



Designation: B 749 – 97

## Standard Specification for Lead and Lead Alloy Strip, Sheet, and Plate Products<sup>1</sup>

This standard is issued under the fixed designation B 749; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This specification covers lead sheet, strip, and plate of various alloys intended for use in chemical plants, sound attenuation, roofing, vibration dampening, flashing and weather stripping, waterproofing, and radiation shielding.

1.2 The values stated in inch-pound units are to be regarded as the standard.

### 2. Referenced Documents

2.1 *ASTM Standards:*

B 29 Specification for Pig Lead<sup>2</sup>

E 8 Test Methods for Tension Testing of Metallic Materials<sup>3</sup>

E 10 Test Method for Brinell Hardness of Metallic Materials<sup>3</sup>

E 18 Test Methods for Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials<sup>3</sup>

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications<sup>4</sup>

E 37 Test Methods for Chemical Analysis of Pig Lead<sup>5</sup>

E 87 Methods for Chemical Analysis of Lead, Tin, Antimony, and Their Alloys (Photometric Methods)<sup>6</sup>

E 112 Test Methods for Determining the Average Grain Size<sup>3</sup>

### 3. Terminology Definitions

3.1 *lot*—shall consist of all the lead sheet, strip, or plate of the same alloy produced by one manufacturer and offered for delivery at one time for sampling and inspection from one manufacturing or smelting heat.

3.2 *plate*—any product over 0.187 in. (4.75 mm) in thickness and over 10 in. (254 mm) in width.

3.3 *sheet*—products 0.187 in. (4.75 mm) and under in thickness and 24 in. (610 mm) or more in width.

3.4 *strip*—any product 0.187 in. (4.75 mm) and under in thickness and less than 24 in. (610 mm) in width.

### 4. Ordering Information

4.1 Orders for material to this specification shall include the following information:

4.1.1 Alloy (chemical composition) with variations specified.

4.1.2 Type (strip, sheet, or plate).

4.1.3 Condition including mechanical properties where applicable.

4.1.4 Dimensions.

4.1.5 Number of Pieces.

4.1.6 *Certification*—State if certification is required.

4.1.7 *Sampling*—Type of sampling required and whether samples product (check) analysis shall be furnished.

4.1.8 *Inspection Requirements*—If purchaser wishes to witness tests or inspection of material at the place of manufacture, the purchase order must so state indicating which tests or inspections are to be witnessed.

4.1.9 *Optional Requirements:*

4.1.9.1 *Strip and Sheet*—Whether to be furnished in coils or in cut straight lengths.

4.1.9.2 *Sheet and Plate*—Whether to be furnished in specially flattened condition.

4.1.9.3 *Wrought Products*—Minimum reduction required.

### 5. Materials and Manufacture

5.1 The lead sheet, strip, or plate shall be manufactured by rolling or extruding the product from a lead work piece of chemical composition specified in Table 1 or other specified composition. The work piece may be prepared by conventional casting into a mold or by continuous casting. Lead sheet or strip may also be produced by direct continuous casting to the desired thickness.

### 6. Chemical Composition

6.1 Lead sheet, strip, and plate shall conform to the chemical composition limits specified in the purchase order. The appropriate ASTM or UNS alloy may be designated where applicable. Table 1 lists the chemical requirements of several grades of lead for information purposes.

NOTE 1—Soft lead sheet, strip, and plate is generally produced from Specification B 29 grade copper-bearing lead.

6.2 If a product (check) analysis is performed by the purchaser, the material shall conform to the product analysis variation in chemical composition specified in the purchase

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee B-2 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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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 02.04.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 03.01.

<sup>4</sup> *Annual Book of ASTM Standards*, Vol 14.02.

<sup>5</sup> *Annual Book of ASTM Standards*, Vol 03.05.

<sup>6</sup> Discontinued—see 1984 *Annual Book of ASTM Standards*, Vol 03.05.