



Designation: B625 – 21

Standard Specification for Ni-Fe-Cr-Mo-Cu-N Low-Carbon Alloy, Ni-Fe-Cr-Si Alloy, Cr-Ni-Fe-N Low-Carbon Alloy, Fe-Ni-Cr-Mo-Cu-N Alloy, and Ni-Fe-Cr-Mo-N Alloy Plate, Sheet, and Strip¹

This standard is issued under the fixed designation B625; 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.

1. Scope*

1.1 This specification covers nickel-iron-chromium-molybdenum-copper-nitrogen low-carbon alloy, nickel-iron-chromium-silicon alloy, chromium-nickel-iron-nitrogen low-carbon alloy, iron-nickel-chromium-molybdenum-copper-nitrogen alloy, and nickel-iron-chromium-molybdenum-nitrogen alloy plate, sheet, and strip in the annealed temper.

1.2 ASTM International has adopted definitions whereby some grades, such as UNS N08904, previously in this specification were recognized as stainless steels, because those grades have iron as the largest element by mass percent. Such grades are under the oversight of ASTM Committee A01 and its subcommittees. The products of N08904 previously covered in this specification are now covered by Specifications [A240/A240M](#) and [A480/A480M](#).

1.3 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.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to become familiar with all hazards including those identified in the appropriate Safety Data Sheet (SDS) for this product/material as provided by the manufacturer, to establish appropriate safety, health, and environmental practices, and determine the applicability of regulatory limitations prior to use.*

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

¹ This specification is under the jurisdiction of ASTM Committee B02 on Nonferrous Metals and Alloys and is the direct responsibility of Subcommittee B02.07 on Refined Nickel and Cobalt and Their Alloys.

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2. Referenced Documents

2.1 ASTM Standards:²

[A240/A240M](#) Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications

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

[B906](#) Specification for General Requirements for Flat-Rolled Nickel and Nickel Alloys Plate, Sheet, and Strip

E527 Practice for Numbering Metals and Alloys in the Unified Numbering System (UNS)

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *plate, n*—material $\frac{3}{16}$ in. (4.76 mm) and over in thickness and over 10 in. (254 mm) in width.

3.1.2 *sheet, n*—material under $\frac{3}{16}$ in. (4.76 mm) in thickness and 24 in. (609.6 mm) and over in width. Material under $\frac{3}{16}$ in. (4.76 mm) in thickness and in all widths with No. 4 finish.

3.1.3 *strip, n*—material under $\frac{3}{16}$ in. (4.76 mm) in thickness and under 24 in. (609.6 mm) in width.

4. General Requirements

4.1 Material furnished in accordance with this specification shall conform to the applicable requirements of the current edition of Specification [B906](#) unless otherwise provided herein.

5. Ordering Information

5.1 Orders for material under this specification shall include the following information:

5.1.1 Quantity (weight or number of pieces),

5.1.2 Alloy name or UNS number,

5.1.3 Form—Plate, sheet, or strip,

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* volume information, refer to the standard's Document Summary page on the ASTM website.

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