



Standard Specification for Nickel-Chromium-Iron-Molybdenum-Tungsten Alloy (UNS N06920) Plate, Sheet, and Strip¹

This standard is issued under the fixed designation B 814; 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-chromium-iron-molybdenum-tungsten alloy UNS N06920 in the form of rolled plate, sheet, and strip for general corrosion service.

1.2 The following products are covered under this specification:

1.2.1 *Sheet and Strip*—Hot or cold rolled, annealed and descaled unless solution-annealing is performed in an atmosphere yielding a bright finish; and

1.2.2 *Plate*—Hot rolled, solution-annealed, and descaled.

1.3 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

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 Material Safety Data Sheet 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.*

2. Referenced Documents

2.1 ASTM Standards:

B 880 Specification for General Requirements for Chemical Check Analysis Limits for Nickel, Nickel Alloys, and Cobalt Alloys²

E 8 Test Methods for Tension Testing of Metallic Materials³

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications⁴

E 55 Practice for Sampling Wrought Nonferrous Metals and Alloys for Determination of Chemical Composition⁵

E 1473 Test Methods for Chemical Analysis of Nickel, Cobalt, and High-Temperature Alloys⁵

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

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

3.1.2 *sheet and strip*—material under $\frac{3}{16}$ in. (4.76 mm) in thickness.

4. Ordering Information

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

4.1.1 *Alloy*.

4.1.2 *Dimensions*—Thickness (in decimals of an inch), width, and length (inch or fraction of an inch).

4.1.3 *Certification*—State whether a report of test results is required (Section 15).

4.1.4 *Optional Requirement*—Plate; state how the plate is to be cut (see 7.8.1 and Table 1).

4.1.5 *Purchase Inspection*—State which tests or inspections are to be witnessed (Section 13).

4.1.6 *Samples for Product (Check) Analysis*—State whether samples shall be furnished (9.2.2).

5. Chemical Composition

5.1 The material shall conform to the chemical composition requirements prescribed in Table 2.

5.2 If a product (check) analysis is made by the purchaser, the material shall conform to the product (check) analysis variations per Specification B 880.

6. Mechanical Properties and Other Requirements

6.1 *Tensile Properties*—The material shall conform to the room temperature tensile properties prescribed in Table 3.

7. Dimensions, Mass, and Permissible Variations

7.1 For the purposes of calculating the weight of the material covered by this specification, a density of 0.303 lb/in.³ (8.39 g/cm³) shall be used.

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 Annual Book of ASTM Standards, Vol 02.04.

³ Annual Book of ASTM Standards, Vol 03.01.

⁴ Annual Book of ASTM Standards, Vol 14.02.

⁵ Annual Book of ASTM Standards, Vol 03.05.