



Designation: B 860 – 08

Standard Specification for Zinc Master Alloys for Use in Hot Dip Galvanizing¹

This standard is issued under the fixed designation B 860; 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 zinc master alloys which are used in hot dip galvanizing for the purpose of adjusting the concentration of certain alloying elements in the molten zinc bath. **Table 1** covers the chemical composition of these materials which include six master alloys of zinc-aluminum (brightener) and one master alloy of zinc-antimony.

ASTM	Common	UNS
Type A-1	90/10 Zn/Al High Purity	Z30750
Type A-2	90/10 Zn/Al Low Purity	Z31710
Type A-3	95/5 Zn/Al High Purity	Z30503
Type A-4	95/5 Zn/Al Low Purity	Z31510
Type A-5	96/4 Zn/Al High Purity	...
Type A-6	96/4 Zn/Al Low Purity	...
Type S-1	90/10 Zn/Sb	Z55710

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 *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:

2.2 *ASTM Standards:*²

B 897 Specification for the Configuration of Zinc and Zinc Alloy Jumbo and Block Ingot

B 899 Terminology Relating to Non-ferrous Metals and Alloys

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 in the Unified Numbering System (UNS)

E 536 Test Methods for Chemical Analysis of Zinc and Zinc Alloys

2.3 *ISO Standards:*⁴

ISO 3815-1 Zinc and zinc alloys — Part 1: Analysis of solid samples by optical emission spectrometry

ISO 3815-2 Zinc and zinc alloys — Part 2: Analysis by inductively coupled plasma optical emission spectrometry

3. Terminology

3.1 Terms defined in Terminology **B 899** shall apply unless defined otherwise in this standard.

4. Ordering Information

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

4.1.1 Quantity, lb,

4.1.2 Alloy type (see **Table 1**),

4.1.3 Size and type of ingot (jumbo, type 1 block, type 2 block, slab or other ingot shape), if not manufacturer's standard,

4.1.4 Specification number and year date,

4.1.5 Source inspection (see Section 8), and

4.1.6 Marking (see Section 10).

5. Materials and Manufacture

5.1 The material covered by this specification shall be of uniform quality and shall be free from harmful contamination. The ingot surface shall contain a minimum of dross and adhering foreign matter.

6. Chemical Requirements Chemical Requirements

6.1 *Limits*—The alloys shall conform to the requirements as to chemical composition prescribed in **Table 1**. Conformance

³ Withdrawn.

⁴ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

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 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.

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