

National Bureau of Standards

Certificate of Analysis

Standard Reference Material 647

Titanium-Base Alloy (6Al-2Mo-2Sn-4Zr)

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

This Standard Reference Material (SRM) is in the form of chips sized between 0.50 and 1.18 mm sieve openings (35 and 16 mesh). It is intended for use primarily in chemical methods of analysis.

<u>Constituent</u>	<u>Certified Value¹ Percent by Weight</u>	<u>Estimated Uncertainty²</u>
Aluminum	5.88	0.02
Molybdenum	1.96	.04
Tin	2.02	.04
Zirconium	3.90	.07
Iron	0.075	.003
Carbon	.006	.002

¹The 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.

²The 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.)

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 and R. Alvarez.

August 15, 1986
Gaithersburg, MD 20899

(over)

Stanley D. Rasberry, Chief
Office of Standard Reference Materials

PLANNING, PREPARATION, TESTING, ANALYSIS:

The material for this Standard Reference Material was provided by Timet, Henderson, Nevada, courtesy of G.F. Bosenecker.

Homogeneity testing at NBS was performed by T.W. Vetter and J.A. Norris by optical emission analysis.

Cooperative analyses for certification were performed in the following laboratories:

- Analytical Associates, Inc., Detroit, Mich., C.K. Deak and R.E. Swartz.
- Oremet Titanium, Oregon Metallurgical Corp., Albany, Ore., A.D. Fryer.
- RMI Titanium, RMI Company, Niles, Ohio, F. Kubli, Jr.
- Teledyne, Wah Chang Albany, Albany, Ore., J.H. Schlewitz.
- Timet, Titanium Metals Corporation of America, Henderson Technical Laboratory, Henderson, Nev., G.F. Bosenecker.
- Timet, Titanium Metals Corporation of America, Process Control Laboratory, Henderson, Nev., K.E. Weiss.
- Wyman-Gordon Company, Eastern Division, North Grafton, Mass., J.S. Fipphen.

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.

<u>Element</u>	<u>Concentration %. by weight</u>
Bi	(<0.001)
B	(<0.002)
Ca	(<0.005)
Cr	(<0.01)
Co	(<0.001)
Cu	(<0.002)
Mg	(<0.01)
Mn	(<0.01)
Ni	(<0.004)
Nb	(<0.01)
N	(<0.01)
O	(0.1)
Si	(0.04-0.07)*
Na	(<0.001)
V	(<0.02)

*Note: Cooperators reported values of 0.04 percent silicon by gravimetry and 0.07 percent by atomic absorption/plasma techniques.