Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless[1]

This standard is issued under the fixed designation A 53/A 53M; 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.

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

1. Scope

1.1 This specification[2] covers seamless and welded black and hot-dipped galvanized steel pipe in NPS ⅛ to NPS 26 [DN 6 to DN 650] (Note 1), inclusive, with nominal wall thickness (Note 2) as given in Table X2.2 and Table X2.3. It shall be permissible to furnish pipe having other dimensions (Note 2) provided such pipe complies with all other requirements of this specification.

NOTE 1—The dimensionless designators NPS (nominal pipe size) [DN (diameter nominal)] have been substituted in this specification for such traditional terms as "nominal diameter," "size," and "nominal size."

NOTE 2—The term nominal wall thickness has been assigned for the purpose of convenient designation, existing in name only, and is used to distinguish it from the actual wall thickness, which may vary over or under the nominal wall thickness.

1.2 This specification covers the following types and grades:

1.2.1 *Type F*—Furnace-butt welded, continuous welded Grade A,

1.2.2 *Type E*—Electric-resistance welded, Grades A and B, and

1.2.3 *Type S*—Seamless, Grades A and B.

NOTE 3—See Appendix X1 for definitions of types of pipe.

1.3 Pipe ordered under this specification is intended for mechanical and pressure applications and is also acceptable for ordinary uses in steam, water, gas, and air lines. It is suitable for welding, and suitable for forming operations involving coiling, bending, and flanging, subject to the following qualifications:

1.3.1 Type F is not intended for flanging.

1.3.2 When Types S and E are required for close coiling or cold bending, Grade A is the preferred grade. This provision is not intended to prohibit the cold bending of Grade B pipe.

1.3.3 Type E is furnished either nonexpanded or cold expanded at the option of the manufacturer.

1.4 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.5 The following precautionary caveat pertains only to the test method portion, Sections 9, 10, 11, 15, 16, and 17 of this specification: *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

1.6 The text of this specification contains notes or footnotes, or both, that provide explanatory material. Such notes and footnotes, excluding those in tables and figures, do not contain any mandatory requirements.

2. Referenced Documents

2.1 *ASTM Standards:*

A 90/A 90M Test Method for Weight [Mass] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings[3]

A 370 Test Methods and Definitions for Mechanical Testing of Steel Products[4]

A 530/A 530M Specification for General Requirements for Specialized Carbon and Alloy Steel Pipe[5]

A 700 Practices for Packaging, Marking, and Loading Methods for Steel Products for Domestic Shipment[6]

A 751 Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products[4]

A 865 Specification for Threaded Couplings, Steel, Black or Zinc-Coated (Galvanized) Welded or Seamless, for Use in Steel Pipe Joints[5]

B 6 Specification for Zinc[7]

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications[8]

[1] This specification is under the jurisdiction of ASTM Committee A01 on Steel, Stainless Steel, and Related Alloys and is the direct responsibility of Subcommittee A01.09 on Carbon Steel Tubular Products.

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[2] For ASME Boiler and Pressure Vessel Code applications, see related Specification SA-53 in Section II of that code.

[3] *Annual Book of ASTM Standards*, Vol 01.06.

[4] *Annual Book of ASTM Standards*, Vol 01.03.

[5] *Annual Book of ASTM Standards*, Vol 01.01.

[6] *Annual Book of ASTM Standards*, Vol 01.05.

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

[8] *Annual Book of ASTM Standards*, Vol 14.02.

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