



Designation: B 240 – 04

Standard Specification for Zinc and Zinc-Aluminum (ZA) Alloys in Ingot Form for Foundry and Die Castings¹

This standard is issued under the fixed designation B 240; 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 commercial zinc and zinc-aluminum (ZA) alloys in ingot form for remelting for the manufacture of pressure die castings, foundry castings and continuous cast bar stock as designated and specified in **Table 1**. Seven alloy compositions are specified, designated as follows:

UNS ^A	ASTM ^A	Common	Traditional
Z33521	AG 40A	Alloy 3	Zamak 3
Z33522	AG 40B	Alloy 7	Zamak 7
Z35530	AC 41A	Alloy 5	Zamak 5
Z35540	AC 43A	Alloy 2	Zamak 2
Z35635			ZA-8
Z35630			ZA-12
Z35840			ZA-27

1.2 Zinc alloys Z33521, Z33522, Z35530, and Z35540 are used primarily for remelting in the manufacture of pressure die castings. Zinc-aluminum alloys Z35635, Z35630, and Z35840 are used for remelting in the manufacture of both foundry and pressure die castings. Castings made from these ingots are specified in Specification **B 86**, Standard Specification for Zinc and Zinc-Aluminum Alloys for Foundry and Die Castings.

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

1.4 *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 Safety Data Sheet (MSDS) 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:

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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2.2 ASTM Standards:²

- B 86** Specification for Zinc and Zinc-Aluminum (ZA) Alloy Foundry and Die Castings
- B 275** Practice for Codification of Certain Nonferrous Metals and Alloys, Cast and Wrought
- B 899** Terminology Relating to Non-ferrous Metals and Alloys
- B 908** Practice for the Use of Color Codes for Zinc Casting Alloy Ingot
- E 29** Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications
- E 47** Test Methods for Chemical Analysis of Zinc Die-Casting Alloys³
- E 88** Practice for Sampling Nonferrous Metals and Alloys in Cast Form for Determination of Chemical Composition
- E 527** Practice for Numbering Metals and Alloys (UNS)
- E 536** Test Methods for Chemical Analysis of Zinc and Zinc Alloys
- E 634** Practice for Sampling of Zinc and Zinc Alloys for Optical Emission Spectrometric Analysis

2.3 Other ASTM Document:

Methods for Emission Spectrochemical Analysis⁴

3. Terminology

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

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *continuous casting, n*—a casting technique in which a cast is continuously withdrawn through the bottom of the mold as it solidifies, so that its length is not determined by mold dimensions; used chiefly to produce semifinished mill products such as billets, blooms, ingots, slabs and tubes; also known as concast.

3.2.2 *die casting, n*—a casting process in which molten metal is injected under high velocity and pressure into a metal

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.

³ Withdrawn.

⁴ *Methods for Emission Spectrochemical Analysis: General Practices, Nomenclature, Standard Methods, Proposed Methods, Suggested Methods*, ASTM International, 1982.

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