



Standard Specification for General Requirements for Nickel and Nickel Alloy Welded Tube¹

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1. Scope

1.1 This specification contains various requirements that, with the exception of Sections 6 and 7, are mandatory requirements to the following ASTM nickel and nickel alloy, longitudinally welded tubular product specifications:

Title of Specification	ASTM Designation ^{2,3}
Welded UNS N08020, UNS N08026, and UNS N08024 Alloy Tubes	B 468
Welded UNS N08800 and UNS N08810 Alloy Tubes	B 515
Welded Nickel-Chromium-Iron Alloy (UNS N06600) Tubes	B 516
Welded Nickel and Nickel-Cobalt Alloy Tube	B 626
UNS N08904, UNS N08925, and UNS N08926 Welded Tube	B 674
UNS N08366 and UNS N08367 Welded Tube	B 676
Welded UNS N06625 and UNS N06625 Alloy Tubes	B 704
Ni-Cr-Mo-Co-W-Fe-Si Alloy (UNS N06333) Welded Tube	B 726
Welded Nickel (UNS N02200/UNS N02201) and Nickel Copper Alloy (UNS N04400) Tube	B 730

1.2 One or more of the test requirements of Section 6 apply only if specifically stated in the product specification or in the purchase order.

1.3 In case of conflict between a requirement of the product specification and a requirement of this general specification, only the requirement of the product specification need be satisfied.

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

2. Referenced Documents

2.1 ASTM Standards:

- B 880 Specification for General Requirements for Chemical Check Analysis Limits for Nickel, Nickel Alloys and Cobalt Alloys²
- E 8 Test Methods for Tension Testing of Metallic Materials⁴
- E 18 Test Methods for Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials⁴
- E 29 Practice for Using Significant Digits in Test Data to

Determine Conformance with Specifications⁵

E 39 Test Methods for Chemical Analysis of Nickel⁶

E 76 Test Methods for Chemical Analysis of Nickel-Copper Alloys⁶

E 112 Test Methods for Determining the Average Grain Size⁴

E 213 Practice for Ultrasonic Examination of Metal Pipe and Tubing⁷

E 426 Practice for Electromagnetic (Eddy-Current) Examination of Seamless and Welded Tubular Products, Austenitic Stainless Steel and Similar Alloys⁷

E 571 Practice for Electromagnetic (Eddy-Current) Examination of Nickel and Nickel Alloy Tubular Products⁷

E 1473 Test Methods for Chemical Analysis of Nickel, Cobalt, and High-Temperature Alloys⁸

3. Terminology

3.1 Definitions:

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

3.1.2 *nominal wall*—a specified wall thickness with a plus and minus tolerance from the specified thickness.

3.1.3 *thin wall tube*—tube with specified wall thickness 3 % or less of the specified outside diameter.

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

4. Dimensions and Permissible Variations

4.1 *Diameter and Wall Thickness*—Individual measurements shall not exceed the tolerances specified in Table 1. The permissible variation in outside diameter is not sufficient to provide for ovality in thin-walled tubes. For thin-walled tubes the maximum and minimum diameters at any cross section shall not deviate from the nominal diameter by more than twice the permissible variation in outside diameter given in the table; however, the mean diameter at that cross section must still be within the permissible variation.

4.2 *Length*—When material is ordered cut-to-length, the

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² *Annual Book of ASTM Standards*, Vol 02.04.

³ *Annual Book of ASTM Standards*, Vol 02.01.

⁴ *Annual Book of ASTM Standards*, Vol 03.01.

⁵ *Annual Book of ASTM Standards*, Vol 14.02.

⁶ *Annual Book of ASTM Standards*, Vol 03.05.

⁷ *Annual Book of ASTM Standards*, Vol 03.03.

⁸ *Annual Book of ASTM Standards*, Vol 03.06.