



Standard Specification for Aluminum Alloys in Ingot and Molten Forms for Castings from All Casting Processes¹

This standard is issued under the fixed designation B 179; 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 covers commercial aluminum alloys in ingot form for remelting and molten form for the manufacture of castings. The specific gravity of these alloys does not exceed 3.0 and they are designated as shown in Tables 1 and 2.

NOTE 1—Throughout this specification the use of “ingot” in a general sense includes sow, T-bar, T-ingot, and pig.

1.2 Alloy designations are in accordance with ANSI H35.1. The equivalent Unified Numbering System alloy designations are in accordance with Practice E 527.

NOTE 2—Supplementary data pertaining to the alloys covered by this specification when used in the form of castings are given in Specifications B 26/B 26M, B 85, B 108, B 618, and B 686.

1.3 For acceptance criteria for inclusion of new aluminum and aluminum alloys in this specification, see Annex A1.

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

2. Referenced Documents

2.1 ASTM Standards:

B 26/B 26M Specification for Aluminum-Alloy Sand Castings²

B 85 Specification for Aluminum-Alloy Die Castings²

B 108 Specification for Aluminum-Alloy Permanent Mold Castings²

B 275 Practice for Codification of Certain Nonferrous Metals and Alloys, Cast and Wrought²

B 618 Specification for Aluminum-Alloy Investment Castings²

B 666/B 666M Practice for Identification Marking of Alu-

minum and Magnesium Products²

B 686 Specification for Aluminum Alloy Castings, High-Strength²

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications³

E 34 Test Methods for Chemical Analysis of Aluminum and Aluminum Base Alloys⁴

E 88 Practice for Sampling Nonferrous Metals and Alloys in Cast Form for Determination of Chemical Composition⁴

E 101 Test Method for Spectrographic Analysis of Aluminum and Aluminum Alloys by the Point-to-Plane Technique⁵

E 527 Practice for Numbering Metals and Alloys (UNS)⁶

E 607 Test Method for Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Point-to-Plane Technique, Nitrogen Atmosphere⁴

E 716 Practices for Sampling Aluminum and Aluminum Alloys for Spectrochemical Analysis⁴

E 1251 Test Method for Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Argon Atmosphere, Point-to-Plane, Unipolar Self-Initiating Capacitor Discharge⁴

2.2 ANSI Standard:

H35.1 Alloy and Temper Designation Systems for Aluminum²

3. Ordering Information

3.1 Orders for material under this specification shall include the following information:

3.1.1 This specification designation (which includes the number, the year, and the revision letter, if applicable),

3.1.2 Alloy (Section 6, Tables 1 and 2), and

3.1.3 The quantity in pieces or pounds.

¹ This specification is under the jurisdiction of ASTM Committee B07 on Light Metals and Alloys and is the direct responsibility of Subcommittee B07.01 on Aluminum Alloy Ingots and Castings.

Current edition approved April 10, 2003. Published September 2003. Originally approved in 1946. Last previous edition approved in 1996 as B 179 – 96.

² Annual Book of ASTM Standards, Vol 02.02.

³ Annual Book of ASTM Standards, Vol 14.02.

⁴ Annual Book of ASTM Standards, Vol 03.05.

⁵ Discontinued. See 1995 Annual Book of ASTM Standards, Vol 03.05.

⁶ Annual Book of ASTM Standards, Vol 01.01.