



Designation: B 517 – 03

Standard Specification for Welded Nickel-Chromium-Iron-Alloy (UNS N06600, UNS N06603, UNS N06025, and UNS N06045) Pipe¹

This standard is issued under the fixed designation B 517; 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 reappraisal. A superscript epsilon (ε) indicates an editorial change since the last revision or reappraisal.

1. Scope

1.1 This specification² covers welded, cold-worked, and annealed nickel-chromium-iron alloy (UNS N06600,* N06603, N06025, and N06045) pipe for general corrosive service and heat-resisting applications.

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 this 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:

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

B 899 Terminology Relating to Non-ferrous Metals and Alloys³

2.2 ANSI Standard:

B36.19 Stainless Steel Pipe⁴

3. Terminology

3.1 Terms defined in Terminology B 899 shall apply unless defined otherwise in this standard.

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 ASME Boiler and Pressure Code applications see related Specification SB-517 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).

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

⁴ Available from American National Standards Institute, 11 W. 42nd St., 13th Fl., New York, NY 10036.

4. General Requirement

4.1 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.

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 under this specification. Examples of such requirements include, but are not limited to, the following:

5.1.1 Alloy name or UNS number.

5.1.2 ASTM designation and year of issue.

5.1.3 Condition (temper).

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 manufacture, the purchase order must so state indicating which tests or inspections are to be witnessed.

6. Materials and Manufacture

6.1 Pipe shall be made from flat-rolled alloy by an automatic welding process with no addition of filler metal. Subsequent to welding and prior to final heat treatment, the material shall be cold worked either in both weld and base metal or in weld metal only.

6.2 Pipe shall be furnished with a scale-free finish. When bright annealing is used, descaling is not necessary.

7. Chemical Composition

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