



Designation: B514 – 05 (Reapproved 2019)

Standard Specification for Welded Nickel-Iron-Chromium Alloy Pipe¹

This standard is issued under the fixed designation B514; 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 specification² covers nickel-iron-chromium alloys in the form of welded, cold-worked, and annealed pipe for general corrosive service and heat-resisting applications. These products are furnished in three alloys: UNS N08120, UNS N08800, and UNS N08810.³ Alloy UNS N08800 is employed normally in service temperatures up to and including 1100 °F (593 °C). Alloys UNS N08120 and UNS N08810 are employed normally in service temperatures above 1100 °F where resistance to creep and rupture is required, and are annealed to develop controlled grain size for optimum properties in this temperature range.

1.2 This specification covers outside diameter and nominal wall pipe shown in ANSI B36.19. Pipe having other dimensions may be furnished provided such pipe complies with all other requirements of the specification.

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 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.

Current edition approved April 1, 2019. Published May 2019. Originally approved in 1970. Last previous edition approved in 2014 as B514 – 05 (2014). DOI: 10.1520/B0514-05R19.

² For ASME Boiler and Pressure Code applications see related Specification SB-514 in Section II of that Code.

³ New designation established in accordance with ASTM E527 and SAE J1086, Practice for Numbering Metals and Alloys (UNS).

2. Referenced Documents

2.1 *ASTM Standards:*⁴

B775 Specification for General Requirements for Nickel and Nickel Alloy Welded Pipe

B899 Terminology Relating to Non-ferrous Metals and Alloys

2.2 *ANSI Standard:*⁵

B36.19 Stainless Steel Pipe

3. Terminology

3.1 Terms defined in Terminology **B899** shall apply unless defined otherwise in this standard.

4. General Requirement

4.1 Material furnished in accordance with this specification shall conform to the applicable requirements of the current edition of Specification **B775** unless otherwise provided herein.

5. Ordering Information

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

5.1.1 Alloy name or UNS number.

5.1.2 ASTM designation and year of issue.

5.1.3 Condition (temper) (**Table 1**).

5.1.4 *Dimensions:*

5.1.4.1 Nominal pipe size or outside diameter and schedule number or nominal wall thickness.

5.1.4.2 Length (specific or random).

5.1.5 Quantity (feet or metres, or number of pieces).

5.1.6 *Certification*—State if certification or a report of test results is required.

5.1.7 *Samples for Product (Check) Analysis*—State whether samples for product (check) analysis should be furnished.

5.1.8 *Purchaser Inspection*—If the purchaser wishes to witness tests or inspection of material at the place of

⁴ 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.

⁵ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.