



Designation: B 560 – 00

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 the standard. The values given in parentheses are for information only.

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 establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications²

E 51 Method for Spectrographic Analysis of Tin Alloys by the Powder Technique³

E 57 Method for Chemical Analysis of White Metal Bearing Alloys⁴

E 88 Practice for Sampling Nonferrous Metals and Alloys in Cast Form for Determination of Chemical Composition⁵

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

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² *Annual Book of ASTM Standards*, Vol 14.02.

³ Discontinued—see *1984 Annual Book of ASTM Standards*, Vol 03.06.

⁴ Discontinued—see *1986 Annual Book of ASTM Standards*, Vol 03.05.

⁵ *Annual Book of ASTM Standards*, Vol 03.05.

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.

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 E 29.

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.

5. Materials and Manufacture

5.1 The manufacturer shall use care to have each shipment of each form as uniform in quality and composition as possible and of a commercially satisfactory appearance.

6. Chemical Composition

6.1 The material shall conform to the requirements as to chemical composition specified in Table 1. Nominal compositions, agreed upon by the manufacturer and purchaser, may be prescribed under this specification.