



Standard Specification for Ni-Fe-Cr-Mo-Cu-N Low-Carbon Alloys (UNS N08925, UNS N08031, UNS N08354, and UNS N08926), and Cr-Ni-Fe-N Low-Carbon Alloy (UNS R20033) Bar and Wire, and Ni-Cr-Fe-Mo-N Alloy (UNS N08936) Wire¹

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1. Scope

1.1 This specification covers nickel-iron-chromium-molybdenum-copper-nitrogen alloys (UNS N08925, UNS N08031, UNS N08354, and UNS N08926), and chromium-nickel-iron-nitrogen low-carbon alloy (UNS R20033) bar and wire, and nickel-chromium-iron-molybdenum-nitrogen alloy (UNS N08936) wire.

1.2 ASTM International has adopted definitions whereby some grades, such as UNS N08904,² 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 [A479/A479M](#) and [A484/A484M](#).

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 and health practices, and determine the applicability of regulatory limitations prior to use.*

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 New designation established in accordance with Practice [E527](#) and SAE J1086, Practice for Numbering Metals and Alloys (UNS).

2. Referenced Documents

2.1 ASTM Standards:³

- [A479/A479M](#) Specification for Stainless Steel Bars and Shapes for Use in Boilers and Other Pressure Vessels
- [A484/A484M](#) Specification for General Requirements for Stainless Steel Bars, Billets, and Forgings
- [B880](#) Specification for General Requirements for Chemical Check Analysis Limits for Nickel, Nickel Alloys and Cobalt Alloys
- [E8](#) Test Methods for Tension Testing of Metallic Materials
- [E29](#) Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications
- [E55](#) Practice for Sampling Wrought Nonferrous Metals and Alloys for Determination of Chemical Composition
- [E527](#) Practice for Numbering Metals and Alloys in the Unified Numbering System (UNS)
- [E1473](#) Test Methods for Chemical Analysis of Nickel, Cobalt and High-Temperature Alloys

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 bars, *n*—hot-finished rounds, squares, octagons, and hexagons: $\frac{1}{4}$ in. (6.35 mm) and over in diameter or size. Hot-finished flats: $\frac{1}{4}$ in. to 10 in. (254 mm) inclusive in width, $\frac{1}{8}$ in. (3.18 mm) and over in thickness. Cold-finished rounds, squares, octagons, hexagons, and shapes: over $\frac{1}{2}$ in. (12.70 mm) in diameter or size. Cold-finished flats: $\frac{3}{8}$ in. (9.52 mm) and over in width (see 3.1.1.1) and $\frac{1}{8}$ in. and over in thickness (see 3.1.1.2).

3.1.1.1 Discussion—Widths less than $\frac{3}{8}$ in. (9.52 mm) and thicknesses less than $\frac{3}{16}$ in. (4.76 mm) are described generally as flat wire.

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.