



Designation: B 464 – 99

Standard Specification for Welded UNS N08020, N08024, and N08026 Alloy Pipe¹

This standard is issued under the fixed designation B 464; 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 approval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification² covers welded UNS N08020, N08024, and N08026 alloy pipe for general corrosion-resisting and low- or high-temperature service.

1.2 The pipe covered is nominal pipe sizes up to and including NPS 6, with the nominal wall thicknesses given as Schedules 5S, 10S, and 40S and nominal pipe sizes up to and including NPS 2, also including Schedule 80S. Table 2 of Specification B 775 is based on Table A1 of ANSI B36.19 and gives the nominal dimensions of these sizes. Table 3 of Specification B 775 lists the dimensional requirements of these sizes. 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. The values given in parentheses are for information only.

2. Referenced Documents

2.1 ASTM Standards:

A 262 Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels³

B 775 Specification for General Requirements for Nickel and Nickel-Alloy Welded Pipe⁴

E 8 Test Methods for Tension Testing of Metallic Materials⁵

2.2 ANSI Standard:

B36.19 Stainless Steel Pipe⁶

3. General Requirement

3.1 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.

¹ This specification is under the jurisdiction of ASTM Committee B-2 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 May 10, 1999. Published June 1999. Originally published as B 464 – 67. Last previous edition B 464 – 93.

² For ASME Boiler and Pressure Vessel Code applications, see related Specification SB-464 in Section II of that code.

³ Annual Book of ASTM Standards, Vol 01.03.

⁴ Annual Book of ASTM Standards, Vol 02.04.

⁵ Annual Book of ASTM Standards, Vol 03.01.

⁶ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

TABLE 1 Chemical Requirements

Element	Composition, %		
	UNS N08020	UNS N08024	UNS N08026
Carbon, max	0.07	0.03	0.03
Manganese, max	2.00	1.00	1.00
Phosphorus, max	0.045	0.035	0.03
Sulfur, max	0.035	0.035	0.03
Silicon, max	1.00	0.50	0.50
Nickel	32.00–38.00	35.00–40.00	33.00–37.20
Chromium	19.00–21.00	22.50–25.00	22.00–26.00
Molybdenum	2.00–3.00	3.50–5.00	5.00–6.70
Copper	3.00–4.00	0.50–1.50	2.00–4.00
Columbium (Nb) + tantalum	8 × carbon–1.00	0.15–0.35	
Nitrogen	0.10–0.16
Iron ^A	remainder	remainder	remainder

^A By difference.

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 Quantity (feet or number of lengths),

4.1.2 UNS number,

4.1.3 Size (nominal pipe size and schedule),

4.1.4 Length (random or specific),

4.1.5 ASTM designation,

4.1.6 *Product Analysis*— State if required,

4.1.7 *Certification*— State if a certification or a report of test results is required,

4.1.8 *Purchaser Inspection*— State which tests or inspections are to be witnessed, if any, and

4.1.9 Supplementary requirements, if any.

5. Materials and Manufacture

5.1 The pipe shall be made from flat-rolled stock by an automatic welding process with no addition of filler metal.

TABLE 2 Mechanical Property Requirements

Tensile Strength, min, ksi (MPa)	Yield Strength, ^A min, ksi (MPa)	Elongation in 2 in. (50.8 mm), min, %
80 (551)	35 (241)	30.0

^A Yield strength shall be determined by the offset method at 0.2 % limiting permanent set in accordance with Test Methods E 8. An alternative method of determining yield strength may be based on total extension under load of 0.5 %.