



## Standard Specification for Seamless and Welded Carbon Steel Water-Well Pipe<sup>1</sup>

This standard is issued under the fixed designation A 589; 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 specification covers four specific types of plain end or threaded and coupled carbon steel pipe for use in water wells.

1.2 Each type of water well pipe shall conform to the following methods of manufacture and grade as specified on the purchase order:

1.2.1 *Type I, Drive Pipe*—Seamless or electric-resistance-welded, Grades A and B.

1.2.2 *Type II, Water-Well Reamed and Drifted Pipe*—Seamless or electric-resistance-welded, Grades A and B, or furnace-butt welded.

1.2.3 *Type III, Driven Well Pipe*—Seamless or electric-resistance-welded, Grades A and B, or furnace-butt welded.

1.2.4 *Type IV, Water-Well Casing Pipe*—Seamless or electric-resistance-welded, Grades A and B, or furnace-butt welded.

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

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.”

### 2. Referenced Documents

#### 2.1 ASTM Standards:

A 53/A 53M Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless<sup>2</sup>

A 370 Test Methods and Definitions for Mechanical Testing of Steel Products<sup>3</sup>

A 751 Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products<sup>3</sup>

A 865 Specification for Threaded Couplings, Steel, Black or Zinc Coated (Galvanized), Welded or Seamless, for Use in Steel Pipe Joints<sup>2</sup>

#### 2.2 API Standard:

#### 5L Specification for Line Pipe<sup>4</sup>

### 3. Terminology

#### 3.1 Definitions of Terms Specific to This Standard:

3.1.1 *defect*—an imperfection of sufficient size or magnitude to be cause for rejection.

3.1.2 *imperfection*—any discontinuity or irregularity found in the pipe.

### 4. Ordering Information

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

4.1.1 Quantity (feet or number of lengths),

4.1.2 Name of material or type number (see 1.2),

4.1.3 Method of manufacture (furnace-butt welded, seamless, or electric-resistance-welded),

4.1.4 Grade (A or B for seamless or electric-resistance-welded),

4.1.5 Finish (black or galvanized),

4.1.6 Dimensions (NPS or outside diameter and wall thickness, or both, for Types I, II, and III. Outside diameter and wall thickness for Type IV),

4.1.7 End finish (plain end or threaded and coupled),

4.1.8 Coupling class for Type III (standard pipe, line pipe, or reamed and drifted pipe coupling),

4.1.9 Coupling make-up (hand tight or power tight),

4.1.10 Length (required random range length or special lengths),

4.1.11 Specification designation, and

4.1.12 Special requirements.

### 5. Materials and Manufacture

5.1 The steel for both seamless and welded pipe shall be made by one of the following processes: open-hearth, electric-furnace, or basic-oxygen.

5.2 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.

<sup>1</sup> 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.

Current edition approved Oct. 10, 1996. Published October 1997. Originally published as A 589 – 68. Last previous edition A 589 – 95a.

<sup>2</sup> *Annual Book of ASTM Standards*, Vol 01.01.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 01.03.

<sup>4</sup> Available from American Petroleum Institute, 1220 L. St., NW, Washington, DC 20005.