



Designation: B 514 – 95 (Reapproved 2002)^{ε1}

Standard Specification for Welded Nickel-Iron-Chromium Alloy Pipe¹

This standard is issued under the fixed designation B 514; 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.

^{ε1} NOTE—Paragraph 1.4 was added editorially in June 2002.

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.* 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 the 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 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:

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 Oct. 10, 1995. Published December 1995. Originally published as B 514 – 70. Last previous edition B 514 – 94.

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

* New designation established in accordance with ASTM E 527 and SAE J1086, Practice for Numbering Metals and Alloys (UNS).

B 775 Specification for General Requirements for Nickel and Nickel Alloy Seamless and Welded Pipe³

2.2 *ANSI Standard:*

B36.19 Stainless Steel Pipe⁴

3. General Requirement

3.1 Material furnished in accordance with this specification shall conform to the applicable requirements of the current edition of Specification B 775 unless otherwise provided herein.

4. Ordering Information

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

4.1.1 Alloy name or UNS number.

4.1.2 ASTM designation and year of issue.

4.1.3 Condition (temper) (Table 1).

TABLE 1 Mechanical Property Requirements

Alloy	Condition (Temper)	Tensile Strength, min, psi (MPa)	Yield Strength, 0.2 % Offset, min, psi (MPa)	Elongation in 2 in. or 50 mm, min, %
UNS N08120	annealed	90 000 (621)	40 000 (276)	30
UNS N08800	annealed	75 000 (520)	30 000 (207)	30
UNS N08810	annealed	65 000 (450)	25 000 (170)	30

4.1.4 *Dimensions:*

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

4.1.4.2 Length (specific or random).

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

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

³ *Annual Book of ASTM Standards*, Vol 02.04.

⁴ Available from American National Standards Institute, 25 W. 43rd St., 4th Floor, New York, NY 10036.