



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

This standard is issued under the fixed designation B179; 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 U.S. 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 [Table 1](#).

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/H35.1(M). The equivalent Unified Numbering System alloy designations are in accordance with Practice [E527](#).

NOTE 2—Supplementary data pertaining to the alloys covered by this specification when used in the form of castings are given in Specifications [B26/B26M](#), [B85/B85M](#), [B108/B108M](#), [B618/B618M](#), [B686/B686M](#), and [B955/B955M](#).

1.3 Unless the order specifies the “M” specification designation, the material shall be furnished to the inch-pound units.

1.4 For acceptance criteria for inclusion of new aluminum and aluminum alloys in this specification, see [Annex A1](#).

1.5 The values stated in inch-pound units are to be regarded as standard. No other units of measurement are included in this standard.

1.6 *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.*

2. Referenced Documents

2.1 ASTM Standards:²

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 Oct. 1, 2014. Published October 2014. Originally approved in 1946. Last previous edition approved in 2011 as B179 – 11^{ε1}. DOI: 10.1520/B0179-14.

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* volume information, refer to the standard's Document Summary page on the ASTM website.

[B26/B26M](#) Specification for Aluminum-Alloy Sand Castings

[B85/B85M](#) Specification for Aluminum-Alloy Die Castings

[B108/B108M](#) Specification for Aluminum-Alloy Permanent Mold Castings

[B618/B618M](#) Specification for Aluminum-Alloy Investment Castings

[B666/B666M](#) Practice for Identification Marking of Aluminum and Magnesium Products

[B686/B686M](#) Specification for Aluminum Alloy Castings, High-Strength

[B985](#) Practice for Sampling Aluminum Ingots, Billets, Castings and Finished or Semi-Finished Wrought Aluminum Products for Compositional Analysis

[B955/B955M](#) Specification for Aluminum-Alloy Centrifugal Castings

[B969](#) Specification for Aluminum-Alloy Castings Produced by the Squeeze Casting, Thixocast and Rheocast Semi-Solid Casting Processes

[E29](#) Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

[E34](#) Test Methods for Chemical Analysis of Aluminum and Aluminum-Base Alloys

[E527](#) Practice for Numbering Metals and Alloys in the Unified Numbering System (UNS)

[E607](#) Test Method for Atomic Emission Spectrometric Analysis Aluminum Alloys by the Point to Plane Technique Nitrogen Atmosphere (Withdrawn 2011)³

[E716](#) Practices for Sampling and Sample Preparation of Aluminum and Aluminum Alloys for Determination of Chemical Composition by Spectrochemical Analysis

[E1251](#) Test Method for Analysis of Aluminum and Aluminum Alloys by Spark Atomic Emission Spectrometry

2.2 ANSI Standard:

[H35.1/H35.1\(M\)](#) American National Standard Alloy and Temper Designation Systems for Aluminum⁴

³ The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from Aluminum Association, Inc., 1525 Wilson Blvd., Suite 600, Arlington, VA 22209, <http://www.aluminum.org>.

*A Summary of Changes section appears at the end of this standard