



Standard Specification for Aluminum-Alloy Castings Produced by Squeeze Casting, Thixocast and Rheocast Semi-Solid Casting Processes¹

This standard is issued under the fixed designation B969/B969M; 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 aluminum-alloy castings, produced by the thixocast, rheocast, semi-solid, and squeeze casting processes, shown in [Table 1](#).

1.2 This specification is not intended for castings used in aerospace applications.

1.3 Alloy and temper designations are in accordance with ANSI H35.1/H35.1 (M). The equivalent unified numbering system alloy designations are in accordance with Practice [E527](#).

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

1.5 For acceptance criteria for inclusion of new aluminum and aluminum alloys and their properties in this specification, see [Annex A1](#) and [Annex A2](#).

1.6 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.

1.7 *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

NOTE 1—The following documents of the issue in effect on the date of

¹ This test method 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.

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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.

purchase form a part of this specification to the extent referenced herein.

[B179 Specification for Aluminum Alloys in Ingot and Molten Forms for Castings from All Casting Processes](#)

[B275 Practice for Codification of Certain Nonferrous Metals and Alloys, Cast and Wrought](#)

[B557 Test Methods for Tension Testing Wrought and Cast Aluminum- and Magnesium-Alloy Products](#)

[B557M Test Methods for Tension Testing Wrought and Cast Aluminum- and Magnesium-Alloy Products \(Metric\)](#)

[B660 Practices for Packaging/Packing of Aluminum and Magnesium Products](#)

[B881 Terminology Relating to Aluminum- and Magnesium-Alloy Products](#)

[B917/B917M Practice for Heat Treatment of Aluminum-Alloy Castings from All Processes](#)

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

[D3951 Practice for Commercial Packaging](#)

[E8/E8M Test Methods for Tension Testing of Metallic Materials](#)

[E23 Test Methods for Notched Bar Impact Testing of Metallic Materials](#)

[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](#)

[E94 Guide for Radiographic Examination](#)

[E155 Reference Radiographs for Inspection of Aluminum and Magnesium Castings](#)

[E165 Practice for Liquid Penetrant Examination for General Industry](#)

[E505 Reference Radiographs for Inspection of Aluminum and Magnesium Die Castings](#)

[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](#)

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

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