



Designation: B 710 – 99

Standard Specification for Nickel-Iron-Chromium-Silicon Alloy Welded Pipe¹

This standard is issued under the fixed designation B 710; 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 covers alloys UNS N08330 and UNS N08332 in the form of welded pipe intended for heat-resisting applications and general-corrosive service.

1.2 The pipe covered is nominal pipe sizes up to and including size 12, with the nominal wall thicknesses given as Schedules 5S, 10S, 40S, and 80S. Table 2 of Specification B 775 is based on Table of ANSI B36.19 and gives the nominal dimension 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:

B 536 Specification for Nickel-Iron-Chromium-Silicon Alloy (UNS N08330 and N08332) Plate, Sheet, and Strip³

B 775 Specification for General Requirements for Nickel and Nickel Alloy Welded Pipe³

2.2 ANSI Standard:⁴

ANSI B36.19 Stainless Steel Pipe

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.

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² For ASME Boiler and Pressure Vessel Code applications, see related Specification SB710 in Section 11 of that code.

³ Annual Book of ASTM Standards, Vol 02.04.

⁴ Available from American National Standards Institute, 11 West 42nd St., 13th Floor, New York, NY 10036.

TABLE 1 Chemical Requirements

Element	Composition Limits, %
C	... ^A
Mn	2.00 max
P	0.03 max
S	0.03 max
Si	0.75–1.50
Cr	17.0–20.0
Ni	34.0–37.0
Cu	1.00 max
Pb	0.005 max
Sn	0.025 max
Fe	remainder ^B

^A Alloy UNS N08330: 0.08 max. Alloy UNS N08332: 0.05–0.10.

^B Element shall be determined arithmetically 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 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 alloy conforming to Specification B 536, by an automatic welding process with no addition of filler metal. Subsequent to welding and prior to final heat treatment, the material shall be cold worked either in both weld and base metal or in weld metal only.