U.S. Department of Commerce
C. William Verity
Secretary

National Bureau of Standards
Ernest Ambler, Director

National Bureau of Standards

Certificate of Analysis

Standard Reference Material C2417

Lead-Base Alloy

(In Cooperation with the American Society for Testing and Materials)

This Standard Reference Material (SRM) is intended for use as a composition standard for optical emission spectrometric methods of analysis. It is in the form of a disk 50 mm (2 in.) in diameter and 16 mm (5/8 in.) thick.

Element	Certified Value[1] Percent by Weight	Estimated[2] Uncertainty
Antimony	0.010	0.001
Arsenic	.011	.001
Bismuth	.010	.001
Copper	.010	.001
Silver	.010	.001

[1] The certified value listed for a constituent is the present best estimate of the "true" value based on the results of the cooperative program for certification.

2 The estimated uncertainty listed for a constituent is based on judgment and represents an evaluation of the combined effects of method imprecision, possible systematic errors among methods, and material variability. No attempt was made to derive exact statistical measures of imprecision because several methods were involved in the determination of most constituents.

Use: The smaller diameter surface (containing the cast indentation) is the surface intended for analytical use. A fresh surface should be prepared by lathe turning for each use of the SRM.

The overall coordination of the technical measurements leading to certification was performed under the direction of J.I. Shultz, Research Associate, ASTM-NBS Research Associate Program.

The technical and support aspects involved in the preparation, certification, and issuance of this Standard Reference Material were coordinated through the Office of Standard Reference Materials by W.P. Reed.

February 16, 1987
Gaithersburg, MD 20899

Stanley D. Rasberry, Chief
Office of Standard Reference Materials

(over)

PLANNING, PREPARATION, TESTING, ANALYSIS:

The material for this SRM was provided and prepared by the East Penn Manufacturing Co., Inc., Lyon Station, Pennsylvania.

Extensive homogeneity testing by J.A. Norris and T.W. Vetter was performed at the National Bureau of Standards, Inorganic Analytical Research Division.

Cooperative analyses for certification were performed in the following laboratories:

- C&D Power Systems, Inc., Plymouth Meeting, Pennsylvania, M. Kresz.
- East Penn Manufacturing Co., Inc., Lyon Station, Pennsylvania, K.M. Smith.
- Exide Corporation, Yardley, Pennsylvania, W. Trego and J.O. Ciccone.
- General Battery Corporation, Reading, Pennsylvania, K.R. Centrella.
- Johnson Controls, Inc. Milwaukee, Wisconsin, G.M. Trischan, D. Wynn, D. Mongan and E. Laird.
- RSR Corporation, Dallas, Texas, H. McDonald.

Additional elements have been determined as indicated below. These values are not certified, but are given as additional information on the composition.

Element	Percent, by Weight
Aluminum	(<0.0001)
Cadmium	(<.0002)
Calcium	(<.001)
Cobalt	(<.0002)
Iron	(<.0003)
Manganese	(<.0003)
Nickel	(<.0005)
Sulfur	(<.0005)
Tellurium	(<.0005)
Tin	(<.010)
Zinc	(<.0005)