



Standard Specification for Lead- and Tin-Alloy Die Castings¹

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1. Scope

1.1 This specification covers die castings produced from five alloys whose primary metal is either lead or tin. Table 1 lists the designations for these alloys as well as their chemical compositions.

1.2 *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 The following documents of the issue in effect on date of order acceptance form a part of this specification to the extent referenced herein.

2.2 ASTM Standards:

B 23 Specification for White Metal Bearing Alloys (Known Commercially as Babbitt Metal)²

B 275 Practice for Codification of Certain Nonferrous Metals and Alloys, Cast and Wrought³

E 8 Test Methods for Tension Testing of Metallic Materials⁴

E 23 Test Methods for Notched Bar Impact Testing of Metallic Materials⁴

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications⁵

E 46 Test Methods for Chemical Analysis of Lead- and Tin-Base Solder⁶

E 88 Practice for Sampling Nonferrous Metals and Alloys in Cast Form for Determination of Chemical Composition⁷

2.3 Federal Standards:

Fed. Std. No. 123 Marking for Shipment (Civil Agencies)⁸

2.4 *Military Standards:* MIL-STD-129 Marking for Shipment and Storage (Military Agencies)⁸

2.5 *Military Specifications:* MIL-P-116 Methods of Preservation⁸

3. Terminology

3.1 Definitions:

3.1.1 *die casting*—a metal object produced by the introduction of molten metal under substantial pressure into a metal die and characterized by a high degree of fidelity to the die cavity.

4. Ordering Information

4.1 Orders for die castings shall include the following basic information:

4.1.1 This specification number and date,

4.1.2 Quantity and delivery schedule, as required,

4.1.3 Part name and number,

4.1.4 Alloy (Table 1), and

4.1.5 Drawings of die casting, when required, giving all necessary dimensions and showing latest revisions and allowances for machining, if any. Location of ejector pin marks or parting lines shall be at the option of the producer, unless specifically designated on the drawing.

4.2 Additional tests, options and special inspection requirements as provided below shall be specified in the contract or purchase order, as additional procedures. Extended delivery time may be involved.

4.2.1 Chemical analysis (7.1.1),

4.2.2 Quality assurance (Section 9),

4.2.3 Special proof tests or mechanical properties (Section 7),

4.2.4 General quality options for internal soundness or for finish (Section 11),

4.2.5 Source inspection (Section 11),

4.2.6 Certification (Section 12),

4.2.7 Marking for identification (Section 13), and

4.2.8 Special packaging (Section 14).

¹ This specification is under the jurisdiction of ASTM Committee B02 on Nonferrous Metals and Alloys, and is the direct responsibility of Subcommittee B02.02 on Lead, Tin and their Alloys.

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² *Annual Book of ASTM Standards*, Vol 02.04.

³ *Annual Book of ASTM Standards*, Vol 02.02.

⁴ *Annual Book of ASTM Standards*, Vol 03.01.

⁵ *Annual Book of ASTM Standards*, Vol 14.02.

⁶ Discontinued—See 1994 *Annual Book of ASTM Standards*, Vol 03.05.

⁷ *Annual Book of ASTM Standards*, Vol 03.05.

⁸ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.