National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material 855a

Aluminum Casting Alloy 356

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

This Standard Reference Material (SRM) is in the form of fine millings, intended primarily for use in evaluating chemical methods of analysis.

Constituent	Certified Value[1] Percent by Weight	Estimated[2] Uncertainty
Silicon	7.07	0.03
Iron	0.14	.01
Copper	.13	.01
Zinc	.085	.002
Manganese	.060	.002
Magnesium	.37	.01
Chromium	.013	.001
Nickel	.016	.001
Titanium	.15	.01
Lead	.019	.002
Tin	.010	.002
Strontium	.018	.002

[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.

Gaithersburg, MD 20899
January 3, 1990

William P. Reed, Acting Chief
Office of Standard Reference Materials

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PLANNING, PREPARATION, TESTING, ANALYSIS:

The material for this SRM was prepared under contract with NIST by the Aluminum Company of America, Alcoa Center, PA coordinated by J.L. Genna.

Homogeneity testing was performed using optical emission spectrometry at NIST by J.A. Norris, Inorganic Analytical Research Division.

Cooperative analyses for certification were performed on composite samples representative of the lot in the following laboratories.

-Aluminum Company of America, Alcoa Technical Center, Alcoa Center, PA, J.L. Genna and R. Predebon.

-National Institute of Standards and Technology, Inorganic Analytical Research Division, J.A. Norris.

-Reynolds Aluminum, Research and Development, Reynolds Metals Company, Richmond, VA, C.D. Davis.

The overall coordination of the technical measurements leading to certification was performed under the direction of J.I. Shultz, Research Associate, ASTM-NIST 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 and P.A. Lundberg.

Elements other than those certified may be present in this material as indicated below. These are not certified, but are given as additional information on the composition.

Element	Concentration, Percent by Weight
Calcium	(0.001)
Vanadium	(.012)
Zirconium	(.003)