



Designation: B814 – 06

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

This standard is issued under the fixed designation B814; 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 (MSDS) 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*:²

B906 Specification for General Requirements for Flat-Rolled Nickel and Nickel Alloys Plate, Sheet, and Strip

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.

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

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 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.

TABLE 1 Chemical Requirements

Element	Composition Limits, %
Chromium	20.5–23.0
Iron	17.0–20.0
Molybdenum	8.0–10.0
Tungsten	1.0–3.0
Carbon, max	0.03
Cobalt, max	5.0
Manganese, max	1.0
Phosphorus, max	0.040
Sulfur, max	0.030
Silicon, max	1.0
Nickel	Remainder

4. General Requirements

4.1 Materials furnished under this specification shall conform to the applicable requirements of Specification B906 unless otherwise provided herein.

5. Ordering Information

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

5.1.1 *Alloy*.

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

5.1.3 *Certification*—State whether a report of test results is required (Specification B906).

5.1.4 *Optional Requirement*—Plate; state how the plate is to be cut (see 8.8.1 and Specification B906, Table A2.3).

5.1.5 *Purchase Inspection*—State which tests or inspections are to be witnessed (Specification B906).

5.1.6 *Samples for Product (Check) Analysis*—State whether samples shall be furnished (Specification B906).

6. Chemical Composition

6.1 The material shall conform to the chemical composition requirements prescribed in Table 1.

6.2 If a product (check) analysis is made by the purchaser, the material shall conform to the product (check) analysis variations in accordance with Specification B906.