



Standard Specification for Master Alloys Used in Making Zinc Die Casting Alloys¹

This standard is issued under the fixed designation B 327; 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} NOTE—The caveat in section 1.6 and section 3. Terminology were added editorially in December 2000.

1. Scope

1.1 This specification covers aluminum–base and zinc–base master alloys used to make zinc die-casting alloys. Alloy compositions specified for aluminum–base master alloys (hardeners) are designated as shown in Table 1. Alloy composition specified for the zinc–base master alloy is designated as shown in Table 2.

1.2 Aluminum alloy hardeners are added to Special High Grade zinc (per Specification B 6) in the proper alloying ratios, as shown in Table 1, to produce zinc alloys for die casting.

1.3 Zinc–base master alloy is added to Special High Grade zinc (per Specification B 6) in the proper alloying ratio, as shown in Table 3, to produce zinc alloy for die casting.

1.4 Master alloys may be supplied in the form of shot, bar, ingot or jumbo ingot as specified by the purchaser.

1.5 The values stated in inch-pound units are standard. The SI equivalents of inch-pound units are for information only.

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 become familiar with all hazards including those identified in the appropriate Material Data Sheet for this product/material as provided by the manufacturer, 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 6 Specification for Zinc²

B 899 Terminology Relating to Non-ferrous Metals and Alloys²

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

¹ This specification is under the jurisdiction of ASTM Committee B02 on Nonferrous Metals and Alloys and is the direct responsibility of Subcommittee B02.04 on Zinc and Cadmium.

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² Annual Book of ASTM Standards, Vol 02.04.

³ Annual Book of ASTM Standards, Vol 14.02.

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 Technique⁴

E 227 Test Method for Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Point-to-Plane Technique⁴

E 527 Practice for Numbering Metals and Alloys (UNS)⁵

E 536 Test Method for Chemical Analysis of Zinc and Zinc Alloys⁶

3. Terminology

3.1 Terms shall be defined in accordance with Terminology B 899.

4. Ordering Information

4.1 Orders for master alloys under this specification shall include the following information:

4.1.1 Quantity,

4.1.2 Alloy (Table 1 or Table 2),

4.1.3 Form: that is, shot, bar, ingot or jumbo ingot,

4.1.4 Size: that is, maximum shot size or size of bar, ingot, or jumbo ingot,

4.1.5 Unit weight: that is, nominal weight of shot per bag or nominal weight of each bar, ingot, or jumbo ingot,

4.1.6 Markings on shot bags, bars, ingot or jumbo ingot,

4.1.7 Palletizing, if required: means of palletizing and maximum weight per pallet load,

4.1.8 Place of inspection (Section 8), and

4.1.9 Specification number and date.

5. Materials and Manufacture

5.1 The material may be made by any suitable process.

5.2 The material covered by this specification shall be of uniform quality and shall be free of dross, flux, or other harmful contamination. Also, if the material is in shot form, it shall be sound, uniform in size, and free of a heavily oxidized

⁴ Annual Book of ASTM Standards, Vol 03.05.

⁵ Annual Book of ASTM Standards, Vol 01.01.

⁶ Annual Book of ASTM Standards, Vol 03.06.