



National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material 1128

Titanium-Base Alloy (15V-3Al-3Cr-3Sn)

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

This Standard Reference Material (SRM) is in the form of a disk approximately 35 mm (1 3/8 in) in diameter and 19 mm (3/4 in) thick, intended for use in optical emission and x-ray fluorescence spectrometric methods of analysis. Material from the same lot of titanium alloy is available in chip form as SRM 649 for use in chemical methods of analysis.

Element	Certified Value ¹ Weight Percent	Estimated Uncertainty ²
Vanadium ^{a,b,c}	15.13	0.05
Aluminum ^{a,b,c}	3.06	.02
Tin ^{a,b,c}	3.04	.01
Chromium ^{a,b,c}	2.96	.03
Iron ^{a,b,c}	0.134	.003
Carbon ^d	.011	.001

¹The certified value listed for an element 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.

Methods/Techniques

- a. Atomic Absorption Spectrometry
- b. Inductively Coupled Plasma Atomic Emission Spectrometry
- c. X-ray Fluorescence Spectrometry
- d. Combustion-Infrared Detection

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 Standard Reference Materials Program by P.A. Lundberg.

Gaithersburg, MD 20899
July 22, 1991

William P. Reed, Chief
Standard Reference Materials Program

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PLANNING, PREPARATION, TESTING, ANALYSIS:

The material for this Standard Reference Material was provided by Titanium Metals Corporation of America, Henderson, NV, courtesy of G.F. Boesenecker.

Homogeneity testing at NIST was performed by P.A. Pella and A.F. Marlow of the Inorganic Analytical Research Division.

Cooperative analyses for certification were performed in the following laboratories:

--Axel Johnson, Metals, Inc., Exton, PA, L.E. Creasy.

--National Institute of Standards & Technology, Gaithersburg, MD, P.A. Pella and A.F. Marlow.

--Timet, Titanium Metals Corporation of America, Henderson Technical Laboratory, Henderson, NV, G.F. Boesenecker.

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 weight %
Boron	(< 0.001)
Copper	(0.003)
Magnesium	(.004)
Manganese	(< .01)
Molybdenum	(.006)
Nickel	(< .01)
Niobium	(< .01)
Nitrogen	(.01)