



Standard Specification for Sampling and Sample Preparation of Lead and Lead Alloys for Optical Emission Spectrometric or ICP Analysis¹

This standard is issued under the fixed designation B982; 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.

^{ε1} NOTE—Section 13.4.2 was corrected editorially in January 2016.

1. Scope

1.1 This specification covers the sampling of lead and lead alloys to obtain a sample suitable for quantitative optical emission spectrochemical analysis. Included are procedures for sample preparation, obtaining representative samples from molten metal, from fabricated, or cast products that can be melted, and from other forms that cannot be melted.

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 the date of material purchase form a part of this specification to the extent referenced herein.

2.2 ASTM Standards:²

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

E37 Test Methods for Chemical Analysis of Pig Lead

E88 Practice for Sampling Nonferrous Metals and Alloys in Cast Form for Determination of Chemical Composition

E177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods

E691 Practice for Conducting an Interlaboratory Study to

Determine the Precision of a Test Method

3. Significance and Use

3.1 This specification, used in conjunction with an appropriate quantitative optical emission spectrochemical method, is suitable for use in manufacturing control, material or product acceptance, and development and research.

4. Ordering Information

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

4.1.1 ASTM designation and year of issue,

4.1.2 Quantity (weight),

4.1.3 Name of material (for example, pure lead),

4.1.4 Size and shape (see Section 7),

4.1.5 Grade, and

4.1.6 Certification or test report if specified (Section 13).

5. Materials and Manufacture

5.1 Lead shall be supplied in commercial standard forms or shapes requested by the purchaser in the following grades:

5.1.1 Low bismuth low silver pure lead,

5.1.2 Refined pure lead,

5.1.3 Pure lead, and

5.1.4 Chemical copper lead.

5.1.5 Calcium alloys.

5.1.6 Antimony alloys.

5.2 The grade of lead listed in 5.1.1 – 5.1.6 shall be produced by any smelting and refining process from ore or recycled materials to meet the chemical requirements of this specification.

6. Composition

6.1 This specification shall apply to lead alloys that contain greater than 80 % Pb and meet the requirements of 5.2 for material manufacture.

7. Sizes and Shapes

7.1 Pigs shall weigh up to a nominal 110 lb (50 kg).

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.