



Standard Specification for Nickel-Chromium-Iron Alloys (UNS N06600, N06601, N06603, N06690, N06025, and N06045)* and Nickel-Chromium-Cobalt- Molybdenum Alloy (UNS N06617) Seamless Pipe and Tube¹

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This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification² covers nickel-chromium-iron alloys (UNS N06600, N06601, N06603, N06690, N06025, and N06045)* and nickel-chromium-cobalt-molybdenum alloy (UNS N06617) in cold-worked annealed, hot-worked annealed, and hot-finished seamless pipe and tube intended for general corrosion resistant and heat resistant applications.

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

1.3 The following safety hazards caveat pertains only to the test methods portion, Section 12, of this specification: *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 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 Alloys³

E 8 Test Methods for Tension Testing of Metallic Materials⁴

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications⁵

E 38 Methods for Chemical Analysis of Nickel-Chromium and Nickel-Chromium-Iron Alloys⁶

E 1473 Test Methods for Chemical Analysis of Nickel,

Cobalt, and High-Temperature Alloys⁷

2.2 Federal Standards:⁸

Fed. Std. No. 102 Preservation, Packaging and Packing Levels

Fed. Std. No. 123 Marking for Shipment (Civil Agencies)

Fed. Std. No. 182 Continuous Identification Marking of Nickel and Nickel-Base Alloys

2.3 Military Standard:⁷

MIL-STD-129 Marking for Shipment and Storage

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *average diameter*—the average of the maximum and minimum outside diameters, as determined at any one cross section of the pipe or tube.

3.1.2 *pipe*—tube conforming to the particular dimensions commercially known as pipe sizes. See Table X2.1.

3.1.3 *seamless pipe or tube*—a pipe or tube produced with a continuous periphery in all stages of the operations.

3.1.4 *tube*—a hollow product of round or any other cross section having a continuous periphery.

4. Ordering Information

4.1 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:

4.1.1 *Alloy Name or UNS Number*—see Table 1,

4.1.2 *ASTM Designation*, including year of issue,

4.1.3 *Condition* (see Appendix X3),

4.1.4 *Finish* (see Appendix X3),

4.1.5 *Dimensions*:

4.1.5.1 *Tube*—Specify outside diameter and nominal or minimum wall,

4.1.5.2 *Pipe*—Specify standard pipe size and schedule,

4.1.5.3 *Length*—Cut to length or random,

4.1.6 *Quantity*—Feet or number of pieces,

⁷ Annual Book of ASTM Standards, Vol 03.05.

⁸ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

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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* New designation established in accordance with Practice E 527 and SAE J 1086, Practice for Numbering Metals and Alloys (UNS).

² For ASME Boiler and Pressure Vessel Code applications see related Specification SB-167 in Section II of that Code.

³ Annual Book of ASTM Standards, Vol 02.04.

⁴ Annual Book of ASTM Standards, Vol 03.01.

⁵ Annual Book of ASTM Standards, Vol 14.02.

⁶ Discontinued—See 1989 Annual Book of ASTM Standards, Vol 03.05.