process by which the alloy cladding and base metal are brought together to form a metallurgical bond at essentially the entire interface of the two metals by means other than those processes that do not produce a homogeneous composite plate.

4. Ordering Information

4.1 It is the responsibility of the purchaser to specify all requirements that are necessary for material ordered under this specification. Such requirements may include, but are not limited to, the following:

4.1.1 Quantity (weight or number of pieces).

4.1.2 Cladding alloy specification, (UNS or ASTM Specification **A240/A240M** and whether cladding is for corrosion allowance only),

4.1.3 Base metal specification.

4.1.4 Bond integrity Class (1, 3, or 5).

4.1.5 Dimensions including the minimum or nominal thickness of the cladding alloy, and the backing steel, or of the total composite plate and if more or less restrictive thickness tolerances apply.

4.1.6 Product analysis, if required (see Section 10). Specify whether applicable to the cladding alloy, backing steel or both.

4.1.7 Mechanical properties, including shear test if required.

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-264 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.

⁴ Available from American Society of Mechanical Engineers (ASME), ASME International Headquarters, Two Park Ave., New York, NY 10016-5990, <http://www.asme.org>.

*A Summary of Changes section appears at the end of this standard