Designation: B997 – 16

Standard Specification for Zinc-Aluminum Alloys in Ingot Form for Hot-Dip Coatings[1]

This standard is issued under the fixed designation B997; 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 certain zinc-aluminum (Zn-Al) alloys in ingot form for re-melting for use in the production of hot-dip coatings on steel. Alloy compositions are specified below and in Table 1.

ASTM	Common	UNS
Type 5	95/5 Zn/Al	to be assigned
Type 10	90/10 Zn/Al	to be assigned
Type 15	85/15 Zn/Al	to be assigned

NOTE 1—The zinc-aluminum alloys in Specification B997 are intended to be used primarily to create a molten zinc-aluminum bath and differ from the master alloys in Specification B860 which are intended primarily to adjust the concentration of certain elements in molten zinc galvanizing baths.

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 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]

B750 Specification for GALFAN (Zinc-5 % Aluminum-Mischmetal) Alloy in Ingot Form for Hot-Dip Coatings

B860 Specification for Zinc Master Alloys for Use in Hot Dip Galvanizing

B899 Terminology Relating to Non-ferrous Metals and Alloys

B949 Specification for General Requirements for Zinc and Zinc Alloy Products

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

E527 Practice for Numbering Metals and Alloys in the Unified Numbering System (UNS)

E536 Test Methods for Chemical Analysis of Zinc and Zinc Alloys

E1277 Test Method for Analysis of Zinc-5 % Aluminum-Mischmetal Alloys by ICP Emission Spectrometry

2.3 *ISO Standards:*[3]

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 *Terminology:*

3.1.1 *Type 5, n*—95 % zinc – 5 % aluminum alloy.

3.1.2 *Type 10, n*—90 % zinc – 10 % aluminum alloy.

3.1.3 *Type 15, n*—85 % zinc – 15 % aluminum alloy.

3.2 *Abbreviations:*

3.2.1 *95/5 Zn/Al*—95 % zinc – 5 % aluminum alloy.

3.2.2 *90/10 Zn/Al*—90 % zinc – 10 % aluminum alloy.

3.2.3 *85/15 Zn/Al*—85 % zinc – 15 % aluminum alloy.

4. Ordering Information

4.1 Orders for ingots under this specification shall include the relevant information as listed in Specification B949.

5. Chemical Requirements

5.1 *Limits*—The alloys shall conform to the requirements as to chemical composition prescribed in Table 1. Conformance shall be determined by the producer by analyzing samples taken at the time ingots are made. If the producer has determined the chemical composition of the metal during the course of manufacture, he shall not be required to sample and analyze the finished product.

[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.

Current edition approved May 1, 2016. Published July 2016. Originally approved in 2015. Last previous edition approved in 2015 as B997 – 15. DOI: 10.1520/B0997-16.

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

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