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AMERICAN SOCIETY FOR TESTING AND MATERIALS
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Standard Specification for UNS N08904, UNS N08925, and UNS N08926 Welded Tube[1]

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1. Scope

1.1 This specification covers UNS N08904, UNS N08925,* and UNS N08926 welded tube for general corrosion applications.

1.2 This specification covers outside diameter and nominal wall tube.

1.2.1 The tube sizes covered by this specification are ⅛ to 5 in. (3.2 to 127 mm) in outside diameter and 0.015 to 0.320 in. (0.38 to 8.13 mm), inclusive, in wall thickness.

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

2. Referenced Documents

2.1 *ASTM Standards:*

B 751 Specification for General Requirements for Nickel and Nickel Alloy Welded Tube[2]

3. Ordering Information

3.1 Orders for material to this specification should include the following information:

3.1.1 Quantity (feet or number of lengths),

3.1.2 UNS number,

3.1.3 Size (outsize diameter, minimum or average wall thickness),

3.1.4 Length (random or specific),

3.1.5 Class, and

3.1.6 ASTM designation.

3.1.7 *Product Analysis*—State if required.

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

3.1.9 *Purchaser Inspection*—State which tests or inspections are to be witnessed, if any. Tables 1 and 2

4. Materials and Manufacture

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

NOTE 1—The recommended heat treatment shall consist of heating to a temperature of 1985 to 2100°F (1085 to 1150°C) for UNS N08904 or 2010 to 2100°F (1100 to 1150°C) for UNS N08925 and UNS N08926, followed by quenching in water or rapid cooling by other means.

4.2 Tube shall be furnished with oxide removed. When bright annealing is used, descaling is not necessary.

TABLE 1 Chemical Requirements

Element	Composition, %		
	UNS N08904	UNS N08925	UNS N08926
Carbon, max	0.020	0.020	0.020
Manganese, max	2.00	1.00	2.00
Phosphorus, max	0.045	0.045	0.03
Sulfur, max	0.035	0.030	0.01
Silicon, max	1.00	0.50	0.5
Nickel	23.0 to 28.0	24.0 to 26.0	24.00 to 26.00
Chromium	19.0 to 23.0	19.0 to 21.0	19.00 to 21.00
Molybdenum	4.0 to 5.0	6.0 to 7.0	6.0 to 7.0
Copper	1.0 to 2.0	0.8 to 1.5	0.5 to 1.5
Nitrogen	...	0.1 to 0.2	0.15 to 0.25
Iron	balance	balance	balance

5. Chemical Composition

5.1 The material shall conform to the composition limits specified in Table 1. One test is required for each lot as defined in Specification B 751.

5.2 If a product analysis is performed, it shall meet the chemistry limits prescribed in Table 1, subject to the analysis tolerances of Specification B 751.

6. Mechanical and Other Properties

6.1 *Mechanical Properties*—The material shall conform to the mechanical property requirements specified in Table 2. One test is required for each lot as defined in Specification B 751.

6.2 *Flattening Test*—A flattening test shall be made on each end of one tube per lot. Superficial ruptures resulting from surface imperfections shall not be cause for rejection.

6.3 *Flange Test*—A flange test shall be made on each end of one tube per lot.

6.4 *Nondestructive Test Requirements*:

6.4.1 *Class 1*—Each piece in each lot shall be subject to one of the following four tests: hydrostatic, pneumatic (air underwater), eddy current, or ultrasonic.

[1] This specification is under the jurisdiction of Committee B-2 on Nonferrous Metals and Alloys and is the direct responsibility of Subcommittee B02.07 on Refined Nickel and Cobalt, and Alloys Containing Nickel or Cobalt or Both as Principal Constituents.

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

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