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Standard Specification for Modern Pewter Alloys¹

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1. Scope

1.1 This specification covers three alloy types, made from tin, antimony, and copper, used in the fabrication of pewter articles by casting, spinning, drawing, or forming. The metal may be supplied in the form of bars, ingots, rolled sheet, and circles.

1.2 Pewter alloy shall be defined as having a composition within the range from 90 to 98 % tin, 1 to 8 % antimony, and 0.25 to 3 % copper. Compositions are given in [Table 1](#).

1.3 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.

1.4 *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 *ASTM Standards:*²

[E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications](#)

[E51 Method for Spectrographic analysis of Tin Alloys by the Powder Technique](#)³

[E57 Method for Chemical Analysis of White Metal Bearing Alloys](#)³

[E88 Practice for Sampling Nonferrous Metals and Alloys in Cast Form for Determination of Chemical Composition](#)

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 Refined Lead, Tin, Antimony, and Their Alloys.

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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.

³ Withdrawn. The last approved version of this historical standard is referenced on www.astm.org.

3. Classification

3.1 The hardness and workability of pewter varies with the amount of antimony and copper alloyed with the tin. Casting alloys generally contain less copper and a slightly higher tin content than sheet alloys. The composition for castings (Type 1) and sheet (Type 2) are shown in [Table 1](#), but individual fabricators may choose compositions in the range given for each type. A special-purpose alloy (Type 3), high in tin, is used for articles requiring a softer metal. All types must conform to the impurity limits shown in [Table 1](#).

3.2 The following applies to all specified limits in this standard: For purposes of determining conformance with these specifications an observed value or a calculated value shall be rounded "to the nearest unit" in the last right-hand place of figures used in expressing the limiting value, in accordance with the rounding method of [Practice E29](#).

TABLE 1 Chemical Requirements

Element	Composition, -wt%		
	Type 1 Casting Alloy ^A	Type 2 Sheet Alloy ^B	Type 3 Special Purpose Alloys
UNS Number	L13911	L13912	L13963
Tin	90–93	90–93	95–98
Antimony	6–8	5–7.5	1.0–3.0
Copper	0.25–2.0	1.5–3.0	1.0–2.0
Lead, max	0.05	0.05	0.05
Arsenic, max	0.05	0.05	0.05
Iron, max	0.015	0.015	0.015
Zinc, max	0.005	0.005	0.005

^A Nominal Type 1 alloy composition: 92 Sn, 7.5 Sb, and 0.5 Cu.

^B Nominal Type 2 alloy composition: 91 Sn, 7 Sb, and 2 Cu.

4. Ordering Information

4.1 Orders for material under this specification should include the following:

4.1.1 Quantity,

4.1.2 Form—bars, sheet, or circles,

4.1.3 Type and composition ([Table 1](#)),

4.1.4 Size (sheet—thickness, width and length; circles—thickness and diameter), and

4.1.5 Marking.