National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material 1262b

AISI 94B17 Steel (Modified)

This Standard Reference Material (SRM) is in the form of a disk, 34 mm (1 3/8 in) in diameter and 19 mm (3/4 in) thick, for use in optical emission and X-ray spectrometric analysis.

Element	Certified Value[1] wt, %	Estimated[2] Uncertainty	Element	Certified Value[1] wt, %	Estimated[2] Uncertainty
Aluminum	0.081	0.002	Neodymium	0.0006	0.0001
Antimony	0.012	0.001	Nickel	0.59	0.01
Arsenic	0.096	0.001	Niobium	0.30	0.01
Boron	0.0025	0.0001	Phosphorus	0.044	0.001
Carbon	0.160	0.008	Silicon	0.40	0.01
Cerium	0.0019	0.0001	Silver	0.0011	0.0001
Chromium	0.30	0.01	Sulfur	0.037	0.001
Cobalt	0.30	0.01	Tantalum	0.20	0.01
Copper	0.51	0.01	Tin	0.016	0.001
Lead	0.0004	0.0001	Titanium	0.100	0.004
Magnesium	0.0006	0.0001	Tungsten	0.20	0.01
Manganese	1.05	0.01	Vanadium	0.041	0.001
Molybdenum	0.070	0.001	Zirconium	0.22	0.01

[1] *The certified value listed for a element is the best estimate of the "true" value based on the analysis of SRM 1262 and SRM 362.*

[2] *The estimated uncertainty listed for each element 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 elements.*

The material for this SRM was forged from the same melt, but cast into a separate ingot from the one used for SRM 1262a. The certified values are different from SRM 1262a for certain elements. This material was compared to SRM 1262a by X-ray and optical emission spectrometry. This information resulted in the certification of SRM 1262b.

Homogeneity testing was performed by P.A. Pella, A.F. Marlow, T.A. Rush, and T.W. Vetter of the NIST Inorganic Analytical Research Division, and by L.E. Creasy of Axel Johnson Metals, Inc., Exton, PA.

The technical and support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program by P.A. Lundberg.

Gaithersburg, MD 20899
October 30, 1992
(revision of certificate dated 6/27/92)

William P. Reed, Chief
Standard Reference Materials Program

(over)

NOTE: The center 10-mm diameter of this sample exhibits differences in composition for some elements, and should not be used. Zirconium, niobium, and tantalum inclusions in the sample will cause the analysis to be significantly different using X-ray fluorescence and optical emission spectrometry methods of analysis.

Additional information on the composition: The elements listed are not certified, and are given for information only.

Element	wt, %
Bismuth	(0.002)
Calcium	(0.0001)
Germanium	(0.002)*
Gold	(0.00005)
Hafnium	(0.0003)
Hydrogen	(<0.0005)
Iron (by difference)	(95.3)
Lanthanum	(0.0004)
Nitrogen	(0.0040)
Oxygen	(0.0011)
Praseodymium	(0.00012)
Selenium	(0.0012)
Strontium	(<0.0005)
Tellurium	(0.001)
Zinc	(0.0005)

* Approximate value from heat analysis.