



Standard Specification for Nickel-Chromium-Molybdenum-Tungsten Alloys (UNS N06110) Pipe and Tube¹

This standard is issued under the fixed designation B 759; 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 cover nickel-chromium-molybdenum-tungsten alloys (UNS N06110)³ in the form of cold-worked seamless pipe and tube in the conditions shown in Table 1.

1.2 Hot-worked material is available. Properties and permissible tolerances are to be agreed upon between the manufacturer and purchaser.

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

1.4 The following precautionary caveat pertains only to the test method portion, Section 8, 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:

- E 8 Test Methods for Tension Testing of Metallic Materials³
- B 829 Spec for General Req. for Nickel and Nickel Alloys Seamless Pipe and Tube³

3. Ordering Information

3.1 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:

- 3.1.1 Alloy name or UNS number.
- 3.1.2 ASTM Designation.
- 3.1.3 Condition.

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, 2000. Published November 2000.

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

³ Annual Book of ASTM Standards, Vol 02.04.

TABLE 1 Mechanical Properties

Condition	Tensile Strength, min, ksi (MPa)	Yield Strength (0.2 % offset), min, ksi (MPa)	Elongation in 2 in. or 50 mm (or 4D), min, %
Cold-worked annealed	95 (655)	45 (310)	60

3.1.4 Finish.

3.1.5 Dimensions.

3.1.5.1 Tube—Specify outside diameter and nominal or minimum wall.

3.1.5.2 Pipe—Specify standard pipe size and schedule.

3.1.5.3 Length—Cut to length or random.

3.1.6 Quantity—Feet (or metres) or number of pieces.

3.1.7 Hydrostatic Pressure Requirements—Specify test pressure if other than required by 8.1.

3.1.8 Certification—State if certification is required.

3.1.9 Samples for Product (Check) Analysis—State whether samples for product (check) analysis should be furnished (see 4.2).

3.1.10 Purchaser Inspection—If purchaser wishes to witness tests or inspection of material at place of manufacture, the purchase order must so state indicating which tests or inspections are to be witnessed (Section 9).

3.1.11 Small-Diameter and Light-Wall Tube (Converter Sizes).

4. Chemical Composition

4.1 The material shall conform to the composition limits specified in Table 2.

4.2 If a product (check) analysis is performed by the purchaser, the material shall conform to the product (check) analysis variations in B 829.

5. Mechanical and Other Properties

5.1 Mechanical Properties—The material shall conform to the tensile properties specified in Table 2.

5.2 Pressure and Nondestructive Electric Test—Each pipe and tube shall be subjected to either a pressure test or the nondestructive electric test at the manufacturer's option. The purchaser may specify which test is to be used.