



Designation: A 587 – 96

Standard Specification for Electric-Resistance-Welded Low-Carbon Steel Pipe for the Chemical Industry¹

This standard is issued under the fixed designation A 587; 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 electric-resistance-welded low-carbon steel pipe intended for use as process lines.

1.2 Pipe ordered under this specification shall be suitable for severe forming operations involving flanging in all sizes and bending to close radii up to and including NPS 4.

1.3 This specification covers NPS ½ through 10, plus additional sizes. The corresponding outside diameters and wall thicknesses for NPS ½ through 10 are listed in Table 1, as are the dimensions for the additional sizes.

NOTE 1—The dimensionless designator NPS (nominal pipe size) has been substituted in this standard for such traditional terms as “nominal diameter,” “size,” and “nominal size.”

1.4 The values stated in inch-pound units are to be regarded as the standard.

1.5 The following precautionary caveat pertains only to the test method portion, Sections 6, 12, and 13, of this specification: *This standard does not purport to address all of the safety problems, 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.*

2. Referenced Documents

2.1 ASTM Standards:

A 53 Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless³

A 370 Test Methods and Definitions for Mechanical Testing of Steel Products⁴

A 530/A530M Specification for General Requirements for Specialized Carbon and Alloy Steel Pipe³

A 751 Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products³

¹ This specification is under the jurisdiction of ASTM Committee A-1 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-587 in Section II of that Code.

³ Annual Book of ASTM Standards, Vol 01.01.

⁴ Annual Book of ASTM Standards, Vol 01.03.

E 213 Practice for Ultrasonic Inspection of Metal Pipe and Tubing⁵

E 273 Practice for Ultrasonic Examination of Longitudinal Welded Pipe and Tubing⁵

E 309 Practice for Eddy-Current Examination of Steel Tubular Products Using Magnetic Saturation⁵

E 570 Practice for Flux Leakage Examination of Ferromagnetic Steel Tubular Products⁵

3. Ordering Information

3.1 Orders for material under this specification should include the following as required to describe the desired material adequately:

3.1.1 Quantity (feet or number of pieces),

3.1.2 Name of material (electric-resistance-welded steel pipe),

3.1.3 Size (NPS or outside diameter and wall thickness),

3.1.4 Length (definite cut length or random),

3.1.5 Test report required (see 14.2),

3.1.6 Specification number, and

3.1.7 Special requirements.

4. Materials and Manufacture

4.1 *Process*—The steel shall be aluminum killed steel made by one or more of the following processes: open-hearth, basic-oxygen, or electric-furnace.

4.2 Steel may be cast in ingots or may be strand cast. When steels of different grades are sequentially strand cast, identification of the resultant transition material is required. The producer shall remove the transition material by any established procedure that positively separates the grades.

4.3 *Manufacture*—The pipe shall be made by electric resistance welding.

4.4 *Heat Treatment*—Pipe furnished in the as-welded condition shall be normalized at a temperature above the upper critical temperature. Cold-drawn pipe shall be normalized after the final cold-draw pass.

5. Chemical Composition

5.1 *Heat Analysis*—An analysis of each heat of steel shall be made to determine the percentages of the elements specified. The chemical composition thus determined shall conform

⁵ Annual Book of ASTM Standards, Vol 03.03.