



Standard Specification for Welded and Seamless Carbon Steel and Austenitic Stainless Steel Pipe Nipples¹

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This standard has been approved for use by agencies of the Department of Defense.

^{e1} NOTE—A units statement was added editorially as new paragraph 1.2 in April 2009.

1. Scope

1.1 This specification covers the requirements for welded and seamless carbon steel pipe nipples, black and zinc-coated (hot-dip galvanized), and welded and seamless austenitic stainless steel pipe nipples in standard steel pipe sizes from 1/8 to 12 in. inclusive, in standard or special lengths.

1.1.1 *Welded Carbon Steel*—Pipe nipples ordered under these requirements are intended for general uses, as described by Specification A 53/A 53M.

1.1.2 *Seamless Carbon Steel*—Pipe nipples ordered under these requirements are intended for general and special uses, as described by the applicable Specifications A 53 and A 106/A 53/A 53M and A 106/A 106M (see 4.1.1).

1.1.3 *Austenitic Stainless Steel*—Pipe nipples ordered under these requirements are intended for high-temperature and general corrosion service, as described by Specification A 312/A 312M (see 4.1.2).

1.1.4 The text for this specification contains notes and/or footnotes that provide explanatory material. Such notes and footnotes, excluding those in tables, do not contain any mandatory language.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

2. Referenced Documents

2.1 ASTM Standards:²

A 53/A 53M Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless

A 106/A 106M Specification for Seamless Carbon Steel Pipe for High-Temperature Service

A 312/A 312M Specification for Seamless and Welded Austenitic Stainless Steel Pipes² 312/A 312M Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes

2.2 American National Standards Institute Standards:³

B1.20.1 Pipe Threads, General Purpose

B36.10 Standard for Welded and Seamless Wrought Steel Pipe

B36.19 Standard for Stainless Steel Pipe

3. Ordering Information

3.1 Information items to be considered, if appropriate, for inclusion in purchase orders are as follows:

3.1.1 Quantity (pieces),

3.1.2 Name of material (carbon steel or austenitic stainless steel pipe nipples) (see 4.1.1 and 4.1.2),

3.1.3 Method of pipe manufacture (continuous-welded, electric-resistance welded, or seamless). (see 4.1.1, Note 1),

3.1.4 Type and grade (if stainless steel),

3.1.5 Finish (carbon steel, black or galvanized),

3.1.6 Size (nominal and weight class or schedule number as shown in Table 1, or outside diameter and nominal wall),

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* Vol 01-01, volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from American National Standards Institute, 11 West 42nd St., 13th Floor, New York, NY 10036.

³ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

TABLE 1 Pipe Nipple Sizes According to Weight of Nominal Pipe Sizes^{A,B}

Weight	NPS Designator						
	1/8	1/4	3/8	1/2 to 6	8	10	12
Standard (Schedule 40)	X	X	X	X	X	X	^C
Extra strong (Schedule 80)	X	X	X	X	X	X	^D
Schedule 160	...	...	...	X	X	X	X
Double extra strong	...	...	...	X	X	X	X

^A A comprehensive listing of standardized pipe dimensions is contained in ANSI B36.10 and B36.19.

^B Continuous-welded pipe is not made in sizes larger than NPS 4 (standard and extra strong) and larger than NPS 2½ (Schedule 160 and double extra strong).

^C NPS 12 standard and extra strong weight pipe do not have designated schedule numbers.

^D NPS 10 extra strong pipe is Schedule 60, not Schedule 80.

- 3.1.7 Length (standard or special, see 4.3),
- 3.1.8 Specification number,
- 3.1.9 Certification of compliance, if required, and
- 3.1.10 Special requirements or exceptions to this specification.

3.2 In addition, when material is purchased for agencies of the U.S. Government, it shall conform to the Supplementary Requirements as defined herein when specified in the contract or purchase order.

4. Requirements

4.1 *Material and Weight*—Pipe nipples covered by this specification shall be made from new, ~~pressure-tested~~hydrostatic-tested or NDE-tested pipe conforming to the requirements specified in 4.1.1 and 4.1.2.

4.1.1 *Carbon Steel*—Carbon steel pipe nipples shall be in accordance with the following:

Method of Pipe Manufacture	Specification
Welded (Note 1)	A 53
Seamless (Note 2)	A 53
	A 106

NOTE 1—Unless otherwise specified, continuous-welded nipples are furnished in sizes NPS 4 and under for standard and extra strong pipe, and NPS 2½ and under for Schedule 160 and double extra strong pipe. Welded nipples in sizes larger than that indicated for continuous-welded are electric resistance welded.

4.1.2 *Austenitic Stainless Steel*—Austenitic stainless steel pipe nipples shall be in accordance with Specification A 312/A 312M.

4.2 *Threads*—Pipe nipples shall be threaded on both ends with NPT taper pipe threads conforming to the requirements of ANSI B 1.20.1, except for “close” nipples where L 4 and V are shorter, due to fewer imperfect threads. It is standard manufacturing practice on all other nipple lengths to vary L 4 plus or minus two threads. All other dimensions, tolerances, and gaging practices remain the same as ANSI B 1.20.1, plus 5.3 of this specification.

4.2.1 Threads shall be right-hand on both ends, except when otherwise specified.

4.3 *Lengths*:

4.3.1 The standard lengths and sizes of nipples generally available are shown in Table 2. The availability of such nipples according to pipe size and weight is shown in Table 1.

4.3.2 Special lengths and sizes of nipples may be specified when required. Standard and special lengths shall conform to the tolerance requirements of 4.3.3.

4.3.3 Nipples with lengths up through 12 in. (304.8 mm) long shall have a length tolerance of ± 1/16 in. (1.6 mm). Nipples over 12 in. long shall have a tolerance of ± 1/8 in. (3.2 mm).

4.4 *End Finish*—The ends of the pipe nipples shall be chamfered on the outside at an angle of 35 ± 10° to the central axis. (It is the standard practice that the 1/8-in. (3.2-mm) nominal pipe size nipples are not chamfered.) Ends shall be cut reasonably square to the central axis. All burrs on the inside shall be removed.

4.5 *Galvanized Nipples*—Galvanized nipples ordered under this specification shall be made from pipe coated on the inside and outside by the hot-dip process. Threads and nipple ends are not galvanized.

5. Sampling and Inspection

5.1 *Sampling*—Samples of nipples sufficient to determine their conformance with the requirements of this specification shall be taken at random for each lot of nipples of the same pipe size, length, and material.

5.2 *Inspection*—The samples shall be inspected to determine their conformance with the dimensional requirements, including thread dimensions and finish of this specification.

5.3 *Gaging Techniques for Male Threads*:

5.3.1 An NPT working ring gage, in accordance with ANSI B1.20.1, shall be turned hand tight on the nipple threads. The gage shall be tapped or rapped against a solid surface and the gage again turned hand tight into the thread. Hand tight means turning